

LDW480 Series

480W DIN Rail Switching Power Supply

LDW480 Series are single, two or three phase DIN Rail Switching Power Supplies with active PFC.

Its compact size, high efficiency, excellent reliability together with easy installation due to pluggable connectors makes it market leader for various industrial, telecom and renewable energy applications.

LDW480 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.



Key Features & Benefits

- High efficiency
- Wide input range
- Active PFC for optimal efficiency
- Power boost of 150% during overload
- Threshold controlled alarm contact
- Electronic protection against overload and short circuit
- Front pluggable screw terminals for easier wiring and maintenance
- Thermal protection
- RoHS Compliant

Applications

- Industrial Control
- Communication
- Instrumentation Equipment
- Renewable

1. MODEL SELECTION

MODEL	INPUT VOLTAGE	# of PHASES	OUTPUT VOLTAGE	OUTPUT CURRENT	REDUNDANCY
LDW480-24	200 - 500 VAC (250 - 725 VDC)	1 / 2 / 3	24 VDC	20 A	No ORing diode
LDW480-48	200 - 500 VAC (250 - 725 VDC)	1 / 2 / 3	48 VDC	10 A	No ORing diode
LDW480-72	200 - 500 VAC (250 - 725 VDC)	1 / 2 / 3	72 VDC	6 A	No ORing diode

2. INPUT SPECIFICATIONS

Specifications are measured at 25°C, at 3x 400 VAC, typical unless otherwise stated.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage	Nominal 1 – 2 – 3 Phases (UL certified) Range	200 – 500 VAC 187 – 550 VAC
Input Frequency		47 - 63 Hz
Input DC Voltage	Rated	250 – 725 VDC
Input AC Current	1-2-Phase @ 200 VAC	2.9 A
	1-2-Phase @ 500 VAC	1.3 A
	3-Phase @ 200 VAC	1.8 A
	3-Phase @ 500 VAC	0.8 A
Input DC Current	Vin = 250 VAC	2.1 A
	Vin = 725 VAC	0.8 A
Inrush Peak Current		< 60 A
Continuous overvoltage protection		No damage up to 550Vac/725Vdc
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 (Voltage Adjustment Range)	LDW480-24	24 VDC (23 – 28 VDC)
	LDW480-48	48 VDC (45 – 55 VDC)
	LDW480-72	72 VDC (72 – 85 VDC)
Continuous Current	LDW480-24	20 A
	LDW480-48	10 A
	LDW480-72	6 A
Overload Limit	LDW480-24	28 A
	LDW480-48	14 A
	LDW480-72	9 A
Short Circuit Peak Current	LDW480-24	50 A
	LDW480-48	25 A
	LDW480-72	12 A
Load Regulation		≤ 1%
Ripple	LDW480-24 / LDW480-48	≤ 50 mVpp
	LDW480-72	≤ 100 mVpp
Hold up Time		> 50 ms
Efficiency	LDW480-24	> 92%
	LDW480-48	> 92%
	LDW480-72	> 91%

Dissipated Power	< 42 W		< 42.5 W
Output Over Voltage Protection	LDW480-24 LDW480-48 LDW480-72	> 33 VDC > 68 VDC > 100 VDC	
Redundant 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)		

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 ¹)	- 40 to + 70°C
Derating		- 10 W/°C over 45°C
Storage Temperature		- 40° C - + 80° C
Humidity	Non-condensing	5 - 95% RH
Overvoltage Category		III
Pollution Degree		2 (IEC 664-1)
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
	Immunity	EN61000-4-2:2008
		EN61000-4-3:2006 /A2:2010
		EN61000-4-4:2012
		EN61000-4-5:2014
		EN61000-4-11:2004 /A1:2010
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. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		1000 g
Dimensions (W x H x D)		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 ²
Case Material	Aluminum	

¹ Possible at nominal voltage with load deration.

Notes:

Technical parameters are typical, measured in laboratory environment at 25°C and 400Vac / 50Hz.

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

Data may change without prior notice in order to improve the product.

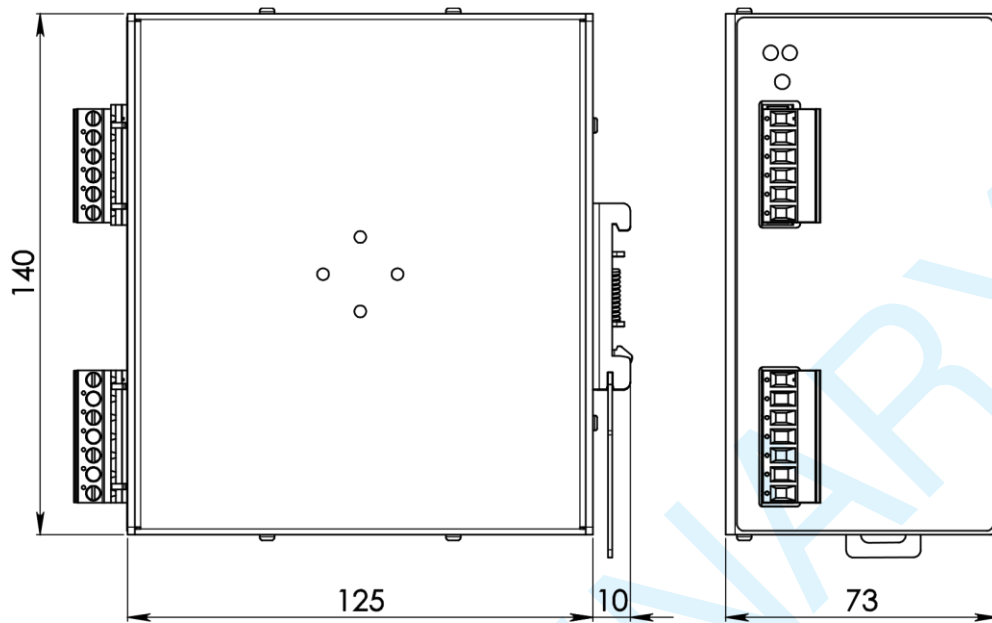
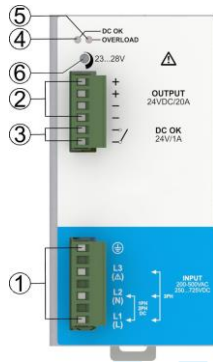


Figure 1. Mechanical Drawing

6. 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
2 phase: L1 = Phase 1 L2 = Phase 2 I = Earth ground	
3 phase: L1 = Phase 1 L2 = Phase 2 L3 = Phase 3 I = Earth ground	
DC: L1(N) = +/- L2(L) = -/+ L3 = do not connect I = Earth ground	

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.