

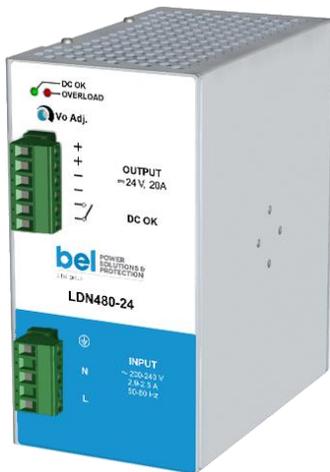
LDN480-24

480W DIN Rail Switching Power Supply

LDN480-24 is a single phase DIN Rail Switching Power Supply with active PFC, suitable for broad range of industrial, telecom and renewable energy applications.

The unit has received excellent market approval for its high efficiency, excellent reliability and compactness. Simple but elegant look and ease of installation due to pluggable connectors make it ideal for various industrial applications.

LDN480-24 is Class I isolation device suitable for SELV and PELV circuitry and is designed to be mounted on DIN rail and installed inside a protective enclosure.



Key Features & Benefits

- Single phase AC input 187 - 264 VAC (250 – 375 VDC)
- Active PFC
- High efficiency and compact size
- Overload 150%
- Excellent long lasting overvoltage withstand (up to 550 VAC)
- Short circuit, overload and over temperature protection
- RoHS Compliant

Applications

- Industrial Applications
- Automation
- Communication
- Renewable

1. MODEL SELECTION

MODEL	INPUT VOLTAGE	# of PHASES	OUTPUT VOLTAGE	OUTPUT CURRENT	REDUNDANCY
LDN480-24	200 - 240 VAC (250 - 375 VDC)	1	24 VDC	20 A	No ORing diode

2. INPUT SPECIFICATIONS

Technical parameters are typical, measured in laboratory environment at 25°C and 240 VAC / 50 Hz, at nominal values, after minimum 5 minutes of operation.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage Range	Rated, UL certified Operating	200 - 240 VAC 187 - 264 VAC
Input DC Voltage Range	Rated	250 - 375 VDC
Input Frequency Range		47 - 63 Hz; 400 Hz
Input AC Current		Vin = 200 VAC 2.9 A Vin = 240 VAC 2.5 A
Input DC Current		Vin = 250 VDC 2.2 A Vin = 375 VDC 1.5 A
Power Factor Correction	Active	> 0.9
Inrush Peak Current		≤ 40 A
Touch (Leakage) Current		≤ 0.5 mA
Internal Protection Fuse	None, external fuse must be provided	
Recommended External Protection	It is strongly recommended to provide external surge arresters (SPD) according to local regulations	Fuse 6.3 AT or MCB 6 A C curve or 4 A D curve

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power		480 W
Rated Voltage (Adjustable Voltage Range)		24 VDC (23 – 28 VDC)
Continuous Current		20 A
Overload Limit		28 A
Short Circuit Peak Current		50 A
Load Regulation		≤ 1%
Ripple & Noise ¹		≤ 50 mVpp
Hold up Time		≥ 50 ms
Protections	Overload, short circuit: Hiccup mode Thermal protection Output overvoltage	
Output Over Voltage Protection		≥ 33 VDC
Status Signals	DC OK - green LED OVERLOAD - red LED DC OK - dry contact (NO, 24 VDC / 1 A)	
Parallel Connection	Possible for redundancy (with external ORing module)	
Efficiency		> 91%
Dissipated Power		< 48 W

¹ Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.

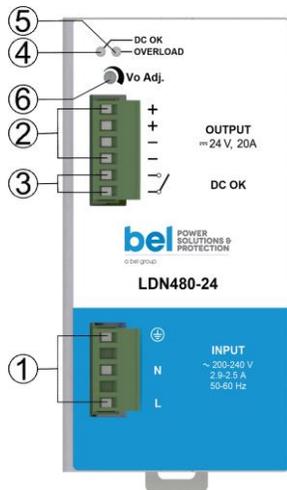
NOTE: Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.

4. ENVIRONMENTAL, EMC & SAFETY SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION	
Operating Temperature	Overtemperature protection, UL certified up to 45°C (Start-up type tested: - 40°C) ²	- 40 to + 70°C	
Storage Temperature		- 40 to + 80°C	
Derating		- 10 W / °C over 45°C	
Humidity	Non-condensing	5 - 95% RH	
Life Time Expectancy	At 25°C ambient, full load	65496 h (7.4 years)	
Overvoltage Category		III (EN50178)	
Pollution Degree		2 (IEC60664-1)	
Protection Class		Class I	
Isolation Voltage	Input to Output	4.2 kVDC	
	Input to Ground	2.2 kVDC	
	Output to Ground	0.75 kVDC	
Safety Standards & Approvals	UL508 (certified)		
	EN60950 (reference) EN50178 (reference)		
EMC Standards	Emission	EN55011 (CISPR11)	Class A
		EN55022 (CISPR22)	Class A
		EN61000-3-2	Class A
	Immunity	EN61000-4-2	Level 3
		EN61000-4-3	Level 3
		EN61000-4-4	Level 3
Protection Degree	EN61000-4-5	Level 3	
	EN61000-4-11	Level 2	
	EN60529	IP20	
Vibration sinusoidal	IEC 60068-2-6	5 - 17.8 Hz: ±1.6 mm; 17.8 - 500 Hz: 2 g 2 Hours / axis (X, Y, Z)	
Shock	IEC 60068-2-27	30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total	

² Possible with load derating.

5. PIN LAYOUT & DESCRIPTION



PIN	DESCRIPTION
1	AC/DC input
2	DC output (load)
3	Diagnostic Output (dry contact, NC output OK)
4	Green LED: Output OK
5	Red LED: Overload
6	Output voltage adjustment

INPUT CONNECTION	OUTPUT CONNECTION
Single phase: L = Line N = Neutral ⊕ = Earth ground	+ = Positive DC - = Negative DC
DC: L = + Positive DC N = - Negative DC ⊕ = Earth ground	Signaling: DC OK: dry contact NO COM



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6. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		1000 g
Dimensions (W x D x H)		73 x 140 x 125 mm
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)
Connection Terminals	Screw type pluggable (24 - 12 AWG)	2.5 mm ²
Case Material	Aluminum	

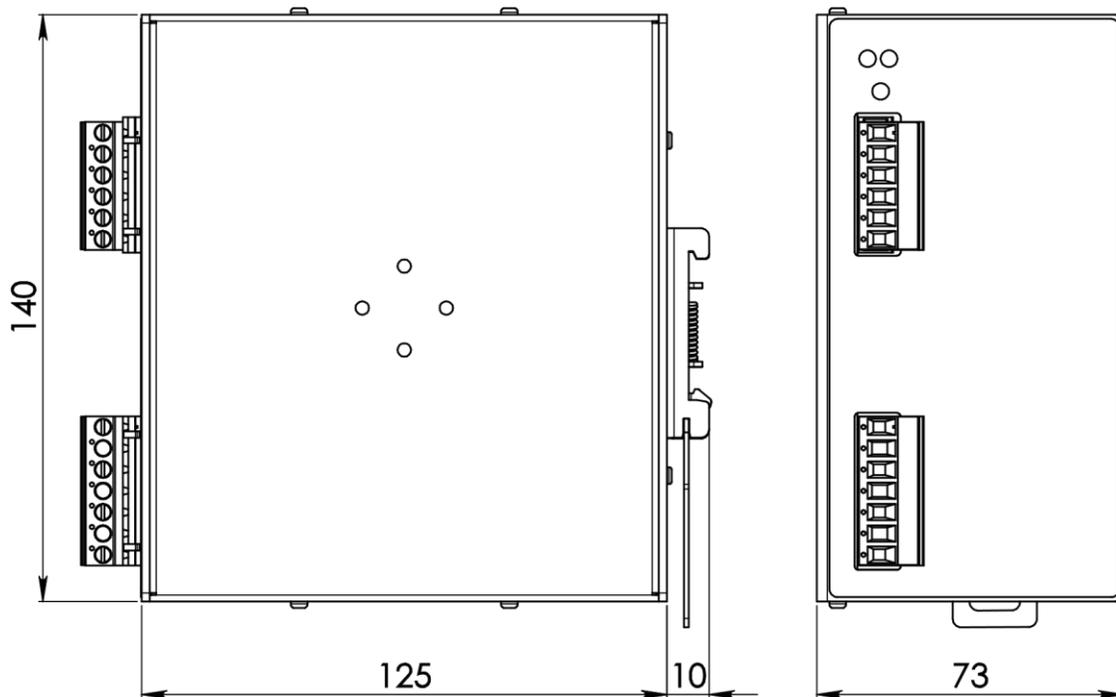


Figure 1. Mechanical Drawing

For more information on these products consult: tech.support@psbel.com

NUCLEAR AND MEDICAL APPLICATIONS - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.