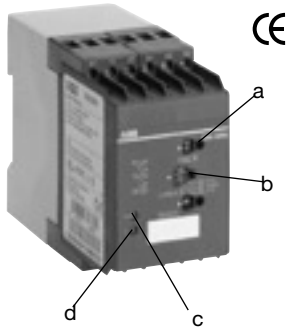


AC/DC Current Monitors, Single-Phase CM-SRN Relay Output

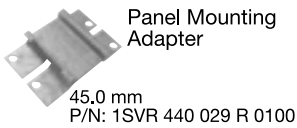


- a Hysteresis adjustment
- b Threshold value adjustment
- c R: yellow LED - relay status
- d U: green LED - supply voltage

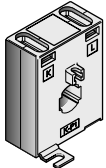
- Monitoring of AC or DC currents 6 ranges: 3 mA...15 A
- 3 measuring ranges covered by one unit
- Hysteresis adjustable from 5...30 %
- 3 supply voltage versions
- All units sense overcurrent
- 24...240 V AC/DC version has selectable undercurrent or overcurrent monitoring
- 2 DPDT Relay contacts
- 2 LEDs for status indication

Approvals: c LISTED

Accessories



Current Transformers



See accessory pages for specifications.

Description

Overcurrent monitoring is available in all units. Undercurrent monitoring is switch selectable on the 24 to 240 V AC/DC universal voltage monitors.

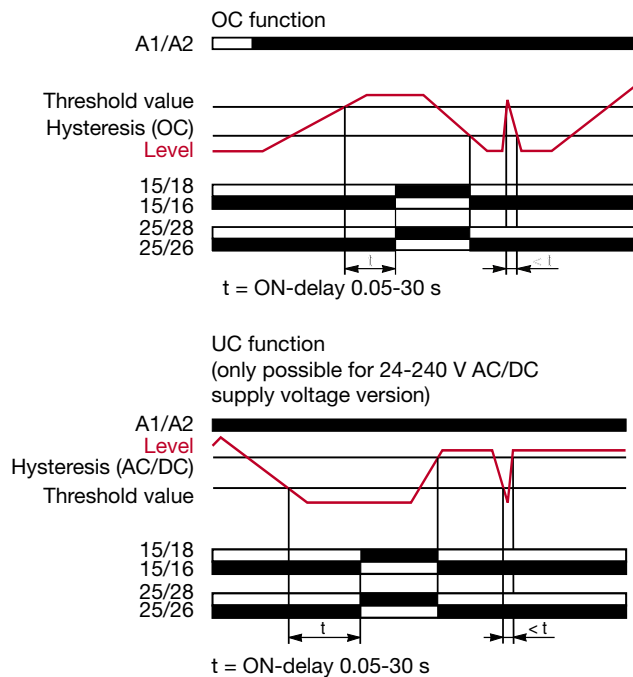
The current being monitored can be AC or DC. It is applied to terminals B1, B2, or B3 and C. The response time is 80 milliseconds. The unit functions as follows:

Overcurrent monitoring (all units) see OC function diagram: when the current increases to a level above the selected trip point, (a trip delay begins, or) the output relay energizes and the LED glows. When the current decreases to a level below the trip point plus the selected hysteresis, the output relay de-energizes.

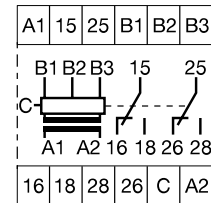
Undercurrent monitoring (only on 24 to 240 V AC/DC units) see UC function diagram: When the current decreases to a level below the selected trip point, (a trip delay begins, or) the output relay energizes. When the current increases to a level above the trip point plus the selected hysteresis, the output relay de-energizes.

The hysteresis range can be adjusted from 5 to 30% relative to the trip point. An adjustable trip delay of 0.05 to 30 seconds is available on some part numbers. The supply voltage, the output and measured current are all electrically isolated to prevent interference.

Function



Connection



- A1-A2 Supply voltage
- B1/C Measuring range: 3-30 mA or 0.3-1.5 A
- B2/C Measuring range: 10-100 mA or 1 - 5 A
- B3/C Measuring range: 0.1-1 A or 3-15 A
- 15-16/18 Output contacts - 25-26/28

Ordering Table

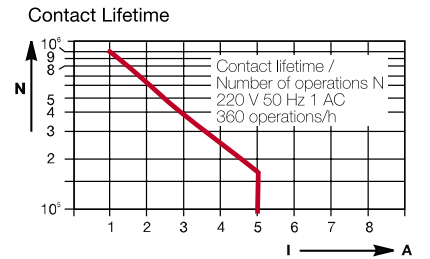
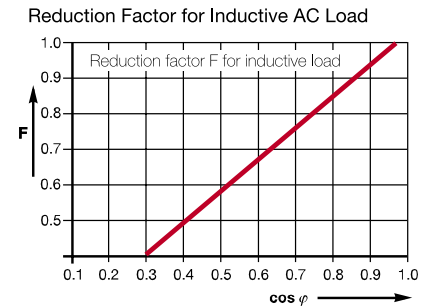
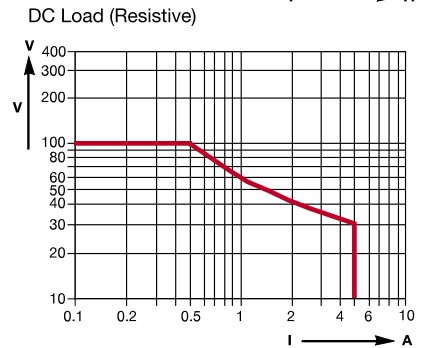
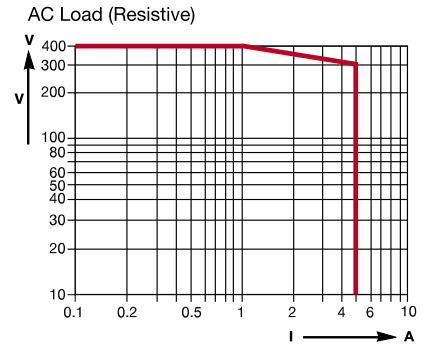
| Type | Supply voltage 50/60 Hz | Part Number | Operation |
|---|----------------------------|---------------------|----------------------|
| Measuring ranges: 3-30 mA; 10-100 mA; 0.1-1 A, no time delay | | | |
| CM-SRN | 24...240 V AC/DC | 1SVR 450 115 R 0000 | over or undercurrent |
| | 110...130 V AC | 1SVR 450 110 R 0000 | overcurrent only |
| | 220...240 V AC | 1SVR 450 111 R 0000 | overcurrent only |
| Measuring ranges: 0.3-1.5 A; 1-5 A; 3-15 A, no time delay | | | |
| CM-SRN | 24...240 V AC/DC | 1SVR 450 115 R 0100 | over or undercurrent |
| | 110...130 V AC | 1SVR 450 110 R 0100 | overcurrent only |
| | 220...240 V AC | 1SVR 450 111 R 0100 | overcurrent only |
| Measuring ranges: 3-30 mA; 10-100 mA; 0.1-1 A, with ON-delay | | | |
| | 24...240 V AC/DC | 1SVR 450 125 R 0000 | over or undercurrent |
| | 110...130 V AC | 1SVR 450 120 R 0000 | overcurrent only |
| | 220...240 V AC | 1SVR 450 121 R 0000 | overcurrent only |
| Measuring ranges: 0.3-1.5 A; 1-5 A; 3-15 A, with ON-delay | | | |
| CM-SRN | 24...240 V AC/DC | 1SVR 450 125 R 0100 | over or undercurrent |
| | 110...130 V AC | 1SVR 450 120 R 0100 | overcurrent only |
| | 220...240 V AC | 1SVR 450 121 R 0100 | overcurrent only |

AC/DC Current Monitors, Single-Phase CM-SRN Relay Output

Technical Data

| | | |
|---|----------------------|---|
| Input | | |
| Supply voltage - power consumption | A1-A2 | 24...240 V AC/DC - 2 VA/W |
| | A1-A2 | 110...130 V AC - 2 VA |
| | A1-A2 | 220...240 V AC - 2 VA |
| Tolerance of supply voltage | | -15 % ... +10 % |
| Supply voltage frequency | | 50...60 Hz |
| Time Delay | | |
| Delay on make time adjustable | | 0.05...1 s and 1.5...30 s |
| Timing error over supply voltage range | | ≤ 0.5 % |
| Timing error over temperature range | | ≤ 0.06 % / °C |
| Measuring circuit | | |
| Measuring current input | B1/C | 3...30 mA, 0.3...1.5 A |
| | B2/C | 10...100 mA, 1...5 A |
| | B3/C | 0.1...1 A, 3...15 A |
| Input Resistance | | |
| Possible permanent overload | | Pulse overload for $t < 1$ s |
| Hysteresis (ref. to the response value) adjustable | | 5...30 % |
| Response time | | 80 ms |
| Temperature error | | ≤ 0.06 % / °C |
| Error over the supply voltage range | | ≤ 0.5 % |
| Display of Operational Status | | |
| Supply voltage | | LED, green |
| Output relay energized | | LED, yellow |
| Output | | |
| | 15-16/18, 25-26/28 | Relay, 2 SPDT contacts |
| Rated voltage | VDE0100, IEC 60947-1 | 400 V |
| Rated switching voltage max. | | 400 V AC |
| Rated switching current | AC 12 (resistive) | 5 A (at 230 V) |
| | AC 15 (inductive) | 3 A (at 230 V) |
| | DC 12 (resistive) | 5 A (at 24 V) |
| | DC 13 (inductive) | 2.5 A (at 24 V) |
| Maximum mechanical life | | 30 x 10 ⁶ operations |
| Maximum electrical life (acc. to AC 12 / 230 V / 5 A) | | 3 x 10 ⁵ operations |
| Short-circuit proof, max. fuse rating | | 5 A / fast acting |
| General Data | | |
| Rated impulse withstand voltage V_{imp} | | 4 kV |
| Operating temperature | | -25°C ... +65°C |
| Storage temperature | | -40°C ... +85°C |
| Mounting to DIN rail (EN 50022) | | Snap-on mounting/Screw mounting with an adapter |
| Cable size stranded with wire end ferrule | | 2 x 14 AWG (2 x 2.5 mm ²) |
| Weight | | Approx. 0.66 lb (300 g) |

Relay Output Load Limit Curves



Mechanical View

