




Up to Category 2, EN 954-1 PNOZ X7



Safety relay for monitoring E-STOP pushbuttons.

Approvals

	PNOZ X7
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Unit features

- ▶ Positive-guided relay outputs:
 - 2 safety contacts (N/O), instantaneous
- ▶ Connection options for:
 - E-STOP pushbutton
 - Reset button
- ▶ LED indicator for:
 - Switch status channel 1/2
 - Supply voltage
- ▶ See order reference for unit types

- ▶ The circuit is redundant with built-in self-monitoring.
- ▶ The safety function remains effective in the case of a component failure.
- ▶ The correct opening and closing of the safety function relays is tested automatically in each on-off cycle.

Unit description

The safety relay meets the requirements of EN 60204-1 and IEC 60204-1 and may be used in applications with

- ▶ E-STOP pushbuttons

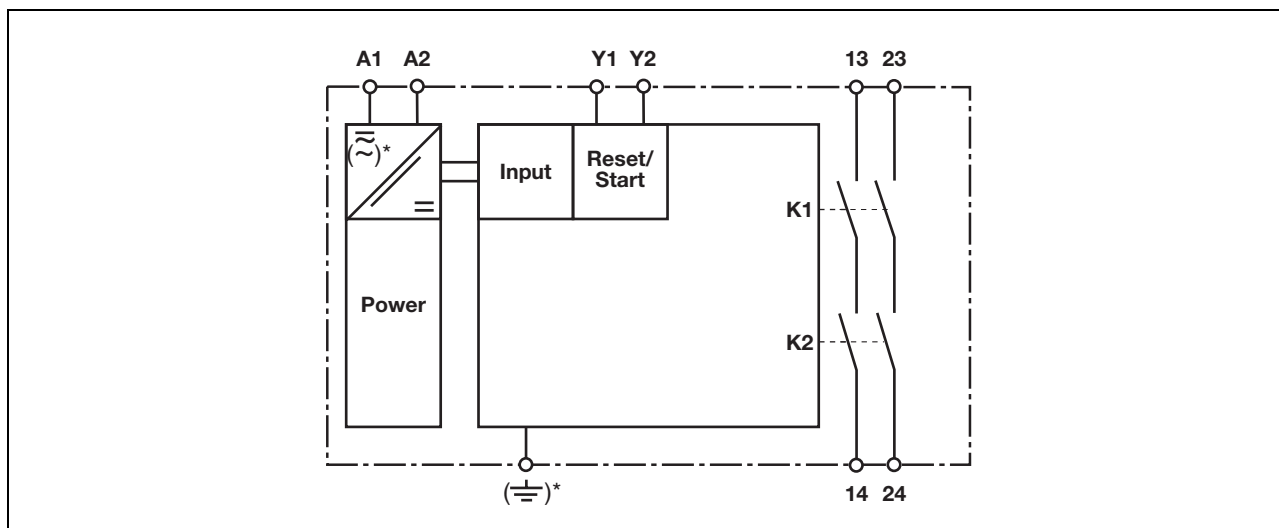
The safety relay is not suitable for non-contact barriers because

- ▶ a dynamic start is not possible
- ▶ the unit can be started during the delay-on de-energisation time.

Safety features

The relay conforms to the following safety criteria:

Block diagram






*Only when $U_B = 42 - 240 \text{ VAC}$

Galvanic isolation only when $U_B = 42 - 240 \text{ VAC}$

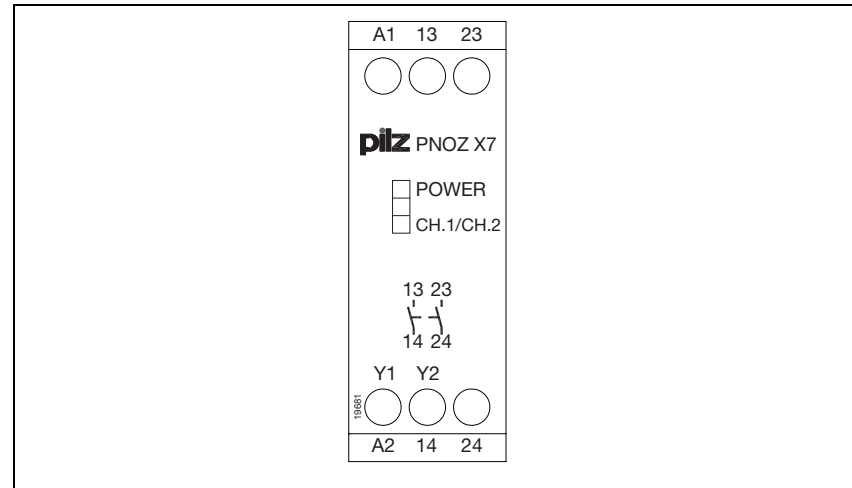
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▶ Key

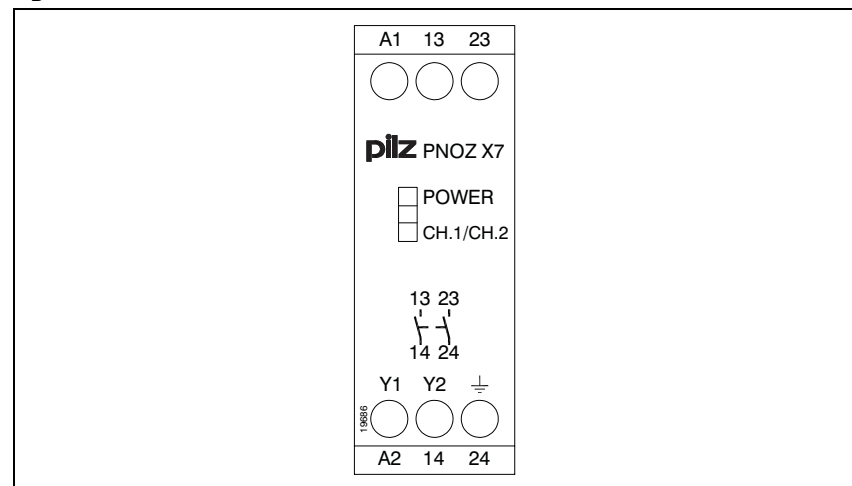
S1	E-STOP pushbutton
S3	Reset button
	Switch operated
	Gate open
	Gate closed

Terminal configuration

$U_B = 24 \text{ VAC/DC}$



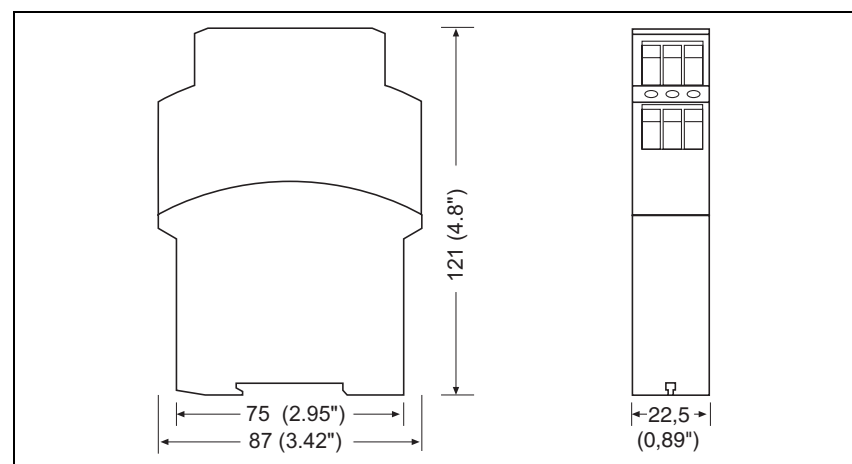
$U_B \text{ AC}$



Installation

- ▶ The safety relay should be installed in a control cabinet with a protection type of at least IP54.
- ▶ Use the notch on the rear of the unit to attach it to a DIN rail.
- ▶ Ensure the unit is mounted securely on a vertical DIN rail (35 mm) by using a fixing element (e.g. retaining bracket or an end angle).

Dimensions

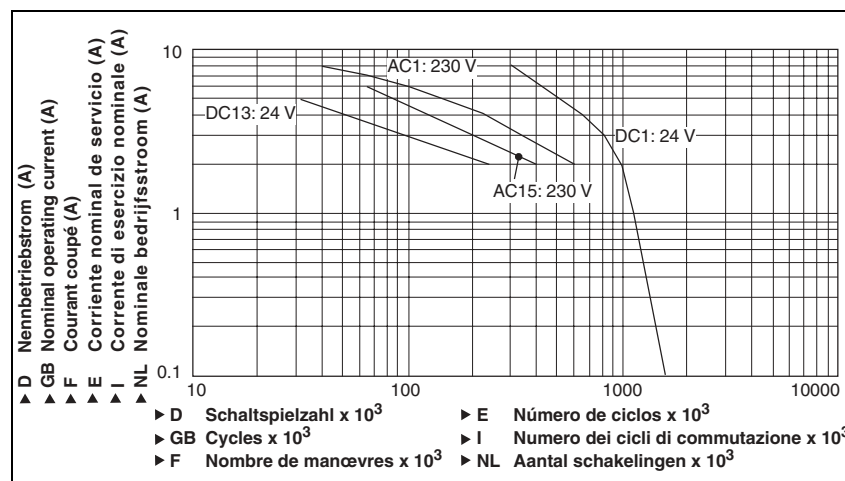


Instantaneous PZE X4

Notice

This data sheet is only intended for use during configuration. For installation and operation, please refer to the operating instructions supplied with the unit.

Service life graph



Technical details

Electrical data

Supply voltage U_B DC	24 V
Voltage tolerance	-15 % / 10 %
Power consumption at U_B DC	2.5 W
Residual ripple DC	20 %
Voltage and current at Input circuit: 24 VDC	85 mA
Output contacts in accordance with EN 954-1, Category 4	Safety contacts (N/O): 4
Utilisation category in accordance with EN 60947-4-1 AC1: 240 V	$I_{min}: 0.01 A, I_{max}: 5 A$ $P_{max}: 1200 VA$
DC1: 24 V	$I_{min}: 0.01 A, I_{max}: 5 A$ $P_{max}: 120 W$
Utilisation category in accordance with EN 60947-5-1 AC15: 230 V	$I_{max}: 3 A$
DC13 (6 cycles/min): 24 V	$I_{max}: 4 A$
Contact material	AgSnO₂ + 0.2 μm Au
External contact fuse protection (EN 60947-5-1)	
Blow-out fuse, quick	6 A
Blow-out fuse, slow	4 A
Circuit breaker	4 A, 24 VAC/DC, characteristic B/C
Max. overall cable resistance R_{lmax} Input circuits Single-channel at U_B DC	30 Ohm
Times	
Switch-on delay	
with automatic reset after power on typ.	23 ms
with automatic reset after power on max.	40 ms
Delay-on de-energisation	
with E-STOP typ.	40 ms
with E-STOP max.	60 ms
with power failure typ.	40 ms
with power failure max.	60 ms
Supply interruption before de-energisation	20 ms

Instantaneous PZE X4

Environmental data

EMC	EN 60947-5-1, EN 61000-6-2
Vibration in accordance with EN 60068-2-6	
Frequency	10 - 55 Hz
Amplitude	0.35 mm
Climatic suitability	EN 60068-2-78
Airgap creepage	VDE 0110-1
Ambient temperature	-10 - 55 °C
Storage temperature	-40 - 85 °C
Protection type	
Mounting (e.g. cabinet)	IP54
Housing	IP40
Terminals	IP20

Mechanical data

Housing material	
Housing	PPO UL 94 V0
Front	ABS UL 94 V0
Max. cross section of external conductors with screw terminals	
1 core flexible	0.20 – 4.00 mm ²
2 core, same cross section, flexible:	
with crimp connectors, without insulating sleeve	0.20 – 2.50 mm ²
without crimp connectors or with TWIN crimp connectors	0.20 – 2.50 mm ²
Torque setting with screw terminals	0.60 Nm
Dimensions (H x W x D)	
with screw terminals	87 mm x 22.5 mm x 121 mm
Weight	185 g

The standards current on **09/04** apply.

Max. continuous current

Number of contacts	1	2	3	4
I _{max} (A) at U _B DC	5 A	5 A	4.5 A	4 A

Order reference

Type	Features	Terminals	Order no.
PZE X4	24 VDC	Screw terminals	774 585