

LDT960 Series

960W 3PH DIN Rail Switching Power Supply

LDT Series are high power switching mode power supplies with 3 phase input 340 – 550 VAC, for powers from 480 to 2400 W, covering from 12 to 170 V (model dependent).

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

LDT Series are Class I isolation devices suitable for SELV and PELV circuitry and are designed to be mounted on DIN rail and installed inside a protective enclosure.



RoHS
Compliant

Key Features & Benefits

- 3 phase AC input: 3x 340 – 550 VAC
- 150% overload capability
- High efficiency up to 92%
- Up to 45°C operating temperature with no derating
- Compactness
- Continuity of operation if one phase is lost (model dependent)
- User settable current limitation algorithm (Hiccup or Constant Current)
- Easy parallelable for power increase
- Multiple protections
- Low noise thermal regulated 60 mm fan

Applications

- Automation
- Process Control
- Communication
- Instrumentation Equipment



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1. MODEL SELECTION

MODEL	INPUT VOLTAGE	# of PHASES	OUTPUT VOLTAGE	OUTPUT CURRENT
LDT960-24	400 - 500 VAC / 520 - 725 VDC	3	23 - 28 VDC	40 A
LDT960-48	400 - 500 VAC / 520 - 725 VDC	3	45 - 55 VDC	20 A
LDT960-72	400 - 500 VAC / 520 - 725 VDC	3	72 - 85 VDC	13.3 A

2. INPUT SPECIFICATIONS

Specifications are measured at 25°C, at 400 VAC, typical unless otherwise stated.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage	3 phases (UL certified)	400 – 500 VAC (Range 340- 550 VAC)
Input DC Voltage		500 – 725 VDC
Input Frequency		47 - 63 Hz
Input AC Current	Vin = 400 VAC	2.4 A
	Vin = 500 VAC	2.1 A
Input DC Current	Vin = 520 VAC	2.2 A
	Vin = 725 VAC	1.7 A
Inrush Peak Current		< 50 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 10A or MCB 10A C curve

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power		960 W
Rated Voltage (Adjustable Voltage Range)	LDT960-24	24 VDC (23 – 28 VDC)
	LDT960-48	48 VDC (45 – 55 VDC)
	LDT960-72	72 VDC (72 – 85 VDC)
Continuous Current	LDT960-24	40 A
	LDT960-48	20 A
	LDT960-72	13.3 A
Overload Limit	LDT960-24	44 A
	LDT960-48	22 A
	LDT960-72	15 A
Short Circuit Peak Current	LDT960-24	60 A
	LDT960-48	30 A
	LDT960-72	20 A
Load Regulation	LDT960-24	≤ 1.0%
	LDT960-48	≤ 0.5%
	LDT960-72	≤ 0.5%
Ripple & Noise		≤ 100 mVpp
Hold up Time		> 15 ms
User Interface	Green LED	DC OK
	Red LED	Overload
	Current limitation mode jumper	
	Dry contact	1 A / 30 V
Efficiency	LDT960-24	> 90.5%
	LDT960-48	> 92.5%
	LDT960-72	> 93%

Dissipated Power	LDT960-24 LDT960-48 LDT960-72	< 101 W < 78 W < 73 W
Output Over Voltage Protection	LDT960-24 LDT960-48 LDT960-72	> 33 VDC > 68 VDC > 100 VDC
Protections	Overload, short circuit, with constant current or hiccup mode (user settable) Thermal protection	
Parallel Connection	Up to 4 units for increased power	
Redundancy	With external ORing module	

Note: Power rating, losses, efficiency, ripple, thermal behavior 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)	- 40 to + 70°C
Storage Temperature		- 40 to + 80°C
Derating		- 15.0W/°C over 45°C
Humidity	Non-condensing	5 - 95% RH
Overvoltage Category		III
Pollution Degree		2 (IEC 664-1)
EMC Standards	EMC Emission	EN55022:2010 (CISPR22) EN55011:2009 /A1:2010 EN61000-4-2:2008 EN61000-4-3:2006 /A2:2010
	EMC Immunity	EN61000-4-4:2012 EN61000-4-5:2014 EN61000-4-11:2004 /A1:2010
Standards & Approvals	UL508 (certified) EN60950 (reference)	Class A Class A Level 3 Level 3 Level 3 Level 4 Level 2
Isolation Voltage	Input to Output	4.2 kVDC
	Input to Ground	2.2 kVDC
	Output to Ground	0.75 kVDC
Protection Degree	According to EN60529	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



INPUT CONNECTION	OUTPUT CONNECTION
3 phase: L1 = Phase 1 L2 = Phase 2 L3 = Phase 3 I = Earth ground	+ = Positive DC - = Negative DC Dry contact = NC
DC: L1 = +/- L2 = -/+ L3 = do not connect I = Earth ground	

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



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6. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		1.3 kg
Dimensions		80.0 x 127.0 x 137.5 mm
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)
Connection Terminals	Screw type (16 – 10 AWG) Screw type (10 – 6 AWG) for output on 24V model	1.5 – 6 mm ² 6 - 16 mm ²
Case Material	Aluminum	

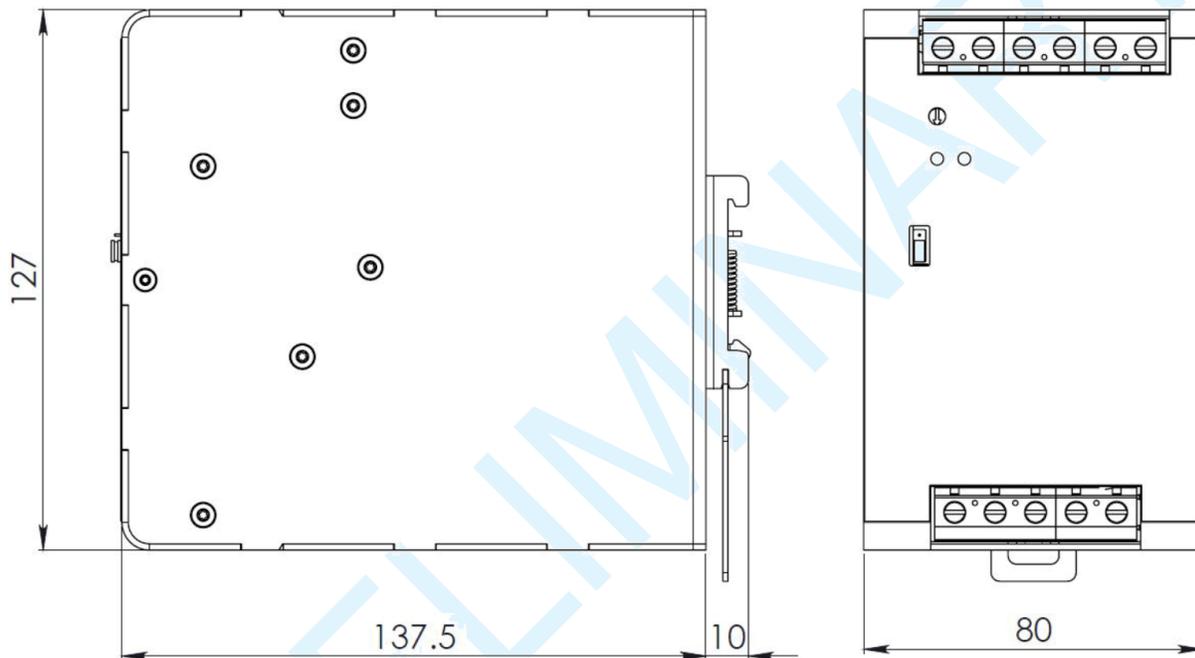


Figure 1. Mechanical Drawing

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.