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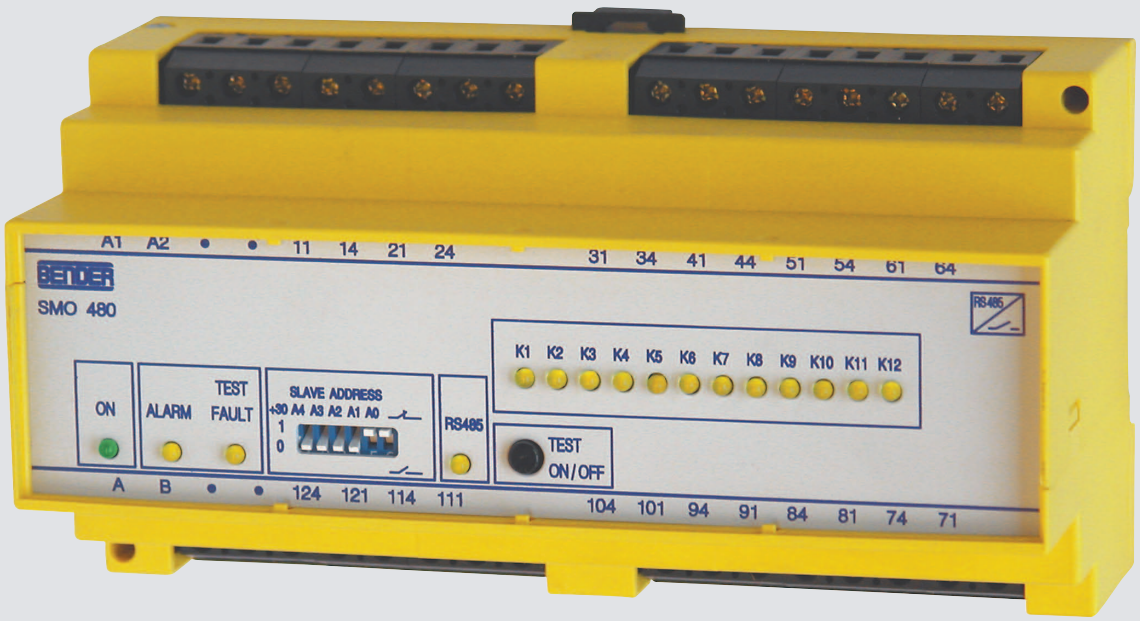
Signal converter SMO481-12



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Signal converter SMO480(E)-12

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Device features

- Relay output for each channel of the associated Bender device with communication capabilities, e.g. EDS470-12 or RCMS470-12
- Alarm LED for each channel
- Test button to check the relay function
- LEDs: Power On, ALARM, TEST/FAULT
- RS-485 interface (BMS bus)

Product description

The signal converter SMO480(E)-12 converts serial signals from Bender evaluators (z. B. EDS470(E)-12, RCMS470(E)-12, MK2430-11, SMI470-9) to relay contact messages. One relay is available for each measuring channel of an evaluator. The relay contacts are also suitable for very low currents (> 5 mA). Each SMO480-12 must be assigned to one device with communication capabilities.

Application

- To convert BMS signals from EDS, RCMS and MEDICS systems in relay messages, e.g. to control signals and information
- Specific control and/or selective disconnection of faulty circuits with EDS and RCMS systems
- Data transmission to central process control and building control systems

Function

When the connected evaluator outputs an alarm, it will be transmitted via the BMS bus. Then the signal converter SMO480(E)-12 activates the alarm relay of the respective channel.

The operating mode of the alarm relays can be changed from N/O to N/C operation via the DIP switch. The assignment of evaluator to signal converter is made via the device address setting. The address of the associated evaluator is set at the SMO480(E)-12. The device address of SMO480-12 is the value set at the DIP switch +30 (SMO480E-12: +120).

Note: A BMS bus master is required to operate the SMO480(E)-12.

Standards

The signal converter SMO480(E)-12 complies with the requirements of the device standards: DIN EN 50178 (VDE 0160) for AC 230 V.

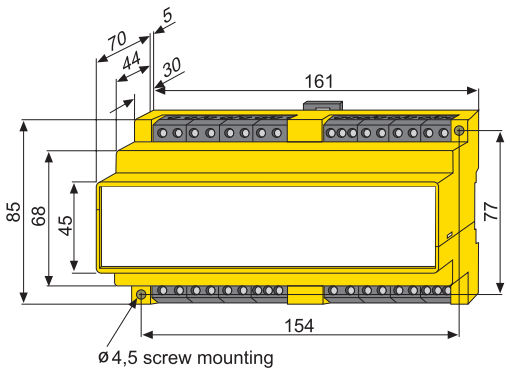
Ordering information

Supply voltage U_S	Type	Art. No.
AC 230 V	SMO480-12	B 9501 2011
AC 90…132 V*	SMO480-1213	B 9501 2017
AC 230 V	SMO480E-12	B 9501 2043

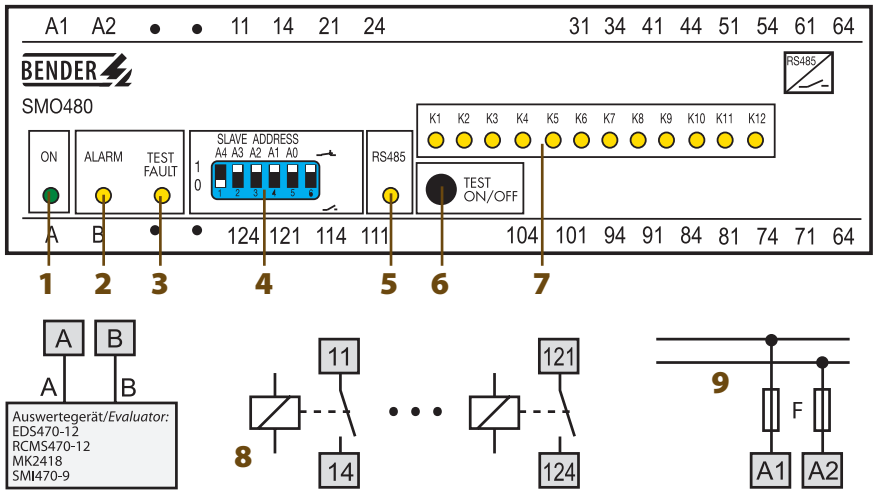
* Absolute value

Dimension diagram X480

Dimensions are given in mm



Operating elements



1 - LED “ON”: operation indicator

2 - LED “ALARM”: whilst an alarm is present at one of the alarm inputs and during the test mode.

3 - LED “TEST/FAULT”: lights when no assigned evaluator has been found and during the test mode. The LED flashes in case of an impermissible address.

4 - DIP switch to set the device address of SMO480(E)-12 and to select the operating mode of the alarm relays. Address SMO480-12 = set value +30, address SMO480E-12 = set value +120

5 - LED “RS-485”: lights in case of activities on the BMS bus

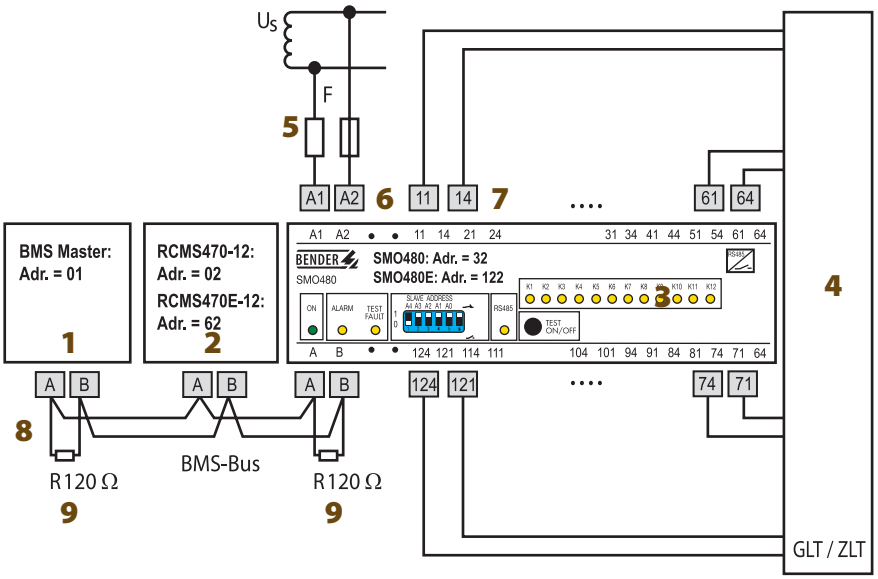
6 - “TEST ON/OFF” button: Pressing the button once: will change over the operating mode of all alarm relays, the LEDs ALARM, TEST/FAULT and K1…K12 light. Pressing the button once more: will change over from the test mode to normal operating condition.

7 - LED “K1…K12”: LED lights whilst an alarm message is present at the respective input.

8 - Alarm relay

9 - U_S see ordering information

Wiring diagram – signal converter SMO480(E)-12 (example with RCMS470(E)-12)



1 - BMS master (e,g. FTC470…, PRC1470, MK24…, TM panel)

2 - Residual current evaluator RCMS470(E)-12

3 - Signal converter SMO480(E)-12

4 - GLT = Building Control System ZLT = Central Control System

5 - F = Short-circuit protection supply voltage; 6 A fuse recommended. Supply voltage in IT systems requires two fuses.

6 - Power supply (see ordering information)

7 - 11/14…121/124:contacts of the 12 alarm relays

8 - Connection BMS bus

9 - Terminating resistor BMS bus

Technical data

Insulation coordination acc. to IEC 60664-1

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

Supply voltage

Supply voltage U_S	see ordering information
Frequency range U_S	50…60 Hz
Operating range U_S	0.8…1.15 x U_S
Power consumption	≤ 8 VA

Displays

LEDs	16 (ON, Alarm, TEST/FAULT, RS-485, K1…K12)

Operating elements

Button	TEST ON/OFF

Interface

Interface/protocol	RS-485/BMS
Baud rate	9.6 kbit/s
Cable length	≤ 1200 m
Recommended cable (shielded, shield connected to PE on one side)	min. J-Y(St)Y 2 x 0.6
Terminating resistor (connectable via DIP switch)	120 Ω (0.25 W)
Device address, BMS bus	30 + (1…30); SM0480E-12: 120 + (1…30)
Factory setting device address	30 + 1; SM0480E-12: 120 + 1

Switching elements

Number	12 x 1 N/O contacts
Operating principle	N/C operation/N/O operation selectable
Factory setting	N/O operation

Contact data acc. to IEC 60947-5-1

Rated operational voltage U_e	AC 230 V/DC 220 V
Rated operational current I_e	AC 5 A/DC 0.2 A
Utilization category	AC 14/DC 12
Electrical service life, number of cycles	10.000
Minimum contact load	1 mA at AC/DC > 10 V

Environment/EMC

EMC immunity	acc. to EN 61000-6-2
EMC emission	acc. to EN 61000-6-4
Classification of climatic conditions acc. to IEC 60721	
Stationary use	3K5
Transport	2K3
Long-time storage	1K4
Operating temperature	- 25…+ 55 °C
Classification of mechanical conditions acc. to IEC 60721	
Stationary use	3M4
Transport	2M2
Long-time storage	1M3

Connection

Connection	screw-type terminals
Connection properties	
rigid/flexible/conductor sizes	0.2…4/0.2…2.5 mm²/AWG 22…12
flexible with ferrule, without/with plastic sleeve	0.25…2 mm²
Stripping length	8 mm
Tightening torque	0.5 Nm

Other

Operating mode	continuous operation
Mounting	any position
Degree of protection, internal components (IEC 60529)	IP 30
Degree of protection, terminals (IEC 60529)	IP 20
Type of enclosure/dimension diagram	X470
Screw mounting	2 x M4
DIN rail mounting acc. to	IEC 60715
Flammability class	UL94V-0
Operating manual	BP108005
Weight	≤ 580 g

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