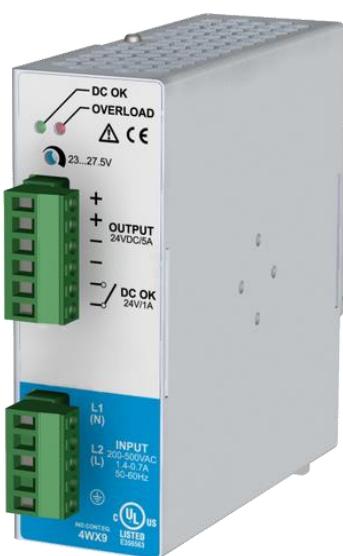


LDW120 Series

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.

Key Features & Benefits

- High efficiency
- Wide input range
- Power boost of 150% during overload
- Threshold controlled alarm contact
- Electronic protection against overload and short circuit
- Front pluggable screw terminals for easier wiring and maintenance
- Thermal protection
- 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 | No ORing diode |
| LDW120-24 | 200 - 500 VAC (250 - 725 VDC) | 1 / 2 | 24 VDC | 5 A | No ORing diode |
| LDW120-48P | 200 - 500 VAC (250 - 725 VDC) | 1 / 2 | 48 VDC | 2.5 A | Internal ORing diode |

2. INPUT SPECIFICATIONS

Specifications are measured at 25°C, at 2x 400 VAC, typical unless otherwise stated.

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION | |
|--------------------------------|--|--|------------------------------|
| Input AC Voltage | Nominal 1-2 Phases (UL certified) Range | 200 - 500 VAC 187 - 550 VAC | |
| Input Frequency | | 47 - 63 Hz | |
| Input DC Voltage | Rated (UL certified) | 250 - 725 VDC (300 - 500 VDC) | |
| Input AC Current | | Vin = 240 VAC 1.4 A Vin = 500 VAC 0.7 A | |
| Input DC Current | | Vin = 250 VAC 0.8 A Vin = 725 VAC 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 6A C curve or 6A 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 (I _{out 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 per 30 s > 7.5 A per 30 s > 3.75 A per 30 s | |
| Short Circuit Peak Current | LDW120-12 LDW120-24 / LDW120-48P | > 20 A per 300 ms > 14 A per 300 ms | |
| Load Regulation | | < 1% | |
| Ripple | | ≤ 110 mVpp | |
| Hold up Time | | Vin = 240 VAC ≥ 17 ms Vin = 400 VAC ≥ 60 ms | |
| Efficiency | LDW120-12 LDW120-24 LDW120-48P | > 81 - 84% > 88% > 86% | |
| Dissipated Power | LDW120-12 LDW120-24 LDW120-48P | < 25 - 20 W < 17 W < 19.5 W | |
| Output Over Voltage Protection | LDW120-12 LDW120-24 LDW120-48P | > 18 VDC > 33 VDC > 68 VDC | |

| | | |
|-------------------------------|--|---|
| Redundant Parallel Connection | | (P) models include internal ORing circuit |
| Protections | Hiccup at the overload limit with auto reset Over temperature Overtvoltage | |
| 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 | Overtemperature protection, UL certified up to 45°C (Start-up type tested: - 40°C ¹) | - 40 to + 70°C | |
| Derating | | - 1.2 W/°C over 60°C | |
| Storage temperature | | - 40 °C - + 80°C | |
| Humidity | Non-condensing | 5 - 95% RH | |
| Overvoltage Category | | III | |
| Pollution Degree | | 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 |
| | 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) | | |

5. MECHANICAL SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|------------------------|------------------------------------|-----------------------------|
| Weight | | 500 g |
| Dimensions (W x H x D) | | 40.0 x 115.0 x 110.0 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 | |

¹ Possible at nominal voltage with load deration.

Notes:

Technical parameters are typical, measured in laboratory environment at 25°C and 400Vac / 50Hz.
Power rating, losses, efficiency, ripple, thermal behaviour and start-up may change outside of the nominal rated input range. Contact factory for details.
Data may change without prior notice in order to improve the product.

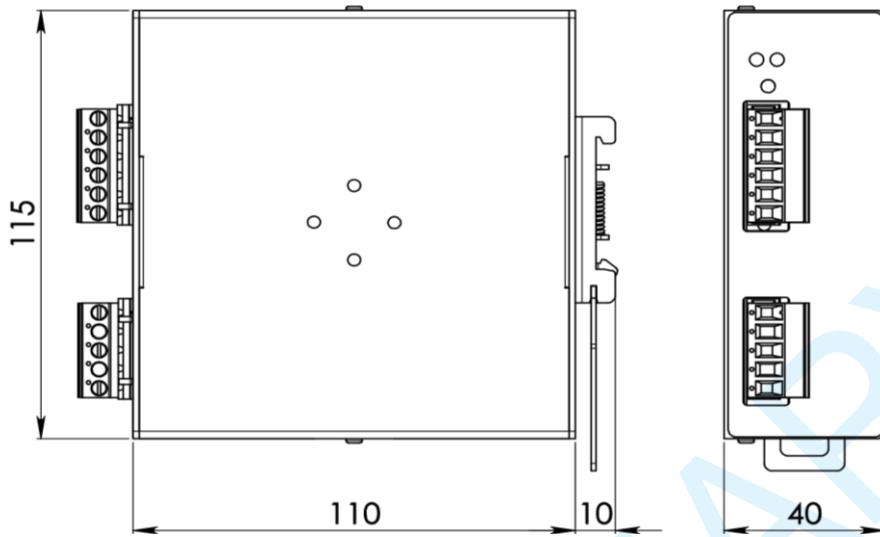
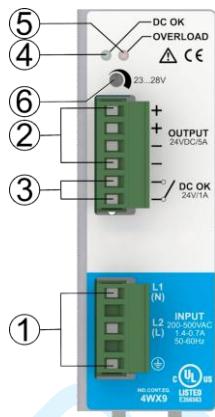


Figure 1. Mechanical Drawing

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 I = Earth ground | + = Positive DC - = Negative DC Dry contact = NC |
| 2 phase: L1 = Phase 1 L2 = Phase 2 I = Earth ground | |
| DC: L1(N) = +/- L2(L) = -/+ I = 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.