

SCD Series, Encapsulated, Industrial DC to DC Converter

These compact, rugged DC to DC converters are power supplies designed to power industrial control instrumentation devices and equipment where AC power is not convenient or accessible. With high reliability and wide input range, these units can operate through the most difficult factory floor conditions around the globe. “User friendly” applies to these unique power supplies that feature easy-to-install DIN Rail and chassis mounting. Terminations are also easy to access and simple to wire. Encapsulated design meets IP20 specifications for use in harsh environments.

Applications

These units regulate voltage for sensitive electronic equipment run from battery power. For example, a 24 Vdc battery system where the battery voltage can be 30 volts, sometimes higher during charging, and dip below 22 volts under heavy load. The SCD can be used to stabilize the voltage for those devices not designed to handle wider voltage swings.

They are also a convenient and inexpensive alternative to running AC power through a large industrial machine. The SCD can use 24 Vdc commonly available on many parts of the machine to create other voltages needed to run sensors, transducers and other devices that the machine requires to work properly.

- Industrial
 - Encoders, special sensors, communications and instrumentation
- Telecommunications systems
- Remote Site/Harsh Environment

Features

- DIN Rail or Chassis mount by removing DIN clips
- Rugged, encapsulated design to resist environment
- IP20 protection
- Wide 20 to 72 Vdc input range
- M3 screw clamp terminations
- Simple snap-on for DIN Rail TS35/7.5 or TS35/15
- Galvanic isolation
- Five year limited warranty



Options and Accessories

- SCP-MDC – Pair of metal DIN clips
- SCP-PDC – 1 plastic DIN clip with lever for removal from rail

Certifications and Compliances

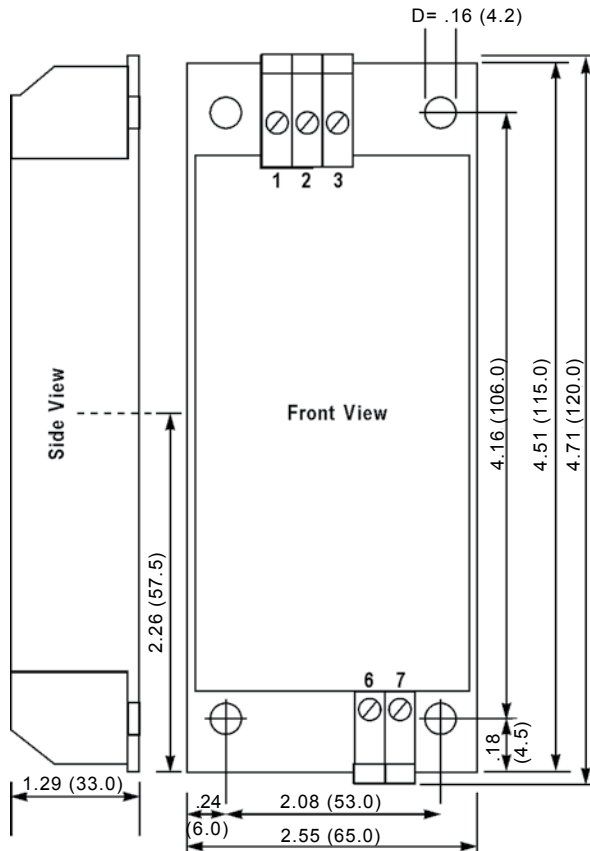
- Listed, Ind. Control Equip., E61379
 - UL 508/CSA C22.2 No. 107.1
- Recognized Component, ITE, E137632
 - UL 60950/CSA C22.2 No. 234-M90
- -IEC/EN60950-1
- IP20
- RoHS Compliant

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Selection Table

| Low Profile Catalog Number | Description | Output Voltages | | | | Min Load V1 A |
|--|---------------|-----------------|-----|-----|-----|---------------|
| | | V1 | | V2 | | |
| | | Vdc | A | Vdc | A | |
| 30 Watts; Switching DC Power Supply | | | | | | |
| SCD 30S5-DN | 5 V | 5 | 5 | - | - | 0 |
| SCD 30S12-DN | 12 V | 12 | 2.5 | - | - | 0 |
| SCD 30S15-DN | 15 V | 15 | 2 | - | - | 0 |
| SCD 30S24-DN | 24 V | 24 | 1.3 | - | - | 0 |
| SCD 30S48-DN | 48 V | 48 | 0.6 | - | - | 0 |
| SCD 30D15-DN | Dual O/P+15 V | 15 | 0.8 | -15 | 0.8 | 0.15 |

Dimensions - in (mm)



Pin-Out

| SCD 30 | 1 | 2 | 3 | 6 | 7 |
|--------|-----|-----|----|-----|-----|
| Single | +V1 | -V1 | | +IN | -IN |
| Dual | V1 | COM | V2 | +IN | -IN |

Specifications

| Parameter | Condition | Value |
|------------------------------------|---|------------------------------------|
| Input | | |
| Input Voltage | | 20 - 72 Vdc |
| Filtering EMI/RFI | | EN 55011/B, 55022/B |
| Switching Frequency | | Typ. 100 kHz |
| Output | | |
| Output Voltage Accuracy | $V_{in} = 48V, I_{out} = \text{max}, 25^{\circ}C$ | $V1 \leq \pm 1\%, V2 \leq \pm 4\%$ |
| Ripple | $V_{in} = \text{min}, I_{out} = \text{max}, 25^{\circ}C$ | $\leq 1\%, V_{out}$ |
| Noise | $V_{in} = \text{min}, I_{out} = \text{max}, 25^{\circ}C$ | $\leq 2\%, V_{out}$ |
| Line Regulation | $V_{in} = \text{min/max } 25^{\circ}C, I_{out} = \text{max}, 25^{\circ}C$ | $\leq +0.5\%, V_{out}$ |
| Load Regulation | $I_{out} = 10 \text{ to } 90 \text{ to } 10\%, 25^{\circ}C, V_{in} = 48 V, 25^{\circ}C$ | $\leq +0.5\%, V_{out}$ |
| Overcurrent Protection | | 105 to 130% I_{nom} |
| Load Regulation Timing | 10 to 90 to 10%, 25°C | <4 ms |
| Temperature Coefficient | $T_A = -25 \text{ to } +65^{\circ}C$ | 0.01%/K |
| Overload/Short Circuit | | Continuous |
| Derating Single/Dual/Triple | $T_A > 50^{\circ}C$ | 5%/K max |
| General | | |
| Holdup Time | $V_{in} = 48 V$ | >10 ms |
| Operating Temperature | | -25 to +65°C |
| Storage Temperature | $T_A = 25^{\circ}C$ | 45 to +85°C |
| Case Temperature Rise at Full Load | | 45 K max |
| MTBF at 25°C (input/output) | acc. MIL-STD-217F | 800,000 hrs |
| Transient Protection | | EN61000-4-2, 3, 4, 5 |
| Cooling | | Convection |
| Weight - lbs (kg) | | 0.8 lbs (.39 kg) |
| Case Material/Potting | | UL94-VO |
| Protection | | IP20 |

Note: No input protection against reverse voltage.