

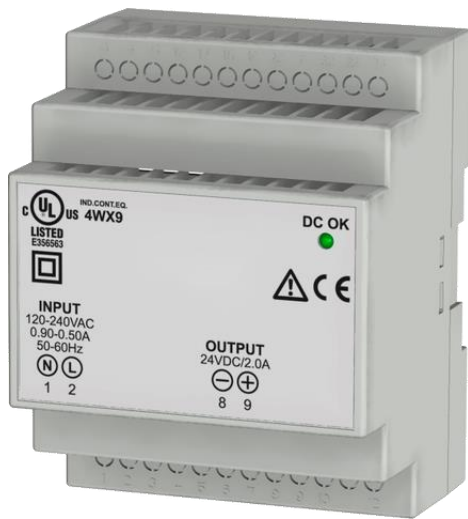
LDN40 Series

40W DIN Rail Switching Power Supply

LDN40 Series are single phase DIN Rail Switching Power Supplies, ideal mainly for general purposes such as home automation, simple automation in machines, survey systems, telecom, but also the renewable energy field.

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

LDN40 Series are Class II 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 (110 - 345 VDC)
- High efficiency and compact size
- Plastic enclosure
- Class II (simplified wiring)
- Short circuit, overload and over temperature protection
- Overload 150%
- Adjustable output voltage
- Up to 50°C operating temperature with no dating
- RoHS Compliant

Applications

- Automation
- Telecom
- Survey Systems
- Renewable



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1. MODEL SELECTION

| MODEL | INPUT VOLTAGE | # of PHASES | OUTPUT VOLTAGE | OUTPUT CURRENT |
|-----------|-------------------------------|-------------|----------------|---------------------------------|
| LDN40-515 | 120 - 240 VAC (110 - 345 VDC) | 1 | 5 - 15 VDC | 4.0 A @ 5 VDC / 2.0 A @ 15 VDC |
| LDN40-12D | 120 - 240 VAC (110 - 345 VDC) | 1 | 2x 12 - 16 VDC | 1.0 A |
| LDN40-12 | 120 - 240 VAC (110 - 345 VDC) | 1 | 12 VDC | 3.5 A @ 12 VDC / 3.0 A @ 15 VDC |
| LDN40-24 | 120 - 240 VAC (110 - 345 VDC) | 1 | 24 VDC | 2.0 A |

2. INPUT SPECIFICATIONS

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

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|--------------------------------|---|--|
| Input AC Voltage | Rated (UL certified) Range | 120 - 240 VAC 90 - 264 VAC |
| Input DC Voltage | Rated | 110 - 345 VDC |
| Input Frequency | | 47 - 63 Hz |
| Input AC Current | LDN40-515 / LDN40-12D | Vin = 120 VAC 0.70 A Vin = 240 VAC 0.40 A |
| | LDN40-12 / LDN40-24 | Vin = 120 VAC 0.90 A Vin = 240 VAC 0.50 A |
| | LDN40-515 / LDN40-12D | Vin = 110 VDC 0.5 A Vin = 345 VDC 0.2 A |
| | LDN40-12 / LDN40-24 | Vin = 110 VDC 0.6 A Vin = 345 VDC 0.3 A |
| Input DC Current | | |
| Inrush Peak Current | | < 75 A |
| Internal Protection Fuse | Not user replaceable | Fuse 2AT / 250 VAC |
| External Protection on AC Line | It is strongly recommended to provide external surge arresters (SPD) according to local regulations | MCB 6A C curve |

3. OUTPUT SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|---|-------------------------|---------------------------------|
| Output Power | | 40 W |
| Rated Voltage (Adjustable Voltage Range) | LDN40-515 | 5 - 15 VDC (5 - 15 VDC) |
| | LDN40-12D | 2x 12 - 16 VDC (2x 12 - 16 VDC) |
| | LDN40-12 | 12 VDC (12 - 15 VDC) |
| | LDN40-24 | 24 VDC (24 VDC Fixed) |
| Continuous Current | LDN40-515 | 4.0 A @ 5 VDC / 2.0 A @ 15 VDC |
| | LDN40-12D | 1.0 A |
| | LDN40-12 | 3.5 A @ 12 VDC / 3.0 A @ 15 VDC |
| | LDN40-24 | 2.0 A |
| Overload Limit | LDN40-515 | 6.5 A @ 5 VDC / 4.0 A @ 15 VDC |
| | LDN40-12D | 2.7 - 2.4 A |
| | LDN40-12 | 6.5 A @ 12 VDC / 4.1 A @ 15 VDC |
| | LDN40-24 | 3.5 A |
| Short Circuit Peak Current | LDN40-515 | 10 A |
| | LDN40-12D | 3.5 A |
| | LDN40-12 | 8.5 A |
| | LDN40-24 | 7.0 A |
| Load Regulation | | ≤ 1% |

| | | |
|---------------------|---|------------------------------------|
| Ripple & Noise | | ≤ 100 mVpp |
| Hold up Time | Vin = 120 VAC Vin = 240 VAC | > 10 ms > 50 ms |
| Efficiency | LDN40-515 LDN40-12D LDN40-12 LDN40-24 | > 80% > 83% > 86% > 85% |
| Dissipated Power | LDN40-515 LDN40-12D LDN40-12 LDN40-24 | < 8 W < 7 W < 8 W < 9 W |
| Parallel Connection | | Possible with external ORing diode |
| Protections | Overload, short circuit with hiccup mode Thermal protection Overvoltage | |
| Status Signals | Green LED = DC OK | |

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 50°C (Start-up type tested: - 40°C) | - 40 to + 70°C |
| Storage Temperature | | - 40 to + 80°C |
| Derating | LDN40-515 LDN40-12D LDN40-12 / LDN40-24 | - 0.25 W / °C over 50°C - 0.25 W / °C over 50°C - 0.35 W / °C over 50°C |
| Humidity | Non-condensing | 5 - 95% RH |
| Overvoltage Category | | II |
| Pollution Degree | | 2 (IEC 664-1) |
| EMC Emission | EN55022:2010 (CISPR22) EN55011:2009 / A1:2010 EN61000-4-2:2008 EN61000-4-3:2006 / A2:2010 | Class A Class A Level 3 Level 3 |
| EMC Immunity | EN61000-4-4:2012 EN61000-4-5:2014 EN61000-4-11:2004 / A1:2010 | Level 3 Level 3 Level 2 |
| Standards & Approvals | UL508 (certified) EN60950 | |
| Isolation Voltage | Input to Output | 4.2 kVDC |
| 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 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 | | 190 g |
| Dimensions (W x H x D) | | 72.0 x 90.0 x 61.5 mm |
| Rail Mounting | | IEC 60715/H15/TH35-7.5(-15) |
| Connection Terminals | Screw type pluggable (24 - 12 AWG) | 2.5 mm ² |
| Case Material | Flame retardant UL 94 V-0 plastics | |

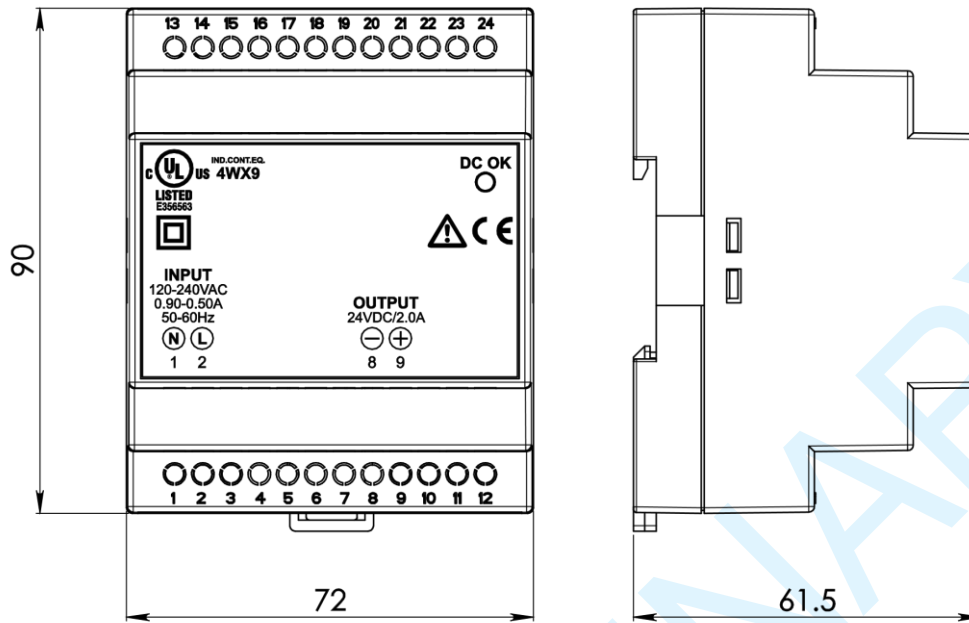
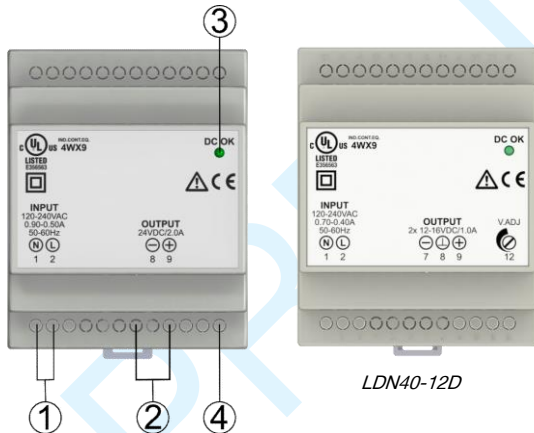


Figure 1. Mechanical Drawing

6. PIN LAYOUT & DESCRIPTION



| PIN | DESCRIPTION |
|-----|---|
| 1 | AC/DC input |
| 2 | DC output (load) |
| 3 | Green LED: Output OK |
| 4 | Output voltage adjustment (only on Models "515" or "12D") |

| INPUT CONNECTION | OUTPUT CONNECTION |
|--|---|
| Single phase: L = Line (2) N = Neutral (1) | + = Positive DC (9) - = Negative DC (8) |
| DC: L = +/- (2) N = -/+ (1) | Exception LDN40-12D: + = Positive DC (9) - = Negative DC (7) ⊥ = Common DC (8) |

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.