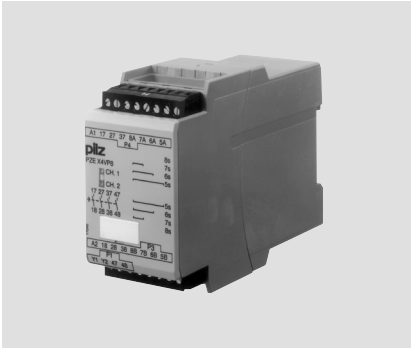
Delayed
PZE X4VP8



Contact expander module for increasing the number of available contacts

Approvals

	PZE X4VP8
CCC	◆
cULus LISTED	◆
BG-PRÜFZERT	◆

Unit features

- Positive-guided relay outputs:
  – 4 safety contacts (N/O), delay-on de-energisation
- LED indicator for:
  – Switch status channel 1/2
- Plug-in connection terminals (either cage clamp terminal or screw terminal)
- See order reference for unit types

Unit description

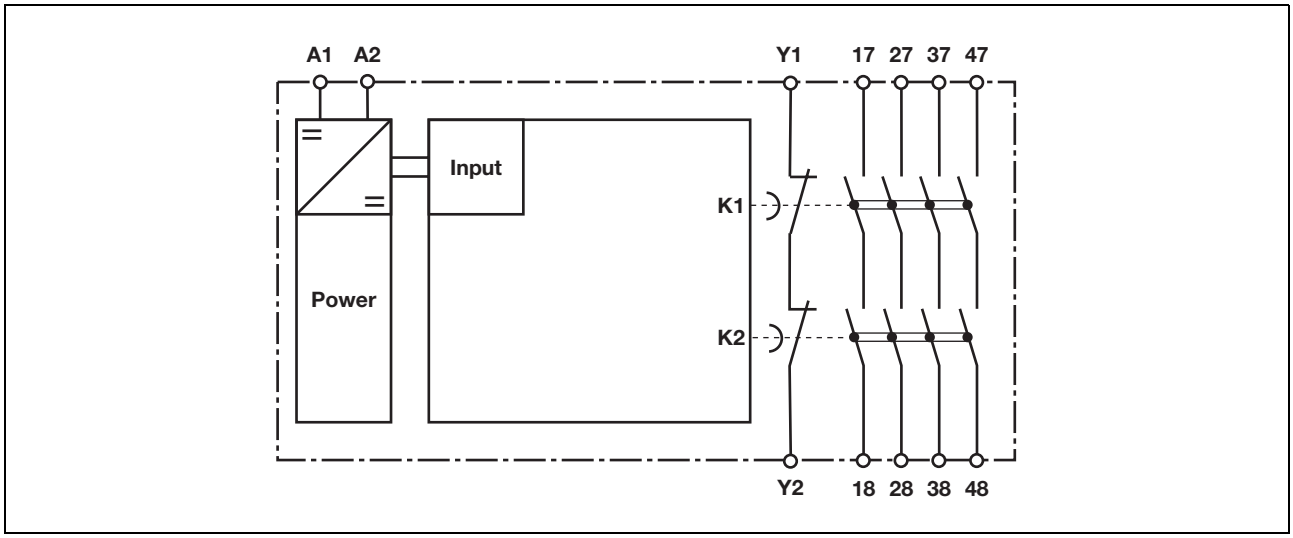
The unit meets the requirements of EN 60204-1 and IEC 60204-1. The contact expander module is used to increase the number of contacts available on a base unit. Base units are all safety relays with feedback loop. The category that can be achieved in accordance with EN 954-1 depends on the category of the base unit. The contact expander module may not exceed this.
The delay-on de-energisation safety contacts may only be used up to category 3.

Safety features

The unit meets the following safety requirements:

- The contact expander module expands an existing circuit. As the output relays are monitored via the base unit's feedback loop, the safety functions on the existing circuit are transferred to the contact expander module.
- The safety function remains effective in the case of a component failure.
- Earth fault in the feedback loop: Detected, depending on the base unit that is used.
- Earth fault in the input circuit: The output relays de-energise and the safety contacts open.

Block diagram



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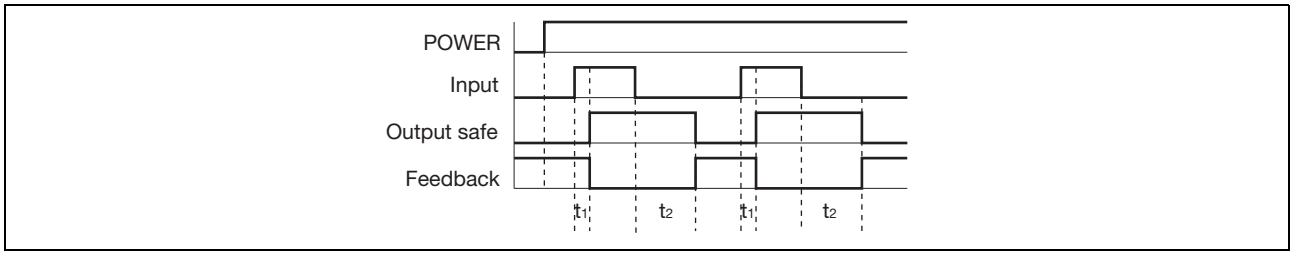
Function description

- Single-channel operation: one input circuit affects both output relays

Timing diagram



Key

- Power: Supply voltage
- Input: Input circuits A1
- Output safe: Safety contacts 17-18, 27-28, 37-38, 47-48
- Feedback: Feedback loop Y1-Y2
- t_1: Switch-on delay
- t_2: Delay-on de-energisation

Wiring

Please note:

- Information given in the “Technical details” must be followed.
- Outputs 17-18, 27-28, 37-38, 47-48 are delay-on de-energisation safety contacts.
- To prevent contact welding, a fuse should be connected before the output contacts (see technical details).
- Calculation of the max. cable runs l_{max} in the input circuit:

$$l_{max} = \frac{R_{lmax}}{R_l / km}$$

R_{lmax} = max. overall cable resistance (see technical details)
R_l /km = cable resistance/km

- Use copper wire that can withstand 60/75 °C.
- Sufficient fuse protection must be provided on all output contacts with capacitive and inductive loads.

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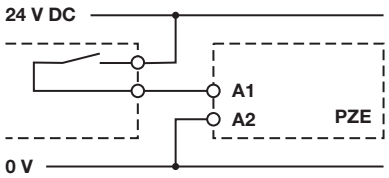
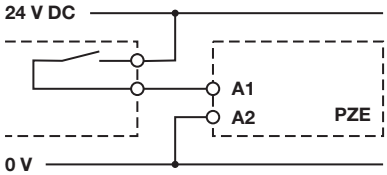
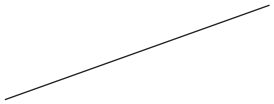
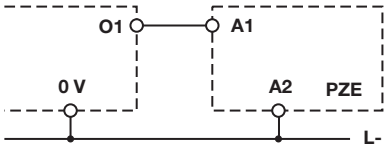
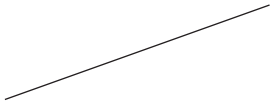
Preparing for operation

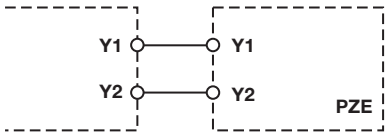
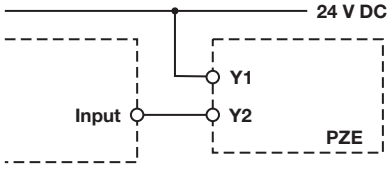
▸ Supply voltage

Supply voltage	AC	DC
		

▸ Input circuit

Input circuit	Single-channel	Dual-channel
Base unit: PNOZ X safety relay Driven via safety contacts		
Base unit: PNOZelog safety relay Driven via semiconductor outputs (24 VDC)		

▸ Feedback loop

Feedback loop	Automatic reset	Monitored reset
Y1, Y2 and Input are inputs on the base unit; they evaluate the feedback loop		

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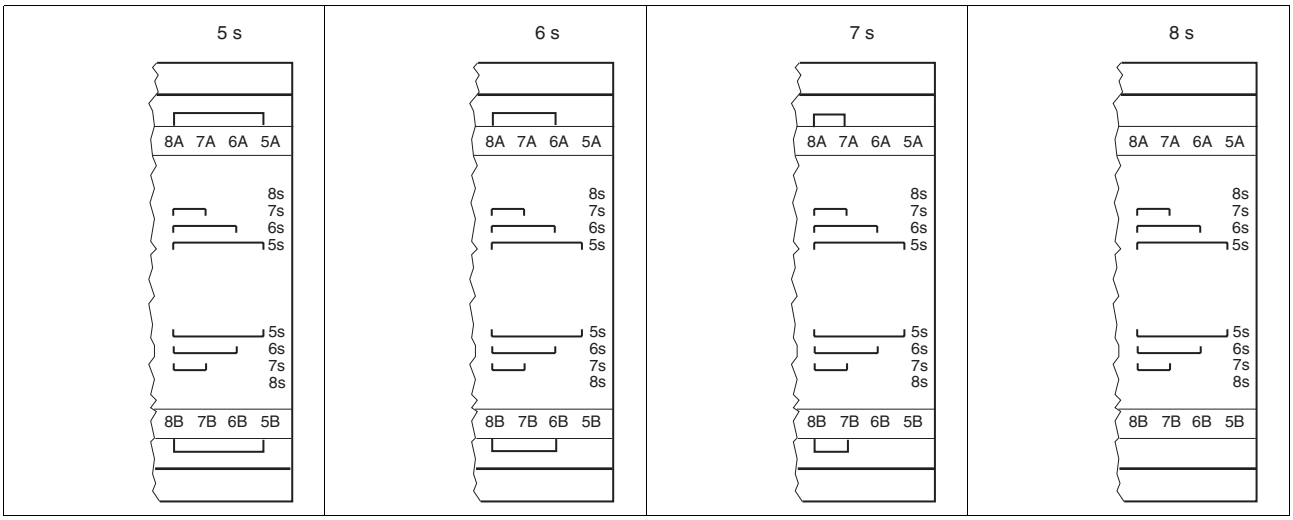
- Setting the delay time



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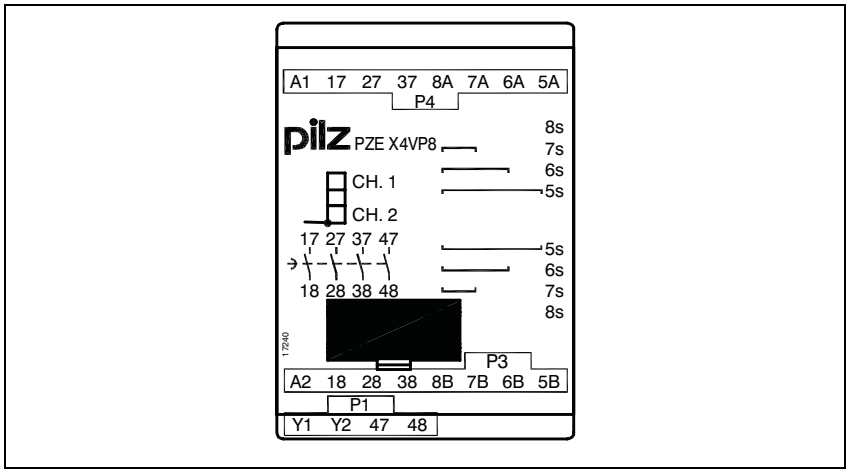
Terminal configuration

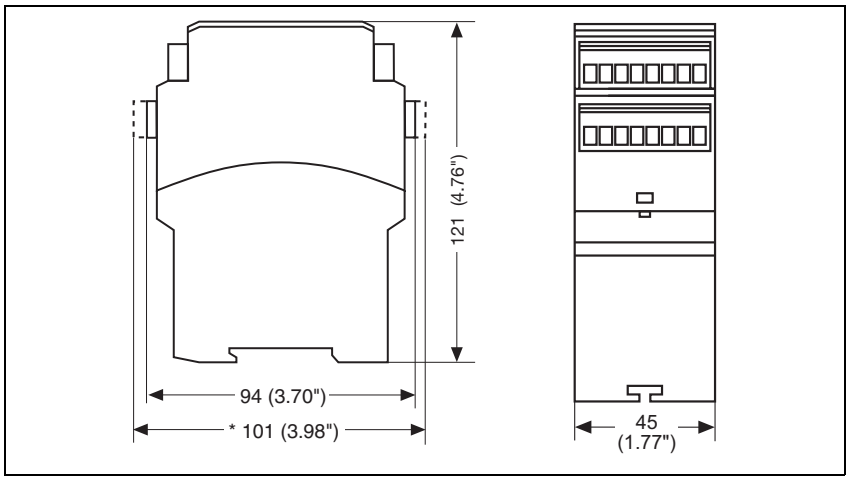


Installation

- 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

* with cage clamp terminals



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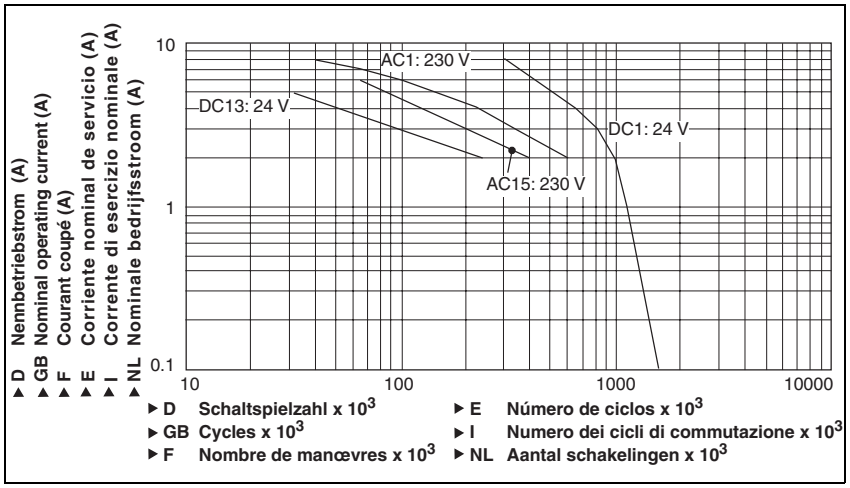
Notice

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	
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 DC: **24.0 V**	**70.0 mA**
Output contacts in accordance with **EN 954-1**	Safety contacts (N/O), delayed: **4**
Utilisation category in accordance with **EN 60947-4-1**	
Safety contacts, delayed: AC1 at **240 V**	I_{min}: **0.01 A** , I_{max}: **5.0 A** P_{max}: **1,200 VA**
Safety contacts, delayed: DC1 at **24 V**	I_{min}: **0.01 A** , I_{max}: **5.0 A** P_{max}: **120 W**
Utilisation category in accordance with **EN 60947-5-1**	
Safety contacts, delayed: AC15 at **230 V**	I_{max}: **5.0 A**
Safety contacts, delayed: DC13 at **24 V** (6 cycles/min)	I_{max}: **4.0 A**
Contact material	**AgSnO2 + 0.2 µm Au**
External contact fuse protection to **EN 60947-5-1**	
Blow-out fuse, quick	
Safety contacts:	**6 A**
Blow-out fuse, slow	
Safety contacts:	**4 A**
Circuit breaker 24 VAC/DC, characteristic B/C	
Safety contacts:	**4 A**
Max. overall cable resistance R_{lmax} per input circuit	
single-channel at U_B DC	**30 Ohm**
Times	
Switch-on delay	
with automatic reset after power on typ.	**320 ms**
with automatic reset after power on max.	**500 ms**
Delay time t_V: selectable	**5.00 s**; **6.00 s**; **7.00 s**; **8.00 s** Order no.: 777584 **5.00 s**; **6.00 s**; **7.00 s**; **8.00 s** Order no.: 787584
Time accuracy	**-50 %/+50 %**
Supply interruption before de-energisation	**20 ms**

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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. control 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	**0.25 - 2.50 mm² , 24 - 12 AWG** Order no.: 777584
2 core, same cross section, flexible:	
with crimp connectors, without insulating sleeve	**0.25 - 1.00 mm² , 24 - 16 AWG** Order no.: 777584
without crimp connectors or with TWIN crimp connectors	**0.20 - 1.50 mm² , 24 - 16 AWG** Order no.: 777584
Torque setting with screw terminals	**0.50 Nm** Order no.: 777584
Max. cross section of external conductors with cage clamp terminals: flexible without crimp connectors	**0.20 - 1.50 mm² , 24 - 16 AWG** Order no.: 787584
Cage clamp terminals: terminal points per connection	**2** Order no.: 787584
Stripping length	**8 mm** Order no.: 787584
Dimensions	
Height	**101.0 mm** Order no.: 787584 **94.0 mm** Order no.: 777584
Width	**45.0 mm**
Depth	**121.0 mm**
Weight	**325 g** Order no.: 787584 **330 g** Order no.: 777584

The current versions **01/03** of the standards apply.

Order reference

Type	Features			Terminals	Order no.
PZE X4VP8 C		24 VDC	8 s selectable	Cage clamp terminals	787 584
PZE X4VP8		24 VDC	8 s selectable	Screw terminals	777 584

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