

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 SolaHD. 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
- New visual diagnostic LEDs for input and output status at a glance
- High MTBF means high reliability and long life
- 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 I, Div. 2 Hazardous Locations
 - ATEX approval (pending)
 - Single and three-phase input available
- Patented DIN rail mounting clip
- User Adjustable output voltage accessible via front face
- Parallel capability standard
- Industrial grade design
 - -25°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
- RoHS compliant



UL US
UL 508 Listed
IND. CONT. EQ.
E61379

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

CE
EMC and
Low Volt.
Directive

Related Products

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

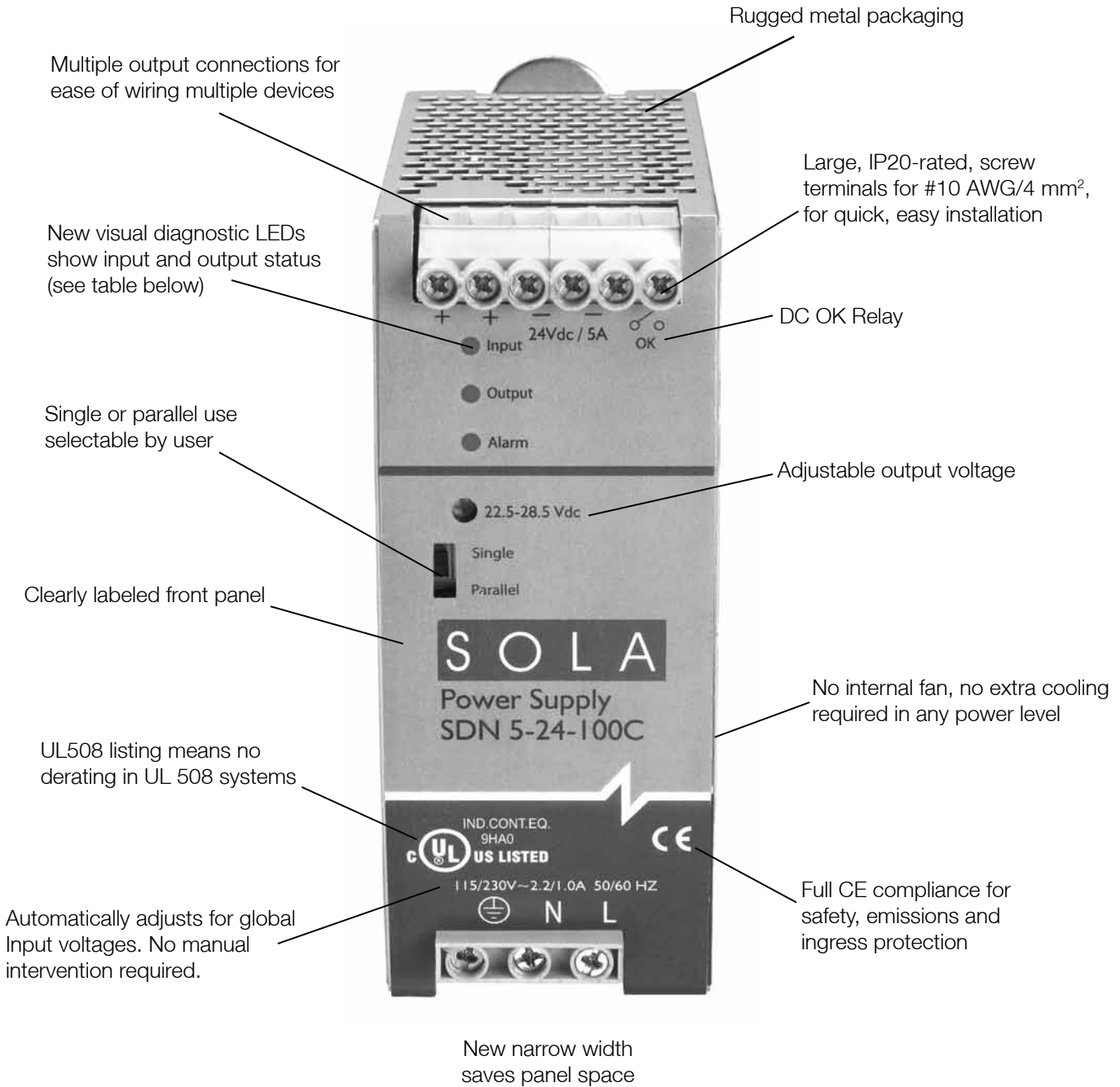
Applications

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

Accessories

- Chassis Mount Bracket (SDN-PMBRK2)

The SolaHD Difference



LED Light Status Conditions

| | Normal | AC Power Loss | AC Input Low | 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 |

Visit our website at www.solahd.com or contact Technical Services at (800) 377-4384 with any questions.

SDN-C Specifications (Single Phase)

| Description | Catalog Number | | |
|-----------------------------------|--|-------------------------------------|---------------------------------------|
| | SDN 5-24-100C | SDN 10-24-100C | SDN 20-24-100C |
| 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 | 6A / 3A |
| -Inrush current max. | Typ. < 15 A | Typ.< 30 A | < 40 A |
| Efficiency (Losses ³) | > 90% typ. (12 W) | > 90% typ. (24 W) | > 92% (38 W) |
| Power Factor Correction | Active power factor correction to better than 0.92 | | |
| Output | | | |
| Nominal Voltage | 24 V (23.5~28.5 Vdc Adj.) | | |
| -Tolerance | < ± 2 % overall (combination Line, load, time and temperature related changes) | | |
| Initial Voltage Setting | 24.5V ± 1% | | |
| -Ripple ⁴ | < 50 mVpp | | <100mVpp |
| 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) | 20 A (480W) |
| -Peak Current ⁵ | 1.5 × 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; Class I, Div. 2, Hazardous location approval; CE (LVD 73/23 & 2004/108/EC), (EMC 89/336 & 93/68/EEC); EN61000-3-2 | | |
| 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 ⁶ | > 550,000 hrs | | > 450,000 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 ~ 40 mm above and below, 10 mm left and right. | | |
| H x W x D (inches/mm) | 4.88 × 1.97 × 4.55 (124 × 50 × 116) | 4.88 × 2.36 × 4.55 (124 × 60 × 116) | 4.88 × 3.42 × 4.98 (124 × 87 × 126.6) |
| Weight (lbs/kg) | 1.65 (0.75) | 1.98 (0.9) | 2.6 (1.2) |

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. Demonstrated through extended life test.
 7. Contact tech support for operation at -25°C.

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SDN-C Specifications (Three Phase)

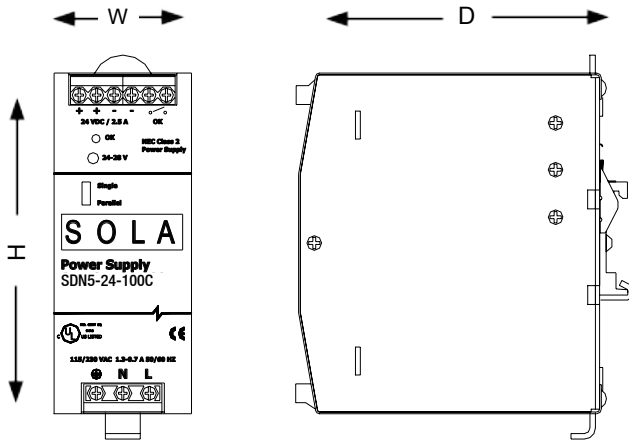
| Description | Catalog Number | |
|---------------------------------------|---|--|
| | SDN 20–24–480CC | SDN 40–24–480C |
| Input | | |
| Nominal Voltage | 380 - 480 Vac | |
| Two-phase input | Yes ¹ | |
| –AC Range Continuous ² | 320 - 540 Vac | |
| –DC Range Continuous | 450 - 760 Vdc | TBD |
| –DC Range Short Term ³ | 420 - 780 Vdc | TBD |
| –Frequency | 50 - 60 Hz | |
| Nominal Current ⁴ | 3 x 0.9 A or 2 x 1.3 A | 3 x 1.6 A |
| –Inrush Current Max. | Negligible | |
| Efficiency (Losses ⁵) | 93% (42 W) | 94% (78 W) |
| Power Factor Correction | Active Power Factor Correction | |
| Output | | |
| Turn on Time | Typ. 1s | |
| Voltage Rise Time | < 100mS full resistance load (T _{amb} =+25°C) | |
| Power Back Immunity | < 35V | |
| Overvoltage Protection | > 30.5 but < 33 Vdc, auto recovery | |
| Nominal Voltage | 24V (24-28Vdc Adjustable) | |
| Voltage Regulation | < ± 2% overall | |
| Initial Voltage Setting | 24.5V ± 1% | |
| –Ripple ⁶ | < 100mVpp | |
| PARD | PARD (Periodic and Random Deviation) = 200mV peak-peak max | |
| Nominal Current | 20 A (480 W) (constant power, not constant) | 40 A (960 W) |
| –Peak Current ⁷ | 1.5 x Nominal Current for 4 seconds minimum while holding voltage > 20 Vdc | |
| –Current Limit | PowerBoost™ | |
| Derating (T _{amb} =60–70 °C) | typ. 24W/°C | typ. 48 W/°C |
| Holdup Time | >20 ms | >15 ms |
| Voltage Fall Time | <50 mS from 95% to 10% rated voltage @ full load (T _{amb} =+25°C) | |
| Parallel Operation ⁸ | Single or parallel operation selectable via front switch. For redundant operation, use of external diode module is preferred | SDN 40 uses active paralleling |
| General | | |
| Case | Fully enclosed metal housing with fine ventilation grid to keep out small parts. | |
| Min. Required Free Space | 70mm above and below, 10mm left and right (same as manual) | 70mm above and below, 15mm in front, 25mm left & right |
| Max. Dimensions HxWxD (in/mm) | 4.85 x 2.56 x 4.68 (123.3 x 85 x 118.8) | 4.85 x 7.09 x 4.85 (123.3 x 180 x 123.17) |
| Weight (lbs/g) | 2.8 lb (1300 g) | 5.3 lb (2400 g) |
| EMC: –Emissions | 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, Semi F47 sag immunity UL508 Listed, cULus; UL60950-1, cURus; IEC60950-1; ISA 12.12.01 Class 1 Div 2, | |
| Approvals | CE (LVD 73/23 & 2004/108/EC), (EMC 89/336 & 93/68/EEC); EN61000-3-2, EN60079-15 (Class 1, Zone 2) | |
| Temperature | Storage: -40°C to + 85°C, Operation -25°C to +60°C full power, with 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. | |
| Humidity | < 90% RH, noncondensing; IEC 60068-2-2, 68-2-3 | |
| Altitude | 0 to 3000 meters (0 to 10,000 feet) | |
| Vibration | 2.5(g) RMS, 10-2000 Hz (random); three axes for 20 minutes each - IEC 60068-2-6 | |
| Shock | 3(g) peak, three axes, 11mseconds for each axis - IEC 60068-2-27 | |
| Warranty | 5 Years | |
| MTBF | > 550,000 hrs MTBF (Nominal voltage, full load, T _{ambient} = 25°C) | |
| General Protection/Safety | Protected against short -circuit, overload, open circuit. Protection class 1 (IEC536), degree of protection IP20 (IEC 529), Safe low voltage: SELV (acc. EN60950) | |
| Over-Temperature Protection | LED Alarm, Output shutdown with automatic restart | |
| Status Indicators | Visual: 3 status LEDs (Input, Output, Alarm); Relay: SSR or dry relay contact, signal active when Vout = 18.5Vdc = +/-5% | |
| Installation | | |
| Fusing: –Input | Externally fused | |
| –Output | Not fused. Output is capable of providing high currents (PowerBoost) for motor load startup. Simple snap-on to DIN TS35/7.5 or TS35/15 rail system. | |
| Mounting | Unit should handle normal shock and vibration of industrial use and transportation without falling off the rail. | |
| Connections ⁹ | Input: screw terminals, Wiring for the connector will be ground on the left (when looking at the front of the unit), connector size range: 16-10AWG (1.5-6mm ²) for solid conductors. Output: connector size range, wire gauge 6-7 AWG for SDN40; all other models: 16-10AWG (1.5-6mm ²) for solid conductors. The connector color will be gray or off-white. | |

- SDN20 will operate at 75% load and SDN40 will operate at 50% load under loss of 1 phase. Units will shut down if thermal threshold is exceeded under this condition.
- Unit passed input voltage overstress test at 600 Vac maximum without failure.
- DC operation will require the user to provide the proper input circuit protection.
- Input current ratings are specified with low input, line conditions, worst case efficiency values and power factor spikes. 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

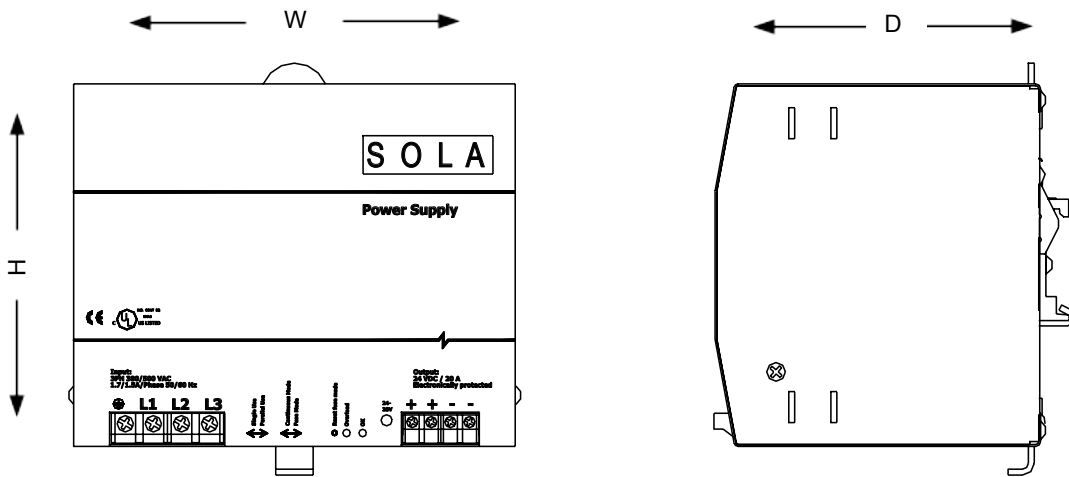
- scope and 50 Ohm resistor.
- SDN 20 and SDN 40 unit will go to HICCUP mode. SDN 5 and SDN 10 will maintain min 4 secs to deliver 150% load then drops to almost zero V out. The output voltage will immediately drop to almost zero when load rises above 150%.
- All models except the 40amp unit are capable of parallel operation by use of a jumper pin, accessible by the end user. 40amp has current sharing signal.
- SDN40-24-480 only = Output signaling terminal block features (Shut down, Power Good, Current Monitor, Current Balance, signal GND).

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

SDN-C Series Dimensions



| Catalog Number | Dimensions – inches (mm) | | |
|-----------------|--------------------------|-----------|--------------|
| | H | W | D |
| SDN 5–24–100C | 4.88 (124) | 1.97 (50) | 4.55 (116) |
| SDN 10–24–100C | 4.88 (124) | 2.36 (60) | 4.55 (116) |
| SDN 20–24–100C | 4.88 (124) | 3.42 (87) | 4.98 (126.6) |
| SDN 20–24–480CC | 4.85 (123) | 2.56 (85) | 4.68 (118.8) |



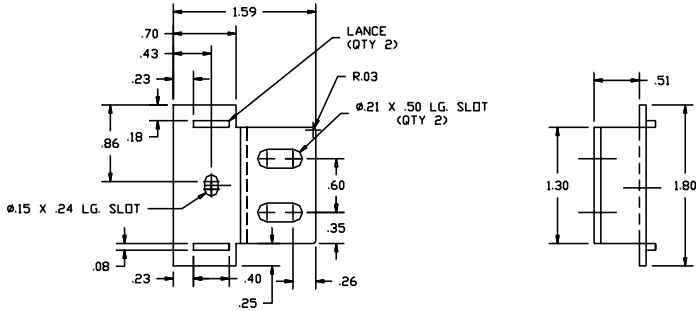
| Catalog Number | Dimensions – inches (mm) | | |
|----------------|--------------------------|------------|------------|
| | H | W | D |
| SDN 40–24–480C | 4.85 (123) | 7.09 (180) | 4.85 (123) |

SDN-C Series Mounting (cont.)

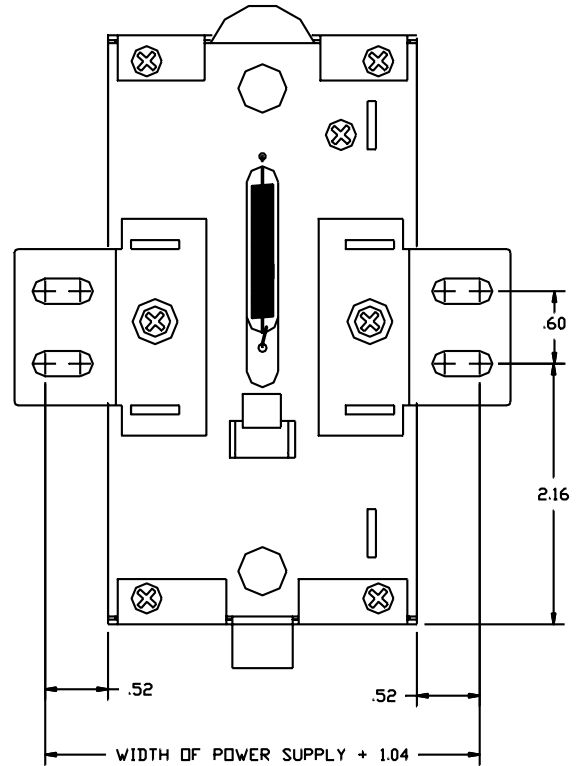
Chassis Mounting

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



SDN-C Series Mounting

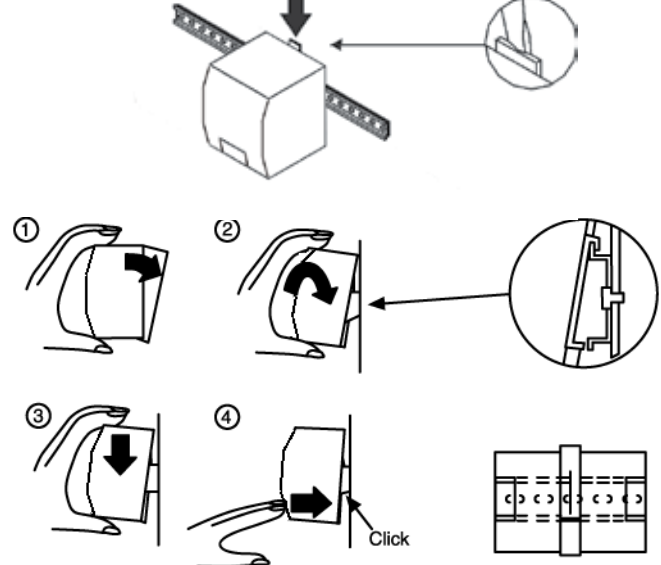
DIN Rail Mounting

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:





Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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