

LDT480-24

480W DIN Rail Switching Power Supply

LDT480-24 is a high power switching mode power supply with three phase input voltage 400 – 500 VAC, delivering 480 W of output power.

Its compact size, high efficiency and excellent reliability together with easy installation due to pluggable connectors makes it fit demanding applications where compactness and high power are needed.

LDT480-24 is a 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

- 3 phase AC input 400 – 500 VAC
- Wide DC input range 470 – 725 VDC
- High efficiency
- Compact Size
- Active PFC for optimal efficiency
- Easy parallelable for power increase
- Overload 150%

Applications

- Industrial
- Telecom
- Renewable

1. MODEL SELECTION

MODEL	INPUT VOLTAGE	# of PHASES	OUTPUT VOLTAGE	OUTPUT CURRENT
LDT480-24	400 - 500 VAC / 470 - 725 VDC	3	24 VDC	20 A

2. INPUT SPECIFICATIONS

Technical parameters are typical, measured in laboratory environment at 25°C and 400 VAC / 50 Hz, at nominal values, after minimum 5 minutes of operation.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage Range	Rated, three phase (UL certified) Operating	400 – 500 VAC 340 – 550 VAC
Input DC Voltage Range		470 – 725 VDC
Input Frequency		47 - 63 Hz
Input AC Current	Vin = 400 VAC Vin = 500 VAC	1.3 A 1.1 A
Input DC Current	Vin = 470 VDC Vin = 725 VDC	1.2 A 0.8 A
Power Factor Correction	Active	> 0.9
Inrush Peak Current		≤ 60 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 3x 6.3 AT or 3x MCB 6 A C curve or 3x 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		≤ 1.0%
Ripple & Noise ¹		≤ 50 mVpp
Hold up Time		≥ 20 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		> 92%
Dissipated Power		< 42 W

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

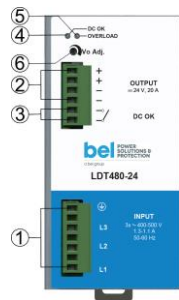
NOTE: Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.

4. ENVIRONMENTAL, EMC & SAFETY SPECIFICATIONS

PARAMETER		DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature		Over temperature 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
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
		EN61000-4-5	Level 3
		EN61000-4-11	Level 2
Protection Degree		EN60529	IP20
Vibration Sinusoidal		IEC 60068-2-6	5-17.8 Hz: ±1.6 mm; 17.8-500 Hz: 2g 2Hours / 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 at nominal voltage with load derating.

5. PIN LAYOUT & DESCRIPTION



INPUT CONNECTION	OUTPUT CONNECTION
3 phase: L1 = Phase 1 L2 = Phase 2 L3 = Phase 3 ⊕ = Earth ground	+ = Positive DC - = Negative DC
DC: L1 = + Positive DC L2 = - Negative DC L3 = do not connect ⊕ = Earth ground	Signaling: DC OK: dry contact NO COM

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

6. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		1.0 kg
Dimensions		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	

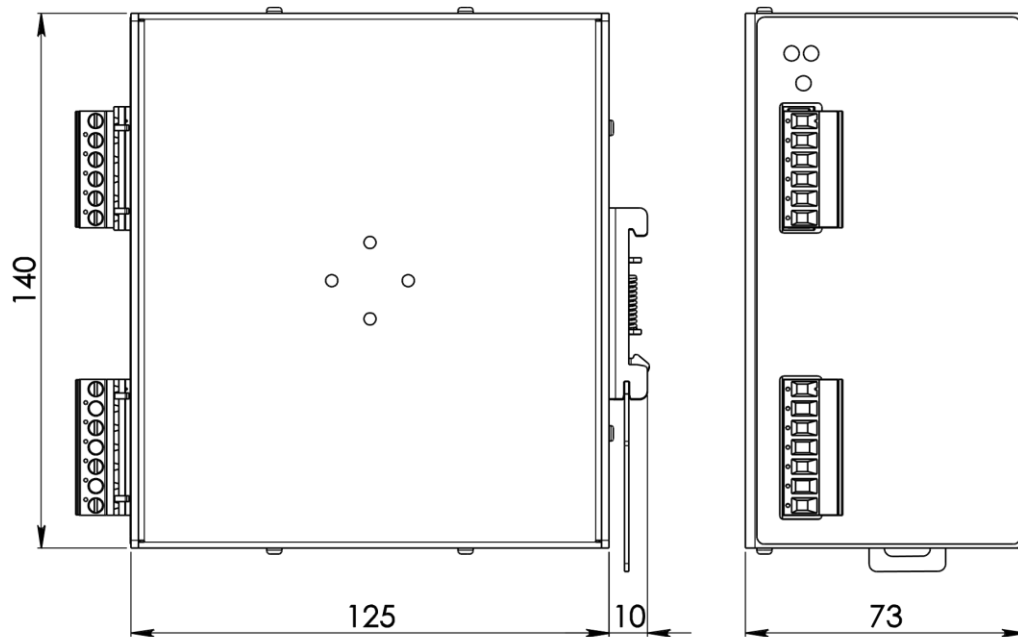


Figure 1. Mechanical Drawing

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.