

# 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 up to 90%
- Ultra compact size
- High power density
- Active PFC
- 150% Overload capability
- Wide output voltage adjust range
- Up to 60°C operating temperature with no derating
- Constant Current or Hiccup mode limitation
- Easy parallelable for power increase (unlimited number of units) or redundancy (with optional internal ORing)
- Only 35mm width aluminum enclosure
- RoHS Compliant

### 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	No ORing diode
LDC120-24P	120 - 240 VAC (110 - 345 VDC)	24 VDC	5 A	Internal ORing diode
LDC120-48	120 - 240 VAC (110 - 345 VDC)	48 VDC	2.5 A	No ORing diode
LDC120-48P	120 - 240 VAC (110 - 345 VDC)	48 VDC	2.5 A	Internal ORing diode

## 2. INPUT SPECIFICATIONS

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

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage	Rated (UL certified) Range	120 – 240 VAC 90 – 264 VAC
Input DC Voltage	Rated	110 – 345 VDC
Input Frequency		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		< 40 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	LDC120-24 / LDC120-24P LDC120-48 / LDC120-48P	24 VDC 48 VDC
Adjustable Output Voltage Range	LDC120-24 / LDC120-24P LDC120-48 / LDC120-48P	11.5 - 29 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		> 20ms
Ripple & Noise		≤ 60 mVpp
Redundancy	LDC120-24 LDC120-24P LDC120-48 LDC120-48P	No Internal ORing diode No Internal ORing diode

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	
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	Overtemperature protection, UL certified up to 60°C (Start-up type tested: - 35°C)	- 35° to + 70°C
Storage Temperature		- 40° to + 80°C
Derating		- 1.2 W/°C over 60°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 EN61000-4-2:2008 EN61000-4-3:2006 /A2:2010	Class B Class B Class A Level 3 Level 3
	Immunity EN61000-4-4:2012 EN61000-4-5:2014 EN61000-4-11:2004 /A1:2010	Level 3 Level 3 Level 3 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: 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		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 <sup>2</sup>
Case Material	Aluminum	

## 6. PIN LAYOUT & DESCRIPTION

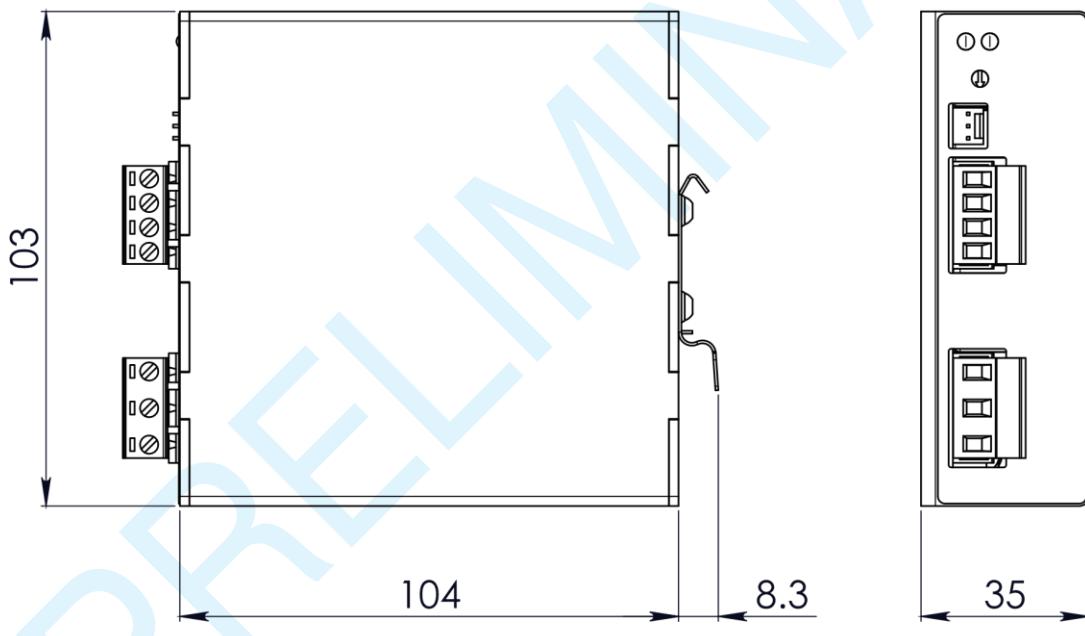
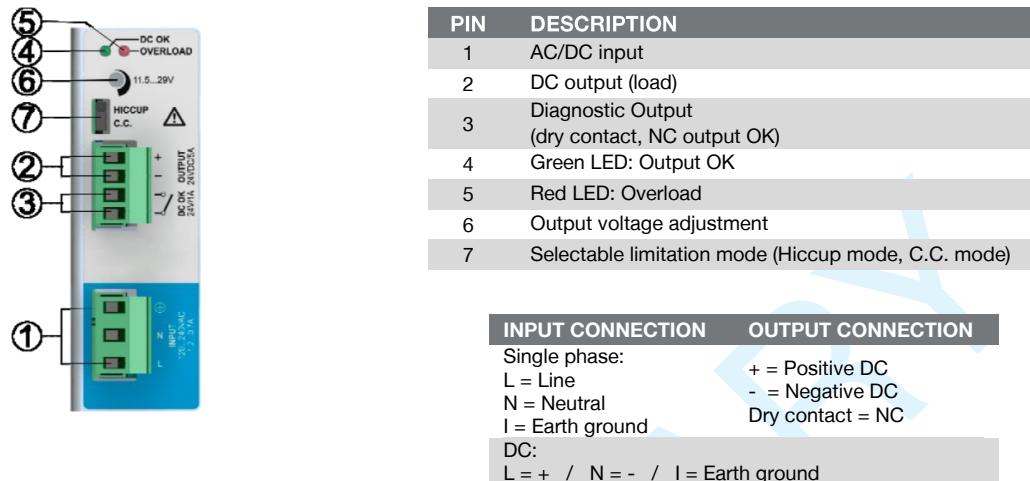


Figure 1. Mechanical Drawing

For more information on these products consult: [tech.support@psbel.com](mailto: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.