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Find the *Pilz PNOZ mo3p* at our website: *Click HERE*

Expansion modules
PNOZ mo3p



Expansion module for connection to a base unit from the PNOZmulti modular safety system

Approvals

	PNOZ mo3p
c UL us LISTED	◆
	◆
	◆

Unit features

- Can be configured in the PNOZmulti Configurator
- Semiconductor outputs:
  – 2 dual-pole safety outputs in accordancewith EN 954-1, Cat. 4
- Status indicators
- Plug-in connection terminals (either cage clamp terminal or screw terminal)
- Max. 6 PNOZ mo3p units can be connected to the base unit

Unit description

The expansion module may only be connected to a base unit from the PNOZmulti modular safety system. The PNOZmulti modular safety system is used for the safety-related interruption of safety circuits and is designed for use in:

- Emergency stop equipment
- Safety circuits in accordance with VDE 0113 Part 1 and EN 60204-1

System requirements

- Base unit PNOZ m1p/PNOZmulti Configurator: from Version 4.0
- PNOZ m2p: from Version 1.0

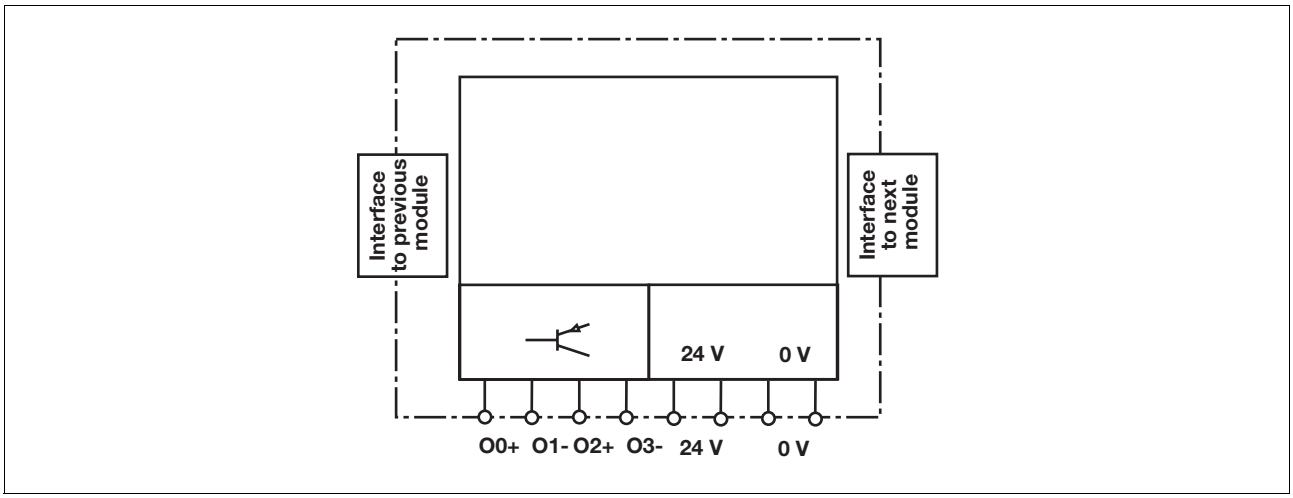
Please contact Pilz if you have an older version.

Safety features

The relay conforms to the following safety criteria:

- The circuit is redundant with built-in self-monitoring.
- The safety function remains effective in the case of a component failure.
- The safety outputs are checked periodically via tests.

Block diagram



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Expansion modules
PNOZ mo3p

Function description

The expansion module provides additional semiconductor outputs.
The function of the outputs on the safety system depends on the safety circuit created using the PNOZmulti Configurator. A chip card is used to download the safety circuit to the base unit. The base unit has 2 microcontrollers that monitor each other. They evaluate the input circuits on the base unit and expansion modules and switch the outputs on the base unit and expansion modules accordingly. The online help on the PNOZmulti Configurator contains descriptions of the operating modes and all the functions of the PNOZmulti safety system, plus connection examples.

Wiring

The wiring is defined in the circuit diagram in the Configurator.
Please note:

- Information given in the "Technical details" must be followed.
- Outputs O0+, O0- and O1+, O1- are dual-pole semiconductor outputs.
- Use copper wire that can withstand 75 °C.

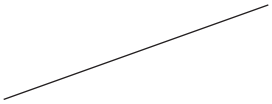
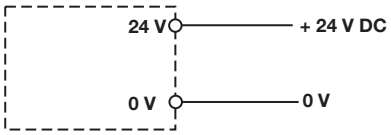
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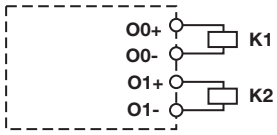
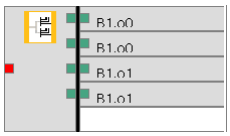
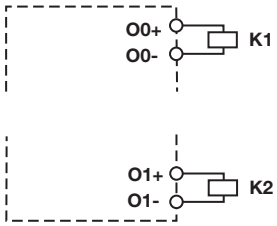
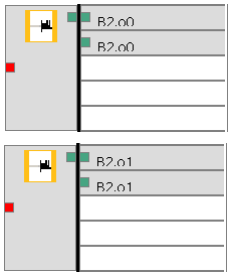
Expansion modules
PNOZ mo3p

Preparing for operation

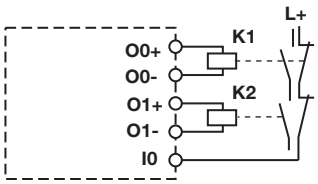
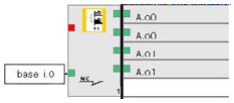
▸ Supply voltage

Supply voltage	AC	DC
		

▸ Semiconductor outputs

Redundant output		
Single output		

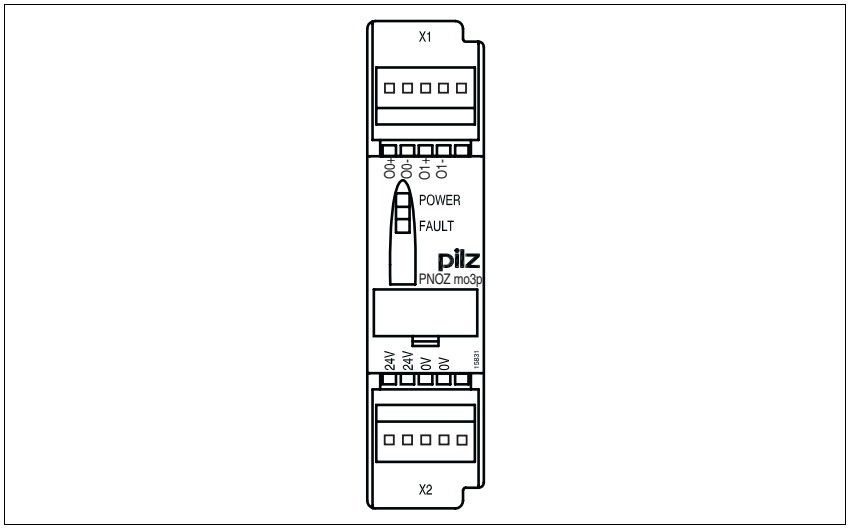
▸ Feedback loop

Feedback loop	Redundant output	
Contacts from external contactors		

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Expansion modules
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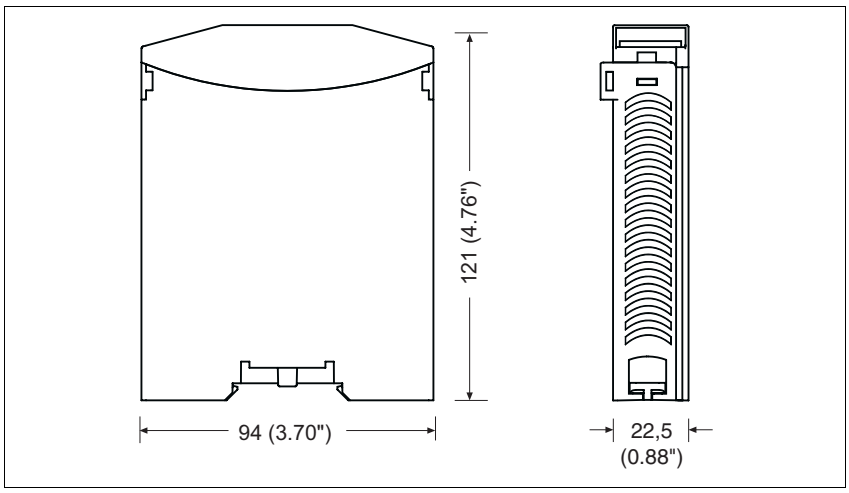
Terminal configuration



Installation

- The safety system should be installed in a control cabinet with a protection type of at least IP54. Fit the safety system to a horizontal DIN rail. The venting slots must face upward and downward. Other mounting positions could damage the safety system.
- Use the notches on the back of the unit to attach it to a DIN rail. Connect the safety system to the DIN rail in an upright position, so that the earthing springs on the safety system are pressed on to the DIN rail.
- To comply with EMC requirements, the DIN rail must have a low impedance connection to the control cabinet housing.

Dimensions



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Expansion modules
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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.

Technical details	
Electrical data	
Supply voltage (U_B) via base unit	**24 VDC**
Power consumption at U_B without load	**< 0.35 W**
Times	
Switch-on delay	**5 s (after U_B is applied)**
Supply interruption before de-energisation	**Min. 20 ms**
Semiconductor outputs - dual-pole	
Number for EN 954-1, 12/96, Cat. 4	**2**
Switching capability	**24 VDC / max. 2 A / max. 48 W**
Max. capacitive load	**1 µF**
External supply voltage (U_A)	**24 VDC**
Voltage tolerance (U_A)	**-15% - 10%**
Off time during self test	**< 300 µs**
Galvanic isolation	**Yes**
Short circuit protection	**Yes**
Switch-off delay	**< 30 ms**
Residual current at “0”	**< 0.5 mA**
Signal level at “1”	**U_B - 0.5 VDC at 2 A**
Open circuit detection	**> 3 kOhm**
Status indicator	**LED**
Environmental data	
Airgap creepage between relay contacts Relay contacts and other safe circuits	**DIN VDE 0110-1, 04/97** **3 mm** **5.5 mm**
Vibration in accordance with **EN 60068-2-6, 04/95** Frequency: Amplitude:	 **10 ... 55 Hz** **0.35 mm**
Climatic suitability	**DIN IEC 60068-2-3, 12/86**
EMC	**EN 60947-5-1, 01/00**
Ambient temperature With UL approval Without UL approval (with forced convection)	 **0 ... + 55 °C** **0 ... + 60 °C**
Storage temperature	**-25 ... + 70 °C**
Mechanical data	
Protection type Mounting (e.g. cabinet) Housing Terminals	 **IP54** **IP20** **IP20**
DIN rail Top hat rail Inner width	 **35 x 7.5 EN 50022** **27 mm**
Cable cross section Rigid single-core, flexible multi-core or multi-core with crimp connector	 **0.5 ... 1.5 mm2**
Torque setting for connection terminals (screws)	**0.2 ... 0.25 Nm**
Housing material Housing Front	 **PPO UL 94 V0** **PC/ABS UL 94 V0**
Dimensions (H x W x D)	**94 x 22.5 x 121 mm**
Weight with connector	**125 g**

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Expansion modules
PNOZ mo3p

Order reference

Type	Features		Order no.
PNOZ mo3p	Expansion module	2 dual-pole semiconductor outputs, safe	773 510

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