LDC240 Series

240W DIN Rail Switching Power Supply

RoHS Compliant

LDC240 Series is a single phase, ultra compact DIN Rail Switching Power Supply with active PFC, ideal for many applications.

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

LDC240 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 and very compact size
- Active PFC for optimal efficiency with low THD
- High efficiency (>93% for >24 V models)
- Overload 150%
- Up to 70°C operating temperature with no derating
- Constant Current or Hiccup mode limitation, user settable
- Wide range of output voltage (model dependent)
- Easy parallelable for power increase
- Includes models with internal Oring

Applications

- Industrial Control
- Communication
- Instrumentation Equipment

1. MODEL SELECTION

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	REDUNDANCY
LDC240-12	120 - 240 VAC (110 - 345 VDC)	12 VDC	15 A	
LDC240-12P	120 - 240 VAC (110 - 345 VDC)	12 VDC	15 A	Includes internal ORing diode
LDC240-24	120 - 240 VAC (110 - 345 VDC)	24 VDC	10 A	
LDC240-24P	120 - 240 VAC (110 - 345 VDC)	24 VDC	10 A	Includes internal ORing diode
LDC240-48	120 - 240 VAC (110 - 345 VDC)	48 VDC	5 A	
LDC240-48P	120 - 240 VAC (110 - 345 VDC)	48 VDC	5 A	Includes internal ORing diode
LDC240-72	120 - 240 VAC (110 - 345 VDC)	72 VDC	3.3 A	
LDC240-72P	120 - 240 VAC (110 - 345 VDC)	72 VDC	3.3 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 = 240 VAC	2.4 A 1.2 A
Input DC Current	LDC240-12 LDC240-24 / LDC240-48 / LDC240-72 LDC240-12 LDC240-24 / LDC240-48 / LDC240-72	Vin = 110 VDC Vin = 345 VDC 	2.5 A 2.6 A 1.2 A 0.9 A
Inrush Peak Current			< 45 A
Internal Protection Fuse	Fuse is not user replaceable		6.3 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		240 W
Rated Voltage (Adjustable Output Voltage Range)	LDC240-12 LDC240-24 LDC240-48 LDC240-72	12 VDC (12 - 15 VDC) 24 VDC (22 - 29 VDC) 48 VDC (45 - 55 VDC) 72 VDC (70 - 85 VDC)
Continuous Current	LDC240-12 LDC240-24 LDC240-48 LDC240-72	15 A 10 A 5 A 3.3 A
Overload Limit	LDC240-12 LDC240-24 LDC240-48 LDC240-72	17.5 A 11.5 A 7.5 A 5 A
Short Circuit Peak Current	LDC240-12 LDC240-24 LDC240-48 LDC240-72	20 A 15 A 8.5 A 4 A

Load Regulation	LDC240-12 LDC240-24 LDC240-48 LDC240-72	≤ 2% ≤ 1% ≤ 1% ≤ 1%
Ripple & Noise	LDC240-12 LDC240-24 LDC240-48 LDC240-72	≤ 160 mVpp ≤ 260 mVpp ≤ 400 mVpp ≤ 550 mVpp
Hold up Time	LDC240-12 LDC240-24 / LDC240-48 LDC240-72	> 25 ms > 20 ms > 15 ms
Redundancy	(P) models include internal ORing Circuit	
Efficiency	LDC240-12 LDC240-24 LDC240-48 / LDC240-72	> 90% > 93% > 93.5%
Dissipated Power	LDC240-12 LDC240-24 LDC240-48 / LDC240-72	< 25 W < 19 W < 17 W
Output Over Voltage Protection	LDC240-12 LDC240-24 LDC240-48 LDC240-72	> 18 VDC > 33 VDC > 68 VDC > 100 VDC
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 behavior may change outside of the nominal rated input range.

4. ENVIRONMENTAL, EMC & SAFETY SPECIFICATIONS

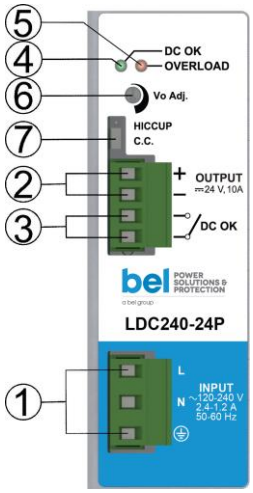
PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature	UL certificated up to 70°C (Start-up type tested: - 40°C)[1]	- 40° to + 70°C
Storage Temperature		- 40° to + 80°C
Derating	No derating	
Humidity	Non condensing	5 - 95% RH
Life Time Expectancy	At 25°C ambient, full load	221288 h (25.2 years)
Overvoltage Category Pollution Degree		III 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 (reference)	
EMC Standards Emission Immunity 	EN55022:2010 (CISPR22) EN55011:2009 /A1:2010 EN61000-3-2:2014 EN61000-4-2:2008 EN61000-4-3:2006 /A2:2010 EN61000-4-4:2012 EN61000-4-5:2014 EN61000-4-11:2004 /A1:2010	Class B Class B Class A Level 3 Level 3 Level 3 Level 4 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: 2 g 2 Hours / 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		600 g
Dimensions (W x H x D)		40 x 115 x 110 mm
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)
Connection Terminals	2.5 mm², screw type pluggable (24 - 12 AWG)	
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	

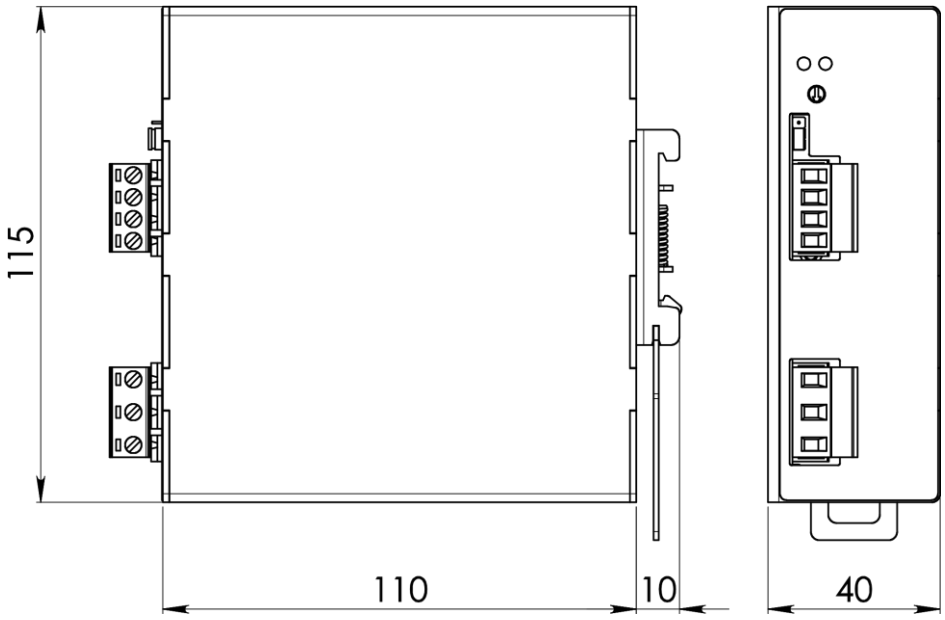


Figure 1. Mechanical Drawing

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.

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