LDN80 Series

80W DIN Rail Switching Power Supply

LDN80 Series are single phase DIN Rail Switching Power Supplies, ideal for home automation, simple automation in machines, survey systems, telecom, but also the renewable energy field.

Its compact size, high efficiency, excellent reliability and excellent power/volume ratio, together with easy installation makes it ideal for various industrial and renewable applications.

LDN80 Series are Class II isolation devices suitable for SELV and PELV circuitry and are designed to be mounted on DIN rail and installed inside a protective enclosure.

RoHS Compliant

Key Features & Benefits

- Single phase AC input 90 - 264 VAC (110 - 345 VDC)
- High efficiency and compact size
- Class II, simplified wiring (no PE connection)
- Overload 150%
- High operating temperature with no derating
- Plastic enclosure, circuit breaker shape
- RoHS Compliant

Applications

- Automation
- Telecom
- Survey Systems
- Renewable

1. MODEL SELECTION

MODEL	INPUT VOLTAGE	# of PHASES	OUTPUT VOLTAGE	OUTPUT CURRENT
LDN80-12	120 - 240 VAC (110 - 345 VDC)	1	12 - 15 VDC	6 – 5 A
LDN80-24	120 - 240 VAC (110 - 345 VDC)	1	24 VDC	3.3 A

2. INPUT SPECIFICATIONS

Technical parameters are typical, measured in laboratory environment at 25°C and 240 VAC / 50 Hz, at nominal values, after minimum 5 minutes of operation.

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	LDN80-12	Vin = 120 VAC Vin = 240 VAC	1.50 A 0.85 A
	LDN80-24	Vin = 120 VAC Vin = 240 VAC	1.40 A 0.85 A
Input DC Current		Vin = 110 VDC Vin = 345 VDC	1.0 A 0.4 A
Inrush Peak Current			≤ 85 A
Touch (Leakage) Current			≤ 0.25 mA
Internal Protection Fuse	Not user replaceable		Fuse 2 AT
Recommended External Protection	It is strongly recommended to provide external surge arresters (SPD) according to local regulations		MCB 6A C curve

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION		SPECIFICATION
Output Power			80 W
Rated Voltage (Adjustable Voltage Range)	LDN80-12 LDN80-24		12 – 15 VDC (12 – 15 VDC) 24 VDC (23 – 28 VDC)
Continuous Current	LDN80-12 LDN80-24		6 – 5 A 3.3 A
Overload Limit	LDN80-12 LDN80-24		7.5 A @ 12 VDC 6.5 A @ 15 VDC 4.0 A
Short Circuit Peak Current	LDN80-12 LDN80-24		20 A 25 A
Load Regulation			≤ 0.5% ≤ 1.0%
Ripple & Noise[1]	LDN80-12 LDN80-24		≤ 100 mVpp ≤ 50 mVpp
Hold up Time		Vin = 120 VAC Vin = 240 VAC	≥ 10 ms ≥ 30 ms
Protections	Overload/short circuit: Hiccup mode Thermal protection Output overvoltage		
Status Signals	Green LED = DC OK		
Parallel Connection	Possible for redundancy (with external ORing module)		
Efficiency	LDN80-12 LDN80-24		> 86% > 87%
Dissipated Power	LDN80-12 LDN80-24		< 12.5 W < 12 W

[1] Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.

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

4. ENVIRONMENTAL, EMC & SAFETY SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Operating Temperature	UL certified up to 50°C for LDN80-12 and up 55°C for LDN80-24 (Start-up type tested: - 40°C)[2]	- 40 to + 70°C
Storage Temperature		- 40 to + 80°C
Derating	LDN80-12 LDN80-24	- 1.2 W / °C over 50°C - 0.9 W / °C over 55°C
Humidity	Non-condensing	5 - 95% RH
Life Time Expectancy	At 25°C ambient, full load	51136 h (5.8 years)
Overvoltage Category Pollution Degree		III (EN50178) 2 (IEC60664-1)
Protection Class		Class II
Isolation Voltage	Input to Output	4.2 kVDC
Safety Standards & Approvals	UL508 (certified) EN60950 (reference) EN50178 (reference)	
EMC Emission	EN55011 (CISPR11) EN55022 (CISPR22)	Class A Class A
EMC Immunity	EN61000-4-2 EN61000-4-3 EN61000-4-4 EN61000-4-5 EN61000-4-11	Level 3 Level 3 Level 3 Level 3 Level 2
Protection Degree	EN60529	IP20
Vibration sinusoidal	IEC 60068-2-6	5 - 17.8 Hz: ±1.6 mm; 17.8 - 500 Hz: 2 g 2 Hours / axis (X, Y, Z)
Shock	IEC 60068-2-27	30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total

[2] Possible with load derating

5. PIN LAYOUT & DESCRIPTION

PIN	DESCRIPTION
1	AC/DC input
2	DC output (load)
3	Green LED: Output OK
4	Output voltage adjustment

INPUT CONNECTION	OUTPUT CONNECTION
Single phase: L = Line (2) N = Neutral (1)	+ = Positive DC (12) - = Negative DC (11)
DC: L = +/- (2) N = -/+ (1)	

6. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		230 g
Dimensions (W x H x D)		72 x 90 x 61.5 mm
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)
Connection Terminals	Screw type Header (24 - 12 AWG)	2.5 mm²
Case Material	ABS, Flame retardant UL94 V-0	

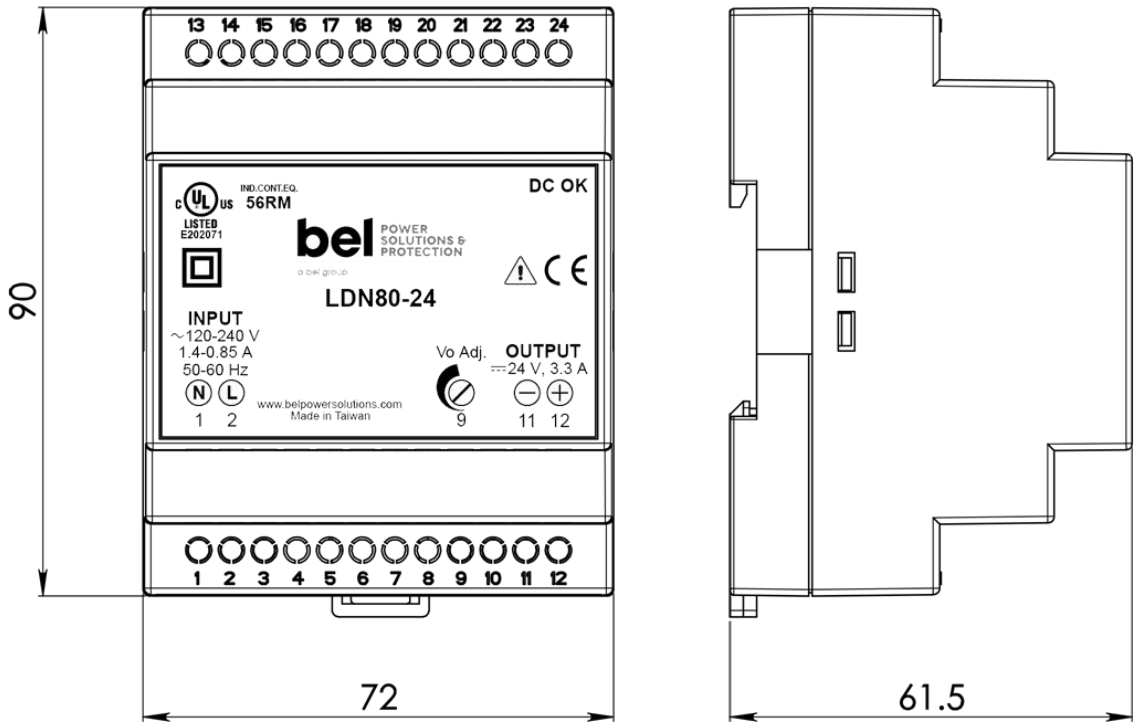

Figure 1. Mechanical Drawing

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.