

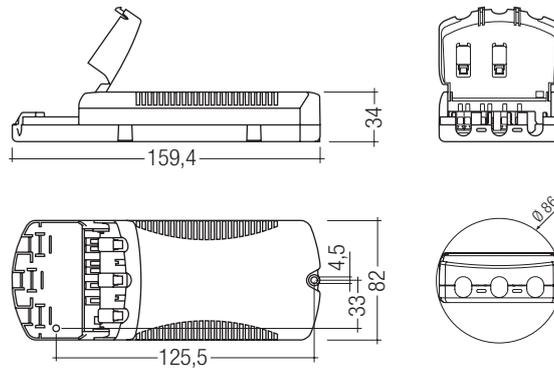


## PCI TOP C021 Single

PCI TOP independent

### 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
- With integrated cable clamp and terminal cover
- No tools required for installing the terminal cover and cable clamps
- Push-in terminals up to 2.5 mm<sup>2</sup>
- Casing: polycarbonate, white



### Technical data

Mains voltage range	220 – 240 V
AC voltage range	198 – 254 V
DC voltage range	198 – 320 V
Mains frequency	0 / 50 / 60 Hz
Max. ignition voltage	5 kVp
Operating frequency	145 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 TOP C021	87500208	20 pc(s).	280 pc(s).	1,120 pc(s).	0.260 kg
PCI 50 TOP C021	87500210	20 pc(s).	280 pc(s).	1,120 pc(s).	0.262 kg
PCI 70 TOP C021	87500209	20 pc(s).	280 pc(s).	1,120 pc(s).	0.265 kg



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### Specific technical data

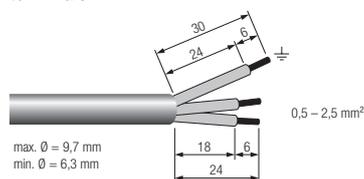
Lamp wattage	Lamp type	Type	Article number	Dimensions L x W x H	Lamp power	Circuit power <sup>Ⓞ</sup>	EEL	Efficiency	Current at 50 Hz 230 V	λ at 50 Hz 230 V	Max. cable length to lamp	tc point max.	Ambient temperature ta	tc/ta for ≥ 30,000 h
<b>For luminaires with 1 lamp</b>														
1 x 35 W	HI	PCI 35 TOP C021	87500208	159.4 x 82 x 34 mm	39 W	44 W	A2	> 88 %	0.20 A	0.97	1.5 m / 120 pF	70 °C	-20 ... +55 °C	70/55 °C
1 x 50 W	HI	PCI 50 TOP C021	87500210	159.4 x 82 x 34 mm	50 W	56 W	A2	> 89 %	0.25 A	0.96	1.5 m / 120 pF	65 °C	-20 ... +50 °C	65/50 °C
1 x 70 W	HI	PCI 70 TOP C021	87500209	159.4 x 82 x 34 mm	73 W	80 W	A2	> 90 %	0.35 A	0.97	1.5 m / 120 pF	75 °C	-20 ... +45 °C	75/45 °C

<sup>Ⓞ</sup> At ta = 25 °C.

## Installation instructions

### Wiring type and cross section

Stranded wire or solid wire up to 2.5 mm<sup>2</sup> may be used for wiring. Strip 10–11 mm of insulation from the cables to ensure perfect operation of the push-in terminals.

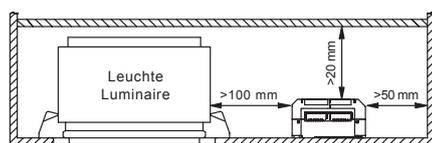


Use one wire for each terminal connector only.

Use each strain relief channel for one cable only.

### Fixing conditions

Dry, acidfree, oilfree, fatfree. The maximum ambient temperature must not be exceeded. Is not suitable for fixing in corner. Whenever possible keep the ballast away from hot parts. It helps increasing the life-time of the ballast.



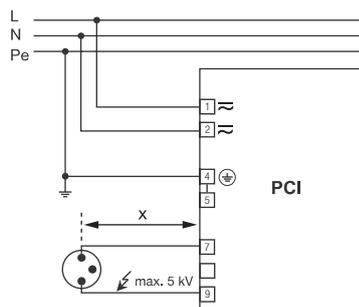
If several ballasts are installed in masts, boxes, etc., measures must be taken to avoid overheating of individual components.

To prevent the use of a wrong lamp type we recommend to mark the luminaire with the correct lamp type that fits to the ballast.

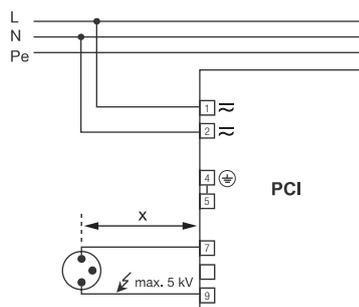
### Note on wiring

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 metres of lamp wire.

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



Circuit diagram PCI class 1 application



Circuit diagram PCI class 2 application

### 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 short.
- Parallel runs (x) of mains and lamp cables must be kept as short as possible.
- Connection to earth reduces radio interference.

### 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. +12 °C compared with  $t_c$ . A mains reset must be carried out so that the units switch on again.

### Overload strength

320 V<sub>AC</sub> / 1 h  
280 V<sub>AC</sub> / 10 h

## Standards

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

### Harmonic distortion in the mains supply

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

### Ballast lumen factor EN 60929 8.1

Type	AC/DC-BLF at U = 198–254V, 25 °C
PCI 35 TOP	1.00
PCI 50 TOP	1.00
PCI 70 TOP	1.00

## Loading of automatic circuit breakers

Automatic circuit breaker type	C10	C13	C16	C20	B10	B13	B16	B20
Installation Ø	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 TOP	30	40	50	60	15	20	25	30
PCI 50 TOP	14	25	36	42	8	14	18	18
PCI 70 TOP	14	25	36	42	8	14	18	18

## 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 TOP C021 is designed for an average life of 30,000 hours under rated conditions, with a failure probability of less than 10 %. This corresponds to an average failure rate of 0.3 % 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.

Expected life-time

Type	Lamp type	Lamp power	$t_a$	35 °C	40 °C	45 °C	50 °C	55 °C
PCI 35 TOP	HI	1x35 W	$t_c$	50 °C	55 °C	60 °C	65 °C	70 °C
			Life-time	> 50,000 h	> 50,000 h	50,000 h	40,000 h	30,000 h
PCI 50 TOP	HI	1x50 W	$t_c$	50 °C	55 °C	60 °C	65 °C	x
			Life-time	> 50,000 h	50,000 h	40,000 h	30,000 h	x
PCI 70 TOP	HI	1x70 W	$t_c$	65 °C	70 °C	75 °C	x	x
			Life-time	50,000 h	40,000 h	30,000 h	x	x

x ... not permitted

## 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.

## 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.

## 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.