

SDN-C Compact DIN Rail Series

The SDN-C DIN rail power supplies are the next generation of the popular SDN series. These models combine high efficiency and compact size with new visual diagnostic LEDs to offer the most performance available from Sola/Hevi-Duty. Essential industrial features such as Sag Immunity, Power Factor Correction, and universal voltage input have been retained in this series. Wide temperature operating range and parallel operation capability make the new SDN-C units suitable to a variety of industrial applications.

Features

- Compact packaging to save space on the DIN rail
 - 27% reduction in width along the rail compared to existing 10A model
 - 23% reduction in width along the rail compared to the existing 5A model
- New visual diagnostic LEDs for input and output status at a glance
- Higher efficiency saves energy and lowers amount of heat generated in panel
- PowerBoost™ overload capability to start high inrush loads
- Accepts Universal voltage 85-264 Vac, 50/60 Hz input
- Single phase models meet SEMI F47 Sag Immunity standard
- Power Factor Correction (meets EN61000-3-2)
- Class 1, Div 2 Hazardous Locations rating
 - ATEX approval (pending)
- Patented DIN rail mounting clip
- User Adjustable output voltage accessible via front face
- Parallel capability standard
- Industrial grade design
 - -10°C to 60°C operation without derating
 - Rugged metal case and DIN connector
- User-friendly
 - LEDs for status
 - Large, rugged, accessible screw terminals
 - Easy on/off DIN mounting
- Fully tested and burned-in at factory
- High MTBF means high reliability and long life
- RoHS compliant



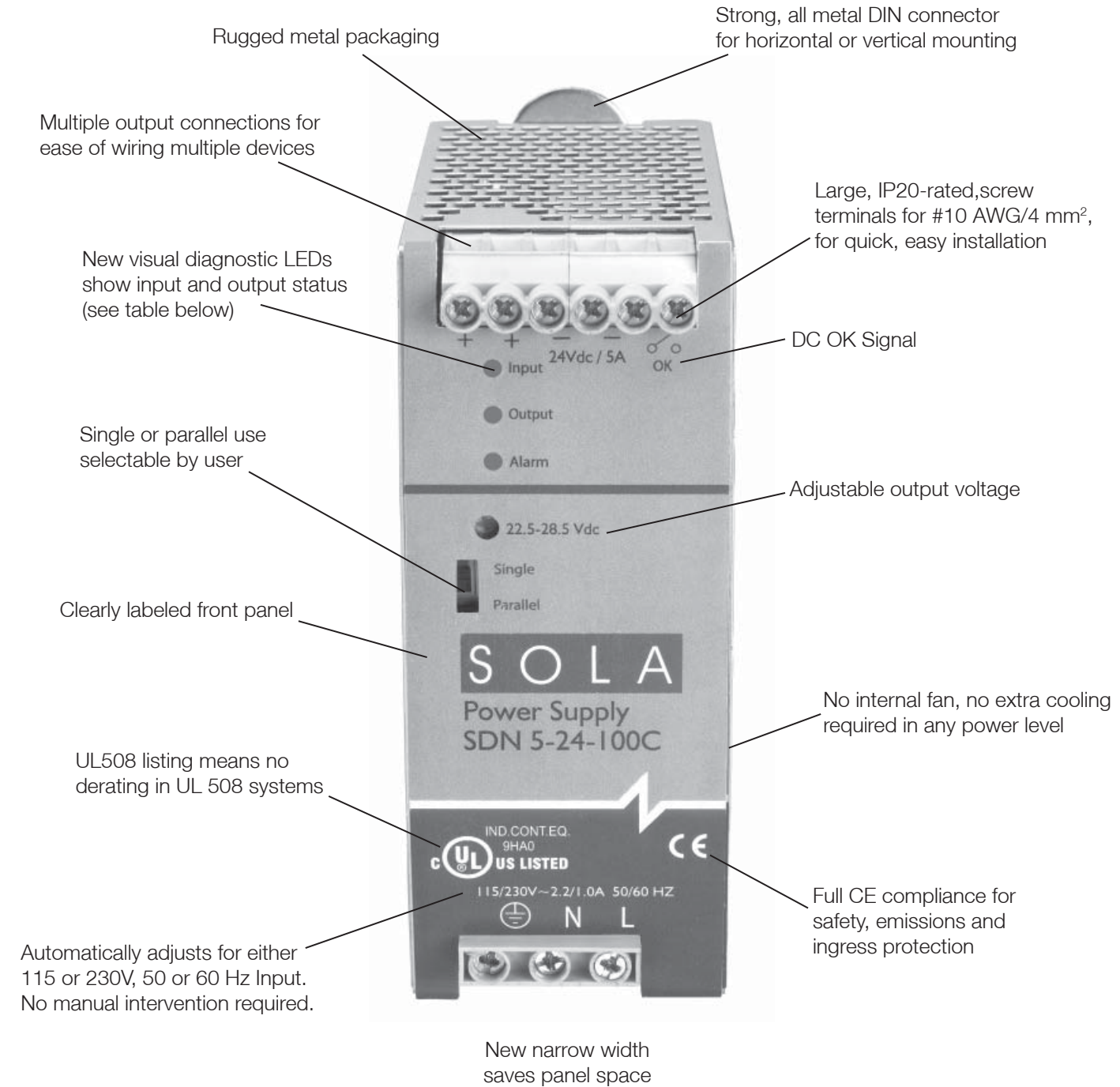
Related Products

- SDN-P series
- SDP™ series
- SFL series
- SCP series
- SDU UPS

Applications

- Industrial Machine Control
- Process Control
- Conveying Equipment
- Material Handling
- Vending Machines
- Packaging Equipment
- Amusement Park Equipment
- Semiconductor Fabrication Equipment

The Sola Difference



LED Light Status Conditions

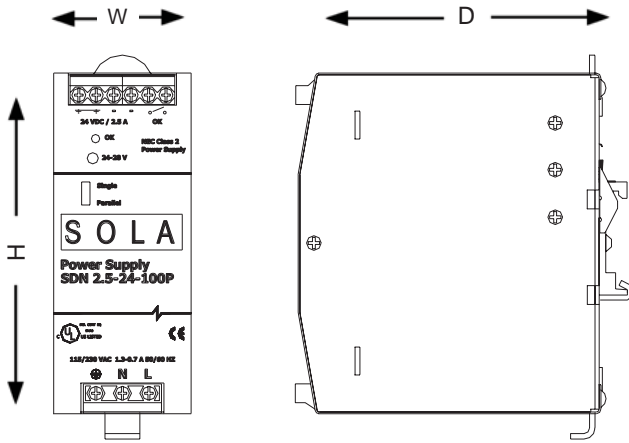
	All Is OK	AC Power Loss	Brownout	No DC	High Load	Overload	Hot	Too Hot
Input	Green	-	Yellow	Green	Green	Green	Green	Green
Output	Green	-	Green	-	Yellow	Yellow	Green	-
Alarm	-	-	-	Red	Yellow	Red	Yellow	Yellow

SDN-C Specifications

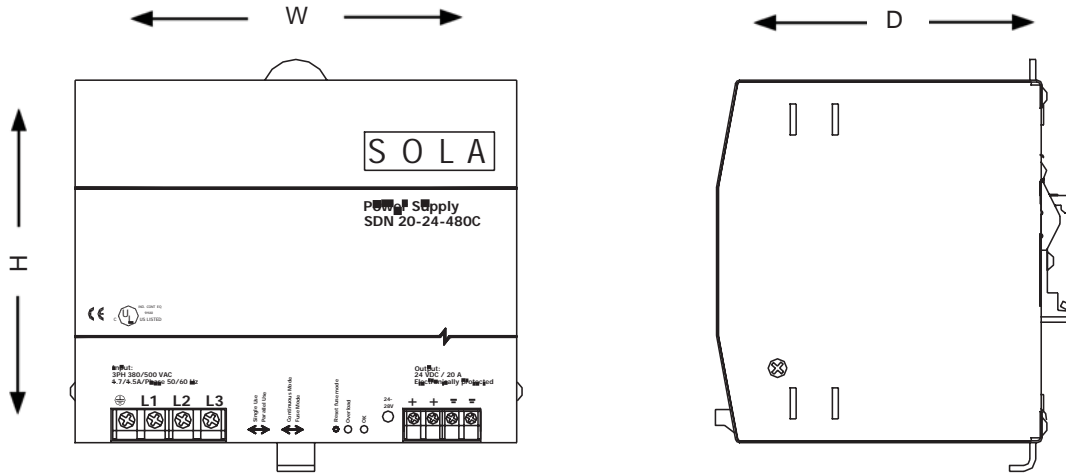
Description	Catalog Number	
	SDN 5-24-100C	SDN 10-24-100C
Input		
Nominal Voltage	115/230 Vac	
-AC Range	85 - 264 Vac	
-DC Range ¹	90 - 375 Vdc	
-Frequency	43-67 Hz, 400 Hz	
Nominal Current ²	1.65 - 0.55 A	3.2 - 1.0 A
-Inrush current max.	Typ. < 15 A	Typ. < 30 A
Efficiency (Losses ³)	> 90% typ. (12 W)	> 90% typ. (24 W)
Power Factor Correction	Active power factor correction to better than 0.92	
Output		
Nominal Voltage	24V (22.5-28.5 Vdc Adj.)	
-Tolerance	< ±2 % overall (combination Line, load, time and temperature related changes)	
Initial Voltage Setting	24.5V ± 1%	
-Ripple ⁴	< 50 mVpp	
PARD	PARD (Periodic and Random Deviation) = 100 mV peak-peak max	
Overvoltage Protection	> 30.5 but < 33 Vdc, auto recovery	
Power Back Immunity	< 35V	
Nominal Current	5 A (120 W)	10 A (240 W)
-Peak Current ⁵	1.5 x Nominal Current for 2 seconds minimum while holding voltage > 20 Vdc	
-Short Circuit Current	1.5 x Nominal Current at near zero volts at short circuit condition	
-Current Limit	PowerBoost™	
Parallel Operation	Switch selectable single unit or parallel unit operation. Units will not be damaged by parallel operation (regardless of switch position setting).	
Holdup Time	>20 ms (Full load, 100 Vac Input @ T _{amb} = +25°C) to 95% output voltage	
Voltage Fall Time	<150 mS from 95% to 10% rated voltage @ full load (T _{amb} = +25°C)	
Line and Load Regulation	< 0.5%	
General		
EMC: -Emissions	EN61000-6-2:2001, EN61000-6-3:2001, Class B EN55011, EN55022 Radiated and Conducted including Annex. A, EN61000-3-2	
-Immunity	EN61000-6-1:2001, EN61000-6-2:2001, 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, IEC 61000-4-34 voltage dip immunity standard	
Approvals	UL508 Listed, cULus; UL 60950-1, cURus; IEC60950-1; UL60079-15 (pending) and IEC60079-15 (pending) CE (LVD 73/23 & 2004/108/EC), (EMC 89/336 & 93/68/EEC); EN61000-3-2	
Temperature	Storage : -25 to + 85°C, Operation -10 to +60°C full power, with linear derating to half power from 60 to 70°C (Convection cooling, no forced air required). Operation up to 50% load permissible with sideways or front side up mounting orientation.	
MTBF Standard ⁶	> 650,000 hrs	> 550,000 hrs
Warranty	5 Years	
General Protection/Safety	Protected against continuous short -circuit, continuous overload, continuous open circuit. Protection Class 1 (IEC536), degree of protection IP20 (IEC60529) Safe low voltage: SELV (acc. IEC60950-1)	
Status Indicators	Visual: 3 status LEDs (Input, Output, Alarm) Relay: N.O. contact rated 200ma/50 Vdc	
Installation		
Fusing -Input	Internally fused	
-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 to DIN TS35/7.5 or TS35/15 rail system.	
Connections	Input: Screw terminals, connector size range: 16-10 AWG (1.5-6 mm ²) for solid conductors. Output: Two terminals 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	15 mm in front, 25 mm above and below, 10 mm left and right.	
H x W x D (inches/mm)	4.88 in. x 1.97 in. x 4.55 in. (124 mm x 50 mm x 116 mm)	4.88 in. x 2.36 in. x 4.55 in. (124 mm x 60 mm x 116 mm)
Weight (lbs/g)	1.5 lbs (620g)	2.2 lbs (1100g)

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. Peak current is calculated at 24 Volt levels.
6. MTBF 115 Vac (@ 120 watts & 240 watts) at 25°C ambient per Telecordia Issue 1.

SDN™ Series Dimensions



Catalog Number	Dimensions – inches (mm)		
	H	W	D
SDN 2.5–24–100P	4.88 (124)	1.97 (50)	4.55 (116)
SDN 4–24–100LP	4.88 (124)	2.56 (65)	4.55 (116)
SDN 5–24–100P	4.88 (124)	2.56 (65)	4.55 (116)
SDN 5–24–100C	4.88 (124)	1.97 (50)	4.55 (116)
SDN 5–24–480	4.88 (124)	2.91 (73)	4.55 (116)
SDN 10–24–100P	4.88 (124)	3.26 (83)	4.55 (116)
SDN 10–24–100C	4.88 (124)	2.36 (60)	4.55 (116)
SDN 20–24–100P	4.88 (124)	6.88 (175)	4.55 (116)



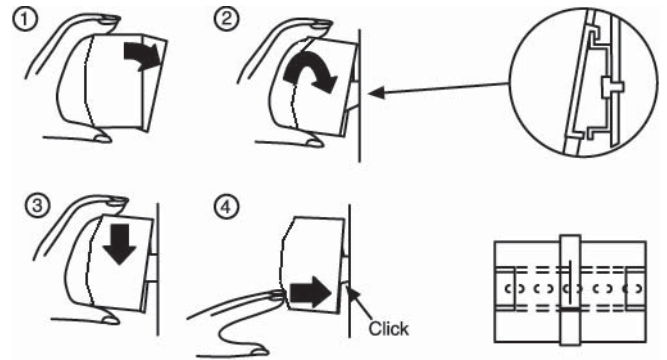
Catalog Number	Dimensions – inches (mm)		
	H	W	D
SDN 10–24–480	4.88 (124)	5.90 (150)	4.55 (116)
SDN 20–24–480C	4.88 (124)	2.56 (65)	4.55 (116)
SDN 30–24–480	4.88 (124)	9.72 (247)	4.55 (116)
SDN 40–24–480	4.88 (124)	11.10 (282)	4.55 (116)

SDN™ Series Mounting

Chassis Mounting

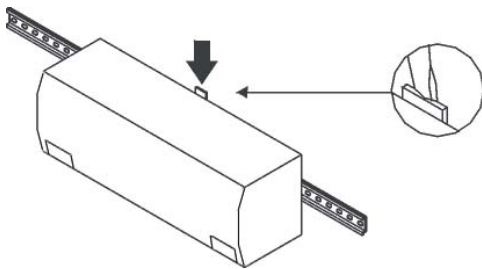
Snap on the DIN Rail:

1. Tilt unit slightly backwards
2. Put it onto the DIN Rail
3. Push downwards until stopped
4. Push at the lower front edge to lock
5. Shake the unit slightly to ensure that the retainer has locked



Alternative Panel Mount: Using the optional SDN-PMBRK2 accessory, the unit can be screw mounted to a panel.

Detachment from DIN Rail:



Chassis Mounting

Instead of snapping a Sola SDN™ unit on the DIN Rail, you can also attach it using the screw mounting set SDN-PMBRK2.

This set consists of two metal brackets, which replace the existing two aluminum profiles.

Dimensions

