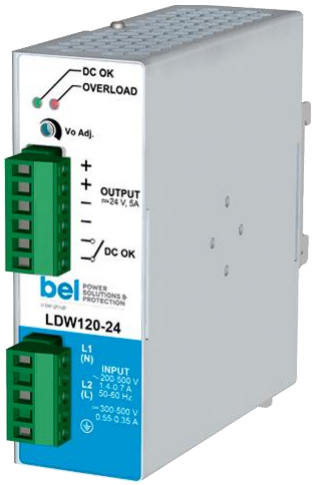
LDW120 Series

120W DIN Rail Switching Power Supply

LDW120 Series are single or two phase AC or DC input DIN Rail Switching Power Supplies.

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

LDW120 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.



RoHS Compliant

Key Features & Benefits

- High efficiency
- Single or two phase input AC 187 – 550 VAC
- Wide DC input range 250 - 725 VDC
- Compact size, only 40 mm width
- 150% overload capability
- RoHS Compliant

Applications

- Industrial Control
- Communication
- Instrumentation Equipment
- Renewable

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1. MODEL SELECTION

MODEL	INPUT VOLTAGE	# of PHASES	OUTPUT VOLTAGE	OUTPUT CURRENT	REDUNDANCY
LDW120-12	200 - 500 VAC (250 - 725 VDC)	1 / 2	12 – 15 VDC	8 – 7 A	
LDW120-24	200 - 500 VAC (250 - 725 VDC)	1 / 2	24 VDC	5 A	
LDW120-48P	200 - 500 VAC (250 - 725 VDC)	1 / 2	48 VDC	2.5 A	Includes internal ORing diode

2. INPUT SPECIFICATIONS

Specifications are measured at 25°C, and 400 VAC / 50 Hz, typical unless otherwise stated.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage Range	Rated, single or two phase, UL certified Operating	200 – 500 VAC 187 - 550 VAC
Input DC Voltage Range	Rated, UL certified	250 – 725 VDC (300 – 500 VDC)
Input Frequency Range		47 - 63 Hz
Input AC Current	Vin = 200 VAC Vin = 500 VAC	1.4 A 0.7 A
Input DC Current	Vin = 250 VAC Vin = 725 VAC	0.8 A 0.3 A
Inrush Peak Current		< 40 A
Internal Protection Fuse	None, external fuse must be provided	
External Protection on AC Line	It is strongly recommended to provide external surge arresters (SPD) according to local regulations.	MCB 6 A C curve or 6 A D curve

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power		120 W
Rated Voltage (Voltage Adjustment Range)	LDW120-12 LDW120-24 LDW120-48P	12 – 15 VDC (12 – 15 VDC) 24 VDC (23 – 28 VDC) 48 VDC (45 – 55 VDC)
Continuous Current (Uout nom)	LDW120-12 LDW120-24 LDW120-48P	8 - 7 A 5 A 2.5 A
Overload Limit	LDW120-12 LDW120-24 LDW120-48P	> 10 A / 30 s > 7.5 A / 30 s > 3.75 A / 30 s
Short Circuit Peak Current	LDW120-12 LDW120-24 / LDW120-48P	> 20 A / 300 ms > 14 A / 300 ms
Load Regulation		≤ 1%
Ripple & Noise		≤ 110 mVpp
Hold up Time	Vin = 240 VAC Vin = 400 VAC	≥ 17 ms ≥ 60 ms
Efficiency	LDW120-12 LDW120-24 LDW120-48P	> 81% > 88% > 86%
Dissipated Power	LDW120-12 LDW120-24 LDW120-48P	< 25 W < 17 W < 19.5 W
Output Over Voltage Protection	LDW120-12 LDW120-24 LDW120-48P	> 18 VDC > 33 VDC > 68 VDC

Parallel Connection		(P) models include internal ORing circuit
Protections	Hiccup at the overload limit with auto reset Over temperature Overvoltage	
Status Signals	Green LED = DC OK Red LED = Overload Dry contact (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 45°C (Start-up type tested: - 40°C)[1]	- 40 to + 70°C
Storage Temperature			- 40 °C - + 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	84914 h (9.6 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) UL60950 (certified for LDW120-24 model) EN60950 (reference)	
EMC Standards	Emission	EN55022:2010 (CISPR22) EN55011:2009/A1:2010	Class A Class A
	Immunity	EN61000-4-2:2008 EN61000-4-3:2006 /A2:2010 EN61000-4-4:2012 EN61000-4-5:2014 EN61000-4-11:2004 /A1:2010	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: 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)

[1] Possible with load derating.

5. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		500 g
Dimensions (W x H x D)		40 x 115 x 110 mm
Mounting Rail		IEC 60715/H15/TH35-7.5(-15)
Connection Terminals	Screw type pluggable (24 - 12 AWG)	2.5 mm²
Case Material	Aluminum	

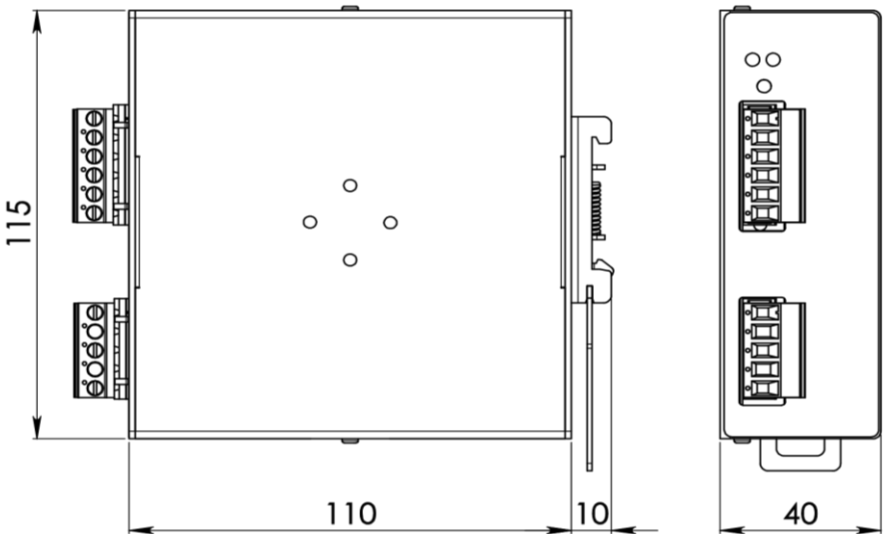
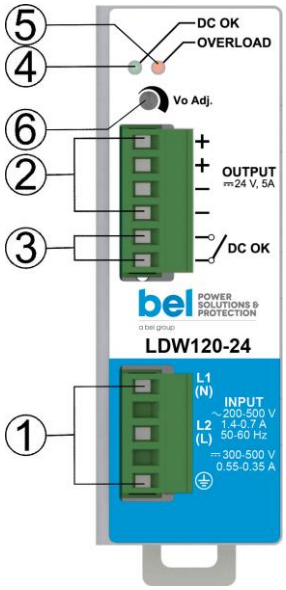


Figure 1. Mechanical Drawing

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	Red LED: Overload
6	Output voltage adjustment

INPUT CONNECTION	OUTPUT CONNECTION
Single phase: L = Line N = Neutral ⏚ = Earth ground	+ = Positive DC - = Negative DC Dry contact = NC
Two phase: L1 = Phase 1 L2 = Phase 2 ⏚ = Earth ground	
DC: L1(N) = - Negative DC L2(L) = + Positive DC ⏚ = 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.