

SDN™ DeviceNet™ Series

As members of the Open DeviceNet™ Vendors Association (ODVA), SolaHD has designed two power supplies specifically for DeviceNet™ applications. SolaHD's SDN DeviceNet™ models meet ODVA specifications for power supplies for either thin or thick cable applications.

The SDN 4-24-100LP has the highest output current possible while still meeting the requirements for NEC Class 2 and UL 1310. 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 SDN 10-24-100C 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.

Applications

- Industrial Control
- Process Control
- Building Automation
- DeviceNet™

Features (General)

- Power Factor Correction
- DC Okay Signal
- 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.
- 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 limited warranty

Features (SDN 4-24-100LP only)

- NEC Class 2



Certifications and Compliances *

All Models

- cUL^{us} Listed, Ind. Control Equip., E61379
 - UL 508, CSA C22.2 No. 107.1
- cRU^{us} Recognized Component, ITE, E137632
 - UL 60950-1/CSA C22.2 No. 60950-1, 2nd Edition
- CE - Low Voltage Directive
 - IEC/EN60950-1, 2nd Edition
- Sag Immunity: SEMI F47
- RoHS Compliant

Model SDN 4-24-100LP

- Class 2 per UL 1310, CSA C22.2 No. 223
- cRU^{us} Recognized Component, Haz. Loc., E234790
 - ISA 12.12.01, CSA C22.2 No. 213
 - Class I, Division 2, Groups A, B, C, D
- Ex ATEX Directive
 - EN50021, Ex II 3 G, Ex nC IIC Gc

Model SDN 10-24-100C

- cRU^{us} UL Recognized Component, Haz. Loc., E234790
 - UL 60079-15/CSA E60079-15
 - Class I, Zone 2, AEx nC IIC, Ex nC IIC
- Ex ATEX Directive
 - EN60079-0, EN 60079-15
 - Ex II 3 G, Ex nC IIC Gc

Related Products

- SDP™ Series
- SCD Series
- SCP Series

* Refer to user manual for installation requirements when used in hazardous locations.

SDN™ DeviceNet™ Specifications

| Description | Catalog Number | |
|-----------------------------------|--|---|
| | SDN 4–24–100LP | SDN 10–24–100C |
| Input | | |
| Nominal Voltage | 115/230 Vac, Auto select | 100 - 240 Vac |
| –AC Range | 85 - 132/176 - 264 Vac | 85 - 264 Vac |
| –DC Range ¹ | 210 - 375 Vdc | 90 - 375 Vdc |
| –Frequency | 47 - 63 Hz | 43 - 67 Hz |
| Nominal Current ² | 2.1 / 1.0 A | 3.2 / 1.0 A |
| –Inrush current max. | typ. < 20 A | typ. < 40 A |
| Efficiency (Losses ³) | > 88% typ. (13.1 W) | > 90% typ. (24 W) |
| Power Factor Correction | Units fulfill EN61000-3-2 | Active Power Factor Correction to better than 0.92 |
| Output | | |
| Nominal Voltage | 24 Vdc (22.5 - 28.5 Vdc adj.) | |
| –Tolerance | < ±2% overall (combination Line, load, time and temperature related changes) | |
| –Ripple ⁴ | < 50 mVpp | |
| Overvoltage Protection | > 27 Vdc | > 30.5 Vdc, but < 33 Vdc, Auto recovery |
| Nominal Current | 3.8 A (92 W) | |
| –Current Limit | Fall Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current) | |
| Holdup Time ⁵ | > 20 ms @ full load to 95% output voltage | |
| Parallel Operation | Single or Parallel use is selectable via Front Panel Switch | |
| General | | |
| EMC: –Emissions | EN61000-6-3, -4; Class B EN55011, EN55022 Radiated and Conducted including Annex A. | |
| –Immunity | EN61000-6-1, -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; | |
| Temperature | Storage: -25°C to +85°C Operation. -10° to -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. | |
| MTBF: | > 640,000 hours | > 600,000 hours |
| – Standard | Bellcore Issue 6 Method 1 Case 3 @ 40°C | |
| Warranty | 5 Year Limited Warranty | |
| 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 (N.O. Solid State Contact rated 200 mA / 60 Vdc) | |
| Installation | | |
| Fusing –Input | Internally fused. External 10 A slow acting fusing for the input is recommended to protect input wiring. | |
| –Output | 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 | Fully enclosed metal housing with fine ventilation grid to keep out small parts. | |
| –Free Space | 25 mm above and below, 25 mm left and right, 15 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 x 2.56 x 4.55 (124.0 x 65.0 x 116.0) | 4.85 x 2.36 x 4.36 (123.0 x 60.0 x 110.0) |
| Weight lbs (kg) | 2.4 (1.1) | 1.7 (0.8) |

1. Not UL listed for DC input.

2. Input current ratings are conservatively specified with low input, worst case efficiency and power factor.

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

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

5. Full load, 100 Vac Input @ T_{amb} = +25°C