

SDN-P Specifications (Single Phase), 12 Vdc and 48 Vdc Output



Description	Catalog Number		
	SDN 9-12-100P	SDN 5-48-100P	SDN 16-12-100P
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, 400 Hz		
Nominal Current ²	2.0 A / 1.5 A	4 A / 2.3 A	3.3 A / 1.7 A
-Inrush current max.	Typ. < 20 A	typ. < 40 A	
Efficiency ² (Losses ³)	> 84% typ. (17.28 W)	> 88% typ. (28.8 W)	> 84% typ. (30.72 W)
Power Factor Correction	Units fulfill EN61000-3-2		
Output			
Nominal Voltage	12 V (11.8-15.2 Vdc Adj.)	48 V (35.8 - 52 Vdc Adj.)	12 V (11.6-14.0 Vdc Adj.)
Tolerance	< ±2 % overall (combination Line, load, time and temperature related changes)		
-Line Regulation	< 0.5%		
-Load Regulation	< 0.5%		
-Time & Temp. Drift	< 1%		
Ripple ³	< 50 mVpp		
Overvoltage Protection	< 16 Vdc with auto-recovery	< 60 Vdc with auto-recovery	< 16 Vdc with auto-recovery
Nominal Current	9 A (108 W)	5 A (240 W)	16 A (192 W)
-Current Limit ⁴	110% of nominal - Fold Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current)		
Holdup Time ⁵	>20 ms (Full load, 100 Vac Input @ T _{amb} =+25°C) to 95% output Voltage		
Parallel Operation	Supplies will not be damaged with parallel operation		
Power Back Immunity	16 Vdc	60 Vdc	16 Vdc
General			
EMC: -Emissions	EN61000-6-3, EN61204-3, EN55022 Class B, EN61000-3-2, EN61000-3-3		
-Immunity	EN61000-6-2, EN61204-3, EN55024, IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8, IEC61000-4-11		
Approvals	UL508 Listed, cULus; UL 60950-1, cURus; CE (LVD 73/23 & 93/68/EEC), (EMC 89/336 & 93/68/EEC). EN61000-3-2; ISA 12.12.01-2007 (Class I, Division 2, Groups A, B, C, D w/T3 temp class up to 40°C ambient); SEMI F47 Sag Immunity, RoHS		
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.		
Humidity	< 90% RH, non-condensing; IEC 68-2-2, 68-2-3		
MTBF:	>500,000 hrs		
- Standard	Telcordia/Bellcore, Issue Case 3 @25°C		
Warranty	5 years		
General Protection/Safety	Protected against continuous short -circuit, continuous overload, continuous open circuit. Protection Class 1 (IEC536), Degree of Protection IP20 (IEC 529) Safe low voltage: SELV (acc. EN60950)		
Status Indicators (Visual)	Green LED on when V _{out} > 75% (with ± 5% tolerance) of nominal output voltage		
Status Indicators (Relay)	Normally Open solid state relay - signal active when V _{out} >70% of nominal output voltage (rated up to 200 mA, 60 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 if 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. Unit should handle normal shock and vibration of industrial use and transportation without falling off the rail.		
Connections	Input: Screw terminals, connector size range: 16-10 AWG (1.5-6mm ²) for solid conductors. Output: Two terminals per output, connector size range: 16-10 AWG (1.5-6mm ²) for solid conductors.		
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.		
-Free Space	70 mm above and below, 25 mm left and right, 15mm 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)	2.4 (1.05)		3.3 (1.48)

- Input current ratings are specified with low input, line conditions and worst case efficiency values. Input current at nominal input settings will be typically half these values.
- Losses are heat dissipation in watts at full load, nominal line.
- Ripple/ noise is stated as typical values when measured with a 20 MHz bandwidth scope and 50 Ohm resistor.
- Unit shall not shutdown or 'hiccup' during overload or short circuit. Maximum current value shown shall be maintained indefinitely without damage to the supply. Voltage shall drop according to amount of overload to protect supply from damage.

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contact Technical Services at (800) 377-4384 with any questions.

SDN-P Specifications (Three Phase)

Description	Catalog Number				
	SDN 5–24–480	SDN 10–24–480	SDN 20–24–480C	SDN 30–24–480	SDN 40–24–480
Input					
Nominal Voltage	1Ø or 3Ø 380-480 Vac		1Ø or 3Ø 380-480 Vac ¹	3Ø 380 - 480 Vac	
–AC Range	340 - 576 Vac				
–DC Range ²	450 - 820 Vdc				
–Frequency	47 - 63 Hz				
Nominal Current ³	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 ⁴)	> 90% typ. (12 W)	> 90% typ. (48 W)		> 90% typ. (72 W)	> 90% typ. (96 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 ⁵	< 50 mVpp				
Overvoltage Protection	> 30 Vdc, but < 33 Vdc, auto recovery				
Nominal Current	5 A (120 W)	10 A (240 W)	20 A (480 W)	30 A (720 W)	40 A (960 W)
–Peak Current	6A, 2x Nominal Current < 2 sec.	12A, 2x Nominal Current < 2 sec.	25A, 2x Nominal Current < 2 sec.	35A, 2x Nominal Current < 2 sec.	45A, 2x Nominal Current < 2 sec.
–Current Limit	Fold Forward (Current rises, voltage drops to maintain constant power during overload up to max peak current)				
Holdup Time ⁶	> 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 SDN 40 contains active current balancing.				
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	CB Scheme, EN60950; UL508 Listed, cULus; UL60950, cRUus, CE (LVD 73/23 & 93/68/EEC). EN61000-3-2, UL60079-15 Class 1, Zone 2 Hazardous Location, Groups IIA, IIB, IIC w/T3.				
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.				
MTBF:	> 1,110,000 hours	> 940,000 hours	> 550,000 hours	> 620,000 hours	> 490,000 hours
– Standard	MIL STD 217F @ 30°C				
Warranty	5 years				
General Protection/ Safety	Protected against continuous short-circuit, overload, open-circuit. Protection Class 1 (IEC536), degree of protection IP20 (IEC 60529) Safe low voltage: SELV (acc. EN60950)				
Status Indicators	Green LED on when $V_{out} = 18V$ or greater.				
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 system for DIN Rail TS35/7.5 or TS35/15 or chassis-mounted (optional screw mounting set SDN-PMBRK2 required).				
Connections ⁷	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 2.91 x 4.55 (124 x 73 x 116)	4.88 x 3.5 x 4.55 (124 x 89 x 116)	4.88 x 5.9 x 4.55 (124 x 150 x 116)	4.88 x 9.72 x 4.55 (124 x 247 x 116)	4.88 x 11.1 x 4.55 (124 x 282 x 116)
Weight (lbs/kg)	1.7 (.77)	2.16 (.98)	3.97 (1.8)	4 (1.81)	6.6 (2.99)

1. For the SDN 20-24-480C, single phase input is permissible, but output is derated to 75% (15 Amps @ 24 Vdc).

2. Not UL listed for DC input.

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

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

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

6. Full load, 100 Vac Input @ $T_{amb} = +25^{\circ}C$

7. For the SDN 40-24-480, output: one (+) two (-) connectors, size range 16-5 AWG (1.5016 mm²) solid conductor.