

Category 4, EN 954-1 PNOZ X13



Emergency stop relay and safety gate monitor in accordance with VDE 0113 part 1, 11/98, EN 60204-1, 12/97 and IEC 204-1, 11/98.

Features

- Input wiring compatible with the PNOZ X3
- Dual-channel wiring with detection of shorts across the input contacts
- Monitored manual or automatic reset can be selected
- Supply voltage: 24 VDC

Approvals

	PNOZ X13
	Applied for
	●
	●

Technical Details	PNOZ X13
Electrical Data	
Supply Voltage	24 VDC
Tolerance	85 ... 110 %
Power Consumption U_B	Approx. 4.5 W
Voltage and Current at the Input and Reset Circuits and Feedback Control Loop	24 VDC, 50 mA
Switching Capability in accordance with EN 60947-4-1, 02/01	AC1: 240 V/8 A/2000 VA DC1: 24 V/8 A/200 W AC15: 230 V/5 A; DC13: 24 V/7 A
EN 60947-5-1, 11/97 (DC13: 6 cycles/min.)	
Output Contacts	5 safety contacts N/O 1 auxiliary contact N/C
Contact Fuse Protection (EN 60947-5-1, 11/97)	10 A quick or 6 A slow
Times	
Delay-on Energisation	Max. 100 ms
Delay-on De-energisation	Max. 50 ms
Recovery Time	Approx. 1 s
Simultaneity channel1/2	∞
Max. Supply Interruption before De-energisation	Approx. 25 ms
Mechanical Data	
Max. Cross Section of External Conductors	2 x 1.5 mm ² or 1 x 2.5 mm ² Single-core or multi-core with crimp connectors
Dimensions (H x W x D)	87 x 45 x 121 mm
Weight	370 g

Description

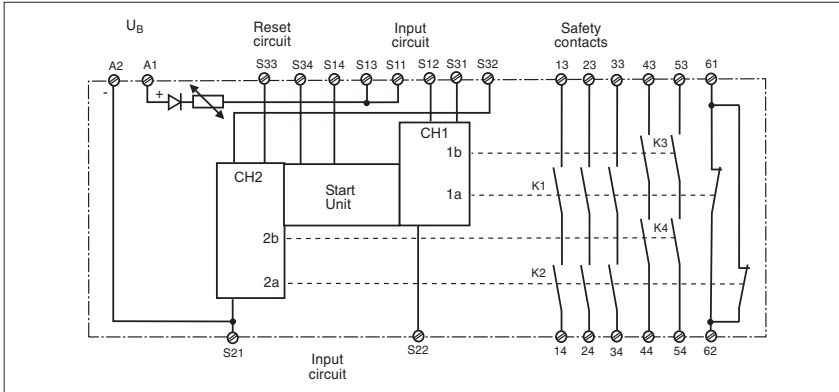
- 45 mm P-97 housing, DIN Rail mounting
- Positive-guided relay outputs:
 - 5 safety contacts N/O
 - 1 auxiliary contact N/C
- Connections for
 - E-STOP button
 - safety gate limit switch
 - reset button
- LEDs for power, channel 1, channel 2, reset circuit
- Increase in the number of safety contacts available by connecting expander modules.

Operating Modes

- Single-channel operation
- Dual-channel operation
- Automatic reset
- Monitored manual reset

Category 4, EN 954-1 PNOZ X13

Internal Wiring Diagram

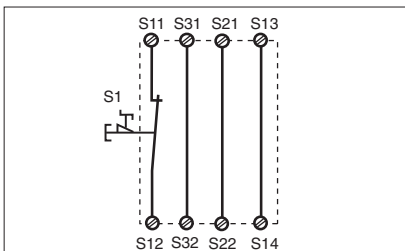


– Key

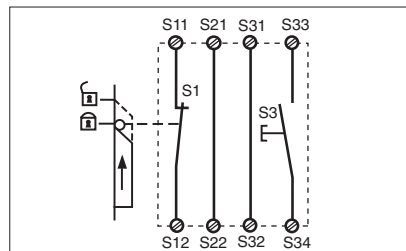
S1/2:	E-STOP or safety gate switch
S3:	Reset button
	Switch operated
	Gate open
	Gate closed

External Wiring

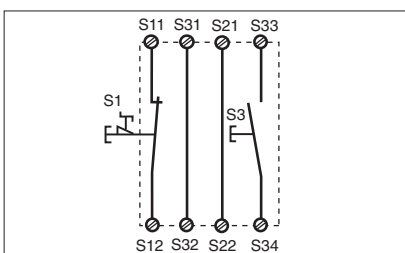
● Example 1
Single-channel E-STOP wiring with automatic reset.



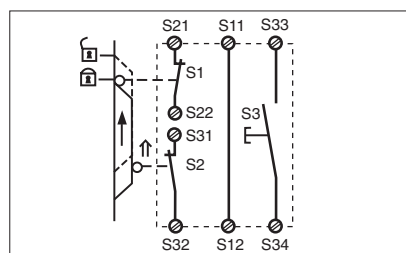
● Example 4
Single-channel safety gate control with monitored manual reset.



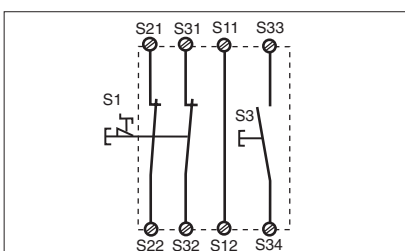
● Example 2
Single-channel E-STOP wiring with monitored manual reset.



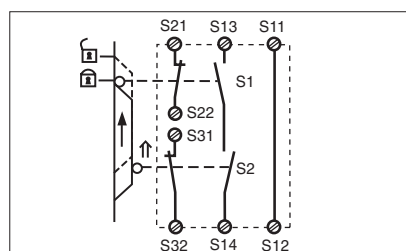
● Example 5
Dual-channel safety gate control with monitored manual reset.



● Example 3
Dual-channel E-STOP wiring with monitored manual reset.

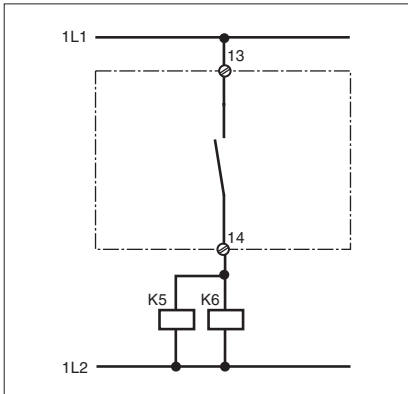


● Example 6
Dual-channel safety gate control with automatic reset.

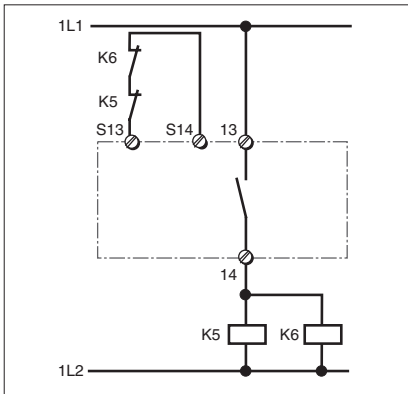


Category 4, EN 954-1 PNOZ X13

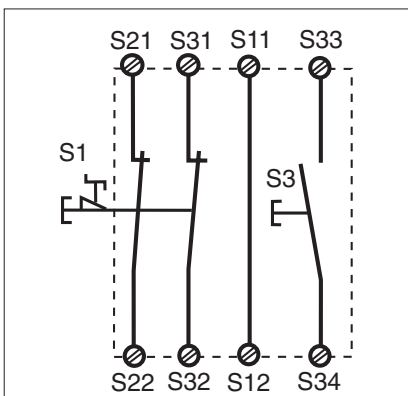
- Increase in safety contacts
The number of output contacts can be increased by using expander modules or relays/contactors with positive-guided contacts.



– Operation with automatic reset.



– Operation with monitored manual reset.



Category 4, EN 954-1 PNOZ X13

General Technical Data

Unless stated otherwise in the technical details for the specific unit

Electrical Data

Frequency Range AC	50 ... 60 Hz
Residual Ripple DC	160 %
Contact Material	AgSnO ₂
Continuous Duty	100 %

Environmental Data

EMC	EN 50081-1, 01/92, EN 61000-6-2, 03/00
Vibration in accordance with EN 60068-2-6, 01/00	Frequency: 10 ... 55 Hz, Amplitude: 0.35 mm
Climatic Suitability	DIN IEC 60068-2-3, 12/86
Airgap Creepage	DIN VDE 0110 part 1, 04/97
Ambient Temperature	-10 ... +55 °C
Storage Temperature	-40 ... +85 °C

Mechanical Data

Torque Setting on Connection Terminals	0.6 Nm (screws)
Mounting Position	Any
Housing Material	Thermoplast Noryl SE 100
Protection	Mounting: IP 54 Housing: IP 40 Terminal Range: IP 20

The units were tested in accordance with the relevant standards current at the time of development.

Order References

Type	U _B	Order No.
PNOZ X13	24 V DC	774 549