

SDN™ Specifications (Single Phase)

| Description | Catalog Number | | | | |
|-----------------------------------|--|--|---|--|--|
| | SDN 2.5-24-100P | SDN 4-24-100LP | SDN 5-24-100P | SDN 10-24-100P | SDN 20-24-100P |
| Input | | | | | |
| Nominal Voltage | 115/230 VAC auto select | | | | |
| - AC Range | 85-132/176-264 VAC | | | | |
| - DC Range | 90-375 VDC | 210-375 VDC | | | N/A |
| - Frequency | 47 - 63 Hz | | | | |
| Nominal Current ¹ | 1.3 A / 0.7 A | 1.8 A / 0.9 A | 2.2 A / 1.0 A | 5 A / 2 A typ. | 9 A / 3.9 A |
| - Inrush current max. | typ. < 25 A | typ. < 20 A | | typ. < 40 A | |
| Efficiency (Losses ²) | > 87.5% typ (8.6 W) | > 88% typ (13.1 W) | > 88% typ (16.4 W) | > 88% typ (32.7 W) | > 90% typ (48 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 ³ | < 50 mVpp | | | | |
| Nominal Current | 2.5 A (60 W) | 3.8 A (92 W) | 5 A (120 W) | 10 A (240 W) | 20 A (480 W) |
| - Peak Current ⁴ | 2x Nominal Current < 2 sec. | 4.2 A max | 6 A 2x Nominal Current < 2 sec. | 12 A 2x Nominal Current < 2 sec. | 25 A 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 ⁵ | > 50 ms | > 110 ms | > 100 ms | | > 20 ms |
| Parallel Operation | Single or Parallel use is selectable via Front Panel. | | | | |
| 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 & SDN4 - UL60950 testing to include approval as 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. Overvoltage protection (OVP) for output set > 30.5 but < 33 VDC, Auto Recovery. 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. Contact rated 300 mA @ 60 VDC) | | | | |
| Installation | | | | | |
| Fusing | | | | | |
| - Input | Internally fused. External 10 A slow acting fusing for the input is recommended for SDN2.5, 4, 5 and 10P models. A 16 A slow acting fuse or time-delay circuit breaker is recommended for the SDN20 model. | | | | |
| - 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 stranded 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 10 mm in front | | 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 | 4.88 in x 1.97 in x 4.55 in (124 mm x 50 mm x 116 mm) | 4.88 in x 2.56 in x 4.55 in (124 mm x 65 mm x 116 mm) | | 4.88 in x 3.26 in x 4.55 in (124 mm x 83 mm x 116 mm) | 4.88 in x 6.88 in x 4.55 in (124 mm x 175 mm x 116 mm) |
| Weight (lbs/g) | 1.6 lb (725g) | 2.4 lbs (1055g) | | 3.3 lbs (1480g) | 3 lbs (1520g) |

¹Input current ratings are conservatively specified with low input, worst case efficiency and power factor.²Losses are heat dissipation in watts at full load, nominal input line.³Ripple/noise is stated as typical values when measured with a 20 MHz, bandwidth scope and 50 Ohm resistor.⁴All peak current is calculated at 24 Volt levels.⁵Full load, 100 VAC Input @ T_{amb} = +25°C

SDN™ 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 ¹ | | | 3Ø 380 - 480 VAC | |
| -AC Range | 340 - 576 VAC | | | | |
| -DC Range | 450 - 820 VDC | | | | |
| -Frequency | 47 - 63 Hz | | | | |
| Nominal Current ² | 0.4 A | 0.8 A | 1.5 A | 2.0 A | 3.0 A |
| -Inrush current max. | typ. < 17 A | typ. < 15 A | typ. < 7 A | typ. < 30 A | |
| Efficiency (Losses ³) | > 90% typ (12 W) | > 90% typ (26.7 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 ⁴ | < 50 mVpp | | | | |
| Nominal Current | 5 A (120 W) | 10 A (240 W) | 20 A (480 W) | 30 A (720 W) | 40 A (960 W) |
| -Peak Current | 6 A 2x Nominal Current < 2 sec. | 12 A 2x Nominal Current < 2 sec. | 25 A 2x Nominal Current < 2 sec. | 35 A 2x Nominal Current < 2 sec. | 45 A 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 | > 20 ms | | | | |
| Parallel Operation | 10A, 20A, 30A parallel/single user selectable. 40A contains active current balancing via single wire connection. | | | | |
| 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 | CB Scheme, EN60950; EN50178; EN60204; UL508 Listed, cULus; UL60950, cRUus, CE (LVD 73/23 & 93/68/EEC). EN61000-3-2, IEC 60079-15 Class 1, Zone 2 hazardous location, Groups IIA, IIB, IIC w/T3 temp class up to 60°C Ambient. | | | | |
| 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. | | | | |
| Warranty | 5 years | | | | |
| General Protection/Safety | Protected against continuous short-circuit, overload, open-circuit. Overvoltage protection (OVP) for output set > 30.5 but < 33 VDC, Auto Recovery. Protection class 1 (IEC536), degree of protection IP20 (IEC 529) 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 | 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 stranded 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 in (mm) | 4.88 in x 2.91 in x 4.55 in (124 mm x 73 mm x 116 mm) | 4.88 in x 3.5 in x 4.55 in (124 mm x 89 mm x 116 mm) | 4.88 in x 5.9 in x 4.55 in (124 mm x 150 mm x 116 mm) | 4.88 in x 9.72 in x 4.55 in (124 mm x 247 mm x 116 mm) | 4.88 in x 11.1 in x 4.55 in (124 mm x 282 mm x 116 mm) |
| Weight (lbs/g) | 1.7 lbs (730g) | 2.16 lbs (980g) | 3.97 lbs (1800g) | 4 lbs (2000g) | 6.6 lbs (3300g) |

¹ For the SDN20-24-480C, single phase input is permissible but output is derated to 75% (15 Amps @ 24 VDC).

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.