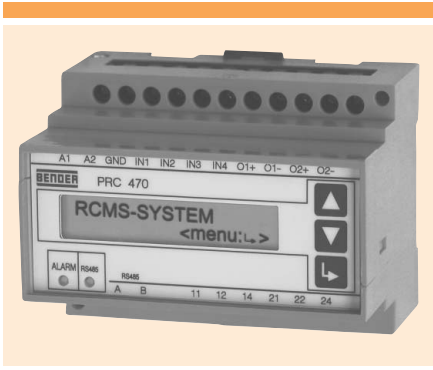


RCMS470 system – Control and indicating device PRC470 / PRC470E



PRC470

Product description

The control and indicating device PRC470(E) is intended to be used for central indicating and operating functions in RCMS systems. It is also used for parameterization of the system. Information exchange with all connected devices takes place via the RS485 interface (BMS protocol).

Application

Control and indicating device for residual current location system RCMS470.

Function

The PRC470(E) allows parameter setting, such as response value, N/O/N/C operation alarm relay, setting of the measuring current transformers, alarm storage, factor, position, function etc., of all devices connected to the RS485. When more than 30 RCMS470-12 evaluators are required on the bus, additional RCMS470E-12 devices and one PRC470E have to be used. During residual current measurement the faulty circuits are successively indicated on the display. The address of the respective evaluator, the channel concerned and the detected measuring value will be indicated. By assigning the measuring current transformer to the measuring circuit, the location of the fault can easily be detected. The position function allows continuous, selective testing of individual channels for insulation faults.

Device features

- Indication of alarm messages
- LC display / 2 x 16 characters
- Alarm LED (group alarm)
- Alarm LED, activities on the RS485 interface
- Alarm relay with voltage free change-over contacts for group alarm indication
- 3 function keys for parameterization
- Test function to check all connected devices and CTs

Approvals



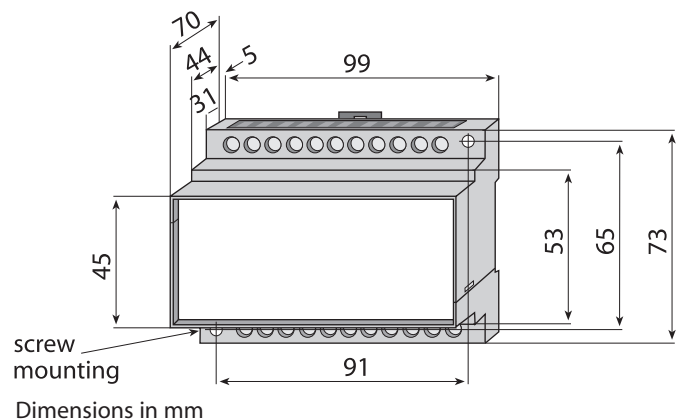
Ordering details

Control and indicating device

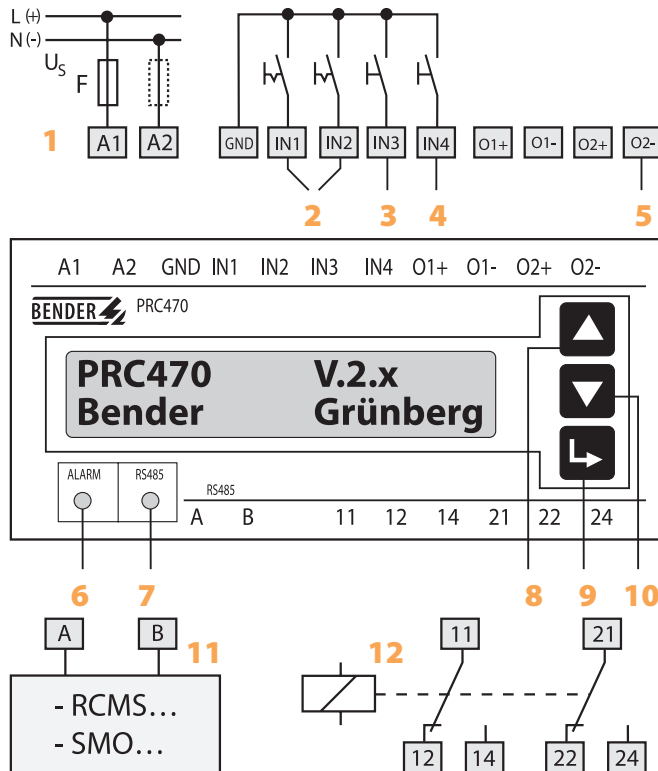
Type	Supply voltage U_S	Art. No.
PRC470	AC 230 V	B 9501 2001
PRC470E	AC 230 V	B 9501 2014
PRC470-13	AC 90...132 V*	B 9501 2004
PRC470-21	DC 9.6...84 V*	B 9501 2007
PRC470-23	DC 77...286 V*	B 9501 2009

*Absolute values of the supply voltage range

Dimension diagram, enclosure X470



Wiring diagram / operating elements



- 1 - Supply voltage U_S see ordering details, a 6 A fuse is recommended
- 2 - Control inputs EDS470 (EDS473) for system start
- 3 - Connection for external reset button
- 4 - Connection for external test button
- 5 - Optocoupler outputs, no function in RCMS systems
- 6 - Alarm LED, lights when the residual current of one of the connected evaluators exceeds or falls below the set response value (group alarm)
- 7 - RS485 LED indicates activities on the RS485 bus
- 8 - Function key "UP"
- 9 - Function key "ENTER"
- 10 - Function key "DOWN"
- 11 - Connection BMS bus
- 12 - Alarm relays switch when the residual current exceeds or falls below the set response value (group alarm)

Technical data control and indicating device PRC470 / PRC470E

Insulation coordination acc. to IEC 60664-1:

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

Voltage ranges

Supply voltage U_S	see ordering details
Operating range of U_S	0.85... 1.1 x U_S
Frequency range of U_S	DC, 50... 60 Hz
Power consumption	≤ 3 VA

Measuring circuit

Test for RCMS470	continuously
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Displays and LEDs

LED	Alarm
RS485 LED	indicates activity on the RS485 bus

Inputs / outputs

Max. voltage	DC 5 V
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Interfaces

Interface / protocol	RS485 / BMS
Connection terminals A / B:	shielded cable ≥ 0.6 mm ² , 0... 1200 m shield on one side connected to PE, cable type e.g. J-Y(ST)Y 2 x 0.6
Terminating resistor	120 Ω
Device address	100

Switching elements

Switching elements	2 changeover contacts
Operating principle	N/C / N/O operation
Factory setting	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	acc. to EN 61543
EMC emission	acc. to EN 61000-6-4
Shock resistance IEC 60068-2-27 (device in operation)	15 g / 11 ms
Bumping IEC 60068-2-29 (during 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 out of operation)	2 g / 10... 150 Hz
Ambient temperature (during operation)	- 10 °C... + 55 °C
Storage temperature range	- 40 °C... + 70 °C
Climatic category DIN IEC 60721-3-3	3K5
Operating mode	continuous operation
Position	any position
Connection	screw terminals
Cross sectional area of connecting cable	
Rigid, flexible	0.2... 4 mm ² / 0.2... 2.5 mm ²
Flexible with ferrules without / with plastic collar	0.25... 2.5 mm ²
Conductor sizes (AWG)	24-12
Degree of protection DIN EN 60529	
Internal components / Terminals	IP 30 / IP 20
Type of enclosure	X470
Enclosure, material	polycarbonate
Screw fixing	2 x M4
DIN rail mounting acc. to	DIN EN 60715 / IEC 60715
Installation into standard distribution panels acc. to	DIN 43871
Flammability class	UL94V-0
Technical manual	TGH1270
Weight	approx. 400 g