LDD240 Series

240W DIN Rail DC-DC Converter

The LDD family of DC/DC converters is an optimal response to the applications where compactness and high reliability are requested. All are isolated and offer a wide range of input voltages.

Simple but elegant look and ease of installation make them ideal for various industrial applications.

RoHS Compliant

Key Features & Benefits

- High efficiency and compact size
- Wide Input voltage range
- Isolated topology
- Overload 150%
- Excellent reliability

Applications

- Industrial machine control
- Process control
- Energy management
- Remote control systems

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1. MODEL SELECTION

MODEL	INPUT VOLTAGE	INPUT CURRENT	OUTPUT VOLTAGE	OUTPUT CURRENT
LDD240-11024	110 VDC (90 - 148 VDC)	2.6 A – 3.6 A	24 VDC	10 A

2. INPUT SPECIFICATIONS

Technical parameters are typical, measured in laboratory environment at 25°C at 110 VDC and nominal values, after minimum 5 minutes of operation.

PARAMETER	DESCRIPTION / CONDITION		SPECIFICATION
Input DC Voltage Range	Rated Operating		110 VDC 90 - 148 VDC
Input DC Current		Vin = Min Vin = Max	3.6 A 2.6 A
Input Overvoltage Protection	Active shutdown		> 150 VDC
Inrush Peak Current			< 150 A
Internal Protection Fuse	Not user replaceable		Fuse AT 5 A
Recommended External Protection	Use DC rated devices		MCB 6 A C curve

3. OUTPUT SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Output Power		240 W
Rated Voltage (Adjustable Voltage Range)		24 VDC (23 – 27.5 VDC)
Continuous Current		10 A
Overload Limit		15 A
Short Circuit Peak Current		21 A
Load Regulation		≤ 1.5%
Ripple & Noise[1]		≤ 50 mVpp
Hold up Time		≥10 ms
Protections	Overload/short circuit: Hiccup mode Thermal protection Output overvoltage	
Output Over Voltage Protection		≥ 33 VDC
Status Signals	DC OK - green LED OVERLOAD - red LED DC OK - dry contact (NO, 24 VDC / 1 A)	
Parallel Connection	Possible for power or redundancy (includes internal ORing circuit)	
Efficiency		> 88 %
Dissipated Power		< 31 W

[1] Ripple and Noise are measured with 20 MHz bandwidth, probe terminated with a 0.1 µF 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	Overtemperature protection (Start-up type tested: - 40°C)[2]	- 40 to + 70°C
Storage Temperature		- 40 to + 80°C
Derating		- 3 W/°C over 50°C
Humidity	Non-condensing	5 - 95% RH
Life time expectation	At 25°C ambient	64000 h (7.3 years)
Overvoltage Category Pollution Degree		I (EN50178) 2 (IEC60664-1)
Protection Class		Class I
Isolation Voltage	Input to Output Input to Ground Output to Ground	2.1 kVDC 1.41 kVDC 0.75 kVDC
Safety Standards & Approvals	UL508 (reference) EN60950 (reference) EN50178 (reference)	
EMC Standards — Emission	EN55022 (CISPR11) EN55011 (CISPR22)	Class A Class A
EMC Standards — Immunity	EN61000-4-2 EN61000-4-3 EN61000-4-4 EN61000-4-5 EN61000-4-11	Level 3 Level 3 Level 2 Level 2 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 2Hours / 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 at nominal voltage with load deration.

5. MECHANICAL SPECIFICATIONS

PARAMETER	DESCRIPTION / CONDITION	SPECIFICATION
Weight		800 g
Dimensions		69 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	

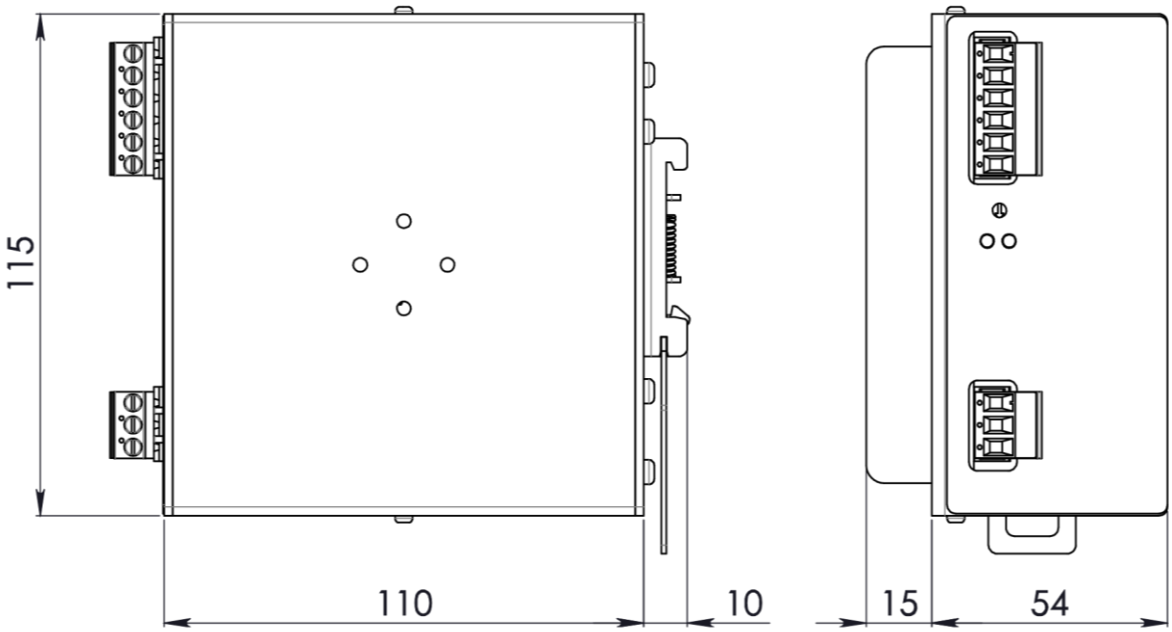
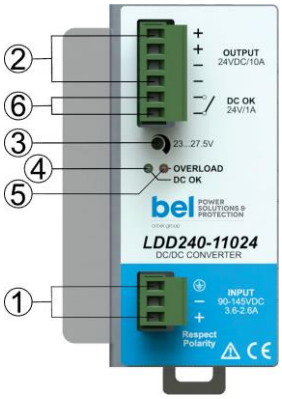


Figure 1. Mechanical Drawing

6. PIN LAYOUT & DESCRIPTION



PIN	DESCRIPTION
1	DC input
2	DC output (Load)
3	Output voltage adjustment
4	Green LED: Output OK
5	Red LED: Overload
6	Diagnostic Output (dry contacts, NC out OK)

INPUT CONNECTION	OUTPUT CONNECTION
+ = Positive DC - = Negative DC ⏚ = Earth ground	+ = Positive DC - = Negative DC
	Signaling: DC OK (dry contact) NO COM

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.