

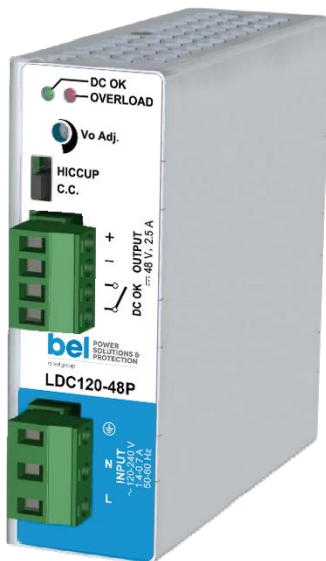
LDC120 Series

120W DIN Rail Switching Power Supply

LDC120 Series is a single phase 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.

LDC120 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
- Active PFC for optimal efficiency
- Overload 150%
- Up to 60°C operating temperature with no derating
- Constant Current or Hiccup mode limitation, user settable
- Wide range of output voltage
- Easy parallelable for power increase
- Includes models with internal ORing
- Only 35 mm width aluminum enclosure

Applications

- Industrial Control
- Communication
- Instrumentation Equipment

1. MODEL SELECTION

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	REDUNDANCY
LDC120-24	120 - 240 VAC (110 - 345 VDC)	24 VDC	5 A	
LDC120-24P	120 - 240 VAC (110 - 345 VDC)	24 VDC	5 A	Includes internal ORing diode
LDC120-48	120 - 240 VAC (110 - 345 VDC)	48 VDC	2.5 A	
LDC120-48P	120 - 240 VAC (110 - 345 VDC)	48 VDC	2.5 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 1.4 A Vin = 240 VAC 0.7 A
Input DC Current		Vin = 110 VDC 1.4 A Vin = 345 VDC 0.5 A
Inrush Peak Current		< 45 A
Internal Protection Fuse	Fuse is not user replaceable	3.15 AT / 250 VAC
External Protection on AC Line	It is strongly recommended to provide external surge arresters (SPD) according to local regulations.	MCB 4 A C curve

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power		120 W
Rated Voltage (Adjustable Voltage Range)	LDC120-24 / LDC120-24P LDC120-48 / LDC120-48P	24 VDC (11.5 - 29 VDC) 48 VDC (23 - 56 VDC)
Continuous Current	LDC120-24 / LDC120-24P LDC120-48 / LDC120-48P	5 A 2.5 A
Overload Limit	LDC120-24 / LDC120-24P LDC120-48 / LDC120-48P	7.5 A 3.75 A
Short Circuit Peak Current	LDC120-24 / LDC120-24P LDC120-48 / LDC120-48P	15 A in hiccup mode 7.5 A in constant current mode 7.5 A in hiccup mode 3.75 A in constant current mode
Load Regulation	LDC120-24 LDC120-24P LDC120-48 LDC120-48P	≤ 1% ≤ 3% ≤ 0.5% ≤ 1.5%
Hold-up Time		> 20 ms
Ripple & Noise		≤ 60 mVpp
Efficiency	LDC120-24 LDC120-24P LDC120-48 LDC120-48P	> 90% > 89% > 90% > 89%
Dissipated Power	LDC120-24 LDC120-24P LDC120-48 LDC120-48P	< 13.5 W < 15 W < 13.5 W < 15 W

Output Over Voltage Protection	LDC120-24 / LDC120-24P LDC120-48 / LDC120-48P	> 33 VDC > 68 VDC
Parallel Connection	Up to 4 units for increased power	
Redundancy	(P) models include internal ORing circuit	
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 60°C (Start-up type tested: - 35°C) ¹	- 35° to + 70°C	
Storage Temperature		- 40° to + 80°C	
Derating		- 1.2 W / °C over 60°C	
Humidity	Non condensing	5 - 95% RH	
Life Time Expectancy	At 25°C ambient, full load	74640 h (8.5 years)	
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 (reference)		
EMC Standards	Emission	EN55022:2010 (CISPR22)	Class B
		EN55011:2009 /A1:2010	Class B
	Immunity	EN61000-3-2:2014	Class A
		EN61000-4-2:2008	Level 3
		EN61000-4-3:2006 /A2:2010	Level 3
		EN61000-4-4:2012	Level 3
		EN61000-4-5:2014	Level 3
		EN61000-4-11:2004 /A1:2010	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		450 g
Dimensions (W x H x D)		35.0 x 103.0 x 104.0 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	

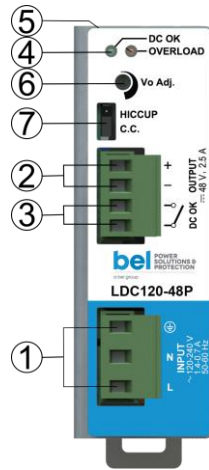


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6. PIN LAYOUT & DESCRIPTION



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	

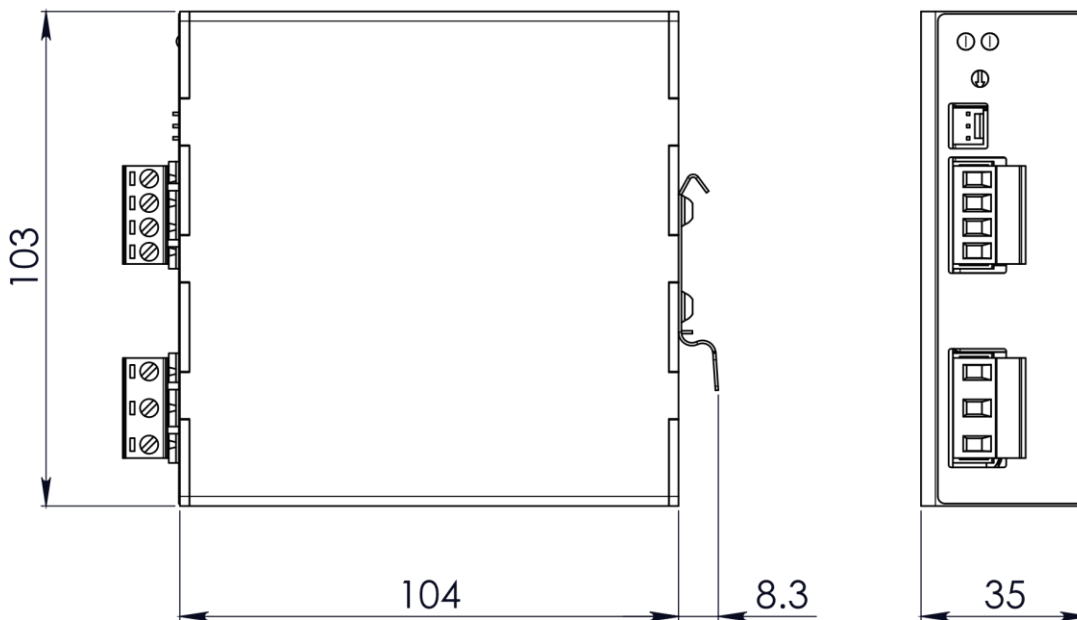


Figure 1. Mechanical Drawing

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.