PRC1470 control and indication panel

**To be used in combination with
EDS and RCMS systems**

PRC1470 control and indication panel

Features

- Large backlit clear text display for user-programmable alarm text messages and additional information

- Ease of connection to other systems via 8 (16) relay outputs, EIB interface and 16 digital input options

- Memory with real-time clock for storing 650 alarm and warning messages

- Five function keys allow convenient operation and setting of the PRC1470

- Multiple PRC1470 may be connected to the external RS485 interface

- Language of the menu text selectable in German or English

- Set-up of alarm text messages via the external RS485 interface and the RS232 interface via PC software

- Easy-to-clean lexan front foil

Certifications

Product description

The PRC1470 control and indication panel provides alarm / fault message indication plus control functions for RCMS residual current monitoring systems and EDS470 / 473 insulation fault location systems. Information exchange takes place via a two-wire interface (RS485) so that time and costs are considerably reduced.

Clear text display

The back-lit text display continuously provides unambiguous information, supporting medical staff in decision-making. The text display has four lines of 20 characters, 8 mm high. It has a further three lines of alarm / warning information accessible via scroll keys. Three LEDs are arranged below the display to provide normal (green), warning (yellow) and alarm (yellow) indication. Operation is via five function keys for the acknowledgement of alarm and warning messages, for lamp test and basic settings of the device. The alarm text is programmed via PC software.

Programming

750 alarm text messages can be programmed via PC software. For this purpose, the PC has to be connected to the RS232 and RS485 interface.

Historical memory

Alarm and warning messages with date and time are automatically stored in the memory. Up to 650 test messages can be stored and can be read out via the function keys or PC software.

Mechanical design

The PRC1470 is intended for industrial applications and for healthcare facilities as well. It is available as surface-mounting and flush-mounting type.

Information exchange via the BENDER measuring device interface

The PRC1470 control and indication panel has two RS485 interfaces (BMS protocol). Due to the fact that one internal and one external interface are provided, it is possible to group the devices or systems accordingly. All RCMS and EDS evaluators, for example, can be connected to the internal RS485 interface. If several PRC1470 are to be interconnected, the external RS485 interface is recommended. If an alarm message occurs at one of the PRC1470, this alarm message can be displayed on any PRC connected to the collective external interface.

Each bus node on the internal interface has a unique address number. Each PRC1470 has an internal and external address number. There is one Master for each interface. With this structured bus and addressing arrangement, it is quite easy to arrange for any PRC1470 to display messages from any other device connected to a collective system.
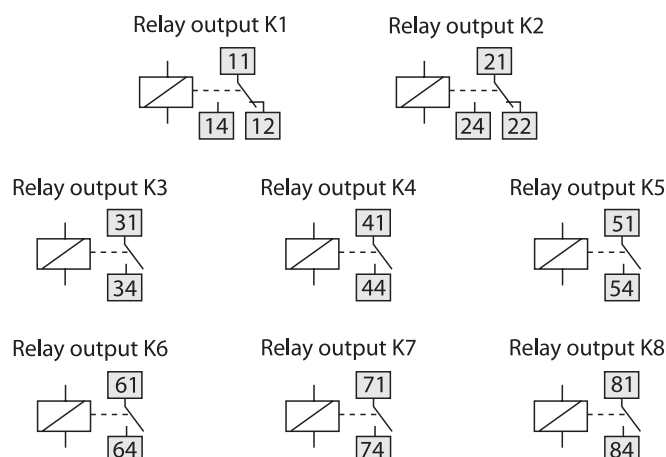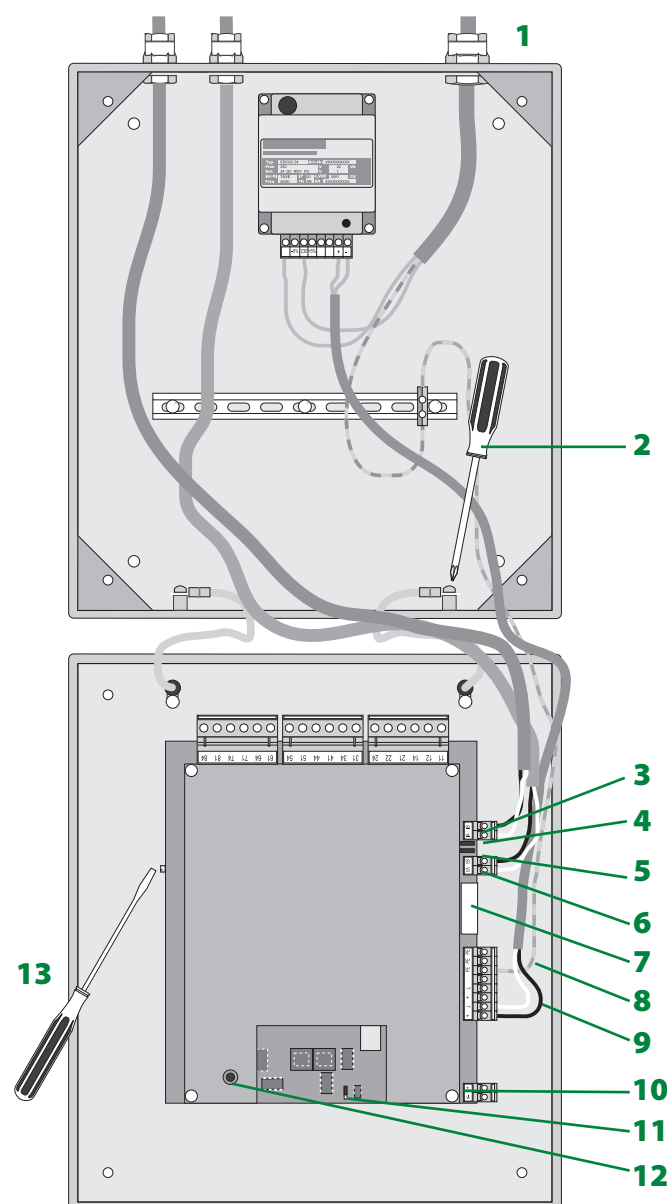
Wiring diagram / operating elements
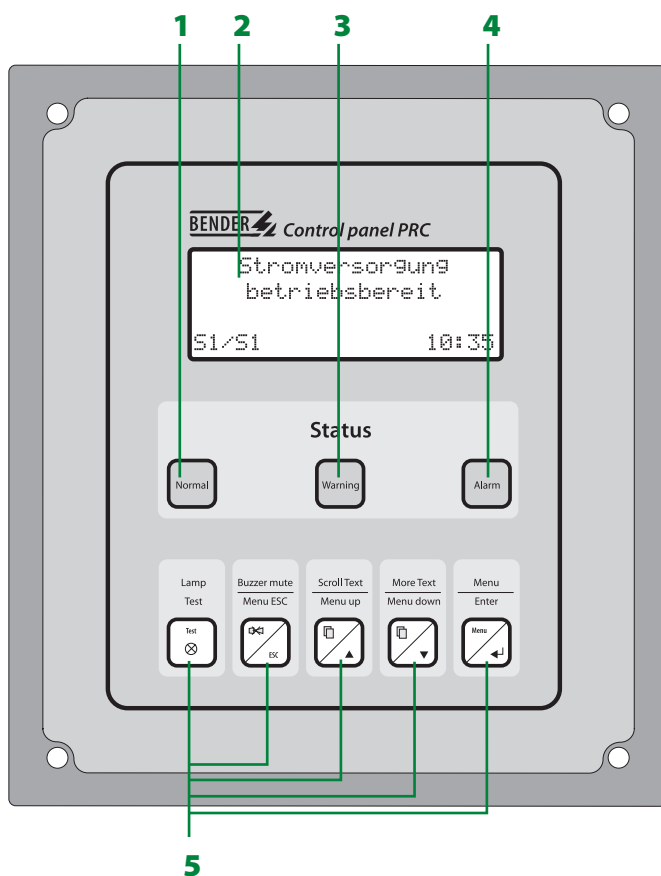
Eight relay outputs with voltage free contacts are provided to control external devices. To each of the output relays one alarm text message can be assigned so that a switching command can be triggered when the response value in a certain circuit is exceeded.

1 - Power On LED
2 - LC display, four lines, 4 x 20 characters (8 mm high)
3 - Alarm LED, warning
4 - Alarm LED, alarm
5 - Function keys

Wiring diagram / relay outputs

Relay output K1
11
14 12

Relay output K2
21
24 22

Relay output K3
31
34

Relay output K4
41
44

Relay output K5
51
54

Relay output K6
61
64

Relay output K7
71
74

Relay output K8
81
84

Wiring diagram / inside view

1 - Supply voltage
2 - For fixing the surface-mount enclosure, the front plate can be removed (if required) by loosening the two retaining cables and the plug-in connectors.
3 - Connection internal BMS bus
4 - DIP switch (JP15) for terminating resistor of the internal RS485 interface
5 - DIP switch (JP14) for terminating resistor of the external interface
6 - Connection A and B of the external RS485 interface
7 - Service interface RS232, 9-pole D-sub
8 - PE connection (protective earth)
9 - Supply voltage + 24 V DC. Two terminals are provided for the power supply of other loads.
10 - Connection for EIB bus (option)
11 - Plug-in jumper on-board firmware update automatic (unassigned)
12 - RESET button
13 - Contrast setting of the LC display

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Technical data control and indication panel PRC1470

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	AC 230 V
Operating range of U_S	$0.85\ldots1.1 \times U_S$
Frequency range U_S	$50\ldots60$ Hz
Power consumption	≤ 5 VA

Features

LC display (backlit)	LC display
Characters (number of characters, height)	4 x 20 charactes, 8 mm high
Text messages	750
Memory text messages	650

Inputs

Digital inputs (optional)	16
Operating principle, selectable	N/C / N/O operation
Voltage range AC / DC	high $10\ldots30$ V / low $0\ldots5$ V

Interfaces

Interface / protocol	2 x RS485 / 1 x RS232 / BMS
EIB bus (optional)	1
Max. cable length	1200 m
Recommended cable (shielded,shield on one side connected to PE)	J-Y(ST)Y 2 x 0.6
Terminating resistor	120 Ω

Switching elements

|	
Switching elements	2 changeover contacts / 6 NO contacts
Operating principle	N/O / N/C operation
Factory setting	N / O operation
Electrical endurance	12000 cycles
Contact class	IIB acc. to DIN IEC 60255 part 0-20
Rated contact voltage	AC 250 V / DC 300 V
Making capacity	AC / DC 8 A (NO contact 5 A)
Breaking capacity	2 A; AC 230 V, cos. phi = 0.4 − 0.2 A, DC 220 V, L/R = 0.04 s

General data

Shock resistance acc. to IEC 60068-2-27 (device in operation)	15 g / 11 ms
Bumping acc. to IEC 60068-2-29 (during transport)	40 g / 6 ms
Vibration resistance acc. to IEC 60068-2-6 (device in operation)	1 g / 10…150 Hz
Vibration resistance acc. to IEC 60068-2-6 (during transport)	2 g / 10…150 Hz
Ambient temperature, during operation	- 5 ℃…+ 55 ℃
Storage temperature range	- 25 ℃…+ 60 ℃
Climatic class according to IEC 60721-3-3	3K5
Operating mode	continuous operation
Mounting	any position
Connection	screw terminals
Wire cross section, rigid, flexible	$0.2\ldots4$ mm^2 / $0.2\ldots2.5$ mm^2
Degree of protection, internal components / terminals (DIN EN 60529)	IP 30 / IP 20
Screw mounting	2 x M4
Flammability class	UL94V-0
Technical manuals	TGH1356
Weight approx.	3000 g

Ordering details

Type	Description	Art. No.
PRC1470AP	surface-mount enclosure	B 9501 2024
PRC1470	flush-mount enclosure	B 9501 2025

Dimension diagram, surface-mount enclosure   Dimensions in mm
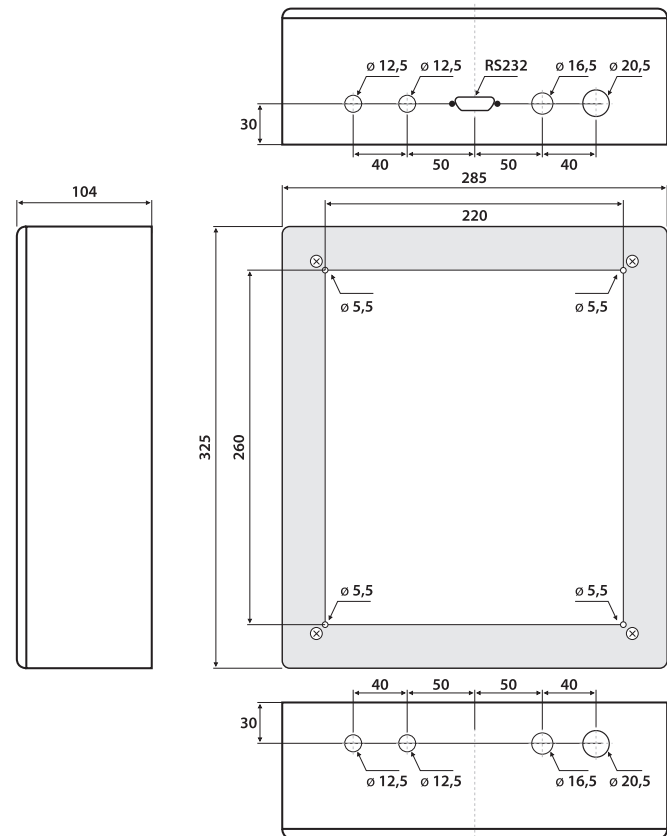
Dimension diagram, flush-mount enclosure   Dimensions in mm