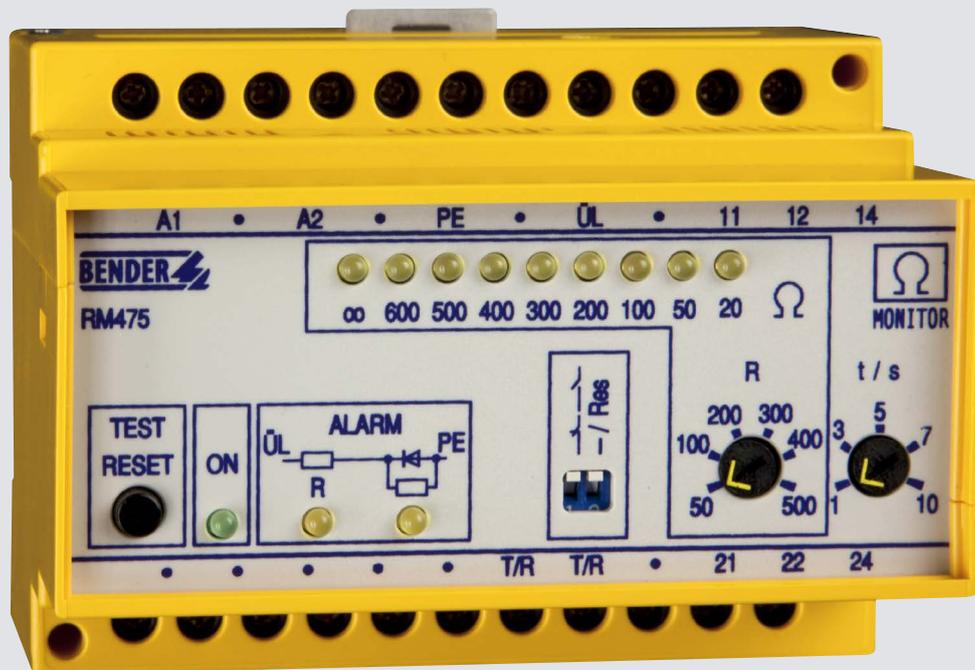


RM475/RM475LY

Loop monitor



RM475/RM475LY


RM475LY

Device features

- RM475:
permanently set response value: series resistance 200 Ω, cross resistance 1000 Ω
- RM475LY:
series resistance, adjustable 50...500 Ω, cross resistance 1000 Ω
- Adjustable response delay 1...10 s (RM475LY)
- N/O or N/C operation, selectable
- Fault memory behaviour selectable
- Internal/external test/reset button
- LEDs: Power On, alarm, extraneous voltage
- LED bar graph for series resistance
- 2 potential-free changeover contacts
- Modular DIN rail enclosure

Product description

The RM475 series relays in conjunction with a terminating device monitor a closed and voltage-free loop for interruption (series resistance) and for short-circuit (cross resistance). The RM475 version has a continuously set response value for series and cross resistance. The response delay is max. 1 s.

The response value for the series resistance of device version RM475LY can be adjusted between 50...500 Ω. The response value for the cross resistance for this version is also continuously set. The response delay can be set between 1...10 s.

Application

- Monitoring of conductors and cables by means of a monitoring conductor
- Monitoring of PE loops

Function

The conductor loop to be monitored is connected to the terminals ÜL and PE. The end of the conductor loop is bridged by the terminating device (EV22S). A measuring voltage is superimposed on the conductor loop. When the series or cross resistance exceeds the response value, the alarm relay switches and the alarm LEDs light up after the response delay t_V has elapsed. The alarm LEDs also light when the connection ÜL/PE (connection terminating resistor) is open while switching on. If extraneous voltage occurs on the measuring circuit, e.g. in the case of an open circuit, e.g. (PE interrupted) the alarm LED lights as well and the alarm relay switches.

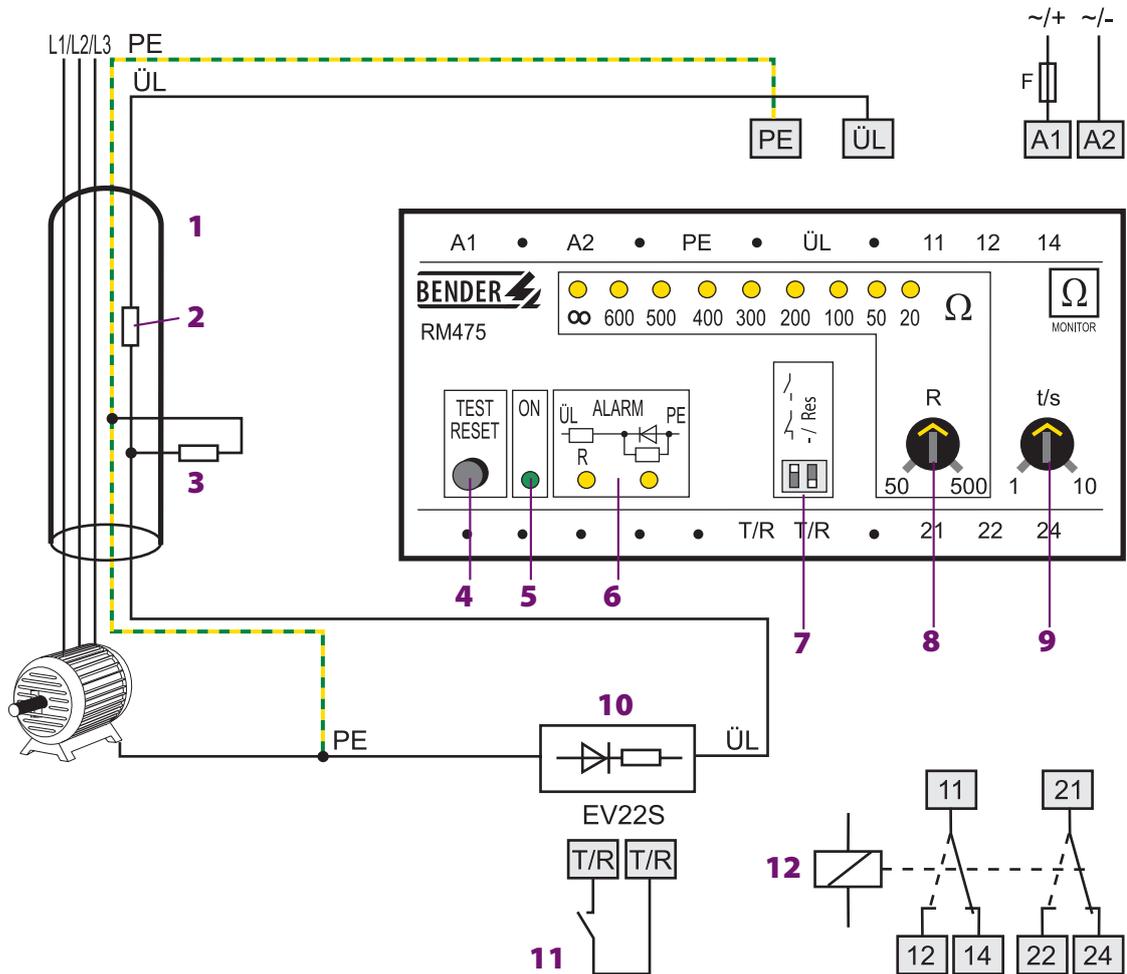
Ordering information

| Series resistance | Response delay | Supply voltage U_s | | Type | Art. No. |
|--------------------------|------------------------|------------------------|------------|------------|-------------|
| | | AC | DC | | |
| 200 Ω | < 1 s | 230 V, 50...60 Hz | – | RM475 | B 9702 2001 |
| | | 90...132 V, 50...60 Hz | – | RM475-13 | B 9702 2002 |
| | | 400 V, 50...60 Hz | – | RM475-15 | B 9702 2003 |
| | | 500 V, 50...60 Hz | – | RM475-16 | B 9702 2004 |
| | | – | 9.8...84 V | RM475-21 | B 9702 2005 |
| | | – | 77...286 V | RM475-23 | B 9702 2006 |
| adjustable 50...500 Ω | adjustable 1...10 s | 230 V, 50...60 Hz | – | RM475LY | B 9702 2007 |
| | | 90...132 V, 50...60 Hz | – | RM475LY-13 | B 9702 2008 |
| | | 400 V, 50...60 Hz | – | RM475LY-15 | B 9702 2009 |
| | | 500 V, 50...60 Hz | – | RM475LY-16 | B 9702 2010 |
| | | – | 9.8...84 V | RM475LY-21 | B 9702 2011 |
| | | – | 77...286 V | RM475LY-23 | B 9702 2012 |

Accessories

| Type designation | Type | Art. No. |
|----------------------|-------|-----------|
| Terminating resistor | EV22S | B 984 800 |

Wiring diagram



- 1 - Line
- 2 - Series resistance
- 3 - Cross resistance
- 4 - Test and reset button "TEST RESET"
- 5 - Power On LED "ON"
- 6 - Alarm LEDs, light in the case of cross resistance and series resistance faults, flash in the case of extraneous voltage
- 7 - DIP switch for setting the
 - operating principle N/C or N/O operation
 - Fault memory on/off (on)*
- 8 - Adjustable time delay "t/s" 1...10 s (RM475LY only)
- 9 - Adjustable response value "R", cross resistance 50...500 Ω (RM475LY only)
- 10 - Terminating resistor
- 11 - External test and reset button
- 12 - Alarm relay:
 - N/C operation
 - N/O operation
- F - Short-circuit protection supply voltage 6 A fuse is recommended

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 |
| Operating range U_S | 0.85...1.1 x U_S |
| Power consumption | ≤ 3 VA |

Measuring circuit

RM475

| | |
|-----------------------------------|--------|
| Response value, series resistance | 200 Ω |
| Response value, cross resistance | 1000 Ω |
| Response time t_{an} | < 1 s |

RM475LY

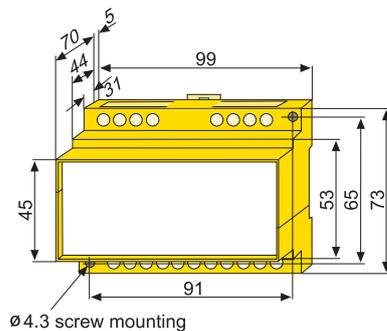
| | |
|---|---------------------|
| Response value, series resistance | 50...500 Ω (200 Ω)* |
| Response value, cross resistance | 1000 Ω |
| Response time t_V | 1...10 s |
| Max. extraneous voltage measuring circuit | ≤ AC 30 V |
| Terminating resistor conductor loop EV22S | AC 500 V 1 s |

Switching elements

| | |
|--|---|
| Number of changeover contacts | 1 x 2 |
| Operating principle | N/C operation/N/O operation (N/C operation)* |
| Fault memory behaviour selectable | ON/OFF |
| Electrical endurance, number of cycles | 12000 |
| Contact class IEC 60255-0-20 | 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 |

Dimension diagram

Dimensions in mm



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 | -10...+55 °C |
| Ambient temperature for storage | -40...+70 °C |
| Climatic class acc. to IEC 60721-3-3 | 3K5 (except condensation and formation of ice) |

Connection

| | |
|-----------------------|----------------------------|
| Connection type | modular terminals |
| Connection properties | |
| single wire | 0.2...4 mm ² |
| flexible | 0.25...2.5 mm ² |

Other

| | |
|---|----------------------|
| Operating mode | continuous operation |
| Mounting | any position |
| Degree of protection, internal components (IEC 60529) | IP30 |
| Degree of protection, terminals (IEC 60529) | IP30 |
| Screw mounting | 2 x M4 |
| DIN rail mounting acc. to | IEC 60715 |
| Flammability class | UL94V-0 |
| Operating manual | BP702001 |
| Weight | ≤ 400 g |

() * factory setting



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