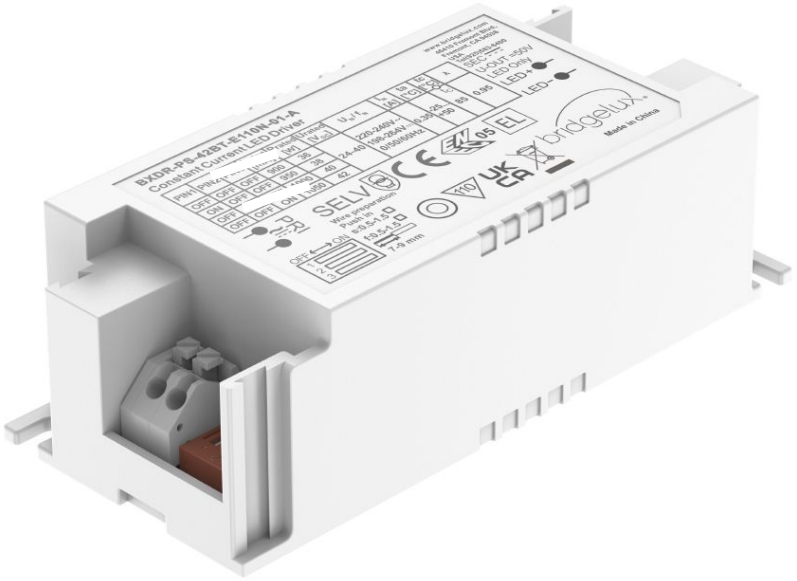
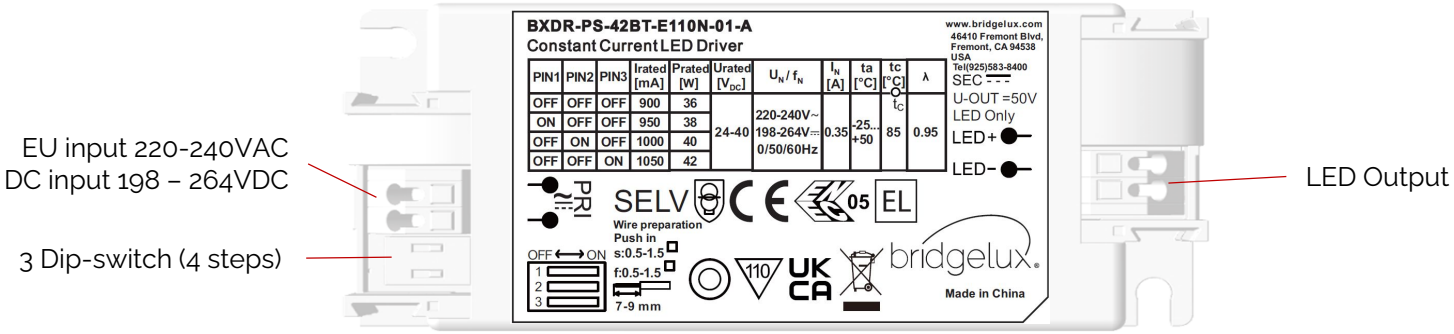


Bridgelux® Pallas-N Single Channel 42W (Non-Dim) Brick Driver

Product Data Sheet DS1214

Product Feature Map

Bridgelux Pallas-N (Non-Dim) Single Channel 42W Driver provides dynamic constant current output for LED modules and arrays. This driver provides easy-to-adjust Dip-Switches configurable output current 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-N (Non-Dim) Single Channel 42W Driver is explained as follows:

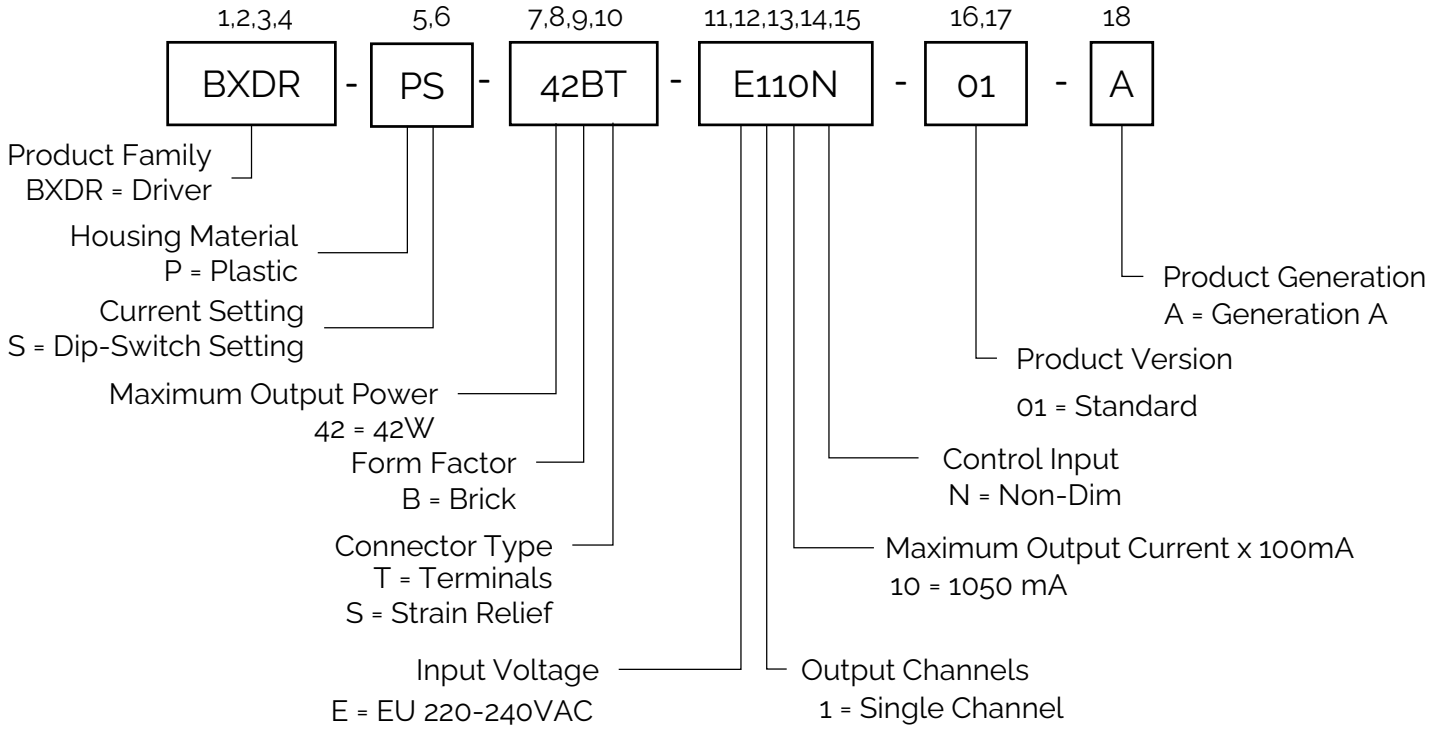


Table 1: Product Selection Guide

Part Number	Configuration
BXDR-PS-42BT-E110N-01-A	Brick with Dip-Switches built-in
BXAC-SR-PALLAS-N-01-A	Accessories (Strain Relief) for Pallas-N

Electrical Characteristics

Table 2: Input Electrical Characteristics

Parameter	Unit	Specification
Nominal voltage	V	220 – 240
Nominal frequency	Hz	0/50 / 60
AC voltage range	V	198 – 264
DC voltage range	V	198 - 280
Nominal current	A	0.35
Power factor (Full load)		≥ 0.96
THD (Full load)	%	≤ 10
Efficiency (Full load)	%	≥ 90
NO load	W	< 0.5
Start-up Time	S	< 0.5
Protection class		II
Inrush current(Cold start)	A pk	< 20 (th = 160 µs)
Max. units per circuit breaker		B10: 22; B16: 36; B20: 45; C10: 22; C16: 36; C20: 45

Table 3: Output Electrical Characteristics

Parameter	Unit	Specification			
Nominal voltage range	V	24-40V	24-40V	24-40V	24-40V
Maximum voltage(Open Circuit)	Vdc	≤ 50			
Nominal current	mA	900	950	1000	1050
Current accuracy	%	+/- 5			
Current ripple LF < 120Hz	%	≤ 3			
Current ripple HF > 1KHz	%	≤ 4			
Pst LM		≤ 0.5			
SVM		≤ 0.01			
Maximum power	W	42			
Galvanic isolation		SELV			

Electrical Characteristics

Figure 1: Estimated Lifetime vs. Case Temp.

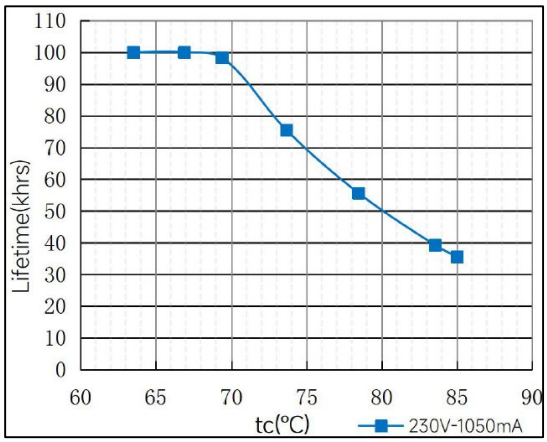


Figure 2: Typical THD vs. Load

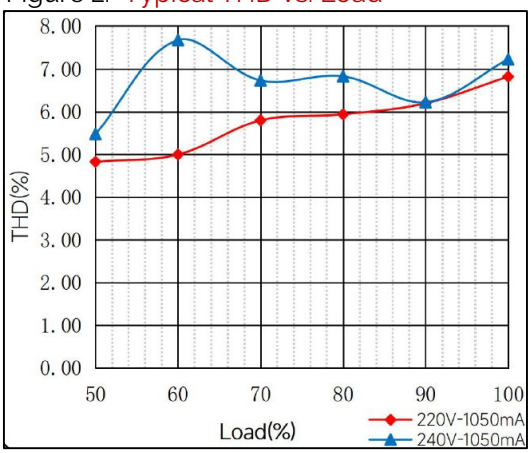


Figure 3: Typical Efficiency vs. Load

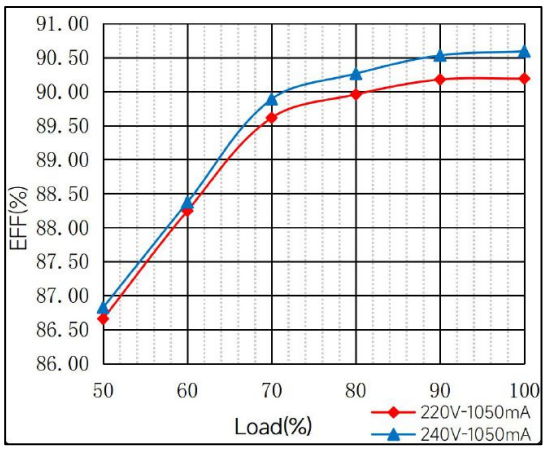


Figure 4: Typical Power Factor vs Load

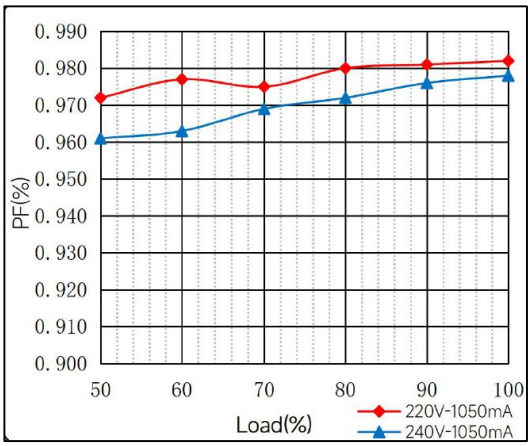
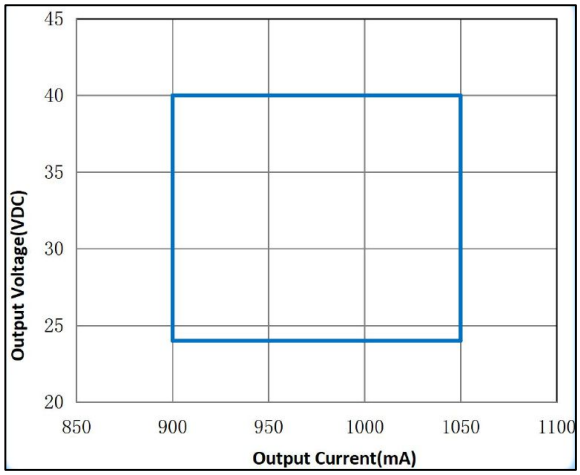


Figure 5: Operating Window

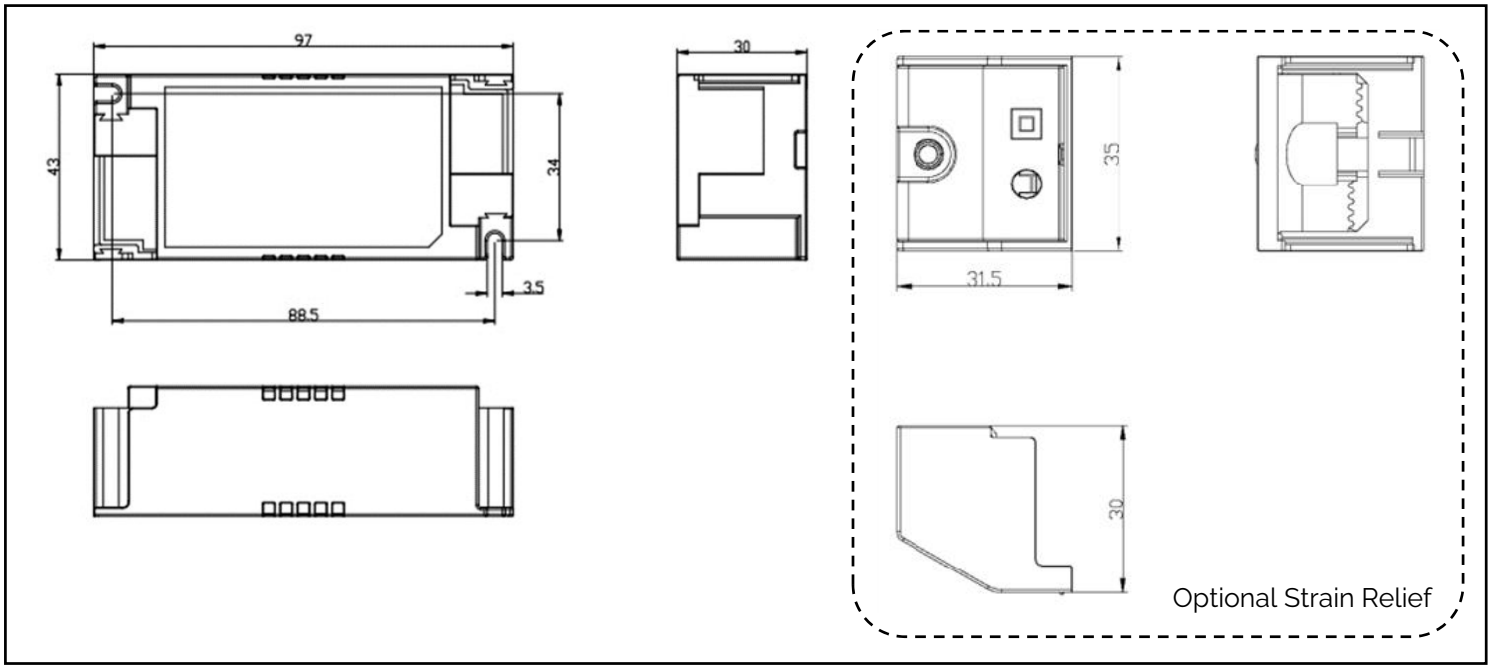


Mechanical Characteristics

Table 4: Product Selection Guide

Characteristics	Specification
Dimensions	97.0 mm (L) x 43.0 mm (W) x 30.0 mm (H) 131.0 mm (L) x 43.0 mm (W) x 30.0 mm (H) with Strain Relief
Enclosure Materials	PC Plastic
Weight	109.4 g
Ingress Protection	IP20

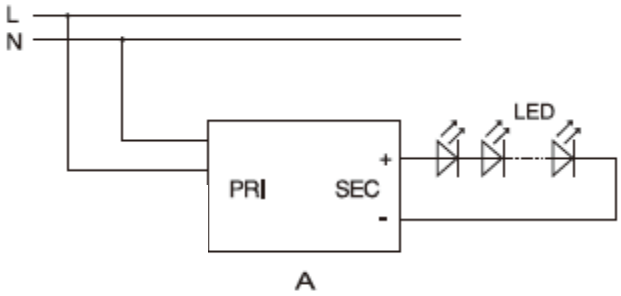
Figure 6: Mechanical Drawing



Notes for Figure 6:

1. Drawing dimensions are in millimeters
2. Unless otherwise specified, all linear tolerances are +/-1.0mm.
3. An optional cable clamp is available. This cable clamp can be snapped into the driver and thus converts it into an independent installation.

Wiring Diagram



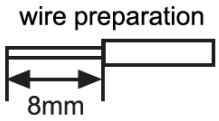


Table 5: Wiring

	Specification item	Value
PRI	Cable cross-section	0.5 – 1.5 mm² / AWG 20 – 16 0.75 – 2.5 mm² / AWG 18 – 14 (with Strain Relief)
	Stripping	7 - 9 mm
SEC	Cable cross-section	0.5 – 1.5 mm² / AWG 20 – 16 0.75 – 2.5 mm² / AWG 18 – 14 (with Strain Relief)
	Stripping	7 - 9 mm

Notes for Table 5:
1. 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	24-40V	900 mA
ON	OFF	OFF	24-40V	950 mA
OFF	ON	OFF	24-40V	1000 mA
OFF	OFF	ON	24-40V	1050 mA

Environmental and Regulatory Standards

Table 7: Environmental Conditions

Parameter	Specification
Ambient Operating Temperature	-20°C to + 50°C
Max. Case Temperature Tc	+85°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
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	
Glow wire test	EN 61347-1:2015	Passed with increased temperature at 650°C

Protection

Table 10: Protection

Parameters	Specification
Over Load Protection	103% - 120% Yes / Auto Resume
Over Voltage Protection	> 50Vdc Yes / Auto Resume
Short Circuit Protection	Yes / Auto Resume

Design Resources

Application Notes

Please contact your Bridgelux sales representative for assistance on obtaining application support when designing 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 environment
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

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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Bridgelux Pallas-N (Non-Dim) Single Channel 42W Driver Data Sheet DS1214 Rev. A (04/2023)