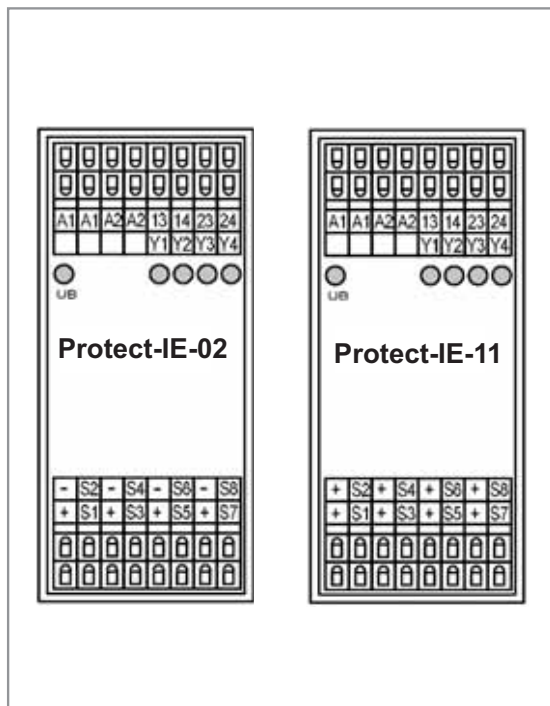


Overview

Front view



Features

- Input for up to 4 sensors per interface e.g.: magnetic safety switches type BNS, emergency stop devices, interlocking devices and others
- Current and voltage restriction of the input circuits
- Connection of sensors with 2 NC contacts (Protect-IE-02) or
- Sensors with NC/NO contacts (Protect-IE-11)
- Cross-short recognition of the input circuits
- Signalling output for each sensor (monitoring of both circuits of the sensors)
- Cascadable, for input up to 80 sensors
- Cage clamp
- Housing width 48 mm
- LED's for U_B and each contact of the sensor

Dimensions

48 x 126 x 61 mm

Product range

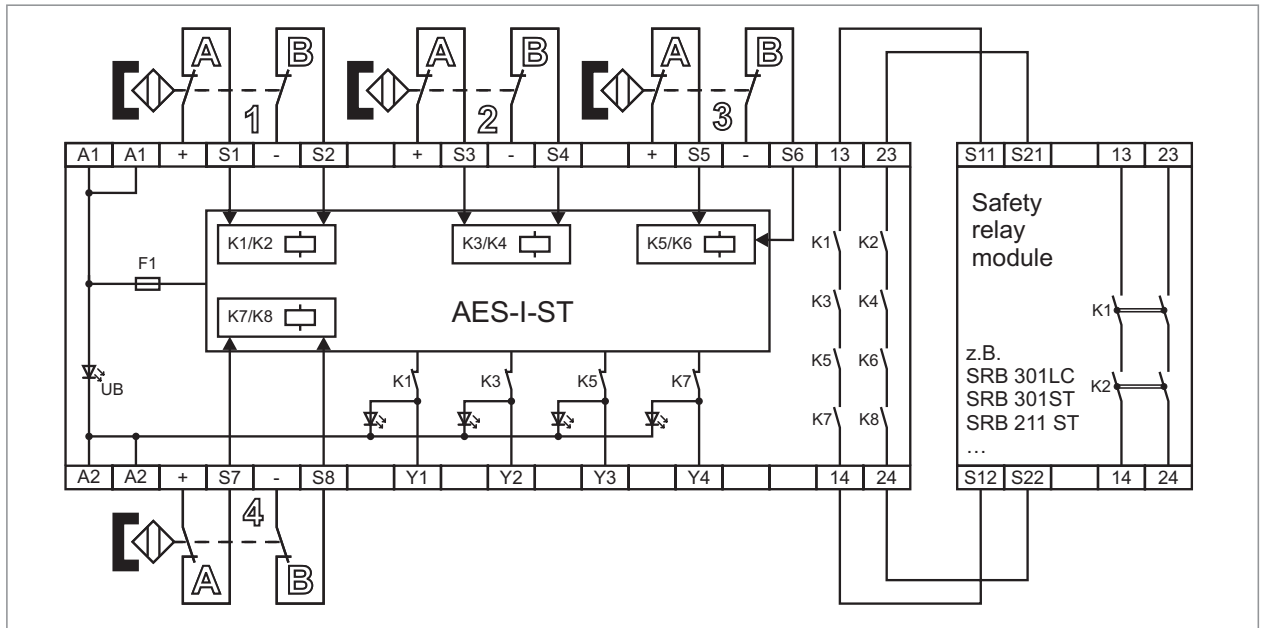
	Protect-IE-02	Protect-IE-11
Enabling circuits	2S	2S
Operating voltage	24 VDC	24 VDC
Part no.	60000260	60000261

Approvals (in preparation)



Technical data

Wiring example



Description

Start level

Depends on the wiring of the safety

Sensor level

Dual-channel control of magnetic safety switches according to EN 60947-5-3.

Output level

Dual-channel control of a downstream safety relay module.

Electrical data

Operating voltage 24VDC -15%/+20%, residual ripple max. 10%

Fuse of operating voltage Internal electronic fuse, tripping current > 100 mA

Power consumption max. 1,7 W; plus Y1-Y4

Enabling contacts

Switching capacity of enabling contacts 24 V, 2 A ohmic (inductive with suitable suppression)

Fuse of enabling contacts 2 A slow blowing

Voltage and current restriction of the control contacts 26 VDC, 250 mA

Pick-up delay ≤ 20 ms

Drop-out delay ≤ 20 ms

Contact resistance max. 100 mΩ when new

Mechanical life time 10⁷ switching cycles

Signalling output

Switching capacity of signalling outputs 24 VDC, 100 mA (Y1-Y4)

Fuse of signalling outputs Internal electronic fuse, current voltage > 500 mA

Mechanical data

Housing Housing made of thermoplastic in accordance with UL-94-V-0 for DIN rail mounting EN 50022

Dimensions (W/H/D) 48 mm / 126 mm / 61 mm

Weight 140 g

Cable connections Cage clamps min. 0,08 mm², max. 2,5 mm² strand or multi-core with wire end ferrule

Specifications

Ambient operating temperature -25 °C...+ 55 °C

Terminal labelling DIN EN 50 005 / DIN 50 013

Protection category IP20

EMC EN 61000-6-2

Oscillations EN 60068-2-6 : frequency: 10-55 Hz, amplitude: 0,35mm

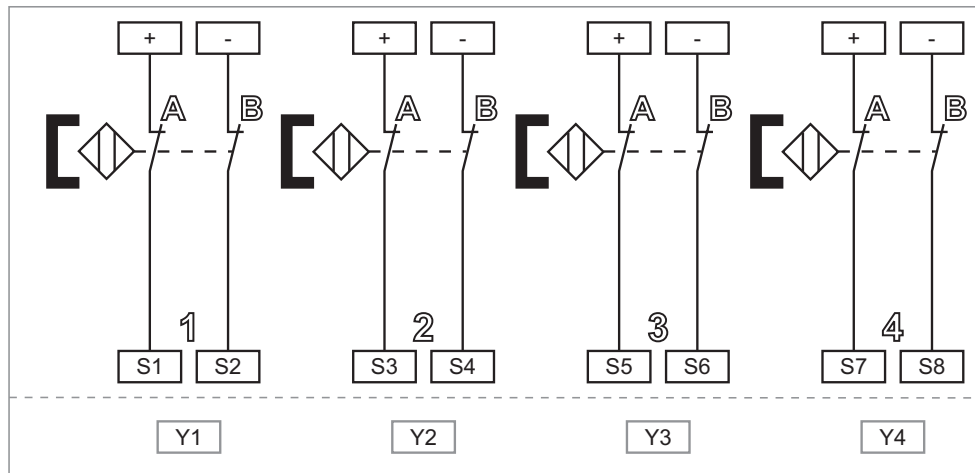
Environmental conditions EN 60068-2-3

Air and creeping distances DIN VDE 0110-1 (04.97), 4 kV/ 2

Sensor level Protect-IE-02

Dual-channel control

Magnetic safety switch according to EN 60947-5-3



Signalling outputs

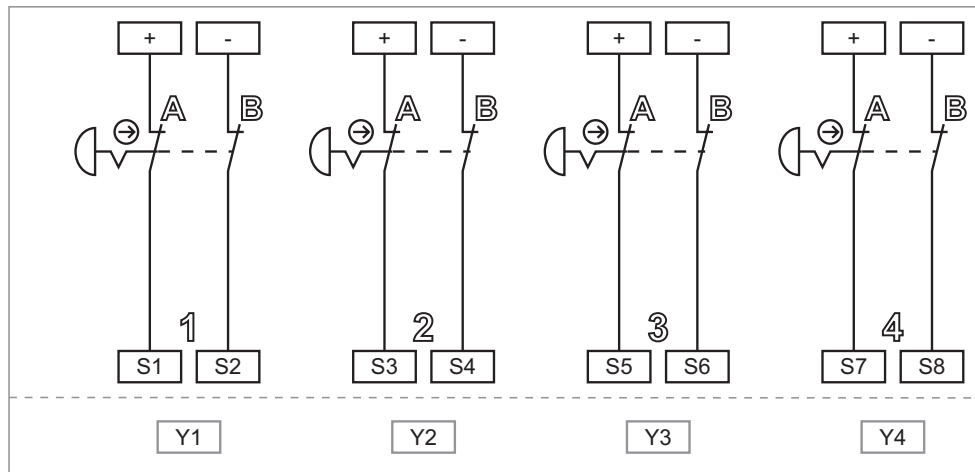
Wire breakage and earth leakage in the control circuits are detected.

Cross-shorts in the monitoring circuits **are detected**.

If the inputs S1, S3, S5 and S7 are not used, they have to be bridged to plus.

If the inputs S2, S4, S6 and S8 are not used, they have to be bridged to minus.

Emergency stop circuit according to 418/EN60947-5-5



Signalling outputs

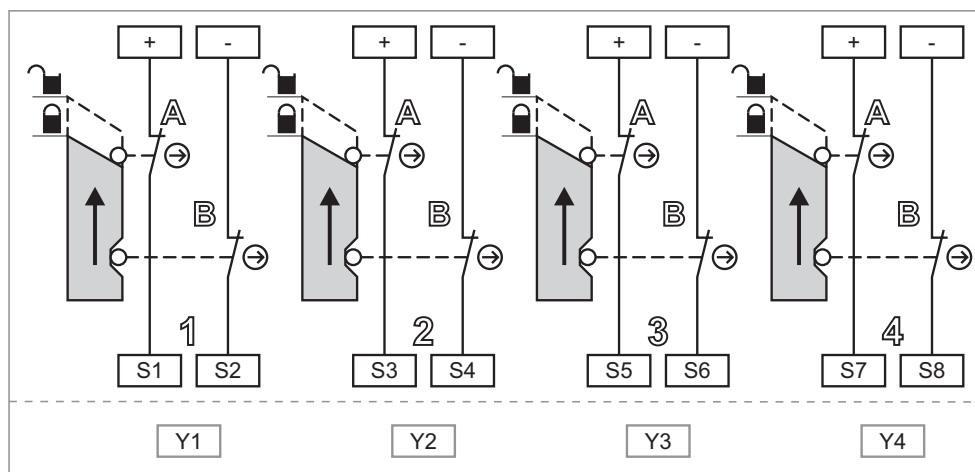
Wire breakage and earth leakage in the control circuits are detected.

Cross-shorts in the monitoring circuits **are detected**.

If the inputs S1, S3, S5 and S7 are not used, they have to be bridged to plus.

If the inputs S2, S4, S6 and S8 are not used, they have to be bridged to minus.

Door monitoring circuit according to EN 1088



Signalling outputs

Wire breakage and earth leakage in the control circuits are detected.

Cross-shorts in the monitoring circuits **are detected**.

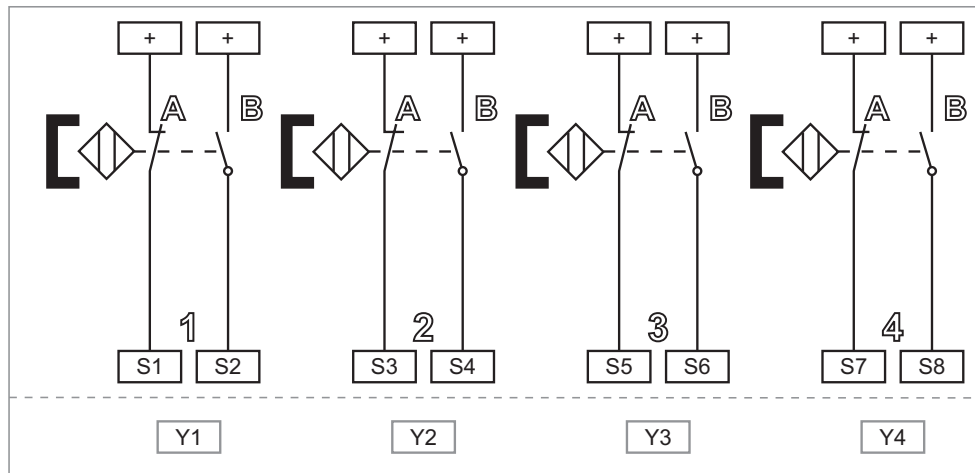
If the inputs S1, S3, S5 and S7 are not used, they have to be bridged to plus.

If the inputs S2, S4, S6 and S8 are not used, they have to be bridged to minus..

Sensor level Protect-IE-11

Dual-channel antivalent control

Magnetic safety switch according to EN 60947-5-3



Signalling outputs

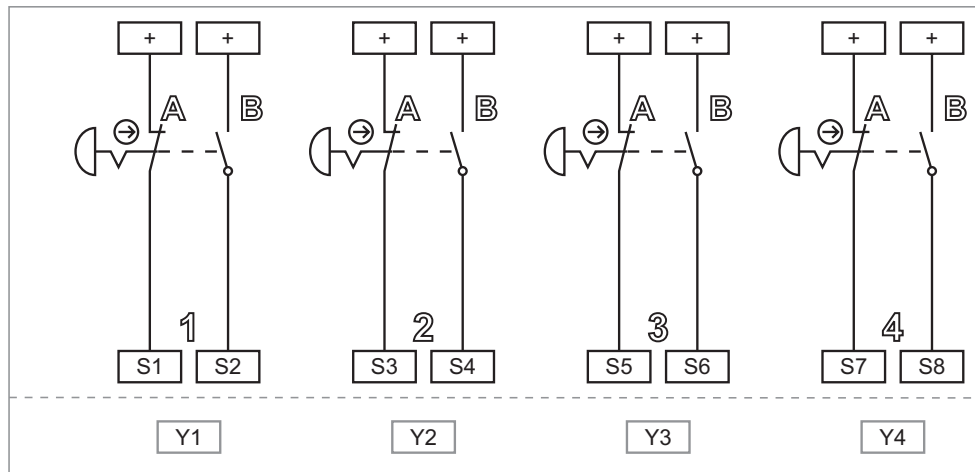
Wire breakage and earth leakage in the control circuits are detected.

Cross-shorts in the monitoring circuits **are detected**.

If the inputs S1, S3, S5 and S7 are not used, they have to be bridged to plus.

If the inputs S2, S4, S6 and S8 are not used, they stay unwired.

Emergency stop circuit according to EN 418/EN60947-5-5



Signalling outputs

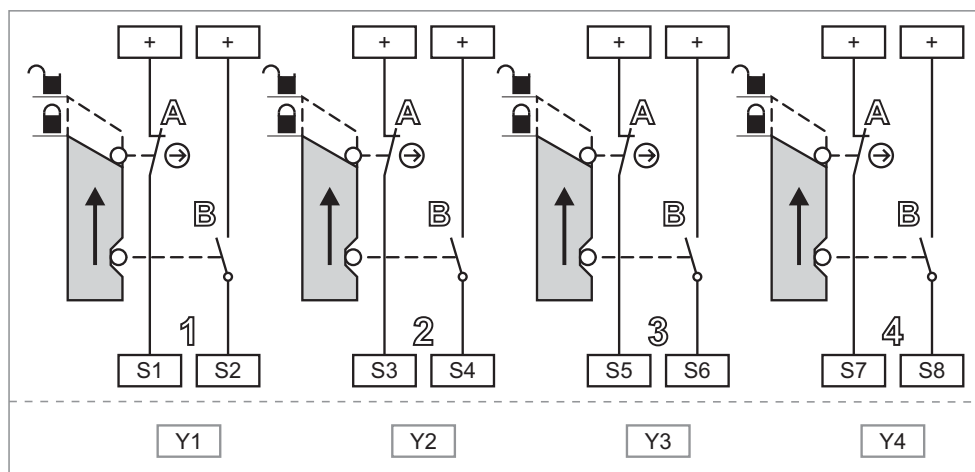
Wire breakage and earth leakage in the control circuits are detected.

Cross-shorts in the monitoring circuits **are detected**.

If the inputs S1, S3, S5 and S7 are not used, they have to be bridged to plus.

If the inputs S2, S4, S6 and S8 are not used, they stay unwired.

Door monitoring circuit according to EN 1088



Signalling outputs

Wire breakage and earth leakage in the control circuits are detected.

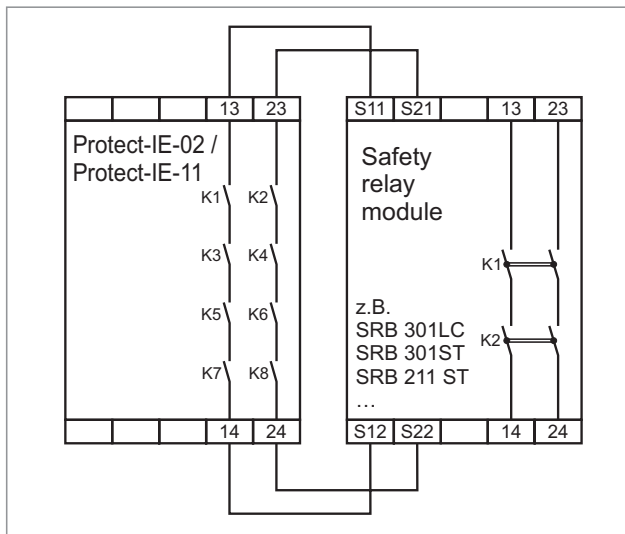
Cross-shorts in the monitoring circuits **are detected**.

If the inputs S1, S3, S5 and S7 are not used, they have to be bridged to plus.

If the inputs S2, S4, S6 and S8 are not used, they stay unwired.

Output level

Enabling contacts



All standard safety relay modules of the SCHMERSAL Group can be connected to the devices Protect-IE-02 and Protect-IE-11.

Advice:

The safety relay modules must be suitable for signal processing for single or dual-channel floating NC-contacts.

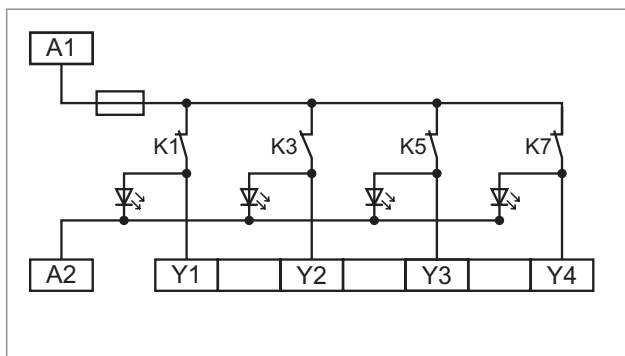
Start and actuator configuration has to be effected in accordance with the data sheet.

The obtainable control category according to EN 954-1 depends on type and wiring of the used safety relay module.

Maximal control category 4 according to EN 954-1, when opening a single guard door.

Maximal control category 3 according to EN 954-1, when opening several guard doors at the same time.

Signalling outputs

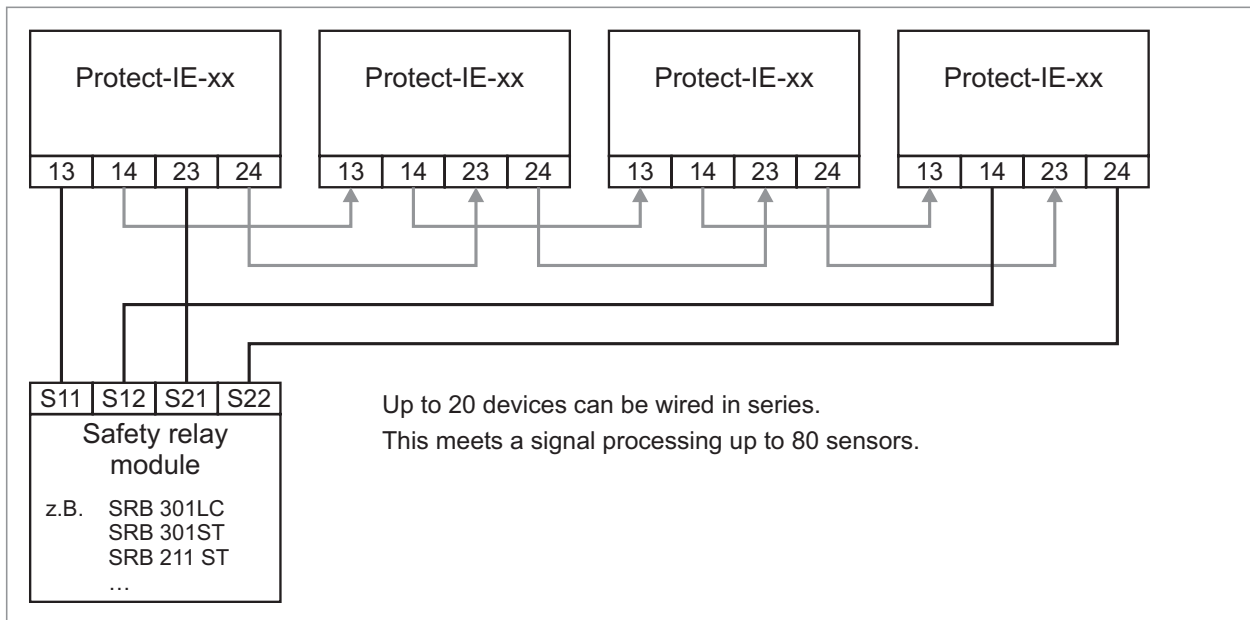


LED's or signalling outputs signalise an opened protective device or emergency stops.

Monitoring effected on both contact circuits of the sensor.

When the protective device or the emergency stop circuit is opened a signal of 24V will be wired the regarding output (Y1...Y4) and the dedicated LED lights.

Cascading



Up to 20 devices can be wired in series.
This meets a signal processing up to 80 sensors.