

# 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 market leader 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 200 - 240 VAC (250 – 375 VDC)
- Active PFC
- High efficiency > 90.5%
- Compact size
- Natural cooling
- Adjustable output voltage
- 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

Specifications are measured at 25°C, at 240 VAC, typical unless otherwise stated.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage	Rated ( UL certified) Range	200 - 240 VAC 187 - 265 VAC
Input DC Voltage	Rated	250 - 375 VDC
Input Frequency		47 - 63 Hz
Input AC Current		2.5 A
Input DC Current		Vin = 250 VDC Vin = 345 VDC 2.2 A 1.5 A
Inrush Peak Current		< 40 A
Internal Protection Fuse	None, external fuse must be provided	
External Protection on AC Line	It is strongly recommended to provide external surge arresters (SPD) according to local regulations	Fuse AT 6.3A or MCB 6A C curve or 4A D curve

## 3. OUTPUT SPECIFICATIONS

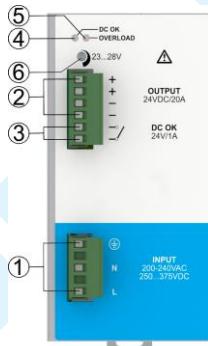
PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power		480 W
Rated Voltage (Adjustable Voltage Range)		24 VDC (23 – 28 VDC)
Continuous Current		20 A
Overload Limit		28 A
Short Circuit Peak Current		50 A
Load Regulation		≤ 1%
Ripple & Noise		≤ 50 mVpp
Hold up Time		> 50 ms
Efficiency		> 91%
Dissipated Power		< 48 W
Output Over Voltage Protection		> 33 VDC
Parallel Connection		Possible with external ORing diode
Protections	Hiccup at the overload limit with auto reset Over temperature Overvoltage	
Status Signals	Green LED = DC OK Red LED = Overload Dry contact (1 A / 30 V)	

Note: Power rating, losses, efficiency, ripple, thermal behaviour may change outside of the nominal rated input range.

#### 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)	- 40 to + 70°C
Storage Temperature		- 40 to + 80°C
Derating		- 10 W/°C over 45°C
Humidity	Non-condensing	5 - 95% RH
Overvoltage Category		II
Pollution Degree		2 (IEC 664-1)
EMC Standards	EN61000-6-4 EN61000-6-2	
Isolation Voltage	Input to Output Input to Ground Output to Ground	4.2 kVDC 2.2 kVDC 0.75 kVDC
Safety Standards & Approvals	UL508 (certified) EN60950	
EMC Standards	Emission EN55022:2010 (CISPR22) EN55011:2009 /A1:2010 EN61000-3-2:2014 EN61000-4-2:2008 EN61000-4-3:2006 /A2:2010 Immunity EN61000-4-4:2012 EN61000-4-5:2014 EN61000-4-11:2004 /A1:2010	Class A Class A Class A Level 3 Level 3 Level 3 Level 3 Level 3 Level 2
Protection Degree	EN60529:1989 / A:2013	IP20
Vibration sinusoidal	IEC 60068-2-6:2007	5-17.8 Hz: ±1.6 mm; 17.8-500 Hz: 2g 2Hours / axis (X,Y,Z)
Shock	IEC 60068-2-27:2008	30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total

#### 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 I = Earth ground	+ = Positive DC - = Negative DC Dry contact = NC
DC: L = +/- N = -/+ I = Earth ground	

## 6. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		1000 g
Dimensions (W x D x H)		73.0 x 140.0 x 125.0 mm
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)
Connection Terminals	Screw type pluggable (24 - 12 AWG)	2.5 mm <sup>2</sup>
Case Material	Aluminum	

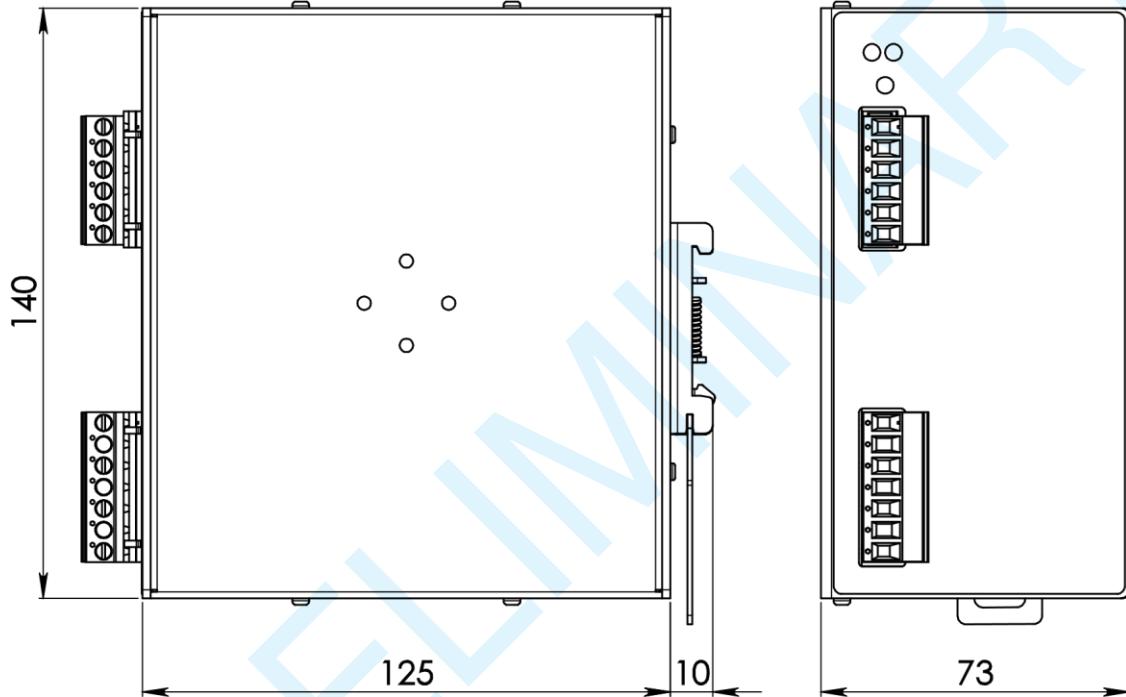


Figure 1. Mechanical Drawing

For more information on these products consult: [tech.support@psbel.com](mailto: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.