Product description

- Average life = 100,000 hours (at max ta. -10 °C and a failure rate of ≤ 0.1 % per 1,000 hours). Average life = 50,000 hours (at max ta. with a failure rate of ≤ 0.2% per 1,000 hours)
- Suitable for voltage peaks (burst/surge) up to 4 kV
- Large temperature range (for values see table)
- Safety shutdown at end of life
- Automatic start after replacement of defective lamps
- For emergency lighting systems as per EN 50172
- Constant luminous flux irrespective of fluctuations in mains voltage
- For luminaires of protection class 1 and protection class 2
- For luminaires with F or M and MM as per EN 60598, VDE 0710 and VDE 0711
- Insulation Displacement Connection (IDC) terminal for rapid automatic or manual wiring
- Temperature protection as per EN 61347-2-3 C5e
- 8-year guarantee

Technical data

AC voltage range 198 – 264 V
DC voltage range 176 – 280 V (Lamp start ≥ 198 V DC)
Overvoltage protection 320 V AC, 1 h
Defined warm start ≤ 1.5 s
Operating frequency ≥ 40 kHz
Type of protection IP20

Ordering data

<table>
<thead>
<tr>
<th>Type of luminaire</th>
<th>Article number</th>
<th>Packaging carton</th>
<th>Packaging pallet</th>
<th>Weight per pc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC 1/36 T8 INDUSTRY</td>
<td>89800452</td>
<td>25 pc(s).</td>
<td>600 pc(s).</td>
<td>0.418 kg</td>
</tr>
<tr>
<td>PC 1/58 T8 INDUSTRY</td>
<td>89800454</td>
<td>25 pc(s).</td>
<td>600 pc(s).</td>
<td>0.418 kg</td>
</tr>
<tr>
<td>PC 2/36 T8 INDUSTRY</td>
<td>89800453</td>
<td>25 pc(s).</td>
<td>600 pc(s).</td>
<td>0.428 kg</td>
</tr>
<tr>
<td>PC 2/58 T8 INDUSTRY</td>
<td>89800455</td>
<td>25 pc(s).</td>
<td>600 pc(s).</td>
<td>0.585 kg</td>
</tr>
</tbody>
</table>

For luminaires with 1 lamp

For luminaires with 2 lamps

Specific technical data

<table>
<thead>
<tr>
<th>Lamp wattage</th>
<th>Lamp type</th>
<th>Length L</th>
<th>Hole spacing D</th>
<th>Lamp wattage</th>
<th>Circuit power EEI</th>
<th>Current at 50 Hz</th>
<th>λ at 50 Hz</th>
<th>tc point</th>
<th>Ambient temperature ta</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 36 W T8</td>
<td>PC 1/36 T8 INDUSTRY</td>
<td>458 mm</td>
<td>445 mm</td>
<td>32 W</td>
<td>36.5 W</td>
<td>A2</td>
<td>0.17 A</td>
<td>0.16 A</td>
<td>0.96</td>
</tr>
<tr>
<td>1 x 58 W T8</td>
<td>PC 1/58 T8 INDUSTRY</td>
<td>456 mm</td>
<td>445 mm</td>
<td>50 W</td>
<td>55.5 W</td>
<td>A2</td>
<td>0.26 A</td>
<td>0.24 A</td>
<td>0.97</td>
</tr>
<tr>
<td>2 x 36 W T8</td>
<td>PC 2/36 T8 INDUSTRY</td>
<td>458 mm</td>
<td>445 mm</td>
<td>64 W</td>
<td>74.5 W</td>
<td>A2</td>
<td>0.35 A</td>
<td>0.32 A</td>
<td>0.97</td>
</tr>
<tr>
<td>2 x 58 W T8</td>
<td>PC 2/58 T8 INDUSTRY</td>
<td>456 mm</td>
<td>445 mm</td>
<td>100 W</td>
<td>108.0 W</td>
<td>A2</td>
<td>0.50 A</td>
<td>0.46 A</td>
<td>0.98</td>
</tr>
</tbody>
</table>
FL ballasts
Electronic fixed output

Standards
EN 55015
EN 60929
EN 50082-2
EN 61000-3-2
EN 61347-2-3
EN 61347-2-4
EN 61547
according to EN 50172

Lamp starting characteristics
Warm start
Starting time 1.5 s 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 EBLF ≥ 0.5

Intelligent Voltage Guard
Intelligent Voltage Guard is the name of the new electronic monitor from Tridonic. This innovative feature of the PC INDUSTRY 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 approx. 305 V, the lamp starts 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.

Smart Heating
Innovative heating circuit. Reduced filament heating after lamp has struck.

Mains currents in DC operation

<table>
<thead>
<tr>
<th>Type</th>
<th>Lamp type</th>
<th>Wattage</th>
<th>Un = 220 V&lt;sub&gt;DC&lt;/sub&gt;</th>
<th>Mains current</th>
<th>Wattage</th>
<th>Un = 240 V&lt;sub&gt;DC&lt;/sub&gt;</th>
<th>Mains current</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC 1/36 T8 INDUSTRY</td>
<td>T8</td>
<td>1x36 W</td>
<td>0.16 A</td>
<td>0.49 A</td>
<td>1x36 W</td>
<td>0.15 A</td>
<td>0.45 A</td>
</tr>
<tr>
<td>PC 2/36 T8 INDUSTRY</td>
<td>T8</td>
<td>2x36 W</td>
<td>0.33 A</td>
<td>0.28 A</td>
<td>2x36 W</td>
<td>0.31 A</td>
<td>0.25 A</td>
</tr>
<tr>
<td>PC 1/58 T8 INDUSTRY</td>
<td>T8</td>
<td>1x58 W</td>
<td>0.26 A</td>
<td>0.28 A</td>
<td>1x58 W</td>
<td>0.24 A</td>
<td>0.26 A</td>
</tr>
<tr>
<td>PC 2/58 T8 INDUSTRY</td>
<td>T8</td>
<td>2x58 W</td>
<td>0.49 A</td>
<td>0.45 A</td>
<td>2x58 W</td>
<td>0.45 A</td>
<td>0.44 A</td>
</tr>
</tbody>
</table>

Harmonic distortion in the mains supply

<table>
<thead>
<tr>
<th>Type</th>
<th>Lamp type</th>
<th>Wattage</th>
<th>THD at 230V/50Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC 1/36 T8 INDUSTRY</td>
<td>T8</td>
<td>1x36 W</td>
<td>≤ 10%</td>
</tr>
<tr>
<td>PC 2/36 T8 INDUSTRY</td>
<td>T8</td>
<td>2x36 W</td>
<td>≤ 10%</td>
</tr>
<tr>
<td>PC 1/58 T8 INDUSTRY</td>
<td>T8</td>
<td>1x58 W</td>
<td>≤ 10%</td>
</tr>
<tr>
<td>PC 2/58 T8 INDUSTRY</td>
<td>T8</td>
<td>2x58 W</td>
<td>≤ 10%</td>
</tr>
</tbody>
</table>

Working voltage

<table>
<thead>
<tr>
<th>Type</th>
<th>Lamp type</th>
<th>Wattage</th>
<th>U&lt;sub&gt;in&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC 1/36 T8 INDUSTRY</td>
<td>T8</td>
<td>1x36 W</td>
<td>250 V</td>
</tr>
<tr>
<td>PC 2/36 T8 INDUSTRY</td>
<td>T8</td>
<td>2x36 W</td>
<td>250 V</td>
</tr>
<tr>
<td>PC 1/58 T8 INDUSTRY</td>
<td>T8</td>
<td>1x58 W</td>
<td>250 V</td>
</tr>
<tr>
<td>PC 2/58 T8 INDUSTRY</td>
<td>T8</td>
<td>2x58 W</td>
<td>250 V</td>
</tr>
</tbody>
</table>

Ballast lumen factor (EN 60929 8.1)

<table>
<thead>
<tr>
<th>Type</th>
<th>Lamp type</th>
<th>Wattage</th>
<th>AC/DC-BLF at U = 198–254 V, 25°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC 1/36 T8 INDUSTRY</td>
<td>T8</td>
<td>1x36 W</td>
<td>1.00</td>
</tr>
<tr>
<td>PC 2/36 T8 INDUSTRY</td>
<td>T8</td>
<td>2x36 W</td>
<td>1.00</td>
</tr>
<tr>
<td>PC 1/58 T8 INDUSTRY</td>
<td>T8</td>
<td>1x58 W</td>
<td>1.00</td>
</tr>
<tr>
<td>PC 2/58 T8 INDUSTRY</td>
<td>T8</td>
<td>2x58 W</td>
<td>1.00</td>
</tr>
</tbody>
</table>

All data are typical values
ASIC light management

ASIC (Application specific integrated circuit) 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.

Energy class CELMA EEI = A2

PC INDUSTRY 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.

\[ tc = tc_{\text{max}} - 10 ^ \circ C \]

This corresponds to an average failure rate of 0.1 % for every 1,000 hours of operation.

Humidity: 5 % up to max. 85 %, not condensed (max. 56 days/year at 85 %)

Storage temperature: +40 \circ C up to max. +80 \circ C

The devices have to be within the specified temperature range (ta) before they can be operated.

Wiring advice

The lead length is dependant on the capacitance of the cable. For safety reasons, the PC INDUSTRY 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.

With standard solid wire 0.5 / 0.75 mm² the capacitance of the lead is approx. 30 – 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 (9,10) and cold leads (11,12,13,14) should be separated as much as possible.

Ambient Temperature

-30 \circ C to + 70 \circ C

<table>
<thead>
<tr>
<th>Ambient Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>tc point is related to the ballast life duration.</td>
</tr>
<tr>
<td>tc = tc_{\text{max}} - 10 ^ \circ C under reference conditions and with a failure probability of less than 10 %.</td>
</tr>
<tr>
<td>This corresponds to an average failure rate of 0.1 % for every 1,000 hours of operation.</td>
</tr>
<tr>
<td>Humidity: 5 % up to max. 85 %, not condensed (max. 56 days/year at 85 %)</td>
</tr>
<tr>
<td>Storage temperature: +40 \circ C up to max. +80 \circ C</td>
</tr>
</tbody>
</table>

The devices have to be within the specified temperature range (ta) before they can be operated.

Data sheet

04/17-FO002-12
Subject to change without notice.

www.tridonic.com
Installation instructions

IDC interface
- solid wire with a cross section of 0.5 mm² according to the specification from WAGO

Horizontal interface
- solid wire with a cross section of 0.5 – 1.5 mm² according to the specification from WAGO
- strip 7.5 – 8.5 mm of insulation from the cables to ensure perfect operation of the push terminals

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.

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 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 (or 1.414 x 1500 V). To avoid damage to the electronic devices this test must not be conducted.

Additional information

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

Guarantee conditions at www.tridonic.com → Services

Life-time declarations are informative and represent no warranty claim. No warranty if device was opened.

Wiring diagrams

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
- 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 to the ballast, 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

T8 lamp information

Additional information

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

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