

Category 4, EN 954-1 PNOZ X3P



EMERGENCY STOP switchgear and safety gate monitor according to VDE 0113, 11/89, EN 60204-1, 12/97 and IEC 204-1, 11/98.

Features

- Either monitored or automatic start possible
- 1 semi-conductor output (K1/K2)
- Power supply 24 V DC contained in every AC-device
- Safety gate function with NC/NO combination
- 2-channel wiring only with shorts across contacts detection
- Plug-in terminals

Approvals

	PNOZ X3P
	Pending
	●
	●

Technical data	PNOZ X3P
Electrical data	
Supply voltage	24 V AC, 24 V DC
Tolerance	85 ... 110 %
Power consumption	max. 5 VA/approx. 2,5 W
Voltage and current at input, start and feedback loop	24 V DC, 35 mA
Switching capability according to EN 60947-4-1, 02/01	AC1: 240 V/8 A/2000 VA DC1: 24 V/8 A/200 W
EN 60947-5-1, 11/97 (DC13: 6 switching cycles/min)	AC15: 230 V/5 A DC13: 24 V/6 A
Output contacts	3 safety contacts (NO), 1 auxiliary contact (NC)
Contact protection according to EN 60947-5-1, 11/97	10 A quick-acting or 6 A slow-acting
Semiconductor output external power supply	24 V DC/20 mA, short-circuit-proof 24 V DC ±20 %
Times	
Pickup delay	monitored start: max. 100 ms auto./man. start: max. 0.3 s
Delay-on de-energisation	at EMERGENCY STOP: max. 80 ms at mains off: max. 1 s
Recovery time	approx. 1 s
Simultaneity channel 1/2	∞
Power failure buffer	approx. 25 ms
Environmental data	
Ambient temperature	-25 ... +55 °C
EMC	EN 50081-1, 01/92; EN 61000-6-2, 04/99
Mechanical data	
Max. cross section of outer conductor single wire	flexible without end sleeve: 0.2 ... 2.5 mm ² flexible with end sleeve: 0.25 ... 2.5 mm ²
multi-wire (2 wires of same cross section)	flexible with end sleeve without plastic sleeve: 0.25 ... 1 mm ² flexible with TWIN end sleeve with plastic sleeve: 0.5 ... 1.5 mm ²
Torque setting for terminals	0.5 ... 0.6 Nm (screws)
Dimensions (H x W x D)	94 x 45 x 122 mm
Weight	270 g

Description

- 45 mm P-99-housing, on standard rail, snap-on
- Relay outputs, positive-guided:
 - 3 safety contacts (NO),
 - 1 auxiliary contact (NC)
- Connection possibilities for
 - EMERGENCY STOP button
 - Safety gate limit button
 - Start button
- Semi-conductor output signals ready for operation

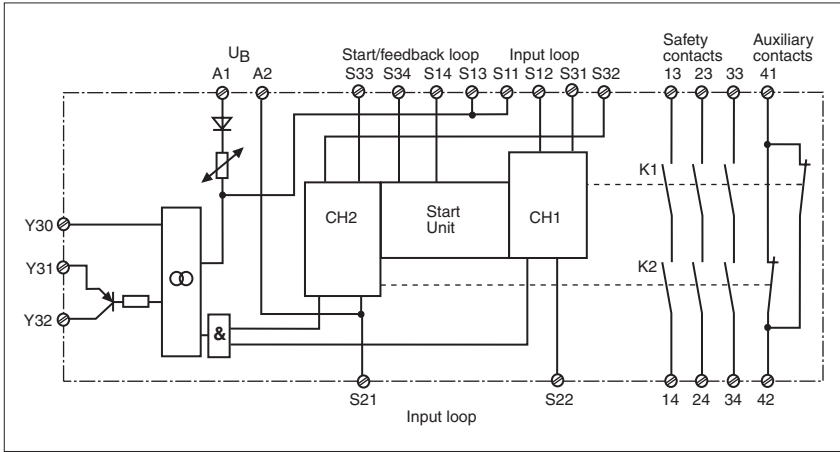
- LEDs for switching status Channel 1, channel 2 and supply voltage
- Contact multiplication and contact amplification possible by external contactors

Operating modes

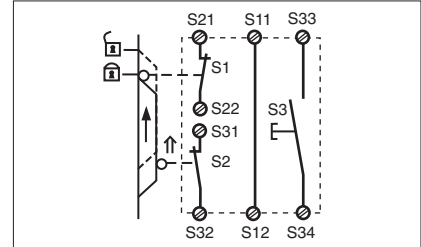
- Single channel mode
- Dual channel mode
- Automatic start
- Manual start with monitoring

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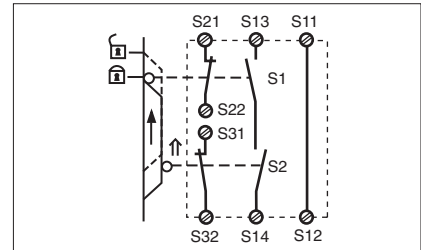
Schematic interior diagram



● Example 5
Dual-channel safety gate control with monitored start

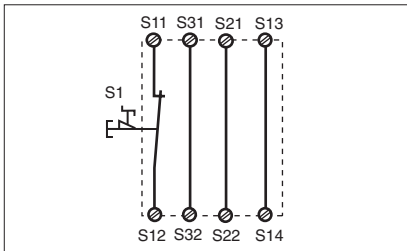


● Example 6
Dual-channel safety gate control with automatic start

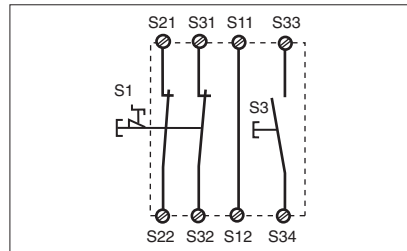


External wiring

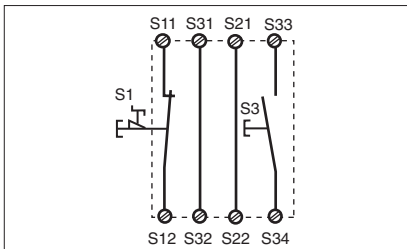
● Example 1
Single-channel EMERGENCY STOP wiring with automatic start



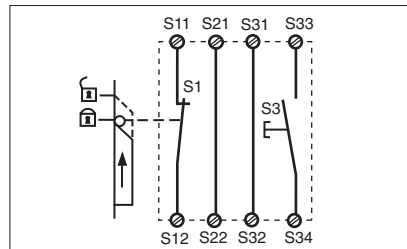
● Example 3
Dual-channel EMERGENCY STOP wiring with monitored start



● Example 2
Single-channel EMERGENCY STOP wiring with monitored start



● Example 4
Single-channel safety gate control with monitored start



- Legend

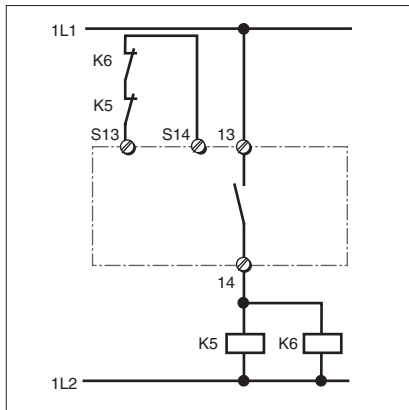
- S1/S2: EMERGENCY STOP or safety gate switch
- S3: Start button
- ↑ actuated element
- 🔒 gate not closed
- 🔓 gate closed

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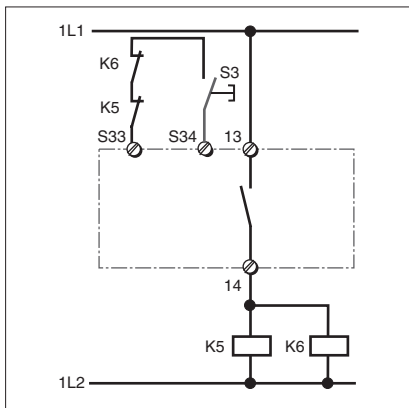
- Contact multiplication

The output contacts can be amplified or multiplied by external contactors with positive-guided contacts if necessary.

– Single-channel control with automatic start



– Single-channel control with monitored start



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General data

Unless described otherwise than the device-specific technical data.

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
Oscillations according to EN 60068-2-6, 01/00	Frequency: 10 ... 55 Hz, Amplitude: 0.35 mm
Environmental conditions	DIN IEC 60068-2-3, 12/86
Airgap and creepage distance	DIN VDE 0110-1, 04/97
Ambient temperature	-10 ... +55 °C
Storage temperature	-40 ... +85 °C

Mechanical data

Torque setting for terminals	0.6 Nm (screws)
Mounting position	any
Housing material	Thermoplast Noryl SE 100
Protection types	Installation room: IP 54 Housing: IP 40 Terminals: IP 20