

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.

Tough

- Designed to handle harsh industrial environments.

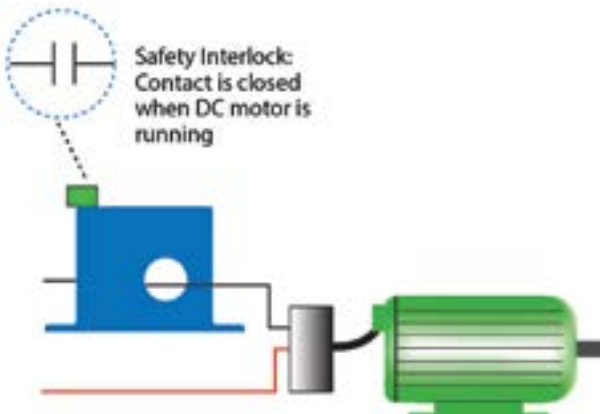
Adaptive Hysteresis

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

Built-in Mounting Feet

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

Failure Detection



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

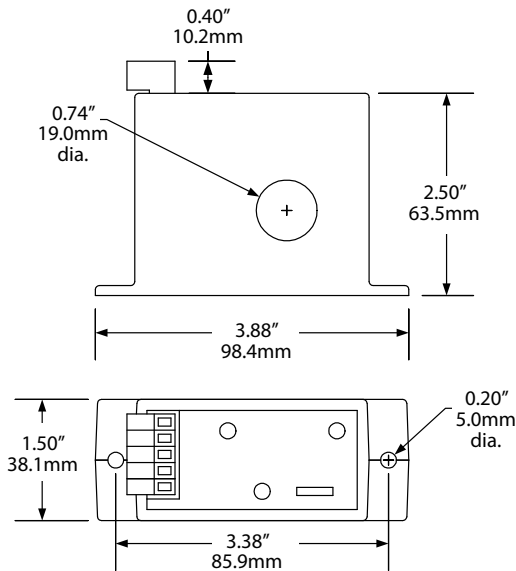
OEMs

Test & Evaluation Units for OEMs

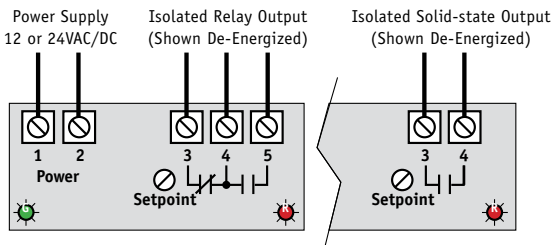
Free program expedites evaluation process. See page 1 for details.

Current Sensing Switch Dimensions

Case

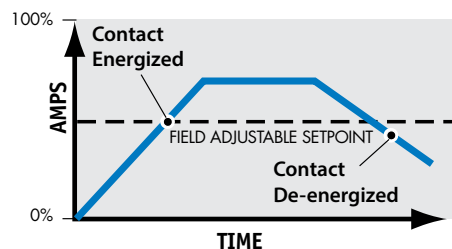


Current Sensing Switch Connections



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

DS3 Series Sample Output/Power Supply



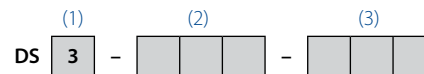
Current Sensing Switch Specifications



| | |
|--------------------------|--|
| Power Supply | • 24 VAC/DC (20–28 V) • 12 VAC/DC (11–13 V) |
| Power Consumption | <2 VA |
| Output | Isolated dry contact |
| 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 μ A |
| Response Time | • 100 ms (10% above setpoint) • 20 ms (100% above setpoint) |
| Setpoint Range | 2–20, 10–50 and 20–100 A (DC) jumper-selectable (derate by $\sqrt{2}$ for AC) |
| Hysteresis | 5% of setpoint |
| Isolation Voltage | 3 KV |
| Frequency Range | DC to 400 Hz |
| Sensing Aperture | 0.74" (19.0 mm) dia. |
| Case | UL94 V0 Flammability Rated |
| Environmental | -4 to 122°F (-20 to 50°C) 0–95% RH, non-condensing |
| Listings | UL 508 Industrial Control Equipment (USA & Canada), CE |

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.



| | |
|--------------------|---|
| (1) Setpoint Range | |
| 3 | 2–20, 10–50 and 20–100 A, jumper-selectable |
| (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 |

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