

Category 4, EN 954-1 PNOZ 15



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

Features

- Dual-channel operation: short circuit detection across the input contacts can be selected
- 1 semiconductor output (Fault)
- Integrated safety cutout
- Supply voltage: 24 VDC only

Approvals

	PNOZ 15
	●

Technical Details	PNOZ 15
Electrical Data	
Supply Voltage	DC: 24 V
Tolerance	85 ... 110 %
Power Consumption	Approx. 3.5 W
Voltage and Current at the Input and Reset Circuits and Feedback Control Loop	24 VDC, 50 mA
Switching Capability	
Safety contacts	
in accordance with EN 60947-4-1, 10/91	AC1: 240 V/8 A/2000 VA, 400 V/5 A/2000VA DC1: 24 V/8 A/200 W
in accordance with EN 60947-5-1, 10/91 (DC13: 6 cycles/min.)	AC15: 230 V/5 A; DC13: 24 V/7 A
Auxiliary contacts	
in accordance with EN 60947-4-1, 10/91	AC1: 240 V/5 A/1100 VA, DC1: 24 V/5 A/120 W
in accordance with EN 60947-5-1, 10/91 (DC13: 6 cycles/min.)	AC15: 230 V/2 A; DC13: 24 V/3 A
Output Contacts	3 safety contacts (N/O) 2 auxiliary contacts (1 N/O + 1 N/C)
Contact Fuse Protection (EN 60947-5-1, 10/91)	
Safety contacts	10 A quick or 6 A slow
Auxiliary contacts	6 A quick or 4 A slow
Semiconductor Outputs	24 VDC/50 mA, PNP short circuit protected
External Supply Voltage	24 VDC ±30 %
Times	
Delay-on Energisation	Max. 900 ms
Delay-on De-energisation	Approx. 50 ms
Recovery Time	Approx. 1 s
Simultaneity channel 1/2	∞
Max. Supply Interruption before De-energisation	Approx. 35 ms
Mechanical Data	
Maximum 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 90 x 121 mm
Weight	470 g

Description

- 90 mm, P-93 housing, DIN Rail mounting
- Positive-guided relay outputs:
 - 3 safety contacts (N/O)
 - 1 auxiliary contact (N/C)
 - 1 auxiliary contact (N/O)
- Connections for
 - E-STOP button
 - safety gate limit switch
 - reset button
- Safety cutout reset button
- Themic short circuit protection switch

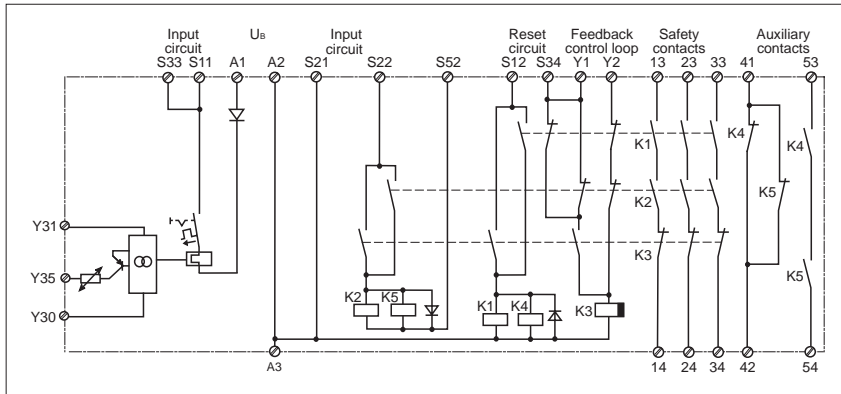
- LEDs for power, fault, channel 1 and channel 2
- Increase in the number of safety contacts available by connecting expander modules.

Operating Modes

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

Category 4, EN 954-1 PNOZ 15

Internal Wiring Diagram



- Key

S1/2: E-STOP or safety gate switch

S3: Reset button

↑ Switch operated

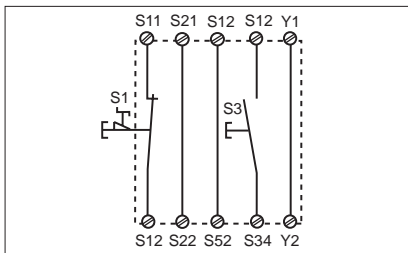
🔒 Gate open

🔒 Gate closed

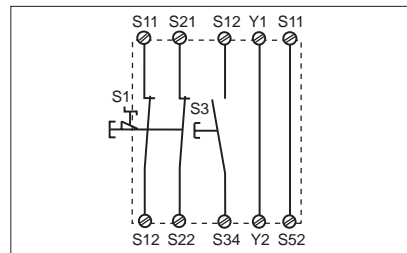
● Increase in safety contacts
The number of output contacts can be increased by using expander modules or relays/contactors with positive-guided contacts.

External Wiring

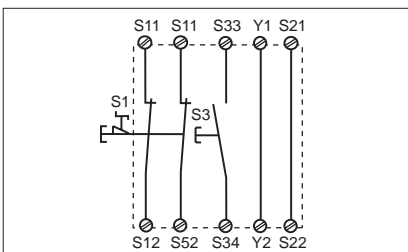
● Example 1
Single-channel E-STOP with manual reset.



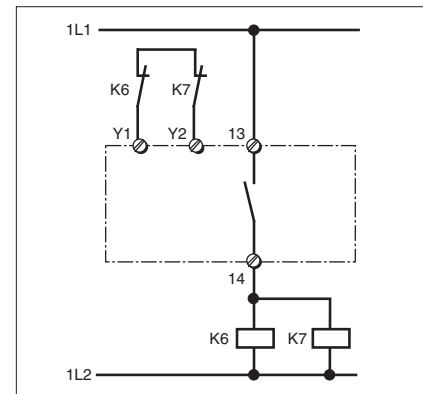
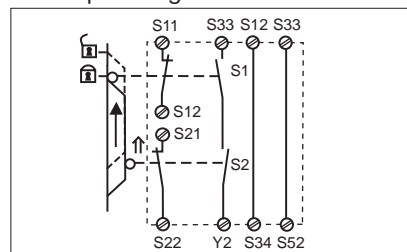
● Example 3
Dual-channel E-STOP wiring with manual reset.



● Example 2
Dual-channel E-STOP wiring without detection of shorts across the input contacts, but with manual reset.



● Example 4
Dual-channel safety gate control via 2 forced-contact limit switches within a circuit with function and start-up testing.



Category 4, EN 954-1 PNOZ 15

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 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 _B	Order No.
PNOZ 15	24 V DC	774 050