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Bridgelux ${ }^{\circledR}$ Pallas-N Single Channel 55W (Non-Dim) Linear Driver
Product Data Sheet DS1217

## Product Feature Map

Bridgelux Pallas-N (Non-Dim) Single Channel 55W Driver provides dynamic constant current output for ED modules and arrays. This driver provides easy-to-adjust Dip-Switches configurable outputcurfen 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.


The part number designation for Bridgelux Pallas-N (Non-Dim) Single Channel 55W Driver is explained as follows:


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 | $\mathrm{N} / \mathrm{A}$ |
| Nominal current | A | 0.40 |
| Power factor (Full <br> load) |  | $\geq 0.95$ |
| THD (Full load) | $\%$ | $\leq 18$ |
| Efficiency (Full load) | $\%$ | $\geq 90$ |
| NO load | W | $\mathrm{N} / \mathrm{A}$ |
| Protection class |  | (Load switching on output side is not permitted) |

Table 3: Output Electrical Characteristics

| Parameter | Unit | Specification |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nominal voltage range | V | $36-52 \mathrm{~V}$ | $36-52 \mathrm{~V}$ | 36-52V | 36-52V | 36-52V |
| Maximum voltage(Open Circuit) | Vdc | $\leq 60$ |  |  |  |  |
| Nominal current | mA | 800 | 900 | 950 | 1000 | 1050 |
| Current accuracy | \% | +/-5 |  |  |  |  |
| Current ripple LF $<200 \mathrm{~Hz}$ | \% | $\leq 3$ |  |  |  |  |
| Pst LM |  | $\leq 1$ |  |  |  |  |
| SVM |  | $\leq 0.4$ |  |  |  |  |
| Maximum power | W | 55 |  |  |  |  |
| Galvanic isolation: |  | SELV |  |  |  |  |

Electrical Characteristics

Figure 1: Typical Operating Window


Figure 3: Typical Efficiency vs. Load


Figure 5: Est. Lifetime vs. Case Temperature


Figure 2: Typical THD vs. Load


Figure 4: Typical Power Factor vs Load


Mechanical Characteristics

Table 4: Product Selection Guide

| Characteristics | Specification |
| :---: | :---: |
| Dimensions | $280.0 \mathrm{~mm}(\mathrm{~L}) \times 30.0 \mathrm{~mm}(\mathrm{~W}) \times 21.0 \mathrm{~mm}(\mathrm{H})$ |
| Enclosure Materials | Steel Metal |
| Weight | 230.0 g |
| Ingress Protection | IP20 |

Figure 6: Mechanical Drawing


Notes for Figure 6 :

1. Drawing dimensions are in millimeters
2. Unless otherwise specified, all linear tolerances are $+/-1.0 \mathrm{~mm}$.

Wiring Diagram

wire preparation
Table 5: Wiring


|  | Specification item |  |
| :---: | :---: | :---: |
| PRI | Cable cross-section | $0.5-1.5 \mathrm{~mm}^{2} /$ AWG 20-15 |
|  | Stripping | $7-9 \mathrm{~mm}$ |
| SEC | Cable cross-section | $0.5-1.5 \mathrm{~mm}^{2} / \mathrm{AWG} 20-15$ |
|  | Stripping | $7-9 \mathrm{~mm}$ |

Notes for Table 5:

1. Unless otherwise specified, all linear tolerances are $+/-1.0 \mathrm{~mm}$

DIP-switch operation instructions \& operating window

Table 6: Dip-switch operation instructions \& operating window

| Dip-switch setting |  |  | $\mathcal{U}_{\text {out }}$ | I out |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ |  |  |
| OFF | OFF | OFF | $36-52 \mathrm{~V}$ | 800 mA |
| OFF | OFF | ON | $36-52 \mathrm{~V}$ | 900 mA |
| OFF | ON | OFF | $36-52 \mathrm{~V}$ | 950 mA |
| ON | OFF | ON | $36-52 \mathrm{~V}$ | 1000 mA |
| ON | ON | OFF | $36-52 \mathrm{~V}$ | 1050 mA |

Environmental and Regulatory Standards

Table 7: Environmental Conditions

| Parameter | Specification |
| :---: | :---: |
| Ambient Operating Temperature | $-20^{\circ} \mathrm{C}$ to $+50^{\circ} \mathrm{C}$ |
| Max. Case Temperature Tc | $+75^{\circ} \mathrm{C}(\mathrm{max})$ |
| Humidity Rating | Maximum $85 \%$ Relative Humidity, non condensing |
| Storage Temperature | $-20^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ |
| Expected Lifetime | $>50,000$ hours $\left(\mathrm{Tc}<65^{\circ} \mathrm{C}\right)$, max. $10 \%$ failure rate |

Table 8: Regulatory Approvals and Compliance

| Specification | Reference standard | Condition |
| :---: | :---: | :---: |
| 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 <br> 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 | $3 \mathrm{~V} / \mathrm{m}, 80-1000 \mathrm{MHz}, 80 \%$ modulated at distance of 3 meters |
| Electrical Fast Transient | IEC 61547:2009 Section 5.5 Test des.: IEC 61000-4-4 | $\pm 1 \mathrm{kV}$ on AC power port for 1 minute, |
| Surge | IEC 61547 Section 5.7 <br> Test des.: IEC 61000-4-5 | $\pm 1 \mathrm{kV}$ (differential mode) <br> $\pm 2 \mathrm{kV}$ (common mode) |
| Continuous Conducted Disturbance | IEC 61547:2009 Section 5.6 <br> Test des.: IEC 61000-4-6 | $3 \mathrm{~V}, 0.15-80 \mathrm{MHz}, 80 \%$ 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 @ $60 \mathrm{~Hz} 0 \%$ dip during $1 / 2$ cycles |

Table 9: Safety Agency Approvals

| Specification | Reference standard | Condition |
| :--- | :--- | :--- |
| ENEC / CE / UKCA | EN 61347-1:2015, |  |



## Design Resources

## Application Notes

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

## Precautions

## CAUTION: PRODUCT HANDLING

Handle the Pallas-N Single Channel Driver with care to prevent any damage from mechanical shock It is recommended to handle this driver in a static-free environmen
To maintain product warranty, the product must not be opened or disassembled and the installer must ensure 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-N 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. Hot plug-in or secondary switching of LEDs is not permitted and may cause a very high current to the LEDs.

## 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

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MINOR PRODUCT CHANGE POLICY
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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.

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 asy to integrate. Our focus is on light's impact on human behavior nvironments, experiences and returns-both experiential and financial. And our patented technology drives new platforms for commercial and industrial luminaires.

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