

## Residual current monitor RCM465Y

**Residual current monitor  
for TN and TT systems  
(AC and pulsed DC currents)**



RCM465Y

### Device features

- Internal measuring current transformer  
ø 26 mm
- Response values, adjustable  
30 mA...300 mA (40...400 Hz)
- Response delay, adjustable 0...1 s
- Alarm relay with one potential-free  
changeover contact
- N/O operation
- TEST button
- Sealable transparent cover
- Separate supply voltage
- Type A according to IEC 60755

### Approvals



### Product description

The residual current monitor RCM465Y is designed for fault current respectively residual current monitoring in small earthed systems (TN and TT systems) or for single loads. In addition, the device can be used to monitor single conductors, such as PE conductors, N-PE connections and PE-PAS connections.

Since the values are measured with measuring current transformers, the device is nearly independent of the load current and the nominal voltage of the system.

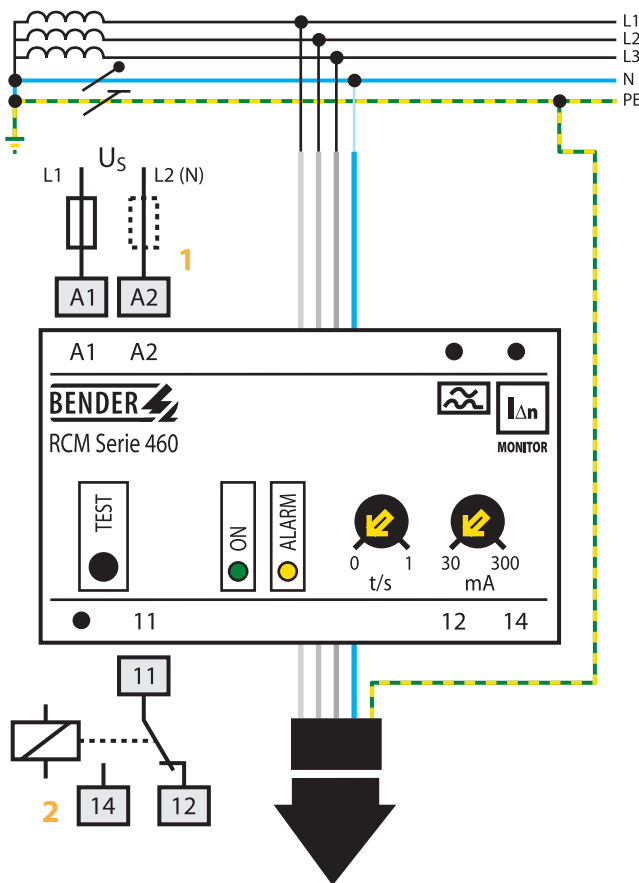
### Application

- Residual current monitoring in earthed two, three or four conductor systems.
- Current monitoring of single conductors de-energized under normal conditions.
- Monitoring of smaller socket outlet circuits.
- Monitoring of single load circuits.

### Function

The residual current is measured using an internal measuring current transformer having a diameter of 26 mm. When the current respectively the residual current exceeds the set response value, the alarm LED lights and the alarm LED switches after the expiry of the set response time. The device function can be tested using the TEST button.

### Wiring diagram – system connection, external connections

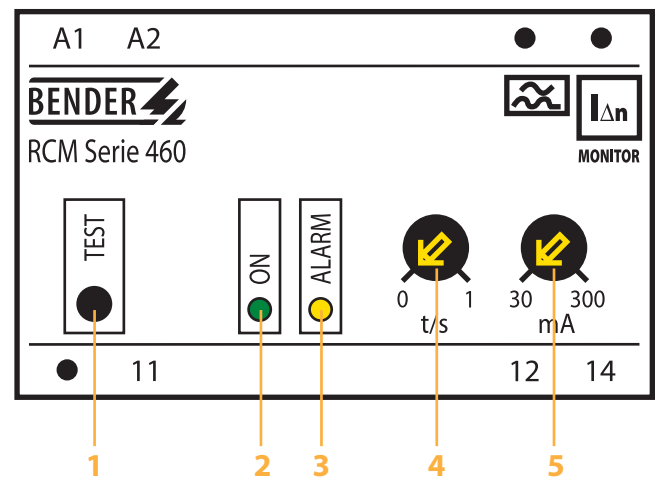


1 - Supply voltage  $U_s$  (see ordering details), a 6 A fuse is recommended.

2 - Alarm relay: switches when the response value is reached.

**Note! Do not route the PE conductor through the measuring current transformer!**

### Wiring diagram – front plate



- 1 - TEST button
- 2 - Power On LED
- 3 - Alarm LED: lights when the fault current exceeds the response value.
- 4 - Potentiometer for setting the response delay (0...1 s).
- 5 - Potentiometer for setting the response value (30...300 mA).

## Technical data Residual current monitor RCM465Y

### Insulation coordination acc. to IEC 60664-1

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

### Voltage ranges

Supply voltage $U_S$	see ordering information
Operating range of $U_S$	0.85...1.1 x $U_S$
Frequency range of $U_S$	50...400 Hz
Power consumption	≤ 1.5 VA

### Measuring circuit / response values

Internal measuring current transformer	ø 26 mm
Load	220 Ω
Operating characteristic acc. to IEC 60755	Type A
Rated residual operating current $I_{\Delta n1}$ (Alarm1)	30...300 mA
Response delay $t_v$ , adjustable	0...1 s
Accuracy of response delay	+ / - 20 %
Rated frequency	40...400 Hz
Relative percentage error	0... - 25 % of the response value
Hysteresis	approx. 25 % of the response value
Response time $t_{an}$ at $I_{\Delta n} = 1 \times I_{\Delta n}$ ( $t_v = 0$ s)	< 300 ms
Response time $t_{an}$ at $I_{\Delta n} = 5 \times I_{\Delta n}$ ( $t_v = 0$ s)	≤ 40 ms
Number of measuring channels	1

### Displays

LEDs	Power On, Alarm
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### Inputs / outputs

TEST button	internal
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### Switching elements

Switching elements, alarm relays	1 x 1 changeover contact
Operating principle	N / O operation
Electrical endurance, number of cycles	12000
Rated contact voltage	AC 250 V / DC 300 V
Limited making capacity	AC / DC 5 A
Limited breaking capacity	2 A, AC 230 V, cos phi = 0.4 – 0.2 A, DC 220 V, L / R = 0.04 s

### General data

EMC immunity / emission	acc. to EN 61543 / acc. to EN 61000-6-4
Shock resistance IEC 60068-2-27 (during operation)	15 g / 11 ms
Bumping IEC 60068-2-29 (during transport)	40 g / 6 ms
Vibration resistance IEC 60068-2-6 (during operation)	1 g / 10...150 Hz
Vibration resistance IEC 60068-2-6 (during transport)	2 g / 10...150 Hz
Ambient temperature, during operation / when stored	- 10 °C...+ 55 °C / - 40 °C...+ 70 °C
Climatic category IEC 60721-3-3	3K5
Operating mode	continuous operation
Mounting	any position
Connection	screw terminals
Connection properties rigid / flexible	0.2...4 mm <sup>2</sup> / 0.2...2.5 mm <sup>2</sup>
	flexible with ferrules, without / with plastic collar 0.25...2.5 mm <sup>2</sup>
Conductor sizes (AWG)	24...12
Degree of protection, internal components / terminals (IEC 60529)	IP30 / IP20
Type of enclosure	X465
Enclosure material	polycarbonate
Screw mounting	2 x M4
DIN rail mounting acc. to	IEC 60715
Flammability class	UL94V-0
Standards	IEC 62020
Instruction leaflet	BP401001
Weight	≤ 190 g

## Ordering information

Type	Response range $I_{\Delta n}$	Rated frequency	Response delay	Measuring current transformer, inside diameter	Supply voltage $U_S$	Art. No.
RCM465Y	30...300 mA	40...400 Hz	0...1 s	ø 26 mm	AC 230 V	B 9401 2023
RCM465Y-13	30...300 mA	40...400 Hz	0...1 s	ø 26 mm	AC 90...132 V*	B 9401 2033

Other supply voltages on request \* Absolute values of the operating range

## Dimension diagram X465 Dimensions in mm

