SDN™ DeviceNet™ Series

As members of the Open DeviceNet™ Vendors Association (ODVA), SolaHD 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 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 10-24-100P 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.

ODVA

UL 508 Listed
IND. CONT.
EQ. E61379

UL 60950
E137632
CUL/CSA-C22.2
No. 234-M90

EMC and
Low Volt.
Directive

Features (General)

- Power Factor Correction
- SEMI F47 Sag Immunity Standard
- 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
- RoHS Compliant
- Five year warranty

Features (SDN 4-24-100LP only)

- Meets the requirements of NEC Class 2 & UL 1310
- 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	
	SDN 5–24–100P	SDN 10–24–100P
Input		
Nominal Voltage	115/230 Vac auto select	
–AC Range	85-132/176-264 Vac	
–DC Range[1]	210-375 Vdc	
–Frequency	47 - 63 Hz	
Nominal Current[2]	2.2 A / 1.0 A	5 A / 2 A typ.
–Inrush current max.	typ. < 20 A	typ. < 40 A
Efficiency (Losses[3])	> 88% typ. (16.4 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[4]	< 50 mVpp	
Overvoltage Protection	> 30 Vdc, but < 33 Vdc, auto recovery	
Nominal Current	5 A (120 W)	10 A (240 W)
–Current Limit	Fold Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current)	
Holdup Time[5]	> 100 ms	
Parallel Operation	Single or Parallel use is selectable via Front Panel Switch (SDN 2.5, 4 should not be used in parallel as Class 2 rating would be violated.)	
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;	
Approvals	EN60950; 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. SDN 2.5 & SDN 4 - UL60950 testing to include approval as Class 2 power supply in accordance with UL1310.	
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.	
MTBF:	> 640,000 hours	> 600,000 hours
– Standard	Bellcore Issue 6 Method 1 Case 3 @ 40°C	
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 (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 x 65 x 116)	4.88 x 3.26 x 4.55 (124 x 83 x 116)
Weight (lbs/kg)	1.5 (.68)	2.2 (0.10)

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