

SUG141

Overvoltage relays for DC systems

3.1



SUG141

Device features

- Overvoltage relays for DC voltages
- External supply voltage
- Adjustable response values: 0.4...4 V / 3...30 V
- Adjustable response delay: 0.1...10 s
- Adjustable hysteresis: 2...10 %
- Power On LED, Alarm LED
- Alarm relay with two potential-free changeover contacts
- 45 mm enclosure

Note

In case of new installations refer to VME420.

Approvals and certifications



Product description

The SUG141 series relay is designed to monitor the overvoltage in a DC system. External supply voltage is required. Response value, response delay and hysteresis are adjustable.

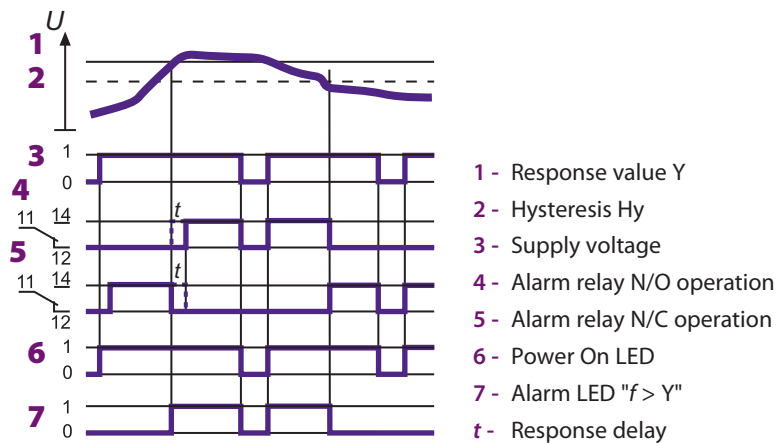
Typical applications

- Monitoring of batteries
- Monitoring of voltage levels
- Switch to set the threshold values for analogue signals 0...10 V
- Monitoring of DC supplies

Function

The voltage to be monitored has to be connected to the terminals L1+ or L2+ resp. to L-. When the voltage exceeds the set response value "Y", the alarm relay switches after the response delay has elapsed and the alarm LED "U<Y" lights up. When the measured quantity exceeds the set response value plus hysteresis "Hy", the relay switches back to its original state after approximately 70 ms. The operating principle of the alarm relay can be set to N/O or N/C operation.

Note



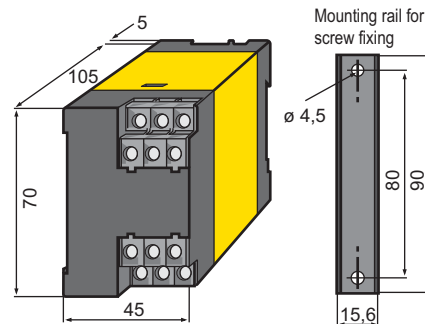
False alarms resulting from short-time operational measurement errors can be suppressed by setting a time delay. The set response delay remains effective even in case of complete supply voltage failure.

| Ordering information | | |
|----------------------|----------------------|-----------|
| Type | Supply voltage U_s | Art. No. |
| SUG141 | AC 85...275 V | B 934 643 |
| SUG141 | DC 9.6...84 V | B 934 649 |

| Accessories | |
|----------------------------------|-----------|
| Mounting rail for screw mounting | B 974 728 |

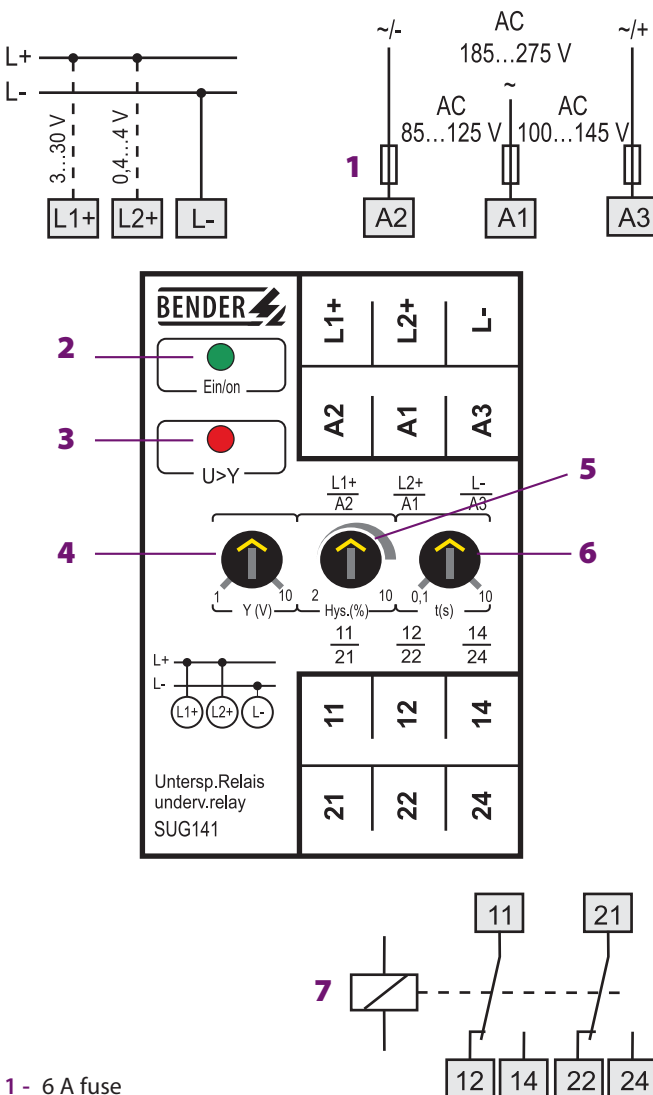
Dimension diagram X140

Dimensions in mm



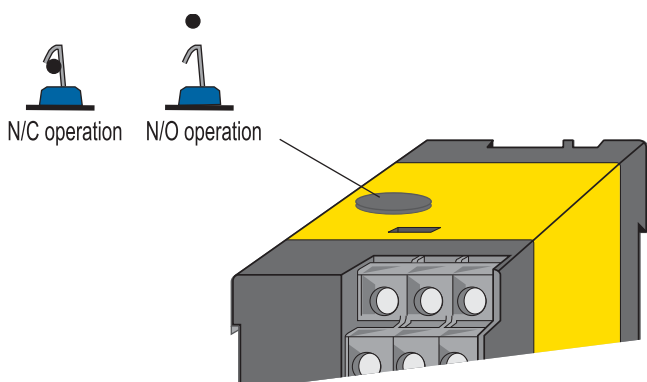


Wiring diagram



- 1 - 6 A fuse
- 2 - Power On LED "ON"
- 3 - Alarm LED "f > Y"
- 4 - Adjustable response value
- 5 - Adjustable hysteresis
- 6 - Adjustable response delay
- 7 - Alarm relay

Setting of the operating principle of the alarm relay



Technical data

Insulation coordination acc. to IEC 60664-1

| | |
|--|----------|
| Rated insulation voltage | AC 250 V |
| Rated impulse withstand voltage/pollution degree | 4 kV/3 |

Supply voltage

| | |
|----------------------|--------------------------|
| Supply voltage U_s | see ordering information |
| Power consumption | ≤ 2.5 VA |

Measuring circuit

| | |
|--|--------------------------------------|
| Rated frequency f_n | DC |
| Response values (max. permissible voltage) | 0.4...4 V (40 V) 3...30 V (300 V) |
| Response delay t | 0.1...10 s |
| Hysteresis | 2...10 % |
| Recovery time t_b | 0.2 s |
| Delay on release | approx. 70 ms |
| Repetition accuracy | ± 1.5 % |
| Temperature influence | < 0.2 % / °C |

Switching elements

| | |
|--|---|
| Number of changeover contacts | 1 x 2 |
| Operating principle | NC / N/O operation (N/O operation)* |
| Electrical endurance, number of cycles | 12000 |
| Contact class | IIB |
| Rated contact voltage | AC 250 V/DC 300 V |
| Making capacity | AC/DC 5 A |
| Breaking capacity | 2 A, AC 230 V, cos phi 0.4 0.2 A, DC 220 V, L/R = 0.04 s |

Environment/EMC

| | |
|--|--|
| EMC immunity | acc. to IEC 61000-6-2 |
| EMC emission | acc. to IEC 61000-6-4 |
| Shock resistance IEC 60068-2-27 (device in operation) | 15 g/11 ms |
| Bumping IEC 60068-2-29 (transport) | 40 g/6 ms |
| Vibration resistance IEC 60068-2-6 (device in operation) | 1 g/10...150 Hz |
| Vibration resistance IEC 60068-2-6 (device not in operation) | 2 g / 10...150 Hz |
| Ambient temperature, during operation | -15...+50 °C |
| Ambient temperature, during storage | -20...+70 °C |
| Climatic class acc. to IEC 60721-3-3 | 3K5 (except condensation and formation of ice) |

Other

| | |
|--|--|
| Operating mode | continuous operation |
| Mounting | any position |
| Connection | flat terminals with self-lifting clamp washers |
| Connection properties | |
| single wire | 2 x (1...1.5) mm ² |
| flexible with end ferrule | 2 x (0.75...1.5) mm ² |
| Degree of protection, internal components (IEC 60529) | IP50 |
| Degree of protection, terminals/with terminal covers (IEC 60529) | IP10/IP20 |
| Screw mounting | with mounting rail |
| DIN rail mounting acc. to | IEC 60715 |
| Flammability class | UL94V-0 |
| Product standard | IEC 60255-6 |
| Operating manual | BP305002 |
| Weight | ≤ 250 g |

() * factory setting