

LDN481 Series

480W DIN Rail Switching Power Supply

LDN481 Series is a single phase DIN Rail Switching Power Supply suitable for broad range of industrial, telecom and renewable energy applications.

The unit has received excellent market approval for its high efficiency, excellent reliability and compactness. Simple but elegant look and easy installation makes it ideal for various industrial applications.

LDN481 Series is Class I isolation device suitable for SELV and PELV circuitry (up to 48 VDC models) and is designed to be mounted on DIN rail and installed inside a protective enclosure.



Key Features & Benefits

- High efficiency
- Compact size
- Overload 150%
- Constant current or Hiccup mode limitation, user settable
- Easy parallelable for power increase
- Natural convection cooling
- RoHS Compliant

Applications

- Industrial automation
- Heavy duty applications
- Process control
- Building automation and general purpose



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1. MODEL SELECTION

| MODEL | INPUT VOLTAGE | # of PHASES | OUTPUT VOLTAGE | OUTPUT CURRENT |
|-----------|--------------------------------------|-------------|----------------|----------------|
| LDN481-24 | 90-132 / 187-264 VAC (270 - 345 VDC) | 1 | 24 VDC | 20 A |
| LDN481-48 | 90-132 / 187-264 VAC (270 - 345 VDC) | 1 | 48 VDC | 10 A |
| LDN481-72 | 90-132 / 187-264 VAC (270 - 345 VDC) | 1 | 72 VDC | 6.7 A |

2. INPUT SPECIFICATIONS

Technical parameters are typical, measured in laboratory environment at 25°C and 240 VAC / 50 Hz, at nominal values, after minimum 5 minutes of operation.

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|---------------------------------|---|---|
| Input AC Voltage Range | Rated (UL certified) Settable with Voltage Selector Bridge Operating | 120 / 240 VAC 90 – 132 / 187 – 264 VAC |
| Input DC Voltage Range | Rated (without Voltage Selector Bridge) | 270 – 345 VDC |
| Input Frequency | | 47 – 63 Hz |
| Input AC Current | Vin = 120 VAC Vin = 240 VAC | 7.2 A 4.3 A |
| Input DC Current | Vin = 270 VDC Vin = 345 VDC | 2.2 A 1.9 A |
| Inrush Peak Current | | ≤ 35 A |
| Touch (Leakage) Current | | ≤ 1 mA |
| Internal Protection Fuse | None, external fuse must be provided | |
| Recommended External Protection | It is strongly recommended to provide external surge arresters (SPD) according to local regulations | Fuse AT 16A or MCB 16A C |

3. OUTPUT SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|---|--|--|
| Output Power | | 480 W |
| Rated Voltage (Adjustable Voltage Range) | LDN481-24 LDN481-48 LDN481-72 | 24 VDC (23 – 28 VDC) 48 VDC (45 – 55 VDC) 72 VDC (72 – 85 VDC) |
| Continuous Current | LDN481-24 LDN481-48 LDN481-72 | 20 A 10 A 6.7 A |
| Overload Limit (Constant Current Mode) | LDN481-24 LDN481-48 LDN481-72 | 22 A 11 A 7.5 A |
| Overload Limit (Hiccup Mode) Max. 5 s | LDN481-24 LDN481-48 LDN481-72 | 30 A 15 A 10 A |
| Load Regulation | LDN481-24 LDN481-48 / LDN481-72 | ≤ 1.0% ≤ 0.5% |
| Ripple & Noise ¹ | LDN481-24 / LDN481-48 LDN481-72 | ≤ 100 mVpp ≤ 200 mVpp |
| Hold up Time | | ≥ 35 ms |
| Protections | Overload, short circuit: Constant current or Hiccup mode (user settable) Thermal protection Output overvoltage | |
| Output Over Voltage Protection | LDN481-24 LDN481-48 LDN481-72 | ≥ 33 VDC ≥ 68 VDC ≥ 100 VDC |

| | |
|----------------------------------|---|
| Status Signals | DC OK - green LED DC OK - dry contact (NO, 24 VDC / 1 A) |
| Parallel Connection ² | Possible for power or redundancy (with external ORing module) |
| Efficiency | LDN481-24 > 91% |
| | LDN481-48 > 91.5% |
| | LDN481-72 > 92% |
| Dissipated Power | LDN481-24 < 48 W |
| | LDN481-48 < 45 W |
| | LDN481-72 < 42 W |

¹ Ripple and Noise are measured with 20MHz bandwidth, probe terminated with a 0.1µF MKP parallel capacitor.

² Pay attention, set the current limitation mode jumper on C.C. mode when connecting more units in parallel.

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 45°C (Start-up type tested: - 40°C) ³ | - 40 to + 70°C |
| Storage Temperature | | - 40 to + 80°C |
| Derating | | - 7.2 W/°C over 45°C |
| Humidity | Non-condensing | 5 - 95% RH |
| Life time Expectancy | At 25°C ambient 75% load | 64000 h (7.3 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 E356563) | |
| | EN60950 (reference) | |
| | EN50178 (reference) | |
| EMC Emission | EN55011 (CISPR11) | Class A |
| | EN55022 (CISPR22) | Class A |
| | EN61000-4-2 | Level 3 |
| EMC Immunity | EN61000-4-3 | Level 3 |
| | EN61000-4-4 | Level 3 |
| | EN61000-4-5 | Level 3 |
| | EN61000-4-11 | Level 2 |
| | EN60529 | IP20 |
| Protection Degree | EN60529 | IP20 |
| Vibration Sinusoidal | IEC 60068-2-6 | 5 - 17.8 Hz: ±1.6 mm; 17.8 - 500 Hz: 2 g 2 Hours / axis (X, Y, Z) |
| Shock | IEC 60068-2-27 | 30 g 6 ms, 20 g 11 ms; 3 bumps / direction, 18 bumps total |

³ Possible at nominal voltage with load derating.

5. MECHANICAL SPECIFICATIONS

| PARAMETER | DESCRIPTION / CONDITION | SPECIFICATION |
|------------------------|---------------------------------|-----------------------------|
| Weight | | 1300 g |
| Dimensions (W x D x H) | | 80 x 127 x 137.5 mm |
| Mounting Rail | | IEC 60715/H15/TH35-7.5(-15) |
| Connection Terminals | Screw type header (24 - 12 AWG) | 1.5 - 6 mm ² |
| Case Material | Aluminum | |



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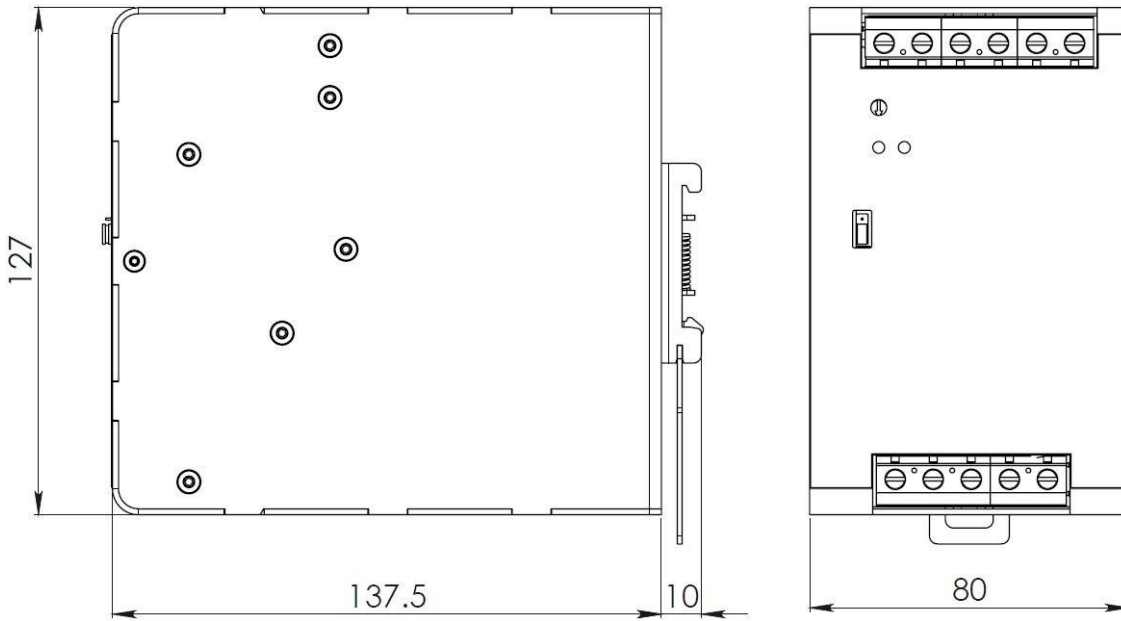
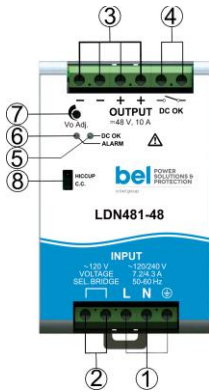


Figure 1. Mechanical Drawing

6. PIN LAYOUT & DESCRIPTION



| PIN | DESCRIPTION | INPUT CONNECTION | OUTPUT CONNECTION |
|-----|---|---|--------------------|
| 1 | AC/DC input | Single phase: | |
| 2 | Wire bridge for 120 VAC | L = Line | + = Positive DC |
| 3 | DC output (load) | N = Neutral | - = Negative DC |
| 4 | Diagnostic Output (dry contact, NC output OK) | ⊕ = Earth ground | |
| 5 | Green LED: Output OK | 120 VAC Bridge used only when used at 120 VAC | |
| 6 | Red LED: Overload | DC: | Signaling: |
| 7 | Output voltage adjustment | L = + Positive DC | DC OK: dry contact |
| 8 | Selectable limitation mode (Hiccup mode, C.C. mode) | N = - Negative DC | NO |
| | | ⊕ = Earth ground | 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.



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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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