

PC T8 TEC, 18 – 58 W
PC TEC T8

Product description

- CELMA Energy Efficiency Index A2
- Nominal life-time up to 30,000 h (at ta 50 °C with a failure rate max. 0.3 % per 1,000 h)
- Large temperature range (for values see table)
- Lamp preheating for min. 30,000 starts without replacement of lamps
- Automatic start after replacement of defective lamps
- Push terminal for rapid automatic or manual wiring
- Temperature protection as per EN 61347-2-3 C5e

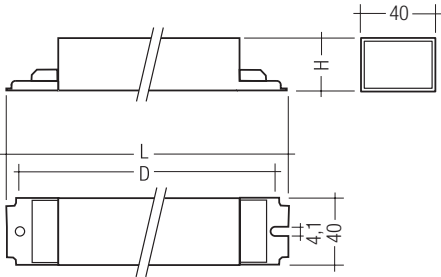
Technical data

Mains voltage range	220 – 240 V
AC voltage range	198 – 264 V
Mains frequency	50 / 60 Hz
Overvoltage protection	320 V AC, 1 h (280 V AC, 48 h for 2x58 W applications)
Time to light	≤ 2 s
Operating frequency	> 40 kHz
Protection type	IP20



Standards, page 3

Wiring diagrams and installation examples, page 7



Ordering data

Type	Article number ^①	Packaging, carton	Packaging, low volume	Packaging, high volume	Weight per pc.
For luminaires with 1 lamp					
PC 1x18 T8 TEC	87500255	60 pc(s).	1,260 pc(s).	3,780 pc(s).	0.104 kg
PC 1x36 T8 TEC	87500258	60 pc(s).	1,260 pc(s).	3,780 pc(s).	0.106 kg
PC 1x58 T8 TEC	87500150	60 pc(s).	1,260 pc(s).	3,780 pc(s).	0.119 kg
For luminaires with 2 lamps					
PC 2x18 T8 TEC	87500256	60 pc(s).	1,260 pc(s).	3,780 pc(s).	0.107 kg
PC 2x36 T8 TEC	87500259	60 pc(s).	840 pc(s).	2,520 pc(s).	0.170 kg
PC 2x58 T8 TEC	87500151	60 pc(s).	840 pc(s).	2,520 pc(s).	0.184 kg
For luminaires with 4 lamps					
PC 4x18 T8 TEC	87500257	60 pc(s).	840 pc(s).	2,520 pc(s).	0.178 kg
For luminaires with 2 or 4 lamps					
PC 2x36 / 4x18 T8 TEC	87500260	60 pc(s).	840 pc(s).	2,520 pc(s).	0.170 kg

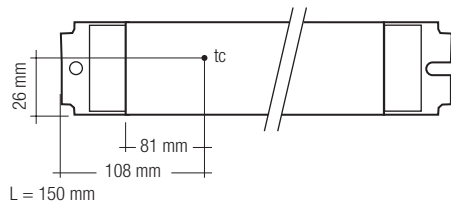
^① Article number 87500150 and 87500151 without RCM approval mark.

Specific technical data

specimen technical data														
Lamp wattage	Lamp type	Type	Article number	Dimension 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 1x18 T8 TEC	87500255	150 x 40 x 28 mm	138 mm	17.0 W	19.0 W	A2	0.09 A	0.09 A	0.97	0.97	65 °C	-10 ... 50 °C
1 x 18 W	TC-L	PC 1x18 T8 TEC	87500255	150 x 40 x 28 mm	138 mm	16.0 W	18.0 W	A2	0.08 A	0.08 A	0.97	0.97	65 °C	-10 ... 50 °C
1 x 36 W	T8	PC 1x36 T8 TEC	87500258	150 x 40 x 28 mm	138 mm	32.0 W	35.0 W	A2	0.17 A	0.17 A	0.95	0.95	65 °C	-10 ... 50 °C
1 x 36 W	TC-L	PC 1x36 T8 TEC	87500258	150 x 40 x 28 mm	138 mm	31.0 W	34.0 W	A2	0.16 A	0.16 A	0.95	0.95	65 °C	-10 ... 50 °C
1 x 58 W	T8	PC 1x58 T8 TEC	87500150	150 x 40 x 28 mm	138 mm	50.0 W	55.0 W	A2	0.24 A	0.24 A	0.97	0.97	65 °C	-10 ... 50 °C
1 x 55 W	TC-L	PC 1x58 T8 TEC	87500150	150 x 40 x 28 mm	138 mm	50.0 W	55.0 W	A2	0.24 A	0.24 A	0.97	0.97	65 °C	-10 ... 50 °C
For luminaires with 2 lamps														
2 x 18 W	T8	PC 2x18 T8 TEC	87500256	150 x 40 x 28 mm	138 mm	32.0 W	35.0 W	A2	0.17 A	0.17 A	0.95	0.95	65 °C	-10 ... 50 °C
2 x 18 W	TC-L	PC 2x18 T8 TEC	87500256	150 x 40 x 28 mm	138 mm	30.5 W	34.0 W	A2	0.16 A	0.16 A	0.95	0.95	65 °C	-10 ... 50 °C
2 x 36 W	T8	PC 2x36 T8 TEC	87500259	210 x 40 x 30 mm	198 mm	62.0 W	67.0 W	A2	0.31 A	0.31 A	0.97	0.97	70 °C	-10 ... 50 °C
2 x 36 W	TC-L	PC 2x36 T8 TEC	87500259	210 x 40 x 30 mm	198 mm	61.5 W	66.5 W	A2	0.30 A	0.30 A	0.97	0.97	70 °C	-10 ... 50 °C
2 x 58 W	T8	PC 2x58 T8 TEC	87500151	210 x 40 x 30 mm	198 mm	100.0 W	107.0 W	A2	0.47 A	0.47 A	0.97	0.97	70 °C	-10 ... 50 °C
2 x 55 W	TC-L	PC 2x58 T8 TEC	87500151	210 x 40 x 30 mm	198 mm	100.0 W	107.0 W	A2	0.47 A	0.47 A	0.97	0.97	70 °C	-10 ... 50 °C
For luminaires with 4 lamps														
4 x 18 W	T8	PC 4x18 T8 TEC	87500257	210 x 40 x 30 mm	198 mm	62.0 W	67.0 W	A2	0.32 A	0.32 A	0.96	0.96	70 °C	-10 ... 50 °C
4 x 18 W	TC-L	PC 4x18 T8 TEC	87500257	210 x 40 x 30 mm	198 mm	59.5 W	66.5 W	A2	0.29 A	0.29 A	0.96	0.96	70 °C	-10 ... 50 °C
For luminaires with 2 or 4 lamps														
2 x 36 W	T8	PC 2x36 / 4x18 T8 TEC	87500260	210 x 40 x 30 mm	198 mm	62.0 W	67.0 W	A2	0.31 A	0.31 A	0.97	0.97	70 °C	-10 ... 50 °C
4 x 18 W	T8	PC 2x36 / 4x18 T8 TEC	87500260	210 x 40 x 30 mm	198 mm	62.0 W	67.0 W	A2	0.32 A	0.32 A	0.96	0.96	70 °C	-10 ... 50 °C
4 x 18 W	TC-L	PC 2x36 / 4x18 T8 TEC	87500260	210 x 40 x 30 mm	198 mm	59.5 W	65.5 W	A2	0.29 A	0.29 A	0.96	0.96	70 °C	-10 ... 50 °C
2 x 36 W	TC-L	PC 2x36 / 4x18 T8 TEC	87500260	210 x 40 x 30 mm	198 mm	61.5 W	66.5 W	A2	0.30 A	0.30 A	0.97	0.97	70 °C	-10 ... 50 °C

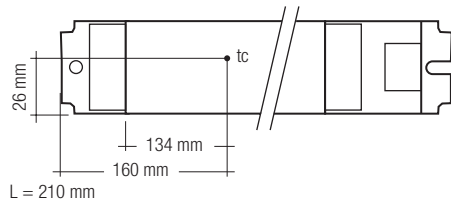
[®] Test result at 230 V, 50 Hz.

Ambient Temperature
-10 °C to +50 °C



The tc point is related to the ballast life duration.

PC T8 TEC is designed for an average life-time of 30,000 hours under reference conditions and with a failure rate of less than 0.3 % 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.

Standards

EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-3
EN 61547

AC operation

Mains voltage:
220 – 240 V 50 / 60 Hz
176 – 264 V 50 / 60 Hz including safety
tolerance (+10 % / – 20 %)

Below 198 Vac for sustained periods of time with
reduced ballast life.

Energy class CELMA EEI = A2¹⁾

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 1x18 T8 TEC	T8	1x18 W	20 %
PC 1x18 T8 TEC	TC-L	1x18 W	20 %
PC 1x36 T8 TEC	T8	1x36 W	20 %
PC 1x36 T8 TEC	TC-L	1x36 W	20 %
PC 1x58 T8 TEC	T8	1x58 W	20 %
PC 1x58 T8 TEC	TC-L	1x55 W	20 %
PC 2x18 T8 TEC	T8	2x18 W	20 %
PC 2x18 T8 TEC	TC-L	2x18 W	20 %
PC 2x36 T8 TEC	T8	2x36 W	20 %
PC 2x36 T8 TEC	TC-L	2x36 W	20 %
PC 2x36 / 4x18 T8 TEC	T8	2x36 W	20 %
PC 2x36 / 4x18 T8 TEC	TC-L	2x36 W	20 %
PC 2x58 T8 TEC	T8	2x58 W	20 %
PC 2x58 T8 TEC	TC-L	2x55 W	20 %
PC 2x36 / 4x18 T8 TEC	T8	4x18 W	20 %
PC 2x36 / 4x18 T8 TEC	TC-L	4x18 W	20 %
PC 4x18 T8 TEC	T8	4x18 W	20 %
PC 4x18 T8 TEC	TC-L	4x18 W	20 %

Working voltage

Type	Lamp type	Wattage	U _{out}
PC 1x18 T8 TEC	T8	1x18 W	250 V
PC 1x18 T8 TEC	TC-L	1x18 W	250 V
PC 1x36 T8 TEC	T8	1x36 W	250 V
PC 1x36 T8 TEC	TC-L	1x36 W	250 V
PC 1x58 T8 TEC	T8	1x58 W	250 V
PC 1x58 T8 TEC	TC-L	1x55 W	250 V
PC 2x18 T8 TEC	T8	2x18 W	250 V
PC 2x18 T8 TEC	TC-L	2x18 W	250 V
PC 2x36 T8 TEC	T8	2x36 W	300 V
PC 2x36 T8 TEC	TC-L	2x36 W	300 V
PC 2x36 / 4x18 T8 TEC	T8	2x36 W	300 V
PC 2x36 / 4x18 T8 TEC	TC-L	2x36 W	300 V
PC 2x58 T8 TEC	T8	2x58 W	300 V
PC 2x58 T8 TEC	TC-L	2x55 W	300 V
PC 2x36 / 4x18 T8 TEC	T8	4x18 W	300 V
PC 2x36 / 4x18 T8 TEC	TC-L	4x18 W	300 V
PC 4x18 T8 TEC	T8	4x18 W	250 V
PC 4x18 T8 TEC	TC-L	4x18 W	250 V

Ballast lumen factor

Type	Lamp type	Wattage	AC-BLF at U = 230 V, 25 °C
PC 1x18 T8 TEC	T8	1x18 W	1.00 (±10 %)
PC 1x18 T8 TEC	TC-L	1x18 W	1.00 (±10 %)
PC 1x36 T8 TEC	T8	1x36 W	1.00 (±10 %)
PC 1x36 T8 TEC	TC-L	1x36 W	1.00 (±10 %)
PC 1x58 T8 TEC	T8	1x58 W	1.00 (±10 %)
PC 1x58 T8 TEC	TC-L	1x55 W	0.95 (±10 %)
PC 2x18 T8 TEC	T8	2x18 W	1.00 (±10 %)
PC 2x18 T8 TEC	TC-L	2x18 W	1.00 (±10 %)
PC 2x36 T8 TEC	T8	2x36 W	1.00 (±10 %)
PC 2x36 T8 TEC	TC-L	2x36 W	1.00 (±10 %)
PC 2x36 / 4x18 T8 TEC	T8	2x36 W	1.00 (±10 %)
PC 2x36 / 4x18 T8 TEC	TC-L	2x36 W	1.00 (±10 %)
PC 2x58 T8 TEC	T8	2x58 W	1.00 (±10 %)
PC 2x58 T8 TEC	TC-L	2x55 W	0.95 (±10 %)
PC 2x36 / 4x18 T8 TEC	T8	4x18 W	1.00 (±10 %)
PC 2x36 / 4x18 T8 TEC	TC-L	4x18 W	1.00 (±10 %)
PC 4x18 T8 TEC	T8	4x18 W	1.00 (±10 %)
PC 4x18 T8 TEC	TC-L	4x18 W	1.00 (±10 %)

All data are typical values

Expected life-time

Type	Lamp type	Lamp power	ta	40 °C	50 °C	55 °C
PC 1x18 T8 TEC	T8	1x18 W	tc	55 °C	65 °C	x
			Life-time	50,000 h	30,000 h	x
	TC-L	1x18 W	tc	55 °C	65 °C	x
			Life-time	50,000 h	30,000 h	x
PC 1x36 T8 TEC	T8	1x36 W	tc	55 °C	65 °C	x
			Life-time	50,000 h	30,000 h	x
	TC-L	1x36 W	tc	55 °C	65 °C	x
			Life-time	50,000 h	30,000 h	x
PC 1x58 T8 TEC	T8	1x58 W	tc	55 °C	65 °C	x
			Life-time	50,000 h	30,000 h	x
	TC-L	1x58 W	tc	55 °C	65 °C	x
			Life-time	50,000 h	30,000 h	x
PC 2x18 T8 TEC	T8	2x18 W	tc	55 °C	65 °C	x
			Life-time	50,000 h	30,000 h	x
	TC-L	2x18 W	tc	55 °C	65 °C	x
			Life-time	50,000 h	30,000 h	x
PC 2x36 T8 TEC	T8	2x36 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x
	TC-L	2x36 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x
PC 2x36 / 4x18 T8 TEC	T8	2x36 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x
	TC-L	2x36 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x
PC 2x58 T8 TEC	T8	2x58 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x
	TC-L	2x55 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x
PC 2x36 / 4x18 T8 TEC	T8	4x18 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x
	TC-L	4x18 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x
PC 4x18 T8 TEC	T8	4x18 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x
	TC-L	4x18 W	tc	55 °C	70 °C	x
			Life-time	50,000 h	30,000 h	x

x = not permitted

Maximum loading of automatic circuit breakers

Automatic circuit	C10	C13	C16	C20	B10	B13	B16	B20	Inrush current	
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	I _{max}	Pulse
PC 1x18 T8 TEC	50	90	150	190	25	45	150	190	12.2 A	49 µs
PC 1x36 T8 TEC	48	62	76	95	35	60	76	95	10.2 A	149 µs
PC 1x58 T8 TEC	29	38	47	59	15	20	25	35	17.4 A	150 µs
PC 2x18 T8 TEC	47	62	76	95	35	60	76	95	11.3 A	149 µs
PC 2x36 T8 TEC	23	28	38	47	18	28	38	47	17.9 A	166 µs
PC 2x58 T8 TEC	14	19	23	29	8	10	13	18	39.5 A	139 µs
PC 4x18 T8 TEC	23	28	38	47	18	28	38	47	21.4 A	166 µs

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.

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.

To avoid the damage of the control gear, the wiring must be protected against short circuits to earth (sharp edged metal parts, metal cable clips, louver, etc.)

Ballast Type	Terminals		Maximum capacitance allowed		
	Cold	Hot	Cold	Hot	
PC 1x18 T8 TEC	14, 15	16, 17	200 pF	100 pF	
PC 1x36 T8 TEC	14, 15	16, 17	200 pF	100 pF	
PC 1x58 T8 TEC	11, 12	13, 14	200 pF	100 pF	
PC 2x18 T8 TEC	14, 15, 16, 17	18, 19	200 pF	100 pF	
PC 2x36 T8 TEC	15, 16	11, 12, 19, 20	200 pF	100 pF	
PC 2x36 / 4x18 T8 TEC (2x36 W application)	15, 16	11, 12, 19, 20	200 pF	100 pF	
PC 2x58 T8 TEC	12, 13, 14	10, 11, 15, 16	200 pF	100 pF	
PC 2x36 / 4x18 T8 TEC (4x18 W application)	13, 14, 15 16, 17, 18	11, 12, 19, 20	200 pF	100 pF	
PC 4x18 T8 TEC	13, 14, 15 16, 17, 18	11, 12, 19, 20	200 pF	100 pF	

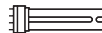
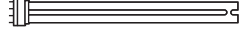
Defective lamp

(Broken Filament, Rectifying Effect, Gas Defect)

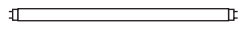
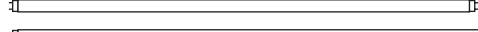
If a lamp is defective then the ballast will either switch off and go into the standby mode or it will continue to run the lamp in a safe mode of operation.

- **Ballasts for luminaires with 1 lamp:** automatic restart after lamp is replaced.
- **Ballasts for luminaires with 2 lamps:** automatic restart after lamp is replaced.
- **Ballasts for luminaires with 4 lamps:** restart after mains reset.

TC-L lamp information

	wattage	length
	18 W	209 mm
	36 W	415 mm
	55 W	535 mm

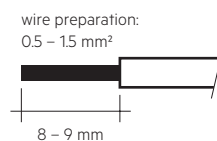
T8 lamp information

	Wattage	Length
	18 W	590 mm
	36 W	1200 mm
	58 W	1500 mm

Installation instructions

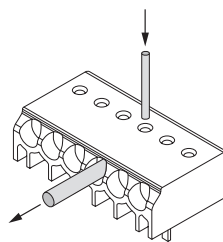
Wiring type and cross section

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.



RFI

Tridonic ballasts are RFI protected in accordance with CISPR 15. To operate the luminaire correctly and to minimise RFI we recommend the following instructions:

- Connection to the lamps of the “hot leads” must be kept as short as possible (marked with *)
- 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
- Connect functional earth, either over the terminal or over the mounting screw of the ballast
- 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

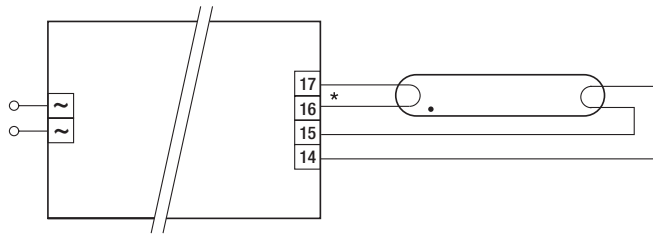
Electronic devices can be damaged by high voltage. This has to be considered during the routine testing of the luminaires in production.

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.

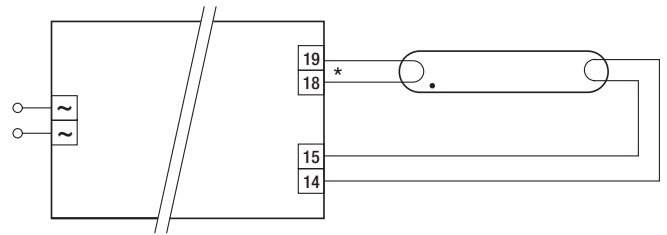
As an alternative, IEC 60598-1 Annex Q describes a test of the electrical strength with 1500 V_{AC} (or 1.414 x 1500 V_{DC}). To avoid damage to the electronic devices this test must not be conducted.

Wiring diagrams



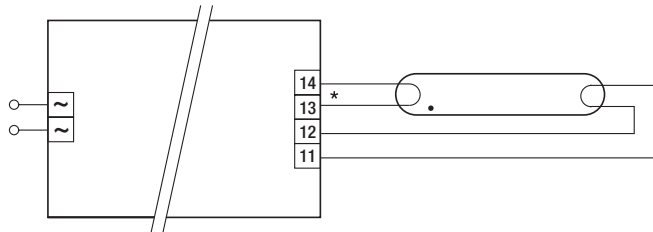
* leads 16, 17 max. 1.0 m (< 100 pF)
leads 14, 15 max. 2.0 m (< 200 pF)
Protection class I – luminaires: earth of ballast housing required (according to IEC 598)
Protection class II – luminaires: no earth required

PC 1x18 T8 TEC, art. no.: 87500255



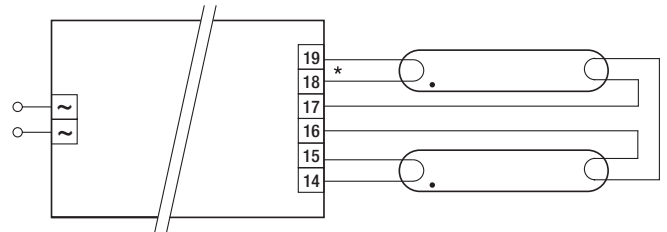
* leads 18, 19 max. 1.0 m (< 100 pF)
leads 14, 15 max. 2.0 m (< 200 pF)
Protection class I – luminaires: earth of ballast housing required (according to IEC 598)
Protection class II – luminaires: no earth required

PC 1x36 T8 TEC, art. no.: 87500258



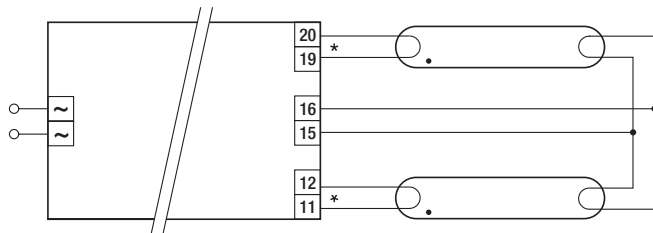
* leads 13, 14 max. 1.0 m (< 100 pF)
leads 11, 12 max. 2.0 m (< 200 pF)
Protection class I – luminaires: earth of ballast housing required (according to IEC 598)
Protection class II – luminaires: no earth required

PC 1x58 T8 TEC, art. no.: 87500150



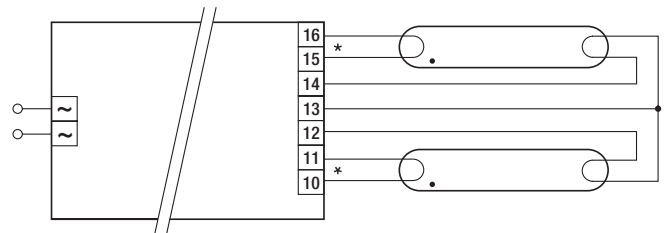
* leads 18, 19 max. 1.0 m (< 100 pF)
leads 14, 15, 16, 17 max. 2.0 m (< 200 pF)
Protection class I – luminaires: earth of ballast housing required (according to IEC 598)
Protection class II – luminaires: no earth required

PC 2x18 T8 TEC, art. no.: 87500256



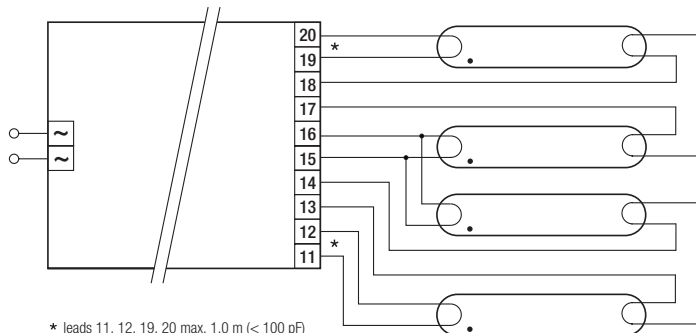
* leads 11, 12, 19, 20 max. 1.0 m (< 100 pF)
leads 15, 16 max. 2.0 m (< 200 pF)
Protection class I – luminaires: earth of ballast housing required (according to IEC 598)
Protection class II – luminaires: no earth required

PC 2x36 T8 TEC, art. no.: 87500259
PC 2x36 / 4x18 T8 TEC (2x36 W application), art. no.: 87500260



* leads 10, 11, 15, 16 max. 1.0 m (< 100 pF)
leads 12, 13, 14 max. 2.0 m (< 200 pF)
Protection class I – luminaires: earth of ballast housing required (according to IEC 598)
Protection class II – luminaires: no earth required

PC 2x58 T8 TEC, art. no.: 87500151



* leads 11, 12, 19, 20 max. 1.0 m (< 100 pF)
leads 13, 14, 15, 16, 17, 18 max. 2.0 m (< 200 pF)
Protection class I – luminaires: earth of ballast housing required (according to IEC 598)
Protection class II – luminaires: no earth required

PC 4x18 T8 TEC, art. no.: 87500257
PC 2x36 / 4x18 T8 TEC, art. no.: 87500260

Additional information

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

Guarantee conditions at www.tridonic.com → Services

No warranty if device was opened.