

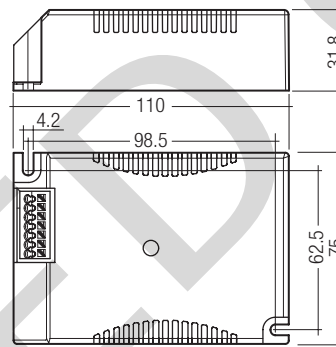
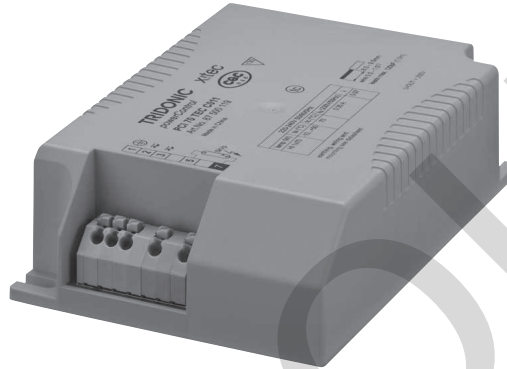


## PCI TEC C011 Single

PCI TEC built-in

### Product description

- For quartz and ceramic lamps
- Also for mobile luminaires with connectors
- Pulse packets for increased ignition energy (pulseCONTROL technology)
- Flicker-free light
- Colour stability thanks to constant power
- Low power loss
- Low weight
- No acoustic resonance
- Safety shutdown if a lamp is faulty or missing
- Greatly reduced reignition time
- Hardly any EMC interference in the ignition phase
- Automatic shutdown on overheating
- Casing: PBT-RG151 acc. to UL94-V0, cyan; steel base plate
- Push-in terminals up to 1.5 mm<sup>2</sup>



### Technical data

Mains voltage range	220 – 240 V
AC voltage range	198 – 254 V
DC voltage range	176 – 280 V
Mains frequency	0 / 50 / 60 Hz
Overvoltage protection	300 V AC, 1 h
Max. ignition voltage	5 kVp
Operating frequency	140 Hz
Type of protection	IP20

### Ordering data

Type	Article number	Packaging, carton	Packaging, Low Volume	Packaging, High Volume	Weight per pc.
<b>For luminaires with 1 lamp</b>					
PCI 35 TEC C011	87500118	20 pc(s).	440 pc(s).	2,200 pc(s).	0.202 kg
PCI 70 TEC C011	87500119	20 pc(s).	440 pc(s).	2,200 pc(s).	0.210 kg



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### Specific technical data

Lamp wattage	Lamp type	Type	Article number	Dimensions L x W x H	Lamp power	Circuit power <sup>①</sup>	EEL	Efficiency	Current at 50 Hz 230 V	λ at 50 Hz 230 V	Max. cable length to lamp	tc point max.	Ambient temperature ta	tc/ta for ≥ 20,000 h
1 x 35 W	HI	PCI 35 TEC C011	87500118	110 x 75 x 32 mm	39 W	44.0 W	A2	> 87 %	0.20 A	0.97	1.5 m / 120 pF	75 °C	-10 ... +55 °C	75/55 °C
1 x 70 W	HI	PCI 70 TEC C011	87500119	110 x 75 x 32 mm	73 W	80.5 W	A2	> 90 %	0.35 A	0.97	1.5 m / 120 pF	80 °C	-10 ... +50 °C	80/50 °C

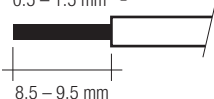
<sup>①</sup> At ta = 25 °C.

## Installation instructions

### Wiring type and cross section

Stranded wire with ferrule or solid wire up to 1.5 mm<sup>2</sup> may be used for wiring. Strip 8.5–9.5 mm of insulation from the cables to ensure perfect operation of the push-in terminals. Use one wire for each terminal connector only.

wire preparation:  
0.5 – 1.5 mm<sup>2</sup> ①

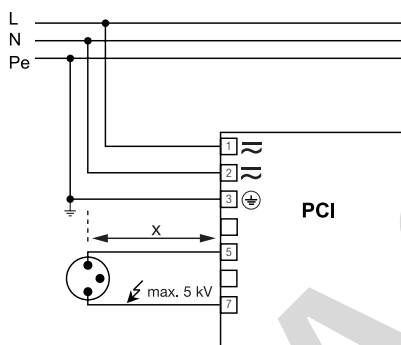


### Note on wiring

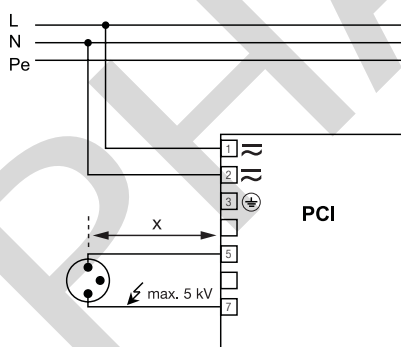
The length of the lamp wires is limited by the value of cable capacitance. The maximum of 120 pF would enable connection of approximately 1.5 m of lamp wire.

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.).

In class 1 luminaires it is necessary to earth the ballast and the luminaire via the earth terminal, in class 2 luminaires not.



Circuit diagram PCI class 1 application

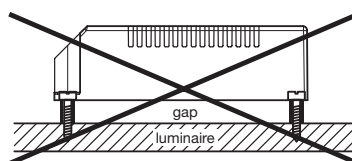
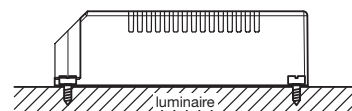


Circuit diagram PCI class 2 application

## Mounting recommendation

Optimum heat transport can help improving the lifetime. Whenever possible keep the ballast away from hot parts.

To ensure optimum heat removal the ECG should be mounted on a metal plate (luminaire body). No insulators between the ECG and the cooling surface (air, adhesive tape, etc.). Finally important remains the temperature measurement.



If several ballasts are installed in masts, boxes, etc., measures must be taken to avoid overheating of individual components.

### Radio interference

- Do not cross mains and lamp cables.
- Do not lay mains cables together with lamp cables (ideally they should be 5–10 cm apart).
- Do not lead mains cables too closely along the electronic ballast.
- Twist lamp cables.
- Increase the distance between lamp cables and earthed metal surfaces.
- Keep the mains cable in the luminaire short.
- Parallel runs (x) of mains and lamp cables must be kept as short as possible.

### Important advise

When a lamp is changed (at the end of its life), if a lamp is missing or after overtemperature shutdown the mains voltage of the ECG must be disconnected.

### Warning – starting voltage up to max. 5 kV!

Not suitable for use with lamps with integral ignitors. A list of released lamps for the save operation with PCI can be found on [www.tridonic.com](http://www.tridonic.com) → Technical Data → Lamp matrix → Lamp matrix for HID

## Safety switch off

### End of life of the lamps

At the end of their useful life, lamps often cycle on/off. The PCI ballast recognises this condition and switches off the lamp, after three complete on/off cycles and whilst the supply has been unswitched. Complete lamp switch off enables easy identification of a defective lamp in the application. After a change of the faulty lamp and an interruption of the mains supply (mains reset) the ballast will strike the lamp. When there is no lamp in circuit or a defective lamp is connected to the ballast, the ballast will switch off after apr. 25 minutes.

### Overtemperature shutdown

The units shut down at  $\Delta t$  approx. +10 °C compared with  $t_c$ . A mains reset must be carried out so that the units switch on again.

### Overload strength

320 V for 1 h, 280 V for 10 h

## Standards

EN 55015 (radio interference)  
IEC 61000-3-2 (mains harmonics)  
IEC 61347-2-12  
IEC 61547 (interference immunity)  
IEC 61167

### Glow wire test acc. to EN60598-1

650 °C passed  
850 °C passed  
960 °C passed

### Harmonic distortion in the mains supply

Type	THD at 230 V/50 Hz
PCI 35 TEC	< 10 %
PCI 70 TEC	< 10 %

### Ballast lumen factor EN 60929 8.1

Type	AC/DC-BLF at U = 198–254 V, 25 °C
PCI 35 TEC	1.00
PCI 70 TEC	1.00

## Loading of automatic circuit breakers

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20
Installation $\emptyset$	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	2.5 mm <sup>2</sup>
PCI 35 TEC	28	40	44	58	14	20	22	29
PCI 70 TEC	18	28	30	36	9	14	15	18

① Due to regional standards 0.75 – 1.5 mm<sup>2</sup> is printed on the ballast label. The terminal is capable to handle wires of 0.5 – 1.5 mm<sup>2</sup>.

## Temperature range

The  $t_a$  temperature value is the basis for specifying the rated life.

The relationship between the  $t_c$  temperature and the  $t_a$  temperature depends on the design of the luminaire. If the measured  $t_c$  temperature is approximately 5 K under the  $t_c$  max. temperature the  $t_a$  temperature should be checked and, if necessary, measurements should be taken on the critical components (e.g. electrolytic capacitor).

Detailed information is available on request.

PCI TEC C011 is designed for an average life of 20,000 hours under rated conditions, with a failure probability of less than 10 %. This corresponds to an average failure rate of 0.5 % per 1,000 hours of operation.

The specified  $t_c$  temperature is the maximum permitted value (rated temperature according to EN 61347-1). Above this safety-related value the thermal cutout protects the device against damage. The expected life-time values are shown in the following table. The  $t_c$  values are the relevant values here.

## Storage conditions

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 ( $t_a$ ) before they can be operated.

## Expected life-time

Type	Lamp type	Lamp power	$t_a$	40 °C	45 °C	50 °C	55 °C
PCI 35 W	HI	1x35 W	$t_c$	60 °C	65 °C	70 °C	75 °C
			Life-time	> 40,000 h	40,000 h	30,000 h	20,000 h
PCI 70 W	HI	1x70 W	$t_c$	70 °C	75 °C	80 °C	x
			Life-time	40,000 h	30,000 h	20,000 h	x

x ... not permitted

The PCIs are designed for a life-time stated above under reference conditions and with a failure probability of less than 10 %.

## 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<sub>DC</sub> 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<sub>AC</sub> (or 1.414 x 1500 V<sub>DC</sub>). To avoid damage to the electronic devices this test must not be conducted.

## Additional information

Additional technical information at  
[www.tridonic.com](http://www.tridonic.com) → Technical Data

Guarantee conditions at  
[www.tridonic.com](http://www.tridonic.com) → Services

No warranty if device was opened.