

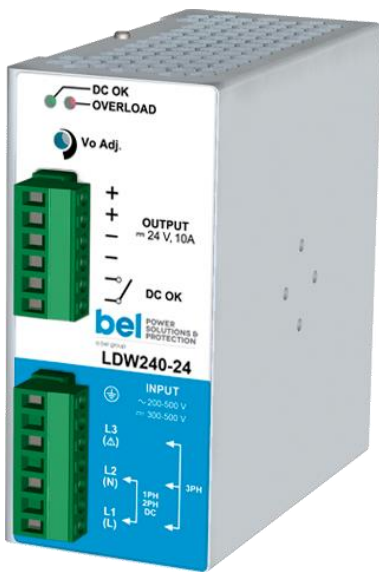
# LDW240 Series

## 240W DIN Rail Switching Power Supply

LDW240 Series are single, two or three phase DIN Rail Switching Power Supplies.

Its compact size, high efficiency, excellent reliability together with easy installation makes it ideal for various industrial, telecom and renewable energy applications.

LDW240 Series are Class I isolation devices suitable for SELV and PELV circuitry (up to 48 VDC models) and are designed to be mounted on DIN rail and installed inside a protective enclosure.



### Key Features & Benefits

- High efficiency and compact size
- Only 54 mm width aluminum enclosure
- Single, two or three phase input AC 187 – 550 VAC
- Wide DC input range 250 – 725 VDC
- 150% overload capability
- RoHS Compliant

### Applications

- Industrial Control
- Communication
- Instrumentation Equipment
- Renewable

## 1. MODEL SELECTION

MODEL	INPUT VOLTAGE	# of PHASES	OUTPUT VOLTAGE	OUTPUT CURRENT	REDUNDANCY
LDW240-12	200 - 500 VAC (300 - 500 VDC)	1 / 2 / 3	12 – 15 VDC	15 – 12 A	
LDW240-24	200 - 500 VAC (300 - 500 VDC)	1 / 2 / 3	24 VDC	10 A	
LDW240-48P	200 - 500 VAC (300 - 500 VDC)	1 / 2 / 3	48 VDC	5 A	Includes internal ORing diode
LDW240-72P	200 - 500 VAC (300 - 500 VDC)	1 / 2 / 3	72 VDC	3.5 A	Includes internal ORing diode

## 2. INPUT SPECIFICATIONS

Technical parameters are typical, measured in laboratory environment at 25°C and 400 VAC / 50 Hz, at nominal values, after minimum 5 minutes of operation.

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Input AC Voltage Range	Rated, single, two or three phase, UL certified Operating	200 – 500 VAC 187 - 550 VAC
Input DC Voltage Range	Rated, UL certified Operating	300 – 500 VDC 250 – 725 VDC
Input Frequency Range		47 - 63 Hz
Input AC Current	Single or two phase @ 200 VAC	2.2 A
	Single or two phase @ 500 VAC	1.1 A
	Three phase @ 200 VAC	1.5 A
	Three phase @ 500 VAC	0.8 A
Input DC Current	LDW240-12	Vin = 250 VDC 0.9 A
		Vin = 725 VDC 0.4 A
	LDW240-24, LDW240-48P, LDW240-72P	Vin = 250 VDC 1.4 A
		Vin = 725 VDC 0.5 A
Inrush Peak Current		≤ 60 A
Touch (Leakage) Current		≤ 1.3 mA
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.	Fuse AT 6.3A or MCB 6 A C curve or 4 A D curve

## 3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power		240 W
Rated Voltage (Voltage Adjustment Range)	LDW240-12	12 – 15 VDC (12 – 15 VDC)
	LDW240-24	24 VDC (23 – 28 VDC)
	LDW240-48P	48 VDC (45 – 55 VDC)
	LDW240-72P	72 VDC (72 – 85 VDC)
Continuous Current	LDW240-12	15 – 12 A
	LDW240-24	10 A
	LDW240-48P	5 A
	LDW240-72P	3.5 A
Overload Limit (max. 6 s)	LDW240-12	20 A
	LDW240-24	15 A
	LDW240-48P	7.5 A
	LDW240-72P	5 A
Short Circuit Peak Current	LDW240-12	34 A
	LDW240-24	38 A
	LDW240-48P	18 A
	LDW240-72P	13 A
Load Regulation	LDW240-12 / LDW240-24	≤1%
	LDW240-48P / LDW240-72P	≤1.5%

Ripple & Noise <sup>1</sup>		≤ 100 mVpp
Hold up Time	Vin = 240 VAC	≥ 15 ms
	Vin = 500 VAC	≥ 100 ms
Protections	Overload, short circuit: Hiccup mode Over temperature Overvoltage	
Output Over Voltage Protection	LDW240-12	≥ 18 VDC
	LDW240-24	≥ 33 VDC
	LDW240-48P	≥ 68 VDC
	LDW240-72P	≥ 100 VDC
Status Signals	DC OK - green LED OVERLOAD - red LED DC OK - dry contact (NO, 24 VDC / 1 A)	
Parallel Connection	Possible for redundancy (with external ORing module)	
	P (models) - include internal ORing circuit	
Efficiency	LDW240-12	> 89%
	LDW240-24	> 93%
	LDW240-48P	> 91%
	LDW240-72P	> 92%
Dissipated Power	LDW240-12	< 22.5 W
	LDW240-24	< 18 W
	LDW240-48P	< 23.5 W
	LDW240-72P	< 22 W

<sup>1</sup> Ripple and Noise are measured with 20 MHz 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 (Start-up type tested: - 40°C) <sup>2</sup>	- 40 to + 70°C	
Storage Temperature		- 40°C to + 80°C	
Derating		- 4.2 W / °C over 50°C	
Humidity	Non-condensing	5 - 95% RH	
Life Time Expectancy	At 25 °C ambient, full load	81648 h (9.3 years)	
Overvoltage Category		III (EN50178)	
Pollution Degree		2 (IEC60664-1)	
Protection Class		Class I	
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)		
	EN50178 (reference)		
EMC Standards	Emission	EN55011 (CISPR11) EN55022 (CISPR22)	Class A Class A
	Immunity	EN61000-4-2	Level 3
		EN61000-4-3	Level 3
		EN61000-4-4	Level 3
		EN61000-4-5	Level 4
		EN61000-4-11	Level 2
Protection Degree	EN60529	IP20	
Vibration sinusoidal	IEC 60068-2-6	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	IEC 60068-2-27:2008 (30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total)	

<sup>2</sup> Possible at nominal voltage with load derating



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5. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		650 g
Dimensions		54 x 115 x 110 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	

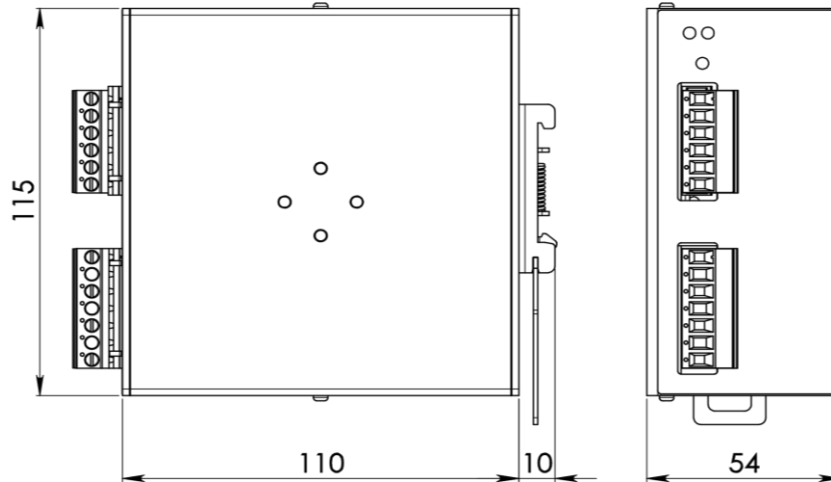
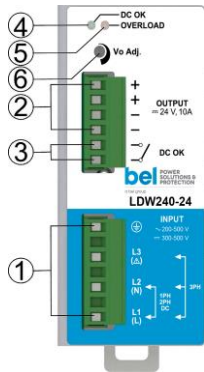


Figure 1. Mechanical Drawing

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
2 phase: L1 = Phase 1 L2 = Phase 2 I = Earth ground	
3 phase: L1 = Phase 1 L2 = Phase 2 L3 = Phase 3 ⊕ = Earth ground	
DC: L1(N) = + Positive DC L2(L) = - Negative DC L3 = do not connect ⊕ = Earth ground	

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.

