

SecuriFire

BX-REL4

Relay module for SecuriLine eXtended

from edition 20-2100004-01-01¹

The BX-REL4 relay module has four potential-free relay outputs for switching loads up to 2 A and up to 230 V.

It meets the specifications of SecuriLine eXtended for operation on the ring circuit of the SecuriFire fire detection system.



Fig. 1 BX-REL4

Description

The BX-REL4 can be connected to the SecuriLine eXtended ring circuit of the SecuriFire fire detection systems.

Four potential-free relay outputs are available for switching loads up to 2 A and up to 230 V. All relays are bistable change-over contacts and each has a screw terminal for the normally open and normally closed contact. If there is a loss of ring voltage, an "Active in Fail-Safe-Position" can be separately programmed for each output.

Addressing and assigning BX-REL4 parameters is performed with PC software via the fire alarm control panel.

The BX-REL4 includes a short-circuit isolator. In the event of wire breakage or short-circuit this functionality ensures that the fault is localised and that operation of the ring circuit remains fully functional.

Interfaces

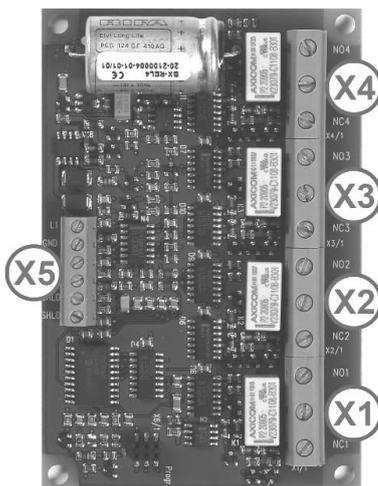


Fig. 2 BX-REL4 interfaces

Relay 1 (X1)

Terminal	Designation	Description
1	NC1	Normally closed 1
2	COM1	Common 1
3	NO1	Normally open 1

Relay 2 (X2)

Terminal	Designation	Description
1	NC2	Normally closed 2
2	COM2	Common 2
3	NO2	Normally open 2

Relay 3 (X3)

Terminal	Designation	Description
1	NC3	Normally closed 3
2	COM3	Common 3
3	NO3	Normally open 3

Relay 4 (X4)

Terminal	Designation	Description
1	NC4	Normally closed 4
2	COM4	Common 4
3	NO4	Normally open 4

SecuriLine eXtended (X5)

Terminal	Designation	Description
1	L1	Data A
2	GND	GND A
3	GND	GND B
4	L2-	Data B
5	SHLD	Screen
6	SHLD	Screen

Application areas

The BX-REL4 relay module can be used wherever controls for external devices are required (e.g. flashing lights, sirens, fire incident controls, as well as alarm, access, climate and ventilation control panels). Being able to connect the BX-REL4 at any position of a ring circuit has the advantage that control lines do not have to be conveyed to the fire alarm control panel.

Data sheet



Important notice for service and maintenance work

If fire incident controls are actuated with an FACP extinguishing system or other devices, electrical, mechanical and optical precautions are necessary when service and maintenance work is carried out in order to prevent controls from being unintentionally triggered. After completion of the service and maintenance tasks, the safety precautions must be removed!

Planning

The BX-REL4 is a relay module and serves to connect controls to the ring circuit. In addition, the BX-REL4 has 4 relay contact outputs for switching consumers with power consumption up to 2 A and up to 230 V. The maximum line length of the relay contact to the consumer depends on the power consumption. If external consumers are actuated, sufficient power supply must be ensured. A current requirement calculation must be performed in any case. If the external consumer cannot be supplied with power from the fire alarm control panel due to considerable power consumption, an external power supply unit must be used.



It is imperative that the technical data be taken into account!

The 4 relay outputs are independent (of each other) controls, which must be planned in SecuriFire Studio. The assignment of logical numbers can be in any sequence and must be enabled at the B5-DXI2 or B4-BCU unit for the concerned ring. Every output has two terminal connections. One connection is open in standby (no actuation) and one connection is closed in standby. This means that during planning it is not necessary to specify whether it is a standby contact (normally open contact) or a working contact (normally closed contact). The relay outputs can be switched to an "Active in Fail-Safe-Position" if there is a loss of ring voltages. This behaviour can be parameterised and is defined in SecuriFire Studio. The relay outputs are also suitable for outputting pulses.

Power requirement

For mixed operation of detectors and modules on the ring circuit, it is important to know that the BX-REL4 has the power consumption of about 4 detectors. This reduces the number of connectable detectors by 4 for each BX-REL4 in use. A maximum of 32 BX-REL4s are permitted per ring circuit. However, a maximum of 64 controls can be planned per ring. Thus when using all 4 outputs per BX-REL4, only 16 BX-REL4s can be planned per ring.

A tool is available for calculating the maximum possible ring length and the maximum number of participants.

Dimensioned drawing

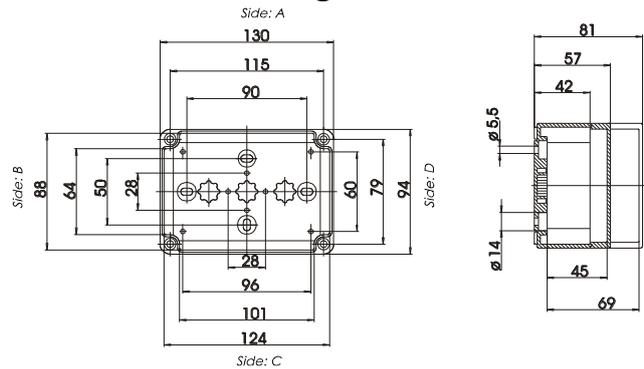


Fig. 3 Dimensioned drawing (in mm)

Connection examples

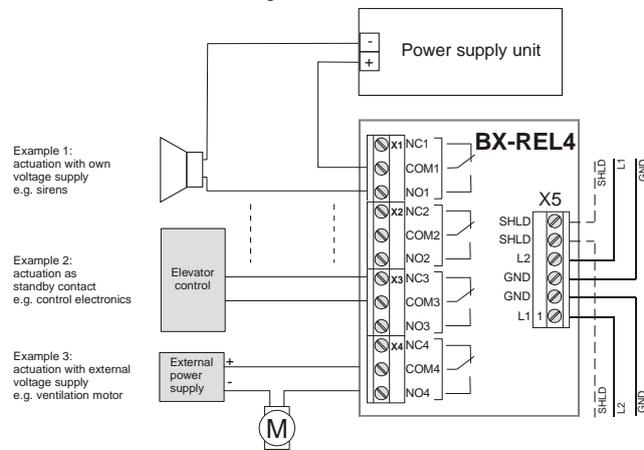


Fig. 4 BX-REL4 connection examples

Example 1 – Actuation of sirens or flashing lights: The relay contact is always switched in voltage supply series when consumers are actuated.

Example 2 – Actuation of external control electronics: An input of an external control electronics is actuated. Depending on requirements, the normally open contact or normally closed contact is connected directly to the external control (e.g. elevator control).

Example 3 – Connecting consumers with high power consumption: An external voltage supply must be used, whereby the relay contact is again switched in voltage supply series. If the breaking capacity of the relay on the BX-REL4 is too small (max. 60 W), external protection must be used for switching the consumer.



Protection for low voltage and mains voltage must be spatially separated. As soon as a relay of the BX-REL4 has 230 VAC mains voltage, components with 24 VDC protective low voltage may not be connected to any relay or contact of this BX-REL4!



Applicable national regulations concerning the safety of personnel must be taken into consideration.

Article numbers / spare parts

Short designation		Art. number CH	Art. number
BX-REL4		115.249 769	20-2100004-01-03
GEH MOD2 IP66	IP66 housing for BX-REL4	403.239 925	FG020235
MM SM M20	M20 step nipple	428.242 578	MM000181
MM ANB M16	M16 mounting screw union	--	MM000185
MM GM M16	M16 counternut	--	MM000186
	Warning sticker for 230 V (10 pcs); available in German only	--	3740990

Technical data

Function	Relay module 4, potential-free relay outputs
Operating voltage	12 to 30 VDC
Current consumption	0.51 mA
Signal transmission	Serial data transmission, 2-conductor technology
Protection type	66 with housing IP
Ambient temperature	-20 to +60 °C
Connection	Screw terminals, max. 1.5 mm ²
VdS approval	G210134
EU certificate of conformity (EN 54-17/18)	0786-CPD-21012
Dimensions (H x W x D)	100 x 67 x 20 mm

Relay outputs	4 St
Connection	Potential-free change-over contacts
Relay	Bistable, 1-coil
Switching voltage	100 – 220 μV – V
Switching current	100 – 2 μA – A
Switching capacity	60 (0.25 A with 230 V or 2.5 A with 24 V) W
Connection	Screw terminals, max. 2.5 mm ²

Changes to Index d: new article number

¹ Reference document: BX-REL4, V.1.0