

Category 4, EN 954-1 PNOZ e1p



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

- Monitored manual or automatic reset can be selected
- 2 safe semiconductor outputs
- 1 auxiliary semiconductor output
- Auxiliary output can also be used as a diagnostic output
- Option for detecting shorts across the input contacts
- Applications in accordance with EN 954-1, 07/96, category 2, 3 or 4
- Self-test after U_B is supplied
- Continuous self-monitoring
- Regular switch-off test of the safety outputs

Approval

	PNOZ e1p
	●
	●
	●

Technical details	PNOZ e1p
Electrical data	
Supply voltage	24 VDC
Tolerance	80 ... 125 %
Power consumption	no load: 2 W
Residual Ripple DC	20 %
Outputs	2 safety outputs 1 auxiliary output
Switching capability	$U_B \leq 26.5$ V: 2 outputs under load: 2 A/50 W 1 output under load: 2.7 A/70 W $U_B > 26.5$ V: 2 outputs under load: 1.5 A/40 W
Voltage and current at input and reset circuits and feedback control loop	24 VDC, 5 mA
auxiliary output and test pulse outputs	24 VDC/0.5 A
Times	
Delay-on energisation	manual reset: 180 ms automatic reset: 100 ms
Delay-on de-energisation	max. 35 ms
Switch-on delay	3 s (on initial reset once U_B is supplied)
Simultaneity channel 1/2	∞
Max. Supply Interruption before de-energisation	max. 20 ms
Environmental data	
Storage temperature	-25 ... 70 °C
Mechanical data	
Max. cross section of external conductor, single core	flexible without crimp connector: 0.2 ... 2.5 mm ² flexible with crimp connector: 0.25 ... 2.5 mm ²
multi-core conductor (2 conductors with identical cross section)	flexible with crimp connector without plastic sleeve: 0.25 ... 1 mm ² flexible with TWIN crimp connector 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)	87 x 22.5 x 121 mm
Weight	170 g

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Description

- 22.5 mm P-99 housing, DIN-Rail mounting
- Semiconductor outputs, short-circuit proof:
 - 2 safety outputs
 - 1 auxiliary output
 - 2 test pulse outputs
- Connections for
 - E-STOP button
 - safety gate limit switch
 - evaluation device for proximity switches
 - safety mats and connecting blocks made by Haake
 - Reset button
- Auxiliary output can also be used as a diagnostic output
It is possible to program the driver for reading diagnostic data yourself. However, the CD „PLC

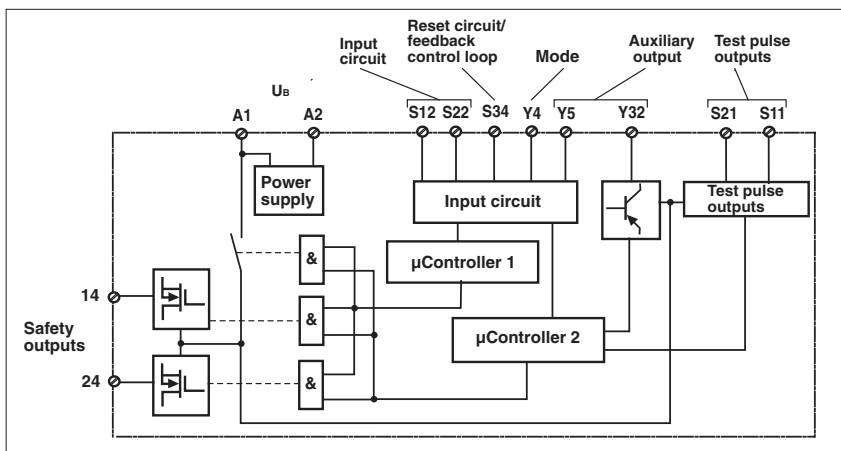
Drivers for PNOZelog“ is also available. This contains pre-programmed drivers for the following controllers:
- SIMATIC S7

- LEDs for switching status and faults in channel 1/2 and for supply voltage
- Shorts across the input contacts are detected by means of test pulse outputs
- 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

Internal wiring diagram



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General details

Unless stated otherwise in the technical details for the specific unit

Electrical data

AC frequency range	50 ... 60 Hz
DC residual ripple	160 %
Contact material	AgSnO ₂
Continuous duty	100 %

Environmental data

EMC	EN 50081-1, 01/92, EN 61000-6-2, 04/99
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 01101 Part 1, 04/97
Ambient temperature	-10 ... +55 °C
Storage temperature	-40 ... +85 °C

Mechanical data

Torque setting for connection terminals	0.6 Nm (screws)
Mounting position	Any
Housing material	Thermoplastic Noryl SE 100
Protection types	Mounting: IP 54 Housing: IP 40 Terminals: IP 20

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

Order reference

Type	U _B	Order number
PNOZ e1p	24 VDC	774 130

Order references accessories

Description	Order number
PLC Drivers for PNOZelog	874 130... ¹⁾

¹⁾ When ordering, please state the type of licence you require after the order number (..B for basic licence, ..K for copy licence, ..G for general licence, ..U for update licence), e.g. 301 400B.