

DALI PS3

DALI-2 power supply



Product description

- _ DALI-2 power supply providing 70 mA for a DALI-2 installation
- _ Excellent scalability allowing to connect up to 2 PS3 in a DALI-2 installation
- _ Compact form factor combined with detachable mounting flaps allowing high installation flexibility, e.g. in luminaire
- _ Up to 100,000 guaranteed operating hours enable outstanding lifetime of the entire lighting system
- _ 5 years guarantee (conditions at <https://www.tridonic.com/manufacture-guarantee-conditions>)

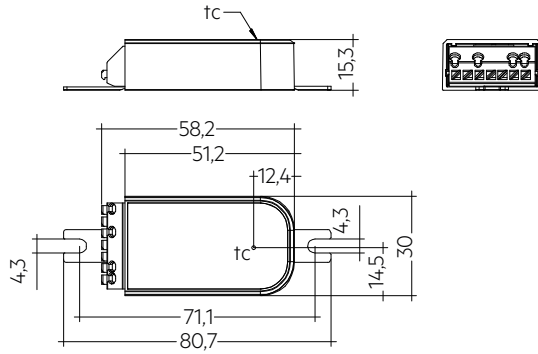
Website

<http://www.tridonic.com/87500873>



DALI PS3

DALI-2 power supply

**Ordering data**

| Type | Article number | Packaging, carton | Weight per pc. |
|----------|----------------|-------------------|----------------|
| DALI PS3 | 87500873 | 60 pc(s). | 0.02 kg |

Technical data

| | |
|---|---------------------|
| Rated supply voltage | 220 – 240 V |
| Mains frequency | 50 / 60 Hz |
| Power consumption ^① | 1.75 W |
| Typ. current ^① | 0.0172 A |
| Output power ^① | 1.2 W |
| Typ. power consumption on stand-by ^② | 0.31 W |
| Output | DALI |
| Max. level voltage DC, DALI | 18.4 V |
| Min. level voltage DC, DALI | 13.6 V |
| Typ. level voltage DC, DALI | 16 V |
| Guaranteed output current, DALI | 0.07 A |
| Max. output current, DALI | 105 mA |
| Ambient temperature t_a | 0 ... +65 °C |
| Type of protection | IP20 |
| Dimensions L x W x H | 80.7 x 30 x 15.3 mm |
| Guarantee (conditions at www.tridonic.com) | 5 Year(s) |

Approval marks**Standards**

EN 61347-2-11, EN 55015, EN 61000-3-2, EN 61000-3-3, EN 61547, EN 62386-101

① Test condition at 230 V, 50 Hz and full load.

② No DALI traffic at the interface.

1. Standards

- EN/IEC 61347-2-11: 2001
- EN 55015: 2013
- EN 61000-3-2: 2014 Part 3-2
- EN 61000-3-3: 2013 Part 3-3
- EN 61547: 2009
- EN 62386-101 Ed.2.1

1.1 Glow-wire test


according to EN 61347-2-11 passed for temperatures up to 850 °C.

2. Common


2.1 Functional description

DALI PS3 is developed according to EN 62386-101 Ed.2.1 also known as DALI-2. DALI PS3 is a power supply, rated at 16 V DC and providing 70 mA.

With the provided 70 mA current up to 35 DALI loads can be connected.

 Standard DALI loads are specified to consume max. 2 mA. Some DALI control devices may consume more than 2 mA (e.g. MSensor G3). If such devices are connected to the PS3 the amount of possible connected devices will be reduced. This has to be considered during the application design.

Up to 2 PS3 can be connected in parallel to provide up to 140 mA.

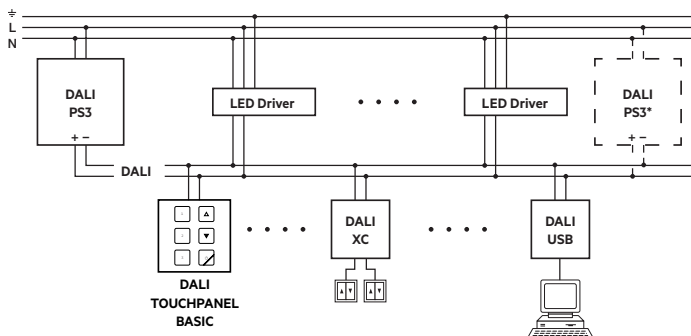
 Additional PS3 must be connected in parallel and the polarity has to be considered. Do not connect more than 2 PS3 in one installation. This may cause damage to the device and all other devices connected to the control wires.

The housing provides mounting flaps (manually removable) which can be used for easy installation inside a luminaire.

3. Installation

- DALI signals are not SELV. Therefore the same procedures should be applied as working with mains voltage.
- The DALI signal wires must not drop more than 2 V.

3.1 Wiring



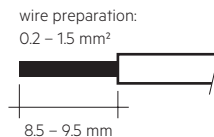
* Possible connection of additional DALI PS3


3.2 Cable types and cable cross-sections

For wiring, stranded wire with ferrules or solid wire with a cable cross-section of 0.2–1.5 mm² can be used.

Strip 8.5–9.5 mm of insulation from the cables to ensure perfect operation of the push-wire terminals.

Use one wire for each terminal connector only.



 When loosening the wiring, always use the push-button handle and never pull on the wire until the latch is released.

3.3 Max. output cable length

| Material | Cross-section | Max. cable length | | |
|-----------|----------------------|--------------------|--------------------|-------|
| | | 25 °C | 50 °C | 75 °C |
| Copper | 0.20 mm ² | 45 m | 41 m | 37 m |
| | 0.50 mm ² | 112 m | 102 m | 93 m |
| | 0.75 mm ² | 168 m | 153 m | 140 m |
| | 1.00 mm ² | 224 m | 204 m | 187 m |
| | 1.50 mm ² | 300 m ^① | 300 m ^① | 281 m |
| Aluminium | 0.20 mm ² | 27 m | 25 m | 23 m |
| | 0.50 mm ² | 68 m | 62 m | 57 m |
| | 0.75 mm ² | 102 m | 93 m | 86 m |
| | 1.00 mm ² | 136 m | 125 m | 115 m |
| | 1.50 mm ² | 205 m | 187 m | 172 m |

^① Cable lengths of more than 300 m are not recommended.

3.4 Output short circuit conditions

Output short circuit behavior has no delay, retry and restart period of shutdown mechanism, but short circuit proof. The PS3 keeps working even output is short with limited max. output current.

4. Thermal details and lifetime

4.1 Expected lifetime

| Expected lifetime | | | | |
|-------------------|----------|------------|-----------|----------|
| Type | ta | 40 °C | 50 °C | 65 °C |
| DALI PS3 | tc | 55 °C | 65 °C | 75 °C |
| | Lifetime | >100,000 h | 100,000 h | 65,000 h |

The device is designed for a lifetime stated above under reference conditions and with a failure probability of less than 10 %.

5. Miscellaneous

5.1 Disposal



According to the WEEE directive return old equipment at appropriate collection facilities.

5.2 Additional information

Additional technical information at www.tridonic.com → Technical Data
Guarantee conditions at www.tridonic.com → Services

Lifetime declarations are informative and represent no warranty claim. No warranty if device was opened.