

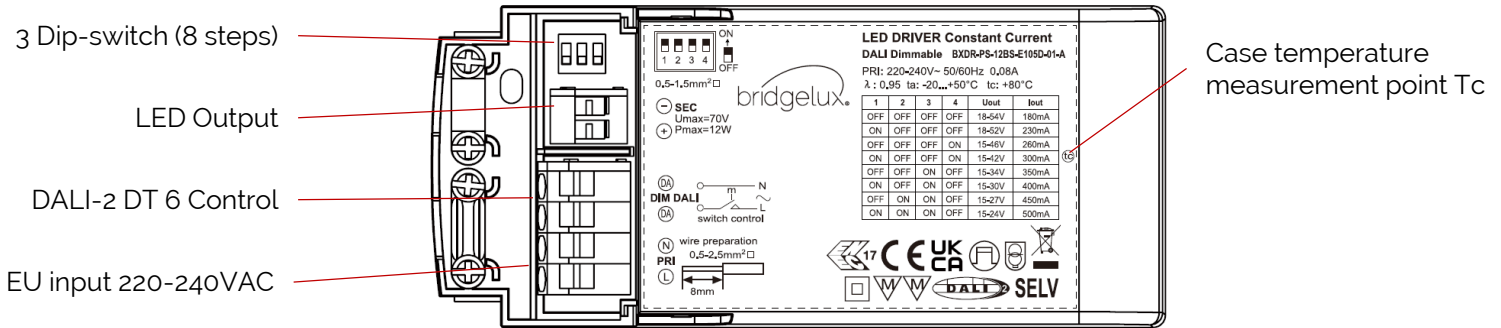


Bridgelux® Pallas-D Single Channel 12W (DALI-2) Brick Driver

Product Data Sheet DS472

Product Feature Map

Bridgelux Pallas-D (DALI) Single Channel 12W Driver provides dynamic constant current output for LED modules and arrays. This Driver interoperates with DALI-2 standard lighting systems and protocols and allows for simple integration of Bridgelux's and all major brands White Arrays and Linear modules. Please visit www.bridgelux.com for more information.



Product Nomenclature

The part number designation for Bridgelux Pallas-D (DALI) Single Channel 12W Driver is explained as follows:

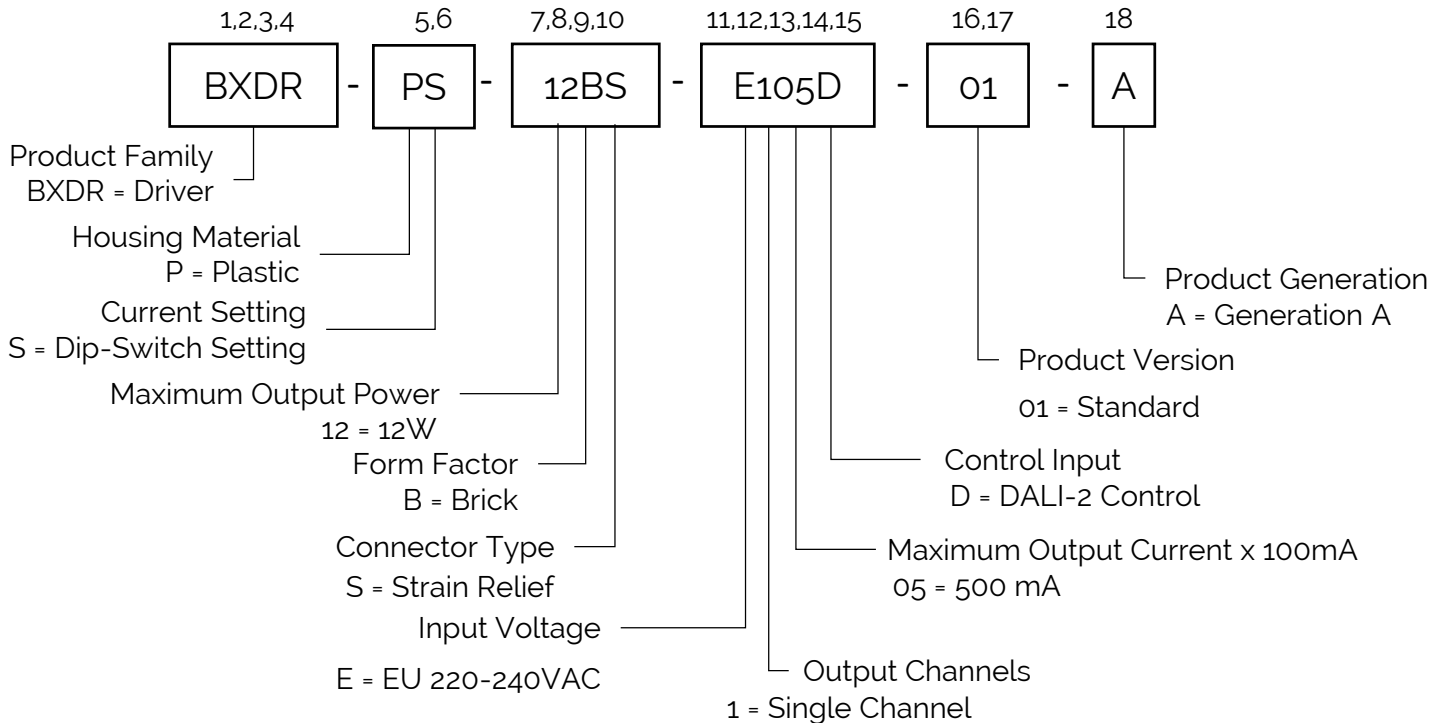


Table 1: Product Selection Guide

| Part Number | Configuration |
|-------------------------|-----------------------------------|
| BXDR-PS-12BS-E105D-01-A | Brick with strain relief built-in |

Electrical Characteristics

Table 2: Input Electrical Characteristics

| Parameter | Unit | Specification | |
|--------------------------------|------|----------------------------------|--------|
| Nominal voltage | V | 220 – 240 | |
| Nominal frequency | Hz | 50 / 60 | |
| AC voltage range | V | 198 – 264 | |
| DC voltage range | V | 176 - 370 | |
| Nominal current | A | 0.08 | |
| Power factor (Full load) | - | ≥ 0.8 (180 mA) | ≥ 0.95 |
| THD (Full load) | % | ≤ 25 (180mA) | ≤ 20 |
| Efficiency (Full load) | % | ≥ 79 | |
| NO load | W | ≤ 0.5 | |
| Protection class | - | II | |
| Inrush current(Cold start) | A pk | < 15 (th = 100 μs) | |
| Max. units per circuit breaker | - | B10: 46 B16: 74 C10: 93 C16: 149 | |

Table 3: Output Electrical Characteristics

| Parameter | Unit | Specification | | | | | | | |
|------------------------------------|------|--|--------|--------|--------|--------|--------|--------|--------|
| Nominal voltage range | V | 18-54V | 18-52V | 15-46V | 15-42V | 15-34V | 15-30V | 15-27V | 15-24V |
| Maximum voltage(Open Circuit) | Vdc | ≤ 70 | | | | | | | |
| Nominal current | mA | 180 | 230 | 260 | 300 | 350 | 400 | 450 | 500 |
| Current accuracy | % | +/- 5 | | | | | | | |
| Current ripple LF < 200Hz | % | ≤ 3 | | | | | | | |
| Pst LM | - | ≤ 1 | | | | | | | |
| SVM | - | ≤ 0.4 | | | | | | | |
| Maximum power | W | 12 | | | | | | | |
| Galvanic isolation: SELV | - | Output voltage of SELV controlgear not exceed limits in 10.4 of IEC61347-1 during the test of 15.1 and 15.2 <i>IEC61347-1 10.4: "Controlgear providing SELV may have accessible conductive parts in the SELV circuit; if : the rated output voltage exceed 60V ripple free d.c., the touch current does not exceed 0,7 mA (peak).</i> | | | | | | | |

Electrical Characteristics

Figure 1: Power Factor vs. Load

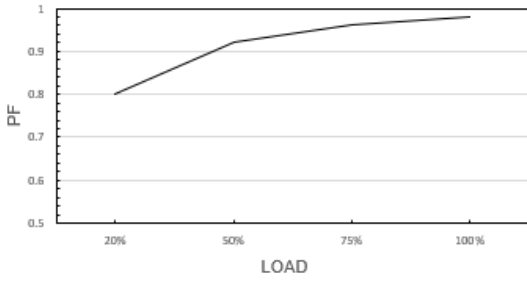


Figure 2: Total Harmonic Distortion vs. Load

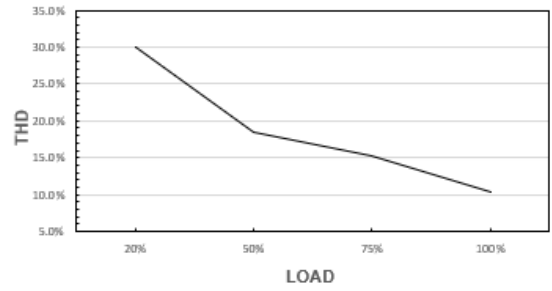


Figure 3: Efficiency vs. Load

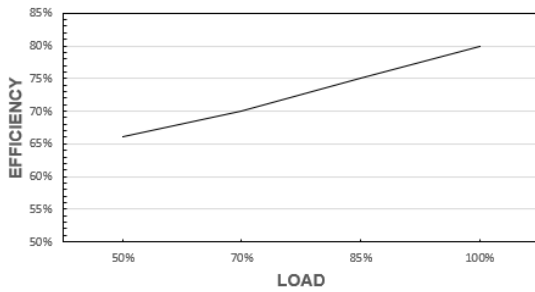
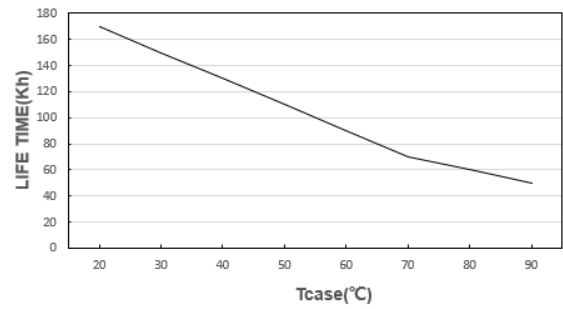


Figure 4: Expected Life Time

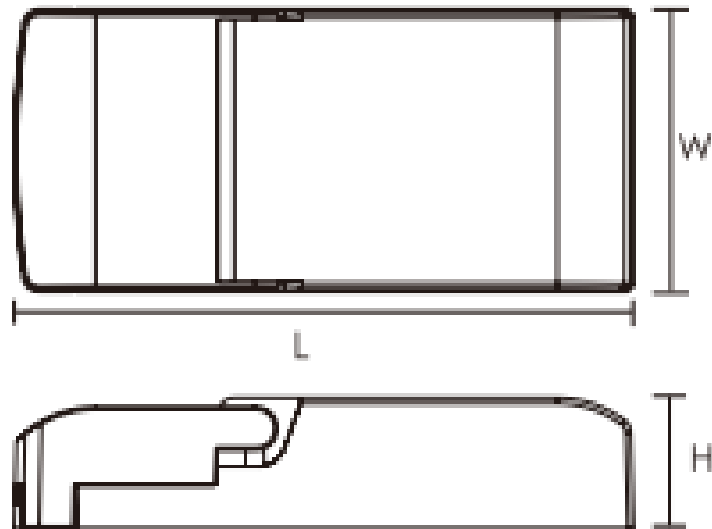


Mechanical Characteristics

Table 4: Product Selection Guide

| Characteristics | Specification |
|---------------------|--|
| Dimensions | 119.0 mm (L) x 52.0 mm (W) x 22.5 mm (H) |
| Enclosure Materials | PC Plastic |
| Weight | 110 g |
| Ingress Protection | IP20 |

Figure 5: Mechanical Drawing



Notes for Figure 5:

1. Drawing dimensions are in millimeters
2. Unless otherwise specified, all linear tolerances are +/-1.0mm

Wiring Diagram

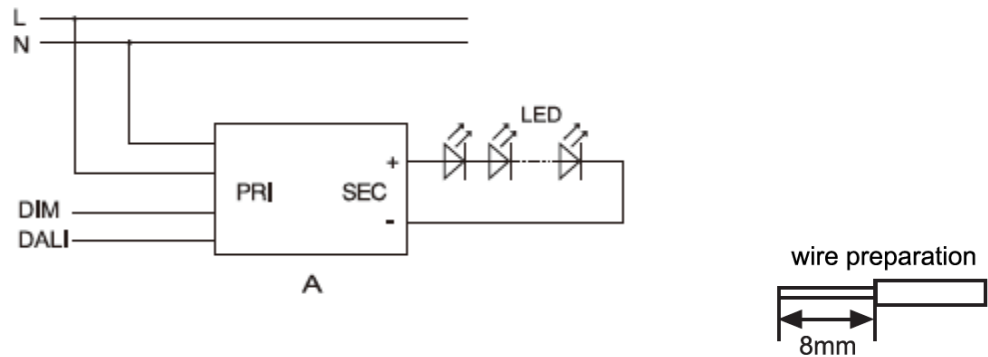


Table 5: Wiring

| | | PRI | |
|-----|---------------------|---|--|
| PRI | Cable cross-section | 0.5 – 2.5 mm ² / AWG 20 - 13 | |
| | Stripping | 8 mm | |
| SEC | Cable cross-section | 0.5 – 1.5 mm ² / AWG 20 - 15 | |
| | Stripping | 8 mm | |

Notes for Table 5:

1. Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs.
2. Unless otherwise specified, all linear tolerances are +/-1.0mm

DIP-switch operation instructions & operating window

Table 6: Dip-switch operation instructions & operating window

| Dip-switch setting | | | U _{out} | I _{out} |
|--------------------|-----|-----|------------------|------------------|
| 1 | 2 | 3 | | |
| OFF | OFF | OFF | 18-54V | 180 mA |
| ON | OFF | OFF | 18-52V | 230 mA |
| OFF | ON | OFF | 15-46V | 260 mA |
| OFF | OFF | ON | 15-42V | 300 mA |
| ON | ON | OFF | 15-34V | 350 mA |
| ON | OFF | ON | 15-30V | 400 mA |
| OFF | ON | ON | 15-27V | 450 mA |
| ON | ON | ON | 15-24V | 500 mA |

Environmental and Regulatory Standards

Table 7: Environmental Conditions

| Parameter | Specification |
|--|---|
| Ambient Operating Temperature | -20°C to + 50°C |
| Max. Case Temperature Tc | +80°C (max) |
| Max. Case Temperature (In fault condition) | +110°C |
| Humidity Rating | Maximum 85% Relative Humidity, non condensing |
| Storage Temperature | -20°C to + 70°C |
| Expected Lifetime | 50,000 hours (Tc < 80°C) |

Table 8: Regulatory Approvals and Compliance

| Specification | Reference Standard | Condition |
|--|---|--|
| DC or AC supplied electronic controlgear for LED modules | EN 62384 | electronic controlgear for use on DC or AC supplies up to 1 000 V (alternating current at 50 Hz or 60 Hz) and with an output frequency which can deviate from the supply frequency |
| Conducted and Radiated EMI | EN 55015:2019+A1:2020 (CISPR 15:2018) | |
| Harmonic Current Emissions | EN IEC 61000-3-2:2019 | |
| Voltage Fluctuations & Flicker | IEC 61000-3-3:2013+A1:2019 | |
| ESD (Electrostatic Discharge) | IEC 61547:2009 Section 5.2 Test des.: IEC 61000-4-2 | 4 kV contact discharge, 8 kV air discharge, level 3 |
| Continuous Radiated Disturbance | IEC 61547:2009 Section 5.3 Test des.: IEC 61000-4-3 | 3 V/m, 80 - 1000 MHz, 80% modulated at distance of 3 meters |
| Electrical Fast Transient | IEC 61547:2009 Section 5.5 Test des.: IEC 61000-4-4 | ± 1 kV on AC power port for 1 minute, |
| Surge | IEC 61547 Section 5.7 Test des.: IEC 61000-4-5 | ± 1 kV (differential mode) ± 2 kV (common mode) |
| Continuous Conducted Disturbance | IEC 61547:2009 Section 5.6 Test des.: IEC 61000-4-6 | 3V, 0.15-80 MHz, 80% modulated, Level 2 |
| Voltage Dips | IEC 61547 Section 5.8, 5.9 Test des.: IEC 61000-4-11 | 70% dip during 25 cycles @ 50Hz, 30 cycles @ 60Hz 0% dip during ½ cycles |
| Touch Current | EN60598-1 | lower than 0.7 mA, according to EN 60598-1 annex. G and EN 61347-1 annex A |

Regulatory Standards (continued)

Table 9: Safety Agency Approvals

| Specification | Reference Standard | Condition |
|------------------|---|--|
| ENEC / CE / UKCA | EN 61347-1:2015. EN 61347-2-13:2014+A1 | ENEC Certification pending |
| Glow wire test | EN 61347-1:2015 | Passed with increased temperature at 850°C |

Table 10: DALI-2 DT6 Standards

| Specification | Reference Standard | Condition |
|------------------------------|--------------------|-----------|
| System Components (Part 101) | EN62386-101 | |
| Control Gear (Part 102) | EN62386-102 | |
| LED Module (Part 207) | EN62386-207 | |



Packaging

Table 11: Packaging Box Configuration

| Parameters | Specification |
|------------------|--------------------------------|
| Driver quantity | 100 pcs (10 pcs per inner box) |
| Outer dimensions | 320 X 260 X 280 mm |
| Weight | 13.0 kg |

Design Resources

Application Notes

Please contact your Bridgelux sales representative for assistance on obtaining application support when designing with the Bridgelux Pallas-D Single Channel Driver. For a list of available resources, visit www.bridgelux.com.

Precautions

CAUTION: PRODUCT HANDLING

Handle the Pallas-D Single Channel Driver with care to prevent any damage from mechanical shock. It is recommended to handle this driver in a static-free environment. Do not open or disassemble the product. To maintain product warranty, the installer is responsible for ensuring that the driver's operating conditions do not exceed the maximum conditions stated within this data sheet.

CAUTION: PRODUCT INSTALLATION

Incorrect installation of the Pallas-D Single Channel Driver can cause irreparable damage to the driver, connected LEDs. Pay attention when connecting the LED load and observe the correct polarity of the output terminals as specified in this data sheet and on the driver label.

CAUTION: ELECTRIC SHOCK

Be aware of the possibility of an electric shock hazard which can result in serious injury or death. Disconnect power before servicing or installing this device.

Disclaimers

MINOR PRODUCT CHANGE POLICY

The rigorous qualification testing on products offered by Bridgelux provides performance assurance. Slight cosmetic changes that do not affect form, fit, or function may occur as Bridgelux continues product optimization.

About Bridgelux: Bridging Light and Life™

At Bridgelux, we help companies, industries and people experience the power and possibility of light. Since 2002, we've designed LED solutions that are high performing, energy efficient, cost effective and easy to integrate. Our focus is on light's impact on human behavior, delivering products that create better environments, experiences and returns—both experiential and financial. And our patented technology drives new platforms for commercial and industrial luminaires.

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