

SDN DeviceNet™ Series

As a member of the Open DeviceNet™ Vendors Association (ODVA), Sola/Hevi-Duty has designed two power supplies specifically for DeviceNet™ applications. Sola's SDN DeviceNet™ models meet ODVA specifications for power supplies for either Thin or Thick cable applications.

The SDN4-24-100P has the highest current possible while still meeting (and listing for) the Class 2 limited power source rating. This is necessary for installations to meet the National Electrical Code (NEC) or the Canadian Electric Code (CE code) without the need for secondary fusing.

The SDN10-24-100P is designed for installations that utilize the Full 8A capability of the Thick Cable system. Note – local codes may prohibit the use of the full capacity of the power supply.



Features (General)

- Power Factor Correction
- SEMI F47 Sag Immunity
- Class 1, Div 2 Hazardous Locations
- DC Okay Signal
- Industrial Grade design
 - Indefinite short-circuit, overvoltage and overtemperature protection.
 - Rugged metal case and DIN connector.
- Narrow width on rail for space critical applications.
- User-friendly front panel.
 - Large, rugged, accessible multiple connection screw terminations.
 - Easy installation.
- High efficiency for cooler operation and less heat losses.
- High MTBF & reliability.
- High grade and low stress design components.
- No fans used or required.
- Five year warranty.

Features (SDN4-24-100P only)

- Agency Listed as a Class 2 Limited Power Source (LPS), to ensure easy compliance to National and local codes for building wiring.
- Highest power realistically possible while still meeting Class 2 requirements.
- No derating from -10°C to 60°C, operation to 70°C possible with a linear derating to half power from 60°C to 70°C.

Related Products

- SDP Series
- SCD Series
- SCP Series
- SCL Series

Applications

- Industrial control
- Process control
- Building Automation
- DeviceNet™

SDN DeviceNet™ Specifications

| Description | Catalog Number | |
|-----------------------------------|---|--|
| | SDN4-24-100P | SDN 10-24-100P |
| Input | | |
| Nominal Voltage | 115/230 VAC auto select (no manual required) | |
| -AC Range | 85-132/176-264 VAC | |
| -DC Range | 210-375 VDC | |
| -Frequency | 47 - 63 Hz, 400 Hz Possible | |
| Nominal Current ¹ | 2.6A / 1.4A | 6 A / 2.8 A typ. |
| -Inrush current max. | typ. < 15 A | typ. < 30 A |
| Efficiency (Losses ²) | > 88% typ (13.1 W) | > 88% typ (32.7 W) |
| Power Factor Correction | Units Fulfill EN61000-3-2 | |
| Output | | |
| Nominal Voltage | 24 VDC (22.5 - 28.5 VDC adj.) | |
| -Tolerance | < ±2% overall (combination Line, load, time and temperature related changes) | |
| -Ripple ³ | < 50 mVpp | |
| Nominal Current | 4 A (100 W), Class 2 | 10 A (240 W), Class 2 |
| -Peak Current ⁴ | 4.2 A max | 12 A 2x Nominal Current < 2 sec. |
| -Current Limit | Constant power during overload up to max peak current. | |
| Holdup Time | > 20 ms (Full load, 100 VAC Input @ T _{amb.} = +25°C) to 95% output voltage | |
| Parallel Operation | The SDN4 should not be used in parallel as Class 2 rating would be violated. | |
| General | | |
| EMC | | |
| -Emissions | EN50081-1,-2 Class B EN55011, EN55022 Radiated and Conducted including Annex A. | |
| -Immunity | EN50082-1, -2; EN61000-4-2 Level 4, EN61000-4-3 Level 3; EN61000-4-6 Level 3; EN61000-4-4 Level 4 input and Level 3 output; EN61000-4-5 Isolation Class 4, EN61000-4-11; Transient resistance according to VDE 0160/W2 over entire load range. | |
| Approvals | EN60950; EN50178; EN60204; UL508 Listed, cULus; UL60950, cRUus, CE (LVD 73/23 & 93/68/EEC). EN61000-3-2, IEC60079-15 (Class 1, Zone 2, Hazardous Location, Groups A, B, C, D w/ T3A temp class up to 60°C Ambient.) SEMI F47 Sag Immunity. SDN4 - UL60950 testing to include approval as NEC Class 2 power supply acc. to NFPA 70 art. 725-41 (a)(2). | |
| Temperature | Storage: -25°C...+85°C Operation: -10°-60°C full power with operation to 70°C possible with a linear derating to half power from 60°C to 70°C (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation. The relative humidity is < 90% RH, noncondensing; IEC 68-2-2, 68-2-3. For operation below -10°, contact Technical Services. | |
| Warranty | 5 years | |
| General Protection/Safety | Protected against continuous short-circuit, overload, open-circuit. Protection class 1 (IEC536), degree of protection IP20 (IEC 529) Safe low voltage: SELV (acc.EN60950) | |
| Status Indicators | Green LED and DC OK signal (300 mA @ 60 VDC) | |
| Installation | | |
| Fusing | | |
| -Input | Internally fused. External 10 A slow acting fusing for the input is recommended. | |
| -Output | 4.2 A Current Limited | Outputs are capable of providing high currents for short periods of time for inductive load startup or switching. Fusing may be required for wire/loads if 2x Nominal O/P current rating cannot be tolerated. Continuous current overload allows for reliable fuse tripping. |
| Mounting | Simple snap-on system for DIN Rail TS35/7.5 or TS35/15 or chassis-mounted (optional screw mounting set SDN-PMBRK2 required). | |
| Connections | Input: IP20-rated screw terminals, connector size range: 16-10 AWG (1.5-6 mm ²) for solid conductors. 16-12 AWG (0.5-4 mm ²) for flexible conductors. Output: Two connectors per output, connector size range: 16-10 AWG (1.5 - 6 mm ²) for solid conductors. | |
| Case | | |
| -Free Space | 25 mm above and below 25 mm left and right 10 mm in front | 70 mm above and below 25 mm left and right 15 mm in front |
| H x W x D (inches/mm) | 4.88 in. x 2.56 in. x 4.55 in. (124 mm x 65 mm x 116 mm) | 4.88 in. x 3.26 in. x 4.55 in. (124 mm x 83 mm x 116 mm) |
| Weight (lbs/g) | 1.5 lbs (620g) | 2.2 lbs (1100g) |

¹ Input current ratings are conservatively specified with low input, line conditions, worst case efficiency values and power factor spikes. Input current at nominal input line settings will be typically half these values.

² Losses are heat dissipation in watts at full load, nominal input line.

³ Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.