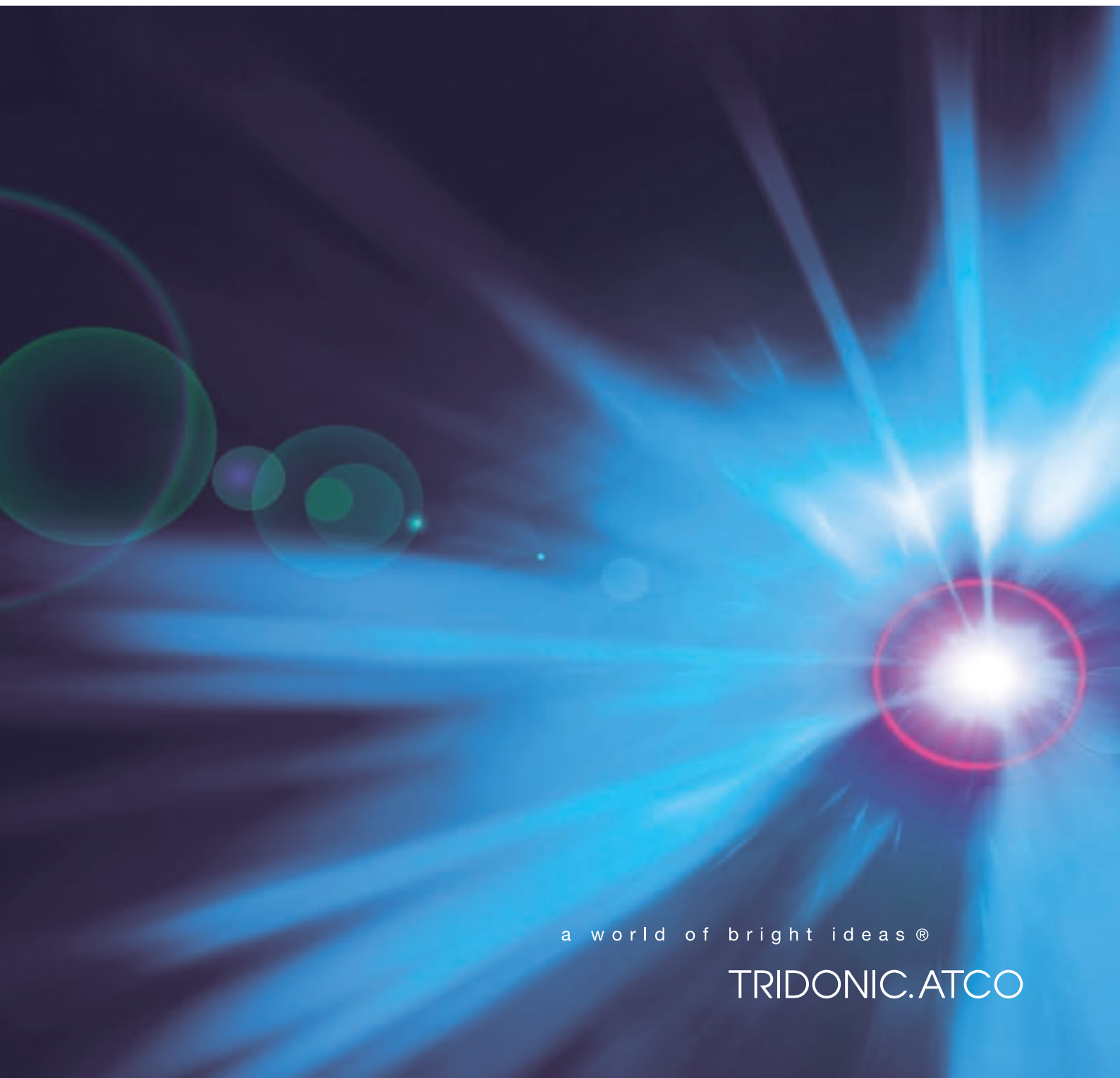


Control gear,  
lighting control systems and LED

# CATALOGUE 2008/2009



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# Magnetic chokes for fluorescent lamps

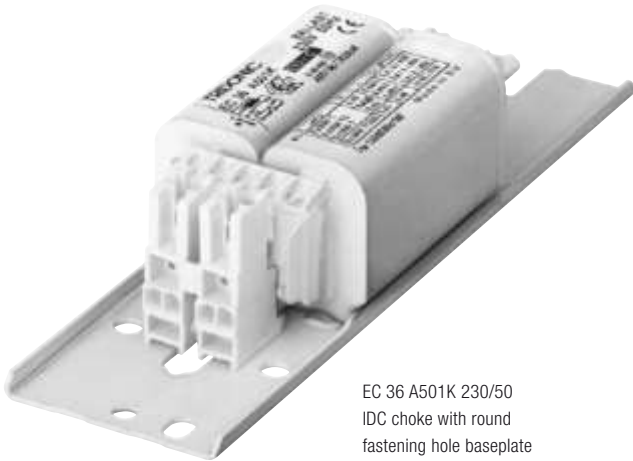
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# Magnetic chokes for fluorescent lamps

EC magnetic chokes for fluorescent lamps and compact fluorescent lamps and the luminaire insets for compact fluorescent lamps UEC are robust and extremely cost-effective solutions with long lives. The wide range of low-loss ballasts in energy efficiency classes B2 and B1 from TridonicAtco covers all the relevant applications and ensures that the lamps are operated as specified.



EC 36 A501K 230/50  
IDC choke with round  
fastening hole baseplate

All EC magnetic chokes for luminaire installation are characterised by minimal energy consumption, compact windings, optimised dimensions and high-quality materials.

In temperature-sensitive applications, the B1 version offers additional benefits thanks to its lower energy consumption and 15 K lower self-heating. What's more, super low-loss chokes in extended lighting systems save up to 30 % energy and therefore increase their operating efficiency.

## Optimised for specified lamp operation

EC magnetic chokes ensure that the preheating current, ignition voltage and lamp current all remain within the specified tolerances for optimum operation of fluorescent lamps.

Long lamp life can only be achieved by preheating the electrodes before the ignition voltage is applied to the lamp. The EC units heat to precisely the right temperature because if the preheat current is too low or too high the lamp electrodes will be destroyed and the life of the lamp cut short.

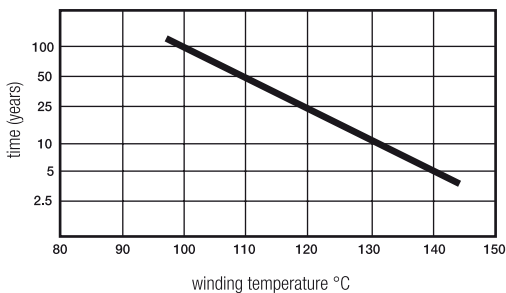
The chokes ensure a sufficiently high ignition voltage after the preheat phase by opening a glow starter or electronic starter. The latter automatically selects the right time to open the starter to reliably ignite the lamp at very high or very low ambient temperatures.

The EC chokes are designed to very narrow tolerances so the impedance perfectly limits the lamp current and maximum luminous flux is achieved.

The low magnetic leakage field – and therefore the very low noise emission – means that the magnetic chokes from TridonicAtco can be placed near electrical equipment that is sensitive to interference.

## Design for long life

Because of their high-quality insulation material, coil core and copper wire, control gear in the EC, OM and OG series from TridonicAtco achieve a maximum life of approximately 100,000 hours of operation, in other words about ten years of constant use at a winding temperature of 130 °C ( $t_w = 130$  °C). The winding temperature is the ambient temperature plus the increase in temperature due to the power consumption of the unit. A change in temperature of 10 °C down or up leads to a doubling or halving of the life of the unit.



## Constant high quality

Uniform high quality standards are guaranteed by the use of high-grade materials together with manufacturing processes certified to ISO 9001. Fully automatic manufacture also ensures constant reproducible quality. All the ballasts are subjected to 100 % final testing and safety testing.

## Standards and approval marks

EC magnetic chokes from TridonicAtco are ENEC tested, carry the CE mark and meet all the relevant European standards relating to safety, operation and electromagnetic compatibility (EMC).

## Lamp matrix

### Which control gear for which lamp?

The current lamp matrix can be found on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → more documents

## Technical Information

The latest technical information can be downloaded from the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → Data sheets

## Personal enquiries

A form for personal enquiries is available on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Contact → Enquiry  
→ Application Department contact form

## EC 4–16 W 230 V 50 Hz



Figure 1:

- $t_w = 130\text{ °C}$
- push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2:

- $t_w = 130\text{ °C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

Packaging figure 1:

5 off, banded  
2,200 pieces/pallet

Packaging figure 2:

5 off, banded  
1,400 pieces/pallet

Figure 1

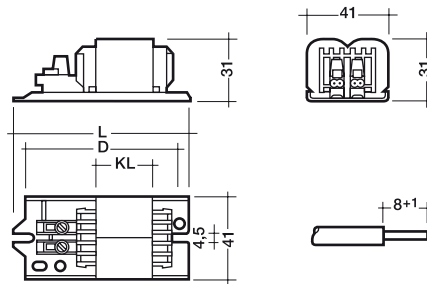
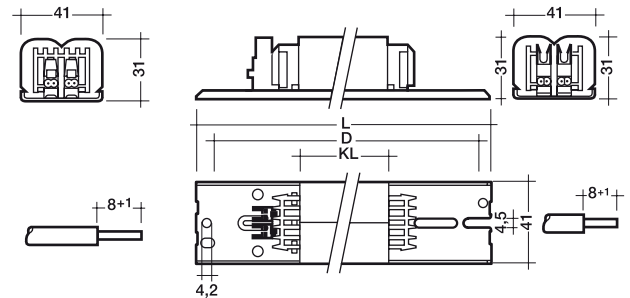


Figure 2



Wiring:  
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Lamp				Choke										P. F. Correction			③
watt- age W	length mm	dia- meter mm	nominal lamp current A	type	article number	fig.	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu F \pm 10\% 250V$		series comp. capacitor $\mu F \pm 4\%$		
													② line current A				

## Energy Efficiency Index EEI = B1

2x8	288	16	0.145	EC 13 B27 230/50	22116351	1	84.5	27	74-80	0.300	30	0.55	2.0	0.09	–	A
10	470	26	0.170	EC 13 B27 230/50	22116351	1	84.5	27	74-80	0.300	40	0.35	2.0	0.07	–	A
13	517	16	0.165	EC 13 B27 230/50	22116351	1	84.5	27	74-80	0.300	35	0.46	2.0	0.08	–	A
2x15	438	26	0.35 ④	EC 30 B501K 230/50	22148754	2	151.0	54	110-144	0.550	50	0.44	4.5	0.18	–	A
16	720	26	0.200	EC 16 B27 230/50	20821698	1	84.5	27	74-80	0.300	45	0.44	2.0	0.09	–	A

## Energy Efficiency Index EEI = B2

4	136	16	0.170	EC 8 C101K 230/50	22148945	1	84.5	27	74-80	0.300	50	0.25	2.0	0.04	–	A
2x4	136	16	0.170	EC 8 C101K 230/50	22148945	1	84.5	27	74-80	0.300	40	0.34	2.0	0.05	–	A
6	212	16	0.160	EC 8 C101K 230/50	22148945	1	84.5	27	74-80	0.300	45	0.30	2.0	0.05	–	A
2x6	212	16	0.160	EC 8 C101K 230/50	22148945	1	84.5	27	74-80	0.300	40	0.44	2.0	0.05	–	A
8	288	16	0.145	EC 8 C101K 230/50	22148945	1	84.5	27	74-80	0.300	45	0.35	2.0	0.06	–	A
2x8	288	16	0.145	EC 13 C101K 230/50	20821676	1	84.5	27	74-80	0.290	35	0.60	2.0	0.09	–	A
10	470	26	0.170	EC 13 C101K 230/50	20821676	1	84.5	27	74-80	0.290	45	0.37	2.0	0.07	–	A
13	517	16	0.165	EC 13 C101K 230/50	20821676	1	84.5	27	74-80	0.290	45	0.45	2.0	0.08	–	A
15	438	26	0.310	EC 15 C501K 230/50	22148747	2	151.0	50	110-144	0.500	50	0.33	4.5	0.12	–	A
2x15	438	26	0.35 ④	EC 30 C501K 230/50	22148755	2	151.0	50	110-144	0.500	50	0.49	4.5	0.18	–	A
16	720	26	0.200	EC 16 C101K 230/50	20887799	1	84.5	27	74-80	0.300	50	0.48	2.0	0.09	–	A

②  $\cos \varphi > 0.9$ ; ③ A ... standard article, B ... on request; ④ lamp current measured in series circuit

## EC 4–16 W 240 V 50 Hz



Figure 1:

- $t_w = 130\text{ }^\circ\text{C}$
- push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2:

- $t_w = 130\text{ }^\circ\text{C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

Packaging figure 1:

5 off, banded  
2,200 pieces/pallet

Packaging figure 2:

5 off, banded  
1,400 pieces/pallet

Figure 1

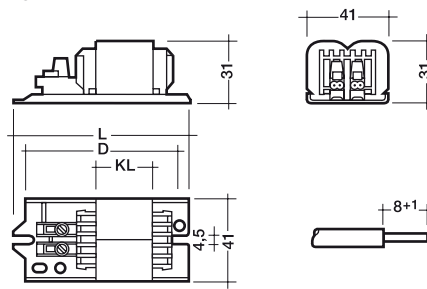
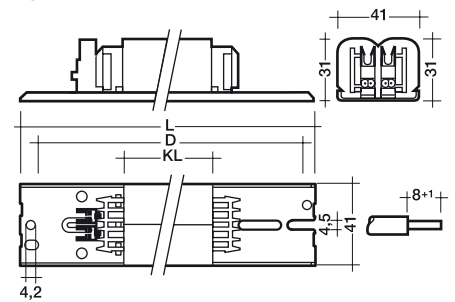


Figure 2



Wiring:  
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Lamp				Choke									P. F. Correction			③
watt- age W	length mm	dia- meter mm	nominal lamp current A	type	article number	fig.	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu\text{F} \pm 10\%$ 250V	② line current A	series comp. capacitor $\mu\text{F} \pm 4\%$	

## Energy Efficiency Index EEI = B1

2x8	288	16	0.145	EC 13 B27 240/50	22116865	1	84.5	27	74-80	0.300	30	0.49	2.0	0.09	–	A
2x8	288	16	0.145	EC 13 LB502K 240/50	22148763	2	151.0	50	110-144	0.500	25	0.46	2.0	0.07	–	A
10	470	26	0.170	EC 13 B27 240/50	22116865	1	84.5	27	74-80	0.300	40	0.35	2.0	0.07	–	A
10	470	26	0.170	EC 13 LB502K 240/50	22148763	2	151.0	50	110-144	0.500	30	0.32	2.0	0.07	–	A
13	517	16	0.165	EC 13 B27 240/50	22116865	1	84.5	27	74-80	0.300	35	0.43	2.0	0.08	–	A
13	517	16	0.165	EC 13 LB502K 240/50	22148763	2	151.0	50	110-144	0.500	30	0.40	2.0	0.08	–	A
2x15	438	26	0.31 ④	EC 30 LB502K 240/50	22148768	2	191.0	90	150-184	0.865	30	0.44	4.0	0.15	–	A

## Energy Efficiency Index EEI = B2

4	136	16	0.170	EC 8 C102K 240/50	22148939	1	84.5	27	74-80	0.300	55	0.25	2.0	0.04	–	A
2x4	136	16	0.170	EC 8 C102K 240/50	22148939	1	84.5	27	74-80	0.300	45	0.34	2.0	0.05	–	A
6	212	16	0.160	EC 8 C102K 240/50	22148939	1	84.5	27	74-80	0.300	45	0.28	2.0	0.05	–	A
2x6	212	16	0.160	EC 8 C102K 240/50	22148939	1	84.5	27	74-80	0.300	40	0.44	2.0	0.05	–	A
8	288	16	0.145	EC 8 C102K 240/50	22148939	1	84.5	27	74-80	0.300	45	0.38	2.0	0.06	–	A
2x8	288	16	0.145	EC 13 C102K 240/50	20821682	1	84.5	27	74-80	0.330	30	0.49	2.0	0.09	–	A
10	470	26	0.170	EC 13 C102K 240/50	20821682	1	84.5	27	74-80	0.330	40	0.37	2.0	0.07	–	A
13	517	16	0.165	EC 13 C102K 240/50	20821682	1	84.5	27	74-80	0.330	40	0.45	2.0	0.07	–	A
15	438	26	0.310	EC 15 C502K 240/50	22149234	2	151.0	50	110-144	0.500	55	0.31	4.0	0.09	–	A
2x15	438	26	0.31 ④	EC 30 C502K 240/50	22149241	2	151.0	50	110-144	0.500	55	0.52	4.0	0.17	–	A
16	720	26	0.200	EC 16 C102K 240/50	22115480	1	84.5	27	74-80	0.300	55	0.46	2.0	0.09	–	A

②  $\cos \varphi > 0.9$ ; ③ A ... standard article, B ... on request; ④ lamp current measured in series circuit



## EC 18–42 W 230 V 50 Hz

Figure 1:

- $t_w = 130\text{ °C}$
- push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2:

- $t_w = 130\text{ °C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

## Packaging core stack length 50 and 54:

5 off, banded  
1,400 pieces/pallet

## Packaging core stack length 90 and 100:

5 off, banded  
1,000 pieces/pallet

Figure 1

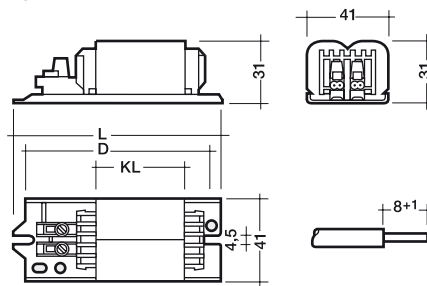
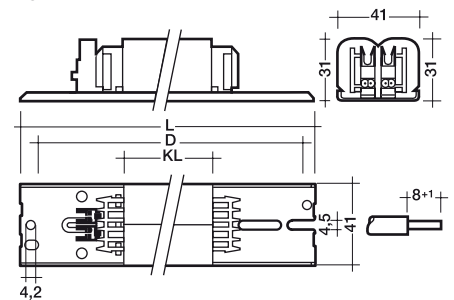


Figure 2



Wiring:  
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Approvals:  
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EN 61347-2/8

Lamp				Choke										P. F. Correction			③
watt- age W	length mm	dia- meter mm	nominal lamp current A	type	article number	fig.	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu F \pm 10\% 250V$	② line current A	series comp. capacitor $\mu F \pm 4\%$		

## Energy Efficiency Index EEI = B1

18	590	26	0.370	EC 18 B501K 230/50	22148749	2	191	90	150-184	0.85	35	0.30	4.5	0.13	2.7 / 480 V	A
2x18	590	26	0.41 ④	EC 36 B501K 230/50	22148758	2	191	90	150-184	0.85	30	0.45	4.5	0.22	3.4 / 450 V	A
23	970	26	0.290	EC 18 B501K 230/50	22148749	2	191	90	150-184	0.85	30	0.40	3.0	0.14	2.4 / 450 V	A
30	895	26	0.365	EC 30 B501K 230/50	22148754	2	151	54	110-144	0.55	45	0.44	4.5	0.17	–	A
36	1,200	26	0.430	EC 36 B501K 230/50	22148758	2	191	90	150-184	0.85	30	0.43	4.5	0.22	3.4 / 450 V	A
38	1,047	26	0.430	EC 36 B501K 230/50	22148758	2	191	90	150-184	0.85	30	0.45	4.5	0.22	3.4 / 450 V	A
U40	607	38	0.430	EC 36 B501K 230/50	22148758	2	191	90	150-184	0.85	30	0.45	4.5	0.24	3.4 / 450 V	A
φ40	409	30	0.415	EC 36 B501K 230/50	22148758	2	191	90	150-184	0.85	30	0.43	4.5	0.24	3.4 / 450 V	A

## Energy Efficiency Index EEI = B2

18	590	26	0.370	EC 18 C501K 230/50	22175069	2	151	50	110-144	0.50	55	0.33c	4.5	0.13	2.7 / 480 V	B
18	590	26	0.370	EC 18 LC501K 230/50	22115859	2	151	54	110-144	0.55	55	0.32	4.5	0.13	2.7 / 480 V	A
18	590	26	0.370	EC 18 LC111K 230/50	22148943	1	110	54	97-105	0.50	55	0.32	4.5	0.13	2.7 / 480 V	A
2x18	590	26	0.370	EC 18 OC501K 230/50	22175112	2	151	40	110-144	0.43	55	0.52	4.5	0.22	–	B
2x18	590	26	0.40 ④	EC 36 C501K 230/50	22175058	2	151	50	110-144	0.51	50	0.50	4.5	0.22	–	B
2x18	590	26	0.41 ④	EC 36 LC501K 230/50	22115862	2	151	54	110-144	0.55	50	0.52	4.5	0.22	3.4 / 450 V	A
23	970	26	0.290	EC 18 LC501K 230/50	22115859	2	151	54	110-144	0.55	45	0.40	3.5	0.12	2.4 / 450 V	A
23	970	26	0.290	EC 18 LC111K 230/50	22148943	1	110	54	97-105	0.50	45	0.40	3.5	0.12	2.4 / 450 V	A
30	895	26	0.365	EC 30 C501K 230/50	22148755	2	151	50	110-144	0.50	60	0.47	4.5	0.17	–	A
φ32	φ307	30	0.450	EC 32 C501K 230/50	22149052	2	191	90	150-184	0.85	35	0.40	5.0	0.18	3.4 / 480 V	A
36	590	26	0.430	EC 36 C501K 230/50	22175058	2	151	50	110-144	0.51	50	0.47c	4.5	0.22	3.4 / 450 V	B
36	1,200	26	0.430	EC 36 LC501K 230/50	22115862	2	151	54	110-144	0.55	55	0.46	4.5	0.22	3.4 / 450 V	A
36	1,200	26	0.430	EC 36 LC111K 230/50	22116601	1	110	54	97-105	0.50	55	0.46	4.5	0.22	3.4 / 450 V	A
38	1,047	26	0.430	EC 36 LC501K 230/50	22115862	2	151	54	110-144	0.55	55	0.49	4.5	0.23	3.4 / 450 V	A
38	1,047	26	0.430	EC 36 LC111K 230/50	22116601	1	110	54	97-105	0.50	55	0.49	4.5	0.23	3.4 / 450 V	A
40(36)	970	32(26)	0.550	EC 36-1 C501K 230/50	22149284	2	191	100	150-184	1.00	40	0.34	6.0	0.21	–	A
U40	607	38	0.430	EC 36 LC501K 230/50	22115862	2	151	54	110-144	0.55	55	0.51	4.5	0.24	–	A
φ40	409	30	0.415	EC 36 LC501K 230/50	22115862	2	151	54	110-144	0.55	55	0.51	4.5	0.24	–	A

②  $\cos \varphi > 0.9$ ; ③ A ... standard article, B ... on request; ④ lamp current measured in series circuit

## EC 18–42 W 240 V 50 Hz



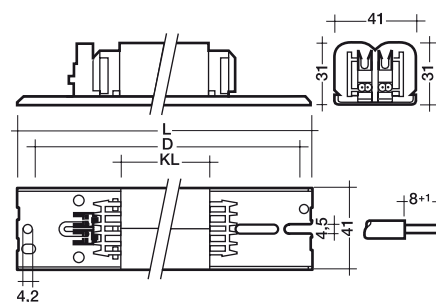
- $t_w = 130\text{ }^\circ\text{C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

## Packaging core stack length 50 and 54:

5 off, banded  
1,400 pieces/pallet

## Packaging core stack length 90:

5 off, banded  
1,000 pieces/pallet



Wiring:  
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Approvals:  
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Lamp				Choke								P. F. Correction			③
watt- age W	length mm	dia- meter mm	nominal lamp current A	type	article number	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu\text{F} \pm 10\% 250\text{V}$	② line current A	series comp. capacitor $\mu\text{F} \pm 4\%$	

## Energy Efficiency Index EEI = B1

18	590	26	0.370	EC 18 B502K 240/50	22148765	191	90	150-184	0.850	30	0.29	4.0	0.12	–	A
2x18	590	26	0.41 ④	EC 36 B502K 240/50	22148771	191	90	150-184	0.850	30	0.45	4.0	0.19	–	A
23	970	26	0.290	EC 18 B502K 240/50	22148765	191	90	150-184	0.850	25	0.38	3.0	0.13	–	A
30	895	26	0.365	EC 30 LB502K 240/50	22148768	191	90	150-184	0.865	30	0.41	4.0	0.15	–	A
36	1,200	26	0.430	EC 36 B502K 240/50	22148771	191	90	150-184	0.850	35	0.41	4.0	0.20	–	A
38	1,047	26	0.430	EC 36 B502K 240/50	22148771	191	90	150-184	0.850	35	0.44	4.0	0.21	–	A
U40	607	38	0.430	EC 36 B502K 240/50	22148771	191	90	150-184	0.850	35	0.45	4.0	0.22	–	A
φ40	φ409	30	0.415	EC 36 B502K 240/50	22148771	191	90	150-184	0.850	30	0.46	4.0	0.22	–	A

## Energy Efficiency Index EEI = B2

18	590	26	0.370	EC 18 C502K 240/50	22175070	151	50	110-144	0.511	55	0.32	4.0	0.12	–	B
18	590	26	0.370	EC 18 LC502K 240/50	22148708	151	54	110-144	0.540	50	0.30	4.0	0.12	–	A
2x18	590	26	0.370	EC 2x18 OC502K 240/50	22175106	151	40	129-144	0.433	60	0.51	4.0	0.20	–	B
2x18	590	26	0.40 ④	EC 36 C502K 240/50	22175071	151	50	110-144	0.516	55	0.48	4.0	0.22	–	B
2x18	590	26	0.41 ④	EC 36 LC502K 240/50	22148709	151	54	110-144	0.548	50	0.49	4.0	0.10	–	A
φ22	φ216	28	0.400	EC 30 C502K 240/50	22149241	151	50	110-144	0.500	75	0.32	4.0	0.16	–	A
23	970	26	0.290	EC 18 LC502K 240/50	22148708	151	54	110-144	0.540	35	0.40	3.0	0.12	–	A
30	895	26	0.365	EC 30 C502K 240/50	22149241	151	50	110-144	0.500	65	0.45	4.0	0.17	–	A
36	590	26	0.430	EC 36 C502K 240/50	22175071	151	50	110-144	0.516	55	0.46	4.0	0.22	–	B
36	1,200	26	0.430	EC 36 LC502K 240/50	22148709	151	54	110-144	0.548	55	0.44	4.0	0.22	–	A
38	1,047	26	0.430	EC 36 LC502K 240/50	22148709	151	54	110-144	0.548	55	0.47	4.0	0.22	–	A
φ40	φ409	30	0.415	EC 36 LC502K 240/50	22148709	151	54	110-144	0.548	50	0.49	4.0	0.23	–	A
U40	607	38	0.430	EC 36 LC502K 240/50	22148709	151	54	110-144	0.548	55	0.49	4.0	0.22	–	A

②  $\cos \phi > 0.9$ ; ③ A ... standard article, B ... on request; ④ lamp current measured in series circuit

## EC 58–125 W 230 V 50 Hz



Figure 1:

- $t_w = 130\text{ }^\circ\text{C}$
- push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2:

- $t_w = 130\text{ }^\circ\text{C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

Packaging figure 1:

5 off, banded  
600 pieces/pallet

Packaging figure 2:

5 off, banded  
1,000 pieces/pallet

Figure 1

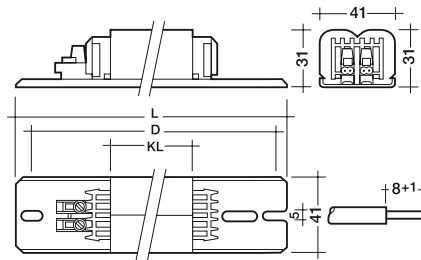
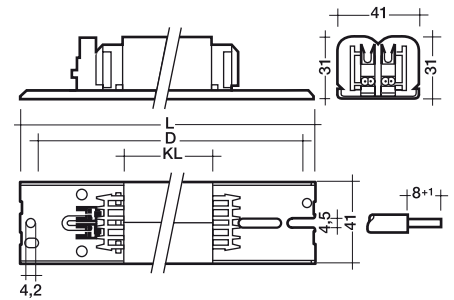


Figure 2



Wiring:  
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Approvals:  
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EN 61347-1  
EN 61347-2/8

Lamp				Choke										P. F. Correction			③
watt- age W	length mm	dia- meter mm	nominal lamp current A	type	article number	fig.	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu\text{F} \pm 10\% 250\text{V}$		series comp. capacitor $\mu\text{F} \pm 4\%$		
													capacitor	② line current A	capacitor		

## Energy Efficiency Index EEI = B1

58	1,500	26	0.67	EC 65 B140 230/50	22175030	1	231	140	210-224	1.300	30	0.45	7	0.32	5.3 / 480 V	A
U65	765	38	0.67	EC 65 B140 230/50	22175030	1	231	140	210-224	1.300	30	0.49	7	0.32	5.3 / 480 V	A

## Energy Efficiency Index EEI = B2

58	1,500	26	0.67	EC 58 C501K 230/50	22115907	2	191	90	150-184	0.850	50	0.47	7	0.32	5.3 / 480 V	A
58	1,500	26	0.67	EC 58 LC501K 230/50	22148638	2	191	100	150-184	0.900	45	0.47	7	0.31	5.3 / 480 V	A
70	1,800	26	0.70	EC 70 C501K 230/50	22148762	2	191	90	150-184	0.877	45	0.52	7	0.37	–	A
70	1,800	26	0.70	EC 70 LC501K 230/50	22149286	2	191	100	150-184	0.952	50	0.51	7	0.37	–	A
75	1,800	38	0.67	EC 70 C501K 230/50	22148762	2	191	90	150-184	0.877	45	0.55	6	0.39	–	A
75	1,800	38	0.67	EC 70 LC501K 230/50	22149286	2	191	100	150-184	0.952	50	0.56	6	0.39	–	A
80	1,500	38	0.87	EC 80/85 C140 230/50	22175020	1	231	140	210-224	1.300	45	0.46	8	0.46	–	A
85	1,800	38	0.80	EC 80/85 C140 230/50	22175020	1	231	140	210-224	1.300	40	0.53	8	0.47	–	A

②  $\cos \varphi > 0.9$ ; ③ A ... standard article, B ... on request

## EC 58–125 W 240 V 50 Hz



Figure 1:

- $t_w = 130\text{ °C}$
- push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2:

- $t_w = 130\text{ °C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

Packaging figure 1:

5 off, banded  
600 pieces/pallet

Packaging figure 2:

5 off, banded  
1,000 pieces/pallet

Figure 1

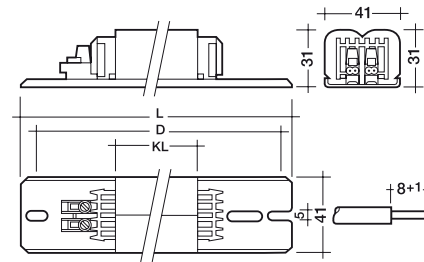
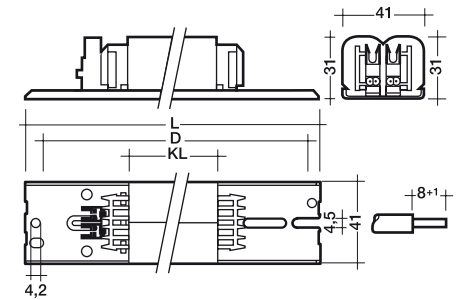


Figure 2



Wiring:  
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Lamp				Choke										P. F. Correction			ⓐ
watt- age W	length mm	dia- meter mm	nominal lamp current A	type	article number	fig.	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu F \pm 10\% 250V$		ⓑ line current A	series comp. capacitor $\mu F \pm 4\%$	

## Energy Efficiency Index EEI = B1

58	1,500	26	0.67	EC 65 B140 240/50	22175033	1	231	140	210-224	1.300	30	0.44	6	0.33	–	A
65	1,500	38	0.67	EC 65 B140 240/50	22175033	1	231	140	210-224	1.300	30	0.48	6	0.34	–	A
U65	765	38	0.67	EC 65 B140 240/50	22175033	1	231	140	210-224	1.300	30	0.48	6	0.34	–	A
70	1,800	26	0.70	EC 70 B502K 240/50	22148772	2	191	100	150-184	0.970	45	0.50	6	0.36	–	A
75	1,800	38	0.67	EC 70 B502K 240/50	22148772	2	191	100	150-184	0.970	45	0.56	6	0.38	–	A

## Energy Efficiency Index EEI = B2

58	1,500	26	0.67	EC 58 LC502K 240/50	22119165	2	191	100	150-184	0.958	45	0.46	6	0.30	–	A
58	1,500	26	0.67	EC 58 C502K 240/50	22149260	2	191	90	150-184	0.864	50	0.46	6	0.30	–	A
U65(58)	765	38(26)	0.67	EC 58 C502K 240/50	22149260	2	191	90	150-184	0.864	50	0.46	6	0.30	–	A
U65(58)	765	38(26)	0.67	EC 58 LC502K 240/50	22119165	2	191	100	150-184	0.958	45	0.51	6	0.30	–	A
70	1,800	26	0.70	EC 70 C502K 240/50	22148773	2	191	90	150-184	0.876	50	0.55	6	0.38	–	A
75	1,800	38	0.67	EC 70 C502K 240/50	22148773	2	191	90	150-184	0.876	45	0.51	6	0.38	–	A

ⓐ  $\cos \varphi > 0.9$ ; ⓑ A ... standard article, B ... on request





## EC 5–18 W 230 V 50 Hz



Figure 1:

- $t_w = 130\text{ °C}$
- push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2:

- $t_w = 130\text{ °C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

Figure 1

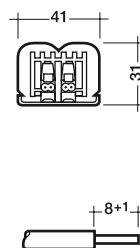
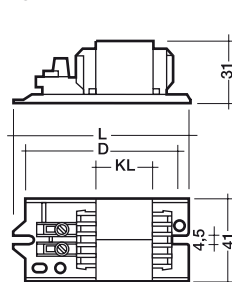
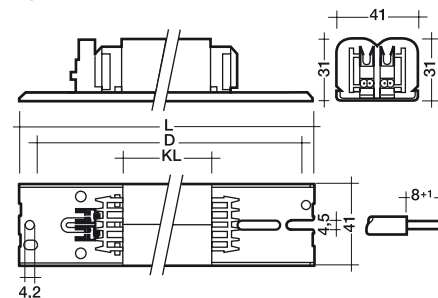


Figure 2



Packaging figure 1:

5 off, banded  
2,200 pieces/pallet

Packaging figure 2:

Core stack length 54  
5 off, banded  
1,400 pieces/pallet

Core stack length 90  
5 off, banded  
1,000 pieces/pallet

Wiring:

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Lamp			Choke									P. F. Correction			③
wattage W	type	nominal lamp current A	type	article number	fig.	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu F \pm 10\%$ 250V	② line current A	series comp. capacitor $\mu F \pm 4\%$	

## Energy Efficiency Index EEI = B1

5	TC-S	0.180	EC 09 B27 230/50	20821657	1	84.5	27	74-80	0.30	40	0.25	2.0	0.05	–	A
7	TC-S	0.175	EC 09 B27 230/50	20821657	1	84.5	27	74-80	0.30	40	0.30	2.0	0.05	–	A
2x7	TC-S	0.17 ④	EC 13 B27 230/50	22116351	1	84.5	27	74-80	0.30	40	0.45	2.0	0.07	–	A
9	TC-S	0.170	EC 09 B27 230/50	20821657	1	84.5	27	74-80	0.30	35	0.34	2.0	0.06	–	A
2x9	TC-S	0.16 ④	EC 13 B27 230/50	22116351	1	84.5	27	74-80	0.30	35	0.55	1.5	0.09	–	A
10	TC-DD	0.180	EC 13 B27 230/50	22116351	1	84.5	27	74-80	0.30	40	0.38	2.0	0.06	–	A
11	TC-S	0.155	EC 09 B27 230/50	20821657	1	84.5	27	74-80	0.30	35	0.43	2.0	0.07	–	A
13	TC-D	0.165	EC 13 B27 230/50	22116351	1	84.5	27	74-80	0.30	40	0.44	2.0	0.07	–	A
16	TC-DD	0.195	EC 16 B27 230/50	20821698	1	84.5	27	74-80	0.30	45	0.45	2.0	0.10	–	A
18	TC-D	0.220	EC 18 B27 230/50	20821714	1	84.5	27	74-80	0.30	50	0.47	2.0	0.11	–	A
18	TC-L	0.370	EC 18 B501K 230/50	22148749	2	191.0	90	150-184	0.85	40	0.29	4.5	0.10	2.7 / 480 V	A
2x18	TC-L	0.40 ④	EC 36 B501K 230/50	22148758	2	191.0	90	150-184	0.85	30	0.46	4.5	0.20	3.4 / 450 V	A

## Energy Efficiency Index EEI = B2

5	TC-S	0.180	EC 09 C101K 230/50	22148946	1	84.5	27	74-80	0.30	50	0.28	2.0	0.05	–	A
7	TC-S	0.175	EC 09 C101K 230/50	22148946	1	84.5	27	74-80	0.30	50	0.32	2.0	0.05	–	A
2x7	TC-S	0.190	EC 13 C101K 230/50	20821676	1	84.5	27	74-80	0.30	50	0.46	2.0	0.08	–	A
9	TC-S	0.170	EC 09 C101K 230/50	22148946	1	84.5	27	74-80	0.30	50	0.36	2.0	0.06	–	A
2x9	TC-S	0.190	EC 13 C101K 230/50	20821676	1	84.5	27	74-80	0.30	45	0.57	1.5	0.08	–	A
10	TC-D	0.190	EC 13 C101K 230/50	20821676	1	84.5	27	74-80	0.30	55	0.37	2.0	0.07	–	A
10	TC-DD	0.180	EC 13 C101K 230/50	20821676	1	84.5	27	74-80	0.30	50	0.39	2.0	0.07	–	A
11	TC-S	0.155	EC 09 C101K 230/50	22148946	1	84.5	27	74-80	0.30	40	0.47	2.0	0.07	–	A
13	TC-D	0.175	EC 13 C101K 230/50	20821676	1	84.5	27	74-80	0.30	50	0.45	2.0	0.08	–	A
16	TC-DD	0.195	EC 16 C101K 230/50	20887799	1	84.5	27	74-80	0.30	50	0.48	2.0	0.09	–	A
18	TC-D	0.220	EC 18 TCD C101K 230/50	20887802	1	84.5	27	74-80	0.30	55	0.49	2.0	0.11	–	A
18	TC-L	0.370	EC 18 LC501K 230/50	22115859	2	151.0	54	110-144	0.55	55	0.33	4.5	0.13	2.7 / 480 V	A
2x18	TC-L	0.40 ④	EC 36 LC501K 230/50	22115862	2	151.0	54	110-144	0.55	50	0.44	4.5	0.20	3.4 / 450 V	A

②  $\cos \varphi > 0.9$ ; ③ A ... standard article, B ... on request; ④ lamp current measured in series circuit

## EC 5–18 W 240 V 50 Hz



Figure 1:

- $t_w = 130\text{ °C}$
- push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2:

- $t_w = 130\text{ °C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

Figure 1

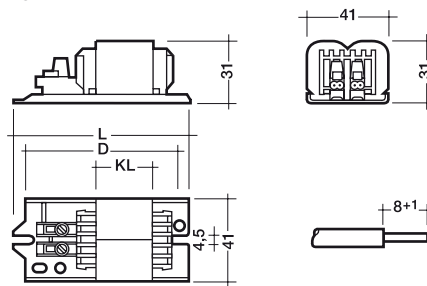
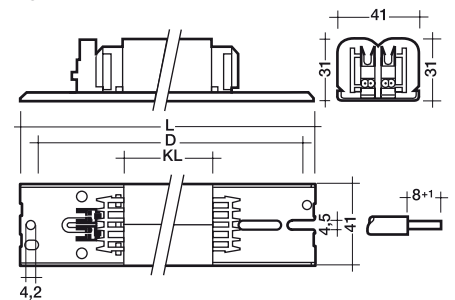


Figure 2



Packaging figure 1:  
5 off, banded  
2,200 pieces/pallet

Packaging figure 2:  
**Core stack length  
50 and 54**  
5 off, banded  
1,400 pieces/pallet

**Core stack length 90**  
5 off, banded  
1,000 pieces/pallet

Wiring:  
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Lamp			Choke									P. F. Correction			③
watt- age W	type	nominal lamp current A	type	article number	fig.	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu F \pm 10\%$ 250V	② line current A	series comp. capacitor $\mu F \pm 4\%$	

## Energy Efficiency Index EEI = B1

5	TC-S	0.180	EC 09 B27 240/50	20821660	1	84.5	27	74-80	0.300	50	0.25	2.0	0.05	–	A
7	TC-S	0.175	EC 09 B27 240/50	20821660	1	84.5	27	74-80	0.300	45	0.29	2.0	0.05	–	A
2x7	TC-S	0.17 ④	EC 13 B27 240/50	22116865	1	84.5	27	74-80	0.300	40	0.44	2.0	0.07	–	A
2x7	TC-S	0.175	EC 13 LB502K 240/50	22148763	2	151.0	50	110-144	0.500	30	0.41	2.0	0.07	–	A
9	TC-S	0.170	EC 09 B27 240/50	20821660	1	84.5	27	74-80	0.300	40	0.34	2.0	0.06	–	A
2x9	TC-S	0.16 ④	EC 13 B27 240/50	22116865	1	84.5	27	74-80	0.300	40	0.52	1.5	0.09	–	A
2x9	TC-S	0.170	EC 13 LB502K 240/50	22148763	2	151.0	50	110-144	0.500	30	0.48	2.0	0.09	–	A
10	TC-DD	0.180	EC 13 B27 240/50	22116865	1	84.5	27	74-80	0.300	45	0.36	2.0	0.06	–	A
10	TC-D	0.190	EC 13 LB502K 240/50	22148763	2	151.0	50	110-144	0.500	35	0.30	2.0	0.06	–	A
10	TC-DD	0.180	EC 13 LB502K 240/50	22148763	2	151.0	50	110-144	0.500	30	0.34	2.0	0.06	–	A
11	TC-S	0.155	EC 09 B27 240/50	20821660	1	84.5	27	74-80	0.300	40	0.39	2.0	0.07	–	A
13	TC-D	0.165	EC 13 B27 240/50	22116865	1	84.5	27	74-80	0.300	40	0.42	2.0	0.07	–	A
13	TC-D	0.175	EC 13 LB502K 240/50	22148763	2	151.0	50	110-144	0.500	30	0.40	2.0	0.07	–	A
18	TC-D	0.220	EC 18 B27 240/50	20821720	1	84.5	27	74-80	0.300	60	0.44	2.0	0.10	–	A
18	TC-D	0.220	EC 18 TCD LB502K 240/50	22148766	2	151.0	50	110-144	0.500	35	0.41	2.0	0.08	–	A
18	TC-L	0.375	EC 18 B502K 240/50	22148765	2	191.0	90	150-184	0.850	30	0.29	4.0	0.10	–	A
2x18	TC-L	0.40 ④	EC 36 B502K 240/50	22148771	2	191.0	90	150-184	0.850	30	0.44	4.0	0.18	–	A

## Energy Efficiency Index EEI = B2

5	TC-S	0.180	EC 09 C102K 240/50	22149307	1	84.5	27	74-80	0.300	60	0.28	2.0	0.05	–	A
7	TC-S	0.175	EC 09 C102K 240/50	22149307	1	84.5	27	74-80	0.300	55	0.31	2.0	0.05	–	A
2x7	TC-S	0.175	EC 13 C102K 240/50	20821682	1	84.5	27	74-80	0.330	40	0.45	2.0	0.08	–	A
9	TC-S	0.170	EC 09 C102K 240/50	22149307	1	84.5	27	74-80	0.300	50	0.36	2.0	0.06	–	A
2x9	TC-S	0.170	EC 13 C102K 240/50	20821682	1	84.5	27	74-80	0.330	40	0.52	2.0	0.08	–	A
10	TC-D	0.190	EC 13 C102K 240/50	20821682	1	84.5	27	74-80	0.330	50	0.34	2.0	0.07	–	A
10	TC-DD	0.180	EC 13 C102K 240/50	20821682	1	84.5	27	74-80	0.330	45	0.36	2.0	0.07	–	A
11	TC-S	0.155	EC 09 C102K 240/50	22149307	1	84.5	27	74-80	0.300	40	0.44	2.0	0.07	–	A
13	TC-D	0.175	EC 13 C102K 240/50	20821682	1	84.5	27	74-80	0.330	45	0.45	2.0	0.08	–	A
16	TC-DD	0.195	EC 16 C102K 240/50	22115480	1	84.5	27	74-80	0.300	55	0.46	2.0	0.09	–	A
18	TC-D	0.220	EC 18 TCD C102K 240/50	22149235	1	84.5	27	74-80	0.300	55	0.46	2.0	0.10	–	A
18	TC-L	0.375	EC 18 LC502K 240/50	22148708	2	151.0	54	110-144	0.540	50	0.30	4.0	0.11	–	A
2x18	TC-L	0.40 ④	EC 36 LC502K 240/50	22148709	2	151.0	54	110-144	0.548	50	0.49	4.0	0.21	–	A

②  $\cos \varphi > 0.9$ ; ③ A ... standard article, B ... on request; ④ lamp current measured in series circuit



Magnetic chokes  
Compact lamps

EC 21–38 W 230 V 50 Hz



Figure 1:

- $t_w = 130\text{ °C}$
- push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2:

- $t_w = 130\text{ °C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

Packaging core stack length 50 and 54:

5 off, banded  
1,400 pieces/pallet

Packaging core stack length 90:

5 off, banded  
1,000 pieces/pallet

Figure 1

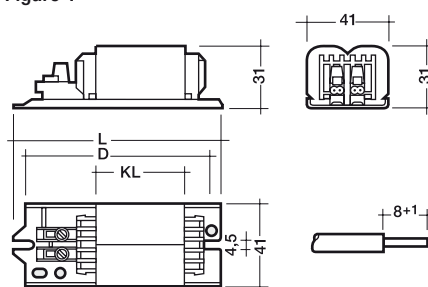
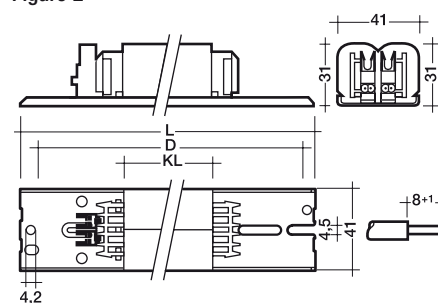


Figure 2



Wiring:

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Lamp			Choke									P. F. Correction			③
watt- age W	type	nominal lamp current A	type	article number	fig.	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu F \pm 10\%$ 250V	② line current A	series comp. capacitor $\mu F \pm 4\%$	

Energy Efficiency Index EEI = B1

24	TC-L	0.345	EC 18 B501K 230/50	22148749	2	191	90	150-184	0.85	30	0.39	3.0	0.13	2.5 / 450 V	A
26	TC-D	0.325	EC 18 B501K 230/50	22148749	2	191	90	150-184	0.85	30	0.43	3.0	0.14	2.5 / 450 V	A
28	TC-DD	0.320	EC 18 B501K 230/50	22148749	2	191	90	150-184	0.85	30	0.46	3.0	0.15	–	A
36	TC-L	0.430	EC 36 B501K 230/50	22148758	2	191	90	150-184	0.85	30	0.44	4.5	0.22	3.4 / 450 V	A
38	TC-DD	0.430	EC 36 B501K 230/50	22148758	2	191	90	150-184	0.85	30	0.45	4.5	0.22	–	A

Energy Efficiency Index EEI = B2

21	TC-DD	0.260	EC 21 C501K 230/50	22148753	2	151	50	110-144	0.50	35	0.42	3.0	0.11	–	A
24	TC-L	0.345	EC 26 OC101K 230/50	22148858	1	110	50	97-105	0.53	50	0.40	3.0	0.15	2.5 / 450 V	B
24	TC-L	0.345	EC 18 LC501K 230/50	22115859	2	151	54	110-144	0.55	50	0.38	3.0	0.15	2.6 / 450 V	A
26	TC-D	0.325	EC 18 LC501K 230/50	22115859	2	151	54	110-144	0.55	45	0.43	3.0	0.15	2.5 / 450 V	A
26	TC-D	0.325	EC 26 OC101K 230/50	22148858	1	110	50	97-105	0.53	45	0.43	3.0	0.15	2.5 / 450 V	B
28	TC-DD	0.320	EC 18 LC501K 230/50	22115859	2	151	54	110-144	0.55	45	0.49	3.0	0.15	–	A
36	TC-L	0.430	EC 36 LC501K 230/50	22115862	2	151	54	110-144	0.55	55	0.44	4.5	0.22	3.4 / 450 V	A
38	TC-DD	0.430	EC 36 LC501K 230/50	22115862	2	151	54	110-144	0.55	50	0.49	4.5	0.23	–	A

②  $\cos \varphi > 0.9$ ; ③ A ... standard article, B ... on request



EC 21–38 W 240 V 50 Hz



Figure 1:

- $t_w = 130\text{ }^\circ\text{C}$
- push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2:

- $t_w = 130\text{ }^\circ\text{C}$
- ConCut – IDC terminal 0.5-1.5 mm<sup>2</sup>
- optimised for automated wiring in luminaires
- authorized for BJB and ALF automatic wiring machines

Packaging core stack length 50 and 54:

5 off, banded  
1,400 pieces/pallet

Packaging core stack length 90:

5 off, banded  
1,000 pieces/pallet

Figure 1

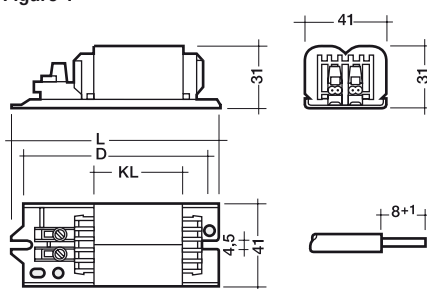
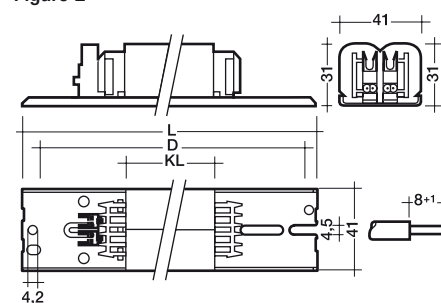


Figure 2



Wiring:

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Approvals:

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EN 61347-2/8

Lamp			Choke									P. F. Correction			③
watt- age W	type	nominal lamp current A	type	article number	fig.	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu\text{F} \pm 10\%$ 250V	② line current A	series comp. capacitor $\mu\text{F} \pm 4\%$	

Energy Efficiency Index EEI = B1

21	TC-DD	0.260	EC 21 B502K 240/50	22148767	2	151	50	110-144	0.50	35	0.41	3.0	0.11	–	A
24	TC-L	0.345	EC 18 B502K 240/50	22148765	2	191	90	150-184	0.85	30	0.38	3.5	0.13	–	A
26	TC-D	0.325	EC 18 B502K 240/50	22148765	2	191	90	150-184	0.85	30	0.40	3.5	0.13	–	A
28	TC-DD	0.320	EC 18 B502K 240/50	22148765	2	191	90	150-184	0.85	25	0.44	3.5	0.14	–	A
36	TC-L	0.430	EC 36 B502K 240/50	22148765	2	191	90	150-184	0.85	35	0.42	4.0	0.18	–	A
38	TC-DD	0.430	EC 36 B502K 240/50	22148765	2	191	90	150-184	0.85	30	0.42	4.0	0.19	–	A

Energy Efficiency Index EEI = B2

24	TC-L	0.345	EC 26 LC102K 240/50	20889280	1	110	54	97-105	0.53	50	0.39	4.0	0.13	–	B
24	TC-L	0.345	EC 18 LC502K 240/50	22148708	2	151	54	110-144	0.55	45	0.39	3.5	0.13	–	A
26	TC-D	0.325	EC 18 LC502K 240/50	22148708	2	151	54	110-144	0.55	40	0.42	3.5	0.13	–	A
26	TC-D	0.325	EC 26 LC102K 240/50	20889280	1	110	54	97-105	0.53	50	0.42	3.5	0.14	–	B
28	TC-DD	0.320	EC 18 LC502K 240/50	22148708	2	151	54	110-144	0.55	40	0.46	3.5	0.14	–	A
36	TC-L	0.430	EC 36 LC502K 240/50	22148709	2	151	54	110-144	0.55	55	0.44	4.0	0.22	–	A
38	TC-DD	0.430	EC 36 LC502K 240/50	22148709	2	151	54	110-144	0.55	55	0.46	4.0	0.22	–	A

②  $\cos \varphi > 0.9$ ; ③ A ... standard article, B ... on request



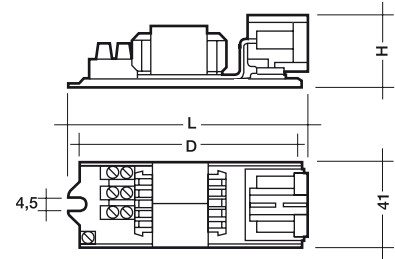
## LEC 5–11 W 230 V 50 Hz



- $t_w = 130\text{ }^\circ\text{C}$
- screw terminal

## Packaging:

box of 42  
1,344 pieces/pallet



**Wiring:**  
page 31  
page 32

**Approvals:**  
EN 60921  
EN 61347-2/8

Lamp			Choke									P. F. Correction			②
watt- age W	type	nominal lamp current A	type	article number	height H mm	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu\text{F} \pm 10\%$ 250V		series comp. capacitor $\mu\text{F} \pm 4\%$	
												① line current A			

## Energy Efficiency Index EEI = C

5	TC-S	0.180	LEC 09 A27 230 V 50 Hz	20295798	39	114	27	100-102	0.35	50	0.28	2.0	0.05	–	B
7	TC-S	0.175	LEC 09 A27 230 V 50 Hz	20295798	39	114	27	100-102	0.35	50	0.32	2.0	0.05	–	B
9	TC-S	0.170	LEC 09 A27 230 V 50 Hz	20295798	39	114	27	100-102	0.35	45	0.37	2.0	0.06	–	B
11	TC-S	0.155	LEC 09 A27 230 V 50 Hz	20295798	39	114	27	100-102	0.35	40	0.45	2.0	0.07	–	B

device is excluded from Directive 2000/55/EC

①  $\cos \varphi > 0.9$

② A ... standard article, B ... on request

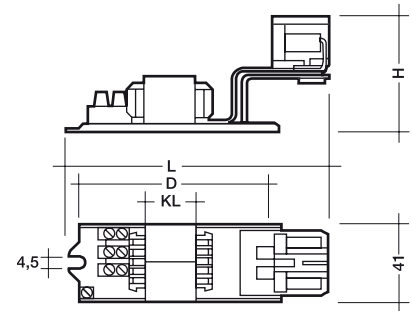


UEC 5–11 W 230 V 50 Hz and 240 V 50 Hz



- $t_w = 130\text{ }^\circ\text{C}$
- screw terminal

Packaging:  
box of 27  
864 pieces/pallet



Wiring:  
page 31  
page 32

Approvals:  
EN 60921  
EN 61347-2/8

Lamp			Choke										P. F. Correction			②
watt- age W	type	nominal lamp current A	type	article number	height H mm	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu\text{F} \pm 10\%$ 250V		① line current A	series comp. capacitor $\mu\text{F} \pm 4\%$	

Energy Efficiency Index EEI = C, 230 V

5	TC-S	0.180	UEC 09 A27 230 V 50 Hz	20295757	63	138	27	92-102	0.35	50	0.28	2.0	0.05	–	B
7	TC-S	0.175	UEC 09 A27 230 V 50 Hz	20295757	63	138	27	92-102	0.35	50	0.32	2.0	0.05	–	B
9	TC-S	0.170	UEC 09 A27 230 V 50 Hz	20295757	63	138	27	92-102	0.35	45	0.36	2.0	0.06	–	B
11	TC-S	0.155	UEC 09 A27 230 V 50 Hz	20295757	63	138	27	92-102	0.35	40	0.47	2.0	0.07	–	B

Energy Efficiency Index EEI = C, 240 V

5	TC-S	0.180	UEC 09 A27 240 V 50 Hz	20295760	63	138	27	92-102	0.35	60	0.28	2.0	0.05	–	B
7	TC-S	0.175	UEC 09 A27 240 V 50 Hz	20295760	63	138	27	92-102	0.35	55	0.31	2.0	0.05	–	B
9	TC-S	0.170	UEC 09 A27 240 V 50 Hz	20295760	63	138	27	92-102	0.35	50	0.36	2.0	0.06	–	B
11	TC-S	0.155	UEC 09 A27 240 V 50 Hz	20295760	63	138	27	92-102	0.35	45	0.44	2.0	0.07	–	B

device is excluded from Directive 2000/55/EC

①  $\cos \varphi > 0.9$

② A ... standard article, B ... on request



## UEC 10–26 W 230 V 50 Hz and 240 V 50 Hz



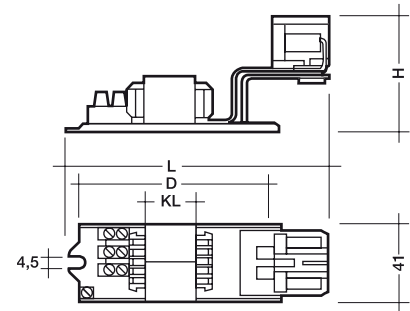
- $t_w = 130\text{ °C}$
- screw terminal

## Packaging UEC 13 and 18:

box of 24  
768 pieces/pallet

## Packaging UEC 26:

box of 18  
576 pieces/pallet



**Wiring:**  
page 31  
page 32

**Approvals:**  
EN 60921  
EN 61347-2/8

Lamp			Choke										P. F. Correction			②
watt- age W	type	nominal lamp current A	type	article number	height H mm	length L mm	core stack length KL mm	fixing centres D mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu F \pm 10\% 250V$	① line current A	series comp. capacitor $\mu F \pm 4\%$		

## Energy Efficiency Index EEI = B2, 230 V

10	TC-D	0.190	<b>UEC 13 C311K</b> 230 V 50 Hz	22179287	68	138	27	92-102	0.35	55	0.37	2.0	0.07	–	A
13	TC-D	0.175	<b>UEC 13 C311K</b> 230 V 50 Hz	22179287	68	138	27	92-102	0.35	55	0.45	2.0	0.08	–	A
18	TC-D	0.220	<b>UEC 18 TCD C311K</b> 230 V 50 Hz	22179294	68	138	27	92-102	0.35	55	0.47	2.0	0.11	–	A
26	TC-D	0.325	<b>UEC 26 C301K</b> 230 V 50 Hz	22179304	68	151	50	130-144	0.55	45	0.47	3.0	0.14	–	A

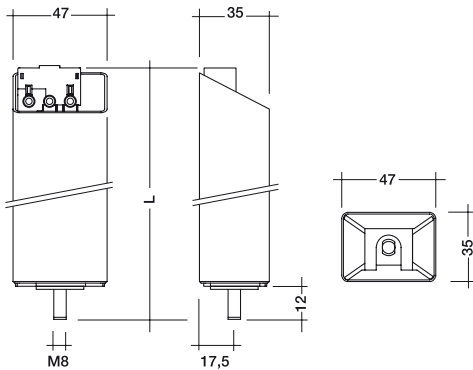
## Energy Efficiency Index EEI = B2, 240 V

10	TC-D	0.190	<b>UEC 13 C312K</b> 240 V 50 Hz	22179289	68	138	27	92-102	0.35	50	0.34	2.0	0.07	–	A
13	TC-D	0.175	<b>UEC 13 C312K</b> 240 V 50 Hz	22179289	68	138	27	92-102	0.35	50	0.45	2.0	0.08	–	A
18	TC-D	0.220	<b>UEC 18 TCD C312K</b> 240 V 50 Hz	22179296	68	138	27	92-102	0.35	50	0.46	2.0	0.10	–	A

①  $\cos \varphi > 0.9$ 

② A ... standard article, B ... on request

EC 5–28 W 230 V 50 Hz



- $t_w = 130\text{ }^\circ\text{C}$
- push terminal 0.5-1.5 mm<sup>2</sup> for solid cables
- non-resettable protection
- switch off temperature 150 °C

**Packaging L = 87:**  
box of 39  
1,404 pieces/pallet

**Packaging L = 113:**  
box of 26  
936 pieces/pallet

**Approvals:**  
EN 60921  
EN 61347-2/8

Lamp			Choke						P. F. Correction			②
watt- age W	type	nominal lamp current A	type	article number	length L mm	weight kg	$\Delta T$ K	$\lambda$	parallel compensation capacitor $\mu\text{F} \pm 10\%$ 250V	① line current A	series comp. capacitor $\mu\text{F} \pm 4\%$	

**Energy Efficiency Index EEI = B1**

18	TC-D	0.220	EC 18 TCD LB201B 230 V 50 Hz	22149057	113	0.54	35	0.43	2.5	0.10	–	A
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**Energy Efficiency Index EEI = B2**

5	TC-S	0.180	EC 9 C201B 230 V 50 Hz	22149055	87	0.33	65	0.27	2.0	0.05	–	A
7	TC-S	0.175	EC 9 C201B 230 V 50 Hz	22149055	87	0.33	65	0.32	2.0	0.05	–	A
9	TC-S	0.170	EC 9 C201B 230 V 50 Hz	22149055	87	0.33	65	0.36	2.0	0.06	–	A
11	TC-S	0.155	EC 9 C201B 230 V 50 Hz	22149055	87	0.33	55	0.43	2.0	0.07	–	A
18	T8	0.370	EC 18 LC201B 230 V 50 Hz	22149220	113	0.55	65	0.32/c	4.5	0.11	2.7 / 480 V	A
18	TC-L	0.375	EC 18 LC201B 230 V 50 Hz	22149220	113	0.55	65	0.31/c	4.5	0.11	2.7 / 480 V	A
23	T8	0.290	EC 18 LC201B 230 V 50 Hz	22149220	113	0.55	50	0.42/c	3.5	0.12	2.4 / 450 V	A
24	TC-L	0.345	EC 18 LC201B 230 V 50 Hz	22149220	113	0.55	60	0.40/c	4.0	0.14	2.6 / 480 V	A
26	TC-D	0.325	EC 18 LC201B 230 V 50 Hz	22149220	113	0.55	55	0.43/c	3.5	0.14	2.5 / 450 V	A
28	TC-DD	0.320	EC 18 LC201B 230 V 50 Hz	22149220	113	0.55	55	0.48	3.5	0.15	–	A

①  $\cos \phi > 0.9$

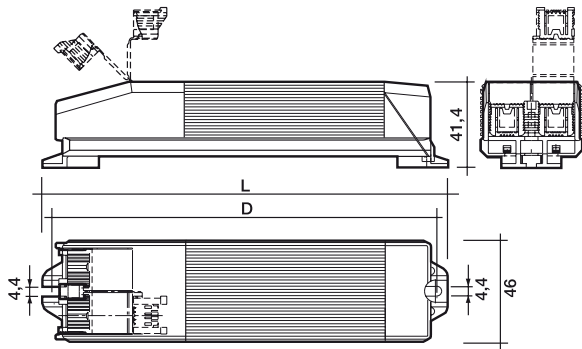
② A ... standard article, B ... on request





Magnetic chokes with reinforced insulation (SK2)  
Linear lamps, compact lamps

ETAWATT 18–65 W 230 V 50 Hz



- $t_w = 130\text{ }^\circ\text{C}$
- push terminal 0.5-1.5 mm<sup>2</sup> for solid cables
- non-resettable protection
- switch off temperature 182 °C

**Packaging:**  
box of 10  
600 pieces/pallet

**Approvals:**  
EN 60921  
EN 61347-1  
EN 61347-2/8

Lamp		Choke									P. F. Correction		
watt- age W	type	type	article number	length L mm	fixing centres D mm	weight kg	$\Delta T$ K	losses W ②	nomina lamp current A	$\lambda$	parallel compensation capacitor $\mu\text{F} \pm 10\% 250\text{V}$	① line current A	series comp. capacitor $\mu\text{F} \pm 4\%$
18	T8	ETAWATT 18 C201B 230 V 50 Hz	86457917	182.5	155-172.5	0.81	55	EEI = B2	0.370	0.33/c	4.5	0.12	2.7 / 480 V
23	T8	ETAWATT 18 C201B 230 V 50 Hz	86457917	182.5	155-172.5	0.81	40	EEI = B2	0.300	0.42/c	3.0	0.15	2.4 / 450 V
18	TC-L	ETAWATT 18 C201B 230 V 50 Hz	86457917	182.5	155-172.5	0.81	55	EEI = B2	0.375	0.32/c	4.5	0.12	2.7 / 480 V
24	TC-L	ETAWATT 18 C201B 230 V 50 Hz	86457917	182.5	155-172.5	0.81	50	EEI = B2	0.345	0.41/c	4.0	0.14	2.7 / 480 V
26	TC-D	ETAWATT 18 C201B 230 V 50 Hz	86457917	182.5	155-172.5	0.81	45	EEI = B2	0.325	0.43/c	3.5	0.15	2.5 / 450 V
28	TC-DD	ETAWATT 18 C201B 230 V 50 Hz	86457917	182.5	155-172.5	0.81	45	EEI = B2	0.320	0.48	3.5	0.16	–
36	T8	ETAWATT 36 C201B 230 V 50 Hz	86457918	182.5	155-172.5	0.81	60	EEI = B2	0.430	0.47/c	4.5	0.20	3.4 / 450 V
38	T8	ETAWATT 36 C201B 230 V 50 Hz	86457918	182.5	155-172.5	0.81	60	EEI = B2	0.430	0.49/c	4.5	0.21	3.4 / 450 V
40	U	ETAWATT 36 C201B 230 V 50 Hz	86457918	182.5	155-172.5	0.81	60	EEI = B2	0.430	0.5/c	4.5	0.22	3.4 / 450 V
2x18	T8	ETAWATT 36 C201B 230 V 50 Hz	86457918	182.5	155-172.5	0.81	50	EEI = B2	0.40 ③	0.51	4.0	0.20	–
36	TC-L	ETAWATT 36 C201B 230 V 50 Hz	86457918	182.5	155-172.5	0.81	60	EEI = B2	0.435	0.46/c	4.5	0.20	3.4 / 450 V
38	TC-DD	ETAWATT 36 C201B 230 V 50 Hz	86457918	182.5	155-172.5	0.81	60	EEI = B2	0.430	0.48	4.5	0.21	–
40	T-R	ETAWATT 36 C201B 230 V 50 Hz	86457918	182.5	155-172.5	0.81	55	EEI = B2	0.415	0.51/c	4.0	0.95	3.4 / 450 V
2x18	TC-L	ETAWATT 36 C201B 230 V 50 Hz	86457918	182.5	155-172.5	0.81	50	EEI = B2	0.40 ③	0.51	4.0	0.20	3.4 / 450 V

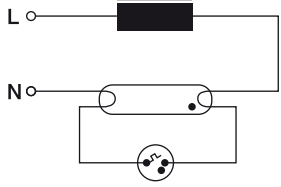
①  $\cos \varphi > 0.9$

② mean value, measured at 25 °C copper temperature

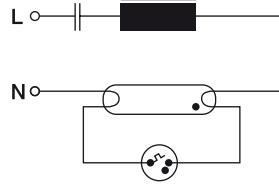
③ lamp current measured in series circuit

## 1. Linear lamps

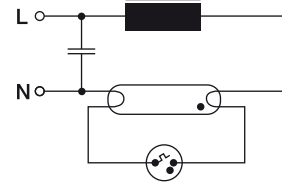
A) Single lamp uncompensated



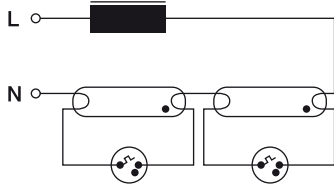
B) Single lamp series compensated



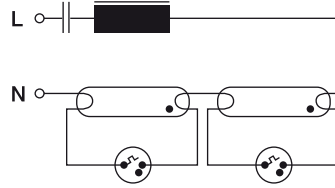
C) Single lamp parallel compensated



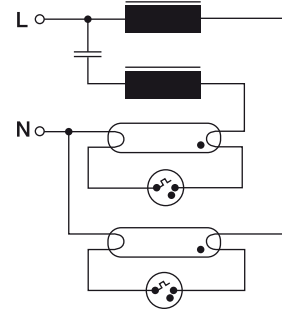
D) Twin series lamps uncompensated



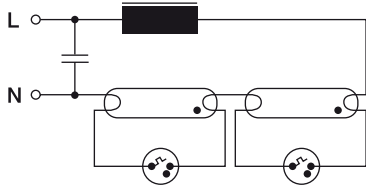
E) Twin series lamps series compensated



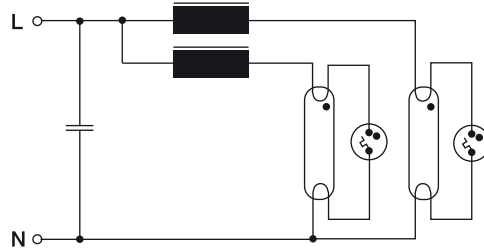
F) Twin lamp lead / lag



G) Twin series lamps parallel compensated

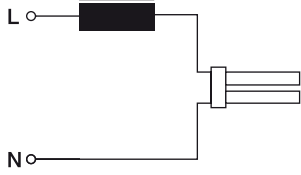


H) Twin lamp parallel compensated;  
2 x value of parallel capacitor (single circuit)  
2x18 W T8 = 8 μF (250 V)

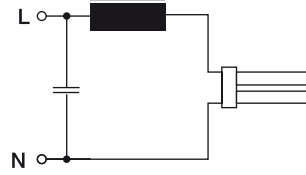


## 2. Compact lamps

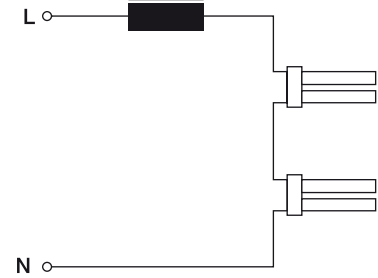
I) Single 2 pin lamp uncompensated



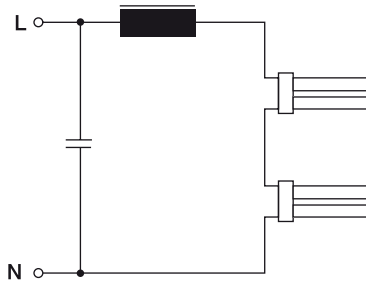
J) Single 2 pin lamp parallel compensated



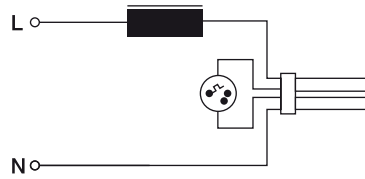
K) Twin series 2 pin lamps uncompensated



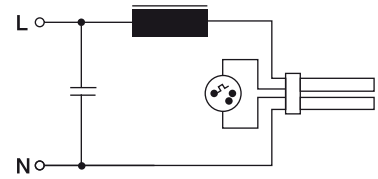
L) Twin series 2 pin lamps parallel compensated



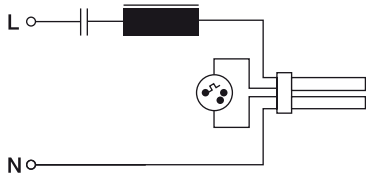
M) Single 4 pin lamp uncompensated



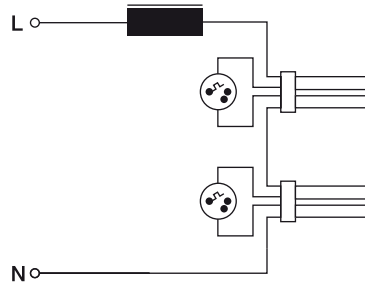
N) Single 4 pin lamp parallel compensated



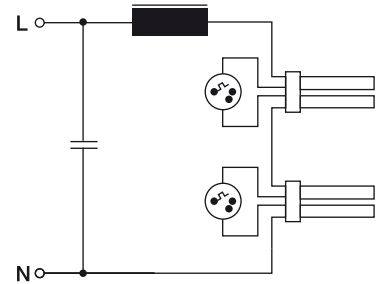
O) Single 4 pin lamp series compensated



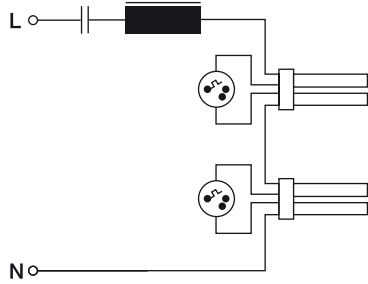
P) Twin series 4 pin lamps uncompensated



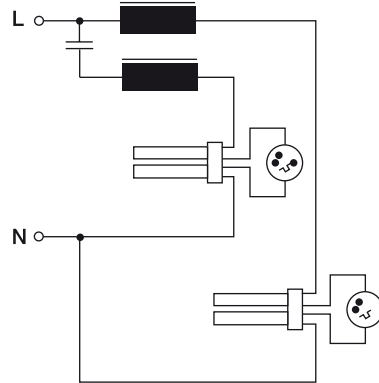
Q) Twin series 4 pin lamps parallel compensated



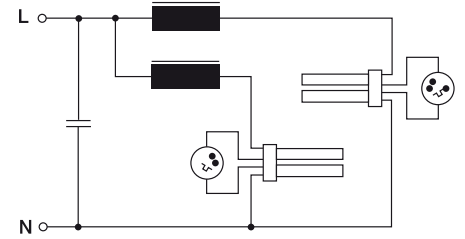
R) Twin series 4 pin lamps series compensated



S) Twin 4 pin lamps lead / lag



T) Twin 4 pin lamps parallel compensated



# Electronic ballast for fluorescent lamps

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# Overview – ECG product range

## PC INDUSTRY

Portfolio: T5, T8



Heavy-duty gear for use in industrial environments.

- increased temperature range from -30 °C to +70 °C
- Intelligent Voltage Guard
- enhanced immunity up to 4 kV
- increased life of 100,000 hours
- increased reliability: 0.1 % failure rate per 1,000 hours

## PC PRO-M

Portfolio: T5, T8, TC-F, TC-L, TC-T, TC-D, T5c



Professional equipment for multi-lamp operation.

- Intelligent Voltage Guard
- integrated lamp detection
- new freedom in lighting planning
- optimised warehouse management
- adaptation of the lighting system to changing needs

## PC PRO linear

Portfolio: T5, T8, TC-L



Professional equipment for professional applications.

- „low profile“ – 21 mm overall height (T5)
- wide temperature range from -25 °C to +60 °C
- Intelligent Voltage Guard
- EEI = A2, output-optimised
- THD < 10 %

## PC PRO compact

Portfolio: TC-S, TC-D, TC-T, TC-F, TC-L, T5c



Professional equipment for professional applications.

- universal lamp operation
- wide temperature range from -25 °C to +60 °C
- Intelligent Voltage Guard
- EEI = A2, output-optimised
- THD < 10 %

## PC PRO sr

Portfolio: T5, TC-D, TC-T



Professional equipment for professional applications.

- Intelligent Voltage Guard
- no tools required
- through-wiring
- 3x earth connection
- integrated strain relief

## PC Basic

Portfolio: T5, T8, TC-S, TC-D, TC-T, TC-L, T5c



Versatile equipment for system wattages less than 25 W.

- universal lamp operation
- available without casing
- small size
- ideal for use in shelf and furniture lighting
- low-cost electronic alternative to magnetic ballasts

# Electronic ballast for fluorescent lamps

Electronic ballast from TridonicAtco is noted in particular for its excellent economy, exceptional level of lighting comfort and impressive reliability.

The wide range of units in the PC family offer minimum power consumption and cover all the relevant applications with T5, T8 and compact fluorescent lamps.



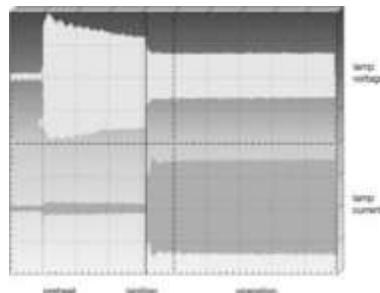
The PC PRO-M, PC PRO, PC PRO sr, PC Basic, PC INDUSTRY and PC FOX versions all have characteristics tailored to their specific applications and requirements.

Electronic control gear (ECG) operates lamps with high-frequency voltages and currents (over 40 kHz) – a frequency range that does not interfere with infra-red remote controls for example which operate at 36 kHz. Since the ignition voltage is generated internally there is no need for additional starters. And with an excellent power factor of typically  $> 0.98$  there is also no need for a capacitor to compensate for reactive power. Another benefit of using electronic control gear in the lighting industry is that they have simplified wiring, making them easier and quicker to install than conventional control gear.

## Impressive economy

High-frequency operation of fluorescent lamps leads to an increase in luminous flux of around 10 %, or for the same luminous flux around 10 % less power consumed. What's more, ECGs have a low power loss of less than 10 % of lamp output and low self-heating, which reduces the luminaire temperature and at the same time increases the efficiency of the lamp. With these characteristics, ECGs offer energy savings of up to 25 % in the lighting system compared with conventional control gear.

ECGs ensure that the lamp electrodes are preheated in accordance with the manufacturer's specifications, that the ignition voltage is sufficiently high and that the discharge current is limited. There is also added value from ease of installation, wiring and operation. Hot restarts under defined conditions protect the fluorescent lamps, increase their life compared with conventional starter operation and allow frequency on/off switching throughout their life. Luminaires operated on innovative control gear from TridonicAtco can therefore be used in conjunction with presence sensors and ambient light sensors. These devices significantly reduce the energy consumption of professional lighting systems and therefore further contribute to energy efficiency.



This in turn reduces the costs for replacing the lamps and for maintaining the lighting system thanks to longer maintenance intervals. Thanks to their high-quality components, intelligent circuit design and extensive testing under rated conditions, PC control gear from TridonicAtco achieve an average life of 50,000 hours – for a reliability in excess of 90 %; in other words an average failure rate of 0.2 % per 1,000 hours of operation.

These properties of PC ballast from TridonicAtco, namely energy efficiency, long equipment life and long lamp life thanks to defined operation, ensure that lighting systems operate at high levels of economy.

## Lighting comfort and quality

High-frequency operation of fluorescent lamps results in a much more constant gas discharge than is the case with conventional control gear. This in turn ensures there is no cathode flickering (even at low temperatures) and no stroboscopic effects. The resultant improvement in the quality of light makes the lighting system more comfortable on the eye.

Further improvements in the quality of light are provided by the application-specific integrated circuit (ASIC) developed specifically for TridonicAtco for optimum lamp management. It ensures that the lamps ignite reliably with no annoying flickering or noise. The lamps are automatically shut down if they develop a fault or when they come to the end of their lives – without flickering and without wasting energy on futile attempts to restart them. Replacement lamps are automatically started.

The ASIC also ensures that the luminous flux remains constant irrespective of fluctuations in the mains voltage in the 198 V to 254 V range.

## For emergency lighting systems



As PC electronic control gear can be operated on either ac or dc there is no need for a separate emergency lighting system.

## Optimum mechanical design

ECGs weigh much less than electromagnetic control gear. This is extremely useful in terms of luminaire design because everything can be geared around a lower weight. This saves on precious material resources. And because of the lower weight less energy is consumed on all the logistics paths. This is another contribution to reducing CO<sub>2</sub> emissions.

Their IDC (Insulation Displacement Connection) terminals enable the wiring to be completed quickly either automatically or manually.

## Constant high quality

The consistently high quality and reliability of PC control gear from TridonicAtco are guaranteed by the use of high-grade materials together with manufacturing processes certified to ISO 9001. Fully automatic manufacture also ensures constant reproducible quality. All the ECGs are subjected to 100 % final testing and safety testing.

## Standards and approval marks

PC ECGs from TridonicAtco are ENEC certified, carry the CE mark and meet all the relevant European standards relating to safety, operation and electromagnetic compatibility (EMC).

## Lamp matrix

### Which control gear for which lamp?

The current lamp matrix can be found on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → more documents

## Technical Information

The latest technical information can be downloaded from the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → Data sheets

## Personal enquiries

A form for personal enquiries is available on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Contact → Enquiry  
→ Application Department contact form



## PC PRO with intelligent monitoring

The PC PRO family of ECGs combine the benefits of modern electronics with the advantages of compact casing design.

The one to four-lamp versions are designed to operate T8 fluorescent lamps from 18 W to 70 W, T5 HE lamps from 14 W to 35 W, T5 HO lamps from 24 W to 80 W and compact fluorescent lamps from 9 W to 70 W.

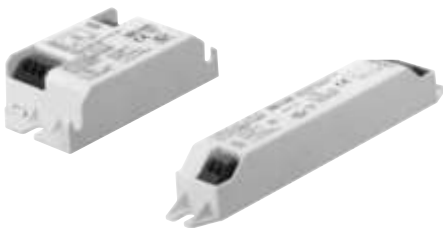


The integrated Intelligent Voltage Guard (IVG) is an innovative prevention mechanism that constantly monitors the mains voltage at the control gear to protect it against possible damage due to overvoltage or undervoltage. At mains voltages above 306 V the lamps start to flash on and off so the installer can take appropriate action in good time. If the mains voltage falls below 150 V the ballast is automatically disconnected to protect the control gear from being irreparably damaged.

## PC Basic for small system wattages

For system wattages of up to 25 W, compact electronic PC Basic control gear is an excellent choice because it offers so many benefits. These include an operating temperature range from -25 °C to +50 °C or +60 °C and a service life of 50,000 hours. Together with the long life of the fluorescent lamps – thanks to gentle hot restart – this translates into low maintenance costs and impressive economy for the lighting system as a whole. There are just seven versions of PC Basic for operating the entire wattage range from 4 W to 28 W. The linear sl variant, a compact casing design and a board version are all available.

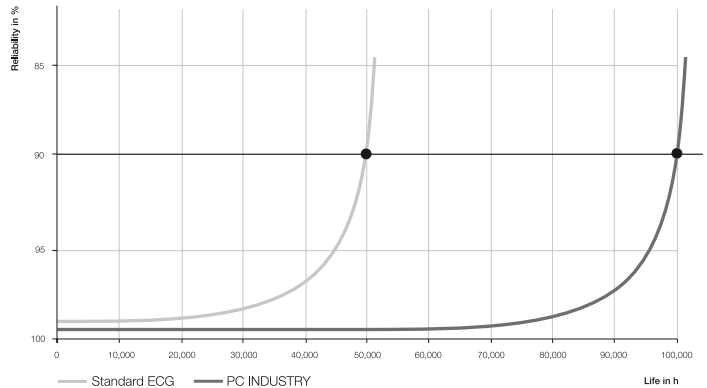
An additional EN 50172-compliant version has been designed specifically for use in emergency lighting systems.



## PC INDUSTRY for demanding applications

PC T8 INDUSTRY and PC T5 INDUSTRY ECGs are designed to operate 36 W and 58 W T8 lamps, and 49 W, 54 W and 80 W T5 lamps in harsh environments; for example they are designed for a life of 100,000 hours at a maximum ambient temperature of +60 °C.

Life of PC INDUSTRY compared with a standard ECG



The control gear is also designed to withstand voltage peaks of up to 4 kV. Long lamp life and high levels of operational reliability for the lighting system throughout the life of the luminaires are therefore guaranteed. As a result particularly of the long lamp life, maintenance intervals are longer and maintenance costs lower.

## PC PRO sr

The new all-in-one casing has integrated cable clamps and terminal covers. The surface mounted version has compact dimensions of just 150 mm x 79.5 mm x 34 mm. This means the units are much easier to install. The two-channel cable clamp does not require any tools or screws and is separate for mains and lamp cables. This unique design has truly impressive functionality.



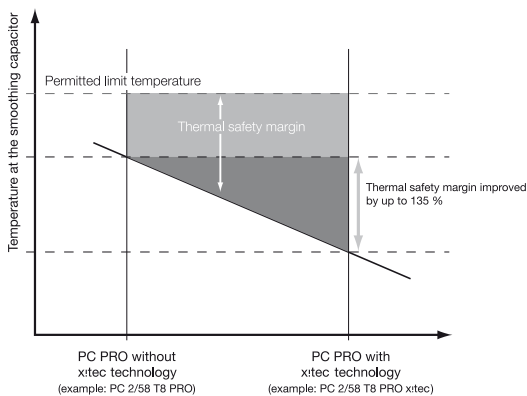
With PC PRO STRAIN RELIEF, installation in suspended ceilings for example is child's play – backed by pioneering ECG expertise from TridonicAtco.

## PC PRO xitec technology for the future

With its new processor technology TridonicAtco is once again setting new standards in the use of digital control technology, which caused a sensation right from the very first device. Intelligence has always been built into application-specific integrated circuits (ASICs). These are TridonicAtco's own developments and are used exclusively in TridonicAtco devices. Five generations of ASICs, more than 200 inventions and more than 900 patents are ample evidence of the digital expertise of TridonicAtco.

The technology is the culmination of almost twenty years of experience and know-how in the development of dimmable and non-dimmable ballasts. The impressive results include a high level of integration and a number of innovative functions for perfect lamp and lighting management. This all adds up to pioneering intelligent control gear with a high level of functionality and also to technological leadership for TridonicAtco.

As the "heart" of the system the "xitec" contains new functions and some tried and tested functions from previous generations of ASICs, creating ideal conditions for perfect lamp and lighting management.



One of the crucial aspects nowadays that is increasingly relevant to decision-making in general and applications in particular is energy efficiency. Improvements here in the PC PRO xitec ballasts have come a number of factors including low power loss thanks to better thermal management. This positive effect comes from using "xitec" technology. The amount of heat produced is reduced so there is less thermal load on the ECG, which increases the reliability of the device at the same time.

The new PC PRO xitec generation has greater thermal safety margin (up to 135 % greater) with respect to the defined limit temperature at the smoothing capacitor. Since the operating temperature has a direct effect on service life a reduction in the continuous load by 10 K at the capacitor results in twice the life.

## PC PRO-M the new ballast for multi-lamp operation

Multi-lamp operation without compromise: this is what TridonicAtco offers with the new functionality of its PC PRO-M ballasts. "xitec" processor technology shows its tremendous potential here.

PC PRO ballasts from TridonicAtco have always offered exceptional functionality as the basis for perfect lamp and lighting management. The SMART Heating Concept for example provides disconnectable electrode preheating for fluorescent lamps to ensure they operate in accordance with specifications and at the same time with optimum energy efficiency and constant luminous flux. And of course faulty lamps are automatically disconnected, lamps are automatically restarted and dc emergency lighting operation takes place in accordance with DIN EN 50172 (formerly VDE 0108).

Preventive features such as Intelligent Voltage Guard (IVG) offer benefits to installers and users in ensuring optimum fault-free operation of the ballasts and therefore the luminaires and lighting systems.

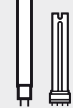
Even more user benefits come from the PC PRO-M versions which are based on "xitec" processor technology. All this functionality is rounded off perfectly by multi-lamp operation, which cuts down on the number of different ECGs.

The reduced number of devices leads to considerable energy savings. Wholesalers and luminaire manufacturers can reduce the size of their component warehouses because a luminaire with a multi-lamp ECG can be equipped with various lamps of the same length. And for planners, operators and facility managers there is a large amount of freedom because the illuminance in a room can be easily changed to suit a change of use for the room or a change of tenant.

TridonicAtco focuses on quality here all the time. The lamp is correctly identified and operated precisely as specified to ensure long life and high luminous flux.

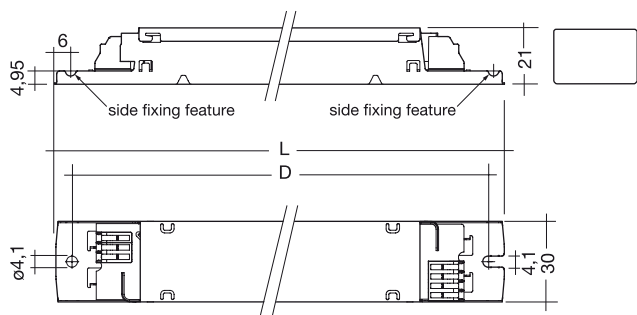
In addition to the PC PRO-M ballasts for multi-lamp operation the entire range of standard devices for the individual wattages will continue to be offered.

By providing a single ballast to operate different lamps of the same length TridonicAtco is once again demonstrating its exceptional expertise in this field. This is impressive functionality combined with extensive user benefits.



## PC T5 PRO-M Ip 14–80 W 220–240 V 50/60/0 Hz

NEW



- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.96$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down)  $< 150$  V AC /  $176$  V DC
- operating frequency  $\geq 40$  kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)
- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- integrated lamp detection
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection according to EN 61347-2-3 C5e

## Ballast

type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W	EEI	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C
								220 V A	240 V A	220 V	240 V		
PC 1/14–35/24/39 T5 PRO-M Ip	22176182	360	350					in preparation ①					
PC 1/14–35/49/54 T5 PRO-M Ip	22176183	360	350					in preparation ①					
PC 1/14–35/49/80 T5 PRO-M Ip	22176184	360	350					in preparation ①					
PC 2/14–28/24/39 T5 PRO-M Ip	22176185	360	350					in preparation ①					
PC 2/14–35/49/54 T5 PRO-M Ip	22176186	360	350					in preparation ①					

① available: 3rd quarter 2008

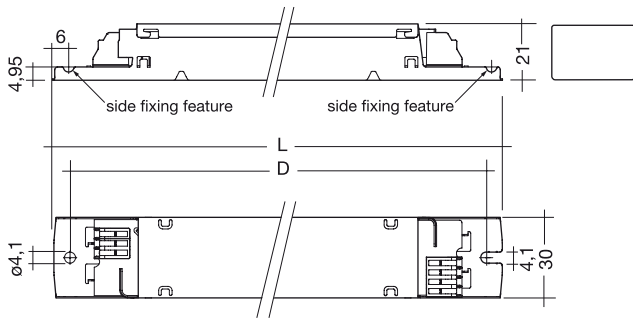
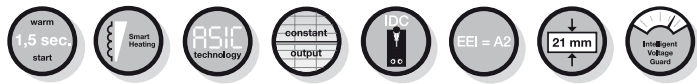
## Ballast/lamp combinations

type	T5HE			T5HO				T8				TC-L				TC-F			T5c							
	14	21	28	35	24	39	49	54	80	18	30	36	58	70	18	24	36	40	55	80	18	24	36	22	40	55
PC 1/14–35/24/39 T5 PRO-M Ip	•	•	•	•	•	•				•	•	•			•	•	•	•			•	•	•	•	•	
PC 1/14–35/49/54 T5 PRO-M Ip	•	•	•	•			•	•				•	•													
PC 1/14–35/49/80 T5 PRO-M Ip	•	•	•	•			•	•											•	•						•
PC 2/14–28/24/39 T5 PRO-M Ip	•	•	•		•	•				•	•	•			•	•	•	•			•	•	•	•	•	•
PC 2/14–35/49/54 T5 PRO-M Ip	•	•	•	•			•	•				•	•													

## T5 lamp overview, same length

	length	type: high efficiency HE (FH)	type: high output HO (FQ)
	549 mm	14 W	24 W
	849 mm	21 W	39 W
	1,149 mm	28 W	54 W
	1,449 mm	35 W	49 W / 80 W

## PC T5 PRO Ip 14 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- economical operation thanks to smart heating
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.96$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down)  $< 150$  V AC / 176 V DC

- operating frequency  $\geq 42$  kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)
- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection according to EN 61347-2-3 C5e

**Packaging:**

box of 25  
33 boxes/pallet  
825 pieces/pallet

**Wiring:**

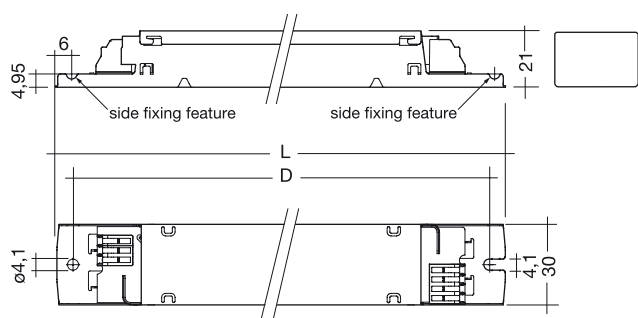
page 59 figure A3-A4

**Approvals:**

EN 55015: 2006 +  
A1: 2007  
EN 60925  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance  
with EN 50172  
IEC 68-2-64 Fh  
IEC 68-2-29 Eb  
IEC 68-2-30

Lamp		Ballast													
watt- age W	type	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W ①	EEI	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C
										220 V A	240 V A	220 V	240 V		
3x14	T5	PC 3/14 T5 PRO Ip	22088962	360	350	0.26	39.4	49.0	A2	0.22	0.21	0.99	0.97	75	-25 → +50
4x14	T5	PC 4/14 T5 PRO Ip	22088978	360	350	0.26	52.4	65.0	A2	0.30	0.28	0.99	0.97	75	-25 → +50

① measured according to EN 50294

**PC T5 PRO Ip 14–35 W 220–240 V 50/60/0 Hz**
**NEW**


- defined lamp warm start within 1.5 s
- economical operation thanks to smart heating
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.96$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down)  $< 150$  V AC / 176 V DC

- operating frequency  $\geq 42$  kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)
- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection according to EN 61347-2-3 C5e

**Packaging:**

**PC 1/14–35 T5 PRO Ip**  
 box of 10  
 96 boxes/pallet  
 960 pieces/pallet

**PC 2/14–35 T5 PRO Ip**  
 box of 10  
 76 boxes/pallet  
 760 pieces/pallet

**Wiring:**

page 59 figure A1-A2

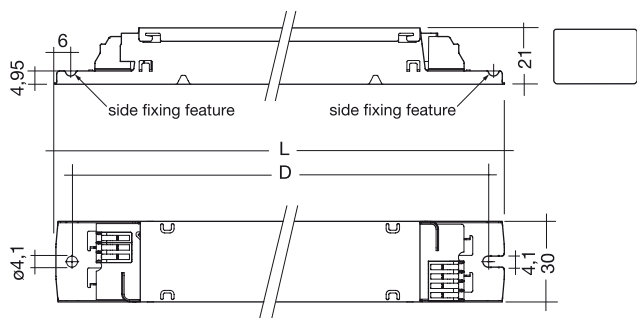
**Approvals:**

EN 55015: 2006 + A1: 2007  
 EN 60925  
 EN 60929  
 EN 61000-3-2  
 EN 61347-2-3  
 EN 61347-2-4  
 EN 61547  
 in accordance with EN 50172  
 IEC 68-2-64 Fh  
 IEC 68-2-29 Eb  
 IEC 68-2-30

Lamp	Ballast	type	article number	length	fixing centres	weight	lamp power	circuit power	EEI	current at 50 Hz		$\lambda$ at 50 Hz		tc point	temperature range
										220 V	240 V	220 V	240 V		
wattage W	type	type		L mm	D mm	kg	W	W ①		A	A			°C	°C
1x14	T5	PC 1/14-21-28-35 T5 PRO Ip	22176096	280	270	0.20	14.0	16.0	A2	0.07	0.07	0.98	0.96	75	-25 → +55
2x14	T5	PC 2/14-21-28-35 T5 PRO Ip	22176097	360	350	0.26	28.0	31.0	A2	0.14	0.14	0.98	0.96	80	-25 → +50
1x21	T5	PC 1/14-21-28-35 T5 PRO Ip	22176096	280	270	0.20	20.6	22.5	A2	0.10	0.10	0.98	0.96	75	-25 → +55
2x21	T5	PC 2/14-21-28-35 T5 PRO Ip	22176097	360	350	0.26	41.2	45.5	A2	0.21	0.20	0.99	0.97	80	-25 → +50
1x28	T5	PC 1/14-21-28-35 T5 PRO Ip	22176096	280	270	0.20	27.9	30.5	A2	0.14	0.13	0.98	0.96	75	-25 → +55
2x28	T5	PC 2/14-21-28-35 T5 PRO Ip	22176097	360	350	0.26	55.8	61.0	A2	0.28	0.26	0.99	0.97	80	-25 → +50
1x35	T5	PC 1/14-21-28-35 T5 PRO Ip	22176096	280	270	0.20	35.5	38.5	A2	0.18	0.17	0.98	0.96	75	-25 → +55
2x35	T5	PC 2/14-21-28-35 T5 PRO Ip	22176097	360	350	0.26	71.0	76.5	A2	0.35	0.33	0.99	0.97	80	-25 → +50

① measured according to EN 50294

## PC T5 PRO Ip 15–80 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- economical operation thanks to smart heating
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198–264 V
- DC voltage range 176–280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.94$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down)  $< 150$  V AC / 176 V DC

- operating frequency  $\geq 42$  kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)
- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection according to EN 61347-2-3 C5e

**Packaging:**

**PC 1/24–39 T5 PRO Ip**  
box of 10  
96 boxes/pallet  
960 pieces/pallet

**PC 1/80 T5 PRO Ip**  
**PC 2/24–39 T5 PRO Ip**  
box of 10  
76 boxes/pallet  
760 pieces/pallet

**PC 2/80 T5 PRO Ip**  
**PC 3/4/15–24 T5 PRO Ip**  
box of 25  
33 boxes/pallet  
825 pieces/pallet

**Wiring:**

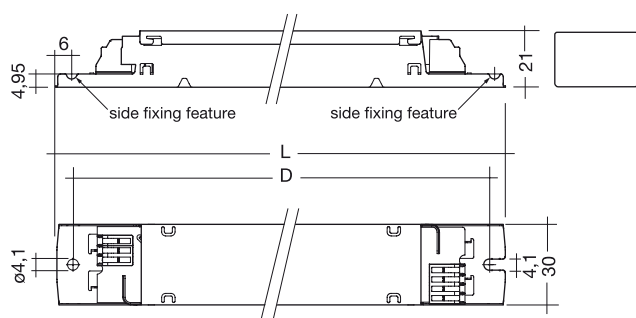
page 59 figure A1–A4

**Approvals:**

EN 55015: 2006 + A1: 2007  
EN 60925  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance with EN 50172  
IEC 68-2-64 Fh  
IEC 68-2-29 Eb  
IEC 68-2-30

Lamp	Ballast		article number	length		weight	lamp power	circuit power	EEI	current at 50 Hz		$\lambda$ at 50 Hz		tc point	temperature range
	type	type		L mm	D mm					220 V	240 V	220 V	240 V		
3x15	T8	PC 3/4/24 T5 PRO Ip	22176047	425	415	0.28	40.5	47.0	A2	0.22	0.21	0.96	0.94	75	-25 → +60
4x15	T8	PC 3/4/24 T5 PRO Ip	22176047	425	415	0.28	54.0	62.0	A2	0.29	0.27	0.97	0.96	75	-25 → +55
3x18	T8	PC 3/4/24 T5 PRO Ip	22176047	425	415	0.28	48.0	54.5	A2	0.26	0.24	0.97	0.96	75	-25 → +60
4x18	T8	PC 3/4/24 T5 PRO Ip	22176047	425	415	0.28	64.0	73.0	A2	0.34	0.31	0.98	0.97	75	-25 → +55
1x24	T5	PC 1/24 T5 PRO Ip	22087891	280	270	0.20	22.5	26.0	A2	0.12	0.11	0.98	0.96	70	-25 → +50
2x24	T5	PC 2/24 T5 PRO Ip	22087939	360	350	0.26	45.0	48.5	A2	0.22	0.21	0.98	0.96	70	-25 → +50
1x24	TC-L	PC 1/24 T5 PRO Ip	22087891	280	270	0.20	22.5	26.0	A2	0.12	0.11	0.98	0.96	70	-25 → +50
2x24	TC-L	PC 2/24 T5 PRO Ip	22087939	360	350	0.26	45.0	48.5	A2	0.22	0.21	0.98	0.96	70	-25 → +50
3x24	T5	PC 3/4/24 T5 PRO Ip	22176047	425	415	0.28	67.5	76.0	A2	0.35	0.33	0.98	0.97	75	-25 → +55
4x24	T5	PC 3/4/24 T5 PRO Ip	22176047	425	415	0.28	90.0	99.0	A2	0.45	0.42	0.99	0.98	75	-25 → +50
1x39	T5	PC 1/39 T5 PRO Ip	22087908	280	270	0.20	38.0	41.0	A2	0.19	0.18	0.99	0.97	70	-25 → +50
2x39	T5	PC 2/39 T5 PRO Ip	22087630	360	350	0.26	76.0	84.0	A2	0.39	0.36	0.99	0.97	75	-25 → +50
1x80	T5	PC 1/80 T5 PRO Ip	22087618	360	350	0.26	80.0	86.0	A2	0.40	0.37	0.98	0.96	80	-25 → +50
2x80	T5	PC 2/80 T5 PRO Ip	22088109	425	415	0.36	160.0	175.0	A2	0.80	0.74	0.99	0.98	80	-25 → +50

⊕ measured according to EN 50294

**PC T5 PRO Ip 49–55 W 220–240 V 50/60/0 Hz**
**NEW**


- defined lamp warm start within 1.5 s
- economical operation thanks to smart heating
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.97$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down)  $< 150$  V AC / 176 V DC
- operating frequency  $\geq 42$  kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)
- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection according to EN 61347-2-3 C5e

**Packaging:**  
**PC 1/49–54 T5 PRO Ip**  
 box of 10  
 96 boxes/pallet  
 960 pieces/pallet

**PC 2/49–54 T5 PRO Ip**  
 box of 10  
 76 boxes/pallet  
 760 pieces/pallet

**Wiring:**  
 page 59 figure A1-A2

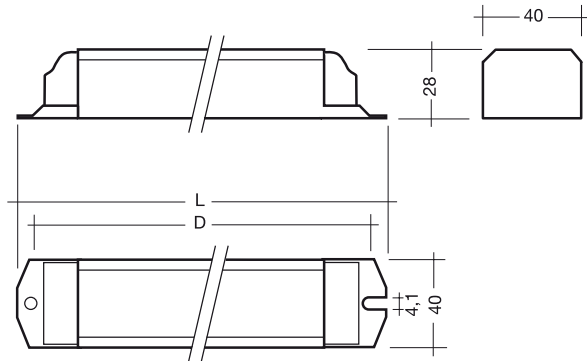
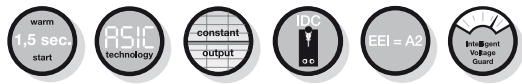
**Approvals:**  
 EN 55015: 2006 + A1: 2007  
 EN 60925  
 EN 60929  
 EN 61000-3-2  
 EN 61347-2-3  
 EN 61347-2-4  
 EN 61547  
 in accordance with EN 50172  
 IEC 68-2-64 Fh  
 IEC 68-2-29 Eb  
 IEC 68-2-30

Lamp		Ballast													
watt-age W	type	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W ①	EEI	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C
										220 V A	240 V A	220 V	240 V		
1x49	T5	PC 1/49 T5 PRO Ip 220–240 V 50/60/0 Hz	22176139	280	270	0.20	49.2	52.5	A2	0.24	0.23	0.99	0.97	75	-25 → +55
2x49	T5	PC 2/49 T5 PRO Ip 220–240 V 50/60/0 Hz	22176099	360	350	0.26	98.4	107.0	A2	0.49	0.46	0.99	0.97	80	-25 → +50
1x54	T5	PC 1/54 T5 PRO Ip 220–240 V 50/60/0 Hz	22176140	280	270	0.20	54.1	57.5	A2	0.26	0.25	0.99	0.97	70	-25 → +50
2x54	T5	PC 2/54 T5 PRO Ip 220–240 V 50/60/0 Hz	22176100	360	350	0.26	108.2	114.5	A2	0.53	0.49	0.99	0.97	80	-25 → +50
2x55	TC-L	PC 2/54 T5 PRO Ip 220–240 V 50/60/0 Hz	22176100	360	350	0.26	108.2	114.5	A2	0.53	0.49	0.99	0.97	80	-25 → +50

① measured according to EN 50294



## PC T8 PRO 18–70 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.96$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down) < 150 V AC / 176 V DC

- operating frequency  $\geq 40$  kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)
- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection according to EN 61347-2-3 C5e  $\nabla$  ( $\nabla$  at 2x58 W)

**Packaging:****PC 3/4/18 T8 PRO****PC 2/30 T8 PRO****PC 1/2/30–70 T8 PRO**

box of 10

63 boxes/pallet

630 pieces/pallet

**PC 3/36 T8 PRO****PC 2/70 T8 PRO**

box of 10

42 boxes/pallet

420 pieces/pallet

**Wiring:**

page 60 figure B1-B3

page 61 figure B4

**Approvals:**

EN 55015: 2006 +

A1: 2007

EN 60925

EN 60929

EN 61000-3-2

EN 61347-2-3

EN 61347-2-4

EN 61547

in accordance

with EN 50172

IEC 68-2-64 Fh

IEC 68-2-29 Eb

IEC 68-2-30

Lamp		Ballast													
watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W ①	EEI	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C
										220 V A	240 V A	220 V	240 V		
3x18	590	<b>PC 3/18 T8 PRO</b>	22088146	234	220	0.28	48.0	54.5	A2	0.26	0.24	0.97	0.97	75	-25 → +50
4x18	590	<b>PC 4/18 T8 PRO</b>	22088152	234	220	0.28	64.0	73.0	A2	0.34	0.31	0.97	0.97	75	-25 → +50
1x30	900	<b>PC 1/30 T8 PRO</b>	22176077	234	220	0.28	24.0	28.0	A2	0.13	0.12	0.97	0.96	75	-25 → +60
2x30	900	<b>PC 2/30 T8 PRO</b>	22176078	234	220	0.28	50.0	56.0	A2	0.26	0.24	0.97	0.96	75	-25 → +60
3x36	1,200	<b>PC 3/36 T8 PRO</b>	22176075	360	350	0.34	96.0	110.0	A3	0.51	0.47	0.99	0.98	70	-25 → +50
1x70	1,800	<b>PC 1/70 T8 PRO</b>	22088357	234	220	0.28	60.0	68.0	A2	0.32	0.29	0.97	0.97	75	-25 → +50
2x70	1,800	<b>PC 2/70 T8 PRO</b>	22088341	360	350	0.36	120.0	130.0	A2	0.60	0.55	0.98	0.98	65	-25 → +50

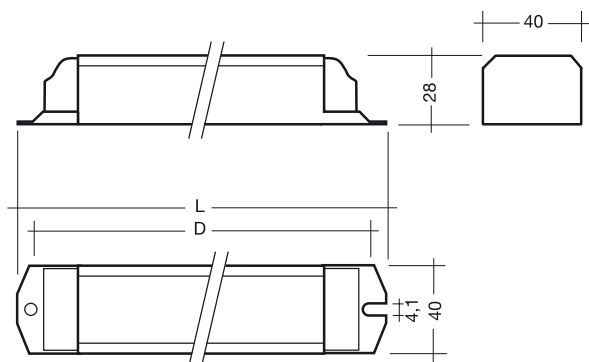
① measured according to EN 50294



## Electronic ballasts

### Linear Ivamps T8, 26 mm

#### PC T8 PRO 18–58 W 220–240 V 50/60/0 Hz

**NEW**


- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.97$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down)  $< 150$  V AC / 176 V DC

- operating frequency  $\geq 40$  kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)
- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla_F$  or  $\nabla_V$  and  $\nabla_{V/V}$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection according to EN 61347-2-3 C5e  $\nabla_{V/V}$  (  $\nabla_{V/V}$  at 2x58 W)

**Packaging:**  
box of 10  
63 boxes/pallet  
630 pieces/pallet

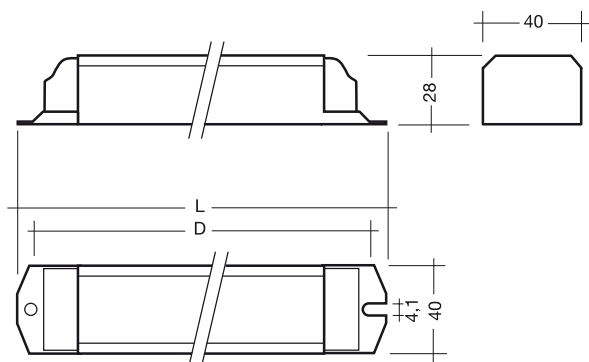
**Wiring:**  
page 60 figure B1-B2

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
EN 60925  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance with EN 50172  
IEC 68-2-64 Fh  
IEC 68-2-29 Eb  
IEC 68-2-30

Lamp		Ballast													
wattage W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W <sup>①</sup>	EEI	current at 50 Hz A		$\lambda$ at 50 Hz		tc point °C	temperature range °C
										220 V	240 V	220 V	240 V		
1x18	590	PC 1/18 T8 PRO	22176093	234	220	0.28	16.0	18.0	A2	0.08	0.08	0.99	0.98	70	-25 → +60
2x18	590	PC 2/18 T8 PRO	22176107	234	220	0.28	32.0	36.0	A2	0.17	0.16	0.98	0.97	75	-25 → +60
1x36	1,200	PC 1/36 T8 PRO	22176108	234	220	0.28	32.0	35.0	A2	0.16	0.15	0.98	0.98	75	-25 → +60
2x36	1,200	PC 2/36 T8 PRO	22176109	234	220	0.28	64.0	70.0	A2	0.32	0.29	0.99	0.98	75	-25 → +55
1x58	1,500	PC 1/58 T8 PRO	22176094	234	220	0.28	50.0	54.0	A2	0.26	0.24	0.98	0.98	75	-25 → +50
2x58	1,500	PC 2/58 T8 PRO	22176095	234	220	0.28	100.0	107.0	A2	0.49	0.45	0.99	0.99	80	-25 → +50

<sup>①</sup> measured according to EN 50294

## PC TCL PRO 18–55 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.94$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down) < 150 V AC / 176 V DC

- operating frequency  $\geq 40$  kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)
- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection  $\nabla$  according to EN 61347-2-3 C5e

**Packaging:**  
**PC 1/18–55 TCL PRO**  
**PC 2/18–40 TCL PRO**  
 box of 10  
 63 boxes/pallet  
 630 pieces/pallet

**PC 2/55 TCL PRO**  
 box of 10  
 42 boxes/pallet  
 420 pieces/pallet

**Wiring:**  
 page 60 figure B1-B2

**Approvals:**  
 EN 55015: 2006 +  
 A1: 2007  
 EN 55022  
 EN 60925  
 EN 60929  
 EN 61000-3-2  
 EN 61347-2-3  
 EN 61347-2-4  
 EN 61547  
 in accordance  
 with EN 50172  
 IEC 68-2-64 Fh  
 IEC 68-2-29 Eb  
 IEC 68-2-30

watt- age W	type	Ballast type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W ①	EEI	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C
										220 V A	240 V A	220 V	240 V		
1x18	TC-L	PC 1/18/24 TCL PRO 220–240 V 50/60/0 Hz	22176068	234	220	0.28	16.0	18.5	A3	0.09	0.08	0.96	0.94	75	-25 → +60
2x18	TC-L	PC 2/18/24 TCL PRO 220–240 V 50/60/0 Hz	22176069	234	220	0.28	32.0	36.0	A2	0.17	0.16	0.98	0.96	75	-25 → +60
1x24	TC-L	PC 1/18/24 TCL PRO 220–240 V 50/60/0 Hz	22176068	234	220	0.28	22.0	25.0	A3	0.12	0.11	0.98	0.96	75	-25 → +60
2x24	TC-L	PC 2/18/24 TCL PRO 220–240 V 50/60/0 Hz	22176069	234	220	0.28	44.0	49.0	A2	0.22	0.21	0.99	0.97	75	-25 → +60
1x36	TC-L	PC 1/36 TCL PRO 220–240 V 50/60/0 Hz ②	22088398	234	220	0.28	32.0	36.0	A2	0.17	0.15	0.99	0.97	70	-25 → +50
2x36	TC-L	PC 2/36 TCL PRO 220–240 V 50/60/0 Hz	22088401	234	220	0.28	64.0	72.5	A3	0.34	0.31	0.98	0.96	75	-25 → +50
1x38	T8	PC 1/36 TCL PRO 220–240 V 50/60/0 Hz ②	22088398	234	220	0.28	32.0	36.0	A2	0.17	0.15	0.99	0.97	70	-25 → +50
2x38	T8	PC 2/36 TCL PRO 220–240 V 50/60/0 Hz	22088401	234	220	0.28	64.0	72.5	A3	0.34	0.31	0.98	0.96	75	-25 → +50
1x40	TC-L	PC 1/40 TCL PRO 220–240 V 50/60/0 Hz ②	22088410	234	220	0.28	40.0	46.0	A3	0.22	0.20	0.98	0.96	70	-25 → +50
2x40	TC-L	PC 2/40 TCL PRO 220–240 V 50/60/0 Hz ②	22088426	234	220	0.28	80.0	88.0	A2	0.41	0.37	0.99	0.97	80	-25 → +50
1x55	TC-L	PC 1/55 TCL PRO 220–240 V 50/60/0 Hz	22088432	234	220	0.28	55.0	61.0	A2	0.29	0.26	0.97	0.95	80	-25 → +50
2x55	TC-L	PC 2/55 TCL PRO 220–240 V 50/60/0 Hz	22088448	360	350	0.36	110.0	120.0	A2	0.56	0.51	0.99	0.97	75	-25 → +50

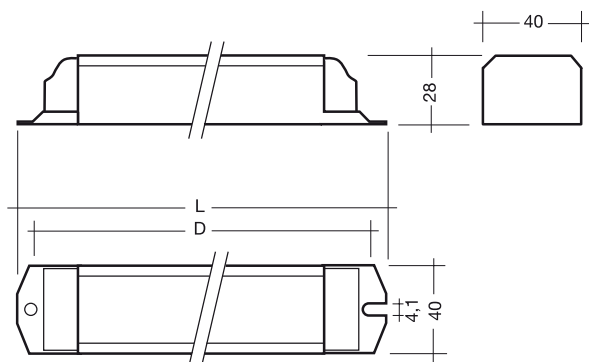
① measured according to EN 50294

② will be superseded from Q3 2008 by the products on the next page



## PC TCL PRO 36–40 W 220–240 V 50/60/0 Hz

NEW



- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.94$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down)  $< 150$  V AC / 176 V DC

- operating frequency  $\geq 40$  kHz
- suitable for automatic and manual wiring with insulation displacement connector (IDC)
- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection  $\nabla$  according to EN 61347-2-3 C5e

**Packaging:**

box of 10  
63 boxes/pallet  
630 pieces/pallet

**Wiring:**

page 60 figure B1-B2

**Approvals:**

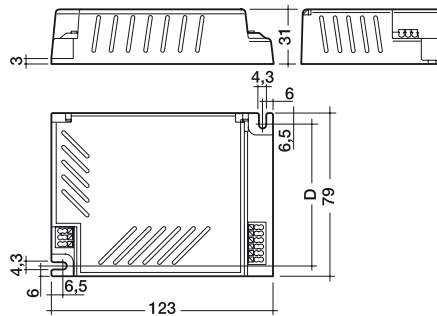
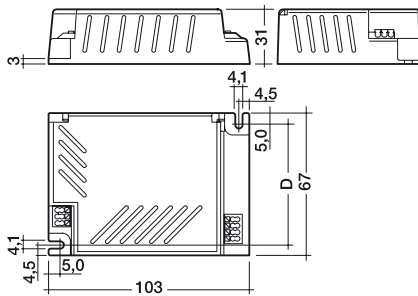
EN 55015: 2006 +  
A1: 2007  
EN 55022  
EN 60925  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance  
with EN 50172  
IEC 68-2-64 Fh  
IEC 68-2-29 Eb  
IEC 68-2-30

Lamp		Ballast													
watt- age W	type	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W ①	EEL	current at 50 Hz		$\lambda$ at 50 Hz		tc point	temperature range
										220 V A	240 V A	220 V	240 V	°C	°C
1x36	TC-L	PC 1/36 TCL PRO 220–240 V 50/60/0 Hz	22176141	234	220	0.18	32.0	33.8	A2	0.16	0.14	0.99	0.98	60	-25 → +50
1x38	T8	PC 1/36 TCL PRO 220–240 V 50/60/0 Hz	22176141	234	220	0.18	32.0	34.2	A2	0.16	0.15	0.99	0.98	60	-25 → +50
1x40	TC-L	PC 1/40 TCL PRO 220–240 V 50/60/0 Hz	22176142	234	220	0.18	40.0	44.1	A2	0.20	0.19	0.99	0.98	60	-25 → +50
2x40	TC-L	PC 2/40 TCL PRO 220–240 V 50/60/0 Hz	22176143	234	220	0.22	80.0	89.6	A2	0.42	0.38	0.99	0.98	70	-25 → +50

① measured according to EN 50294



PC PRO 1/9–70 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of ≤ 0.2 % per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage ≥ 198 V DC)
- power factor ≥ 0.94
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage ≥ 306 V AC
- undervoltage protection (shut down) < 150 V AC / 176 V DC
- operating frequency ≥ 40 kHz

- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection  $\nabla$  according to EN 61347-2-3 C5e

Accessories (page 58):

- mounting bracket L103 (art. no. 04635096)
- mounting bracket L123 (art. no. 04635080)

**Packaging:**  
PC 1/9–42 TC... PRO  
box of 15  
50 boxes/pallet  
750 pieces/pallet

**PC 1/57/70 TCT PRO**  
box of 10  
50 boxes/pallet  
500 pieces/pallet

**Wiring:**  
page 61 figure C1

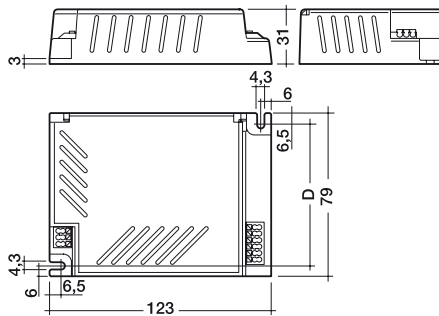
**Approvals:**  
EN 55015: 2006 + A1: 2007  
EN 60925  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance with EN 50172  
IEC 68-2-64 Fh  
IEC 68-2-29 Eb  
IEC 68-2-30

Lamp	Ballast		article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W	circuit power W	EEL	current at 50 Hz		λ at 50 Hz		tc point °C	temperature range °C
	watt-age W	type								220 V A	240 V A	220 V	240 V		
1x9	TC-SEL	PC 1/9/11 TCS PRO	22176027	103 x 67 x 31	57.5	0.14	6.8	10.2	A2	0.048	0.045	0.96	0.95	80	-25 → +60
1x11	TC-SEL	PC 1/9/11 TCS PRO	22176027	103 x 67 x 31	57.5	0.14	10.0	14.1	A2	0.066	0.061	0.98	0.97	80	-25 → +60
1x10	TC-DEL	PC 1/10/13 TCD PRO	22088899	103 x 67 x 31	57.5	0.14	9.5	12.0	A3	0.055	0.055	0.97	0.95	75	-25 → +50
1x13	TC-DEL	PC 1/9/11 TCS PRO	22176027	103 x 67 x 31	57.5	0.14	11.2	15.8	A3	0.073	0.068	0.98	0.97	80	-25 → +60
1x13	TC-DEL	PC 1/10/13 TCD PRO	22088899	103 x 67 x 31	57.5	0.14	12.5	15.0	A3	0.070	0.065	0.98	0.96	75	-25 → +50
1x18	TC-DEL	PC 1/18 TCD PRO	22088906	103 x 67 x 31	57.5	0.14	16.5	19.5	A3	0.090	0.085	0.99	0.97	70	-25 → +50
1x26	TC-DEL	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	24.0	26.5	A2	0.125	0.115	0.97	0.95	80	-25 → +60
1x13	TC-TEL	PC 1/9/11 TCS PRO	22176027	103 x 67 x 31	57.5	0.14	11.2	15.8	A3	0.073	0.068	0.98	0.97	80	-25 → +60
1x13	TC-TEL	PC 1/10/13 TCD PRO	22088899	103 x 67 x 31	57.5	0.14	12.5	15.0	A3	0.070	0.065	0.98	0.96	75	-25 → +50
1x18	TC-TEL	PC 1/18 TCD PRO	22088906	103 x 67 x 31	57.5	0.14	16.5	19.5	A3	0.090	0.085	0.99	0.97	70	-25 → +50
1x26	TC-TEL	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	24.0	26.5	A2	0.125	0.115	0.97	0.95	80	-25 → +60
1x32	TC-TEL	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	32.0	34.5	A2	0.160	0.150	0.98	0.96	80	-25 → +60
1x42	TC-TEL	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	42.0	46.0	A2	0.210	0.200	0.99	0.97	80	-25 → +60
1x57	TC-TEL	PC 1/57/70 TCT PRO	22088915	123 x 79 x 31	66.5	0.17	57.5	60.5	A2	0.280	0.265	0.98	0.96	85	-25 → +50
1x70	TC-TEL	PC 1/57/70 TCT PRO	22088915	123 x 79 x 31	66.5	0.17	70.0	75.0	A2	0.345	0.320	0.99	0.97	85	-25 → +50
1x22	T5c	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	22.3	25.4	A2	0.126	0.117	0.98	0.97	80	-25 → +60
1x40	T5c	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	40.0	43.0	A2	0.191	0.176	0.99	0.98	80	-25 → +60
1x18	TC-L	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	16.0	18.5	A2	0.086	0.080	0.96	0.94	80	-25 → +60
1x24	TC-L	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	22.0	25.5	A2	0.122	0.113	0.98	0.97	80	-25 → +60
1x18	TC-F	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	16.0	18.5	A2	0.081	0.076	0.96	0.94	80	-25 → +60
1x24	TC-F	PC 1/26/32/42 TCT PRO	22088329	103 x 67 x 31	57.5	0.14	22.0	25.5	A2	0.112	0.104	0.97	0.96	80	-25 → +60



## Electronic ballasts Compact lamps

### PC PRO 2/9–42 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of ≤ 0.2 % per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage ≥ 198 V DC)
- power factor ≥ 0.93
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage ≥ 306 V AC
- undervoltage protection (shut down) < 150 V AC / 176 V DC
- operating frequency ≥ 40 kHz

- wide operating temperature range (see table)
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection  $\nabla$  according to EN 61347-2-3 C5e

#### Packaging:

box of 10  
50 boxes/pallet  
500 pieces/pallet

#### Wiring:

page 61 figure C2

#### Approvals:

EN 55015: 2006 +  
A1: 2007  
EN 60925  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance  
with EN 50172  
IEC 68-2-64 Fh  
IEC 68-2-29 Eb  
IEC 68-2-30

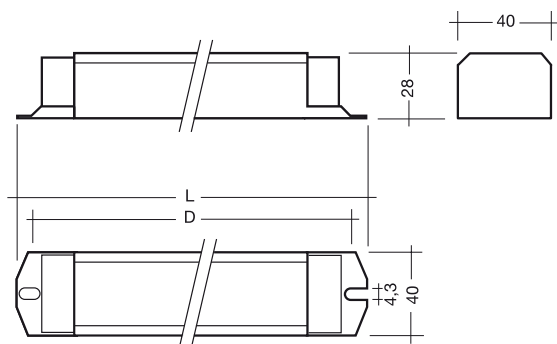
#### Accessories (page 58):

mounting bracket L123 (art. no. 04635080)

Lamp	Ballast		article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W	circuit power W	EEL	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C
	watt- age W	type								type	220 V A	240 V A	220 V		
2x9	TC-SEL	PC 2/9/11 TCS PRO	22176028	123 x 79 x 31	66.5	0.17	14.4	18.3	A2	0.087	0.081	0.96	0.95	80	-25 → +60
2x11	TC-SEL	PC 2/9/11 TCS PRO	22176028	123 x 79 x 31	66.5	0.17	21.0	26.1	A2	0.121	0.113	0.97	0.97	80	-25 → +60
2x10	TC-DEL	PC 2/10/13 TCD PRO	22088921	123 x 79 x 31	66.5	0.17	19.0	21.5	A2	0.100	0.095	0.95	0.93	75	-25 → +50
2x13	TC-DEL	PC 2/9/11 TCS PRO	22176028	123 x 79 x 31	66.5	0.17	24.8	29.5	A2	0.135	0.125	0.98	0.97	80	-25 → +60
2x13	TC-DEL	PC 2/10/13 TCD PRO	22088921	123 x 79 x 31	66.5	0.17	25.0	28.0	A2	0.130	0.125	0.97	0.95	75	-25 → +50
2x18	TC-DEL	PC 2/18 TCD PRO	22088937	123 x 79 x 31	66.5	0.17	33.0	37.5	A2	0.170	0.160	0.99	0.97	70	-25 → +50
2x26	TC-DEL	PC 2/26/32 TCT PRO	22088943	123 x 79 x 31	66.5	0.17	48.0	51.0	A2	0.235	0.220	0.99	0.97	80	-25 → +60
2x13	TC-TEL	PC 2/9/11 TCS PRO	22176028	123 x 79 x 31	66.5	0.17	24.8	29.5	A2	0.135	0.125	0.98	0.97	80	-25 → +60
2x13	TC-TEL	PC 2/10/13 TCD PRO	22088921	123 x 79 x 31	66.5	0.17	25.0	28.0	A2	0.130	0.125	0.97	0.95	75	-25 → +50
2x18	TC-TEL	PC 2/18 TCD PRO	22088937	123 x 79 x 31	66.5	0.17	33.0	37.5	A2	0.170	0.160	0.99	0.97	70	-25 → +50
2x26	TC-TEL	PC 2/26/32 TCT PRO	22088943	123 x 79 x 31	66.5	0.17	48.0	51.0	A2	0.235	0.220	0.99	0.97	80	-25 → +60
2x32	TC-TEL	PC 2/26/32 TCT PRO	22088943	123 x 79 x 31	66.5	0.17	64.0	68.0	A2	0.310	0.290	0.99	0.97	80	-25 → +60
2x32	TC-TEL	PC 2/32/42 TCT PRO	22088959	123 x 79 x 31	66.5	0.17	64.0	68.0	A2	0.315	0.295	0.98	0.96	80	-25 → +55
2x42	TC-TEL	PC 2/32/42 TCT PRO	22088959	123 x 79 x 31	66.5	0.17	84.0	89.0	A2	0.410	0.380	0.99	0.97	80	-25 → +55
2x22	T5c	PC 2/26/32 TCT PRO	22088943	123 x 79 x 31	66.5	0.17	44.6	49.3	A2	0.242	0.224	0.98	0.98	80	-25 → +60
22x40	T5c	PC 2/32/42 TCT PRO	22088959	123 x 79 x 31	66.5	0.17	62.3	68.7	A2	0.295	0.252	0.98	0.97	80	-25 → +55
2x40	T5c	PC 2/32/42 TCT PRO	22088959	123 x 79 x 31	66.5	0.17	80.0	82.3	A2	0.379	0.351	0.99	0.98	80	-25 → +55
2x18	TC-L	PC 2/26/32 TCT PRO	22088943	123 x 79 x 31	66.5	0.17	32.0	34.2	A2	0.159	0.148	0.97	0.96	80	-25 → +60
2x24	TC-L	PC 2/26/32 TCT PRO	22088943	123 x 79 x 31	66.5	0.17	44.0	50.2	A2	0.234	0.216	0.98	0.98	80	-25 → +60
2x18	TC-F	PC 2/26/32 TCT PRO	22088943	123 x 79 x 31	66.5	0.17	32.0	34.2	A2	0.146	0.136	0.97	0.96	80	-25 → +60
2x24	TC-F	PC 2/26/32 TCT PRO	22088943	123 x 79 x 31	66.5	0.17	44.0	50.2	A2	0.211	0.195	0.98	0.98	80	-25 → +60



## PC DD PRO 28–55 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- AC voltage range 198-254 V
- DC voltage range 154-250 V (for ignition input voltage  $\geq 200$  V DC)
- power factor  $\geq 0.96$
- overvoltage protection 320 V AC, 1 h
- operating frequency  $\geq 42$  kHz
- wide operating temperature range (see table)

- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- safe shutdown of lamps at end of life
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  and  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- thermal protection  $\nabla$  according to EN 61347-1-C.5e

**Packaging:**  
box of 20  
50 boxes/pallet  
1,000 pieces/pallet

**Wiring:**  
page 62 figure D

**Approvals:**  
EN 55015  
EN 60925  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance with EN 50172

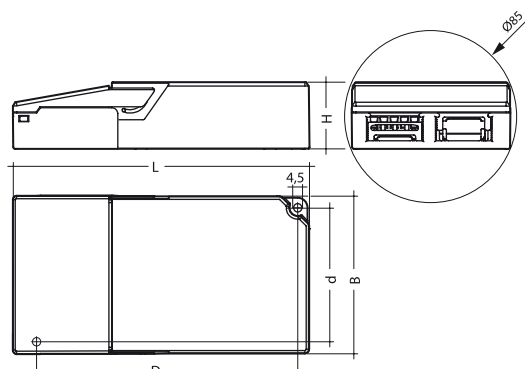
Lamp		Ballast											
watt- age W	type	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W	EEL	current at 230V/50Hz A	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C
1x28	202	PC 1x28 DD PRO 220–240 V 50/60/0 Hz	89895964	154	140	0.175	25.4	28.7	A3	0.130	0.96	85	-25 → +60
1x38	202	PC 1x38 DD PRO 220–240 V 50/60/0 Hz	89895965	154	140	0.177	34.6	39.7	A3	0.180	0.96	85	-25 → +60
1x55	202	PC 1x55 DD PRO 220–240 V 50/60/0 Hz	89895967	154	140	0.180	53.0	60.0	A3	0.265	0.98	80	-25 → +60

With a DC supply L and N terminals are interchangeable.



## Electronic ballast for separate installation Compact lamps

### PC PRO sr 18–42 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- average life = 50,000 h (at ta max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.97$
- overvoltage protection 320 V AC, 1 h
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down)  $< 150$  V AC / 176 V DC
- operating frequency  $\geq 40$  kHz
- wide operating temperature range (see table)

- lamp-side and mains-side plug-in terminals
- prepared for through-wiring
- no tools required for installation
- integrated terminal cover and strain relief
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- for luminaires with  $\nabla$  or  $\nabla$  in acc. with EN 60598, VDE 0710 and VDE 0711
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection according to EN 61347-2-3 C5e  $\nabla$  ( $\nabla$  at PC 2/26/32/42 TCT PRO sr)

**Packaging:**  
box of 15  
36 boxes/pallet  
540 pieces/pallet

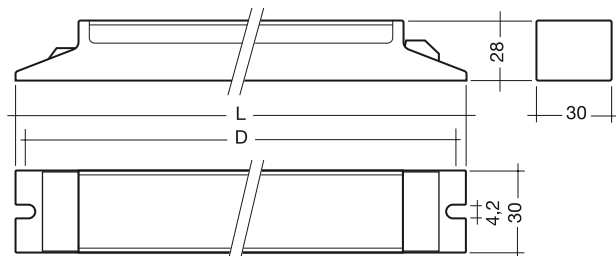
**Wiring:**  
page 62 figure E1-E2

**Approvals:**  
EN 55015  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
in accordance with EN 50172

Lamp		Ballast														
watt-age W	type	type	article number	dimensions L x W x H mm	fixing centres		weight kg	lamp power W	circuit power W	EEI	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C
					D mm	d mm					220 V A	240 V A	220 V	240 V		
2x18	TC-DEL	PC 2/18 TCD PRO sr	22176092	180 x 79.5 x 34	157.6	68.6	0.173	33.0	36.2	A2	0.167	0.154	0.99	0.98	60	-25 → +50
2x18	TC-TEL	PC 2/18 TCD PRO sr	22176092	180 x 79.5 x 34	157.6	68.6	0.173	33.0	36.3	A2	0.167	0.154	0.99	0.98	60	-25 → +50
1x26	TC-DEL	PC 1/26/32/42 TCT PRO sr	22176080	180 x 79.5 x 34	157.6	68.6	0.171	24.0	27.0	A2	0.125	0.115	0.98	0.98	60	-25 → +50
1x26	TC-TEL	PC 1/26/32/42 TCT PRO sr	22176080	180 x 79.5 x 34	157.6	68.6	0.171	24.0	27.4	A2	0.127	0.117	0.98	0.98	60	-25 → +50
2x26	TC-DEL	PC 2/26/32/42 TCT PRO sr	22176076	180 x 79.5 x 34	157.6	68.6	0.209	48.0	53.5	A2	0.249	0.229	0.98	0.97	65	-25 → +50
2x26	TC-TEL	PC 2/26/32/42 TCT PRO sr	22176076	180 x 79.5 x 34	157.6	68.6	0.209	48.0	51.5	A2	0.239	0.221	0.98	0.97	65	-25 → +50
1x32	TC-TEL	PC 1/26/32/42 TCT PRO sr	22176080	180 x 79.5 x 34	157.6	68.6	0.171	32.0	34.7	A2	0.160	0.148	0.99	0.98	60	-25 → +50
2x32	TC-TEL	PC 2/26/32/42 TCT PRO sr	22176076	180 x 79.5 x 34	157.6	68.6	0.209	64.0	67.6	A2	0.312	0.288	0.98	0.98	70	-25 → +50
1x42	TC-TEL	PC 1/26/32/42 TCT PRO sr	22176080	180 x 79.5 x 34	157.6	68.6	0.171	42.0	45.3	A2	0.208	0.191	0.99	0.99	60	-25 → +50
2x42	TC-TEL	PC 2/26/32/42 TCT PRO sr	22176076	180 x 79.5 x 34	157.6	68.6	0.209	84.0	90.2	A2	0.414	0.381	0.99	0.99	80	-25 → +50



## PC INDUSTRY T5 49–80 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.95$
- overvoltage protection 320 V AC, 1 h
- suitable for high mains voltage peaks (Burst, Surge) up to 4 kV
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down)  $< 150$  V AC / 176 V DC
- operating frequency  $\geq 40$  kHz
- wide operating temperature range (see table)

- average life = 100,000 h at ta max. (see table)  $-10$  °C and a failure rate of  $\leq 0.1$  % per 1,000 h resp. 50,000 h at ta max. and a failure rate of  $\leq 0.2$  % per 1,000 h
- economical operation thanks to smart heating
- energy classification EEI = A2
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection  $\nabla$  according to EN 61347-2-3 C5e

**Packaging:**  
box of 25  
20 boxes/pallet  
500 pieces/pallet

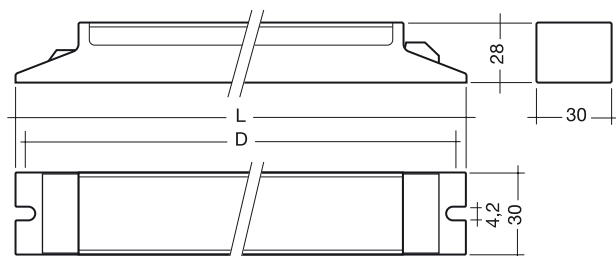
**Wiring:**  
page 63 figure F1, F3

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
EN 60925  
EN 60929  
EN 60598  
EN 50082-2  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance  
with EN 50172

Lamp	Ballast		article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C
	type	type							220 V A	240 V A	220 V	240 V		
1x49	T5	PC 1/49 T5 INDUSTRY	86458039	456	445	0.42	49.0	56.0	0.27	0.25	0.96	0.95	77	-30 → +70
2x49	T5	PC 2/49 T5 INDUSTRY	86458040	456	445	0.42	98.0	107.0	0.50	0.46	0.98	0.97	77	-30 → +70
1x54	T5	PC 1/54 T5 INDUSTRY	86458041	456	445	0.42	54.0	60.0	0.28	0.26	0.97	0.96	79	-30 → +70
2x54	T5	PC 2/54 T5 INDUSTRY	86458042	456	445	0.42	108.0	112.0	0.51	0.48	0.99	0.97	79	-30 → +70
1x80	T5	PC 1/80 T5 INDUSTRY	86458043	456	445	0.42	80.0	88.0	0.41	0.38	0.98	0.97	80	-30 → +70
2x80	T5	PC 2/80 T5 INDUSTRY	86458044	456	445	0.42	160.0	172.0	0.79	0.73	0.99	0.98	84	-30 → +60



## PC INDUSTRY T8 36–58 W 220–240 V 50/60/0 Hz



- defined lamp warm start within 1.5 s
- constant light output independent of fluctuations in mains voltage
- AC voltage range 198-264 V
- DC voltage range 176-280 V (for ignition input voltage  $\geq 198$  V DC)
- power factor  $\geq 0.94$
- overvoltage protection 320 V AC, 1 h
- suitable for high mains voltage peaks (Burst, Surge) up to 4 kV
- overvoltage indication starting at input voltage  $\geq 306$  V AC
- undervoltage protection (shut down) < 150 V AC / 176 V DC
- operating frequency  $\geq 40$  kHz
- wide operating temperature range (see table)
- average life = 100,000 h at ta max. (see table) -10 °C and a failure rate of  $\leq 0.1$  % per 1,000 h resp. 50,000 h at ta max. and a failure rate of  $\leq 0.2$  % per 1,000 h
- economical operation thanks to smart heating
- energy classification EEI = A2
- suitable for use in emergency lighting installations in accordance with EN 50172
- safe switch off of defective lamps
- automatic re-start after lamp change
- suitable for luminaires with safety class 1 and safety class 2
- ingress protection IP 20
- thermal protection  $\nabla^{10}$  according to EN 61347-2-3 C5e

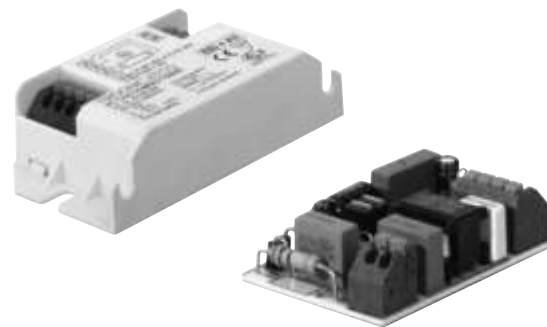
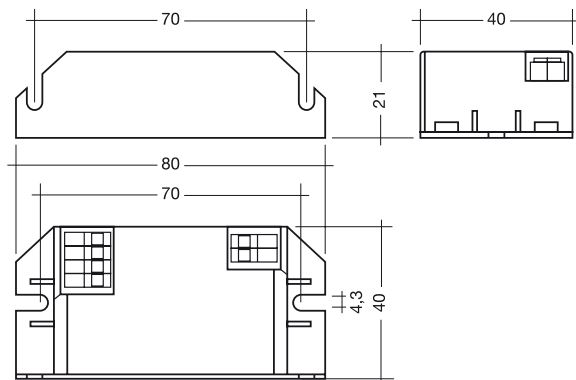
**Packaging:**  
box of 25  
20 boxes/pallet  
500 pieces/pallet

**Wiring:**  
page 63 figure F1-F2

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
EN 55022  
EN 60925  
EN 60929  
EN 60598  
EN 50082-2  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance  
with 50172

Lamp		Ballast													
watt- age W	type	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C	
									220 V A	240 V A	220 V	240 V			
1x36	T8	PC 1/36 T8 INDUSTRY	220–240 V 50/60/0 Hz	86458035	456	445	0.42	32	36.5	0.17	0.16	0.96	0.94	76	-30 → +70
2x36	T8	PC 2/36 T8 INDUSTRY	220–240 V 50/60/0 Hz	86458036	456	445	0.42	64	74.5	0.35	0.32	0.97	0.97	82	-30 → +70
1x58	T8	PC 1/58 T8 INDUSTRY	220–240 V 50/60/0 Hz	86458037	456	445	0.42	50	55.5	0.26	0.24	0.97	0.96	80	-30 → +70
2x58	T8	PC 2/58 T8 INDUSTRY	220–240 V 50/60/0 Hz	86458038	456	445	0.42	100	108.0	0.50	0.46	0.98	0.98	83	-30 → +70

## PC Basic 4–18 W 220–240 V 50/60/0 Hz, not dimmable



- defined lamp warm start < 2 s
- switching cycles > 25,000
- average life = 50,000 h (at ta max. and a failure rate of ≤ 0.2 % per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-264 V (for ignition input voltage ≥ 198 V DC)
- overvoltage protection 270 V AC, 360 h
- operating frequency ≥ 40 kHz

- wide operating temperature range (see table)
- safe switch off of defective lamps
- safe shutdown of lamps at end of life
- automatic re-start after lamp change
- temperature protection  $\nabla$  according to EN 61347-1 Annex C
- also available in board form as PC Basic PCBs depending on the type (for information see table)

**Packaging:**  
box of 25  
32 boxes/pallet  
800 pieces/pallet

**Wiring:**  
page 64 figure G

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547

## PC Basic:

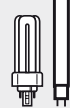
Lamp watt- age W	type	Ballast type	article number	dimensions L x W x H mm	fixing centres D mm	weight g	lamp power W	circuit power W	EEL	current at 50 Hz		$\lambda$ at 50 Hz		tc point °C	temperature range °C
										220 V A	240 V A	220 V	240 V		
4	T5	PC 1x4–13 W Basic 220–240 V 50/60/0 Hz	24138831	80 x 40 x 21	70	42	3.5	5.0	A2	0.045	0.043	0.51	0.48	80	-25 → +50
6	T5	PC 1x4–13 W Basic 220–240 V 50/60/0 Hz	24138831	80 x 40 x 21	70	42	5.0	7.0	A2	0.059	0.057	0.54	0.51	80	-25 → +50
8	T5	PC 1x4–13 W Basic 220–240 V 50/60/0 Hz	24138831	80 x 40 x 21	70	42	6.5	8.5	A2	0.067	0.063	0.58	0.56	80	-25 → +50
13	T5	PC 1x4–13 W Basic 220–240 V 50/60/0 Hz	24138831	80 x 40 x 21	70	42	11.0	15.5	A3	0.114	0.106	0.62	0.61	80	-25 → +50
5	TC-SEL	PC 1x5–16 W Basic 220–240 V 50/60/0 Hz	24138830	80 x 40 x 21	70	42	4.5	6.5	A2	0.055	0.051	0.54	0.53	85	-25 → +50
7	TC-SEL	PC 1x5–16 W Basic 220–240 V 50/60/0 Hz	24138830	80 x 40 x 21	70	42	6.0	8.0	A2	0.065	0.063	0.56	0.53	85	-25 → +50
9	TC-SEL	PC 1x5–16 W Basic 220–240 V 50/60/0 Hz	24138830	80 x 40 x 21	70	42	7.5	10.0	A2	0.078	0.073	0.58	0.57	85	-25 → +50
11	TC-SEL	PC 1x5–16 W Basic 220–240 V 50/60/0 Hz	24138830	80 x 40 x 21	70	42	11.0	15.0	A3	0.110	0.104	0.62	0.60	85	-25 → +50
10	TC-DEL	PC 1x5–16 W Basic 220–240 V 50/60/0 Hz	24138830	80 x 40 x 21	70	42	8.5	11.5	A3	0.089	0.084	0.59	0.57	85	-25 → +50
13	TC-DEL	PC 1x5–16 W Basic 220–240 V 50/60/0 Hz	24138830	80 x 40 x 21	70	42	12.0	15.5	A3	0.112	0.106	0.63	0.61	85	-25 → +50
13	TC-TEL	PC 1x5–16 W Basic 220–240 V 50/60/0 Hz	24138830	80 x 40 x 21	70	42	11.5	15.5	A3	0.112	0.106	0.63	0.61	85	-25 → +50
10	TC-DD	PC 1x4–13 W Basic 220–240 V 50/60/0 Hz	24138831	80 x 40 x 21	70	42	9.0	11.5	A3	0.087	0.081	0.60	0.59	80	-25 → +50
16	TC-DD	PC 1x5–16 W Basic 220–240 V 50/60/0 Hz	24138830	80 x 40 x 21	70	42	14.0	18.0	A3	0.130	0.121	0.63	0.62	85	-25 → +50
18	TC-TEL	PC 1x18 W Basic 220–240 V 50/60/0 Hz	24138829	80 x 40 x 21	70	42	15.0	19.0	A3	0.135	0.128	0.64	0.62	85	-25 → +50
18	TC-DEL	PC 1x18 W Basic 220–240 V 50/60/0 Hz	24138829	80 x 40 x 21	70	42	15.5	19.0	A3	0.135	0.128	0.64	0.62	85	-25 → +50

## PC Basic pcb:

Ballast			
type	article number	L x W x H mm	weight g
PC 1x4–13 W Basic PCB 220–240 V 50/60/0 Hz	24138837	54.5 x 36.5 x 17	28
PC 1x5–16 W Basic PCB 220–240 V 50/60/0 Hz	24138836	54.5 x 36.5 x 17	28
PC 1x18 W Basic PCB 220–240 V 50/60/0 Hz	24138835	54.5 x 36.5 x 17	28

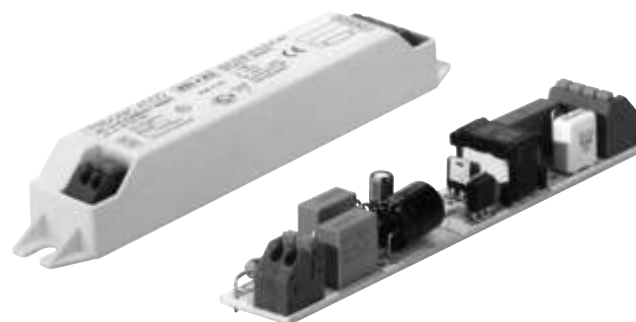
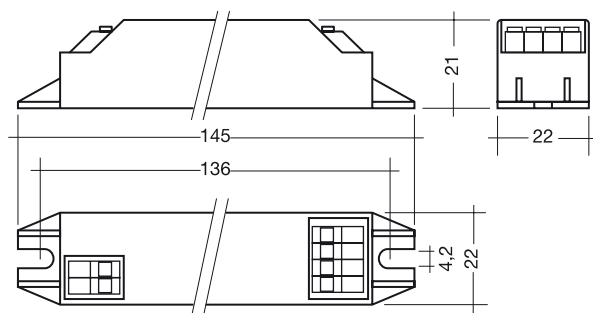
With a DC supply L and N terminals are interchangeable.

Further technical details on the product and recommendations relating to installation are given on the product data sheet of the same name ([www.tridonicatco.com](http://www.tridonicatco.com) → Techn. Information → Data sheets).



## Electronic ballasts Linear and compact lamps

### PC Basic sl 4–28 W 220–240 V 50/60/0 Hz, not dimmable



- defined lamp warm start < 2 s
- switching cycles > 25,000
- average life = 50,000 h (at ta max. and a failure rate of ≤ 0.2 % per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-264 V (for ignition input voltage ≥ 198 V DC)
- overvoltage protection 270 V AC, 360 h
- operating frequency ≥ 40 kHz
- wide operating temperature range (see table)
- safe switch off of defective lamps
- safe shutdown of lamps at end of life
- automatic re-start after lamp change
- temperature protection (PC 1x26 W Basic sl, PC 1x18–24 W Basic sl) as per EN 61347-1 Annex C
- also available in board form as PC Basic PCBs depending on the type (for information see table)

**Packaging:**  
box of 25  
36 boxes/pallet  
900 pieces/pallet

**Wiring:**  
page 64 figure G

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547

### PC Basic sl:

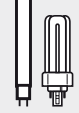
Lamp watt- age W	type	Ballast type	article number	dimensions L x W x H mm	fixing centres D mm	weight g	lamp power W	circuit power W	EEI	current at 50 Hz		λ at 50 Hz		tc point °C	temperature range °C
										220 V A	240 V A	220 V	240 V		
4	T5	PC 1x4–13 W Basic sl 220–240 V 50/60/0 Hz	24138834	145 x 22 x 21	136	44	3.5	5.0	A2	0.045	0.043	0.51	0.48	85	-25 → +60
6	T5	PC 1x4–13 W Basic sl 220–240 V 50/60/0 Hz	24138834	145 x 22 x 21	136	44	5.0	7.0	A2	0.059	0.057	0.54	0.51	85	-25 → +60
8	T5	PC 1x4–13 W Basic sl 220–240 V 50/60/0 Hz	24138834	145 x 22 x 21	136	44	6.5	8.5	A2	0.067	0.063	0.58	0.56	85	-25 → +60
13	T5	PC 1x4–13 W Basic sl 220–240 V 50/60/0 Hz	24138834	145 x 22 x 21	136	44	11.0	15.5	A3	0.114	0.106	0.62	0.61	85	-25 → +60
14	T5	PC 1x14–21 W Basic sl 220–240 V 50/60/0 Hz	22176001	145 x 22 x 21	136	55	12.5	14.5	A2	0.117	0.120	0.58	0.57	85	-25 → +60
21	T5	PC 1x14–21 W Basic sl 220–240 V 50/60/0 Hz	22176001	145 x 22 x 21	136	55	17.5	20.0	A2	0.147	0.151	0.60	0.60	85	-25 → +60
24	T5	PC 1x18–24 W Basic sl 220–240 V 50/60/0 Hz	22176000	145 x 22 x 21	136	55	21.5	25.0	A2	0.180	0.170	0.62	0.61	85	-25 → +60
22	T5c	PC 1x18–24 W Basic sl 220–240 V 50/60/0 Hz	22176000	145 x 22 x 21	136	55	21.5	23.5	A2	0.180	0.170	0.62	0.61	85	-25 → +60
18	T8	PC 1x18–24 W Basic sl 220–240 V 50/60/0 Hz	22176000	145 x 22 x 21	136	55	15.5	18.0	A2	0.140	0.130	0.60	0.58	85	-25 → +60
5	TC-SEL	PC 1x5–16 W Basic sl 220–240 V 50/60/0 Hz	24138833	145 x 22 x 21	136	44	4.5	6.5	A2	0.055	0.051	0.54	0.53	90	-25 → +60
7	TC-SEL	PC 1x5–16 W Basic sl 220–240 V 50/60/0 Hz	24138833	145 x 22 x 21	136	44	6.0	8.0	A2	0.065	0.063	0.56	0.53	90	-25 → +60
9	TC-SEL	PC 1x5–16 W Basic sl 220–240 V 50/60/0 Hz	24138833	145 x 22 x 21	136	44	7.5	10.0	A2	0.078	0.073	0.58	0.57	90	-25 → +60
11	TC-SEL	PC 1x5–16 W Basic sl 220–240 V 50/60/0 Hz	24138833	145 x 22 x 21	136	44	11.0	15.0	A3	0.110	0.104	0.62	0.60	90	-25 → +60
10	TC-DEL	PC 1x5–16 W Basic sl 220–240 V 50/60/0 Hz	24138833	145 x 22 x 21	136	44	8.5	11.5	A3	0.089	0.084	0.59	0.57	90	-25 → +60
13	TC-DEL	PC 1x5–16 W Basic sl 220–240 V 50/60/0 Hz	24138833	145 x 22 x 21	136	44	11.8	15.5	A3	0.112	0.106	0.63	0.61	90	-25 → +60
13	TC-TEL	PC 1x5–16 W Basic sl 220–240 V 50/60/0 Hz	24138833	145 x 22 x 21	136	44	12.0	15.5	A3	0.112	0.106	0.63	0.61	90	-25 → +60
10	TC-DD	PC 1x4–13 W Basic sl 220–240 V 50/60/0 Hz	24138834	145 x 22 x 21	136	44	9.0	11.5	A3	0.087	0.081	0.60	0.59	85	-25 → +60
16	TC-DD	PC 1x5–16 W Basic sl 220–240 V 50/60/0 Hz	24138833	145 x 22 x 21	136	44	14.0	18.0	A3	0.130	0.121	0.63	0.62	90	-25 → +60
18	TC-TEL	PC 1x18 W Basic sl 220–240 V 50/60/0 Hz	24138832	145 x 22 x 21	136	44	15.0	19.0	A3	0.135	0.128	0.64	0.62	90	-25 → +60
18	TC-DEL	PC 1x18 W Basic sl 220–240 V 50/60/0 Hz	24138832	145 x 22 x 21	136	44	15.5	19.0	A3	0.135	0.128	0.64	0.62	90	-25 → +60
18	TCL	PC 1x18–24 W Basic sl 220–240 V 50/60/0 Hz	22176000	145 x 22 x 21	136	55	14.0	16.5	A2	0.130	0.120	0.59	0.58	85	-25 → +60
24	TCL	PC 1x18–24 W Basic sl 220–240 V 50/60/0 Hz	22176000	145 x 22 x 21	136	55	21.5	24.0	A3	0.180	0.170	0.62	0.61	85	-25 → +60
18	TCF	PC 1x18–24 W Basic sl 220–240 V 50/60/0 Hz	22176000	145 x 22 x 21	136	55	13.0	16.0	A2	0.120	0.120	0.68	0.57	85	-25 → +60
24	TCF	PC 1x18–24 W Basic sl 220–240 V 50/60/0 Hz	22176000	145 x 22 x 21	136	55	19.0	22.5	A3	0.170	0.150	0.61	0.60	85	-25 → +60
26	TC-TEL	PC 1x26 W Basic sl 220–240 V 50/60/0 Hz	22176002	145 x 22 x 21	136	55	21.0	24.5	A2	0.180	0.170	0.62	0.61	90	-25 → +60
26	TC-DEL	PC 1x26 W Basic sl 220–240 V 50/60/0 Hz	22176002	145 x 22 x 21	136	55	20.5	24.0	A2	0.180	0.170	0.62	0.61	90	-25 → +60
⊙ 28	TC-DD	PC 1x26 W Basic sl 220–240 V 50/60/0 Hz	22176002	145 x 22 x 21	136	55	25.0	28.5	A2	0.180	0.170	0.62	0.61	90	-25 → +50

### PC Basic sl pcb:

Ballast type	article number	L x W x H mm	weight g
PC 1x4–13 W Basic sl PCB 220–240 V 50/60/0 Hz	24138840	120 x 18 x 17	28
PC 1x5–16 W Basic sl PCB 220–240 V 50/60/0 Hz	24138839	120 x 18 x 17	28
PC 1x18 W Basic sl PCB 220–240 V 50/60/0 Hz	24138838	120 x 18 x 17	28

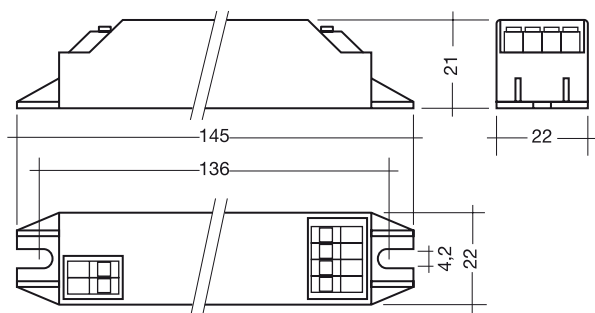
⊙ For enclosed luminaires to meet the requirement for total wattage ≤ 25 W.  
For AC operation only.

With a DC supply L and N terminals are interchangeable.  
Further technical details on the product and recommendations relating to installation are given on the product data sheet of the same name ([www.tridonicatco.com](http://www.tridonicatco.com) → Techn. Information → Data sheets).



Matrix of lamps		PC Basic			PC Basic sl					
		4-13 W	5-16 W	18 W	4-13 W	5-16 W	18 W	14-21 W	18-24 W	26 W
TC-SEL	5 W		•			•				
	7 W		•			•				
	9 W		•			•				
	11 W		•			•				
TC-DEL	10 W		•			•				
	13 W		•			•				
	18 W			•			•			
	26 W									•
TC-TEL	13 W		•			•				
	18 W			•			•			
	26 W									•
T5	4 W	•			•					
	6 W	•			•					
	8 W	•			•					
	13 W	•			•					
	14 W							•		
	21 W							•		
	24 W								•	
T5c	22 W							•		
T8	18 W							•		
TC-DD	10 W	•			•					
	16 W		•			•				
	28 W									•
TC-L	18 W							•		
	24 W							•		
TC-F	18 W							•		
	24 W							•		

## PC Basic sl 8 W 220–240 V 50/60/0 Hz



- defined lamp warm start < 1 s
- switching cycles > 25,000
- average life = 50,000 h (at  $t_a$  max. and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- AC voltage range 198-264 V
- DC voltage range 176-264 V (for ignition input voltage  $\geq 198$  V DC)
- overvoltage protection 270 V AC, 360 h
- operating frequency  $\geq 40$  kHz
- wide operating temperature range (see table)
- DC operation in emergency lighting installations to EN 50172
- safe switch off of defective lamps
- safe shutdown of lamps at end of life
- automatic re-start after lamp change
- temperature protection  $\nabla$  according to EN 61347-1 Annex C

**Packaging:**  
box of 25  
36 boxes/pallet  
900 pieces/pallet

**Wiring:**  
page 64 figure G

**Approvals:**  
EN 55015  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61547  
in accordance with EN 50172

## PC Basic sl:

Lamp		Ballast													
wattage W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight g	circuit power W	lamp power W	EEL	current at 50 Hz A		$\lambda$ at 50 Hz		tc point °C	temperature range °C
										220 V	240 V	220 V	240 V		
8	T5	PC 1x8 W Basic sl	22176026	145 x 22 x 21	136	55	8.7	6.8	A2	0.075	0.071	0.53	0.51	80	-25 → +60

With a DC supply L and N terminals are interchangeable.

Further technical details on the product and recommendations relating to installation are given on the product data sheet of the same name ([www.tridonicatco.com](http://www.tridonicatco.com) → Techn. Information → Data sheets).

**IP 44 KIT**



Protective housing for electronic control gear in outdoor applications with high relative humidity:

- IP 4x protected against solid objects over 1 mm
- IP x4 protected against water sprayed from all directions

dimensions: 345 x 53 x 39 mm (L x W x H)

mounting dimension: 335 mm

type	article number
IP 44 KIT	24138842

**PC Compact control gear box**



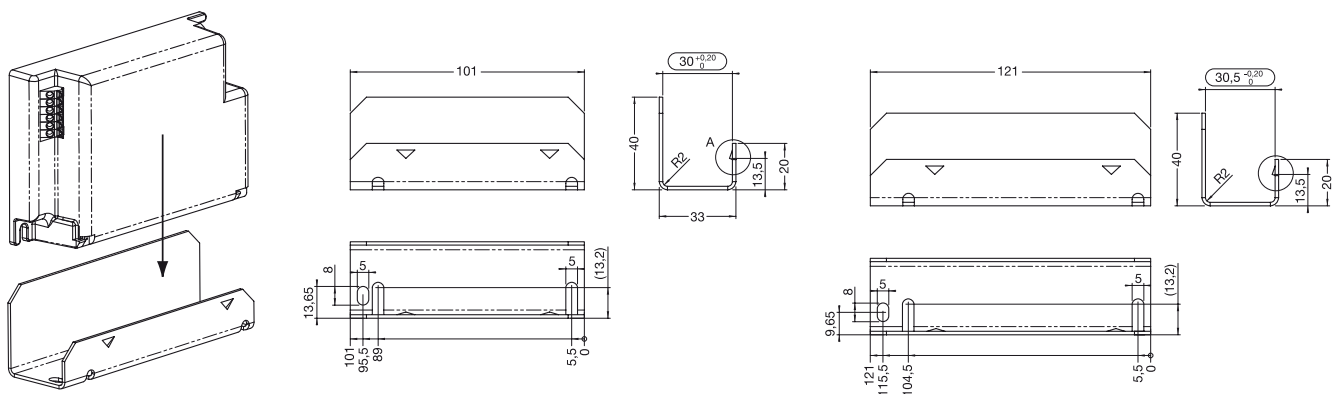
Control gear box for electronic control gear in downlight applications. Suitable for three different compact housing sizes for all product ranges (standard, dimmable control gear and emergency lighting units) as a surface-mounted box.

Quick and easy installation of the control gear, no tools required; cable clamp on the mains side, suitable for through-wiring. Fixing option on the mains side, spacer for fitting terminal. Suitable for ceiling openings with a diameter of at least 150 mm and mounting depths of at least 100 mm.

dimensions: 278 x 114 x 55 mm (L x W x H)

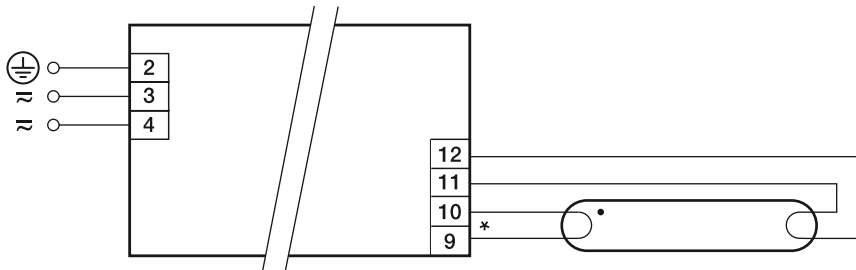
type	article number
PC gear box baseplate	24138825
PC gear box cover	24138824

**Mounting brackets**



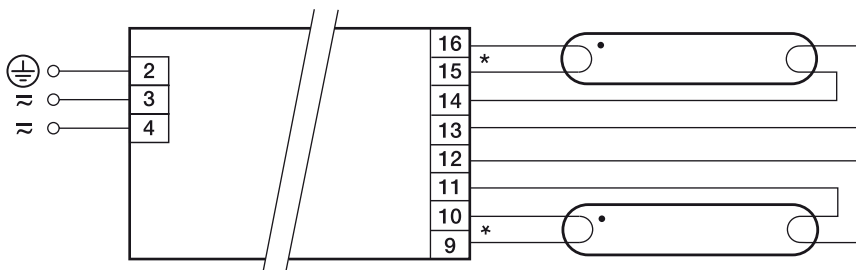
type	article number
mounting bracket L103	04635096
mounting bracket L123	04603580

A1) PC T5 PRO Ip 1x14–80 W



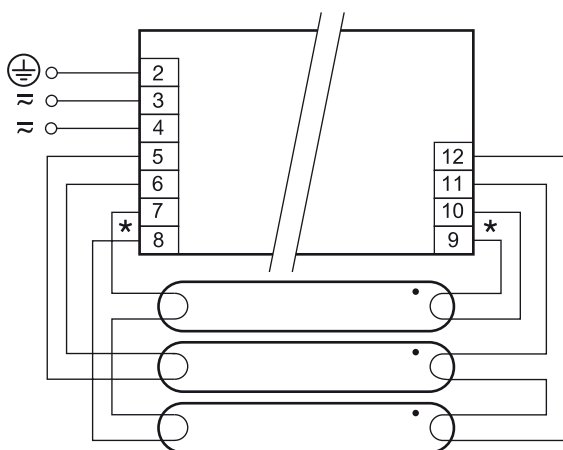
\* leads 9, 10 max. 1.0 m (< 100 pF)  
leads 11, 12 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing or earth terminal (to IEC 60598)  
for luminaires of protection class 2: No earthing required

A2) PC T5 PRO Ip 2x14–80 W



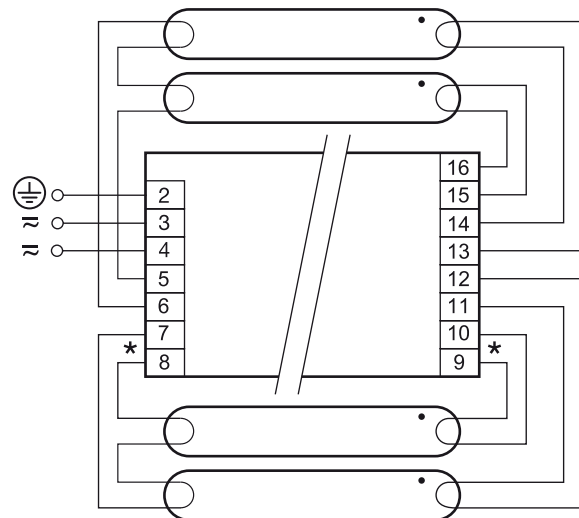
\* leads 9, 10, 15, 16 max. 1.0 m (< 100 pF)  
leads 11, 12, 13, 14 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing or earth terminal (to IEC 60598)  
for luminaires of protection class 2: No earthing required

A3) PC T5 PRO Ip 3x14–24 W



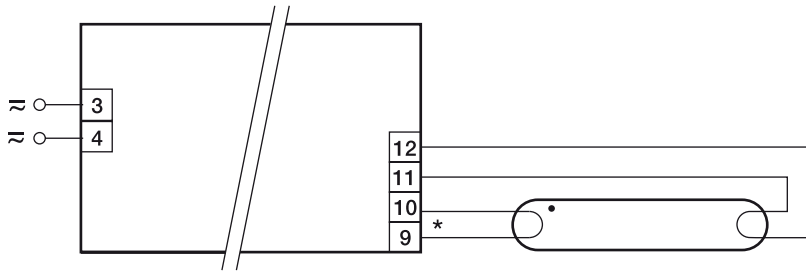
\* leads 7, 8, 9, 10 max. 1.0 m (< 100 pF)  
leads 5, 6, 11, 12 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing or earth terminal (to IEC 60598)  
for luminaires of protection class 2: No earthing required

A4) PC T5 PRO Ip 4x14–24 W



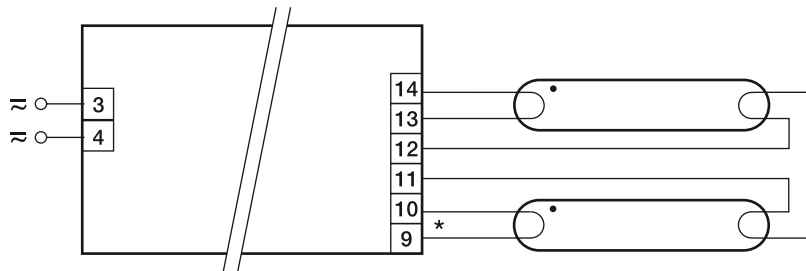
\* leads 7, 8, 9, 10 max. 1.0 m (< 100 pF)  
leads 5, 6, 11, 12, 13, 14, 15, 16 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing or earth terminal (to IEC 60598)  
for luminaires of protection class 2: No earthing required

B1) PC T8 PRO 1x18–70 W  
PC TCL PRO 1x18–55 W



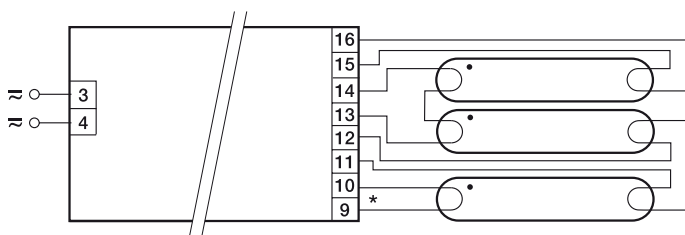
\* leads 9, 10 max. 1.0 m (< 100 pF)  
leads 11, 12 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing (to IEC 60598)  
for luminaires of protection class 2: No earthing required

B2) PC T8 PRO 2x18–70 W  
PC TCL PRO 2x18–55 W



\* leads 9, 10 max. 1.0 m (< 100 pF)  
leads 11, 12, 13, 14 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing (to IEC 60598)  
for luminaires of protection class 2: No earthing required

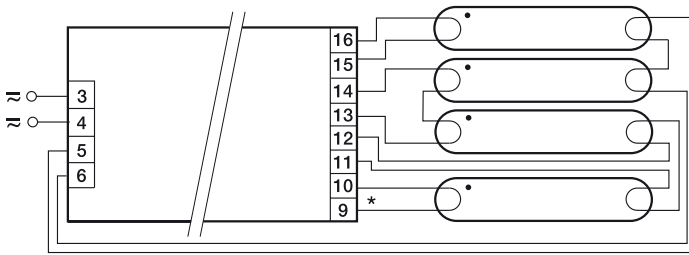
B3) PC T8 PRO 3x18–36 W



\* leads 9, 10 max. 1.0 m (< 100 pF)  
leads 11, 12, 13, 14, 15, 16 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing (to IEC 60598)  
for luminaires of protection class 2: No earthing required

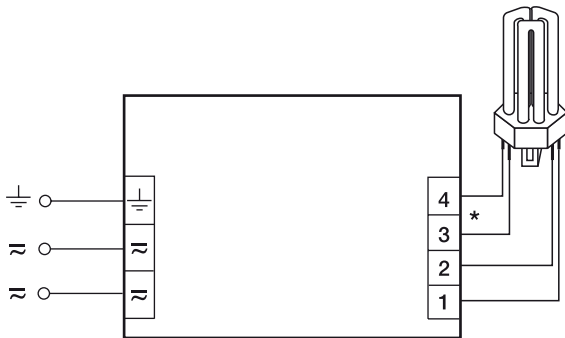


B4) PC T8 PRO 4x18 W



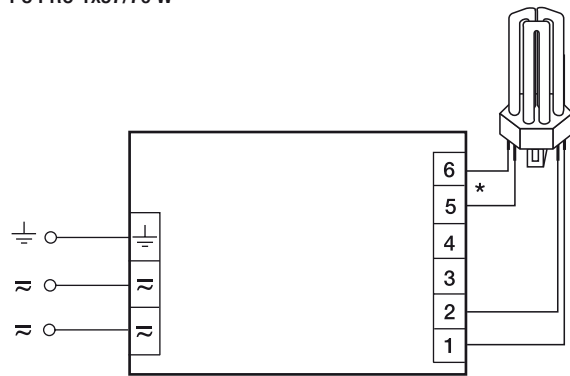
\* leads 9, 10 max. 1.0 m (< 100 pF)  
leads 5, 6, 11, 12, 13, 14, 15, 16 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing (to IEC 60598)  
for luminaires of protection class 2: No earthing required

C1) PC PRO 1x9–42 W



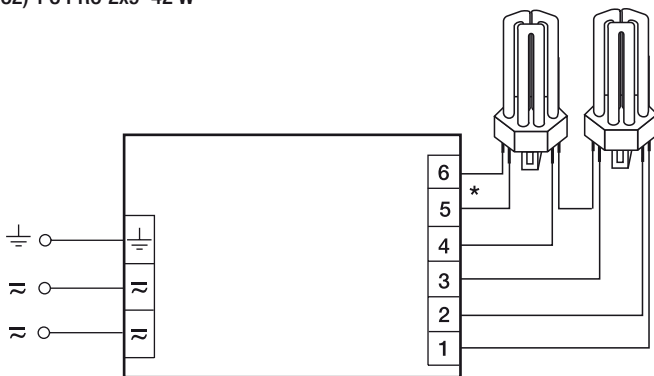
\* leads 3, 4 max. 1.0 m (< 100 pF)  
leads 1, 2 max. 2.0 m (< 200 pF)

PC PRO 1x57/70 W



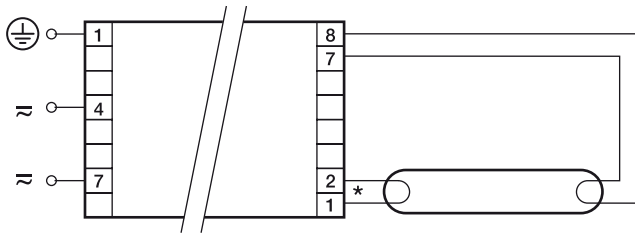
\* leads 5, 6 max. 1.0 m (< 100 pF)  
leads 1, 2 max. 2.0 m (< 200 pF)

C2) PC PRO 2x9–42 W



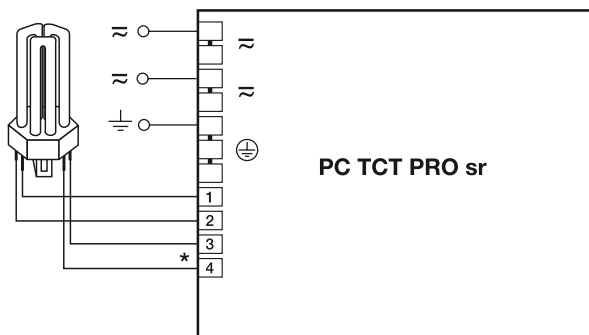
\* leads 5, 6 max. 1.0 m (< 100 pF)  
leads 1, 2, 3, 4 max. 2.0 m (< 200 pF)

D) PC DD PRO 28–55 W



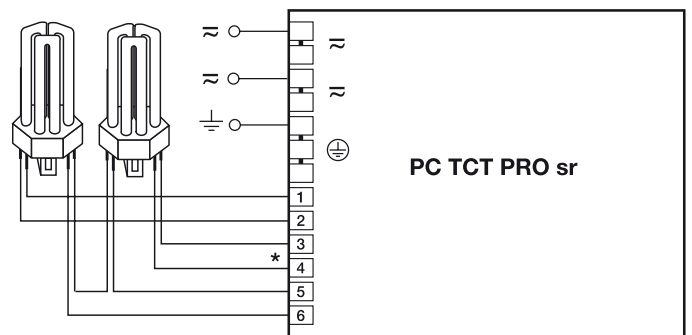
\* leads 1, 2 max. 1.0 m (< 100 pF)  
leads 7, 8 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing or earth terminal (to IEC 60598)  
for luminaires of protection class 2: No earthing required

E1) PC PRO sr 1x26–42 W



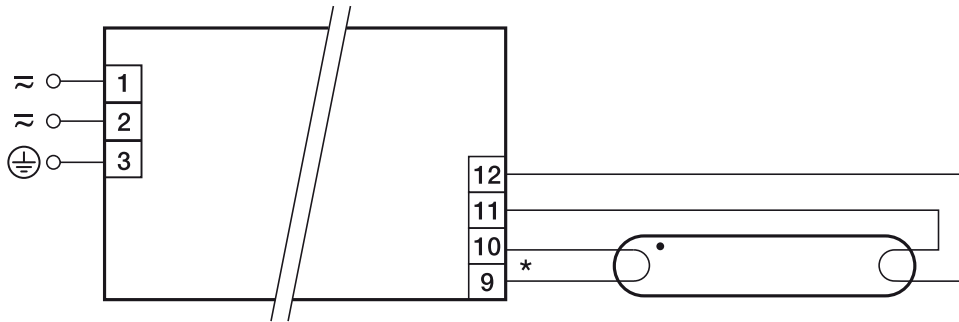
\* leads 3, 4 max. 1.0 m (< 100 pF)  
leads 1, 2 max. 2.0 m (< 200 pF)

E2) PC PRO sr 2x18–42 W



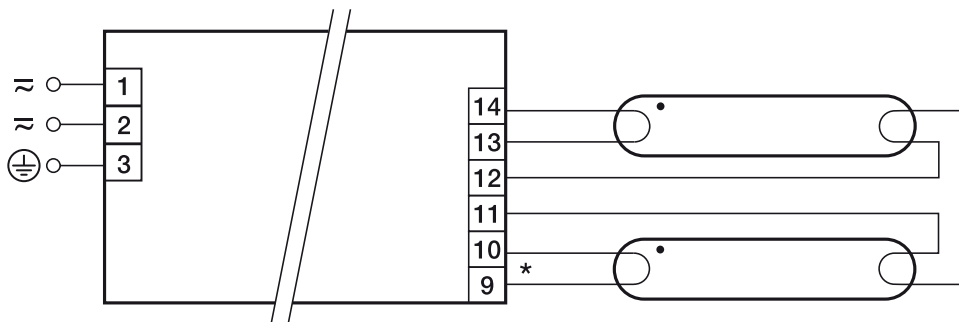
\* leads 3, 4 max. 1.0 m (< 100 pF)  
leads 1, 2, 5, 6 max. 2.0 m (< 200 pF)

F1) PC T8 INDUSTRY 1x36–58 W  
PC T5 INDUSTRY 1x49–80 W



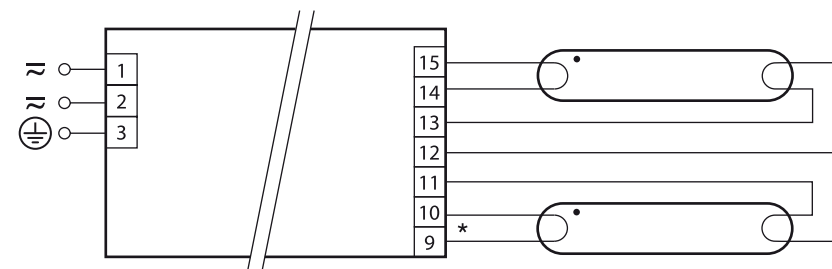
\* leads 9, 10 max. 1.0 m (< 100 pF)  
leads 11, 12 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing or earth terminal (to IEC 60598)  
for luminaires of protection class 2: No earthing required

F2) PC T8 INDUSTRY 2x36–58 W



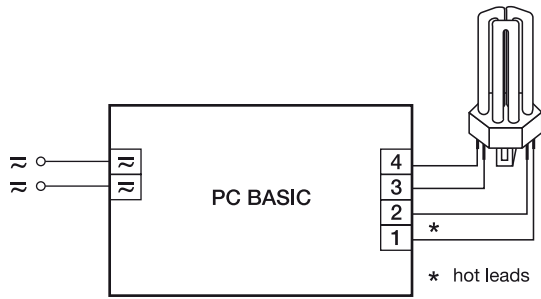
\* leads 9, 10 max. 1.0 m (< 100 pF)  
leads 11, 12, 13, 14 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing or earth terminal (to IEC 60598)  
for luminaires of protection class 2: No earthing required

F3) PC T5 INDUSTRY 2x49–80 W



\* leads 9, 10 max. 1.0 m (< 100 pF)  
leads 11, 12, 13, 14, 15 max. 2.0 m (< 200 pF)  
for luminaires of protection class 1: Earthing via ECG casing or earth terminal (to IEC 60598)  
for luminaires of protection class 2: No earthing required

G) PC Basic 7-26 W



\* leads 1, 2 max. 0.5 m (< 60 pF)  
leads 3, 4 max. 1.0 m (< 120 pF)

# Digitally dimmable ballasts for fluorescent lamps

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<b>Overview – dimmable ECG product range</b>	66
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<b>Linear lamps T5</b>	
PCA T5 EXCEL one4all 2x54 W	73
PCA T5 ECO lp 14–35 W	74
PCA T5 EXCEL one4all lp 14–35 W	75
PCA T5 ECO lp 24–80 W	76
PCA T5 EXCEL one4all lp 24–80 W	77
PCA 3/14 T5 ECO / 4/14 T5 ECO	78
PCA 3/14 T5 EXCEL one4all / 4/14 T5 EXCEL one4all	79
PCA T5c ECO 22–55 W (T5 circline)	80
PCA T5c EXCEL one4all 22–55 W (T5 circline)	81
<b>Linear lamps T8</b>	
PCA ECO 18–58 W	82
PCA EXCEL one4all 18–58 W	83
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<b>Compact lamps TC-L</b>	
PCA TCL ECO 18–80 W	86
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<b>Compact lamps TC-SEL, TC-DEL, TC-TEL</b>	
PCA ECO 11–57 W	90
PCA EXCEL one4all 11–57 W	91
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PCA TC-DD ECO 55 W	92
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# Overview – dimmable ECG product range

## xitec PCA EXCEL one4all Ip

Portfolio: T5

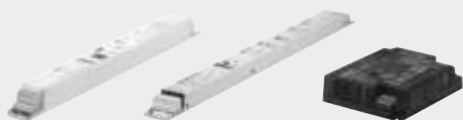


The all-rounder among electronic ballasts. one4all automatically detects the control signal. The luminaire is ready for anything – DALI, DSI, switchDIM, SMART or corridorFUNCTION applications. In addition, xitec PCA EXCEL one4all Ip operates any T5 lamps of the same length, e.g. 14 W / 24 W. There really is only one for all – one4all.

- one4all interface
- corridorFUNCTION
- automatically triggered and adjustable DC emergency light value for central battery systems (for DC and rectified AC emergency lighting voltage)
- fault and status messages that go beyond the DALI standard
- Intelligent Voltage Guard and Intelligent Temperature Guard for T5 lamps
- Extensive setting options such as emergency light value, fade rate and application-specific adaptation of the corridorFUNCTION

## PCA EXCEL one4all

Portfolio: T5, T8, TC-L, TC-T, TC-D, T5c, TC-F

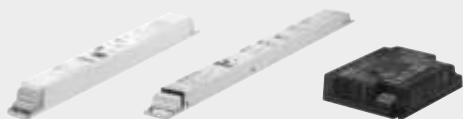


one4all automatically detects the control signal. The luminaire is ready for anything – DALI, DSI, switchDIM, SMART or corridorFUNCTION applications.

- one4all interface
- corridorFUNCTION
- automatically triggered and adjustable DC emergency light value for central battery systems
- Intelligent Voltage Guard and Intelligent Temperature Guard for T5 lamps
- fault and status messages
- extensive setting options such as emergency light value, fade rate and application-specific adaptation of the corridorFUNCTION

## PCA ECO

Portfolio: T5, T8, TC-L, TC-T, TC-D, T5c, TC-F



Exceptionally reliable digital DSI and switchDIM technology as the basis for plug & play solutions.

- DSI, switchDIM and SMART
- corridorFUNCTION for T5 versions
- automatically triggered 70 % DC emergency light value for central battery systems
- Intelligent Voltage Guard and Intelligent Temperature Guard for T5 lamps

## Unique functions of electronic ballasts from TridonicAtco

### Intelligent Voltage Guard



Intelligent Voltage Guard is a unique function from TridonicAtco and offers an unmistakable alarm signal in the form of flashing lamps if the mains voltage rises above or below defined thresholds.

Portfolio: PCA EXCEL one4all Ip, PCA ECO Ip, PC INDUSTRY, PC PRO, PC PRO-M, PC T5 COMBO and TE DC one4all

### Intelligent Temperature Guard



Intelligent Temperature Guard is a unique function from TridonicAtco and protects the electronic ballast against failure due to heat by reducing the lamp output if the luminaire is operated above the permitted temperature range.

Portfolio: PCA T5 EXCEL one4all Ip and PCA T5 ECO Ip

### corridorFUNCTION



Unique function of the dimmable PCA EXCEL one4all and PCA T5 ECO Ip ballasts for 24 h applications in which building regulations call for light around the clock. In combination with standard motion sensors PCA EXCEL one4all and PCA T5 ECO Ip achieve enormous energy savings in public car parks, hotel and hospital corridors and pedestrian underpasses.

Portfolio: PCA EXCEL one4all for all lamp types PCA ECO for T5 lamps and TE one4all

### DC emergency light value



The 70 % DC emergency light value is a reliable function of the digital dimmable PCA ballasts if they are used in conjunction with DC central battery systems. The ECG automatically dims to a low luminous flux value if dc voltage is detected at the input instead of ac voltage. This means that the central battery system has taken over the supply. As the luminous flux value is smaller and less energy is needed, the battery capacity can be made smaller and therefore more cost-effective. The ECGs also switch to the emergency light value in standby mode. As a special additional feature the emergency light value can be adjusted between 70 % and the minimum light value on all PCA EXCEL one4all versions to suit the particular application.

Portfolio: PCA EXCEL one4all and PCA ECO for all lamp types

# Digitally dimmable ballasts for fluorescent lamps

TridonicAtco digitally dimmable ballasts are characterised not only by excellent economic efficiency, exceptional lighting comfort and high reliability but also form the basis for dynamic lighting solutions – even with colour effects. The PCA EXCEL one4all range as well as the PCA ECO series, which both comply with CELMA Energy Efficiency Class A1, are a byword for energy efficiency. This carefully diversified product range covers all relevant applications with T5, T8 and compact fluorescent lamps.



Dimmable ballasts operate lamps with high-frequency voltage and current in the range from 40 kHz to 100 kHz – a frequency range which, for example, does not interfere with IR remote control units (36 kHz). No additional starter is required because the starting voltage is generated internally. A capacitor for p.f. compensation is also superfluous thanks to the power factor in excess of 0.95.

The digital interface further enhances the benefits of the high-end PCA EXCEL one4all ballasts and the PCA ECO all-rounders because they enable, for example, a luminaire to be prepared for various control options without rewiring. Like polarity-free wiring, this also facilitates installation.

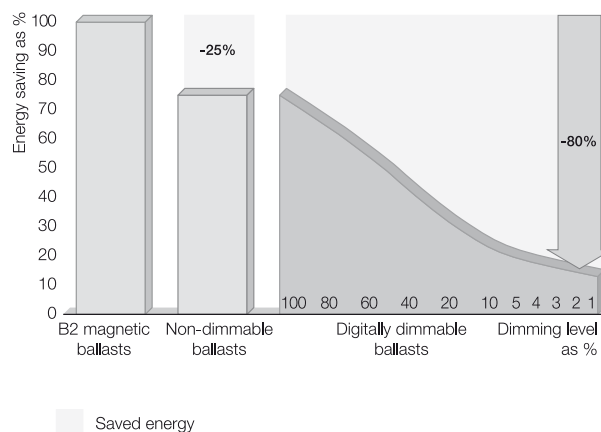
Access via several parallel control points also provides added value. Because digital signals are not susceptible to interference they ensure precisely the same dimming level when several items of control gear are fitted in one lighting installation – and without flicker, especially in the case of low brightness levels.

## Excellent economic efficiency

High-frequency operation of fluorescent luminaires results in a luminous flux that is approximately 10 % higher or, correspondingly, 10 % less lamp output is required for the same luminous flux. In addition, electronic ballasts have lower power losses of less than 10 % of lamp output and are less self-heating – this reduces the temperature of the luminaire and simultaneously improves the lamp's light output ratio. This results in system power reductions of 25 % in case of luminaires with electronic ballasts, compared with conventional B2 ballasts.

TridonicAtco PCA EXCEL one4all and PCA ECO models are real top performers in terms of energy savings. Their extremely energy-efficient mode of operation allows total potential savings in excess of 80 % in lighting installations. This is a result, firstly, of high-frequency operation which results in a high lamp light output ratio and, secondly, the low intrinsic energy consumption of the PCA EXCEL one4all. Besides this, energy requirements can be reduced significantly further still by means of daylight-based and presence detector-based control systems.

## Energy saving of up to 80 % using dimmable ballasts



The electronic ballast ensures preheating of lamp electrodes in accordance with specifications, and an adequately high starting voltage and limitation of discharge current. Straightforward installation, wiring and operating functionality also provides added value. Defined lamp warm starting is gentle on the luminaire, significantly extends the burning life of fluorescent lamps compared with conventional starter operation, and enables frequent switching cycles throughout the lamp's service life.

This cuts the cost of relamping and the cost of maintaining a lighting installation thanks to longer maintenance intervals.

Thanks to exclusive use high-quality components, intelligent circuit design and extensive testing at rated operating conditions, TridonicAtco PCA EXCEL one4all and PCA ECO ballasts achieve an average life of 50,000 hours – with a failure probability of less than 10 %, i.e. an average failure rate of 0.2 % per 1,000 hours of operation.

These characteristics of TridonicAtco digitally dimmable ballasts, i.e. energy efficiency and a long service life and long lamp life, guarantee highly economical lighting installations.

## Lighting comfort and lighting quality

High-frequency operation of fluorescent lamps results in more constant gas discharge than in the case of conventional ballasts, thereby eliminating cathode flicker (even at low temperatures) and strobing. This results in significantly improved lighting quality and improved visual comfort.

Integrated components (ASICs) developed by TridonicAtco for optimum lamp management ensure excellent lighting quality. Thanks to these components, lamps start reliably, silently and without annoying flickering even at 1 % luminous flux. In addition, lamps are automatically disconnected in the event of a defect or at the end of the lamp's life without causing malfunctions such as flashing or wasting energy through pointless attempted starting. The lamp is automatically restarted after relamping. Luminous flux remains constant regardless of supply voltage fluctuations in the range between 198 V and 254 V.

## For emergency lighting systems



PCA EXCEL one4all and PCA ECO ballasts can be operated either with alternating current or direct current. In this way, a separate emergency lighting system can be dispensed within centrally supplied lighting installations. In such installations, PCA ballasts operate at 70 % luminous flux as the emergency lighting level as standard.

PCA EXCEL one4all and PCA ECO ballasts also provide added value in separate-battery supplied emergency luminaires by storing the last lighting level – a feature which excels normal standards in this sector and proves especially useful after weekly function tests.



## Mechanically optimised

Electronic ballasts weigh less than electromagnetic ballasts. Their insulation piercing connecting devices allow fast automatic and manual wiring. There are also lateral fixing options.

## Constantly high quality

Exclusive use of high-quality materials combined with ISO 9001-certified manufacturing processes guarantee the unchangingly high quality and reliability of TridonicAtco PCA EXCEL one4all and PCA ECO ballasts. Fully automated manufacturing also ensures a constant, reproducible quality level. In addition, all ballasts undergo a 100 % final safety inspection.

## Standards and test marks

TridonicAtco PCA EXCEL one4all and PCA ECO electronic ballasts are ENEC-certified, carry the CE Mark and meet all relevant European standards relating to safety, operation and electromagnetic compatibility.

## Lamp matrix

### Which control gear for which lamp?

The current lamp matrix can be found on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → more documents

## Technical Information

The latest technical information can be downloaded from the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → Data sheets

## Personal enquiries

A form for personal enquiries is available on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Contact → Enquiry  
→ Application Department contact form

## PCA ECO all-rounders

PCA ECO ballasts provide an ideal opportunity to enter the world of digital dimming technology easily – here Plug and Play is standard. Tried-and-tested DSI control signals, simple momentary-action switch control or SMART constant light control can be used for actuation. DSI reveals its true potential here thanks to straightforward wiring and access via several parallel control points.

Like all digital ballasts, the PCA ECO operates with a logarithmic dimming characteristic. The dimming range is 1 % or 3 % to 100 % luminous flux when operating T5, T8 and compact fluorescent lamps.

The PCA ECO boasts all DSI functions and the benefit of digital communication with the exception of error feedback and programmability. Straightforward wiring and commissioning as well as a compact housing design ensure versatile use.

Digitally dimmable PCA ECO ballasts are available as single-, twin-, three- or four-lamp models for use with T5 and T8 fluo-rescent lamps as well as TC-L, TC-SEL, TC-DEL, TC-TEL and TC-DD compact fluorescent lamps.

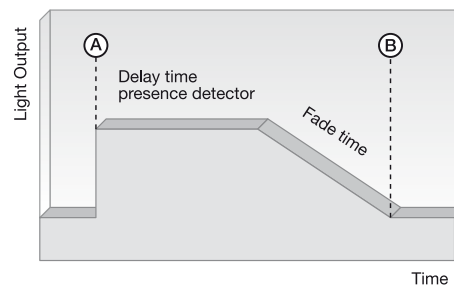


All digitally dimmable PCA ECO ballasts are characterised by their functionality geared towards practical benefits which is constantly being enhanced. For instance, the PCA T5 ECO Ip represents the fifth genera-

tion of ballasts with not only Intelligent Voltage Guard as an innovative preventive measure against undervoltages and overvoltages, but also excellent lamp management, e.g. thanks to its SMART Heating Concept. In addition, an Intelligent Temperature Guard function, which monitors the ballast temperature, prevents it being damaged by excess heat.

It also features the fifth generation of the affordable, user-friendly switchDIM control facility (PCA T5 ECO Ip) which uses switchDIM-MEMORY to store the last dimming level in the event of a power supply failure and returns the lamp to its previous operating state once the supply is restored. This improves user friendliness considerably because the dimming rate from minimum to maximum brightness can be set to 3 s or 6 s

The new corridorFUNCTION, which solves complex sequences really easily, is refinement in its purest form. Standard presence detectors and luminaires with PCA T5 ECO Ip ballasts are the best way of avoiding ever again suddenly being plunged into darkness, especially in rooms where there is no daylight, in the case of lighting installations which are controlled by presence detectors. The corridorFUNCTION ensures that if there is no one in the room the light is not switched off – as is the case with non-dimmable control gear – but dimmed to the minimum level. It can then be switched off automatically after a preset delay.



Dimming characteristic of corridorFUNCTION

With these user-oriented functions based on innovative DSI technology, TridonicAtco PCA ECO digitally dimmable ballasts prove to be genuine all-rounders.

## PCA EXCEL one4all – the high-end ballast

TridonicAtco PCA EXCEL one4all digitally dimmable ballasts combine four control options in just one device: simple momentary-action switch control using switch**DIM**, constant light control using SMART, tried-and-tested flexible systems with DSI and individually addressable solutions using DALI – the established, standardised interface protocol. The major benefit for the user is that the PCA EXCEL one4all always adapts itself flexibly and automatically to the appropriate lighting management solution.



PCA EXCEL one4all communication requires just two control wires. It is irrelevant whether the user opts for a switch**DIM**, DSI or DALI system. The wiring is always identical, the devices identify the right control signal automatically, and intelligently set themselves accordingly. PCA EXCEL one4all ballasts are characterised by excellent dimmability over an extended range from 1 % or 3 % to 100 % luminous flux. In DSI and DALI mode, various operating parameters can be modified and stored dynamically. In DALI mode, the control gear can also generate an error feedback message in case of lamp defects. Integrating this information into a higher-level control system enables entirely new service concepts. In this way, the PCA EXCEL one4all provides exceptional flexibility and future-proofness. All standard functions such as individual addressing (64 addresses), group addressing (16 addresses), lighting scenes (16 scene values), fading time and fading rate are available in DALI operating mode.

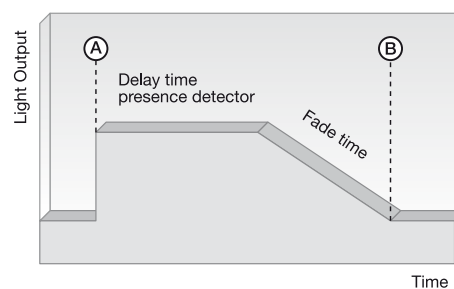
Digitally dimmable PCA EXCEL one4all ballasts are available in single-, twin-, three- or four-lamp versions for operation of T5 and T8 fluorescent lamps as well as TC-L, TC-SEL, TC-DEL, TC-TEL and TC-DD compact fluorescent lamps.



One thing that all digitally dimmable PCA EXCEL one4all ballasts share is their high level of functionality which is constantly being enhanced. For instance, the PCA T5 EXCEL one4all Ip represents the fifth generation of ballasts with not only Intelligent Voltage Guard as an innovative preventive measure against undervoltages and overvoltages, but also excellent lamp management, e.g. thanks to its SMART Heating Concept. In addition, an Intelligent Temperature Guard function, which monitors the ballast temperature, prevents it being damaged by excess heat.

When it comes to flexibility, the PCA T5 EXCEL one4all Ip really does it all. It makes it absolutely easy to configure both complex lighting solutions and dynamic colour applications, emergency lighting or integration into a higher-level control system, as well as straight-forward tasks.

The new corridor**FUNCTION**, which solves complex sequences really easily, is refinement in its purest form. Standard presence detectors and luminaires with PCA EXCEL one4all ballasts are the best way of avoiding ever again suddenly being plunged into darkness, especially in rooms where there is no daylight, in the case of lighting installations which are controlled by presence detectors. The corridor**FUNCTION** ensures that if there is no one in the room the light is not switched off – as is the case with non-dimmable control gear – but dimmed to the minimum level. It can then be switched off automatically after a preset delay.

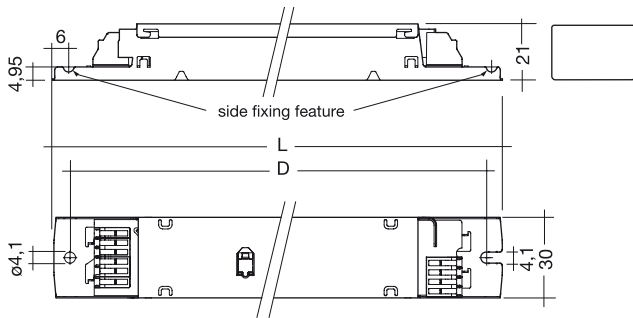


Dimming characteristic of corridor**FUNCTION**

These intelligent functions are gradually being introduced in all modifications to TridonicAtco digitally dimmable PCA EXCEL one4all ballasts.

## PCA T5 EXCEL one4all Ip x!tec 14–80 W 220–240 V 50/60/0 Hz

NEW



- world first: first processor-controlled ballast with x!tec inside
- operation of T5 lamps of the same length (e.g. FH 28 W and 54 W)
- automatic lamp detection and operation with correct lamp parameters
- dimming range from 1-100 %
- defined lamp warm start within 0.5 s with AC and 0.2 s with DC
- power input on standby < 0.5 W
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- fully digital lamp management for flash-free starting from any dimmer setting
- integrated SMART interface

- Intelligent Voltage Guard (overvoltage indication and undervoltage shutdown)
- Intelligent Temperature Guard (protection against thermal damage)
- automatically triggered adjustable emergency light value for DC and rectified AC voltage
- SMART Heating Concept for optimum filament electrode in any dimmer setting and disconnectable heating in operation for maximum energy efficiency

#### Extensive feedback functions and adjustable parameters:

- OEM-specific reserved memory for storing customer data in the ballast
- extensive diagnostic options
- the emergency light value can be set between 1 % and 100 %
- backward compatible
- with DALI MEMORY and corridorFUNCTION

#### Packaging:

**L 360 mm**  
box of 10  
76 boxes/pallet  
760 pieces/pallet

**L 425 mm**  
box of 25  
33 boxes/pallet  
825 pieces/pallet

#### Approvals:

EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

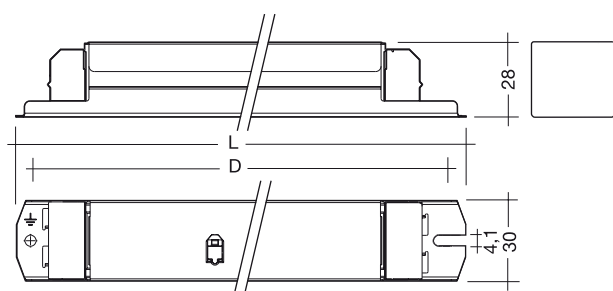
#### Wiring:

page 94 figure A, B, C, C1  
page 99 figure S, S1

Lamp	Ballast	article number	length L mm	flying centres D mm	weight kg	lamp power W	circuit power W	current at 230V/50Hz A	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C
1x14	PCA 1/14/24 T5 EXCEL one4 all Ip x!tec	22176082	360	350							in preparation
2x14	PCA 2/14/24 T5 EXCEL one4 all Ip x!tec	22176083	360	350							in preparation
1x24	PCA 1/14/24 T5 EXCEL one4 all Ip x!tec	22176082	360	350							in preparation
2x24	PCA 2/14/24 T5 EXCEL one4 all Ip x!tec	22176083	360	350							in preparation
1x21	PCA 1/21/39 T5 EXCEL one4 all Ip x!tec	22176084	360	350							in preparation
2x21	PCA 2/21/39 T5 EXCEL one4 all Ip x!tec	22176085	360	350							in preparation
1x39	PCA 1/21/39 T5 EXCEL one4 all Ip x!tec	22176084	360	350							in preparation
2x39	PCA 2/21/39 T5 EXCEL one4 all Ip x!tec	22176085	360	350							in preparation
1x28	PCA 1/28/54 T5 EXCEL one4 all Ip x!tec	22176086	360	350							in preparation
2x28	PCA 2/28/54 T5 EXCEL one4 all Ip x!tec	22176087	360	350							in preparation
1x54	PCA 1/28/54 T5 EXCEL one4 all Ip x!tec	22176086	360	350							in preparation
2x54	PCA 2/28/54 T5 EXCEL one4 all Ip x!tec	22176087	360	350							in preparation
1x35	PCA 1/35/49/80 T5 EXCEL one4 all Ip x!tec	22176088	360	350							in preparation
2x35	PCA 2/35/49/80 T5 EXCEL one4 all Ip x!tec	22176089	360	350							in preparation
1x49	PCA 1/35/49/80 T5 EXCEL one4 all Ip x!tec	22176088	360	350							in preparation
2x49	PCA 2/35/49/80 T5 EXCEL one4 all Ip x!tec	22176089	360	350							in preparation
1x80	PCA 1/35/49/80 T5 EXCEL one4 all Ip x!tec	22176088	360	350							in preparation
2x80	PCA 2/35/49/80 T5 EXCEL one4 all Ip x!tec	22176089	360	350							in preparation

Electronic ballasts for dimming to 3 %  
Linear lamps, high output

PCA T5 EXCEL one4all 2x54 W 220–240 V 50/60/0 Hz



- dimming range from 3-100 %
- lamp start at 3 %
- defined lamp warm start within 1.5 s with AC and 0.6 s with DC
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- fully electronic lamp management and digital communication with ASIC and  $\mu$ C

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172
- automatically triggered adjustable emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz

**Packaging:**  
box of 10  
58 boxes/pallet  
580 pieces/pallet

**Wiring:**  
page 94 figure A, B, C, C1

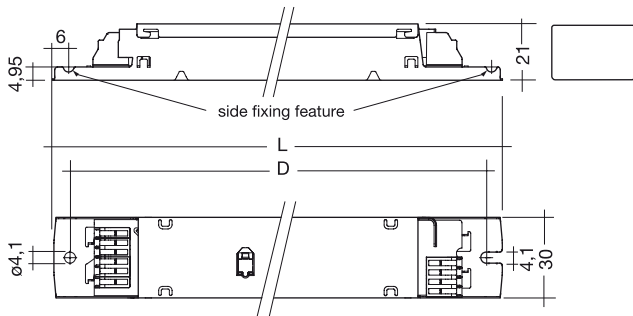
**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
2x54	1,149	PCA 2/54 T5 EXCEL 220–240 V 50/60/0 Hz	22084597	360	350	0.36	2x52	116.0	0.50	0.99	75	+10 → +50

① 10 °C to  $t_a$  max: dimming to 3 %

② valid at 100 % light output

## PCA T5 ECO Ip 14–35 W 220–240 V 50/60/0 Hz



- 21 mm high
- dimming range from 1-100 %
- lamp start at 1 %
- defined lamp warm start within 0.5 s with AC and 0.2 s with DC
- power input on standby < 0.8 W
- powerless switching via a digital interface (no need for switching via mains)
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully digital lamp management and digital communication

- Intelligent Voltage Guard (overvoltage indication and undervoltage shutdown)
- Intelligent Temperature Guard (protection against thermal damage)
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % DC emergency light value

**Adjustable functions:**

- backward compatible
- selectable dimming rate in switchDIM mode (3 s or 6 s)
- with switchDIM-MEMORY and corridorFUNCTION

**Packaging:**

**L 360 mm**  
box of 10  
76 boxes/pallet  
760 pieces/pallet

**L 425 mm**

box of 25  
33 boxes/pallet  
825 pieces/pallet

**Approvals:**

EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

**Wiring:**

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page 99 figure S, S1

Lamp		Ballast										
watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
1x14	549	PCA 1/14 T5 ECO Ip 220–240 V 50/60/0 Hz	22089436	360	350	0.27	14	16.8	0.07	0.97	75	-25 → +60
2x14	549	PCA 2/14 T5 ECO Ip 220–240 V 50/60/0 Hz	22089442	360	350	0.28	2x14	33.4	0.15	0.98	85	-25 → +60
1x21	849	PCA 1/21 T5 ECO Ip 220–240 V 50/60/0 Hz	22089414	360	350	0.27	21	23.4	0.11	0.96	80	-25 → +60
2x21	849	PCA 2/21 T5 ECO Ip 220–240 V 50/60/0 Hz	22089420	360	350	0.29	2x21	46.0	0.21	0.97	80	-25 → +60
1x28	1,149	PCA 1/28 T5 ECO Ip 220–240 V 50/60/0 Hz	22089392	360	350	0.27	28	31.4	0.14	0.99	80	-25 → +60
2x28	1,149	PCA 2/28 T5 ECO Ip 220–240 V 50/60/0 Hz	22089405	360	350	0.28	2x28	61.3	0.27	0.99	80	-25 → +50
1x35	1,449	PCA 1/35 T5 ECO Ip 220–240 V 50/60/0 Hz	22089370	360	350	0.27	35	38.6	0.17	0.99	80	-25 → +60
2x35	1,449	PCA 2/35 T5 ECO Ip 220–240 V 50/60/0 Hz	22089386	425	415	0.33	2x35	75.5	0.33	0.99	85	-25 → +50

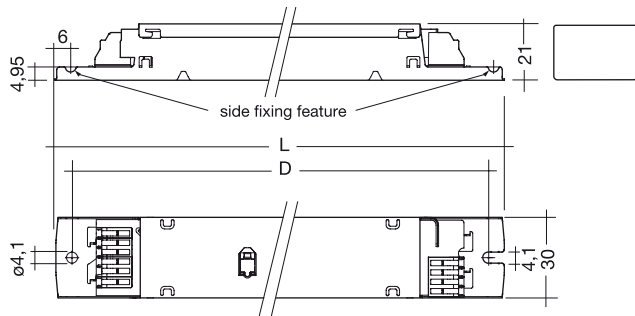
① 10 °C to ta max: unrestricted dimming

-25 °C to +10 °C: unrestricted dimming from 100 % to 30 %

-25 °C to +10 °C, dimming less than 30 %: Restricted dimming but no damage to ECG. This applies to AC and DC operation.

② valid at 100 % light output

PCA T5 EXCEL one4all Ip 14–35 W 220–240 V 50/60/0 Hz



- 21 mm high
- dimming range from 1-100 %
- lamp start at 1 %
- defined lamp warm start within 0.5 s with AC and 0.2 s with DC
- power input on standby < 0.5 W (0.8 W in DSI and switchDIM mode)
- powerless switching via a digital interface (no need for switching via mains)
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- fully digital lamp management and digital communication
- integrated SMART interface

- Intelligent Voltage Guard (overvoltage indication and undervoltage shutdown)
- Intelligent Temperature Guard (protection against thermal damage)
- DC operation in emergency lighting installations to EN 50172
- automatically triggered adjustable DC emergency light value

**Adjustable functions:**

- the emergency light value can be set between 1 % and 70 %
- backward compatible
- selectable dimming rate in switchDIM mode (3 s or 6 s)
- SMART Heating Concept allows dimming from min. → max. in 50 ms to 90 s
- with DALI MEMORY and corridorFUNCTION

**Packaging:**

**L 360 mm**  
box of 10  
76 boxes/pallet  
760 pieces/pallet

**L 425 mm**  
box of 25  
33 boxes/pallet  
825 pieces/pallet

**Approvals:**

EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

**Wiring:**

page 94 figure A, B, C, C1  
page 99 figure S, S1

Lamp		Ballast										
watt-age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
1x14	549	PCA 1/14 T5 EXCEL Ip 220/240 V 50/60/0 Hz	22088511	360	350	0.27	14	16.8	0.07	0.97	75	-25 → +60
2x14	549	PCA 2/14 T5 EXCEL Ip 220/240 V 50/60/0 Hz	22088527	360	350	0.28	2x14	33.4	0.15	0.98	85	-25 → +60
1x21	849	PCA 1/21 T5 EXCEL Ip 220/240 V 50/60/0 Hz	22088495	360	350	0.27	21	23.4	0.11	0.96	80	-25 → +60
2x21	849	PCA 2/21 T5 EXCEL Ip 220/240 V 50/60/0 Hz	22088502	360	350	0.29	2x21	46.0	0.21	0.97	80	-25 → +60
1x28	1,149	PCA 1/28 T5 EXCEL Ip 220/240 V 50/60/0 Hz	22088473	360	350	0.27	28	31.4	0.14	0.99	80	-25 → +60
2x28	1,149	PCA 2/28 T5 EXCEL Ip 220/240 V 50/60/0 Hz	22088489	360	350	0.28	2x28	61.3	0.27	0.99	80	-25 → +50
1x35	1,449	PCA 1/35 T5 EXCEL Ip 220/240 V 50/60/0 Hz	22088454	360	350	0.27	35	38.6	0.17	0.99	80	-25 → +60
2x35	1,449	PCA 2/35 T5 EXCEL Ip 220/240 V 50/60/0 Hz	22088467	425	415	0.33	2x35	75.5	0.33	0.99	85	-25 → +50

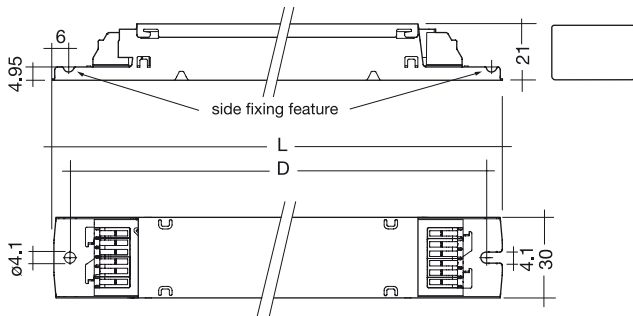
① 10 °C to ta max: unrestricted dimming

-25 °C to +10 °C: unrestricted dimming from 100 % to 30 %

-25 °C to +10 °C, dimming less than 30 %: Restricted dimming but no damage to ECG. This applies to AC and DC operation.

② valid at 100 % light output

## PCA T5 ECO Ip 24–80 W 220–240 V 50/60/0 Hz



- 21 mm high
- dimming range from 1-100 %
- lamp start at 1 %
- defined lamp warm start within 0.5 s with AC and 0.2 s with DC
- power input on standby < 0.8 W
- powerless switching via a digital interface (no need for switching via mains)
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully digital lamp management and digital communication

- Intelligent Voltage Guard (overvoltage indication and undervoltage shutdown)
- Intelligent Temperature Guard (protection against thermal damage)
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % DC emergency light value

**Adjustable functions:**

- backward compatible
- selectable dimming rate in switchDIM mode (3 s or 6 s)
- with switchDIM-MEMORY and corridorFUNCTION

**Packaging:**

**L 360 mm**  
box of 10  
76 boxes/pallet  
760 pieces/pallet

**L 425 mm**

box of 25  
33 boxes/pallet  
825 pieces/pallet

**Approvals:**

EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

**Wiring:**

page 94 figure A, B, C, C1  
page 99 figure S, S1

Lamp		Ballast										
wattage W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
1x24	549	PCA 1/24 T5 ECO Ip 220–240 V 50/60/0 Hz	22089521	360	350	0.27	23	26.7	0.12	0.96	80	-25 → +60
2x24	549	PCA 2/24 T5 ECO Ip 220–240 V 50/60/0 Hz	22089537	360	350	0.29	2x23	53.4	0.24	0.98	85	-25 → +60
1x39	849	PCA 1/39 T5 ECO Ip 220–240 V 50/60/0 Hz	22089506	360	350	0.27	38	41.3	0.19	0.97	80	-25 → +60
2x39	849	PCA 2/39 T5 ECO Ip 220–240 V 50/60/0 Hz	22089515	425	415	0.33	2x38	83.6	0.37	0.98	85	-25 → +60
1x49	1,449	PCA 1/49 T5 ECO Ip 220–240 V 50/60/0 Hz	22089483	360	350	0.27	49	54.0	0.24	0.98	75	-25 → +50
2x49	1,449	PCA 2/49 T5 ECO Ip 220–240 V 50/60/0 Hz	22089499	425	415	0.36	2x49	106.1	0.47	0.99	85	-25 → +60
1x54	1,149	PCA 1/54 T5 ECO Ip 220–240 V 50/60/0 Hz	22089461	360	350	0.27	54	59.7	0.26	0.99	80	-25 → +50
2x54	1,149	PCA 2/54 T5 ECO Ip 220–240 V 50/60/0 Hz	22089477	425	415	0.36	2x54	117.9	0.52	0.99	85	-25 → +50
1x80	1,449	PCA 1/80 T5 ECO Ip 220–240 V 50/60/0 Hz	22089458	425	415	0.31	80	86.3	0.38	0.99	80	-25 → +50
2x80	1,449	PCA 2/80 T5 ECO Ip 220–240 V 50/60/0 Hz	22176054	425	415	0.35	2x80	167.0	0.74	0.99	80	-25 → +50

① 10 °C to ta max: unrestricted dimming

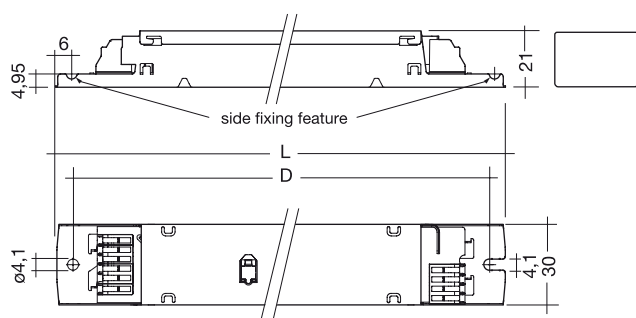
-25 °C to +10 °C: unrestricted dimming from 100 % to 30 %

-25 °C to +10 °C, dimming less than 30 %: Restricted dimming but no damage to ECG. This applies to AC and DC operation.

② valid at 100 % light output



PCA T5 EXCEL one4all Ip 24–80 W 220–240 V 50/60/0 Hz



- 21 mm high
- dimming range from 1-100 %
- lamp start at 1 %
- defined lamp warm start within 0.5 s with AC and 0.2 s with DC
- power input on standby < 0.5 W (0.8 W in DSI and switchDIM mode)
- powerless switching via a digital interface (no need for switching via mains)
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- fully digital lamp management and digital communication
- integrated SMART interface

- Intelligent Voltage Guard (overvoltage indication and undervoltage shutdown)
- Intelligent Temperature Guard (protection against thermal damage)
- DC operation in emergency lighting installations to EN 50172
- automatically triggered adjustable DC emergency light value

**Adjustable functions:**

- the emergency light value can be set between 1 % and 70 %
- backward compatible
- selectable dimming rate in switchDIM mode (3 s or 6 s)
- SMART Heating Concept allows dimming from min. → max. in 50 ms to 90 s
- with DALI MEMORY and corridorFUNCTION

**Packaging:**

**L 360 mm**  
box of 10  
76 boxes/pallet  
760 pieces/pallet

**L 425 mm**  
box of 25  
33 boxes/pallet  
825 pieces/pallet

**Approvals:**

EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

**Wiring:**

page 94 figure A, B, C, C1  
page 99 figure S, S1

Lamp	Ballast		article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	λ at 230V/50Hz	tc point °C	temperature range °C ①
	length mm	type										
1x24	549	PCA 1/24 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22088607	360	350	0.27	23	26.7	0.12	0.96	80	-25 → +60
2x24	549	PCA 2/24 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22088616	360	350	0.29	2x23	53.4	0.24	0.98	85	-25 → +60
1x39	849	PCA 1/39 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22088580	360	350	0.27	38	41.3	0.19	0.97	80	-25 → +60
2x39	849	PCA 2/39 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22088596	425	415	0.33	2x38	83.6	0.37	0.98	85	-25 → +60
1x49	1,449	PCA 1/49 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22088568	360	350	0.27	49	54.0	0.24	0.98	75	-25 → +50
2x49	1,449	PCA 2/49 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22088574	425	415	0.36	2x49	106.1	0.47	0.99	85	-25 → +60
1x54	1,149	PCA 1/54 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22088549	360	350	0.27	54	59.7	0.26	0.99	80	-25 → +50
2x54	1,149	PCA 2/54 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22088555	425	415	0.36	2x54	117.9	0.52	0.99	85	-25 → +50
1x80	1,449	PCA 1/80 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22088533	425	415	0.31	80	86.3	0.38	0.99	80	-25 → +50
2x80	1,449	PCA 2/80 T5 EXCEL Ip 220–240 V 50/60/0 Hz	22176053	425	415	0.35	2x80	167.0	0.74	0.99	80	-25 → +50

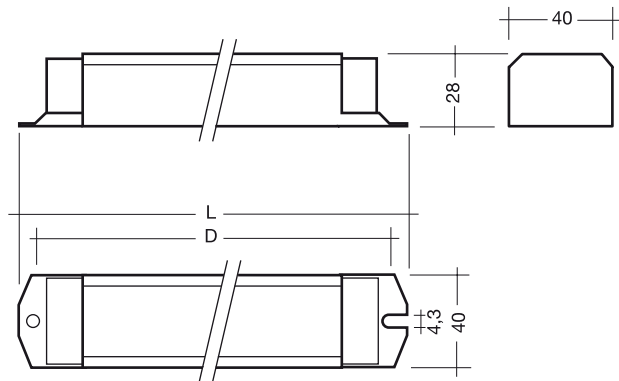
① 10 °C to ta max: unrestricted dimming

-25 °C to +10 °C: unrestricted dimming from 100 % to 30 %

-25 °C to +10 °C, dimming less than 30 %: Restricted dimming but no damage to ECG. This applies to AC and DC operation.

② valid at 100 % light output

## PCA 3/14 T5 ECO / 4/14 T5 ECO 220–240 V 50/60/0 Hz



- dimming range from 10-100 %
- lamp start at 10 %
- defined lamp warm start within 1.5 s with AC and 0.6 s with DC
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC and  $\mu$ C

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz

**Packaging:**  
box of 20  
30 boxes/pallet  
600 pieces/pallet

**Wiring:**  
page 95 figure D, E, F  
page 99 figure S

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

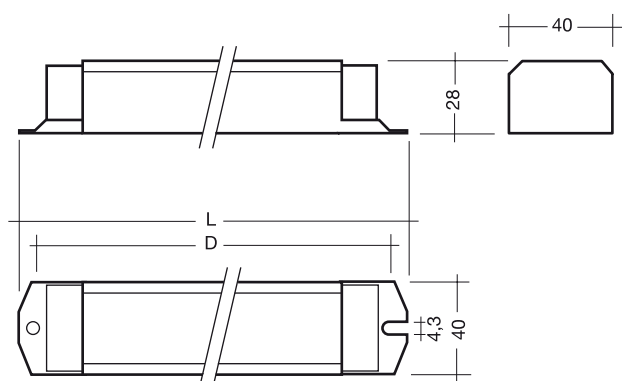
Lamp		Ballast										
watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
3x14	550	PCA 3/14 T5 ECO 220–240 V 50/60/0 Hz	22086661	360	340-350	0.38	42	51.6	0.23	0.98	80	+10 → +50
4x14	550	PCA 4/14 T5 ECO 220–240 V 50/60/0 Hz	22086683	360	340-350	0.40	56	66.5	0.32	0.98	80	+10 → +60

① 10 °C to  $t_a$  max: dimming to 10 %

② valid at 100 % light output

## Electronic ballasts for dimming to 10 % Linear lamps

### PCA 3/14 T5 EXCEL one4all / 4/14 T5 EXCEL one4all 220–240 V 50/60/0 Hz



- dimming range from 10-100 %
- lamp start at 10 %
- defined lamp warm start within 1.5 s with AC and 0.6 s with DC
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- fully electronic lamp management and digital communication with ASIC and  $\mu$ C

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172 (the emergency light value can be set between 1 % and 70 %)
- automatically triggered adjustable emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz

**Packaging:**  
box of 20  
30 boxes/pallet  
600 pieces/pallet

**Wiring:**  
page 95 figure D, E, F  
page 99 figure S, S1

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

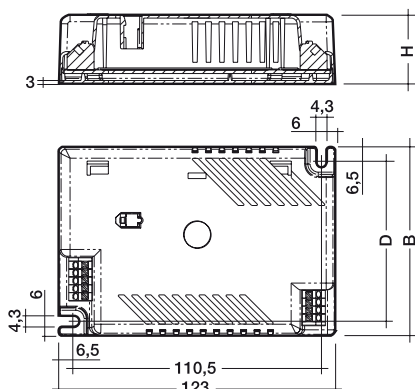
Lamp		Ballast										
watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
3x14	550	PCA 3/14 T5 EXCEL 220–240 V 50/60/0 Hz	22086658	360	340-350	0.38	42	51.6	0.23	0.98	80	+10 → +50
4x14	550	PCA 4/14 T5 EXCEL 220–240 V 50/60/0 Hz	22086677	360	340-350	0.40	56	66.5	0.32	0.98	80	+10 → +60

① 10 °C to  $t_a$  max: dimming to 10 %

② valid at 100 % light output



## PCA T5c ECO 22–55 W 220–240 V 50/60/0 Hz



- dimming range from 3-100 %
- lamp start at 3 %
- defined lamp warm start within 1.5 s with AC and 0.6 s with DC
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz

**Packaging:**  
box of 10  
50 boxes/pallet  
500 pieces/pallet

**Wiring:**  
page 96 figure H, I  
page 99 figure S

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
watt-age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	λ at 230V/50Hz	tc point °C	temperature range °C ①
22	T5c	PCA 1/22 T5c ECO	22086897	123 x 79 x 31	66.5	0.22	22	26.1	0.12	0.96	70	+10 → +50
40	T5c	PCA 1/40 T5c ECO	22086913	123 x 79 x 31	66.5	0.22	40	45.5	0.20	0.98	75	+10 → +50
55	T5c	PCA 1/55 T5c ECO	22086935	123 x 79 x 31	66.5	0.22	55	61.0	0.24	0.98	85	+10 → +50

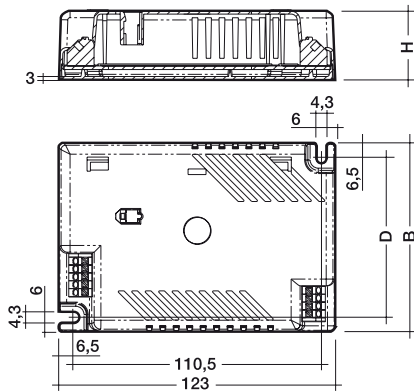
① 10 °C to ta max: dimming to 3 %

② valid at 100 % light output



## Electronic ballasts for dimming to 3 % Fluorescent lamps

### PCA T5c EXCEL one4all 22–55 W 220–240 V 50/60/0 Hz



- dimming range from 3-100 %
- lamp start at 3 %
- defined lamp warm start within 1.5 s with AC and 0.6 s with DC
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- fully electronic lamp management and digital communication with ASIC

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172 (the emergency light value can be set between 1 % and 70 %)
- automatically triggered emergency light value for DC or rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz
- with DALI MEMORY and corridorFUNCTION

**Packaging:**  
box of 10  
50 boxes/pallet  
500 pieces/pallet

**Wiring:**  
page 96 figure H, I, I1  
page 99 figure S, S1

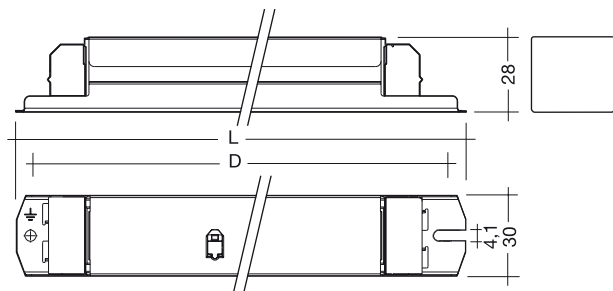
**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
wattage W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
22	T5c	PCA 1/22 T5c EXCEL one4all 220–240 V 50/60/0 Hz	22086881	123 x 79 x 31	66.5	0.22	22	26.1	0.12	0.96	70	+10 → +50
40	T5c	PCA 1/40 T5c EXCEL one4all 220–240 V 50/60/0 Hz	22086904	123 x 79 x 31	66.5	0.22	40	45.5	0.20	0.98	75	+10 → +50
55	T5c	PCA 1/55 T5c EXCEL one4all 220–240 V 50/60/0 Hz	22086929	123 x 79 x 31	66.5	0.22	55	61.0	0.24	0.98	85	+10 → +50

① 10 °C to ta max: dimming to 3 %

② valid at 100 % light output

## PCA ECO 18–58 W 220–240 V 50/60/0 Hz



- dimming range from 1-100 %
- lamp start at 1 %
- defined lamp warm start within 0.6 s
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC and  $\mu$ C

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz

**Packaging:**  
box of 10  
58 boxes/pallet  
580 pieces/pallet

**Wiring:**  
page 94 figure A, B, C  
page 99 figure S

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
1x18	590	PCA 1/18 ECO 220–240 V 50/60/0 Hz	22085406	360	350	0.32	16	20.8	0.100	0.93	65	-25 → +60
2x18	590	PCA 2/18 ECO 220–240 V 50/60/0 Hz	22085415	360	350	0.36	32	39.6	0.180	0.96	75	-25 → +60
1x30	900	PCA 1/30 ECO 220–240 V 50/60/0 Hz	22086116	360	350	0.32	25	30.1	0.135	0.96	80	-25 → +60
2x30	900	PCA 2/30 ECO 220–240 V 50/60/0 Hz	22086122	360	350	0.36	50	58.0	0.260	0.98	75	-25 → +60
1x36	1,200	PCA 1/36 ECO 220–240 V 50/60/0 Hz	22085421	360	350	0.32	32	36.5	0.165	0.97	70	-25 → +60
2x36	1,200	PCA 2/36 ECO 220–240 V 50/60/0 Hz	22085437	360	350	0.36	64	70.4	0.305	0.98	80	-25 → +60
1x38	1,200	PCA 1/38 ECO 220–240 V 50/60/0 Hz	22087002	360	350	0.32	32	37.3	0.170	0.98	70	-25 → +60
2x38	1,200	PCA 2/38 ECO 220–240 V 50/60/0 Hz	22087011	360	350	0.36	64	71.1	0.315	0.99	75	-25 → +60
1x58	1,500	PCA 1/58 ECO 220–240 V 50/60/0 Hz	22085443	360	350	0.32	50	56.0	0.250	0.98	75	-25 → +60
2x58	1,500	PCA 2/58 ECO 220–240 V 50/60/0 Hz	22084837	360	350	0.36	100	111.0	0.490	0.98	75	-25 → +50

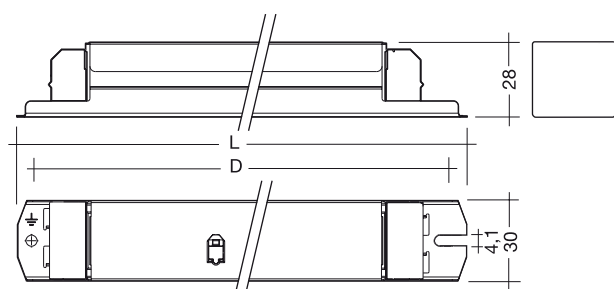
① 0 °C to  $t_a$  max: unrestricted dimming

-25 °C to 0 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.

② valid at 100 % light output

## Electronic ballasts for dimming to 1 % Linear lamps

### PCA EXCEL one4all 18–58 W 220–240 V 50/60/0 Hz



- dimming range from 1-100 %
- lamp start at 1 %
- defined lamp warm start within 0.6 s
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC and  $\mu\text{C}$

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172 (the emergency light value can be set between 1 % and 70 %)
- automatically triggered emergency light value for DC or rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz
- with DALI MEMORY and corridorFUNCTION

**Packaging:**  
box of 10  
58 boxes/pallet  
580 pieces/pallet

**Wiring:**  
page 94 figure A, B, C, C1  
page 99 figure S, S1

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

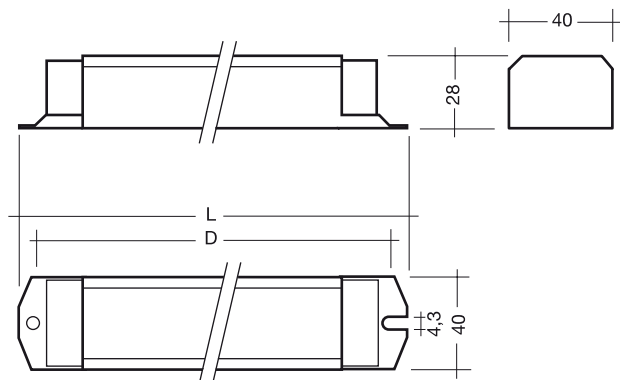
Lamp		Ballast										
wattage W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
1x18	590	PCA 1/18 EXCEL 220–240 V 50/60/0 Hz	22085245	360	350	0.32	16	20.8	0.100	0.93	65	-25 → +60
2x18	590	PCA 2/18 EXCEL 220–240 V 50/60/0 Hz	22085251	360	350	0.36	32	39.6	0.180	0.96	75	-25 → +60
1x30	900	PCA 1/30 EXCEL 220–240 V 50/60/0 Hz	22086092	360	350	0.32	25	30.1	0.135	0.96	80	-25 → +60
2x30	900	PCA 2/30 EXCEL 220–240 V 50/60/0 Hz	22086107	360	350	0.36	50	58.0	0.260	0.98	75	-25 → +60
1x36	1,200	PCA 1/36 EXCEL 220–240 V 50/60/0 Hz	22085264	360	350	0.32	32	36.5	0.165	0.97	70	-25 → +60
2x36	1,200	PCA 2/36 EXCEL 220–240 V 50/60/0 Hz	22085270	360	350	0.36	64	70.4	0.305	0.98	80	-25 → +60
1x38	1,200	PCA 1/38 EXCEL 220–240 V 50/60/0 Hz	22087027	360	350	0.32	32	37.3	0.170	0.98	70	-25 → +60
2x38	1,200	PCA 2/38 EXCEL 220–240 V 50/60/0 Hz	22087033	360	350	0.36	64	71.1	0.315	0.99	75	-25 → +60
1x58	1,500	PCA 1/58 EXCEL 220–240 V 50/60/0 Hz	22085286	360	350	0.32	50	56.0	0.250	0.98	75	-25 → +60
2x58	1,500	PCA 2/58 EXCEL 220–240 V 50/60/0 Hz	22084608	360	350	0.36	100	111.0	0.490	0.98	75	-25 → +50

① 0 °C to  $t_a$  max: unrestricted dimming

-25 °C to 0 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.

② valid at 100 % light output

## PCA 3/18 ECO / 4/18 ECO 220–240 V 50/60/0 Hz



- dimming range from 10-100 %
- lamp start at 10 %
- defined lamp warm start within 1.5 s with AC and 0.6 s with DC
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC and  $\mu$ C

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz

**Packaging:**  
box of 20  
30 boxes/pallet  
600 pieces/pallet

**Wiring:**  
page 95 figure D, E, F  
page 99 figure S

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
3x18	590	PCA 3/18 ECO	22086721	360	340-350	0.38	48	57.7	0.26	0.97	75	-25 → +50
4x18	590	PCA 4/18 ECO	22086706	360	340-350	0.40	64	77.5	0.34	0.99	80	-25 → +60

① 0 °C to  $t_a$  max: dimming to 10 %

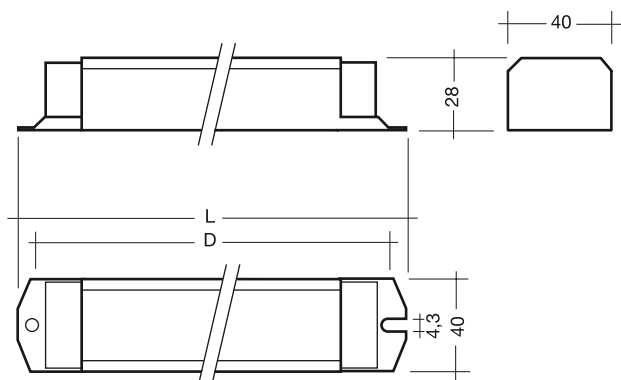
-25 °C to 0 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.

② valid at 100 % light output



## Electronic ballasts for dimming to 10 % Linear lamps

### PCA 3/18 EXCEL one4all / 4/18 EXCEL one4all 220–240 V 50/60/0 Hz



- dimming range from 10-100 %
- lamp start at 10 %
- defined lamp warm start within 1.5 s with AC and 0.6 s with DC
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- integrated SMART interface

- fully electronic lamp management and digital communication with ASIC and  $\mu$ C
- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172 (the emergency light value can be set between 1 % and 70 %)
- automatically triggered emergency light value for DC or rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz

**Packaging:**  
box of 20  
30 boxes/pallet  
600 pieces/pallet

**Wiring:**  
page 95 figure D, E, F,  
page 99 figure S, S1

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
3x18	590	PCA 3/18 EXCEL 220–240 V 50/60/0 Hz	22086715	360	340-350	0.38	48	57.7	0.26	0.97	75	-25 → +50
4x18	590	PCA 4/18 EXCEL 220–240 V 50/60/0 Hz	22086699	360	340-350	0.40	64	77.5	0.34	0.99	80	-25 → +60

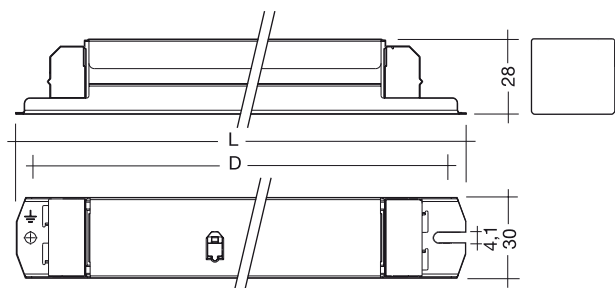
① 0 °C to  $t_a$  max: dimming to 10 %

-25 °C to 0 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.

② valid at 100 % light output



## PCA TCL ECO 18–80 W 220–240 V 50/60/0 Hz



- dimming range from 3–100 %
- lamp start at 3 %
- defined lamp warm start within 0.6 s with AC and DC (at 55 W, 80 W, 2x18 W and 2x55 W in 1.5 s with AC)
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC and  $\mu$ C

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40–100 kHz

**Packaging:**  
box of 10  
58 boxes/pallet  
580 pieces/pallet

**Wiring:**  
page 96 figure J  
page 97 figure K, L  
page 99 figure S

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
watt-age W	type	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
2x18	TC-L	PCA 2/18 TCL ECO	22086856	360	350	0.36	30	42.0	0.165	0.98	80	-25 → +60
2x24	TC-L	PCA 2/24 TCL ECO	22086875	360	350	0.36	44	52.0	0.228	0.99	90	-25 → +60
1x36	TC-L/TC-F	PCA 1/36 TCL ECO	22085507	360	350	0.32	32	37.5	0.165	0.97	75	-25 → +60
2x36	TC-L/TC-F	PCA 2/36 TCL ECO	22085516	360	350	0.36	64	74.0	0.325	0.99	85	-25 → +60
1x40	TC-L	PCA 1/40 TCL ECO	22085522	360	350	0.32	38	43.0	0.190	0.98	75	-25 → +60
2x40	TC-L	PCA 2/40 TCL ECO	22085538	360	350	0.36	76	87.9	0.380	0.99	75	-25 → +60
1x55	TC-L	PCA 1/55 TCL ECO	22085544	360	350	0.32	55	61.5	0.270	0.99	80	-25 → +60
2x55	TC-L	PCA 2/55 TCL ECO	22085550	360	350	0.36	110	117.3	0.490	0.99	90	-25 → +50
1x80	TC-L	PCA 1/80 TCL ECO	22088990	360	350	0.32	80	90.0	0.399	0.98	70	-25 → +50

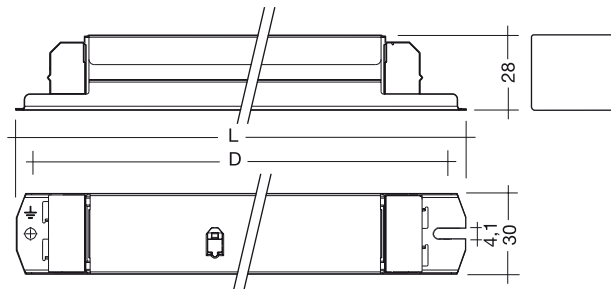
① 10 °C to  $t_a$  max: dimming to 3 %

-25 °C to 10 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.

② valid at 100 % light output

Electronic ballasts for dimming to 3 %  
Compact lamps

PCA TCL EXCEL one4all 18–80 W 220–240 V 50/60/0 Hz



- dimming range from 3-100 %
- lamp start at 3 %
- defined lamp warm start within 0.6 s with AC and DC (at 55 W, 80 W, 2x18 W and 2x55 W in 1.5 s with AC)
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC and  $\mu$ C

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172 (the emergency light value can be set between 1 % and 70 %)
- automatically triggered emergency light value for DC or rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz
- with DALI MEMORY and corridorFUNCTION

**Packaging:**  
box of 10  
58 boxes/pallet  
580 pieces/pallet

**Wiring:**  
page 96 figure J  
page 97 figure K, L, L1  
page 99 figure S, S1

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

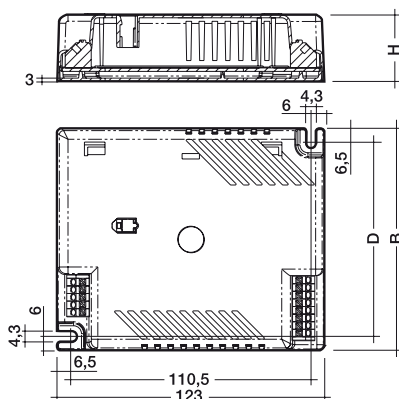
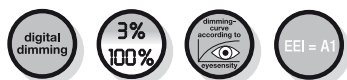
Lamp		Ballast										
watt-age W	type	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
2x18	TC-L	PCA 2/18 TCL EXCEL 220–240 V 50/60/0 Hz	22086840	360	350	0.36	30	42.0	0.165	0.98	80	-25 → +60
2x24	TC-L	PCA 2/24 TCL EXCEL 220–240 V 50/60/0 Hz	22086869	360	350	0.36	44	52.0	0.228	0.99	90	-25 → +60
1x36	TC-L/TC-F	PCA 1/36 TCL EXCEL 220–240 V 50/60/0 Hz	22085346	360	350	0.32	32	37.5	0.165	0.97	75	-25 → +60
2x36	TC-L/TC-F	PCA 2/36 TCL EXCEL 220–240 V 50/60/0 Hz	22085352	360	350	0.36	64	74.0	0.325	0.99	85	-25 → +60
1x40	TC-L	PCA 1/40 TCL EXCEL 220–240 V 50/60/0 Hz	22085365	360	350	0.32	38	43.0	0.190	0.98	75	-25 → +60
2x40	TC-L	PCA 2/40 TCL EXCEL 220–240 V 50/60/0 Hz	22085371	360	350	0.36	76	87.9	0.380	0.99	75	-25 → +60
1x55	TC-L	PCA 1/55 TCL EXCEL 220–240 V 50/60/0 Hz	22085387	360	350	0.32	55	61.5	0.270	0.99	80	-25 → +60
2x55	TC-L	PCA 2/55 TCL EXCEL 220–240 V 50/60/0 Hz	22085393	360	350	0.36	110	117.3	0.490	0.99	90	-25 → +50
1x80	TC-L	PCA 1/80 TCL EXCEL 220–240 V 50/60/0 Hz	22089004	360	350	0.32	80	90.0	0.399	0.98	70	-25 → +50

① 10 °C to ta max: dimming to 3 %

-25 °C to 10 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.

② valid at 100 % light output

## PCA TCL ECO c 18–24 W 220–240 V 50/60/0 Hz



- dimming range from 3-100 %
- lamp start at 3 %
- defined lamp warm start within 0.6 s with AC and DC (2x18 W in 1.5 s with AC)
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC and  $\mu$ C

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz

**Packaging:**

box of 10  
50 boxes/pallet  
500 pieces/pallet

**Wiring:**

page 97 figure M  
page 98 figure N, O  
page 99 figure S

**Approvals:**

EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
watt- age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
1x18	TC-L/TC-F	PCA 1/18 TCL ECO c 220–240 V 50/60/0 Hz	22085462	123 x 79 x 31	66.5	0.22	15	21	0.09	0.95	80	-25 → +60
2x18	TC-L/TC-F	PCA 2/18 TCL ECO c 220–240 V 50/60/0 Hz	22085478	123 x 102 x 31	89.5	0.25	30	42	0.18	0.95	80	-25 → +60
1x24	TC-L/TC-F	PCA 1/24 TCL ECO c 220–240 V 50/60/0 Hz	22085484	123 x 79 x 31	66.5	0.22	22	27	0.12	0.96	80	-25 → +60
2x24	TC-L/TC-F	PCA 2/24 TCL ECO c 220–240 V 50/60/0 Hz	22085490	123 x 102 x 31	89.5	0.25	44	52	0.23	0.98	90	-25 → +60

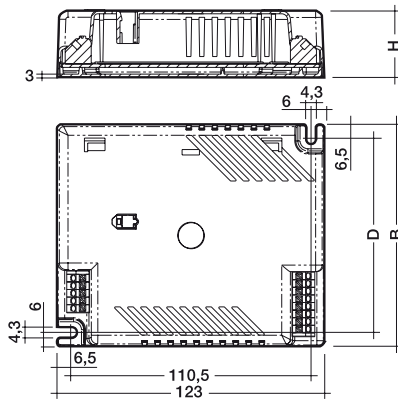
① 10 °C to  $t_a$  max: dimming to 3 %

-25 °C to 10 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.

② valid at 100 % light output

## Electronic ballasts for dimming to 3 % Compact lamps

### PCA TCL EXCEL c one4all 18–24 W 220–240 V 50/60/0 Hz



- dimming range from 3-100 %
- lamp start at 3 %
- defined lamp warm start within 0.6 s with AC and DC (2x18 W in 1.5 s with AC)
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC and  $\mu$ C

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172 (the emergency light value can be set between 1 % and 70 %)
- automatically triggered emergency light value for DC or rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz
- with DALI MEMORY and corridorFUNCTION

**Packaging:**  
box of 10  
50 boxes/pallet  
500 pieces/pallet

**Wiring:**  
page 97 figure M  
page 98 figure N, O, O1  
page 99 figure S, S1

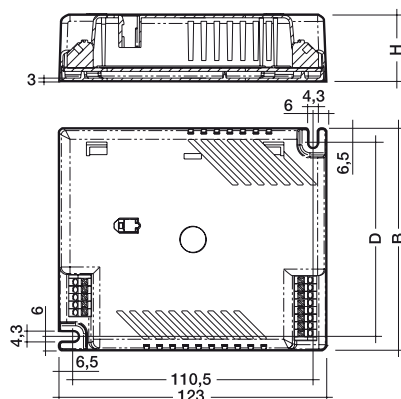
**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
watt-age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
1x18	TC-L/TC-F	PCA 1/18 TCL EXCEL c 220–240 V 50/60/0 Hz	22085309	123 x 79 x 31	66.5	0.22	15	21	0.09	0.95	80	-25 → +60
2x18	TC-L/TC-F	PCA 2/18 TCL EXCEL c 220–240 V 50/60/0 Hz	22085318	123 x 102 x 31	89.5	0.25	30	42	0.18	0.95	80	-25 → +60
1x24	TC-L/TC-F	PCA 1/24 TCL EXCEL c 220–240 V 50/60/0 Hz	22085324	123 x 79 x 31	66.5	0.22	22	27	0.12	0.96	80	-25 → +60
2x24	TC-L/TC-F	PCA 2/24 TCL EXCEL c 220–240 V 50/60/0 Hz	22085330	123 x 102 x 31	89.5	0.25	44	52	0.23	0.98	90	-25 → +60

- ① 10 °C to  $t_a$  max: dimming to 3 %  
-25 °C to 10 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.  
② valid at 100 % light output



## PCA ECO 11–57 W 220–240 V 50/60/0 Hz



- dimming range from 3–100 % (10–100 % with 57 W)
- lamp start at 3 % (10 % with 57 W)
- defined lamp warm start within 0.6 s
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40–100 kHz

**Packaging:**  
box of 10  
50 boxes/pallet  
500 pieces/pallet

**Wiring:**  
page 98 figure P, Q  
page 99 figure R, S

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast											
watt- age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	λ at 230V/50Hz	tc point °C	temperature range °C ①	
1x11	TC-SEL	PCA 1/11/13 TCD ECO 220–240 V 50/60/0 Hz	22084878	123 x 79 x 31	66.5	0.22	11.4	15.5	0.072	0.95	75	-15 → +60	
2x11	TC-SEL	PCA 2/11/13 TCD ECO 220–240 V 50/60/0 Hz	22084862	123 x 102 x 31	89.5	0.25	22.5	29.5	0.132	0.96	80	-15 → +60	
1x13	TC-DEL	PCA 1/11/13 TCD ECO 220–240 V 50/60/0 Hz	22084878	123 x 79 x 31	66.5	0.22	12.7	16.5	0.076	0.95	75	-15 → +60	
2x13	TC-DEL	PCA 2/11/13 TCD ECO 220–240 V 50/60/0 Hz	22084862	123 x 102 x 31	89.5	0.25	24.0	31.0	0.140	0.96	80	-15 → +60	
1x18	TC-DEL	PCA 1/18 TCD ECO 220–240 V 50/60/0 Hz	22084859	123 x 79 x 31	66.5	0.22	16.0	20.5	0.100	0.96	75	-25 → +60	
2x18	TC-DEL	PCA 2/18 TCD ECO 220–240 V 50/60/0 Hz	22084843	123 x 102 x 31	89.5	0.25	32.0	40.0	0.180	0.98	85	-25 → +60	
1x26	TC-DEL	PCA 1/26 TCD ECO 220–240 V 50/60/0 Hz	22084765	123 x 79 x 31	66.5	0.22	23.0	27.5	0.130	0.97	85	-25 → +60	
2x26	TC-DEL	PCA 2/26 TCD ECO 220–240 V 50/60/0 Hz	22084752	123 x 102 x 31	89.5	0.25	45.0	55.0	0.250	0.99	80	-25 → +50	
1x18	TC-TEL	PCA 1/18 TCD ECO 220–240 V 50/60/0 Hz	22084859	123 x 79 x 31	66.5	0.22	16.0	20.5	0.100	0.96	75	-25 → +60	
2x18	TC-TEL	PCA 2/18 TCD ECO 220–240 V 50/60/0 Hz	22084843	123 x 102 x 31	89.5	0.25	32.0	40.0	0.180	0.98	85	-25 → +60	
1x26	TC-TEL	PCA 1/26 TCD ECO 220–240 V 50/60/0 Hz	22084765	123 x 79 x 31	66.5	0.22	23.0	27.5	0.130	0.97	85	-25 → +60	
2x26	TC-TEL	PCA 2/26 TCD ECO 220–240 V 50/60/0 Hz	22084752	123 x 102 x 31	89.5	0.25	45.0	55.0	0.250	0.99	80	-25 → +50	
1x32	TC-TEL	PCA 1/32 TCT ECO 220–240 V 50/60/0 Hz	22088644	123 x 79 x 31	66.5	0.22	30.0	36.2	0.160	0.95	80	-25 → +60	
2x32	TC-TEL	PCA 2/32 TCT ECO 220–240 V 50/60/0 Hz	22088650	123 x 102 x 31	89.5	0.25	61.0	70.7	0.310	0.97	80	-25 → +50	
1x42	TC-TEL	PCA 1/42 TCT ECO 220–240 V 50/60/0 Hz	22088685	123 x 79 x 31	66.5	0.22	41.0	47.0	0.210	0.97	80	-25 → +60	
2x42	TC-TEL	PCA 2/42 TCT ECO 220–240 V 50/60/0 Hz	22088691	123 x 102 x 31	89.5	0.25	81.0	91.0	0.400	0.98	80	-25 → +50	
1x57	TC-TEL	PCA 1/57 TCT ECO 220–240 V 50/60/0 Hz	22086957	123 x 79 x 31	66.5	0.22	57.0	66.0	0.290	0.99	85	-25 → +50	

① 0 °C to ta max: dimming to 3 % (10 % for 57 W)

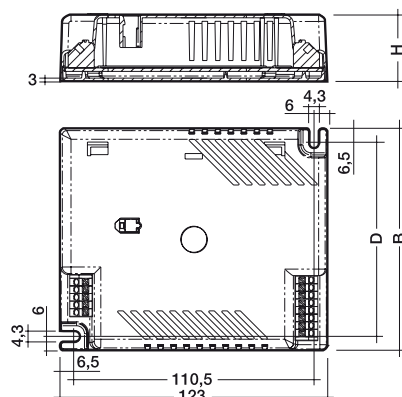
-25 °C to 0 °C (-15 °C at 11/13 W): 100 % start and 100 % operation possible. This applies to AC and DC operation.

② valid at 100 % light output



## Electronic ballasts for dimming to 3 % Compact lamps

### PCA EXCEL one4all 11–57 W 220–240 V 50/60/0 Hz



- dimming range from 3–100 % (10–100 % with 57 W)
- lamp start at 3 % (10 % with 57 W)
- defined lamp warm start within 0.6 s
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172 (the emergency light value can be set between 1 % and 70 %)
- automatically triggered emergency light value for DC or rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40–100 kHz
- with DALI MEMORY and corridorFUNCTION

**Packaging:**  
box of 10  
50 boxes/pallet  
500 pieces/pallet

**Wiring:**  
page 98 figure P, Q  
page 99 figure R, R1, S, S1

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp	Ballast													
watt- age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W ⊕	circuit power W ⊕	current at 230V/50Hz A ⊕	λ at 230V/50Hz	tc point °C	temperature range °C ⊕		
1x11	TC-SEL	PCA 1/11/13 TCD EXCEL 220–240 V 50/60/0 Hz	22084724	123 x 79 x 31	66.5	0.22	11.4	15.5	0.072	0.95	75	-15 → +60		
2x11	TC-SEL	PCA 2/11/13 TCD EXCEL 220–240 V 50/60/0 Hz	22084718	123 x 102 x 31	89.5	0.25	22.5	29.5	0.132	0.96	80	-15 → +60		
1x13	TC-DEL	PCA 1/11/13 TCD EXCEL 220–240 V 50/60/0 Hz	22084724	123 x 79 x 31	66.5	0.22	12.7	16.5	0.076	0.95	75	-15 → +60		
2x13	TC-DEL	PCA 2/11/13 TCD EXCEL 220–240 V 50/60/0 Hz	22084718	123 x 102 x 31	89.5	0.25	24.0	31.0	0.140	0.96	80	-15 → +60		
1x18	TC-DEL	PCA 1/18 TCD EXCEL 220–240 V 50/60/0 Hz	22084709	123 x 79 x 31	66.5	0.22	16.0	20.5	0.100	0.96	75	-25 → +60		
2x18	TC-DEL	PCA 2/18 TCD EXCEL 220–240 V 50/60/0 Hz	22084692	123 x 102 x 31	89.5	0.25	32.0	40.0	0.180	0.98	85	-25 → +60		
1x26	TC-DEL	PCA 1/26 TCD EXCEL 220–240 V 50/60/0 Hz	22084686	123 x 79 x 31	66.5	0.22	23.0	27.5	0.130	0.97	85	-25 → +60		
2x26	TC-DEL	PCA 2/26 TCD EXCEL 220–240 V 50/60/0 Hz	22084670	123 x 102 x 31	89.5	0.25	45.0	55.0	0.250	0.99	80	-25 → +50		
1x18	TC-TEL	PCA 1/18 TCD EXCEL 220–240 V 50/60/0 Hz	22084709	123 x 79 x 31	66.5	0.22	16.0	20.5	0.100	0.96	75	-25 → +60		
2x18	TC-TEL	PCA 2/18 TCD EXCEL 220–240 V 50/60/0 Hz	22084692	123 x 102 x 31	89.5	0.25	32.0	40.0	0.180	0.98	85	-25 → +60		
1x26	TC-TEL	PCA 1/26 TCD EXCEL 220–240 V 50/60/0 Hz	22084686	123 x 79 x 31	66.5	0.22	23.0	27.5	0.130	0.97	85	-25 → +60		
2x26	TC-TEL	PCA 2/26 TCD EXCEL 220–240 V 50/60/0 Hz	22084670	123 x 102 x 31	89.5	0.25	45.0	55.0	0.250	0.99	80	-25 → +50		
1x32	TC-TEL	PCA 1/32 TCT EXCEL 220–240 V 50/60/0 Hz	22088622	123 x 79 x 31	66.5	0.22	30.0	36.2	0.160	0.95	80	-25 → +60		
2x32	TC-TEL	PCA 2/32 TCT EXCEL 220–240 V 50/60/0 Hz	22088638	123 x 102 x 31	89.5	0.25	61.0	70.7	0.310	0.97	80	-25 → +50		
1x42	TC-TEL	PCA 1/42 TCT EXCEL 220–240 V 50/60/0 Hz	22088663	123 x 79 x 31	66.5	0.22	41.0	47.0	0.210	0.97	80	-25 → +60		
2x42	TC-TEL	PCA 2/42 TCT EXCEL 220–240 V 50/60/0 Hz	22088679	123 x 102 x 31	89.5	0.25	81.0	91.0	0.400	0.98	80	-25 → +50		
1x57	TC-TEL	PCA 1/57 TCT EXCEL 220–240 V 50/60/0 Hz	22086941	123 x 79 x 31	66.5	0.22	57.0	66.0	0.290	0.99	85	-25 → +50		

⊕ 0 °C to ta max: dimming to 3 % (10 % for 57 W)

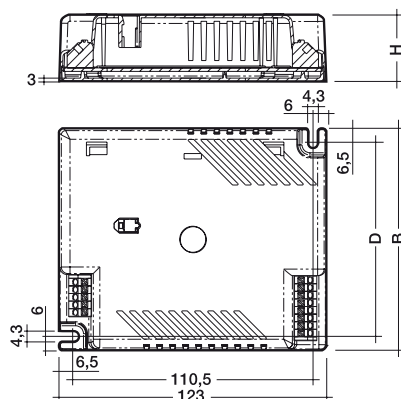
-25 °C to 0 °C (-15 °C at 11/13 W): 100 % start and 100 % operation possible. This applies to AC and DC operation.

⊕ valid at 100 % light output





## PCA TC-DD ECO 55 W 220–240 V 50/60/0 Hz



- dimming range from 3-100 %
- lamp start at 3 %
- defined lamp warm start within 1.5 s with AC and 0.6 s with DC
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal or switchDIM
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172
- automatically triggered 70 % emergency light value for DC and rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz

**Packaging:**  
box of 10  
50 boxes/pallet  
500 pieces/pallet

**Wiring:**  
page 95 figure G  
page 96 figure I  
page 99 figure S

**Approvals:**  
EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

Lamp		Ballast										
wattage W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
55	TC-DD	PCA 1/55 TC-DD ECO 220–240 V 50/60/0 Hz	22086642	123 x 102 x 31	89.5	0.22	55	59.6	0.26	0.98	85	-25 → +50

① 10 °C to  $t_a$  max: dimming to 3 %

-25 °C to 10 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.

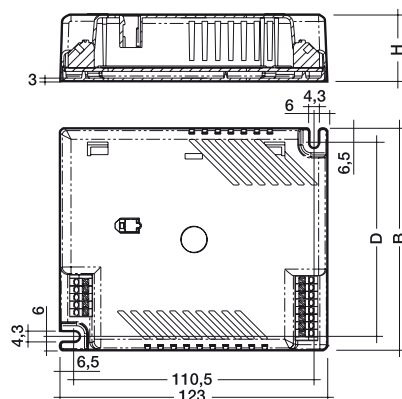
② valid at 100 % light output





## Electronic ballasts for dimming to 3 % Compact lamps

### PCA TC-DD EXCEL one4all 55 W 220–240 V 50/60/0 Hz



- dimming range from 3-100 %
- lamp start at 3 %
- defined lamp warm start within 1.5 s with AC and 0.6 s with DC
- switch via the mains or with digital control signal
- dimming which is comfortable to the eye
- disturbance free precise control with a digital DSI signal, switchDIM or DALI (Digital Addressable Lighting Interface)
- error feed back and programmable features in both DALI and DSI mode
- integrated SMART interface
- fully electronic lamp management and digital communication with ASIC

- constant light output independent of fluctuating supply voltage
- DC operation in emergency lighting installations to EN 50172 (the emergency light value can be set between 1 % and 70 %)
- automatically triggered emergency light value for DC or rectified AC voltage (please refer to data sheet)
- safe shutdown of defective lamps
- safe shutdown of lamps at end of life (rectifying effect)
- automatic restart after lamp replacement
- operating frequency ~40-100 kHz
- with DALI MEMORY and corridorFUNCTION

#### Packaging:

box of 10  
50 boxes/pallet  
500 pieces/pallet

#### Wiring:

page 95 figure G  
page 96 figure I, I1  
page 99 figure S, S1

#### Approvals:

EN 55015  
EN 55022  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61547  
suitable for emergency light installations as per EN 50172

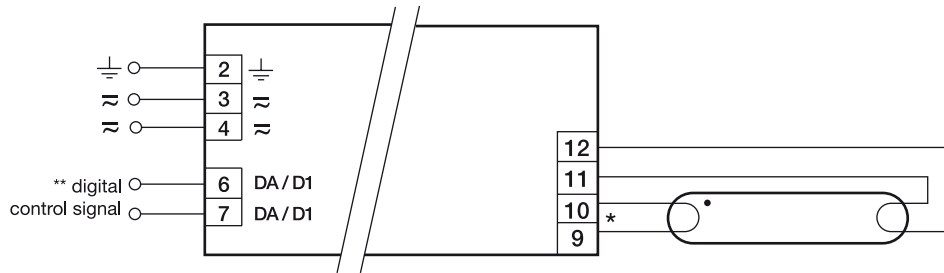
Lamp		Ballast										
watt- age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W ②	circuit power W ②	current at 230V/50Hz A ②	$\lambda$ at 230V/50Hz	tc point °C	temperature range °C ①
55	TC-DD	PCA 1/55 TC-DD EXCEL 220–240 V 50/60/0 Hz	22086636	123 x 102 x 31	89.5	0.22	55	59.6	0.26	0.98	85	-25 → +50

① 10 °C to  $t_a$  max: dimming to 3 %

-25 °C to 10 °C: 100 % start and 100 % operation possible. This applies to AC and DC operation.

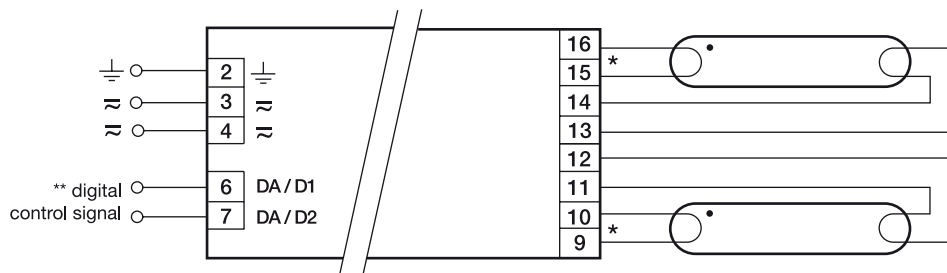
② valid at 100 % light output

A) PCA ECO / PCA EXCEL one4all with 1 lamp



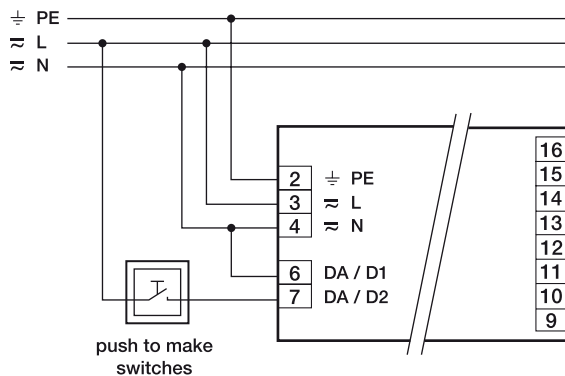
- \* leads 9, 10 keep wires short, max. 1,0 m  
leads 11, 12 max. 2,0 m; ballast must be earthed
- \*\* DSI or DALI with EXCEL one4all  
DSI with ECO

B) PCA ECO / PCA EXCEL one4all with 2 lamps

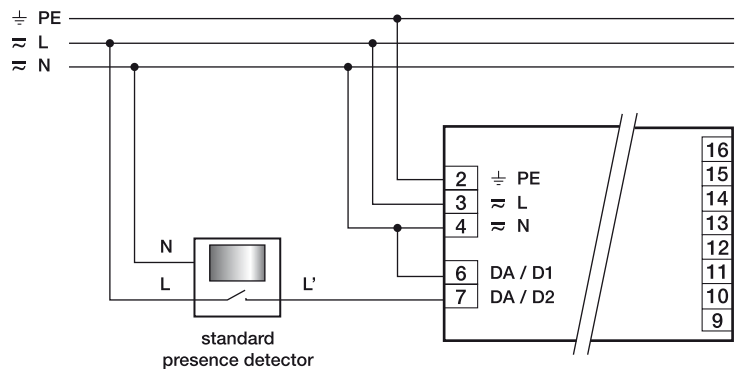


- \* leads 9, 10, 15, 16 keep wires short, max. 1,0 m  
leads 11, 12, 13, 14 max. 2,0 m; ballast must be earthed
- \*\* DSI or DALI with EXCEL one4all  
DSI with ECO

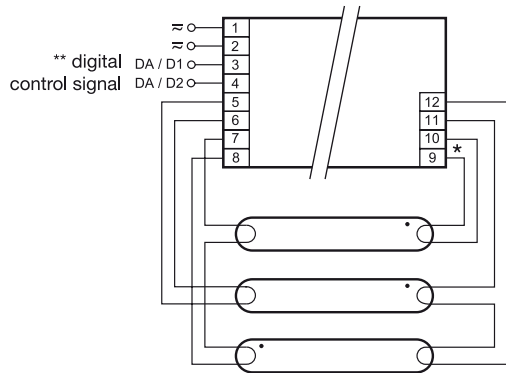
C) switchDIM PCA ECO / PCA EXCEL one4all



C1) corridorFUNCTION PCA EXCEL one4all (PCA T5 ECO Ip)

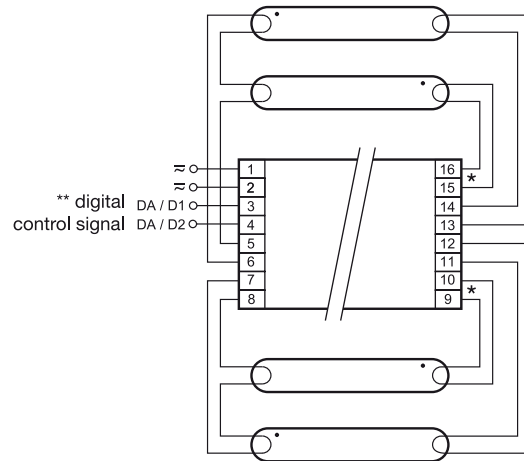


D) PCA 3x14, 3x18 ECO / EXCEL one4all



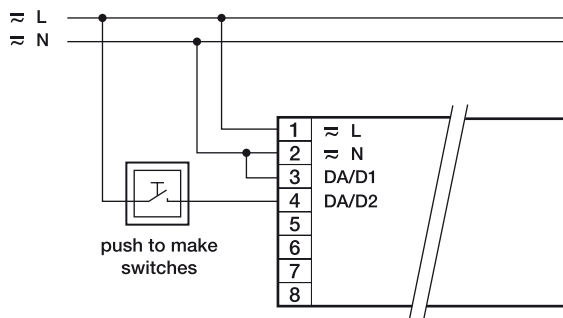
\* leads 9, 10 keep wires short, max. 1,0 m  
leads 5, 6, 7, 8, 11, 12 max. 2,0 m;  
ballast must be earthed  
\*\* DSI or DALI with EXCEL one4all  
DSI with ECO

E) PCA 4x14, 4x18 ECO / EXCEL one4all

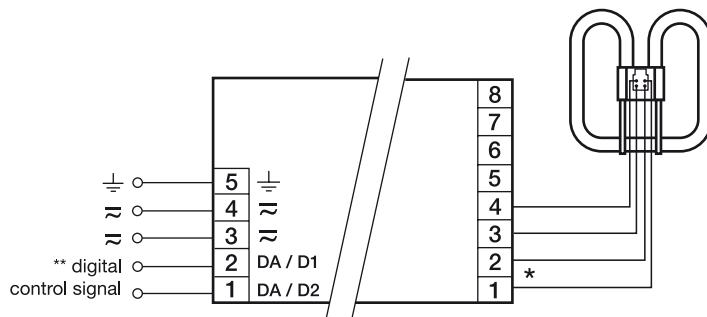


\* leads 9, 10, 15, 16 keep wires short, max. 1,0 m  
leads 5, 6, 7, 8, 11, 12, 13, 14 max. 2,0 m;  
ballast must be earthed  
\*\* DSI or DALI with EXCEL one4all  
DSI with ECO

F) switchDIM PCA ECO / EXCEL one4all 3x14, 3x18, 4x14, 4x18

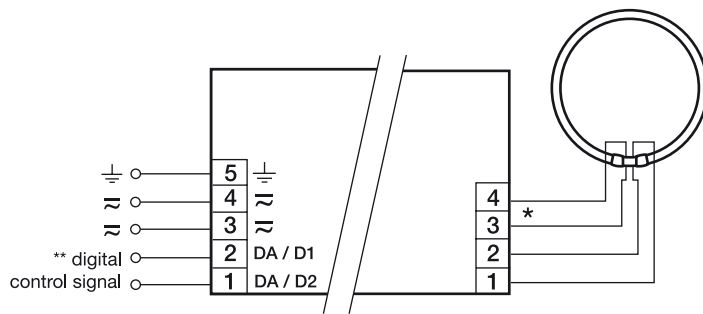


G) PCA TC-DD ECO / PCA TC-DD EXCEL one4all



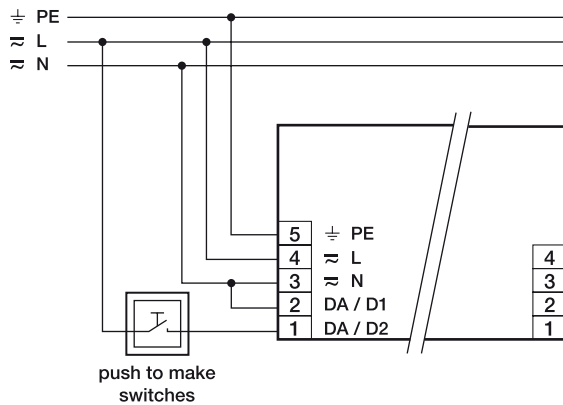
\* leads 1, 2 keep wires short, max. 1,0 m  
leads 3, 4 max. 2,0 m; ballast must be earthed  
\*\* DSI or DALI with EXCEL one4all  
DSI with ECO

H) PCA T5c ECO / PCA T5c EXCEL one4all

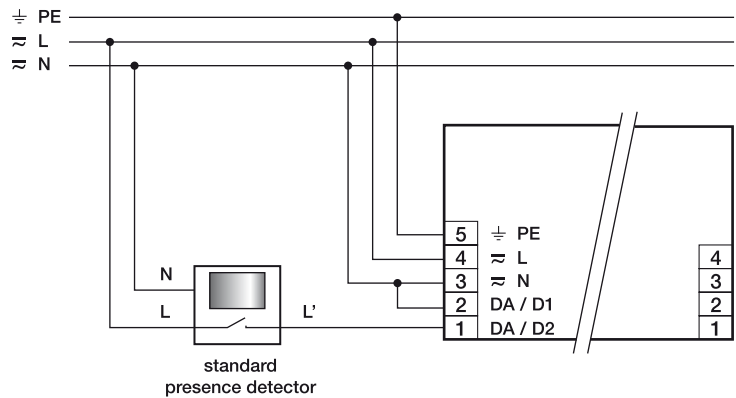


- \* leads 3, 4 keep wires short, max. 1,0 m  
leads 1, 2 max. 2,0 m; ballast must be earthed
- \*\* DSI or DALI with EXCEL one4all  
DSI with ECO

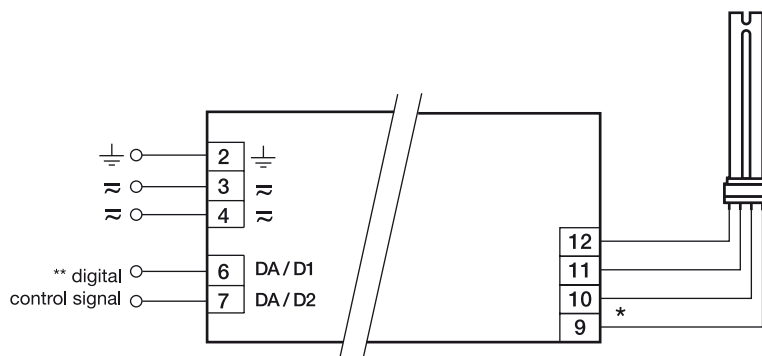
I) switchDIM PCA ECO / PCA EXCEL one4all



I1) corridorFUNCTION PCA EXCEL one4all

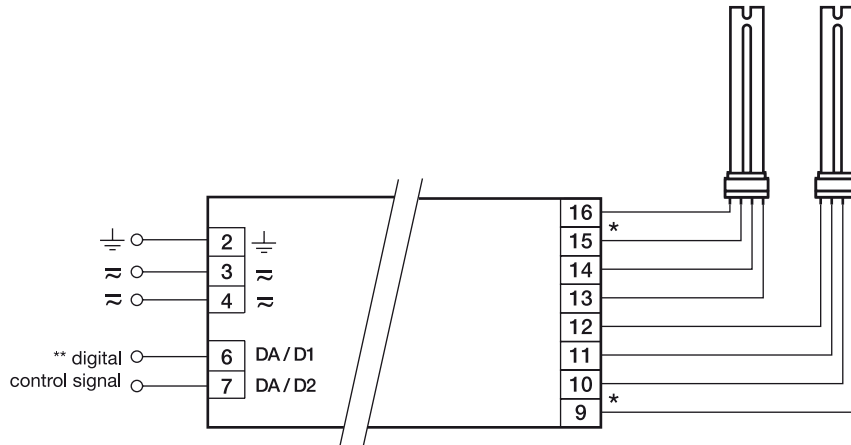


J) PCA TCL ECO / PCA TCL EXCEL one4all with 1 lamp



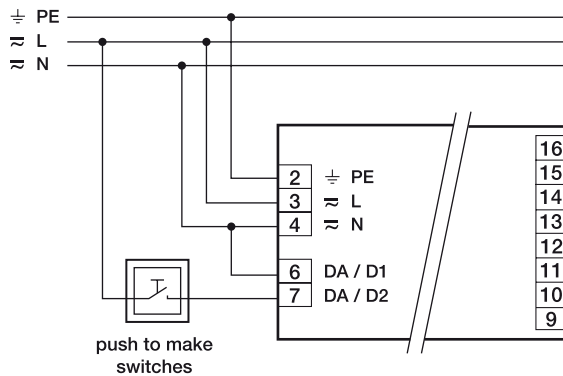
- \* leads 9, 10 keep wires short, max. 1,0 m  
leads 11, 12 max. 2,0 m; ballast must be earthed
- \*\* DSI or DALI with EXCEL one4all  
DSI with ECO

K) PCA TCL ECO / PCA TCL EXCEL one4all with 2 lamps

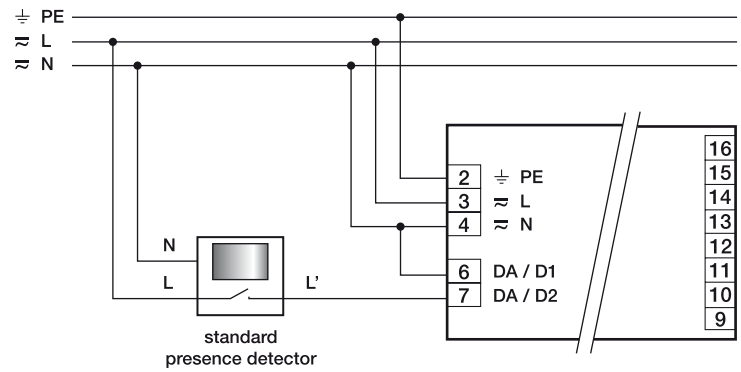


- \* leads 9, 10, 15, 16 keep wires short, max. 1,0 m  
leads 11, 12, 13, 14 max. 2,0 m; ballast must be earthed
- \*\* DSI or DALI with EXCEL one4all  
DSI with ECO

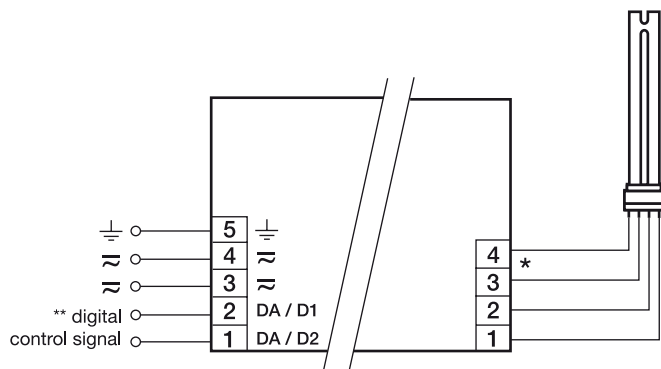
L) switchDIM PCA TCL ECO / PCA TCL EXCEL one4all



L1) corridorFUNCTION PCA TCL EXCEL one4all

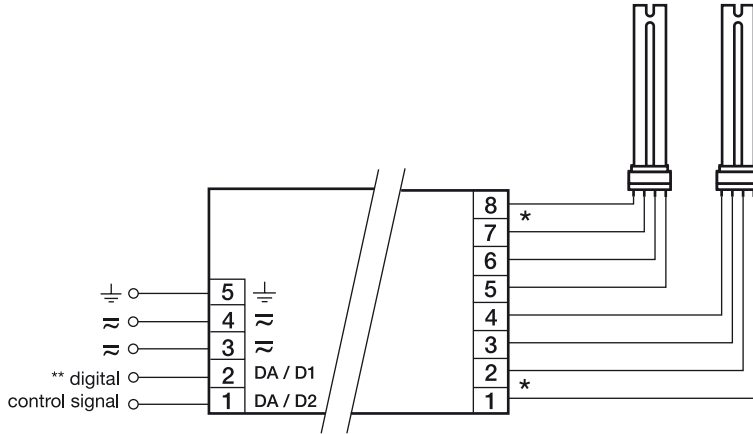


M) PCA TCL ECO c / PCA TCL EXCEL c one4all with 1 lamp



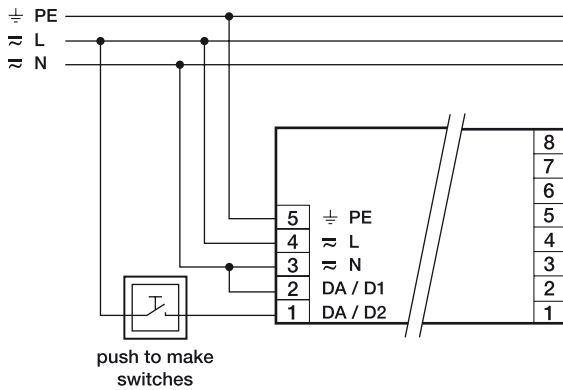
- \* leads 3, 4 keep wires short, max. 1,0 m  
leads 1, 2 max. 2,0 m; ballast must be earthed
- \*\* DSI or DALI with EXCEL one4all  
DSI with ECO

N) PCA TCL ECO c / PCA TCL EXCEL c one4all with 2 lamps

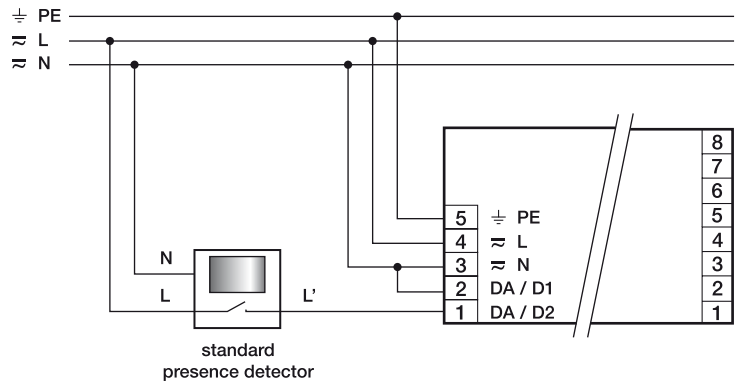


- \* leads 1, 2, 7, 8 keep wires short, max. 1,0 m  
leads 3, 4, 5, 6 max. 2,0 m; ballast must be earthed
- \*\* DSI or DALI with EXCEL one4all  
DSI with ECO

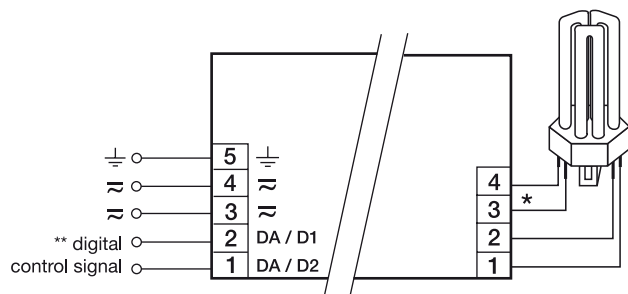
O) switchDIM PCA TCL ECO c / PCA TCL EXCEL c one4all



O1) corridorFUNCTION PCA TCL EXCEL c one4all

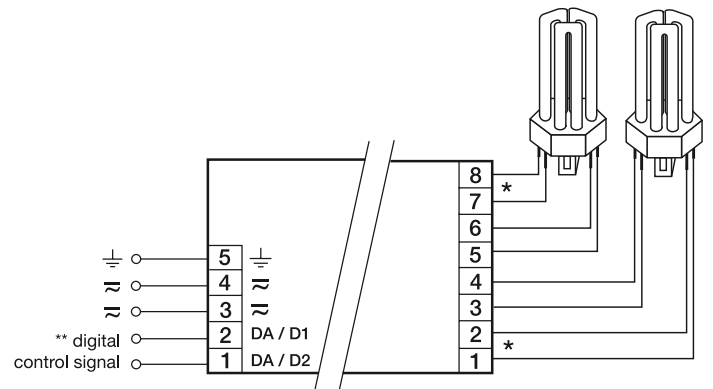


P) PCA TC-D/TC-T ECO / PCA TC-D/TC-T EXCEL one4all



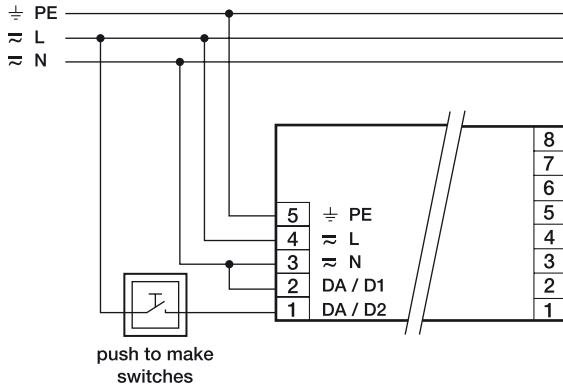
- \* leads 3, 4 keep wires short, max. 1,0 m  
leads 1, 2 max. 2,0 m; ballast must be earthed
- \*\* DSI or DALI with EXCEL one4all  
DSI with ECO

Q) PCA TC-D/TC-T ECO / PCA TC-D/TC-T EXCEL one4all

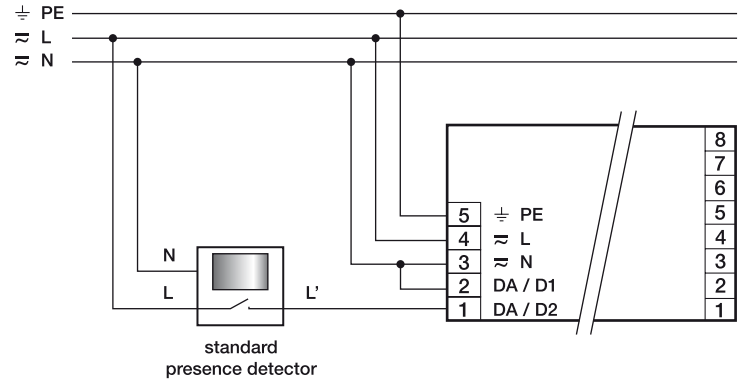


- \* leads 1, 2, 7, 8 keep wires short, max. 1,0 m  
leads 3, 4, 5, 6 max. 2,0 m; ballast must be earthed
- \*\* DSI or DALI with EXCEL one4all  
DSI with ECO

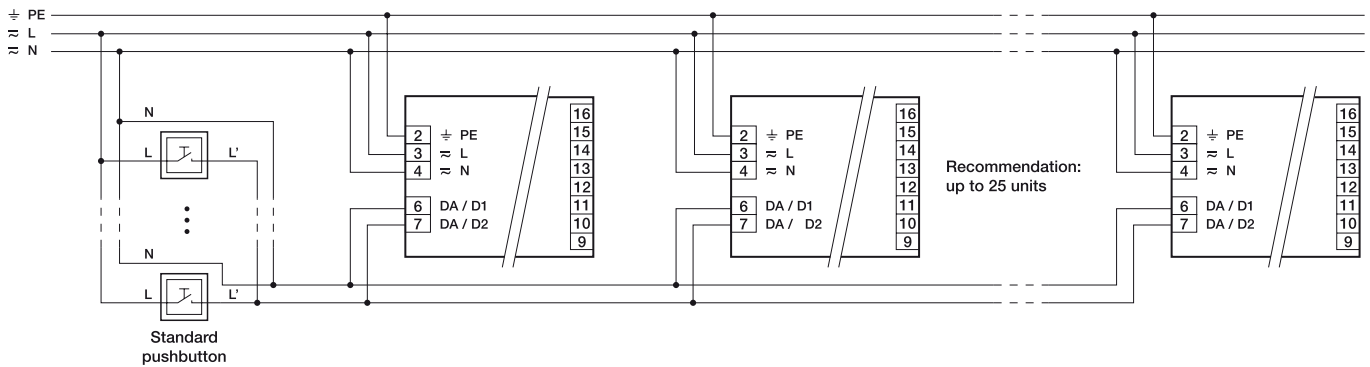
R) switchDIM PCA TC-D/TC-T ECO / PCA TC-D/TC-T EXCEL one4all



R1) corridorFUNCTION PCA TC-D/TC-T EXCEL one4all

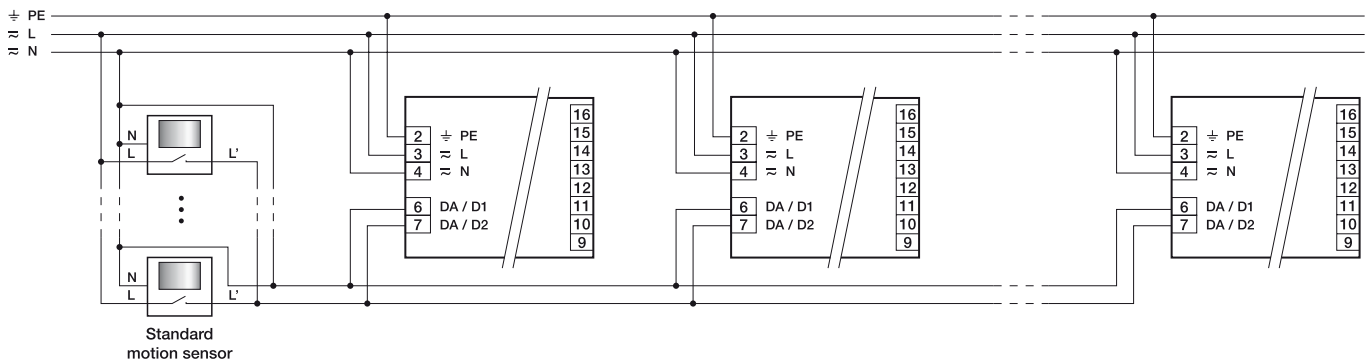


S) switchDIM installation examples



Maximum number of units: up to 25 PCAs recommended, no limit on number

S1) corridorFUNCTION installation examples



Maximum number of units: no limit on the number of luminaires or motion sensors (maximum number of PCAs limited to 95 for individual programming via software)





# “luxCONTROL”-lighting management system to suit every requirement

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# “luxCONTROL”-lighting management system to suit every requirement

Lighting control systems and lighting management systems have established themselves as permanent features of modern lighting solutions and provide the basis for daylight-dependent lighting, spectacular lighting moods and impressive colour chases. The basic components needed are individually addressable and dimmable control gear for the various light sources – including digital dimmable PCA EXCEL one4all and PCA ECO control gear, TE one4all electronic transformers, PC FOX and PCI FOX digital control gear, converters for LED modules and EM PRO emergency lighting units. With such an array of products any lighting task can be covered.

Tailored to individual requirements, the intelligent “luxCONTROL” lighting control systems and lighting management systems from TridonicAtco are based on the versatility of the digital interface and the self-detection capacity of the control signal.

Tried and trusted DSI technology (Digital Serial Interface) and the DALI interface protocol (Digital Addressable Lighting Interface) offer application-specific flexibility for both small and extensive lighting systems. The modularDIM system is designed primarily for controlling groups of luminaires in large enclosed spaces. For complex buildings, however, proDIM together with the winDIM@net lighting management software is the ideal choice.

The corridorFUNCTION is an ingenious presence-controlled lighting solution and therefore perfect for special applications.

Each of these product lines is assigned specially tailored “modules”, such as sensors, power supplies, control modules or remote controls, that work together perfectly in control concepts. However this should not be seen as a limitation because the components and systems in the “luxCONTROL” range from TridonicAtco can be combined with each other for task-specific applications. The result is a series of intelligent lighting solutions that can even be linked to emergency lighting systems to provide a total package.

## Application specific luxCONTROL

SMART is the name given to an easy-to-use cost-effective constant lighting system based on the PCA EXCEL one4all and PCA ECO digital dimmable ballasts combined with SMART-LS II or SMART-LS II Ip sensors. The sensors detect the available ambient light and use this as the basis for controlling the lighting system to achieve a defined constant light value. This setpoint (fade value) can be temporarily adjusted and the system switched on or off via DSI signals, DALI signal, switchDIM or mains voltage.

switchDIM uses the mains voltage as the control signal for the digital dimmable ballasts. This is the simplest form of lighting management, which makes switchDIM uncomplicated, cost-effective and extremely user-friendly. Only simple conventional mains voltage switches are therefore needed to dim and switch the lighting system from several locations.

DSI is the traditional digital control. The intelligent functions of DSI lighting management include programmability, the option of common routing of the control line and mains power supply, and interference-free communication.

DALI, the established interface standard for lighting control systems, enables 64 digital dimmable ballasts with one4all interfaces to be individual addressed on a single line, 16 groups to be assigned and 16 lighting scenes to be programmed. Regrouping is possible at any time without the need for costly rewiring. With individual addressability and status feedback, DALI lighting control systems not only offer top-quality monitoring functions but also open up new opportunities for developing high-quality lighting solutions because the various parameters can be easily programmed. Additional functions that go beyond the DALI standard have been implemented by TridonicAtco in its intelligent ballasts with one4all interfaces to expand the options still further.

The corridorFUNCTION gives presence-controlled lighting systems another dimension, providing additional energy efficiency, safety and comfort in a wide range of applications. There is a choice of user-friendly profiles. Either the lighting is dimmed to a low level and then switched off or it is maintained at this low background level.

All these sophisticated control options with TridonicAtco ballasts at the heart of “luxCONTROL” lighting management provide an impressive choice for application-specific systems.

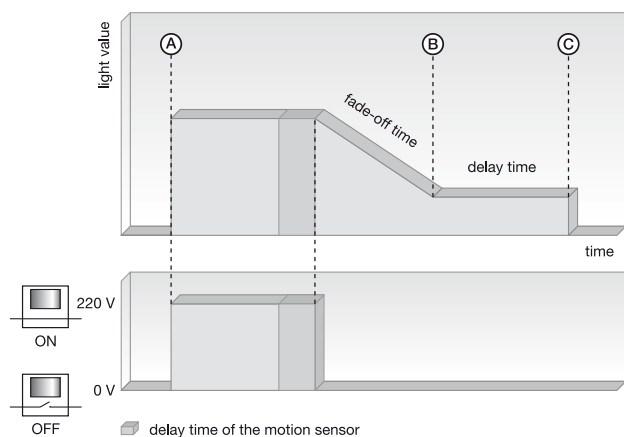
# corridorFUNCTION – presence-controlled lighting solutions

## Absolute comfort and energy efficiency

TridonicAtco has a broad portfolio of digital dimmable ballasts. And the intelligent corridorFUNCTION is already integrated in many of the units. These include fifth generation ballasts (PCA T5 ECO Ip and PCA T5 EXCEL one4all Ip) and the entire PCA EXCEL one4all range. This all adds up to added-value presence-controlled lighting for T5, T8, TCL and compact fluorescent lamps.

## corridorFUNCTION is the intelligent option

The corridorFUNCTION brings added security. Instead of being switched off abruptly if no movement is detected, the system is dimmed to a low light level and then switched off after a one minute delay. As soon as someone enters the room the light is switched back up to its full level. The delay time can be set on the motion sensor. Adjustable fade-off and delay time are ECG functions.



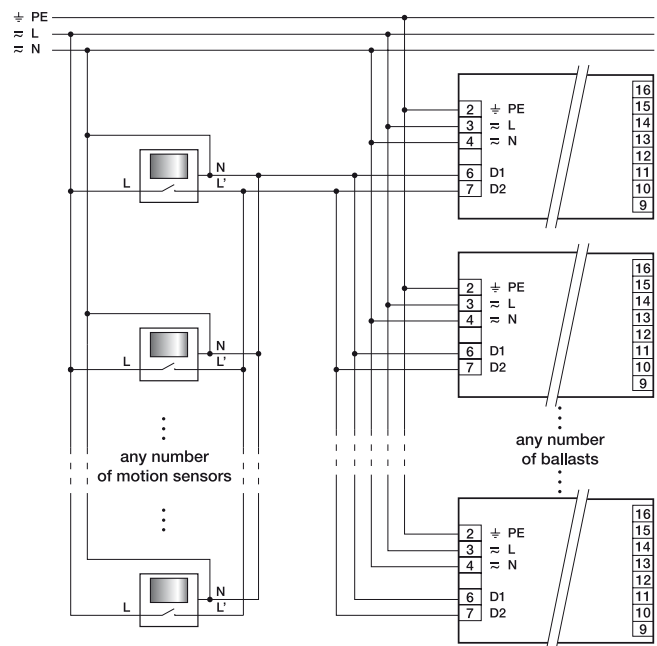
## Areas of application

- Stairwells and corridors with a large number of doors are applications where the corridorFUNCTION can show its full potential in perfect combination with multiple motion sensors – never again will there be abrupt darkness here.
- In foyers and underground car parks the corridorFUNCTION provides enough light for safety and security and a pleasant atmosphere over the entire area.
- In pedestrian underpasses or underground stations operating round the clock, the corridorFUNCTION offers impressive energy efficiency and added security.

## Simplicity is the key

Intelligence alone, however, does not necessarily translate into user benefits. TridonicAtco aims to provide an “all-round package”, which includes simple installation, easy start-up and trouble-free maintenance.

The corridorFUNCTION is a complete solution. Not only does it have impressive functionality, the luminaire wiring and the wiring for the entire system are simplicity itself thanks to a straightforward connection between the PCA ballast and the motion sensor.



All that needs to be done for the wiring is to connect a standard luminaire with the dimmable PCA ballast and the motion sensor(s). Starting up the system is then child's play. In a “corridor” application the luminaire or more precisely the control gear recognises that all the properties of the corridorFUNCTION are required and automatically sets itself up for this control mode after five minutes. The benefits of this mode are available without restrictions in lighting systems of any size, from very small to very large. A simple solution to a complex problem – that's the corridorFUNCTION.

# switchDIM – the simplest form of digital lamp management

Simple, cost-effective and extremely user-friendly. That's switchDIM – dimming and switching with mains voltage – the simplest control option for digital dimmable PCA, TE one4all and LED one4all ballasts from TridonicAtco.

switchDIM provides a simple but ingenious way of switching and dimming electronic ballasts from TridonicAtco – all with a simple conventional mains voltage switch. In a direct comparison with other cost-effective control methods, not only has a distinct cost advantage (a switch is cheaper for example than a 1...10 V potentiometer) it also offers numerous intelligent functions:

- cost-effective dimming and switching
- user-friendly operation from multiple control points
- powerless switching via the control interface
- simple polarity-free wiring
- unaffected by control line breaks
- dimming characteristic matched to the sensitivity of the eye

## Multi-functional switch

Different functions are performed depending on the current operating status and how long the switch is pressed. A short press on the switch switches the connected PCA, TE one4all or LED one4all ballasts on or off depending on their current status. Holding down the switch will fade the connected ballasts up or down, with the direction of fade changing each time the switch is pressed.

If in addition to the switch a SMART-LS II ambient light sensor is connected to a PCA ballast the switch can be used to change the setpoint for lighting control manually and to switch the lighting on and off. switchDIM is therefore an ideal solution for intelligent luminaires.

A switchDIM system can be synchronised after setup by holding down the switch for more than 10 seconds. Synchronisation causes the lighting level to jump to 50 %.

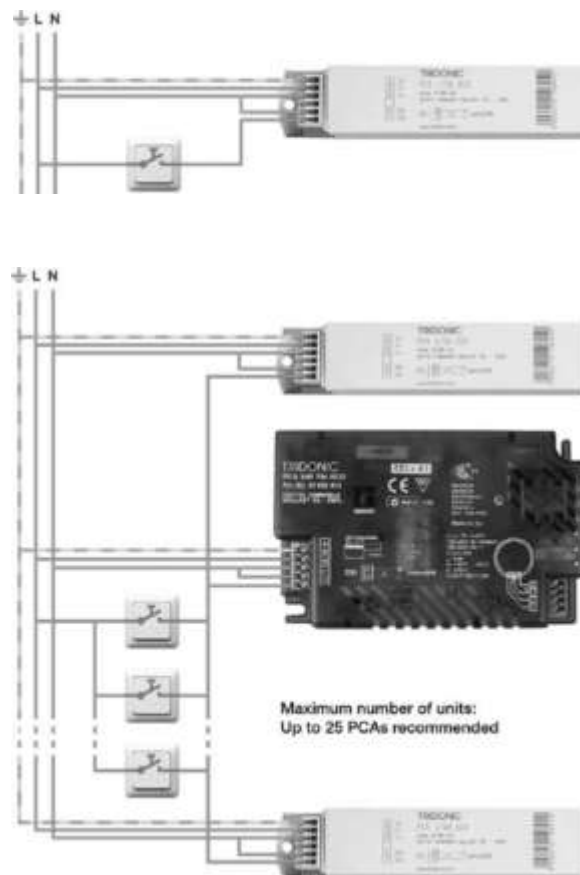
## Simplicity itself

As in the case of changing from DSI to DALI control, there is no need to rewire the luminaire when changing to switchDIM control. All you have to do is integrate a bridge on the luminaire terminal from the neutral conductor to an interface input (D1/D2) and connect the phase to the other interface input.

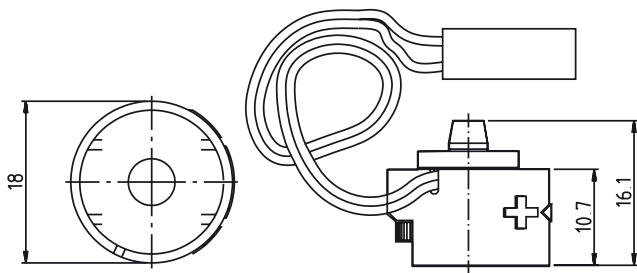
## Technical data for a switchDIM system

- any number of conventional switches
- the control signal corresponds to the mains voltage
- fade rate 2.55 s (from 1 % to 100 %)
- unlimited length of the control line
- control of a theoretically unlimited number of ballasts (recommended: 25 ballasts per switchDIM system)
- dimming possible via a second phase.

To minimise the voltage load in the terminal area the mains neutral conductor and the neutral conductor of the switchDIM control should lie next to each other (Fig. 1), i.e. in this type of application you must check for correct polarity.



**SMART-LS II / SMART-LS II Ip**  
**Light sensor for maintained illuminance**



The SMART-LS II and SMART-LS II Ip light sensors in combination with the PCA EXCEL one4all and PCA ECO ballasts enable easy-to-use cost-effective constant lighting systems to be created. The sensors detect the available ambient light and use this as the basis for controlling the lighting system to achieve a defined constant light value.

By making use of natural daylight to achieve this lighting level it is possible to make energy savings of up to 30 %. As the amount of natural daylight changes the illuminance from the artificial lighting system is adjusted accordingly. The required constant light value can be set without the use of any tools or accessories.

With a SMART-LS II or SMART-LS II Ip sensor installed the PCA EXCEL one4all and PCA ECO ballasts can be switched on and off via DSI signals, switchDIM or the mains. The setpoint (dimming) can be temporarily changed via DALI and switchDIM.

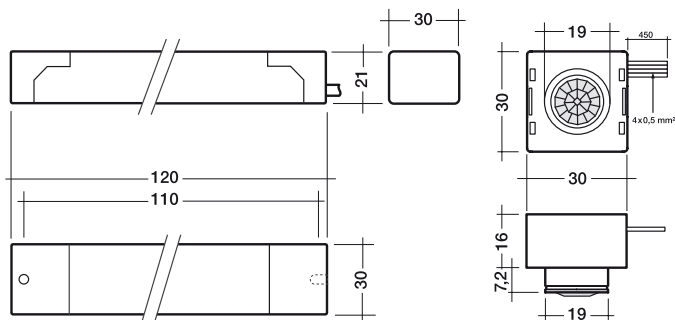
If a SMART-LS II or SMART-LS II Ip is used in combination with a DSI-A/D up to 50 DSI units can be controlled as a function of the ambient light.

DSI-A/D article number: 86453957

**Packaging:**  
 box of 10

**Wiring:**  
 page 149 fig. A1, A2, A3

description	article number	no. ballasts		max. lead length cm	suitable for
		PCA EXCEL / ECO			
SMART-LS II	86448347	1		50	PCA EXCEL / PCA ECO
SMART-LS II Ip	86458258	1		50	PCA EXCEL Ip / PCA ECO Ip

**smartSWITCH II**  
 Automatic switching depending on presence and light value


The smartSWITCH II motion sensor for luminaire installation enables luminaires with electronic ballasts (e.g. PC PRO) to be automatically switched on and off. The BRIGHT OUT/brightness measurement function of the smartSWITCH II enables luminaires to be switched off when a sufficiently high illuminance level is reached, resulting in effective use of the potential for energy savings.

smartSWITCH II is set via two potentiometers at the back of the sensor head. These are used to adjust the delay time of the motion detector and the light value for the BRIGHT OUT/brightness measurement function for different applications.

- Delay time: 5 s to 30 min. (default setting: 5 s)
- BRIGHT OUT light value: OFF; 50 lx to 2,000 lx at the sensor (default setting: off)

**Packaging:**  
box of 10

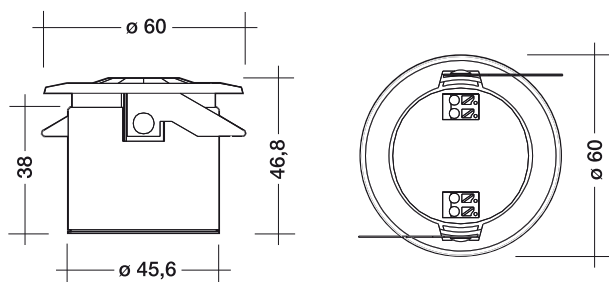
**Wiring:**  
page 150 figure D

type			smartSWITCH II	smartSWITCH strain relief
article number			86458452	86458246
electrical supply	voltage	V	220-240	220-240
	frequency	Hz	50/60	50/60
	max. load	VA	7.5	7.5
	standby load	W	0.6	0.6
input	L1, N	V	220-240	220-240
output	L' (switched phase)	V	220-240	220-240
	max. switching power	W	500	500
	max. switching power	VA	200	200
	max. number of ballasts	e.g. PC PRO	2	2
	max. sensor cable length (extendable)	m	2	0.25 (mounted)
temperature	permitted ambient temperature	°C	0 → +60	0 → +60

## DSI-SMART

### Ambient light sensor and motion detector for constant lighting control

RoHS



The DSI-SMART luminaire installation module features ambient light measurement, constant lighting control and motion detector. As an option, the module can be combined with the SMART Controller infra-red control.

The following parameters can be programmed with the optional DSI-SMART Programmer:

- light level
- time delay
- P.I.R
- bright-out
- power up
- start
- override

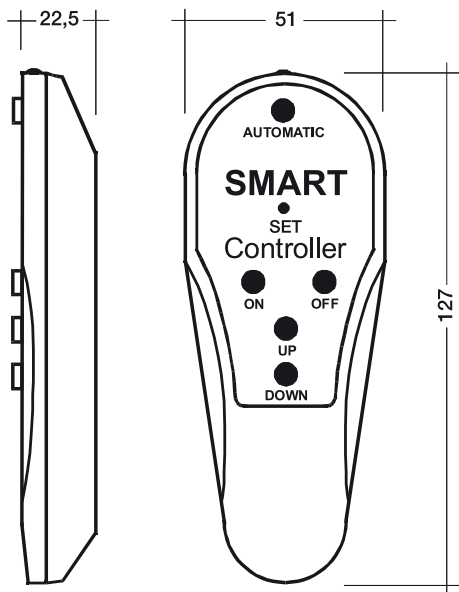
**Packaging:**  
box of 10

**Wiring:**  
page 150 figure B

type			DSI-SMART	DSI-SMART 120 V	DSI-SMART 277 V
article number			24031280	86452041	86457891
electrical supply	voltage	V	220-240	120	277
	frequency	Hz	50/60	50/60	50/60
output	digital DSI control signal	–	1	1	1
	signal	–	digital/serial	digital/serial	digital/serial
	voltage	V	12 ±10 %	12 ±10 %	12 ±10 %
	data rate	Bd	1,200	1,200	1,200
	max. number of	PCA/TE one4all/PCD	4	4	4
	max. cable length	m	250	250	250
temperature	permitted ambient temperature	°C	0 → +60	0 → +60	0 → +60

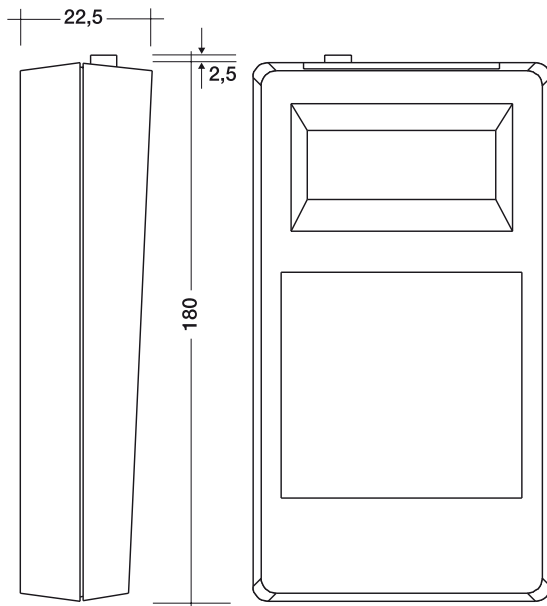


Accessoires for DSI-SMART sensor  
Infra-red remote control and infra-red programming unit



**DSI-SMART Controller**  
infra-red remote controller

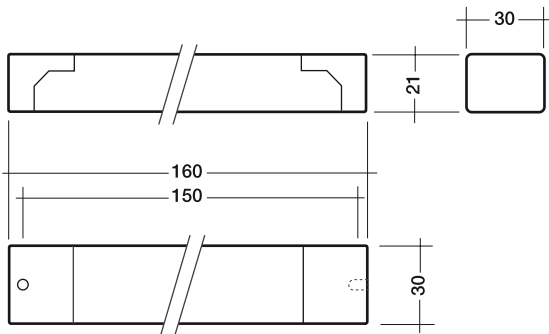
article number: 86451922



**DSI-SMART Programmer**  
infra-red programming unit

article number: 86447355

smartDIM SM Ip  
Control module for combining with ambient light sensor, switch or motion detector



The DSI control module for luminaire installation can control up to 25 digital ballasts, transformers or phase dimmers. smartDIM SM Ip provides user-friendly dimming and on/off switching using conventional switches, any number of which can be connected in parallel for controlling the lighting system from several different points.

By connecting a smartDIM sensor1 or smartDIM sensor2 the PCA, TE one4all or PCD digital ballasts can be switched automatically via the presence detection circuit and regulated according to available ambient light.

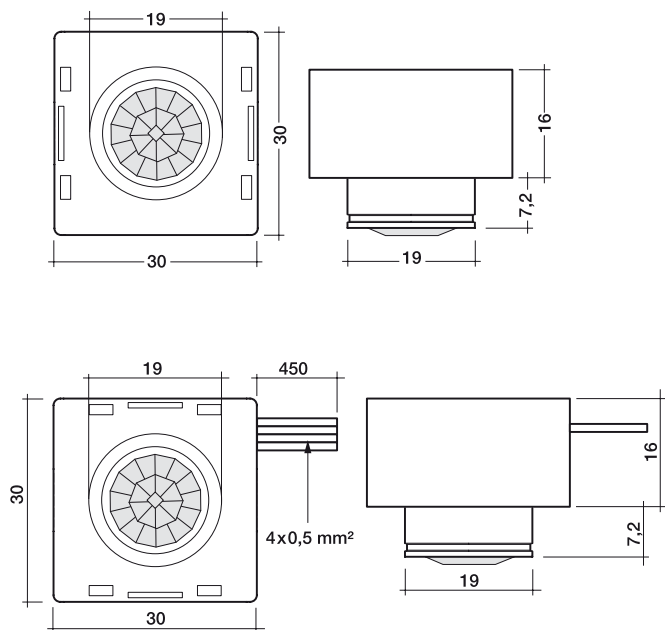
The associated smartDIM SM Ip sensor module enables the PIR, Off, Only and Automatic settings to be selected. When the luminaires are switched off the built-in relay disconnects the ballasts from the power supply, reducing power loss to 0.5 W.

**Packaging:**  
box of 10

**Wiring:**  
page 150 figure C

type			smartDIM SM Ip
article number			86458337
electrical supply	voltage	V	220-240
	frequency	Hz	50/60
	max. load	W	1.5
input	push to make switches	–	single
	max. number of smartDIM sensors	–	2
	max. sensor cable length	m	10
output	digital DSI control signal	–	1
	signal	–	digital/serial
	voltage	V	12 ±10 %
	data rate	Bd	1,200
	max. number of	PCA/TE one4all/PCD	25
output relays (L)	max. cable length at 1.5 mm <sup>2</sup>	m	250
	max. make-break capacity	e.g. PCA	2
	max. apparent switching power	VA	200
	max. make-break capacity	W	500
ambient conditions	operating temperature ta	°C	0 → +60
	storage temperature	°C	-25 → +55
	protection type	–	IP 20

smartDIM sensor 1 / smartDIM sensor 1 cable  
Ambient light sensor and PIR sensor



Extremely compact luminaire installation sensor for ambient light and motion detection. The sensor cables can be up to 10 m long. Several sensors can be connected to a sensor module.

Instead of a terminal at the back the smartDIM Sensor 1 cable has a 450 mm long four-core cable that comes out of the side of the casing. This means that even more compact luminaires can be designed.

**Packaging:**  
smartDIM sensor 1  
box of 50

smartDIM sensor 1 cable  
box of 25

**Wiring:**  
page 150 figure C

type	article number
smartDIM sensor 1	86454265
smartDIM sensor 1 cable	86458462

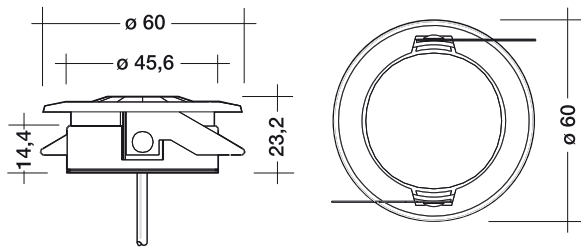
A reflector is available as an accessory to extend the detection area of the motion detector.

accessories	article number
mirror	86454640



**smartDIM sensor 2**  
Ambient light sensor and PIR sensor

RoHS



Ultra low-profile luminaire installation sensor for ambient light and motion detection. The sensor cables can be up to 10 m long. Several sensors can be connected to a sensor module.

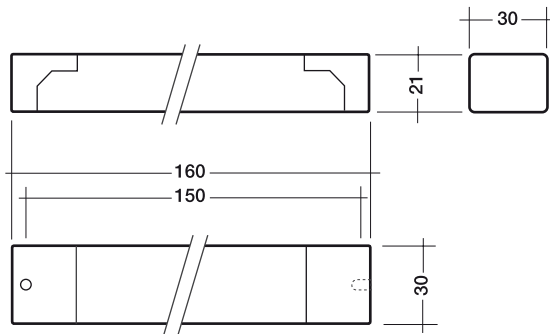
**Packaging:**  
box of 10

**Wiring:**  
page 150 figure C

type	smartDIM sensor 2
article number	86454523

## DSI-V/T

### Control module for amplifying DSI signals



The DSI-V/T control module amplifies the DSI signal so that control modules can be chained, for example in tunnels.

DSI applications with a DSI-V/T module can be expanded by up to 50 digital electronic ballasts, transformers or phase dimmers.

In amplifier mode the DSI-V/T supports fault reporting. The DSI-V/T module can be configured as a switch control module with the aid of the built-in DIP switches. This enables the module to offer manual dimming, on/off switching and retrieval of predefined light values via conventional one-way and two-way switches.

Several switches can be connected in parallel.

#### Packaging:

single pack  
box of 10

#### Wiring:

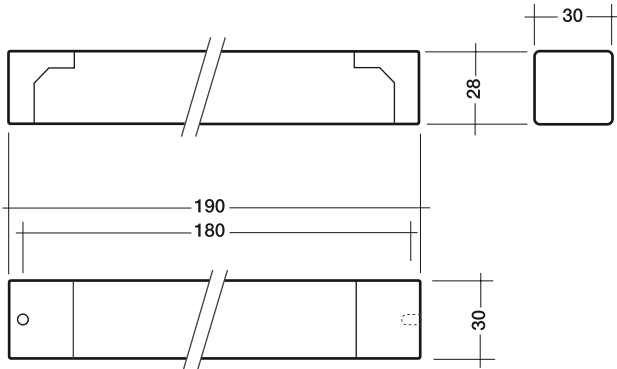
page 159 figure S1 (DSI-T)  
page 159 figure S2 (DSI-VPC)  
page 159 figure S3 (DSI-V)

type			DSI-V/T
article number			86458090
electrical supply	voltage	V	120-277
	frequency	Hz	50/60
	max. load	W	1.0
input	push to make switches	–	single/twin
	PD (mains rated)	–	1
	DSI signal ①	–	1
	max. cable length (push to make switches/PD)	m	100
output	digital control signal	–	1
	signal	–	digital/serial
	voltage	V	12 ±10 %
	data rate	Bd	1,200
	max. number of devices	PCA/TE one4all/PCD	50
	max. DSI control wire length	m	250 ②
temperature	permitted ambient temperature	°C	-25 → +60

① in amplifier operation together with the winDIM cable the VPC function must be set via the DIP-switches

② max. cable length in tunnel/security mode = 500 m (DSI-V function only)

**DSI-A/D**  
Converters for converting 1...10 V signals to DSI signals



Module DSI-A/D for luminaire installation converts an analogue 1...10 V signal into a digital DSI control signal. This means that digital dimmable ballasts can be integrated in existing analogue control systems.

By connecting a SMART-LS II sensor the ballasts can be used to set up a constant lighting control system.

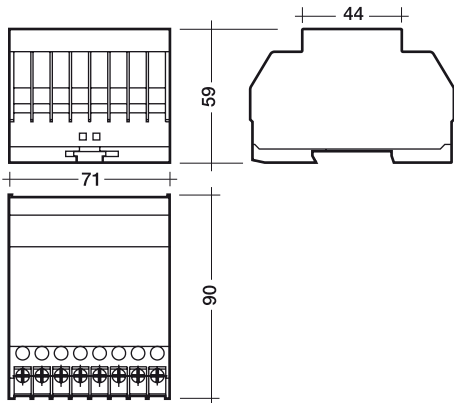
**Packaging:**  
single pack  
box of 10

**Wiring:**  
page 160 figure T1, T2

type			DSI-A/D
article number			86453957
electrical supply	voltage	V	230/240
	frequency	Hz	50/60
	max. load	VA	4
input	dimming	V	1-10
	dimming potentiometer (optional ①)	kΩ	47 (≥ 47 ≤ 100)
	ON/OFF switches (220-240 V)	–	1
	ambient light sensor	–	1
output	digital DSI control signal	–	1
	signal	–	digital/serial
	voltage	V	12 ± 10 %
	data rate	Bd	1,200
	max. number of	PCA/TE one4all/PCD	50
max. cable length	m	100	
temperature	permitted ambient temperature	°C	0 → +60

① Potentiometer with linear characteristics – ideal 47 kΩ, 47-100 kΩ possible, load ≥ 0.5 W

**DSI-A/DS**  
Converters for converting 1...10 V signals to DSI signals



Module DSI-A/DS for switching cabinet installation converts an analogue 1...10 V signal into a digital DSI control signal. This means that digital dimmable ballasts can be integrated in existing analogue control systems.

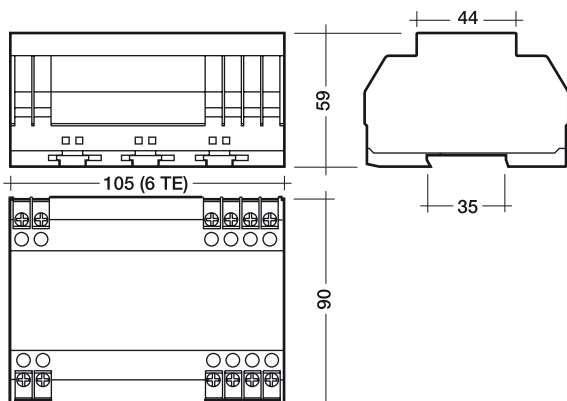
**Packaging:**  
single pack  
box of 10

**Wiring:**  
page 160 figure T1, T2

type			DSI-A/DS
article number			86456111
electrical supply	voltage	V	230/240
	frequency	Hz	50/60
	max. load	VA	4
input	dimming	V	1-10
	dimming potentiometer (optional ①)	kΩ	47 (≥ 47 ≤ 100)
	ON/OFF switches (220-240 V)	–	1
output	digital DSI control signal	–	1
	signal	–	digital/serial
	voltage	V	12 ±10 %
	data rate	Bd	1,200
	max. number of	PCA/TE one4all/PCD	100
temperature	max. cable length	m	250
	permitted ambient temperature	°C	0 → +50

① Potentiometer with linear characteristics – ideal 47 kΩ, 47-100 kΩ possible, load ≥ 0.5 W

**DSI-PCD/S**  
Phase dimmer resp. reverse phase dimmer 40-1,000 VA with preset



With the digital phase dimmer with automatic load detection, i.e. leading-edge or trailing-edge phase control, low-voltage tungsten-halogen lamps can be dimmed with electronic or magnetic transformers, and ohmic light sources (incandescent lamps and mains voltage tungsten-halogen lamps) with a total connected load of 40 VA to 1,000 VA.

The DSI-PCD/S phase dimmer is controlled via a DSI signal or directly connected light switches.

A predefined light value (preset function) can also be stored and retrieved.

Alternatively the DALI PCD 300 one4all phase dimmer (art. no. 86458308) can be used (page 145).

**Packaging:**  
single pack  
box of 10

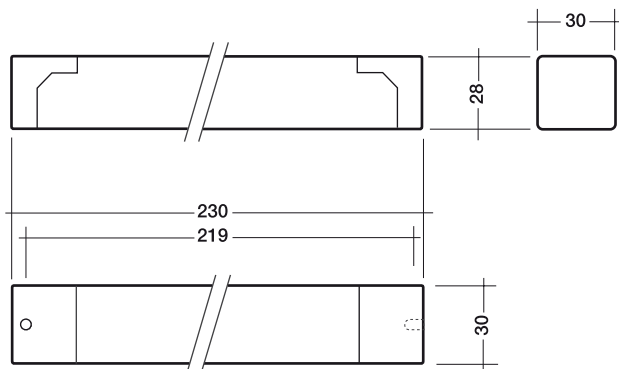
**Wiring:**  
page 158 figure R4

type			DSI-PCD/S
article number			22154333
electrical supply	nominal voltage	V AC	220-240
	permitted input voltage	V AC	207-264
	frequency	Hz	50/60
	connected load	VA	40-1,000
	loss power	W	2 (15 W at full load)
input	momentary switch input for calling up preset	-	1
	single or double momentary switch	-	1
	DSI control input	-	1
output	dimmed phase	-	1
	control range	%	0; 1-100
mechanical details	dimensions	mm	105 x 90 x 59 (6 TE à 17.5 mm)
	terminals	mm <sup>2</sup>	0.75-2.5
	installation (horizontally in switch cabinet)	-	on 35 mm rail according to EN 50022
	housing material	-	flame-resistant polycarbonate; halogen-free
	weight	g	approx. 400
temperature	permitted ambient temperature	°C	0 → +40
protection type			IP 20
other	status LED for indication of operating state 5A T microfuse		



## DSI-IR

Control module with input for infra-red receiver and one-way switch



A maximum of 25 digital dimmable PCA ballasts, PCD phase dimmers, TE one4all electronic transformers and K210 LED converters can be controlled via the DSI-IR infra-red control module with the IRS infra-red remote control.

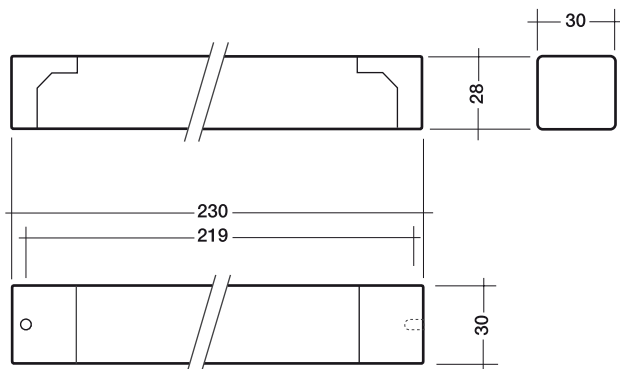
**Packaging:**  
single pack  
box of 10

**Wiring:**  
page 163 figure X1

type			DSI-IR
article number			22114184
electrical supply	voltage	V	230/240
	frequency	Hz	50/60
	max. load	VA	1
input	push to make switches	–	single
	infra-red receiver	–	1
output	digital DSI control signal	–	1
	signal	–	digital/serial
	voltage	V	12 ±10 %
	data rate	Bd	1,200
	max. number of	PCA/TE one4all/PCD	25
temperature	max. cable length	m	50
	permitted ambient temperature	°C	-25 → +60

## DSI-2IR

Control module with input for infra-red receiver and one-way switch



Two luminaire groups each with up to 25 digital dimmable PCA ballasts, PCD phase dimmers, TE one4all electronic transformers and K210 LED converters can be controlled via the DSI-2IR infra-red control module with the IRS infra-red remote control.

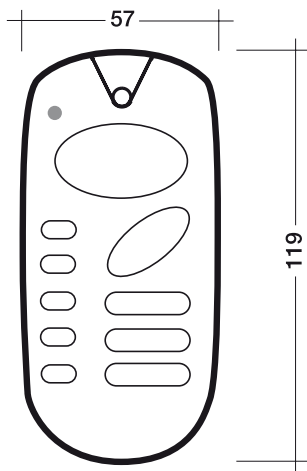
**Packaging:**  
single pack  
box of 10

**Wiring:**  
page 163 figure X2

type			DSI-2IR
article number			22114190
electrical supply	voltage	V	230/240
	frequency	Hz	50/60
	max. load	VA	1
input	push to make switches	–	2 x single
	infra-red receiver	–	1
output	digital DSI control signal	–	2
	signal	–	digital/serial
	voltage	V	12 ±10 %
	data rate	Bd	1,200
	max. number of	PCA/TE one4all/PCD	25
temperature	max. cable length	m	50
	permitted ambient temperature	°C	-25 → +60

**BASIC-IR**  
Infra-red remote control and infra-red receiver

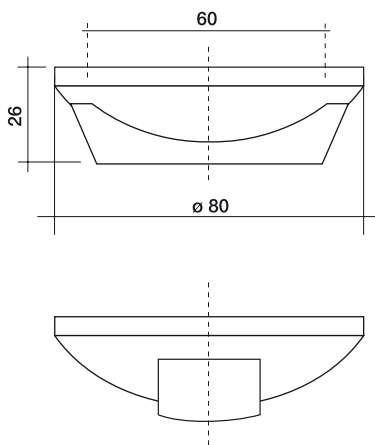
RoHS



**IRS**  
Hand-held transmitter IRS

article number: 20975492

Infra-red remote control for controlling up to 5 DSI-IR/DSI-2IR control modules with different addresses. Three lighting situations (light scenes) can be stored and retrieved. The IRS infra-red remote control is supplied together with a wall bracket (all dimensions in mm).

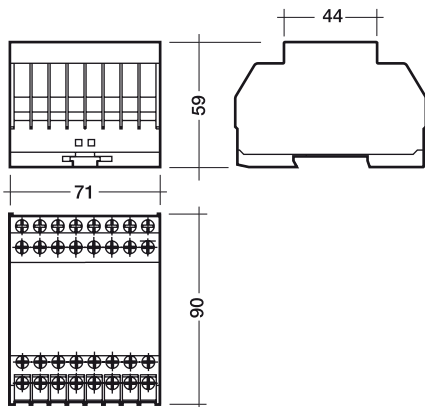


**IRED**  
Infra-red receiver for remote mounting  
(all sizes in mm)

article number: 22114587

## modularDIM BASIC

### Control module with power supply for 3 channels



The modularDIM BASIC control module is at the heart of the modularDIM product family. It controls three output channels either together or independently of each other.

The module is easy to set up because there is no programming involved. Parallel connection of multiple one-way and two-way switches and motion detectors results in user-friendly dimming and on/off switching from different points. In addition, modularDIM BASIC has a central power supply for all modularDIM components.

#### Packaging:

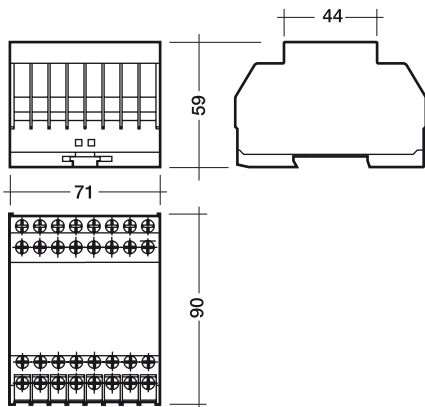
single pack  
box of 10

#### Wiring:

page 151 figure E

type		modularDIM BASIC	
article number		86454539	
electrical supply	voltage	V	120-277
	frequency	Hz	50/60
	max. load	VA	< 10
input	push to make switches	–	single/twin
	PIR sensor	–	3
	control line iX (intelligent extension)	–	1
output	digital DSI control signal	–	3
	signal	–	digital/serial
	voltage	V	12 ±10 %
	data rate	Bd	1,200
	max. number of	PCA/TE one4all/PCD	100
	max. cable length	m	250
	iX (intelligent extension)	–	1
temperature	permitted ambient temperature	°C	0 → +50

modular**DIM SC**  
Scene module for independent control of 4 light scenes



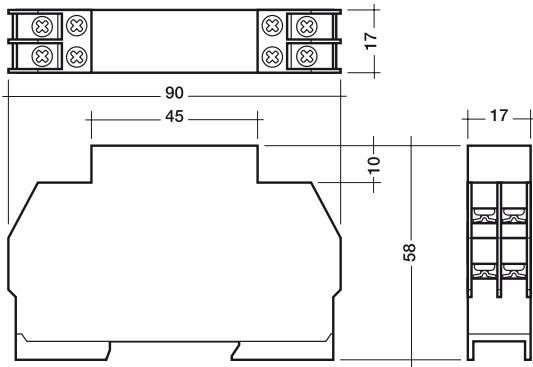
With the modular**DIM SC** expansion module for scene control four lighting scenes can be programmed in the modular**DIM BASIC** module and retrieved. The switch inputs are at SELV so conventional switches can be used.

**Packaging:**  
single pack  
box of 10

**Wiring:**  
page 151 figure E

type			modular <b>DIM SC</b>
article number			86454545
supply	–	–	via iX (intelligent extension)
input	4 push to make switches	–	single
output	control line iX (intelligent extension)	–	1
temperature	permitted ambient temperature	°C	0 → +50

modularDIM DM  
Control module with daylight sensor for three channels



Expansion module modularDIM DM provides the basis for daylight-dependent control of up to three luminaire groups with the basic modularDIM BASIC module. modularDIM DM forwards the daylight information to the basic module. This makes it easy to program the daylight-dependent parameters for each luminaire group.

**Packaging:**  
single pack  
box of 10

**Wiring:**  
page 151 figure E

type			modularDIM DM
article number			86454564
supply	–	–	via iX (intelligent extension)
input	daylight sensor	–	1
	switch manual/automatic	–	1
output	control line iX (intelligent extension)	–	1
temperature	permitted ambient temperature	°C	0 → +50

accessories	sensor DAYLIGHT
article number	86454586

A stylish and sturdy ceiling sensor is available in the modularDIM system for detecting the proportion of natural daylight, with its sensor opening pointing in the direction of daylight.

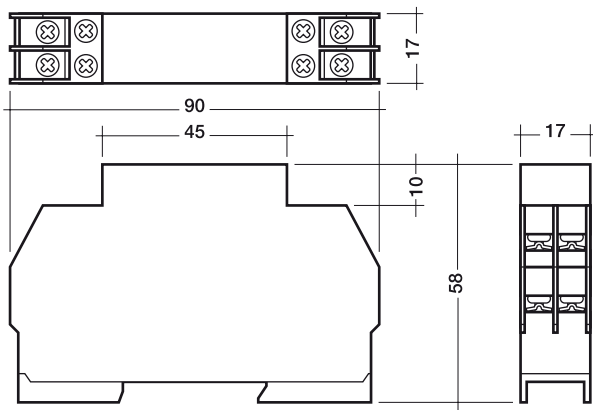


**Packaging:**  
single pack  
box of 40

**Wiring:**  
page 151 figure E

## modularDIM LC

Line converter for the integration of mains rated presence detection units/sensors



The modularDIM LC expansion module of the modularDIM BASIC control module enables conventional non-floating motion detectors to be incorporated in a modularDIM system. For this purpose, phase-related signals are converted into floating signals.

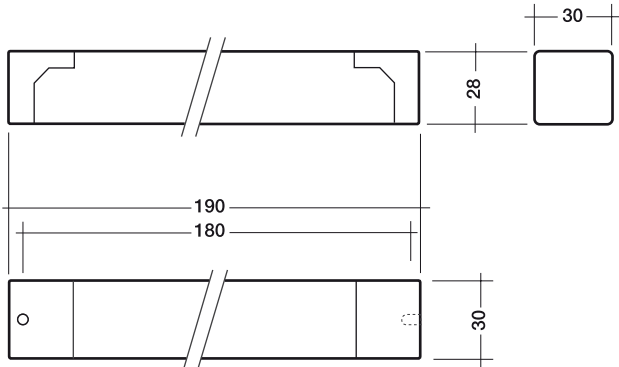
**Packaging:**  
single pack  
box of 10

**Wiring:**  
page 151 figure E

type		modularDIM LC
article number		86457888
voltage	V	220-240
frequency	Hz	50/60
galvanic isolation spec.	-	4,000 V 2 min.; 6 mm (SELV)
max. output voltage	V	30
permitted ambient temperature	°C	0 → +50

outputs are Safety Extra Low Voltage (SELV).

**DSI-RK**  
Relay module for switching ohmic loads



The DSI-RK relay module enables ohmic loads such as incandescent lamps to be switched in a DSI or switchDIM installation.

A DSI module or switches (switchDIM) can be used to operate the system.

The following parameters can be set with the winDIM software:

- RELAY ON: sets the switch-on point (default setting DSI ≥ 1, i.e. On)
- RELAY OFF: Sets the switch-off point (default setting DSI = 0, i.e. Off)

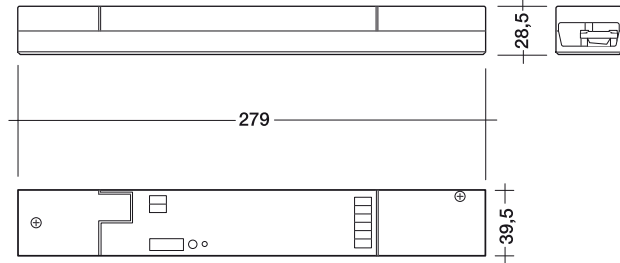
**Packaging:**  
single pack  
box of 10

**Wiring:**  
page 161 figure U1, U2

type			DSI-RK
article number			86449304
voltage		V	220-240
nominal frequency		Hz	50/60
input			DSI/switchDIM
switching capacity	AC max. 250 V	W/A	500/2
	DC max. 110 V	W/A	110/0.1
output			potential free contact
ambient temperature range		°C	0 → + 60



## DSI-EIB Converter for converting EIB signals into DSI signals



With the DSI-EIB converter for luminaire installation or surface mounting, digital DSI ballasts such as PCA EXCEL one4all, PCA ECO, TE one4all and PCD can be incorporated in EIB systems (European Installation Bus).

Converting the digital EIB signal into a digital DSI control signal enables DSI ballasts to be switched and dimmed. It is also possible to transfer status requests and fault messages to the EIB system.

**Packaging:**  
single pack  
box of 10

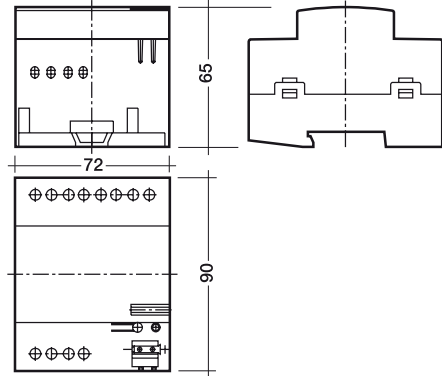
**Wiring:**  
page 161 figure V

type			DSI-EIB
article number			20827097
electrical supply	voltage	V	230/240
	frequency	Hz	50/60
	max. load	VA	2.6
input	dimming/switching/reporting	–	EIB
output	digital DSI control signal	–	1
	signal	–	digital/serial
	voltage	V	12 ±10 %
	data rate	Bd	1,200
	max. number of	PCA/TE one4all/PCD	50
	max. cable length	m	100
temperature	permitted ambient temperature	°C	-5 → +45

### EIBP – product data base for DSI EIB/DSI EIBS

Download from [www.tridonicatco.com](http://www.tridonicatco.com) for free.

**DSI-EIBS**  
**Converter for converting EIB signals into DSI signals**



With the DSI-EIB converter for luminaire installation or surface mounting, digital DSI ballasts such as PCA EXCEL one4all, PCA ECO, TE one4all and PCD can be incorporated in EIB systems (European Installation Bus).

Converting the digital EIB signal into a digital DSI control signal enables DSI ballasts to be switched and dimmed. It is also possible to transfer status requests and fault messages to the EIB system.

**Packaging:**  
 single pack  
 box of 10

**Wiring:**  
 page 161 figure V

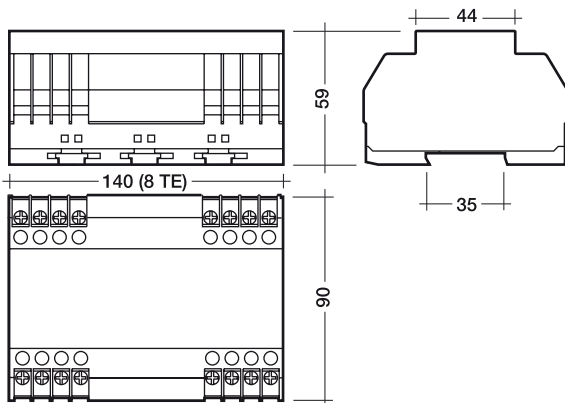
type			DSI-EIBS
article number			24030297
electrical supply	voltage	V	230/240
	frequency	Hz	50/60
	max. load	VA	2.6
input	dimming/switching/reporting	-	EIB
output	digital DSI control signal	-	1
	signal	-	digital/serial
	voltage	V	12 ±10 %
	data rate	Bd	1,200
	max. number of	PCA/TE one4all/PCD	50
	max. cable length	m	250
temperature	permitted ambient temperature	°C	-5 → +45

**EIBP – product data base for DSI EIB/DSI EIBS**

Download from [www.tridonicatco.com](http://www.tridonicatco.com) for free.

## DSI-LON/S

### Converter and control module for LON daylight control with three channels



DSI-LON/S enables three lighting groups with DSI ballasts in a LonWorks® system to be controlled according to the amount of available daylight. This requires a SENSOR DAYLIGHT to be connected directly to the DSI-LON/S module or a light sensor in the network.

For each of the three DSI channels 20 different lighting moods can be stored. These can be programmed and retrieved via the LonWorks® system. Three of these 20 lighting moods are used for daylight-dependent lighting control.

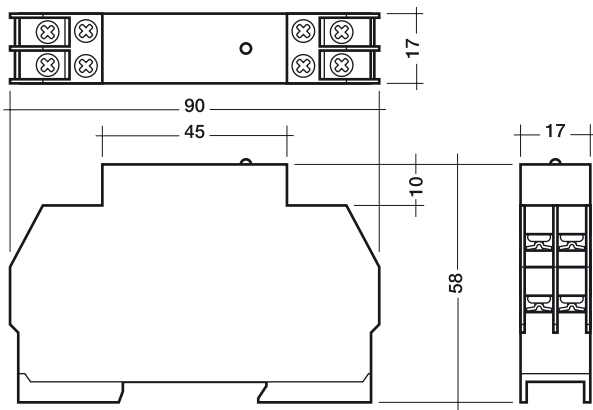
In addition to the three DSI output channels and the sensor input the DSI-LON/S module has inputs for connecting switches and motion detectors.

**Packaging:**  
single pack

**Wiring:**  
page 162 figure W1, W2

type			DSI-LON/S
article number			22154225
electrical supply	nominal voltage	V AC	220-240
	permitted input voltage	V AC	207-264
	frequency	Hz	50/60
	loss power	W	< 10
input	LON-Bus FTT-10A (twisted pair, free topology)	–	1
	single-pole inputs	–	4
	sensor DAYLIGHT light sensor (2 x 1.5 mm <sup>2</sup> ; max. 250 m)	–	1
output	DSI control outputs	–	3
	max. number of control gear per output	PCA/TE one4all/PCD	100
	DSI control line	–	NYM 2 x 1.5 mm <sup>2</sup> (H05VV-U 2 x 1.5)
	max. cable length	m	250
	control range (relative illuminance)	%	0; 1-100
	addressing	–	via service PIN
mechanical details	dimensions	mm	140 x 90 x 59 (8 TE à 17.5 mm)
	terminals	mm <sup>2</sup>	0.75-2.5
	installation	–	on 35 mm rail according to EN 50022
	housing material	–	flame-resistant polycarbonate; halogen-free
	weight	g	approx. 500
temperature	permitted ambient temperature	°C	0 → +50
protection type			IP 20
other	status LED for indication of operating state momentary action test switch for testing the installation service key for sending of neuron ID		

**DALI PS**  
Power supply for DIN rail



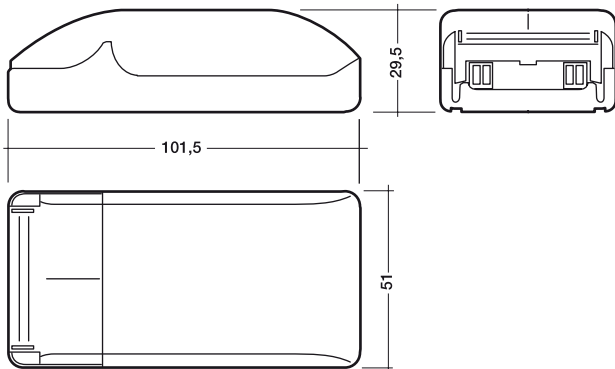
DALI power supply with 200 mA for DALI ballasts and DALI control modules without their own power supplies such as DALI GC and DALI SC.

**Packaging:**  
single pack  
1 piece

**Wiring:**  
page 152 figure F1, F2, G

type			DALI PS
article number			24033444
electrical supply	voltage	V	120-240
	frequency	Hz	50/60
	max. load	W	4
output	-	-	DALI
	max. current	mA	200
temperature	permitted ambient temperature	°C	0 → +50

**DALI PS1**  
 Central DALI power supply for separate installation



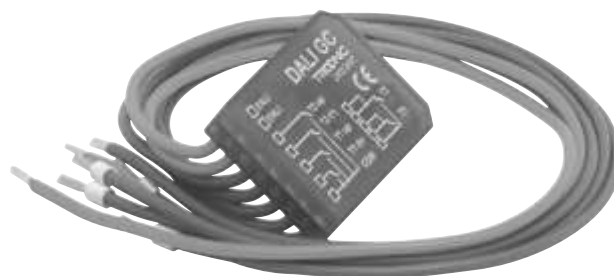
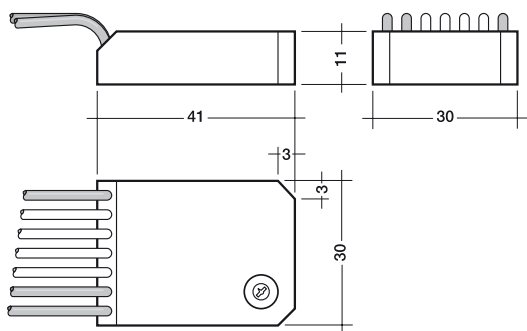
DALI power supply with 200 mA for DALI ballasts and DALI control modules without their own power supplies such as DALI GC and DALI SC.

**Packaging:**  
 single pack  
 1 piece

**Wiring:**  
 page 152 figure F1, F2, G

type			DALI PS1
article number			24034323
electrical supply	voltage	V	220-240
	frequency	Hz	50/60
	max. load	W	4
output	-	-	DALI
	max. current	mA	200
temperature	permitted ambient temperature	°C	0 → +50

**DALI GC / DALI GC-A**  
Control module for two DALI groups



With the extremely compact DALI GC and DALI GC-A control modules for standard switches dimming and switching commands can be sent to two DALI groups. The groups controlled by the switches are set on the rotary switch on the module.

DALI equipment can be addressed and assigned to groups from any DALI GC by means of a simple key sequence.

In contrast to the DALI GC module, it is not possible to program the ballasts (such as PCA EXCEL one4all) via the switches in the case of the DALI GC-A module.

Both modules are multi-master-compatible so several control modules can operate without mutual interference in a DALI system.

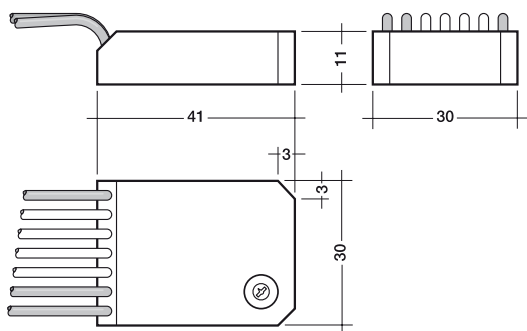
**Packaging:**  
single pack  
1 piece

**Wiring:**  
page 152 figure G, H1, H2

type			DALI GC	DALI GC-A
article number			24033450	24138907
supply	–	–	via DALI signal line	via DALI signal line
current	–	mA	6	6
input	2 push to make switches	–	single/twin	single/twin
output	–	–	DALI	DALI
addresses	groups	–	1-16/broadcast	1-16/broadcast
temperature	permitted ambient temperature	°C	0 → +50	0 → +50

The cables to the switches must not be lengthened!

**DALI SC / DALI SC-A**  
Control module for four DALI lighting scenes



With the extremely compact DALI SC and DALI SC-A control modules for standard switches it is possible to check light scene values in DALI equipment by means of a simple key sequence. Four of the 16 possible scenes can be selected on the rotary switch on the DALI SC module.

Light scene values in DALI equipment can be programmed from any DALI SC by means of a simple key sequence.

In contrast to the DALI SC module, it is not possible to program the ballasts (such as PCA EXCEL one4all) via the switches in the case of the DALI SC-A module.

Both modules are multi-master-compatible so several control modules can operate without mutual interference in a DALI system.

**Packaging:**  
single pack  
1 piece

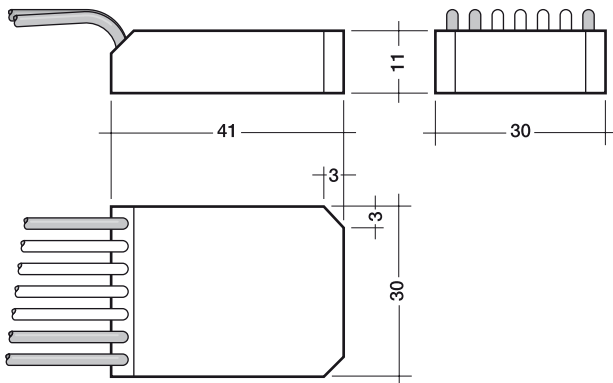
**Wiring:**  
page 152 figure G  
page 153 figure I1

type			DALI SC	DALI SC-A
article number			24034263	24138906
supply	–	–	via DALI signal line	via DALI signal line
current	–	mA	6	6
input	4 push to make switches	–	single	single
output	–	–	DALI	DALI
scenes	–	–	1-16/broadcast	1-16/broadcast
temperature	permitted ambient temperature	°C	0 → +50	0 → +50

The cables to the switches must not be lengthened!

**DALI MC**  
Control module with four freely programmable inputs

**NEW**



On the extremely compact DALI MC multi-controller the functions can be assigned to each of the four switch inputs.

The following functions are available:  
dim up, dim down, off, recall min., recall max., goto scene 1-16, direct arcpower ...%, mask, predefined macros

Via the settable switching modes (short, long press; toggle; signal edge controlled relay mode) a maximum of two options can be assigned to each input, of which one function can be activated in each case.

With the DALI MC it is possible to set individual addresses 1-64 or groups 1-16 or "broadcast" as the destination.

The "configTOOL" software needed for programming is available for download free of charge. For more information go to [www.tridonicatco.com](http://www.tridonicatco.com).

The DALI MC also has an adjustable "power up" function. In other words, on power-up (e.g. after a power failure) a user-defined command is sent after a delay (off, goto scene 1-16)

**Packaging:**  
single pack  
1 piece

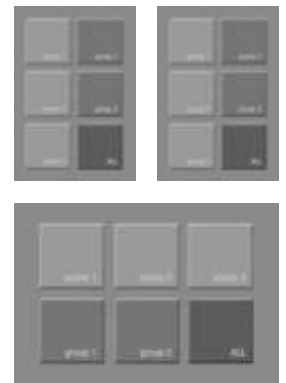
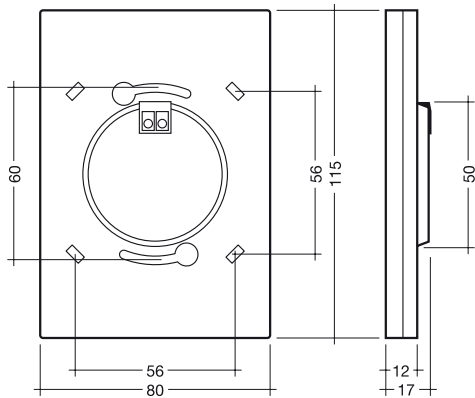
**Wiring:**  
page 153 figure I2

			DALI MC
type			86458507
article number			via DALI signal line
supply	–	–	6
current	–	mA	4 switches or relays
input	–	–	DALI
output	–	–	programmable
function	–	–	0 → +50
temperature	permitted ambient temperature	°C	

The cables to the switches must not be lengthened!!



**DALI TOUCHPANEL**  
Control panels and controllers for DALI systems



Examples of possible control panels

Various functions can be easily selected. Among other things the DALI TOUCHPANEL enables different luminaire groups to be controlled and preset lighting scenes to be called up.

The DALI TOUCHPANEL is multi-master-compatible, which means that several control modules can be installed in parallel in a DALI system.

In addition to configuration via the buttons the "configTOOL" software is available for programming as a free download.

DALI TOUCHPANEL also offers customer-specific flexibility in terms of its design in that for example there is a choice of different colours for the frames and control panels can be customised. Two designs are available for free download.

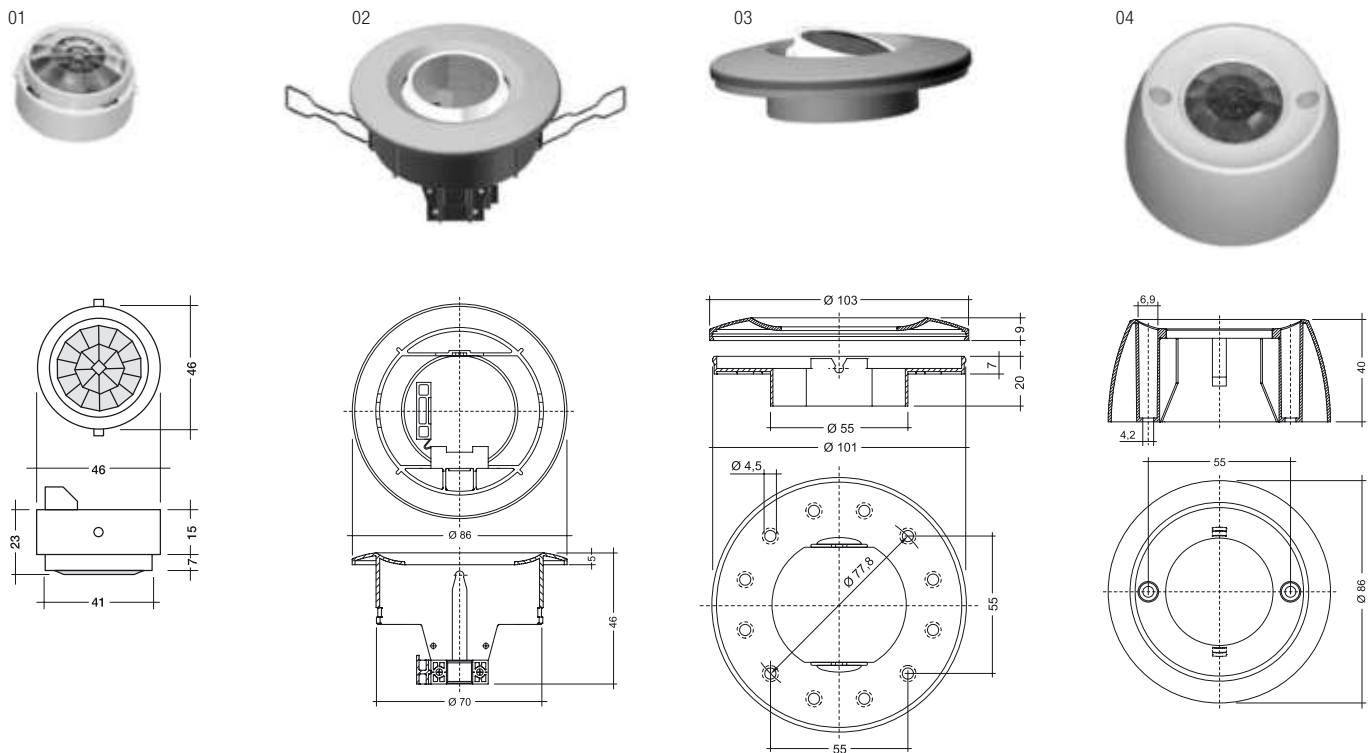
For more information go to [www.tridonicatco.com](http://www.tridonicatco.com).

**Packaging:**  
single pack  
1 piece

**Wiring:**  
page 152 figure G  
page 153 figure L

type			DALI TOUCHPANEL
article number			24035465
supply	–	–	via DALI signal line
current	–	mA	2
output	–	–	DALI
addresses	groups	–	1-16/broadcast
	scenes	–	1-16
temperature	permitted ambient temperature	°C	0 → +50

**DALI-MSensor**  
Multisensor for DALI systems



The DALI MSensor combines ambient light measurement and presence detection for constant light control. The sensor can be configured and operated with optional infra-red controls (IR-SMART Controller and DALI-RC).

Parameters can be set with software available for free download. For more information go to [www.tridonicatco.com](http://www.tridonicatco.com).

**Packaging:**  
single pack

**Wiring:**  
page 155 figure P

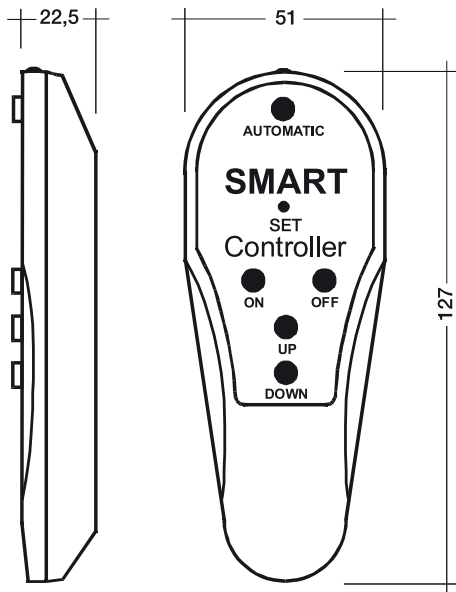
**Designed according to:**  
EN 61547  
EN 61347-2-11  
EN 55015

type			DALI-MSensor 01	DALI-MSensor 02	DALI-MSensor 03	DALI-MSensor 04
article number			86458265	86458267	86458268	86458269
supply	current consumption via DALI bus	mA	6	6	6	6
coverage	coverage area when installed at height of 2.5 m	Ø, m	5	5	5	5
	extension of coverage range when installed at height of 2.5 m and tilted 15°	m	cannot be tilted	2	2	cannot be tilted
	tilting range	°	–	±15	±15	–
	coverage angle	°	360	360	360	360
	light measurement ①	lx	5-500	5-500	5-500	5-500
ambient conditions	remote control range	m	5	5	5	5
	operating temperature	°C	0 → +50	0 → +50	0 → +50	0 → +50
	protection type		IP 20	IP 20	IP 20	IP 20
installation		fitted in luminaire	recessed into ceiling	fitted in socket	surface-mounted	
fixing accessories		–	–	4 wall plugs Ø 5 mm 4 screws 13 mm 4 screws 25 mm	2 wall plugs Ø 5 mm 2 screws 13 mm 2 screws 25 mm	

① The measured value on the sensor head is equivalent to approximately 15 to 2,000 lux on the reference surface.

Infra-red remote control for DALI-MSensor  
 DALI-MSensor can be controlled by two remote control units:

RoHS

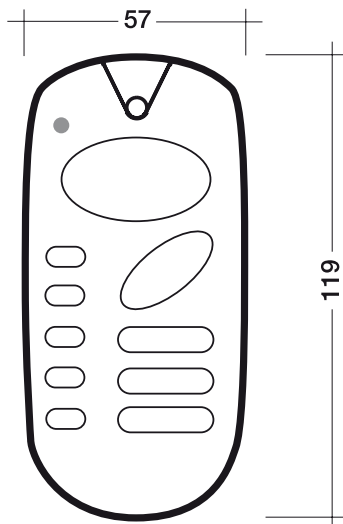


**IR-SMART Controller**  
 infra-red remote control

article number: 86451922

**Functional description:**

- switch on and off (On/Off key)
- dim up and down (Up/Down key)
- activate light control (automatic)
- set light control set value (set key)



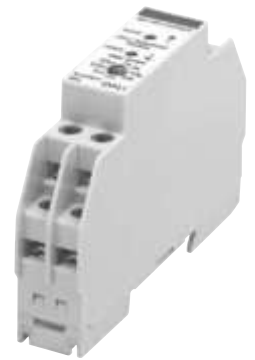
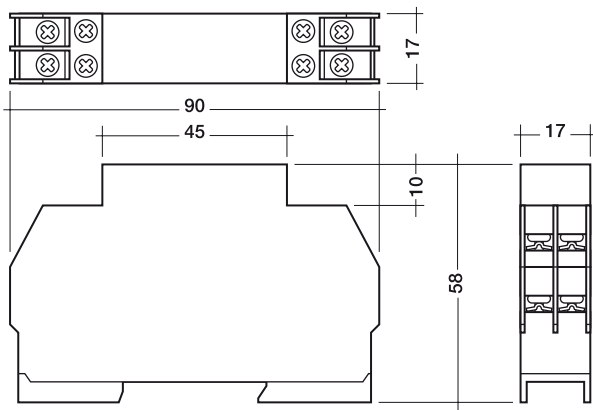
**DALI-RC**  
 infra-red remote control with wall mounted holder

article number: 86458263

**Functional description:**

- switch on and off (On/Off key)
- dim up and down (Up/Down key)
- activate light control (automatic) (sun-cloud key)
- call up two scenes (presentation and meeting key)
- call up five fixed values (100 %, 50 %, 25 %, 12 % and 6 %)
- programming of operating parameters

**DALI SQM**  
Sequencer module for DALI systems



The DALI SQM sequencer module constantly sends DALI signals with the set "step time". These broadcast-addressed scene calls enable DALI scenes 0 to 15 to be retrieved. The end scene (set to DALI scene 7 at the factory), after which scene 0 is called up again, can be programmed. This means that a sequence of eight scenes is called up.

**Packaging:**  
single pack  
1 piece

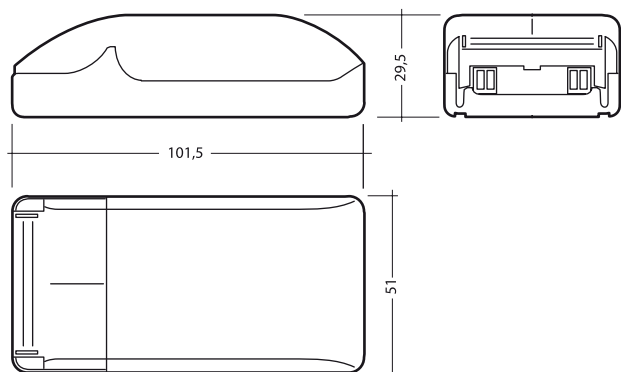
**Wiring:**  
page 155 figure Q1

type	<b>DALI SQM</b>
article number	86458211
supply	from DALI line
current consumption	9 mA
input	rotary switch, 1s → 30 min. functional switch: maximum lead length 100 m
output	DALI
permitted ambient temperature °C	0 → 50

DALI-Somfy animeo Interface

**NEW**

**somfy.** CE RoHS



- for integrating Somfy animeo IB+ motor controllers in the DALI circuit
- the DALI-Somfy animeo interface requires 4 DALI addresses and can therefore control up to 4 louvre blinds independently (i.e. 1 interface is needed per motor controller)
- lighting moods can be retrieved together with louvre blind positions

- The DALI-Somfy animeo interface supports 16 DALI groups and 16 DALI scenes. It is integrated in the DALI circuit like a DALI ECG. The louvre blind positions (height, angle) are stored like lighting scenes. When the stored scene is selected the blind moves to its stored position. A scene can be stored with the DALI SC for example and then retrieved. This enables the lighting and the blind positions to be stored under one and the same scene.

**Verpackung:**  
single pack  
1 piece

**Wiring:**  
page 156 figure Q2

**Designed according to:**  
EN 55015  
EN 55011  
EN 55022  
EN 60730  
EN 61000-3-2  
EN 61000-3-3  
EN 61000-6-2  
EN 61347  
EN 61547-2-11

type			DALI-Somfy animeo Interface
article number			86458491
supply	voltage	V	220-240
	frequency	Hz	50/60
	max. load	W	4
input	number	-	1
	-	-	DALI
	power draw on the DALI bus	mA	6
	number of DALI addresses	-	4 (one per motor)
output	number	-	1
	-	-	Somfy motor controller protocol
	max. number of controllable motors	-	4
installation	-	-	casing
	mounting position	-	any
mechanical details	dimensions (L x W x H)	mm	101.5 x 51 x 29.5
	weight	g	95
ambient conditions	protection type	-	IP 20
	protection class	-	2
temperature	operating temperature	°C	0 → +50
	storage temperature	°C	-20 → +70

The following motor controllers from Somfy can be used:

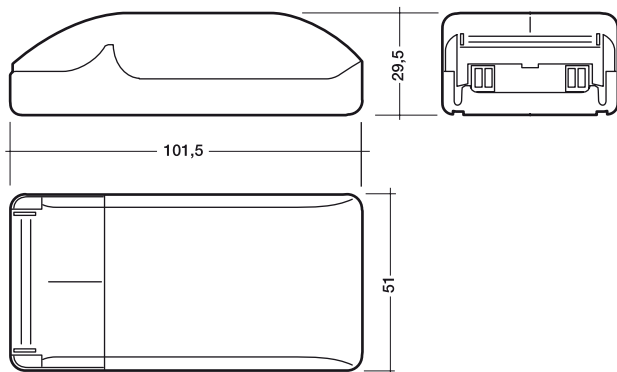
- animeo IB+ 4 AC motor controller (1860049, 1860081, 1860103, 1860108)
- animeo IB+ 4 DC motor controller (1860086)
- animeo IB+ 4 DC/DC-E motor controller (1860087)

The following TridonicAtco DALI controllers are supported:

DALI GC-A; DALI SC; DALI SC-A; DALI MC; DALI TOUCHPANEL; DALI USB; x-touch**BOX** Version 3.00 and higher; x-touch**PANEL** Version 3.00 and higher

Please refer to the instructions for using the animeo IB+ motor controllers.

**DALI USB**  
Interface module for DALI systems



The DALI USB interface module enables the software tools from TridonicAtco to be connected to DALI systems.

This means that complex DALI lighting control solutions can be easily addressed and programmed and that the parameters of the ballasts can be changed.

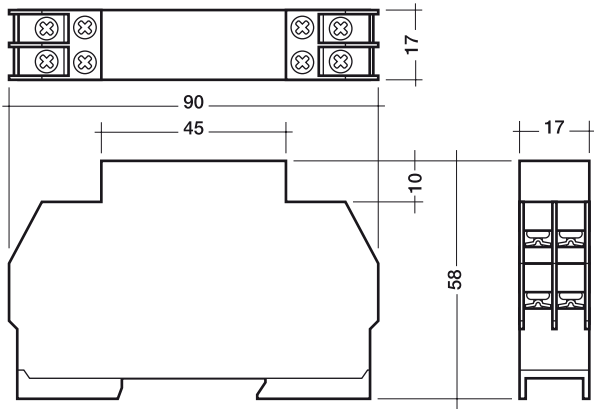
**Packaging:**  
single pack  
1 piece

**Wiring:**  
page 152 figure G  
page 153 figure J

type			DALI USB
article number			24138923
supply	–	–	via DALI signal line and USB
current	–	mA	6
input	1	–	USB (Personal Computer)
output	–	–	DALI
temperature	permitted ambient temperature	°C	0 → +50

**DALI Repeater**  
For extending the DALI cable length

**NEW**



The DALI repeater amplifies the DALI signal. This means that the maximum length of the DALI control line can be increased from 300 m to 600 m.

With multiple DALI repeaters it is now possible to set up star networks with just one controller (for example to make optimum use of the e-touchBOX).

**Notes:**

- because of the signal delay it is not possible to connect multiple DALI repeaters in series (no cascading)
- there is no increase in the maximum number of DALI units. A maximum of 64 DALI addresses can be configured in a DALI circuit (main and subordinate circuit)
- because of the electrical isolation between the main control circuit and the subordinate control circuit an additional DALI PS/PS1 is needed for each DALI repeater
- the length of the DALI control line after the DALI repeater must not exceed 300 m (for a cable cross-section of 1.5 mm<sup>2</sup>) or the drop in voltage must not exceed 2 V

**Packaging:**

single pack  
1 piece

**Wiring:**

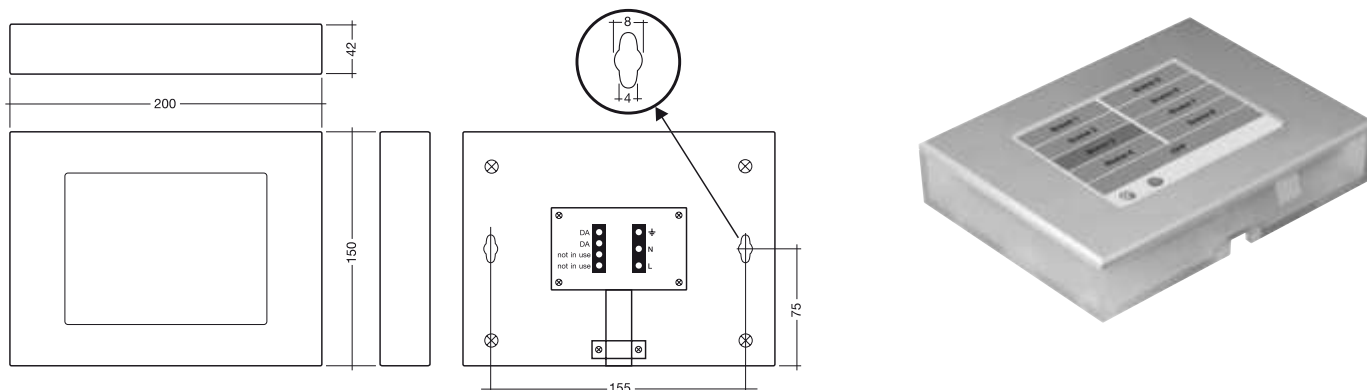
page 156 figure Q3, Q4

**Designed according to:**

EN 55015: 2000  
EN 55011/1998 + A1/1999  
EN 61547: 1995 + A1: 2000  
EN 61000-6-2/2001  
EN 61000-3-2/2000  
EN 61000-3-3/1995 + A1/2001  
EN 60730

type			DALI Repeater
article number			86458401
supply	main control circuit (IN)	mA	6 (via DALI bus)
	subordinate control circuit (OUT)	mA	4 (via DALI bus)
input	–	–	DALI
output	–	–	DALI
installation	–	–	DIN rail mounting
	mounting position	–	any
mechanical details	dimensions (L x W x H)	mm	90 x 58 x 17
	weight	g	60
ambient conditions	protection type	–	IP 20
	protection class	–	SK 2
temperature	operating temperature	°C	0 → +50
	storage temperature	°C	-20 → +70

x-touchBOX  
Control panels and controllers for DALI systems



The x-touchBOX with its 5.7 inch colour touch screen and integrated DALI bus supply is a lighting management system for 64 DALI units. User-friendly application software for such things as changing lighting scenes in shops and shop windows, restaurants, homes and offices.

**Control functions:**

- manual dimming and switching
- manual scene selection
- time-controlled scene selection (sequencing), maximum of 99 sequences
- weekday-controlled sequence programming (schedule)
- user-defined labelling of scenes, groups, sequences and schedules.
- software updates with PC via IrDA interface
- optimized mode for RGB coloured lighting management

**Designed according to:**

- EN 55011
- EN 55015
- EN 6000-3-2
- EN 6000-3-3
- EN 6000-6-2
- EN 61547

**Packaging:**

single pack

**Wiring:**

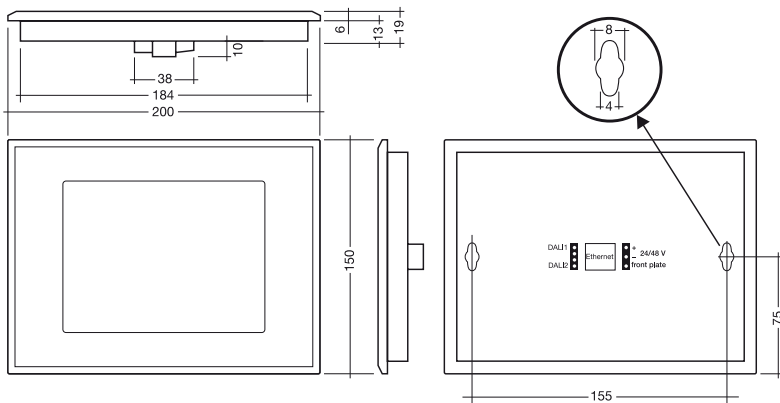
page 154 figure 01

type		x-touchBOX	
article number		24138954	
supply	voltage	V	110-240
	frequency	Hz	50/60
	mains supply power	W	10
screen	-	-	touchpanel (5.7" / 320 x 240 pixel / 256 colours)
output	-	-	one DALI line
	current	mA	200
interface	-	-	IrDA
temperature	ambient temperature ta	°C	0 → +50
weight	-	kg	0.92
dimensions (L x W x H)	-	mm	200 x 150 x 42
fixing centres (D)	-	mm	155

See also page 198: e-touchBOX, the equivalent for the x-touchBOX – Lighting management for emergency lighting installation



x-touchPANEL  
Control panels and controllers for DALI system



The x-touchPANEL with its 5.7 inch colour touch screen is a lighting management system for up to 128 DALI units.

User-friendly application software for such things as changing lighting scenes in offices, restaurants, homes, shops and shop windows. Background lighting of the x-touchPANEL with RGB LEDs.

**Control functions:**

- manual dimming and switching
- manual scene selection
- time-controlled scene selection (sequencing), maximum of 99 sequences
- weekday-controlled sequence programming (schedule)
- user-defined labelling of scenes, groups, sequences and schedules.
- software updates with PC via IrDA interface
- can be operated via WebBrowser (Ethernet)
- optimized mode for RGB coloured lighting management

**Designed according to:**

- EN 55011
- EN 55015
- EN 6000-3-2
- EN 6000-3-3
- EN 6000-6-2
- EN 61547

**Packaging:**

single pack

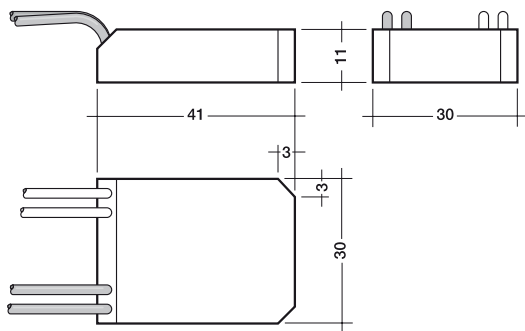
**Wiring:**

page 155 figure 02

type			x-touchPANEL
article number			24138990
supply	external power supply necessary, in package included	V DC	24 / 48 (10 VA max. according with IEEE 802.3af)
screen	–	–	touchpanel (5.7" / 320 x 240 pixel / 256 colours)
output	–	–	two DALI lines
interface	–	–	Ethernet, IrDA
temperature	ambient temperature ta	°C	0 → +50
weight	–	kg	0.92
dimensions (L x W x H)	–	mm	200 x 150 x 20
fixing centres (D)	–	mm	155

See also page 199: e-touchPANEL, the equivalent for the x-touchPANEL – Lighting management for emergency lighting installation

**DALI DSI**  
**Converter for converting DALI signals into DSI signals**



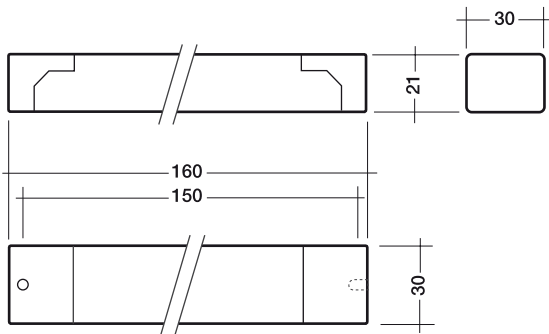
The DALI DSI converter converts DALI commands into DSI signals so that DSI-based units such as PCA ECO ballasts and PCD phase dimmers can be integrated in DALI lighting management systems.

**Packaging:**  
 single pack  
 1 piece

**Wiring:**  
 page 153 figure L

type			DALI DSI
article number			24034689
supply	–	–	via DALI signal line
current	–	mA	16
input	–	–	DALI signal
output	digital DSI control signal	–	1
	no. of ballasts	PCA/TE one4all/PCD	5
addresses	groups	–	1-16
temperature	permitted ambient temperature	°C	0 → +50

**DALI DSI II**  
**Converter for converting DALI signals into DSI signals**



The DALI DSI II converter converts DALI commands into DSI signals so that DSI-based units such as PCA ECO ballasts and PCD phase dimmers can be integrated in DALI lighting management systems.

Thanks to its integrated power supply (120-277 V) a total of up to 50 DSI units can be controlled with one DALI-DSI II.

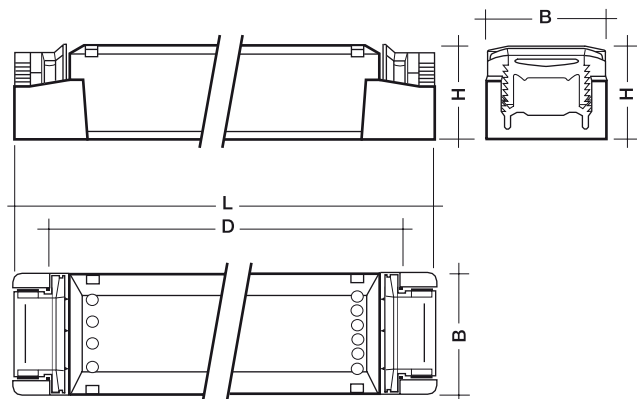
**Packaging:**  
 single pack  
 box of 10

Thanks to the simple operation and installation concept of DALI DSI II, DALI systems can be put into operation without the need for programming. Two group addresses are simply assigned to the two output channels via a rotary selector switch. In combination with DALI GC or DALI SC modules there is then no need for complicated and costly addressing.

**Wiring:**  
 page 154 figure M

type			DALI-DSI II
article number			86457957
electrical supply	voltage	V	120-277
	frequency	Hz	50/60
	max. load	VA	< 1
input	DALI (physical)	-	1
	DALI (logical, addressable)	-	2
	signal	-	digital/serial 2
	voltage	V	typ. 16 V (9.5-22.5 V)
	data rate	Bd	2,400
	max. current consumption	mA	2
	electrical insulation	-	yes
	addresses	-	2
	output	DSI control signal – digital signal	-
signal		-	digital/serial
voltage		V	12 ±10 %
data rate		Bd	1,200
max. number of		e.g. PCA ECO	25
max. cable length		m	250
temperature	permitted ambient temperature	°C	-25 → +60

**DALI 3-RM-C**  
**DALI control module for three relays**



The DALI 3-RM-C relay module controller enables up to three standard 24 V DC contactors to be controlled.

**Designed according to:**  
 EN 55015  
 EN 61000-3-2  
 EN 61547  
 EN 61558-2-17

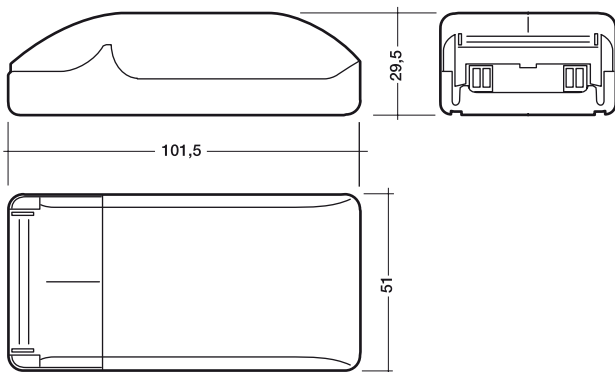
**Packaging:**  
 single pack  
 box of 10

**Wiring:**  
 page 154 figure N

type			DALI-3-RM-C
article number			86458247
supply	primary voltage range	V AC	198-254
	primary voltage range	V DC	200-240 (160 ①)
	input current at 230 V 50 Hz	A	0.13
	frequency	Hz	0/50/60
input	–	–	DALI signal
	current	mA	2
	DALI short addresses	–	3
output	secondary voltage	V DC	24
	output power	W	25
temperature	ambient temperature $t_a$	°C	-25 → +45
	max. case temperature $t_c$	°C	70
weight	–	kg	0.15
dimensions (L x W x H)	–	mm	167 x 42 x 31
fixing centres (D)	–	mm	143-148

① After switch-on at higher voltage, device functions up to this input voltage.

**DALI-PCD 300 one4all**  
**Leading-edge and trailing-edge phase dimmers**  
**with automatic load detection**



In the case of digital DALI-PCD 300 one4all leading-edge and trailing-edge phase dimmers, equipment such as electronic or magnetic transformers for low-voltage tungsten-halogen lamps or incandescent lamps can be controlled via switches (switch**DIM**) or DALI/DSI signals. The total connected load is between 30 VA and 300 VA.

**Approvals:**

- EN 61547
- EN 61347-2-11
- EN 60669-2-1
- EN 55015
- EN 55022
- EN 61000-3-2

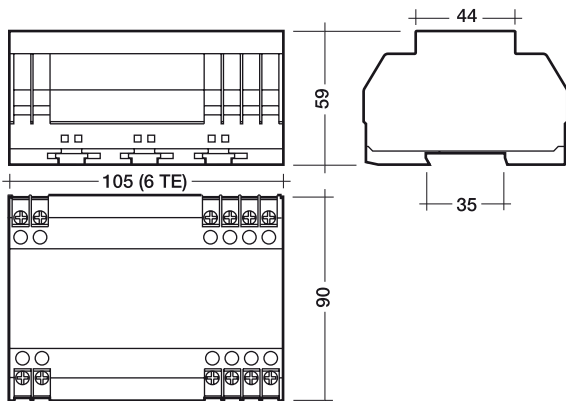
**Wiring:**

page 158 figure R3

type			DALI-PCD 300 one4all
article number			86458303 – TRI
electrical supply	nominal voltage	V AC	220-240
	permitted input voltage	V AC	198-264
	frequency	Hz	50/60
	connected load	VA	30-300
	losspower	W	0.75 (1.8 W at full load)
input	DALI/DSI control input and switch <b>DIM</b>		–
output	dimmed phase	–	1
	control range DSI	%	0; 1-100
	control range DALI	%	0; 0.1-100
mechanical details	dimensions (L x W x H)	mm	101.5 x 51 x 29.5
	terminals	mm <sup>2</sup>	0.5-1.5
	installation	–	any
	housing material	–	flame-resistant polycarbonate; halogen-free
	weight	g	approx. 85
temperature	permitted ambient temperature		°C
protection type			IP 20
status LED for indication of operating state	normal operation:	LED not lit	
	overload:	LED flashes, 1 Hz (1 s)	
	short-circuit:	LED flashes, 5 Hz (5 s)	
	sustained short-circuit/overtemperature:	LED is lit	

**DALI-PCD/S**

**Leading-edge and trailing-edge phase dimmers with automatic load detection**



In the case of digital DALI-PCD/S leading-edge and trailing-edge phase dimmers for installation in switching cabinets, equipment such as electronic or magnetic transformers for low-voltage tungsten-halogen lamps or incandescent lamps can be controlled via switches (switch **DIM**) or DALI/DSI signals. The total connected load is between 40 VA and 1,000 VA.

DALI-PCD/S also enables any light value to be stored and retrieved (preset function).

**Packaging:**

single pack  
1 piece

**Wiring:**

page 157 figure R1, R2

type			DALI-PCD/S
article number			22154332
electrical supply	nominal voltage	V AC	220-240
	permitted input voltage	V AC	207-264
	frequency	Hz	50/60
	connected load	VA	40-1,000
	loss power	W	2 (15 W at full load)
input	momentary switch input for calling up preset	–	1
	single or double momentary switch	–	1
	DALI/DSI control input	–	1
output	dimmed phase	–	1
	control range	%	0; 1-100
mechanical details	dimensions (L x W x H)	mm	105 x 90 x 59 (6 TE à 17.5 mm)
	terminals	mm <sup>2</sup>	0.75-2.5
	installation (horizontally in switch cabinet)	–	on 35 mm rail according to EN 50022
	housing material	–	flame-resistant polycarbonate; halogen-free
	weight	g	approx. 400
temperature	permitted ambient temperature	°C	0 → +40
protection type			IP 20
other	status LED for indication of operating state 5A T microfuse		

# winDIM@net – lighting management with added value

winDIM@net from TridonicAtco is a software-based lighting management solution with DALI functionality that provides an excellent platform for intelligent, cost-effective and user-friendly control of complex wide-ranging lighting systems. This is due to the intelligent link between DALI and information technology via appropriate gateways. There is also the option of integrating in higher-ranking control systems, such as building management systems. This results in far-reaching user benefits in terms of central supervision, extensive monitoring and a uniform operating concept for the different automated systems in the building.

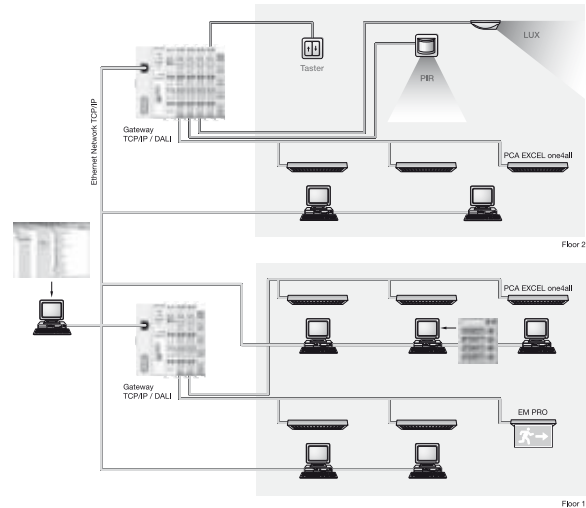


The innovative concept of winDIM@net needs only a few basic components, namely individually addressable equipment with one4all interfaces such as digital dimmable PCA EXCEL one4all ballasts, and the existing PC infrastructure. Tried and tested DALI technology can be linked to TCP/IP protocols via a TCP/IP DALI gateway – a proDIM hardware component – for even greater added value.

## Perfect functionality

Lighting management with winDIM@net is already prepared for the future. System expansion options enable integration in a building management system. The OPC interface provides the basis for a uniform operating concept for the different automated systems in a building because the OPC server enables each higher-ranking control system in the automation pyramid to use the entire functionality of winDIM@net.

In addition to user-friendly operation on a PC, further components such as pushbuttons and switches, presence detectors and daylight sensors can be integrated. winDIM@net also supports a link with security lighting systems, based on the DALI-compatible individually addressable EM PRO emergency lighting units.



## The building as a whole

The intelligent winDIM@net lighting management system from TridonicAtco also guarantees transparency and energy efficiency in any lighting system. Central monitoring by winDIM@net is particularly useful for very large building complexes or buildings with luminaires that are difficult to access. The facility manager can retrieve all the status information from the control gear, such as lamp failures, current dimming values and failure of hardware components.



Central monitoring gives operators the ability to identify and exploit potential energy savings in a lighting system. winDIM@net has an intelligent energy analysis function with a data export option.

## proDIM – intelligent winDIM@net system components

The task of managing the lighting system is performed by the winDIM@net software which offers intelligent cost-effective control of complex and extensive DALI-based lighting systems. The individual concept offers different control options (central and local) and a series of analysis functions.

Up to ten DALI lines can be controlled from within the IT world via the modular gateway from TCP/IP to DALI, comprising several proDIM hardware components. These include the proDIM BC9000 interface module, the proDIM KL6811 DALI control module and the proDIM KL9010 terminal. Power is supplied by the proDIM ML30.100 module with an input voltage range of 100 V to 240 V AC. proDIM KL1702 modules for switches or presence detectors and proDIM KL3454 for daylight sensors expand the system.

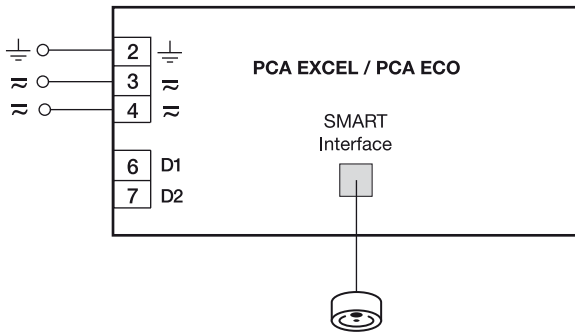


TridonicAtco offers a wide range of individually addressable equipment with one4all interfaces covering all the standard light sources on the market. Digital dimmable PCA EXCEL one4all ballasts for operating T5, T8 and compact fluorescent lamps are available for example for the 220 V - 240 V and 120 V - 277 V voltage ranges and can enhance many DALI application with their innovative properties.

EM PRO emergency lighting units with intelligent DALI interfaces provide the basis for pioneering safety lighting in a winDIM@net lighting management solution. They offer central supervision options (open-loop control, closed-loop control, monitoring and evaluation) thanks to their individual addressing capability. This means that all the status information can be retrieved from the EM PRO units and lamp, equipment and battery faults can be signalled. In addition, all the emergency lighting tests prescribed in the relevant standards are automatically performed and logged. These include the function check, the annual service life test and the commissioning check after installation in accordance with the self-test standard as per IEC 62034.



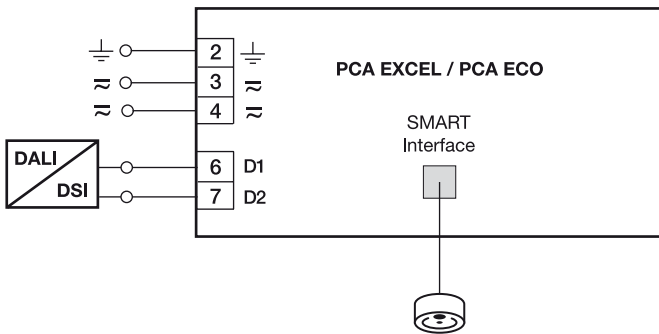
A1) SMART-LS II / SMART-LS II Ip – maintained illuminance



Switch ON/OFF via mains voltage. Soft start of PCA EXCEL / PCA ECO, this is followed by automatic adjustment to the constant light value selected on the sensor.

description	art.no.	no. ballasts PCA EXCEL/ECO	max. lead length cm	suitable for
SMART-LS II	86448347	1	50	PCA EXCEL / PCA ECO
SMART-LS II Ip	86458258	1	50	PCA EXCEL Ip / PCA ECO Ip

A2) SMART-LS II / SMART-LS II Ip – maintained illuminance

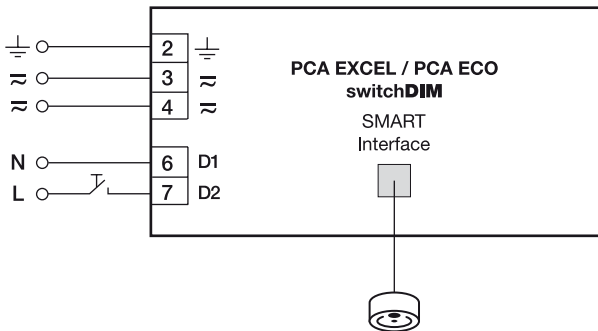


Switch ON/OFF via digital DSI signal. DSI signal=0 zero-power switch OFF, DSI signals >=1 switch ON. This makes integration of SMART-LS or SMART-LS II Ip-controlled luminaires possible in DSI-controlled systems (dimming commands are not executed).

Zero-power switch ON/OFF via digital DSI signal. Central modification of light control value is possible through various DALI commands. This enables integration of SMART-LS or SMART-LS II Ip-controlled luminaires in DALI-controlled systems.

description	art.no.	no. ballasts PCA EXCEL/ECO	max. lead length cm	suitable for
SMART-LS II	86448347	1	50	PCA EXCEL / PCA ECO
SMART-LS II Ip	86458258	1	50	PCA EXCEL Ip / PCA ECO Ip

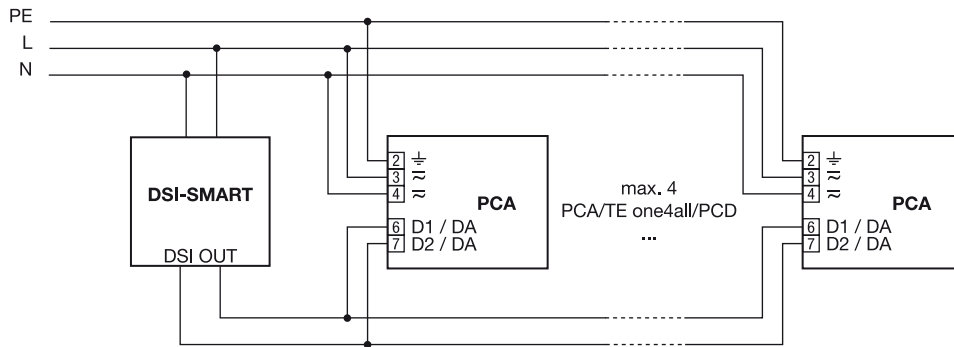
A3) SMART-LS II / SMART-LS II Ip – maintained illuminance



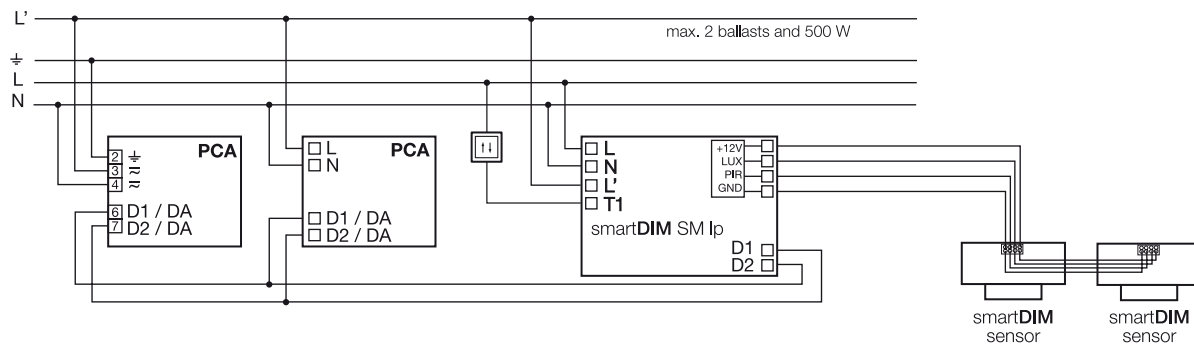
PCA EXCEL and PCA ECO with switchDIM function and SMART-LS can be switched ON/OFF by a brief key press. A long key press dims UP/DOWN and shifts the set value to which the SMART-LS constantly controls. After ON/OFF, the original value previously set on the SMART-LS is active again.

description	art.no.	no. ballasts PCA EXCEL/ECO	max. lead length cm	suitable for
SMART-LS II	86448347	1	50	PCA EXCEL / PCA ECO
SMART-LS II Ip	86458258	1	50	PCA EXCEL Ip / PCA ECO Ip

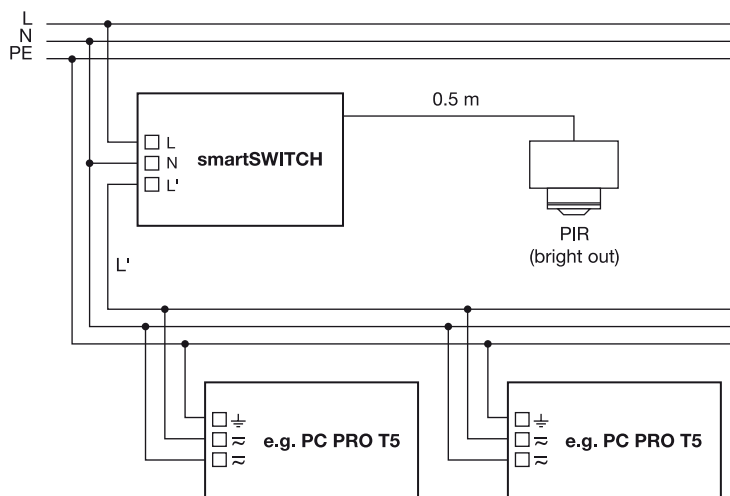
B) DSI-SMART



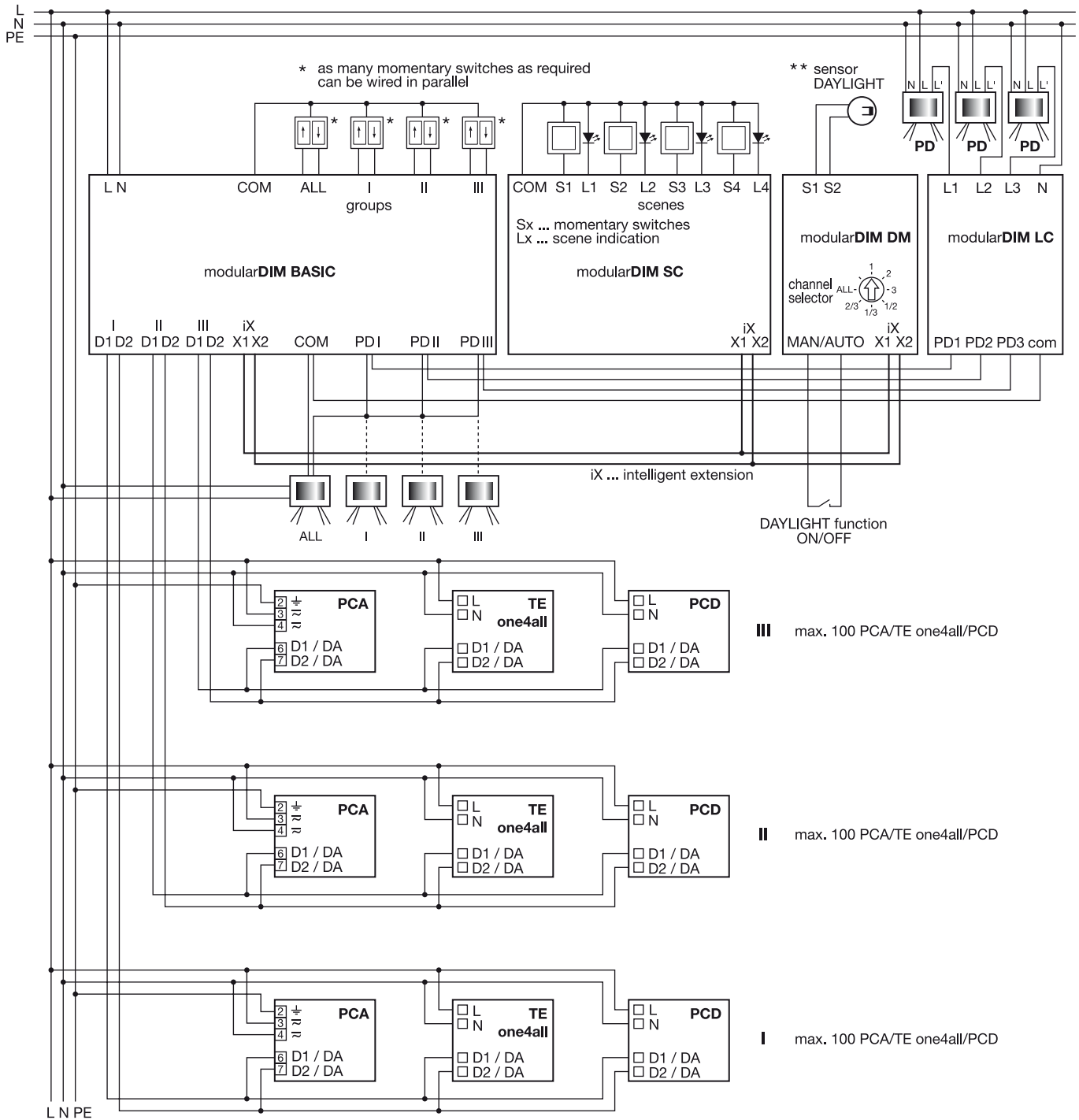
C) smartDIM SM Ip



D) smartSWITCH



E) modularDIM

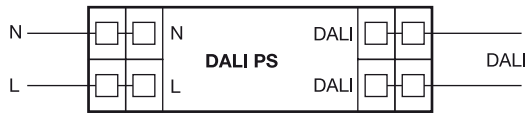


\*\* the light sensor "sensor DAYLIGHT" is to be installed with free view direction window (consider mounting instruction)

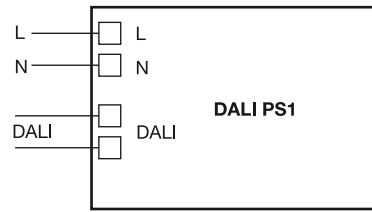
maximum wire lengths:

- DSI: max. 250 m
- momentary switch: max. 100 m
- scene indication: max. 100 m
- iX: max. 10 m
- sensor DAYLIGHT: max. 100 m
- DAYLIGHT function ON/OFF: max. 100 m

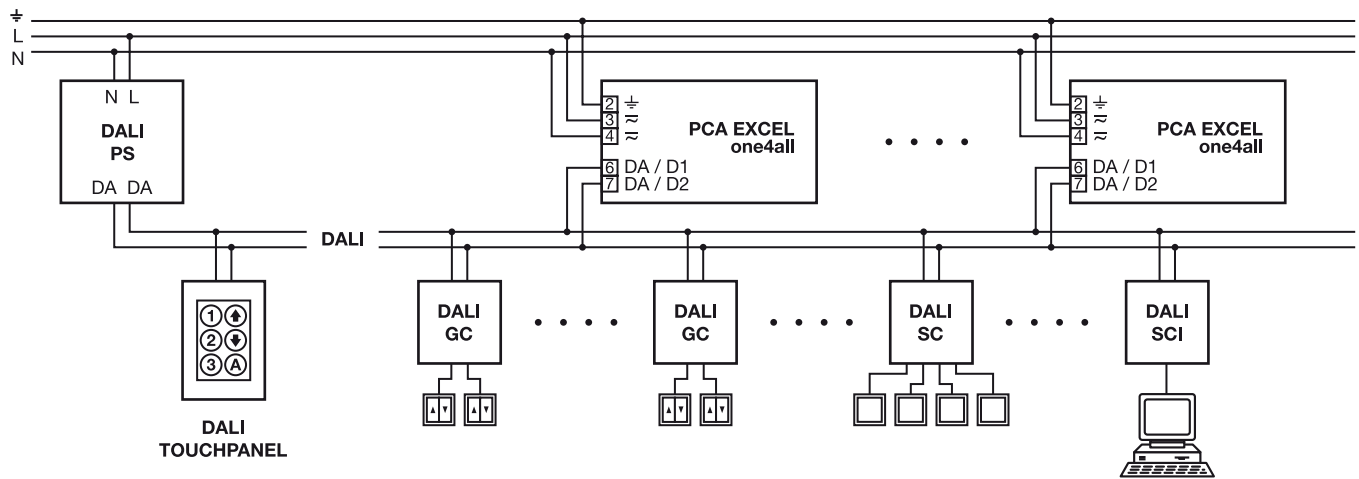
F1) DALI PS



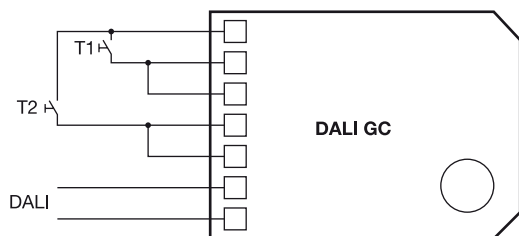
F2) DALI PS1



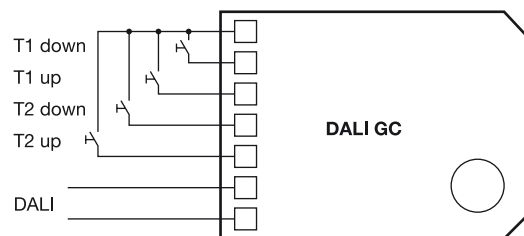
G) DALI modules in a network



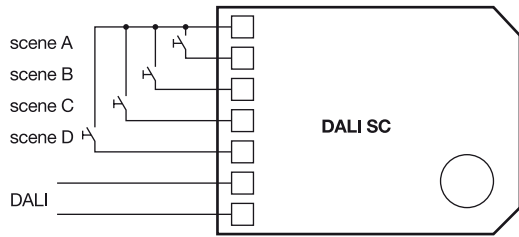
H1) DALI GC, single push to make switches



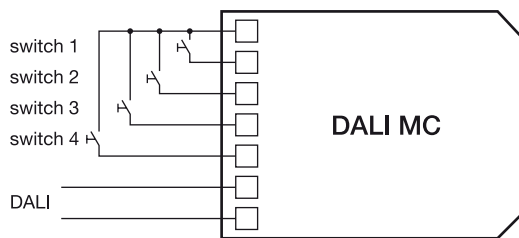
H2) DALI GC, double push to make switches



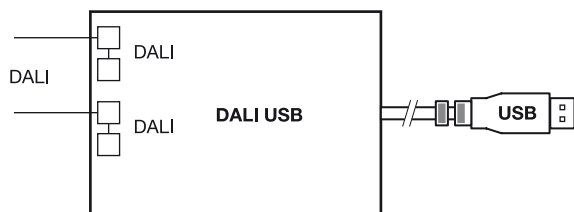
I1) DALI SC



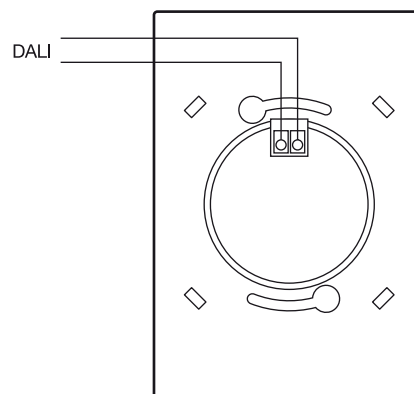
I2) DALI MC



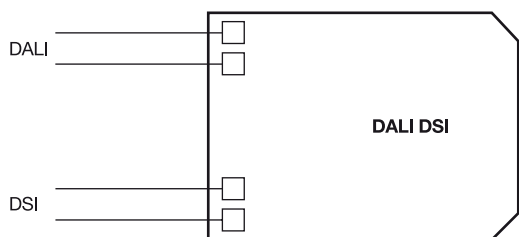
J) DALI USB



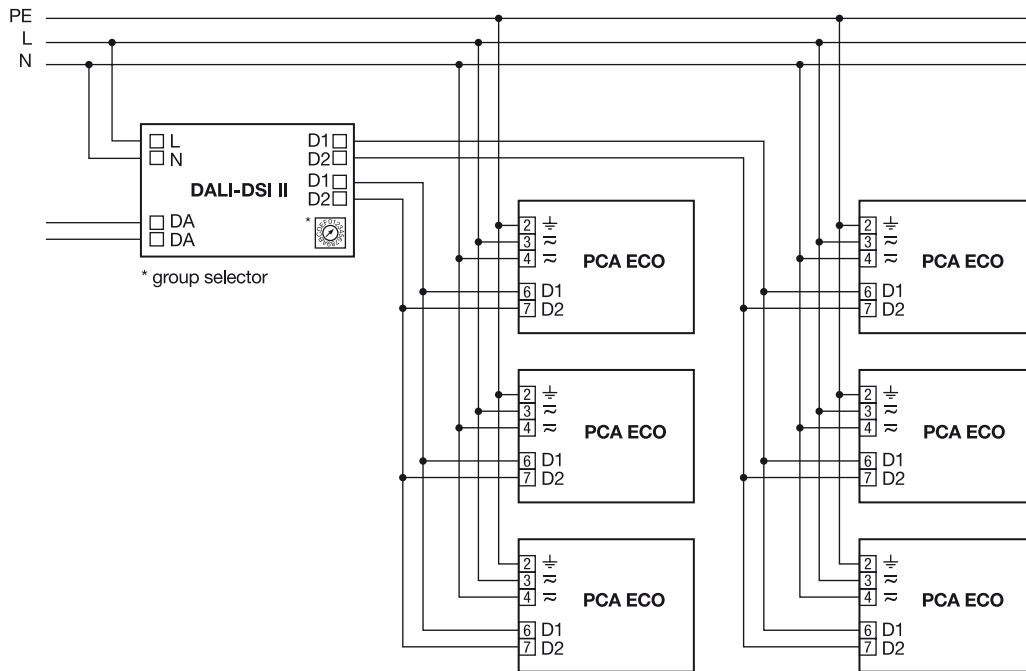
K) DALI TOUCHPANEL



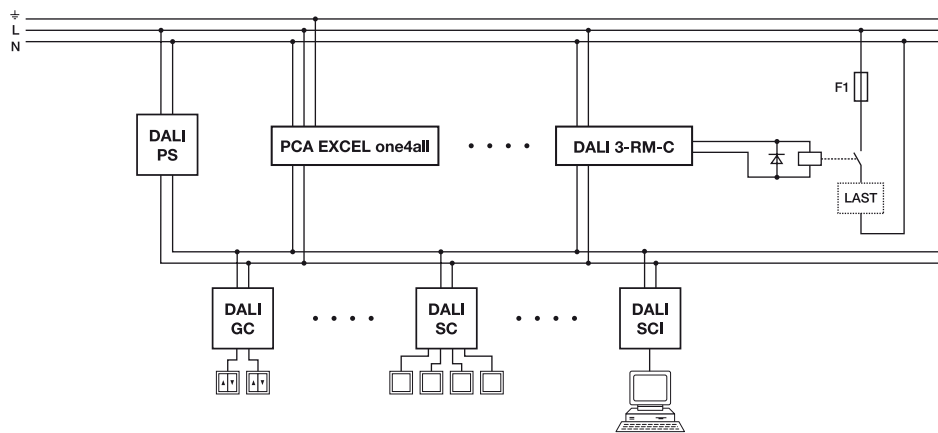
L) DALI DSI



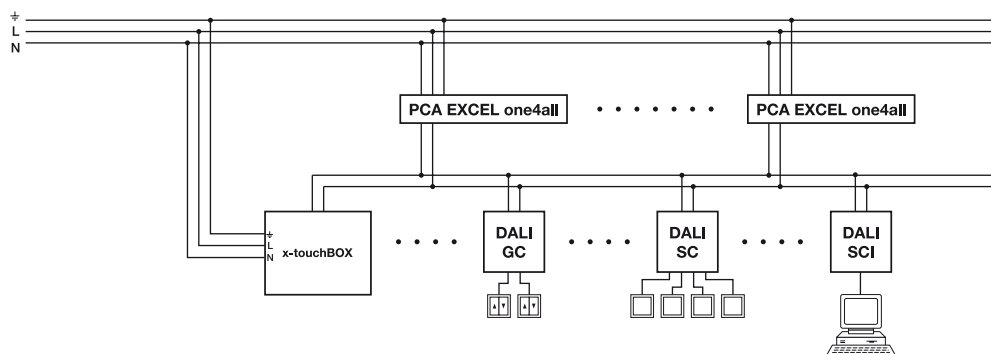
M) DALI DSI II



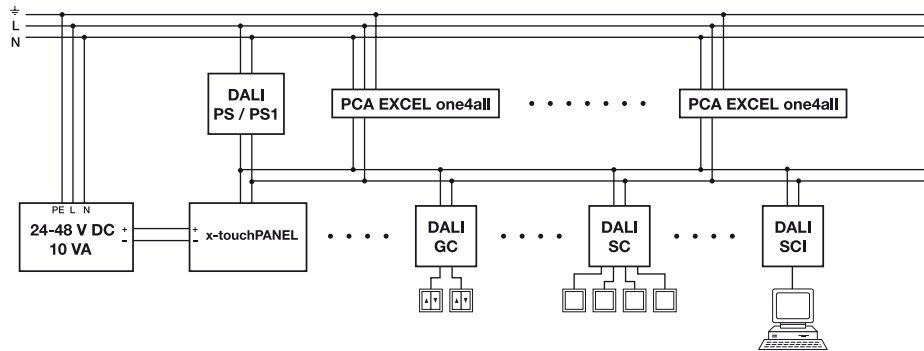
N) DALI 3-RM-C



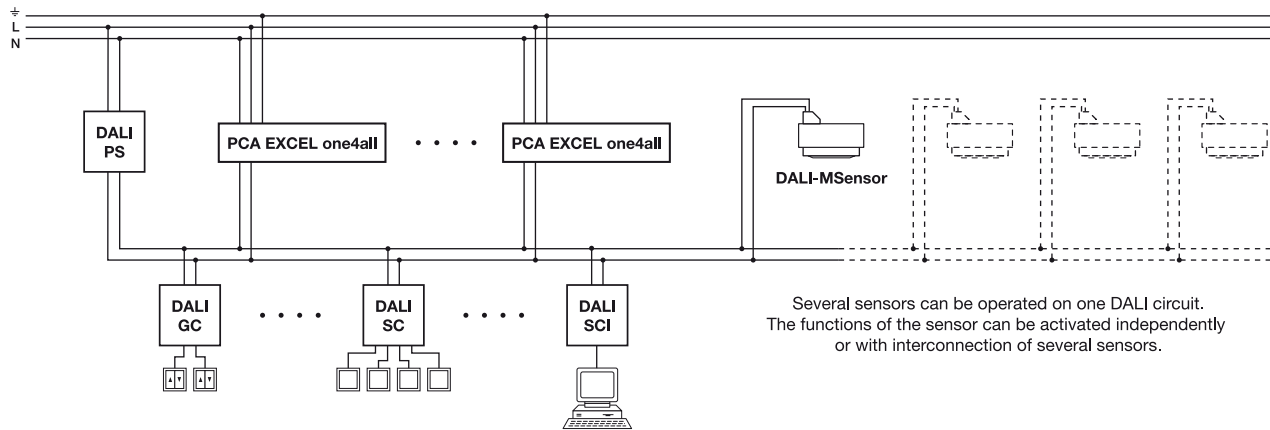
01) x-touchBOX



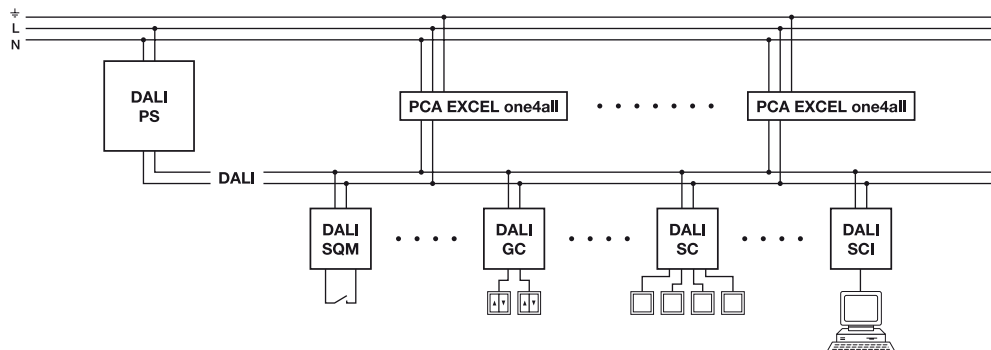
02) x-touchPANEL



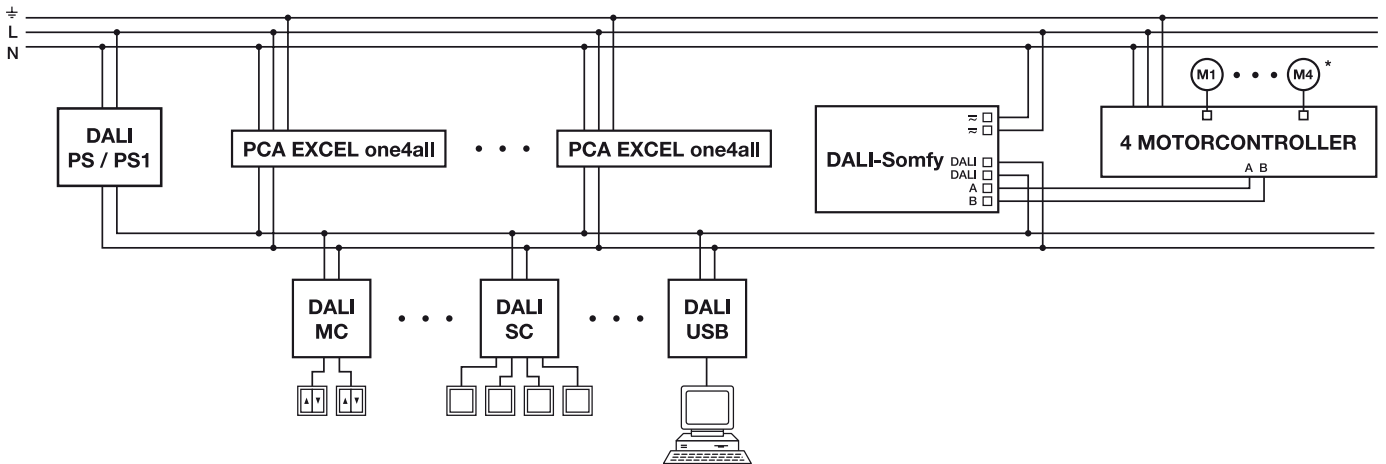
P) DALI-MSensor



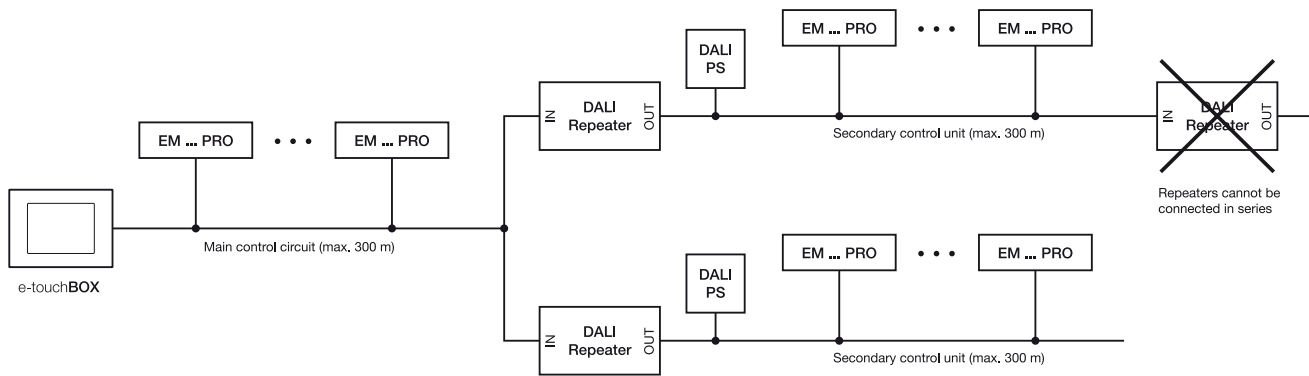
Q1) DALI SQM



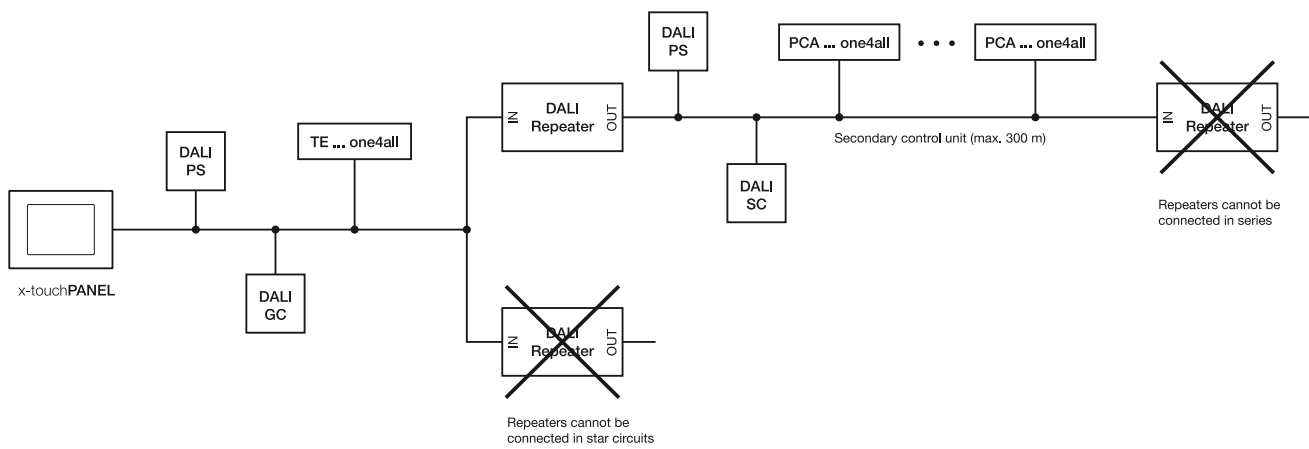
Q2) DALI-Somfy animec Interface



Q3) DALI Repeater – application with one controller

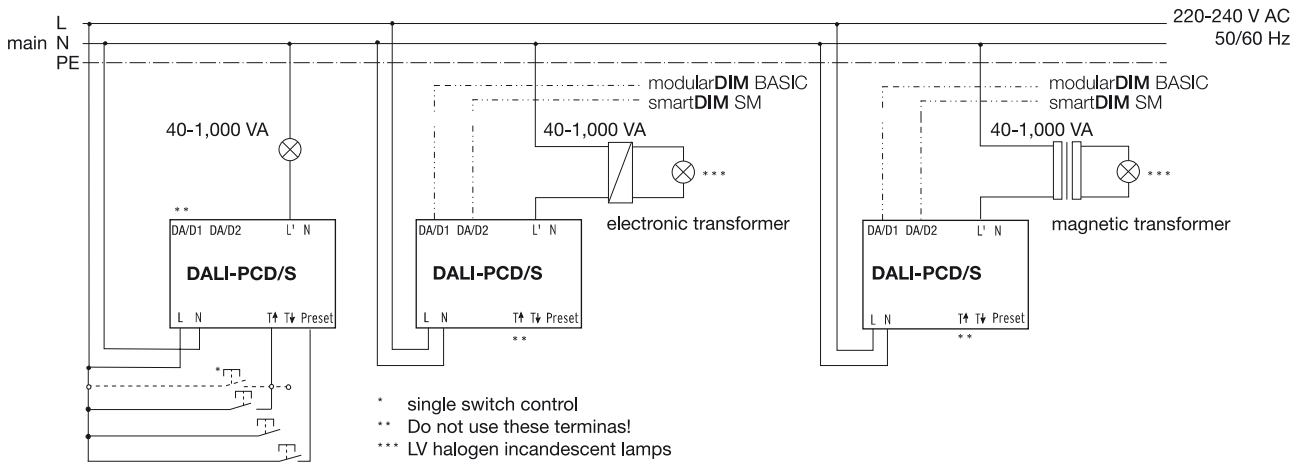


Q4) DALI Repeater – application with multiple controllers

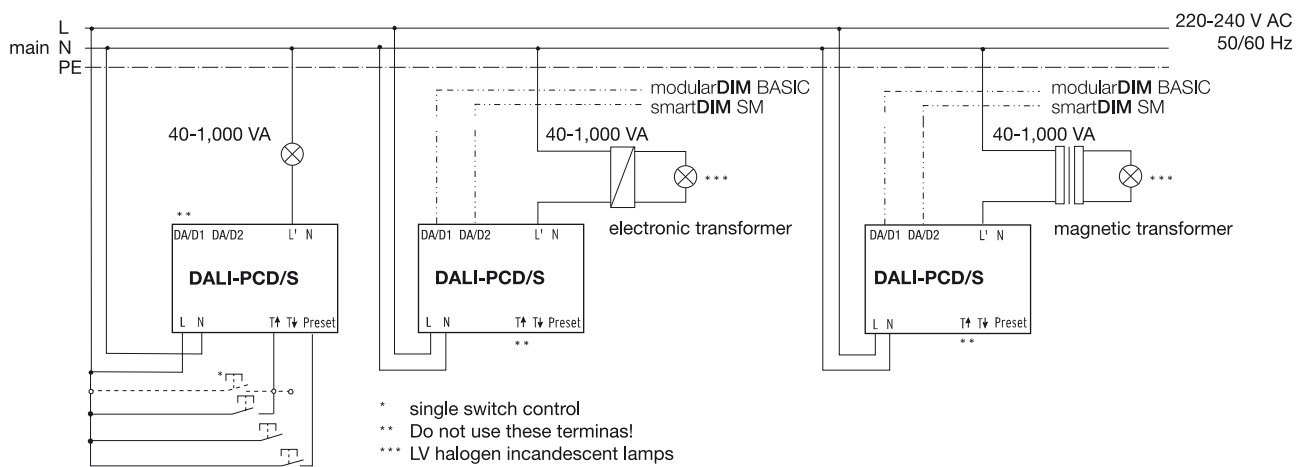




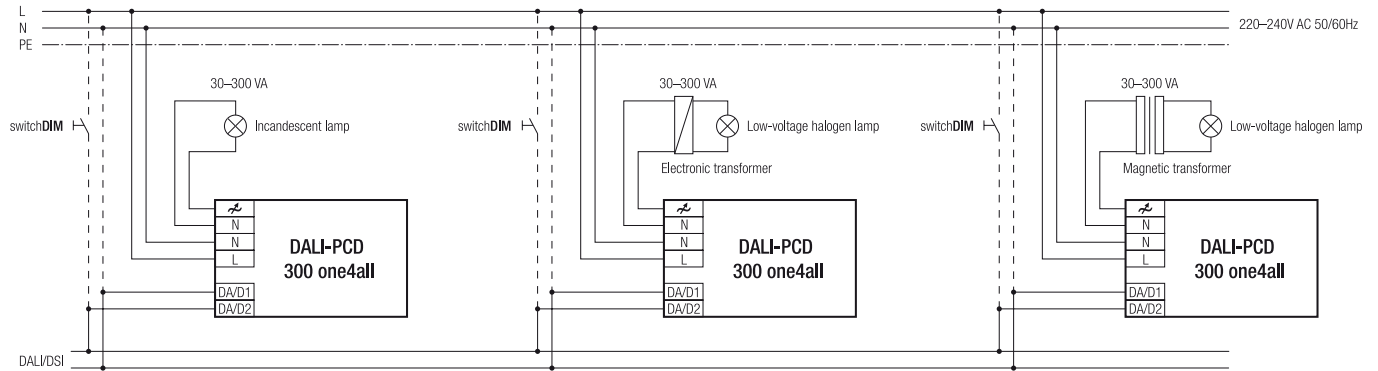
R1) DALI-PCD/S – circuit diagram 1



R2) DALI-PCD/S – circuit diagram 2

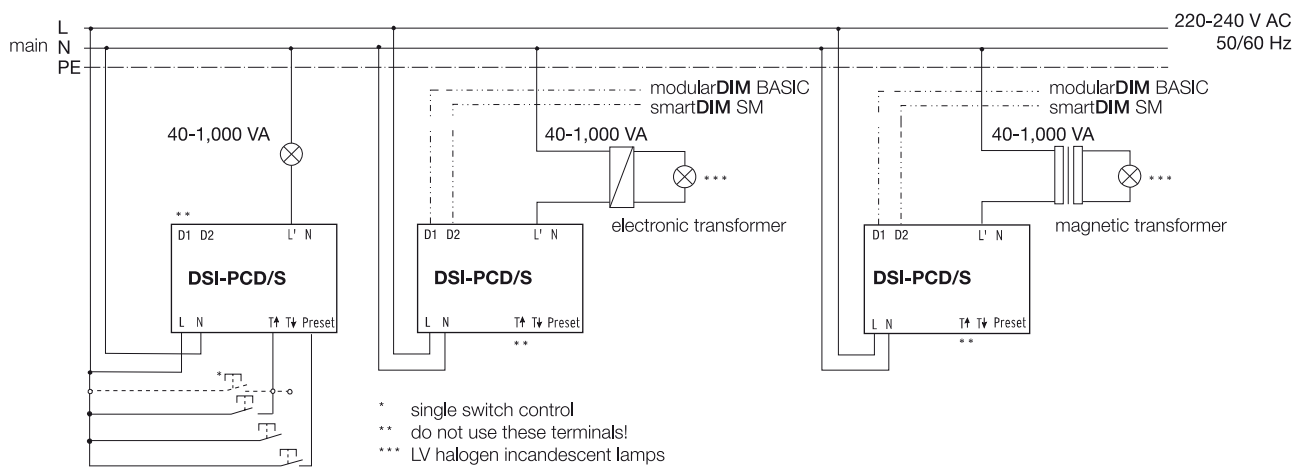


R3) DALI PCD 300 one4all

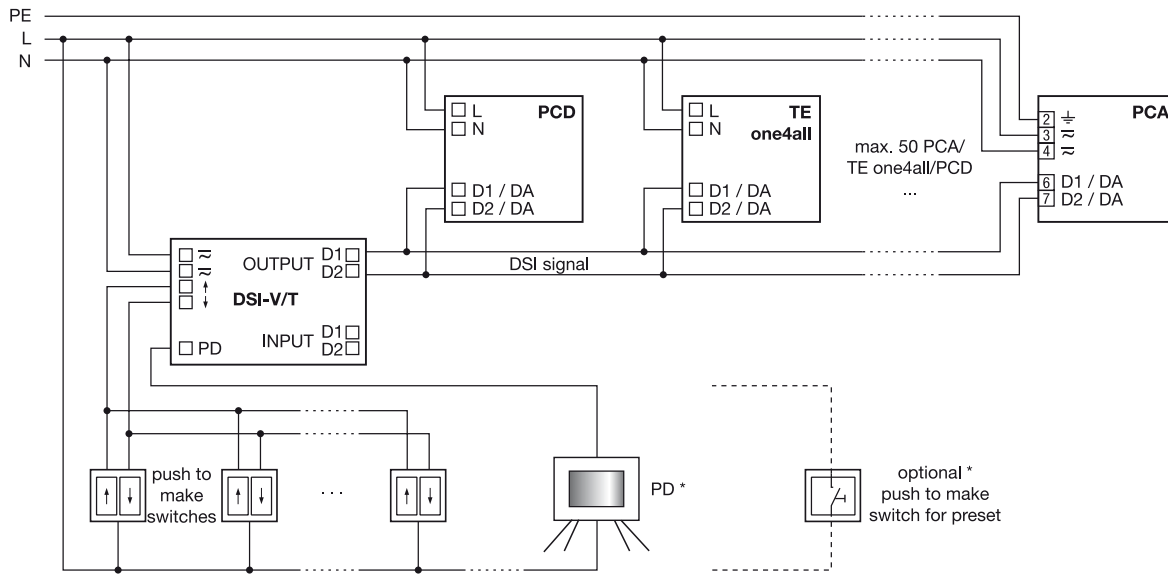


Mixed loads (capacitive, inductive and resistive) can be used.

R4) DSI-PCD/S

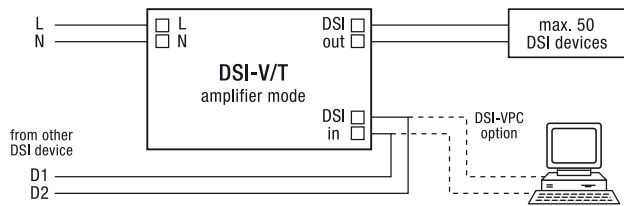


S1) DSI-V/T (function DSI-T)

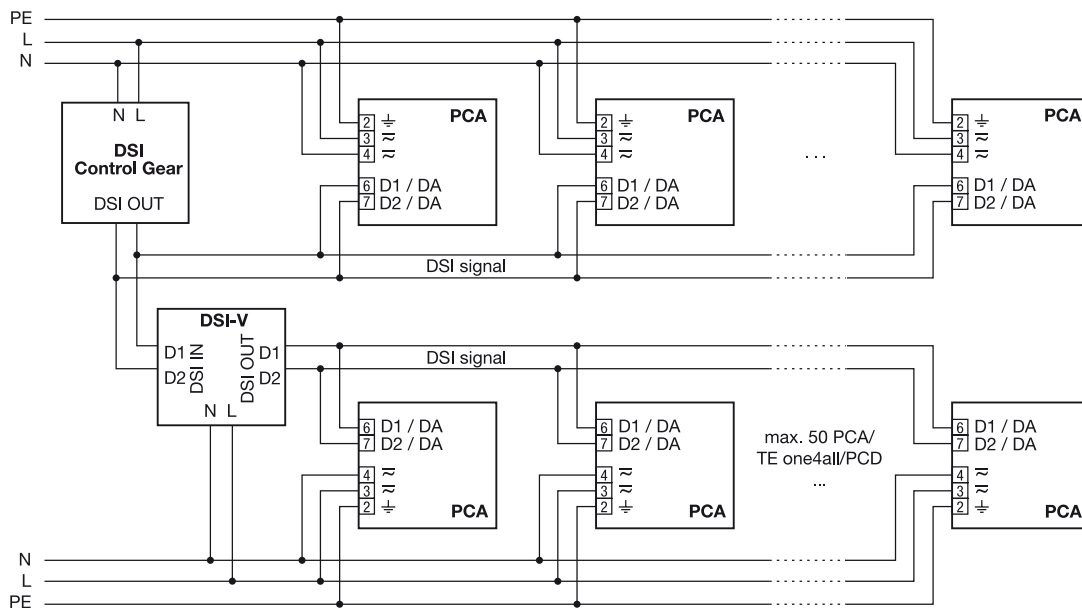


\* Either control via PD or scene control with push to make switches.

S2) DSI-V/T (function DSI-VPC)

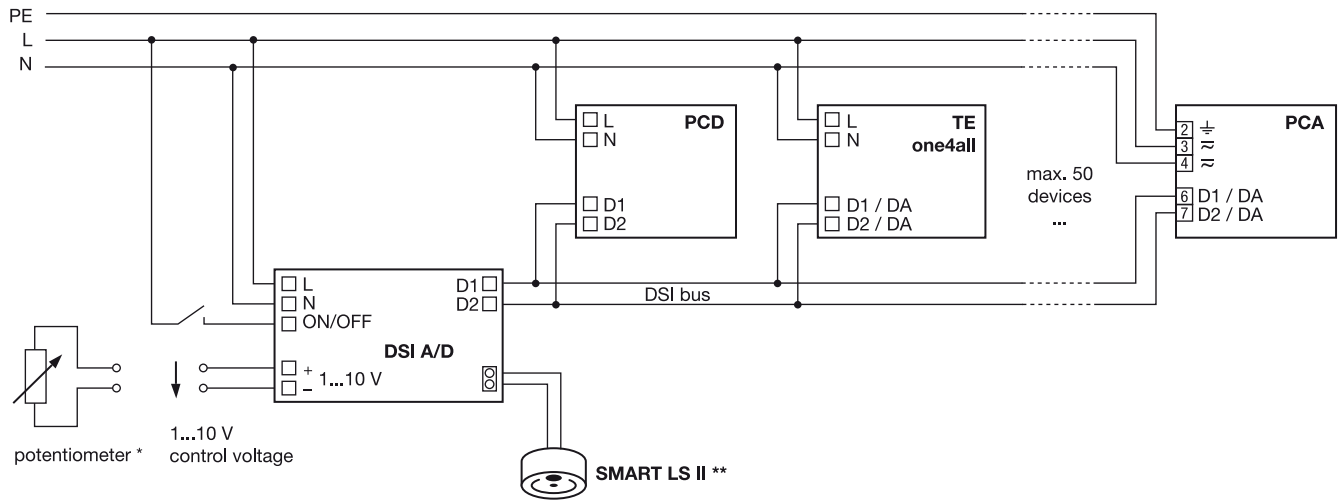


S3) DSI-V/T (function DSI-V)



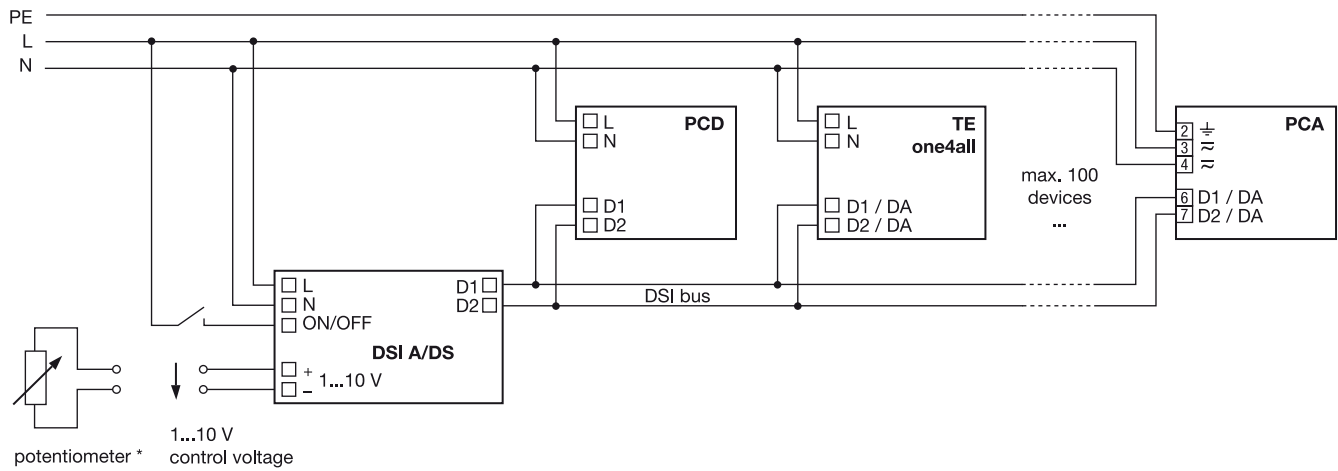
**Cable length:** Cable lengths of up to 500 m can be achieved by concatenating individual DSI-V/Ts. This maximum cable length can only be guaranteed in DSI-V mode if the DSI-V/T is operated as the only load, otherwise the maximum cable length is 250 m for a 1.5 mm<sup>2</sup> cable.

T1) DSI-A/D



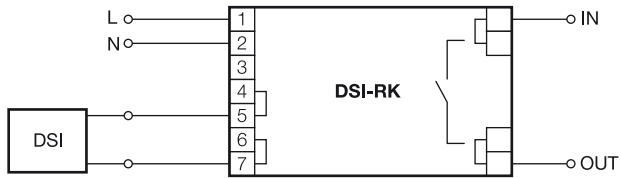
\* potentiometer with linear characteristic optimum 47 k $\Omega$  (47-100 k $\Omega$  possible), load  $\geq$  0.5 W  
 \*\* is a SMART LS II sensor connected, the 1...10 V function is disabled

T2) DSI-A/DS

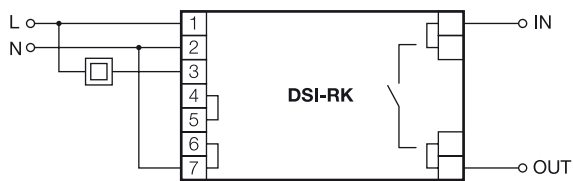


\* potentiometer with linear characteristic optimum 47 k $\Omega$  (47-100 k $\Omega$  possible), load  $\geq$  0.5 W

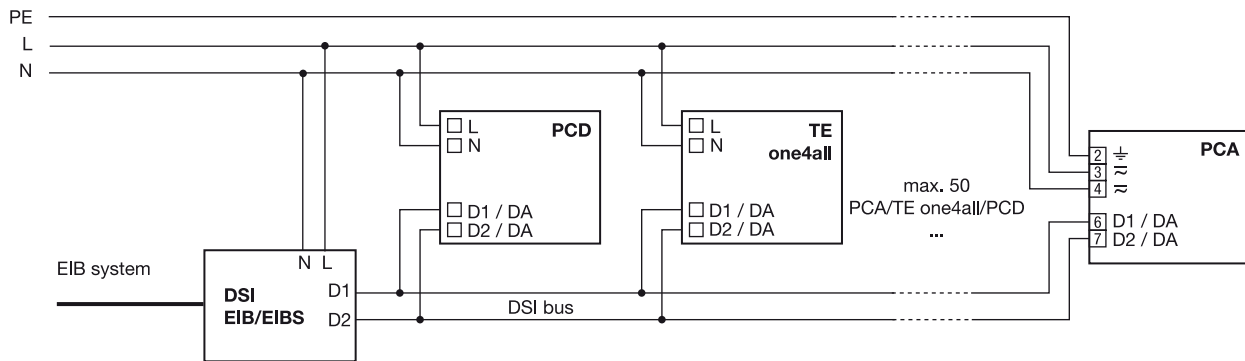
U1) DSI-RK (DSI)



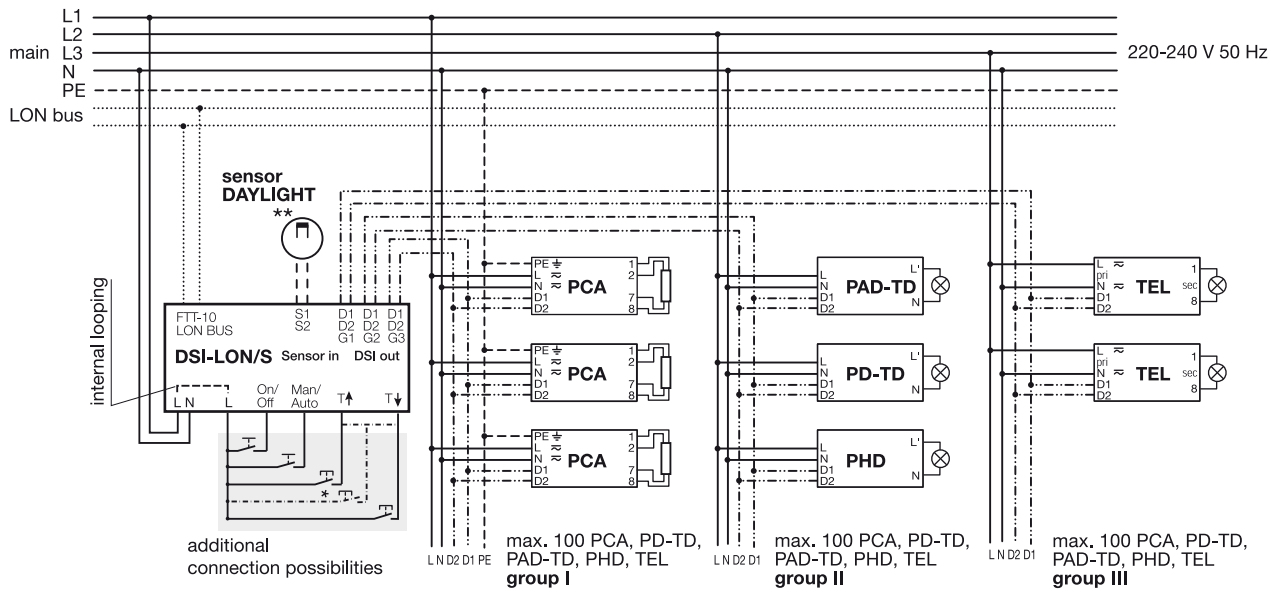
U2) DSI-RK (switchDIM)



V) DSI-EIB/EIBS

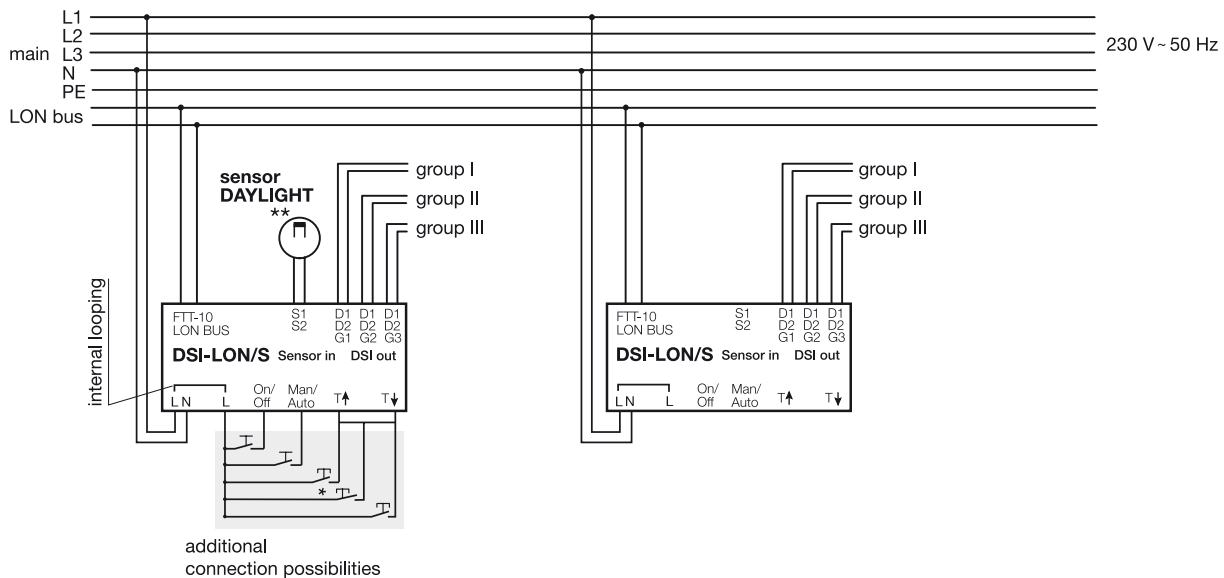


W1) DSI-LON/S



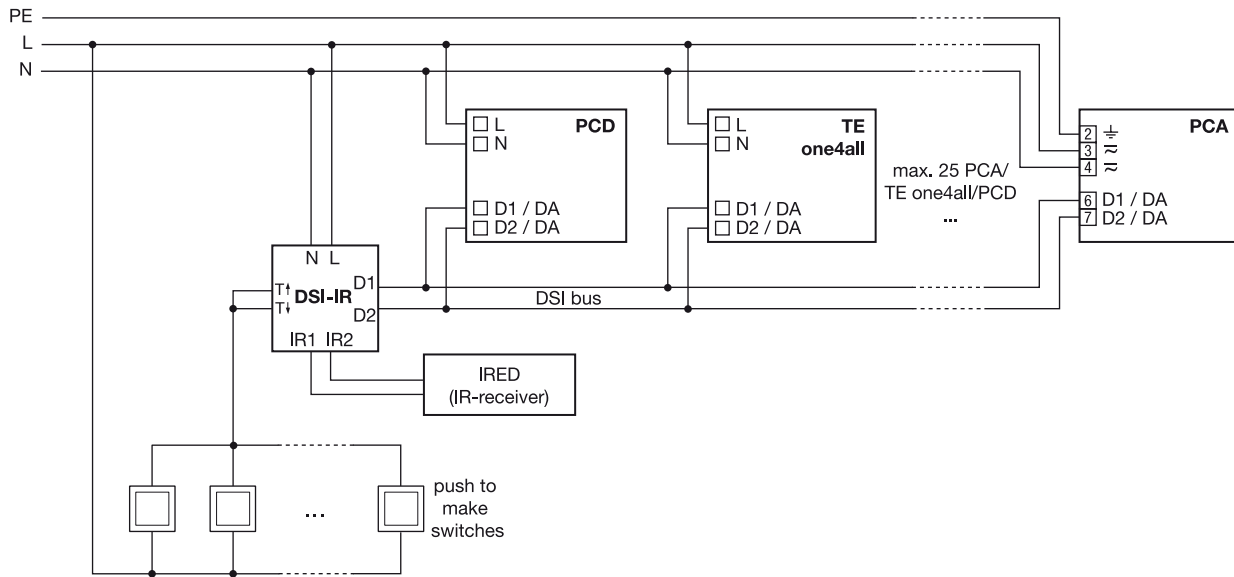
- \* wiring with single push to make switches
- \*\* **note: The sensor DAYLIGHT is to be installed with free view direction window. (consider mounting instruction!).**

W2) DSI-LON/S

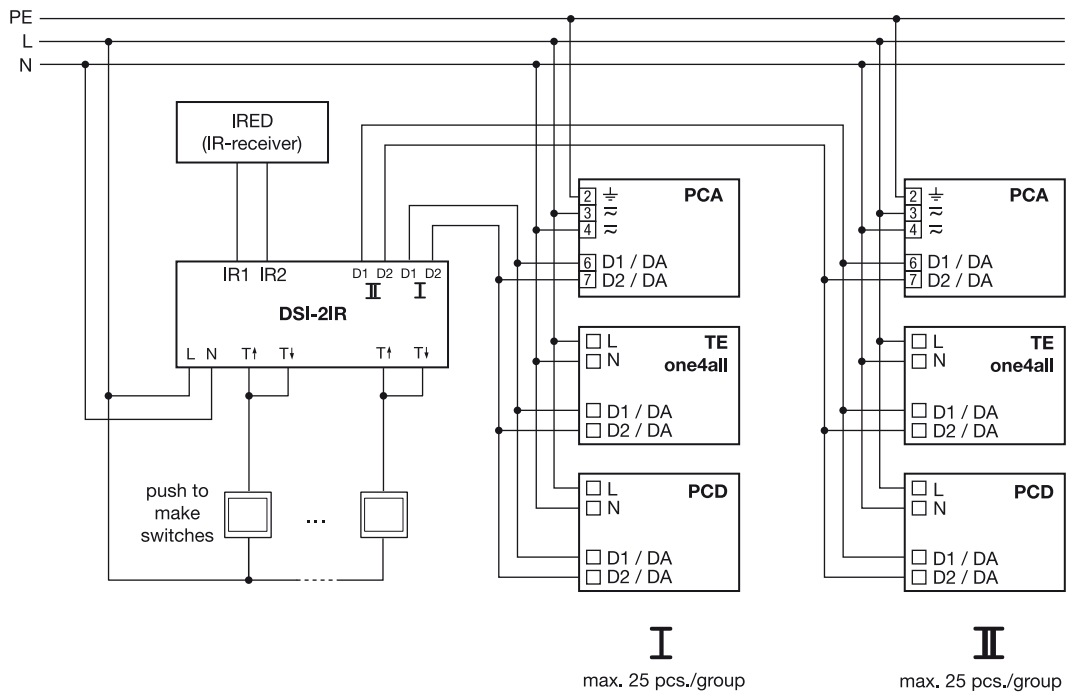


- \* wiring with single push to make switches
- \*\* **note: The sensor DAYLIGHT is to be installed with free view direction window. (consider mounting instruction!).**

X1) DSI-IR



X2) DSI-2IR







# Emergency lighting units for all needs

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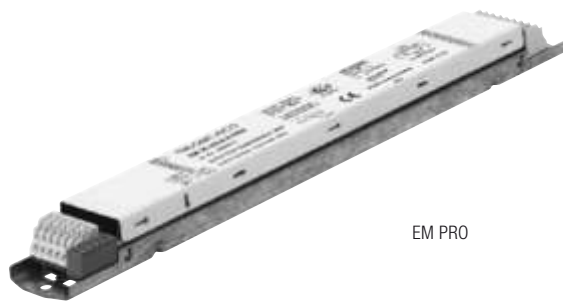
# Emergency lighting units for all needs



Emergency lighting systems are compulsory in many official buildings and in many workplaces so that in the unlikely event of a power failure people can find their way around safely. Safety

lights and escape route lights provide enough light to shut machinery down, use the escape routes and give quick access to fire extinguishers and other safety equipment. They prevent panic and save lives.

TridonicAtco offers a broad range of emergency lighting units for battery powered emergency lighting systems perfectly matched to the requirements of various country-specific standards – whatever the circumstances and whatever the types of lamp.



EM PRO

The range comprises EM BASIC, PC COMBO, EM SELFTEST, EM PRO and EM powerLED units, covering everything from the simple to the highly intelligent, and from low-cost units to high-end solutions. The integrated interface of the PC CFL COMBO-CONNECT, to which different intelligent expansion modules can be connected, offers the option of adding more intelligence in the single-component solution.

## Properties for greater safety

Electrode heating, "Boost Start" and an optimised ballast-lumen factor in the emergency lighting units from TridonicAtco ensure optimum lamp function in emergency lighting mode. In addition, five-pole technology ensures compatibility, safety and reliability. Four relay poles switch the lamp, the fifth relay pole guarantees delayed reconnection of the control gear to the mains power supply when this returns.

This means the units are compatible with digital dimmable and non-dimmable electronic control gear.

The units can be used in permanent or standby mode. In other words, the emergency lighting units together with the ECG or CCG are either responsible for normal operation of the lamp or – if directly connected – just emergency lighting operation. The relevant versions guarantee emergency lighting for 1 hour or 3 hours of rated output.

The intelligent multi-level charging system from TridonicAtco offers "gentle operation" on the EM SELFTEST, EM PRO and EM BASIC Ip emergency lighting units, thereby guaranteeing long life for both rechargeable nickel cadmium (NiCd) and nickel metal hydride (NiMH) batteries.

TridonicAtco expertise in emergency lighting is the perfect basis for intelligent solutions.

## Long equipment life

Thanks to their high-quality components, intelligent circuit design and extensive testing under rated conditions, emergency lighting units from TridonicAtco achieve an average life of 50,000 hours – with a probability of failure of less than 10 %; in other words, an average failure rate of 0.2 % per 1,000 hours of operation.

## Constant high quality

The consistently high quality and reliability of emergency lighting units from TridonicAtco are guaranteed by the use of high-grade materials together with manufacturing processes and equipment certified to ISO 9001 and multi-stage thermal function tests.

Fully automatic manufacture also ensures constant reproducible quality. All the units are subjected to 100 % final testing.

## Standards and approval marks

Emergency lighting units from TridonicAtco are ENEC certified, carry the CE mark and meet all the relevant European standards relating to safety, operation and electromagnetic compatibility (EMC).

## Cost-effective emergency lighting

The EM BASIC units have been designed for cost-effective emergency lighting systems in which all the testing and monitoring algorithms are to be performed manually. This simple solution covers the entire range of T5, T8 and compact fluorescent lamps.

The EM T5 BASIC emergency lighting unit share the same simple design. Thanks to its low-profile casing measuring just 21 mm high, it is ideal for use in small and stylish luminaires fitted with T5 lamps.

## Single-component solution

PC COMBO combines standard control gear and emergency lighting unit in one device. This greatly simplifies the wiring and installation of emergency luminaires. The one to four-lamp versions of PC COMBO for T8 and T5 fluorescent lamps provide a high degree of flexibility.

The PC CFL COMBO single-component solution is suitable for emergency lighting systems based on one or two-lamp luminaires fitted with compact fluorescent lamps.

In the PC CFL COMBO-CONNECT version it has an integrated interface to which different intelligent expansion modules can be connected. A PC CFL COMBO-CONNECT can thus be easily upgraded from a "normal" emergency lighting unit to a DALI-based emergency lighting unit or one with self-test functions.

## LED Emergency Lighting

The EM powerLED emergency lighting ballasts in conjunction with the latest generation of the powerLED EOS II are ideal for a large number of emergency lighting applications. They can be installed as a separate system or integrated in the luminaire.



## Simplified testing

The EM SELFTEST emergency lighting unit with its automatic testing algorithms offers intelligence in an extremely small format. At just 21 mm high, the unit is compatible with T5 control gear. The perfectly matched range of units is designed for tubular or compact fluorescent lamps from 4 W to 80 W.

In self-test mode the module uses a light emitting diode to signal its operating status. Green means that the emergency lighting system is operating correctly. A red flashing LED indicates faulty batteries and a permanent red light indicates a lamp fault.

The test functions supported by the EM SELFTEST emergency lighting unit are continual monitoring, a weekly function test and an annual service life test. In charging mode both the charging conditions and the static battery stats are monitored.

The EM SELFTEST emergency lighting unit includes functionality for monitoring the installation phase, i.e. a period of time with an uninterrupted power supply on more than five successive days. As soon as this requirement is met the module automatically starts the commissioning and testing program. EM SELFTEST therefore complies with the commissioning test after installation prescribed in accordance with the self-test standard as per IEC 62034. This degree of automation considerably reduces the time needed for commissioning and programming the test algorithms.

## Combination of emergency lighting and DALI Intelligent charging system

The special feature of EM PRO units from TridonicAtco is that they can be operated as individual systems or can be successfully integrated in DALI-based lighting systems. This means that the entire functionality of DALI systems can be accessed, including individual addressability.



e-touchBOX for controlling and monitoring up to 60 DALI emergency lighting units

Individually addressable emergency lighting units have a certain level of "intelligence". In these cases, the fault reporting function provides more information than simply that the lamp, control gear or battery is faulty. Detailed information on, say, the type of lamp or device status can be displayed either locally or centrally. This extensive functionality of EM PRO emergency lighting units, which also have the "capabilities" of the EM SELFTEST module, has benefits in terms of facility management, particularly for operating large lighting systems.

The intelligent multi-level charging system from TridonicAtco ensures that the charging behaviour is tailored to the particular battery type. As its name suggests, the multi-level charging system has three different charging cycles, namely initial charge, power charge mode and trickle charge mode.

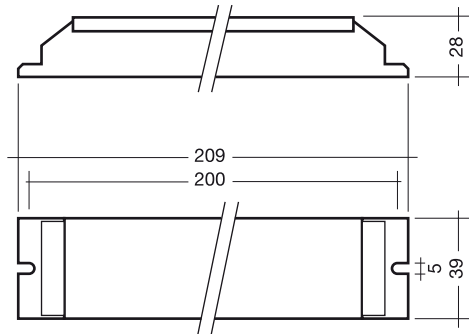
## Technical Information

The latest technical information can be downloaded from the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → Data sheets

## Personal enquiries

A form for personal enquiries is available on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Contact → Enquiry → Application Department contact form

EM BASIC 230–240 V 50/60 Hz



- 5 pole technology: 4 pole changeover and a delayed action relay for switching the mains supply to ensure compatibility with the ballast
- 3-hour or 1-hour operation
- AC output optimised for TC-DD and TC-L lamps
- DC output optimised for T8 lamps
- cathode heating optimised for compact lamps
- small size (28 x 39 mm cross section)
- change-over relay with high current contacts
- IDC terminals

- emergency testing by isolating only the unswitched supply
- optional test switch
- deep discharge protection
- reverse battery polarity protected
- high temperature NiCd cells

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
**EM BASIC**  
box of 25  
30 boxes/pallet  
750 pieces/pallet

**Accu-NiCd**  
box of 25

**LED green**  
25 pieces/bag  
box of 200

**Test switch**  
25 pieces/bag  
box of 200

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
in accordance  
with EN 60598-2-22  
EN 61000-3-2  
EN 61347-2-7  
EN 61547  
in accordance  
with EN 50172

EM BASIC – 3 h duration, NiCd 4.0 Ah D cells

type	article number	HT NiCd accu number of cells
EM 33A BASIC 230–240 V 50/60 Hz	89818556	3
EM 33B BASIC 230–240 V 50/60 Hz	89818655	3
EM 33C BASIC 230–240 V 50/60 Hz	89800000	3
EM 34A BASIC 230–240 V 50/60 Hz	89818557	4
EM 34B BASIC 230–240 V 50/60 Hz	89818662	4
EM 35A BASIC 230–240 V 50/60 Hz	89818581	5
EM 35B BASIC 230–240 V 50/60 Hz	89818667	5
EM 35C BASIC 230–240 V 50/60 Hz	89800001	5
EM 35D BASIC 230–240 V 50/60 Hz	89899621	5
EM 36A BASIC 230–240 V 50/60 Hz	89818654	6

EM BASIC – 1 h duration, NiCd 4.0 Ah D cells

type	article number	HT NiCd accu number of cells
EM 13B BASIC 230–240 V 50/60 Hz	89895971	3
EM 13E BASIC 230–240 V 50/60 Hz	89899864	3
EM 14B BASIC 230–240 V 50/60 Hz	89899611	4

NiCd 4.0 Ah D cells

type	article number	type of cells	number of cells
Accu-NiCd 3A	89895960	stick	1 x 3
Accu-NiCd 3B	89895976	side by side	3 x 1
Accu-NiCd 4A	89895961	stick	1 x 4
Accu-NiCd 4B	89895977	side by side	4 x 1
Accu-NiCd 4C	89895978	stick + stick	2 + 2
Accu-NiCd 5A	89895973	stick	1 x 5
Accu-NiCd 5B	89895962	stick + stick	2 + 3
Accu-NiCd 6A	89895963	stick + stick	3 + 3

Technical accu information see page 200/201.

**Test switch**

An optional test switch can be wired to the EM BASIC.  
This can be used to check local operation of the luminaire.

type	article number
Test switch EM 2	89805277

**Status indication**

A green LED indicates that charging current  
is flowing into the battery.

type	article number
LED EM green	89899605
LED EM green, high brightness	89899756

Technical data EM BASIC	3 h	1 h
rated mains supply voltage	230-240 V	230-240 V
mains frequency	50/60 Hz	50/60 Hz
mains supply current	0.04 A	0.04 A
mains supply power	9.0 W	9.0 W
recharge period	24 h	24 h
discharge current	1.1 A	2.25 A
charge current NiCd	210 mA	210 mA
earth leakage current	< 0.5 mA	< 0.5 mA
ambient temperature range	0 °C → +50 °C	0 °C → +50 °C
max. case temperature tc	75 °C	75 °C
mains change over voltage	in accordance with EN 60598-2-22	in accordance with EN 60598-2-22
min. lamp starting temperature (emergency operation)	0 °C	0 °C
ingress protection	IP 20	IP 20
safety class	1	1

### Emergency light output factors (BLF) in %

Accu	3 h									
	3 cells			4 cells		5 cells				6 cells
Type	EM 33A BASIC	EM 33B BASIC	EM 33C BASIC	EM 34A BASIC	EM 34B BASIC	EM 35A BASIC	EM 35B BASIC	EM 35C BASIC	EM 35D BASIC	EM 36A BASIC
TC-DD	10	27		30		39				46
	16	24		24		31				37
	21			20		25				30
	28			19		21				25
	38					15				18
	55									
TC-SEL	5		20							
	7		14							
	9		11							
	11		16							
TC-DEL	10		13							
	13		16							
	18							12		
	26							15		
TC-TEL	13		10							
	18									
	26									
	32									
	42								7	
									5	
TC-L	18	18		18		19				22
	24			17		20				24
	34				9 ②	19				22
	36				9 ②	20				24
	40				8 ②		10 ②			8 ①
	55				5 ②		6 ②			6 ①
T5	4	25		30		37				44
	6	26		32		40				48
	8	27		32		40				48
	13	25		30		37				44
	14	16		21		32				
	21			21 ①		21 ①				
	24					19				
	28						14 ② ③			
T8	18	10			12	18	13			
	30	9			13	18	14			
	36	8			10	16	10			
	58				7	7	7			
							7			
	70						7			

Accu	1 h		
	3 cells	3 cells	4 cells
Type	EM 13B BASIC	EM 13E BASIC	EM 14B BASIC
T8	22		25
	16		19
		10	14

① 2 hours only

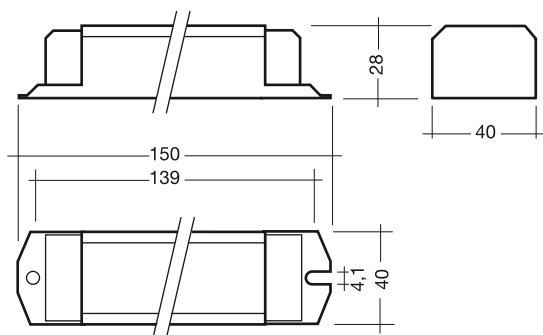
② used only in a permanent circuit because mercury migration may occur during emergency operation

③ lamp restrictions apply consult data sheet

For more lamp combinations for 1 h and 3 h see separate data sheet.

EM MINI BASIC 220–240 V 50/60 Hz

**NEW**



- the mains delay circuit in the ballast ensures compatibility with all electronic ballasts
- low-profile cross-section (28 x 40 mm)
- IDC terminals for automatic wiring
- can be used with magnetic or electronic ballasts
- 3 hours duration
- NiCd batteries
- reverse battery polarity protected
- deep discharge protection

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
**EM MINI BASIC**  
box of 25  
30 boxes/pallet  
750 pieces/pallet

**Akku-NiCd**  
box of 25

**LED green**  
25 pieces/bag  
box of 200

**Approvals:**  
ENEC  
CE  
in accordance  
with EN 60598-2-22  
in accordance  
with EN 50172

**EM MINI BASIC – 3 h duration; NiCd 4.0 Ah D cells**

type	article number	duration (h)	number of cells
<b>EM 33A MINI BASIC</b> 230–240 V 50/60 Hz	89899951	3	3
<b>EM 34A MINI BASIC</b> 230–240 V 50/60 Hz	89899950	3	4
<b>EM 34C MINI BASIC</b> 230–240 V 50/60 Hz	89899952	3	4

**Battery NiCd (high temperature) 4.0 Ah D cells**

type	article number	type of cells	number of cells
<b>Accu-NiCd 3A</b>	89895960	stick	1 x 3
<b>Accu-NiCd 3B</b>	89895976	side by side	3 x 1
<b>Accu-NiCd 4A</b>	89895961	stick	1 x 4
<b>Accu-NiCd 4B</b>	89895977	side by side	4 x 1
<b>Accu-NiCd 4C</b>	89895978	stick + stick	2 + 2

**Status indication**

A green LED indicates that charging current is flowing into the battery.

type	article number
<b>LED EM green</b>	89899605
<b>LED EM green, high brightness</b>	89899756



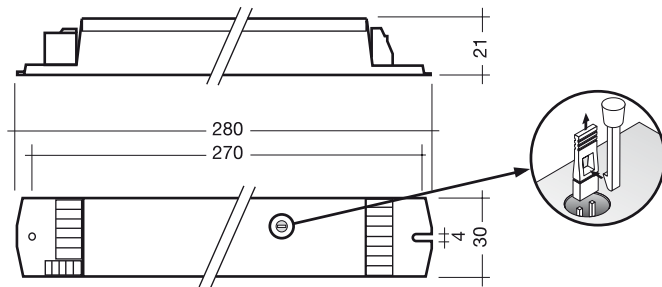
Technical data EM MINI BASIC	3 h
rated mains supply voltage	220-240 V
mains frequency	50/60 Hz
mains supply current	0.03 A
mains supply power	3.9 W
recharge period	24 h
discharge current	1.1 A
charge current NiCd	210 mA
earth leakage current	< 0.5 mA
ambient temperature range	0 °C → +50 °C
max. case temperature tc	70 °C
mains change over voltage	in accordance with EN 60598-2-22
min. lamp starting temperature (emergency operation)	0 °C
ingress protection	IP 20
safety class	1

### Emergency light output factors (BLF) in %

Duration	3 hours		
	3 cells	4 cells	4 cells
Module	EM 33A MINI BASIC	EM 34A MINI BASIC	EM 34C MINI BASIC
<b>Lamp</b>			
<b>TC-DD</b> 28 W	9		
38 W			6.5
<b>TC-F</b> 36 W		11.5	
<b>TC-DEL</b> 18 W		16.5	
26 W		13	
<b>TC-TEL</b> 18 W		16.5	
26 W		13	
<b>T5c</b> 22 W		16	

For information on the lamp types see separate data sheet.

EM T5 BASIC 220–240 V 50/60 Hz



- low-profile cross-section (21 x 30 mm)
- 5 pole technology
- for use with HF ballasts
- 24 hour recharge time for the battery
- 3-hour unit as standard
- 1-hour duration selection by means of removable jumper plug
- high-frequency ac operation of the lamp
- cathode heating during emergency use
- deep discharge protection
- regulated electronic charger circuit

- reverse battery protection
- rest mode function
- average life = 50,000 h (under rated conditions and a failure rate of  $\leq 0.2\%$  per 1,000 h)
- NiCd batteries for 3-hour and 1-hour units
- NiMH batteries for 1-hour units

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
**EM T5 BASIC**  
box of 25

**LED**  
25 pieces/bag

**Accu**  
box of 25

**Test switch**  
25 pieces/bag  
box of 200

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
EN 601347-2-7  
in accordance  
with EN 60598-2-22  
EN 60925  
EN 61000-3-2  
EN 61547  
in accordance  
with EN 50172  
IEC 68-2-6  
IEC 68-2-29  
IEC 68-2-30

type	article number	duration (h)	number of cells	accu
EM 14/24-4 T5 BASIC	89899822	1 + 3	4	for 3 h duration
EM 21/28/49-5 T5 BASIC	89899823	1 + 3	5	NiCd 4.0 Ah D cells
EM 39-5 T5 BASIC	89899824	1 + 3	5	for 1 h duration
EM 35-6 T5 BASIC	89899825	1 + 3	6	NiCd 1.5 Ah Cs cells or
EM 54/80-6 T5 BASIC	89899826	1 + 3	6	NiMH 2.0 Ah Cs cells

Remove jumper link and select Cs cell packs to convert to 1 hour operation.

NiCd 4.0 Ah D cells	type of cells	number of cells	article number
Accu-NiCd 4A	stick	4	89895961
Accu-NiCd 4B	side by side	4	89895977
Accu-NiCd 4C	stick + stick	2 + 2	89895978
Accu-NiCd 5A	stick	5	89895973
Accu-NiCd 5B	stick + stick	3 + 2	89895962
Accu-NiCd 6A	stick + stick	3 + 3	89895963

NiCd 1.5 Ah Cs cells	type of cells	number of cells	article number
Accu-NiCd C 4A	stick	4	89899692
Accu-NiCd C 4B *	side by side	4	89899693
Accu-NiCd C 4C *	stick + stick	2 + 2	89899694
Accu-NiCd C 5A	stick	5	89899695
Accu-NiCd C 5B *	side by side	5	89899696
Accu-NiCd C 5C *	stick + stick	3 + 2	89899697
Accu-NiCd C 6A	stick	6	89899698
Accu-NiCd C 6C	stick + stick	3 + 3	89899699

NiMH 2.0 Ah Cs cells	type of cells	number of cells	article number
Accu-NiMH C 4A	stick	4	89899700
Accu-NiMH C 5A	stick	5	89899703
Accu-NiMH C 6A	stick	6	89899706
Accu-NiMH C 6C	stick + stick	3 + 3	89899707

Technical accu information see page 200/201.

Technical data EM T5 BASIC	3 h	1 h
rated mains supply voltage	220-240 V	220-240 V
mains frequency	50/60 Hz	50/60 Hz
mains supply current	35 mA max.	25 mA max.
mains supply power	< 7.0 W	< 7.0 W
overvoltage protection	320 V for 1 h	320 V for 1 h
maximum operating voltage U-OUT of the ballast used	460 V	460 V
recharge period	24 h	24 h
discharge current	1.1 A	1.1 A
charge current NiCd/NiMH	200 mA	100 mA
earth leakage current	< 0.5 mA	< 0.5 mA
ambient temperature range	+5 °C → +60 °C	+5 °C → +60 °C
max. case temperature tc	70 °C	70 °C
mains change over voltage	in accordance with EN 60598-2-22	in accordance with EN 60598-2-22
ingress protection	IP 20	IP 20
safety class	1	1

### Emergency light output factors (BLF) in %

Type	3 h or 1 h				
	EM 14/24-4 T5 BASIC	EM 21/28/49-5 T5 BASIC	EM 39-5 T5 BASIC	EM 35-6 T5 BASIC	EM 54/80-6 T5 BASIC
<b>T5 FH</b>	14	21			
	21	12			
	28	12			
	35			13	
<b>T5 FQ</b>	24	14			
	39		7		
	49	7			
	54			6.5	
	80				4.5

#### Test switch

An optional test switch can be wired to the EM T5 BASIC. This can be used to check local operation of the luminaire.

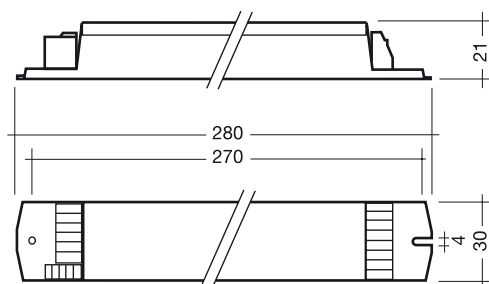
type	article number
<b>Test switch EM 2</b>	89805277

#### Status indication

A green LED indicates that charging current is flowing into the battery.

type	article number
<b>LED EM green</b>	89899605
<b>LED EM green, high brightness</b>	89899756

EM BASIC Ip 220–240 V 50/60 Hz



- low-profile cross-section (21 x 30 mm)
- 5 pole technology
- NiCd or NiMH battery options
- 10-15 hours accu recharge time
- 3-hour or 1-hour operation
- AC operation of lamps
- lamp warmstart in emergency operation
- permanent cathode heating during emergency operation
- 55 seconds boost start
- deep discharge protection
- electronic multilevel charging system
- for use with HF ballasts

- average life = 50,000 hours (under rated conditions and a failure rate  $\leq 10\%$ ; average failure rate  $\leq 0.2\%$  per 1,000 hours)

**Batteries:**

- NiCd, NiMH
- D or Cs cells
- high temperature cells
- spade terminals for easy connection

**Wiring:**

see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com) or on request

**Packaging:**  
EM BASIC Ip  
box of 25

**LED**  
25 pieces/bag

**Accu**  
box of 25

**Test switch**  
25 pieces/bag  
box of 200

**Approvals:**  
EN 55015: 2006 + A1: 2007  
EN 601347-2-7  
in accordance with EN 60598-2-22  
EN 60925  
EN 61000-3-2  
EN 61547  
in accordance with EN 50172  
IEC 68-2-6  
IEC 68-2-29  
IEC 68-2-30

EM BASIC Ip – 3 h duration; NiCd 4.0 Ah D cells or NiMH 4.0 Ah Cs cells

type	article number	number of cells
EM 34 BASIC Ip	89899761	4
EM 35 BASIC Ip	89899762	5
EM 36 BASIC Ip	89899763	6

EM BASIC Ip – 1 h duration standard BLF; NiCd 1.5 Ah Cs cells or NiMH 2.0 Ah Cs cells

type	article number	number of cells
EM 14 BASIC Ip	89899764	4
EM 15 BASIC Ip	89899765	5
EM 16 BASIC Ip	89899766	6

NiCd 4.0 Ah D cells	type of cells	number of cells	article number
Accu-NiCd 4A	stick	4	89895961
Accu-NiCd 4B	side by side	4	89895977
Accu-NiCd 4C	stick + stick	2 + 2	89895978
Accu-NiCd 5A	stick	5	89895973
Accu-NiCd 5B	stick + stick	3 + 2	89895962
Accu-NiCd 6A	stick + stick	3 + 3	89895963

NiMH 4.0 Ah Cs cells	type of cells	number of cells	article number
Accu-NiMH C 4A	stick	4	89899850
Accu-NiMH C 5A	stick	5	89899851
Accu-NiMH C 6A	stick	6	89899852
Accu-NiMH C 6C	stick + stick	3 + 3	89899853

NiCd 1.5 Ah Cs cells	type of cells	number of cells	article number
Accu-NiCd C 4A	stick	4	89899692
Accu-NiCd C 4B *	side by side	4	89899693
Accu-NiCd C 4C *	stick + stick	2 + 2	89899694
Accu-NiCd C 5A	stick	5	89899695
Accu-NiCd C 5B *	side by side	5	89899696
Accu-NiCd C 5C *	stick + stick	3 + 2	89899697
Accu-NiCd C 6A	stick	6	89899698
Accu-NiCd C 6C	stick + stick	3 + 3	89899699

NiMH 2.0 Ah Cs cells	type of cells	number of cells	article number
Accu-NiMH C 4A	stick	4	89899700
Accu-NiMH C 5A	stick	5	89899703
Accu-NiMH C 6A	stick	6	89899706
Accu-NiMH C 6C	stick + stick	3 + 3	89899707

Technical accu information see page 200/201.

Technical data EM BASIC Ip	3 h	1 h
rated mains supply voltage	220-240 V	220-240 V
mains frequency	50/60 Hz	50/60 Hz
mains supply current	60 mA max.	60 mA max.
mains supply power	< 10.0 W	< 10.0 W
overvoltage protection	320 V for 1 h	320 V for 1 h
maximum operating voltage U-OUT of the ballast used	460 V	460 V
recharge period	15 h	10 h
discharge current	1.1 A	1.1 A
charge current: initial	330 mA	130 mA
fast	330 mA	210 mA
trickle	130 mA	50 mA
earth leakage current	< 0.5 mA	< 0.5 mA
ambient temperature range	-5 °C → +60 °C	-5 °C → +60 °C
max. case temperature tc	70 °C	70 °C
mains change over voltage	in accordance with EN 60598-2-22	in accordance with EN 60598-2-22
min. lamp starting temperature (emergency operation)	-5 °C	-5 °C
ingress protection	IP 20	IP 20
safety class	1	1
boost starting time	55 s	55 s

## Emergency light output factors (BLF) in %

Type	3 h			1 h		
	EM 34 BASIC Ip	EM 35 BASIC Ip	EM 36 BASIC Ip	EM 14 BASIC Ip	EM 15 BASIC Ip	EM 16 BASIC Ip
TC-DD 10	37			37		
16	25			25		
21	19			19		
28	14			14		
38			10			10
55			4			4
TC-SEL 5	40			40		
7	39			39		
9	39			39		
11	34			34		
TC-DEL 10	31			31		
13	26			26		
18	21			21		
26	14			14		
TC-TEL 18	21			21		
26	14			14		
32		11			11	
42			7			7
57			5			5
TC-F 18	18			18		
24		12			12	
36		11			11	
TC-L 18	18			18		
24		12			12	
36		11			11	
40		5			5	
55			6			6
T5 FH 14	24			24		
21		16			16	
28			14			14
35			12			12
T5 FQ 24	13			13		
39			8			8
49			6			6
54			6			6
80			5			5
T5c 22	14			14		
40			7			7
55			7			7
T5 4	38			38		
6	43			43		
8	40			40		
13	27			27		
T8 15	20			20		
18	16			16		
30	12			12		
36	10			10		
38		10			10	
58		8			8	
70			6			6

### Test switch

An optional test switch can be wired to the EM BASIC Ip. This can be used to check local operation of the luminaire.

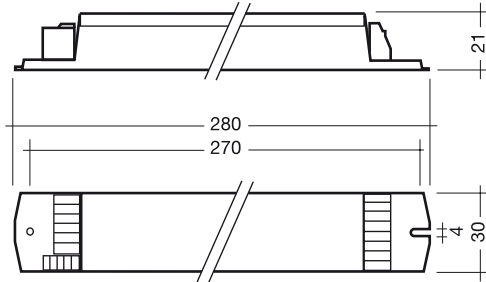
type	article number
Test switch EM 2	89805277

### Status indication

A green LED indicates that charging current is flowing into the battery.

type	article number
LED EM green	89899605
LED EM green, high brightness	89899756

EM SELFTEST 220–240 V 50/60 Hz



- self testing in accordance with pr IEC 62034
- low-profile cross-section (21 x 30 mm)
- 5 pole technology: 4 pole changeover and a delayed action relay for switching the mains supply to ensure compatibility with the ballast
- NiCd or NiMH battery options
- 10-15 hours accu recharge time
- 3-hour or 1-hour operation
- 55 seconds boost start
- high and standard BLF for 1 hour versions
- bi-colour LED to indicate status
- AC operation of lamps

- cathode heating during emergency operation
- boost starting facility for all lamps
- rest mode facility
- adaptive mode for testing with minimum risk
- electronic multilevel charging system
- deep discharge protection
- for use with HF ballasts

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
**EM SELFTEST**  
box of 25

**LED**  
25 pieces/bag

**Accu-NiCd**  
box of 25

**Accu-NiMH**  
box of 25

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
in accordance  
with EN 60598-2-22  
EN 60925  
EN 61000-3-2  
EN 61347-2-7  
EN 61547  
pr IEC 62034  
IEC 68-2-6  
IEC 68-2-29  
IEC 68-2-30  
in accordance  
with EN 50172

**EM SELFTEST – 3 h duration; NiCd 4.0 Ah D cells or NiMH 4.0 Ah Cs cells**

type	article number	number of cells
EM 34 ST	89899680	4
EM 35 ST	89899681	5
EM 36 ST	89899682	6

**EM HO SELFTEST – 1 h duration “high output”; NiCd 4.0 Ah D cells or NiMH 4.0 Ah Cs cells**

type	article number	number of cells
EM 14 HO ST	89899686	4
EM 15 HO ST	89899687	5
EM 16 HO ST	89899688	6

**EM SELFTEST – 1 h duration standard BLF; NiCd 1.5 Ah or NiMH 2.0 Ah Cs cells**

type	article number	number of cells
EM 14 ST	89899683	4
EM 15 ST	89899684	5
EM 16 ST	89899685	6

NiCd 4.0 Ah D cells	type of cells	number of cells	article number
Accu-NiCd 4A	stick	4	89895961
Accu-NiCd 4B	side by side	4	89895977
Accu-NiCd 4C	stick + stick	2 + 2	89895978
Accu-NiCd 5A	stick	5	89895973
Accu-NiCd 5B	stick + stick	3 + 2	89895962
Accu-NiCd 6A	stick + stick	3 + 3	89895963

NiCd 1.5 Ah Cs cells	type of cells	number of cells	article number
Accu-NiCd C 4A	stick	4	89899692
Accu-NiCd C 4B *	side by side	4	89899693
Accu-NiCd C 4C *	stick + stick	2 + 2	89899694
Accu-NiCd C 5A	stick	5	89899695
Accu-NiCd C 5B *	side by side	5	89899696
Accu-NiCd C 5C *	stick + stick	3 + 2	89899697
Accu-NiCd C 6A	stick	6	89899698
Accu-NiCd C 6C	stick + stick	3 + 3	89899699

NiMH 2.0 Ah Cs cells	type of cells	number of cells	article number
Accu-NiMH C 4A	stick	4	89899700
Accu-NiMH C 5A	stick	5	89899703
Accu-NiMH C 6A	stick	6	89899706
Accu-NiMH C 6C	stick + stick	3 + 3	89899707

Technical accu information see page 200/201.

NiMH 4.0 Ah Cs cells	type of cells	number of cells	article number
Accu-NiMH C 4A	stick	4	89899850
Accu-NiMH C 5A	stick	5	89899851
Accu-NiMH C 6A	stick	6	89899852
Accu-NiMH C 6C	stick + stick	3 + 3	89899853

Technical data EM SELFTEST	3 h	1 h
rated mains supply voltage	220-240 V	220-240 V
mains frequency	50/60 Hz	50/60 Hz
mains supply current	60 mA max.	60 mA max.
mains supply power	< 10.0 W	< 10.0 W
overvoltage protection	320 V for 1 h	320 V for 1 h
maximum operating voltage U-OUT of the ballast used	460 V	460 V
recharge period	15 h	10 h
discharge current	1.1 A	1.1 A
charge current: initial	330 mA	130 mA
fast	330 mA	210 mA
trickle	130 mA	50 mA
earth leakage current	< 0.5 mA	< 0.5 mA
ambient temperature range	-5 °C → +60 °C	-5 °C → +60 °C
max. case temperature tc	70 °C	70 °C
mains change over voltage	in accordance with EN 60598-2-22	in accordance with EN 60598-2-22
min. lamp starting temperature (emergency operation)	-5 °C	-5 °C
ingress protection	IP 20	IP 20
safety class	1	1
boost starting time	55 s	55 s

## Emergency light output factors (BLF) in %

Type	3 h and 1 h standard BLF			1 h „high output“		
	EM 34 ST EM 14 ST	EM 35 ST EM 15 ST	EM 36 ST EM 16 ST	EM 14 HO ST	EM 15 HO ST	EM 16 HO ST
TC-DD	10	37				
	16	25				
	21	19				
	28	14				
	38		10			
	55		4			
TC-SEL	5	40		53		
	7	39		53		
	9	39		53		
	11	34		53		
TC-DEL	10	31		51		
	13	26		47		
	18	21		34		
	26	14		27		
TC-TEL	18	21		36		
	26	14		25		
	32		11		28	
	42		7		24	
	57		5	19		19
TC-F	18	18		32		
	24		12		33	
	36		11		26	
TC-L	18	18		32		
	24		12		33	
	36		11		26	
	40		5		24	
	55		6			21
T5 FH	14	24		47		
	21		16		44	
	28		14			42
	35		12			36
T5 FQ	24	13		30		
	39		8			31
	49		6			22
	54		6			23
	80		5			15
T5c	22	14		30		
	40		7			27
	55		7			23
T5	4	38		70		
	6	43		73		
	8	40		68		
	13	27		52		
T8	15	20		36		
	18	16		33		
	30	12		27		
	36	10		23		
	38		10			
	58		8		18	
	70		6			

### Test switch

An optional test switch can be wired to the EM SELFTEST. This can be used to check local operation of the luminaire.

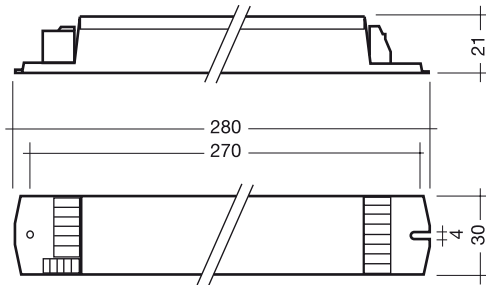
type	article number
Test switch EM 2	89805277

### Status indication

System status is indicated by a bi-colour LED (green = System OK, red = fault).

type	article number
LED EM bi-colour	89899720
LED EM bi-colour, high brightness	89899753

EM PRO EZ 220–240 V 50/60 Hz



- DALI interface for control and reporting
- low-profile cross-section (21 x 30 mm)
- 5 pole technology: 4 pole changeover and a delayed action relay for switching the mains supply to ensure compatibility with the ballast
- NiCd or NiMH battery options
- 10-15 hours accu recharge time
- 3-hour or 1-hour operation
- high and standard BLF for 1 hour versions
- 55 seconds boost start
- bi-colour LED to indicate status
- AC operation of lamps
- cathode heating during emergency operation
- self testing option

- w
- rest mode function
- adaptive mode for testing with minimum risk
- electronic multilevel charging system
- deep discharge protection
- patented easy addressing feature using LED
- EZ addressing tool available
- for use with HF ballasts
- specific testing and reporting functions (see separate data sheet)

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
**EM PRO EZ**  
box of 25

**LED**  
25 pieces/bag

**Accu-NiCd**  
box of 25

**Accu-NiMH**  
box of 25

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
in accordance  
with EN 60598-2-22  
EN 60925  
EN 61000-3-2  
EN 61347-2-7  
EN 61547  
pr IEC 62034  
IEC 68-2-6  
IEC 68-2-29  
IEC 68-2-30  
in accordance  
with EN 50172

**EM PRO EZ – 3 h duration; NiCd 4.0 Ah D cells or NiMH 4.0 Ah Cs cells**

type	article number	number of cells
EM 34 PRO EZ	89899827	4
EM 35 PRO EZ	89899828	5
EM 36 PRO EZ	89899829	6

**EM PRO HO EZ – 1 h duration “high output”; NiCd 4.0 Ah D cells or NiMH 4.0 Ah Cs cells**

type	article number	number of cells
EM 14 HO PRO EZ	89899833	4
EM 15 HO PRO EZ	89899834	5
EM 16 HO PRO EZ	89899835	6

**EM PRO EZ – 1 h duration standard BLF; NiCd 1.5 Ah or NiMH 2.0 Ah Cs cells**

type	article number	number of cells
EM 14 PRO EZ	89899830	4
EM 15 PRO EZ	89899831	5
EM 16 PRO EZ	89899832	6

NiCd 4.0 Ah D cells	type of cells	number of cells	article number
Accu-NiCd 4A	stick	4	89895961
Accu-NiCd 4B	side by side	4	89895977
Accu-NiCd 4C	stick + stick	2 + 2	89895978
Accu-NiCd 5A	stick	5	89895973
Accu-NiCd 5B	stick + stick	3 + 2	89895962
Accu-NiCd 6A	stick + stick	3 + 3	89895963

NiCd 1.5 Ah Cs cells	type of cells	number of cells	article number
Accu-NiCd C 4A	stick	4	89899692
Accu-NiCd C 4B *	side by side	4	89899693
Accu-NiCd C 4C *	stick + stick	2 + 2	89899694
Accu-NiCd C 5A	stick	5	89899695
Accu-NiCd C 5B *	side by side	5	89899696
Accu-NiCd C 5C *	stick + stick	3 + 2	89899697
Accu-NiCd C 6A	stick	6	89899698
Accu-NiCd C 6C	stick + stick	3 + 3	89899699

NiMH 2.0 Ah Cs cells	type of cells	number of cells	article number
Accu-NiMH C 4A	stick	4	89899700
Accu-NiMH C 5A	stick	5	89899703
Accu-NiMH C 6A	stick	6	89899706
Accu-NiMH C 6C	stick + stick	3 + 3	89899707

Technical accu information see page 200/201.

NiMH 4.0 Ah Cs cells	type of cells	number of cells	article number
Accu-NiMH C 4A	stick	4	89899850
Accu-NiMH C 5A	stick	5	89899851
Accu-NiMH C 6A	stick	6	89899852
Accu-NiMH C 6C	stick + stick	3 + 3	89899853



Technical data EM PRO EZ	3 h	1 h
rated mains supply voltage	220-240 V	220-240 V
mains frequency	50/60 Hz	50/60 Hz
mains supply current	60 mA max.	60 mA max.
mains supply power	< 10.0 W	< 10.0 W
overvoltage protection	320 V for 1 h	320 V for 1 h
maximum operating voltage U-OUT of the ballast used	460 V	460 V
recharge period	15 h	10 h
discharge current	1.1 A	1.1 A
charge current: initial	330 mA	130 mA
fast	330 mA	210 mA
trickle	130 mA	50 mA
earth leakage current	< 0.5 mA	< 0.5 mA
ambient temperature range	-5 °C → +60 °C	-5 °C → +60 °C
max. case temperature tc	70 °C	70 °C
mains change over voltage	in accordance with EN 60598-2-22	in accordance with EN 60598-2-22
min. lamp starting temperature (emergency operation)	-5 °C	-5 °C
ingress protection	IP 20	IP 20
safety class	1	1
boost starting time	55 s	55 s

## Emergency light output factors (BLF) in %

Type	3 h and 1 h standard BLF			1 h „high output“		
	EM 34 PRO EZ	EM 35 PRO EZ	EM 36 PRO EZ	EM 14	EM 15	EM 16
	EM 14 PRO EZ	EM 15 PRO EZ	EM 16 PRO EZ	HO PRO EZ	HO PRO EZ	HO PRO EZ
TC-DD	10	37				
	16	25				
	21	19				
	28	14				
	38			10		
	55			4		
TC-SEL	5	40		53		
	7	39		53		
	9	39		53		
	11	34		53		
TC-DEL	10	31		51		
	13	26		47		
	18	21		34		
	26	14		27		
TC-TEL	18	21		36		
	26	14		25		
	32		11		28	
	42			7	24	
	57			5	19	19
TC-F	18	18		32		
	24		12		33	
	36		11		26	
TC-L	18	18		32		
	24		12		33	
	36		11		26	
	40		5		24	
	55			6		21
T5 FH	14	24		47		
	21		16		44	
	28			14		42
	35			12		36
T5 FQ	24	13		30		
	39			8		31
	49			6		22
	54			6		23
	80			5		15
T5c	22	14		30		
	40			7		27
	55			7		23
T5	4	38		70		
	6	43		73		
	8	40		68		
	13	27		52		
T8	15	20		36		
	18	16		33		
	30	12		27		
	36	10		23		
	38		10			
	58		8		18	
70			6			

### Test switch

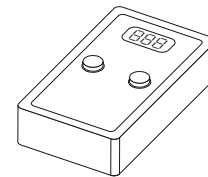
An optional test switch can be wired to the EM PRO EZ. This can be used to check local operation of the luminaire.

type	article number
Test switch EM 2	89805277

### Status indication

System status is indicated by a bi-colour LED (green = System OK, red = fault).

type	article number
LED EM bi-colour	89899720
LED EM bi-colour, high brightness	89899753



### Addressing tool:

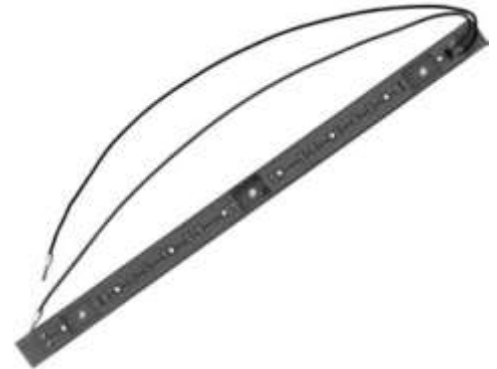
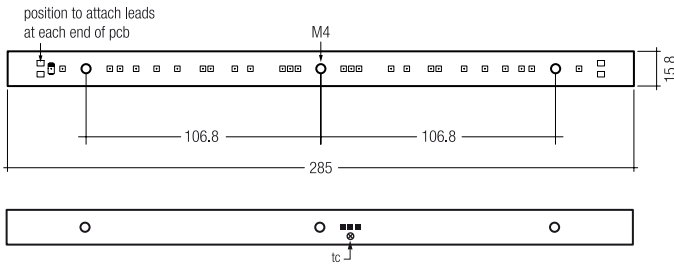
type	article number
EZ PRO ADDRESS	89899836

The EZ addressing tool provides simple addressing for the EM PRO units by using the two-colour LED for device identification.

TALEXstrip ES 08/10/12 285

**NEW**

RoHS



**Applications:**

- escape route lights
- edge-lit signs signage

**Properties:**

- emergency light strip
- high power LED
- broad 120° light distribution for uniform illumination
- can replace T5 8 W lamps
- multiple options for uniform light distribution
- low power consumption
- low temperature

- long life
- maintenance free
- maintained and non-maintained emergency applications
- reverse polarity protected
- can be connected together to form longer light strips
- operates from constant current source
- easy fixing

**Operating unit:**

EM powerLED (see page 184f or separate data sheet)

**Packaging:**

ES 08/10/12 285  
box of 25

**Status-LED**

box of 25

type	article number	colour	colour temp. K	light points per module	typ. luminous flux lm ① ④	max. current mA ②	typ. power W ① ④	ta °C	tc °C ③	length L mm
ES 08 285	89899947	daylight white	6,500	8	60	350	1.1	-20 → +40	60	285
ES 10 285	89899948	daylight white	6,500	10	60	350	1.1	-20 → +40	60	285
ES 12 285	89899949	daylight white	6,500	12	60	350	1.1	-20 → +40	60	285

all values at ta = 25 °C

for more versions and technical information see data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)

① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating current leads to an overload on the TALEXstrip.

This may in turn result in a significant reduction in lifetime or even destruction of the TALEXstrip.

③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged.

The temperature of the TALEXstrip at the tc point in the thermally stable state by means of a temperature sensor

or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1.

For the precise position of the tc point see the above diagram.

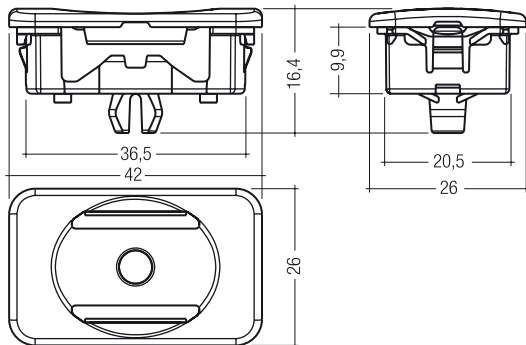
④ Information for operation at 350 mA

**Status indication via LED**

type	article number	
LED EM green	89899605	for manual testing (BASIC)
LED EM green, high brightness	89899756	for manual testing (BASIC)
LED EM bi-colour	89899720	for SELFTEST or PRO
LED EM bi-colour, high brightness	89899753	for SELFTEST or PRO

TALEXengine EM-AP 001

**NEW**



**Applications:**

- anti-panic emergency lighting

**Properties:**

- latest generation LED light source
- long life thanks to integrated heat removal
- optimized system efficiency with broad beam characteristic
- integrated indicator LED
- integrated protection against reverse polarity

- different options for luminaire installation
- high-power LED in COB technology
- colour temperature white: ③  
daylight white (DL): 6,500 K, CRI 75
- 140° light distribution pattern
- connection method: snap-in assembly

**Operating unit:**

EM powerLED (see page 184f or separate data sheet)

**TALEX**

type	article number	colour	colour temperature K ③	power W	max. current mA ①	ta °C ②
EM-AP 001	89600543	daylight white	6,500	1.2	350	-20 → +50

other data in preparation

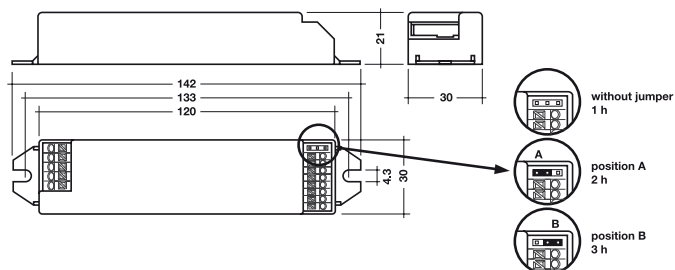
① Exceeding the maximum operating current leads to an overload on the TALEX module.

This may in turn result in a significant reduction in lifetime or even destruction of the TALEX module.

② If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

③ For colour temperatures and tolerances see page 388

EM powerLED 220–240 V 50/60 Hz, screw fastening



- LED emergency lighting supply unit
- normal and emergency operation
- constant current mode
- low-profile cross-section (21 x 30 mm)
- 1 W or 2 W version
- 3-hour, 2-hour or 1-hour operation
- operating time selected by plugs (jumper)
- BASIC, SELFTTEST and PRO versions
- NiMH batteries
- electronic multilevel charging system
- output restriction

- reverse battery protection
- deep discharge protection
- short-circuit-proof

**Batteries:**

- NiMH Cs cells
- high temperature cells
- spade terminals for easy connection

**Wiring:**

see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
EM powerLED  
box of 25

**Status-LED**  
box of 25

**Accu-NiMH**  
box of 25

**Approvals:**

ENEC  
CE  
in accordance with  
EN 60598-2-22  
in accordance with  
EN 50172

wattage W	type	article number	number of LED	LED current in mA		automatic testing	numbers of cells / jumper		
				emergency operation	normal operation		1 h / removed	2 h / position A	3 h / position B
1	EM powerLED 1 W BASIC	89899858	1 x LED	350	350	✗	2	3	3
	EM powerLED 1 W ST	89899860	1 x LED	350	350	✓	2	3	3
	EM powerLED 1 W PRO	89899862	1 x LED	350	350	✓	2	3	3
2	EM powerLED 2 W BASIC	89899859	1 x LED	600	350	✗	3	4	5
			2 x LED	350	350	✗	3	4	5
	EM powerLED 2 W ST	89899861	1 x LED	600	350	✓	3	4	5
			2 x LED	350	350	✓	3	4	5
	EM powerLED 2 W PRO	89899863	1 x LED	600	350	✓	3	4	5
			2 x LED	350	350	✓	3	4	5

<b>Technical data EM powerLED</b>			
rated mains supply voltage	220-240 V		
mains frequency	50/60 Hz		
line current:			
1-W-unit	30 mA		
2-W-unit	42 mA		
mains power in permanent circuit:			
1-W-unit	4 W		
2-W-unit	6 W		
overvoltage protection	320 V for 1 h		
recharge period	12 h		
discharge current:	1 W	2 W	
	1 LED	1 LED	2 LED
1 h	790 mA	850 mA	830 mA
2 h	440 mA	610 mA	600 mA
3 h	440 mA	480 mA	480 mA
charge current NiMH 2.0 Ah:			
initial	125 mA		
power charge	210 mA		
trickle	50 mA		
earth leakage current	< 0.5 mA		
ambient temperature range v	-25 °C → +50 °C		
max. case temperature tc	70 °C		
mains change over voltage	in accordance with EN 60598-2-22		
ingress protection	IP 20		
safety class	1		
weight	73 g		

<b>NiMH 2.0 Ah</b>	type	number	article
<b>Cs cells</b>	of cells	of cells	number
<b>Accu-NiMH C 2A</b>	stick	2	89899755
<b>Accu-NiMH C 3A</b>	stick	3	89899744
<b>Accu-NiMH C 4A</b>	stick	4	89899700
<b>Accu-NiMH C 4B *</b>	side by side	4	89899701
<b>Accu-NiMH C 4C *</b>	stick + stick	4	89899702
<b>Accu-NiMH C 5A</b>	stick	5	89899703
<b>Accu-NiMH C 5B *</b>	side by side	5	89899704
<b>Accu-NiMH C 5C *</b>	stick + stick	5	89899705

Technical accu information see page 200/201.

\* on request

#### Test switch

An optional test switch can be wired to the EM powerLED.

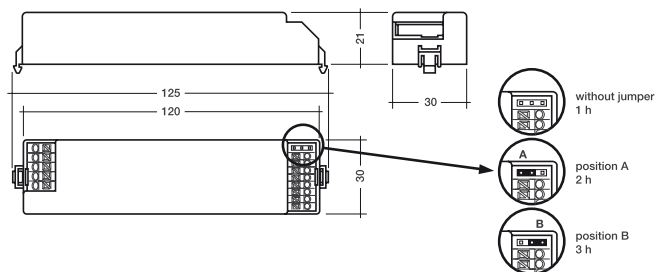
This can be used to check local operation of the luminaire.

type	article number
<b>Test switch EM 2</b>	89805277

#### Status indication via LED

type	article number	
<b>LED EM green</b>	89899605	for manual testing (BASIC)
<b>LED EM green, high brightness</b>	89899756	for manual testing (BASIC)
<b>LED EM bi-colour</b>	89899720	for SELFTEST or PRO
<b>LED EM bi-colour, high brightness</b>	89899753	for SELFTEST or PRO

EM powerLED 220–240 V 50/60 Hz, plug fastening (clip-fix)



- LED emergency lighting supply unit
- normal and emergency operation
- constant current mode
- low-profile cross-section (21 x 30 mm)
- 1 W or 2 W version
- 3-hour, 2-hour or 1-hour operation
- operating time selected by plugs (jumper)
- BASIC, SELFTTEST and PRO versions
- NiMH batteries
- electronic multilevel charging system
- output restriction

- reverse battery protection
- deep discharge protection
- short-circuit-proof

**Batteries:**

- NiMH Cs cells
- high temperature cells
- spade terminals for easy connection

**Wiring:**

see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
EM powerLED  
box of 25

**Status-LED**  
box of 25

**Accu-NiMH**  
box of 25

**Approvals:**

ENEC  
CE  
in accordance with  
EN 60598-2-22  
in accordance with  
EN 50172

wattage W	type	article number	number of LED	LED current in mA		automatic testing	numbers of cells / jumper		
				emergency operation	normal operation		1 h / removed	2 h / position A	3 h / position B
1	EM powerLED 1 W BASIC	89899865	1 x LED	350	350	✗	2	3	3
	EM powerLED 1 W ST	89899867	1 x LED	350	350	✓	2	3	3
	EM powerLED 1 W PRO	89899869	1 x LED	350	350	✓	2	3	3
2	EM powerLED 2 W BASIC	89899866	1 x LED	600	350	✗	3	4	5
			2 x LED	350	350	✗	3	4	5
	EM powerLED 2 W ST	89899868	1 x LED	600	350	✓	3	4	5
			2 x LED	350	350	✓	3	4	5
	EM powerLED 2 W PRO	89899870	1 x LED	600	350	✓	3	4	5
			2 x LED	350	350	✓	3	4	5

<b>Technical data EM powerLED</b>			
rated mains supply voltage	220-240 V		
mains frequency	50/60 Hz		
line current:			
1-W-unit	30 mA		
2-W-unit	42 mA		
mains power in permanent circuit:			
1-W-unit	4 W		
2-W-unit	6 W		
overvoltage protection	320 V for 1 h		
recharge period	12 h		
discharge current:	1 W	2 W	
	1 LED	1 LED	2 LED
1 h	790 mA	850 mA	830 mA
2 h	440 mA	610 mA	600 mA
3 h	440 mA	480 mA	480 mA
charge current NiMH 2.0 Ah:			
initial	125 mA		
power charge	210 mA		
trickle	50 mA		
earth leakage current	< 0.5 mA		
ambient temperature range	-25 °C → +50 °C		
max. case temperature tc	70 °C		
mains change over voltage	in accordance with EN 60598-2-22		
ingress protection	IP 20		
safety class	1		
weight	73 g		

<b>NiMH 2.0 Ah</b>	type	number	article
<b>Cs cells</b>	of cells	of cells	number
<b>Accu-NiMH C 2A</b>	stick	2	89899755
<b>Accu-NiMH C 3A</b>	stick	3	89899744
<b>Accu-NiMH C 4A</b>	stick	4	89899700
<b>Accu-NiMH C 4B *</b>	side by side	4	89899701
<b>Accu-NiMH C 4C *</b>	stick + stick	4	89899702
<b>Accu-NiMH C 5A</b>	stick	5	89899703
<b>Accu-NiMH C 5B *</b>	side by side	5	89899704
<b>Accu-NiMH C 5C *</b>	stick + stick	5	89899705

Technical accu information see page 200/201.

\* on request

#### Test switch

An optional test switch can be wired to the EM powerLED.

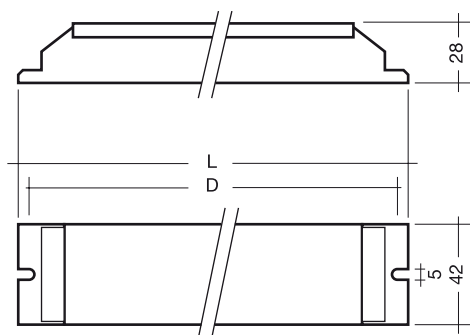
This can be used to check local operation of the luminaire.

type	article number
<b>Test switch EM 2</b>	89805277

#### Status indication via LED

type	article number	
<b>LED EM green</b>	89899605	for manual testing (BASIC)
<b>LED EM green, high brightness</b>	89899756	for manual testing (BASIC)
<b>LED EM bi-colour</b>	89899720	for SELFTEST or PRO
<b>LED EM.bi-colour, high brightness</b>	89899753	for SELFTEST or PRO

PC COMBO 220–240 V 50/60 Hz



- combined electronic ballast and emergency lighting module
- simplified wiring
- no compatibility issues
- 1 hour or 3 hours duration
- lamp warm start with electronic ballast operation
- combined push wire and IDC terminals
- for use with single, twin, triple and quad lamps
- emergency testing by isolating only the unswitched supply

- optional test switch
- deep discharge and reverse battery polarity protection
- high temperature NiCd cells

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com) or on request

**Packaging:**  
**PC COMBO**  
box of 25  
28 boxes/pallet  
700 pieces/pallet

**Accu-NiCd**  
box of 25

**LED green**  
25 pieces/bag  
box of 200

**Test switch**  
25 pieces/bag  
box of 200

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
in accordance  
with EN 60598-2-22  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-4  
EN 61347-2-7  
EN 61547  
in accordance  
with EN 50172

PC COMBO – 3 h duration; NiCd 4.0 Ah D cells

Lamp			Ballast										
type	watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current A	power factor (ca.)	temperature range °C	accu
T8	1x36	1,200	PC 1x36/33 COMBO 220–240 V 50/60 Hz	89805250	424	415	0.44	32	39	0.18	0.93	0 → +50	Accu-NiCd 3A
T8	2x36	1,200	PC 2x36/33 COMBO 220–240 V 50/60 Hz	89805268	424	415	0.46	2x32	75	0.35	0.96	0 → +50	Accu-NiCd 3A
T8	1x58	1,500	PC 1x58/34 COMBO 220–240 V 50/60 Hz	89805270	424	415	0.44	50	60	0.27	0.95	0 → +50	Accu-NiCd 4A
T8	2x58	1,500	PC 2x58/34 COMBO 220–240 V 50/60 Hz	89805272	424	415	0.46	2x50	115	0.51	0.96	0 → +50	Accu-NiCd 4A
T8	3x18	590	PC 3/4x18/33 COMBO 220–240 V 50/60 Hz	89818236	424	415	0.45	3x16	60	0.27	0.97	0 → +50	Accu-NiCd 3A
T8	4x18	590	PC 3/4x18/33 COMBO 220–240 V 50/60 Hz	89818236	424	415	0.45	4x16	79	0.35	0.97	0 → +50	Accu-NiCd 3A
T5	3x14	549	PC 3/4x14/33 T5 COMBO 220–240 V 50/60 Hz	89800002	424	415	0.45	3x14	52	0.23	0.97	0 → +50	Accu-NiCd 3A
T5	4x14	549	PC 3/4x14/33 T5 COMBO 220–240 V 50/60 Hz	89800002	424	415	0.45	4x14	67	0.30	0.98	0 → +50	Accu-NiCd 3A

PC COMBO – 1 h duration; NiCd 4.0 Ah D cells

Lamp			Ballast										
type	watt- age W	length mm	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current A	power factor (ca.)	temperature range °C	accu
T8	3x18	590	PC 3/4x18/13 COMBO 220–240 V 50/60 Hz	89818358	424	414	0.45	3x16	60	0.27	0.97	0 → +50	Accu-NiCd 3A
T8	4x18	590	PC 3/4x18/13 COMBO 220–240 V 50/60 Hz	89818358	424	414	0.45	4x16	79	0.35	0.97	0 → +50	Accu-NiCd 3A
T5	3x14	549	PC 3/4x14/13 T5 COMBO 220–240 V 50/60 Hz	89800003	424	415	0.45	3x14	52	0.23	0.97	0 → +50	Accu-NiCd 3A
T5	4x14	549	PC 3/4x14/13 T5 COMBO 220–240 V 50/60 Hz	89800003	424	415	0.45	4x14	67	0.30	0.98	0 → +50	Accu-NiCd 3A

NiCd 4.0 Ah D cells

type	article number	type of cells	number of cells
Accu-NiCd 3A	89895960	stick	3
Accu-NiCd 4A	89895961	stick	4

Technical accu information see page 200/201.



**Technical data PC COMBO**

rated mains supply voltage	220-240 V
mains frequency	50/60 Hz
mains change over voltage	in accordance with EN 60598-2-22
min. temperature of lamp start (normal operation)	-15 °C
min. temperature of lamp start (emergency operation)	0 °C
operating frequency	> 30 Hz
recharge period	24 h
max. case temperature tc	+70 °C
ingress protection	IP 20
safety class	1

**Emergency light output factors (BLF) in %:**

Ballast	BLF
PC 1x36/33 COMBO 220-240 V 50/60 Hz	8
PC 2x36/33 COMBO 220-240 V 50/60 Hz	8
PC 1x58/34 COMBO 220-240 V 50/60 Hz	7
PC 2x58/34 COMBO 220-240 V 50/60 Hz	7
PC 3/4x18/33 COMBO 220-240 V 50/60 Hz	12
PC 3/4x18/13 COMBO 220-240 V 50/60 Hz	20
PC 3/4x14/33 T5 COMBO 220-240 V 50/60 Hz	16
PC 3/4x14/13 T5 COMBO 220-240 V 50/60 Hz	34

**Test switch**

An optional test switch can be wired to the PC COMBO. This can be used to check local operation of the luminaire.

type	article number
Test switch EM 2	89805277

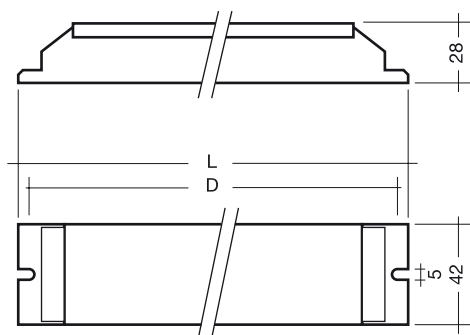
**Status indication**

A green LED indicates that charging current is flowing into the battery.

type	article number
LED EM green	89899605
LED EM green, high brightness	89899756

PC TC-L COMBO 220–240 V 50/60 Hz

**NEW**



- combined electronic ballast and emergency lighting module
- standard housing
- simplified wiring
- lamp warm start with electronic ballast operation
- 3 hours duration
- cathode heating during emergency operation
- NiCd or NiMH battery options

- reverse battery polarity protected
- latest ballast technology
- Intelligent Voltage Guard (IVG)

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
**PC TC-L COMBO**  
box of 25  
28 boxes/pallet  
700 pieces/pallet

**Accu-NiCd/NiMH**  
box of 25

**LED green**  
25 pieces/bag  
box of 200

**Test switch**  
25 pieces/bag  
box of 200

**Approvals:**  
ENEC  
CE  
in accordance with EN 60598-2-22  
in accordance with EN 50172

PC TC-L COMBO – 3 h duration; NiCd 4.0 Ah D cells or NiMH 4.0 Ah Cs cells

Lamp		Ballast												
type	watt-age W	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current A	power factor (ca.)	max. case temperature tc point °C	emergency BLF	normal BLF	number of cells
TC-L	1x36	PC 1x36-33 TC-L COMBO 220–240 V 50/60 Hz	89899920	424	415	0.56	32	38.5	0.17	0.98	70	in prep.	1.00	3
TC-L	2x36	PC 2x36-33 TC-L COMBO 220–240 V 50/60 Hz	89899921	424	415	0.56	32	74.0	0.33	0.98	70	in prep.	1.00	3
TC-L	1x40	PC 1x40-34 TC-L COMBO 220–240 V 50/60 Hz	89899922	424	415	0.56	40	46.0	0.20	0.98	70	in prep.	1.00	4
TC-L	2x40	PC 2x40-34 TC-L COMBO 220–240 V 50/60 Hz	89899923	424	415	0.56	40	90.6	0.40	0.98	70	in prep.	1.00	4
TC-L	1x55	PC 1x55-35 TC-L COMBO 220–240 V 50/60 Hz	89899924	424	415	0.56	55	65.0	0.29	0.97	70	in prep.	1.00	5
TC-L	2x55	PC 2x55-35 TC-L COMBO 220–240 V 50/60 Hz	89899925	424	415	0.56	55	127.0	0.56	0.98	70	in prep.	1.00	5
T5	3/4x14	PC 3/4x14 – 3 T5 COMBO	89899877	424	415							in preparation		
T5	3/4x24	PC 3/4x24 – 4 T5 COMBO	89899878	424	415							in preparation		

Accu – 3 h duration

NiCd 4.0 Ah D cells	type of cells	number of cells	article number	NiMH 4.0 Ah Cs cells	type of cells	number of cells	article number
Accu-NiCd 3A	stick	3	89895960	Accu-NiMH 4 Ah C 3A	stick	3	89899854
Accu-NiCd 4A	stick	4	89895961	Accu-NiMH 4 Ah C 4A	stick	4	89899850
Accu-NiCd 5A	stick	5	89895973	Accu-NiMH 4 Ah C 5A	stick	5	89899851
Accu-NiCd 5B	stick + stick	3 + 2	89895962	Accu-NiMH 4 Ah C 6A	stick	6	89899852
Accu-NiCd 6A	stick + stick	3 + 3	89895963	Accu-NiMH 4 Ah C 6C	stick + stick	3 + 3	89899853

Other batteries are available.

Technical accu information see page 200/201.

<b>Technical data PC TC-L COMBO</b>	
rated mains supply voltage	220-240 V
mains frequency	50/60 Hz
mains change over voltage	in accordance with EN 60598-2-22
min. temperature of lamp start (normal operation)	-15 °C
min. temperature of lamp start (emergency operation)	0 °C
Umgebungstemperaturbereich	-15 °C → +55 °C
operating frequency (normal operation)	40-50 kHz
operating frequency (emergency operation)	20-30 kHz
overvoltage protection	320 V for 1 h with IVG
recharge period	24 h
ingress protection	IP 20
safety class	1

#### Test switch

An optional test switch can be wired to the PC TC-L COMBO.

This can be used to check local operation of the luminaire.

type	article number
<b>Test switch EM 2</b>	89805277

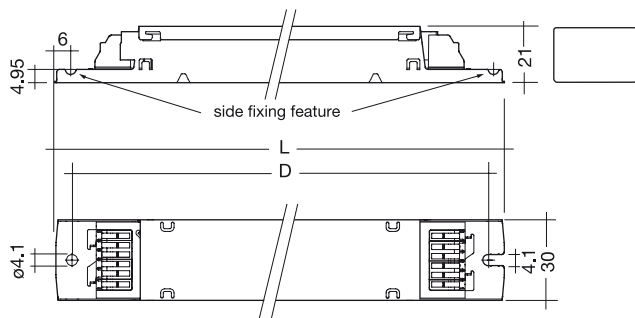
#### Status indication

A green LED indicates that charging current is flowing into the battery.

type	article number
<b>LED EM green</b>	89899605
<b>LED EM green, high brightness</b>	89899756

PC T5 COMBO Ip 220–240 V 50/60 Hz

**NEW**



- combined electronic ballast and emergency lighting module
- low-profile cross-section (21 x 30 mm)
- simplified wiring
- lamp warm start with electronic ballast operation
- 1 hour or 3 hours duration
- operating time selected by plugs (jumper)
- AC operation of lamps during emergency operation
- cathode heating during emergency operation

- NiCd or NiMH battery options
- reverse battery polarity protected
- latest ballast technology
- Intelligent Voltage Guard (IVG)

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
**PC T5 COMBO Ip**  
box of 25

**Test switch**  
25 pieces/bag  
box of 200

**Accu-NiCd/NiMH**  
box of 25

**Approvals:**  
ENEC  
CE

**LED green**  
25 pieces/bag  
box of 200

in accordance  
with EN 60598-2-22  
in accordance  
with EN 50172

Lamp		Ballast													
type	watt-age W	type	article number	length L mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current A	power factor (ca.)	max. case temperature tc point °C	emergency BLF	normal BLF	duration h	number of cells
T5	1x14	PC 1x14 – 3 T5 COMBO Ip	89899875	425	415	0.43	14.4	19.4	0.090	0.96	70	0.17	1.00	3 / 1	3
T5	2x14	PC 2x14 – 3 T5 COMBO Ip	89899876	425	415	0.45	28.8	35.0	0.160	0.95	70	0.17	1.00	3 / 1	3
T5	3/4x14	PC 3/4x14 – 3 T5 COMBO	89899877	see page 190: <b>PC TC-L COMBO</b> 220–240 V 50/60 Hz											
T5	1x21	PC 1x21/28 – 5 T5 COMBO Ip	89899881	425	415	0.43	20.5	28.8	0.130	0.95	70	0.12	1.00	3 / 1	5
T5	2x21	PC 2x21/28 – 5 T5 COMBO Ip	89899882	425	415	0.45	40.9	50.0	0.225	0.97	70	0.12	1.00	3 / 1	5
T5	1x24	PC 1x24 – 4 T5 COMBO Ip	89899879	in preparation											
T5	2x24	PC 2x24 – 4 T5 COMBO Ip	89899880	in preparation											
T5	3/4x24	PC 3/4x24 – 4 T5 COMBO	89899878	see page 190: <b>PC TC-L COMBO</b> 220–240 V 50/60 Hz											
T5	1x28	PC 1x21/28 – 5 T5 COMBO Ip	89899881	425	415	0.43	27.9	35.9	0.160	0.97	70	0.12	1.00	3 / 1	5
T5	2x28	PC 2x21/28 – 5 T5 COMBO Ip	89899882	425	415	0.45	55.8	66.5	0.295	0.98	70	0.12	1.00	3 / 1	5
T5	1x35	PC 1x35 – 6 T5 COMBO Ip	89899885	425	415	0.43	35.7	44.5	0.200	0.98	70	0.13	1.00	3 / 1	6
T5	2x35	PC 2x35 – 6 T5 COMBO Ip	89899886	425	415	0.45	71.4	84.4	0.370	0.98	70	0.13	1.00	3 / 1	6
T5	1x39	PC 1x39 – 5 T5 COMBO Ip	89899883	in preparation											
T5	2x39	PC 2x39 – 5 T5 COMBO Ip	89899884	in preparation											
T5	1x49	PC 1x49 – 5 T5 COMBO Ip	89899887	in preparation											
T5	2x49	PC 2x49 – 5 T5 COMBO Ip	89899888	425	415	0.45	101.4	112.0	0.500	0.98	70	0.07	1.00	3 / 1	5
T5	1x54	PC 1x54 – 6 T5 COMBO Ip	89899889	in preparation											
T5	2x54	PC 2x54 – 6 T5 COMBO Ip	89899890	in preparation											
T5	1x80	PC 1x80 – 6 T5 COMBO Ip	89899891	in preparation											

<b>Technical data PC T5 COMBO Ip</b>	
rated mains supply voltage	220-240 V
mains frequency	50/60 Hz
mains change over voltage	in accordance with EN 60598-2-22
min. temperature of lamp start (normal operation)	-15 °C
min. temperature of lamp start (emergency operation)	0 °C
Umgebungstemperaturbereich	-15 °C → +55 °C
operating frequency (normal operation)	40-50 kHz
operating frequency (emergency operation)	20-30 kHz
overvoltage protection	320 V for 1 h with IVG
recharge period	24 h
ingress protection	IP 20
safety class	1

#### Accu – 3 h duration

<b>NiCd 4.0 Ah</b> <b>D cells</b>	type of cells	number of cells	article number
<b>Accu-NiCd 3A</b>	stick	3	89895960
<b>Accu-NiCd 4A</b>	stick	4	89895961
<b>Accu-NiCd 5A</b>	stick	5	89895973
<b>Accu-NiCd 5B</b>	stick + stick	3 + 2	89895962
<b>Accu-NiCd 6A</b>	stick + stick	3 + 3	89895963

<b>NiMH 4.0 Ah</b> <b>Cs-Zellen</b>	type of cells	number of cells	article number
<b>Accu-NiMH 4 Ah C 3A</b>	stick	3	89899854
<b>Accu-NiMH 4 Ah C 4A</b>	stick	4	89899850
<b>Accu-NiMH 4 Ah C 5A</b>	stick	5	89899851
<b>Accu-NiMH 4 Ah C 6A</b>	stick + stick	6	89899852
<b>Accu-NiMH 4 Ah C 6C</b>	stick + stick	3 + 3	89899853

#### Accu – 1 h duration

<b>NiCd 1.5 Ah</b> <b>Cs cells</b>	type of cells	number of cells	article number
<b>Accu-NiCd C 3A</b>	stick	3	89899743
<b>Accu-NiCd C 4A</b>	stick	4	89899692
<b>Accu-NiCd C 5A</b>	stick	5	89899695
<b>Accu-NiCd C 6A</b>	stick	6	89899698
<b>Accu-NiCd C 6C</b>	stick + stick	3 + 3	89899699

<b>NiMH 2.0 Ah</b> <b>Cs cells</b>	type of cells	number of cells	article number
<b>Accu-NiMH C 3A</b>	stick	3	89899744
<b>Accu-NiMH C 4A</b>	stick	4	89899700
<b>Accu-NiMH C 5A</b>	stick	5	89899703
<b>Accu-NiMH C 6A</b>	stick	6	89899706
<b>Accu-NiMH C 6C</b>	stick + stick	3 + 3	89899707

Other batteries are available.

Technical accu information see page 200/201.

#### Test switch

An optional test switch can be wired to the PC T5 COMBO Ip.  
This can be used to check local operation of the luminaire.

type	article number
<b>Prüftaster EM 3 ①</b>	89899956

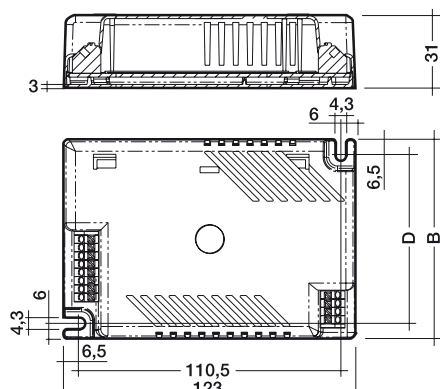
① new plug-in version

#### Status indication

A green LED indicates that charging current  
is flowing into the battery.

type	article number
<b>LED EM green</b>	89899605
<b>LED EM green, high brightness</b>	89899756

PC CFL COMBO 220–240 V 50/60 Hz



- combined electronic ballast and emergency lighting module
- simplified wiring
- no compatibility issues
- 1 hour or 3 hours duration
- small size for easy integration
- pre-heat start in normal operation
- cathode heating during emergency operation
- AC operation of lamps

- high and standard BLF for 1 hour versions
- deep discharge protection
- regulated electronic
- remote battery pack
- standard and high brightness LED available

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
**PC CFL COMBO**  
box of 25

**Accu-NiCd**  
box of 25

**Pack-NiCd**  
box of 25

**LED green**  
25 pieces/bag  
box of 200

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
in accordance  
with EN 60598-2-22  
EN 60925  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-7  
EN 61547  
in accordance  
with EN 50172

PC CFL COMBO – 3 h duration

Lamp		Ballast												
type	watt- age W	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current A	power factor (ca.)	max. case temperature tc point °C	emergency BLF	normal BLF	accu 4.0 Ah NiCd D cells
TC-DEL	10	PC 1x10/13-33 TC COMBO	89899648	123 x 79 x 31	66.5	0.15	10	15	0.08	0.90	70	0.130	> 0.95	3 x accu
TC-DEL	2x10	PC 2x10/13-33 TC COMBO	89899649	123 x 102 x 31	89.5	0.22	2x10	27	0.13	0.95	70	0.130	> 0.95	3 x accu
TC-DEL/TEL	13	PC 1x10/13-33 TC COMBO	89899648	123 x 79 x 31	66.5	0.15	13	19	0.09	0.90	70	0.12/0.08	> 0.95	3 x accu
TC-DEL/TEL	2x13	PC 2x10/13-33 TC COMBO	89899649	123 x 102 x 31	89.5	0.22	2x13	36	0.16	0.95	70	0.12/0.08	> 0.95	3 x accu
TC-DEL/TEL	18	PC 1x18-34 TC COMBO	89899650	123 x 79 x 31	66.5	0.15	18	24	0.11	0.95	70	0.15/0.18	> 0.95	4 x accu
TC-DEL/TEL	2x18	PC 2x18-34 TC COMBO	89899651	123 x 102 x 31	89.5	0.22	2x18	44	0.21	0.95	70	0.15/0.18	> 0.95	4 x accu
TC-DEL/TEL	26	PC 1x26/32-35 TC COMBO	89899641	123 x 79 x 31	66.5	0.15	26	32	0.15	0.95	70	0.11/0.10	> 0.95	5 x accu
TC-DEL/TEL	2x26	PC 2x26-35 TC COMBO	89899642	123 x 102 x 31	89.5	0.22	2x26	60	0.28	0.95	70	0.11/0.14	> 0.95	5 x accu
TC-TEL	32	PC 1x26/32-35 TC COMBO	89899641	123 x 79 x 31	66.5	0.15	32	38	0.18	0.95	70	0.095	> 0.95	5 x accu
TC-TEL	2x32	PC 2x32-35 TC COMBO	89899652	123 x 102 x 31	89.5	0.22	2x32	75	0.35	0.95	80	0.095	> 0.95	5 x accu
TC-TEL	42	PC 1x26/32/42-36 TC COMBO	89899745	123 x 79 x 31	66.5	0.15	42	50	0.24	0.95	70	0.075	> 0.95	6 x accu
TC-TEL	2x42	PC 2x32/42-36 TC COMBO	89899746	123 x 102 x 31	89.5	0.22	2x42	100	0.47	0.95	80	0.075	> 0.95	6 x accu
TC-TEL	57	PC 1x57-36 TC COMBO	89899653	123 x 102 x 31	89.5	0.22	57	66	0.30	0.95	75	0.050	> 0.95	6 x accu
TC-DD	16	PC 1x16-33 DD COMBO	89899816	123 x 79 x 31	66.5	0.15	15	20	0.10	0.91	70	0.180	> 0.95	3 x accu
TC-DD	28	PC 1x28-34 DD COMBO	89899633	123 x 79 x 31	66.5	0.15	17	26	0.12	0.95	75	0.120	0.75	4 x accu
TC-DD	28	PC 1x28-34 HO DD COMBO	89899654	123 x 79 x 31	66.5	0.15	25	34	0.16	0.95	70	0.120	> 0.95	4 x accu
TC-DD *	28	PC 1x28-33 DD COMBO	89899798	123 x 79 x 31	66.5	0.15	17	26	0.12	0.95	75	0.090	0.75	3 x accu
TC-DD *	28	PC 1x28-33 HO DD COMBO	89899799	123 x 79 x 31	66.5	0.15	25	34	0.16	0.95	70	0.090	> 0.95	3 x accu
TC-DD *	38	PC 1x38-34 DD COMBO	89899655	123 x 79 x 31	66.5	0.15	35	43	0.20	0.95	70	0.065	> 0.95	4 x accu
TC-DD	38	PC 1x38-35 DD COMBO	89899769	123 x 79 x 31	66.5	0.15	35	44	0.20	0.95	70	0.090	> 0.95	5 x accu

\* biax non amalgam only

Technical data PC CFL COMBO:

rated mains supply voltage	220-240 V	temperature range (emergency operation)	0 °C → +50 °C
mains frequency	50/60 Hz	recharge period	24 h
mains change over voltage in accordance with	EN 60598-2-22	ingress protection	IP 20
min. lamp starting temperature (ECG operation)	-15 °C	safety class	1
min. lamp starting temperature (emergency operation)	0 °C		

PC CFL COMBO – 1 h duration; high BLF D cells

Lamp		Ballast												
type	watt- age W	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current A	power factor (ca.)	max. case temperature tc point °C	emergency BLF	normal BLF	accu 4.0 Ah NiCd D cells
TC-DEL	10	PC 1x10/13-13 TC COMBO	89899656	123 x 79 x 31	66.5	0.15	10	15	0.08	0.90	70	0.330	> 0.95	3 x accu
TC-DEL	2x10	PC 2x10/13-13 TC COMBO	89899657	123 x 102 x 31	89.5	0.22	2x10	27	0.13	0.95	70	0.330	> 0.95	3 x accu
TC-DEL/TEL	13	PC 1x10/13-13 TC COMBO	89899656	123 x 79 x 31	66.5	0.15	13	19	0.09	0.90	70	0.27/0.23	> 0.95	3 x accu
TC-DEL/TEL	2x13	PC 2x10/13-13 TC COMBO	89899657	123 x 102 x 31	89.5	0.22	2x13	36	0.16	0.95	70	0.27/0.23	> 0.95	3 x accu
TC-DEL/TEL	18	PC 1x18-14 TC COMBO	89899658	123 x 79 x 31	66.5	0.15	18	24	0.11	0.95	70	0.33/0.40	> 0.95	4 x accu
TC-DEL/TEL	2x18	PC 2x18-14 TC COMBO	89899659	123 x 102 x 31	89.5	0.22	2x18	44	0.21	0.95	70	0.33/0.40	> 0.95	4 x accu
TC-DEL/TEL	26	PC 1x26/32/42-15 TC COMBO	89899660	123 x 79 x 31	66.5	0.15	26	32	0.15	0.95	70	0.20/0.21	> 0.95	5 x accu
TC-DEL/TEL	2x26	PC 2x26-15 TC COMBO	89899661	123 x 102 x 31	89.5	0.22	2x26	60	0.28	0.95	70	0.27/0.33	> 0.95	5 x accu
TC-TEL	32	PC 1x26/32/42-15 TC COMBO	89899660	123 x 79 x 31	66.5	0.15	32	38	0.18	0.95	70	0.200	> 0.95	5 x accu
TC-TEL	2x32	PC 2x32/42-15 TC COMBO	89899662	123 x 102 x 31	89.5	0.22	2x32	75	0.35	0.95	80	0.200	> 0.95	5 x accu
TC-TEL	42	PC 1x26/32/42-15 TC COMBO	89899660	123 x 79 x 31	66.5	0.15	42	50	0.24	0.95	70	0.190	> 0.95	5 x accu
TC-TEL	2x42	PC 2x32/42-15 TC COMBO	89899662	123 x 102 x 31	89.5	0.22	2x42	100	0.47	0.95	80	0.190	> 0.95	5 x accu
TC-TEL	57	PC 1x57-16 TC COMBO	89899663	123 x 102 x 31	89.5	0.22	57	66	0.30	0.95	75	0.170	> 0.95	6 x accu

PC CFL COMBO – 1 h duration standard BLF; NiCd Cs cells 1.5 Ah or NiMH Cs cells 2.0 Ah

Lamp		Ballast												
type	watt- age W	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current A	power factor (ca.)	max. case temperature tc point °C	emergency BLF	normal BLF	accu 1.5 Ah NiCd Cs cells 2.0 Ah NiMH Cs cells
TC-DEL	10	PC 1x10/13-13C TC COMBO	89899664	123 x 79 x 31	66.5	0.15	10	15	0.08	0.90	70	0.130	> 0.95	3 x accu
TC-DEL	2x10	PC 2x10/13-13C TC COMBO	89899665	123 x 102 x 31	89.5	0.22	2x10	27	0.13	0.95	70	0.130	> 0.95	3 x accu
TC-DEL/TEL	13	PC 1x10/13-13C TC COMBO	89899664	123 x 79 x 31	66.5	0.15	13	19	0.09	0.90	70	0.12/0.08	> 0.95	3 x accu
TC-DEL/TEL	2x13	PC 2x10/13-13C TC COMBO	89899665	123 x 102 x 31	89.5	0.22	2x13	36	0.16	0.95	70	0.12/0.08	> 0.95	3 x accu
TC-DEL/TEL	18	PC 1x18-14C TC COMBO	89899666	123 x 79 x 31	66.5	0.15	18	23	0.11	0.95	70	0.15/0.18	> 0.95	4 x accu
TC-DEL/TEL	2x18	PC 2x18-14C TC COMBO	89899667	123 x 102 x 31	89.5	0.22	2x18	43	0.20	0.95	70	0.15/0.18	> 0.95	4 x accu
TC-DEL/TEL	26	PC 1x26/32-15C TC COMBO	89899668	123 x 79 x 31	66.5	0.15	26	31	0.15	0.95	70	0.11/0.10	> 0.95	5 x accu
TC-DEL/TEL	2x26	PC 2x26-15C TC COMBO	89899669	123 x 102 x 31	89.5	0.22	2x26	59	0.28	0.95	70	0.11/0.14	> 0.95	5 x accu
TC-TEL	32	PC 1x26/32-15C TC COMBO	89899668	123 x 79 x 31	66.5	0.15	32	37	0.17	0.95	70	0.095	> 0.95	5 x accu
TC-TEL	2x32	PC 2x32-15C TC COMBO	89899670	123 x 102 x 31	89.5	0.22	2x32	75	0.35	0.95	80	0.095	> 0.95	5 x accu
TC-TEL	42	PC 1x26/32/42-16C TC COMBO	89899747	123 x 79 x 31	66.5	0.15	42	49	0.23	0.95	70	0.075	> 0.95	6 x accu
TC-TEL	2x42	PC 2x32/42-16C TC COMBO	89899748	123 x 102 x 31	89.5	0.22	2x42	100	0.47	0.95	80	0.075	> 0.95	5 x accu
TC-TEL	57	PC 1x57-16C TC COMBO	89899671	123 x 102 x 31	89.5	0.22	57	66	0.30	0.95	75	0.050	> 0.95	5 x accu

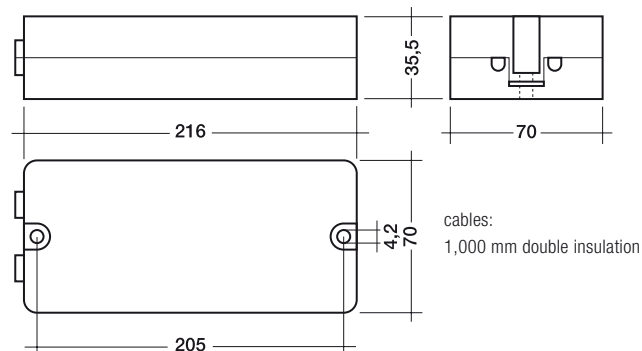
Battery NiCd (high temperature)	type	number of cells	article number	L x W x H mm	weight g
Pack-NiCd 3D	Remote pack 4.0 Ah	3	89899672	216 x 70 x 35.5	570
Pack-NiCd 4D	Remote pack 4.0 Ah	4	89899673	216 x 70 x 35.5	700
Pack-NiCd 5D	Remote pack 4.0 Ah	5	89899674	216 x 70 x 35.5	840
Pack-NiCd 6D	Remote pack 4.0 Ah	6	89899675	216 x 70 x 35.5	980
Pack-NiCd 3C	Remote pack 1.5 Ah	3	89899676	216 x 70 x 35.5	320
Pack-NiCd 4C	Remote pack 1.5 Ah	4	89899677	216 x 70 x 35.5	370
Pack-NiCd 5C	Remote pack 1.5 Ah	5	89899678	216 x 70 x 35.5	420
Pack-NiCd 6C	Remote pack 1.5 Ah	6	89899679	216 x 70 x 35.5	470

Status indication

A green LED indicates that charging current is flowing into the battery.

type	article number
LED EM green	89899605
LED EM green, high brightness	89899756

Accu-NiCd (Remote pack):

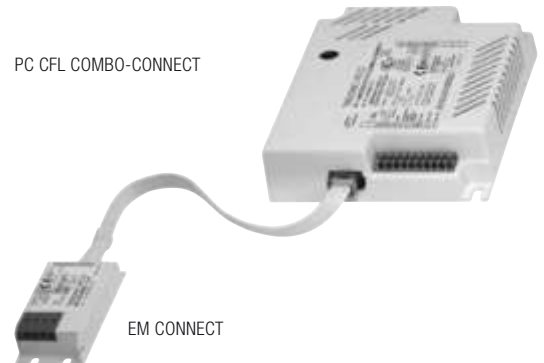
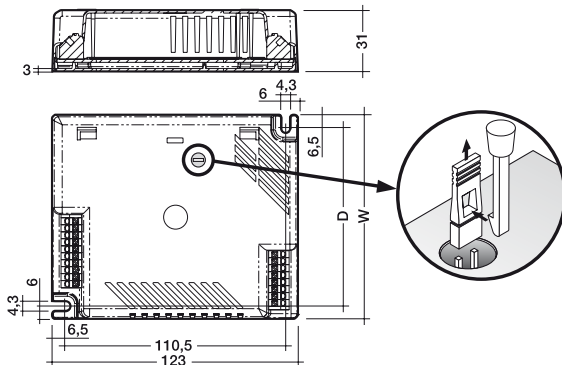


Technical data Accu-NiCd:

case temperature range (to ensure 4 years life)	0 °C → +55 °C
temperature range of Pack-NiCd	0 °C → +40 °C at tc point
storage life (in temperate conditions)	4 years
battery voltage/cells	1.2 V
capacity D-NiCd	4.0 Ah
capacity Cs-NiCd	1.5 Ah

Technical accu information see page 200/201.

PC CFL COMBO-CONNECT 220-240 V 50/60 Hz



- combined electronic ballast and emergency lighting module
- plug in interface unit for selftest or DALI operation
- simplified wiring
- no compatibility issues
- 1 hour or 3 hours duration
- 1 hour duration selection by means of removable jumper plug
- small size for easy integration
- pre-heat start in normal operation

- cathode heating during emergency operation
- AC operation of lamps
- deep discharge protection
- regulated electronic charging circuit
- remote battery pack units
- standard and high brightness LED available
- DALI switching ballast (FOX)
- patented easy addressing feature using LED
- EZ addressing tool available

**Wiring:**  
see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com)  
or on request

**Packaging:**  
**PC CFL COMBO-CONNECT**  
box of 25

**EM CONNECT**  
box of 25

**LED**  
box of 25

**Accu-NiCd**  
box of 25

**Pack-NiCd**  
box of 25

**Approvals:**  
EN 55015: 2006 +  
A1: 2007  
in accordance  
with EN 60598-2-22  
EN 60925  
EN 60929  
EN 61000-3-2  
EN 61347-2-3  
EN 61347-2-7  
EN 61547  
pr IEC 62034  
in accordance  
with EN 50172

PC CFL COMBO-CONNECT – 3 h duration

Lamp		Ballast													
type	watt- age W	type	article number	with W mm	fixing centres D mm	weight kg	lamp power W	circuit power W	current A	$\lambda$ (ca.)	max. case temperature tc point °C	emergency BLF	normal BLF	accu 3 h 4.0 Ah NiCd D cells	accu 1 h 1.5 Ah NiCd Cs cells 2.0 Ah NiMH Cs cells
TC-DEL/TEL	18	PC 1x18-4 TC COMBO-CONNECT	89899770	102	89.5	0.15	18	24	0.11	0.95	0 → +70	0.15/0.18	> 0.95	4 x accu	4 x accu
TC-DEL/TEL	2x18	PC 2x18-4 TC COMBO-CONNECT	89899783	102	89.5	0.22	2x18	44	0.21	0.95	0 → +70	0.15/0.18	> 0.95	4 x accu	4 x accu
TC-DEL/TEL	26	PC 1x26/32/42-6 TC COMBO-CONNECT	89899773	102	89.5	0.15	26	32	0.15	0.95	0 → +70	0.11/0.10	> 0.95	6 x accu	6 x accu
TC-DEL/TEL	2x26	PC 2x26-5 TC COMBO-CONNECT	89899786	102	89.5	0.22	2x26	60	0.28	0.95	0 → +70	0.11/0.14	> 0.95	5 x accu	5 x accu
TC-TEL	32	PC 1x26/32/42-6 TC COMBO-CONNECT	89899773	102	89.5	0.15	32	38	0.18	0.95	0 → +70	0.095	> 0.95	6 x accu	6 x accu
TC-TEL	2x32	PC 2x32/42-6 TC COMBO-CONNECT	89899789	102	89.5	0.22	2x32	75	0.35	0.95	0 → +80	0.095	> 0.95	6 x accu	6 x accu
TC-TEL	42	PC 1x26/32/42-6 TC COMBO-CONNECT	89899773	102	89.5	0.15	42	50	0.24	0.95	0 → +70	0.075	> 0.95	6 x accu	6 x accu
TC-TEL	2x42	PC 2x32/42-6 TC COMBO-CONNECT	89899789	102	89.5	0.22	2x42	100	0.47	0.95	0 → +80	0.075	> 0.95	6 x accu	6 x accu
TC-DD	28	PC 1x28-4 DD COMBO-CONNECT	89899776	102	89.5	0.15	17	26	0.12	0.95	0 → +75	0.120	0.75	4 x accu	4 x accu
TC-DD	28	PC 1x28-4 HO DD COMBO-CONNECT	89899777	102	89.5	0.15	25	34	0.16	0.95	0 → +70	0.120	> 0.95	4 x accu	4 x accu
TC-DD	38	PC 1x38-5 DD COMBO-CONNECT	89899779	102	89.5	0.15	35	44	0.20	0.95	0 → +70	0.090	> 0.95	5 x accu	5 x accu

Note: remove link and select correct accu for 1 hour operation

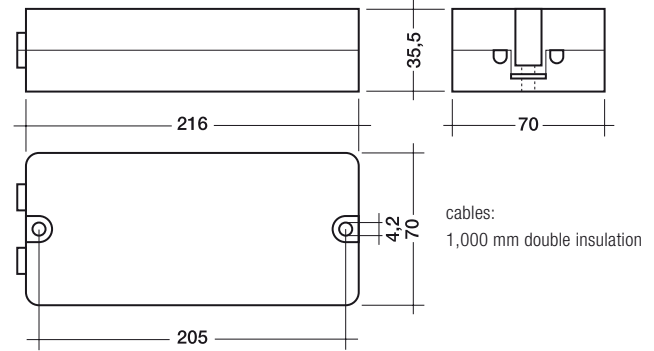
Technical data PC CFL COMBO-CONNECT:

rated mains supply voltage	220-240 V	temperature range (emergency operation)	+5 °C → +50 °C
mains frequency	50/60 Hz	recharge period	24 h
mains change over voltage in accordance with	EN 60598-2-22	ingress protection	IP 20
min. lamp starting temperature (ECG operation)	-15 °C	safety class	1
min. lamp starting temperature (emergency operation)	+5 °C		



Battery NiCd (high temperature)	type	number of cells	article number	L x W x H mm	weight g
Pack-NiCd 3D	Remote pack 4.0 Ah	3	89899672	216 x 70 x 35.5	570
Pack-NiCd 4D	Remote pack 4.0 Ah	4	89899673	216 x 70 x 35.5	700
Pack-NiCd 5D	Remote pack 4.0 Ah	5	89899674	216 x 70 x 35.5	840
Pack-NiCd 6D	Remote pack 4.0 Ah	6	89899675	216 x 70 x 35.5	980
Pack-NiCd 3C	Remote pack 1.5 Ah	3	89899676	216 x 70 x 35.5	320
Pack-NiCd 4C	Remote pack 1.5 Ah	4	89899677	216 x 70 x 35.5	370
Pack-NiCd 5C	Remote pack 1.5 Ah	5	89899678	216 x 70 x 35.5	420
Pack-NiCd 6C	Remote pack 1.5 Ah	6	89899679	216 x 70 x 35.5	470

#### Accu-NiCd (Remote pack):



#### Status indication

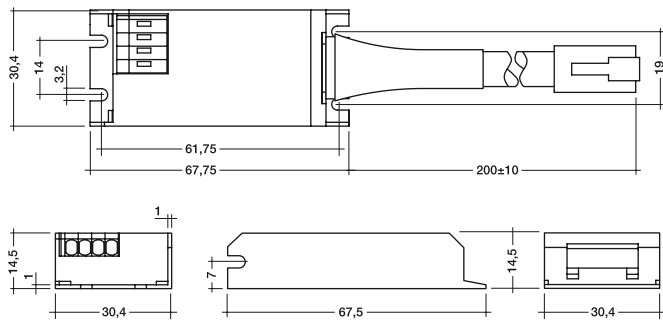
type	article number	
LED EM green	89899605	for manual testing
LED EM green, high brightness	89899756	for manual testing
LED EM bi-colour	89899720	for SELFTEST or DALI
LED EM bi-colour, high brightness	89899753	for SELFTEST or DALI

#### Technical data Accu-NiCd:

case temperature range (to ensure 4 years life)	0 °C → +55 °C
temperature range of Pack-NiCd	0 °C → +40 °C at tc point
storage life (in temperate conditions)	4 years
battery voltage/cells	1.2 V
capacity D-NiCd	4.0 Ah
capacity Cs-NiCd	1.5 Ah

Technical accu information see page 200/201.

#### EM CONNECT:



#### Technical data CONNECT-modules:

connection	RJ45
lead length	200 mm
LED connections	2 x PW
DALI bus connections	2 x PW
max. tc temp	70 °C
selftest	
weekly	30 s
yearly	1 hour or 3 hours duration
DALI	to DALI standard

#### Selftest CONNECT-modules:

duration (h)	type	article number
3	EM CONNECT 3ST	89899792
1	EM CONNECT 1ST	89899795

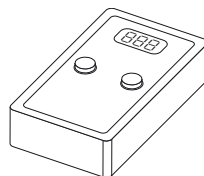
#### DALI CONNECT-Module:

duration (h)	type	article number
3	EM CONNECT 3PRO	89899794
1	EM CONNECT 1PRO	89899797

#### Addressing tool:

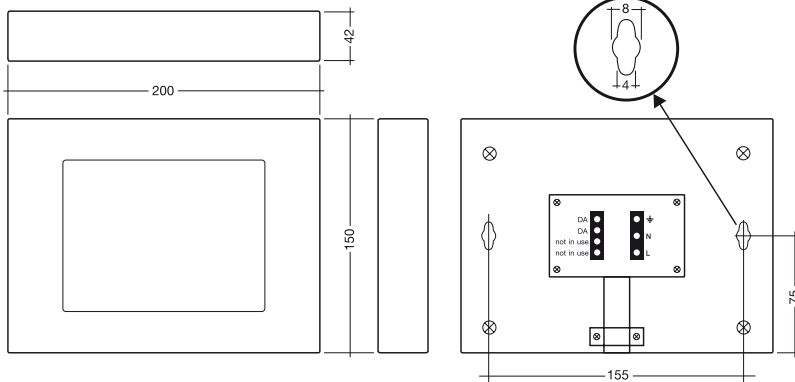
type	article number
EZ PRO ADDRESS	89899836

The EZ addressing tool provides simple addressing for the EM PRO units by using the two-colour LED for device identification.



Further technical details on the product and any recommendations relating to installation are given on the product data sheet of the same name (please refer to [www.tridonicatco.com](http://www.tridonicatco.com)).

e-touchBOX



The e-touchBOX is equipped with a 5.7 inch colour touch screen and integrated DALI bus supply. It is an emergency lighting system for 60 DALI emergency lighting units, such as devices in the TridonicAtco PRO emergency lighting series, with user-friendly application software for function tests and endurance tests.

**Control functions:**

- calendar-controlled function and duration test
- simply reading of the system status
- simple to use graphical user interface
- easy downloading of the test protocol to PC (using irDA)

User-defined labelling of groups and devices. Software updates with PC via irDA interface.

The e-touchBOX fully supports the patented TridonicAtco EZ easy address system which makes addressing of DALI emergency systems simple and foolproof.

**Applications:**

for small to medium sized systems

**DALI repeater:**

A DALI repeater (article number: 86458401) is available for extending the maximum cable length from 300 m to 600 m. For more information please contact TridonicAtco.

**Wiring:**

see separate data sheet at [www.tridonicatco.com](http://www.tridonicatco.com) or on request

**Designed according to:**

- EN 55011
- EN 55015
- EN 55022
- EN 60730
- EN 61000-3-2
- EN 61000-3-3
- EN 61000-6-2
- EN 61547

**Packaging:**

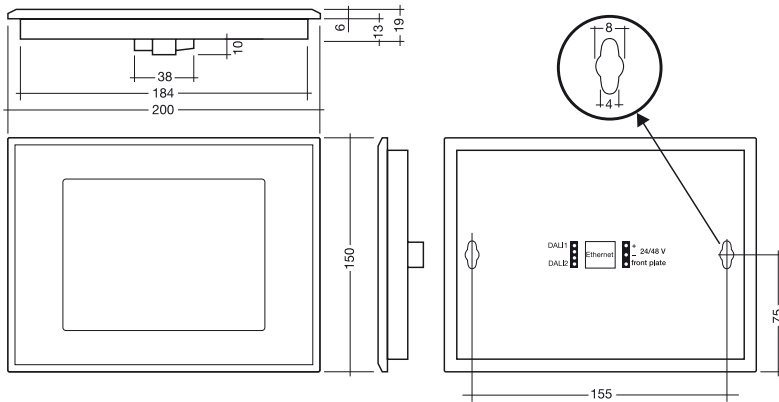
single pack

type			e-touchBOX
article number			24139015
supply	voltage	V	110-240
	frequency	Hz	50/60
	mains supply power	W	10
screen	–	–	touchpanel (5.7" / 320 x 240 pixel / 256 colours)
output	–	–	DALI
	addresses for emergency lighting supply units	–	60
	current	mA	200
interface	–	–	irDA
temperature	ambient temperature ta	°C	0 → +50
weight	–	kg	0.92
dimensions (L x W x H)	–	mm	200 x 150 x 42
fixing centres (D)	–	mm	155
ingress protection	–	–	IP 20
safety class	–	–	1

e-touchPANEL



**NEW**



- emergency lighting system for 120 DALI emergency lighting units (60 per DALI circuit)
- 5.7 inch colour touch screen
- user-friendly application software
- communication via standard internet browser
- Ethernet as an additional interface

The e-touchPANEL is fully DALI-compatible. Up to 120 TridonicAtco DALI-based emergency lighting units, such as the devices in the EM PRO series, can be controlled and monitored. Function tests and endurance tests can be set up in accordance with local regulations.

The e-touchPANEL fully supports the patented TridonicAtco EZ easy address system which makes addressing of DALI emergency systems simple and foolproof.

**Control functions:**

- calendar-controlled function and duration test
- simply reading of the system status
- easy downloading of the test protocol to PC (using IrDA or Ethernet)
- can be remote controlled via a standard internet browser

User-defined labelling of groups and devices. Software updates with PC via IrDA interface.

**DALI system functions:**

- Addressing
- Grouping

**Applications:**

for small to medium sized systems

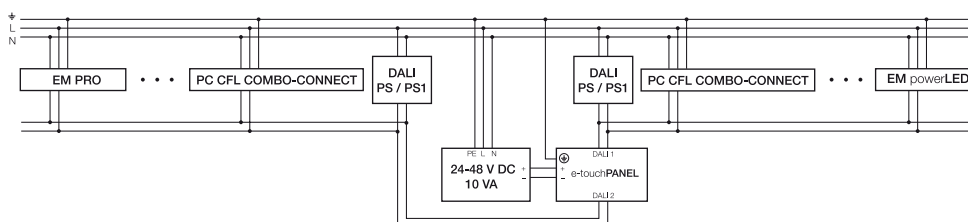
**Designed according to:**

- EN 55011
- EN 55015
- EN 55022
- EN 60730
- EN 6000-3-2
- EN 6000-3-3
- EN 6000-6-2
- EN 61547

**Packaging:**

single pack

type		e-touchPANEL	
article number		24139117	
supply	external power supply necessary, in package included		
	voltage	V	230/240
	frequency	Hz	50/60
	mains supply power	W	10
screen	–	–	touchpanel (5.7" / 320 x 240 pixel / 256 colours)
output	–	–	DALI
	number of DALI lines	–	2
	addresses for emergency lighting supply units	–	120 (60 per DALI line)
	Power draw per DALI circuit	mA	2
interface	–	–	Ethernet, IrDA
temperature	ambient temperature ta	°C	0 → +50
weight	–	kg	0.92
dimensions (L x W x H)	–	mm	200 x 150 x 20
fixing centres (D)	–	mm	155
ingress protection	–	–	IP 20
safety class	–	–	1



EM-Link software is available for linking multiple e-touchPANEL via the internet (TCP/IP) to a computer. For more information please contact TridonicAtco.

Accu-NiCd



Figure 1 – Accu (stick pack)

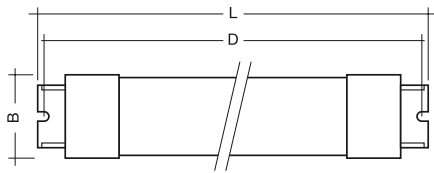


Figure 2 – Accu (stick + stick pack)

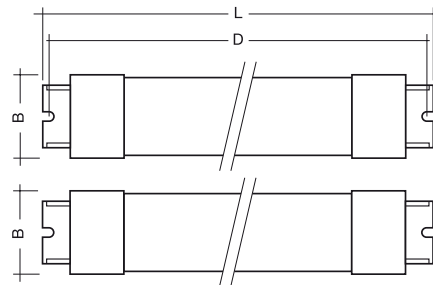
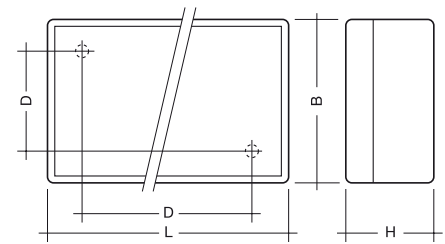


Figure 3 – Accu (side by side pack)



Packaging:  
box of 25

NiCd 4.0 Ah D cells	number of cells	article number	figure	L mm	D mm	B mm	H mm	weight g
<b>Accu (stick)</b>								
Accu-NiCd 3A	3	89895960	1	218	201	37	–	400
Accu-NiCd 4A	4	89895961	1	275	263	37	–	530
Accu-NiCd 5A	5	89895973	1	338	323	37	–	660
<b>Accu (stick + stick)</b>								
Accu-NiCd 4C	4	89895978	2	151	139	37	–	530
Accu-NiCd 5B	5	89895962	2	151 + 218	139 + 201	37	–	660
Accu-NiCd 6A	6	89895963	2	218	201	37	–	790
<b>Accu (side by side)</b>								
Accu-NiCd 3B	3	89895976	3	98	40 x 33	65	35	400
Accu-NiCd 4B	4	89895977	3	130	40 x 66	65	35	530

Technical data Accu-NiCd:

case temperature range to ensure 4 years life 0 °C → +55 °C  
 storage life in temperate conditions 4 years  
 battery voltage per cell 1.2 V

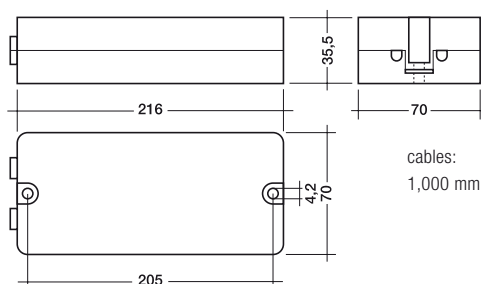
Capacity:

Accu-NiCd D 4.0 Ah  
 Accu-NiCd Cs 1.5 Ah

NiCd 1.5 Ah Cs cells	number of cells	article number	figure	L mm	D mm	B mm	H mm	weight g
<b>Accu (stick)</b>								
Accu-NiCd C 3A	3	89899743	1	162	147	26	–	150
Accu-NiCd C 4A	4	89899692	1	205	190	26	–	200
Accu-NiCd C 5A	5	89899695	1	247	232	26	–	250
Accu-NiCd C 6A	6	89899698	1	290	275	26	–	300
<b>Accu (stick + stick)</b>								
Accu-NiCd C 4C *	2 + 2	89899694	2	119	104	26	–	200
Accu-NiCd C 5C *	3 + 2	89899697	2	162 + 119	147 + 104	26	–	250
Accu-NiCd C 6C	3 + 3	89899699	2	162	147	26	–	300
<b>Accu (side by side)</b>								
Accu-NiCd C 3B *	3	89899729	3	147	40 x 96	54	25	180
Accu-NiCd C 4B *	4	89899693	3	147	40 x 96	54	25	230
Accu-NiCd C 5B *	5	89899696	3	147	40 x 96	54	25	280

\* on request

Accu-NiCd (Remote pack):



cables:  
1,000 mm double insulation

Technical data Accu-NiCd:

case temperature range (to ensure 4 years life) 0 °C → +55 °C  
 temperature range of Pack-NiCd 0 °C → +40 °C at tc point  
 storage life (in temperate conditions) 4 years  
 battery voltage per cell 1.2 V  
 capacity D-NiCd 4.0 Ah  
 capacity Cs-NiCd 1.5 Ah

For available batter packs see page 195

Accus-NiMH



Figure 1 – Accu (stick pack)

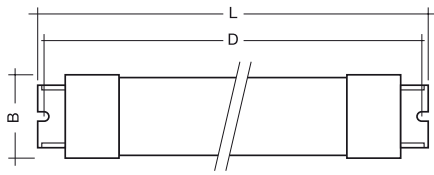


Figure 2 – Accu (stick + stick pack)

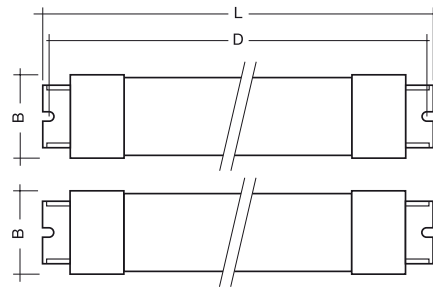
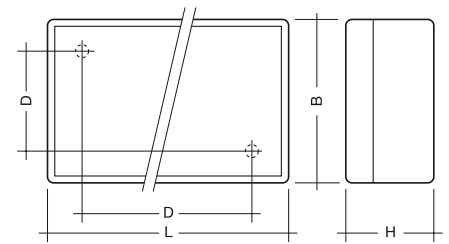


Figure 3 – Accu (side by side pack)



Packaging:  
box of 25

NiMH 4.0 Ah Cs cells	number of cells	article number	figure	L mm	D mm	B mm	H mm	weight g
<b>Accu (stick)</b>								
Accu-NiMH 4 Ah C 3A	3	89899854	1	215	200	25	–	244
Accu-NiMH 4 Ah C 4A	4	89899850	1	276	260	25	–	318
Accu-NiMH 4 Ah C 5A	5	89899851	1	336	320	25	–	395
Accu-NiMH 4 Ah C 6A	6	89899852	1	396	380	25	–	469
<b>Accu (stick + stick)</b>								
Accu-NiMH 4 Ah C 6C	3 + 3	89899853	2	215	200	25	–	487

**Technical data Accu-NiMH 4.0 Ah:**

case temperature range	0 °C → +50 °C
to ensure 4 years life	
storage life in temperate conditions	4 years
battery voltage per cell	1.2 V
capacity	4.0 Ah

NiMH 2.0 Ah Cs cells	number of cells	article number	figure	L mm	D mm	B mm	H mm	weight g
<b>Accu (stick)</b>								
Accu-NiMH C 2A	2	89899755	1	119	104	26	–	116
Accu-NiMH C 3A	3	89899744	1	162	147	26	–	174
Accu-NiMH C 4A	4	89899700	1	205	190	26	–	232
Accu-NiMH C 5A	5	89899703	1	247	232	26	–	290
Accu-NiMH C 6A	6	89899706	1	290	275	26	–	348
<b>Accu (stick + stick)</b>								
Accu-NiMH C 6C	3 + 3	89899707	2	162	147	26	–	348
<b>Accu (side by side)</b>								
Accu-NiMH C 5B	5	89899704	3	147	40 x 96	54	25	280

**Technical data Accu-NiMH 2.0 Ah:**

case temperature range	0 °C → +55 °C
to ensure 4 years life	
storage life in temperate conditions	4 years
battery voltage per cell	1.2 V
capacity	2.0 Ah



# Control gear for high pressure discharge lamps

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# Magnetic chokes for high pressure discharge lamps

EC, OM, OF and OG magnetic chokes from TridonicAtco are robust and extremely cost-effective solutions with long lives. In these chokes the impedance is matched to the particular lamp type so mercury vapour lamps, sodium lamps and metal halide lamps are guaranteed to operate according to the manufacturers' specifications and achieve their maximum luminous flux.

Mercury vapour lamps are operated with chokes without additional ignitors. There is also no need for thermal protection as there is no rectifier effect when the lamps come to the end of their lives.

Apart from a choke, sodium lamps – like most metal halide lamps without integrated starters – need an ignitor to provide the ignition pulse to start them. Because of the rectifier effect when the lamp comes to the end of its life the ballasts have to have thermal protection.

The EC, OM, OF and OG chokes are characterised by extremely low power consumption, compact windings and minimal leakage field – and therefore very low noise. The result is a high level of efficiency. Small dimensions and high-quality materials complement their application-related properties.

## Application-oriented design

Magnetic chokes from TridonicAtco are available in single or multi-voltage versions. With up to three voltage taps in the OM family and up to five in the OG series there are major benefits for luminaire manufacturers because luminaires equipped with these ballasts can be used for different mains voltages in different countries.

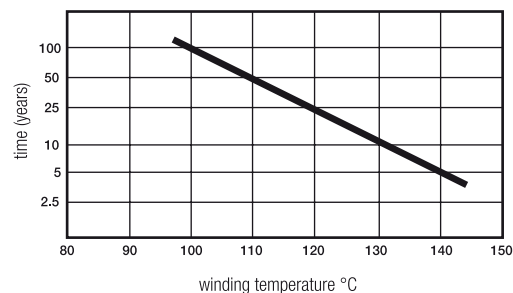
Chokes with pulse taps are optimised to operate in conjunction with pulse ignitors from TridonicAtco. These chokes supply very high ignition energy and are also designed for high ignition voltage, resulting in high levels of reliability.

Chokes with power taps are suitable for street lighting that switch at certain times to energy-saving settings.

Chokes with double insulation for safety class 2 luminaires have compact designs because TridonicAtco uses high-quality insulation inside the core. All the versions have a reversible thermal protector rated at 155 °C and a thermal cutout that triggers at 214 °C. The cutout is located in the chokes to ensure reliable thermal contact and rapid triggering.

## Design for long life

Because of their high-quality insulation material, coil core and copper wire, chokes in the EC, OM, OF and OG series from TridonicAtco achieve a maximum life of approximately 100,000 hours of operation, in other words about ten years of constant use at a winding temperature of 130 °C (tw = 130 °C). The winding temperature is the ambient temperature plus the increase in temperature due to the power consumption of the unit. A change in temperature of 10 °C down or up leads to a doubling or halving of the life of the unit.

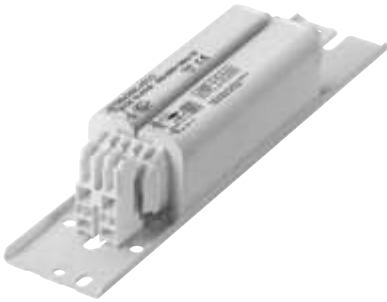


## Constant high quality

The consistently high quality and reliability of magnetic ballasts from TridonicAtco are guaranteed by the use of high-grade materials together with manufacturing processes certified to ISO 9001. Fully automatic manufacture also ensures constant reproducible quality. All the chokes are subjected to 100 % final testing and safety testing.

## Type series EC

Because of their small dimensions (41 mm x 31 mm), magnetic chokes of type series EC are particularly useful if only ballasts have to be installed in small cross-sections, such as tube systems. The range covers the operation of high-pressure discharge lamps with wattages up to 150 W. EC units are available with a core length of 90 mm to 160 mm and with either screw or plug-in terminals.



## Type series OF

OF ballasts are available for wattages of 250 W and 400 W. With a core length of 40 mm to 90 mm and a cross-section of 82 mm x 57 mm, this series is positioned between the OM and OG series. Equipped with robust screw terminals in the coil head, the OF ballasts are excellent for compact luminaire designs for the above-mentioned output range.



## Type series OM

Magnetic chokes in the OM series are suitable for operating mercury vapour lamps, sodium lamps and metal halide lamps with wattages from 35 W to 400 W. Their compact design makes them ideal for stylish luminaires. The plug-in terminals enable connections to be made quickly and reliably; voltage taps are also easy to select. Versions with various footplates and different mounting options are also available. The cross-section of the OM series is 65 mm x 47 mm for core lengths of 30 mm to 150 mm.



## Type series OG

Chokes in the OG series are suitable for high-pressure discharge lamps in the high-wattage range from 250 W to 3,500 W. With a width of 107 mm, a height of 78 mm, 90 mm or 106 mm and core lengths between 30 mm and 210 mm, the OG units are designed for high efficiency and low self-heating. The screw terminals are suitable for wire cross-sections from 1 mm<sup>2</sup> to 4 mm<sup>2</sup> and from 1 mm<sup>2</sup> to 6 mm<sup>2</sup>.



# Ignitors

Ignitors for generating the ignition voltages needed by metal halide lamps and sodium lamps without internal starters use either superimposed-pulse or pulse technology. The innovative range of ignitors from TridonicAtco includes standard ignitors suitable for all commercially available high-pressure discharge lamps with wattages from 35 W to 3,500 W, which require an ignition voltage between 800 V and 5,000 V depending on the type of lamp.

The special feature of superimposed-pulse ignitors is that the ignition voltage is generated without placing a high-voltage load on the choke. Superimposed-pulse technology leads to a reproducible ignition response which does not depend on the control gear used and is unaffected by voltage fluctuations.

Pulse ignitors are operated with chokes tailored specifically for them. Integrated shutdown of defective lamps reduces the load on the ballasts to a minimum. Restart attempts in pulse-pause mode reduce the load on the chokes still further.

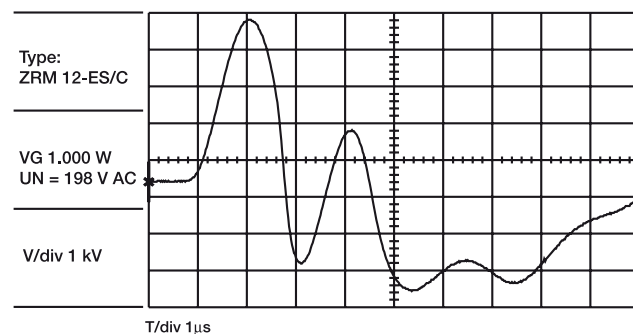
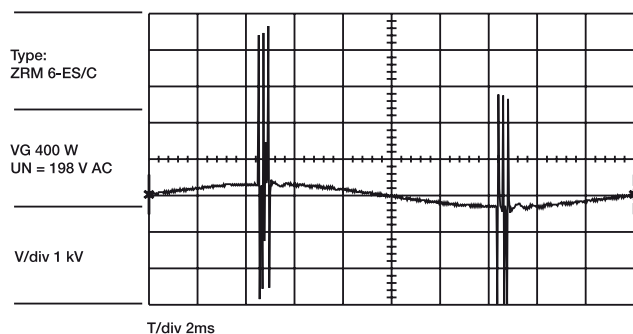
TridonicAtco ignitors ensure lamps start reliably even if the mains voltage is as low as 198 V (switch-on voltage). The ignitor is switched off as soon as the lamp starts to prevent damage to the lamp. Because of the high-quality narrow-tolerance components the switch-off voltage reaches the high value of 185 V.

The increase in temperature in the ignitor determines its area of application and is therefore an important criterion. TridonicAtco ignitors are characterised by minimal self-heating, which in turn gives luminaire designers extra creative freedom.



## Superimposed-pulse ignitors

In ignitors that operate on the superimposed principle the ignition voltage is generated by an integrated pulse transformer. This transforms the mains voltage to the ignition voltage of up to 5 kV required by the lamp. A cleverly designed circuit is used to control the ignition process. This means that superimposed-pulse ignitors from TridonicAtco have high system reliability and reproducibility of the ignition pulses, which are largely unaffected by fluctuations in the mains voltage.



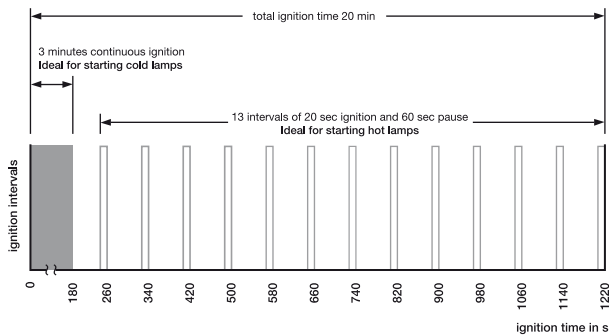
## Superimposed-pulse ignitors with timers



Sodium lamps and metal halide lamps connected to conventional ignitors begin to flicker at the end of their lives. This is avoided by ZRM ES/CT superimposed-pulse ignitors with integrated digital timers and pulse-pause ignition.

The ZRM ES/CT ignitor does not generate ignition pulses constantly but in a patented two-part rhythm, creating the optimum conditions for igniting the lamps. The lamp has time to cool down in the pauses after ignition. This leads to much faster restarts for hot lamps. Thanks to pulse-pause ignition the system downtime is reduced considerably.

The  $\mu$ -chip of the integrated timer in the superimposed-pulse ignitor digitally controls the logic for ignition and automatic shutdown. An automatic reset function is also integrated. This reset function is needed for lighting systems that operate 24 hours a day (tunnels, factories).



## Ignitor systems using pulse technology



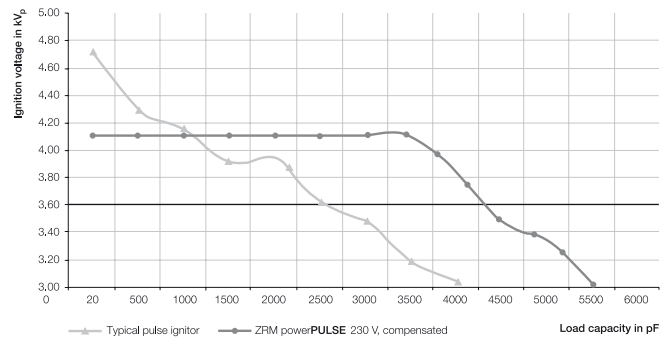
In pulse ignitors the high-voltage pulse is produced in conjunction with the ballast. The ignitor uses a separate tap on the ballast, specially developed for pulse technology and designed for high ignition voltages. As the high-voltage pulse is generated in the ballast for the ignition process it is possible to achieve very high ignition energy.

The digital ZRM powerPULSE from TridonicAtco compensates for the dependence of the output voltage on the mains voltage by using a microprocessor in the ignitor to control the production of the ignition pulse. This ensures that the

ballast and luminaire wiring are not overloaded if there is a mains overvoltage. It also ensures that in the event of a mains undervoltage or if there are extremely long connecting cables the required ignition energy is constantly available.

The benefits of pulse/pause technology are evident in the ZRM powerPULSE ignitor as this ignitor reduces the restart time and EMC interference in the ignition phase.

Comparison of various impulse ignitors



Another feature is the integrated digital three-start counter. This stops the ignition process after three unsuccessful lamp starts to suppress lamp cycling when the lamp comes to the end of its life and avoid overloading the control gear with the high-voltage pulses.

# Supply units for high-pressure discharge lamps

The power**PAK** supply units from TridonicAtco combine ballast, ignitor, p.f. correction capacitor and terminals in a compact casing. These independent units in safety class 2 are very easy to install. No tools are needed at all, so they save an enormous amount of time on site.

All the supply units for operating metal halide lamps or sodium lamps are temperature-protected and are suitable for mounting on normally flammable material (fire category F). The units are preset at the factory for maximum possible voltage tapping. This can be adjusted to the actual supply voltage without the need for any tools.

The robust design also means that the units can be used at high ambient temperatures (ta).



OM PAK 70 B533

The compact casing design results in exceptionally quiet operation. The supply units are available with or without prewired lamp cables. Screwless terminals make it easier to connect to the mains. Quick fastening of the terminal covers and tool-less cable clamps add up to efficient installation.



The ignitors used are an essential quality feature of the power**PAK** series from TridonicAtco. There is a choice of two superimposed-pulse ignitors – the successful standard ZRM ES/C ignitor or the ZRM/CT ignitor with digital timer and pulse-pause operation.

The additional version, the OM PAK “Long distance” supply unit is designed for lighting solutions with high-pressure discharge lamps in applications such as retail outlets, churches and doctors’ practices. The integrated ZRM power**PULSE** pulse ignitor is extremely quiet in operation and actively regulates the ignition voltage within a narrow bandwidth ( $\pm 0.2$  kV) with reference to the normal value. The extremely stable ignition voltage curve ensures optimum reliability even for applications with long cable lengths.

OM PAK “Long distance” supply units from TridonicAtco can be installed separately from the luminaires (in suspended ceilings for example) which means they are flexible in terms of where they can be located. This arrangement avoids a thermal build-up and improves weight distribution.

With these different versions TridonicAtco presents a rounded application-oriented range of OM PAK supply units that ensure that high-pressure discharge lamps are operated in accordance with manufacturers’ specifications.

# Matrix of ignitors

Matrix of ignitors	Metal halide lamps (HI) wattage [W]										High pressure sodium lamps (HS) wattage [W]									
	35	70	100	150	250	400	1,000	1,800	2,000	3,500	35	50	70	100	150	250	400	600	750	1,000
<b>Standard superimposed pulse ignitors</b>																				
ZRM 2-ES/C		• <sup>1</sup>		• <sup>1</sup>							•	•	• <sup>1</sup>							
ZRM 2.5-ES/C	•	•	•	•	•								• <sup>2</sup>	•	•	•				
ZRM 4.5-ES/C	◦	•	•	•	•	•							◦	•	•	•	•			
ZRM 6-ES/C	◦	◦	◦	◦	◦	•								◦	◦	◦	•			
ZRM 6-ES/C 400																			•	◦
ZRM12-ES/C	◦	◦	◦	◦	◦	◦	•												•	•
ZRM 12-ES/C 400								• <sup>4</sup>	•											
ZRM 20-ES/B							◦	• <sup>5</sup>	•											
ZRM 20-ES/B 400									◦	•										
<b>Digital superimposed-pulse ignitors with switch off function</b>																				
ZRM 2-ES/CT		• <sup>1</sup>		• <sup>1</sup>							•	•	• <sup>1</sup>							
ZRM 2.5-ES/CT	•	•	•	•	•								•	•	•	•				
ZRM 4.5-ES/CT	◦	•	•	•	•	•							◦	•	•	•	•			
ZRM 6-ES/CT	◦	◦	◦	◦	◦	•								◦	◦	◦	•			
ZRM 12-ES/CT	◦	◦	◦	◦	◦	◦	•							◦	◦	◦	◦	•		•
<b>powerPULSE impulse ignitors with timer function and regulated ignition voltage</b>																				
ZRM 2300 powerPULSE		• <sup>1</sup>		• <sup>1</sup>							•	•	• <sup>1</sup>							
ZRM 4000 powerPULSE	•	•	•	•	•	•	•	• <sup>5</sup>					•	•	•	•	•	•	•	•
ZRM 4000/400 powerPULSE								• <sup>4</sup>	•										•	•
<b>Impulse ignitors with timer function</b>																				
ZRM 2300 C201		• <sup>1</sup>		• <sup>1</sup>								•	• <sup>1</sup>							
ZRM 4000 C201	•	•	•	•	•	•	•							•	•	•	•	•	•	•
ZRM 4000 B101														•	•	•	•			
<b>Standard impulse ignitors</b>																				
ZRM 1000 A002					• <sup>3</sup>	• <sup>3</sup>	• <sup>3</sup>													
ZRM 1200/400 A001							◦		◦	◦										

<sup>1</sup> for lamps with ignition voltage < 2.5 kV<sub>p</sub>

<sup>2</sup> for high pressure sodium lamps 70 W with ignition voltage from 4 kV<sub>p</sub> to 5 kV<sub>p</sub>

<sup>3</sup> for lamps with ignition voltage < 1,000 V

<sup>4</sup> 400 V-lamps with 10.5 A lamp current

<sup>5</sup> 230 V-lamps with 17.3 A lamp current

## Legend:

• recommended

◦ used for

# Matrix of lamps – magnetic chokes for high pressure discharge lamps

## 50 W High pressure mercury lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A			
GE	H 50 ...	E27	0.62	–	ECM 50; OMB 50	–
Iwasaki	HF 50 PD	E27	0.62	–	ECM 50; OMB 50	–
Osram	HQL 50	E27	0.62	–	ECM 50; OMB 50	–
Philips	HPL 50	E27	0.62	–	ECM 50; OMB 50	–
Radium	HRL 50	E27	0.62	–	ECM 50; OMB 50	–
Sylvania	HSL 50	E27	0.62	–	ECM 50; OMB 50	–

## 80 W High pressure mercury lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A			
GE	H 80 ...	E27 / B22	0.80	–	ECM 80; OMB 80	–
Iwasaki	HF 80 PD	E27	0.80	–	ECM 80; OMB 80	–
Osram	HQL 80	E27	0.80	–	ECM 80; OMB 80	–
Philips	HPL 80	E27	0.80	–	ECM 80; OMB 80	–
Radium	HRL 80	E27	0.80	–	ECM 80; OMB 80	–
Sylvania	HSL 80	E27	0.80	–	ECM 80; OMB 80	–

## 125 W High pressure mercury lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A			
GE	H 125 ...	E27 / B22	1.15	–	OMB 125	–
Iwasaki	HF 125 PD	E27 / E40	1.15	–	OMB 125	–
Osram	HQL 125	E27	1.15	–	OMB 125	–
Philips	HPL 125	E27 / E40	1.15	–	OMB 125	–
Radium	HRL 125	E27	1.15	–	OMB 125	–
Sylvania	HSL 125	E40	1.15	–	OMB 125	–

## 250 W High pressure mercury lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A			
GE	H 250 ...	E40	2.15	–	OMB 250; OFB 250; OGL 250	–
Iwasaki	HF 250 PD	E40	2.15	–	OMB 250; OFB 250; OGL 250	–
Osram	HQL 250	E40	2.15	–	OMB 250; OFB 250; OGL 250	–
Philips	HPL 250	E40	2.15	–	OMB 250; OFB 250; OGL 250	–
Radium	HRL 250	E40	2.15	–	OMB 250; OFB 250; OGL 250	–
Sylvania	HSL 250	E40	2.15	–	OMB 250; OFB 250; OGL 250	–

## 400 W High pressure mercury lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A			
GE	H 400 ...	E40	3.25	–	page 226 OMB 400; OFB 400; OGL 400	–
Iwasaki	HF 400 PD	E40	3.25	–	OMB 400; OFB 400; OGL 400	–
Osram	HQL 400	E40	3.25	–	OMB 400; OFB 400; OGL 400	–
Phillips	HPL 400	E40	3.25	–	OMB 400; OFB 400; OGL 400	–
Radium	HRL 400	E40	3.25	–	OMB 400; OFB 400; OGL 400	–
Sylvania	HSL 400	E40	3.25	–	OMB 400; OFB 400; OGL 400	–

## 700 and 1,000 W High pressure mercury lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A			
GE	H 700 ...	E40	5.40	–	page 227 OGL 700	–
	H 1000 ...	E40	7.50	–	OGL 1000	–
Iwasaki	HF 700 PD	E40	5.40	–	OGL 700	–
	HF 1000 PD	E40	7.50	–	OGL 1000	–
Osram	HQL 700	E40	5.40	–	OGL 700	–
	HQL 1000	E40	7.50	–	OGL 1000	–
Phillips	HPL 700	E40	5.40	–	OGL 700	–
	HPL 1000	E40	7.50	–	OGL 1000	–
Radium	HRL 700	E40	5.40	–	OGL 700	–
	HRL 1000	E40	7.50	–	OGL 1000	–
	HRLV 1000	E40	7.50	–	OGL 1000	–
Sylvania	HSL 700	E40	5.40	–	OGL 700	–
	HSL 1000	E40	7.50	–	OGL 1000	–

## 35 W High pressure sodium lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A			
Phillips	SDW-T 35 W	PG12-1	0.48	–	page 228 for chokes, see page 252	–
Sylvania	SHP-TS 35 W	E27	0.53	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 35; OMBIS 35	–



## 50 W High pressure sodium lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 229	
GE	LU 50/90	E27	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	OMBS 50	–
	LU 50/90...I	E27	0.76	–	OMBS 50	–
Iwasaki	NH 50 F/HV/I	E27	0.76	–	OMBS 50	–
	NHT 50/I	E27	0.76	–	OMBS 50	–
	NH 50 /HV/...	E27	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	OMBS 50	–
Osram	NAV E 50	E27	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	OMBS 50	–
	NAV T 50	E27	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	OMBS 50	–
Philips	SDW-T 50 W	PG12-1	0.78	–	OMB 50 W-SDW-T + Philips CSL5 50 ①	–
	SON 50 W-I	E27	0.76	–	OMBS 50	–
	SON 50 W-E	E27	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	OMBS 50	–
	SON-T...50 W	E27	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	OMBS 50	–
Radium	RNP-E 50 W/I	E27	0.76	–	OMBS 50	–
	RNP-E 50 W	E27	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	OMBS 50	–
Sylvania	SHP 50 W...I	E27	0.76	–	OMBS 50	–
	SHP-S 50 W...	E27	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	OMBS 50	–
	SHP-TS 50 W	E27	0.76	ZRM 2-ES/C; ZRM 2-ES/CT	OMBS 50	–

① for chokes, see page 252

## 70 W High pressure sodium lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 230	page 242
BLV	NAH - E 70	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	NAH - TR 70	Rx7s	1.00	ZRM 2-ES/CT; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	ECIS 70; OMBIS 70	OM PAK 70
GE	LU 70/RFL	E27	1.00	–	ECIS 70; OMBIS 70	–
	LU 70/90...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
Iwasaki	NH 70 F/HV/I	E27	1.00	–	ECIS 70; OMBIS 70	–
	NHT 70/I	E27	1.00	–	ECIS 70; OMBIS 70	–
	NH 70 /HV/...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
Osram	NAV E 70 I	E27	1.00	–	ECIS 70; OMBIS 70	–
	NAV E 70...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	NAV T 70...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	NAV TS 70...	Rx7s	1.00	ZRM 2-ES/CT; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	ECIS 70; OMBIS 70	OM PAK 70
	NAV-TS 70 Super 4y	Rx7s	1.00	ZRM 2-ES/CT; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	ECIS 70; OMBIS 70	OM PAK 70
Philips	SON 70 W-I	E27	1.00	–	ECIS 70; OMBIS 70	–
	SON 70 W...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	SON 70 W-E	E27	0.98	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	SON-T plus 70 W...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	SON-T Hg free 70 W...	E27	0.98	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	SON Hg free 70 W...	E27	0.98	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	SON-T 70 W...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
Radium	RNP-E 70 W/I	E27	1.00	–	ECIS 70; OMBIS 70	–
	RNP-E 70 W	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	RNP-T 70 W	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	RNP-TS 70 W	Rx7s	1.00	ZRM 2-ES/CT; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	ECIS 70; OMBIS 70	–
Sylvania	SHP 70 W...I	E27	1.00	–	ECIS 70; OMBIS 70	–
	SHP 70 W...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	SHP-T 70 W...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	SHP-TS 70 W...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	SHP 70 W/CO-E	E27	0.98	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–
	SHP-S 70 W...	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	–

## 100 W High pressure sodium lamps

Lamps				Igniters	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 231	page 214
GE	LU 100...	E40 / E27	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
	TCF 100	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
Iwasaki	NH 100 F/HV/I	E40	1.20	–	OMBIS 100	–
	NHT 100/I	E40	1.20	–	OMBIS 100	–
	NH 100 F	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
	NHT 100	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
Osram	NAV E 100	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
	NAV T 100	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
Philips	SDW-T 100 W	PG12-1	1.35	–	OMB 100 W SDW + Philips CSLS 100 ①	–
	SON...100 W	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
	SON-T...100 W	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
	SON plus 100 W	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
	SON-T plus 100 W	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
	SON-T Hg free 100 W	E40	1.24	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
Sylvania	SHP-S 100 W	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
	SHP-T 100 W	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100
	SHP-TS 100 W	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	OMBIS 100	OM PAK 100

① for chokes, see page 252

## 150 W High pressure sodium lamps

Lamps				Igniters	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 232	page 233
BLV	NAH-T 150	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	HST-DE 150	Fc 2	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	HST-DE 150	Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
GE	LU 115	E40 / E27	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	TCF 150	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
Iwasaki	NH 150 F/HV/I	E40	1.80	–	2x ECIS 1/2 150; OMBIS 150	–
	NHT 150/I	E40	1.80	–	2x ECIS 1/2 150; OMBIS 150	–
	NH 150... (100 V/1.8 A)	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	NHT 150... (100 V/1.8 A)	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
Osram	NAV E 150	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	NAV T 150	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	NAV TS 150...	Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
Philips	SON...150 W	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SON-T...150 W	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SON 150-E	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SON-T Deco 150 W	E40	1.60	–	–	–
	SON Comfort 150 W	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SON-T Comfort 150 W	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SON-T plus 150 W	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SON-T Hg free 150 W	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SON Hg free 150 W	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SON plus 150 W	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
Radium	RNP-E 150...	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	RNT-T 150...	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	RNT-TS	Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
Sylvania	SHP-S 150 W...	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SHP-T 150 W...	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
	SHP-TS 150 W...	E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C	2x ECIS 1/2 150; OMBIS 150	OM PAK 150

## 250 W High pressure sodium lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 234/235	
BLV	NAH-T 250	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	HST-DE 250	Fc 2	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	HST-DE 250	Rx7s	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
GE	LU 250.../40	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	LU 250/TD	Rx7s	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
Iwasaki	NHT 250 I	E40	3.00	–	OMBIS 250; OFBIS 250; OGLIS 250	–
	NHT 150 F/I	E40	3.00	–	OMBIS 250; OFBIS 250; OGLIS 250	–
	NH 250...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	NHT 250...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
Osram	NAV E 250...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	NAV T 250...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	NAV TS 250...	Fc 2	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
Philips	SON...250 W	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	SON-T 250 W	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
Radium	RNP-E 250...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	RNP-T 250...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
Sylvania	SHP 250 W...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	SHP-T 250 W...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	SHP-TS 250 W...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	SHP-S 250 W...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–
	SHP 250 W...	E40	3.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT; ZRM 4.5-ES/C ①	OMBIS 250; OFBIS 250; OGLIS 250	–

## 400 W High pressure sodium lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 236	
BLV	NAH-T 400	E40	4.20	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	HST-DE 400	Fc 2	4.40	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	HST-DE 400	Rx7s	4.40	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
GE	LU 400.../40	E40	4.50	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	LU 400.../TD	Rx7s	4.50	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
Iwasaki	NH 400 F/I	E40	4.45	–	OFBS 400; OGLS 400	–
	NHT 400/I	E40	4.60	–	OFBS 400; OGLS 400	–
	NH 400...	E40	4.45	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	NHT 400...	E40	4.60	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
Osram	NAV E 400...	E40	4.45	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	NAV T 400...	E40	4.40	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	NAV TS 400...	Fc 2	4.40	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
Philips	SON...400 W	E40	4.50	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	SON-T...400 W	E40	4.50	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
Radium	RNP-E 400 W	E40	4.45	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	RNP-T 400 W	E40	4.40	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
Sylvania	SHP 400 W ...	E40	4.45	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	SHP-T 400 W...	E40	4.45	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	SHP-TS 400 W...	E40	4.50	ZRM 4.5-ES/C ①; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–

① Ignitor recommended for external applications

## 600 W High pressure sodium lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 237	
BLV	NAH-T 600	E40	6.20	ZRM 12-ES/C; ZRM 12-ES/CT	OGLS 600	–
GE	LU 600.../40	E40	6.20	ZRM 12-ES/C; ZRM 12-ES/CT	OGLS 600	–
Osram	NAV-T 600	E40	6.20	ZRM 12-ES/C; ZRM 12-ES/CT	OGLS 600	–
Philips	SON-T 600 W plus	E40	6.20	ZRM 12-ES/C; ZRM 12-ES/CT	OGLS 600	–
Radium	RNP-T 600 W	E40	6.20	ZRM 12-ES/C; ZRM 12-ES/CT	OGLS 600	–
Sylvania	SHP-TS 600 W	E40	6.20	ZRM 12-ES/C; ZRM 12-ES/CT	OGLS 600	–

## 1,000 W High pressure sodium lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 238	
GE	LU 1000...	E40	10.30	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
Iwasaki	NHT 1000 I	E40	10.30	–	OGLIS 1000	–
	NHT 1000 F/I	E40	10.30	–	OGLIS 1000	–
	NH 1000	E40	10.30	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
	NHT 1000	E40	10.30	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
Osram	NAV E 1000	E40	10.30	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
	NAV T 1000	E40	10.30	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
Philips	SON 1000 W	E40	10.30	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
Radium	RNP-E 1000 W	E40	10.30	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
	RNP-T 1000 W	E40	10.30	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
Sylvania	SHP-T 1000 W...	E40	10.30	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–

## 35 W Metal halide lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 239	page 240
GE	CMH 35/T	G12	0.50	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
	CMH 35/TC	G8.5	0.50	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
	CMH 35/PAR	E27	0.50	ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
Osram	HCI-T 35...	G12	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
	HQI-T 35 W/WDL	G12	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
	HQI-T 35 W/WDL/BU	G12	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
	HCI-TC 35 W/WDL	G8.5	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
Philips	CDM-R 35 W	E27	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
	CDM-T 35 W	G12	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
	CDM-TC 35 W	G8.5	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
	CDM-R111	GX5.5	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35
Radium	RCI-T 35	G12	0.53	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 35	OM PAK 35

## 70 W Metal halide lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes	
manufacturer	description	lamp holder	nominal current A	page 256/258	page 241	page 242	
BLV	HIE... 70...	Rx7s; E27; G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	C-HIT 70 WW	G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
GE	ARC 70...	Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	CMH 70 T...	G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	CMH 70 TD...	Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	CMH 70 T Mini	G8.5	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	CMH 70 PAR	E27	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
Iwasaki	MT 70 Color Arc	E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	-	
	MHT 70 Color Arc	G12	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	-	
Osram	HQI-T 70...	G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HCI-T 70	G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HQI-TS 70...	Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HCI-TS 70	Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HQI-E 70...	E27	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HCI-T 70 W/WDL	G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HCI-TC 70 W/WDL	G8.5	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HCI-E/P 70 W/WDL	E27	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HCI-PAR 30 70 W/WDL	E27	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	Philips	MHN-T 70 W	PG12-2	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70
		MHN-TD 70 W	Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70
MHW-TD 70 W		Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
CDM-TT 70 W		E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	-	
CDM-R 70 W		E27	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
CDM-ET 70 W		E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	-	
CDM-T 70 W		G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
CDM-TD 70 W		Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
CDM-TC 70 W		G8.5	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
CDO-ET 70 W		E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	-	
CDO-TT 70 W		E27	1.00	ZRM 2-ES/C; ZRM 2-ES/CT	ECIS 70; OMBIS 70	-	
CDM-Elite TC 70 W		G8.5	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
CDM-R111		Gx8.5	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
Radium	HRI-T 70...	G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	RCI-T 70	G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HRI-TS 70...	Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	RCI-TS 70	Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HRI-E 70 W...	E27	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
Sylvania	HSI-MP 70 W	E27	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	-	
	HSI-T 70 W	G12	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	HSI-TD 70 W	Rx7s	1.00	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
	CFI-T 70 W/WDL	G12	0.98	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	OM PAK 70	
Venture	HIE 70/x/x	E27	1.00	ZRM 2.5-ES/CT	ECIS 70; OMBIS 70	-	

## 100 W Metal halide lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258	page 243	page 218
BLV	MHR 100	plug	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100
	HIE 100	E27	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100
GE	MXR 100	E27	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100
	CMH 100/C/U/830	E27	1.15	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100
Osram	HQI-E 100...	E27	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100
Philips	CDO-TT 100	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	–
	CDO-ET 100	E40	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	–
Radium	HRI-E 100 W...	E27	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100
Sylvania	HSI-MP 100...	E27	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100
	HSI-TD 100...	Rx7s	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100
	MP 100 W/CL	E27	1.15	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100
Venture	HIE 100 W/C/U/LU3K	E27	1.20	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	OMBIS 100	OM PAK 100

## 150 W Metal halide lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes	
manufacturer	description	lamp holder	nominal current A	page 256/258	page 244/245	page 246	
BLV	MHR 150	plug	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HIE 150	G12	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	C-HIT 150 WW	G12	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
GE	ARC 150...	G12; Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
Iwasaki	MT 150 Color Arc	E27	1.80	ZRM 2-ES/C; ZRM 2-ES/CT	2x ECIS 1/2 150; OMBIS 150	–	
	MT 150 CEH-W/BU	E27	1.80	ZRM 2-ES/C; ZRM 2-ES/CT	2x ECIS 1/2 150; OMBIS 150	–	
Osram	HQI-T 150...	G12	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HCI-T 150	G12	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HQI-TS 150...	Rx7s 24	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HCI-TS 150...	Rx7s 24	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HQI-E 150...	E27	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HTI 150 W	plug	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HQI-R 150...	plug	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HCI-E/P 150 W/WDL	E27	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	Philips	CDM-T 150	G12	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
		CDM-TD 150 W	Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150
CDM-TT		E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
MHN-T 150		RGx 12-2	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
MHW-TD 150		Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
MHN-TD 150 W		Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
MHT-T 150		RGx 12-2	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
CDM-ET 150		E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
CDO-ET 150		E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	–	
CDO-TT 150		E40	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	–	
Radium	HRI-T 150...	G12	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	RCI-T 150...	G12	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HRI-TS 150...	Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	RCI-TS 150...	Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
Sylvania	HRI-E 150 W...	E27	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HSI-TD 150 W...	Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HSI-T 150 W	G12	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
Venture	CMH-T 150 W/WDL	G12	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HSI-MP 150 W/3K	E27	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	OM PAK 150	
	HIE 150/x/x	Rx7s	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	–	
	HIT 150 W/U/LU/T38/4K	E27	1.80	ZRM 2.5-ES/C; ZRM 2.5-ES/CT	2x ECIS 1/2 150; OMBIS 150	–	

## 250 W Metal halide lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258/261	page 247/248	
BLV	HIT 250...	Fc2; E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
GE	ARC 250...	Fc2; E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
Iwasaki	MT 250	E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMB 250 ①; OFB 250	–
	MT 250 Color Arc	E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
Osram	HQI-E 250W/N/SI	E40	2.15	ZRM 1000 A002	OMB 250 ①; OFB 250	–
	HQI-E 250...	E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
	HQI-T 250W/N/SI	E40	2.15	ZRM 1000 A002	OMB 250 ①; OFB 250	–
	HQI-T 250...	E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
	HQI-TS 250...	Fc2	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
	HCI-E 250...	E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
Philips	HPI-T 250 W	E40	2.15	ZRM 1000 A002	OMB 250 ①; OFB 250	–
	HPI-T 250 W	E40 / E45	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMB 250 ①; OFBIS 250; OGL 250	–
	HPI plus 250 W	E40	2.15	ZRM 1000 A002	OMB 250 ①; OFB 250	–
	HPI plus 250 W	E40	3.00	ZRM 1000 A002	OMBIS 250; OFBIS 250; OGLIS 250	–
	HPI-T 250 W	E40	2.15	ZRM 1000 A002; ZRM 2.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMB 250 ①; OFB 250	–
	HPI-T plus 250 W	E40	2.15	ZRM 1000 A002; ZRM 2.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMB 250 ①; OFB 250	–
	HPI-T plus 250 W	E40	3.00	ZRM 1000 A002; ZRM 2.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
	MHN-TD 250 W	Fc2	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
Radium	HRI-E 250 W/D	E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
	HRI-T 250 W/D	E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
	HRI-TS 250...	Fc2	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
Sylvania	HSI-TD 250...	Fc2	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
	HSI-T 250 W/4K	E40	2.15	ZRM 1000 A002	OMB 250 ①; OFB 250	–
	HSI-T 250 W...	E40	3.00	ZRM 2.5-ES/CT; ZRM 4.5-ES/CT; ZRM 4.5-ES/C; ZRM 6-ES/C	OMBIS 250; OFBIS 250; OGLIS 250	–
Venture	HIE 250/x/x/EURO/x	E40	2.15	ZRM 1000 A002	OMB 250 ①; OFB 250	–
	HIE 250/x/x	E40	3.00	ZRM 6-ES/C	OMB 250 ①; OFB 250	–

① choke see page 225

## 400 W Metal halide lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258/261	page 249	
BLV	HIT 400...	E40	4.00	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
GE	ARC 400/D	E40	4.20	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	KRC 400...	E40	3.25	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OMB 400; OFB 400; OGL 400 ①	–
Iwasaki	MT 400	E40	3.25	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OGL 400 ①	–
Osram	HQI-E 400W/N/SI	E40	3.25	ZRM 1000 A002	OMB 400; OFB 400; OGL 400 ①	–
	HQI-E 400...	E40	4.20	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	HQI-T 400/N/SI	E40	3.25	ZRM 1000 A002	OMB 400; OFB 400; OGL 400 ①	–
	HQI-T 400...	E40	4.10	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	HQI-TS 400...	Fc2	4.10	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	HQI-BT 400	E40	4.00	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
Philips	HPI plus 400 W	E40	3.40	ZRM 1000 A002	OMB 400; OFB 400; OGL 400 ①	–
	HPI plus 400 W	E40	3.85	ZRM 1000 A002	OFBS 400; OGLS 400	–
	HPI plus 400 W BUS	E40	3.40	no ignitor required	OMB 400; OFB 400; OGL 400 ①	–
	HPI plus 400 W BUS	E40	3.85	no ignitor required	OFBS 400; OGLS 400	–
	HPI-T 400 W	E40	3.40	ZRM 1000 A002; ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 6-ES/CT	OMB 400; OFB 400; OGL 400 ①	–
	HPI-T plus 400 W	E40	3.40	ZRM 1000 A002; ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 6-ES/CT	OMB 400; OFB 400; OGL 400 ①	–
	HPI-T plus 400 W	E40	3.85	ZRM 1000 A002; ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
Radium	HRI-E 400...	E40	3.80	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	HRI-BT 400...	E40	4.00	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
	HRI-TS 400...	Fc2	4.10	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–
Sylvania	HSI-T 400W/4K	E40	3.25	ZRM 1000 A002	OMB 400; OFB 400; OGL 400 ①	–
	HSI-T 400/...	E40	4.00	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OGLS 400	–
Venture	HIE 400/x/x/EURO/x	E40	3.20	ZRM 1000 A002	OMB 400; OFB 400; OGL 400 ①	–
	HIE 400/x	E40	4.00	ZRM 4.5-ES/C; ZRM 6-ES/C; ZRM 4.5-ES/CT; ZRM 6-ES/CT	OFBS 400; OGLS 400	–

## 1,000 W Metal halide lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/258/261	page 250	
BLV	HIT 1000	E40	9.50	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
Iwasaki	MT 1000...	E40	8.25	ZRM 12-ES/C; ZRM 12-ES/CT	OGL 1000 ②; OGLIS 1000	–
Osram	HQI-E 1000....	E40	9.50	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
	HQI-T 1000....	E40	9.50	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
Philips	HPI-T 1000 W	E40/45	8.25	ZRM 1000 A002	OGL 1000 ②; OGLIS 1000	–
Radium	HRI-T 1000...	E40	9.50	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
	HRI-TS 1000/D	Fc 2	9.50	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
	HRI-TS 1000 W/D/S	cable	9.50	ZRM 12-ES/C; ZRM 12-ES/CT	OGLIS 1000	–
Sylvania	HSI-T 1000 W...	E40	8.25	ZRM 1000 A002	OGL 1000 ②; OGLIS 1000	–
	HSI-T 1000 W/4K	E40	8.25	ZRM 1000 A002	OGL 1000 ②; OGLIS 1000	–

① choke see page 226

② choke see page 227



## 2,000-3,500 W Metal halide lamps

Lamps				Ignitors	Magnetic chokes	Remote gear boxes
manufacturer	description	lamp holder	nominal current A	page 256/259/261	page 251	
GE	MBIL 2000 W	special	10.30	–	OGLI 2000 W 180	–
Iwasaki	MT 2000 B-BH-L	E40	8.80	ZRM 1200/400 A001	OGLI 2000 W 160	–
Osram	HQI-T 2000/D	E40	10.30	ZRM 12-ES/C 400	OGLI 2000 W 180	–
				alternative: ZRM 4000/400 powerPULSE	OGLI 2000 W PC026K	–
	HQI-T 2000/D/I	E40	10.30	–	OGLI 2000 W 180	–
	HQI-T 2000/N	E40	8.80	–	OGLI 2000 W 160	–
	HQI-T 2000/N/230 V	E40	16.50	ZRM 20-ES/B	2x OGL 1000...parallel	–
	HQI-T 2000/N/E/SUPER	E40	8.80	ZRM 12-ES/C 400	OGLI 2000 W 160	–
	HQI-T 2000/N/SN/SUPER	E40	8.80	ZRM 1200/400 A001	OGLI 2000 W 160	–
	HQI-TS 2000/DS	cable	11.30	ZRM 12-ES/C 400	OGLI 2000 W 180	–
				alternative: ZRM 4000/400 powerPULSE	OGLI 2000 W PC026K	–
	HQI-T 3500/D	E40	18.00	ZRM 20-ES/B 400	2x OGLI 1/2 3500...parallel	–
Philips	HPI-T 2000 W / 230 V	E40/45	16.50	ZRM 20-ES/B	2x OGL 1000...parallel	–
	HPI-T 2000 W / 380 V	E40/45	8.80	ZRM 12-ES/C 400	OGLI 2000 W 160	–
	MHN-TD 2000 W	cable	9.60	ZRM 12-ES/C 400	OGLI 2000 W 180	–
	MHT-TD 2000 W	cable	9.60	ZRM 12-ES/C 400	OGLI 2000 W 160	–
	MHN-SA 2000 W	X830R	11.30	ZRM 4000/400 powerPULSE	OGLI 2000 W PC027K	–
	MHN-LA 2000 W	X528/C	10.30	ZRM 4000/400 powerPULSE	OGLI 2000 W PC027K	–
	MHN-LA 2000 W	X528/C	8.30	ZRM 4000/400 powerPULSE	OGLI 2000 W PC027K	–
	MHN-SA 1800 W	(P)SFC	10.50	ZRM 4000/400 powerPULSE	OGLI 2000 W PC027K	–
Radium	HRI-T 2000/D	E40	10.30	ZRM 12-ES/C 400	OGLI 2000 W 180	–
				alternative: ZRM 4000/400 powerPULSE	OGLI 2000 W PC026K	–
	HRI-T 2000/D/I	E40	10.30	–	OGLI 2000 W 180	–
	HRI-T 2000/NCS/400	E40	8.80	ZRM 12-ES/C 400	OGLI 2000 W 160	–
	HRI-T 2000/N	E40	8.80	–	OGLI 2000 W 160	–
	HRI-TS 2000/D	E40	10.30	ZRM 12-ES/C 400	OGLI 2000 W 180	–
				alternative: ZRM 4000/400 powerPULSE	OGLI 2000 W PC026K	–
	HRI-TS 2000/DS	cable	11.30	ZRM 12-ES/C 400	OGLI 2000 W 180	–
				alternative: ZRM 4000/400 powerPULSE	OGLI 2000 W PC026K	–
	HRI-T 3500/D	E40	18.00	ZRM 20-ES/B 400	2x OGLI 1/2 3500...parallel	–
	HRI-TS 3500/D	E40	18.00	ZRM 20-ES/B 400	2x OGLI 1/2 3500...parallel	–
Sylvania	HSI-T 2000 W / 380 V	E40	10.30	ZRM 12-ES/C 400	OGLI 2000 W 180	–
				alternative: ZRM 4000/400 powerPULSE	OGLI 2000 PC026K	–



ECM / OMB 50 W



\* applies only to ballasts with double insulation

•  $t_w = 130\text{ }^\circ\text{C}$

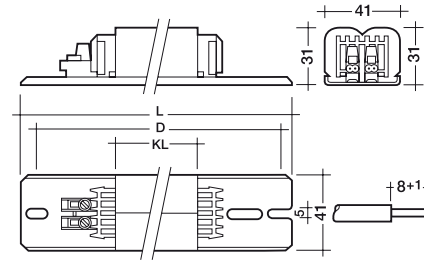
Chokes with double insulation:

- non resetting thermal protector switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
ECM	1	15	630
OMB	2	10	480

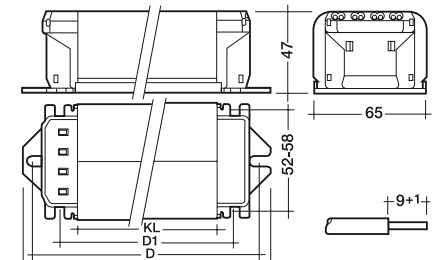
Approvals:  
EN 60922/923

Figure 1



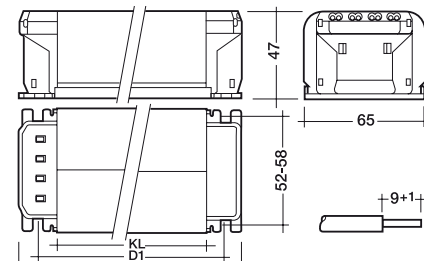
push terminal 0.5-1.5 mm<sup>2</sup>

Figure 2



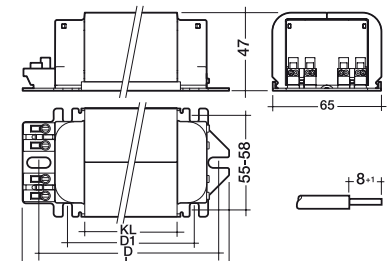
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 3



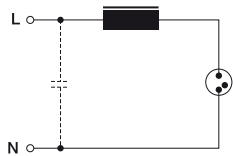
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 4



push terminal 0.5-1.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
ECM 50 A90 230 V 50 Hz	20569741	230	-	1	1	165	90	144-158	-	0.85	60	11.4	0.45	B
OMB 50 A103K 230-240 V 50 Hz	20569669	230/240	-	2	2	92	30	75-84	50.5	0.80	60	8.6	0.41	B
OMB 50 A153K 230-240 V 50 Hz	20824582	230/240	-	3	2	66	30	-	50.5	0.80	60	8.6	0.41	B
OMB 50 A604K 220-240 V 50 Hz	22148614	220/230/240	-	4	2	98	30	75-84	50.5	0.80	60	8.6	0.41	A
<b>chokes with double insulation</b>														
OMB 50 A203B 230/240 V 50 Hz	22148966	230/240	yes	2	2	92	30	75-84	50.5	0.83	60	8.6	0.41	B
<b>60 Hz chokes</b>														
OMB 50 A106K 220-240 V 60 Hz	20574807	220/230/240	-	2	2	92	30	75-84	50.5	0.80	55	7.9	0.39	B



p.f. correction capacitor:  
7.0  $\mu\text{F} \pm 10\%$  250 V (5.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 0.27 A ( $\lambda > 0.9$ )



**Magnetic chokes**  
**High pressure mercury lamps**

**ECM / OMB 80 W**



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$

**Chokes with double insulation:**

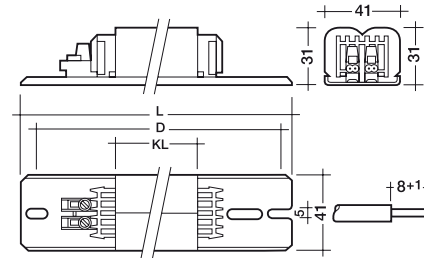
- non resetting thermal protector switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
ECM	1	5*	600
OMB	2	10	480

\* bound

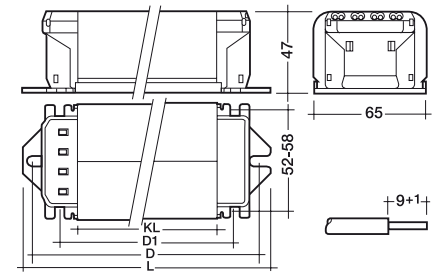
**Approvals:**  
EN 60922/923

**Figure 1**



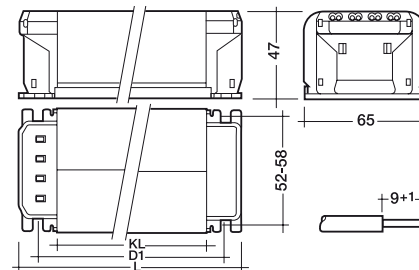
push terminal 0.5-1.5 mm<sup>2</sup>

**Figure 2**



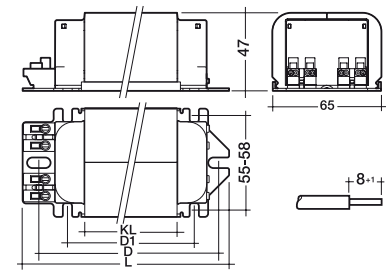
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 3**



push terminal 0.75-2.5 mm<sup>2</sup>

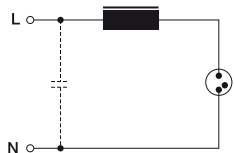
**Figure 4**



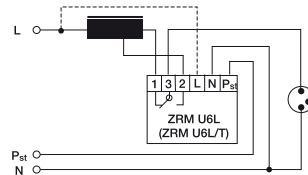
push terminal 0.5-1.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
ECM 80 A140 230 V 50 Hz	22175043	230	-	1	1	231	140	210-224	-	1.30	50	13.1	0.51	B
OMB 80 A103K 230-240 V 50 Hz	20571079	230/240	-	2	2	92	30	75-84	50.5	0.80	65	11.4	0.49	B
OMB 80 A153K 230-240 V 50 Hz	20824609	230/240	-	3	2	66	30	-	50.5	0.80	65	11.4	0.49	B
OMB 80 A604K 220-240 V 50 Hz	22148594	220/230/240	-	4	2	98	30	75-84	50.5	0.80	65	11.4	0.49	A
<b>chokes with power tapping</b>														
OMB 80/50 A103K 230-240 V 50 Hz ①	20574609	230/240	-	2	2	97	35	80-89	55.5	0.90	70/50	11.6/8.8	0.49/0.41	B
OMB 80/50 A153K 230/240 V 50 Hz ①	20824624	230/240	-	3	2	71	35	-	55.5	0.90	70/50	11.6/8.8	0.49/0.41	B
OMB 80/50 A603K 230-240 V 50 Hz ①	22148595	230/240	-	4	2	103	35	80-89	55.5	0.90	70/50	11.6/8.8	0.49/0.41	A
<b>chokes with double insulation</b>														
OMB 80/50 A211B 230 V 50 Hz ①	22148968	230	yes	2	2	117	35	100-109	75.5	0.90	65/50	11.1/8.4	0.49/0.41	B
OMB 80/50 A201B 230 V 50 Hz ①	22148967	230	yes	2	2	97	35	80-89	55.5	0.60	70/65	11.1/8.4	0.49/0.41	B
<b>60 Hz chokes</b>														
OMB 80 A106K 220-240 V 60 Hz	20574671	220/230/240	-	2	2	92	30	75-84	50.5	0.80	65	10.5	0.45	B

① luminous flux reduction to approximately 35 %



p.f. correction capacitor:  
8.0  $\mu\text{F} \pm 10\%$  250 V (6.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 0.43 A ( $\lambda > 0.9$ )



power tapping



OMB 125 W



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$

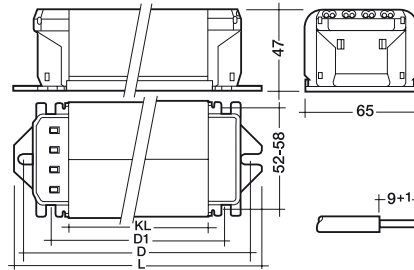
Chokes with double insulation:

- non resetting thermal protector switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OMB	1	10	480
OMB	2	315	315

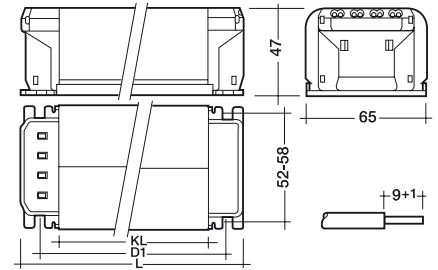
Approvals:  
EN 60922/923

Figure 1



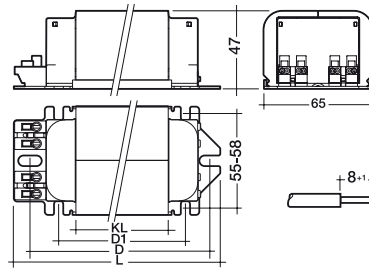
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 2



push terminal 0.75-2.5 mm<sup>2</sup>

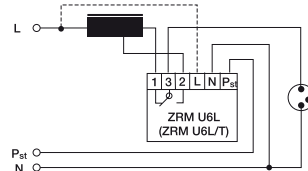
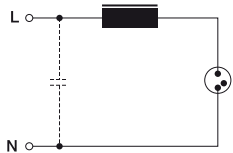
Figure 3



push terminal 0.5-1.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMB 125 A103K 230-240 V 50 Hz	20570762	230/240	-	1	1	107	45	90-99	65.5	1.20	65	12.4	0.52	B
OMB 125 A604K 220-240 V 50 Hz	22148596	220/230/240	-	3	1	113	45	90-99	65.5	1.20	65	12.4	0.52	A
<b>chokes with power tapping</b>														
OMB 125/80 A103K 230-240 V 50 Hz ①	20574618	230/240	-	1	1	117	55	100-109	75.5	1.40	70/50	14.2/8.9	0.52/0.48	B
OMB 125/80 Z603K 230/240 V 50 Hz ①	22148861	230/240	-	3	1	113	45	90-99	65.5	1.14	85/60	17.5/10.4	0.57/0.50	B
OMB 125/80 A603K 230-240 V 50 Hz ①	22158552	230/240	-	3	2	123	55	100-109	75.5	1.37	60/40	14.6/9.3	0.52/0.48	A
<b>chokes with double insulation</b>														
OMB 125/80 A251B 230 V 50 Hz ①	22148960	230	yes	2	1	91	55	-	75.5	1.33	60/40	13.1/8.3	0.52/0.48	B
OMB 125 A253B 230/250 V 50 Hz	22148963	230/240/250	yes	2	1	81	45	-	65.5	1.20	70	14.3	0.52	B
<b>60 Hz chokes</b>														
OMB 125 A106K 220-240 V 60 Hz	20574665	220/230/240	-	1	1	107	45	90-99	65.5	1.20	60	11.5	0.48	B

① luminous flux reduction to approximately 50 %



p.f. correction capacitor:

10.0  $\mu\text{F} \pm 10\%$  250 V (9.0  $\mu\text{F}$  at 60 Hz)

p.f. corrected line current: 0.63 A ( $\lambda > 0.9$ )

power tapping



**Magnetic chokes**  
**High pressure mercury lamps**

**OMB / OFB / OGL 250 W**



\* applies only to ballasts with double insulation

•  $t_w = 130\text{ }^\circ\text{C}$

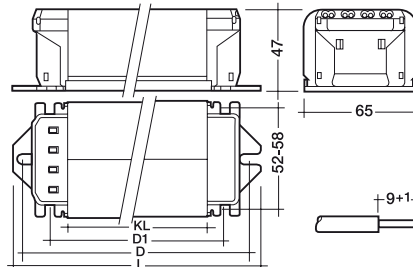
**Chokes with double insulation:**

- non resetting thermal protector switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OMB	1	10	480
OMB	2	10	240
OFB	3	4	288
OGL	4	6	216

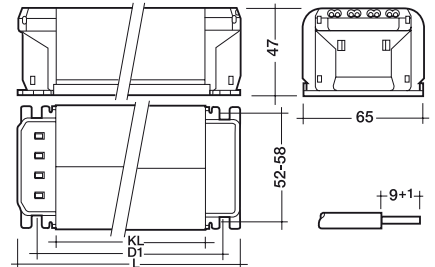
**Approvals:**  
EN 60922/923

**Figure 1**



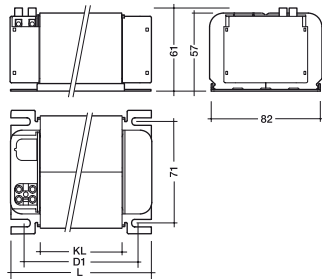
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 2**



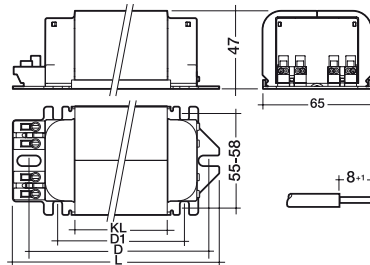
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 3**



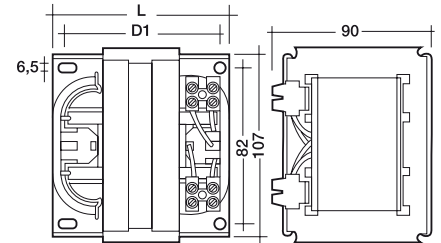
screw terminal 0.75-2.5 mm<sup>2</sup>

**Figure 4**



push terminal 0.5-1.5 mm<sup>2</sup>

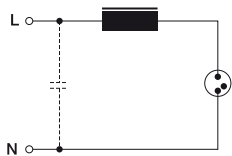
**Figure 5**



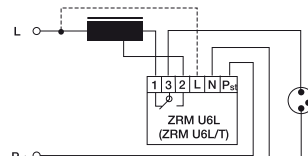
screw terminal 1.0-4.0 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMB 250 A103K 230-240 V 50 Hz	20570778	230/240	-	1	1	147	85	130-139	105.5	2.00	70	22.1	0.55	B
OMB 250 A604K 220-240 V 50 Hz	22148598	220/230/240	-	4	1	153	85	130-139	105.5	2.00	70	22.1	0.55	A
OFB 250 A021K 230 V 50 Hz	27002409	230	-	3	3	76	40	-	60.0-68.0	1.76	75	17.4	0.54	A
OFB 250 A022K 240 V 50 Hz	27002410	240	-	3	3	76	40	-	60.0-68.0	1.76	75	18.3	0.54	A
OGL 250 W 30 220-240 V 50 Hz	20296024	220/230/240	-	5	4	84	30	-	70.0	2.40	65	18.6	0.55	B
<b>chokes with power tapping</b>														
OMB 250/125 A103K 230-240 V 50 Hz ①	20820409	230/240	-	1	2	167	105	150-159	125.5	2.40	70/35	24.1/14.6	0.54/0.51	B
OMB 250/125 A603K 230-240 V 50 Hz ①	22148599	230/240	-	4	2	173	105	150-159	125.5	2.40	70/35	24.1/14.6	0.54/0.51	B
<b>chokes with double insulation</b>														
OMB 250/125 A201B 230 V 50 Hz ①	22149043	230	yes	1	2	167	105	150-159	125.5	2.40	75/35	24.1/10.6	0.54/0.51	B
OMB 250 A203B 230-240 V 50 Hz	22148964	230/240	yes	1	1	147	85	130-139	105.5	2.00	70	22.1	0.55	B
OMB 250 C203B 230-250 V 50 Hz	22148997	230/240/250	yes	5	4	84	30	-	70.0	2.40	65	20.2	0.54	B
<b>60 Hz chokes</b>														
OMB 250 A106K 220-240 V 60 Hz	22148647	220/230/240	-	1	1	147	85	130-139	105.5	2.00	65	21.4	0.52	B

① luminous flux reduction to approximately 35 %



p.f. correction capacitor:  
18.0  $\mu\text{F} \pm 10\%$  250 V (16.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 1.25 A ( $\lambda > 0.9$ )



power tapping



OMB / OFB / OGL 400 W

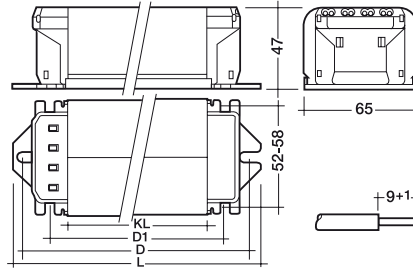


•  $t_w = 130\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OMB	1	6	240
OMB	2	10	240
OFB	3	4	216
OGL	4	6	216
OGL	5	2	168

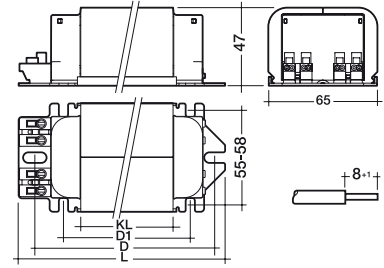
Approvals:  
EN 60922/923

Figure 1



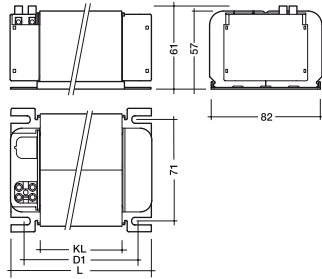
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 2



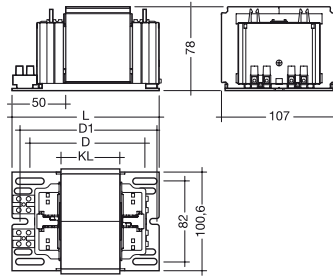
push terminal 0.5-1.5 mm<sup>2</sup>

Figure 3



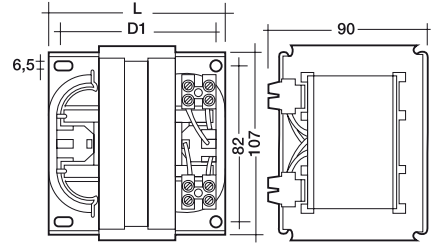
screw terminal 0.75-2.5 mm<sup>2</sup>

Figure 4



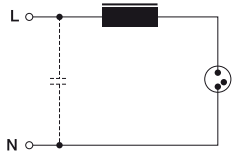
screw terminal 1.0-6.0 mm<sup>2</sup>

Figure 5



screw terminal 1.0-4.0 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMB 400 A604K 220-240 V 50 Hz	22148615	220/230/240	-	2	2	188	120	165-174	140.5	2.80	75	35.4	0.56	A
OFB 400 A021K 230 V 50 Hz	27002411	230	-	3	3	96	60	-	80.0-88.0	2.42	75	21.4	0.57	A
OFB 400 A022K 240 V 50 Hz	27002412	240	-	3	3	96	60	-	80.0-88.0	2.42	75	22.6	0.57	A
OGL 400 W 40 220-240 V 50 Hz	20296030	220/230/240	-	5	4	94	40	-	80.0	3.10	75	25.1	0.55	B
OGL 400 C044K 220-240 V 50 Hz	89121845	220/230/240	-	4	5	130	40	110.5-124	76.5-118	3.10	75	25.1	0.57	B
<b>60 Hz chokes</b>														
OMB 400 B107K 220-240 V 60 Hz	20888680	220/230/240	-	1	1	212	150	195-204	170.5	3.40	65	25.4	0.57	B



p.f. correction capacitor:  
25.0  $\mu\text{F} \pm 10\%$  250 V (22.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 2.0 A ( $\lambda > 0.9$ )



**Magnetic chokes**  
**High pressure mercury lamps**

**OGL 700 W and OGL 1000 W**

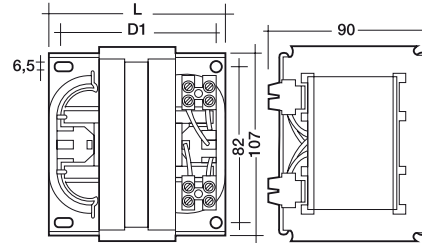


- $t_w = 130\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OGL	1	3	108
OGL	2	2	72

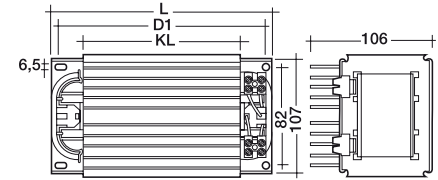
**Approvals:**  
EN 60922/923

**Figure 1**



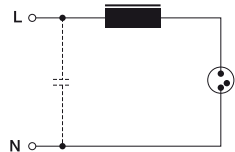
screw terminal 1.0-6.0 mm<sup>2</sup>

**Figure 2**



screw terminal 1.0-6.0 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes 700 W</b>														
OGL 700 W 80 220–240 V 50 Hz	20294541	220/230/240	–	1	1	134	80	–	120	5.40	60	28	0.59	A
<b>standard chokes 1,000 W</b>														
OGL 1000 W 120 220–240 V 50 Hz	20295043	220/230/240	–	2	2	174	120	–	160	7.70	70	37	0.61	A



p.f. correction capacitor /00 W:  
40.0  $\mu\text{F} \pm 10\%$  250 V (35.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 3.6 A ( $\lambda > 0.9$ )

p.f. correction capacitor 1,000 W:  
60.0  $\mu\text{F} \pm 10\%$  250 V (45.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 4.6 A ( $\lambda > 0.9$ )



ECIS / OMBIS 35 W



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

**Chokes with double insulation:**

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
ECIS	1	15	630
OMBIS	2	10	480

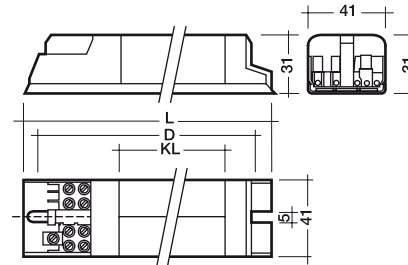
**Suitable ignitors:**

ZRM 2-ES/C; ZRM 2-ES/CT

**Approvals:**

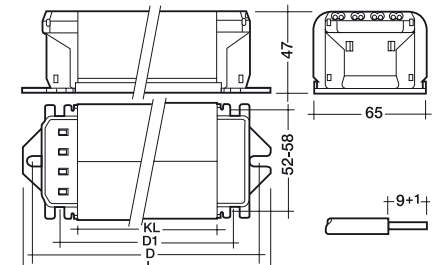
EN 60922/923

Figure 1



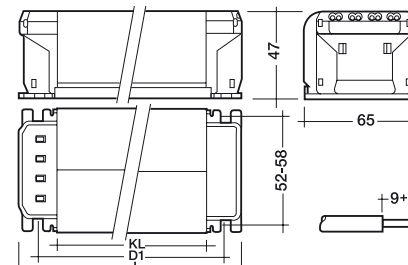
screw terminal 0.75-1.5 mm<sup>2</sup>

Figure 2



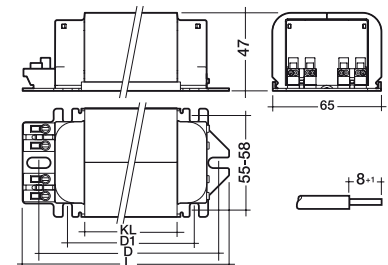
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 3



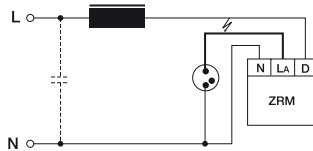
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 4



push terminal 0.5-1.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
ECIS 35 C90 230-250 V 50 Hz TP	20566187	230/240/250	yes	1	1	165	90	144-158	-	0.85	55	12.0	0.40	B
OMBIS 35 A604W 220-240 V 50 Hz	22148862	220/230/240	yes	4	2	98	30	75-84	50.5	0.85	60	7.7	0.34	A
<b>chokes with reduced temperature rise</b>														
OMBIS 35 B103W 230-250 V 50 Hz	20569782	230/240/250	yes	2	2	97	35	80-89	55.5	0.90	50	7.5	0.36	A
OMBIS 35 B153W 230-250 V 50 Hz	20824173	230/240/250	yes	3	2	71	35	-	55.5	0.90	50	7.5	0.36	B
OMBIS 35 B604W 220-240 V 50 Hz	22148600	220/230/240	yes	4	2	103	35	80-89	55.5	0.96	50	7.3	0.36	B
<b>chokes with double insulation</b>														
OMBIS 35 A203D 230-250 V 50 Hz	22148980	230/240/250	yes	2	2	92	30	75-84	50.5	0.80	60	8.0	0.37	B
<b>60 Hz chokes</b>														
OMBIS 35 A156W 220-240 V 60 Hz	20880630	220/230/240	yes	3	2	66	30	-	50.5	0.80	45	7.1	0.34	B



p.f. correction capacitor:

6.0  $\mu\text{F} \pm 10\%$  250 V (5.0  $\mu\text{F}$  at 60 Hz)

p.f. corrected line current: 0.22 A ( $\lambda > 0.9$ )



Magnetic chokes  
High pressure sodium lamps



OMBS 50 W



\* applies only to ballasts with double insulation

- $t_w = 130\text{ °C}$
- resetting thermal protector  
switch off temperature  $155\text{ °C}$

Chokes with double insulation:

- resetting thermal protector  
switch off temperature  $155\text{ °C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ °C}$

Packaging:	Code	Box	Pallet
OMBS	1	10	480

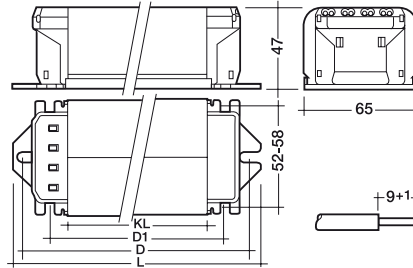
Suitable igniters:

ZRM 2-ES/C; ZRM 2-ES/CT

Approvals:

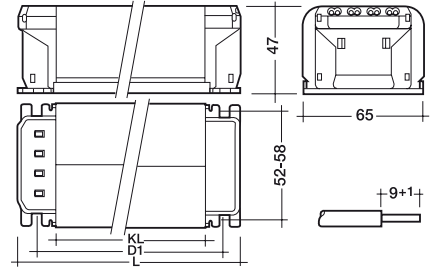
EN 60922/923

Figure 1



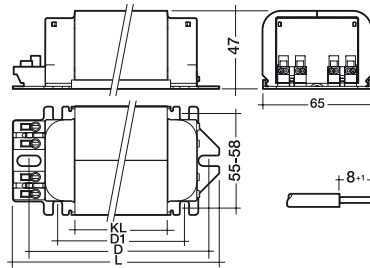
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 2



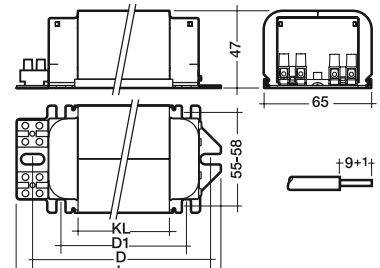
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 3



push terminal 0.5-1.5 mm<sup>2</sup>

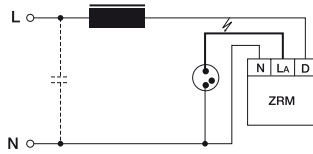
Figure 4



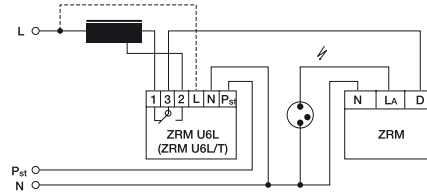
screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMBS 50 A103W 230-250 V 50 Hz	20575586	230/240/250	yes	1	1	97	35	80-89	55.5	0.90	70	11.7	0.35	B
OMBS 50 A604W 220-240 V 50 Hz	22148616	220/230/240	yes	3	1	103	35	80-89	55.5	0.90	70	11.7	0.35	A
<b>chokes with double insulation</b>														
OMBS 50/35 A251D 230 V 50 Hz ①	22148993	230	yes	2	1	81	45	-	65.5	1.15	65/35	10.8/6.7	0.37/0.37	B

① luminous flux reduction to approximately 35 %



p.f. correction capacitor:  
 $10.0\ \mu\text{F} \pm 10\%$  250 V  
p.f. corrected line current: 0.30 A ( $\lambda > 0.9$ )



power tapping



ECIS / OMBIS 70 W



\* applies only to ballasts with double insulation

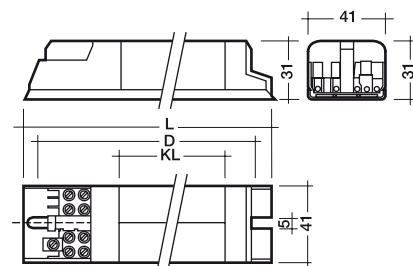
- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

Chokes with double insulation:

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

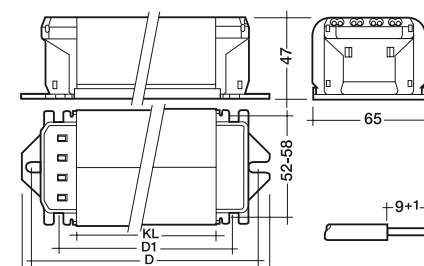
Packaging:	Code	Box	Pallet
ECIS	1	15	630
OMBIS	2	10	480

Figure 1



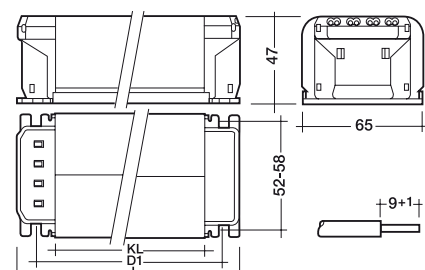
screw terminal 0.75-1.5 mm<sup>2</sup>

Figure 2



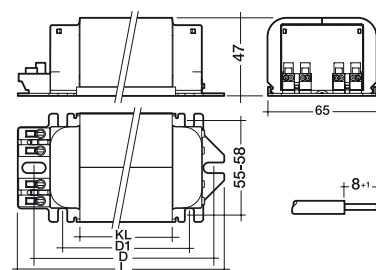
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 3



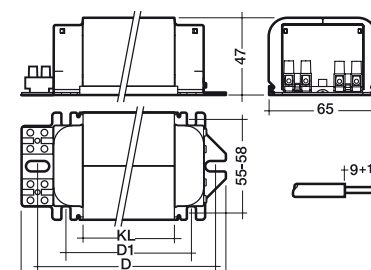
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 4



push terminal 0.5-1.5 mm<sup>2</sup>

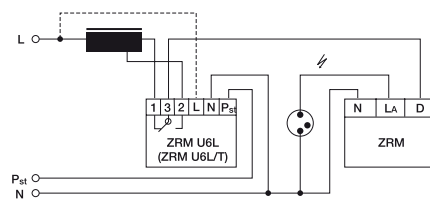
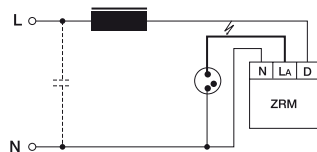
Figure 5



screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
ECIS 70 A140 230-250 V 50 Hz TP	20566335	230/240/250	yes	1	1	215	140	194-208	-	1.30	75	21.0	0.35	B
OMBIS 70 A103W 230-250 V 50 Hz	20568074	230/240/250	yes	2	2	107	45	90-99	65.5	1.20	70	12.1	0.37	B
OMBIS 70 A153W 230-250 V 50 Hz	20824220	230/240/250	yes	3	2	81	45	-	65.5	1.20	70	12.1	0.37	B
OMBIS 70 A604W 220-240 V 50 Hz	22148601	220/230/240	yes	4	2	113	45	90-99	65.5	1.20	70	12.1	0.37	A
<b>chokes with reduced temperature rise</b>														
OMBIS 70 B103W 230-250 V 50 Hz	20575741	230/240/250	yes	2	2	117	55	100-109	75.5	1.40	65	12.4	0.37	B
OMBIS 70 B604W 220-240 V 50 Hz	22148602	220/230/240	yes	4	2	123	55	100-109	75.5	1.40	65	12.4	0.37	B
<b>chokes with power tapping</b>														
OMBS 70/50 A103W 230-240 V 50 Hz ①	20885000	230/240	yes	2	2	117	55	100-109	75.5	1.40	65/40	13.8/9.4	0.35	B
OMBS 70/50 Z603W 230/240 V 50 Hz ①	22158510	230/240	yes	4	2	113	45	90-99	65.5	1.17	70/50	14.0/9.5	0.38/0.34	B
<b>chokes with double insulation</b>														
OMBIS 70 A253D 230-250 V 50 Hz	22148985	230/240/250	yes	3	2	81	45	-	65.5	1.20	70	12.1	0.37	B
OMBS 70/50 A251D 230 V 50 Hz ①	22148996	230	yes	3	2	91	55	-	75.5	1.40	65/40	13.5/9.2	0.34/0.35	B
<b>60 Hz chokes</b>														
OMBIS 70 A106W 220-240 V 60 Hz	20574788	220/230/240	yes	2	2	107	45	90-99	65.5	1.20	60	11.8	0.38	B
<b>chokes with pulse tapping</b>														
OMBS 70 PA503W 230/240 V 50 Hz	22148611	230/240	yes	5	2	113	45	90-99	65.5	1.20	70	13.1	0.37	B

① luminous flux reduction to approximately 45 %



power tapping

Suitable ignitors:  
ZRM 2-ES/C; ZRM 2-ES/CT

Approvals:  
EN 60922/923

p.f. correction capacitor:  
 $12.0\text{ }\mu\text{F} \pm 10\%$  250 V ( $10.0\text{ }\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 0.38 A ( $\lambda > 0.9$ )



**Magnetic chokes**  
**High pressure sodium lamps**

**OMBIS / OMBS 100 W**



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector switch off temperature  $155\text{ }^\circ\text{C}$

**Chokes with double insulation:**

- resetting thermal protector switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OMBIS	1	10	480

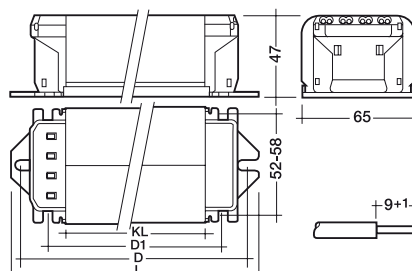
**Suitable igniters:**

ZRM 2.5-ES/C; ZRM 2.5-ES/CT  
ZRM 4.5-ES/C; ZRM 4.5-ES/CT

**Approvals:**

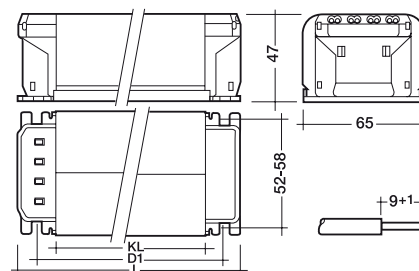
EN 60922/923

**Figure 1**



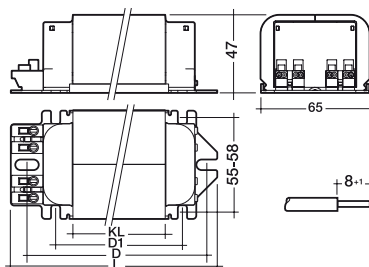
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 2**



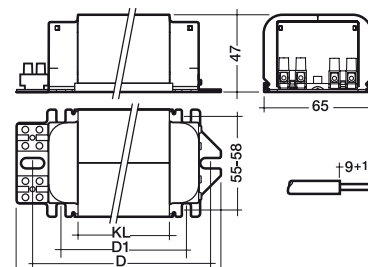
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 3**



push terminal 0.5-1.5 mm<sup>2</sup>

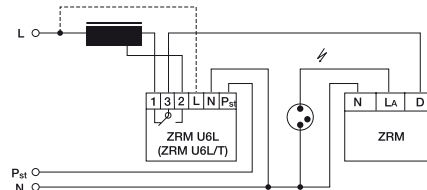
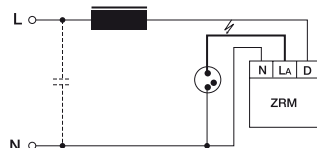
**Figure 4**



screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMBIS 100 A103W 230-250 V 50 Hz	20568891	230/240/250	yes	1	1	117	55	100-109	75.5	1.40	65	13.7	0.40	B
OMBIS 100 A604W 220-240 V 50 Hz	22148604	220/230/240	yes	3	1	123	55	100-109	75.5	1.40	65	13.7	0.40	A
<b>chokes with power tapping</b>														
OMBS 100/70 A103W 230-240 V 50 Hz ①	20885053	230/240	yes	1	1	127	65	110-119	85.5	1.60	65/55	13.7/10.7	0.40/0.33	B
OMBS 100/70 A153W 230-240 V 50 Hz ①	20885066	230/240	yes	2	1	101	65	-	85.5	1.60	65/55	13.7/10.7	0.40/0.33	B
OMBS 100/70 A603W 230-240 V 50 Hz ①	22148605	230/240	yes	3	1	133	65	110-119	85.5	1.60	65/55	13.7/10.7	0.40/0.33	A
<b>chokes with double insulation</b>														
OMBIS 100 A203D 230-250 V 50 Hz	22148971	230/240/250	yes	1	1	117	55	100-109	75.5	1.40	65	13.7	0.40	B
OMBS 100/70 A251D 230 V 50 Hz ①	22148988	230	yes	2	1	101	65	-	85.5	1.70	65/55	13.0/10.5	0.40/0.33	B
<b>60 Hz chokes</b>														
OMBIS 100 A106W 220-240 V 60 Hz	20574794	220/230/240	yes	1	1	117	55	100-109	75.5	1.40	60	12.6	0.39	B
<b>chokes with pulse tapping</b>														
OMBIS 100 PA503W 230/240 V 50 Hz	22148612	230/240	yes	4	1	123	55	100-109	75.5	1.40	65	13.7	0.40	B

① luminous flux reduction to approximately 50 %



p.f. correction capacitor:  
12.0  $\mu\text{F} \pm 10\%$  250 V (10.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 0.55 A ( $\lambda > 0.9$ )

power tapping



ECIS / OMBIS / OMBIS 150 W



\* applies only to ballasts with double insulation

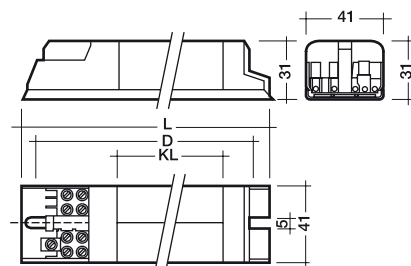
- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

Chokes with double insulation:

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

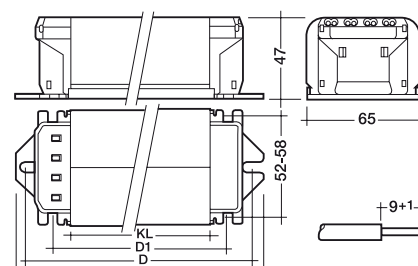
Packaging:	Code	Box	Pallet
ECIS	1	15	630
OMBIS	2	10	480
OMBIS	3	10	240

Figure 1



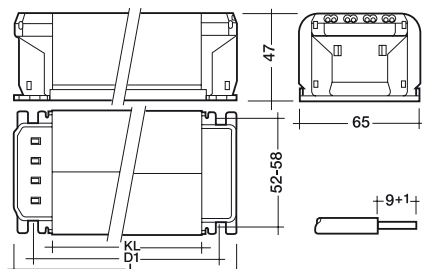
screw terminal 0.75-1.5 mm<sup>2</sup>

Figure 2



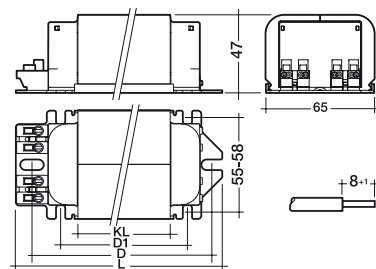
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 3



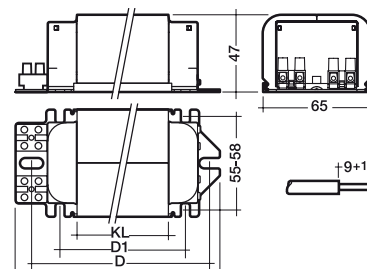
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 4



push terminal 0.5-1.5 mm<sup>2</sup>

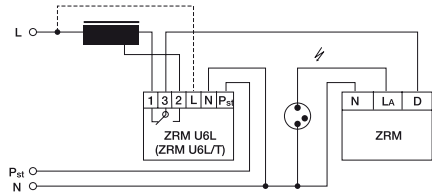
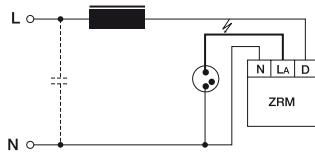
Figure 5



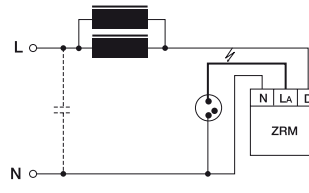
screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
ECIS 150 1/2 C140 230-250 V 50 Hz TP	20566329	230/240/250	yes	1	1	215	140	194-208	-	1.30	65	25.0	0.43	B
OMBIS 150 A103W 230-250 V 50 Hz	20568879	230/240/250	yes	2	2	137	75	120-129	95.5	1.90	85	19.5	0.42	B
OMBIS 150 A153W 230-250 V 50 Hz	20880440	230/240/250	yes	3	2	111	75	-	95.5	1.90	85	19.5	0.42	B
OMBIS 150 A604W 220-240 V 50 Hz	22148606	220/230/240	yes	4	2	143	75	120-129	95.5	1.90	75	18.5	0.42	A
<b>chokes with reduced temperature rise</b>														
OMBIS 150 B103W 230-250 V 50 Hz	20568863	230/240/250	yes	2	2	147	85	130-139	105.5	2.00	65	18.7	0.40	B
OMBIS 150 B153W 230-250 V 50 Hz	20824469	230/240/250	yes	3	2	121	85	-	105.5	2.00	65	18.7	0.40	B
OMBIS 150 B604W 220-240 V 50 Hz	22148607	220/230/240	yes	4	2	153	85	130-139	105.5	2.00	65	18.7	0.40	A
<b>chokes with power tapping</b>														
OMBS 150/100 A103W 230/240 V 50 Hz ①	20885094	230/240	yes	2	3	167	105	150-159	125.5	2.40	70/45	21.6/12.2	0.41/0.39	B
OMBS 150/100 A603W 230/240 V 50 Hz ①	22148608	230/240	yes	4	3	173	105	150-159	125.5	2.40	70/45	21.6/12.2	0.41/0.39	A
<b>chokes with double insulation</b>														
OMBIS 150 B253D 230-250 V 50 Hz	22148973	230/240/250	yes	3	2	121	85	-	105.5	2.00	70	18.3	0.41	B
OMBS 150/100 A251D 230 V 50 Hz	22148990	230	yes	3	3	141	105	-	130.5	2.50	70/45	21.0/11.8	0.41/0.41	B
<b>60 Hz chokes</b>														
OMBIS 150 A106W 220-240 V 60 Hz	20571288	220/230/240	yes	2	2	137	75	120-129	95.5	1.90	70	17.4	0.40	B
<b>chokes with pulse tapping</b>														
OMBIS 150 PB503W 230/240 V 50 Hz	22148613	230/240	yes	5	2	153	85	130-139	105.5	2.00	65	18.1	0.40	B

① luminous flux reduction to approximately 35 %



power tapping



ECIS 150 1/2 in parallel

Suitable ignitors:

- ZRM 2.5-ES/C
- ZRM 2.5-ES/CT
- ZRM 4.5-ES/C
- ZRM 4.5-ES/CT

Approvals:

EN 60922/923

p.f. correction capacitor:  
20.0  $\mu\text{F} \pm 10\%$  250 V (16.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 0.80 A ( $\lambda > 0.9$ )



Remote gear boxes  
High pressure sodium lamps

OM PAK 150 W 230/240 V, 230–250 V 50 Hz



- temperature protected, low loss choke out of the OM range
- digital ZRM ES/CT superimposed-pulse ignitor with automatic cutout for optimum starting and restarting of the lamp (M B133 and M B533)
- exceptional low noise operation
- usable also with high ambient temperatures (ta)
- marked with F-mark for mounting on normal flammable materials
- tool free connection of cables
- voltage adapting for 230 V, 240 V and 250 V supply
- various fixing possibilities

Figure 1

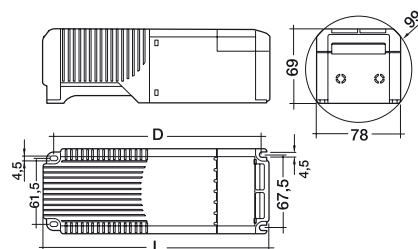
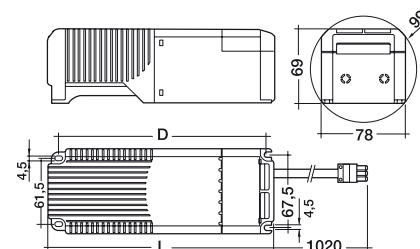


Figure 2



OM PAK 150 M B533 and M B513 (cable version)

- halogen free 3 core lamp lead
- total lead length including socket 1,200 mm/1,020 mm exterior
- with pre-assembled ST-18 socket

**Packaging:**  
OM PAK 150 M B113  
OM PAK 150 M B133  
box of 1  
108 pieces/pallet

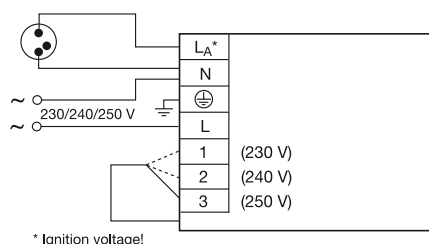
**Approvals:**  
EN 60922/923

OM PAK 150 M B513  
OM PAK 150 M B533  
box of 1  
75 pieces/pallet

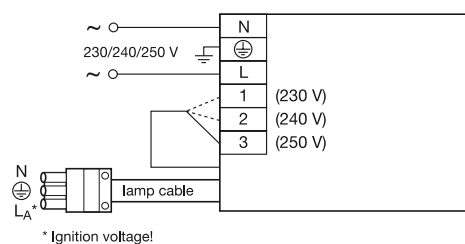
type	article number	voltage V	length L mm	fixing centres D mm	weight kg	ta °C	losses W ①	nominal lamp current A	ignitor ②	line current A	fig.	circuit diagram
OM PAK 150 M B133 230/240 V 50 Hz	22115645	230/240	260	243.5	3.00	50	24.0	1.8	ZRM 2.5-ES/CT	0.76	1	A
OM PAK 150 M B113 230/240 V 50 Hz	22115639	230/240	260	243.5	3.00	50	24.0	1.8	ZRM 2.5-ES/C	0.76	1	A
OM PAK 150 M B533 230–250 V 50 Hz	22116559	230/240/250	260	243.5	3.00	50	23.2	1.8	ZRM 2.5-ES/CT	0.76	2	B
OM PAK 150 M B513 230–250 V 50 Hz	22116562	230/240/250	260	243.5	3.00	50	23.2	1.8	ZRM 2.5-ES/C	0.76	2	B

① mean value measured at 25 °C ta point temperature and 240 V or 250 V main supply

② included in the gear box



A) OM PAK



B) OM PAK with lamp cable



OFBIS / OMBIS 250 W



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

**Chokes with double insulation:**

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OMBIS	1	6	240
OMBIS	2	10	480
OMBIS	3	–	195
OFBIS	4	4	288

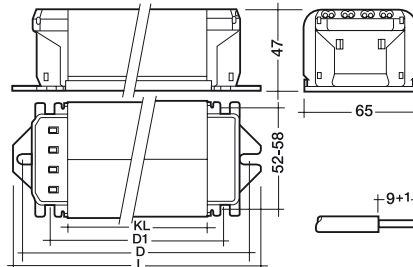
**Suitable ignitors:**

ZRM 2.5-ES/C; ZRM 2.5-ES/CT  
ZRM 4.5-ES/C; ZRM 4.5-ES/CT

**Approvals:**

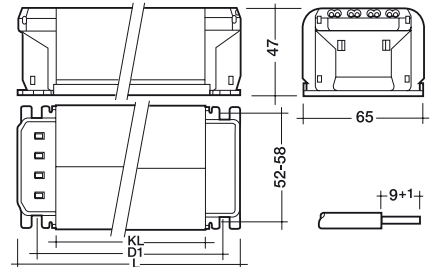
EN 60922/923

Figure 1



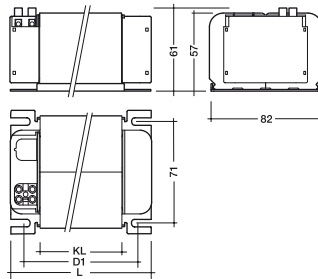
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 2



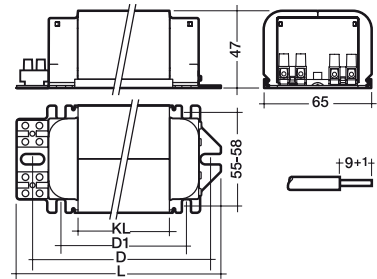
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 3



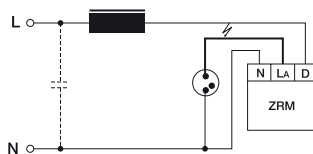
screw terminal 0.75-2.5 mm<sup>2</sup>

Figure 4

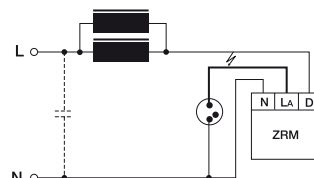


screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMBIS 250 A103W 230–250 V 50 Hz	20570248	230/240/250	yes	1	1	212	150	195-204	170.5	3.50	75	34.2	0.40	B
OMBIS 250 A153W 230–250 V 50 Hz	20824891	230/240/250	yes	2	1	186	150	–	170.5	3.50	75	34.2	0.40	B
OFBIS 250 A021W 230 V 50 Hz	27002372	230	yes	3	4	96	60	–	80.0-88.0	2.42	75	22.1	0.39	A
<b>chokes with reduced temperature rise</b>														
OMBIS 250 1/2 B103W 230–250 V 50 Hz ①	20575656	230/240/250	yes	1	2	147	85	130-139	105.5	2.00	70	18.3	0.40	B
<b>chokes with double insulation</b>														
OMBIS 250 A207D 230 V 50/60 Hz	22148976	230	yes	1	1	212	150	190-204	170.5	3.50	70/60	30.0	0.40/0.40	B
<b>60 Hz chokes</b>														
OMBIS 250 A106W 220–240 V 60 Hz	20574693	220/230/240	yes	1	1	182	120	165-174	140.5	2.70	75	33.8	0.39	B
<b>chokes with pulse tapping</b>														
OMBIS 250 PZ 503W 230/240 V 60 Hz	22149230	230/240	yes	4	3	188	120	165-174	140.5	2.80	80	28.6	0.40	B



p.f. correction capacitor:  
32.0  $\mu\text{F} \pm 10\%$  250 V (25.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 1.35 A ( $\lambda > 0.9$ )



① two chokes in parallel are required  
to operate a 250 W lamp



**Magnetic chokes**  
**High pressure sodium lamps**

**OGLIS 250 W**



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

**Chokes with double insulation:**

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OGLIS	1	6	216
OGLS	2	2	168
OGLIS	3	2	214

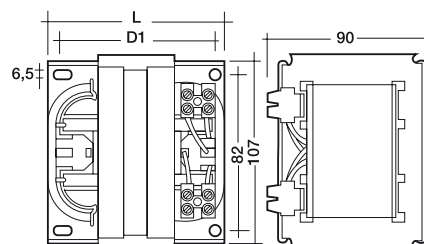
**Suitable ignitors:**

ZRM 2.5-ES/C; ZRM 2.5-ES/CT  
ZRM 4.5-ES/C; ZRM 4.5-ES/CT

**Approvals:**

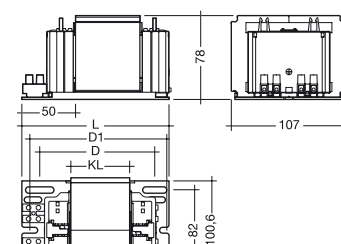
EN 60922/923

**Figure 1**



screw terminal 1.0-4.0 mm<sup>2</sup>

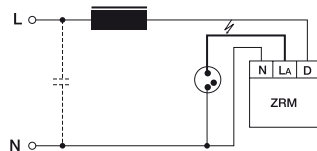
**Figure 2**



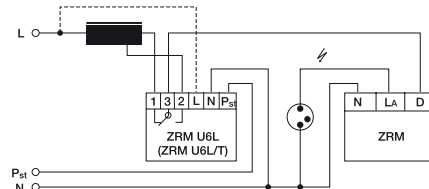
screw terminal 1.0-6.0 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>chokes with reduced temperature rise</b>														
OGLIS 250 W 40 230-250 V 50 Hz TP	27002347	230/240/250	yes	1	1	94	40	-	80	3.10	70	25.5	0.39	A
OGLIS 250 C044W 220-240 V 50 Hz	89121836	220/230/240	yes	2	3	130	40	110.5-124	76.5-118	3.10	70	25.5	0.39	B
<b>chokes with power tapping</b>														
OGLS 250/150 C043W 230/240 V 50 Hz ①	89121864	230/240	yes	2	2	150	60	130.5-144	96.5-138	4.50	65/45	19.1	0.37/0.41	B
<b>chokes with double insulation</b>														
OGLIS 250 C203D 230-250 V 50 Hz	22149035	230/240/250	yes	1	1	94	40	-	80.0	3.20	70	25.5	0.39	B
<b>chokes with pulse tapping</b>														
OGLIS 250 PC023W 230/240 V 50 Hz	22149231	230/240	yes	1	1	94	40	-	80.0	3.10	80	27.4	0.39	B

① luminous flux reduction to approximately 30 %



p.f. correction capacitor:  
32.0  $\mu\text{F} \pm 10\%$  250 V (25.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 1.35 A ( $\lambda > 0.9$ )



power tapping



OFBS / OGLS 400 W



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

Chokes with double insulation:

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OFBS	1	4	228
OGLS	2	4	144
OGLS	3	2	168
OGLS	4	1	84
OGLS	5	-	84

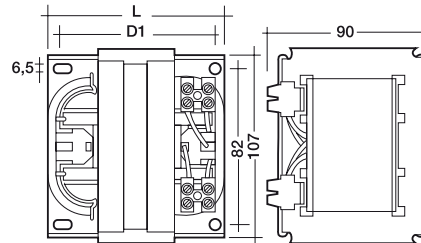
Suitable ignitors:

ZRM 4.5-ES/C; ZRM 4.5-ES/CT (recommended for external applications)  
ZRM 6-ES/C; ZRM 6-ES/CT

Approvals:

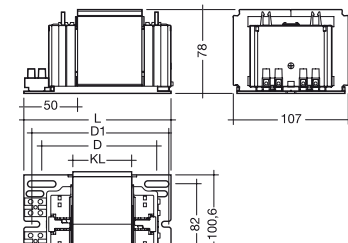
EN 60922/923

Figure 1



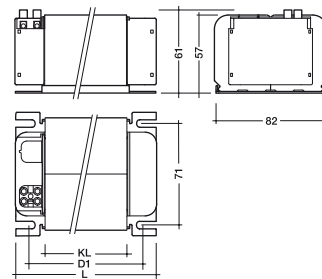
screw terminal 1.0-4.0 mm<sup>2</sup>

Figure 2



screw terminal 1.0-6.0 mm<sup>2</sup>

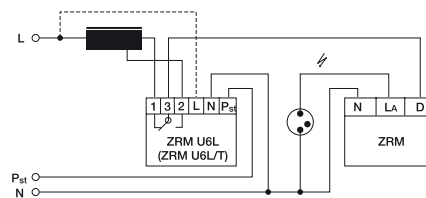
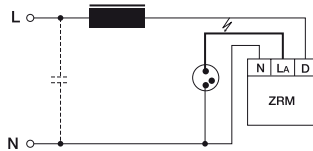
Figure 3



screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OFBS 400 A021W 230 V 50 Hz	27002383	230	yes	3	1	126	90	-	110.0-118	3.46	75	29.8	0.40	A
OGLS 400 W 60 220-240 V 50 Hz TP	27002362	220/230/240	yes	1	2	114	60	-	100	4.20	75	34.0	0.37	B
OGLS 400 C044W 220-240 V 50 Hz	89121840	220/230/240	yes	2	3	150	60	96.5-138	130.5-144	4.20	75	34.0	0.40	A
<b>chokes with power tapping</b>														
OGLS 400/250 W C043W 230-240 V 50 Hz ①	89121865	230/240	yes	2	4	170	80	116.5-158	150.5-164	5.40	65/45	31.9/19.1	0.38/0.36	B
<b>chokes with double insulation</b>														
OGLS 400 C203D 230-250 V 50 Hz	22149038	230/240/250	yes	1	2	114	60	-	100	4.20	80	34.0	0.37	B
<b>60 Hz chokes</b>														
OGLS 400 W 60 220-240 V 60 Hz	20565518	220/230/240	-	1	2	114	60	-	100	4.20	60	30.4	0.42	B
<b>chokes with pulse tapping</b>														
OGLS 400 PC043W 230/240 V 50 Hz	89121873	230/240	yes	2	5	150	60	130.5-144	96.5-138	4.50	70	30.0	0.41	B

① luminous flux reduction to approximately 35 %



p.t. correction capacitor:  
50.0  $\mu\text{F} \pm 10\%$  250 V (45.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 1.97 A ( $\lambda > 0.9$ )

power tapping





**Magnetic chokes**  
**High pressure sodium lamps**

**OGLS 600 W**



- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

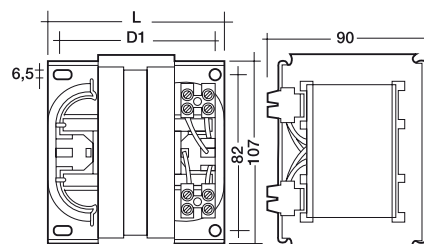
Packaging:	Code	Box	Pallet
OGLS	1	3	108
OGLS	2	1	84

**Suitable ignitors:**

- ① ZRM 6-ES/C 400
- ② ZRM 12-ES/C; ZRM 12-ES/CT

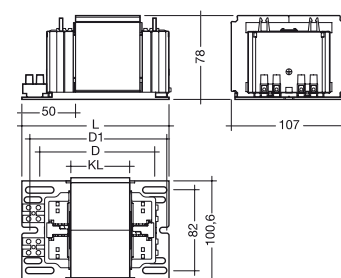
**Approvals:**  
EN 60922/923

**Figure 1**



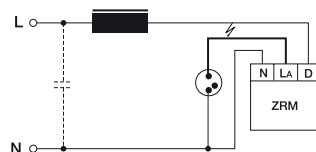
screw terminal 1.0-4.0 mm<sup>2</sup>

**Figure 2**



push terminal 1.0-6.0 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OGLS 600 A046W 380-415 V 50 Hz ①	89121976	380/400/415	yes	2	2	170	80	150.5-164	116.5-158	5.40	75	35.0	0.47	B
<b>chokes with reduced temperature rise</b>														
OGLS 600 W 100 220-240 V 50 Hz TP ②	20882197	220/230/240	yes	1	1	154	100	-	140	6.70	65	35.0	0.43	A
<b>60 Hz chokes</b>														
OGLS 600 W 80 220-240 V 60 Hz ②	20821091	220/230/240	-	1	1	134	80	-	120	5.40	60	34.3	0.42	B



p.f. correction capacitor 230 V units:  
60.0  $\mu\text{F} \pm 10\%$  250 V (50.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 3.10 A ( $\lambda > 0.9$ )

p.f. correction capacitor 400 V units:  
20.0  $\mu\text{F} \pm 10\%$  450 V  
p.f. corrected line current: 1.70 A ( $\lambda > 0.9$ )



HS 1,000 W

Magnetic chokes  
High pressure sodium lamps

### OGLIS 1000 W

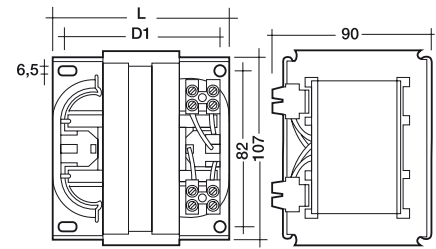


- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OGLIS	1	2	72

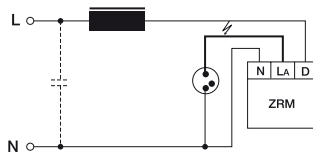
**Suitable ignitors:**  
ZRM 12-ES/C; ZRM 12-ES/CT

**Approvals:**  
EN 60922/923



screw terminal 1.0-4.0 mm<sup>2</sup>

type	article number	voltage V	thermal protection	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
							D	D1					
<b>standard chokes</b>													
OGLIS 1000 A024W 220–240 V 50 Hz	27002350	220/230/240	yes	1	194	140	–	180	9.00	75	72.0	0.45	A
<b>60 Hz chokes</b>													
OGLIS 1000 W 140 220–240 V 60 Hz	20880891	220/230/240	–	1	194	140	–	180	9.00	70	70.0	0.43	B
<b>chokes with pulse tapping</b>													
OGLIS 1000 PC023W 230/240 V 50 Hz	22148485	230/240	yes	1	234	180	–	220	11.60	60	51.0	0.43	B



p.f. correction capacitor:  
100.0  $\mu\text{F} \pm 10\%$  250 V (80.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 5.10 A ( $\lambda > 0.9$ )



**Magnetic chokes  
Metal halide lamps**

**OMBIS 35 W**



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

**Chokes with double insulation:**

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OMBIS	1	10	480

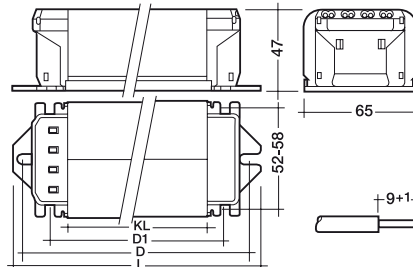
**Suitable ignitors:**

ZRM 2.5-ES/C; ZRM 2.5-ES/CT

**Approvals:**

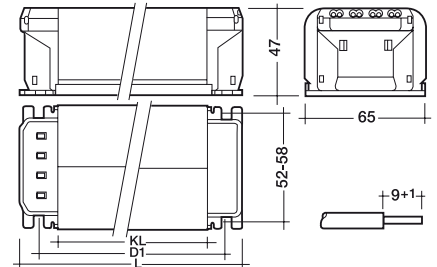
EN 60922/923

**Figure 1**



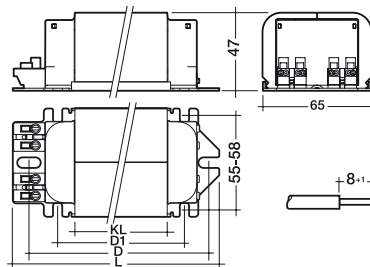
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 2**



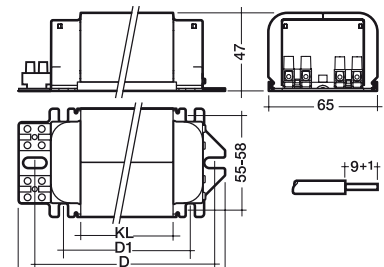
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 3**



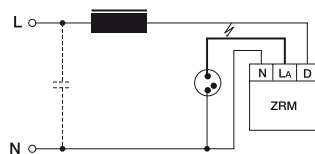
push terminal 0.5-1.5 mm<sup>2</sup>

**Figure 4**



screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMBIS 35 A604W 220-240 V 50 Hz	22148862	220/230/240	yes	3	1	98	30	75-84	50.5	0.85	60	7.7	0.34	A
<b>chokes with reduced temperature rise</b>														
OMBIS 35 B103W 230-250 V 50 Hz	20569782	230/240/250	yes	1	1	97	35	80-89	55.5	0.90	50	7.5	0.36	B
OMBIS 35 B153W 230-250 V 50 Hz	20824173	230/240/250	yes	2	1	71	35	-	55.5	0.90	50	7.5	0.36	B
OMBIS 35 B604W 220-240 V 50 Hz	22148600	220/230/240	yes	3	1	103	35	80-89	55.5	0.96	50	7.3	0.36	B
<b>chokes with double insulation</b>														
OMBIS 35 A203D 230-250 V 50 Hz	22148980	230/240/250	yes	1	1	92	30	75-84	50.5	0.80	60	8.0	0.37	B
<b>60 Hz chokes</b>														
OMBIS 35 A156W 220-240 V 60 Hz	20880630	220/230/240	yes	2	1	66	30	-	50.5	0.80	45	7.1	0.34	B
<b>chokes with pulse tapping</b>														
OMBIS 35 PB503W 230/240 V 50 Hz	22148609	230/240	yes	4	1	103	35	80-89	55.5	0.90	50	7.5	0.36	B



p.f. correction capacitor:

$6.0\text{ }\mu\text{F} \pm 10\%$  250 V (5.0  $\mu\text{F}$  at 60 Hz)

p.f. corrected line current: 0.22 A ( $\lambda > 0.9$ )



**OM PAK 35 W 230/240 V, 230–250 V 50 Hz**



- temperature protected, low loss choke out of the OM range
- digital ZRM ES/CT superimposed-pulse ignitor with automatic cutout for optimum starting and restarting of the lamp (M B133 and M B533)
- exceptional low noise operation
- usable also with high ambient temperatures (ta)
- marked with F-mark for mounting on normal flammable materials
- tool free connection of cables
- voltage adapting for 230 V, 240 V and 250 V supply
- various fixing possibilities

**OM PAK 35 M B533 and M B513 (cable version)**

- halogen free 3 core lamp lead
- total lead length including socket 1,200 mm/1,020 mm exterior
- with pre-assembled ST-18 socket

Figure 1

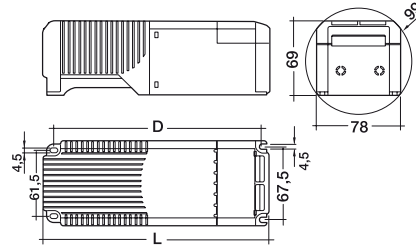
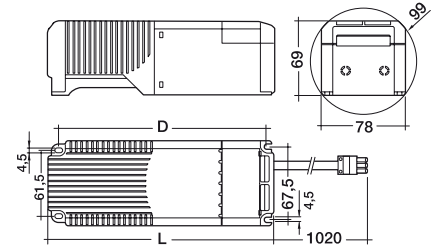


Figure 2



**Packaging:**  
**OM PAK 35 M B113**  
**OM PAK 35 M B133**  
 box of 1  
 135 pieces/pallet

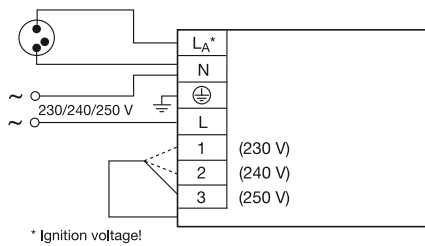
**Approvals:**  
 EN 60922/923

**OM PAK 35 M B513**  
**OM PAK 35 M B533**  
 box of 1  
 84 pieces/pallet

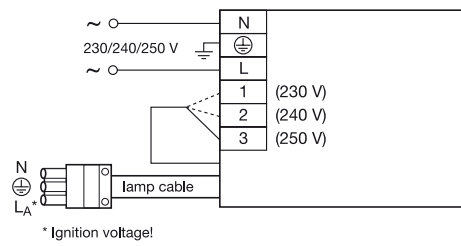
type	article number	voltage V	length L mm	fixing centres D mm	weight kg	ta °C	losses W ①	nominal lamp current A	ignitor ②	line current A	$\lambda$	fig.	circuit diagram
<b>OM PAK 35 M B133</b> 230/240 V 50 Hz	20889876	230/240	210	193.5	1.40	65	8.6	0.53	ZRM 2.5-ES/CT	0.22	0.95	1	A
<b>OM PAK 35 M B113</b> 230/240 V 50 Hz	22116414	230/240	210	193.5	1.40	65	8.6	0.53	ZRM 2.5-ES/C	0.22	0.95	1	A
<b>OM PAK 35 M B533</b> 230–250 V 50 Hz	22116506	230/240/250	210	193.5	1.40	65	8.6	0.53	ZRM 2.5-ES/CT	0.22	0.95	2	B
<b>OM PAK 35 M B513</b> 230–250 V 50 Hz	22116515	230/240/250	210	193.5	1.40	65	8.6	0.53	ZRM 2.5-ES/C	0.22	0.95	2	B

① mean value measured at 25 °C ta point temperature and 240 V or 250 V main supply

② included in the gear box



A) OM PAK



B) OM PAK with lamp cable



ECIS / OMBIS 70 W



\* applies only to ballasts with double insulation

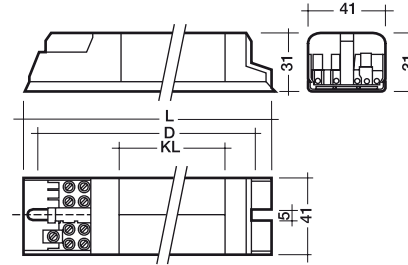
- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

Chokes with double insulation:

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

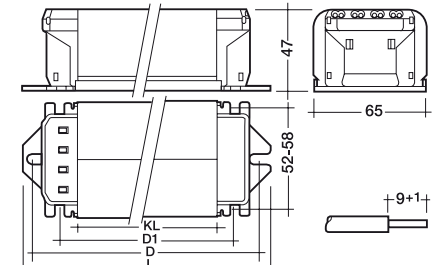
Packaging:	Code	Box	Pallet
ECIS	1	15	630
OMBIS	2	10	480

Figure 1



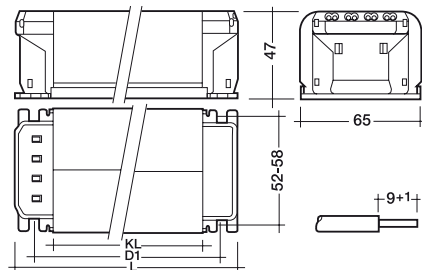
screw terminal 0.75-1.5 mm<sup>2</sup>

Figure 2



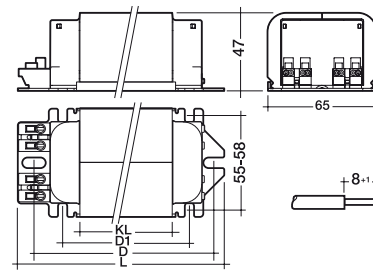
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 3



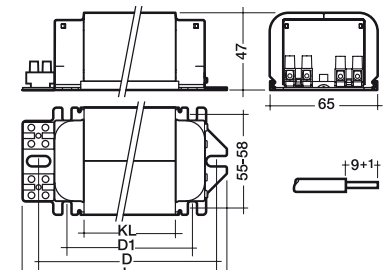
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 4



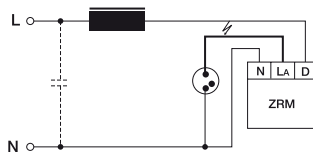
push terminal 0.5-1.5 mm<sup>2</sup>

Figure 5



screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
ECIS 70 A140 230-250 V 50 Hz TP	20566335	230/240/250	yes	1	1	215	140	194-208	-	1.30	75	21.0	0.35	B
OMBIS 70 A103W 230-250 V 50 Hz	20568074	230/240/250	yes	2	2	107	45	90-99	65.5	1.20	70	12.1	0.37	B
OMBIS 70 A153W 230-250 V 50 Hz	20824220	230/240/250	yes	3	2	81	45	-	65.5	1.20	70	12.1	0.37	B
OMBIS 70 A604W 220-240 V 50 Hz	22148601	220/230/240	yes	4	2	113	45	90-99	65.5	1.20	70	12.1	0.37	A
<b>chokes with reduced temperature rise</b>														
OMBIS 70 B103W 230-250 V 50 Hz	20575741	230/240/250	yes	2	2	117	55	100-109	75.5	1.40	65	12.4	0.37	B
OMBIS 70 B604W 220-240 V 50 Hz	22148602	220/230/240	yes	4	2	123	55	100-109	75.5	1.40	65	12.4	0.37	B
<b>chokes with very low temperature rise</b>														
OMBIS 70 C103W 230-250 V 50 Hz	20820295	230/240/250	yes	2	2	127	65	110-119	85.5	1.60	55	12.2	0.37	B
OMBIS 70 C153W 230-250 V 50 Hz	20824343	230/240/250	yes	3	2	101	65	-	85.5	1.60	55	12.2	0.37	B
<b>chokes with double insulation</b>														
OMBIS 70 A253D 230-250 V 50 Hz	22148985	230/240/250	yes	3	2	81	45	-	65.5	1.15	70	12.1	0.37	B
OMBIS 70/50 A251D 230 V 50 Hz	22148996	230	yes	3	2	91	55	-	75.5	1.40	65/40	13.5/9.2	0.34/0.35	B
<b>60 Hz chokes</b>														
OMBIS 70 A106W 220-240 V 60 Hz	20574788	220/230/240	yes	2	2	107	45	90-99	65.5	1.20	60	11.8	0.38	B
<b>chokes with pulse tapping</b>														
OMBIS 70 PA503W 230/240 V 50 Hz	22148610	230/240	yes	5	2	113	45	90-99	65.5	1.20	70	13.1	0.37	B



p.f. correction capacitor:  
12.0  $\mu\text{F} \pm 10\%$  250 V (10.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 0.43 A ( $\lambda > 0.9$ )

Suitable ignitors:  
ZRM 2.5-ES/C; ZRM 2.5-ES/CT

Approvals:  
EN 60922/923



OM PAK 70 W 230/240 V, 230–250 V 50 Hz



- temperature protected, low loss choke out of the OM range
- digital ZRM ES/CT superimposed-pulse ignitor with automatic cutout for optimum starting and restarting of the lamp (M B133 and M B533)
- M B183 version with ZRM powerPULSE for cable lengths up to 20 m
- exceptional low noise operation
- usable also with high ambient temperatures (ta)
- marked with F-mark for mounting on normal flammable materials
- tool free connection of cables
- voltage adapting for 230 V, 240 V and 250 V supply
- various fixing possibilities

OM PAK 70 M B533 and M B513 (cable version)

- halogen free 3 core lamp lead
- total lead length including socket 1,200 mm/1,020 mm exterior
- with pre-assembled ST-18 socket

Figure 1

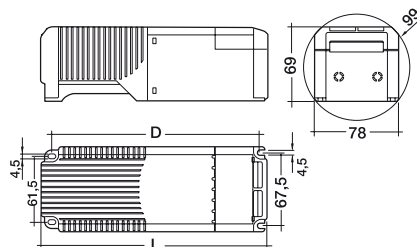
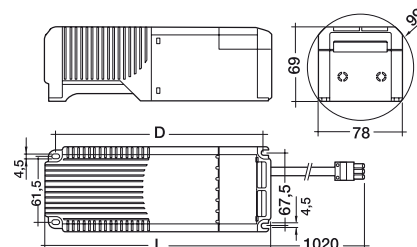


Figure 2



Packaging:

OM PAK 70 M B113  
OM PAK 70 M B133  
OM PAK 70 M B183  
box of 1  
135 pieces/pallet

Approvals:

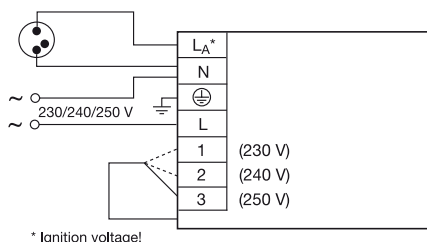
EN 60922/923

OM PAK 70 M B513  
OM PAK 70 M B533  
box of 1  
84 pieces/pallet

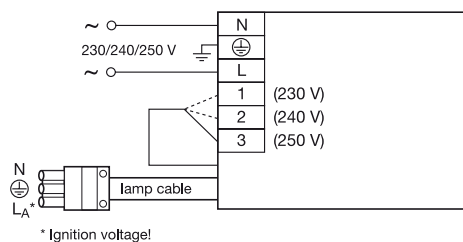
type	article number	voltage V	length L mm	fixing centres D mm	weight kg	ta °C	losses W ①	nominal lamp current A	ignitor ②	line current A	$\lambda$	fig.	circuit diagram
OM PAK 70 M B133	22115608	230/240	210	193.5	1.80	55	15.7	1.00	ZRM 2.5-ES/CT	0.43	0.95	1	A
OM PAK 70 M B113	20889779	230/240	210	193.5	1.80	55	15.7	1.00	ZRM 2.5-ES/C	0.43	0.95	1	A
OM PAK 70 M B183	22149282	230/240	210	193.5	1.80	50	15.7	1.00	ZRM 4000 powerPULSE	0.38	0.95	1	A
OM PAK 70 M B533	22116521	230/240/250	210	193.5	1.80	55	15.7	1.00	ZRM 2.5-ES/CT	0.38	0.95	2	B
OM PAK 70 M B513	22116537	230/240/250	210	193.5	1.80	55	15.7	1.00	ZRM 2.5-ES/C	0.38	0.95	2	B

① mean value measured at 25 °C ta point temperature and 240 V or 250 V main supply

② included in the gear box



A) OM PAK



B) OM PAK with lamp cable



**OMBIS 100 W**



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

**Chokes with double insulation:**

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OMBIS	1	10	480

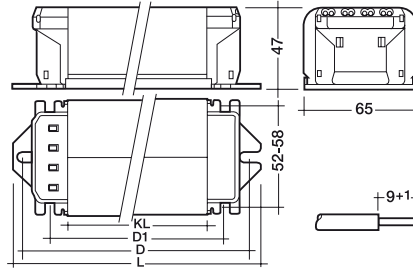
**Suitable ignitors:**

ZRM 2.5-ES/C; ZRM 2.5-ES/CT

**Approvals:**

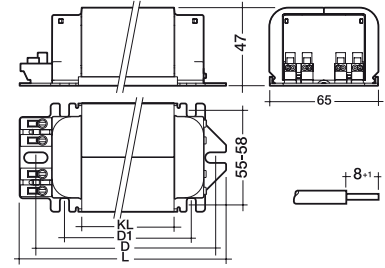
EN 60922/923

**Figure 1**



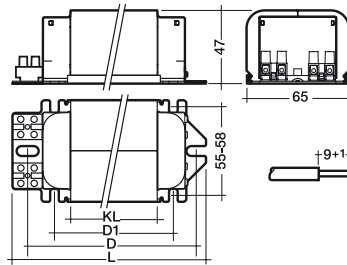
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 2**



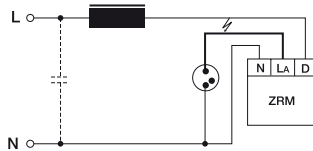
push terminal 0.5-1.5 mm<sup>2</sup>

**Figure 3**



screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMBIS 100 A103W 230-250 V 50 Hz	20568891	230/240/250	yes	1	1	117	55	100-109	75.5	1.40	65	13.7	0.40	B
OMBIS 100 A604W 220-240 V 50 Hz	22148604	220/230/240	yes	2	1	123	55	100-109	75.5	1.40	65	13.7	0.40	A
<b>chokes with very low temperature rise</b>														
OMBIS 100 C103W 230-250 V 50 Hz	20570572	230/240/250	yes	1	1	137	75	120-129	95.5	1.80	60	13.9	1.20	B
<b>chokes with double insulation</b>														
OMBIS 100 A203D 230-250 V 50 Hz	22148971	230/240/250	yes	1	1	117	55	100-109	75.5	1.40	65	13.7	0.53	B
<b>60 Hz chokes</b>														
OMBIS 100 A106W 220-240 V 60 Hz	20574794	220/230/240	yes	1	1	117	55	100-109	75.5	1.40	60	12.6	0.39	B
<b>chokes with pulse tapping</b>														
OMBIS 100 PA503W 230/240 V 50 Hz	22148612	230/240	yes	3	1	123	55	100-109	75.5	1.40	65	13.7	0.40	B



p.t. correction capacitor:

12.0  $\mu\text{F} \pm 10\%$  250 V (10.0  $\mu\text{F}$  at 60 Hz)

p.f. corrected line current: 0.55 A ( $\lambda > 0.9$ )



OMBIS 150 W



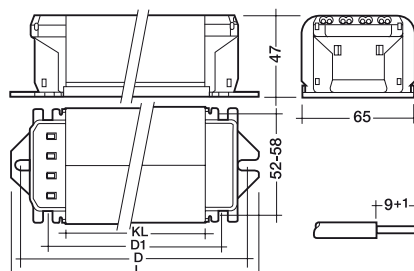
- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OMBIS	1	10	480

**Suitable ignitors:**  
ZRM 2.5-ES/C; ZRM 2.5-ES/CT

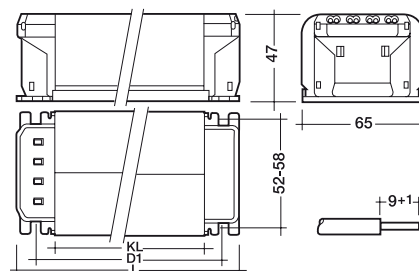
**Approvals:**  
EN 60922/923

Figure 1



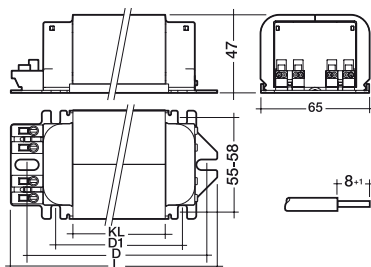
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 2



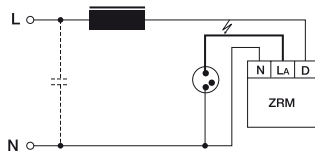
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 3

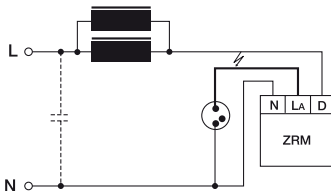


push terminal 0.5-1.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMBIS 150 A103W 230-250 V 50 Hz	20568879	230/240/250	yes	1	1	137	75	120-129	95.5	1.90	85	19.5	0.42	B
OMBIS 150 A153W 230-250 V 50 Hz	20880440	230/240/250	yes	2	1	111	75	-	95.5	1.90	85	19.5	0.42	B
OMBIS 150 A604W 220-240 V 50 Hz	22148606	220/230/240	yes	3	1	143	75	120-129	95.5	1.90	75	17.7	0.42	A
<b>chokes with reduced temperature rise</b>														
OMBIS 150 B103W 230-250 V 50 Hz	20568863	230/240/250	yes	1	1	147	85	130-139	105.5	2.00	65	18.3	0.41	B
OMBIS 150 B153W 230-250 V 50 Hz	20824469	230/240/250	yes	2	1	121	85	-	105.5	2.00	65	18.3	0.41	B
OMBIS 150 B604W 220-240 V 50 Hz	22148607	220/230/240	yes	3	1	153	85	130-139	105.5	2.00	65	18.3	0.41	A



p.f. correction capacitor:  
20.0  $\mu\text{F} \pm 10\%$  250 V (16.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 0.80 A ( $\lambda > 0.9$ )



① two chokes in parallel are required  
to operate a 150 W lamp





**Magnetic chokes  
Metal halide lamps**

**OMBIS 150 W**



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

**Chokes with double insulation:**

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OMBIS	1	10	480
OMBIS	2	10	240

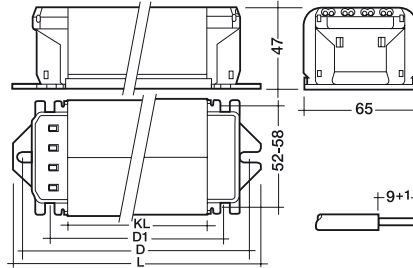
**Suitable ignitors:**

ZRM 2.5-ES/C; ZRM 2.5-ES/CT

**Approvals:**

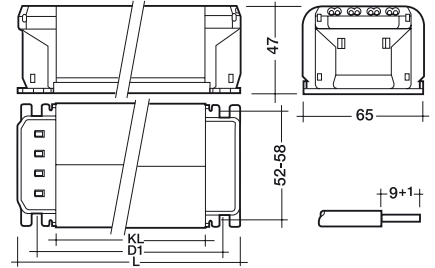
EN 60922/923

**Figure 1**



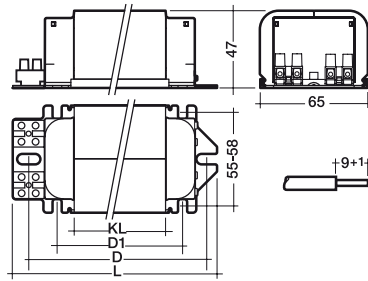
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 2**



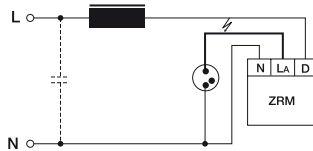
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 3**



screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>chokes with very low temperature rise</b>														
OMBIS 150 C103W 230-250 V 50 Hz	20570519	230/240/250	yes	1	2	167	105	150-159	125.5	2.40	65	18.9	0.40	B
OMBIS 150 C153W 230-250 V 50 Hz	20824504	230/240/250	yes	2	2	141	105	-	125.5	2.40	65	18.9	0.40	B
<b>chokes with double insulation</b>														
OMBIS 150 A204D 220-240 V 50 Hz	22148972	220/230/240	yes	1	1	137	75	120-129	95.5	1.80	75	18.5	0.42	B
OMBIS 150 B253D 230-250 V 50 Hz	22148973	230/240/250	yes	2	1	121	85	-	105.5	2.00	70	18.3	0.41	B
<b>60 Hz chokes</b>														
OMBIS 150 A106W 220-240 V 60 Hz	20571288	220/230/240	yes	1	1	137	75	120-129	95.5	1.90	70	17.4	0.40	B
<b>chokes with pulse tapping</b>														
OMBIS 150 PB503W 230/240 V 50 Hz	22148613	230/240	yes	3	1	153	85	130-139	105.5	2.00	65	18.1	0.40	B



p.f. correction capacitor:

20.0  $\mu\text{F} \pm 10\%$  250 V (16.0  $\mu\text{F}$  at 60 Hz)

p.f. corrected line current: 0.80 A ( $\lambda > 0.9$ )



OM PAK 150 W 230/240 V, 230–250 V 50 Hz



- temperature protected, low loss choke out of the OM range
- digital ZRM ES/CT superimposed-pulse ignitor with automatic cutout for optimum starting and restarting of the lamp (M B133 and M B533)
- M B183 version with ZRM powerPULSE for cable lengths up to 20 m
- exceptional low noise operation
- usable also with high ambient temperatures (ta)
- marked with F-mark for mounting on normal flammable materials
- tool free connection of cables
- voltage adapting for 230 V, 240 V and 250 V supply
- various fixing possibilities

OM PAK 150 M B533 and M B513 (cable version)

- halogen free 3 core lamp lead
- total lead length including socket 1,200 mm/1,020 mm exterior
- with pre-assembled ST-18 socket

Figure 1

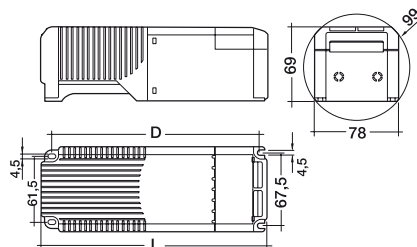
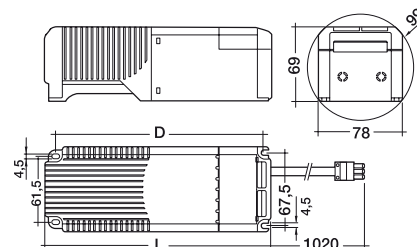


Figure 2



Packaging:

OM PAK 150 M B113  
 OM PAK 150 M B133  
 OM PAK 150 M B183  
 box of 1  
 108 pieces/pallet

Approvals:

EN 60922/923

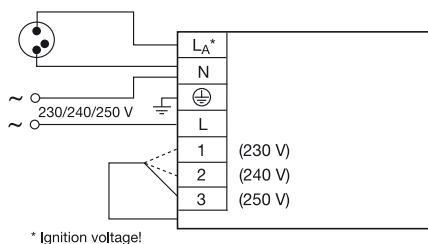
OM PAK 150 M B513

OM PAK 150 M B533  
 box of 1  
 75 pieces/pallet

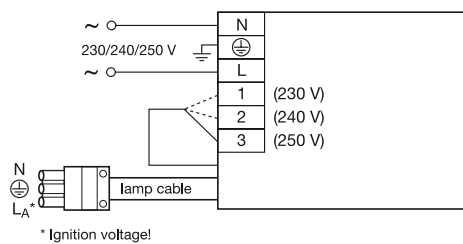
type	article number	voltage V	length L mm	fixing centres D mm	weight kg	ta °C	losses W ①	nominal lamp current A	ignitor ②	line current A	λ	fig.	circuit diagram
OM PAK 150 M B133 230/240 V 50 Hz	22115645	230/240	260	243.5	3.00	50	24.0	1.80	ZRM 2.5-ES/CT	0.76	–	1	A
OM PAK 150 M B113 230/240 V 50 Hz	22115639	230/240	260	243.5	3.00	50	24.0	1.80	ZRM 2.5-ES/C	0.76	–	1	A
OM PAK 150 M B183 230/240 V 50 Hz	22149283	230/240	260	243.5	2.60	50	22.0	1.80	ZRM 4000 powerPULSE	0.76	0.95	1	A
OM PAK 150 M B533 230–250 V 50 Hz	22116559	230/240/250	260	243.5	3.00	50	23.2	1.80	ZRM 2.5-ES/CT	0.76	–	2	B
OM PAK 150 M B513 230–250 V 50 Hz	22116562	230/240/250	260	243.5	3.00	50	23.2	1.80	ZRM 2.5-ES/C	0.76	–	2	B

① mean value measured at 25 °C ta point temperature and 240 V or 250 V main supply

② included in the gear box



A) OM PAK



B) OM PAK with lamp cable

**Magnetic chokes  
Metal halide lamps**



**OFBIS / OMBIS 250 W**



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

**Chokes with double insulation:**

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

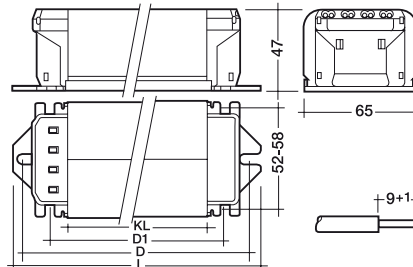
Packaging:	Code	Box	Pallet
OMBIS	1	6	240
OMBIS	2	10	480
OMB	3	–	195
OFBIS	4	4	228

**Suitable ignitors:**

ZRM 4.5-ES/C; ZRM 4.5-ES/CT  
ZRM 6-ES/C; ZRM 6-ES/CT

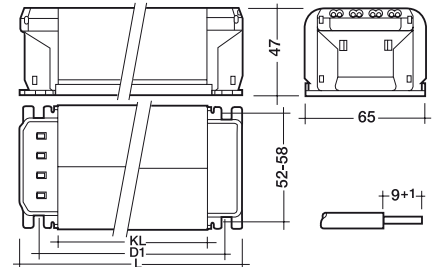
**Approvals:**  
EN 60922/923

**Figure 1**



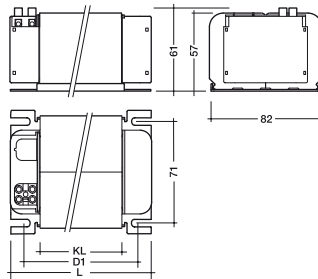
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 2**



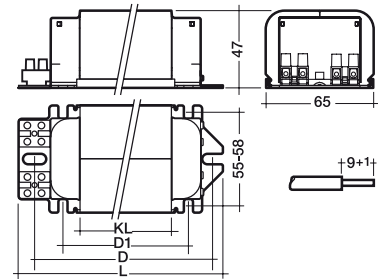
push terminal 0.75-2.5 mm<sup>2</sup>

**Figure 3**



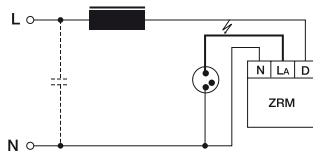
screw terminal 0.75-2.5 mm<sup>2</sup>

**Figure 4**

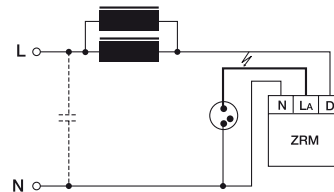


screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OMBIS 250 A103W 230–250 V 50 Hz	20570248	230/240/250	yes	1	1	212	150	195-204	170.5	3.50	75	34.2	0.40	B
OMBIS 250 A153W 230–250 V 50 Hz	20824891	230/240/250	yes	2	1	186	150	–	170.5	3.50	75	34.2	0.40	B
OFBIS 250 A021W 230 V 50 Hz	27002372	230	yes	3	4	96	60	–	80.0-88.0	2.42	75	22.1	0.39	A
<b>chokes with reduced temperature rise</b>														
OMBIS 250 1/2 B103W 230–250 V 50 Hz ①	20575656	230/240/250	yes	1	2	147	85	130-139	105.5	2.00	70	18.3	0.40	B
<b>chokes with double insulation</b>														
OMBIS 250 A207D 230 V 50 Hz	22148976	230	yes	1	1	212	150	190-204	170.5	3.50	70	34.2	0.40	B
<b>60 Hz chokes</b>														
OMBIS 250 A106W 220–240 V 60 Hz	20574693	220/230/240	yes	1	1	182	120	165-174	140.5	2.70	75	33.8	0.39	B
<b>chokes with pulse tapping</b>														
OMBIS 250 PZ 503W 230/240 V 50 Hz	22149230	230/240	yes	4	3	188	120	165-174	140.5	2.80	80	28.6	0.40	B



p.f. correction capacitor:  
32.0  $\mu\text{F} \pm 10\%$  250 V (25.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 1.35 A ( $\lambda > 0.9$ )



① two chokes in parallel are required  
to operate a 250 W lamp



OGLIS 250 W



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

Chokes with double insulation:

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OGLIS	1	6	216
OGLIS	2	2	214

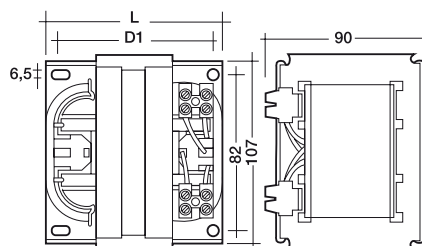
Suitable ignitors:

ZRM 4.5-ES/C; ZRM 4.5-ES/CT  
ZRM 6-ES/C; ZRM 6-ES/CT

Approvals:

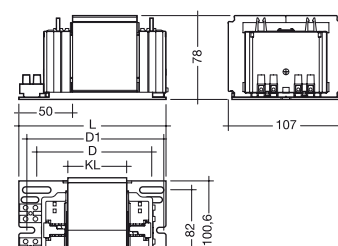
EN 60922/923

Figure 1



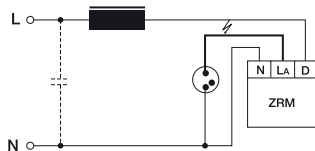
screw terminal 1.0-4.0 mm<sup>2</sup>

Figure 2



screw terminal 1.0-6.0 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>chokes with reduced temperature rise</b>														
OGLIS 250 W 40 230-250 V 50 Hz TP	27002347	230/240/250	yes	1	1	94	40	-	80.0	3.10	70	25.5	0.39	B
OGLIS 250 C044W 220-240 V 50 Hz	89121836	220/230/240	yes	2	2	130	40	110.5-124	76.5-118	3.10	70	25.5	0.39	A
<b>chokes with double insulation</b>														
OGLIS 250 C203D 230-250 V 50 Hz	22149035	230/240/250	yes	1	1	94	40	-	80.0	3.10	70	25.5	0.39	B
<b>chokes with pulse tapping</b>														
OGLIS 250 PC023W 230/240 V 50 Hz	22149231	230/240	yes	2	1	94	40	-	80.0	3.10	80	27.4	0.39	B



p.f. correction capacitor:

$32.0\text{ }\mu\text{F} \pm 10\%$  250 V (25.0  $\mu\text{F}$  at 60 Hz)

p.f. corrected line current: 1.35 A ( $\lambda > 0.9$ )



OFBS / OGLI / OGLS 400 W



\* applies only to ballasts with double insulation

- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

**Chokes with double insulation:**

- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$
- irreversible thermal cutout  
switch off temperature  $214\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OFBS	1	4	228
OGLI	2	5	180
OGLS	3	4	144
OGLI / OGLS	4	2	84
OGLI	5	2	168

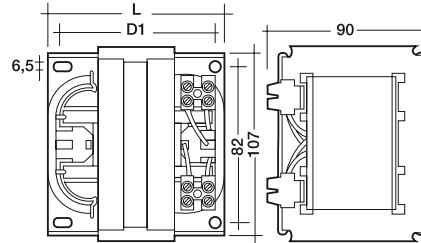
**Suitable ignitors:**

ZRM 4.5-ES/C; ZRM 4.5-ES/CT  
ZRM 6-ES/C; ZRM 6-ES/CT

**Approvals:**

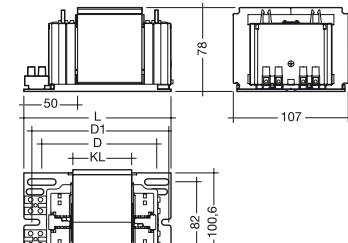
EN 60922/923

Figure 1



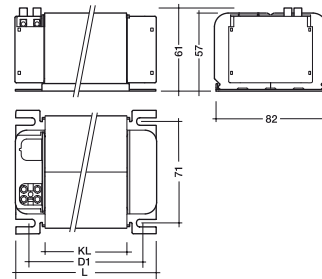
screw terminal 1.0-4.0 mm<sup>2</sup>

Figure 2



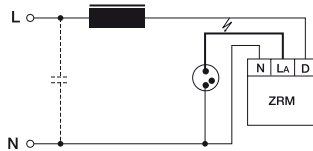
screw terminal 1.5-6.0 mm<sup>2</sup>

Figure 3



screw terminal 0.75-2.5 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OFBS 400 A021W 230 V 50 Hz	27002383	230	yes	3	1	126	90	-	110.0-118	3.46	75	29.8	0.40	A
OGLI 400 W 50 230-250 V 50 Hz TP	27002363	230/240/250	yes	1	2	104	50	-	90	3.50	65	25.0	0.46	B
OGLS 400 W 60 220-240 V 50 Hz TP	27002362	220/230/240	yes	1	3	114	60	-	100	4.50	70	30.0	0.41	B
OGLI 400 C044W 220-240 V 50 Hz	89121838	220/230/240	yes	2	4	140	50	120.5-134	86.5-128	3.50	65	25.0	0.46	A
OGLS 400 C044W 220-240 V 50 Hz	89121840	220/230/240	yes	2	4	150	60	130.5-144	96.5-138	4.50	70	30.0	0.41	B
<b>chokes with double insulation</b>														
OGLS 400 C203D 230-250 V 50 Hz	22149038	230/240/250	yes	1	3	114	60	-	100	4.20	75	34.0	0.37	B
<b>60 Hz chokes</b>														
OGLS 400 W 60 220-240 V 60 Hz	20565518	220/230/240	-	1	3	114	60	-	100	4.20	60	30.4	0.42	B
<b>chokes with pulse tapping</b>														
OGLI 400 PC043W 230/240 V 50 Hz	89121866	230/240	yes	2	5	140	50	120.5-134	86.5-128	3.50	65	25.0	0.46	B



p.f. correction capacitor:

OGLI 400 with 3.5 A: 35  $\mu\text{F} \pm 10\%$  250 V (25  $\mu\text{F}$  at 60 Hz)  
OGLS 400 with 4.6 A: 50  $\mu\text{F} \pm 10\%$  250 V (45  $\mu\text{F}$  at 60 Hz)

p.f. corrected line current:

OGLI 400 with 3.5 A: 2.10 A ( $\lambda > 0.9$ )  
OGLS 400 with 4.6 A: 1.97 A ( $\lambda > 0.9$ )



HI 1,000 W

Magnetic chokes  
Metal halide lamps

### OGLIS 1000 W

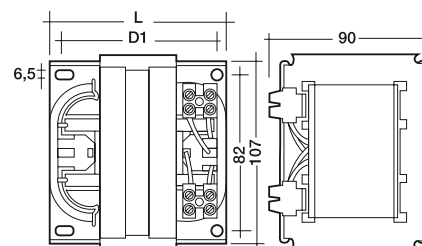


- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $155\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OGLIS	1	2	72

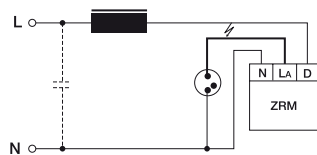
**Suitable ignitors:**  
ZRM 12-ES/C; ZRM 12-ES/CT

**Approvals:**  
EN 60922/923



screw terminal 1.0-4.0 mm<sup>2</sup>

type	article number	voltage V	thermal protection	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
							D	D1					
<b>standard chokes</b>													
OGLIS 1000 A024W 220–240 V 50 Hz	22148490	220/230/240	yes	1	194	140	–	180	9.00	75	72.0	0.45	A
<b>60 Hz chokes</b>													
OGLIS 1000 W 140 220–240 V 60 Hz	20880891	220/230/240	–	1	194	140	–	180	9.00	70	70.0	0.43	B
<b>chokes with pulse tapping</b>													
OGLIS 1000 PC023W 230/240 V 50 Hz	22148485	230/240	yes	1	234	180	–	220	11.60	60	51.0	0.43	B



p.f. correction capacitor:  
85.0  $\mu\text{F} \pm 10\%$  250 V (70.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 5.10 A ( $\lambda > 0.9$ )



**Magnetic chokes  
Metal halide lamps**

**OGLI 2000 W and OGLI 3500 W**



•  $t_w = 130\text{ }^\circ\text{C}$

Packaging:	Code	Box	Pallet
OGLI	1	2	72
OGLI PC	2	28	56

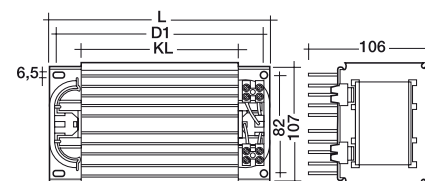
**Suitable ignitors:**

- ① ZRM 12-ES/C 400; ZRM 20-ES/B 400
- ② ZRM 4000/400 powerPULSE

**Approvals:**

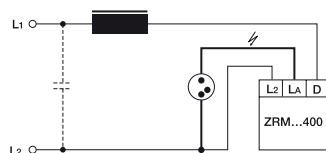
EN 60922/923

Figure 1



screw terminal 1.0-6.0 mm<sup>2</sup>

type	article number	voltage V	thermal protection	fig.	packaging code	length L mm	core stack length KL mm	fixing centres mm		weight kg	$\Delta T$ k	losses W	$\lambda$	range
								D	D1					
<b>standard chokes</b>														
OGLI 2000 W 160 380-415 V 50 Hz ①	20295037	380/400/415	-	1	1	214	160	-	200	8.00	80	75.0	0.59	B
OGLI 2000 W 180 380-415 V 50 Hz ①	20566616	380/400/415	-	1	1	234	180	-	220	11.60	80	100.0	0.51	B
OGLI 2000 W 210 380-420 V 50 Hz ①	20882285	380/400/420	-	1	1	268	210	-	254	13.10	90	105.0	0.56	A
<b>60 Hz chokes</b>														
OGLI 2000 W 180 380-415 V 60 Hz ①	20563406	380/400/415	-	1	1	234	180	-	220	11.60	70	86.0	0.53	B
<b>chokes with pulse tapping</b>														
OGLI 2000 W PC026K 380-400 V 50 Hz ②	22175007	380/400	-	1	2	268	210	-	254	13.60	85	80.0	0.47	B
OGLI 2000 W PC027K 360-400 V 50 Hz ②	22175009	360/380/400	-	1	2	268	210	-	254	13.60	90	80.0	0.63	B



p.f. correction capacitor OGLI 2000 W 160:  
37.0  $\mu\text{F} \pm 10\%$  450 V (32.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 6.0 A ( $\lambda > 0.9$ )

p.f. correction capacitor  
OGLI 2000 W 180 and 210:  
60.0  $\mu\text{F} \pm 10\%$  450 V (45.0  $\mu\text{F}$  at 60 Hz)  
p.f. corrected line current: 6.0 A ( $\lambda > 0.9$ )



OM 35-100 W 220-250 V 50 Hz



- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector  
switch off temperature  $150\text{ }^\circ\text{C}$

**Packaging:**

box of 10  
48 boxes/pallet  
480 pieces/pallet

**Suitable ignitor:**

Philips control unit CSLS

**Approvals:**

EN 60922/923

Figure 1

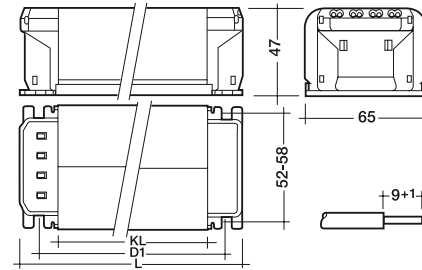
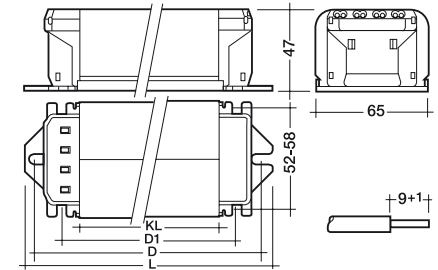
push terminal 0.75-2.5 mm<sup>2</sup>

Figure 2

push terminal 0.75-2.5 mm<sup>2</sup>

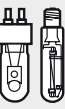
Lamp watt- age W	Choke type	article number	voltage V	fig.	length L mm	KL mm	fixing centres mm		weight kg	$\Delta T$ K	losses W ①	nominal lamp current A	$\lambda$	P. F. Correction	
							D	D1						parallel capacitor $\mu\text{F} \pm 10\% 250\text{V}$	range
35	<b>OMB SDW 35 B153W</b> 220-250 V 50 Hz	20823181	220/230 240/250	1	71	35	- ②	55	0.90	50	6.2	0.48	0.36	6.0	B
50	<b>OMB SDW 50 B103W</b> 220-250 V 50 Hz	20574343	220/230 240/250	2	102	50	85-94	60	1.00	65	9.5	0.78	0.33	8.0	B
50	<b>OMB SDW 50 B153W</b> 220-250 V 50 Hz	20881229	220/230 240/250	1	76	50	- ②	60	1.00	65	9.5	0.78	0.33	8.0	B
100	<b>OMB SDW 100 B103W</b> 220-250 V 50 Hz	20574359	220/230 240/250	2	137	75	120-129	95	1.70	55	12.7	1.35	0.36	14.0	B
100	<b>OMB SDW 100 B153W</b> 220-250 V 50 Hz	20823207	220/230 240/250	1	111	75	- ②	95	1.70	55	12.7	1.35	0.36	14.0	B

① mean value, measured at  $25\text{ }^\circ\text{C}$  copper temperature

② short base plate without central fixing

Use with Philips control unit.





**Magnetic chokes with power tapping for impulse ignitors ZRM 2300, ZRM 4000 and ZRM powerPULSE**  
**High pressure sodium lamps and metal halide lamps**

**OM 35-150 W 230/240 V 50 Hz P**



- $t_w = 130\text{ }^\circ\text{C}$
- screw terminal 0,5-2,5 mm<sup>2</sup>
- resetting thermal protector

**Packaging:**

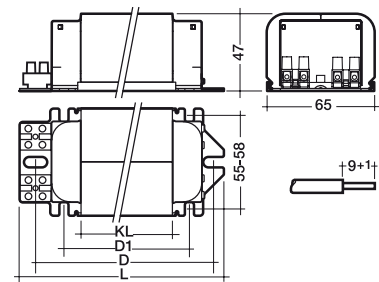
box of 10  
 48 boxes/pallet  
 480 pieces/pallet

**Suitable ignitors:**

Impulse ignitors page 259/260

**Approvals:**

EN 60922/923

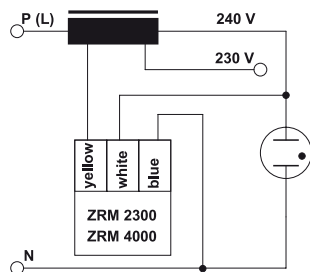


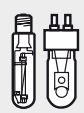
screw terminal 0.75-2.5 mm<sup>2</sup>

Lamp		Choke													P. F. Correction		range
type	watt-age W	type	article number	voltage V	length L mm	KL mm	fixing centres mm		weight kg	$\Delta T$ K	losses W ①	nominal lamp current A	$\lambda$	parallel capacitor $\mu\text{F} \pm 10\% 250\text{V}$			
							D	D1						② line current A			
HI	35	<b>OMBIS 35 PB503W</b> 230/240 V 50 Hz	22148609	230/240	103	35	80-89	55.5	0.90	50	7.5	0.53	0.36	6.0	0.22	B	
HI	70	<b>OMBI 70 PA503W</b> 230/240 V 50 Hz	22148610	230/240	113	45	90-99	65.5	1.20	70	13.1	1.00	0.37	12.0	0.43	B	
HS	70	<b>OMBS 70 PA503W</b> 230/240 V 50 Hz	22148611	230/240	113	45	90-99	65.5	1.20	70	13.1	1.00	0.37	12.0	0.43	B	
HI/HS	100	<b>OMBIS 100 PA503W</b> 230/240 V 50 Hz	22148612	230/240	123	55	100-109	75.5	1.40	65	13.7	1.20	0.40	12.0	0.55	B	
HI/HS	150	<b>OMBIS 150 PB503W</b> 230/240 V 50 Hz	22148613	230/240	153	85	130-139	105.5	2.00	65	18.1	1.80	0.40	20.0	0.80	B	

① mean value, measured at 25 °C copper temperature

②  $\lambda > 0.9$





**OMB/ OGL 250-1000 W 230/240 V 50 Hz P**  
**OGLI 2000 W 380/400 V 50 Hz P**



- $t_w = 130\text{ }^\circ\text{C}$
- resetting thermal protector

Packaging:	Code	Box	Pallet
OGLI / OGLS	1	2	168
OGLS	2	1	84
OGLIS	3	2	72
OMB	4	—	195
OGLI PC	5	28	56

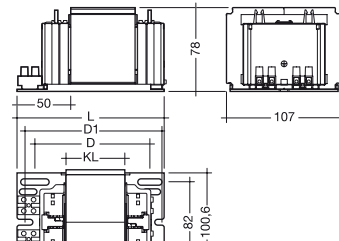
**Suitable ignitors:**

Impulse ignitors page 259/260

**Approvals:**

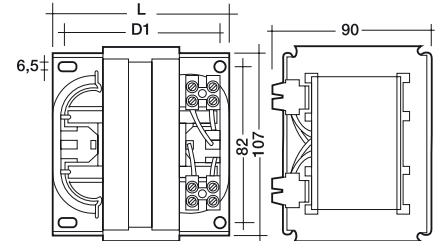
EN 60922/923

**Figure 1**



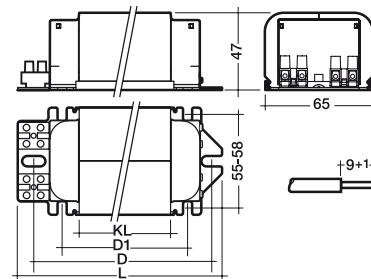
screw terminal 1.0-6.0 mm<sup>2</sup>

**Figure 2**



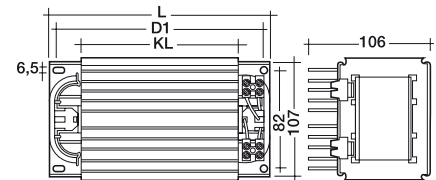
screw terminal 1.0-6.0 mm<sup>2</sup>

**Figure 3**



screw terminal 0.75-2.5 mm<sup>2</sup>

**Figure 4**

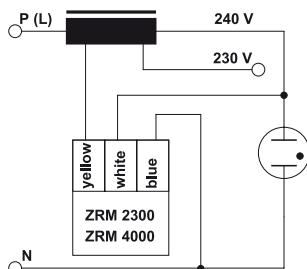


screw terminal 1.0-6.0 mm<sup>2</sup>

Lamp type	watt-age W	Choke type	article number	pack-aging	fig.	length L mm	KL mm	fixing centres mm		weight kg	$\Delta T$ K	losses W <sup>①</sup>	nominal lamp current A	$\lambda$	P. F. Correction		range
								D	D1						parallel capacitor		
															$\mu\text{F } \pm 10\%$ 250V	② line current A	
HI/HS	250	<b>OMBIS 250 PZ 503W</b> 230/240 V 50 Hz	22149230	4	3	188	120	165-174	140.5	2.80	80	28.6	3.0	0.40	32.0	1.35	B
HI/HS	250	<b>OGLIS 250 PC023W</b> 230/240 V 50 Hz	22149231	2	2	94	40	—	80.0	3.10	80	27.4	3.0	0.39	32.0	1.35	B
HI	400	<b>OGLI 400 PC043W</b> 230/240 V 50 Hz	89121866	1	1	140	50	120.5-134	86.5-128	3.50	65	25.0	3.5	0.46	35.0	1.90	B
HS	400	<b>OGLS 400 PC043W</b> 230/240 V 50 Hz	89121873	2	1	150	60	130.5-144	96.5-138	4.50	70	30.0	4.6	0.41	45.0	2.10	B
HI/HS	1,000	<b>OGLIS 1000 PC023W</b> 230/240 V 50 Hz	22148485	3	2	234	180	—	220.0	11.60	60	51.0	9.5	0.43	100.0	5.10	B
HI	2,000	<b>OGLI 2000 W PC026K</b> 380-400 V 50 Hz	22175007	5	4	263	210	—	254.0	13.60	85/70	80.0	11.3/10.3	0.47/0.52	60 / 450 V	6.00	B

① mean value, measured at 25 °C copper temperature and rated current of the lamp

②  $\lambda > 0.9$



**Blocking inductors ECF 230/240 V 50 Hz**  
**Blocking inductors OMF 400 V 50 Hz**



In systems with carrier frequency controllers filter chokes must be installed ahead of the parallel capacitors. The capacitor value and control frequency are essential for selecting the correct type. ECF chokes filter control frequencies starting from 485 Hz.

**Safety class 1:**

- cutoff frequency > 485 Hz
- plug terminal 0.5-1.5 mm<sup>2</sup> for rigid wires

**Packaging ECF A27:**

box of 55  
 1,980 pieces/pallet

**Packaging ECF A50:**

box of 36  
 1,296 pieces/pallet

**Packaging OMF:**

box of 10  
 480 pieces/pallet

**Safety class 2:**

- cutoff frequency > 485 Hz
- plug terminal 0.5-1.5 mm<sup>2</sup> for rigid wires
- irreversible protection unit
- switch off temperature = 115 °C

**Packaging L = 87:**

box of 44  
 1.188 pieces/pallet

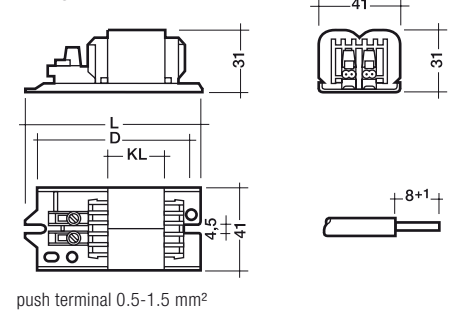
**Packaging L = 113:**

box of 36  
 972 pieces/pallet

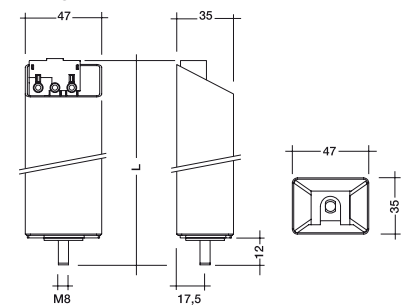
**Approvals:**

EN 61558 2-20

**Safety class 1**



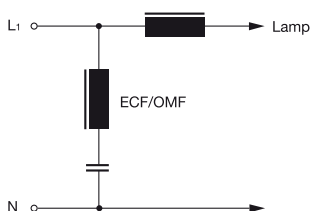
**Safety class 2**



capacitor µF ±10 %	type – safety class 1	article number	length L mm	fixing centres D mm	range
8	<b>ECF 8/485 A27</b> 230/240 V 50 Hz	20560466	84.5	77.0	B
10	<b>ECF 10/485 A27</b> 230/240 V 50 Hz	20560494	84.5	77.0	B
12	<b>ECF 12/485 A27</b> 230/240 V 50 Hz	20566527	84.5	77.0	B
20	<b>ECF 20/485 A27</b> 230/240 V 50 Hz	20566549	84.5	77.0	B
25	<b>ECF 25/485 A27</b> 230/240 V 50 Hz	20825183	84.5	77.0	B
32	<b>ECF 32/485 A27</b> 230/240 V 50 Hz	20825199	84.5	77.0	B
45	<b>ECF 45/485 A50</b> 230/240 V 50 Hz	20820349	110.0	100.0-104.0	B
60	<b>ECF 60/485 A50</b> 230/240 V 50 Hz	20566568	151.0	130.0-144.0	B
37	<b>OMF 37/485</b> 400 V 50 Hz	22175055	125.0	109.5	B
60	<b>OMF 60/485</b> 400 V 50 Hz	20568154	125.0	109.5	B

capacitor µF ±10 %	type – safety class 2	article number	length L mm	weight kg	ta °C	tc °C	range
8	<b>ECF 8/485 A201B</b> 230/240 V 50 Hz ZIMP 87	22175046	87	0.33	80	95	B
10	<b>ECF 10/485 A201B</b> 230/240 V 50 Hz ZIMP 87	22175074	87	0.33	75	95	B
12	<b>ECF 12/485 A201B</b> 230/240 V 50 Hz ZIMP 87	22175047	87	0.33	75	95	B
20	<b>ECF 20/485 A201B</b> 230/240 V 50 Hz ZIMP 87	22149227	87	0.33	70	95	B
32	<b>ECF 32/485 A201B</b> 230/240 V 50 Hz ZIMP 113	22175048	113	0.55	75	100	B

Important: Voltage at capacitor increases in connection with blocking inductors by 5 %.





Superimposed-pulse ignitors ZRM ES/C

**NEW**



**Packaging:**  
**ZRM 2-ES/C; ZRM 2.5-ES/C**  
**ZRM 4.5-ES/C**  
 box of 50  
 1,200 pieces/pallet

**ZRM 6-ES/C**  
 box of 20  
 720 pieces/pallet

**Approvals:**  
 EN 60927  
 EN 61347-2-1

Figure 1

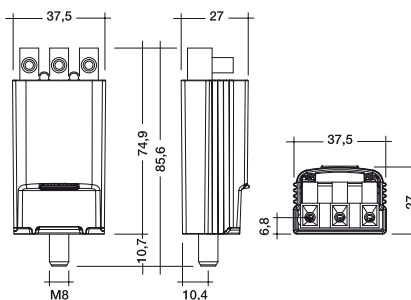
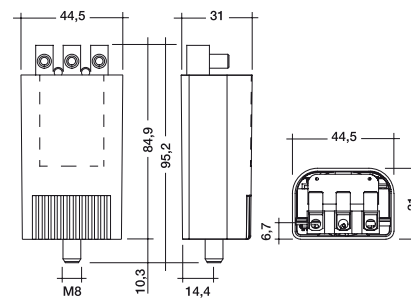


Figure 2

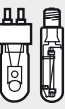


type		ZRM 2-ES/C ①	ZRM 2.5-ES/C ②	ZRM 4.5-ES/C ③	ZRM 6-ES/C
article number		22176025	22176024	22176023	87500031
line voltage	V	198-264	198-264	198-264	198-264
mains frequency	Hz	50-60	50-60	50-60	50-60
ignition voltage	kV <sub>p</sub>	1.8-2.5	4.0-5.0	4.0-5.0	4.0-5.0
max. permissible lamp current I <sub>B</sub>	A	1.0	3.0	4.6	5.0
wattage high pressure sodium lamps	W	35-70	70-250	70-400	70-400
wattage metal halide lamps	W	70	35-250	35-400	35-400
temperature rise (approx.) at I <sub>B</sub> = 0.54 A (35 W)	K	0.20	0.10	0.10	-
I <sub>B</sub> = 1.00 A (70 W)	K	2.50	2.50	1.00	1.10
I <sub>B</sub> = 1.20 A (100 W)	K	-	4.00	2.00	1.90
I <sub>B</sub> = 1.80 A (150 W)	K	-	9.50	6.50	3.70
I <sub>B</sub> = 3.00 A (250 W)	K	-	27.00	14.00	9.90
I <sub>B</sub> = 4.60 A (400 W)	K	-	-	33.50	22.20
switch off/on voltage	V	185-198	185-198	185-198	185-198
max. load capacitance	pF	20-300	20-100	20-100	20-100
max. distance from lamp (75 pF/m)	m	4	1.5	1.5	1.5
max. housing temperature t <sub>c</sub>	°C	105	105	105	105
min. operating temperature	°C	-30	-30	-30	-30
weight	kg	0.13	0.13	0.13	0.21
figure		1	1	1	2

① for metal halide and high pressure sodium lamps 70 W with ignition voltage < 2.5 kV<sub>p</sub>

② suitable for high pressure sodium lamp HST-DE 70 W

③ ignitor recommended for external applications



Superimposed-pulse ignitors ZRM ES/C; ZRM ES/B

**NEW**



**Packaging:**  
**ZRM 6-ES/C 400**  
**ZRM 12-ES/C; ZRM 12-ES/C 400**  
 box of 20  
 720 pieces/pallet

**ZRM 20-ES/B; ZRM 20-ES/B 400**  
 box of 15  
 720 pieces/pallet

**Approvals:**  
 EN 60927  
 EN 61347-2-1

Figure 1

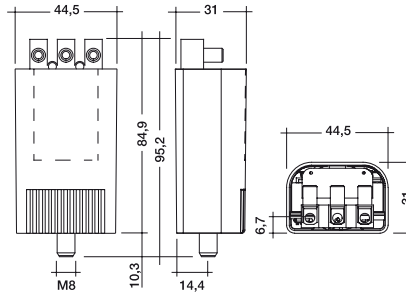


Figure 2

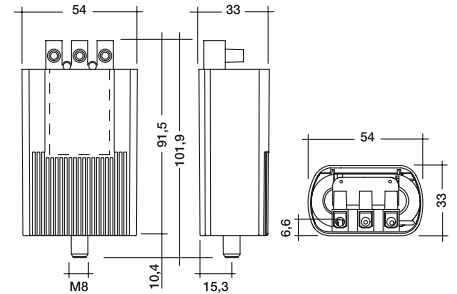
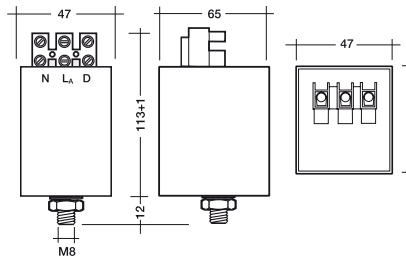


Figure 3



type		ZRM 12-ES/C	ZRM 20-ES/B	ZRM 6-ES/C 400	ZRM 12-ES/C 400	ZRM 20-ES/B 400
article number		87500028	2082620	87500032	87500029	20826425
line voltage	V	198-264	198-264	360-466	342-440	342-490
mains frequency	Hz	50-60	50-60	50-60	50-60	50-60
ignition voltage	kV <sub>p</sub>	4.0-5.0	3.5-5.0	4.0-5.5	4.0-5.0	4.0-5.0
max. permissible lamp current I <sub>B</sub>	A	12.0	20.0	6.0	12.7	20.00
wattage high pressure sodium lamps	W	250-1,000	1,000	600-750	600-1,000	-
wattage metal halide lamps	W	250-1,000	1,000-2,000	-	1,000-2,000	2,000-3,500
temperature rise (approx.) at I <sub>B</sub> = 3.00 A (250 W)	K	2.90	-	-	-	-
I <sub>B</sub> = 3.40 A (600 W)	K	-	-	12.90	3.50	-
I <sub>B</sub> = 3.62 A (600 W)	K	-	-	14.30	4.00	-
I <sub>B</sub> = 4.50 A (750 W)	K	-	-	21.80	5.80	-
I <sub>B</sub> = 4.60 A (400 W)	K	5.90	-	-	-	-
I <sub>B</sub> = 6.20 A (600 W)	K	10.30	-	-	-	-
I <sub>B</sub> = 6.80 A (1,500 W)	K	-	-	-	12.70	-
I <sub>B</sub> = 7.00 A (750 W)	K	13.20	-	-	-	-
I <sub>B</sub> = 10.30 A (1,000 W)	K	27.20	9.50	-	-	-
I <sub>B</sub> = 10.30 A (2,000 W)	K	-	-	-	27.20	-
I <sub>B</sub> = 12.00 A (max. W)	K	36.60	-	-	-	-
I <sub>B</sub> = 12.70 A (max. W)	K	-	-	-	36.60	-
I <sub>B</sub> = 16.20 A (2,000 W)	K	-	26.00	-	-	10.50
I <sub>B</sub> = 18.00 A (3,500 W)	K	-	-	-	-	28.00
switch off/on voltage	V	185-198	185-198	320-342	320-342	320-342
max. load capacitance	pF	20-200	20-200	20-200	20-200	20-200
max. distance from lamp (75 pF/m)	m	3	3	3	3	3
max. housing temperature t <sub>c</sub>	°C	105	105	105	105	105
min. operating temperature	°C	-30	-30	-30	-30	-30
weight	kg	0.28	0.75	0.21	0.28	0.75
figure		2	3	1	2	3



Digital superimposed-pulse ignitors with switch off function ZRM ES/CT

**NEW**



- digital superimposed-pulse ignitor with automatic disconnection
- pulse/pause ignition principle for:
  - shorter restart times (up to 30 %)
  - minimum downtime in ignition mode (up to 90 %)
- suppression of the cycling effect with 3-start counter
- automatic reset function

**Packaging:**

**ZRM 2-ES/CT; ZRM 2.5-ES/CT**

**ZRM 4.5-ES/CT**

box of 50

1,200 pieces/pallet

**ZRM 6-ES/CT; ZRM 12-ES/CT**

box of 20

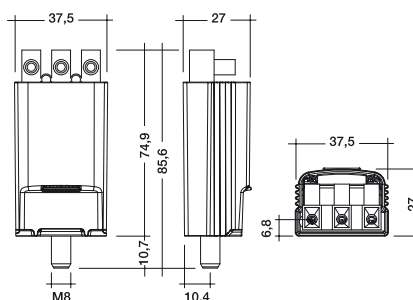
720 pieces/pallet

**Approvals:**

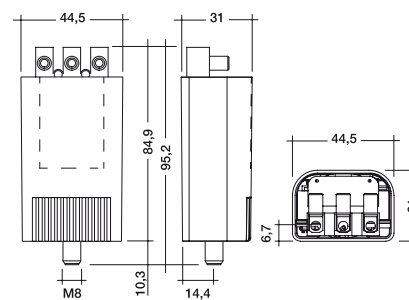
EN 60927

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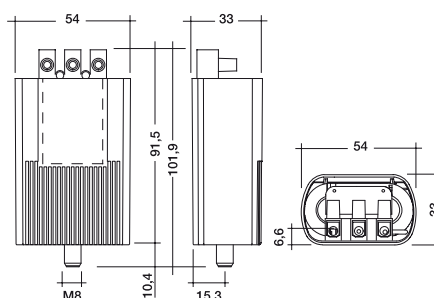
**Figure 1**



**Figure 2**



**Figure 3**



type		ZRM 2-ES/CT ①	ZRM 2.5-ES/CT ②	ZRM 4.5-ES/CT	ZRM 6-ES/CT	ZRM 12-ES/CT
article number		87500003	87500004	87500005	87500033	87500030
line voltage	V	198-264	198-264	198-264	198-264	198-264
mains frequency	Hz	50-60	50-60	50-60	50/60	50/60
ignition voltage	kV <sub>p</sub>	1.8-2.5	4.0-5.0	4.0-5.0	4.0-5.0	4.0-5.0
max. permissible lamp current I <sub>B</sub>	A	1.0	3.0	4.6	5.0	12.0
wattage high pressure sodium lamps	W	35-70	70-250	70-400	70-400	250-1,000
wattage metal halide lamps	W	70	35-250	35-400	35-400	250-1,000
temperature rise (approx.) at I <sub>B</sub> = 0.54 A (35 W)	K	0.20	0.10	0.10	0.10	–
I <sub>B</sub> = 1.00 A (70 W)	K	2.50	2.50	1.00	1.10	–
I <sub>B</sub> = 1.20 A (100 W)	K	–	4.00	2.00	1.90	–
I <sub>B</sub> = 1.80 A (150 W)	K	–	9.50	6.50	3.70	–
I <sub>B</sub> = 3.00 A (250 W)	K	–	27.00	14.00	9.90	2.90
I <sub>B</sub> = 4.60 A (400 W)	K	–	–	33.50	22.20	5.90
I <sub>B</sub> = 6.20 A (600 W)	K	–	–	–	–	10.30
I <sub>B</sub> = 7.00 A (750 W)	K	–	–	–	–	13.20
I <sub>B</sub> = 10.30 A (1,000 W)	K	–	–	–	–	27.20
I <sub>B</sub> = 12.00 A (max. W)	K	–	–	–	–	36.60
switch off/on voltage	V	185-198	185-198	185-198	185-198	185-198
type of ignition		pulse-pause	pulse-pause	pulse-pause	pulse-pause	pulse-pause
disconnection of the ignition function (timer)	min.	20	20	20	20	20
max. load capacitance	pF	20-300	20-100	20-100	20-100	20-100
max. distance from lamp (75 pF/m)	m	4	1.5	1.5	1.5	3
max. housing temperature t <sub>c</sub>	°C	105	105	105	105	105
min. operating temperature	°C	-30	-30	-30	-30	-30
weight	kg	0.13	0.13	0.13	0.21	0.28
re-set function	s	< 1	< 1	< 1	< 1	< 1
figure		1	1	1	2	3

① for metal halide and high pressure sodium lamps 70 W with ignition voltage < 2.5 kV<sub>p</sub>    ② suitable for high pressure sodium lamp HST-DE 70 W

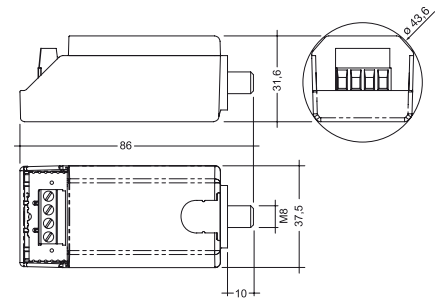


**Digital pulse ignitor with automatic shutdown**  
**High-pressure sodium vapour lamps and metal halide lamps**

**Digital pulse ignitors ZRM powerPULSE**



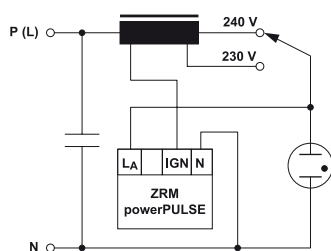
- innovative digital superimposed-pulse ignitor
- pulse/pause ignition principle for:
  - shorter restart times (up to 30 %)
  - minimum downtime in ignition mode (up to 90 %)
- no annoying flashing
- silent operation
- low weight
- regulated maximum ignition voltage and therefore enhanced safety for the control gear
- also suitable for special HS lamps (Plus, Super, XL)
- screw terminals for 2.5 mm<sup>2</sup>
- not cast – environmentally friendly design

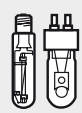


**Packaging:**  
 box of 50  
 1,200 pieces/pallet

type		ZRM 2300 powerPULSE	ZRM 4000 powerPULSE	ZRM 4000/400 powerPULSE
article number		86458457	86458458	86458459
line voltage	V	198-264	198-264	342-484
mains frequency	Hz	50/60	50/60	50/60
ignition voltage	kV <sub>p</sub>	2.1	4.1	4.1
wattage high pressure sodium lamps	W	35-70	70 ①-1,000	600-750
wattage metal halide lamps	W	70 ②	35-1,800	1,800-2,000
losses at 240 V mains voltage	W	0.90	0.90	1.50
pulse width at 90 % ignition voltage	µs	> 10	> 10	> 10
number of impulses per halfwave		1	1	1
phase displacement of ignition impulses	°el	72	72	72
		252	252	252
switch-on voltage	V	< 198	< 198	< 342
switch-off voltage		digital	digital	digital
max. load capacitance	pF	4,000	4,000	4,000
min. cable length to lamp	m	0.2	0.2	0.2
max. ambient temperature t <sub>a</sub>	°C	80	80	80
min. ambient temperature t <sub>a</sub>	°C	-30	-30	-30
max. housing temperature t <sub>c</sub>	°C	85	85	85
weight	kg	0.48	0.52	0.58

① only high pressure sodium lamps for U<sub>z</sub> > 2.8 kV<sub>p</sub>  
 ② for metal halide lamps with ignition voltage < 2.5 kV<sub>p</sub>  
 Please find suitable chokes on pages 253 and 254

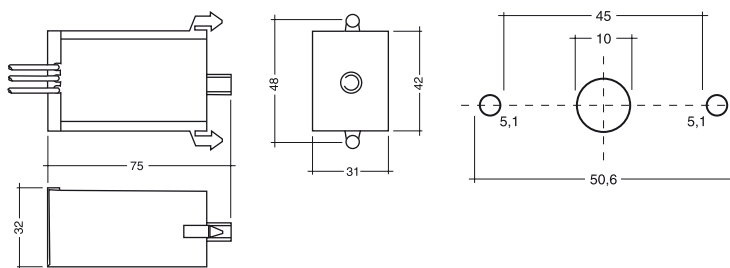




ZRM 2300 C201, ZRM 4000 B101 and ZRM 4000 C201



- stud or snap fixing
- connection with flexible wires 3 x 0.75 mm<sup>2</sup>
- cable length 340/340/340 mm
- ingress protection IP 20
- lamps ZRM 2300 C201:  
high pressure sodium lamps 50-70 W
- lamps ZRM 4000 C201:  
high pressure sodium lamps 100-1,000 W  
metal halide lamps 35-1,000 W



Ignition cycles

(only in ZRM 2300 C201 and ZRM 4000 C201)

ON cycle: 16 s

OFF cycle: 112 s

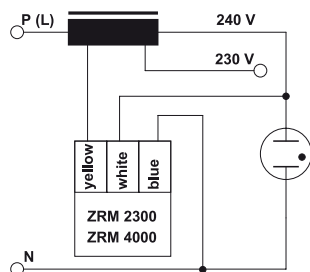
time out: 15 min.

Approvals:

EN 60926

type		ZRM 2300 C201	ZRM 4000 B101	ZRM 4000 C201
article number		87500000	87500002	87500001
line voltage	V	198-254	198-254	198-254
mains frequency	Hz	50	50	50
ignition voltage	kV <sub>p</sub>	2.3	4.5	4.5
number of impulses per halfwave		1	1	1
phase displacement of ignition impulses	°el	60-90 / 240-270	60-90 / 240-270	60-90 / 240-270
switch off/on voltage	V	160-198	160-198	160-198
impulse width at 90 % ignition voltage	µs	2	2	2
timer	min.	15	1-10	15
max. load capacitance	pF	1,300	1,300	1,300
max. housing temperature t <sub>c</sub>	°C	80	80	80
min. operating temperature	°C	-40	-40	-40

\* ENEC certification only for ZRM 2300 C201 and ZRM 4000 C201







Impulse ignitors for metal halide lamps up to max. 1,000 V ignition voltage

Impulse ignitors ZRM A



**Packaging:**  
**ZRM 1200/400 A001**  
 box of 50  
 1,200 pieces/pallet

**ZRM 1000 A002**  
 box of 50  
 2,400 pieces/pallet

**Approvals:**  
 EN 60926

Figure 1

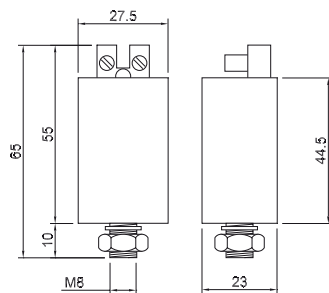
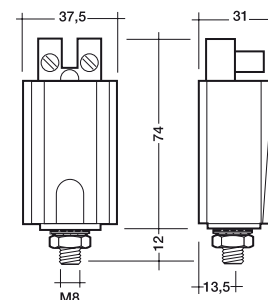
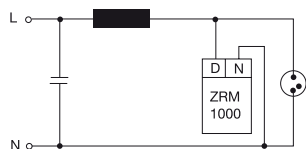


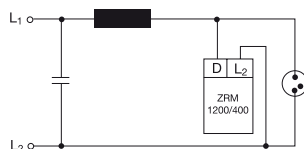
Figure 2



type		ZRM 1000 A002	ZRM 1200/400 A001
article number		24032939	89121941
line voltage	V	198-264	376-440
mains frequency	Hz	50-60	50-60
ignition voltage	kV <sub>p</sub>	0.65-0.90	1.0-1.4
temperature rise during ignition	K	8.0	35.0
losses during ignition	W	1.6	3.8
impulse width at 560 V / 900 V	µs	420-460	400-450
number of impulses per halfwave		1	1
phase angle of the ignition pulse	°el	60-90	60-90
switch off/on voltage	V	175-190	340-365
max. load capacitance	pF	20-10,000	20-10,000
max. distance from lamp	m	100	100
max. housing temperature t <sub>c</sub>	°C	90	100
min. ambient temperature t <sub>a</sub>	°C	-30	-30
weight	kg	0.06	0.17
figure		1	2



ZRM 1000 A001



ZRM 1200/400 A001



## Ignitors with additional impedance ZRM A201W / ZRM B201W



- integrated, reversible thermal cutout
- pre-mounted connecting cables, 3 x 1 mm<sup>2</sup> diameter, 8 mm bared wire with ferrule, 500 mm long, double isolated for safety class 2 applications
- suitable for safety class 2 applications with the use of terminal covers with strain relief (e.g. art. nr. 24139100 – page 264) or cable ties
- integrated digital superimposed-pulse ignitor with automatic disconnection
- pulse/pause ignition principle for:
  - shorter restart times (up to 30 %)
  - minimum downtime in ignition mode (up to 90 %)
- suppression of the cycling effect with 3-start counter
- automatic reset function

Figure 1

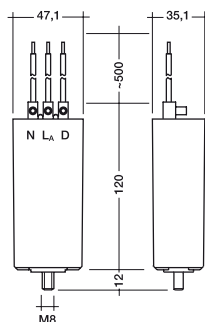
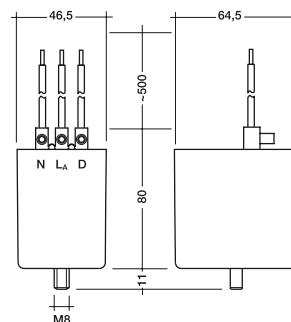


Figure 2

**Packaging:**

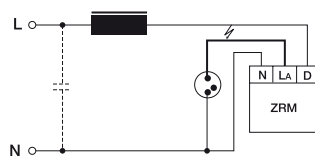
**ZRM A201W**  
25 pieces/box  
600 pieces/pallet

**ZRM B201W**  
30 pieces/box  
720 pieces/pallet

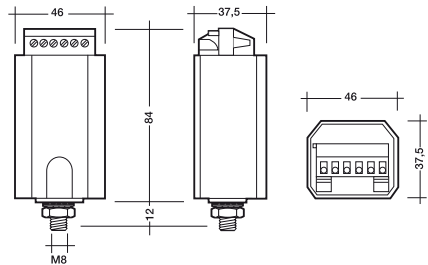
**Approvals:**

EN 61347-2-1

type		ZRM 50/35 A201W	ZRM 80/50 A201W	ZRM 80/50 B201W	ZRM 125/70 A201W	ZRM 125/70 B201W
article number		22175202	22175200	22175203	22175201	22175204
line voltage	V	198-264	198-264	198-264	198-264	198-264
mains frequency	Hz	50-60	50-60	50-60	50-60	50-60
ignition voltage	kV <sub>D</sub>	1.8-2.5	1.8-2.5	1.8-2.5	1.8-2.5	1.8-2.5
max. permissible lamp current I <sub>B</sub>	A	0.53	0.76	0.76	1.0	1.0
temperature rise (approx.) at I <sub>B</sub> = 0.76 A	K	25	19	27	–	–
temperature rise (approx.) at I <sub>B</sub> = 1.00 A	K	–	–	–	30	50
switch off/on voltage	V	160-198	160-198	160-198	160-198	160-198
max. load capacitance	pF	200	200	200	200	200
max. distance from lamp	m	3	3	3	3	3
max. housing temperature t <sub>c</sub>	°C	105	105	105	105	105
min. operating temperature	°C	-30	-30	-30	-30	-30
weight	kg	0.53	0.53	0.54	0.53	0.54
cutout time	min.	20	20	20	20	20
figure		1	1	2	1	2

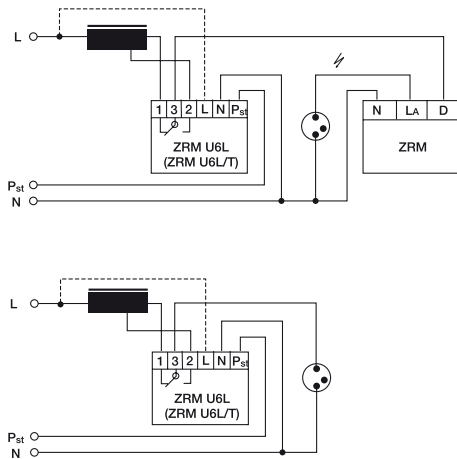


Power switch ZRM U6L and ZRM U6L/T

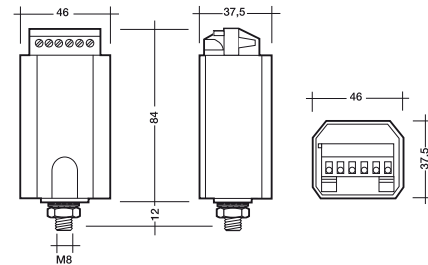


Reduces the light output of MBF and SON lamps by switching between chokes tapping, thus saving energy without reducing lamp life. Lamp manufacturers recommend that the lamp should always be started at 100 %. The ZRM U6L/T Power switch achieves this and after 330 seconds to the preset light level.

type		ZRM U6L	ZRM U6L/T
article number		87500039	87500040
control voltage	V	220-240	220-240
frequency	Hz	50/60	50/60
nominal contact voltage	V	250	250
nominal contact current	-	6 A / cos φ = 0.5	6 A / cos φ = 0.5
max. case temperature tc	°C	80	80
safety class	-	II	II
switch over time	s	-	330



ZRM U6M Digital power switch without control wires for HID lamps



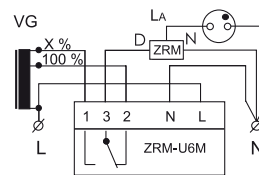
The ZRM U6M automatically calculates midnight based on the switch on time in the evening and the switch off time in the morning 3 hours before midnight the ZRM U6M switches to the lower level and 4 hours after midnight back to 100 %. The ZRM U6M needs no servicing or complicated controls.

- for switching impedance with tapped chokes or supplementary impedances
- digital switch over relay with short time bridging allowing the changeover to a lower lighting level
- integrated delay before switch over after start at 100 %

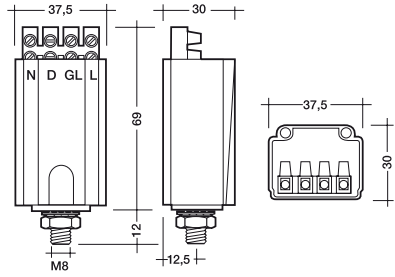
Lamps:

high pressure sodium lamps 35-400 W  
high pressure mercury lamps 50-400 W

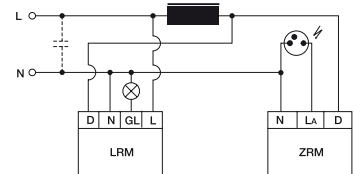
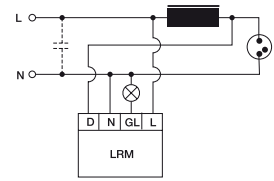
type	ZRM U6M A001	
article number		87500044
voltage	V	220-240
frequency	Hz	50
max. case temperature tc	°C	80
time delay	s	600
positive switching logic	h	7



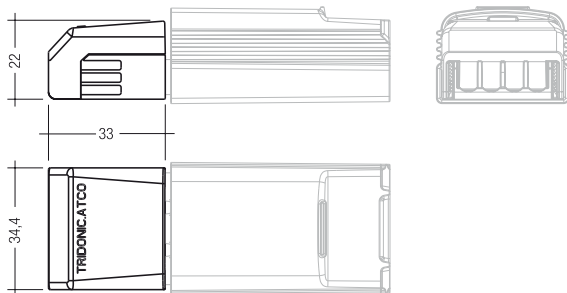
## Lamp reignition monitor LRM 500 S



type		LRM 500 S	
article number		87500041	
line voltage	V	198-264	
mains frequency	Hz	50-60	
maximum choke voltage UD	V	800	
maximum HID lamp wattage	W	1,000	
auxiliary lamp wattage	W	5-500	
maximum switched load	VA	200	
temperature rise (approx.) at	UN = 230 V	K	12.0
	UN = 240 V	K	15.0
losses (approx.) at	UN = 230 V	W	1.3
	UN = 240 V	W	1.6
RFI rating		N	
min. operating temperature		°C	-30
max. tc-temperature		°C	90
average light output at switch off		%	> 80



## ZRM ES/C Terminal cover



- contact protection
- no tools required for installing
- can be mounted even after the cables have been fitted

article number: 24139100

# Electronic ballasts for high pressure discharge lamps

HID lamps only fulfil their full innovative potential when used with electronic ballasts. TridonicAtco power**CONTROL** PCI ballasts provide optimum compensation to cope with the problematic behaviour of sodium-vapour lamps and metal halide lamps which are susceptible to supply voltage fluctuations and also suffer inherent problems with run-up and hot restart times. Use of electronic ballasts results in a high level of lighting comfort and exceptional efficiency.

The comprehensive power**CONTROL** PCI product range optimised to suit the specific application is impressive in terms of design and functionality. The range includes single-lamp and twin-lamp models integrated in the luminaire, and models with strain relief for independent installation – all available in various styles to cover all relevant applications involving sodium-vapour lamps and metal halide lamps.

## High economic efficiency

Thanks to their constant power control, consistent square-wave operation and a particularly low current ripple, power**CONTROL** PCI ballasts ensure lamp operation in accordance with specifications and hence a long service life.

With their innovative ASICs, power**CONTROL** PCI ballasts operate with impressive reliability, even at high ambient temperatures. The unit shuts down automatically if a lamp is faulty or missing or if the operating temperature rises excessively.

Exclusive use of high-quality components, intelligent circuit design and extensive testing at rated operating conditions are distinctive features of TridonicAtco power**CONTROL** PCI ballasts. This enables them to achieve an average life of 50,000 hours with a failure probability of less than 10 %, i.e. an average failure rate of 0.2 % per 1,000 hours of operation.



PCI 0070 B011

## Lighting comfort and lighting quality

With power**CONTROL** PCI ballasts, lamps can operate at their full potential. An operating frequency of 130 kHz to 160 Hz ensures that light is flicker-free and prevents acoustic resonance. Thanks to constant electronically controlled power, the colour stability and luminous flux of lamps remain at high levels throughout the life of the lamp. The result is minimum deviations in colour temperatures and maximum luminous efficacy in lighting systems. This applies to lamps with both quartz and ceramic burners.

The digital control technology of power**CONTROL** PCI reduces the restart time by as much as 50 %. EMC interference during ignition is reduced by up to 95 % compared with conventional solutions. These benefits are provided by tried-and-tested pulse-pause technology by TridonicAtco.

## Smart design

The low weight and small dimensions of power**CONTROL** PCI provide considerable advantages for integrated or surface-mounted applications. Ease of installation is improved by various fixing options and connection terminals with simple wiring. These give designers enormous freedom to create innovative lighting solutions.

## Constantly high quality

Exclusive use of high-quality materials combined with ISO 9001-certified manufacturing processes guarantee the unchangingly high quality and reliability of TridonicAtco power**CONTROL** PCI ballasts. Fully automated manufacturing also ensures a constant, reproducible quality level. In addition, all ballasts undergo a 100 % final safety inspection.

## Standards and test marks

TridonicAtco power**CONTROL** PCI electronic ballasts carry the CE Mark and meet all relevant European standards relating to safety, operation and electromagnetic compatibility.

## Perfect for integrated applications

The power**CONTROL** PCI B011 – PCB design PCI pcb B011 – and PCI Twin B011 electronic ballasts have been designed for integration into the luminaire. Both the single-lamp and twin-lamp integrated versions of the TridonicAtco ballasts are extremely compact and are therefore ideally suitable for integration into delicate luminaires. Power ratings of 20 W, 35 W, 70 W, 100 W and 150 W ensure that all standard metal halide lamps are operated in accordance with specifications.

The twin-lamp PCI B011 ballasts with 2x35 W and 2x70 W are an affordable space-saving alternative to using two individual units. Their special feature is their two separate, independent output circuits – the second circuit continues to operate if a lamp fails or is missing and sufficient light is available for relamping, for instance.

## The specialist for surface-mounted applications

Single-lamp power**CONTROL** PCI B021 ballasts – PCI B521 with lamp leads – are available with 35 W, 70 W and 150 W power ratings. Like the twin-lamp PCI Twin B021 version, these also have a housing with separate integral strain relief for mains and lamp leads and a terminal cover. The generously sized terminal compartment, together with the double terminal block on the mains side, guarantee easy installation: looping-through two 3-core leads – each having a cross-sectional area of up to 2.5 mm<sup>2</sup> – facilitates wiring considerably. The surface-mounted models come into their own with straightforward, convenient installation in suspended ceilings.

The two power**CONTROL** PCI Twin B021 units for 2x35 W and 2x70 W are the affordable solution for operating two high-intensity discharge lamps, because only one unit is needed rather than two, thereby reducing wiring expenses and space requirements significantly.

## Lamp matrix

### Which control gear for which lamp?

The current lamp matrix can be found on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → more documents












## Technical Information

The latest technical information can be downloaded from the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information

## Personal enquiries

A form for personal enquiries is available on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Contact → Enquiry → Application Department contact form

# Overview of portfolio powerCONTROL PCI/PCS

	Single fixed output	Twin fixed output	Single fixed output extended	Single stepDIM	
Surface-mounted applications	 PCI A001 & opt. ZE 002	 PCI B521  PCI B021	 PCI B021		
Build-in applications	 PCI A002  PCI A201/202	 PCI B011  PCI pcb B011	 PCI B011	 PCI FOX B011	 PCS stepDIM A001

## Matrix of lamps – electronic ballasts for high pressure discharge lamps

### 20 W Metal halide lamps

Lamps				Electronic ballasts								
manufacturer	description	lamp holder	nominal current A	PCI pcb B011 page 272	PCI B011 page 273	PCI FOX B011 page 274	PCI B021 page 275	PCI B521 page 276	PCI A001/2 page 277	PCI A201/2 page 278	PCS A001 / A201 page 277	PCS stepDIM A001 page 279
GE	CMH 20...	G8.5	0.23		•	•			•			
	CMH 20...	G12	0.23		•	•			•			
	CMH 20...	GX10	0.23		•	•			•			
	CMH 20...	GU6.5	0.23		•	•			•			
	CMH 20/PAR 30	E27	0.23		•	•			•			
Osram	HCI-TC 20	G8.5	0.23		•	•			•			
	HCI-TF 20	GU6.5	0.23					in preparation				
Philips	CDM-TM 20 (22 W)	PGJ5	–									
Sylvania	Britespot ES 50 20 W	GX10	0.23		•	•			•			

### 35 W Metal halide lamps

Lamps				Electronic ballasts								
manufacturer	description	lamp holder	nominal current A	PCI pcb B011 page 272	PCI B011 page 273	PCI FOX B011 page 274	PCI B021 page 275	PCI B521 page 276	PCI A001/2 page 277	PCI A201/2 page 278	PCS A001 / A201 page 277	PCS stepDIM A001 page 279
BLV	HIT-35 W	G8,5	0.43	•	•	•	•	•				
GE	CMH 35/T	G12	0.50	•	•	•	•	•	•			
	CMH 35/T	GU6.5	0.45	•	•	•	•	•	•			
	CMH 35/TC	G8.5	0.50	•	•	•	•	•	•			
	CMH 35/PAR	E27	0.50	•	•	•	•	•	•			
Osram	HCI-T 35...	G12	0.53	•	•	•	•	•	•			
	HQI-T 35 W/WDL	G12	0.53	•	•	•	•	•	•			
	HQI-T 35 W/WDL/BU	G12	0.53	•	•	•	•	•	•			
	HCI-TC 35 W/WDL	G8.5	0.53	•	•	•	•	•	•			
Philips	CDM-R 35 W	E27	0.53	•	•	•	•	•	•			
	CDM-T 35 W	G12	0.53	•	•	•	•	•	•			
	CDM-TC 35 W	G8.5	0.53	•	•	•	•	•	•			
	CDM-R111	GX8.5	0.53	•	•	•	•	•	•			
Radium	RCI-T 35	G12	0.53	•	•	•	•	•	•			
Sylvania	Britespot ES 50	GX10	0.53	•	•	•	•	•	•			
	Britespot ES 111	GX10	0.53	•	•	•	•	•	•			
Venture	HIE 35/x/x	E27	0.53	•	•	•	•	•	•			





## 100 W Metal halide lamps

Lamps				Electronic ballasts								
manufacturer	description	lamp holder	nominal current A	PCI pcb B011 page 272	PCI B011 page 273	PCI FOX B011 page 274	PCI B021 page 275	PCI B521 page 276	PCI A001/2 page 277	PCI A201/2 page 278	PCS A001 / A201 page 277	PCS step A001 page 279
BLV	MHR 100	plug	1.20		•				•			
	HIE 100	E27	1.20									
GE	MXR 100	E27	1.20		•				•			
	CMH 100/C/U/830	E27	1.15		•				•			
	CMH PAR100	E27	1.20		•				•			
Osram	HQI-E 100...	E27	1.20		•				•			
	HCI-E/P	E27	1.20		•				•			
Philips	CDO-TT 100	E40	1.20		•				•			
	CDO-ET 100	E40	1.20		•				•			
Radium	HRI-E 100 W...	E27	1.20		•				•			
Sylvania	HSI-MP 100...	E27	1.20		•				•			
	HSI-TD 100...	Rx7s	1.20		•				•			
	MP 100 W/CL	E27	1.15		•				•			
Venture	HIE 100 W/C/U/LU3K	E27	1.20		•				•			
	HIE 100/x/x	E27	1.20									

## 150 W Metal halide lamps

Lamps				Electronic ballasts								
manufacturer	description	lamp holder	nominal current A	PCI pcb B011 page 272	PCI B011 page 273	PCI FOX B011 page 274	PCI B021 page 275	PCI B521 page 276	PCI A001/2 page 277	PCI A201/2 page 278	PCS A001 / A201 page 277	PCS step A001 page 279
BLV	MHR 150	plug	1.80		•	•	•	•	•	•		
	HIE 150	G12	1.80		•	•	•	•	•	•		
	C-HIT 150 WW	G12	1.80		•	•	•	•	•	•		
GE	ARC 150...	G12; Rx7s	1.80		•	•	•	•	•	•		
	CMH-T 150	G12	1.80		•	•	•	•	•	•		
	CMH-TD 150	Rx7s	1.80		•	•	•	•	•	•		
	CMH 150 TT	E40	1.85		•	•	•	•	•	•		
Iwasaki	MT 150 Color Arc	E27	1.80									
	MT 150 CEH-W/BU	E27	1.80									•
Osram	HQI-T 150...	G12	1.80		•	•	•	•	•	•		
	HCI-T 150	G12	1.80		•	•	•	•	•	•		
	HQI-TS 150...	Rx7s 24	1.80		•	•	•	•	•	•		
	HCI-TS 150...	Rx7s 24	1.80		•	•	•	•	•	•		
	HQI-E 150...	E27	1.80		•	•	•	•	•	•		
	HTI 150 W	plug	1.80		•	•	•	•	•	•		
	HQI-R 150...	plug	1.80		•	•	•	•	•	•		
	HCI-E/P 150 W/WDL	E27	1.80		•	•	•	•	•	•		
	HCI-TT150	E40										
Philips	CDM-T 150	G12	1.80		•	•	•	•	•	•		
	CDM-TD 150 W	Rx7s	1.80		•	•	•	•	•	•		
	CDM-TT	E40	1.80		•	•	•	•	•	•		
	MHN-T 150	RGx 12-2	1.80		•	•	•	•	•	•		
	MHW-TD 150	Rx7s	1.80		•	•	•	•	•	•		
	MHN-TD 150 W	Rx7s	1.80		•	•	•	•	•	•		
	MHT-T 150	RGx 12-2	1.80		•	•	•	•	•	•		
	CDM-ET 150	E40	1.80		•	•	•	•	•	•		
	CDO-ET 150	E40	1.80		•	•	•	•	•	•		•
	CDO-TT 150	E40	1.80		•	•	•	•	•	•		•
	CDM-SA/T	G12	1.80		•	•	•	•	•	•		
Radium	HRI-T 150...	G12	1.80		•	•	•	•	•	•		
	RCI-T 150...	G12	1.80		•	•	•	•	•	•		
	HRI-TS 150...	Rx7s	1.80		•	•	•	•	•	•		
	RCI-TS 150...	Rx7s	1.80		•	•	•	•	•	•		
Sylvania	HRI-E 150 W...	E27	1.80		•	•	•	•	•	•		
	HSI-TD 150 W...	Rx7s	1.80		•	•	•	•	•	•		
	HSI-T 150 W	G12	1.80		•	•	•	•	•	•		
	CMI-T 150 W/WDL	G12	1.80		•	•	•	•	•	•		
	HSI-MP 150 W/3K	E27	1.80		•	•	•	•	•	•		
Venture	HIE 150/x/x	Rx7s; E27	1.80		•	•	•	•	•	•		
	HIT 150 W/U/LU/T38/4K	E27	1.80		•	•	•	•	•	•		

## 70 W High pressure sodium lamps

Lamps				Electronic ballasts								
manufacturer	description	lamp holder	nominal current A	PCI pcb B011 page 272	PCI B011 page 273	PCI FOX B011 page 274	PCI B021 page 275	PCI B521 page 276	PCI A001/2 page 277	PCI A201/2 page 278	PCS A001 / A201 page 277	PCS stepDIM A001 page 279
BLV	NAH - E 70	E27	1.00								•	•
	NAH - TR 70	Rx7s	1.00								•	•
GE	LU 70/RFL	E27	1.00								•	•
	LU 70/90...	E27	1.00								•	•
Iwasaki	NH 70 F/HV/I	E27	1.00									
	NHT 70/I	E27	1.00									
	NH 70 /HV/...	E27	1.00								•	•
Osram	NAV E 70 I	E27	1.00									
	NAV E 70...	E27	1.00								•	•
	NAV T 70...	E27	1.00								•	•
	NAV-TS 70 Super 4y	Rx7s	1.00								•	•
Philips	SON 70 W-I	E27	1.00									
	SON 70 W...	E27	1.00								•	•
	SON 70 W-E	E27	0.98								•	•
	SON-T plus 70 W...	E27	1.00								•	•
	SON-T Hg free 70 W...	E27	0.98								•	•
	SON Hg free 70 W...	E27	0.98								•	•
	SON-T 70 W...	E27	1.00								•	•
Radium	RNP-E 70 W/I	E27	1.00									
	RNP-E 70 W	E27	1.00								•	•
	RNP-T 70 W	E27	1.00								•	•
Sylvania	SHP 70 W...I	E27	1.00									
	SHP 70 W...	E27	1.00								•	•
	SHP-T 70 W...	E27	1.00								•	•
	SHP-TS 70 W...	E27	1.00								•	•
	SHP 70 W/CO-E	E27	0.98								•	•
	SHP-S 70 W...	E27	1.00								•	•
	SHP-TD 70 W	E27	1.00								•	•

## 100 W High pressure sodium lamps

Lamps				Electronic ballasts								
manufacturer	description	lamp holder	nominal current A	PCI pcb B011 page 272	PCI B011 page 273	PCI FOX B011 page 274	PCI B021 page 275	PCI B521 page 276	PCI A001/2 page 277	PCI A201/2 page 278	PCS A001 / A201 page 277	PCS stepDIM A001 page 279
GE	LU 100...	E40/27	1.20						•			
	TCF 100	E40	1.20						•			
Iwasaki	NH 100 F/HV/I	E40	1.20									
	NHT 100/I	E40	1.20									
	NH 100 F	E40	1.20						•			
Osram	NHT 100	E40	1.20						•			
	NAV E 100	E40	1.20						•			
	NAV T 100	E40	1.20						•			
Philips	SDW-T 100 W	PG12-1	1.35									
	SON...100 W	E40	1.20						•			
	SON-T...100 W	E40	1.20						•			
	SON plus 100 W	E40	1.20						•			
	SON-T plus 100 W	E40	1.20						•			
	SON-T Hg free 100 W	E40	1.24						•			
Sylvania	SHP-S 100 W	E40	1.20						•			
	SHP-T 100 W	E40	1.20						•			
	SHP-TS 100 W	E40	1.20						•			

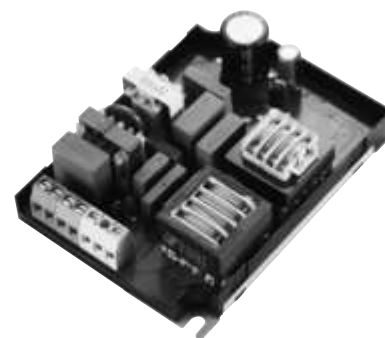
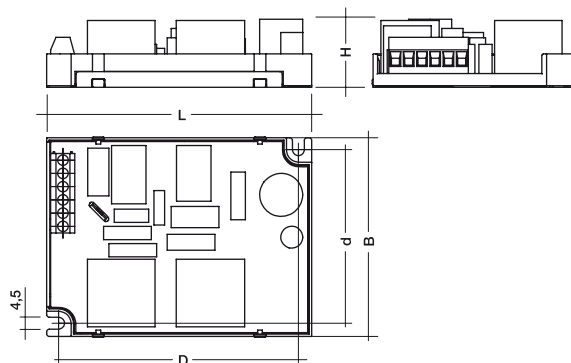
## 150 W High pressure sodium lamps

Lamps				Electronic ballasts								
manufacturer	description	lamp holder	nominal current A	PCI pcb B011 page 272	PCI B011 page 273	PCI FOX B011 page 274	PCI B021 page 275	PCI B521 page 276	PCI A001/2 page 277	PCI A201/2 page 278	PCS A001 / A201 page 277	PCS stepDIM A001 page 279
BLV	NAH-T 150	E40	1.80									•
	HST-DE 150	Fc 2	1.80									•
	HST-DE 150	Rx7s	1.80									•
GE	LU 115	E40/27	1.80									•
	TCF 150	E40	1.80									•
Iwasaki	NH 150 F/HV/I	E40	1.80									
	NHT 150/I	E40	1.80									
	NH 150... (100 V)	E40	1.80									•
	NHT 150... (100 V)	E40	1.80									•
Osram	NAV E 150	E40	1.80									•
	NAV T 150	E40	1.80									•
	NAV TS 150...	Rx7s	1.80									•
Philips	SON...150 W	E40	1.80									•
	SON-T...150 W	E40	1.80									•
	SON 150-E	E40	1.80									•
	SON-T Deco 150 W	E40	1.60									
	SON Comfort 150 W	E40	1.80									•
	SON-T Comfort 150 W	E40	1.80									•
	SON-T plus 150 W	E40	1.80									•
	SON-T Hg free 150 W	E40	1.80									•
	SON Hg free 150 W	E40	1.80									•
	SON plus 150 W	E40	1.80									•
Radium	RNP-E 150...	E40	1.80									•
	RNT-T 150...	E40	1.80									•
	RNT-TS	Rx7s	1.80									•
Sylvania	SHP-S 150 W...	E40	1.80									•
	SHP-T 150 W...	E40	1.80									•
	SHP-TS 150 W...	E40	1.80									•



Electronic ballasts not dimmable  
High pressure discharge lamps

powerCONTROL PCI pcb B011



- flicker free light
- stable colour through constant light output
- guaranteed optimum lamp life
- low power consumption
- no acoustic resonance
- switch off when the lamp is old or faulty
- increased ignition energy thanks to pulse packages (pulseCONTROL technology)
- re-strike time reduced

- minimal electromagnetic interference during ignition
- overtemperature cut off
- power factor > 0.95
- screw terminals for 0.5-2.5 mm<sup>2</sup>
- housing: lower part steel
- pcb version – check data sheet
- for luminaire installation

**Packaging:**  
**35 W**  
box of 15  
40 boxes/pallet  
600 pieces/pallet

**70 W**  
box of 20  
30 boxes/pallet  
600 pieces/pallet

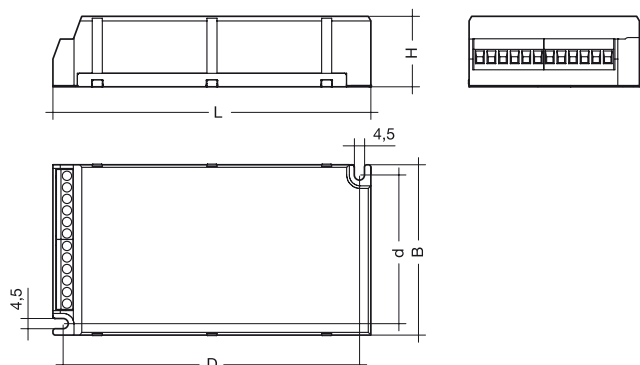
**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-12  
EN 61547

**Wiring:**  
page 280 figure A

Lamp		Ballast										
watt- age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	fixing centres d mm	weight kg	lamp power W	circuit power W	max. cable length to lamp m/pF	tc point °C	temperature range °C
1x35	HI	PCI 0035 pcb B011	86458250	90 x 60 x 27	78.5-82.5	48.5-52.5	0.15	39	44.5	1.5/120	-	-25 → +50
1x70	HI	PCI 0070 pcb B011	86458251	100 x 75 x 28	88.5-92.5	63.5-67.5	0.19	72	79.0	1.5/120	-	-25 → +50



powerCONTROL PCI B011



- flicker free light
- stable colour through constant light output
- guaranteed optimum lamp life
- low power consumption
- no acoustic resonance
- switch off when the lamp is old or faulty
- increased ignition energy thanks to pulse packages (pulseCONTROL technology)
- re-strike time reduced

- minimal electromagnetic interference during ignition
- overtemperature cut off
- power factor > 0.95
- screw terminals for 0.5-2.5 mm<sup>2</sup>
- housing two-part: lower part steel, upper part black plastic, IP 20
- for luminaire installation
- for twin units: two independent lamp output circuits

**Packaging:**  
**20 W, 35 W**  
box of 15  
60 boxes/pallet  
900 pieces/pallet

**100 W, 150 W**  
**2x35 W, 2x70 W**  
box of 15  
40 boxes/pallet  
600 pieces/pallet

**70 W**  
box of 15  
50 boxes/pallet  
750 pieces/pallet

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-12  
EN 61547

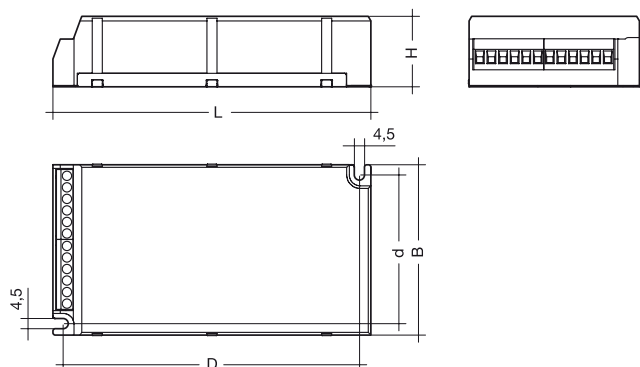
**Wiring:**  
page 280 figure A, B

Lamp		Ballast										
watt- age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	fixing centres d mm	weight kg	lamp power W	circuit power W	max. cable length to lamp m/pF	tc point °C	temperature range °C
1x20	HI	PCI 0020 B011	86457896	90 x 60 x 28	78.5-82.5	48.5-52.5	0.16	20	23.8	1.5/120	75	-25 → +60
1x35	HI	PCI 0035 B011	86457897	90 x 60 x 28	78.5-82.5	48.5-52.5	0.16	39	44.5	1.5/120	75	-25 → +50
2x35	HI	PCI 2/35 B011	86458207	140 x 75 x 31	128.5-132.5	63.5-67.5	0.32	2x39	87.0	1.5 each/120 each	65	-25 → +50
1x70	HI	PCI 0070 B011	86457898	100 x 75 x 28	88.5-92.5	63.5-67.5	0.21	72	79.0	1.5/120	75	-25 → +50
2x70	HI	PCI 2/70 B011	86458209	170 x 75 x 31	158.5-162.5	63.5-67.5	0.41	2x72	158.0	1.5 each/120 each	70	-25 → +40
1x100	HI	PCI 0100 B011	86457900	140 x 75 x 31	128.5-132.5	63.5-67.5	0.31	99	110.0	1.5/120	80	-25 → +50
1x150	HI	PCI 0150 B011	86457901	140 x 75 x 31	128.5-132.5	63.5-67.5	0.34	147	160.0	1.5/120	80	-25 → +50



Electronic ballasts with digital interface, not dimmable  
High pressure discharge lamps

powerCONTROL PCI FOX B011



- flicker free light
- stable colour through constant light output
- guaranteed optimum lamp life
- low power consumption
- no acoustic resonance
- switch off when the lamp is old or faulty
- increased ignition energy thanks to pulse packages (pulseCONTROL technology)
- re-strike time reduced
- minimal electromagnetic interference during ignition
- overtemperature cut off

- power factor > 0.95
- screw terminals for 0.5-2.5 mm<sup>2</sup>
- housing two-part: lower part steel, upper part black plastic, IP 20
- for luminaire installation
- switch via the mains or with digital control signal
- disturbance free precise control (DSI or DALI (digital adressable lighting interface))
- OEM memory bank for storing luminaire data
- device status and error feed back via DALI (Digital Adressable Lighting Interface)

**Packaging:**  
box of 15  
40 boxes/pallet  
600 pieces/pallet

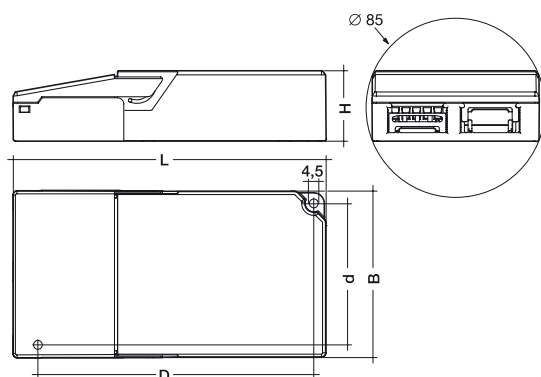
**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-12  
EN 61547

**Wiring:**  
page 280 figure C

Lamp		Ballast										
watt- age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	fixing centres d mm	weight kg	lamp power W	circuit power W	max. cable length to lamp m/pF	tc point °C	temperature range °C
1x20	HI	PCI 0020 FOX B011	86458340	100 x 75 x 28	88.5-92.5	63.5-67.5	0.19	20	24.5	1.5/120	80	-25 → +55
1x35	HI	PCI 0035 FOX B011	86458341	100 x 75 x 28	88.5-92.5	63.5-67.5	0.19	39	45.0	1.5/120	80	-25 → +50
1x70	HI	PCI 0070 FOX B011	86458342	140 x 75 x 31	128.5-132.5	63.5-67.5	0.25	72	80.0	1.5/120	80	-25 → +50
1x150	HI	PCI 0150 FOX B011	86458343	170 x 75 x 31	158.5-162.5	63.5-67.5	0.37	147	160.0	1.5/120	80	-25 → +50



powerCONTROL PCI B021



- flicker free light
- stable colour through constant light output
- guaranteed optimum lamp life
- low power consumption
- no acoustic resonance
- switch off when the lamp is old or faulty
- increased ignition energy thanks to pulse packages (pulseCONTROL technology)
- re-strike time reduced

- minimal electromagnetic interference during ignition
- overtemperature cut off
- power factor > 0.95
- screw terminals for 0.5-2.5 mm<sup>2</sup>
- one-piece housing in black polyamide, IP 20
- for mounted applications
- integrated terminal cover and cable clamp
- for twin units: two independent lamp output circuits

**Packaging:**  
box of 15  
40 boxes/pallet  
600 pieces/pallet

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-12  
EN 61547

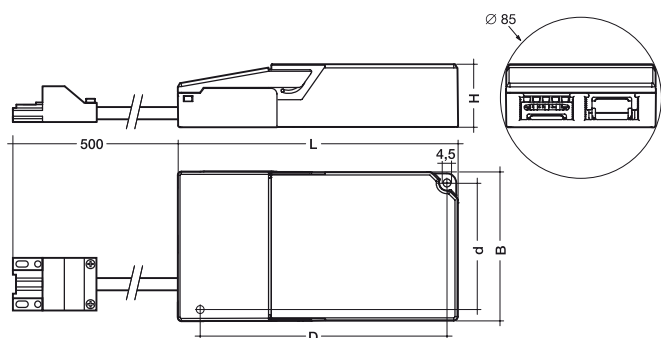
**Wiring:**  
page 280 figure D

Lamp		Ballast											
watt-age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	fixing centres d mm	weight kg	lamp power W	circuit power W	max. cable length to lamp m/pF	tc point °C	temperature range °C	
1x35	HI	PCI 0035 B021	220-240 V 50/60/0 Hz	86458181	150 x 79.5 x 34	127.6	68.6	0.24	39	44.0	3/240	65	-25 → +50
2x35	HI	PCI 2/35 B021	220-240 V 50/60/0 Hz	86458208	180 x 79.5 x 34	157.6	68.6	0.35	2x39	87.0	3 each/240 each	70	-25 → +50
1x70	HI	PCI 0070 B021	220-240 V 50/60/0 Hz	86458182	150 x 79.5 x 34	127.6	68.6	0.25	72	79.0	3/240	75	-25 → +50
2x70	HI	PCI 2/70 B021	220-240 V 50/60/0 Hz	86458210	210 x 79.5 x 35	187.6	68.6	0.44	2x72	158.0	3 each/240 each	75	-25 → +45
1x150	HI	PCI 0150 B021	220-240 V 50/60/0 Hz	86458183	210 x 79.5 x 35	187.6	68.6	0.37	147	159.0	3/240	75	-25 → +45



Electronic ballasts not dimmable  
High pressure discharge lamps

powerCONTROL PCI B521



- flicker free light
- stable colour through constant light output
- guaranteed optimum lamp life
- low power consumption
- no acoustic resonance
- switch off when the lamp is old or faulty
- increased ignition energy thanks to pulse packages (pulseCONTROL technology)
- re-strike time reduced

- minimal electromagnetic interference during ignition
- overtemperature cut off
- power factor > 0.95
- screw terminals for 0.5-2.5 mm<sup>2</sup>
- one-piece housing in black polyamide, IP 20
- for mounted applications
- halogen-free lamp cable with ST-18 or GST-18 socket 0.5 m
- integrated terminal cover and cable clamp
- for twin units: two independent lamp output circuits

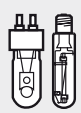
**Packaging:**  
single pack  
box of 12  
24 boxes/pallet  
288 pieces/pallet

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-12  
EN 61547

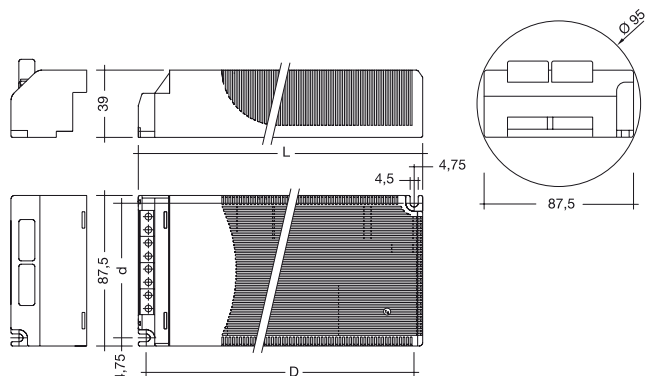
**Wiring:**  
page 280 figure D

Lamp		Ballast										
watt-age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	fixing centres d mm	weight kg	lamp power W	circuit power W	max. cable length to lamp m/pF	tc point °C	temperature range °C
1x35	HI	PCI 0035 B521 ST	86458184	150 x 79.5 x 34	127.6	68.6	0.29	39	44.0	3/240	65	-25 → +50
1x35	HI	PCI 0035 B521 GST	86458404	150 x 79.5 x 34	127.6	68.6	0.29	39	44.0	3/240	65	-25 → +50
2x35	HI	PCI 2/35 B521 ST	86458338	180 x 79.5 x 34	157.6	68.6	0.45	2x39	87.0	per 3/per 240	70	-25 → +50
1x70	HI	PCI 0070 B521 ST	86458185	150 x 79.5 x 34	127.6	68.6	0.30	72	79.0	3/240	75	-25 → +50
1x70	HI	PCI 0070 B521 GST	86458405	150 x 79.5 x 34	127.6	68.6	0.30	72	79.0	3/240	75	-25 → +50
2x70	HI	PCI 2/70 B521 ST	86458339	210 x 79.5 x 35	187.6	68.6	0.54	2x72	158.0	per 3/per 240	75	-25 → +45
1x150	HI	PCI 0150 B521 ST	86458186	210 x 79.5 x 35	187.6	68.6	0.42	147	159.0	3/240	75	-25 → +45
1x150	HI	PCI 0150 B521 GST	86458406	210 x 79.5 x 35	187.6	68.6	0.42	147	159.0	3/240	75	-25 → +45





powerCONTROL PCI A001/2, powerCONTROL PCS A001



- flicker free light
- stable colour through constant light output
- guaranteed optimum lamp life
- low power consumption
- no acoustic resonance
- switch off when the lamp is old or faulty
- increased ignition energy thanks to pulse packages (pulseCONTROL technology)
- re-strike time reduced
- minimal electromagnetic interference during ignition

- overtemperature cut off
- power factor > 0.95
- screw terminals for 0.5-2.5 mm<sup>2</sup>
- one-piece housing in black polyamide, IP 20
- for luminaire installation and mounted applications
- accessories are terminal cover and strain relief ZE 002 (art. no. 86448230)
- version A002: with lamp reignition monitor (max. 500 W)

**Packaging:**  
box of 10  
60 boxes/pallet  
600 pieces/pallet

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-12  
EN 61547

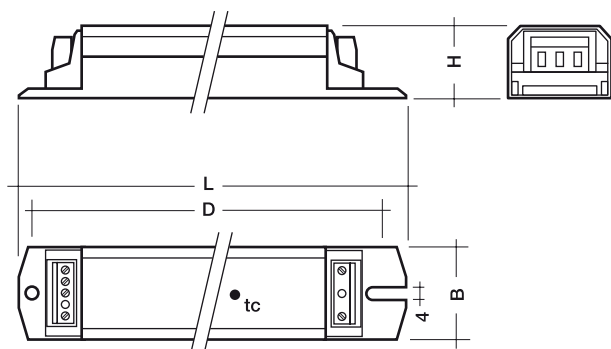
**Wiring:**  
page 281 figure E, F

Lamp		Ballast										
watt- age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	fixing centres d mm	weight kg	lamp power W	circuit power W	max. cable length to lamp m/pF	tc point °C	temperature range °C
1x20	HI	PCI 0020 A001	86457083	130 x 87.5 x 39	120-123	77-80	0.26	20	23.8	5/400	90	-25 → +60
1x35	HI	PCI 0035 A002	86448209	130 x 87.5 x 39	120-123	77-80	0.35	39	44.5	5/400	85	-25 → +60
1x70	HI	PCI 0070 A002	86448059	130 x 87.5 x 39	120-123	77-80	0.35	72	79.5	5/400	85	-25 → +50
1x70	HS	PCS 0070 A001	86455786	130 x 87.5 x 39	120-123	77-80	0.35	72	79.5	3/240	80	-25 → +50
1x100	HI/HS	PCI 0100 A002	86453881	160 x 87.5 x 39	150-153	77-80	0.47	99	110.0	3/240	80	-25 → +50
1x150	HI	PCI 0150 A002	86448224	160 x 87.5 x 39	150-153	77-80	0.57	147	160.0	5/400	85	-25 → +50



Electronic ballasts not dimmable  
High pressure discharge lamps

powerCONTROL PCI A201/2, powerCONTROL PCS A201



- flicker free light
- stable colour through constant light output
- guaranteed optimum lamp life
- low power consumption
- no acoustic resonance
- switch off when the lamp is old or faulty
- increased ignition energy thanks to pulse packages (pulseCONTROL technology)
- re-strike time reduced

- minimal electromagnetic interference during ignition
- overtemperature cut off
- power factor > 0.95
- screw terminals for 0.5-2.5 mm<sup>2</sup>
- metal housing, IP 20
- for luminaire installation
- version A202: with lamp reignition monitor (max. 500 W)

**Packaging:**  
**70 W**  
box of 25  
30 boxes/pallet  
750 pieces/pallet

**150 W**  
box of 10  
48 boxes/pallet  
480 pieces/pallet

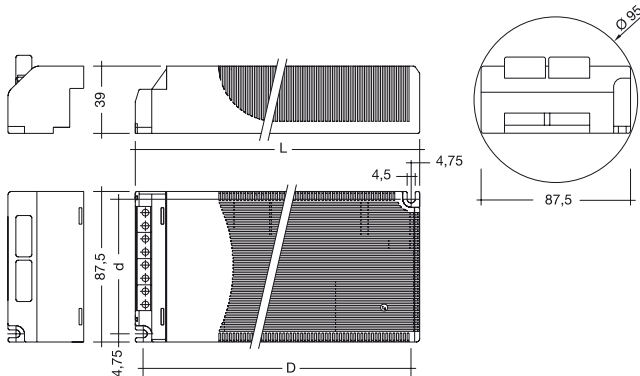
**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-12  
EN 61547

**Wiring:**  
page 281 figure G

Lamp		Ballast									
watt- age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	weight kg	lamp power W	circuit power W	max. cable length to lamp m/pF	tc point °C	temperature range °C
1x70	HI	PCI 0070 A201	86454810	234 x 40 x 28	214-224	0.33	72	80.0	2/160	80	-25 → +45
1x70	HI	PCI 0070 A202	86454801	234 x 40 x 28	214-224	0.33	72	80.0	2/160	80	-25 → +45
1x70	HS	PCS 0070 A201	86455792	234 x 40 x 28	214-224	0.33	72	80.0	2/160	80	-25 → +45
1x150	HI	PCI 0150 A201	86451257	360 x 40 x 28	340-350	0.56	147	162.0	1.5/120	80	-25 → +45
1x150	HI	PCI 0150 A202	86451260	360 x 40 x 28	340-350	0.56	147	162.0	1.5/120	80	-25 → +45



powerCONTROL PCS stepDIM A001



- flicker free light
- stable colour through constant light output
- guaranteed optimum lamp life
- low power consumption
- no acoustic resonance
- switch off when the lamp is old or faulty
- increased ignition energy thanks to pulse packages (pulseCONTROL technology)
- re-strike time reduced

- minimal electromagnetic interference during ignition
- overtemperature cut off
- power factor > 0.95
- screw terminals for 0.5-2.5 mm<sup>2</sup>
- one-piece housing in black polyamide, IP 20
- for luminaire installation
- luminous power in two stages: 50 % / 100 %

**Packaging:**  
box of 10  
60 boxes/pallet  
600 pieces/pallet

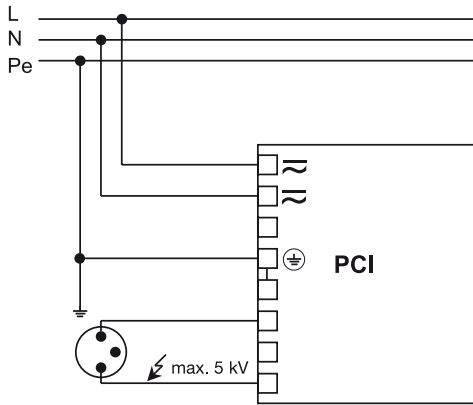
**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61347-2-12  
EN 61547

**Wiring:**  
page 281 figure H

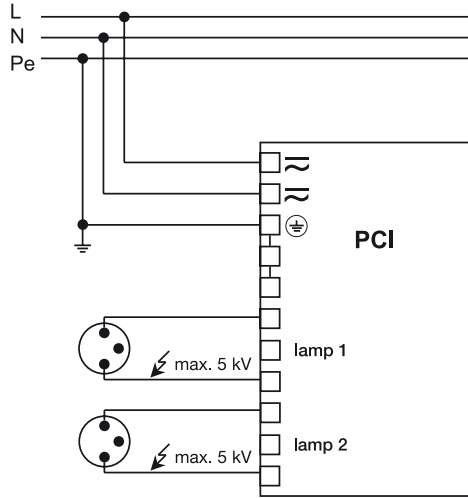
Lamp		Ballast										
watt-age W	type	type	article number	dimensions L x W x H mm	fixing centres D mm	fixing centres d mm	weight kg	lamp power W ①	circuit power W ①	max. cable length to lamp m/pF	tc point °C	temperature range °C
1x70	HS	PCS 0070 stepDIM A001	86457093	130 x 87.5 x 39	120-123	77-80	0.35	72	80.0	5/400	80	-25 → +50
1x150	HS	PCS 0150 stepDIM A001	86457094	160 x 87.5 x 39	150-153	77-80	0.46	147	160.0	5/400	85	-25 → +50

① gültig bei 100 % Dimmniveau und ta 25 °C

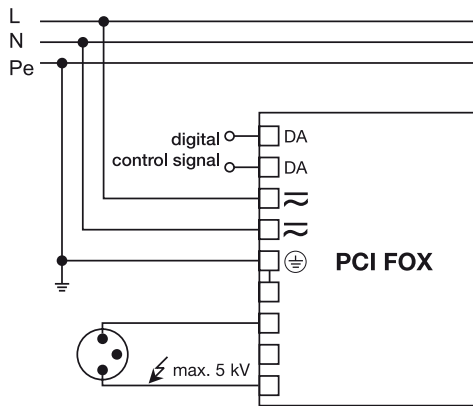
A) PCI pcb B011  
 PCI B011



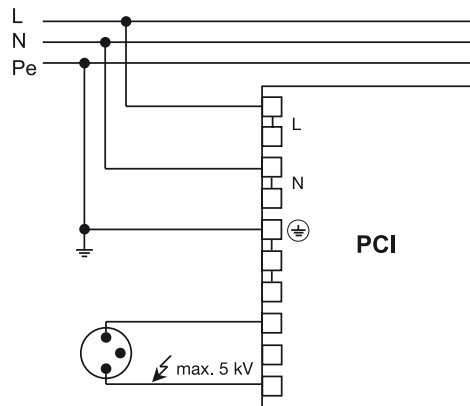
B) PCI B011 Twin  
 PCI B021/521 Twin



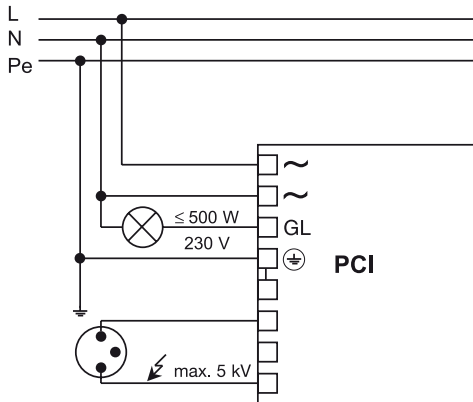
C) PCI FOX B011



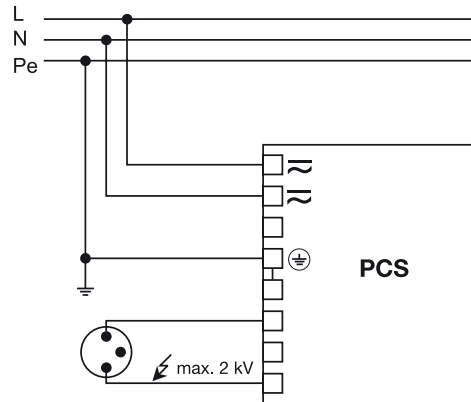
D) PCI B021  
 PCI B521



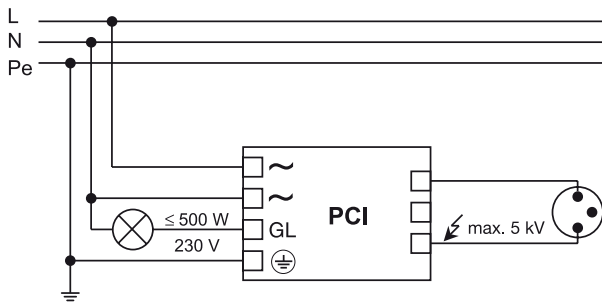
E) PCI A001/2



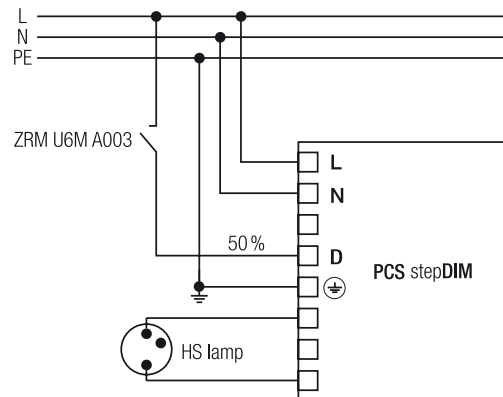
F) PCS A001



G) PCI A201/2



H) PCS stepDIM A001





# Transformers for low-voltage halogen lamps

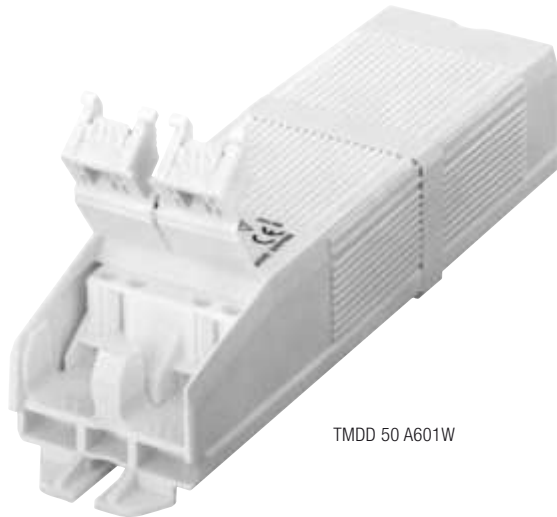
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<b>Circuit diagrams electronic transformers</b>	317





# Magnetic transformers for low-voltage halogen lamps

In principle, operation of low-voltage halogen lamps, which are universally popular for accent lighting, requires a transformer which adapts the mains voltage to a 12 V operating voltage. There is a choice between magnetic and electronic transformers. The latter are divided up into phase-dimmable and digitally dimmable TE one4all models. All transformers also ensure that the protective measures required by relevant standards are met, for instance in the event of a short-circuit or voltage interruption.



TMDD 50 A601W

Magnetic transformers are a rugged, extremely affordable solution offering long service life together with excellent thermal endurance.

TridonicAtco's diversified range of units for integration in luminaires and surface-mounted applications covers all relevant uses. The transformers guarantee operation of lamps in accordance with specifications, thereby enabling lamps to achieve their maximum luminous flux and service life.

Essentially, all TridonicAtco magnetic transformers are characterised by minimal power consumption, compact winding, optimised dimensions and high-quality materials. They are continuously controllable using phase-control dimmers for inductive loads.

## Designed for long service life

Thanks to their high-quality insulating material, coil form and the quality of the copper wire used, KTR, TMDC, TMB and TMC type transformers for integration in luminaires and TMDD and OMT types for surface-mounted applications achieve a maximum service life of approximately 100,000 hours of operation, i.e. roughly ten years of continuous operation with a winding temperature of 130 °C ( $t_w = 130\text{ °C}$ ). The winding temperature is calculated from the ambient temperature and the temperature increase due to intrinsic consumption. An upward or downward change in temperature of 10 °C causes doubling or halving of the life of the unit respectively.

The transformers can be protected on the line side either by a slow fuse or by a built-in current-sensitive thermal cutout appropriate to the transformer type. Protection on the secondary side against overloads and short-circuits trips if the lamp is faulty.

## Constantly high quality

Exclusive use of high-quality materials combined with ISO 9001-certified manufacturing processes guarantee unchangingly high quality. Fully automated manufacturing also ensures a constant, reproducible quality level. In addition, all transformers undergo a 100 % final safety inspection.

## Standards and test marks

TridonicAtco magnetic transformers are ENEC-certified, carry the CE Mark and meet all relevant European standards relating to safety, operation and electromagnetic compatibility.

## The specialist for integrated applications

KTR magnetic transformers are characterised by especially compact dimensions (28.6 mm x 41.5 mm) and an excellent price/performance ratio. Power ratings range from 50 VA to 105 VA.

Because of their dimensions (28.6 mm x 41.5 mm), TMDC transformers are suitable for all applications where a device with a small cross-sectional area is needed, e.g. in tubetrack systems. This model is available with power ratings from 20 VA to 105 VA.

TMB transformers are compactly designed units of reduced length. The device has a cross-sectional area of 65 mm x 47 mm. Thanks to its high efficiency, the TMB model, which is available in versions from 20 VA to 300 VA, is also suitable for use at relatively high ambient temperatures.

TMC (OGT) transformers reveal their full potential in situations where several lamps are connected. Power ratings range from 250 VA to 500 VA versions.

## Designed for surface-mounted applications

TMDD magnetic transformers are available as a Lovotec version and as a TMD enclosed version which are also suitable for integration or surface-mounting on furniture having unknown flammability characteristics. Thanks to their small cross-sectional area, these units are especially suitable for use in suspended ceilings.

OMT transformers are used when several lamps are connected, e.g. in the case of cord suspension or track systems. Power ratings range from 150 VA to 300 VA.



TMDC 105

## Technical Information

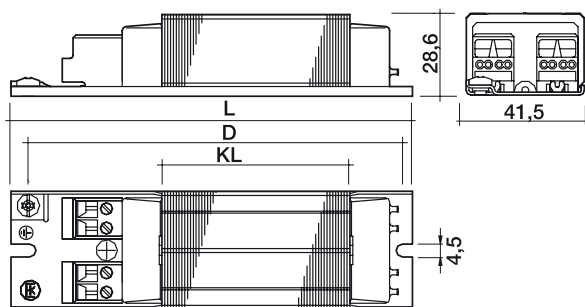
The latest technical information can be downloaded from the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → Data sheets

## Personal enquiries

A form for personal enquiries is available on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Contact → Enquiry → Application Department contact form



KTR 50–105 VA 230/11.5 V and 240/11.5 V



- transformer according to EN 61558-2-1
- insulation class B
- single insulation on the primary side
- nickel plated screw terminals for solid and flexible 0.75-2.5 mm<sup>2</sup> wire with wire end ferrules
- screw terminals separated (primary/secondary)

**Packaging:**

**KTR 50**  
box of 20  
48 boxes/pallet  
960 pieces/pallet

**KTR 105**  
box of 10  
60 boxes/pallet  
600 pieces/pallet

**Wiring:**  
page 316 figure B

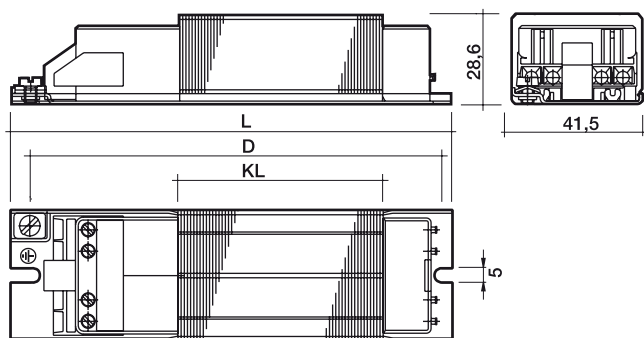
**Approvals:**  
EN 61558

**KTR 60**  
box of 20  
40 boxes/pallet  
800 pieces/pallet

lamp load VA	type	article number	nominal lamp power range VA	length L mm	fixing centres D mm	core stack length KL mm	weight kg	UL/U0 %	losses W	primary current mA	ambient temperature ta °C
<b>KTR 230/11.5 V 50/60 Hz</b>											
50	KTR 50 230/11.5 V 50/60 Hz	86438472	30-50	153	143	78	0.75	83	12.6	270	40
60	KTR 60 230/11.5 V 50/60 Hz	86451645	35-60	175	165	100	0.92	84	15.2	320	40
105	KTR 105 230/11.5 V 50/60 Hz	86438480	50-105	240	230	165	1.50	87	20.3	535	40
<b>KTR 240/11.5 V 50/60 Hz</b>											
50	KTR 50 240/11.5 V 50/60 Hz	86451878	30-50	153	143	78	0.75	84	12.6	250	40



TMDC 50–105 VA 230/11.5 V and 240/11.5 V



- insulation class H
- nickel plated screw terminals for solid and flexible 0.75-2.5 mm<sup>2</sup> wire

**Packaging:**  
**TMDC 50**  
box of 20  
48 boxes/pallet  
960 pieces/pallet

**Wiring:**  
page 316 figure B

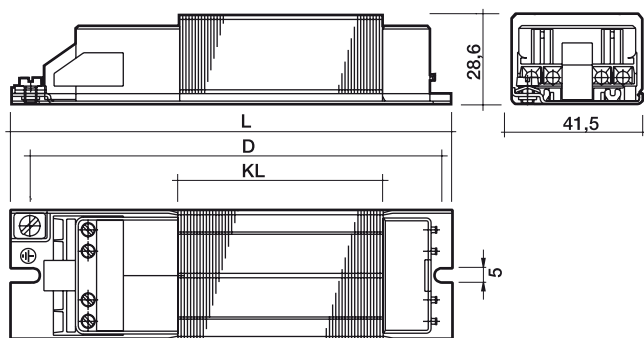
**Approvals:**  
EN 61558

**TMDC 105**  
**box of 10**  
60 boxes/pallet  
600 pieces/pallet

lamp load VA	type	article number	nominal lamp power range VA	length L mm	fixing centres D mm	core stack length KL mm	weight kg	UL/U0 %	losses W	primary current mA	ambient temperature ta °C
<b>TMDC 230/11.5 V 50/60 Hz</b>											
50	TMDC 50 B001K 230/11.5 V 50/60 Hz	86451534	30-50	153	143	78	0.75	86	12	280	80
105	TMDC 105 B001K 230/11.5 V 50/60 Hz	86451540	50-105	240	230	165	1.50	87	25	495	80
<b>TMDC 240/11.5 V 50/60 Hz</b>											
50	TMDC 50 B002K 240/11.5 V 50/60 Hz	86448407	30-50	153	143	78	0.75	84	14	330	80
105	TMDC 105 B002K 240/11.5 V 50/60 Hz	86451581	50-105	240	230	165	1.50	84	20	470	80



TMDC 20–105 VA 230/11.5 V and 50–105 VA 240/11.5 V



- insulation class H
- nickel plated screw terminals for solid and flexible 0.75-2.5 mm<sup>2</sup> wire
- reversible protection against short circuit, overload and over temperature

**Packaging:**

**TMDC 20**  
box of 25  
50 boxes/pallet  
1,250 pieces/pallet

**TMDC 70**  
box of 20  
40 boxes/pallet  
800 pieces/pallet

**Wiring:**

page 316 figure B

**Approvals:**  
EN 61558

**TMDC 50**  
box of 20  
48 boxes/pallet  
960 pieces/pallet

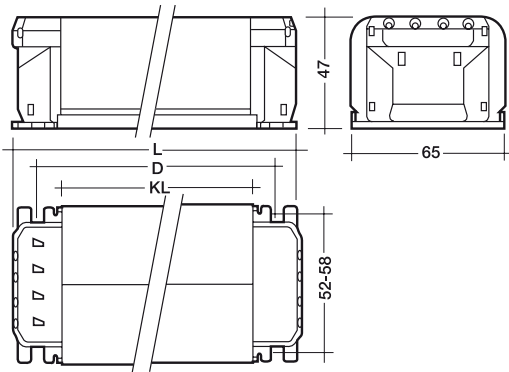
**TMDC 105**  
box of 10  
60 boxes/pallet  
600 pieces/pallet

lamp load VA	type	article number	switch off temperature °C ①	length L mm	fixing centres D mm	core stack length KL mm	weight kg	UL/U0 %	losses W	primary current mA	ambient temperature ta °C
<b>TMDC 230/11.5 V 50/60 Hz</b>											
20	TMDC 20 B001W 230/11.5 V 50/60 Hz	24031030	150	110	100	35	0.40	82	6.4	120	80
50	TMDC 50 B001W 230/11.5 V 50/60 Hz	24031052	150	153	143	78	0.75	86	12.0	280	80
70	TMDC 70 B001W 230/11.5 V 50/60 Hz	24031071	150	195	185	110	1.10	88	20.0	410	80
105	TMDC 105 B001W 230/11.5 V 50/60 Hz	24031093	150	240	230	165	1.50	87	25.0	495	80
<b>TMDC 240/11.5 V 50/60 Hz</b>											
50	TMDC 50 B002W 240/11.5 V 50/60 Hz	24031108	150	153	143	78	0.75	84	14.0	330	80
105	TMDC 105 B002W 240/11.5 V 50/60 Hz	24031117	150	240	230	165	1.50	84	20.0	470	80

① protection



TMBB 20–105 VA 230/11.5 V and 240/11.5 V



- insulation class H
- primary/secondary spring terminals for solid 0.50-1.5 mm<sup>2</sup> and flexible 0.75-1.5 mm<sup>2</sup> wire, for flexible wires with wire end ferrules with a diameter of max. 1.6 mm
- reversible protection against short circuit, overload and over temperature

**Packaging:**  
box of 10  
48 boxes/pallet  
480 pieces/pallet

**Wiring:**  
page 316 figure B

**Approvals:**  
EN 61558

lamp load VA	type	article number	switch off temperature °C ①	length L mm	fixing centres D mm	core stack length KL mm	weight kg	UL/U0 %	losses W	primary current mA	ambient temperature ta °C
--------------	------	----------------	-----------------------------	-------------	---------------------	-------------------------	-----------	---------	----------	--------------------	---------------------------

**TMBB 230/11.5 V 50/60 Hz**

20	TMBB 20 B351W 230/11.5 V 50/60 Hz	20886012	160	51	35.5	15	0.51	82	4.8	104	100
35	TMBB 35 B351W 230/11.5 V 50/60 Hz	20886034	160	56	40.5	20	0.61	84	6.8	178	95
50	TMBB 50 B351W 230/11.5 V 50/60 Hz	20886237	160	66	50.5	30	0.80	89	7.5	245	100
80	TMBB 80 B351W 230/11.5 V 50/60 Hz	20886075	160	81	65.5	45	1.14	88	11.3	375	90
105	TMBB 105 B351W 230/11.5 V 50/60 Hz	20886081	160	91	75.5	55	1.34	88	15.3	505	80

**TMBB 240/11.5 V 50/60 Hz**

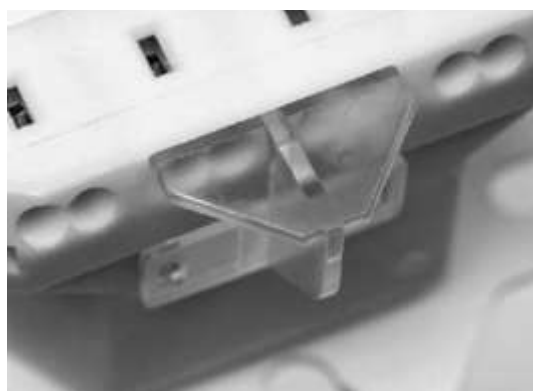
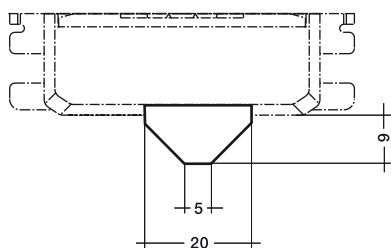
20	TMBB 20 B352W 240/11.5 V 50/60 Hz	20886102	160	51	35.5	15	0.51	82	4.6	102	100
35	TMBB 35 B352W 240/11.5 V 50/60 Hz	20886127	160	56	40.5	20	0.60	83	6.7	168	95
50	TMBB 50 B352W 240/11.5 V 50/60 Hz	20886155	160	66	50.5	30	0.81	89	7	230	100
80	TMBB 80 B352W 240/11.5 V 50/60 Hz	20886196	160	81	65.5	45	1.12	88	12.3	357	90
105	TMBB 105 B352W 240/11.5 V 50/60 Hz	20886215	160	91	75.5	55	1.35	87	15.5	472	80

① protection



## Separation piece between primary and secondary winding connections

RoHS



Separation piece to increase the safety distance between primary and secondary winding terminals. Only necessary if outer lines without mains terminals are connected directly to the transformer. Very easy to fit by snapping onto the winding cover. No tools needed.

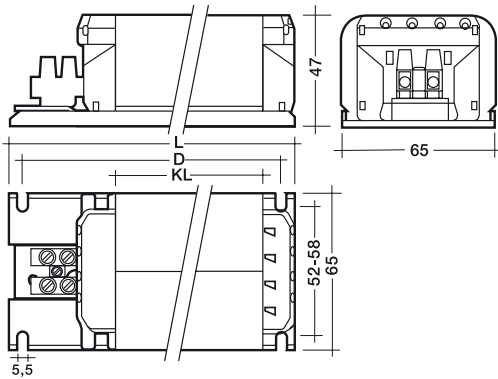
Article number: 00057193



TMBC 150–300 VA 230/11.5 V and 240/11.5 V



\* for U-types only  
\*\* for W-types only



- insulation class H
- primary spring terminals for solid 0.5-1.5 mm<sup>2</sup> and for flexible 0.75-1.5 mm<sup>2</sup> wire, for flexible wires with wire end ferrules with a diameter of max. 1.6 mm
- secondary side screw terminals  
150 VA 2.5-6 mm<sup>2</sup>  
210 VA 4-10 mm<sup>2</sup>  
300 VA 4-10 mm<sup>2</sup>

**Packaging:**  
**TMBC 150**  
box of 10  
48 boxes/pallet  
480 pieces/pallet

**TMBC 300**  
box of 6  
40 boxes/pallet  
240 pieces/pallet

**Wiring:**  
**TMBC 300**  
page 316 figure C  
  
**all others**  
page 316 figure A

**TMBC 210**  
box of 10  
24 boxes/pallet  
240 pieces/pallet

**Approvals:**  
EN 61558

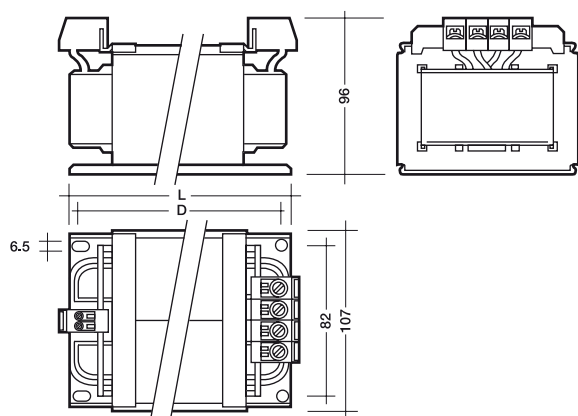
lamp load VA	type	article number	switch off temperature °C ①	nominal lamp power range VA	length L mm	fixing centres D mm	core stack length KL mm	weight kg	UL/U0 %	losses W	primary current mA	ambient temperature ta °C	recommended primary fuse mA/T
<b>TMBC 230/11.5 V 50/60 Hz</b>													
150	TMBC 150 B551W 230/11.5 V 50/60 Hz	20886262	160	100-150	154	138.5	85	1.98	91	16.7	703	90	–
210	TMBC 210 B551W 230/11.5 V 50/60 Hz	20886259	160	140-210	170	154.5	105	2.43	91	23.5	962	80	–
150	TMBC 150 B551U 230/11.5 V 50/60 Hz	22158504	155	100-150	154	138.5	85	1.98	91	16.7	703	90	1,000
210	TMBC 210 B551U 230/11.5 V 50/60 Hz	22158505	155	140-210	170	154.5	105	2.43	91	23.5	962	80	1,250
300	TMBC 300 B551U 230/11.5 V 50/60 Hz	22115692	155	200-300	220	204.5	150	3.39	93	29.0	1,415	80	2,000
<b>TMBC 240/11.5 V 50/60 Hz</b>													
210	TMBC 210 B552W 240/11.5 V 50/60 Hz	20886284	160	140-210	170	154.5	105	2.45	91	24.8	939	80	–
300	TMBC 300 B552U 240/11.5 V 50/60 Hz	22115709	155	200-300	220	204.5	150	3.40	93	28.4	1,358	80	2,000

① protection





OGT 250–500 VA 230/12 V and 245/12 V



- insulation class H

**Packaging:**  
**OGT 40, 50**  
box of 4  
36 boxes/pallet  
144 pieces/pallet

**OGT 80**  
box of 3  
36 boxes/pallet  
108 pieces/pallet

**Wiring:**  
**OGT**  
page 316 figure B  
**OGT TP**  
page 316 figure C

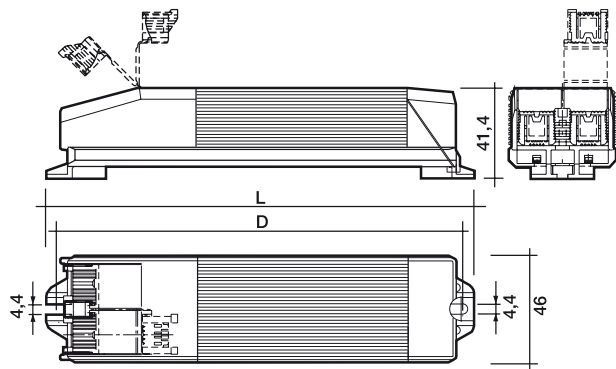
**Approvals:**  
EN 61558

lamp load VA	type	article number	switch off temperature °C	length L mm	fixing centres D mm	weight kg	UL/U0 %	losses W	primary current mA	recommended primary fuse mA/T ①
<b>OGT 230/12/12 V</b>										
250	OGT T40 230/12/12 V TP	20561812	150	94	80	3.1	92	22.0	1,170	1,400
300	OGT T50 230/12/12 V	20305468	–	104	90	3.7	94	22.5	1,400	1,600
300	OGT T50 230/12/12 V TP	20561834	150	104	90	3.7	94	22.5	1,400	1,600
500	OGT T80 230/12/12 V	20296255	–	134	120	5.4	94	38.2	2,330	2,500
500	OGT T80 230/12/12 V TP	20561869	150	134	120	5.4	94	38.2	2,330	2,500

① anti-surge fuse to IEC 127



TMDD 50–105 VA 230/11.5 V and 240/11.5 V



- insulation class B
- nickel plated screw terminals for solid and flexible 0.75-2.5 mm<sup>2</sup> wire
- reversible protection against short circuit, overload and over temperature
- divided strain relief for primary and secondary leads

**Packaging:**  
**TMDD 50, 60**  
 box of 10  
 60 boxes/pallet  
 600 pieces/pallet

**Wiring:**  
 page 316 figure A

**Approvals:**  
 EN 61558

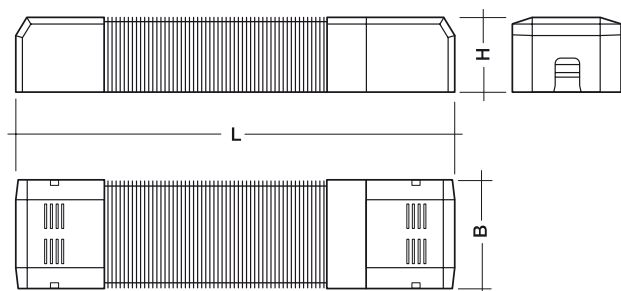
**TMDD 105**  
 box of 10  
 40 boxes/pallet  
 400 pieces/pallet

lamp load VA	type	article number	switch off temperature °C ①	length L mm	fixing centres D mm	height H mm	weight kg	UL/U0 %	losses W	primary current mA	ambient temperature ta °C	housing temperature max. °C
<b>TMDD 230/11.5 V 50/60 Hz</b>												
50	TMDD 50 A701W 230/11.5 V 50/60 Hz	86453803	120	182	172	41.4	0.80	87	12.0	270	35	80
60	TMDD 60 A601W 230/11.5 V 50/60 Hz	24030650	120	202	192	39.0	1.04	88	13.0	310	30	80
105	TMDD 105 A601W 230/11.5 V 50/60 Hz	24030679	120	272	262	39.0	1.65	87	22.0	510	25	80
<b>TMDD 240/11.5 V 50/60 Hz</b>												
50	TMDD 50 A802W 240/11.5 V 50/60 Hz	86455146	120	182	172	39.0	0.86	87	12.0	265	30	80
105	TMDD 105 A602W 240/11.5 V 50/60 Hz	24010220	120	272	262	39.0	1.65	87	22.0	515	25	80

① protection



OMT 150–300 VA 230–240/12 V



- insulation class F
- primary fuse and thermal protection
- primary side double spring terminals for looping 0.75-2.5 mm<sup>2</sup>
- secondary screw terminal up to 10 mm<sup>2</sup>
- the typeplate is under the terminal cover

**Packaging:**

**OMT 150**  
 box of 1  
 138 boxes/pallet  
 138 pieces/pallet

**OMT 300**  
 box of 1  
 102 boxes/pallet  
 102 pieces/pallet

**Wiring:**  
 page 316 figure D

**Approvals:**  
 EN 61558

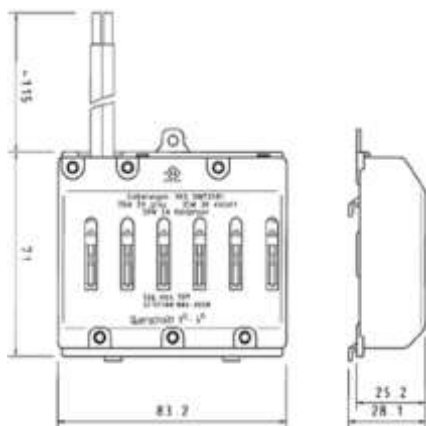
**OMT 210**  
 box of 1  
 126 boxes/pallet  
 126 pieces/pallet

type		OMT 150 A222W 230–240/12 V 150 VA	OMT 210 A222W 230–240/12 V 210 VA	OMT 300 A222W 230–240/12 V 300 VA
article number		20882035	20882041	20882057
nominal input voltage	V AC	230-240	230-240	230-240
nominal current (230-240 V)	A	0.71-0.75	0.99-1.03	1.36-1.44
nominal frequency	Hz	50/60	50/60	50/60
secondary voltage 230/240 V	V	11.4-11.9	11.4-11.9	11.4-11.9
lamp power range 230 V	W	70-150	100-210	150-300
lamp power range 240 V	W	140-150	200-210	250-300
efficiency at full load	%	88	91	90
power factor at full load		0.93-0.94	0.92-0.93	0.96
anti-surge fuse	mA T	1,000	1,250	2,000
ambient temperature ta	°C	-20 → +35	-20 → +35	-20 → +35
max. housing temperature	°C	80	80	80
dimming		symmetric leading edge phase cutting dimmer	symmetric leading edge phase cutting dimmer	symmetric leading edge phase cutting dimmer
dimensions (L x W x H)	mm	233 x 77.2 x 65.5	267 x 77.2 x 65.5	322 x 77.2 x 65.5
fixing centres	mm	190-210 x 63	223-243 x 63	280-300 x 63
integral thermal protection		–	–	–
weight	kg	2.4	3.1	4.2



## Safety distribution box SV-06

RoHS



The 6-fold safety distribution box SV-06 is the ideal solution to facilitate the installation of low voltage halogen lighting systems. Up to six fuse-protected lamp circuits can be connected each with a load of up to 50 W maximum.

Input terminals have to be tightened with 0.8 Nm before commissioning.

**Packaging:**  
box of 60

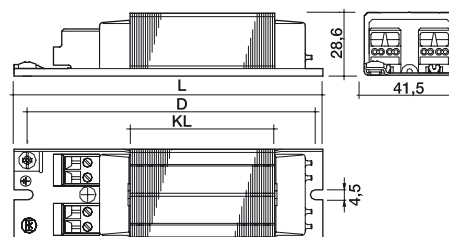
article number	88698708
approvals	VDE information report
clamping area input	flexible 6 mm <sup>2</sup>
clamping area output	solid/flexible 1-4 mm <sup>2</sup>
nominal current	30 A (6 x 5 A)
nominal voltage	max. 50 V (safety extra low voltage)
terminal housing	polyamide 6.6 white according to UL94 V2 glow wire test 960 °C max. working temperature 90 °C short period 150 °C
stampings	MS tinned
inserts	chrome-plated steel
screws	chrome-plated steel
fuses	FKS (according to DIN 72581)
upon request	without feed cable without fuse with strain relief (external side)



**TMDA 50–160 VA**



- insulation class H
- nickel plated screw terminals for solid and flexible 0.75-2.5 mm<sup>2</sup> wire
- also suitable for the transformation of 110/220 V and 120/230 V



**Packaging 50 VA:**  
 box of 25  
 50 boxes/pallet  
 1,250 pieces/pallet

**Packaging 120 VA and 130 VA:**  
 box of 20  
 25 boxes/pallet  
 500 pieces/pallet

**Packaging 100 VA:**  
 box of 20  
 40 boxes/pallet  
 800 pieces/pallet

**Wiring:**  
 page 316 figure E

**Designed according to:**  
 EN 61558-2-13

lamp load VA	type	article number	primary voltage V	secondary voltage V	frequency Hz	UL/U0 %	primary current mA	secondary current mA	ambient temperature ta °C	length L mm	fixing centres D mm	weight kg
50	<b>TMDA 50 B103K</b> 127/240 V	86453064	127	240	50/60	17.0	460	200	50	110	100	0.385
100	<b>TMDA 100 B103K</b> 127/240 V	86453086	127	240	50/60	10.8	930	420	50	153	143	0.750
120	<b>TMDA 120 B104K</b> 115/240 V	86453471	115	240	50/60	12.1	1,250	500	50	175	165	0.930
130	<b>TMDA 130 B103K</b> 127/240 V	86453487	127	240	50/60	9.5	1,100	520	50	175	165	0.935



# Electronic transformers for low-voltage halogen lamps



TE-DC

TridonicAtco electronic transformers are characterised above all by excellent economic efficiency, exceptional lighting comfort and high reliability. This diverse product range offers the best way of integrating low-voltage halogen lamps in lighting solutions easily. Task-specific control ranges from digital using a DALI or DSI interface, standard phase control dimmers and momentary-action switch operation using switchDIM through to a rotary potentiometer with an analog 1...10 V interface. The TE one4all, TE-DC, TE-U, TE-T, TE-S and TE-C versions all boast features that have been optimised to suit their respective application areas and requirements.

## Optimal lamp operation

Electronic transformers operate lamps with high-frequency voltages in the range from 30 kHz to 40 kHz. The innovative electronic system with switch-on current limiting, soft starting and a constant non-load dependent output voltage over the entire output range ensures optimum lamp operation and hence long lamp service life.

In the case of the digital transformers, a unique circuit concept stabilises the output voltage regardless of the input voltage. The ASIC is the core of the patented circuitry and ensures optimised, low-loss control of the power circuitry and all protective and monitoring functions in the event of overloads, overtemperature and short-circuits.

Thanks to high-quality components, intelligent circuit design and extensive inspection and test programs at rated operating conditions, TridonicAtco TE transformers achieve an average life of 50,000 hours with a failure probability of less than 10 %, i.e. an average failure rate of 0.2 % per 1,000 hours of operation.

These features of TridonicAtco TE electronic transformers, i.e. long service life and long lamp life due to operation in accordance with specifications, ensure that lighting installations with low-voltage halogen lamps achieve a high level of economic efficiency.

## Constantly high quality

Exclusive use of high-quality materials combined with ISO 9001-certified manufacturing processes guarantee the unchangingly high quality and reliability of TridonicAtco TE transformers.

Fully automated manufacturing also ensures a constant, reproducible high quality level. In addition, all transformers undergo a 100 % final safety inspection.

## Standards and test marks

TridonicAtco electronic transformers are ENEC-certified, carry the CE Mark and meet all relevant European standards relating to safety, operation and electromagnetic compatibility.

## Technical Information

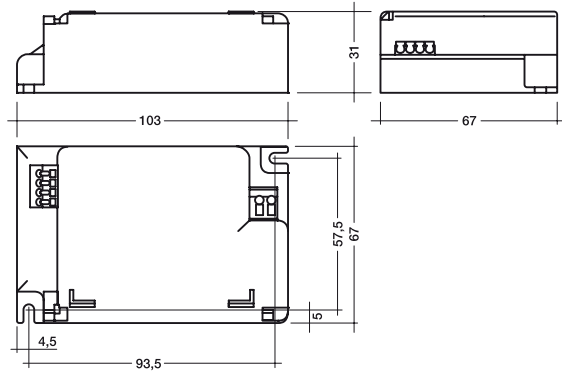
The latest technical information can be downloaded from the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → Data sheets

## Personal enquiries

A form for personal enquiries is available on the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Contact → Enquiry  
→ Application Department contact form



TE 0105 one4all cc, 20–105 VA 230–240/12 V 0/50/60 Hz



- dimming range 1-100 %
- disturbance free, precise control with one4all interface: DALI, DSI, switchDIM
- error feed back and programmable features in both DALI and DSI mode
- lamp wattage 20-105 VA
- short-circuit switch-off with automatic restart

- protection against overheating and overload through regulation of output power with automatic reset
- safety class 2
- compact housing
- DC operation possible, for use in emergency installations according to EN 50172

**Packaging:**  
box of 15  
33 boxes/pallet  
495 pieces/pallet

**Wiring:**  
page 318 figure I, J

**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

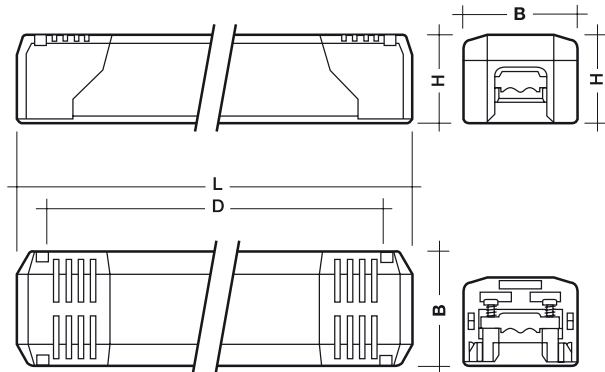
type		TE 0105 one4all cc 230–240/12 V 105 VA
article number		86456435
primary voltage	V AC	230-240
primary voltage	V DC	230-240
input current at 230 V 50 Hz ①	A	0.40
frequency	Hz	0/50/60
secondary voltage ①	V	11.8
wattage	VA	20-105
power reduction at DC	%	70
efficiency	%	> 95
power factor	$\lambda$	> 0.95
operating frequency	kHz	33
ambient temperature ta	°C	-25 → +60
rated max. temperature tc	°C	90
softstart		yes
dimming		DALI/DSI/switchDIM
dimensions (L x W x H)	mm	103 x 67 x 31
fixing centres (D)	mm	91.5-95.5
weight	g	150
secondary terminal		2-pole

① valid at 100 % dimming level





TE 0105 one4all sc, 20–105 VA 230–240/12 V 0/50/60 Hz



- dimming range 1-100 %
- disturbance free, precise control with one4all interface: DALI, DSI, switchDIM
- error feed back and programmable features in both DALI and DSI mode
- lamp wattage 20-105 VA
- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- safety class 2

- ingress protection IP 20
- for remote mounting, with integrated strain relief and terminal cover
- tool-free assembly of integrated strain relief and terminal cover
- 6 pole terminal block on secondary side
- captive screw terminals
- individually packed with installation instructions
- DC operation possible, for use in emergency installations according to EN 50172

**Packaging:**  
box of 20  
40 boxes/pallet  
800 pieces/pallet

**Wiring:**  
page 318 figure I, J

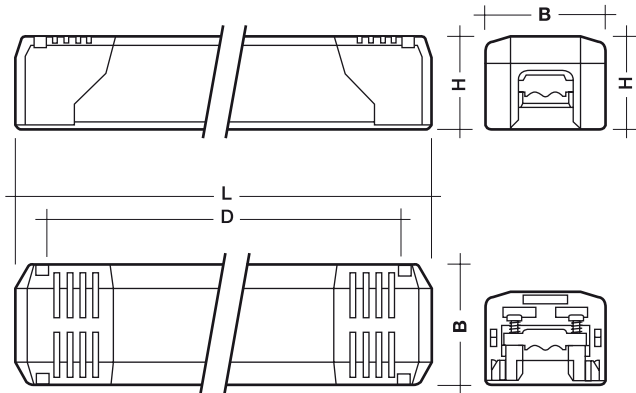
**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

type		TE 0105 one4all sc 230-240/12 V 105 VA
article number		86457873
primary voltage	V AC	230-240
primary voltage	V DC	230-240
input current at 230 V 50 Hz ①	A	0.46
frequency	Hz	0/50/60
secondary voltage ①	V	11.8
wattage	VA	20-105
power reduction at DC	%	70
efficiency	%	> 94
power factor	λ	> 0.95
operating frequency	kHz	29
ambient temperature ta	°C	-25 → +55
rated max. temperature tc	°C	90
softstart		yes
dimming		DALI/DSI/switchDIM
dimensions (L x W x H)	mm	167 x 42 x 31
fixing centres (D)	mm	143-148
weight	g	180
secondary terminal		6-pole

① valid at 100 % dimming level



TE 0150 one4all sc, 50–150 VA 230–240/12 V 0/50/60 Hz



- dimming range 1-100 %
- disturbance free, precise control with one4all interface: DALI, DSI, switchDIM
- error feed back and programmable features in both DALI and DSI mode
- lamp wattage 50-150 VA
- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset

- safety class 2
- ingress protection IP 20
- for remote mounting, with integrated strain relief and terminal cover
- looping on primary side possible
- 8 pole terminal block on secondary side
- individually packed with installation instructions
- DC operation possible, for use in emergency installations according to EN 50172

**Packaging:**  
box of 10  
60 boxes/pallet  
600 pieces/pallet

**Wiring:**  
page 318 figure I, J

**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

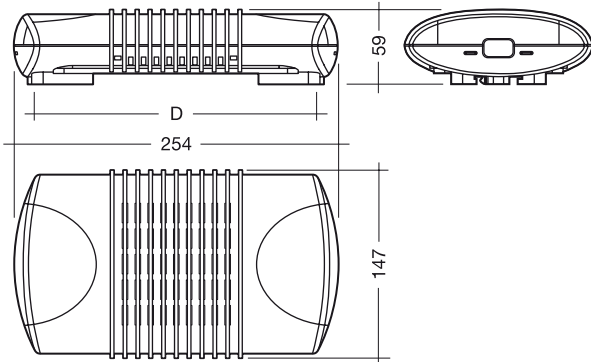
type		TE 0150 one4all sc 230-240/12 V 150 VA
article number		86457874
primary voltage	V AC	230-240
primary voltage	V DC	230-240
input current at 230 V 50 Hz ①	A	0.61
frequency	Hz	0/50/60
secondary voltage ①	V	11.8
wattage	VA	50-150
power reduction at DC	%	70
efficiency	%	> 95
power factor	λ	> 0.95
operating frequency	kHz	33
ambient temperature ta	°C	-25 → +50
rated max. temperature tc	°C	90
softstart		yes
dimming		DALI/DSI/switchDIM
dimensions (L x W x H)	mm	207 x 46 x 40
fixing centres (D)	mm	170-174
weight	g	290
secondary terminal		8-pole, captive screw terminals

① valid at 100 % dimming level



TE-DC 2 D101 one4all 100–300 VA 230–240/12 V 0/50/60 Hz

**NEW**



- short-circuit switch-off with automatic restart
- safety class 2
- overtemperature shutdown with automatic restart
- for remote mounting
- double assignments of terminals possible
- individually packed with installation instructions
- integrated strain relief and terminal cover
- tool free assembly of the strain relief

- constant output voltage
- DC operation possible, for use in emergency installations according EN 50172
- suitable for cable lengths up to 20 m
- quiet operation even when dimmed
- Intelligent Voltage Guard
- integrated intelligent current monitor

**Packaging:**  
box of 10  
12 boxes/pallet  
120 pieces/pallet

**Wiring:**  
page 318 figure L  
page 319 figure M

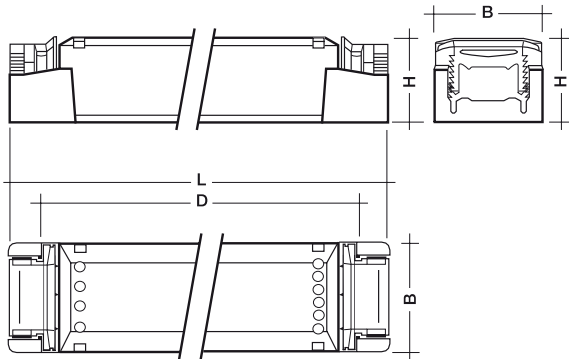
**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61046  
EN 61047  
EN 61547

Typ	TE-DC 2 0300 D101 one4all 300 VA	
article number casing white		86458498
article number casing grey		86458469
primary voltage	V AC	230-240
primary voltage	V DC	230-240
input current at 230 V 50 Hz	A	1.45
frequency	Hz	0/50/60
secondary voltage	V	11.9 ①
wattage	VA	100-300
power reduction at DC	%	70
efficiency	%	> 90
power factor	λ	> 0.99
power circuit		digital
ambient temperature ta	°C	-20 → +35
rated max. temperature tc	°C	100
thermal protection		yes
softstart		yes
dimming		DSI, DALI, switchDIM – push to make switches
dimensions (L x W x H)	mm	254 x 147 x 59
fixing centres (D)	mm	218-226
weight	g	800
secondary terminal		2-pole, screw terminal

① constant output voltage



TE-U 1...10 V sc, 20–105 VA 230–240/12 V 0/50/60 Hz



- dimming range 1-100 %
- control with a 1...10 V signal
- lamp wattage 20-105 VA
- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- safety class 2
- ingress protection IP 20

- for remote mounting, with integrated strain relief and terminal cover
- tool-free assembly of integrated strain relief and terminal cover
- 6 pole terminal block on secondary side
- captive screw terminals
- individually packed with installation instructions
- DC operation possible, for use in emergency installations according to EN 50172

**Packaging:**  
box of 20  
40 boxes/pallet  
800 pieces/pallet

**Wiring:**  
page 319 figure 0

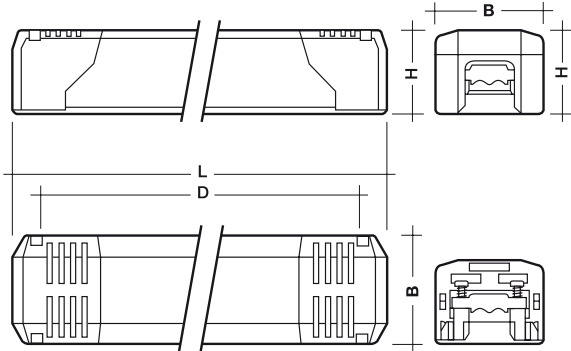
**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

type		TE 0105 U 1...10 V sc 230-240/12 V 105 VA
article number		86457964
primary voltage	V AC	230-240
primary voltage	V DC	230-240
input current at 230 V 50 Hz ①	A	0.45
frequency	Hz	0/50/60
secondary voltage ①	V	11.9
wattage	VA	20-105
power reduction at DC	%	70
efficiency	%	> 94
power factor	$\lambda$	> 0.90
operating frequency	kHz	32
ambient temperature ta	°C	-25 → +55
rated max. temperature tc	°C	+90
softstart		yes
dimming		1...10 V DC or potentiometer 100 k $\Omega$ log.
dimensions (L x W x H)	mm	167 x 42 x 31
fixing centres (D)	mm	143-148
weight	g	180
secondary terminal		6-pole

① valid at 100 % dimming level



TE-U 1...10 V sc, 50–150 VA 230–240/12 V 0/50/60 Hz



- dimming range 1-100 %
- control with a 1...10 V signal
- lamp wattage 50-105 VA
- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- safety class 2
- ingress protection IP 20

- for remote mounting, with integrated strain relief and terminal cover
- tool-free assembly of integrated strain relief and terminal cover
- 8 pole terminal block on secondary side
- captive screw terminals
- individually packed with installation instructions
- DC operation possible, for use in emergency installations according to EN 50172

**Packaging:**  
box of 10  
60 boxes/pallet  
600 pieces/pallet

**Wiring:**  
page 319 figure P

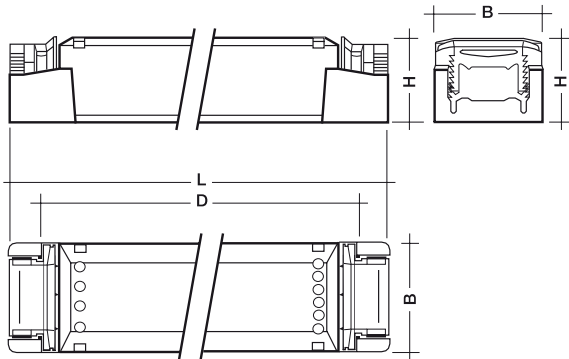
**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

type		TE 0105 U 1...10 V sc 230-240/12 V 150 VA
article number		86457966
primary voltage	V AC	230-240
primary voltage	V DC	230-240
input current at 230 V 50 Hz ①	A	0.6
frequency	Hz	0/50/60
secondary voltage ①	V	11.9
wattage	VA	50-150
power reduction at DC	%	70
efficiency	%	> 94
power factor	$\lambda$	> 0.90
operating frequency	kHz	32
ambient temperature ta	°C	-25 → +50
rated max. temperature tc	°C	+90
softstart		yes
dimming		1...10 V DC or potentiometer 100 k $\Omega$ log.
dimensions (L x W x H)	mm	207 x 46 x 40
fixing centres (D)	mm	170-174
weight	g	290
secondary terminal		8-pole

① valid at 100 % dimming level



TE-T, 20–105 VA 230–240/12 V 0/50/60 Hz



- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- safety class 2
- for remote mounting
- looping on primary side possible with double assignments of terminals possible
- 6 pole terminal block on secondary side
- captive screw terminals
- individually packed with installation instructions
- tool-free assembly of integrated strain relief and terminal cover
- constant output voltage

**Packaging:**  
box of 20  
40 boxes/pallet  
800 pieces/pallet

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

**Wiring:**  
page 317 figure G, H

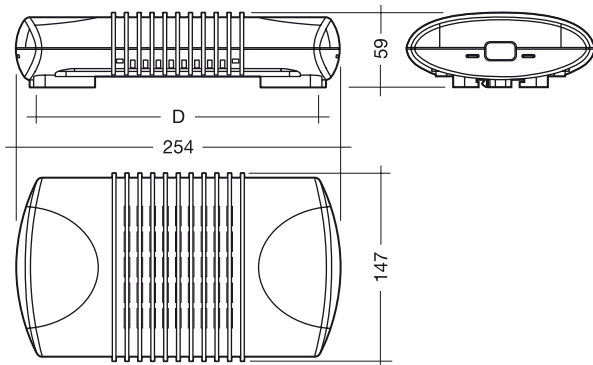
type		TE 0070 T001 230–240/12 V 70 VA	TE 0105 T001 230–240/12 V 105 VA
article number		22082690	22082684
primary voltage	V AC	230-240	230-240
input current at 230 V 50 Hz	A	0.33	0.46
frequency	Hz	0/50/60	0/50/60
secondary voltage	V	11.9 ①	11.9 ①
wattage	VA	20-70	35-105
efficiency	%	> 94	> 94
power factor	λ	> 0.95	> 0.95
operating frequency	kHz	33	33
digital power circuit		yes	yes
ambient temperature ta	°C	-20 → +60	-20 → +50
rated max. temperature tc	°C	95	95
softstart		yes	yes
dimming		single or twin push to make switches ②	single or twin push to make switches ②
dimensions (L x W x H)	mm	167 x 42 x 31	167 x 42 x 31
fixing centres (D)	mm	143-148	143-148
weight	g	170	170
secondary terminal		6-pole	6-pole

① output voltage independent of input voltage in the range 210-254 V  
② cannot be combined with switchDIM applications



TE-DC 2 F101 100–300 VA 230–240/12 V 0/50/60 Hz

**NEW**



- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- safety class 2
- for remote mounting
- double assignments of terminals possible
- individually packed with installation instructions

- integrated strain relief and terminal cover
- tool free assembly of the strain relief
- constant output voltage
- DC operation possible, for use in emergency installations according to EN 50172
- suitable for cable lengths up to 20 m
- very low noise level

**Packaging:**  
box of 10  
12 boxes/pallet  
120 pieces/pallet

**Wiring:**  
page 318 figure K

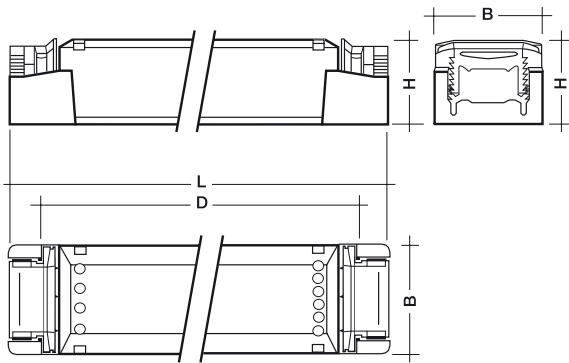
**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

type		TE-DC 2 0300 F101 300 VA
article number casing white		86458505
article number casing grey		86458503
primary voltage	V AC	230-240
primary voltage	V DC	230-240
input current at 230 V 50 Hz	A	1.45
frequency	Hz	0/50/60
secondary voltage	V	11.9 ①
wattage	VA	100-300
power reduction at DC	%	70
efficiency	%	> 90
power factor	λ	> 0.99
power circuit		digital
ambient temperature ta	°C	-20 → +35
rated max. temperature tc	°C	100
thermal protection		yes
softstart		yes
dimming		not provided (fixed output)
dimensions (L x W x H)	mm	254 x 147 x 59
fixing centres (D)	mm	218-226
weight	g	800
secondary terminal		2-pole, screw terminal

① constant output voltage



TE, 20–150 VA 230–240/12 V 0/50/60 Hz



- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- safety class 2
- independent units
- looping on primary side possible

- 6 or 8 pole terminal block on secondary side
- individually packed with installation instructions
- integrated strain relief and terminal cover
- tool free assembly of the strain relief (70/105 VA)
- for DC operation (possible) the cutout circuits are out of action

**Packaging:**  
**70/105 VA**  
box of 20  
40 boxes/pallet  
800 pieces/pallet

**150 VA**  
box of 10  
60 boxes/pallet  
600 pieces/pallet

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

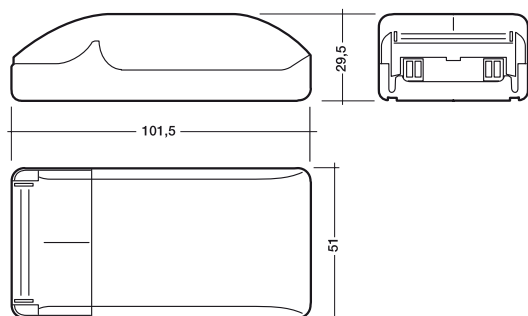
**Wiring:**  
page 317 figure F

type		TE 0070 C201 230–240/11.5 V 70 VA	TE 0105 C201 230–240/11.5 V 105 VA	TE-S 1150 230/12 V 150 VA
article number		89899856	89899857	20828950
primary voltage	V AC	230-240	230-240	230
primary voltage	V DC	220-240	220-240	220
input current at 230 V 50 Hz	A	0.30	0.45	0.69
frequency	Hz	0/50/60	0/50/60	0/50/60
secondary voltage 230 V	V	11.5	11.5	11.7
secondary voltage 240 V	V	11.7	11.7	11.7
wattage	VA	20-70	35-105	50-150
efficiency	%	> 94	> 94	> 94
power factor	$\lambda$	> 0.95	> 0.95	> 0.95
operating frequency	kHz	55	40	35
power circuit		standard	standard	standard
ambient temperature $t_a$	°C	-25 → +50	-25 → +45	0 → +50
rated max. temperature $t_c$	°C	85	85	95
softstart		< 1	< 1	yes
dimming		leading and trailing edge phase cutting dimmer	leading and trailing edge phase cutting dimmer	trailing edge phase cutting dimmer
dimensions (L x W x H)	mm	167 x 42 x 31	167 x 42 x 31	207 x 46 x 40
fixing centres (D)	mm	143-148	143-148	170-174
weight	g	135	150	290
secondary terminal		6-polig, screw terminal	6-polig, screw terminal	8-polig, spring terminal





TE-C 101, 20–105 VA 230–240/12 V 50/60 Hz  
speedy



- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- compact dimensions
- polycarbonate housing dark blue/white
- large terminal compartment

- cage clamp terminals for solid and flexible wires
- double assignments of terminals possible
- secondary double terminals
- tool-free assembly of integrated strain relief and terminal cover
- safety class 2

**Packaging:**  
box of 20  
50 boxes/pallet  
1,000 pieces/pallet

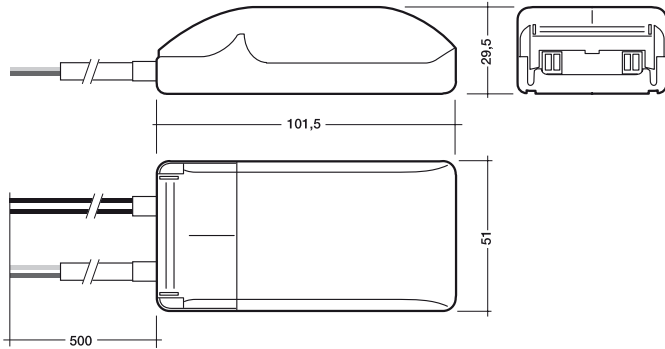
**Wiring:**  
page 319 figure N

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

type		TE-0050 C101 230–240/11.5 V 50 VA	TE-0070 C101 230–240/11.5 V 70 VA	TE-0105 C101 230–240/11.5 V 105 VA
article number		24034855	24034868	24034874
primary voltage	V AC	230-240	230-240	230-240
input current at 230 V 50 Hz	A	0.215	0.30	0.45
frequency	Hz	50/60	50/60	50/60
secondary voltage 230 V	V	11.5	11.5	11.5
secondary voltage 240 V	V	11.7	11.7	11.7
wattage	VA	20-50	20-70	35-105
power factor	$\lambda$	> 0.95	> 0.95	> 0.95
operating frequency	kHz	60	55	40
ambient temperature $t_a$	°C	-20 → +50	-20 → +50	-20 → +45
rated max. temperature $t_c$	°C	85	85	85
softstart (time)	s	< 1	< 1	< 1
dimming		leading and trailing edge phase cutting dimmer	leading and trailing edge phase cutting dimmer	leading and trailing edge phase cutting dimmer
dimensions (L x W x H)	mm	101.5 x 51 x 29.5	101.5 x 51 x 29.5	101.5 x 51 x 29.5
weight	g	105	108	120
secondary terminal		4-pole	4-pole	4-pole



TE-C 161, 20–105 VA 230–240/12 V 50/60 Hz  
speedy with cable



- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- compact dimensions
- polycarbonate housing dark blue/white
- large terminal compartment
- cage clamp terminals for solid and flexible wires

- double assignments of terminals possible
- secondary double terminals
- tool-free assembly of integrated strain relief and terminal cover
- cable primary: 0.5 m
- cable secondary: silikon-insulated 60-180 °C, 2 x 1.5 mm<sup>2</sup>, 0.5 m
- safety class 2

**Packaging:**  
box of 10  
50 boxes/pallet  
500 pieces/pallet

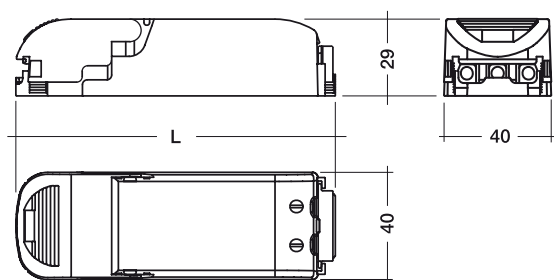
**Wiring:**  
page 319 figure N

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

type		TE-0050 C161 230–240/11.5 V 50 VA	TE-0070 C161 230–240/11.5 V 70 VA	TE-0105 C161 230–240/11.5 V 105 VA
article number		89899837	89899838	89899839
primary voltage	V AC	230-240	230-240	230-240
input current at 230 V 50 Hz	A	0.215	0.300	0.450
frequency	Hz	50/60	50/60	50/60
secondary voltage 230 V	V	11.5	11.5	11.5
secondary voltage 240 V	V	11.7	11.7	11.7
wattage	VA	20-50	20-70	35-105
power factor	λ	> 0.95	> 0.95	> 0.95
operating frequency	kHz	60	55	40
ambient temperature ta	°C	-20 → +50	-20 → +50	-20 → +45
rated max. temperature tc	°C	85	85	85
softstart (time)	s	< 1	< 1	< 1
dimming		leading and trailing edge phase cutting dimmer	leading and trailing edge phase cutting dimmer	leading and trailing edge phase cutting dimmer
dimensions (L x W x H)	mm	101.5 x 51 x 29.5	101.5 x 51 x 29.5	101.5 x 51 x 29.5
weight	g	105	108	120
secondary terminal		4-pole	4-pole	4-pole



TE VIPER 60–105 VA 230–240/12 V



- short-circuit switch-off with automatic restart
- protection against overheating and overload
- compact dimensions
- large terminal compartment
- screw terminals for solid and flexible wires
- large terminals für looping of input wiring

- third terminal for terminating or looping of earth wire (non-functional)
- tool-free assembly of the strain relief and terminal cover
- protection class 2

**Packaging 60 VA:**  
box of 20  
252 boxes/pallet  
5,040 pieces/pallet

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

**Packaging 105 VA:**  
box of 20  
234 boxes/pallet  
4,680 pieces/pallet

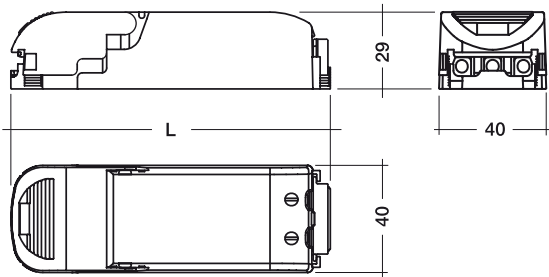
**Wiring:**  
page 319 figure N

type		TE VIPER 60 VA 230–240/11.6 V 60 VA	TE VIPER 105 VA 230–240/11.6 V 105 VA
article number		22176072	22176074
primary voltage	V AC	230-240	230-240
input current at 230 V 50 Hz	A	0.26	0.45
frequency	Hz	50/60	50/60
typ. secondary voltage 230 V	V	11.3	11.0
typ. secondary voltage 240 V	V	11.6	11.5
wattage	VA	20-60	35-105
power factor	$\lambda$	> 0.95	> 0.95
operating frequency	kHz	55	45
ambient temperature $t_a$	°C	0 → +50	0 → +45
rated max. temperature $t_c$	°C	70	85
softstart (time)	s	< 1	< 1
dimming		leading and trailing edge phase cutting dimmer	leading and trailing edge phase cutting dimmer
dimensions (L x W x H)	mm	120 x 40 x 29	141 x 40 x 29
weight	g	100	126
secondary terminal		2-pole	4-pole



VIPER 60–105 VA 230–240/11.6 V 50/60 Hz mit Kabel

**NEW**



- short-circuit switch-off with automatic restart
- protection against overheating and overload
- compact dimensions
- large terminal compartment
- screw terminals for solid and flexible wires
- large terminals für looping of input wiring
- secondary cable: Silicon insulated 60 - 180 °C 2 x 1.5 mm<sup>2</sup>, 0.5 m

- third terminal for terminating or looping of earth wire (non-functional)
- tool-free assembly of the strain relief and terminal cover
- protection class 2

**Packaging 60 VA:**  
box of 20  
440 boxes/pallet  
3,960 pieces/pallet

**Packaging 105 VA:**  
box of 20  
180 boxes/pallet  
3,600 pieces/pallet

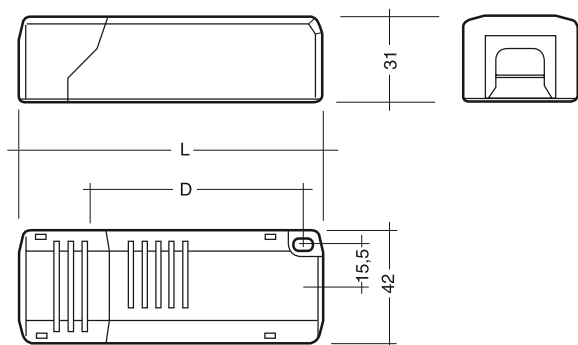
**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

**Wiring:**  
page 319 figure N

type	VIPER 60 VA		VIPER 105 VA	
	230–240/11.6 V 60 VA EUROPE FLEX SEC		230–240/11.5 V 105 VA EUROPE FLEX SEC	
article number		22176150		22176181
primary voltage	V AC	230-240		230-240
input current at 240 V 50 Hz	A	0.26		0.45
frequency	Hz	50/60		50/60
typ. secondary voltage 230 V	V	11.3		11.0
typ. secondary voltage 240 V	V	11.6		11.5
wattage	VA	20-60		35-105
power factor	λ	> 0.95		> 0.95
operating frequency	kHz	55		45
ambient temperature ta	°C	0 → +50		0 → +45
rated max. temperature tc	°C	70		85
softstart (time)	s	< 1		< 1
dimming		leading and trailing edge phase cutting dimmer		leading and trailing edge phase cutting dimmer
dimensions (L x W x H)	mm	120 x 40 x 29		141 x 40 x 29
weight	g	100		126
secondary terminal		cable 0.5 m		cable 0.5 m



TE-ECO, 20–105 VA 230–240/12 V 0/50/60 Hz



- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- DC operation possible
- with DC operation, the protective disconnection facility is off
- safety class 2
- screw terminal

**Packaging:**  
box of 20  
48 boxes/pallet  
960 pieces/pallet

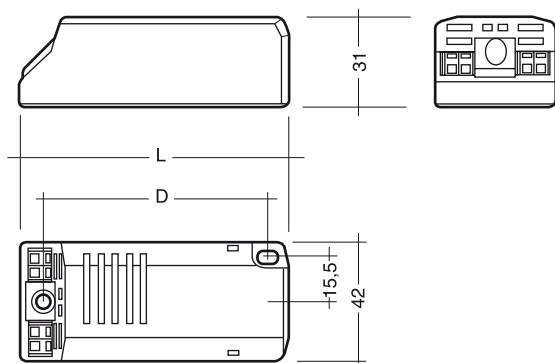
**Wiring:**  
page 319 figure N

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

type		TE-ECO 0070 230–240/11.5 V 70 VA	TE-ECO 0105 230–240/11.5 V 105 VA
article number		22081980	22081996
primary voltage	V AC	230-240	230-240
input current at 230 V 50 Hz	A	0.32	0.48
frequency	Hz	0/50/60	0/50/60
secondary voltage at 230 V	V	11.25	11.25
secondary voltage at 240 V	V	11.75	11.75
wattage	VA	20-70	35-105
power reduction at DC	%	> 70	> 70
efficiency	%	> 94	> 94
power factor	$\lambda$	> 0.95	> 0.95
operating frequency	kHz	35	35
ambient temperature $t_a$	°C	0 → +50	0 → +45
rated max. temperature $t_c$	°C	95	85
softstart		yes	yes
dimming		trailing edge phase cutting dimmer	trailing edge phase cutting dimmer
dimensions (L x W x H)	mm	120 x 42 x 31	120 x 42 x 31
fixing centres (D)	mm	86-88	86-88
weight	g	130	150



TE-NE, 20–105 VA 230–240/12 V 0/50/60 Hz



- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- DC operation possible
- with DC operation, the protective disconnection facility is off
- safety class 2
- screw terminal

**Packaging:**  
box of 20  
74 boxes/pallet  
1,400 pieces/pallet

**Wiring:**  
page 319 figure N

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

type		TE-NE 1070 230–240/12 V 70 VA	TE-NE 1105 230–240/12 V 105 VA
article number		22082145	22082139
primary voltage	V AC	230-240	230-240
input current at 230 V 50 Hz	A	0.32	0.48
frequency	Hz	0/50/60	0/50/60
secondary voltage at 230 V	V	11.25	11.25
wattage	VA	20-70	35-105
power reduction at DC	%	< 70	< 70
efficiency	%	> 94	> 94
power factor	$\lambda$	> 0.95	> 0.95
operating frequency	kHz	35	35
ambient temperature $t_a$	°C	0 → +65	0 → +55
max. housing temperature $t_c$	°C	90	85
softstart		yes	yes
dimming		trailing edge phase cutting dimmer	trailing edge phase cutting dimmer
dimensions (L x W x H)	mm	102 x 42 x 31	102 x 42 x 31
fixing centres (D)	mm	86-88	86-88
weight	g	130	150



TE-A, 20–70 VA 230–240/12 V 0/50/60 Hz



- short-circuit switch-off with automatic restart
- protection against overheating and overload through regulation of output power with automatic reset
- DC operation possible
- with DC operation, the protective disconnection facility is off

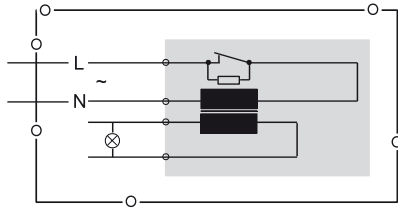
**Packaging:**  
box of 72  
24 boxes/pallet  
1,728 pieces/pallet

**Approvals:**  
EN 55015  
EN 61000-3-2  
EN 61047  
EN 61347-2-2  
EN 61547

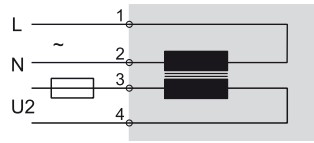
**Wiring:**  
page 319 figure N

type		TE-A 102 70VA
article number		22082123
primary voltage	V AC	230-240
input current at 230 V 50 Hz	A	0.32
frequency	Hz	0/50/60
secondary voltage at 230 V	V	11.25
wattage	VA	20-70
power reduction at DC	%	< 70
efficiency	%	> 94
power factor	$\lambda$	> 0.95
operating frequency	kHz	35
max. temperature of the transistor	°C	120
softstart		yes
dimming		trailing edge dimmer
weight	g	130
dimensions (L x W x H)		71 x 50 x 29
connections		spring terminal

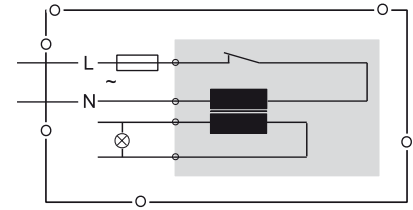
A) Transformer with current sensitive thermal cutout



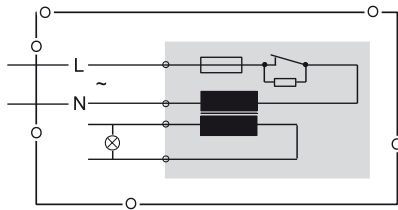
B) Transformer without internal protection – must have external protection



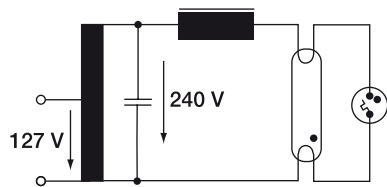
C) Transformer with internal protection – must have external protection against short circuit



D) Transformer with internal protection and built-in fuse against short circuit

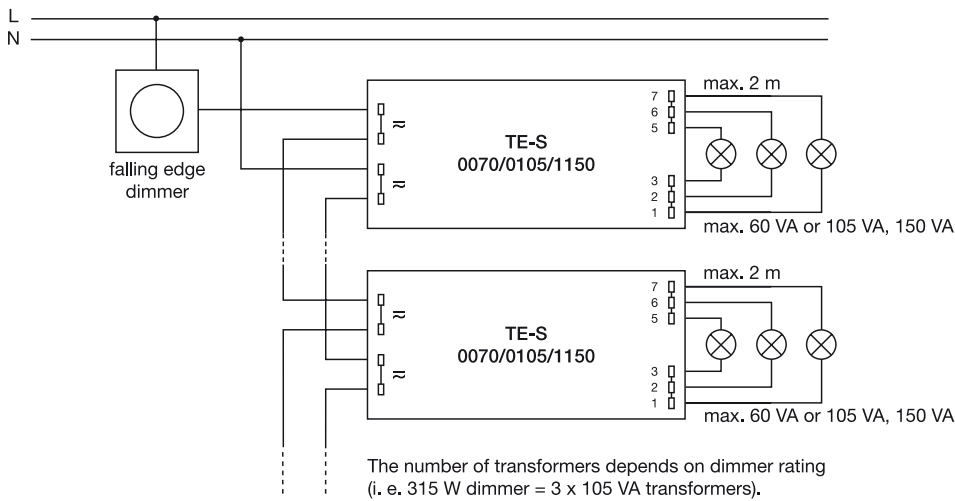


E) Step-up transformer

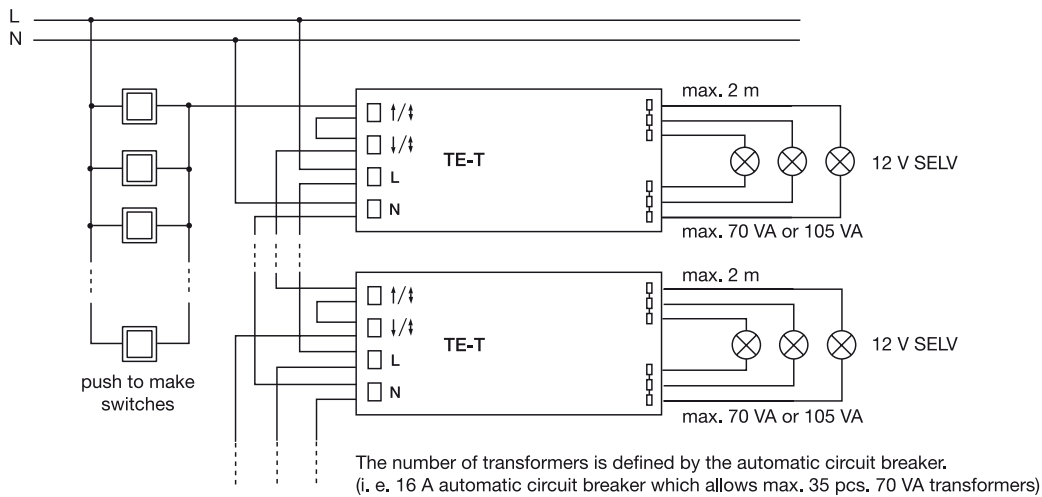




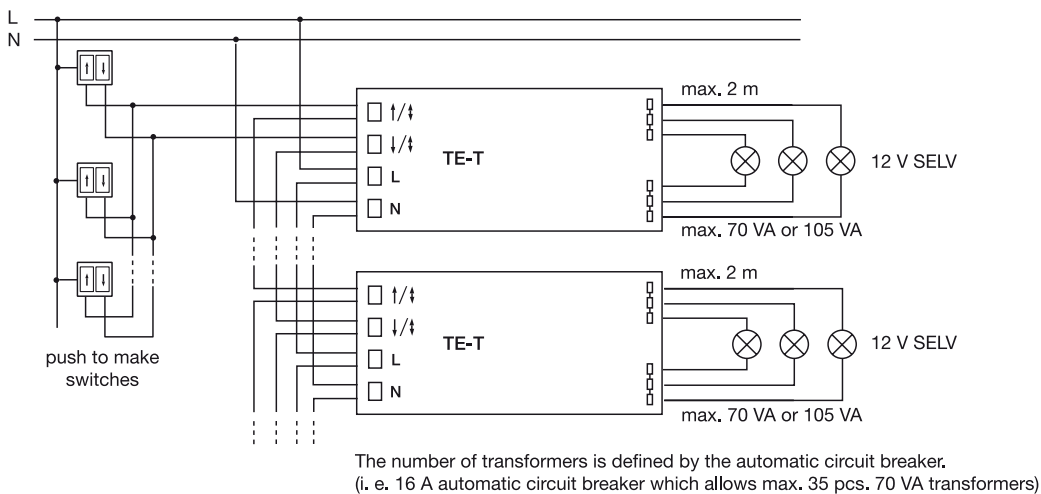
F) TE-S / TE C201: Circuit diagram for 20-70 VA, 35-105 VA, 50-150 VA



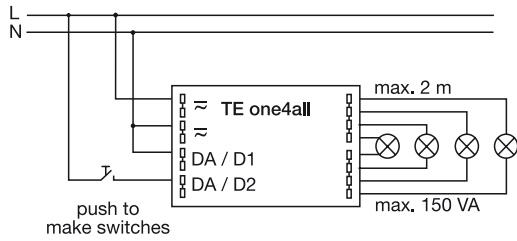
G) TE-T: control with a single switch



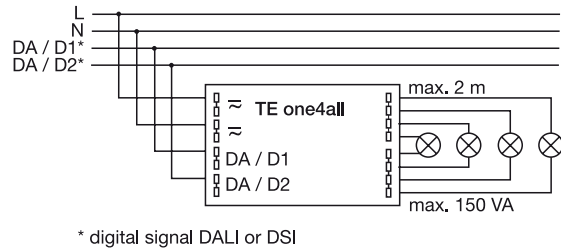
H) TE-T: control with double switches



I) TE one4all: Circuit diagram switchDIM

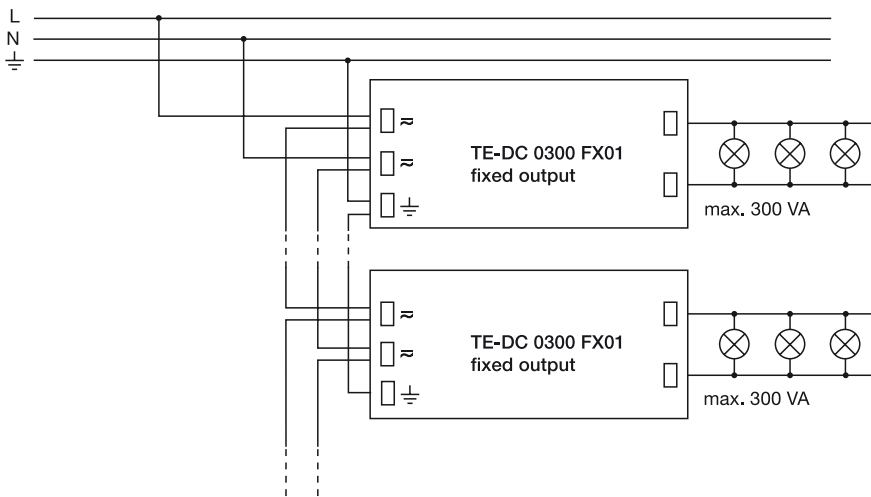


J) TE one4all: Circuit diagram DALI/DSI

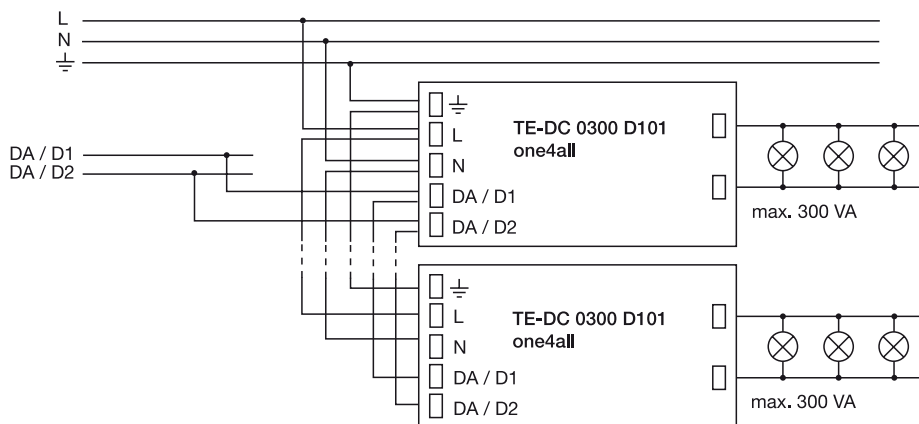


\* digital signal DALI or DSI

K) TE-DC: Circuit diagram for TE-DC FX01 for 300 VA

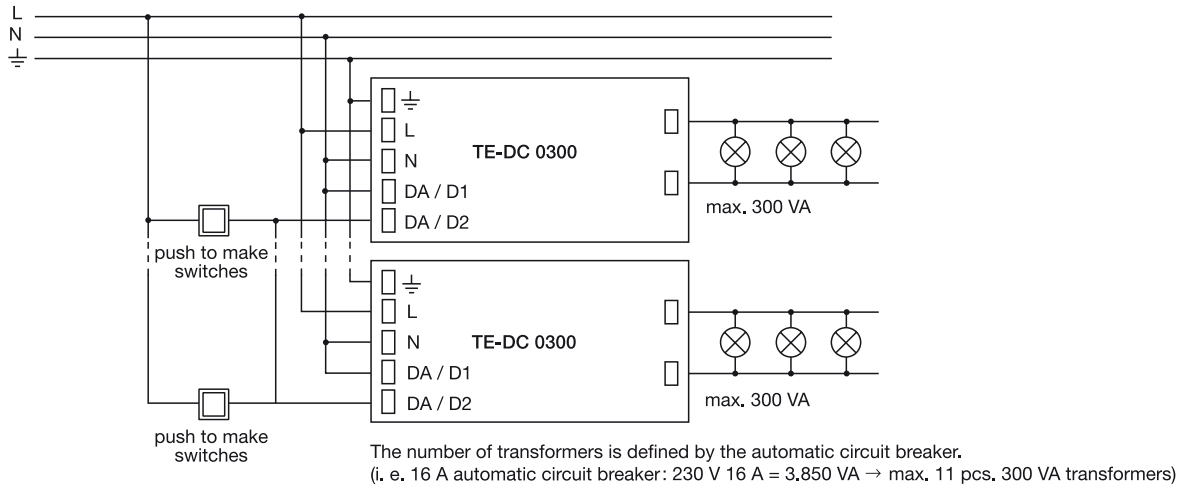


L) TE-DC: Circuit diagram DALI/DSI for TE-DC D101 for 300 VA

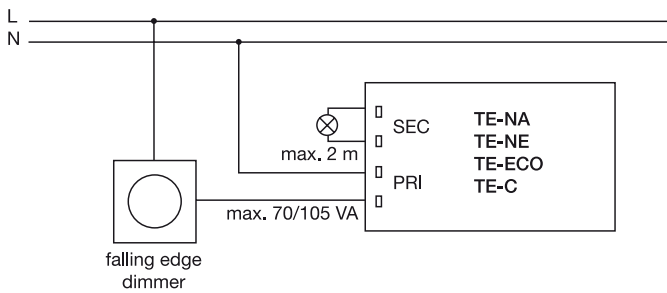


The number of transformers is defined by the automatic circuit breaker.  
(i. e. 16 A automatic circuit breaker which allows max. 11 pcs. 300 VA transformers)

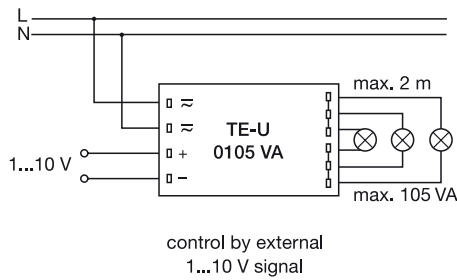
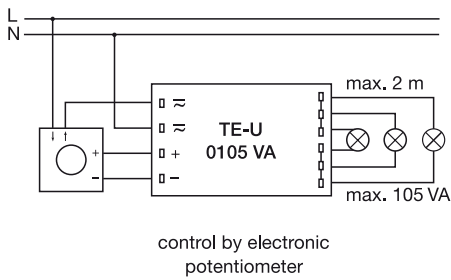
M) TE-DC: Circuit diagram switchDIM for TE-DC D101 for 300 VA



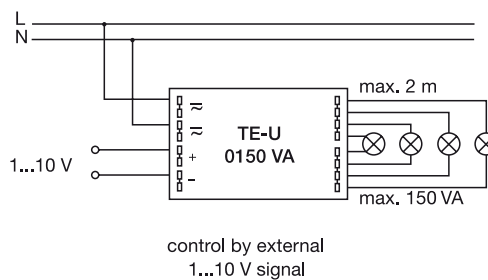
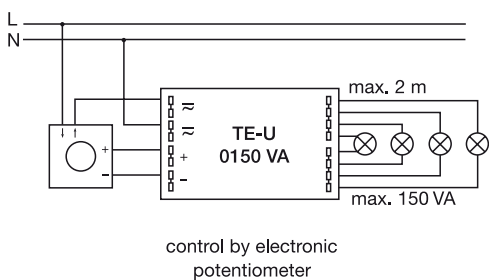
N) TE-C / TE-ECO / TE-NE / VIPER with trailing edge dimmer



O) TE-U 20-105 VA



P) TE-U 50-150 VA





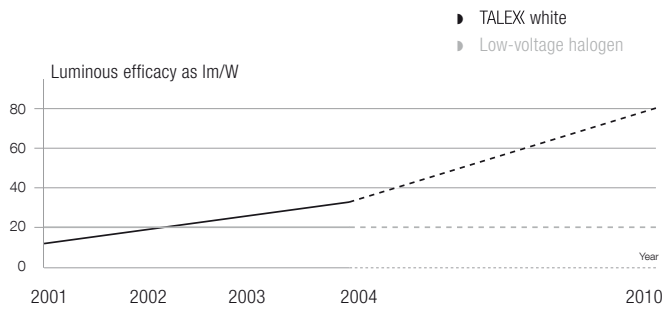
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# Light emitting diodes, the high-intensity light sources

As their luminous efficacy and efficiency increase, light emitting diodes are being used for more and more applications. Their success is based on their characteristic properties such as low energy consumption, zero ultra-violet and infra-red radiation, long life, extremely compact dimensions and wide range of colours. LED lighting and TALEX modules are quickly becoming established as the first choice for accent lighting in retail shops, restaurants and hotels. They are also becoming more popular, particularly the module chains, for illuminated advertising as backlighting for lettering and to highlight outlines.



TALEX modules have already surpassed the light output of the low-voltage halogen lamp

Light emitting diodes are now also suitable for general lighting tasks because of recent drastic improvements in their luminous flux and in the quality of their white light. And with each new generation of LED there will be more milestones to report.

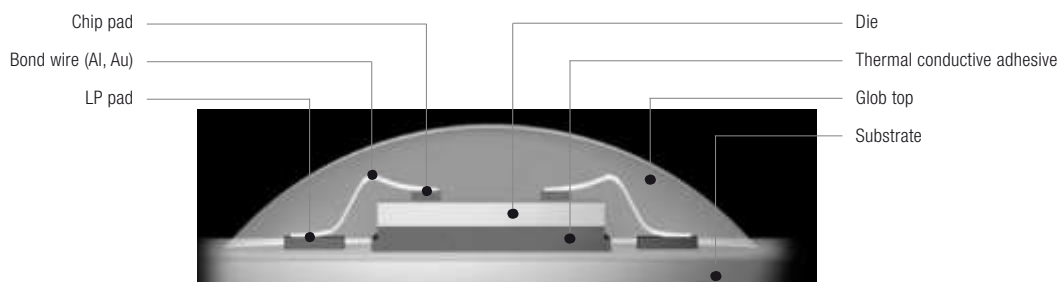
TridonicAtco can offer high-intensity TALEX modules in the standard colours of daylight white, neutral white and warm white and also in RGB versions to cover all areas of applications, both indoors and outdoors. Chip-on-Board technology (COB) is used in all the modules. This brings significant benefits in terms of optimum thermal management at high packing densities, compact designs and exceptionally long life.

The range includes individual light points, round, rectangular and strip versions with different numbers of light points, and chains comprising several modules.

The new TALEXengine is not just a separate component but a complete module as the basis for a wide range of intelligent added-value lighting solutions. With TALEXengine, customers such as supermarket operators, shop owners, shopfitters and luminaire manufacturers are getting a sophisticated standard product in which all the challenges facing LEDs are solved (cooling and light distribution for example) and which they simply have to incorporate in their system or luminaire. The modular versions of TALEXengine are therefore suitable for all areas of applications in which the benefits of light emitting diodes can be fully exploited. All the parts of the TALEXengine continue to be available separately. In consultation with TridonicAtco, customers therefore retain control of their entire value added chain.

The TALEX range from TridonicAtco is rounded off by appropriate accessories. These include mounting and cooling sections, plastic covers with transparent, diffuse or semi-diffuse characteristics, and lens systems such as linear lens TALEXlens O200 which bundles the light along the longitudinal axis and – irrespective of the individual LED used – ensures a uniform appearance without any shadows.

The range of TALEX modules and matching operating units not only underlines the company's expertise in LED development but also its know-how in precision control. TridonicAtco is setting standards everywhere – including the LED segment.



Schematic diagram of chip-on-board technology



## SIGNAGE – Messages in Light

### Brilliant brand building

Supplying a strong brand presence: With TALEX from TridonicAtco, the colourful world of advertising becomes more colourful still. Their sheer versatility means that TALEX modules are the ideal medium for successful brand positioning. With their hallmark characteristics, including a wide colour spectrum, high efficiency, durability and unparalleled economy, they are rapidly replacing conventional neon lighting in the marketplace. It is hardly surprising then that more and more brand agencies and lighting planners are opting for TALEX modules so they can fully exploit the new-found freedom to design all kinds of lettering, logos and design elements and present them as effectively as possible.

### Brand names which shine throughout the world

Brands are there to be seen and to that end TridonicAtco supplies a comprehensive portfolio of coloured and white high-performance with TALEXchain. Not only that but we also supply the appropriate control gear and a special software tool for planning cost-effective solutions. And sure enough, as a market leader in LED signage, TridonicAtco has systematically put major brand names in the right light.

## LED LIGHTING – Bright ideas for architects and planners

### A colourful array of options

Lighting up the planning process: With TALEX solutions from TridonicAtco, light becomes an increasingly significant design element. No matter if it's special effect lighting for facades, spectacular lighting effects for interiors, or functional lighting with the exceptional white light performance of our TALEX modules, TridonicAtco opens up new options in lighting design for planners and architects.

Now you can design whole worlds of brilliant colours, using the power of light to trigger and channel emotions. The broad colour spectrum of TALEX modules puts light on centre stage in thousands of ways in shops, offices and public buildings. The applications are boundless. TALEX add comfort to any workplace or retail setting, and showcase every product in eye-catching style.

## CONVERTERS AND CONTROLS – putting LEDs in the right light

The competence and experience of TridonicAtco in the development of converters and control gear for different conventional types of lamps has been extended to control gear for light emitting diodes. The wide range of units have been designed to provide optimum control for the particular task and for the TALEX module used.

The innovative spectrum of LED “specialists” includes converters, PWM dimmers, PWM amplifiers, PWM sequencers and also controllers that help produce attractive LED accent lighting in various systems including DALI systems.

Converters are available with constant output voltages of 8 V, 12 V and 24 V and with constant output currents of 350 mA and 700 mA. There are both dimmable and non-dimmable versions for both types.

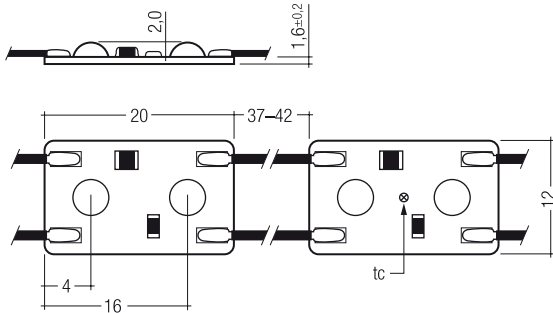
All the versions are thermally stable, in other words the converters reliably maintain the output voltage and output current within a small tolerance of  $\pm 5\%$ . This ensures optimum operation and therefore long service lives and maximum luminous flux for the TALEX modules.

Long equipment life also enhances the economy of the overall system. Excellent reliability and a high level of safety ensure that the safety extra-low voltage (SELV) is not exceeded in applications in the low-voltage range. All these different operating units are evidence of impressive know-how in the control of innovative TALEX modules. TridonicAtco stands for perfection here.

TALEXchain P503

RoHS

Dimensions single module:



Applications:

- TALEX mini chain for accentuating lines and edges as well as backlighting of signs and letters in lighting advertising
- backlighting of complex contours
- optimised for use in illuminated advertising (channel letters, backlighting applications)
- edge lighting of transparent or diffuse materials

Highlights:

- uniform illumination from a small number of TALEX modules
- individually adjustable luminance
- minimal heat generation

Properties:

- high-power LED in COB technology
- colour temperature white: ④  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- flexible light chain, arbitrary module separation possible
- coated with protective varnish for applications where condensation occurs
- broad 140° light distribution
- fixing: double sided adhesive tape
- connection method: cable 200 mm, both sides
- identification of polarity: + red / - black

Notes:

- for uniform illumination: minimum distance to the cover 20-30 mm
- reversing polarity may damage the TALEXchain
- none of the components of the TALEXchain (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

TALEX

type	article number	colour	wavelength colour temp. ④	light points per module	modules per chain	typ. luminous flux lm ①	voltage V DC ②	power W ①	ta °C	tc °C ③	total length mm	packing unit
P503, 2-COB R	89600232	red	624-630 nm	2	10	30.0	8	3.2	-25 → +50	75	approx. 600	5
P503, 2-COB A	89600233	amber	584-594 nm	2	10	28.0	8	3.2	-25 → +50	75	approx. 600	5
P503, 2-COB G	89600235	green	520-540 nm	2	10	38.0	12	2.4	-25 → +50	75	approx. 600	5
P503, 2-COB B	89600234	blue	460-465 nm	2	10	9.0	12	2.4	-25 → +50	75	approx. 600	5
P503, 2-COB NW neutral	89600236	neutral white	4,200 K	2	10	43.0	12	2.4	-25 → +50	75	approx. 600	5
P503, 2-COB DL daylight	89600237	daylight white	6,500 K	2	10	48.0	12	2.4	-25 → +50	75	approx. 600	5

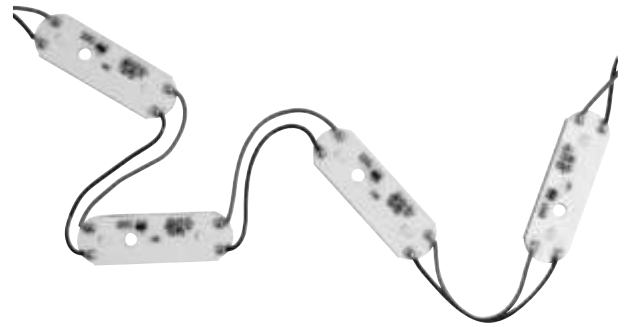
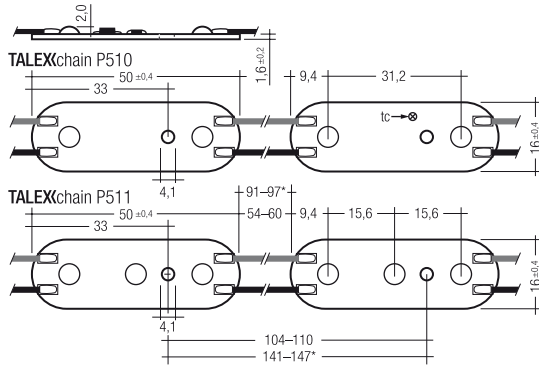
all values at ta = 25 °C

- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEXchain. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXchain. Tolerance range for the supply voltage: 8 V: +2 V / -0 V; 12 V: +2 V / -0 V
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXchain at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).
- ④ For colour temperatures and tolerances see page 388

TALEXchain P510/P511

RoHS

Dimensions single module:



Applications:

- TALEX module chain for highlighting lines and edges and for backlighting letters and symbols in illuminated advertising applications
- backlighting of complex contours
- optimised for use in illuminated advertising (channel letters, backlighting applications)
- edge lighting of transparent or diffuse materials

Highlights:

- uniform illumination from a small number of TALEX modules
- individually adjustable luminance
- minimal heat generation

Properties:

- high-power LED in COB technology
- colour temperature white: Ⓢ neutral white (NW): 4,200 K daylight white (DL): 6,500 K yellow white (YW): dom. wavelength 570 nm
- integrated current source to stabilise luminous flux
- flexible light chain, arbitrary module separation possible
- coated with protective varnish for applications where condensation occurs
- broad 140° light distribution
- fixing: M4 plastic screw or double sided adhesive tape
- connection method: cable 200 mm, both sides
- identification of polarity: + red / – black

Notes:

- for uniform illumination: minimum distance to the cover 50-60 mm
- reversing polarity may damage the TALEXchain
- none of the components of the TALEXchain (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

TALEX

type	article number	colour	wavelength colour temp. Ⓢ	light points per module	modules per chain	typ. luminous flux lm Ⓛ	voltage V DC Ⓜ	power W Ⓨ	ta °C	tc °C Ⓩ	total length mm ⓐ	packing unit pieces/carton
P510 G	89600246	green	520-540 nm	2	30	109	12	12.5	-25 → +55	75	approx. 3,200	5
P510 B	89600245	blue	460-465 nm	2	30	29	12	12.5	-25 → +55	75	approx. 3,200	5
P510 NW neutral	89600247	neutral white	4,200 K	2	30	162	12	12.5	-25 → +55	75	approx. 3,200	5
P510 DL daylight	89600248	daylight white	6,500 K	2	30	180	12	12.5	-25 → +55	75	approx. 3,200	5
P511 R	89600136	red	624-630 nm	3	30	195	8	14.4	-25 → +55	75	approx. 3,200	5
P511 A	89600137	amber	586-592 nm	3	30	150	8	14.4	-25 → +55	75	approx. 3,200	5
P511 O	89600257	orange	600-610 nm	3	30	150	8	14.4	-25 → +55	75	approx. 3,200	100
P511 DL daylight	89600311	daylight white	6,500 K	3	30	340	12	12.5	-25 → +55	75	approx. 4,500	100
P511 YW	89600413	yellow white	570 nm	3	30	395	12	12.5	-25 → +55	75	approx. 4,500	100

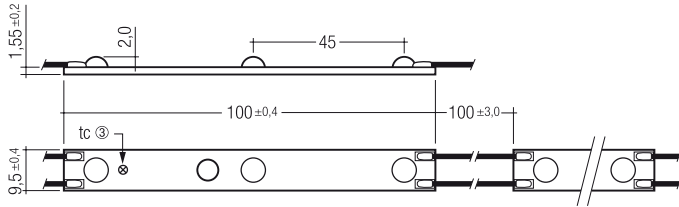
all values at ta = 25 °C

- Ⓛ Tolerance range for optical and electrical data: ±15 %
- Ⓜ Exceeding the maximum operating voltage leads to an overload on the TALEXchain. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXchain. Tolerance range for the supply voltage: 8 V: +2 V / -0 V; 12 V: +2 V / -0 V
- Ⓩ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXchain at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).
- ⓐ Higher total length for TALEXchain P511 DL and YW results from longer intermediate cables.
- Ⓢ For colour temperatures and tolerances see page 388

TALEXchain P515

RoHS

Dimensions single module:



**Applications:**

- TALEX module chain for highlighting lines and edges and for backlighting letters and symbols in illuminated advertising applications
- backlighting of complex contours
- optimised for use in illuminated advertising (channel letters, backlighting applications)
- edge lighting of transparent or diffuse materials

**Highlights:**

- optimised price/performance ratio
- uniform illumination from a small number of TALEX modules
- individually adjustable luminance
- minimal heat generation

**Properties:**

- high-power LED in COB technology
- colour temperature white: ④  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K  
yellow white (YW): dom. wavelength 570 nm
- integrated current source to stabilise luminous flux
- flexible light chain, arbitrary module separation possible
- coated with protective varnish for applications where condensation occurs
- broad 140° light distribution
- fixing: M4 plastic screw or double sided adhesive tape
- connection method: cable 200 mm, both sides
- identification of polarity: + red / – black

**Notes:**

- for uniform illumination: minimum distance to the cover 50-60 mm
- reversing polarity may damage the TALEXchain
- none of the components of the TALEXchain (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**TALEX**

type	article number	colour	wavelength colour temp. ④	light points per module	modules per chain	typ. luminous flux lm ①	voltage V DC ②	power W ①	ta °C	tc °C ③	total length mm	packing unit pieces/carton
<b>P515 R 8 V</b>	89600337	red	619-629 nm	3	20	250	8	8.8	-25 → +55	75	approx. 4,000	100
<b>P515 A 8 V</b>	89600338	amber	584-594 nm	3	20	300	8	8.8	-25 → +55	75	approx. 4,000	100
<b>P515 G 12 V</b>	89600340	green	520-535 nm	3	20	150	12	9.6	-25 → +55	75	approx. 4,000	100
<b>P515 B 12 V</b>	89600339	blue	460-465 nm	3	20	50	12	9.6	-25 → +55	75	approx. 4,000	100
<b>P515 NW neutral</b>	89600341	neutral white	4,200 K	3	20	205	12	9.6	-25 → +55	75	approx. 4,000	100
<b>P515 DL daylight</b>	89600342	daylight white	6,500 K	3	20	250	12	9.6	-25 → +55	75	approx. 4,000	100
<b>P515 YW</b>	89600414	yellow white	570 nm	3	20	290	12	9.6	-25 → +55	75	approx. 4,000	100

all values at ta = 25 °C

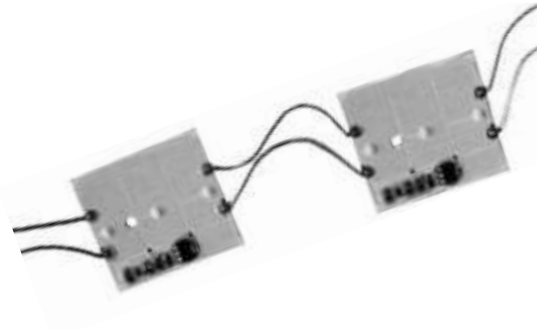
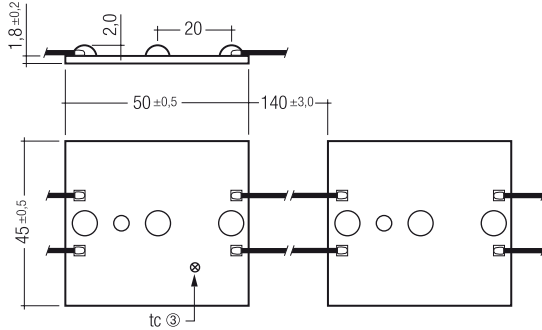
- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEXchain. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXchain. Tolerance range for the supply voltage: 8 V: +2 V / -0 V; 12 V: +2 V / -0 V
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXchain at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).
- ④ For colour temperatures and tolerances see page 388

TALEXchain P516-2

**NEW**

RoHS

Dimensions single module:



**Applications:**

- TALEX chain for backlighting symbols, channel letters and areas in advertising applications in which a high luminance is needed
- ideal for signs with a depth > 120 mm

**Highlights:**

- up to 70 lm luminous flux per module
- best price/performance ratio
- self-cooling module; no additional heat sink required
- individually adjustable luminance

**Properties:**

- high-power LED in COB technology
- colour temperature white: ④  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K  
yellow white (YW): dom. wavelength 570 nm
- integrated current source to stabilise luminous flux
- flexible light chain, arbitrary module separation possible
- coated with protective varnish for applications where condensation occurs
- broad 140° light distribution
- fixing: M4 plastic screw or double sided adhesive tape
- connection method: cable 200 mm, both sides
- identification of polarity: + red / – black

**Notes:**

- for uniform illumination: minimum distance to the cover 120 mm
- reversing polarity may damage the TALEXchain
- none of the components of the TALEXchain (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**TALEX**

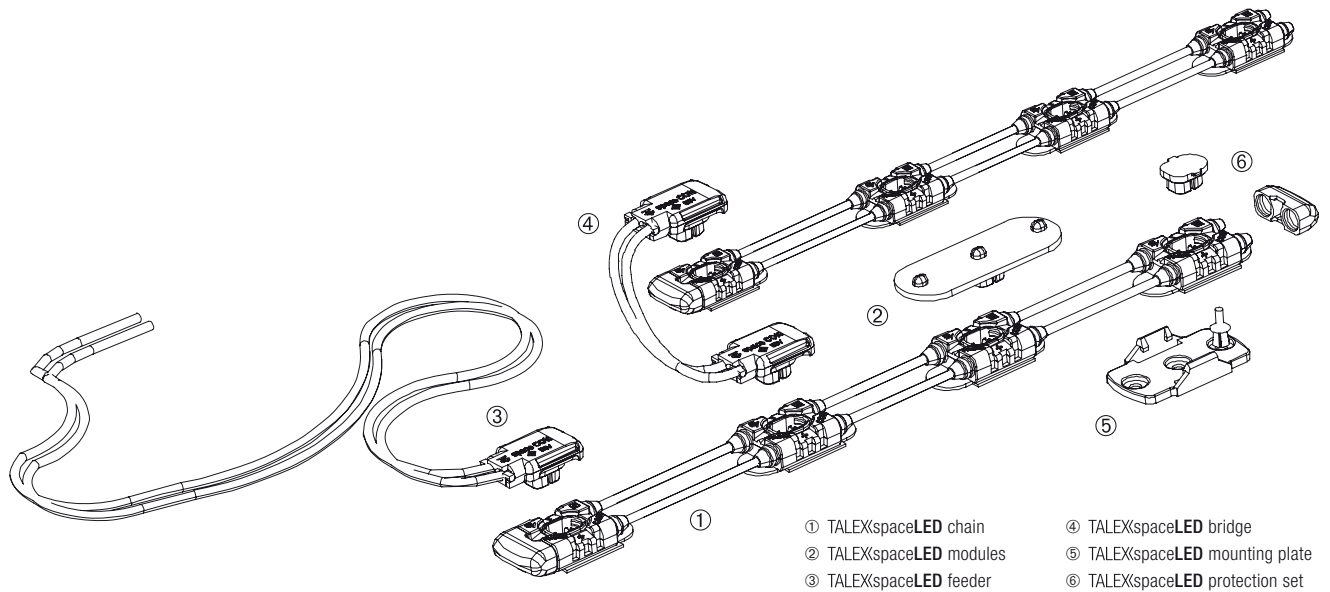
type	article number	colour	wavelength colour temp. ④	light points per module	modules per chain	typ. luminous flux lm ①	voltage V <sub>DC</sub> ②	power W ①	ta °C	tc °C ③	total length mm	packing unit pieces/carton
<b>P516-2 B 12 V</b>	89600456	blue	455-465 nm	3	12	120	12	23.0	-25 → +45	75	approx. 2,200	100
<b>P516-2 NW neutral</b>	89600458	neutral white	4,200 K	3	12	660	12	23.0	-25 → +45	75	approx. 2,200	100
<b>P516-2 DL daylight</b>	89600457	daylight white	6,500 K	3	12	840	12	23.0	-25 → +45	75	approx. 2,200	100
<b>P516-2 YW yellow</b>	89600459	yellow white	570 nm	3	12	920	12	23.0	-25 → +45	75	approx. 2,200	100

all values at ta = 25 °C

- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEXchain. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXchain. Tolerance range for the supply voltage: 12 V: +2 V / -0 V
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXchain at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).
- ④ For colour temperatures and tolerances see page 388

TALEXspaceLED system overview

RoHS



**Applications:**

- TALEX module chain system for highlighting lines and edges and for backlighting letters and symbols
- backlighting of complex contours
- optimised for use in illuminated advertising (lettering, surface)
- edge lighting of transparent or diffuse materials

**Highlights:**

- uniform illumination from a small number of TALEX modules
- individually adjustable luminance
- minimal heat generation
- high reliability and safety
- protection rating IP 54 for contacts
- high current carrying capacity
- flexibility
- no tools required for installing
- simple replacement of TALEXspaceLED modules

**Properties:**

- high-power LED in COB technology
- colour temperature white:
  - warm white (WW): 3,000 K
  - neutral white (NW): 4,200 K
  - daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- coated with protective varnish for applications where condensation occurs
- broad 140° light distribution for uniform illumination
- fixing: pre-mounted double sided adhesive tape, TALEXspaceLED mounting plate
- identification of polarity: + red / - black
- pluggable

**Notes:**

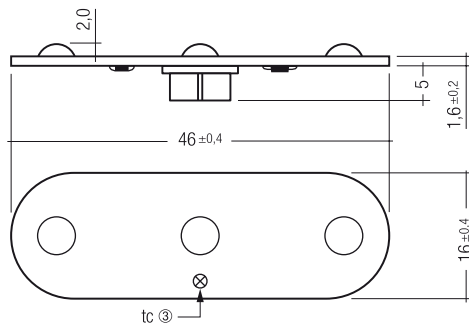
- for uniform backlighting: minimum distance to the cover > 40 mm
- reversing polarity may damage the TALEXspaceLED
- none of the components of the TALEXspaceLED (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**TALEXspaceLED system data**

max. current	6 A
max. voltage	42 V AC / 60 V DC (SELV)
system wattage	360 VA max.
wire cross section	2 x 0.5 mm <sup>2</sup>
protection rating	IP 54
ambient temperature	-25 → +55 °C
materials	protection set PE LD
	all other plastic parts PBT
	wiring insulation PVC
	inserts tinned copper

TALEXspaceLED P601 – 3 COB module

RoHS



**Applications:**

- TALEX module chain system for highlighting lines and edges and for backlighting letters and symbols
- backlighting of complex contours
- optimised for use in illuminated advertising (lettering, surface)
- edge lighting of transparent or diffuse materials
- suitable for use with TALEXprofile Z202/203

**Highlights:**

- patented TALEXspaceLED contact system, IP 54
- high reliability and safety
- flexibility
- no tools required for installing
- simple replacement of TALEXspaceLED modules

**Properties:**

- high-power LED in COB technology
- dimmable by pulse width modulation (PWM)
- colour temperature white: ④  
 warm white (WW): 3,000 K  
 neutral white (NW): 4,200 K  
 daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination

**Notes:**

- reversing polarity may damage the TALEXspaceLED
- none of the components of the TALEXspaceLED (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**TALEXspaceLED**

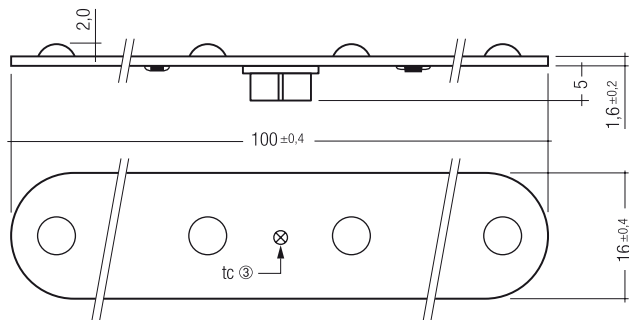
type	article number	colour	wavelength colour temp. ④	light points per module	typ. luminous flux lm ①	voltage V DC ②	power W ①	ta °C	tc °C ③	dimensions mm	packing unit
P601 R	89600099	red	624-630 nm	3	6.5	8	0.5	-25 → +55	75	46 x 16	50
P601 A	89600100	amber	586-592 nm	3	5.0	8	0.5	-25 → +55	75	46 x 16	50
P601 G	89600101	green	520-540 nm	3	8.7	12	0.5	-25 → +55	75	46 x 16	50
P601 B	89600102	blue	460-465 nm	3	1.6	12	0.5	-25 → +55	75	46 x 16	50
P601 WW	89600238	warm white	3,000 K	3	7.1	12	0.5	-25 → +55	75	46 x 16	50
P601 NW	89600103	neutral white	4,200 K	3	9.5	12	0.5	-25 → +55	75	46 x 16	50
P601 DL	89600109	daylight white	6,500 K	3	10.7	12	0.5	-25 → +55	75	46 x 16	50

all values at ta = 25 °C

- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEXspaceLED. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXspaceLED. Tolerance range for the supply voltage: 8 V: +2 V / -0 V; 12 V: +2 V / -0 V
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXspaceLED at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).
- ④ For colour temperatures and tolerances see page 388

TALEXspaceLED P602 – 6 COB module

RoHS



**Applications:**

- TALEX module chain system for highlighting lines and edges and for backlighting letters and symbols
- backlighting of complex contours
- optimised for use in illuminated advertising (lettering, surface)
- edge lighting of transparent or diffuse materials
- suitable for use with TALEXprofile Z202/203

**Highlights:**

- patented TALEXspaceLED contact system, IP 54
- high reliability and safety
- flexibility
- no tools required for installing
- simple replacement of TALEXspaceLED modules

**Properties:**

- high-power LED in COB technology
- dimmable by pulse width modulation (PWM)
- colour temperature white: ④  
warm white (WW): 3,000 K  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination

**Notes:**

- reversing polarity may damage the TALEXspaceLED
- none of the components of the TALEXspaceLED (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**TALEXspaceLED**

type	article number	colour	wavelength colour temp. ④	light points per module	typ. luminous flux lm ①	voltage V <sub>DC</sub> ②	power W ①	ta °C	tc °C ③	dimensions mm	packing unit
P602 R	89600104	red	624-630 nm	6	12.9	8	1.0	-25 → +55	75	100 x 16	50
P602 A	89600105	amber	586-592 nm	6	9.9	8	1.0	-25 → +55	75	100 x 16	50
P602 G	89600106	green	520-540 nm	6	17.3	12	1.0	-25 → +55	75	100 x 16	50
P602 B	89600107	blue	460-465 nm	6	3.3	12	1.0	-25 → +55	75	100 x 16	50
P602 WW	89600239	warm white	3,000 K	6	14.2	12	1.0	-25 → +55	75	100 x 16	50
P602 NW	89600108	neutral white	4,200 K	6	19.0	12	1.0	-25 → +55	75	100 x 16	50
P602 DL	89600110	daylight white	6,500 K	6	21.4	12	1.0	-25 → +55	75	100 x 16	50

all values at ta = 25 °C

① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating voltage leads to an overload on the TALEXspaceLED.

This may in turn result in a significant reduction in lifetime or even destruction of the TALEXspaceLED.

Tolerance range for the supply voltage: 8 V: +2 V / -0 V; 12 V: +2 V / -0 V

③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXspaceLED at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

④ For colour temperatures and tolerances see page 388



TALEXspaceLED-Systemzubehör  
 TALEXspaceLED Z101 / Z112 / Z121 / Z161 / Z131

RoHS



**TALEXspaceLED Z101**  
 chain 10 m ready made with  
 double-sided adhesive tape



**TALEXspaceLED Z112**  
 feeder 1 m  
 flexible supply cable



**TALEXspaceLED Z121**  
 bridge 0.1 m  
 for connecting two cable strings

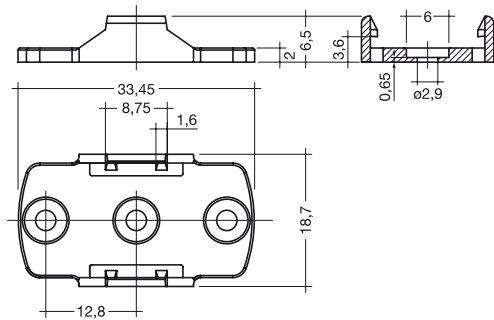


**TALEXspaceLED Z161**  
 mounting plate  
 available as an optional extra



**TALEXspaceLED Z131**  
 protection set  
 for complete moisture protection

Dimensions of TALEXspaceLED Z161



TALEXspaceLED

type	article number	description	packing unit
Z101	88711762	chain, 10 m, 92 slots including TALEXspaceLED Z131 protection set	1
Z112	88712073	feeder, 1 m	5
Z121	88712119	bridge, 0.1 m	5
Z161	88712147	mounting plate, optional	100
Z131	88712067	protection set 20 end caps and 10 contact covers	1

## TALEXspaceLED installation and safety instructions

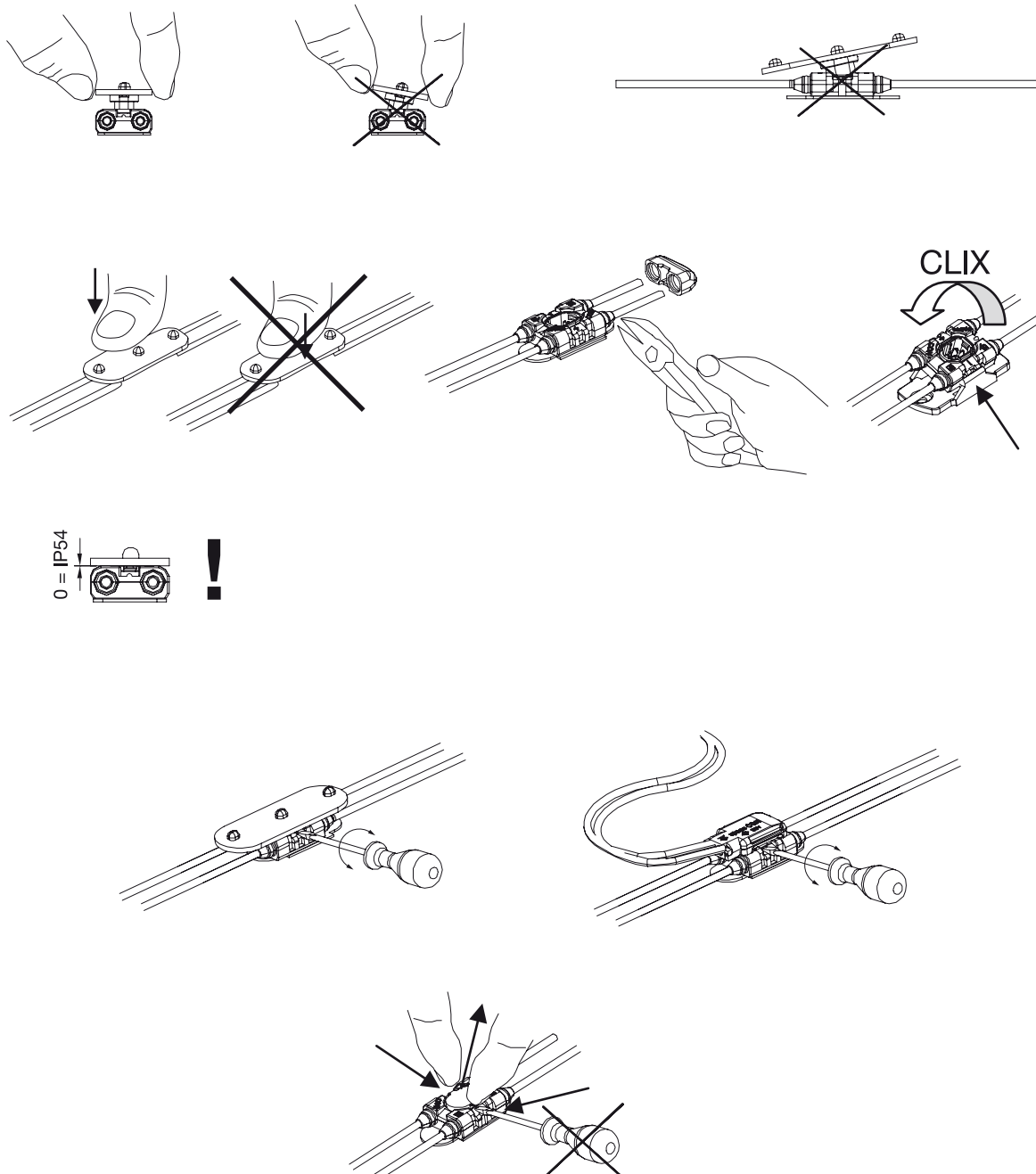
### Installation instructions:

- The TALEXspaceLED basic chain Z101 is attached with special adhesive tape. Mounting surfaces must be clean, dry and free from grease. Mounting should take place at room temperature; press adhesive surfaces firmly together; full adhesion is achieved after 2 hours.
- Do not twist or tip the circuit boards when inserting the TALEXspaceLED modules in the sockets or removing them from the sockets.
- Insert a screwdriver at the side to remove the TALEXspaceLED modules and the TALEXspaceLED connectors.

### Safety instructions:

- permitted only for voltages up to 42 V<sub>AC</sub> and 60 V<sub>DC</sub> (SELV circuits)
- do not exceed the permitted current of 6 A
- operate only with intrinsically safe control gear
- provide end caps and blanking covers over system ends and open sockets

### Installation:



TALEXengine Line

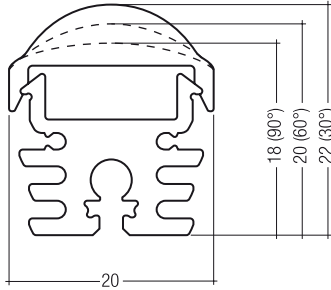
**NEW**

IP 20



RoHS

Dimensions with 30°, 60° and 90° linear lenses



**Main features:**

- complete solution with standard cable and mounting profile, ready for connection
- optimised system efficiency thanks to directional lighting and integrated heat removal
- perfect combination of COB LEDs and optics for high quality of light
- available in different lengths, beam angles, colour temperatures and operating voltages
- long life: 35,000 hours (70 % light output / tc point temperature 45 °C)
- accessories available for mounting and fixing
- safety extra low voltage (SELV), protection class 3

**Applications:**

- chillers in the food industry
- presentation of merchandise in shelving systems, cabinets, etc.
- use in luminaires

**Electrical properties:**

- supply voltage: 24 V, 12 V ③
- power input: 21.4 W per meter
- dimmable by pulse width modulation (PWM) with controllers from TridonicAtco
- supplied with cable H03VVH cross-section 2 x 0.75 mm<sup>2</sup>, white, length 1 m
- identification of polarity: + red / - black

**Notes:**

- reversing polarity may damage TALEXengine Line
- there is no provision for chaining multiple TALEXengine Line units

**Classification:**

- ambient temperature: -30 °C to +30 °C
- max. surface temperature on profile: 65 °C
- type of protection IP 20
- protection class 3

**Developed in accordance with:**

- EN 60598-1
- prEN 62031

**TALEXengine Line**

type	length L mm	number of light sources P130/P131	typ. luminous flux (lm) ①			power W ②	R <sub>a</sub>			weight kg	t <sub>a</sub> °C	t <sub>c</sub> profile °C	packing unit
			DL 6,500 K	NW 4,200 K	WW 3,000 K		DL 6,500 K	NW 4,200 K	WW 3,000 K				
<b>LE600</b>	600	4	420	350	320	14.3	75	80	80	0.3	-30 → +30	60	15
<b>LE1000</b>	1,000	6	700	580	530	21.4	75	80	80	0.5	-30 → +30	60	15
<b>LE1200</b>	1,200	7	840	700	640	25.0	75	80	80	0.6	-30 → +30	60	15
<b>LE1500</b>	1,500	9	1,050	870	800	32.1	75	80	80	0.7	-30 → +30	60	15

all values at t<sub>a</sub> = 25 °C

- ① Tolerance range for optical data: ±15 % (values without lens)
- ② Tolerance range for electrical data: ±15 %
- ③ Exceeding the maximum operating voltage leads to an overload on the TALEX module. This may in turn result in a significant reduction in lifetime or even destruction of the TALEX module. Operating at less than the permitted voltage reduces the amount of light produced but has no effect on the life of the TALEX module. Tolerance range for the supply voltage: +2 V / -0 V
- ④ The values apply to operation at 100 % output, natural convection
- ⑤ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be destroyed. The t<sub>c</sub> point temperature on the profile of TALEXengine Line should be measured in the thermally stable state and under operating conditions by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. The entire profile can be used as the t<sub>c</sub> point. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

**Thermal behaviour:**

t <sub>a</sub> °C	t <sub>c</sub> point on profile ④ °C	t <sub>c</sub> point on module ⑤ °C
-30	0	10
0	30	40
20	50	60
30 ⑤	60 ⑤	70 ⑤

**Product overview for 24 V:**

type	article number	colour temp. K	voltage V	lens °
<b>Length 600 mm</b>				
LE600 4P130 DL 24 V – 30° Z22W	89600485	6,500	24	30
LE600 4P130 DL 24 V – 60° Z22W	89600616	6,500	24	60
LE600 4P130 DL 24 V – 90° Z22W	89600629	6,500	24	90
LE600 4P130 NW 24 V – 30° Z22W	89600489	4,200	24	30
LE600 4P130 NW 24 V – 60° Z22W	89600620	4,200	24	60
LE600 4P130 NW 24 V – 90° Z22W	89600634	4,200	24	90
LE600 4P130 WW 24 V – 30° Z22W	89600493	3,000	24	30
LE600 4P130 WW 24 V – 60° Z22W	89600625	3,000	24	60
LE600 4P130 WW 24 V – 90° Z22W	89600638	3,000	24	90

**Length 1,000 mm**

LE1000 6P130 DL 24 V – 30° Z22W	89600486	6,500	24	30
LE1000 6P130 DL 24 V – 60° Z22W	89600617	6,500	24	60
LE1000 6P130 DL 24 V – 90° Z22W	89600630	6,500	24	90
LE1000 6P130 NW 24 V – 30° Z22W	89600490	4,200	24	30
LE1000 6P130 NW 24 V – 60° Z22W	89600621	4,200	24	60
LE1000 6P130 NW 24 V – 90° Z22W	89600635	4,200	24	90
LE1000 6P130 WW 24 V – 30° Z22W	89600494	3,000	24	30
LE1000 6P130 WW 24 V – 60° Z22W	89600626	3,000	24	60
LE1000 6P130 WW 24 V – 90° Z22W	89600639	3,000	24	90

**Length 1,200 mm**

LE1200 7P130 DL 24 V – 30° Z22W	89600487	6,500	24	30
LE1200 7P130 DL 24 V – 60° Z22W	89600618	6,500	24	60
LE1200 7P130 DL 24 V – 90° Z22W	89600631	6,500	24	90
LE1200 7P130 NW 24 V – 30° Z22W	89600491	4,200	24	30
LE1200 7P130 NW 24 V – 60° Z22W	89600622	4,200	24	60
LE1200 7P130 NW 24 V – 90° Z22W	89600636	4,200	24	90
LE1200 7P130 WW 24 V – 30° Z22W	89600495	3,000	24	30
LE1200 7P130 WW 24 V – 60° Z22W	89600627	3,000	24	60
LE1200 7P130 WW 24 V – 90° Z22W	89600640	3,000	24	90

**Length 1,500 mm**

LE1500 9P130 DL 24 V – 30° Z22W	89600488	6,500	24	30
LE1500 9P130 DL 24 V – 60° Z22W	89600633	6,500	24	60
LE1500 9P130 DL 24 V – 90° Z22W	89600632	6,500	24	90
LE1500 9P130 NW 24 V – 30° Z22W	89600492	4,200	24	30
LE1500 9P130 NW 24 V – 60° Z22W	89600624	4,200	24	60
LE1500 9P130 NW 24 V – 90° Z22W	89600637	4,200	24	90
LE1500 9P130 WW 24 V – 30° Z22W	89600496	3,000	24	30
LE1500 9P130 WW 24 V – 60° Z22W	89600628	3,000	24	60
LE1500 9P130 WW 24 V – 90° Z22W	89600641	3,000	24	90

**Materials:**

- cooling profile: anodised extruded aluminium
- end caps: aluminium
- linear lenses: PMMA
- mounting plate (TALEX Z161 RZ): PPT

**Cable length:**

In view of the voltage drop along the cable, a voltage of at least 24 V / 12 V must be applied to TALEXengine Line in order to achieve the rated luminous flux.

**Maximum cable length for operation with TALEX converter**

type	0.75 mm <sup>2</sup>	1.0 mm <sup>2</sup>	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>
24 V	6 m	7.5 m	10 m	18 m
12 V	2 m	3 m	4 m	7 m

**Product overview for 12 V:**

type	article number	colour temp. K	voltage V	lens °
<b>Length 600 mm</b>				
LE600 4P131 DL 12 V – 30° Z22W	89600497	6,500	12	30
LE600 4P131 DL 12 V – 60° Z22W	89600460	6,500	12	60
LE600 4P131 DL 12 V – 90° Z22W	89600472	6,500	12	90
LE600 4P131 NW 12 V – 30° Z22W	89600502	4,200	12	30
LE600 4P131 NW 12 V – 60° Z22W	89600464	4,200	12	60
LE600 4P131 NW 12 V – 90° Z22W	89600476	4,200	12	90
LE600 4P131 WW 12 V – 30° Z22W	89600506	3,000	12	30
LE600 4P131 WW 12 V – 60° Z22W	89600468	3,000	12	60
LE600 4P131 WW 12 V – 90° Z22W	89600480	3,000	12	90

**Length 1,000 mm**

LE1000 6P131 DL 12 V – 30° Z22W	89600498	6,500	12	30
LE1000 6P131 DL 12 V – 60° Z22W	89600461	6,500	12	60
LE1000 6P131 DL 12 V – 90° Z22W	89600473	6,500	12	90
LE1000 6P131 NW 12 V – 30° Z22W	89600503	4,200	12	30
LE1000 6P131 NW 12 V – 60° Z22W	89600465	4,200	12	60
LE1000 6P131 NW 12 V – 90° Z22W	89600477	4,200	12	90
LE1000 6P131 WW 12 V – 30° Z22W	89600507	3,000	12	30
LE1000 6P131 WW 12 V – 60° Z22W	89600469	3,000	12	60
LE1000 6P131 WW 12 V – 90° Z22W	89600481	3,000	12	90

**Length 1,200 mm**

LE1200 7P131 DL 12 V – 30° Z22W	89600500	6,500	12	30
LE1200 7P131 DL 12 V – 60° Z22W	89600462	6,500	12	60
LE1200 7P131 DL 12 V – 90° Z22W	89600474	6,500	12	90
LE1200 7P131 NW 12 V – 30° Z22W	89600504	4,200	12	30
LE1200 7P131 NW 12 V – 60° Z22W	89600466	4,200	12	60
LE1200 7P131 NW 12 V – 90° Z22W	89600478	4,200	12	90
LE1200 7P131 WW 12 V – 30° Z22W	89600508	3,000	12	30
LE1200 7P131 WW 12 V – 60° Z22W	89600470	3,000	12	60
LE1200 7P131 WW 12 V – 90° Z22W	89600482	3,000	12	90

**Length 1,500 mm**

LE1500 9P131 DL 12 V – 30° Z22W	89600501	6,500	12	30
LE1500 9P131 DL 12 V – 60° Z22W	89600463	6,500	12	60
LE1500 9P131 DL 12 V – 90° Z22W	89600475	6,500	12	90
LE1500 9P131 NW 12 V – 30° Z22W	89600505	4,200	12	30
LE1500 9P131 NW 12 V – 60° Z22W	89600467	4,200	12	60
LE1500 9P131 NW 12 V – 90° Z22W	89600479	4,200	12	90
LE1500 9P131 WW 12 V – 30° Z22W	89600509	3,000	12	30
LE1500 9P131 WW 12 V – 60° Z22W	89600471	3,000	12	60
LE1500 9P131 WW 12 V – 90° Z22W	89600483	3,000	12	90

**Installation:**

- Mounting with TALEX mounting plate Z161 RZ
- safety extra low voltage (SELV)
- supplied with cable H03VVH cross-section 2 x 0.75 mm<sup>2</sup>, white, length 1 m
- details see page 365

**Choice of control gear/protection functions:**

The control gear protects the TALEX modules against overvoltage, over-current, overloads and short-circuits. The control gear must comply with the relevant standards governing safe operation. The necessary level of protection is ensured by using TALEXconverter from TridonicAtco.

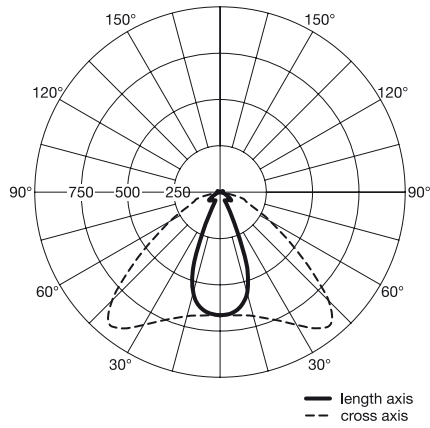
If other control gear is used, it must provide the following protection:

- SELV
- short-circuit protection
- overload protection
- overtemperature protection

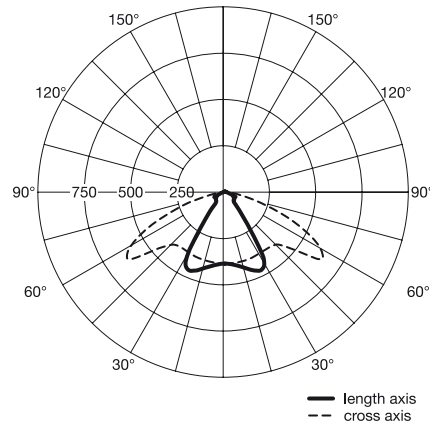
**Optical properties (DL, LE1500)**

ta = 25 °C / tc point on profile = 65 °C

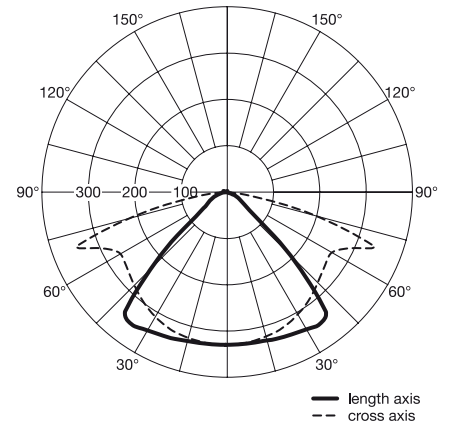
**Luminous intensity distribution curve 30°**



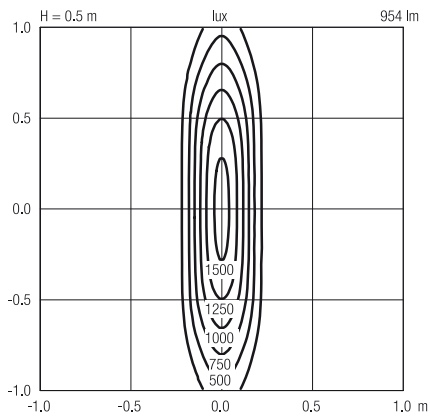
**Luminous intensity distribution curve 60°**



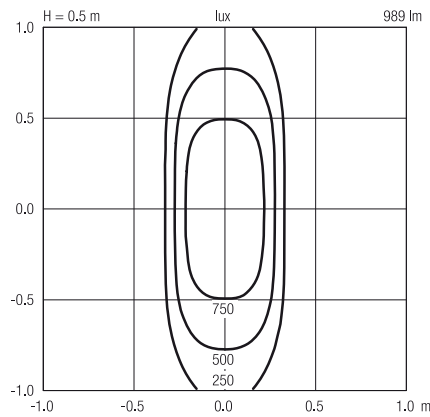
**Luminous intensity distribution curve 90°**



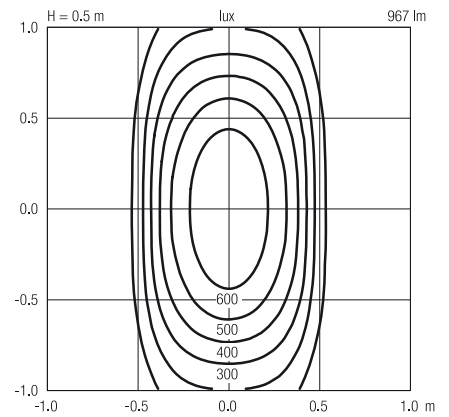
**Illuminance distribution 30° (0.5 m)**



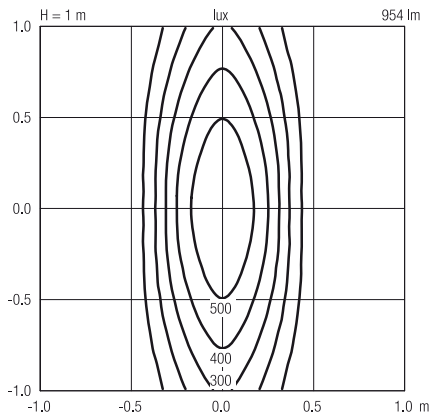
**Illuminance distribution 60° (0.5 m)**



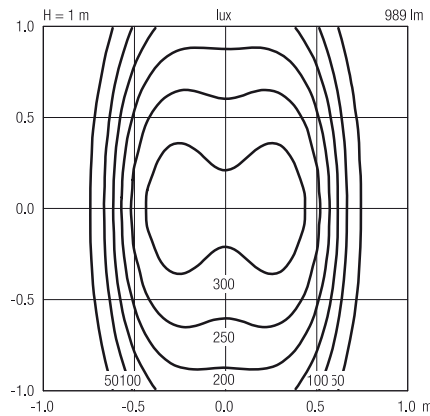
**Illuminance distribution 90° (0.5 m)**



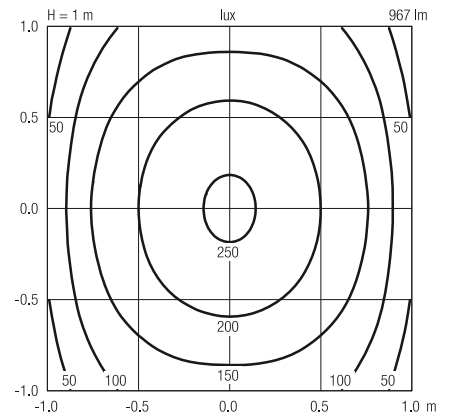
**Illuminance distribution 30° (1.0 m)**



**Illuminance distribution 60° (1.0 m)**



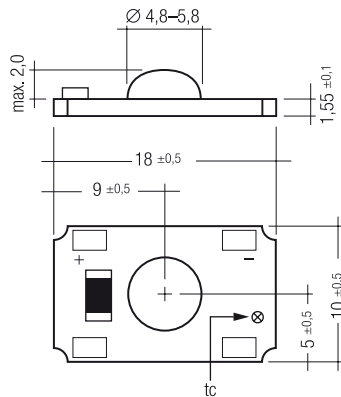
**Illuminance distribution 90° (1.0 m)**



**TALEXeos P211-2 RGBA/white**  
High luminous flux TALEX module

**NEW**

RoHS



**Applications:**

- general lighting
- effect and design lighting
- emergency lighting
- spotlights

**Highlights:**

- high flux TALEX module
- small CCT tolerance band ⑤
- compact design
- excellent thermal management ③
- optional accessory: spot lens TALEXlens O211
- integrated protection against reversed polarity

**Properties:**

- high-power LED in COB technology
- colour temperature white: ⑤  
warm white (WW): 3,000 K, CRI 80  
neutral white (NW): 4,200 K, CRI 80  
daylight white (DL): 6,500 K, CRI 75
- low thermal resistance  
 $R_{th, j-hs} < 10 \text{ K/W}$  ③
- 140° light distribution pattern, uniform illumination ④
- fixing: pre-mounted thermal conductive adhesive tape
- connection method: solder pads

**Notes:**

- cooling required ③
- none of the components of the TALEXeos module (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**Accessories and operating units:**

TALEXlens O211-2 – see next page  
TALEXconverter 0001 K350, 0005 K350, 0010 K350, 0015 K350, C350-2, 0006 K700, 0010 K700, 0030 K700, 0018 K350 DALI RGB – see page 374ff  
TALEXcontrol C350 4-channel PWM dimmer – see page 383

**TALEX**

type	article number	colour	wavelength colour temp. ⑤	light points per module	typ. luminous flux lm ①	luminous intensity cd ④	supply current mA ②	power W ①	ta °C ③	tc °C ③	packing unit
all values at ta = 25 °C, tc = 40 °C, I = 350 mA											
P211-2 R 140°	89600351	red	620-627	1	27	9	350	0.9	-25 → +55	75	20
P211-2 A 140°	89600352	amber	585-592	1	22	8	350	0.9	-25 → +55	75	20
P211-2 G 140°	89600353	green	520-530	1	59	13	350	1.2	-25 → +55	75	20
P211-2 B 140°	89600354	blue	455-465	1	13	2.7	350	1.2	-25 → +55	75	20
all values at ta = 25 °C, tc = 40 °C, I = 350 mA											
P211-2 WW warm 140°	89600355	warm white	3,000	1	44	11	350	1.2	-25 → +55	75	20
P211-2 NW neutral 140°	89600356	neutral white	4,200	1	48	12	350	1.2	-25 → +55	75	20
P211-2 DL daylight 140°	89600357	daylight white	6,500	1	62	15	350	1.2	-25 → +55	75	20
all values at ta = 25 °C, tc = 40 °C, I = 700 mA											
P211-2 R 140°	89600351	red	620-627	1	42	15	700	1.8	-25 → +55	75	20
P211-2 A 140°	89600352	amber	585-592	1	38	14	700	1.8	-25 → +55	75	20
P211-2 G 140°	89600353	green	520-530	1	85	22	700	2.4	-25 → +55	75	20
P211-2 B 140°	89600354	blue	455-465	1	21	4.5	700	2.4	-25 → +55	75	20
all values at ta = 25 °C, tc = 40 °C, I = 700 mA											
P211-2 DL daylight 140°	89600357	daylight white	6,500	1	100	25	700	2.4	-25 → +55	75	20

① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating current leads to an overload on the TALEXeos module. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXeos module.

③  $R_{th, j-hs}$  = Thermal Resistance (Junction – Heat Sink)  
If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXeos module at the tc point in

the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

④ Typical luminous intensity for 0° central view

⑤ P211-2 white: for colour temperatures and tolerances see page 388

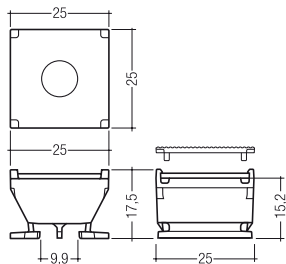
**TALEXlens 0211-2**  
Spot lens for TALEXeos P211-2

**NEW**

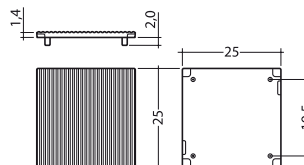
RoHS



TALEXlens 0211-2 spot lens 10°



TALEXlens 0211-2 diffusion lens 10° / 40°



**Highlights:**

- narrow-beam lens for TALEXeos P211-2
- high efficiency and light quality
- simple installation

**Properties:**

- 10° beam characteristic for colours
- 20° beam characteristic for white
- fixing: ready-made adhesive tape

**Applications:**

- general lighting
- spotlights
- effect and design lighting

**Highlights:**

- diffusion lens, 10° / 40° for wall-wash RGB colour mixing
- unique effect
- simple installation

**Properties:**

- diffusion lens for TALEXeos P211-2 140° in combination with spot lens
- 10° / 40° beam characteristic
- snap-in mechanism; no tools required

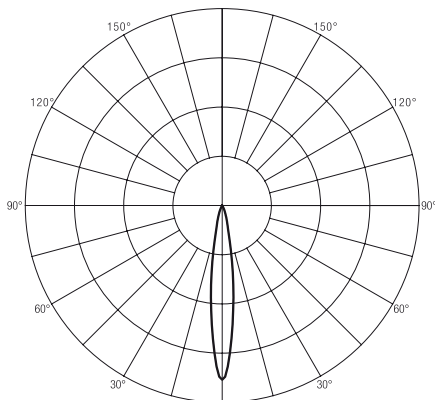
**Applications:**

- asymmetrical spotlighting
- wall-wash applications

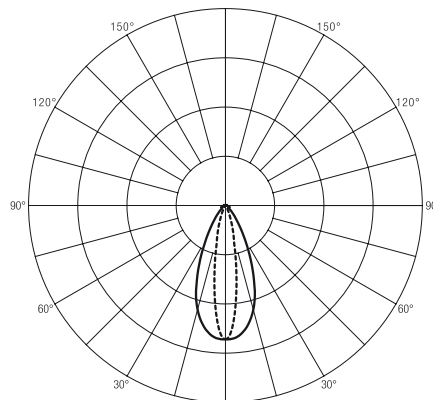
**TALEX**

type	article number	material	colour	dimensions H x W x L mm	weight g	packing unit
0211-2 – spot lens	24139148	PC/PMMA	white/transparent	25 x 25 x 17.7	7	10
0211-2 – diffusion lens 10° / 40°	24139011	PC	transparent	25 x 25 x 1.4	1	5

Luminous intensity distribution curve for TALEXlens 0211-2 spot lens

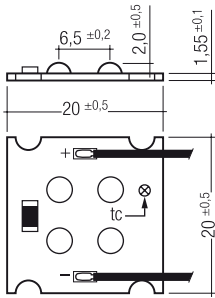


Luminous intensity distribution curve for TALEXlens 0211-2 spot lens combined with diffusion lens 10° / 40°



**TALEXeos P214**  
High luminous flux TALEX module

RoHS



**Applications:**

- general lighting
- effect and design lighting
- emergency lighting
- spotlights

**Highlights:**

- high flux TALEX module with 4 high-power LED
- small CCT tolerance band ⑤
- compact design
- excellent thermal management ③
- optional accessory: lens TALEXlens O214
- integrated protection against reversed polarity

**Properties:**

- high-power LED in COB technology
- colour temperature white: ⑤  
warm white (WW): 3,000 K, CRI 80  
neutral white (NW): 4,200 K, CRI 80  
daylight white (DL): 6,500 K, CRI 75
- low thermal resistance  
 $R_{th, j-hs} < 2.5 \text{ K/W}$  ③
- 140° light distribution pattern, uniform illumination ④
- fixing: pre-mounted thermal conductive adhesive tape
- connection method: supply wires AWG24, 200 mm
- identification of polarity: + red / - black

**Notes:**

- cooling required ③
- none of the components of the TALEXeos modules (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**Accessories and operating units:**

TALEXlens O214 – see next page  
TALEXconverter 0005 K350, 0010 K350, 0015 K350, 0010 K700, 0030 K700, 0018 K350 DALI RGB – see page 374ff  
TALEXcontrol C350 4-channel PWM dimmer – see page 383

**TALEX**

type	article number	colour	colour temp. K ⑤	light points per module	typ. luminous flux lm ①	luminous intensity cd ④	supply current mA ②	power W ①	ta °C ③	tc °C ③	packing unit
all values at ta = 25 °C, tc = 40 °C, I = 350 mA											
<b>P214 WW warm 140°</b>	89600358	warm white	3,000	4	164.0	41.0	350	4.8	-25 → +55	75	i.V.
<b>P214 NW neutral 140°</b>	89600359	neutral white	4,200	4	180.0	45.0	350	4.8	-25 → +55	75	i.V.
<b>P214 DL daylight 140°</b>	89600360	daylight white	6,500	4	240.0	60.0	350	4.8	-25 → +55	75	i.V.
all values at ta = 25 °C, tc = 40 °C, I = 700 mA											
<b>P214 DL daylight 140°</b>	89600360	daylight white	6,500	4	400.0	100.0	700	9.6	-25 → +55	75	i.V.

① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating current leads to an overload on the TALEXeos module. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXeos module.

③  $R_{th, j-hs}$  = Thermal Resistance (Junction – Heat Sink)

If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged.

The temperature of the TALEXeos module at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1.

For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

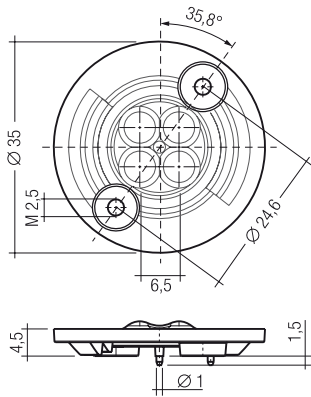
④ Typical luminous intensity for 0° central view.

⑤ For colour temperatures and tolerances see page 388



**TALEXlens 0214**  
**Lens for TALEXeos P214**

RoHS



TALEXlens 0214 – lens 60°



**Applications:**

- general lighting
- spotlights
- effect and design lighting
- LV halogen replacement

**Highlights:**

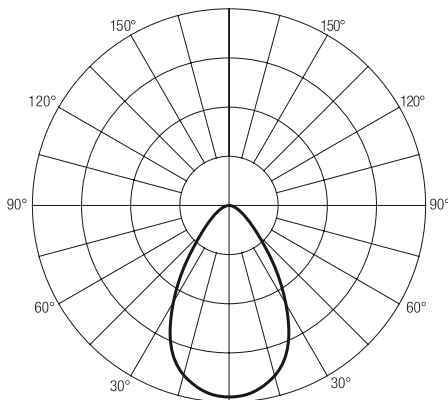
- 60° lens for TALEXeos P214
- simple installation

**Properties:**

- 60° beam characteristic
- fixing: 2 screws M 2.5

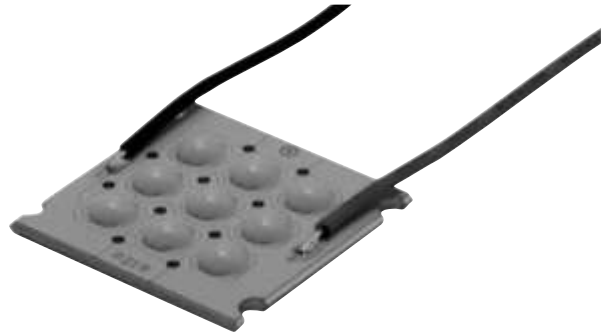
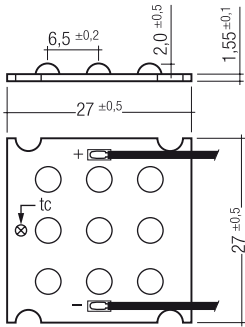
TALEX						
type	article number	material	colour	dimensions Ø x H mm	weight g	packing unit
0214 lens 60°	24139082	PC	transparent	35 x 7.3	3	10

**Luminous intensity distribution curve for TALEXlens 0214 lens 60°**



**TALEXeos P215**  
High luminous flux TALEX module

RoHS



**Applications:**

- general lighting
- effect and design lighting
- emergency lighting
- spotlights

**Highlights:**

- high flux TALEX module with 9 high-power LED
- small CCT tolerance band ⑤
- compact design
- excellent thermal management ③
- integrated protection against reversed polarity

**Properties:**

- high-power LED in COB technology
- colour temperature white: ⑤  
warm white (WW): 3,000 K, CRI 80  
neutral white (NW): 4,200 K, CRI 80  
daylight white (DL): 6,500 K, CRI 75
- low thermal resistance  
 $R_{th, j-hs} < 1.2 \text{ K/W}$  ③
- 140° light distribution pattern, uniform illumination ④
- fixing: pre-mounted thermal conductive adhesive tape
- connection method: supply wires AWG24, 200 mm
- identification of polarity: + red / - black

**Notes:**

- cooling required ③
- none of the components of the TALEXeos modules (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**Accessories and operating units:**

- TALEXconverter 0015 K350, 0030 K700 – see page 377ff
- TALEXcontrol C350 4-channel PWM dimmer – see page 383

**TALEX**

type	article number	colour	colour temp. K ⑤	light points per module	typ. luminous flux lm ①	luminous intensity cd ④	supply current mA ②	power W ①	ta °C ③	tc °C ③	packing unit
all values at ta = 25 °C, tc = 40 °C, I = 350 mA											
<b>P215 WW warm 140°</b>	89600361	warm white	3,000	9	370.0	41.0	350	10.8	-25 → +55	75	i.V.
<b>P215 NW neutral 140°</b>	89600362	neutral white	4,200	9	405.0	45.0	350	10.8	-25 → +55	75	i.V.
<b>P215 DL daylight 140°</b>	89600363	daylight white	6,500	9	540.0	60.0	350	10.8	-25 → +55	75	i.V.
all values at ta = 25 °C, tc = 40 °C, I = 700 mA											
<b>P215 DL daylight 140°</b>	89600363	daylight white	6,500	9	900.0	100.0	700	21.6	-25 → +55	75	i.V.

① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating current leads to an overload on the TALEXeos module. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXeos module.

③  $R_{th, j-hs}$  = Thermal Resistance (Junction – Heat Sink)

If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged.

The temperature of the TALEXeos module at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1.

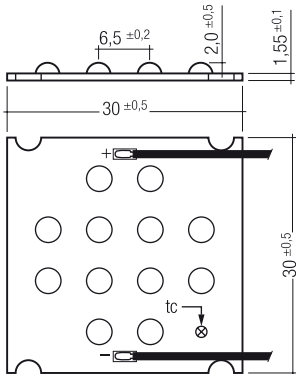
For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

④ Typical luminous intensity for 0° central view.

⑤ For colour temperatures and tolerances see page 388

**TALEXeos P216**  
High luminous flux TALEX module

RoHS



**Applications:**

- general lighting
- effect and design lighting
- emergency lighting
- spotlights

**Highlights:**

- high flux TALEX module with 12 high-power LED
- small CCT tolerance band ⑤
- compact design
- excellent thermal management ③
- integrated protection against reversed polarity

**Properties:**

- high-power LED in COB technology
- colour temperature white: ⑤  
warm white (WW): 3,000 K, CRI 80  
neutral white (NW): 4,200 K, CRI 80  
daylight white (DL): 6,500 K, CRI 75
- low thermal resistance  
 $R_{th, j-hs} < 1 \text{ K/W}$  ③
- 140° light distribution pattern, uniform illumination ④
- fixing: pre-mounted thermal conductive adhesive tape
- connection method: supply wires AWG24, 200 mm
- identification of polarity: + red / – black

**Notes:**

- cooling required ③
- none of the components of the TALEXeos modules (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**Accessories and operating units:**

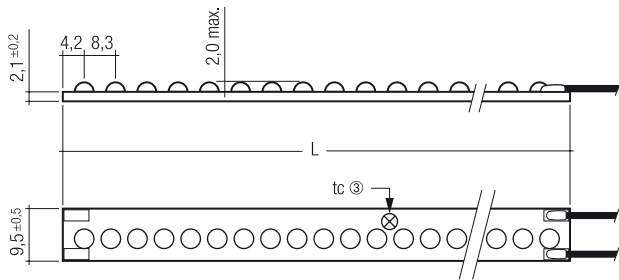
TALEXconverter 0015 K350, 0030 K700  
– see page 377ff

TALEX											
type	article number	colour	colour temp. K ⑤	light points per module	typ. luminous flux lm ①	luminous intensity cd ④	supply current mA ②	power W ①	ta °C ③	tc °C ③	packing unit
all values at ta = 25 °C, tc = 40 °C, I = 350 mA											
<b>P216 WW warm 140°</b>	89600364	warm white	3,000	12	500.0	125.0	350	14.4	-25 → +55	75	i.V.
<b>P216 NW neutral 140°</b>	89600365	neutral white	4,200	12	540.0	135.0	350	14.4	-25 → +55	75	i.V.
<b>P216 DL daylight 140°</b>	89600366	daylight white	6,500	12	720.0	180.0	350	14.4	-25 → +55	75	i.V.
all values at ta = 25 °C, tc = 40 °C, I = 700 mA											
<b>P216 DL daylight 140°</b>	89600366	daylight white	6,500	12	1,200.0	300.0	700	28.8	-25 → +55	75	i.V.

① Tolerance range for optical and electrical data: ±15 %  
 ② Exceeding the maximum operating current leads to an overload on the TALEXeos module. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXeos module.  
 ③  $R_{th, j-hs}$  = Thermal Resistance (Junction – Heat Sink)  
 If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXeos module at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).  
 ④ Typical luminous intensity for 0° central view.  
 ⑤ For colour temperatures and tolerances see page 388

TALEXstrip P105–108

RoHS



**Applications:**

- safety lighting, general lighting, effect lighting and shelf lighting
- accenting lines and edges and for side injection
- edge lighting of transparent or diffuse materials
- suitable for use with TALEXprofile Z200/Z201/Z202/Z203

**Highlights:**

- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile

**Properties:**

- high-power LED in COB technology
- dimmable by pulse width modulation (PWM)
- colour temperature white: ④  
warm white (WW): 3,000 K  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination
- pre-mounted thermal conductive adhesive tape
- connection method: cable 200 mm
- identification of polarity: + red / – black

**Notes:**

- cooling required ③
- reversing polarity may damage the TALEXstrip
- none of the components of the TALEXstrip (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**Accessories and operating units:**

TALEXprofile Z200-Z204, Z22W – see page 356ff  
 TALEXconverter 0001 K010 24 V (P105 only),  
 0010 K001 24 V, 0025 K220 24 V, 0100 K240 24 V,  
 0010 K301 24 V, 0025 K210, 0025 K211  
 – see page 366ff  
 TALEXcontrol C001, C002, C003, C004  
 – see page 384ff

**TALEX**

type	article number	colour	colour temp. K ④	light points per module	typ. luminous flux lm ①	voltage V DC ②	power W ①	ta °C	tc °C ③	total length mm	packing unit pieces/carton
P105 WW warm	89600168	warm white	3,000	6	13.0	24	0.96	-25 → +50	80	50±1	20
P105 NW neutral	89600166	neutral white	4,200	6	16.5	24	0.96	-25 → +50	80	50±1	20
P105 DL daylight	89600167	daylight white	6,500	6	18.0	24	0.96	-25 → +50	80	50±1	20
P106 WW warm	89600171	warm white	3,000	12	25.0	24	1.92	-25 → +50	80	100±1	20
P106 NW neutral	89600169	neutral white	4,200	12	32.5	24	1.92	-25 → +50	80	100±1	20
P106 DL daylight	89600170	daylight white	6,500	12	36.0	24	1.92	-25 → +50	80	100±1	20
P107 WW warm	89600174	warm white	3,000	18	38.0	24	2.88	-25 → +50	80	150±1	10
P107 NW neutral	89600172	neutral white	4,200	18	49.0	24	2.88	-25 → +50	80	150±1	10
P107 DL daylight	89600173	daylight white	6,500	18	54.0	24	2.88	-25 → +50	80	150±1	10
P108 WW warm	89600177	warm white	3,000	24	50.5	24	3.84	-25 → +50	80	200±1	10
P108 NW neutral	89600175	neutral white	4,200	24	65.0	24	3.84	-25 → +50	80	200±1	10
P108 DL daylight	89600176	daylight white	6,500	24	72.0	24	3.84	-25 → +50	80	200±1	10

all values at ta = 25 °C

- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEXstrip. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXstrip. Tolerance range for the supply voltage: 24 V: +2 V / -0 V
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXstrip at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).
- ④ For colour temperatures and tolerances see page 388

**Recommended cooling area in cm² ③**

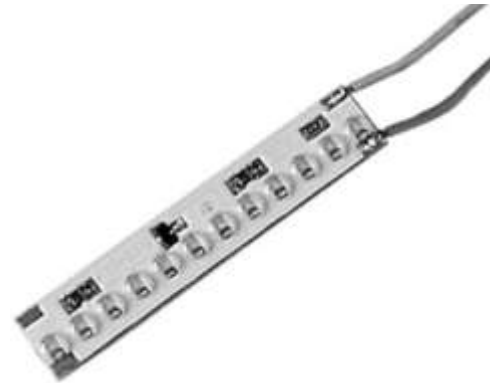
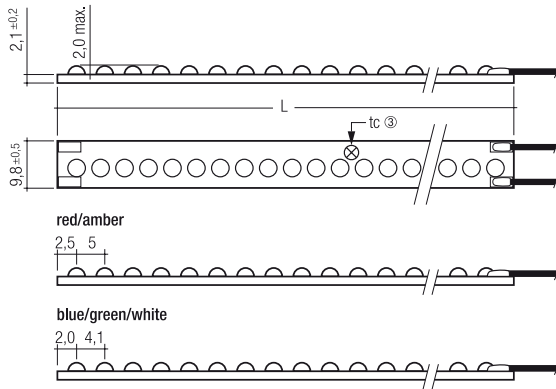
Values for aluminium > 1 mm thick, tc = 80 °C

type	ta 35 °C	ta 50 °C
P105	19.2	48.0
P106	38.4	96.0
P107	57.6	144.0
P108	76.8	192.0

It has to be observed that tc max. value is not exceeded within the specific application.

TALEXstrip P115–116

RoHS



**Applications:**

- safety lighting, general lighting, effect lighting and shelf lighting
- accenting lines and edges and for side injection
- edge lighting of transparent or diffuse materials
- suitable for use with TALEXprofile Z200/Z201/Z202/Z203

**Highlights:**

- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile
- minimal heat generation
- extremely high luminous efficacy achieved by a compact arrangement of the LED

**Properties:**

- high-power LED in COB technology
- dimmable by pulse width modulation (PWM)
- colour temperature white: ④  
warm white (WW): 3,000 K  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination
- pre-mounted thermal conductive adhesive tape
- connection method:  
TALEXstrip P115: cable 80 mm, with end ferrules  
TALEXstrip P116: cable 200 mm, tinned
- identification of polarity: + red / – black

**Notes:**

- cooling required ③
- reversing polarity may damage the TALEXstrip
- none of the components of the TALEXstrip (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**Accessories and operating units:**

TALEXprofile Z200-Z204, Z22W – see page 356ff  
 TALEXconverter 0010 K001 24 V, 0025 K220 24 V, 0100 K240 24 V, 0010 K301 24 V, 0025 K210, 0025 K211 – see page 367ff  
 TALEXcontrol C001, C002, C003, C004 – see page 384ff

**TALEX**

type	article number	colour	wavelength colour temp. ④	light points per module	typ. luminous flux lm ①	voltage V DC ②	power W ①	ta °C	tc °C ③	total length mm	packing unit pieces/carton
P115 R	89600142	red	624-630 nm	12	22.0	24	1.44	-25 → +50	80	49±1	20
P115 A	89600143	amber	586-592 nm	12	17.0	24	1.44	-25 → +50	80	49±1	20
P115 G	89600145	green	520-540 nm	12	22.0	24	1.56	-25 → +50	80	49±1	20
P115 B	89600144	blue	460-465 nm	12	6.0	24	1.56	-25 → +50	80	49±1	20
P115 WW warm	89600250	warm white	3,000 K	12	25.0	24	1.56	-25 → +50	80	49±1	20
P115 NW neutral	89600146	neutral white	4,200 K	12	32.5	24	1.56	-25 → +50	80	49±1	20
P115 DL daylight	89600147	daylight white	6,500 K	12	36.0	24	1.56	-25 → +50	80	49±1	20
P116 R	89600148	red	624-630 nm	24	43.0	24	2.88	-25 → +50	80	99±1	20
P116 A	89600149	amber	586-592 nm	24	33.0	24	2.88	-25 → +50	80	99±1	20
P116 G	89600151	green	520-540 nm	24	44.0	24	3.12	-25 → +50	80	99±1	20
P116 B	89600150	blue	460-465 nm	24	12.0	24	3.12	-25 → +50	80	99±1	20
P116 WW warm	89600209	warm white	3,000 K	24	50.5	24	3.12	-25 → +50	80	99±1	20
P116 NW neutral	89600152	neutral white	4,200 K	24	65.0	24	3.12	-25 → +50	80	99±1	20
P116 DL daylight	89600153	daylight white	6,500 K	24	72.0	24	3.12	-25 → +50	80	99±1	20

all values at ta = 25 °C

① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating voltage leads to an overload on the TALEXstrip. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXstrip. Tolerance range for the supply voltage: 24 V: +2 V / -0 V

③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged.

The temperature of the TALEXstrip at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1.

For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

④ For colour temperatures and tolerances see page 388

**Recommended cooling area in cm² ③**

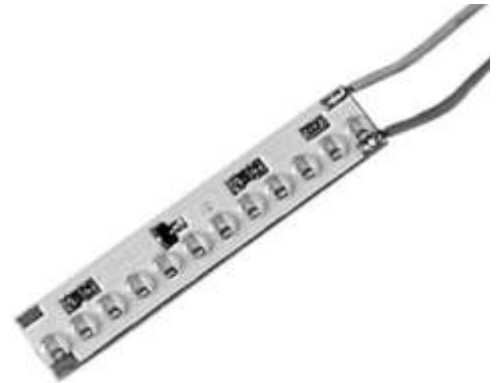
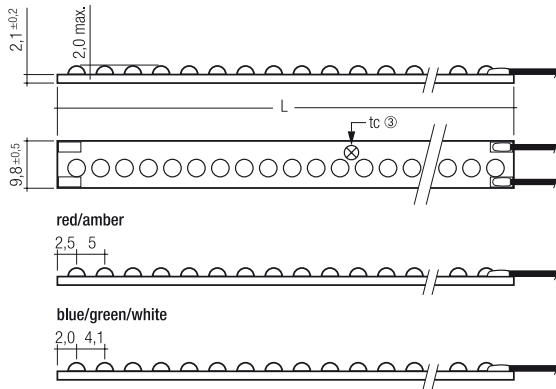
Values for aluminium > 1 mm thick, tc = 80 °C

type	ta 35 °C	ta 50 °C
P115	31.2	78.0
P116	62.4	156.0

It has to be observed that tc max. value is not exceeded within the specific application.

TALEXstrip P117–118

RoHS



Applications:

- safety lighting, general lighting, effect lighting and shelf lighting
- accenting lines and edges and for side injection
- edge lighting of transparent or diffuse materials
- suitable for use with TALEXprofile Z200/Z201/Z202/Z203

Highlights:

- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile
- minimal heat generation
- extremely high luminous efficacy achieved by a compact arrangement of the LED

Properties:

- high-power LED in COB technology
- dimmable by pulse width modulation (PWM)
- colour temperature white: ④  
warm white (WW): 3,000 K  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination
- pre-mounted thermal conductive adhesive tape
- connection method: cable 200 mm, tinned
- identification of polarity: + red / – black

Notes:

- cooling required ③
- reversing polarity may damage the TALEXstrip
- none of the components of the TALEXstrip (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

Accessories and operating units:

TALEXprofile Z200-Z204, Z22W – see page 356ff  
 TALEXconverter 0010 K001 24 V, 0025 K220 24 V, 0100 K240 24 V, 0010 K301 24 V, 0025 K210, 0025 K211 – see page 367ff  
 TALEXcontrol C001, C002, C003, C004 – see page 384ff

TALEX

type	article number	colour	wavelength colour temp. ④	light points per module	typ. luminous flux lm ①	voltage V DC ②	power W ①	ta °C	tc °C ③	total length mm	packing unit pieces/carton
P117 R	89600154	red	624-630 nm	36	65.0	24	4.32	-25 → +50	80	148±1	10
P117 A	89600155	amber	586-592 nm	36	49.0	24	4.32	-25 → +50	80	148±1	10
P117 G	89600157	green	520-540 nm	36	66.0	24	4.68	-25 → +50	80	148±1	10
P117 B	89600156	blue	460-465 nm	36	18.0	24	4.68	-25 → +50	80	148±1	10
P117 WW warm	89600210	warm white	3,000 K	36	76.5	24	4.68	-25 → +50	80	148±1	10
P117 NW neutral	89600158	neutral white	4,200 K	36	97.0	24	4.68	-25 → +50	80	148±1	10
P117 DL daylight	89600159	daylight white	6,500 K	36	108.0	24	4.68	-25 → +50	80	148±1	10
P118 R	89600160	red	624-630 nm	48	87.0	24	5.76	-25 → +50	80	197.5±1	10
P118 A	89600161	amber	586-592 nm	48	66.0	24	5.76	-25 → +50	80	197.5±1	10
P118 G	89600163	green	520-540 nm	48	88.0	24	6.24	-25 → +50	80	197.5±1	10
P118 B	89600162	blue	460-465 nm	48	24.0	24	6.24	-25 → +50	80	197.5±1	10
P118 WW warm	89600211	warm white	3,000 K	48	101.0	24	6.24	-25 → +50	80	197.5±1	10
P118 NW neutral	89600164	neutral white	4,200 K	48	130.0	24	6.24	-25 → +50	80	197.5±1	10
P118 DL daylight	89600165	daylight white	6,500 K	48	144.0	24	6.24	-25 → +50	80	197.5±1	10

all values at ta = 25 °C

① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating voltage leads to an overload on the TALEXstrip. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXstrip. Tolerance range for the supply voltage: 24 V: +2 V / -0 V

③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged.

The temperature of the TALEXstrip at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1.

For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

④ For colour temperatures and tolerances see page 388

Recommended cooling area in cm<sup>2</sup> ③

Values for aluminium > 1 mm thick, tc = 80 °C

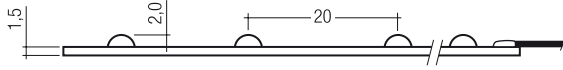
type	ta 35 °C	ta 50 °C
P117	93.6	234.0
P118	124.8	312.0

It has to be observed that tc max. value is not exceeded within the specific application.

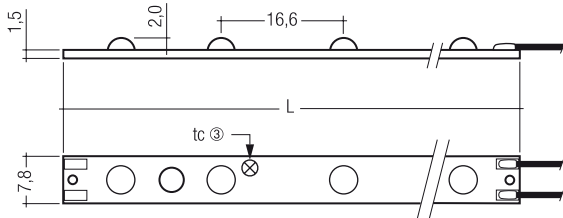
TALEXstrip P110/111-2

RoHS

TALEXstrip P110



TALEXstrip P111-2



Applications:

- safety lighting, general lighting, effect lighting and shelf lighting
- accenting lines and edges and for side injection
- edge lighting of transparent or diffuse materials
- suitable for use with TALEXprofile Z200/Z201/Z202/Z203

Highlights:

- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile

Properties:

- high-power LED in COB technology
- dimmable by pulse width modulation (PWM)
- colour temperature white: ④  
warm white (WW): 3,000 K  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination
- fixing: M4 plastic screw or double sided adhesive tape
- connection method: cable 200 mm
- identification of polarity: + red / – black

Notes:

- reversing polarity may damage the TALEXstrip
- none of the components of the TALEXstrip (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

Accessories and operating units:

TALEXprofile Z200-Z204, Z22W – see page 356ff  
 TALEXconverter 0010 K001 24 V, 0025 K220 24 V, 0100 K240 24 V, 0010 K301 24 V, 0025 K210, 0025 K211 – see page 367ff  
 TALEXcontrol C001, C002, C003, C004  
 – see page 384ff

TALEX

type	article number	colour	wavelength colour temp. ④	light points per module	typ. luminous flux lm ①	voltage V DC ②	power W ①	ta °C	tc °C ③	total length mm	packing unit pieces/carton
P110 R	89600124	red	619-629 nm	10	22.0	24	1.56	-25 → +50	75	200±1	10
P110 A	89600125	amber	584-594 nm	10	18.0	24	1.56	-25 → +50	75	200±1	10
P111-2 G	89600327	green	530-540 nm	12	30.0	24	1.92	-25 → +50	75	200±1	10
P111-2 B	89600318	blue	465-475 nm	12	10.0	24	1.92	-25 → +50	75	200±1	10
P111-2 WW	89600343	warm white	3,000 K	12	36.0	24	1.92	-25 → +50	75	200±1	10
P111-2 NW	89600319	neutral white	4,200 K	12	41.0	24	1.92	-25 → +50	75	200±1	10
P111-2 W DL	89600320	daylight white	6,500 K	12	49.0	24	1.92	-25 → +50	75	200±1	10

all values at ta = 25 °C

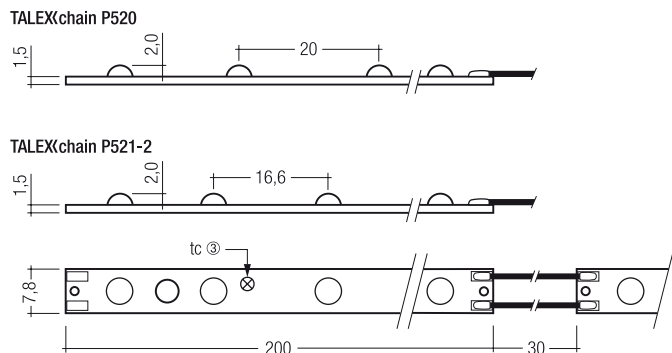
① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating voltage leads to an overload on the TALEXstrip. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXstrip. Tolerance range for the supply voltage: 24 V: +2 V / -0 V

③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXstrip at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

④ For colour temperatures and tolerances see page 388

TALEXchain P520/521-2



Applications:

- safety lighting, general lighting, effect lighting and shelf lighting
- accenting lines and edges and for side injection
- edge lighting of transparent or diffuse materials
- suitable for use with TALEXprofile Z200/Z201/Z202/Z203

Highlights:

- pre-assembled chain comprising five TALEXstrip P110 or P111-2 strips
- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile

Properties:

- high-power LED in COB technology
- dimmable by pulse width modulation (PWM)
- colour temperature white: ④  
warm white (WW): 3,000 K  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- coated with protective varnish for applications where condensation occurs
- broad 140° light distribution for uniform illumination
- fixing: M4 plastic screw or double sided adhesive tape
- connection method: cable 200 mm
- identification of polarity: + red / - black

Notes:

- reversing polarity may damage the TALEXchain
- none of the components of the TALEXchain (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

Accessories and operating units:

TALEXprofile Z200-Z204, Z22W – see page 356ff  
 TALEXconverter 0010 K001 24 V, 0025 K220 24 V, 0100 K240 24 V, 0010 K301 24 V, 0025 K210, 0025 K211 – see page 367ff  
 TALEXcontrol C001, C002, C003, C004 – see page 384ff

type	article number	colour	wavelength colour temp. ④	light points per module	modules per chain	typ. luminous flux lm ①	voltage V dc ②	power W ①	ta °C	tc °C ③	total length mm	packing unit pieces/carton
P520 R	89600191	red	619-629 nm	10	5	110.0	24	7.8	-25 → +50	75	1,150	2
P520 A	89600192	amber	584-594 nm	10	5	90.0	24	7.8	-25 → +50	75	1,150	2
P521-2 G	89600326	green	530-540 nm	12	5	150.0	24	9.6	-25 → +50	75	1,150	2
P521-2 B	89600315	blue	465-475 nm	12	5	50.0	24	9.6	-25 → +50	75	1,150	2
P521-2 WW	89600344	warm white	3,000 K	12	5	180.0	24	9.6	-25 → +50	75	1,150	2
P521-2 NW	89600316	neutral white	4,200 K	12	5	205.0	24	9.6	-25 → +50	75	1,150	2
P521-2 W DL	89600317	daylight white	6,500 K	12	5	245.0	24	9.6	-25 → +50	75	1,150	2

all values at ta = 25 °C

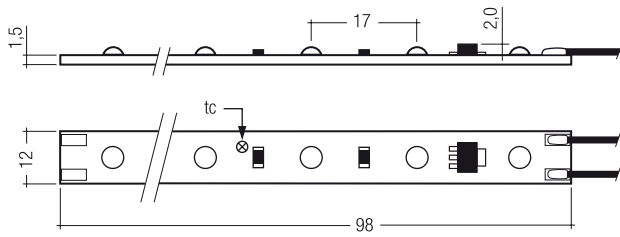
- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEXchain. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXchain. Tolerance range for the supply voltage: 24 V: +2 V / -0 V
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXchain at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).
- ④ For colour temperatures and tolerances see page 388



TALEXstrip P130/131

**NEW**

RoHS



**Applications:**

- safety lighting, general lighting, effect lighting and shelf lighting
- accenting lines and edges and for side injection
- edge lighting of transparent or diffuse materials
- suitable for use with TALEXprofile Z200/Z201/Z202/Z203

**Highlights:**

- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile

**Properties:**

- high-power LED in COB technology
- dimmable by pulse width modulation (PWM)
- colour temperature white: ④  
warm white (WW): 3,000 K  
neutral white (NW): 4,200 K  
daylight white (DL): 6,500 K
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination
- pre-mounted thermal conductive adhesive tape
- connection method: cable 200 mm
- identification of polarity: + red / – black

**Chaining:**

P130 → max. 24 pieces / P131 → max. 12 pieces

**Notes:**

- cooling required ③
- reversing polarity may damage the TALEXstrip
- none of the components of the TALEXstrip (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**Accessories and operating units:**

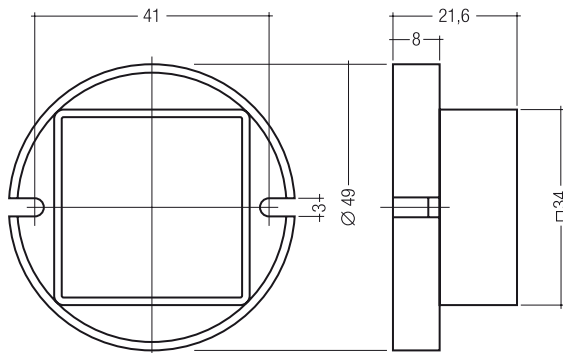
TALEXconverter 0010 K001 24 V, 0025 K220 24 V, 0100 K240 24 V, 0010 K301 24 V, 0025 K210 (not P130), 0025 K211 (not P130) – see page 367ff  
TALEXcontrol C001, C002, C003, C004  
– see page 384ff

TALEX										
type	article number	colour	colour temp. K ④	light points per module	typ. luminous flux lm ①	voltage V DC ②	power W ①	ta °C	tc °C ③	packing unit pieces/carton
<b>P130 WW 24 V</b>	89600516	warm white	3,000	6	88	24	3.6	-25 → +50	75	20
<b>P130 NW 24 V</b>	89600514	neutral white	4,200	6	96	24	3.6	-25 → +50	75	20
<b>P130 DL 24 V</b>	89600515	daylight white	6,500	6	116	24	3.6	-25 → +50	75	20
<b>P131 WW 12 V</b>	89600519	warm white	3,000	6	88	12	3.6	-25 → +50	75	20
<b>P131 NW 12 V</b>	89600517	neutral white	4,200	6	96	12	3.6	-25 → +50	75	20
<b>P131 DL 12 V</b>	89600518	daylight white	6,500	6	116	12	3.6	-25 → +50	75	20

all values at ta = 25 °C

- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEXstrip. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXstrip. Tolerance range for the supply voltage: 12 V: +2 V / -0 V; 24 V: +2 V / -0 V
- ③ R<sub>th, j-hs</sub> = Thermal Resistance (Junction – Heat Sink)  
If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged.  
The temperature of the TALEXstrip at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1.  
For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).
- ④ For colour temperatures and tolerances see page 388

TALEX(module P007 230 V AC



**Applications:**

- safety lighting, indicator and orientation lights, effect lighting

**Highlights:**

- maximum possible beam angle for uniform illumination (thanks to COB technology)
- direct connection to 230 V supply voltage
- potted, protection rating IP 65
- easy installation
- low profile

**Properties:**

- high-power LED in COB technology
- colour temperature white:
  - warm white (WW): 3,000 K
  - neutral white (NW): 4,200 K
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination
- PC-housing
- mains supply cable 2 m, 2 x 1.5 mm<sup>2</sup>, type H05RN-F, with end ferrules

**Packaging:**

box of 20

**Designed according to:**

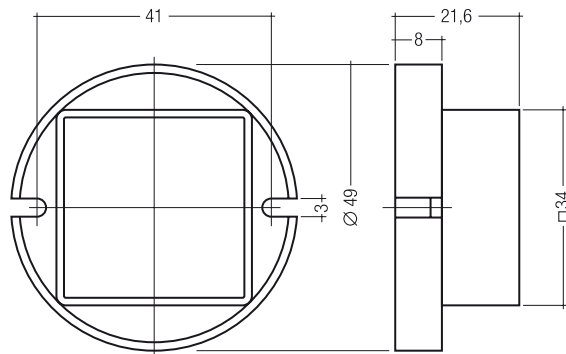
- EN 55015
- EN 55022
- EN 61000-3-2
- EN 61547

TALEX		P007 R 230 V AC	P007 A 230 V AC	P007 G 230 V AC	P007 B 230 V AC	P007 WW 230 V AC	P007 NW 230 V AC
type							
article number		86455691	86455739	86455708	86455717	86457951	8645723
colour		red	amber	green	blue	warm white	neutral white
wavelength	nm	624-630	586-592	520-540	460-465	3,000 K	4,200 K
primary voltage ②	V ac	230	230	230	230	230	230
primary voltage range	V ac	207-253	207-253	207-253	207-253	207-253	207-253
input current at 230 V 50 Hz	A	0.07	0.07	0.05	0.05	0.05	0.05
input power ①	W	2	2	2	2	2	2
frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60
typ. luminous flux ①	lm	20.0	15.0	22.0	5.0	19.0	24.5
ambient temperature ta ③	°C	-25 → +45	-25 → +45	-25 → +45	-25 → +45	-25 → +45	-25 → +45
tc point ③	°C	70	70	70	70	70	70
weight	g	170	170	170	170	170	170
protection rating		IP 65	IP 65	IP 65	IP 65	IP 65	IP 65

all values at ta = 25 °C

- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEX(module). This may in turn result in a significant reduction in lifetime or even destruction of the TALEX(module).
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEX(module) at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

TALEX(module P009 230 V AC



**Applications:**

- safety lighting, indicator and orientation lights, effect lighting

**Highlights:**

- maximum possible beam angle for uniform illumination (thanks to COB technology)
- direct connection to 230 V supply voltage
- potted, protection rating IP 65
- easy installation
- low profile

**Properties:**

- high-power LED in COB technology
- colour temperature white:
  - warm white (WW): 3,000 K
  - neutral white (NW): 4,200 K
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination
- PC-housing

**Packaging:**

box of 40

**Designed according to:**

EN 55015  
EN 55022  
EN 61000-3-2  
EN 61547

TALEX		P009 R 230 V AC	P009 A 230 V AC	P009 G 230 V AC	P009 B 230 V AC	P009 WW 230 V AC	P009 NW 230 V AC
type							
article number		86456600	86456599	86456577	86456583	86457090	86456561
colour		red	amber	green	blue	warm white	neutral white
wavelength	nm	624-630	586-592	520-540	460-465	3,000 K	4,200 K
primary voltage ②	V ac	230	230	230	230	230	230
primary voltage range	V ac	207-253	207-253	207-253	207-253	207-253	207-253
input current at 230 V 50 Hz	A	0.07	0.07	0.05	0.05	0.05	0.05
input power ①	W	2	2	2	2	2	2
frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60
typ. luminous flux ①	lm	20.0	15.0	22.0	5.0	19.0	24.5
ambient temperature ta ③	°C	-25 → +45	-25 → +45	-25 → +45	-25 → +45	-25 → +45	-25 → +45
tc point ③	°C	70	70	70	70	70	70
weight	g	50	50	50	50	50	50
protection rating		IP 20	IP 20	IP 20	IP 20	IP 20	IP 20

all values at ta = 25 °C

① Tolerance range for optical and electrical data: ±15 %

② Exceeding the maximum operating voltage leads to an overload on the TALEX(module. This may in turn result in a significant reduction in lifetime or even destruction of the TALEX(module.

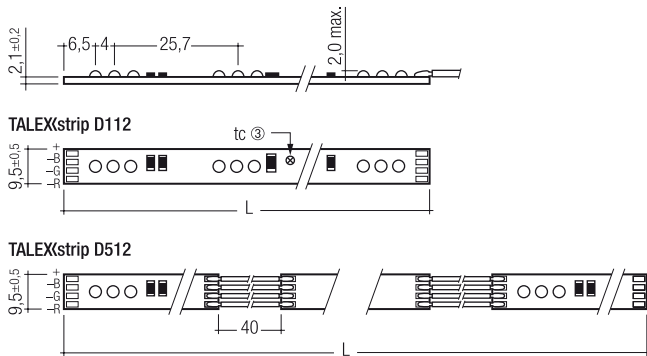
③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged.

The temperature of the TALEX(module at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

TALEXstrip D112-2 RGB 24 V  
TALEXstrip D512-2 RGB 24 V

**NEW**

RoHS



**Applications:**

- TALEXstrip modules for accenting lines, edges and for side injection with RGB colour mixing
- edge lighting
- suitable for use with TALEXprofile Z200/Z201/ Z202/Z203

**Highlights:**

- simple installation thanks to
  - pre-mounted adhesive tape
  - low cooling requirements
- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile
- minimal heat generation

**Properties:**

- dimmable by pulse width modulation (PWM) with TridonicAtco control units
- integrated current source to stabilise luminous flux
- broad 140° light distribution for uniform illumination
- pre-mounted thermal conductive adhesive tape
- coated with protective varnish for applications where condensation occurs
- connection method: cable 200 mm, both sides
- identification of polarity: + red / – black

**Notes:**

- minimale cooling required ③
- reversing polarity may damage the TALEXstrip
- different white temperatures can be produced by selective control of green, red and blue
- none of the components of the TALEXstrip (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to “TALEX installation instructions and guidelines” (art. no. 24138887)
- maximum chaining length: 10 strips (homogeneous colours over full length)

**Accessories and operating units:**

TALEXprofile Z200-Z204, Z22W – see page 356ff  
TALEXconverter 0025 K210 / K211 – see page 372f  
TALEXcontrol C001, C002, C003, C004 – see page 384ff

**TALEX**

type	article number	colour	wavelength nm	light points per module	typ. luminous flux lm ①	voltage V dc ②	current mA	power W ①		ta °C	tc °C ③	length L mm	packing unit pieces/carton
								per colour	total				
<b>D112-2 RGB 24 V</b>	89600411	red green blue	619-629 520-535 458-465	8 RGB	19.0 21.0 4.0	24	35 70 25	0.80 1.70 0.70	3.1	-25 → +45	75	200 ±1.5	10

**TALEX**

type	article number	colour	wavelength nm	modules per chain	typ. luminous flux lm ①	voltage V dc ②	current mA	power W ①		ta °C	tc °C ③	length L mm	packing unit pieces/carton
								per colour	total				
<b>D512-2 RGB 24 V</b>	89600412	red green blue	619-629 520-535 458-465	5	95.0 105.0 20.0	24	175 350 125	4.0 8.5 3.5	15.5	-25 → +45	75	approx. 1,160	2

all values at ta = 25 °C

- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEXstrip. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXstrip. Tolerance range for the supply voltage: 24 V: +2 V / -0 V
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXstrip at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

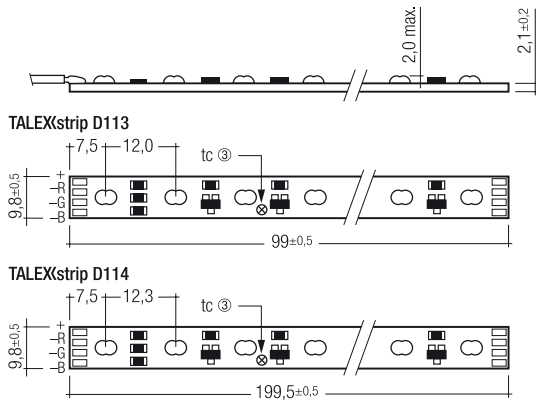
**Cooling area in cm² ③**

Values for aluminium 2 mm thick

ta	tc	single module TALEXstrip D112-2		chain TALEXstrip D512-2	
		R <sub>THS-A</sub>	heat sink area	R <sub>THS-A</sub>	heat sink area
25 °C	75 °C		self-cooling		self-cooling
35 °C	75 °C		self-cooling		self-cooling
45 °C	75 °C	9.5 K/W	70.0 cm²	1.9 K/W	350.0 cm²

**TALEXstrip D113 RGB 24 V**  
**TALEXstrip D114 RGB 24 V**

RoHS



**Applications:**

- TALEXstrip modules for accenting lines, edges and for side injection with RGB colour mixing
- edge lighting
- suitable for use with TALEXprofile Z200/Z201/ Z202/Z203

**Highlights:**

- simple mounting by pre-assembled adhesive tape
- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile
- minimal heat generation

**Properties:**

- RGB individually controllable
- dimmable by pulse width modulation (PWM) with TridonicAtco control units
- broad 140° light distribution for uniform illumination
- pre-mounted thermal conductive adhesive tape
- coated with protective varnish for applications where condensation occurs
- connection method: cable 200 mm
- identification of polarity: + red / – black

**Notes:**

- cooling required ③
- reversing polarity may damage the TALEXstrip
- different white temperatures can be produced by selective control of green, red and blue
- none of the components of the TALEXstrip (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

**Accessories and operating units:**

TALEXprofile Z200-Z204, Z22W – see page 356ff  
 TALEXconverter 0025 K210 / K211 – see page 372f  
 TALEXcontrol C001, C002, C003, C004  
 – see page 384ff

TALEX														
type	article number	colour	wavelength nm	light points per module	typ. luminous flux lm ①	voltage V dc ②	current mA	power W ①	per colour	total	ta °C	tc °C ③	length L mm	packing unit pieces/carton
<b>D113 RGB 24 V</b>	89600392	red	621-627	8 RGB	6.0	24	30	0.7	2.5		-25 → +45	75	99.0 ±0.5	20
		green	525-530		12.5		40	1.0						
		blue	462-465		2.5		35	0.8						
<b>D114 RGB 24 V</b>	89600393	red	621-627	16 RGB	12	24	60	1.4	5.0		-25 → +45	75	199.5 ±0.5	10
		green	525-530		25.0		80	2.0						
		blue	462-465		5.0		70	1.6						

all values at ta = 25 °C

- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEXstrip. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXstrip. Tolerance range for the supply voltage: 24 V: +2 V / -0 V
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXstrip at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

**Cooling area in cm² per single module ③**

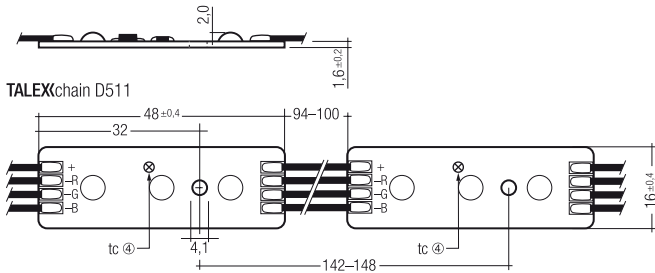
Values for aluminium > 2 mm thick, tc = 75 °C

type	ta 25 °C	ta 45 °C
<b>D113</b>	34 (19.4 K/W)	58 (11.5 K/W)
<b>D114</b>	69 (9.7 K/W)	116 (5.8 K/W)

TALEXchain D511 RGB basic

RoHS

Dimensions single module:



Applications:

- TALEX RGB chain for colour mixing in backlighting applications for architecture and illuminated advertising
- optimised for use in illuminated advertising (channel letters, backlighting applications)
- backlighting of complex contours

Highlights:

- simple mounting by pre-assembled adhesive tape
- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile
- minimal heat generation
- individually adjustable luminance

Properties:

- high-power LED in COB technology
- RGB individually controllable
- dimmable by pulse width modulation (PWM) with TridonicAtco control units
- broad 140° light distribution for uniform illumination
- flexible light chain, arbitrary module separation possible
- fixing: M4 plastic screw and/or pre-mounted thermal conductive adhesive tape
- coated with protective varnish for applications where condensation occurs
- connection method: cable 200 mm, both sides
- identification of polarity: + red / - black

Notes:

- minimale cooling required ③
- reversing polarity may damage the TALEXchain
- different white temperatures can be produced by selective control of green, red and blue
- none of the components of the TALEXchain (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)
- maximum chaining length: 1 chain (homogeneous colours over full length)

Accessories and operating units:

TALEXcontrol C001, C002, C003, C004, – see page 384ff

TALEX

type	article number	colour ①	wavelength nm	modules per chain	typ. luminous flux lm ②	voltage V dc ③	current mA	power W ②		ta °C	tc point °C ④	length L mm	packing unit pieces/carton
								per colour	total				
D511 RGB 12 V	89600253	red	619-629	15	90.0	12	530	6.3	15.5	-25 → +50	75	approx. 2,000	5
		green	520-535		80.0		4.6						
		blue	460-465		22.0		4.6						

all values at ta = 25 °C

- ① Mix of all colours at 100 % does not lead to pure white colour.
- ② Tolerance range for optical and electrical data: ±15 %
- ③ Exceeding the maximum operating voltage leads to an overload on the TALEXchain. This may in turn result in a significant reduction in lifetime or even destruction of the TALEXchain. Tolerance range for the supply voltage: 12 V: +2 V / -0 V
- ④ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEXchain at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

Guide values for cooling surface in cm² ④ (per single module)

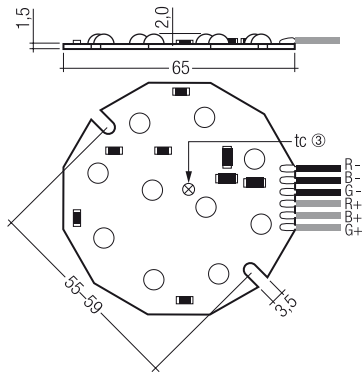
		TALEXchain D511 RGB 12 V	
ta	tc	R <sub>thHS-A</sub>	cooling surface
25 °C	75 °C	49.0 K/W	11.5 cm²
35 °C	75 °C	38.0 K/W	18.0 cm²
50 °C	75 °C	24.0 K/W	28.0 cm²

Comments

The values apply to:  
 single module from TALEXchain D511  
 operation at 100 % output  
 natural convection  
 heat sink material: aluminium ≥ 1 mm thick  
 R<sub>thHS-A</sub> = necessary thermal resistance of the heat sink

TALEX(module D001

RoHS



Applications:

- TALEX(module for accenting surfaces and for indicator and orientation lights
- marker lights
- recessed floor luminaires
- signal lights

Highlights:

- simple mounting by pre-assembled adhesive tape
- maximum possible beam angle for uniform illumination (thanks to COB technology)
- low profile
- minimal heat generation

Properties:

- high-power LED in COB technology
- RGB individually controllable
- dimmable by pulse width modulation (PWM) with TridonicAtco control units
- broad 140° light distribution for uniform illumination
- fixing: double sided thermal conductive adhesive tape, pre-mounted; M3 plastic screw
- connection method: cable 200 mm
- identification of polarity: + red / - black

Notes:

- cooling required ③
- reversing polarity may damage the TALEX(module
- different white temperatures can be produced by selective control of green, red and blue
- none of the components of the TALEX(module (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses
- for further information on installation please refer to "TALEX installation instructions and guidelines" (art. no. 24138887)

Accessories and operating units:

TALEX(converter 0025 K210 / K211 – see page 372f  
 TALEX(control C001, C002, C003, C004  
 – see page 384ff

TALEX

type	article number	colour	wavelength nm	light points per module	typ. luminous flux lm ①	voltage V dc ②	current mA	power W ①		ta °C	tc °C ③	packing unit pieces/carton
								per colour	total			
D001 RGB 24 V	89600115	red	619-629	10 RGB	24.0	24	60	1.45	4.3	-25 → +45	85	20
		green	520-535		18.5		60	1.45				
		blue	460-465		3.5		60	1.45				

all values at ta = 25 °C

- ① Tolerance range for optical and electrical data: ±15 %
- ② Exceeding the maximum operating voltage leads to an overload on the TALEX(module. This may in turn result in a significant reduction in lifetime or even destruction of the TALEX(module. Tolerance range for the supply voltage: 24 V: +2 V / -0 V
- ③ If the maximum temperature limits are exceeded, the life of the module will be greatly reduced or the module may be damaged. The temperature of the TALEX(module at the tc point in the thermally stable state by means of a temperature sensor or temperature-sensitive sticker (available for example from [www.conrad.com](http://www.conrad.com), [www.rs-components.com](http://www.rs-components.com)) as per EN 60598-1. For the precise position of the tc point see the above diagram. For details please refer to [www.tridonicatco.com](http://www.tridonicatco.com).

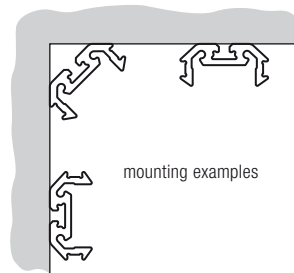
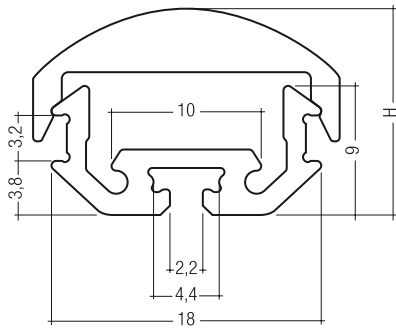
Cooling area in cm<sup>2</sup> ③

Values for aluminium ≥ 2 mm thick, tc = 75 °C

type	ta 30 °C	ta 45 °C
D001 RGB 24 V	72 (7.0 K/W)	144 (3.5 K/W)

**TALEX**profile Z200  
Mounting profile

RoHS



- mounting profile for TALEXchain and TALEXstrip with a maximum width of 12 mm
- compact profile 9 x 18 mm
- flexible mounting
- wide accessory range
  - covers
  - linear lenses

TALEX						
type	article number	material	colour	dimensions (H x W x L) mm	weight/piece g	packing unit ①
Z200 mounting profile	24035531	aluminium	anodised nature	9 x 18 x 2,000	322	5

TALEX accessories ②						
type	article number	material	colour	height H mm	dimensions (W x L) mm	packing unit ①
Z220 cover white	24138736	PMMA	white	16	20.5 x 2,000	5
Z221 cover frosted	24138737	PMMA	semi-transparent	16	20.5 x 2,000	5
Z222 cover transparent	24138738	PMMA	transparent	16	20.5 x 2,000	5
O200 linear lens 30°	24139172	PMMA	transparent	16	20.5 x 2,000	5
O200 linear lens 60°	24139164	PMMA	transparent	15	20.5 x 2,000	5
O200 linear lens 90°	24139165	PMMA	transparent	14	20.5 x 2,000	5
O200 linear lens 30° frosted	24139175	PMMA	semi-transparent	16	20.5 x 2,000	5
O200 linear lens 60° frosted	24139176	PMMA	semi-transparent	15	20.5 x 2,000	5
O200 linear lens 90° frosted	24139177	PMMA	semi-transparent	14	20.5 x 2,000	5

- ① Delivery in packing units only
- ② The cover may not be exposed to any mechanical stresses. If it is exposed to vibrations or wind the mounting plate can detach from the fixture. It must therefore be additionally secured.
- ③ Data are valid for applications with cover and end caps and with sufficient air circulation (convection). Compliance with the max. permissible temperature of the TALEX modules at the tc point (see data sheet) must be ensured in the thermally stable state. For further information on installation please refer to the brochure entitled "TALEX installation instructions and guidelines" (art. no. 24138887).
- ④ The operation of TALEX modules with this profile is not possible without additional cooling (e.g. mounting on another heat conductor – plate, profile, aluminium, etc. – and the use of thermally conductive paste).

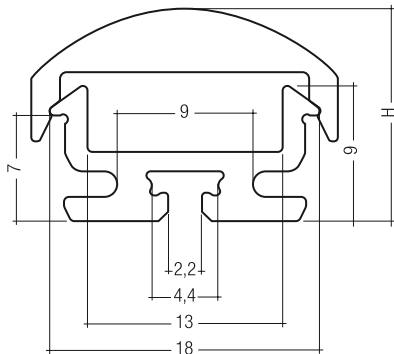
**Cooling properties:**  
1 cm Z200 = 3 cm<sup>2</sup> surface

Recommended profile length in cm ③						
ta °C	P110/111	P108	P118	P130/131	P211-2 350 mA	P211-2 700 mA
20	20	20	28	19	6	12
30	20	22	34	24	7	16
40	20	32	④	31	10	22
50	20	④	④	④	15	④



**TALEX**profile Z201  
Mounting profile

RoHS



TALEX(profile Z201 with cover and end cap

- mounting profile for TALEXchain and TALEXstrip with a maximum width of 12 mm
- compact profile 9 x 18 mm
- mounting with TALEXplate Z161 RZ
- wide accessory range
  - covers
  - linear lenses
  - end caps
  - mounting plates

TALEX						
type	article number	material	colour	dimensions (H x W x L) mm	weight/piece g	packing unit ①
Z201 mounting profile	24138816	aluminium	anodised nature	9 x 18 x 2,000	340	5

TALEX accessories ③						
type	article number	material	colour	height H mm	dimensions (W x L) mm	packing unit ①
Z220 cover white	24138736	PMMA	white	16	20.5 x 2,000	5
Z221 cover frosted	24138737	PMMA	semi-transparent	16	20.5 x 2,000	5
Z222 cover transparent	24138738	PMMA	transparent	16	20.5 x 2,000	5
O200 linear lens 30°	24139172	PMMA	transparent	16	20.5 x 2,000	5
O200 linear lens 60°	24139164	PMMA	transparent	15	20.5 x 2,000	5
O200 linear lens 90°	24139165	PMMA	transparent	14	20.5 x 2,000	5
O200 linear lens 30° frosted	24139175	PMMA	semi-transparent	16	20.5 x 2,000	5
O200 linear lens 60° frosted	24139176	PMMA	semi-transparent	15	20.5 x 2,000	5
O200 linear lens 90° frosted	24139177	PMMA	semi-transparent	14	20.5 x 2,000	5
End cap for TALEXprofile Z201 ②	24138968	PMMA	metallic-grey	19	23 x 6	10
Z161 RZ mounting plate	88166859	PMMA	white	6.5	18.7 x 33.5	100

- ① Delivery in packing units only
- ② Not suitable in combination with O200 (linear lens)
- ③ The cover may not be exposed to any mechanical stresses. If it is exposed to vibrations or wind the mounting plate can detach from the fixture. It must therefore be additionally secured.
- ④ Data are valid for applications with cover and end caps and with sufficient air circulation (convection). Compliance with the max. permissible temperature of the TALEX modules at the tc point (see data sheet) must be ensured in the thermally stable state. For further information on installation please refer to the brochure entitled "TALEX installation instructions and guidelines" (art. no. 24138887).
- ⑤ The operation of TALEX modules with this profile is not possible without additional cooling (e.g. mounting on another heat conductor – plate, profile, aluminium, etc. – and the use of thermally conductive paste).

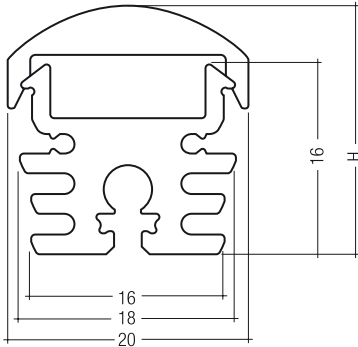
**Cooling properties:**  
1 cm Z201 = 3 cm<sup>2</sup> surface

Recommended profile length in cm ④						
ta °C	P110/111	P108	P118	P130/131	P211-2 350 mA	P211-2 700 mA
20	20	20	28	10	6	12
30	20	22	34	24	7	16
40	20	32	⑤	31	10	22
50	20	⑤	⑤	⑤	15	⑤

**TALEX**profile Z22W  
Mounting profile

**NEW**

RoHS



TALEXprofile Z201 with cover and end cap

- mounting profile for TALEX modules with a maximum width of 12 mm
- compact profile 16 x 18 mm
- mounting with TALEXplate Z161 RZ
- wide accessory range
  - covers
  - linear lenses
  - end caps
  - mounting plates

**TALEX**

type	article number	material	colour	dimensions (H x W x L) mm	weight/piece kg	packing unit ①
Z22W mounting profile	24139166	aluminium	anodised nature	16 x 18 x 2,000	1.6	5

**TALEX accessories** ②

type	article number	material	colour	height H mm	dimensions (W x L) mm	packing unit ①
Z220 cover white	24138736	PMMA	white	23	20.5 x 2,000	5
Z221 cover frosted	24138737	PMMA	semi-transparent	23	20.5 x 2,000	5
Z222 cover transparent	24138738	PMMA	transparent	23	20.5 x 2,000	5
O200 linear lens 30°	24139172	PMMA	transparent	22	20.5 x 2,000	5
O200 linear lens 60°	24139164	PMMA	transparent	21	20.5 x 2,000	5
O200 linear lens 90°	24139165	PMMA	transparent	20	20.5 x 2,000	5
O200 linear lens 30° frosted	24139175	PMMA	semi-transparent	22	20.5 x 2,000	5
O200 linear lens 60° frosted	24139176	PMMA	semi-transparent	21	20.5 x 2,000	5
O200 linear lens 90° frosted	24139177	PMMA	semi-transparent	20	20.5 x 2,000	5
Z161 RZ mounting plate	88166859	PMMA	white	6.5	18.7 x 33.5	100
End cap ⑤	24139174	aluminium	nature	20	20 x 1.5	10
End cap with cable entry ⑤	24139173	aluminium	nature	20	20 x 1.5	10

- ① Delivery in packing units only
- ② The cover may not be exposed to any mechanical stresses. If it is exposed to vibrations or wind the mounting plate can detach from the fixture. It must therefore be additionally secured.
- ③ Data are valid for applications with cover and end caps and with sufficient air circulation (convection). Compliance with the max. permissible temperature of the TALEX modules at the tc point (see data sheet) must be ensured in the thermally stable state. For further information on installation please refer to the brochure entitled "TALEX installation instructions and guidelines" (art. no. 24138887).
- ④ The operation of TALEX modules with this profile is not possible without additional cooling (e.g. mounting on another heat conductor – plate, profile, aluminium, etc. – and the use of thermally conductive paste).
- ⑤ Delivered with screws

**Cooling properties:**

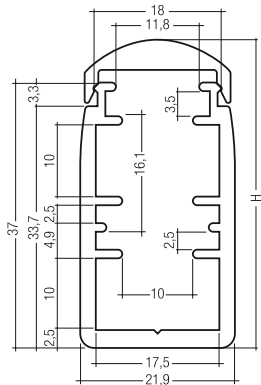
1 cm Z22W = 4.5 cm<sup>2</sup> surface

**Recommended profile length in cm** ③

ta °C	P110/111	P108	P118	P130/131	P211-2 350 mA	P211-2 700 mA
20	20	20	22	13	4	8
30	20	20	26	16	5	10
40	20	31	33	21	6	13
50	20	④	④	31	9	22

**TALEX**profile Z202  
Mounting profile

RoHS



TALEXprofile Z202 with cover and end cap

- versatile mounting profile for contours and edge lighting
- suited for TALEXstrip (in combination with TALEXprofile Z204) and TALEXspaceLED
- compact profile
- insertion slot for acrylic stripes
- wide accessory range
  - covers
  - insertion/cooling profile
  - end caps
  - linear lenses

TALEX						
type	article number	material	colour	dimensions (H x W x L) mm	weight/piece kg	packing unit ①
Z202 mounting profile	24138849	aluminium	anodised nature	37.6 x 21.9 x 2,000	1.25	5

TALEX accessories ②						
type	article number	material	colour	height H mm	dimensions (W x L) mm	packing unit ①
Z204 insertion/cooling profile ④	24128850	aluminium	anodised nature	5	17.3 x 2,000	5
Z220 cover white	24138736	PMMA	white	44	20.5 x 2,000	5
Z221 cover frosted	24138737	PMMA	semi-transparent	44	20.5 x 2,000	5
Z222 cover transparent	24138738	PMMA	transparent	44	20.5 x 2,000	5
O200 linear lens 30°	24139172	PMMA	transparent	44	20.5 x 2,000	5
O200 linear lens 60°	24139164	PMMA	transparent	43	20.5 x 2,000	5
O200 linear lens 90°	24139165	PMMA	transparent	42	20.5 x 2,000	5
O200 linear lens 30° frosted	24139175	PMMA	semi-transparent	44	20.5 x 2,000	5
O200 linear lens 60° frosted	24139176	PMMA	semi-transparent	43	20.5 x 2,000	5
O200 linear lens 90° frosted	24139177	PMMA	semi-transparent	42	20.5 x 2,000	5
End cap for TALEXprofile Z202	24138969	PMMA	metallic-grey	46	26 x 6	10

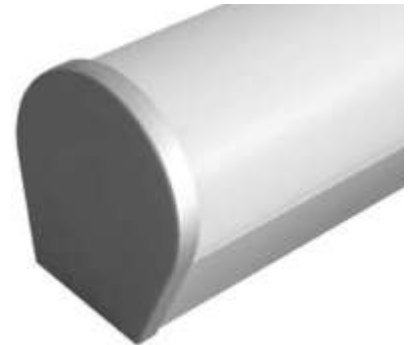
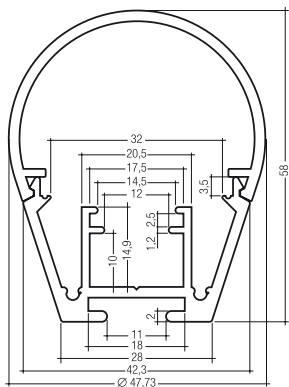
- ① Delivery in packing units only
- ② The cover may not be exposed to any mechanical stresses. If it is exposed to vibrations or wind the mounting plate can detach from the fixture. It must therefore be additionally secured.
- ③ Data are valid for applications with cover and end caps and with sufficient air circulation (convection). Compliance with the max. permissible temperature of the TALEX modules at the tc point (see data sheet) must be ensured in the thermally stable state. For further information on installation please refer to the brochure entitled "TALEX installation instructions and guidelines" (art. no. 24138887).

**Cooling properties:**  
1 cm Z202 = 7 cm<sup>2</sup> surface

Recommended profile length in cm ③					
ta °C	P110/111	P108	P118	P211-2 350 mA	P211-2 700 mA
20	20	20	20	4	6
30	20	20	20	4	7
40	20	20	20	5	10
50	20	27	32	7	16

**TALEXprofile Z203**  
Mounting profile

RoHS



TALEXprofile Z203 with cover and end cap

- versatile mounting profile for large format contour or luminaire conception
- suited for TALEXstrip (in combination with TALEXprofile Z204) and TALEXspaceLED
- wide accessory range
  - covers
  - insertion/cooling profile
  - end caps

TALEX						
type	article number	material	colour	dimensions (H x W x L) mm	weight/piece kg	packing unit ①
Z203 mounting profile	24138967	aluminium	anodised nature	27 x 42.3 x 2,000	1.54	5

TALEX accessories ②						
type	article number	material	colour	dimensions (H x W x L) mm	weight/piece kg	packing unit ①
Z204 insertion/cooling profile	24138850	aluminium	anodised nature	5 x 17.3 x 2,000		5
Cover white	24138971	PMMA	white	35.4 x 47.7 x 2,000		5
Cover frosted	24138972	PMMA	semi-transparent	35.4 x 47.7 x 2,000		5
Cover transparent	24138973	PMMA	transparent	35.4 x 47.7 x 2,000		5
End cap for TALEXprofile Z203	24138970	PMMA	metallic-grey	61.5 x 52 x 6		10

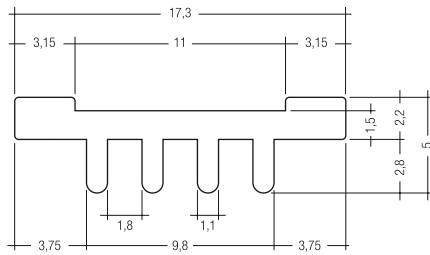
- ① Delivery in packing units only
- ② The cover may not be exposed to any mechanical stresses. If it is exposed to vibrations or wind the mounting plate can detach from the fixture. It must therefore be additionally secured.
- ③ Data are valid for applications with cover and end caps and with sufficient air circulation (convection). Compliance with the max. permissible temperature of the TALEX modules at the tc point (see data sheet) must be ensured in the thermally stable state. For further information on installation please refer to the brochure entitled "TALEX installation instructions and guidelines" (art. no. 24138887).

**Cooling properties:**  
1 cm Z203 = 7 cm<sup>2</sup> surface

ta °C	Recommended profile length in cm ③				
	P110/111	P108	P118	P211-2 350 mA	P211-2 700 mA
20	20	20	20	4	6
30	20	20	20	4	7
40	20	20	20	5	10
50	20	27	32	7	16

**TALEXprofile Z204**  
**Insertion/cooling profile**

RoHS



- slide-in unit for TALEXprofile Z202/Z203
- cooling section for TALEXstrip with a maximum width of 10 mm
- compact cross-section 5 x 17 mm

TALEX						
type	article number	material	colour	dimensions (H x W x L) mm	weight/piece g	packing unit <sup>①</sup>
Z204 insertion/cooling profile	24138850	aluminium	anodised nature	2.2 x 17.3 x 2,000	220	5

① Delivery in packing units only

**A wide range of applications for TALEXprofile Z202**



Slide-in option for TALEXspaceLED



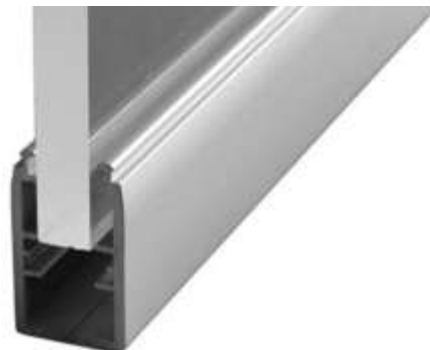
Slide-in option for TALEXprofile Z204 bracket



Slide-in option for acrylic strip



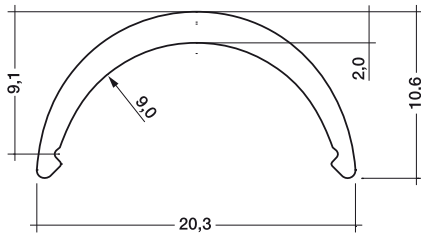
Snap-in assembly of the TALEXcover Z220/221/222 plastic cover



Edge injection with PMMA sections

TALEXcover Z220/Z221/Z222

RoHS

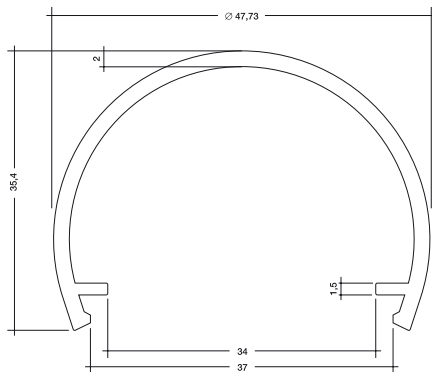


- cover for TALEXprofile Z200/Z201/Z202
- snap-in mechanism; no tools required
- available in three versions:
  - white
  - diffuse
  - transparent
- packing unit: 10 pieces

TALEX					
type	article number	material	colour	transmission	dimensions (H x W x L) mm
Z220 cover white	24138736	PMMA	white	62 %	10 x 20 x 2,000
Z221 cover frosted	24138737	PMMA	semi-transparent	82 %	10 x 20 x 2,000
Z222 cover transparent	24138738	PMMA	transparent	92 %	10 x 20 x 2,000

TALEXcover for TALEXprofile Z203

RoHS



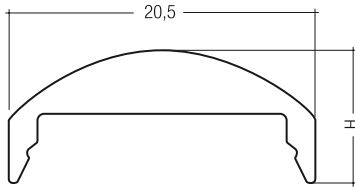
- cover for TALEXprofile Z203
- snap-in mechanism; no tools required
- available in three versions:
  - white
  - diffuse
  - transparent

TALEX						
type	article number	material	colour	transmission	dimensions (H x W x L) mm	packing unit ①
LED cover white	24138971	PMMA	white	62 %	35.4 x 47.7 x 2,000	5
LED cover frosted	24138972	PMMA	semi-transparent	82 %	35.4 x 47.7 x 2,000	5
LED cover transparent	24138973	PMMA	transparent	92 %	35.4 x 47.7 x 2,000	5

① Delivery in packing units only

**TALEXlens 0200**  
Linear lens

RoHS

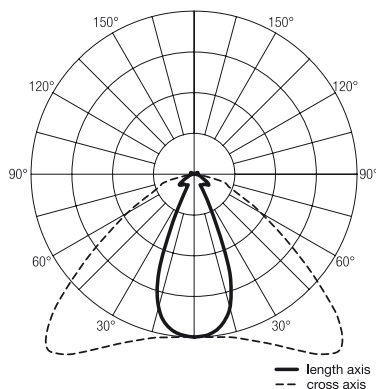


- linear lens for mounting profile TALEX(profile Z200/Z201/Z202/Z22W)
- designed for combination with white TALEX(strip)
- snap-in mechanism; no tools required
- light reflection angle along length axis 30°, 60°, 90°
- homogeneous light distribution

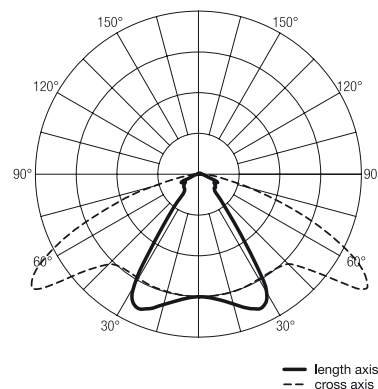
TALEX							
type	article number	material	colour	height H mm	dimensions (W x L) mm	weight g	packing unit
0200 linear lens 30°	24139172	PMMA	transparent	11	20.5 x 2,000	170	5
0200 linear lens 60°	24139164	PMMA	transparent	10	20.5 x 2,000	170	5
0200 linear lens 90°	24139165	PMMA	transparent	9	20.5 x 2,000	170	5
0200 linear lens 30° frosted	24139175	PMMA	semi-transparent	11	20.5 x 2,000	170	5
0200 linear lens 60° frosted	24139176	PMMA	semi-transparent	10	20.5 x 2,000	170	5
0200 linear lens 90° frosted	24139177	PMMA	semi-transparent	9	20.5 x 2,000	170	5

**Light distribution diagrams TALEXlens 0200**

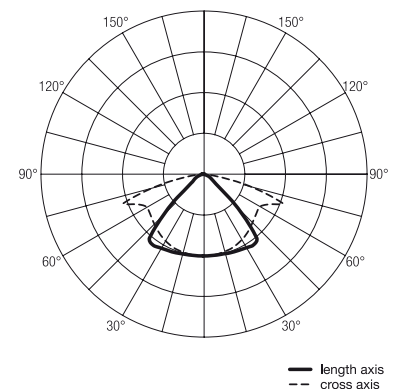
Luminous intensity distribution curve 30°



Luminous intensity distribution curve 60°



Luminous intensity distribution curve 90°



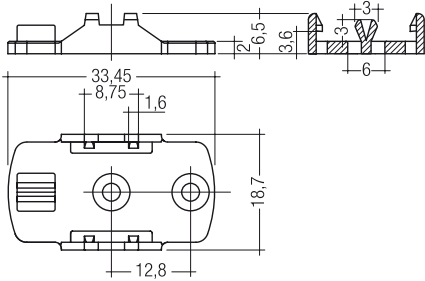


**TALEX(plate Z161 RZ for TALEXengine Line and TALEXprofile Z201/Z22W Mounting plate**

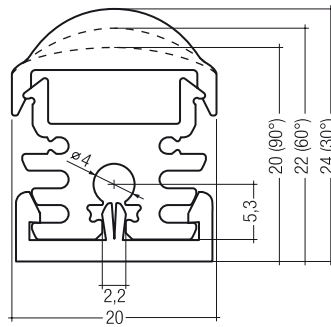
**NEW**

RoHS

Dimensions Z161 RZ:



- mounting plate with stud to prevent TALEXengine Line or other TALEXprofile sliding if mounted vertically
- metric M 2.5 screws or self-tapping screws with a diameter of 2.2 to 2.9 mm and a screw head height of no more than 2.2 mm are recommended for fixing the mounting plate. E.g. screws from Bossard ([www.bossard.com](http://www.bossard.com)): metric M 2.5/Torx (BN6404) or self-tapping screws Ø 2.2/Torx (BN13274)



**TALEX**

type	article number	material	colour	dimensions (L x W x H) mm	weight/piece g	packing unit
Z161 RZ mounting plate	88166859	PBT	white	33.45 x 18.7 x 6.5	1	100

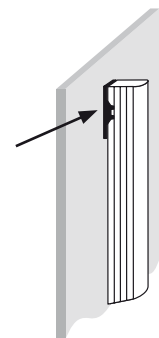
**Number of Z161 RZ mounting plates required**

One mounting plate is needed per 0.5 m profile, and at least two are needed.

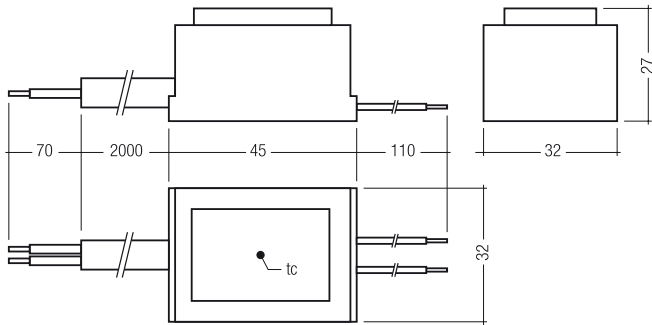
The mounting plate must not be subjected to any further mechanical stresses. If this cannot be guaranteed (because of vibrations for example) it may become detached and must therefore be secured with additional fastenings.

type	horizontal	vertical ①	overhead
LE600	2	2	2
LE1000	2	2	2
LE1200	3	3	3
LE1500	3	3	3

Z161 RZ at the top of TALEXengine Line: the stud on the end cap prevents the unit sliding down



**TALEXconverter 0001 K010 24 V**  
Constant voltage converter



- constant voltage converter for TALEX modules
- safety class 2
- short-circuit-proof
- integrated DC-rectifier
- compact dimensions
- mounting by 2 tapping screws

- connection cable primary:  
cable H05RN-F, 2 x 1 mm<sup>2</sup>,  
black, 2 m, with end ferrules  
blue: neutral  
brown: phase
- connection cable secondary:  
length 100 mm, Ø 0.34 mm<sup>2</sup>, 10 mm tinned  
+ white / - black

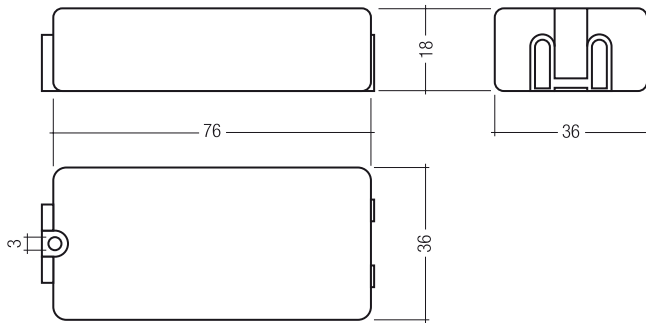
**Packaging:**  
box of 20

**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61547

type		TALEXconverter 0001 K010 24 V
article number		86456625
primary voltage	V <sub>AC</sub>	230
primary voltage range	V <sub>AC</sub>	207-253
input current at 230 V 50 Hz	A	0.016
frequency	Hz	50
efficiency ①	%	> 40
secondary voltage ①	V <sub>DC</sub>	24
output power	W	1.5
ambient temperature t <sub>a</sub>	°C	-25 → +45
max. case temperature t <sub>c</sub>	°C	65
weight	g	220
dimensions (L x W x H)	mm	45 x 32 x 27
fixing centres (D)	mm	25

① at nominal load 1.5 W

**TALEXconverter K001 8/12/24 V**  
Constant voltage converter



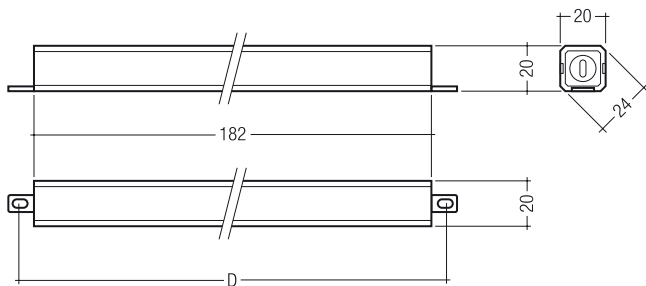
- constant voltage converter for TALEX modules
- short-circuit switch-off with automatic restart
- protection against overheating and overload by mains output power reduction
- safety class 2
- ingress protection IP 20
- compact dimensions
- connection cable with wire end ferrules
- for indoor use only
- housing: nylon natural white 66
- connection cable primary: 2 x 0.75 mm<sup>2</sup>, H03VV H2-F, damaged cable must be replaced by authorised personnel length 200 mm
- connection cable secondary: + red / - black length: 200 mm

**Packaging:**  
box of 40

**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61347-1  
EN 61547  
EN 61558-2-17  
DIN VDE 0710 T14

type		TALEXconverter 0007 K001 8 V	TALEXconverter 0010 K001 12 V	TALEXconverter 0010 K001 24 V
article number		86453107	86453116	86453122
primary voltage	V <sub>AC</sub>	220-240	220-240	220-240
primary voltage range	V <sub>AC</sub>	198-254	198-254	198-254
primary voltage range	V <sub>DC</sub>	176-280	176-280	176-280
input current at 230 V 50 Hz	mA	80	93	95
frequency	Hz	0/50/60	0/50/60	0/50/60
efficiency	%	> 60	> 60	> 60
secondary voltage	V	8	12	24
output power	VA	1-7	1-10	1-10
ambient temperature t <sub>a</sub>	°C	-25 → +50	-25 → +50	-25 → +50
max. case temperature t <sub>c</sub>	°C	70	70	65
weight	g	50	50	50
dimensions (L x W x H)	mm	76 x 36 x 18	76 x 36 x 18	76 x 36 x 18

**TALEXconverter 0010 K301 8/12/24 V**  
Constant voltage converter



- constant voltage converter for TALEX modules
- short-circuit switch-off with automatic restart
- constant output voltage
- safety class 2
- over temperature protection with power reduction
- protection rating IP 65
- connection cable with wire end ferrules length approx. 150 mm
- identification of polarity: secondary: + red / - black
- compact slimline housing

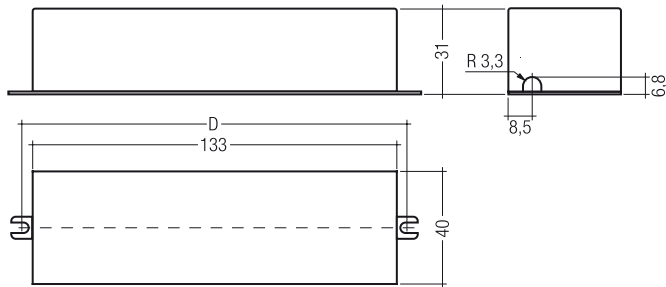
**Packaging:**  
box of 30

**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61547  
EN 61558-2-17

type		TALEXconverter 0010 K301 8 V	TALEXconverter 0010 K301 12 V	TALEXconverter 0010 K301 24 V
article number		86456196	86456206	86456215
primary voltage	V <sub>AC</sub>	230/240	230/240	230/240
primary voltage range	V <sub>AC</sub>	200-254	200-254	200-254
primary voltage range	V <sub>DC</sub>	200-240 (160 ①)	200-240 (160 ①)	200-240 (160 ①)
input current at 230 V 50 Hz	A	0.085	0.085	0.085
frequency	Hz	0/50/60	0/50/60	0/50/60
efficiency	%	> 80	> 80	> 80
secondary voltage	V <sub>DC</sub>	8	12	24
output power	W	1-10	1-10	1-10
ambient temperature t <sub>a</sub>	°C	-25 → +50	-25 → +50	-25 → +50
max. case temperature t <sub>c</sub>	°C	85	85	85
weight	g	50	50	50
dimensions (L x W x H)	mm	182 x 20 x 20	182 x 20 x 20	182 x 20 x 20
fixing centres (D)	mm	194	194	194

① after power up with higher voltage, the device will work with a reduced voltage as specified above

**TALEXconverter 0025 K220 8/12/24 V**  
Constant voltage converter



- constant voltage converter for TALEX modules
- wide supply voltage range 100-300 V
- constant output voltage
- over load protection with power reduction
- over temperature protection with power reduction
- short-circuit switch-off with automatic restart

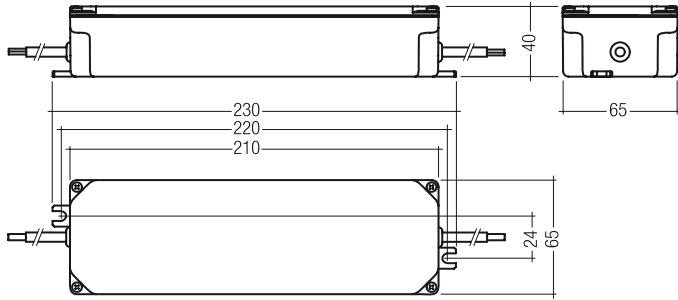
- protection rating IP 67
- connection cable with wire end ferrules secondary: + red / – black length approx. 500 mm
- white metal housing – potted
- UL approved

**Packaging:**  
box of 20

**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61000-3-3  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

type		TALEXconverter 0025 K220 8 V	TALEXconverter 0025 K220 12 V	TALEXconverter 0025 K220 24 V
article number		86455943	86455990	86456003
primary voltage	$V_{AC}$	100/230/277	100/230/277	100/230/277
primary voltage range	$V_{AC}$	90-300	90-300	90-300
primary voltage range	$V_{DC}$	110-300	110-300	110-300
input current at 230 V 50 Hz	A	0.12	0.12	0.12
frequency	Hz	0/50/60	0/50/60	0/50/60
efficiency	%	> 80	> 80	> 82
secondary voltage	$V_{DC}$	8	12	24
output power	W	25	25	25
ambient temperature $t_a$	°C	-25 → +50	-25 → +50	-25 → +50
max. case temperature $t_c$	°C	90	90	90
weight	g	300	300	300
dimensions (L x W x H)	mm	133 x 40 x 31	133 x 40 x 31	133 x 40 x 31
fixing centres (D)	mm	142	142	142

**TALEXconverter 0100 K240 8/12/24 V 100 VA**  
**Constant voltage converter**



- constant voltage converter for TALEX modules
- universal input voltage range
- protection class 1, SELV
- constant output voltages 8 V / 12 V / 24 V
- over temperature protection
- over load protection with power reduction

- short-circuit switch-off with automatic restart
- connection cable with wire end ferrules length approx. 2 m
- identification of polarity: secondary: + red / – black
- white metal housing – potted
- protection rating IP 67

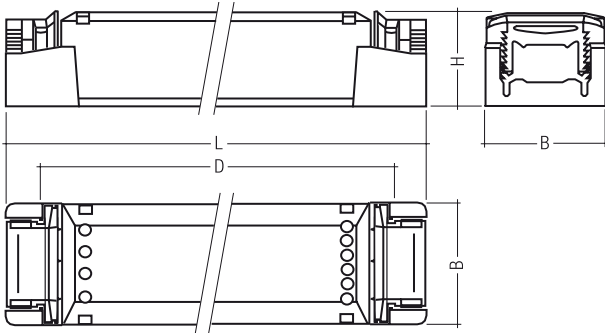
**Packaging:**  
 box of 20

**Designed according to:**  
 EN 55015  
 EN 61000-3-2  
 EN 61000-3-3  
 EN 61347-1  
 EN 61347-2-13  
 EN 61547  
 EN 62384

type		TALEXconverter 0100 K240 8 V	TALEXconverter 0100 K240 12 V	TALEXconverter 0100 K240 24 V
article number		24138974	24138975	24138976
primary voltage	$V_{AC}$	120/230/240	120/230/240	120/230/240
primary voltage range	$V_{AC}$	100-264	100-264	100-264
primary voltage range	$V_{DC}$	120-240	120-240	120-240
input current at 230 V 50 Hz	A	0.6	0.6	0.6
frequency	Hz	0/50/60	0/50/60	0/50/60
efficiency	%	> 80	> 80	> 80
secondary voltage	$V_{DC}$	8	12	24
output power	W	10-100	10-100	10-100
ambient temperature $t_a$	°C	-30 → +50	-30 → +50	-30 → +50
max. case temperature $t_c$	°C	90	90	90
weight	g	1,000	1,000	1,000
dimensions (L x W x H)	mm	210 x 60 x 40	210 x 60 x 40	210 x 60 x 40
fixing centres (D)	mm	220	220	220

**TALEXconverter 0025 K201 24 V**  
Constant voltage converter

**NEW**



- constant current converter for TALEX modules
- short-circuit switch-off with automatic restart
- safety class 2
- constant output voltage
- suitable for DC supply
- primary connection cable: H03VV-F, H05VV-F, cross section max. 2.5 mm<sup>2</sup>

- 6-pole terminal block on secondary side
- captive screw terminals
- tool free assembly of strain relief and terminal cover

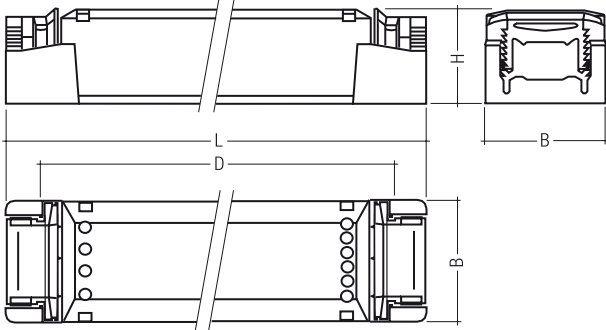
**Packaging:**  
box of 20

**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61000-3-3  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

type	TALEXconverter 0025 K201 24 V	
article number		86453418
primary voltage	V <sub>AC</sub>	230
primary voltage range	V <sub>AC</sub>	198-254
primary voltage range	V <sub>DC</sub>	200-240 (160 ①)
input current at 230 V 50 Hz	A	0.13
frequency	Hz	0/50/60
efficiency	%	> 82
secondary voltage	V <sub>DC</sub>	24
output power	W	25
ambient temperature t <sub>a</sub>	°C	-25 → +45
max. case temperature t <sub>c</sub>	°C	70
weight	g	150
dimensions (L x W x H)	mm	167 x 42 x 31
fixing centres (D)	mm	143-148

① after power up with higher voltage, the device will work with a reduced voltage as specified above

TALEXconverter 0025 K210 24 V one4all



Highlights:

- 1-channel one4all converter for 24 V TALEX RGB modules
- one4all control input: DSI, DALI and switchDIM
- dimming: 0.1-100 %
- tool free assembly of strain relief and terminal cover

Properties:

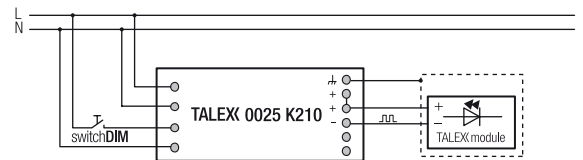
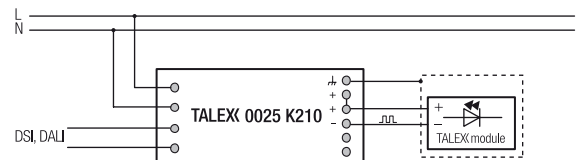
- 1 addressable output channel
- 24 V PWM output signal
- short-circuit switch-off with automatic restart
- over temperature protection
- safety class 2
- suitable for DC supply
- primary connection cable: H03VV-F, H05VV-F, cross section max. 2.5 mm<sup>2</sup>

Packaging:  
box of 20

Designed according to:

- EN 55015
- EN 61000-3-2
- EN 61000-3-3
- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 62384

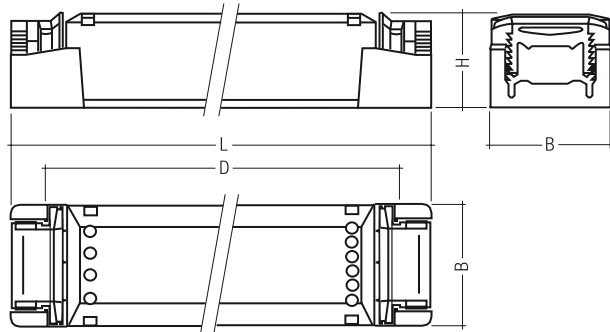
type	TALEXconverter 0025 K210 24 V one4all	
article number		86455937
primary voltage	V <sub>AC</sub>	230
primary voltage range	V <sub>AC</sub>	198-254
primary voltage range	V <sub>DC</sub>	200-240 (160 ①)
input current at 230 V 50 Hz	A	0.13
frequency	Hz	0/50/60
efficiency	%	> 82
secondary voltage	V <sub>DC</sub>	24
output power	W	25
dimming signal	—	DSI, DALI, switchDIM
ambient temperature t <sub>a</sub>	°C	-25 → +45
max. case temperature t <sub>c</sub>	°C	70
weight	g	150
dimensions (L x W x H)	mm	167 x 42 x 31
fixing centres (D)	mm	143-148



① after power up with higher voltage, the device will work with a reduced voltage as specified above



TALEXconverter 0025 K211 24 V



**Highlights:**

- 3-channel DALI dimming converter for 24 V TALEX RGB modules
- dimming: 0.1-100 %
- tool free assembly of strain relief and terminal cover
- integrated stand-alone sequencer (default setting: activated)
- for programming the free software "TALEX sequence programming software" is available at [www.tridonicatco.com](http://www.tridonicatco.com)

**Properties:**

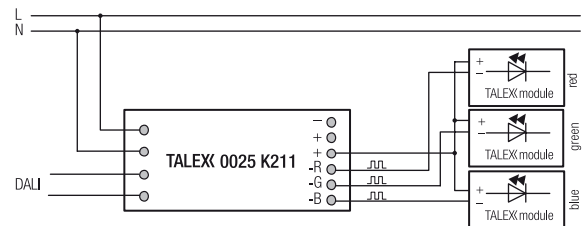
- DALI digital control input
- 3 addressable output channels
- 24 V PWM output signal
- short-circuit switch-off with automatic restart
- over temperature protection
- safety class 2
- suitable for DC supply
- primary connection cable: H03VV-F, H05VV-F, cross section max. 2.5 mm<sup>2</sup>

**Packaging:**  
box of 20

**Designed according to:**

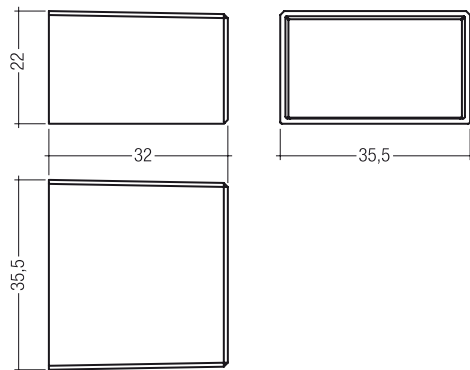
- EN 55015
- EN 61000-3-2
- EN 61000-3-3
- EN 61347-1
- EN 61347-2-13
- EN 61547
- EN 62384

type	TALEXconverter 0025 K211 24 V	
article number		86455066
primary voltage	V <sub>AC</sub>	230
primary voltage range	V <sub>AC</sub>	198-254
primary voltage range	V <sub>DC</sub>	200-240 (160 ①)
input current at 230 V 50 Hz	A	0.13
frequency	Hz	0/50/60
efficiency	%	> 82
secondary voltage	V <sub>DC</sub>	24
output power	W	3 x 8
dimming signal	-	DALI
ambient temperature t <sub>a</sub>	°C	-25 → +45
max. case temperature t <sub>c</sub>	°C	70
weight	g	150
dimensions (L x W x H)	mm	167 x 42 x 31
fixing centres (D)	mm	143-148



① after power up with higher voltage, the device will work with a reduced voltage as specified above

**TALEXconverter 0001 K350 1.5 VA 350 mA**  
Constant current converter



- constant current converter 350 mA for TALEXeos modules
- constant output current 350 mA DC;  $\pm 5\%$
- universal supply voltage range
- SELV
- over temperature protection
- overload protection by limitation of output power

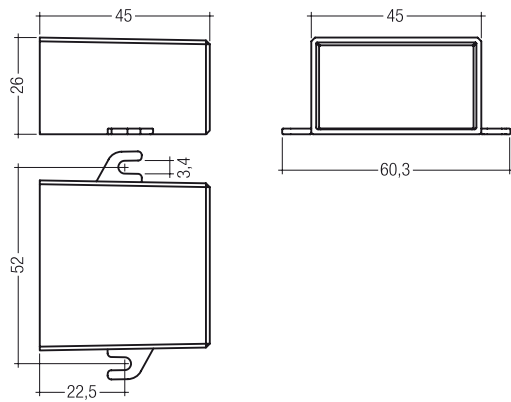
- compact housing for luminaire installation
- connection cable with wire end ferrules length approx. 200 mm
- identification of polarity: secondary: + red / - black
- white plastic housing – potted
- protection rating IP 67

**Packaging:**  
box of 20

**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61000-3-3  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

type	TALEXconverter 0001 K350 1.5 VA 350 mA		
article number			24139068
primary voltage	$V_{AC}$		120/230/240
primary voltage range	$V_{AC}$		100-264
primary voltage range	$V_{DC}$		120-240
input current at 230 V 50 Hz	A		0.08
frequency	Hz		0/50/60
efficiency	%		> 50
output current	$A_{DC}$		0.350
secondary voltage	$V_{DC}$		4
output power	W		1.4
ambient temperature $t_a$	$^{\circ}C$		-25 $\rightarrow$ +50
max. case temperature $t_c$	$^{\circ}C$		90
weight	g		100
dimensions (L x W x H)	mm		35.5 x 32 x 22

**TALEXconverter 0005 K350 5 VA 350 mA**  
**Constant current converter**



- constant current converter 350 mA for TALEXeos modules
- constant output current 350 mA DC;  $\pm 5\%$
- universal input voltage range
- SELV
- over temperature protection
- overload protection by limitation of output power

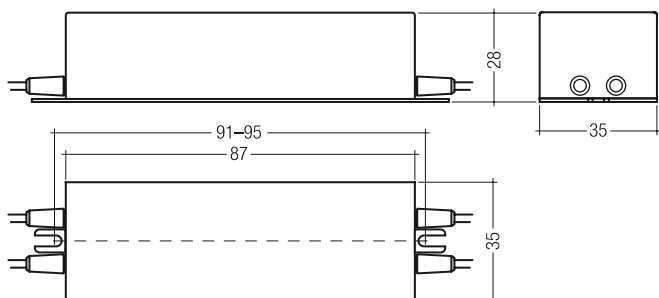
- compact housing for luminaire installation
- connection cable with wire end ferrules length approx. 200 mm
- identification of polarity: secondary: + red / - black
- white plastic housing – potted
- protection rating IP 67

**Packaging:**  
 box of 20

**Designed according to:**  
 EN 55015  
 EN 61000-3-2  
 EN 61000-3-3  
 EN 61347-1  
 EN 61347-2-13  
 EN 61547  
 EN 62384

type	TALEXconverter 0005 K350 5 VA 350 mA	
article number		24139069
primary voltage	$V_{AC}$	120/230/240
primary voltage range	$V_{AC}$	100-264
primary voltage range	$V_{DC}$	120-240
input current at 230 V 50 Hz	A	0.08
frequency	Hz	0/50/60
efficiency	%	> 75
output current	$A_{DC}$	0.350
secondary voltage	$V_{DC}$	20
output power	W	5.6
ambient temperature $t_a$	$^{\circ}C$	-25 $\rightarrow$ +50
max. case temperature $t_c$	$^{\circ}C$	90
weight	g	100
dimensions (L x W x H)	mm	45 x 45 x 26
fixing centres (D)	mm	52

**TALEXconverter 0010 K350 8 VA 350 mA**  
**Constant current converter**



- constant current converter 350 mA for TALEXeos modules
- constant output current 350 mA DC;  $\pm 5\%$
- universal input voltage range
- SELV
- over temperature protection
- overload protection by limitation of output power
- short-circuit switch-off with automatic restart

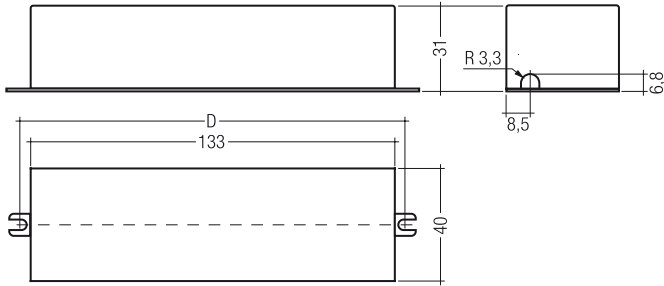
- connection cable with wire end ferrules length approx. 500 mm
- identification of polarity: secondary: + red / - black
- white metal housing – potted
- protection rating IP 67

**Packaging:**  
 box of 20

**Designed according to:**  
 EN 55015  
 EN 61000-3-2  
 EN 61000-3-3  
 EN 61347-1  
 EN 61347-2-13  
 EN 61547  
 EN 62384

type		TALEXconverter 0010 K350 8 VA 350 mA
article number		86458177
primary voltage	$V_{AC}$	120/230/240
primary voltage range	$V_{AC}$	100-264
primary voltage range	$V_{DC}$	120-240
input current at 230 V 50 Hz	A	0.12
frequency	Hz	0/50/60
efficiency	%	> 78
output current	$A_{DC}$	0.350
secondary voltage	$V_{DC}$	25
output power	W	8
ambient temperature $t_a$	$^{\circ}C$	-25 $\rightarrow$ +50
max. case temperature $t_c$	$^{\circ}C$	90
weight	g	90
dimensions (L x W x H)	mm	87 x 35 x 28
fixing centres (D)	mm	93

**TALEXconverter 0015 K350 15 VA 350 mA**  
**Constant current converter**



- constant current converter 350 mA for TALEXeos modules
- constant output current 350 mA DC;  $\pm 5\%$
- universal input voltage range
- SELV
- over temperature protection
- overload protection by limitation of output power

- connection cable with wire end ferrules length approx. 500 mm
- identification of polarity: secondary: + red / - black
- white metal housing – potted
- protection rating IP 67

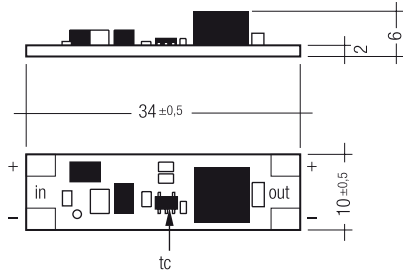
**Packaging:**  
 box of 20

**Designed according to:**  
 EN 55015  
 EN 61000-3-2  
 EN 61000-3-3  
 EN 61347-1  
 EN 61347-2-13  
 EN 61547  
 EN 62384

type	TALEXconverter 0015 K350 15 VA 350 mA	
article number		24139070
primary voltage	$V_{AC}$	120/230/240
primary voltage range	$V_{AC}$	100-264
primary voltage range	$V_{DC}$	120-240
input current at 230 V 50 Hz	A	0.25-1.0
frequency	Hz	0/50/60
efficiency at load > 5 W	%	> 80
output current	$A_{DC}$	0.350
secondary voltage	$V_{DC}$	48
output power	W	15
ambient temperature $t_a$	$^{\circ}C$	-25 $\rightarrow$ +50
max. case temperature $t_c$	$^{\circ}C$	90
weight	g	300
dimensions (L x W x H)	mm	133 x 40 x 31
fixing centres (D)	mm	142

**TALEXcontrol C350-2 12–24 V DC / 350 mA 8 VA**

**NEW**



- constant current source 350 mA for TALEXeos modules
- constant output current 350 mA DC
- suitable for central supplied LED installations
- high efficiency > 85 %
- slim compact shape

- no-load and overtemperature protection
- connection technology: solder pads
- thermal conductive adhesive tape, premounted
- suitable for mounting on TridonicAtco mounting profiles, e.g. TALEXprofile Z200

**Packaging:**  
box of 10

**Designed according to:**  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

type	TALEXcontrol C350-2 12–24 V DC / 350 mA 8 VA		
article number			86458453
primary voltage $U_{in}$	$V_{DC}$		12-24
max. input voltage $U_{in\ max.}$	$V_{DC}$		29
efficiency ①	%		> 85
output current	$V_{AC}$		0.350
output voltage ①	$V_{DC}$		max. 22 ( $U_{in}-2\ V$ )
output power	W		8
max. power loss	W		0.65
max. cable length (converter → TALEX module)	m		20
ambient temperature $t_a$	°C		-25 → +50
rated max. temperature $t_c$	°C		80
weight	g		2.5
dimensions (L x W x H)	mm		34 x 10 x 6

**Possible number of TALEXeos modules connected to TALEXcontrol C350-2 12–24 V / 350 mA 8 VA**

$U_{in} = 24\ V_{DC}$  ①

colour	P211-2	P214	P215	P216
red, amber	1-9	n. a.	n. a.	n. a.
green, blue, white	1-6	1	–	–

$U_{in} = 12\ V_{DC}$  ①

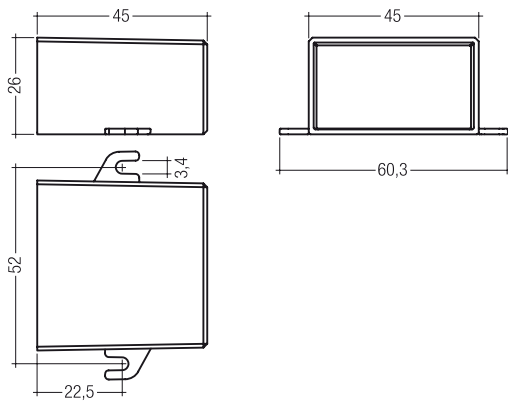
colour	P211-2	P214	P215	P216
red, amber	1-4	n. a.	n. a.	n. a.
green, blue, white	1-3	–	–	–

① Output voltage depending on supply voltage and the number of connected TALEX modules ( $U_{in}-2\ V$ ).

**Possible number of TALEXcontrol C350-2 12–24 V / 350 mA 8 VA connected to TridonicAtco TALEX converter; numbers valid for full loaded TALEXconverter C350-2 (8 VA)**

TALEX converter	number of TALEXcontrol C350-2
<b>K001</b> ; 12 V / 24 V 10 VA	1
<b>K301</b> ; 12 V / 24 V 10 VA	1
<b>K220</b> ; 12 V / 24 V 25 VA	3
<b>K240</b> ; 12 V / 24 V 100 VA	12

**TALEXconverter 0006 K700 6 VA 700 mA**  
**Constant current converter**



- constant current converter 700 mA for TALEXeos modules
- constant output current 700 mA DC;  $\pm 5\%$
- universal input voltage range
- SELV
- over temperature protection
- overload protection by limitation of output power

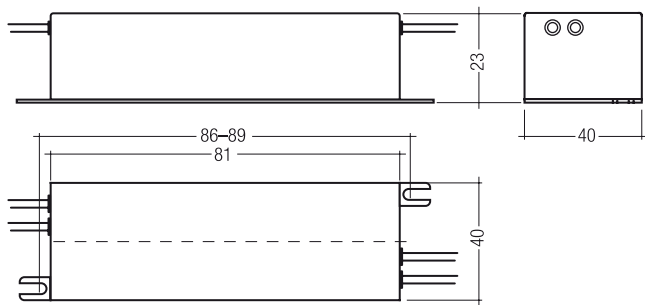
- compact housing for luminaire installation
- connection cable with wire end ferrules length approx. 200 mm
- identification of polarity: secondary: + red / - black
- white plastic housing – potted
- protection rating IP 67

**Packaging:**  
 box of 20

**Designed according to:**  
 EN 55015  
 EN 61000-3-2  
 EN 61000-3-3  
 EN 61347-1  
 EN 61347-2-13  
 EN 61547  
 EN 62384

type	TALEXconverter 0006 K700 6 VA 700 mA	
article number		24139071
primary voltage	$V_{AC}$	120/230/240
primary voltage range	$V_{AC}$	100-264
primary voltage range	$V_{DC}$	120-240
input current at 230 V 50 Hz	A	0.1-0.2
frequency	Hz	0/50/60
efficiency	%	> 75
output current	$A_{DC}$	0.700
secondary voltage	$V_{DC}$	8
output power	W	6
ambient temperature $t_a$	$^{\circ}C$	-25 $\rightarrow$ +50
max. case temperature $t_c$	$^{\circ}C$	90
weight	g	100
dimensions (L x W x H)	mm	45 x 45 x 26
fixing centres (D)	mm	52

**TALEXconverter 0010 K700 10 VA 700 mA**  
Constant current converter



- constant current converter 700 mA for TALEXeos modules
- constant output current 700 mA DC;  $\pm 5\%$
- universal input voltage range
- SELV
- over temperature protection
- overload protection by limitation of output power

- compact housing for luminaire installation
- connection cable with wire end ferrules length approx. 500 mm
- identification of polarity: secondary: + red / - black
- white metal housing – potted
- protection rating IP 67

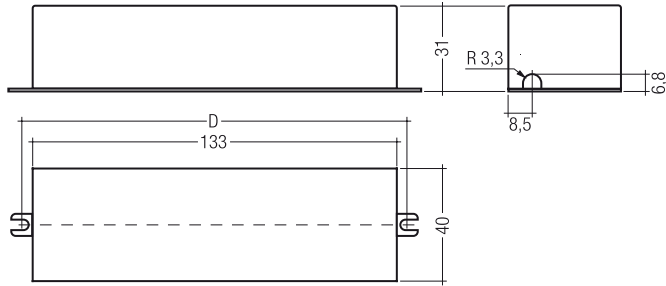
**Packaging:**  
box of 20

**Designed according to:**  
EN 55015  
EN 61000-3-2  
EN 61000-3-3  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

type	TALEXconverter 0010 K700 10 VA 700 mA	
article number		24139072
primary voltage	$V_{AC}$	120/230/240
primary voltage range	$V_{AC}$	100-264
primary voltage range	$V_{DC}$	120-240
input current at 230 V 50 Hz	A	0.12-0.25
frequency	Hz	0/50/60
efficiency at load > 5 W	%	> 75
output current	$A_{DC}$	0.700
secondary voltage	$V_{DC}$	15.2
output power	W	10.6
ambient temperature $t_a$	$^{\circ}C$	-25 $\rightarrow$ +50
max. case temperature $t_c$	$^{\circ}C$	90
weight	g	90
dimensions (L x W x H)	mm	87 x 35 x 28
fixing centres (D)	mm	93



**TALEXconverter 0030 K700 30 VA 700 mA**  
**Constant current converter**



- constant current converter 700 mA for TALEXeos modules
- constant output current 700 mA DC;  $\pm 5\%$
- universal input voltage range
- SELV
- over temperature protection
- overload protection by limitation of output power

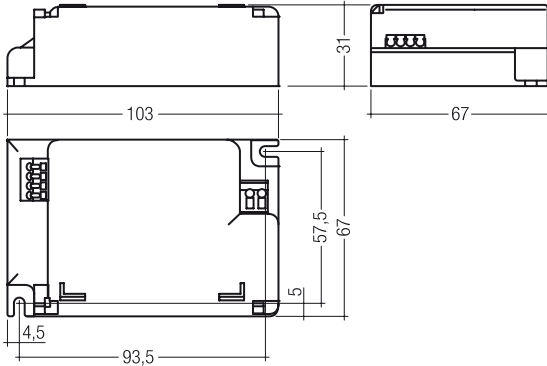
- connection cable with wire end ferrules length approx. 500 mm
- identification of polarity: secondary: + red / - black
- white metal housing – potted
- protection rating IP 67

**Packaging:**  
 box of 20

**Designed according to:**  
 EN 55015  
 EN 61000-3-2  
 EN 61000-3-3  
 EN 61347-1  
 EN 61347-2-13  
 EN 61547  
 EN 62384

type	TALEXconverter 0030 K700 30 VA 700 mA	
article number		24139073
primary voltage	$V_{AC}$	120/230/240
primary voltage range	$V_{AC}$	100-264
primary voltage range	$V_{DC}$	120-240
input current at 230 V 50 Hz	A	0.2-0.5
frequency	Hz	0/50/60
efficiency at load > 5 W	%	> 75
output current	$A_{DC}$	0.700
secondary voltage	$V_{DC}$	8-48
output power	W	30
ambient temperature $t_a$	$^{\circ}C$	-25 $\rightarrow$ +50
max. case temperature $t_c$	$^{\circ}C$	90
weight	g	300
dimensions (L x W x H)	mm	133 x 40 x 31
fixing centres (D)	mm	142

**TALEXconverter 0018 K350 DALI RGB**  
**DALI constant current converter**



**Highlights:**

- 3-channel DALI dimming converter for 350 mA TALEXeos modules
- dimming: 0.1-100 %
- exact load balancing per output channel
- compact housing for luminaire installation
- integrated stand-alone sequencer (default setting: deactivated)
- for programming the free software "TALEX sequence programming software" is available at [www.tridonicatco.com](http://www.tridonicatco.com)

**Properties:**

- DALI digital control input
- 3 addressable output channels
- 350 mA current-PWM output signal
- over temperature protection
- suitable for DC supply
- primary connection cable: H03VV-F, H05VV-F, cross section max. 2.5 mm<sup>2</sup>
- 6-pole ribbon cable terminal secondary, 1 m ribbon cable included in delivery

**Packaging:**  
 box of 20

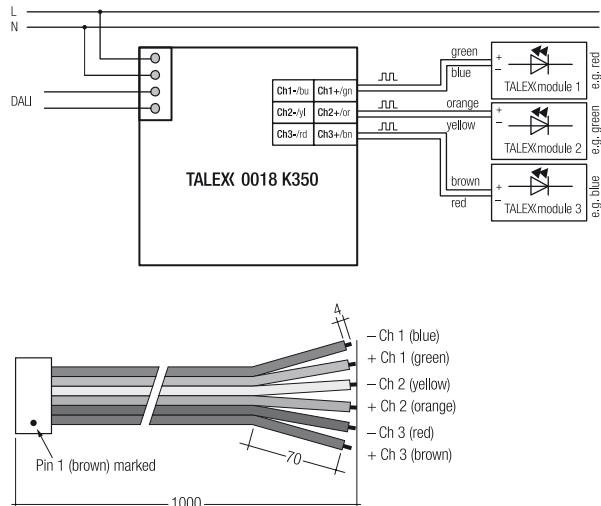
**Designed according to:**  
 EN 55015  
 EN 61000-3-2  
 EN 61000-3-3  
 EN 61347-1  
 EN 61347-2-13  
 EN 61547  
 EN 62384

type	TALEXconverter 0018 K350 DALI RGB	
article number	86458276	
primary voltage	V <sub>AC</sub>	230
primary voltage range	V <sub>AC</sub>	198-254
primary voltage range	V <sub>DC</sub>	200-240 (160 ①)
frequency	Hz	0/50/60
efficiency	%	> 82
output current	mA	350
PWM frequency	Hz	120
output power	W	18 (max. 5 LED / channel)
max. cable length	m	20
dimming signal	-	DALI
ambient temperature t <sub>a</sub>	°C	-20 → +45
max. case temperature t <sub>c</sub>	°C	75
weight	g	150
dimensions (L x W x H)	mm	103 x 67 x 31
fixing centres (D)	mm	91.5-95.5

① after power up with higher voltage, the device will work with a reduced voltage as specified above

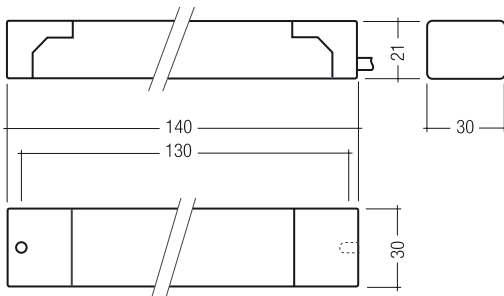
**Number of TALEXeos modules on TALEXconverter 0018 K350 DALI RGB per channel**

colour	TALEX P211-2
red, amber	0-5
green, blue, white	0-5



secondary terminals:  
 ribbon cable (AWG26) with 6 pole multipoint socket connector (DIN41651) included in delivery – plus signal leads can be connected together behind end terminal block.

TALEXcontrol C350 4-channel PWM dimmer



Highlights:

- 4 channel constant-current dimming controller for 350 mA TALEXeos modules
- dimming: 0.1-100 % ③
- exact load balancing per output channel
- wide input voltage range
- slim housing

Properties:

- universal PWM control inputs
- 350 mA current PWM output signal
- integrated strain-relief and terminal cover
- connection cable: H03VV-F, H05VV-F, cross section 0.5-1.5 mm<sup>2</sup>

Packaging:

box of 10

Designed according to:

EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

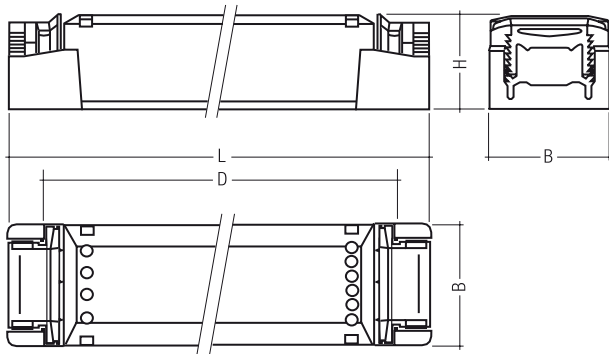
type		TALEXcontrol C350 4-channel PWM dimmer	
article number			86458243
supply	supply voltage $U_{in}$	$V_{DC}$	24-45 (SELV ②)
	max. supply current	A	1.5
control inputs	number of control inputs	–	4 x PWM
	input frequency	Hz	120-250
	PWM voltage	V	18-26
	max. LOW voltage	V	3
	min. HIGH voltage	V	13
	max. current input at 26 V	mA	3
outputs	number of output channels	–	4 (e.g. RGBA)
	output signal ③	–	current-PWM
	output frequency	Hz	120-250
	dimming range	%	0.1-100
	output voltage ①	V	24 V: 2-20 / 45 V: 25-41 (SELV ②)
	output current	A	0.35 / channel
	max. cable length (converter → TALEX module)	m	20
ambient temperature $t_a$		°C	-20 → +45
max. case temperature $t_c$		°C	70
weight		g	55

① depends on supply voltage  $U_{in}$  and number of TALEX modules ( $U_{LED\ max.} = U_{in} - 4\ V$ )

② SELV to be provided by the supply unit, e.g. TALEXconverter K211

③ dimming quality is determined by the PWM transmitter

TALEXcontrol C001 PWM dimmer



- 3-channel PWM dimmer for RGB colour control of TALEX modules
- for 12 V or 24 V TALEXmodule/TALEXstrip
- suitable for 1...10 V, potentiometer or PWM control
- ideal suited for controlling LED objects with high system power (max. 2 A / channel)
- control inputs galvanic separated from supply unit and output channels

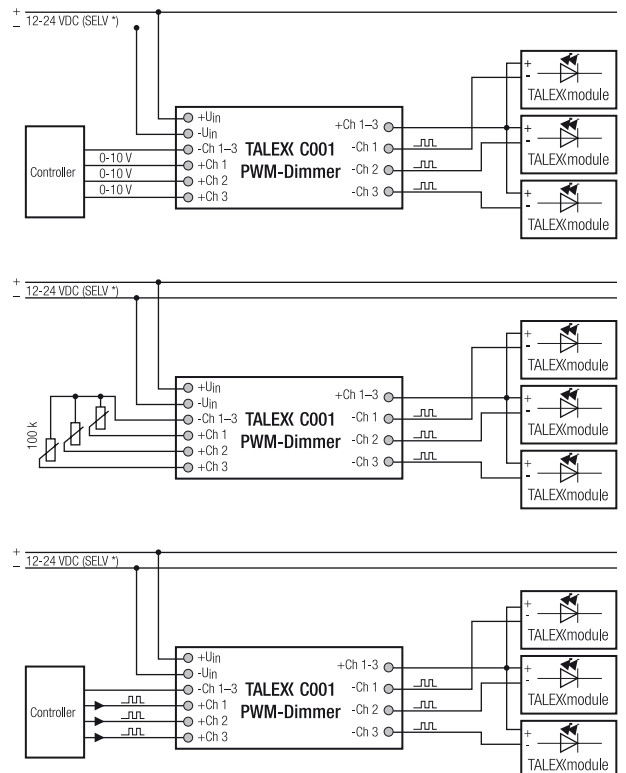
- control inputs protected against reversed polarity
- output channels protected against short-circuit and overload
- over temperature protection
- 6-pole screw terminal, primary
- 4-pole screw terminal, secondary
- integrated strain-relief and terminal cover
- tool-free assembly of strain-relief

**Packaging:**  
box of 10

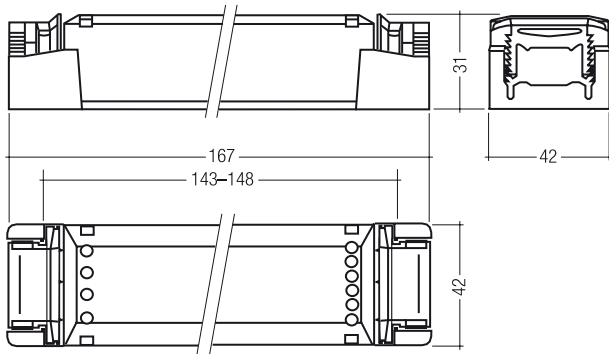
**Designed according to:**  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

type		TALEXcontrol C001 PWM dimmer	
article number		86454974	
supply	supply voltage $U_{in}$	$V_{DC}$	12-24 (SELV ①)
	max. supply current	A	6
inputs	number of control inputs	–	3 x 1...10 V, potentiometer or PWM galvanic isolated
	analogue	$V_{DC}$	1...10
	potentiometer	k $\Omega$	100, linear ②
	PWM signal	$V_{DC}$	12-24
	protection against reversed polarity	–	yes, reversible
outputs	number of output channels	–	3 x PWM (RGB), 350 Hz
	output voltage	V	12-24 (SELV ①)
	output current	A	max. 2 / channel
	protection against overload	–	yes
	short circuit protection	–	yes, reversible
ambient temperature $t_a$	$^{\circ}C$	-25 $\rightarrow$ +50	
max. case temperature	$^{\circ}C$	70	
weight	g	100	
dimensions (L x W x H)	mm	167 x 42 x 31	
fixing centres (D)	mm	143-148	

① SELV to be provided by the supply unit, e.g. TALEXconverter K240  
 ② If several channels are controlled by a potentiometer the resistance value must be divided by the number of channels to be controlled.  
 Sample calculation:  
 3 channels = 100 k $\Omega$  / 3 = 33 k $\Omega$   $\rightarrow$  a  $\geq$  33 k $\Omega$  potentiometer is needed



**TALEXcontrol C002**



The 3 channel PWM sequencer is part of the TALEXcontrol product range and enables the dynamic colour change of TALEX RGB modules using pulse width modulation.

PWM, with a frequency of approximately 200 Hz, is generated on each channel by a default characteristic flow line and modulated to the 12-24 V input voltage. The 1-10 V control input provides the 10 V control voltage required itself and is therefore also perfectly suited to use with a passive potentiometer (100 K lin.).

The common + terminal allows an integrated protection against fast transients, overvoltage and reversed polarity connection.

- for TALEX modules 12-24 V DC
- single-colour or RGB TALEX modules
- max. current per channel 2 A
- short-circuit cut-off
- 6-pole screw terminal, secondary
- 4-pole screw terminal, primary
- integrated strain-relief and terminal cover
- tool-free assembly of strain-relief

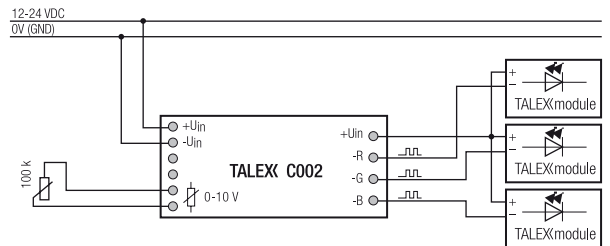
**Packaging:**  
box of 10

**Designed according to:**  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

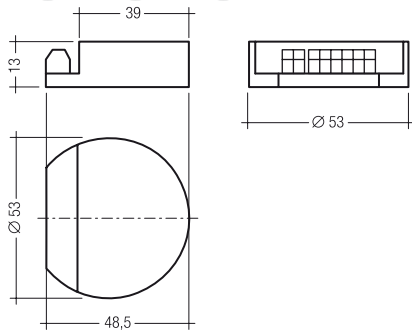
type		TALEXcontrol C002	
article number			86454968
mains supply	rated voltage	V <sub>DC</sub>	12-24
	max. current	A	6
inputs	analogue	V	1-10
	potentiometer	kΩ	100, linear
outputs	+ pole	-	-
	- pole red	A	2
	- pole green	A	2
	- pole blue	A	2
	voltage	V <sub>DC</sub>	12-24
permissible ambient temperature	°C		0 → +50

**Functions of the control input:**

- < 1.2 V starting threshold
- 1.2-9.8 V sequence speed 15 s - 15 min.
- > 9.8 V holding the current colour



TALEXcontrol C003 DALI RGB



Highlights:

- 3 channel DALI dimming controller for 24 V TALEX RGB modules
- dimming: 0.1-100 %
- tool free assembly of strain relief and terminal cover
- integrated stand-alone sequencer (default setting: activated)
- for programming the free software "TALEX sequence programming software" is available at [www.tridonicatco.com](http://www.tridonicatco.com)

Properties:

- DALI digital control input
- 3 addressable output channels
- 24 V PWM output signal
- short-circuit switch-off with automatic restart
- over temperature protection
- compact housing
- protection rating IP 20
- screw terminals

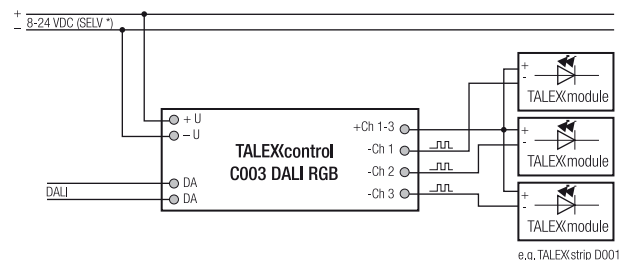
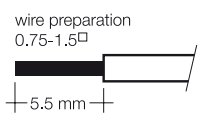
Packaging:  
box of 10

Designed according to:  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

type		TALEXcontrol C003 DALI RGB	
article number		86457912	
supply	supply voltage $U_{in}$	$V_{DC}$	8-24 (SELV ①)
	max. supply current	A	1.8
	power consumption	mA	20
inputs	interface, dimming	-	DALI
	max. input current	mA	2
	polarity-free	-	yes
	number of output channels	-	3 (RGB)
outputs	output signal	-	PWM, 1 kHz
	dimming range	-	0.1-100 %
	output voltage	V	8-24 (SELV ①)
	output current	A	max. 0.6 / channel
	short circuit protection	-	yes, reversible
	over temperature protection	-	yes
	ambient temperature $t_a$	°C	-25 → +55
	max. case temperature $t_c$	°C	65
weight	g	20	

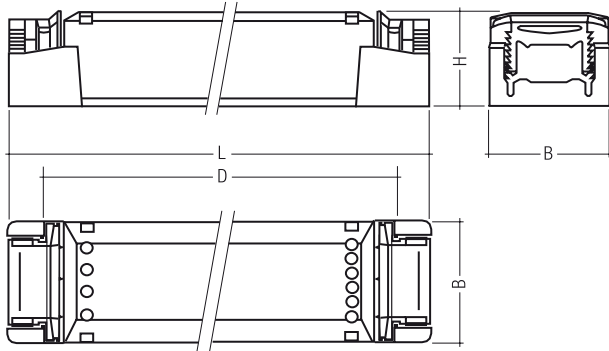
Installation instructions:

wire	wire cross section
solid	1.5 mm <sup>2</sup>
flexible	1.0 mm <sup>2</sup>
flexible with ferrule	0.75 mm <sup>2</sup>



① SELV to be provided by the supply unit, e.g. TALEXconverter K220

**TALEXcontrol C004 PWM booster**



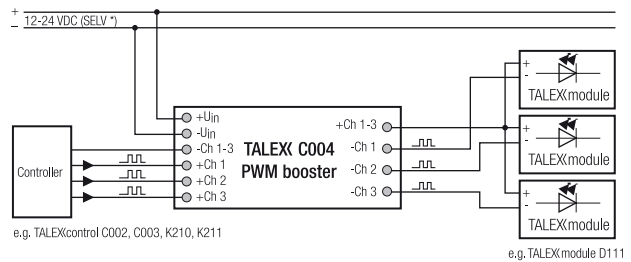
- 3 channel PWM booster for RGB colour control of TALEX modules
- for 12 V or 24 V TALEXmodule/TALEXstrip
- suitable for combination with TALEX control devices C001, C002, C003, K210, K211
- ideal suited for controlling LED objects with high system power (max. 2 A / channel)
- control inputs galvanic separated from supply unit and output channels

- control inputs protected against reversed polarity
- output channels protected against short-circuit and overload
- over temperature protection
- 6-pole screw terminal, primary
- 4-pole screw terminal, secondary
- integrated strain-relief and terminal cover
- tool-free assembly of strain-relief

**Packaging:**  
box of 10

**Designed according to:**  
EN 61347-1  
EN 61347-2-13  
EN 61547  
EN 62384

type		TALEXcontrol C004	
article number		24138760	
supply	supply voltage $U_{in}$	$V_{DC}$	12-24 (SELV ①)
	max. supply current	A	6
inputs	number of control inputs	–	3 x PWM galvanic isolated
	PWM signal	V	12-24
	input current	mA	15 / channel
	protection against reversed polarity	–	yes, reversible
outputs	number of output channels	–	3 x PWM (RGB)
	output voltage	V	12-24 (SELV ①)
	output current	A	max. 2 / channel
	protection against overload	–	yes (2.8 A)
	short circuit protection	–	yes, reversible
ambient temperature $t_a$	°C	-25 → +45	
max. case temperature $t_c$	°C	70	
weight	g	100	
dimensions (L x W x H)	mm	167 x 42 x 31	
fixing centres (D)	mm	143-148	



**Combination TALEX control device with TALEXcontrol C004 PWM booster**

TALEXcontrol	number of TALEXcontrol C004 PWM booster
<b>C001</b>	max. 120
<b>C002</b>	max. 120
<b>C003</b>	max. 40
<b>K211</b>	max. 15
<b>K210</b>	max. 45

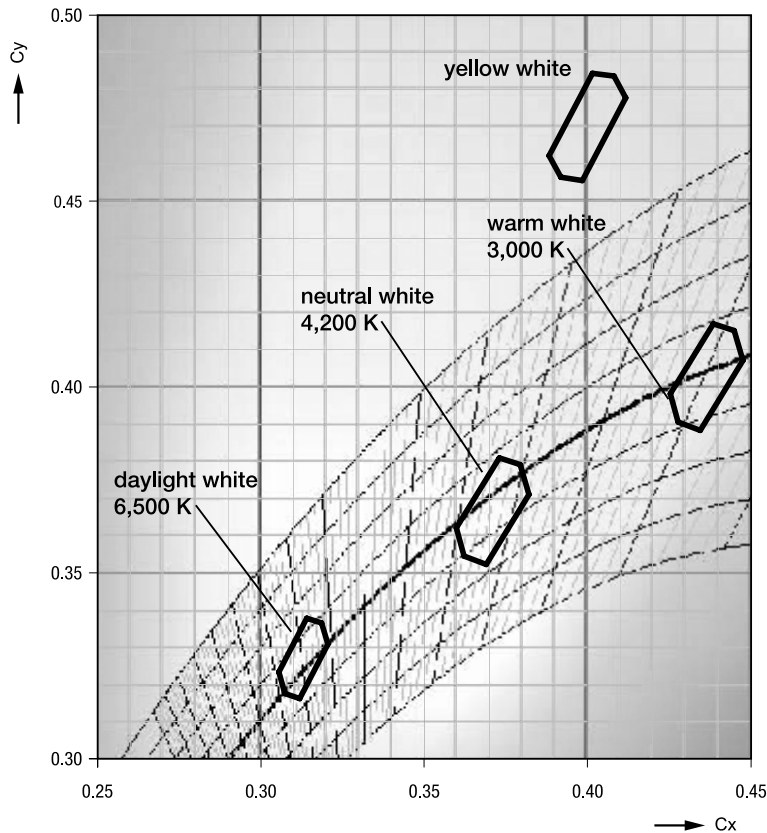
**Max. number of modules on TALEXcontrol C004 (max. 2 A / channel)**

TALEXconverter	TALEX D001	TALEX D111	TALEX D112	TALEX D114	TALEX D511
<b>K240 24 V (100 W)</b>	23	33	28	20	–
<b>K220 24 V (25 W)</b>	5	8	7	5	–
<b>K240 12 V (100 W)</b>	–	–	–	–	2
<b>K220 12 V (25 W)</b>	–	–	–	–	1

① SELV to be provided by the supply unit, e.g. TALEXconverter K240

# Colour temperatures, white-light performance and tolerances

TridonicAtco relies on high-quality fluorescent materials to obtain white light from blue LED.



By using chemically modified borosilicates with green to red-orange light, the colour temperature can be selectively adjusted or reduced and colour rendition can be improved. Monitoring the coating process appropriately to needs is extremely important in order to ensure reproducible colour conversion and to tighten the tolerance band significantly.

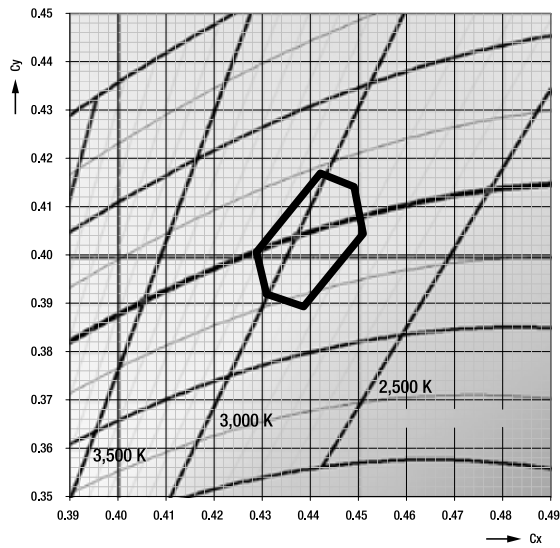
This results in excellent white-light homogeneity with very tight tolerances, a colour rendition index CRI ( $R_a$ ) in excess of 80 for all colour temperatures, and high colour consistency of emitted white light.

This produces TALEX modules having defined colour temperatures from 3,000 K (warm white), 4,200 K (neutral white) and 6,500 K (daylight white) for absolutely uniform appearance.

In addition, new encapsulation materials less prone to yellowing allow higher luminance levels and hence excellent luminous-flux stability.



Colour temperature and CIE coordinates 3,000 K

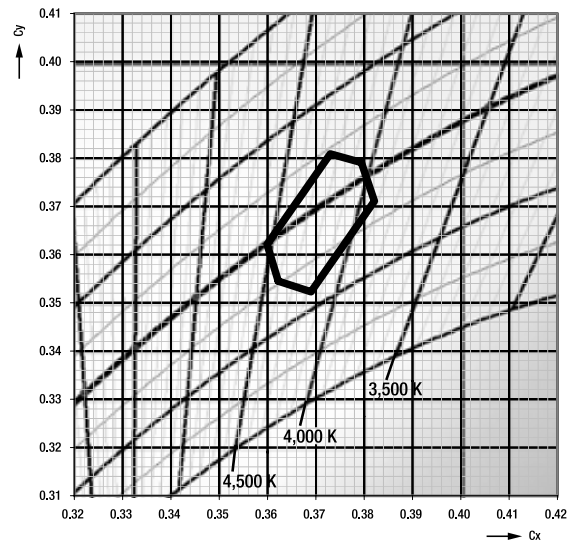


CIE coordinates: tolerance band

warm white – 3,000 K

	Cx	Cy
center	0.4400	0.4030
tolerance band	0.4309	0.3919
	0.4288	0.4006
	0.4421	0.4169
	0.4491	0.4141
	0.4510	0.4044
	0.4386	0.3893

Colour temperature and CIE coordinates 4,200 K

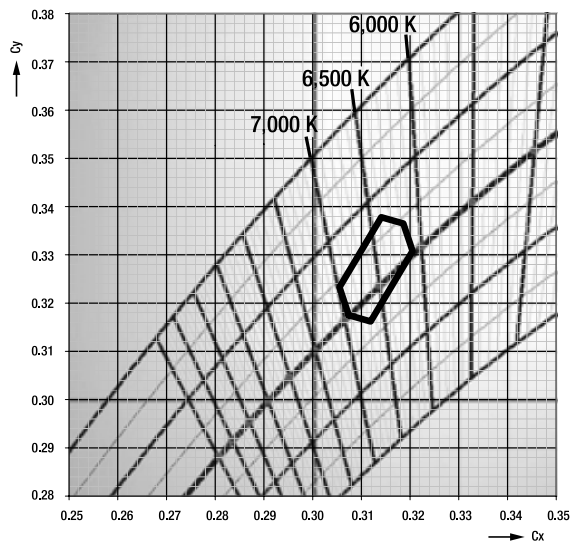


CIE coordinates: tolerance band

neutral white – 4,200 K

	Cx	Cy
center	0.3710	0.3669
tolerance band	0.3622	0.3545
	0.3599	0.3621
	0.3730	0.3809
	0.3794	0.3791
	0.3821	0.3711
	0.3690	0.3523

Colour temperature and CIE coordinates 6,500 K

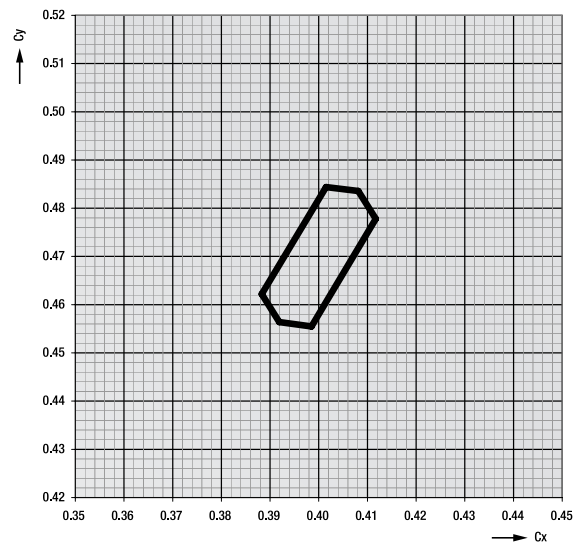


CIE coordinates: tolerance band

daylight white – 6,500 K

	Cx	Cy
center	0.3130	0.3270
tolerance band	0.3074	0.3175
	0.3055	0.3233
	0.3141	0.3378
	0.3186	0.3365
	0.3205	0.3308
	0.3119	0.3162

Colour temperature and CIE coordinates yellow white



CIE coordinates: tolerance band

yellow white

	Cx	Cy
center	0.4000	0.4700
tolerance band	0.3919	0.4564
	0.3883	0.4622
	0.4015	0.4844
	0.4081	0.4836
	0.4117	0.4778
	0.3985	0.4555



# Technical information

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Test marks and Symbols	395
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Table showing an overview of the Energy Classification System for ballasts from CELMA	397
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# TridonicAtco Guarantee Conditions

TridonicAtco stands for high quality products and services.  
Guarantee for lighting components, management systems and LED-modules and -systems exceeds usual legal guarantee.

TridonicAtco generally grants a 3-year guarantee for direct business partners and a 5-year guarantee for their end customers for all products except LED light sources and batteries.

## 1. Products

This guarantee applies to all electronic control gear supplied by TridonicAtco (electronic ballasts for fluorescent lamps, electronic ballasts for HID lamps, electronic transformers, ignitors, emergency units, converters for LED light sources, control units, magnetic ballasts for fluorescent and HID lamps) as well as LED light sources.

## 2. Duration of the guarantee

### Basic guarantee for direct business partners and their end customers

The basic guarantee for TridonicAtco products is 3 years.  
The guarantee is valid for a period of 3 years. To ensure the guarantee of the product matches that offered by the luminaire manufacturer, a further 6 months is added to the guarantee from the production date printed on the product to a maximum of 42 months from production date.

### Extended guarantee only for end customers

An extended guarantee is offered for the following products: electronic ballasts for fluorescent lamps, electronic ballasts for HID lamps, electronic transformers, ignitors, emergency units, converters for LED light sources, control units, magnetic ballasts for fluorescent and HID lamps.

Guarantee periods can be extended to 5 years from the date of installation. This guarantee will include a 6-month period to cover shipping, storage and manufacture. Therefore the maximum warranty period is 66 months from the production date indicated on the product. This extension can be validated through registration of the installation, via the TridonicAtco registration form provided on the TridonicAtco web site or at the local TridonicAtco sales offices. Installation has to be registered within 60 days of installation.

## 3. Guarantee conditions

TridonicAtco guarantee only applies when the following conditions are fulfilled:

TridonicAtco products have to be used according to the specified product and application specifications. E.g. temperature or voltage limits must not be exceeded; the product must not be exposed to mechanical stress, etc.

The guarantee for electronic control gear is only valid when the product is installed with lamps conforming to IEC specifications.

The guarantee is valid for failure rates exceeding the nominal failure rate. Failures can be caused by material malfunction or by failures during the production process (for products with a nominal life time of 50,000 hours a failure rate of only 0.2 % per 1,000 hours of operation is typical, products with a life time of 30,000 hours have a nominal failure rate of 0.3 % per 1,000 hours of operation).

### Extended guarantee for PC INDUSTRY

Extended guarantee time for PC INDUSTRY is 8 years. This guarantee will include a 6 month period to cover shipping, storage and manufacture. Therefore the maximum warranty period is (102 months after production).

### Additional conditions for magnetic ballasts of fluorescent lamps

In case of extreme conditions (stuck starter) the increased temperature on the ballast will lead to a reduced lifetime, if failed components are not replaced within a short time. The guarantee conditions therefore only apply upon use in combination with safety starters or proof of immediate lamp and starter replacement.



#### 4. Execution of the guarantee

In the event of failures exceeding the nominal failure rate TridonicAtco on its sole discretion might decide to repair defective components or products, supply adequate products as replacement or reimburse products to primary customers. The customers or end customers have to bear the costs for returning products. Replaced products are returned to the customer or to the end customer free of charge. Any other costs e.g. replacement costs upon installation, costs caused from failures of the installation and other damages are not covered by this guarantee.

The indicated life time is achieved by operating lighting components according to the conditions specified by the manufacturers, to the relevant international standards and in accordance with local regulations. All electronic products, having an expected failure rate, require continuous maintenance.

A small percentage of electronic ballasts and LED light sources require to be maintained regularly. Therefore easy access to the products has to be ensured at any time.

Ease of maintenance should be born in mind during the installation of the product in order to limit maintenance costs. If easy replacement is not considered at an early stage, end users shall be informed of future additional costs that might occur during standard maintenance. When designing the luminaire and its installation, a replacement of the control gear or the LED light source and its driver before the expired service life of the luminaire should be considered.

#### 5. Utilisation of the Guarantee

The guarantee has to be claimed immediately by returning the defective product in order to check the validity of the claim.

To claim the extended guarantee, a copy of the TridonicAtco registration form has to be sent to the TridonicAtco office in addition to the faulty products.

#### 6. Applicable Law

See the conditions supplied with the invoice.

# Pictograms



Lamp friendly warmstart within 0.5 s



Lamp friendly warmstart within 0.9 s



Lamp friendly warmstart within 1.5 s



Lamp friendly warmstart within 2.0 s



The "SMART Heating Concept" increases lamp life, reduces filament heating poser and optimices flicker free dimming operation



Cathode heating cut-off



Integrated module for state-of-the-art lighting management from TridonicAtco



Micro controller for modern lighting management



Constant light output independent of fluctuations in mains voltage



Low profile housing with 21 x 30 mm cross-section



IDC (Insulation Deformation Connection) terminal for fast manual and automated wiring



Eye sensitive optimized logarithmic dimming curve



CELMA energy class EEI = A1



CELMA energy class EEI = A2



CELMA energy class EEI = A3



Dimming range from 1-100 %



Dimming range from 3-100 %



Dimming range from 10-100 %



Energy savings and extended safety in 24 hour applications through combination of presence detectors and dimmable PCA ballast



Fixed Output eXTended: "fixed output" ballast with a digital DALI/DSI interface; individually addressable via DALI



Stores the last light level (e.g. standby) in case of mains failure resp. the weekly function test of independent emergency luminaires



Return error signals and programmable operation parameters with DALI mode



Disturbance free precise control with a digital signal (DSI or DALI)



Control gear with various control options, e.g. DALI, DSI, switchDIM, SMART, corridorFUNCTION



DALI standard compatible dimmable device (Digital Addressable Lighting Interface)



Interface module to integrate DSI devices into EIB systems



Gear for the voltage range of 120 V and 277 V, 50/60 Hz



Reversible, current-sensitive, self-holding thermal fuse, resets after supply reset



Intelligent Voltage Guard: Innovative protection function that protects the electronic ballast against damage by indicating overvoltage and shutting down in the event of undervoltage



Intelligent Temperature Guard: Innovative protection function that protects the electronic ballast against thermal damage



Emergency lighting unit with self-test function



Patented addressing function by means of LED



Simple installation without tools



Through-wiring directly at the device terminals



Boost start: Increases light output in emergency operation for 55 seconds; ensures optimum lamp life and a higher initial luminous flux



Multilevel charging for extended accu life

# Test marks and Symbols



TridonicAtco products comply with the requirements of 2004/108/EC and 2006/95/EC and are entitled to bear the CE mark. EC declarations of conformity can be requested via the Internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information



RoHS (**R**estriction **o**f the use of certain **H**azardous **S**ubstances in electrical and electronic equipment) summarises EC directive 2002/95/EC on the prohibition of certain substances in the manufacture and processing of electrical and electronic equipment and components.



The ENEC mark (**E**uropean **N**orms **E**lectrical **C**ertification) is a European mark of conformity and confirms that the device on which the symbol is shown complies with all the requirements of the ENEC scheme. TridonicAtco test certificates can be requested via the Internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information



Safety class 2. Device in which protection against electric shock is not based solely on the basic insulation but in which there are additional safety features such as double or enhanced insulation. It is independent of the protection measures of the fixed installation.



Safety class 3. Device in which protection against electric shock is based on the use of safety extra-low voltage (SELV). In this device no voltage higher than the safety extra-low voltage (SELV) is produced.



Reinforced insulation. The device is designed to be used in class 2 equipments and does not need any protection earth.



The device is suitable for direct mounting on normal inflammable surfaces such as wood and wood-based materials > 2 mm thickness.



The device is suitable to be installed in or attached to furniture whose behaviour in fire corresponds to standard flammable building materials within the context of DIN 4102 Part 1. The materials can be laminated, veneered or varnished.



The device is suitable for installing on or in furniture which is made from materials with unknown flammability properties.



Pictogram for temperature-protected devices. The temperature shown is the maximum surface temperature in the event of a fault at rated ambient temperature.



Mark for an independent gear. The gear must not be mounted inside the luminaire.



Approval marks from national inspection authorities



Short-circuit-proof safety converter or safety transformer / non-short-circuit-proof safety converter or safety transformer.



Non-short-circuit-proof transformer / non-short-circuit-proof energy-saving transformer



Dimmable trailing-edge phase dimmer / dimmable leading-edge and trailing-edge phase dimmer

## SELV

Safety Extra Low Voltage



Product approved for EMC by VDE

IP 20

Protection against contact and foreign bodies > 12 mm diameter

IP 54

Protection against splashes from all directions

IP 67

Protection against water penetration on temporary immersion

The latest technical information including all mechanical and electronic details can be downloaded from the internet at [www.tridonicatco.com](http://www.tridonicatco.com) → Technical information → Data sheets

# Standards

EN 50172 EN 50294	Requirements of emergency escape lighting systems Measurement method of total input power of ballast-lamp circuits
EN 55015 : 2006 + A1 : 2007 EN 55022; CISPR 22	Radio disturbances 0.15 MHz to 300 MHz Radio disturbances > 30 MHz
EN 60598-2-22; IEC 60598-2-22 EN 60921; IEC 60921 EN 60923; IEC 60923 EN 60925; IEC 60925 EN 60927; IEC 60927 EN 60929; IEC 60929	Particular requirements for luminaires for emergency lighting Ballasts for tubular fluorescent lamps – performance requirements Ballasts for discharge lamps – performance requirements DC supplied electronic ballasts for tubular fluorescent lamps – performance requirements Starting devices – performance requirements AC supplied electronic ballasts for tubular fluorescent lamps – performance requirements
EN 61000-3-2; IEC 61000-3-2 EN 61000-3-3; IEC 61000-3-3	Harmonic current emissions Voltage fluctuations and flicker in low-voltage supply systems
EN 61047; IEC 61047 EN 61347-1; IEC 61347-1 EN 61347-2-1; IEC 61347-2-1 EN 61347-2-2; IEC 61347-2-2 EN 61347-2-3; IEC 61347-2-3 EN 61347-2-4; IEC 61347-2-4 EN 61347-2-7; IEC 61347-2-7 EN 61347-2-8; IEC 61347-2-8 EN 61347-2-9; IEC 61347-2-9 EN 61347-2-11; IEC 61347-2-11 EN 61347-2-13; IEC 61347-2-13	DC or AC supplied electronic step-down converters for filament lamps – performance requirements Lamp control gear – General and safety requirements Particular requirements for starting devices Particular requirements for DC or AC supplied electronic step-down converters for filament lamps Particular requirements for AC supplied electronic ballasts for fluorescent lamps Particular requirements for DC supplied electronic ballasts for general lighting Particular requirements for DC supplied electronic ballasts for emergency lighting Particular requirements for ballasts for fluorescent lamps Particular requirements for ballasts for discharge lamps Particular requirements of electronic modules for luminaires Particular requirements for DC or AC supplied electronic control gears for LED modules
EN 61547; IEC 61547 EN 61558; IEC 61558	EMC immunity requirements Safety of power transformers
EN 62384; IEC 62384	DC or AC supplied electronic control gear for LED modules – Performance requirements
acc. VDE 0108 / EN 50172	Suitable for emergency lighting installations
IEC 60068-2-64 Fh IEC 60068-2-29 Eb IEC 60068-2-30 Db	Environmental testing – test Fh: Vibration, broad-band random (digital control) Basic environmental testing procedures – test Eb: Bump Basic environmental testing procedures – test Db: Damp heat, cyclic (12+12-hour cycle)
UL 935	Fluorescent-Lamp Ballasts
ANSI C62.41 Category A ANSI C82.11	Recommended Practice on Surge Voltage in Low-Voltage AC Power Circuits High-Frequency Fluorescent-Lamp Ballasts



Technical details

Table showing an overview of the Energy Classification System for ballasts from CELMA

Lamp type	Lamp wattage 50 Hz HF		Iicos Code	EEI-CLASS					
				A1 *	A2	A3	B1	B2	C **
T5	4	3.4	FD-4-E-G5-16/150	≤ 3.5 W	≤ 6 W	≤ 7 W	≤ 9 W	≤ 11 W	≤ 13 W
T5	6	5.1	FD-6-E-G5-16/225	≤ 4 W	≤ 8 W	≤ 9 W	≤ 11 W	≤ 13 W	≤ 15 W
T5	8	6.7	FD-8-E-G5-16/300	≤ 5 W	≤ 11 W	≤ 12 W	≤ 13 W	≤ 15 W	≤ 17 W
T5	13	11.8	FD-13-E-G5-16/525	≤ 8 W	≤ 15 W	≤ 16 W	≤ 17 W	≤ 19 W	≤ 21 W
T5	14	14.0	FDH-14-G5-L/H-16/550	≤ 9.5 W	≤ 17 W	≤ 19 W	–	–	–
T5	21	20.6	FDH-21-G5-L/H-16/850	≤ 13 W	≤ 24 W	≤ 26 W	–	–	–
T5	24	22.5	FDH-24-G5-L/H-16/550	≤ 14 W	≤ 26 W	≤ 28 W	–	–	–
T5	28	27.9	FDH-28-G5-L/H-16/1150	≤ 17 W	≤ 32 W	≤ 34 W	–	–	–
T5	35	35.5	FDH-35-G5-L/H-16/1450	≤ 21 W	≤ 39 W	≤ 42 W	–	–	–
T5	39	38.0	FDH-39-G5-L/H-16/850	≤ 23 W	≤ 43 W	≤ 46 W	–	–	–
T5	49	49.2	FDH-49-G5-L/H-16/1450	≤ 29 W	≤ 55 W	≤ 58 W	–	–	–
T5	54	54.1	FDH-54-G5-L/H-16/1150	≤ 31.5 W	≤ 60 W	≤ 63 W	–	–	–
T5	80	79.8	FDH-80-G5-L/H-16/1150	≤ 47.5 W	≤ 88 W	≤ 92 W	–	–	–
T5 circline	22	22.0	FCH-22-L/P-2GX13-16	≤ 14 W	≤ 26 W	≤ 28 W	–	–	–
T5 circline	40	40.0	FCH-40-L/P-2GX13-16	≤ 24 W	≤ 45 W	≤ 48 W	–	–	–
T5 circline	55	55.0	FCH-55-L/P-2GX13-16	≤ 32.5 W	≤ 61 W	≤ 65 W	–	–	–

Lamp type	Lamp wattage 50 Hz HF		Iicos Code	EEI-CLASS					
				A1 *	A2	A3	B1	B2	C **
T8	15	13.5	FD-15-E-G13-26/450	≤ 9 W	≤ 16 W	≤ 18 W	≤ 21 W	≤ 23 W	≤ 25 W
T8	18	16.0	FD-18-E-G13-26/600	≤ 10.5 W	≤ 19 W	≤ 21 W	≤ 24 W	≤ 26 W	≤ 28 W
T8	30	24.0	FD-30-E-G13-26/895	≤ 16.5 W	≤ 31 W	≤ 33 W	≤ 36 W	≤ 38 W	≤ 40 W
T8	36	32.0	FD-36-E-G13-26/1200	≤ 19 W	≤ 36 W	≤ 38 W	≤ 41 W	≤ 43 W	≤ 45 W
T8	38	32.0	FD-38-E-G13-26/1047	≤ 20 W	≤ 38 W	≤ 40 W	≤ 43 W	≤ 45 W	≤ 47 W
T8	58	50.0	FD-58-E-G13-26/1500	≤ 29.5 W	≤ 55 W	≤ 59 W	≤ 64 W	≤ 67 W	≤ 70 W
T8	70	60.0	FD-70E--G13-26/1800	≤ 36 W	≤ 68 W	≤ 72 W	≤ 77 W	≤ 80 W	≤ 83 W
T8 circline	22	19.0	FC-22-E-G10q-29	≤ 12 W	≤ 22 W	≤ 24 W	≤ 28 W	≤ 30 W	≤ 32 W
T8 circline	32	30.0	FC-32-E-G10q-29	≤ 18.5 W	≤ 35 W	≤ 37 W	≤ 38 W	≤ 40 W	≤ 42 W
T8 circline	40	32.0	FC-40-E-G10q-29	≤ 19.5 W	≤ 37 W	≤ 39 W	≤ 46 W	≤ 48 W	≤ 50 W

Lamp type	Lamp wattage 50 Hz HF		Iicos Code	EEI-CLASS					
				A1 *	A2	A3	B1	B2	C **
TC-S	5	5.0	FSD-5-E-2G7	≤ 4 W	≤ 7 W	≤ 8 W	≤ 10 W	≤ 12 W	≤ 14 W
TC-S	7	6.5	FSD-7-E-2G7	≤ 5 W	≤ 9 W	≤ 10 W	≤ 12 W	≤ 14 W	≤ 16 W
TC-S	9	8.0	FSD-9-E-2G7	≤ 6 W	≤ 11 W	≤ 12 W	≤ 14 W	≤ 16 W	≤ 18 W
TC-S	11	11.0	FSD-11-E-2G7	≤ 7.5 W	≤ 14 W	≤ 15 W	≤ 16 W	≤ 18 W	≤ 20 W

Lamp type	Lamp wattage 50 Hz HF		Iicos Code	EEI-CLASS					
				A1 *	A2	A3	B1	B2	C **
TC-L	18	16	FSD-18-E-2G11	≤ 10.5 W	≤ 19 W	≤ 21 W	≤ 24 W	≤ 26 W	≤ 28 W
TC-L	24	22	FSD-24-E-2G11	≤ 13.5 W	≤ 25 W	≤ 27 W	≤ 30 W	≤ 32 W	≤ 34 W
TC-L	36	32	FSD-36-E-2G11	≤ 19 W	≤ 36 W	≤ 38 W	≤ 41 W	≤ 43 W	≤ 45 W
TC-L	40	40	FSDH-40-L/P-2G11	≤ 23 W	≤ 44 W	≤ 46 W	–	–	–
TC-L	55	55	FSDH-55-L/P-2G11	≤ 31.5 W	≤ 59 W	≤ 63 W	–	–	–

Lamp type	Lamp wattage 50 Hz HF		Iicos Code	EEI-CLASS					
				A1 *	A2	A3	B1	B2	C **
TC-F	18	16	FSS-18-E-2G10	≤ 10.5 W	≤ 19 W	≤ 21 W	≤ 24 W	≤ 26 W	≤ 28 W
TC-F	24	22	FSS-24-E-2G10	≤ 13.5 W	≤ 25 W	≤ 27 W	≤ 30 W	≤ 32 W	≤ 34 W
TC-F	36	32	FSS-36-E-2G10	≤ 19 W	≤ 36 W	≤ 38 W	≤ 41 W	≤ 43 W	≤ 45 W

\* EEI-Class A1: The values as given in class A1 refer to the maximum total input power at a dimming level 25 %; i.e. 50 % of the class A3 of the same lamp.

\*\* EEI-Class C: Since November 2005 not permitted in Europe.

## Technical details

Table showing an overview of the Energy Classification System for ballasts from CELMA

Lamp type	Lamp wattage		Iicos Code	EEI-CLASS					C **
	50 Hz	HF		A1 *	A2	A3	B1	B2	
TC-D, TC-DEL	10	9.5	FSQ-10-E-G24q=1FSQ-10-E-G24d=1	≤ 6.5 W	≤ 11 W	≤ 13 W	≤ 14 W	≤ 16 W	≤ 18 W
TC-D, TC-DEL	13	12.5	FSQ-13-E-G24q=1 FSQ-13-E-G24d=1	≤ 8 W	≤ 14 W	≤ 16 W	≤ 17 W	≤ 19 W	≤ 21 W
TC-D, TC-DEL	18	16.5	FSQ-18-E-G24q=2 FSQ-18-E-G24d=2	≤ 10.5 W	≤ 19 W	≤ 21 W	≤ 24 W	≤ 26 W	≤ 28 W
TC-D, TC-DEL	26	24.0	FSQ-26-E-G24q=3FSQ-26-E-G24d=3	≤ 14.5 W	≤ 27 W	≤ 29 W	≤ 32 W	≤ 34 W	≤ 36 W

Lamp type	Lamp wattage		Iicos Code	EEI-CLASS					C **
	50 Hz	HF		A1 *	A2	A3	B1	B2	
TC-T, TC-TEL	18	16.5	FSM-18-I-GX24d-2 FSM-18-E-GX24q-2	≤ 10.5 W	≤ 19 W	≤ 21 W	≤ 24 W	≤ 26 W	≤ 28 W
TC-T, TC-TEL	26	24.0	FSM-26-I-GX24d-3 FSM-26-E-GX24q-3	≤ 14.5 W	≤ 27 W	≤ 29 W	≤ 32 W	≤ 34 W	≤ 36 W
TC-T, TC-TEL	32	32.0	FSMH-32-L/P-GX24q=4	≤ 19.5 W	≤ 36 W	≤ 39 W	–	–	–
TC-T, TC-TEL	42	43.0	FSMH-42-L/P-GX24q=4	≤ 25 W	≤ 47 W	≤ 50 W	–	–	–

Lamp type	Lamp wattage		Iicos Code	EEI-CLASS					C **
	50 Hz	HF		A1 *	A2	A3	B1	B2	
TC-DD, TC-DDE	10	9.0	FSS-10-E-GR 10q FSS-10-L/P/H-GR10q	≤ 6.5 W	≤ 11 W	≤ 13 W	≤ 14 W	≤ 16 W	≤ 18 W
TC-DD, TC-DDE	16	14.0	FSS-16-I-GR8FSS-16-E-GR 10q FSS-16-L/P/H-GR10q	≤ 8.5 W	≤ 17 W	≤ 19 W	≤ 21 W	≤ 23 W	≤ 25 W
TC-DD, TC-DDE	21	19.0	FSS-21-E-GR 10q FSS-21-L/P/H-GR10q	≤ 12 W	≤ 22 W	≤ 24 W	≤ 27 W	≤ 29 W	≤ 31 W
TC-DD, TC-DDE	28	25.0	FSS-28-I-GR8FSS-28-E-GR 10q FSS-28-L/P/L-GR10q	≤ 15.5 W	≤ 29 W	≤ 31 W	≤ 34 W	≤ 36 W	≤ 38 W
TC-DD, TC-DDE	38	34.0	FSS-38-E-GR 10q FSS-38-L/P/H-GR10q	≤ 20 W	≤ 38 W	≤ 40 W	≤ 43 W	≤ 45 W	≤ 47 W
TC-DD, TC-DDE	55	55.0	FSS-55-E-GR 10q-3 FSS-55-L/P/L-GR10q-3	≤ 31.5 W	≤ 59 W	≤ 63 W	–	–	–

\* EEI-Class A1: The values as given in class A1 refer to the maximum total input power at a dimming level 25 %; i.e. 50 % of the class A3 of the same lamp.

\*\* EEI-Class C: Since November 2005 not permitted in Europe.

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