

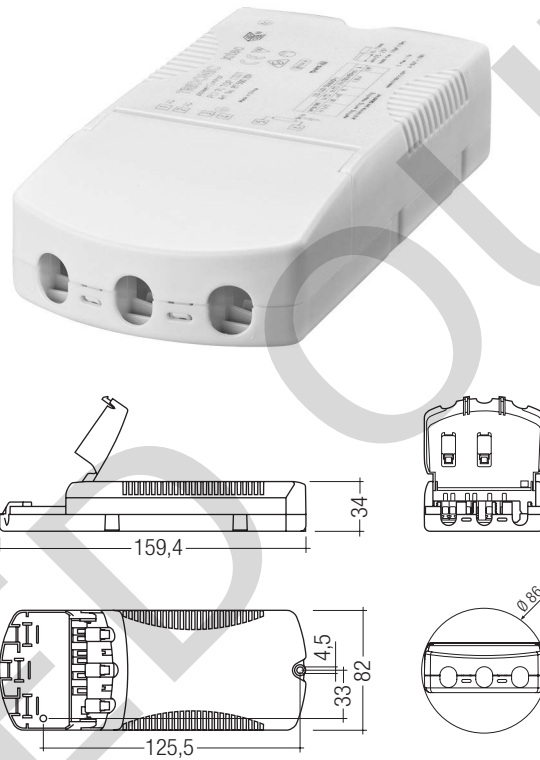


PCI TOP C021 Single

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 mm²
- 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. |
|-----------------------------------|----------------|-------------------|-----------------------|------------------------|----------------|
| For luminaires with 1 lamp | | | | | |
| 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 |



Standards, page 2

Wiring diagrams and installation examples, page 2

Specific technical data

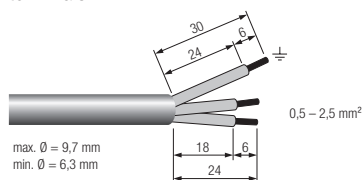
| Lamp wattage | Lamp type | Type | Article number | Dimensions L x W x H | Lamp power | Circuit power [Ⓞ] | EEL | Efficiency | Current at 50 Hz 230 V | λ at 50 Hz 230 V | Max. cable length to lamp | tc point max. | Ambient temperature ta | tc/ta for ≥ 30,000 h |
|-----------------------------------|-----------|-----------------|----------------|----------------------|------------|----------------------------|-----|------------|------------------------|------------------|---------------------------|---------------|------------------------|----------------------|
| For luminaires with 1 lamp | | | | | | | | | | | | | | |
| 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 |

[Ⓞ] At ta = 25 °C.

Installation instructions

Wiring type and cross section

Stranded wire or solid wire up to 2.5 mm² may be used for wiring. Strip 10–11 mm of insulation from the cables to ensure perfect operation of the push-in terminals.

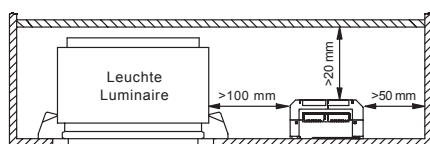


Use one wire for each terminal connector only.

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.



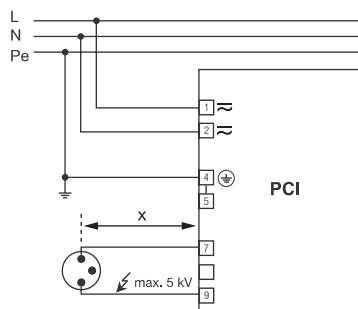
If several ballasts are installed in masts, boxes, etc., measures must be taken to avoid overheating of individual components.

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.

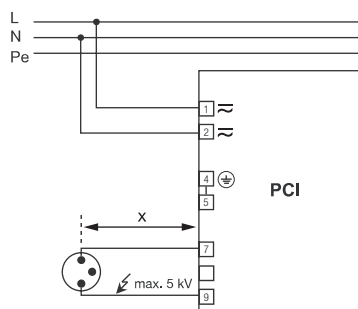
Note on wiring

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 → 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 Δt 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_{AC} / 1 h
280 V_{AC} / 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 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 |
| 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_{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.

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 → Technical Data

Guarantee conditions at
www.tridonic.com → Services

No warranty if device was opened.