CE RoHS

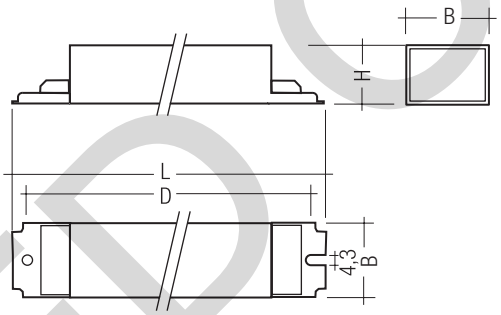
T8

PC T8 TOP, 18 – 58 W

PC TOP

Product description

- CELMA Energy Efficiency Index A2
- Nominale life time up to 50,000 h (at ta 50 °C with a failure rate max. 0.2 % per 1,000 h)
- Large temperature range (for values see table)
- Fixed frequency operation for constant lamp current
- Lamp preheating for min. 30,000 starts without replacement of lamps
- Constant luminous flux irrespective of fluctuations in mains voltage
- Designed for THD < 10 %
- For luminaires of protection class I and protection class II
- Automatic start after replacement of defective lamps (detects 1 lamp)
- Safety shutdown of defective lamps and at end of life
- Push terminal for rapid automatic or manual wiring
- Temperature protection as per EN 61347-2-3 C5e



Technical data

AC voltage range	198 – 264 V
DC voltage range	Not supported
Overvoltage protection	320 V AC, 1 h
Defined warm start	≤ 1.5 s
Operating frequency	≥ 39 kHz
Type of protection	IP20

→

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Wiring diagrams and installation examples, page 4

Ordering data

Type	Article number	Packaging carton	Packaging pallet	Weight
For luminaires with 1 lamp				
PC 1/18 T8 TOP	**22176366**	25 pieces	900 pieces	0.22 kg
PC 1/36 T8 TOP	**22176370**	25 pieces	900 pieces	0.22 kg
PC 1/58 T8 TOP	**22176373**	25 pieces	900 pieces	0.22 kg
For luminaires with 2 lamps				
PC 2/18 T8 TOP	**22176367**	25 pieces	900 pieces	0.22 kg
PC 2/36 T8 TOP	**22176371**	25 pieces	900 pieces	0.22 kg
PC 2/58 T8 TOP	**22176374**	20 pieces	520 pieces	0.28 kg
For luminaires with 3 lamps				
PC 3/18 T8 TOP	**22176368**	20 pieces	520 pieces	0,27 kg
PC 3/36 T8 TOP	**22176372**	20 pieces	520 pieces	0,28 kg
For luminaires with 4 lamps				
PC 4/18 T8 TOP	**22176369**	25 pieces	750 pieces	0.24 kg

Specific technical data

Lamp wattage	Lamp type	Type	Article number	Dimensions L x W x H	Hole spacing D	Lamp power	Circuit power	EEI	Current at 50 Hz		λ at 50 Hz		tc point max.	Ambient temperature ta
									220 V	240 V	220 V	240 V		
For luminaires with 1 lamp														
1 x 18 W	T8	**PC 1/18 T8 TOP**	22176366	280 x 30 x 28 mm	270 mm	16 W	18.5 W	A2	0.09 A	0.08 A	0.97	0.97	70 °C	-20 ... 50 °C
1 x 36 W	T8	**PC 1/36 T8 TOP**	22176370	280 x 30 x 28 mm	270 mm	32 W	35.5 W	A2	0.17 A	0.15 A	0.97	0.97	75 °C	-20 ... 50 °C
1 x 58 W	T8	**PC 1/58 T8 TOP**	22176373	280 x 30 x 28 mm	270 mm	50 W	53.5 W	A2	0.25 A	0.23 A	0.97	0.97	70 °C	-20 ... 50 °C
For luminaires with 2 lamps														
2 x 18 W	T8	**PC 2/18 T8 TOP**	22176367	280 x 30 x 28 mm	270 mm	32 W	37.7 W	A2	0.18 A	0.16 A	0.97	0.97	70 °C	-20 ... 50 °C
2 x 36 W	T8	**PC 2/36 T8 TOP**	22176371	280 x 30 x 28 mm	270 mm	64 W	71.5 W	A2	0.34 A	0.31 A	0.97	0.97	75 °C	-20 ... 50 °C
2 x 58 W	T8	**PC 2/58 T8 TOP**	22176374	360 x 30 x 28 mm	350 mm	100 W	109.0 W	A2	0.51 A	0.46 A	0.97	0.97	75 °C	-20 ... 50 °C
For luminaires with 3 lamps														
3 x 18 W	T8	**PC 3/18 T8 TOP**	22176368	360 x 30 x 28 mm	350 mm	48 W	56.0 W	A2	0.26 A	0.24 A	0.97	0.97	75 °C	-25 ... 50 °C
3 x 36 W	T8	**PC 3/36 T8 TOP**	22176372	360 x 30 x 28 mm	350 mm	96 W	110.0 W	A3	0.51 A	0.47 A	0.97	0.97	75 °C	-20 ... 50 °C
For luminaires with 4 lamps														
4 x 18 W	T8	**PC 4/18 T8 TOP**	22176369	232 x 40 x 30 mm	220 mm	64 W	72.0 W	A2	0.34 A	0.31 A	0.97	0.97	65 °C	-20 ... 50 °C

Standards
EN 55015
EN 61347-2-3
EN 60929
EN 61000-3-2
EN 61547

Lamp starting characteristics
Warm start
Starting time 1,5 s
(4 x 18 W and 3 x 36 W: 2 s)

AC operation
Mains voltage:
220 – 240 V 50 / 60 Hz
198 – 264 V 50 / 60 Hz including safety tolerance (±10 %)
202 – 254 V 50 / 60 Hz including performance tolerance (+6 % / -8 %)

ASIC light management
ASIC (Application specific integrated circuit) is the very latest in lighting management design technology. The lamp friendly warm start is delivering maximum T8 lamp life and enables high switching frequency applications.

Energy class CELMA EEI = A2 / A3[1)]

[1)] according to the EU directives on ecodesign requirements (EC) No. 245/2009 and (EC) No. 347/2010

Harmonic distortion in the mains supply

Type	Lamp type	Wattage	THD at 230 V / 50 Hz
PC 1/18 T8 TOP	T8	1x18 W	< 11 %
PC 2/18 T8 TOP	T8	2x18 W	< 12 %
PC 3/18 T8 TOP	T8	3x18 W	< 15 %
PC 4/18 T8 TOP	T8	4x18 W	< 12 %
PC 1/36 T8 TOP	T8	1x36 W	< 12 %
PC 2/36 T8 TOP	T8	2x36 W	< 15 %
PC 3/36 T8 TOP	T8	3x36 W	< 12 %
PC 1/58 T8 TOP	T8	1x58 W	< 12 %
PC 2/58 T8 TOP	T8	2x58 W	< 12 %

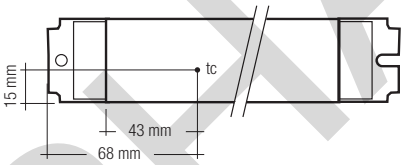
Output voltage

Type	Lamp type	Wattage	U_{out}
PC 1/18 T8 TOP	T8	1x18 W	250 V
PC 2/18 T8 TOP	T8	2x18 W	250 V
PC 3/18 T8 TOP	T8	3x18 W	250 V
PC 4/18 T8 TOP	T8	4x18 W	300 V
PC 1/36 T8 TOP	T8	1x36 W	250 V
PC 2/36 T8 TOP	T8	2x36 W	250 V
PC 3/36 T8 TOP	T8	3x36 W	350 V
PC 1/58 T8 TOP	T8	1x58 W	250 V
PC 2/58 T8 TOP	T8	2x58 W	250 V

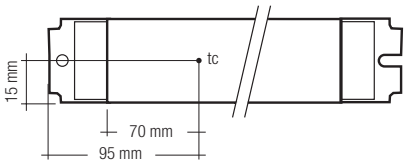
Ballast lumen factor (EN 60929 8.1)

Type	Lamp type	Wattage	AC/DC-BLF at U = 198–254 V, 25 °C
PC 1/18 T8 TOP	T8	1x18 W	1.00
PC 2/18 T8 TOP	T8	2x18 W	1.00
PC 3/18 T8 TOP	T8	3x18 W	1.00
PC 4/18 T8 TOP	T8	4x18 W	1.00
PC 1/36 T8 TOP	T8	1x36 W	1.00
PC 2/36 T8 TOP	T8	2x36 W	1.00
PC 3/36 T8 TOP	T8	3x36 W	1.00
PC 1/58 T8 TOP	T8	1x58 W	1.00
PC 2/58 T8 TOP	T8	2x58 W	1.00

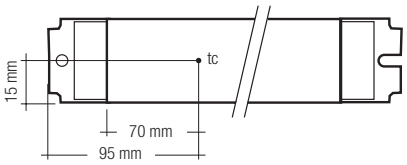
Ambient Temperature
-20 °C to +50 °C



L = 232 mm



L = 280 mm



L = 360 mm

tc point is related to the ballast life time. PC T8 TOP is designed for an average service life of 50,000 hours under reference conditions and with a failure probability of less than 10 %. This corresponds to an average failure rate of ≤ 0.2 % for every 1,000 hours of operation.
Reduced temperature will extend ballast life time.

Humidity: 5 % up to max. 85 %, not condensed (max. 56 days/year at 85 %)

Storage temperature: -40 °C up to max. +80 °C

The devices have to be within the specified temperature range (ta) before they can be operated.

Maximum loading of automatic circuit breakers

Automatic circuit	C10	C13	C16	C20	B10	B13	B16	B20
Installation Ø	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²	1.5 mm²	1.5 mm²	1.5 mm²	2.5 mm²
PC 1/18 T8 TOP	44	62	74	104	22	31	37	52
PC 2/18 T8 TOP	36	50	60	72	18	25	30	36
PC 3/18 T8 TOP	40	60	80	92	20	30	40	46
PC 4/18 T8 TOP	30	40	52	64	15	20	26	32
PC 1/36 T8 TOP	38	52	60	72	19	26	30	36
PC 2/36 T8 TOP	24	32	38	44	12	16	19	22
PC 3/36 T8 TOP	28	40	56	76	14	20	28	38
PC 1/58 T8 TOP	38	56	80	92	19	28	40	46
PC 2/58 T8 TOP	22	34	52	68	11	17	26	34

Wiring advice

The lead length is dependant on the capacitance of the cable.
Earthing is not required for the device to operate. Connection to earth reduces radio interference.

Ballast	Terminal	
Type	Cold	Hot
PC 1xx T8 TOP	13, 14	9, 10
PC 2xx T8 TOP	11, 12, 13, 14	9, 10
PC 3xx T8 TOP	11, 12, 13, 14, 15, 16	9, 10
PC 4xx T8 TOP	13, 14, 15, 16, 17, 18, 19, 20	9, 10

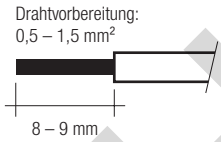
max. 100 pF between hot lamp leads and earth
max. 200 pF between cold lamp leads and earth
max. 200 pF between lamp leads

With standard solid wire 0.5/0.75 mm² the capacitance of the lead is approx. 80 pF/m. This value is influenced by the way the wiring is made.
In borderline cases the capacitance must be measured inside the luminaire.
Keep lamp wires short. Lamp connection with twin ballast should be made with symmetrical wiring.
Hot leads and cold leads should be separated as much as possible.

Installation instructions

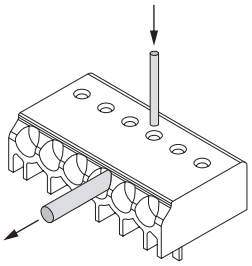
Wiring type and cross section

Solid wire with a cross section of 0.5 – 1.5 mm². Strip 8 – 9 mm of insulation from the cables to ensure perfect operation of terminals.

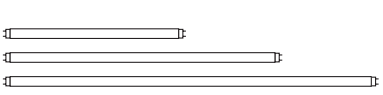


Release of the wiring

Loosen wire through twisting and pulling or using a Ø 1 mm release tool.



T8 lamp information



wattage	length
18 W	590 mm
36 W	1200 mm
58 W	1500 mm

Defective lamp

(Broken filament, rectifying effect, gas defect)
If a lamp is defective, the ballast switches off and goes into standby. There is an automatic restart once the lamp(s) has/have been changed.

RFI

Tridonic ballasts are RFI protected in accordance with EN 55015. To operate the luminaire correctly and to minimise RFI we recommend the following instructions:

- Connection to the lamps of the “hot leads” should be kept as short as possible
- Mains leads should be kept apart from lamp leads (ideally 5–10 cm distance)
- Do not run mains leads adjacent to the electronic ballast
- Twist the lamp leads
- Keep the distance of lamp leads from the metal work as large as possible
- For best EMC conditions earthing of the ballast is recommended
- Mains wiring to be twisted when through wiring
- Keep the mains leads inside the luminaire as short as possible

Isolation and electric strength testing of luminaires

Electronic devices can be damaged by high voltage. This has to be considered during the routine testing of the luminaires in production.

According to IEC 60598-1 Annex Q (informative only!) or ENEC 303-Annex A, each luminaire should be submitted to an isolation test with 500 V DC for 1 second. This test voltage should be connected between the interconnected phase and neutral terminals and the earth terminal.
The isolation resistance must be at least 2 MΩ.

As an alternative, IEC 60598-1 Annex Q describes a test of the electrical strength with 1500 V AC (or 1.414 x 1500 V DC). To avoid damage to the electronic devices this test must not be conducted.

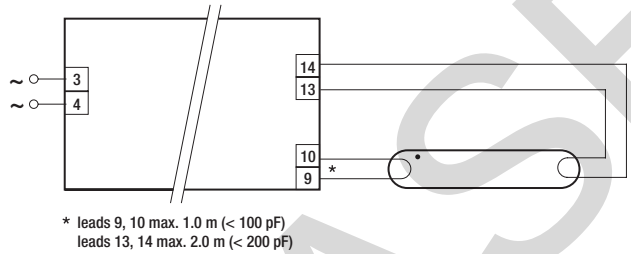
Additional information

Additional technical information at
www.tridonic.com → Technical Data

Guarantee conditions at
www.tridonic.com → Services

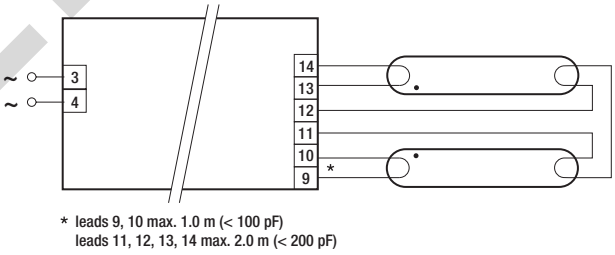
No warranty if device was opened.

Wiring diagrams



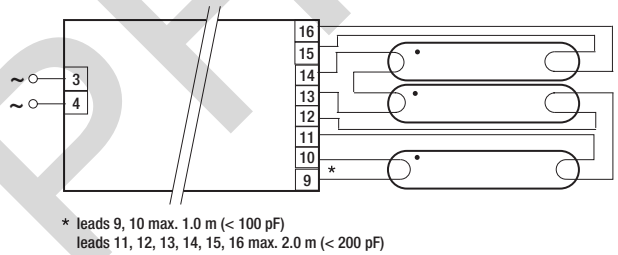
* leads 9, 10 max. 1.0 m (< 100 pF)
leads 13, 14 max. 2.0 m (< 200 pF)

PC 1/18 T8 TOP, PC 1/36 T8 TOP, PC 1/58 T8 TOP



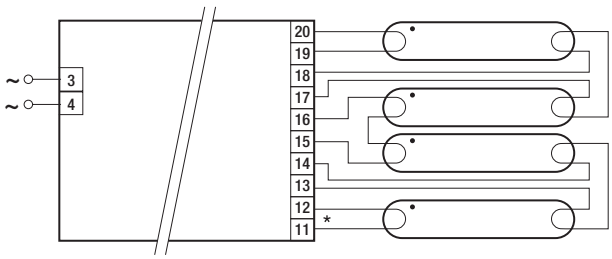
* leads 9, 10 max. 1.0 m (< 100 pF)
leads 11, 12, 13, 14 max. 2.0 m (< 200 pF)

PC 2/18 T8 TOP, PC 2/36 T8 TOP, PC 2/58 T8 TOP



* leads 9, 10 max. 1.0 m (< 100 pF)
leads 11, 12, 13, 14, 15, 16 max. 2.0 m (< 200 pF)

PC 3/18 T8 TOP, PC 3/36 T8 TOP



* leads 11, 12 max. 1.0 m (< 100 pF)
leads 13, 14, 15, 16, 17, 18, 19, 20 max. 2.0 m (< 200 pF)

PC 4/18 T8 TOP