

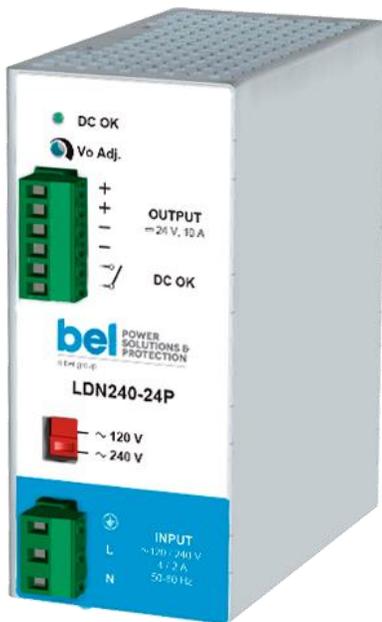
LDN240 Series

240W DIN Rail Switching Power Supply

LDN240 Series are single phase DIN Rail Switching Power Supplies, suitable for worldwide applications such as process control, heavy duty applications, but also building automation.

These units have received excellent market approval for their high efficiency, excellent reliability and compactness. Simple but elegant look and ease of installation due to pluggable connectors make them market leaders for various industrial applications.

LDN240 Series are Class I isolation devices suitable for SELV and PELV circuitry and are designed to be mounted on DIN rail and installed inside a protective enclosure.



Key Features & Benefits

- Single phase AC input 120 / 240 VAC (with switch)
- High efficiencies and in compact size
- 130% overload capability
- Adjustable output voltage
- Short circuit, overload and over temperature protection
- RoHS Compliant

Applications

- Automation
- Process Control
- Communication
- Instrumentation Equipment

1. MODEL SELECTION

MODEL	INPUT VOLTAGE	# of PHASES	OUTPUT VOLTAGE	OUTPUT CURRENT	REDUNDANCY
LDN240-12	120 / 240 VAC (270 - 345 VDC)	1	12 VDC	16 A	No ORing diode
LDN240-24	120 / 240 VAC (270 - 345 VDC)	1	24 VDC	10 A	No ORing diode
LDN240-24P	120 / 240 VAC (270 - 345 VDC)	1	24 VDC	10 A	Internal ORing diode
LDN240-48P	120 / 240 VAC (270 - 345 VDC)	1	48 VDC	5 A	Internal ORing diode
LDN240-72P	120 / 240 VAC (270 - 345 VDC)	1	72 VDC	3.5 A	Internal ORing diode

2. INPUT SPECIFICATIONS

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

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage Range	Rated, UL certified – settable with Input voltage selector Operating	120 / 240 VAC 92 – 132 / 187 - 264 VAC
Input DC Voltage Range	Rated	270 - 345 VDC
Input Frequency Range		47 - 63 Hz
Input AC Current		Vin = 120 VAC 4.0 A Vin = 240 VAC 2.0 A
Input DC Current		Vin = 270 VDC 1.3 A Vin = 345 VDC 1.0 A
Inrush Peak Current		< 40 A
Internal Protection Fuse	Not user replaceable	Fuse 6.3AT / 250 VAC
External Protection on AC Line	It is strongly recommended to provide external surge arresters (SPD) according to local regulations	Fuse AT 10A or MCB 10A C curve

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power		240 W
Rated Voltage (Adjustable Voltage Range)	LDN240-12 LDN240-24 / LDN240-24P LDN240-48P LDN240-72P	12 VDC (12 – 15 VDC) 24 VDC (23 – 28 VDC) 48 VDC (45 – 55 VDC) 72 A (72 – 85 VDC)
Continuous Current	LDN240-12 LDN240-24 / LDN240-24P LDN240-48P LDN240-72P	16 A 10 A 5 A 3.5 A
Overload Limit	LDN240-12 LDN240-24 / LDN240-24P LDN240-48P LDN240-72P	19 A @ Vo + 12 V / 16 A @ Vo = 15 V 13.5 A 6.8 A 4.6 A
Short Circuit Peak Current	LDN240-12 LDN240-24 / LDN240-24P LDN240-48P LDN240-72P	42 A / 140 ms 35 A / 150 ms 20 A / 160 ms 14 A / 150 ms
Load Regulation	LDN240-12 LDN240-24 LDN240-24P LDN240-48P LDN240-72P	≤ 1.5% ≤ 1% ≤ 2.5% ≤ 1.5% ≤ 1.5%
Ripple & Noise	LDN240-12 LDN240-24 / LDN240-24P / LDN240-48P / LDN240-72P	≤ 150 mVpp ≤ 100 mVpp
Hold up Time		> 70 ms

Efficiency	LDN240-12	> 84%
	LDN240-24	> 88%
	LDN240-24P	> 86%
	LDN240-48P	> 88%
	LDN240-72P	> 88%
Dissipated Power	LDN240-12	< 36.5 W
	LDN240-24	< 33 W
	LDN240-24P	< 39 W
	LDN240-48P	< 33 W
	LDN240-72P	< 34.5 W
Output Over Voltage Protection	LDN240-12	> 18 VDC
	LDN240-24 / LDN240-24P	> 33 VDC
	LDN240-48P	> 68 VDC
	LDN240-72P	> 100 VDC
Parallel Connection	LDN240-12 / LDN240-24	Possible with external ORing diode
	LDN240-24P / LDN240-48P / LDN240-72P	Internal Oring diode
Protections	Hiccup at the overload limit with auto reset	
Status Signals	Over temperature	
	Overvoltage	
Status Signals	Green LED = DC OK	
	Dry contact (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 certified up to 50°C (Start-up type tested: - 40°C) ¹	- 40 to + 70°C	
Storage Temperature		- 40 to + 80°C	
Derating		- 5 W / °C over 50°C	
Humidity	Non-condensing	5 - 95% RH	
Life Time Expectation	At 25°C ambient full load	77894 h (8.8 years)	
Overvoltage Category		III	
Pollution Degree		2 (IEC 664-1)	
Isolation Voltage	Input to Output	4.2 kVDC	
	Input to Ground	2.2 kVDC	
	Output to Ground	0.75 kVDC	
Safety Standards & Approvals	UL508 (certified)		
	EN60950 (reference)		
EMC Standards	Emission	EN55022:2010 (CISPR22)	Class A
		EN55011:2009 /A1:2010	Class A
		EN61000-4-2:2008	Level 3
	Immunity	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		750 g
Dimensions (W x D x H)		63 x 140 x 117 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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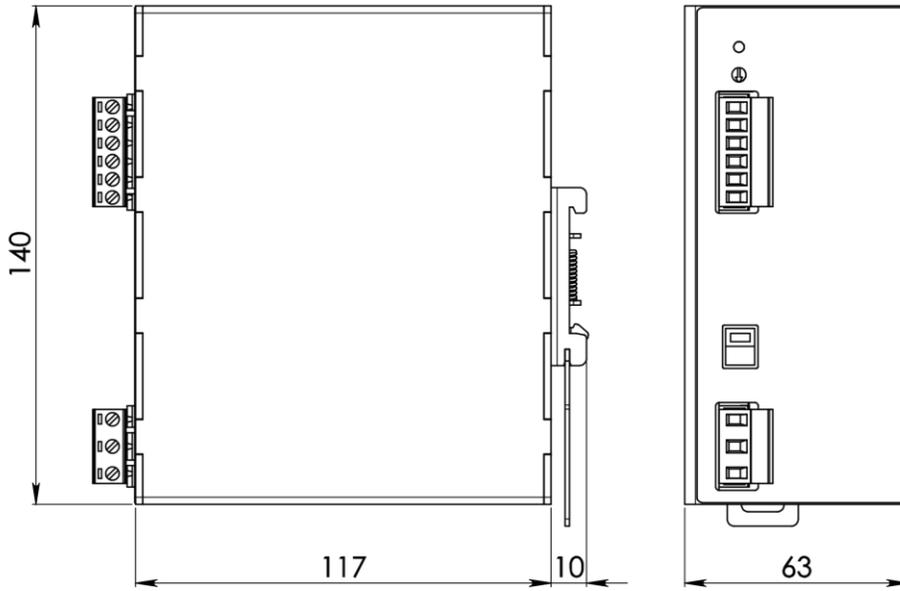
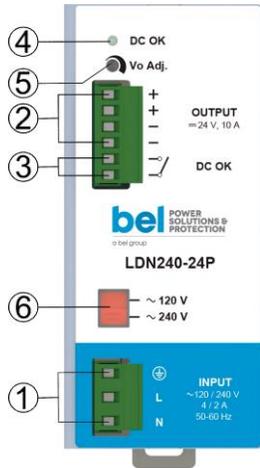


Figure 1. Mechanical Drawing

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	Output voltage adjustment
6	Input voltage selector

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

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.