SDN-C Specifications (Single Phase)

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	
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])	> 88% typ. (14 W)	> 90% typ. (24 W)
Power Factor Correction	Active power factor correction to better than 0.92	
Output		
Nominal Voltage [4]	24 V (23.5~28.5 Vdc Adj.)	
–Tolerance	< ±2 % overall (combination Line, load, time and temperature related changes)	
Initial Voltage Setting	24.5 V ± 1%	
–Ripple [5]	< 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	< 35 V	
Nominal Current	5 A (120 W)	10 A (240 W)
–Peak Current [6]	1.5 × Nominal Current for 4 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	
Temperature [7]	Storage: -40°C to + 85°C, Operation -25°C 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 [8]	> 550,000 hrs	
Warranty	5 Year Limited Warranty	
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. Screw torque: 4.4 lb-inch (~ 50 N-cm). Output: Two terminals per output, connector size range: 16-10 AWG (1.5-6 mm^2) for solid conductors. Screw torque: 7 lb-inch (~ 80 N-cm).	
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.	
–Free Space	25 mm above and below, 10 mm left and right, 15 mm in front	
H x W x D inches in (mm)	4.85 × 1.97 × 4.36 (123.0 × 50.0 × 110.0)	4.85 × 2.36 × 4.36 (123.0 × 60.0 × 110.0)
Weight lbs (kg)	1.1 (0.50)	1.7 (0.80)

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. 24-28 Vdc adjustable guaranteed at full load.
5. Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.
6. Peak current is calculated at 24 Volt levels.
7. Contact tech support for operation at -25°C.
8. Demonstrated through extended life test.

SDN-C Specifications (Single Phase)

Description	Catalog Number	
	SDN 20–24–100C	SDN 40–24–100C
Input		
Nominal Voltage	115 - 230 Vac	
–AC Range	85 - 264 Vac	
–DC Range [1]	90 - 375 Vdc	
–Frequency	43 - 67 Hz	
Nominal Current [2]	6 - 3 A	12 - 4 A
–Inrush current max.	< 40 A	Typ. <60 A
Efficiency (Losses [3])	> 92% (38 W)	> 93 % (67 W)
Power Factor Correction	Active power factor correction to better than 0.92	
Output		
Nominal Voltage [4]	24 V (23.5~28.5 Vdc Adj.)	
–Tolerance	< ±2 % overall (combination Line, load, time and temperature related changes)	
Initial Voltage Setting	24.5 V ± 1%	
–Ripple [5]	<100 mVpp	< 100 mVpp
PARD	PARD (Periodic and Random Deviation) = 100 mV peak-peak max	
Overvoltage Protection	> 30.5 but < 33 Vdc, auto recovery	
Power Back Immunity	< 35 V	
Nominal Current	20 A (480 W)	40 A (960 W)
–Peak Current [6]	1.5 × Nominal Current for 4 seconds minimum while holding voltage > 20 Vdc	
–Short Circuit Current	1.5 x Nominal Current at near zero volts at short circuit condition	1.8 x Nominal Current at or near zero volts at short circuit condition
–Current Limit	PowerBoost™	
Parallel Operation [7]	Switch selectable single unit or parallel unit operation. Units will not be damaged by parallel operation (regardless of switch position setting).	Active Paralleling
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	EN61000-6-3, EN61000-6-4, Class B EN55011, EN55022 Radiated and Conducted including Annex A, EN61000-3-2, EN61000-3-3
–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	EN61000-6-1, EN61000-6-2, EN61000-4-2 Level 4, EN61000-4-3 Level 3, EN61000-4-4 Level 4 input and Level 3 output, EN61000-4-5 Installation Class 4, EN61000-4-6 Level 3, EN61000-4-8, EN61000-4-11, SEMI F47 Sag Immunity, Transient protection according to VDE 0160/W2 over entire load range.
Temperature [8]	Storage: -40°C to + 85°C, Operation -25°C 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 [9]	> 450,000 hrs	> 500,000 hours demonstrated
Warranty	5 Year Limited Warranty	
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 [10]	Input: Screw terminals, connector size range: 16-10 AWG (1.5-6 mm^2) for solid conductors. Screw Torque: 4.4 lb-in (~ 50 N-cm). Output: Two terminals per output, connector size range: 16-10 AWG (1.5-6 mm^2) for solid conductors. Screw Torque: 7 lb-inch (~ 80 N-cm)	Input: Screw terminals, connector size range: 16-10 AWG (1.5-6 mm^2) for solid conductors. Screw Torque: 4.4 lb-inch (~ 50 N-cm). Output: Two terminals per output, connector size range: 10-6 AWG (6-14 mm^2) for solid conductors. Screw Torque: 15.6 lb-inch (~ 176 N-cm)
Case	Fully enclosed metal housing with fine ventilation grid to keep out small parts.	
–Free Space	25 - 40 mm above and below, 10 mm left and right, 15 mm in front	
H x W x D inches in (mm)	4.85 x 3.42 x 4.98 (123.0 x 87.0 x 127.0)	4.85 x 7.09 x 4.81 (123.0 x 180.0 x 122.0)
Weight lbs (kg)	2.6 (1.20)	6.0 (2.75)

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. 24-28 Vdc adjustable guaranteed at full load.
5. Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.
6. Peak current is calculated at 24 Volt levels.
7. All models except the 40amp unit are capable of parallel operation by use of a jumper pin, accessible by the end user. 40 amp unit will have active current sharing signal.
8. Contact tech support for operation at -25°C.
9. Demonstrated through extended life test.
10. SDN 40-24-100C only = Output signaling terminal block features (Shut down, Power Good, Current Monitor, Current Balance, signal GND).