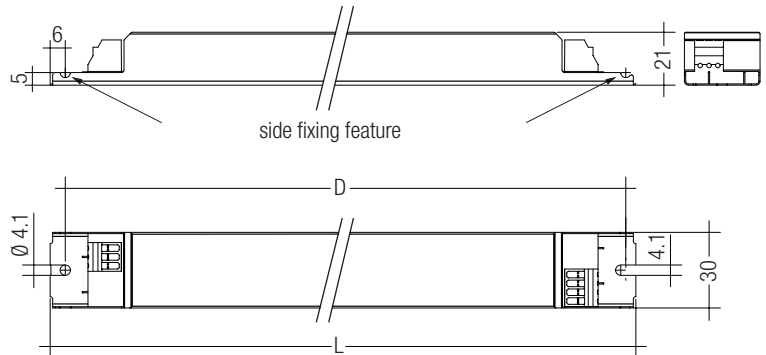
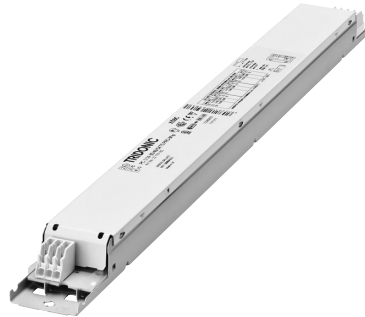


PC T5 PRO-M Ip, 14 – 80 W Multi-lamp ECG

Product description

- CELMA Energy Efficiency Index A2
- Nominal 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)
- Integrated lamp detection
- Operation of T5 lamps of the same length
- Constant luminous flux irrespective of fluctuations in mains voltage
- For luminaires of protection class I and protection class II
- Automatic start after replacement of defective lamps
- Safety shutdown of defective lamps and at end of life
- Insulation Displacement Connection (IDC) terminal for rapid automatic or manual wiring
- For emergency lighting systems as per EN 50172
- For luminaires with F or M and MM as per EN 60598, VDE 0710 and VDE 0711
- Temperature protection as per EN 61347-2-3 C5e



Technical data

AC voltage range	198 – 264 V
DC voltage range	176 – 280 V (Lamp start \geq 198 V DC)
Overvoltage protection	320 V AC, 1 h
Defined warm start	\leq 0.5 s
Operating frequency	\geq 40 kHz
Type of protection	IP20



Standards, page 3

Wiring diagrams and installation examples, page 4

Ordering data

Type	Article number	Packaging carton	Packaging pallet	Weight
For luminaires with 1 lamp				
PC 1/14-35/24/39 T5 PRO-M Ip	22176182	25 pieces	700 pieces	0.25 kg
PC 1/14-35/49/54 T5 PRO-M Ip	22176183	25 pieces	700 pieces	0.25 kg
PC 1/14-35/49/80 T5 PRO-M Ip	22176184	25 pieces	700 pieces	0.25 kg
For luminaires with 2 lamps				
PC 2/14-21/24/39 T5 PRO-M Ip	22176185	25 pieces	700 pieces	0.25 kg
PC 2/14-35/49/54 T5 PRO-M Ip	22176186	25 pieces	700 pieces	0.25 kg

Specific 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 14 W	T5	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	14.0 W	16.5 W	A2	0.090 A	0.08 A	0.89	0.85	75 °C	-25 ... 65 °C
1 x 21 W	T5	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	20.6 W	23.0 W	A2	0.110 A	0.11 A	0.92	0.90	75 °C	-25 ... 65 °C
1 x 24 W	T5	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	22.5 W	25.0 W	A2	0.120 A	0.11 A	0.97	0.95	75 °C	-25 ... 60 °C
1 x 28 W	T5	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	27.9 W	31.0 W	A2	0.150 A	0.14 A	0.97	0.95	75 °C	-25 ... 60 °C
1 x 35 W	T5	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	35.5 W	39.0 W	A2	0.180 A	0.17 A	0.98	0.96	75 °C	-25 ... 60 °C
1 x 39 W	T5	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	38.0 W	41.0 W	A2	0.190 A	0.18 A	0.98	0.96	75 °C	-25 ... 60 °C
1 x 22 W	T5c	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	23.5 W	25.5 W	A2	0.120 A	0.11 A	0.97	0.95	75 °C	-25 ... 65 °C
1 x 40 W	T5c	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	40.0 W	43.0 W	A2	0.200 A	0.19 A	0.98	0.96	75 °C	-25 ... 60 °C
1 x 18 W	T8	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	17.0 W	18.5 W	A2	0.090 A	0.09 A	0.91	0.89	75 °C	-25 ... 65 °C
1 x 30 W	T8	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	26.5 W	29.5 W	A2	0.140 A	0.13 A	0.97	0.95	75 °C	-25 ... 65 °C
1 x 36 W	T8	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	32.0 W	34.5 W	A2	0.160 A	0.15 A	0.97	0.95	75 °C	-25 ... 65 °C
1 x 18 W	TC-F	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	15.5 W	16.5 W	A2	0.080 A	0.08 A	0.91	0.89	75 °C	-25 ... 65 °C
1 x 24 W	TC-F	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	23.0 W	25.0 W	A2	0.120 A	0.11 A	0.97	0.95	75 °C	-25 ... 65 °C
1 x 36 W	TC-F	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	30.5 W	33.0 W	A2	0.150 A	0.14 A	0.97	0.95	75 °C	-25 ... 65 °C

Specific 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		
1 x 18 W	TC-L	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	15.5 W	17.0 W	A2	0.090 A	0.08 A	0.91	0.89	75 °C	-25 ... 65 °C
1 x 24 W	TC-L	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	23.0 W	24.5 W	A2	0.110 A	0.11 A	0.97	0.95	75 °C	-25 ... 65 °C
1 x 36 W	TC-L	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	30.5 W	33.0 W	A2	0.150 A	0.14 A	0.97	0.95	75 °C	-25 ... 65 °C
1 x 40 W	TC-L	PC 1/14-35/24/39 T5 PRO-M Ip	22176182	360 x 30 x 21 mm	350 mm	40.0 W	42.0 W	A2	0.190 A	0.18 A	0.98	0.96	75 °C	-25 ... 65 °C
1 x 14 W	T5	PC 1/14-35/49/54 T5 PRO-M Ip	22176183	360 x 30 x 21 mm	350 mm	14.0 W	16.5 W	A2	0.085 A	0.08 A	0.89	0.85	75 °C	-25 ... 60 °C
1 x 21 W	T5	PC 1/14-35/49/54 T5 PRO-M Ip	22176183	360 x 30 x 21 mm	350 mm	20.6 W	23.0 W	A2	0.120 A	0.11 A	0.92	0.90	75 °C	-25 ... 60 °C
1 x 28 W	T5	PC 1/14-35/49/54 T5 PRO-M Ip	22176183	360 x 30 x 21 mm	350 mm	27.9 W	31.0 W	A2	0.150 A	0.14 A	0.97	0.95	75 °C	-25 ... 60 °C
1 x 35 W	T5	PC 1/14-35/49/54 T5 PRO-M Ip	22176183	360 x 30 x 21 mm	350 mm	35.5 W	39.0 W	A2	0.180 A	0.17 A	0.98	0.96	75 °C	-25 ... 55 °C
1 x 49 W	T5	PC 1/14-35/49/54 T5 PRO-M Ip	22176183	360 x 30 x 21 mm	350 mm	49.2 W	52.5 W	A2	0.240 A	0.23 A	0.99	0.97	75 °C	-25 ... 55 °C
1 x 54 W	T5	PC 1/14-35/49/54 T5 PRO-M Ip	22176183	360 x 30 x 21 mm	350 mm	54.1 W	58.0 W	A2	0.270 A	0.25 A	0.99	0.97	75 °C	-25 ... 55 °C
1 x 58 W	T8	PC 1/14-35/49/54 T5 PRO-M Ip	22176183	360 x 30 x 21 mm	350 mm	50.0 W	54.0 W	A2	0.250 A	0.23 A	0.99	0.97	75 °C	-25 ... 55 °C
1 x 14 W	T5	PC 1/14-35/49/80 T5 PRO-M Ip	22176184	360 x 30 x 21 mm	350 mm	14.0 W	16.5 W	A2	0.085 A	0.08 A	0.89	0.85	75 °C	-25 ... 60 °C
1 x 21 W	T5	PC 1/14-35/49/80 T5 PRO-M Ip	22176184	360 x 30 x 21 mm	350 mm	20.6 W	24.0 W	A2	0.120 A	0.11 A	0.92	0.90	75 °C	-25 ... 60 °C
1 x 28 W	T5	PC 1/14-35/49/80 T5 PRO-M Ip	22176184	360 x 30 x 21 mm	350 mm	27.9 W	31.5 W	A2	0.150 A	0.14 A	0.97	0.95	75 °C	-25 ... 60 °C
1 x 35 W	T5	PC 1/14-35/49/80 T5 PRO-M Ip	22176184	360 x 30 x 21 mm	350 mm	35.5 W	39.0 W	A2	0.180 A	0.17 A	0.98	0.96	70 °C	-25 ... 55 °C
1 x 49 W	T5	PC 1/14-35/49/80 T5 PRO-M Ip	22176184	360 x 30 x 21 mm	350 mm	49.2 W	53.5 W	A2	0.250 A	0.23 A	0.99	0.97	75 °C	-25 ... 55 °C
1 x 80 W	T5	PC 1/14-35/49/80 T5 PRO-M Ip	22176184	360 x 30 x 21 mm	350 mm	79.8 W	85.0 W	A2	0.390 A	0.37 A	0.99	0.97	75 °C	-25 ... 55 °C
1 x 55 W	T5c	PC 1/14-35/49/80 T5 PRO-M Ip	22176184	360 x 30 x 21 mm	350 mm	55.0 W	59.5 W	A2	0.280 A	0.26 A	0.99	0.97	75 °C	-25 ... 55 °C
1 x 55 W	TC-L	PC 1/14-35/49/80 T5 PRO-M Ip	22176184	360 x 30 x 21 mm	350 mm	55.0 W	59.0 W	A2	0.270 A	0.25 A	0.99	0.97	75 °C	-25 ... 55 °C
1 x 80 W	TC-L	PC 1/14-35/49/80 T5 PRO-M Ip	22176184	360 x 30 x 21 mm	350 mm	80.0 W	84.0 W	A2	0.390 A	0.36 A	0.99	0.97	75 °C	-25 ... 55 °C
For luminaires with 2 lamps														
2 x 14 W	T5	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	28.0 W	32.0 W	A2	0.150 A	0.14 A	0.96	0.94	75 °C	-25 ... 60 °C
2 x 21 W	T5	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	41.2 W	47.0 W	A2	0.220 A	0.21 A	0.97	0.95	70 °C	-25 ... 50 °C
2 x 24 W	T5	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	45.0 W	49.0 W	A2	0.230 A	0.21 A	0.98	0.96	75 °C	-25 ... 55 °C
2 x 39 W	T5	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	76.0 W	82.0 W	A2	0.380 A	0.35 A	0.99	0.97	75 °C	-25 ... 55 °C
2 x 22 W	T5c	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	46.5 W	48.0 W	A2	0.220 A	0.21 A	0.98	0.96	75 °C	-25 ... 60 °C
2 x 40 W	T5c	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	80.0 W	85.0 W	A2	0.390 A	0.37 A	0.99	0.97	75 °C	-25 ... 55 °C
2 x 18 W	T8	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	32.0 W	35.0 W	A2	0.170 A	0.16 A	0.96	0.94	75 °C	-25 ... 60 °C
2 x 36 W	T8	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	64.0 W	68.5 W	A2	0.320 A	0.30 A	0.98	0.96	75 °C	-25 ... 55 °C
2 x 18 W	TC-F	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	32.0 W	34.0 W	A2	0.160 A	0.15 A	0.96	0.94	75 °C	-25 ... 60 °C
2 x 24 W	TC-F	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	46.0 W	47.5 W	A2	0.220 A	0.21 A	0.98	0.96	75 °C	-25 ... 55 °C
2 x 36 W	TC-F	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	61.0 W	67.5 W	A2	0.310 A	0.29 A	0.98	0.96	75 °C	-25 ... 55 °C
2 x 18 W	TC-L	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	32.0 W	35.0 W	A2	0.170 A	0.16 A	0.96	0.94	75 °C	-25 ... 60 °C
2 x 24 W	TC-L	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	46.0 W	47.5 W	A2	0.220 A	0.21 A	0.98	0.96	75 °C	-25 ... 55 °C
2 x 36 W	TC-L	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	61.0 W	67.5 W	A2	0.310 A	0.29 A	0.98	0.96	75 °C	-25 ... 55 °C
2 x 40 W	TC-L	PC 2/14-21/24/39 T5 PRO-M Ip	22176185	360 x 30 x 21 mm	350 mm	80.0 W	84.5 W	A2	0.390 A	0.36 A	0.99	0.97	75 °C	-25 ... 55 °C
2 x 14 W	T5	PC 2/14-35/49/54 T5 PRO-M Ip	22176186	360 x 30 x 21 mm	350 mm	28.0 W	32.0 W	A2	0.150 A	0.14 A	0.96	0.94	75 °C	-25 ... 60 °C
2 x 21 W	T5	PC 2/14-35/49/54 T5 PRO-M Ip	22176186	360 x 30 x 21 mm	350 mm	41.2 W	45.0 W	A2	0.210 A	0.20 A	0.97	0.95	75 °C	-25 ... 60 °C
2 x 28 W	T5	PC 2/14-35/49/54 T5 PRO-M Ip	22176186	360 x 30 x 21 mm	350 mm	55.8 W	61.0 W	A2	0.280 A	0.26 A	0.98	0.96	75 °C	-25 ... 55 °C
2 x 35 W	T5	PC 2/14-35/49/54 T5 PRO-M Ip	22176186	360 x 30 x 21 mm	350 mm	71.0 W	76.5 W	A2	0.350 A	0.33 A	0.98	0.96	70 °C	0 ... 50 °C
2 x 49 W	T5	PC 2/14-35/49/54 T5 PRO-M Ip	22176186	360 x 30 x 21 mm	350 mm	98.4 W	105.0 W	A2	0.480 A	0.45 A	0.99	0.97	75 °C	-25 ... 50 °C
2 x 54 W	T5	PC 2/14-35/49/54 T5 PRO-M Ip	22176186	360 x 30 x 21 mm	350 mm	108.2 W	117.0 W	A2	0.540 A	0.50 A	0.99	0.97	75 °C	-25 ... 50 °C
2 x 58 W	T8	PC 2/14-35/49/54 T5 PRO-M Ip	22176186	360 x 30 x 21 mm	350 mm	100.0 W	108.0 W	A2	0.500 A	0.46 A	0.99	0.97	70 °C	-25 ... 50 °C

Standards

EN 55015
 EN 61347-2-3
 EN 60929
 EN 61000-3-2
 EN 61000-3-3
 EN 61547
 according to EN 50172
 IEC 60068-2-64 Fh
 IEC 60068-2-29 Eb
 IEC 60068-2-30

PC PRO-M with xitec processor

Is the very latest in lighting management design technology. The lamp friendly warm start is delivering maximum lamp life and enables high switching frequency applications. Smallest power loss and new freedom in the lamp design thanks to convincing thermal management.

Multi-lamp

Multi-lamp functionality comprises an additional circuit that automatically detects lamps before they are ignited. After detection the predefined operating parameters stored in an internal memory are retrieved and activated and the light source is then started. This enables a wide variety of lamp types to be operated on only one device.

Smart Heating

Innovative heating circuit. Reduced filament heating after lamp ignition.

Energy class CELMA EEI = A2¹⁾

PC T5 PRO-M ignition technology (smart heating) optimises lamp start and ensures no energy is wasted. After the lamp has struck the filament heating is reduced automatically to a defined minimum value. This reduction in filament heating, saves energy, yet maintains the proper operating conditions for the lamp. The lamp is always operated within specification.

Lamp starting characteristics

Warm start
 Starting time 0.5 secs with AC and DC operation
 Cathode heating will be reduced after preheat time

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 %)

DC operation

220–240 V 0 Hz
 198–280 V 0 Hz certain lamp start
 176–280 V 0 Hz operating range
 Light output level in DC operation: 100 %

Emergency lighting

Use in emergency lighting installations according to EN 50172 or for emergency luminaires according to EN 61347-2-3 appendix J.
 Instant start after mains interruption < 0.5 s

Intelligent Voltage Guard

Intelligent Voltage Guard is the name of the new electronic monitor from Tridonic. This innovative feature of the PC PRO-M family of control gear from Tridonic immediately shows if the mains voltage rises above or falls below certain thresholds. Measures can then be taken quickly to prevent damage to the control gear.

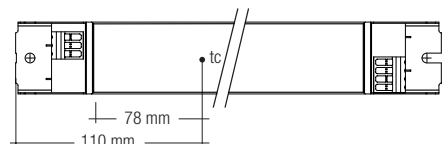
- If the mains voltage rises above 306 V the lamps start flashing on and off.
- This signal "demands" disconnection of the power supply to the lighting system.
- If the mains voltage falls below 150 V the control gear automatically disconnects the lamp circuit to protect the control gear from being irreparably damaged.

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

Ballast/ lamp combinations

Type	T5 HE				T5 HO					T5c			T8				TC-F			TC-L						
	14W	21W	28W	35W	24W	39W	49W	54W	80W	22W	40W	55W	18W	30W	36W	58W	18W	24W	36W	18W	24W	36W	40W	55W	80W	
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 2/14-21/24/39 T5 PRO-M Ip	•	•			•	•				•	•		•				•	•	•	•	•	•	•	•		
PC 2/14-35/49/54 T5 PRO-M Ip	•	•	•	•			•	•								•										

Ambient Temperature



The nominal t_a and t_c point are related to the ballast life duration.
 The relation of t_c to t_a temperature depends also on the luminaire design. If the measured t_c temperature is approx. 5 K below t_c max., t_a temperature should be checked and eventually critical components (e.g. ELCAP) measured.
 Detailed information on request.

PC T5 PRO-M 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.

Maximum loading of automatic circuit breakers

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20
Installation Ø	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²	2.5 mm ²
PC 1/14-35/24/39 T5 PRO-M Ip	32	42	50	60	16	21	25	30
PC 1/14-35/49/54 T5 PRO-M Ip	32	42	50	60	16	21	25	30
PC 1/14-35/49/80 T5 PRO-M Ip	14	18	22	26	7	9	11	13
PC 2/14-21/24/39 T5 PRO-M Ip	28	34	40	48	14	17	20	24
PC 2/14-35/49/54 T5 PRO-M Ip	14	18	22	26	7	9	11	13

Wiring advice

The lead length is dependant on the capacitance of the cable.

For safety reasons, the PC T5 PRO-M must only be earthed in the case of a safety class 1 luminaire.

Earthing is not required for the device to operate. Connection to earth reduces radio interference.

Ballast Type	Terminal		Maximum capacitance allowed	
	Kalt	Hei	Kalt	Hei
PC 1/14-35/24/39 T5 PRO-M Ip	11, 12	9, 10	200 pF	100 pF
PC 1/14-35/49/54 T5 PRO-M Ip	11, 12	9, 10	200 pF	100 pF
PC 1/14-35/49/80 T5 PRO-M Ip	11, 12	9, 10	200 pF	100 pF
PC 2/14-21/24/39 T5 PRO-M Ip	11, 12, 13, 14	9, 10, 15, 16	200 pF	100 pF
PC 2/14-35/49/54 T5 PRO-M Ip	11, 12, 13, 14	9, 10, 15, 16	200 pF	100 pF

With standard solid wire 0.5/0.75 mm² the capacitance of the lead is 30–80 pF/m. This value is influenced by the way the wiring is made.

- keep lamp wires short
- lamp connection with multi-lamp ballasts should be made with symmetrical wiring
- for 1 and 2 lamp ballasts: hot leads 9, 10, 15, 16 and cold leads 11, 12, 13, 14 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.).

Installation instructions

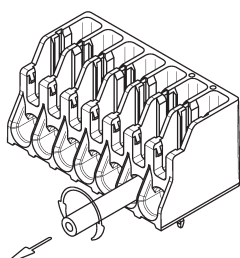
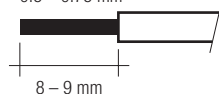
IDC interface

- solid wire with a cross section of 0.5 mm² according to the specification from WAGO
- alternatively a flexible lead with a cross section of 0.75 mm²

Horizontal interface

- solid wire with a cross section of 0.5–0.75 mm² according to the specification from WAGO
- solid wire with a cross section of 1.0 mm² with an insulation diameter up to 2.5 mm
- strip 9 mm of insulation from the cables to ensure perfect operation of the terminals
- Loosen wire through twisting and pulling

wire preparation:
0.5 – 0.75 mm²



Loosen wire through twisting and pulling

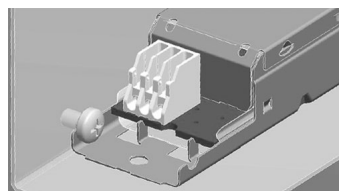
RFI

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" 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
- Ballast must be earthed, 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

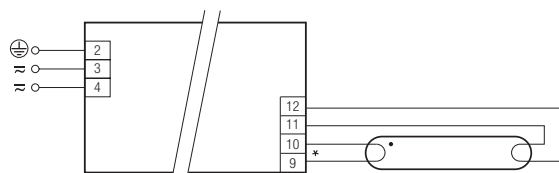
Side fixing feature



Screw M4, screw head diameter 8–10 mm

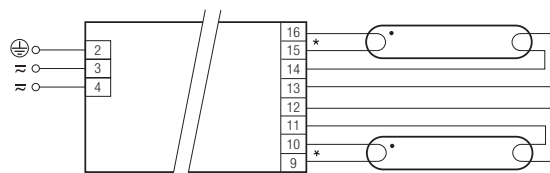
Defective lamp

If a lamp is defective, the ballast switches off and goes into standby. There is an automatic restart once the lamp has been changed.



* leads 9, 10 max. 1.0 m (< 100 pF)
leads 11, 12 max. 2.0 m (< 200 pF)
Protection class I - luminaires: earth of ballast housing or ground terminal required (according to IEC 60598)
Protection class II - luminaires: no earth required

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



* leads 9, 10, 15, 16 max. 1.0 m (< 100 pF)
leads 11, 12, 13, 14 max. 2.0 m (< 200 pF)
Protection class I - luminaires: earth of ballast housing or ground terminal required (according to IEC 60598)
Protection class II - luminaires: no earth required

PC 2/14-21/24/39 T5 PRO-M Ip
PC 2/14-35/49/54 T5 PRO-M Ip

Technical data PC 1x14-35/24/39 T5 PRO-M Ip

Mains current in DC operation

Type	lamp type	wattage	mains current at	
			$U_n = 220 V_{DC}$	$U_n = 240 V_{DC}$
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x14	85 mA	80 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x21	110 mA	110 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x28	150 mA	140 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x35	180 mA	170 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x24	120 mA	110 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x39	190 mA	180 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T8	1x18	90 mA	87 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T8	1x30	140 mA	130 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T8	1x36	160 mA	150 mA
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x18	85 mA	80 mA
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x24	110 mA	107 mA
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x36	150 mA	140 mA
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x40	190 mA	180 mA
PC 1x14-35/24/39 T5 PRO-M Ip	TC-F	1x18	80 mA	77 mA
PC 1x14-35/24/39 T5 PRO-M Ip	TC-F	1x24	115 mA	110 mA
PC 1x14-35/24/39 T5 PRO-M Ip	TC-F	1x36	150 mA	140 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T5c	1x22	120 mA	110 mA
PC 1x14-35/24/39 T5 PRO-M Ip	T5c	1x40	200 mA	190 mA

Harmonic distortion in the mains supply

Type	lamp type	wattage	THD
			at 230 V/50 Hz
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x14	< 25 %
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x21	< 15 %
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x28	< 10 %
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x35	< 10 %
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x24	< 10 %
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x39	< 10 %
PC 1x14-35/24/39 T5 PRO-M Ip	T8	1x18	< 20 %
PC 1x14-35/24/39 T5 PRO-M Ip	T8	1x30	< 10 %
PC 1x14-35/24/39 T5 PRO-M Ip	T8	1x36	< 10 %
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x18	< 20 %
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x24	< 15 %
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x36	< 10 %
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x40	< 10 %
PC 1x14-35/24/39 T5 PRO-M Ip	TC-F	1x18	< 20 %
PC 1x14-35/24/39 T5 PRO-M Ip	TC-F	1x24	< 15 %
PC 1x14-35/24/39 T5 PRO-M Ip	TC-F	1x36	< 15 %
PC 1x14-35/24/39 T5 PRO-M Ip	T5c	1x22	< 15 %
PC 1x14-35/24/39 T5 PRO-M Ip	T5c	1x40	< 10 %

Output voltage

Type	U_{out}
PC 1x14-35/24/39 T5 PRO-M Ip	430 V

Ballast lumen factor (EN 60929 8.1)

Type	lamp type	wattage	AC/DC-BLF
			at U = 198–254V, 25 °C
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x14	1.00
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x21	1.00
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x28	1.00
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x35	1.00
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x24	1.05
PC 1x14-35/24/39 T5 PRO-M Ip	T5	1x39	0.95
PC 1x14-35/24/39 T5 PRO-M Ip	T8	1x18	1.05
PC 1x14-35/24/39 T5 PRO-M Ip	T8	1x30	1.10
PC 1x14-35/24/39 T5 PRO-M Ip	T8	1x36	1.00
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x18	1.00
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x24	1.05
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x36	0.95
PC 1x14-35/24/39 T5 PRO-M Ip	TC-L	1x40	1.00
PC 1x14-35/24/39 T5 PRO-M Ip	TC-F	1x18	1.00
PC 1x14-35/24/39 T5 PRO-M Ip	TC-F	1x24	1.05
PC 1x14-35/24/39 T5 PRO-M Ip	TC-F	1x36	0.95
PC 1x14-35/24/39 T5 PRO-M Ip	T5c	1x22	1.05
PC 1x14-35/24/39 T5 PRO-M Ip	T5c	1x40	1.00

Technical data PC 1x14-35/49/54 T5 PRO-M Ip

Mains currents in DC operation

Type	lamp type	wattage	mains current at	
			$U_n = 220 V_{DC}$	$U_n = 240 V_{DC}$
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x14	85 mA	80 mA
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x21	120 mA	110 mA
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x28	150 mA	140 mA
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x35	180 mA	170 mA
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x49	240 mA	230 mA
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x54	270 mA	250 mA
PC 1x14-35/49/54 T5 PRO-M Ip	T8	1x58	250 mA	232 mA

Harmonic distortion in the mains supply

Type	lamp type	wattage	THD
			at 230 V/50 Hz
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x14	< 20 %
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x21	< 15 %
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x28	< 10 %
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x35	< 10 %
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x49	< 10 %
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x54	< 10 %
PC 1x14-35/49/54 T5 PRO-M Ip	T8	1x58	< 10 %

Output voltage

Type	U_{out}
PC 1x14-35/49/54 T5 PRO-M Ip	300 V

Ballast lumen factor (EN 60929 8.1)

Type	lamp type	wattage	AC/DC-BLF
			at $U = 198-254 V, 25^\circ C$
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x14	1.00
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x21	1.00
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x28	1.00
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x35	1.00
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x49	1.00
PC 1x14-35/49/54 T5 PRO-M Ip	T5	1x54	1.00
PC 1x14-35/49/54 T5 PRO-M Ip	T8	1x58	1.00

Technical data PC 1x14-35/49/80 T5 PRO-M Ip

Mains currents in DC operation

Type	lamp type	wattage	mains current at	
			$U_n = 220 V_{DC}$	$U_n = 240 V_{DC}$
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x14	85 mA	80 mA
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x21	120 mA	110 mA
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x28	150 mA	140 mA
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x35	180 mA	170 mA
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x49	250 mA	230 mA
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x80	390 mA	370 mA
PC 1x14-35/49/80 T5 PRO-M Ip	TC-L	1x55	270 mA	250 mA
PC 1x14-35/49/80 T5 PRO-M Ip	TC-L	1x80	390 mA	360 mA
PC 1x14-35/49/80 T5 PRO-M Ip	T5c	1x55	275 mA	260 mA

Harmonic distortion in the mains supply

Type	lamp type	wattage	THD
			at 230 V/50 Hz
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x14	< 25 %
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x21	< 15 %
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x28	< 10 %
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x35	< 10 %
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x49	< 10 %
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x80	< 10 %
PC 1x14-35/49/80 T5 PRO-M Ip	TC-L	1x55	< 10 %
PC 1x14-35/49/80 T5 PRO-M Ip	TC-L	1x80	< 10 %
PC 1x14-35/49/80 T5 PRO-M Ip	T5c	1x55	< 10 %

Output voltage

Type	U_{out}
PC 1x14-35/49/80 T5 PRO-M Ip	350 V

Ballast lumen factor (EN 60929 8.1)

Type	lamp type	wattage	AC/DC-BLF
			at $U = 198-254 V, 25^\circ C$
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x14	1.00
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x21	1.00
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x28	1.00
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x35	1.00
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x49	1.00
PC 1x14-35/49/80 T5 PRO-M Ip	T5	1x80	1.00
PC 1x14-35/49/80 T5 PRO-M Ip	TC-L	1x55	1.00
PC 1x14-35/49/80 T5 PRO-M Ip	TC-L	1x80	1.00
PC 1x14-35/49/80 T5 PRO-M Ip	T5c	1x55	1.00

Technical data PC 2x14-21/24/39 T5 PRO-M Ip

Mains currents in DC operation

Type	lamp type	wattage	mains current at	
			$U_n = 220 V_{DC}$	$U_n = 240 V_{DC}$
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x14	150 mA	140 mA
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x21	220 mA	210 mA
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x24	230 mA	210 mA
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x39	380 mA	350 mA
PC 2x14-21/24/39 T5 PRO-M Ip	T8	2x18	170 mA	160 mA
PC 2x14-21/24/39 T5 PRO-M Ip	T8	2x36	320 mA	300 mA
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x18	170 mA	160 mA
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x24	220 mA	210 mA
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x36	310 mA	290 mA
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x40	390 mA	360 mA
PC 2x14-21/24/39 T5 PRO-M Ip	TC-F	2x18	160 mA	150 mA
PC 2x14-21/24/39 T5 PRO-M Ip	TC-F	2x24	220 mA	210 mA
PC 2x14-21/24/39 T5 PRO-M Ip	TC-F	2x36	310 mA	290 mA
PC 2x14-21/24/39 T5 PRO-M Ip	T5c	2x22	220 mA	210 mA
PC 2x14-21/24/39 T5 PRO-M Ip	T5c	2x40	390 mA	370 mA

Harmonic distortion in the mains supply

Type	lamp type	wattage	THD
			at 230 V/50 Hz
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x14	< 10 %
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x21	< 10 %
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x24	< 10 %
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x39	< 10 %
PC 2x14-21/24/39 T5 PRO-M Ip	T8	2x18	< 20 %
PC 2x14-21/24/39 T5 PRO-M Ip	T8	2x36	< 10 %
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x18	< 20 %
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x24	< 15 %
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x36	< 10 %
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x40	< 10 %
PC 2x14-21/24/39 T5 PRO-M Ip	TC-F	2x18	< 20 %
PC 2x14-21/24/39 T5 PRO-M Ip	TC-F	2x24	< 15 %
PC 2x14-21/24/39 T5 PRO-M Ip	TC-F	2x36	< 10 %
PC 2x14-21/24/39 T5 PRO-M Ip	T5c	2x22	< 15 %
PC 2x14-21/24/39 T5 PRO-M Ip	T5c	2x40	< 10 %

Output voltage

Type	U_{out}
PC 2x14-21/24/39 T5 PRO-M Ip	350 V

Ballast lumen factor (EN 60929 8.1)

Type	lamp type	wattage	AC/DC-BLF
			at $U = 198-254 V, 25^\circ C$
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x14	1.00
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x21	1.00
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x24	1.05
PC 2x14-21/24/39 T5 PRO-M Ip	T5	2x39	0.95
PC 2x14-21/24/39 T5 PRO-M Ip	T8	2x18	1.00
PC 2x14-21/24/39 T5 PRO-M Ip	T8	2x36	1.00
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x18	1.00
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x24	1.05
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x36	0.95
PC 2x14-21/24/39 T5 PRO-M Ip	TC-L	2x40	1.00
PC 2x14-21/24/39 T5 PRO-M Ip	TC-F	2x18	1.00
PC 2x14-21/24/39 T5 PRO-M Ip	TC-F	2x24	1.05
PC 2x14-21/24/39 T5 PRO-M Ip	TC-F	2x36	0.95
PC 2x14-21/24/39 T5 PRO-M Ip	T5c	2x22	1.05
PC 2x14-21/24/39 T5 PRO-M Ip	T5c	2x40	1.00

Technical data PC 2x14-35/49/54 T5 PRO-M Ip

Mains currents in DC operation

Type	lamp type	wattage	mains current at	
			$U_n = 220 V_{DC}$	$U_n = 240 V_{DC}$
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x14	150 mA	140 mA
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x21	210 mA	200 mA
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x28	280 mA	260 mA
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x35	350 mA	330 mA
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x49	480 mA	450 mA
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x54	540 mA	500 mA
PC 2x14-35/49/54 T5 PRO-M Ip	T8	2x58	500 mA	460 mA

Harmonic distortion in the mains supply

Type	lamp type	wattage	THD
			at 230V/50Hz
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x14	< 15 %
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x21	< 15 %
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x28	< 10 %
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x35	< 10 %
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x49	< 10 %
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x54	< 10 %
PC 2x14-35/49/54 T5 PRO-M Ip	T8	2x58	< 10 %

Output voltage

Type	U_{out}
PC 2x14-35/49/54 T5 PRO-M Ip	300 V

Ballast lumen factor (EN 60929 8.1)

Type	lamp type	wattage	AC/DC-BLF
			at $U = 198-254 V, 25^\circ C$
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x14	1.00
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x21	1.00
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x28	1.00
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x35	1.00
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x49	1.00
PC 2x14-35/49/54 T5 PRO-M Ip	T5	2x54	1.00
PC 2x14-35/49/54 T5 PRO-M Ip	T8	2x58	1.00