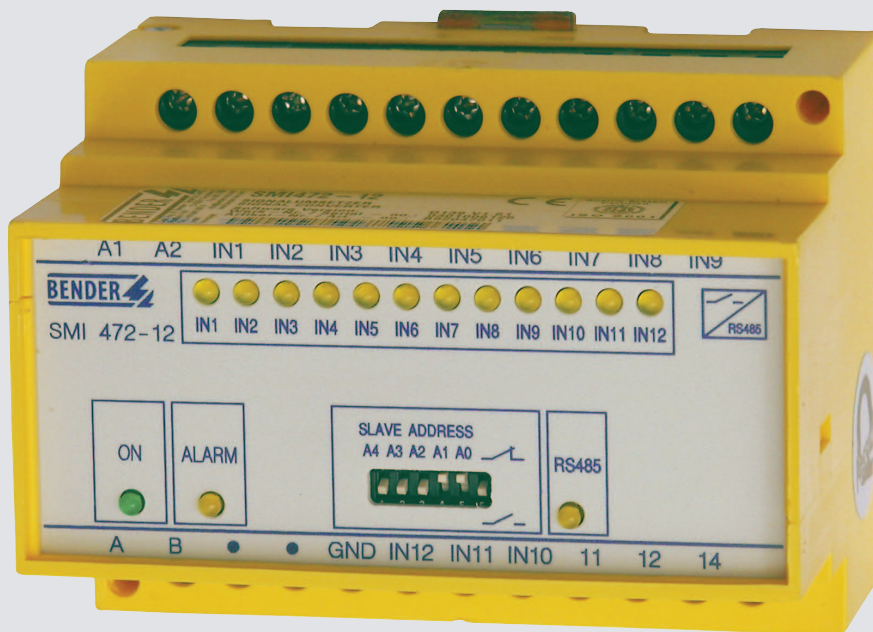
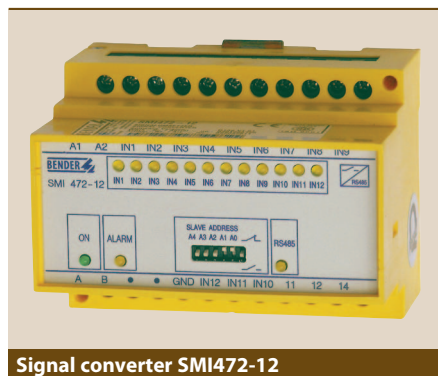


# Signal converter SMI472-12



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## Product description

The signal converter SMI472-12 converts digital signals (operating and alarm messages) to serial output signals for the BMS bus. Its 12 digital inputs can be split into two groups as alarm or operating messages. Factory setting: 8 inputs for alarm messages and 4 inputs for operating messages.

## Function

One LED indicator is assigned to each of the inputs IN1 to IN12. The operating principle of the inputs can be set to N/O or N/C operation via a DIP switch. One common alarm relay in N/O operation is available for the transfer of alarm messages.

The SMI472-12 converts the input signals to serial output signals for the BMS bus. Via this interface messages can be transferred to other Bender devices (e.g. to alarm indicator and test combinations of the MK2430/MK800 series or to TM operator panels.

**Note:** A BMS bus master is required to operate the SMI472-12.

## Device features

- 12 digital inputs
- Indicator LED for each channel
- LEDs: Power On, ALARM, activities on the RS-485 interface
- RS-485 interface (BMS bus)
- Operating principle selectable: N/O or N/C operation.

## Warning!

*This is a class A Product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.*

## 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	≤ 12 VA

### Inputs

Digital inputs	12 (IN1...IN12)
	parameter setting via BMS bus: alarm/operating messages
Operating principle	selectable via DIP switch N/C operation/N/O operation selectable
Voltage at the contacts	5 V
Factory setting	N/O operation
Galvanic separation	no
Cable length	≤ 30 m
Activation of digital inputs	via potential-free contacts

### Displays

LEDs	15 (ON, Alarm, RS-485, IN1...IN12)
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### Interface

Interface/protocol	RS-485/BMS
Baud rate	9.6...57.6 kbit/s
Cable length	≤ 1200 m
Cable: twisted pair, one end of shield connected to PE	recommended: J-Y(St)Y min. 2x0.8
Terminating resistor (connectable via DIP switch)	120 Ω (0.25 W)
Device address, BMS bus	DIP switch 2...30
Factory setting, device address	3

### Switching elements

Number of changeover contacts	1 changeover contact
Operating principle parameter setting via BMS bus	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
storage	1K4
Operating temperature	-10...+55 °C
Classification of mechanical conditions acc. to IEC 60721:	
Stationary use	3M4
transport	2M2
storage	1M3

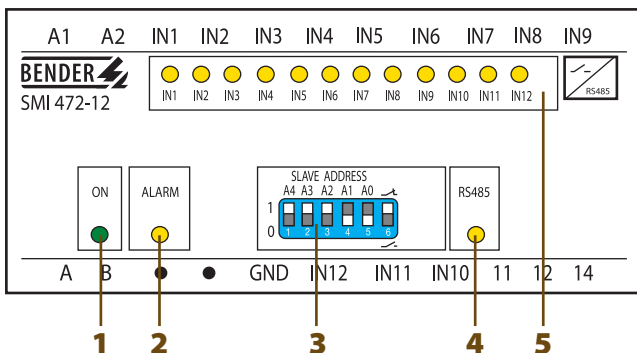
### Connection

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

### Other

Operating mode	continuous operation
Mounting	any position
Degree of protection, internal components /terminal (DIN EN 60529)	IP 30/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	TBP204010
Weight	≤ 320 g

Operating elements



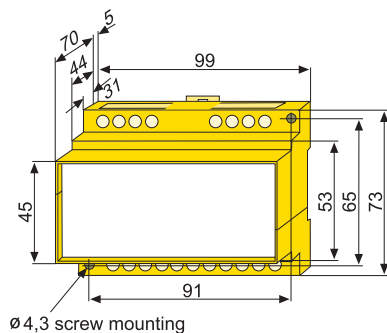
- 1 - LED "ON": operation indicator
- 2 - LED "ALARM": lights whilst an alarm is present at one of the alarm inputs and flashes in case of an impermissible address.
- 3 - DIP switches to set the device address and the operating mode of the digital inputs
- 4 - LED "RS-485": lights in case of activities on the BMS bus
- 5 - LED "IN1...IN12": LED lights whilst an alarm or operating-message is present on the respective input.

Ordering information

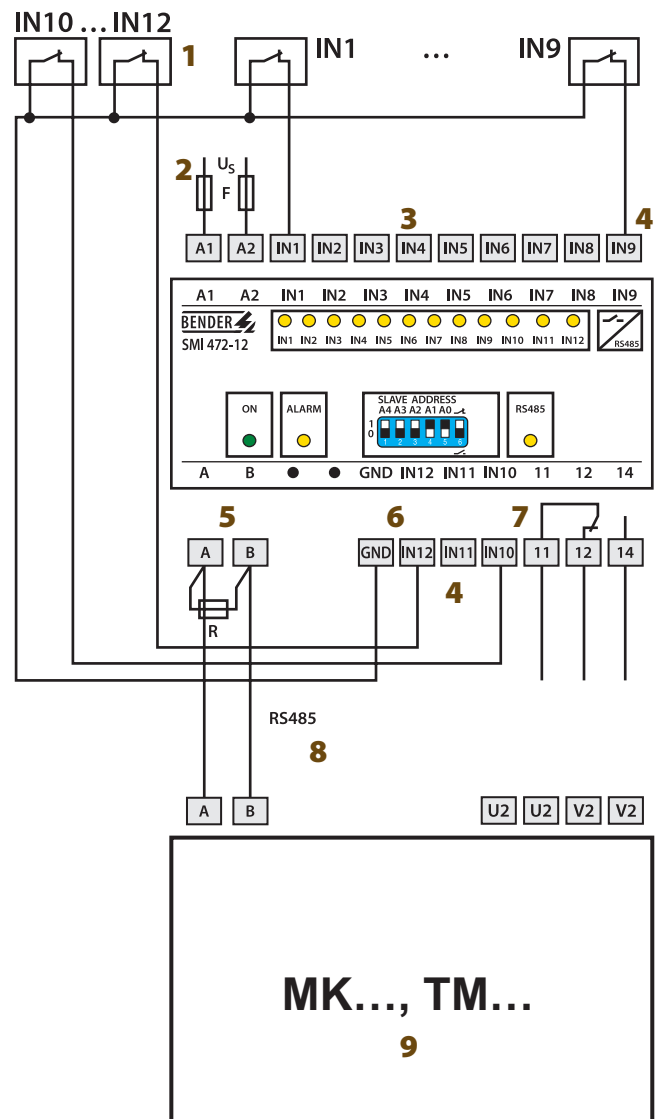
Supply voltage $U_s$	Type	Art. No.
DC 77...286 V/AC 85...265 V, 50...60 Hz	SMI472-12	B 9204 7011
DC 12.5...80 V	SMI472-1221	B 9204 7013

Dimension diagram X470

Dimensions are given in mm



Wiring diagram



- 1 - Potential-free relay contacts
- 2 - Connection of the supply voltage  $U_s$ , short-circuit protection for supply voltage  $U_s$ , 6 A recommended
- 3 - IN1...IN8 digital inputs for alarm messages
- 4 - IN9...IN12 digital inputs for operating messages
- 5 - Connection BMS bus
- 6 - Common connection of the digital inputs to earth
- 7 - Alarm relay with the contacts 11, 12 and 14 (common alarm for alarm messages on IN1...IN8)
- 8 - Terminating resistor BMS bus
- 9 - Alarm and test combination MK2430-12/MK800 or alarm indicator and operator panel TM..., alarm texts can be set as required

**Only permanently installed equipment providing at least overvoltage category II (300 V) may be connected to the outputs.**



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