

“PERFORMANCE COUNTS.”

SOLA HD





# SDN-P™ PERFORMANCE DIN RAIL SERIES

Award winning and industry leading performance power supply.

## FEATURES

- Rugged metal case and DIN connector
- High MTBF and reliability
- Highly efficient >90% switching technology
- Narrow width on rail for space critical applications
- User-friendly front panel
  - Large, rugged, accessible, multiple connection screw terminations
  - Easy installation
- Power Factor Correction (per EN61000-3-2)
- Auto Select 115/230 Vac, 50/60 Hz Input
- Single Phase models meet SEMI F47 Sag Immunity
- Class 1, Zone 2 Hazardous Locations
  - ATEX approval on 2.5 through 10A, 24 Vdc single phase models.
  - ATEX approval pending on 12 Vdc and 48 Vdc single phase models.
- Improved metal mounting clip
- DC OK Signal
- Adjustable Voltage
- Parallel Capability standard on all units
- Industrial grade design
  - -10°C to 60°C operation without derating. Indefinite short circuit, overvoltage and overtemperature protection.
  - Powers high inrush loads without shutdown or foldback.

- SDN2.5-24-100P and SDN4-24-100LP meet NEC Class 2
- Broad range of product to fit almost any application
  - 2.5 A through 40 A, 24 Vdc
- Single and three phase inputs available
- 12 Vdc and 48 Vdc single phase models available
- RoHS compliant

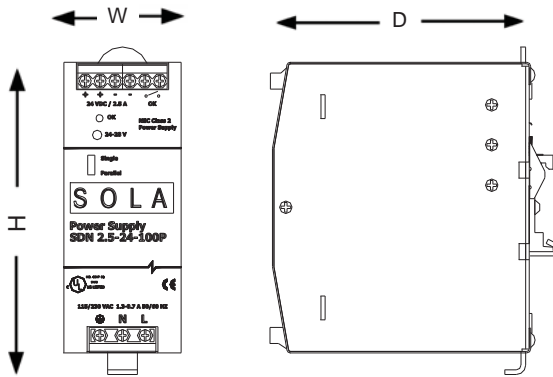
## VERSATILE APPLICATIONS

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

## EASE OF INSTALLATION

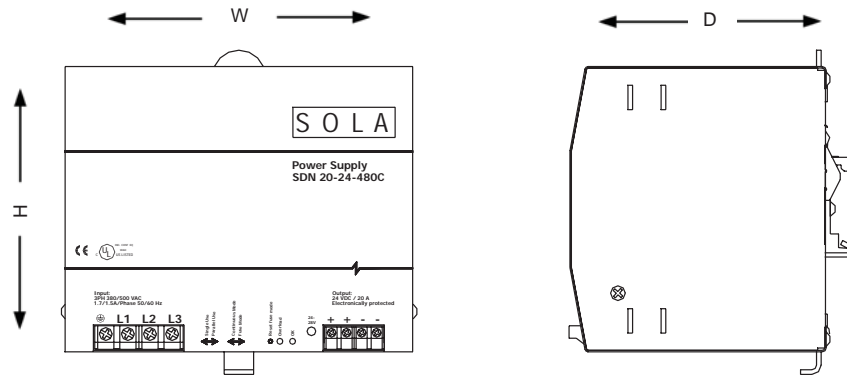
- Large screw terminals (16-10 AWG)
- User-friendly front panel
- LED for visual status
- Multiple connections
- Easy access to terminations
- No tool mounting DIN Rail

## SDN™ Series Dimensions



Catalog Number	Dimensions - inches (mm)		
	H	W	D
SDN 9-12-100P	4.88 (124)	2.56 (65)	4.55 (116)
SDN 16-12-100P	4.88 (124)	3.26 (83)	4.55 (116)
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 5-24-480	4.88 (124)	2.91 (73)	4.55 (116)
SDN 10-24-100P	4.88 (124)	3.26 (83)	4.55 (116)
SDN 20-24-100P	4.88 (124)	6.88 (175)	4.55 (116)
SDN 5-48-100P	4.88 (124)	3.26 (83)	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 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)



## General Specifications

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. SDN2.5 NEC Class 2 power supply acc. to NFPA 70 art. 725-41 (a)(2).
Temperature	Storage: -25°C...+85°C Operation. -10°C-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°C, 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)

  
 UL 508 Listed  
 IND. CONT. EQ.  
 E61379

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

  
 EMC and  
 Low Volt.  
 Directive

For a full listing of SolaHD's DIN Rail Power Supply and Power Quality products, visit our website at [www.SolaHD.com](http://www.SolaHD.com) or consult our full line catalog.

Clearwater Tech - Phone: 800.894.0412 - Fax: 208.368.0415 - Web: [www.clrwr.com](http://www.clrwr.com) - Email: [info@clrwr.com](mailto:info@clrwr.com)

## Single Phase Specifications

Description	Catalog Number							
	SDN 2.5-24-100P	SDN 4-24-100LP	SDN 5-24-100P	SDN 5-48-100P	SDN 9-12-100P	SDN 10-24-100P	SDN 16-12-100P	SDN 20-24-100P
<b>Input</b>								
Nominal Voltage	115/230 Vac auto select							
Nominal Current	1.3 A / 0.7 A	1.8 A / 0.9 A	2.2 A / 1.0 A	4 A / 2.3 A	2.0 A / 1.5 A	5 A / 2 A typ.	3.3 A / 1.7 A	9 A / 3.9 A
-Inrush current max.	typ. < 25 A	typ. < 20 A		typ. < 40 A	typ. < 20 A	typ. < 40 A		
Efficiency (Losses)	> 87.5% typ (8.6 W)	> 88% typ (13.1 W)	> 88% typ (16.4 W)	> 88% typ. (28.8 W)	> 84% typ. (17.28 W)	> 88% typ (32.7 W)	> 84% typ (30.72W)	> 90% typ (48 W)
Power Factor Correction	Units Fulfill EN61000-3-2							
<b>Output</b>								
Nominal Voltage	24 Vdc (22.5 - 28.5 Vdc adj.)	24 Vdc (22.5 - 25.5 Vdc adj.)	24 Vdc (22.5 - 28.5 Vdc adj.)	48 V (35.8-52 Vdc adj.)	12 V (11.8-15.2 Vdc adj.)	24 Vdc (22.5 - 28.5 Vdc adj.)	12 V (11.6-14.0 Vdc adj.)	24 Vdc (22.5 - 28.5 Vdc adj.)
-Tolerance	< ±2% overall (combination Line, load, time and temperature related changes)							
-Ripple	< 50 mVpp							
Nominal Current	2.5 A (60 W)	3.8 A (92 W)	5 A (120 W)	5 A (240 W)	9 A (108 W)	10 A (240 W)	16 A (192 W)	20 A (480 W)
-Current Limit	Fold Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current)							
Holdup Time	> 50 ms	> 100 ms	> 100 ms	>20 ms (Full load, 100 Vac Input @ T <sub>amb</sub> = +25°C) to 95% Voltage	> 10 ms	>20 ms (Full load, 100 Vac Input @ T <sub>amb</sub> = +25°C) to 95% Voltage		> 10 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).							
Free Space	25 mm above and below, 25 mm left and right, 10 mm in front		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			
Weight (lbs/kg)	1 lb (.45 kg)	1.5 lbs (.68 kg)		3.3 lbs. (1.48kg)	2.4 lbs. (1.05 kg)	2.2 lbs. (1.01kg)	3.3 lbs (1.48 kg)	3 lbs (1.36kg)
MTBF	>820,000 hours	>6400,000 hours		>500,000 hours		>600,000 hours	>500,000 hours	>510,000 hours

## Three Phase Specifications

Description	Catalog Number				
	SDN 5-24-480	SDN 10-24-480	SDN 20-24-480C	SDN 30-24-480	SDN 40-24-480
<b>Input</b>					
Nominal Voltage	1Ø or 3Ø 380-480 Vac		1Ø or 3Ø 380 - 480 Vac	3Ø 380 - 480 Vac	
Nominal Current	0.5 A	0.8 A	1.5 A	2.0 A	3.0 A
-Inrush current max.	typ. < 18 A			typ. < 30 A	
Efficiency (Losses)	> 90% typ (12 W)	> 90% typ (48 W)		> 90% typ (72 W)	> 90% typ (96 W)
Power Factor Correction	Units Fulfill EN61000-3-2				
<b>Output</b>					
Nominal Voltage	24 Vdc (22.5 - 28.5 Vdc adj.)				
-Tolerance	< ±2% overall (combination Line, load, time and temperature related changes)				
-Ripple	< 50 mVpp				
Nominal Current	5 A (120 W)	10 A (240 W)	20 A (480 W)	30 A (720 W)	40 A (960 W)
-Current Limit	Fold Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current).				
Holdup Time	> 40 ms		> 28 ms	> 20 ms	
Parallel Operation	5A through 30A units may be passively paralleled by selecting the "P" position of the switch on the unit. The SDN40 contains active current balancing.				
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		
Weight (lbs/kgs)	1.7 lbs (.77 kg)	2.16 lbs (.98 kg)	3.97 lbs (1.8 kg)	4 lbs (1.81 kg)	6.6 lbs (2.99 kg)
MTBF	>1,110,000 hours	>940,000 hours	>550,000 hours	>620,000 hours	>490,000 hours



## **WHEN PERFORMANCE COUNTS, COUNT ON SOLAHD FOR INDUSTRY LEADING POWER SUPPLIES.**

SDN™ DIN Rail power supplies provide industry leading performance. Sag immunity, transient suppression and noise tolerance ensure compatibility in demanding applications. Power factor correction to meet European directives, hazardous location approvals and optional redundant accessories allow the SDN series to be utilized in a wide variety of applications. Wide operation temperature range, high tolerance to shock and vibration along with a reliable design make the SDN series the definition of DC power quality.



**EMERSON**  
Industrial Automation

SolaHD is our line of premium power conversion and power quality brands. Our proven technologies power and protect throughout your facility for improved operational efficiency and productivity.

Emerson Industrial Automation brings integrated manufacturing solutions to diverse industries worldwide. Our comprehensive product line, extensive experience, world-class engineering and global presence enable us to implement solutions that give our customers the competitive edge.

For over 150 years, our electrical product brands have been providing a rich tradition of long-term, practical, high quality solutions with applications ranging from the construction and safe operation of petrochemical and process plants to providing quality power that precisely controls automotive robotic production.

Engineers, distributors, contractors, electricians and site maintenance professionals around the world trust Emerson Industrial Automation brands to make electrical installations safer, more productive and more reliable.

EGS is organized into three focused businesses that provide distributors and end-users expert knowledge and excellent service.

#### Electrical Construction Materials

This group manufactures a broad range of electrical products including conduit and cable fittings, plugs and receptacles, enclosures and controls, conduit bodies, and industrial lighting. Whether the application is hazardous location, industrial, or commercial, the ECM group has the products to meet your needs.

#### Power Quality Solutions

This group offers the broadest power quality line including UPS, power conditioners, voltage regulators, shielded transformers, surge suppression devices and power supplies.

#### Heating Cable Systems

This group offers a broad range of electrical heating cable products for residential, commercial, and industrial applications.

#### Electrical Construction Materials

 **Appleton**<sup>®</sup>

**OZGEDNEY**

**A.T.X.**<sup>®</sup>

#### Power Quality Solutions

**SOLAHD**

#### Heating Cable Systems

**EASYHEAT**<sup>®</sup>

**NELSON**