

DS3 SERIES

Current Sensing Switches

DS3 Series Current Sensing Switches combine a Hall effect sensor, signal conditioner and a limit alarm into a single package. The DS3 Series offers three jumper-selected current input ranges and frequency response from DC to 400 Hz. Available in a solid-core case with choice of relay or a universal solid-state output.



Current Sensing Switch Applications

Welders and Platers

- Instant indication of equipment status.

Large Drive Motors

- Provides enhanced field loss protection.

Power Supplies

- Signals overcurrent before equipment fails.

Machine Operation

- Instant status of motors, lamps and other loads.

Telecom Sites

- Monitors battery output.

Current Sensing Switch Features

Compact, One-piece Design

- Fits in easily amongst motor starters and power supplies in crowded control panels.

Input Isolation

- Safer than shunt/relay combinations.

Output Installation

- Isolated output greatly simplifies wiring.

Pluggable Terminals

- Speed installation.

Tough

- Designed to handle a wide range of temperatures found in industrial environments.

Adaptive Hysteresis

- Hysteresis is 5% of setpoint, allowing closer control than fixed hysteresis switches.

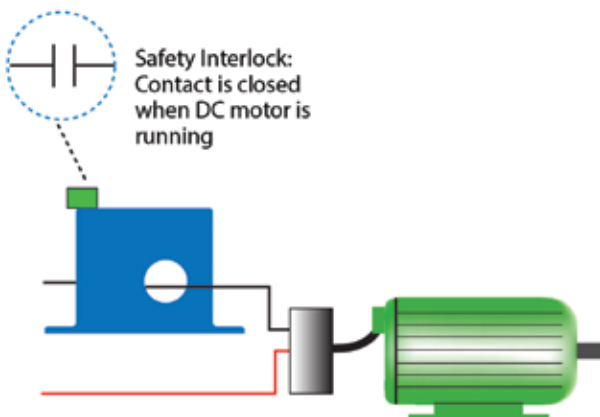
Built-in Mounting Feet

- Simple, two-screw installation allows for secure mounting.

UL/cUL and CE Approved

- Accepted worldwide.

Failure Detection



- For additional Application Examples, go to www.nktechnologies.com/applications

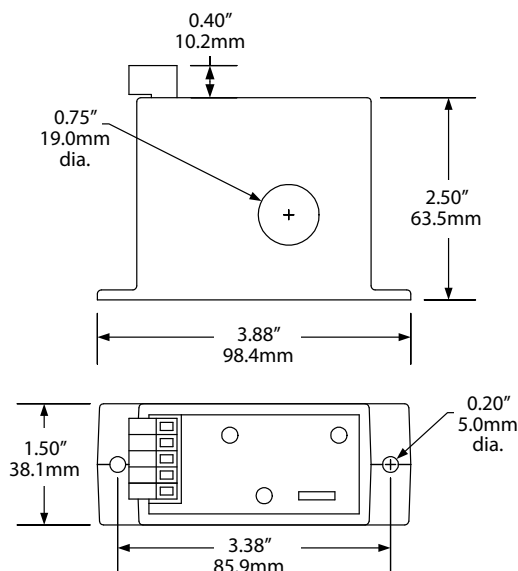
OEMs

Test & Evaluation Units for OEMs

Free program expedites evaluation process. See page 3 for details.

Current Sensing Switch Dimensions

Case



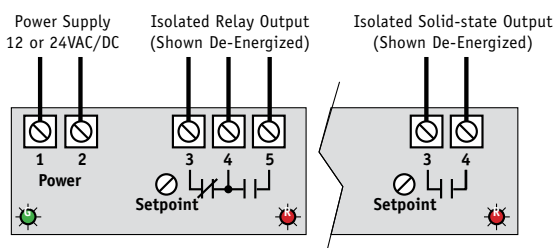
Current Sensing Switch Specifications



| | |
|---------------------------|--|
| Power Supply | 10–28 VDC |
| Power Consumption | <2 VA |
| Setpoint Range | 2–20, 10–50 and 20–100 A DC adjustable (2–14, 10–35, 20–70 A AC) |
| Output Description | Isolated solid-state or relay contacts |
| Output Rating | • Solid-state: 0.15 A @ 240 VAC or VDC (N.O. only) • Relays: 5.0 A @ 240 VAC, 5.0 A @ 30 VDC (SPDT) |
| Off-state Leakage | <10 µA (solid-state), none (relay) |
| Response Time | 80 ms max. |
| Time Delay | None |
| Hysteresis | 5% |
| Isolation Voltage | UL listed to 1270 VAC, tested to 3 kV |
| Frequency Range | DC to 400 Hz |
| Case | UL94 V-0 Flammability Rated |
| Environmental | -4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing |
| Listings | UL/cUL, CE |

Current Sensing Switches

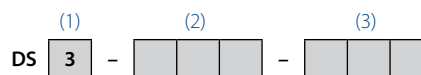
Current Sensing Switch Connections



Notes:
Pressure plate screw terminals.
12–22 AWG solid or stranded.
Field-adjustable setpoint.

Current Sensing Switch Ordering Information

Sample Model Number: DS3-SDT-24U
DS current sensing switch with SPDT relay contacts and 24 VAC/DC power supply. (DIN rail adapters are included)



| | |
|-----------------------|--|
| (1) Setpoint AC Range | |
| 3 | 2–20, 10–50 and 20–100 A, jumper-selectable (2–14, 10–35, 20–70 A AC) |
| (2) Output Type | |
| SDT | SPDT Relay (Form C) |
| NOU | Solid-state N.O. AC/DC |
| (3) Power Supply | |
| 24U | +24 VAC/DC |
| 12U | +12 VAC/DC |

DS3 Series Sample Output/Power Supply

