LDC480 Series

480W DIN Rail Switching Power Supply

RoHS Compliant

LDC480 Series is a single phase, extremely compact Power Supply with active PFC specially designed for space sensitive and demanding applications.

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

LDC480 Series 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

- High efficiency
- Extremely compact size
- High power density
- Active PFC for optimal efficiency with low THD
- 150% Overload capability
- Wide output voltage adjust range
- Constant Current or Hiccup mode limitation (user settable)
- Easy parallelable for power increase
- RoHS Compliant

Applications

- Industrial Control
- Communication
- Instrumentation Equipment
- Renewable energy
- High reliability applications

1. MODEL SELECTION

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	REDUNDANCY
LDC480-24	120 - 240 VAC (110 - 345 VDC)	24 VDC	20 A	
LDC480-24P	120 - 240 VAC (110 - 345 VDC)	24 VDC	20 A	Includes internal ORing diode
LDC480-48	120 - 240 VAC (110 - 345 VDC)	48 VDC	10 A	
LDC480-48P	120 - 240 VAC (110 - 345 VDC)	48 VDC	10 A	Includes internal ORing diode
LDC480-72	120 - 240 VAC (110 - 345 VDC)	72 VDC	6.7 A	
LDC480-72P	120 - 240 VAC (110 - 345 VDC)	72 VDC	6.7 A	Includes internal ORing diode

2. INPUT SPECIFICATIONS

Specifications are measured at 25°C and 240 VAC / 50 Hz, typical unless otherwise stated.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage Range	Rated, UL certified Operating	120 – 240 VAC 90 - 264 VAC
Input DC Voltage Range	Rated	110 - 345 VDC
Input Frequency Range		47 - 63 Hz
Input AC Current	Vin = 120 VAC Vin = 230 VAC	4.8 A 2.4 A
Input DC Current	Vin = 110 VDC Vin = 345 VDC	4.9 A 1.7 A
Inrush Peak Current		< 35 A
Internal Protection Fuse	Fuse is not user replaceable	8 AT / 250 VAC
External Protection on AC Line	It is strongly recommended to provide external surge arresters (SPD) according to local regulations.	MCB 10 A C curve

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power		480 W
Rated Voltage (Adjustable Output Voltage Range)	LDC480-24 LDC480-48 LDC480-72	24 VDC (22 - 29 VDC) 48 VDC (45 - 55 VDC) 72 VDC (70 - 85 VDC)
Continuous Current	LDC480-24 LDC480-48 LDC480-72	20 A 10 A 6.7 A
Overload Limit	LDC480-24 LDC480-48 LDC480-72	21.5 A 12.5 A 7.0 A
Short Circuit Peak Current	LDC480-24 LDC480-48 LDC480-72	30 A 15 A 12 A
Load Regulation	LDC480-24 LDC480-48 LDC480-72	≤ 1.5% ≤ 0.5% ≤ 0.5%
Ripple & Noise	LDC480-24 LDC480-48 LDC480-72	≤ 150 mVpp ≤ 50 mVpp ≤ 50 mVpp
Hold up Time		> 25 ms
Efficiency	LDC480-24 LDC480-48 / LDC480-72	> 93% > 94%

Dissipated Power	LDC480-24 LDC480-48 / LDC480-72	< 36.5 W < 31 W
Redundancy	(P) model includes internal ORing Circuit	
Parallel Connection	Up to 4 units for increased power	
Protections	Overload, short circuit, with constant current or hiccup mode (user settable) Thermal protection Input undervoltage lockout	
Status Signals	Green LED Red LED Current limitation mode jumper Dry contact	DC OK Overload 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

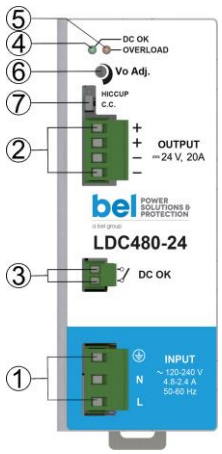
PARAMETER		DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature		UL certified up to 50°C at 120 VAC or up to 60°C at 240 VAC (Start-up type tested: - 40°C)[1]	- 40° to + 70°C
Storage Temperature			- 40° to + 80°C
Derating			- 7.6 W / °C over 50°C at 120 VAC - 7.2 W / °C over 60°C at 240 VAC
Humidity		Non condensing	5 - 95% RH
Life Time Expectancy		At 25°C ambient, full load	167953 h (19.1 years)
Overvoltage Category Pollution Degree			III 2 (IEC 664-1)
EMC Standards	Emission	EN55022:2010 (CISPR22) EN55011:2009 /A1:2010 EN61000-3-2:2014	Class B Class B Class A
	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	Level 3 Level 3 Level 3 Level 4 Level 2
Standards & Approvals		UL508 (certified) EN60950 (reference)	
Isolation Voltage		Input to Output Input to Ground Output to Ground	4.2 kVDC 2.2 kVDC 0.75 kVDC
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: 2 g 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

[1] Possible with load derating.

5. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		1.1 kg
Dimensions (W x H x D)		56 x 140 x 117 mm
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)
Connection Terminals	Screw type pluggable (24 - 12 AWG)	2.5 mm²
Case Material	Aluminum	

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
7	Selectable limitation mode (Hiccup mode, C.C. mode)

INPUT CONNECTION	OUTPUT CONNECTION
Single phase: L = Line N = Neutral ⏚ = Earth ground	+ = Positive DC - = Negative DC Dry contact = NC
DC: L = + Positive DC / N = - Negative DC / ⏚ = Earth ground	

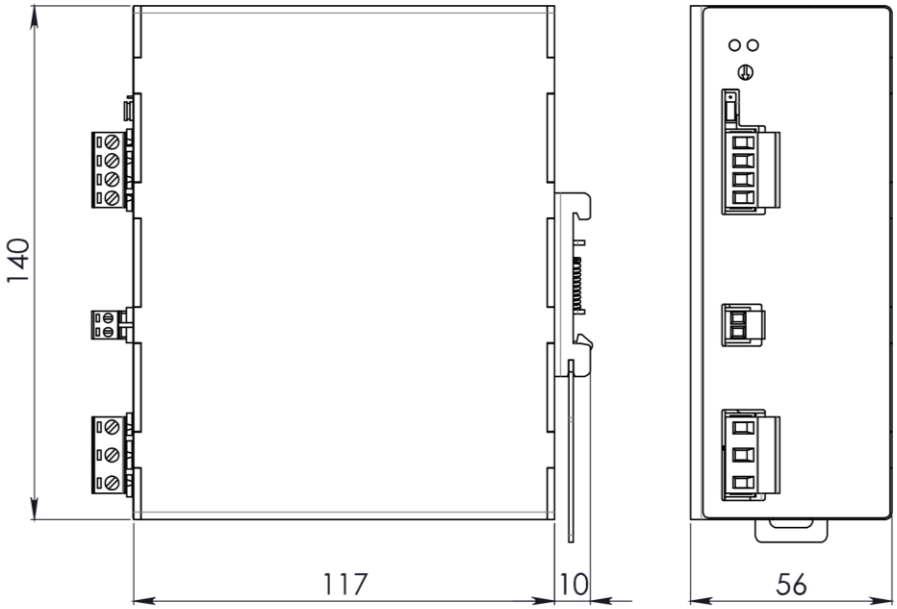


Figure 1. Mechanical Drawing

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.