

## Category 4, EN 954-1 PNOZ 8






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

### Features

- Dual-channel operation, with or without detection of shorts across the input contacts
- Monitored manual or automatic reset can be selected
- Designed for operation using semiconductor outputs
- Integrated safety cutout

### Approvals

	PNOZ 8
	●
	●
	●

Technical Details	PNOZ 8
<b>Electrical Data</b>	
Supply Voltage	AC: 24, 42, 110, 115, 120, 230, 240 V DC: 24 V
Tolerance	85 ... 110 %
Power Consumption	Approx. 4,5 W/6 VA
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, 10/91	AC1: 240 V/8 A/2000 VA 400 V/5 A/2000 VA DC1: 24 V/8 A/200 W AC15: 230 V/5 A; DC13: 24 V/7A
EN 60947-5-1, 10/91 (DC13: 6 cycles/min.)	
Output Contacts	3 safety contacts (N/O) 1 auxiliary contact (N/C)
Contact Fuse Protection (EN 60947-5-1, 10/91)	10 A quick or 6 A slow
Semiconductor Outputs	24 VDC/50 mA, PNP short circuit protected
External Supply Voltage	24 VDC ±20 %
<b>Times</b>	
Delay-on Energisation	Approx. 150 ms
Delay-on De-energisation	Approx. 50 ms
Recovery Time	Approx. 0.3 s
Simultaneity channel 1/2	Max. 180 ms
Max. Supply Interruption before De-energisation	Approx. 35 ms
Fuse Trip Delay	AC: approx. 350 ms, DC: approx. 150 ms
<b>Mechanical Data</b>	
Torque Setting on Connection Terminals	1.2 Nm (screws)
Max. Cross Section of External Conductors	2 x 2.5 mm <sup>2</sup> Single-core or multi-core with crimp connectors
Dimensions (H x W x D)	75 x 90 x 111.5 mm
Weight	AC: 800 g, DC: 600 g

### Description

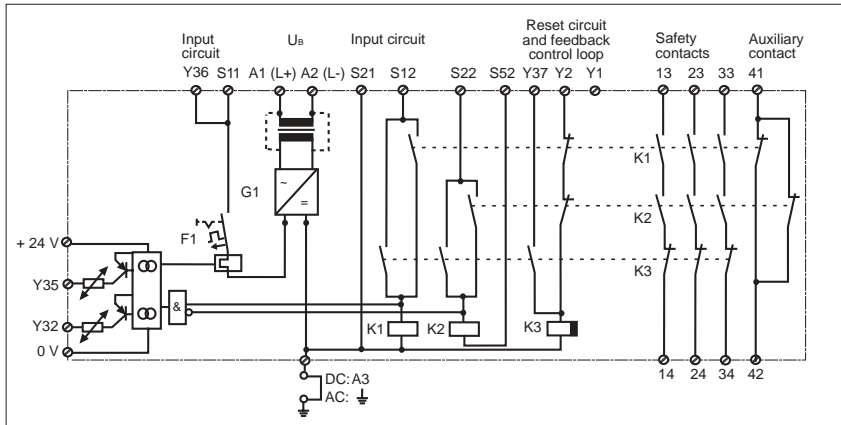
- 90 mm P-75 housing, DIN-Rail mounting
- Positive-guided relay outputs:
  - 3 safety contacts (N/O)
  - 1 auxiliary contact (N/C)
- Connections for
  - E-STOP button
  - safety gate limit switch
  - reset button
- Safety cutout reset button
- LEDs for channel 1, channel 2, fault and power
- Increase in the number of safety contacts available by connecting expander modules.

### Operating Modes

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

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### Internal Wiring Diagram



### - Key

S1/2: E-STOP or safety gate switch

S3: Reset button

Switch operated

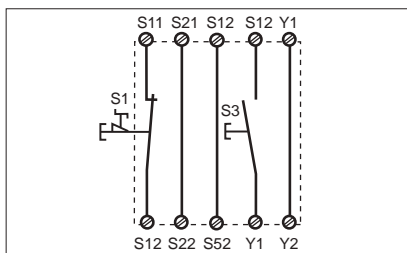
Gate open

Gate closed

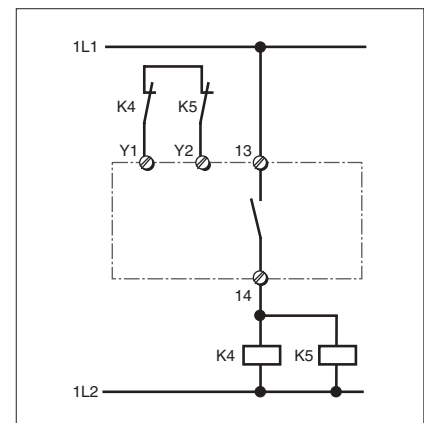
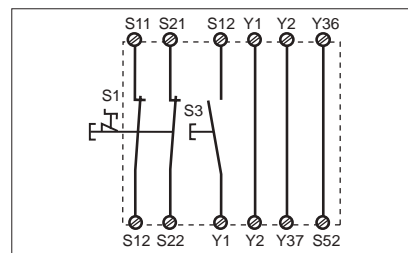
● Increase in safety contacts  
The number of output contacts can be increased by using expander modules or relays/contactors with positive-guided contacts.

### External Wiring

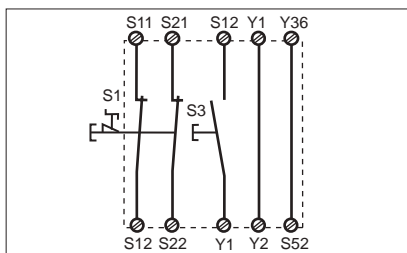
● Example 1  
Single-channel E-STOP wiring with manual reset.



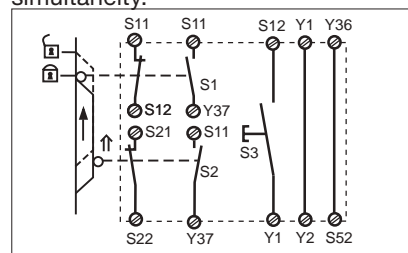
● Example 4  
Dual-channel E-STOP wiring with monitored manual reset.



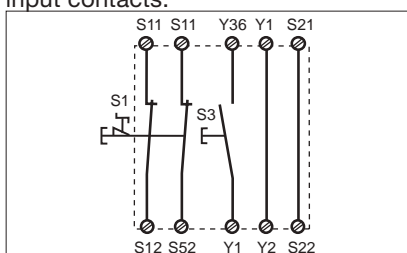
● Example 2  
Dual-channel E-STOP wiring with manual reset.



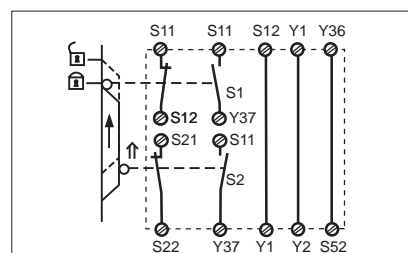
● Example 5  
Dual-channel safety gate control with manual reset and infinite simultaneity.



● Example 3  
Dual-channel E-STOP wiring without short circuit detection across the input contacts.



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



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### 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 <sub>2</sub>
Continuous Duty	100 %

#### Environmental Data

EMC	EN 50081-1, 01/92, EN 50082-2, 03/95
Vibration in accordance with EN 60068-2-6, 04/95	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 <sub>B</sub>	Order No.
PNOZ 8	24 V DC	474 760
PNOZ 8	24 V AC	474 770
PNOZ 8	42 V AC	474 761
PNOZ 8	110 V AC	474 764
PNOZ 8	115 V AC	474 765
PNOZ 8	120 V AC	474 766
PNOZ 8	230 V AC	474 768
PNOZ 8	240 V AC	474 769