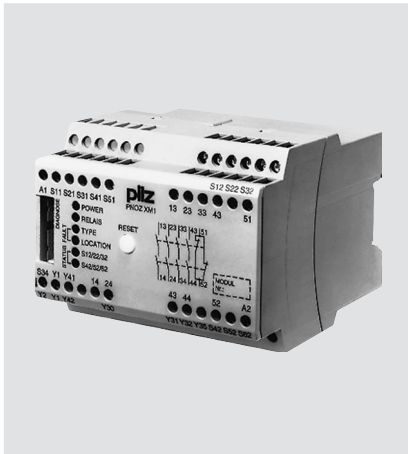


## PNOZplus - Master Unit PNOZ XM1



Master unit for the PNOZplus modular safety system in accordance with VDE 0113-1, 11/98, EN 422, 06/95, EN 201, 06/85 and IEC 204-1, 11/98.

### Features

- 2 input circuits per unit
- Up to 20 input circuits can be added using input modules
- Monitored or automatic reset can be selected
- Simultaneity monitoring, selectable
- 2 semiconductor outputs (Fault, K1/K2)
- Diagnostic interface
- Triple-channel operation can be selected
- LED status indicators
- 5 pulsed outputs

### Approvals

	PNOZ XM1
	●

### Description

- 112.5 mm, P-93 housing, DIN-Rail mounting
- Positive-guided relay outputs:
  - 4 safety contacts (N/O)
  - 1 auxiliary contact (N/C)
- 2 semiconductor outputs
- Connections for
  - single or dual-channel E-STOP button, safety gates with up to

Technical Details	PNOZ XM1
<b>Electrical Data</b>	
Supply Voltage	24 VDC
Tolerance	85 ... 120 %
Power Consumption	Approx. 6 W + 2 W per input module
Voltage and Current at the Input Circuit:	24 VDC/8 mA
Start and Feedback Control Loop:	24 VDC/9.4 mA
Programming Input: Y41 and Y42	24 VDC/5.8 mA
Switching Capability in accordance with EN 60947-4-1, 10/91	AC1: 240 V/8 A/2000 VA DC1: 24 V/8 A/200 W
EN 60947-5-1, 10/91 (DC13: 6 cycles/min)	AC15: 230 V/3 A; DC13: 24 V/7 A
Output Contacts	4 safety contacts (N/O), 1 auxiliary contact (N/C)
Total Current of the 4 contacts	28 A
Contact Fuse Protection EN 60947-5-1, 10/91	10 A quick or 6 A slow
Pulsed Outputs	5
Semiconductor Outputs	24 VDC/20 mA, short-circuit protected
External Supply Voltage	24 VDC ±20 %
<b>Times</b>	
Delay-on Energisation	Max. 150 ms
Switch-on Delay	3 s (after $U_B$ is applied)
Delay-on De-energisation	Max. 50 ms
Recovery Time	Min. 150 ms
Simultaneity channel 1/2/3	3 s or ∞
Max. Supply Interruption before De-energisation	Min. 20 ms
<b>Environmental Data</b>	
Ambient Temperature	0 ... +60 °C
Storage Temperature	-25 ... +70 °C
<b>Mechanical Data</b>	
Maximum Cross Section of External Conductors	1.5 mm <sup>2</sup> (single-core or multi-core with crimp connectors)
Dimensions (H x W x D)	87 x 112.5 x 121 mm
Weight	680 g

- 3 limit switches, light curtains with relay outputs
  - reset button
- Maximum of 9 PNOZ XE1 input modules can be connected, each with 2 input circuits
- Reset button to acknowledge errors
- Universal interface for connecting a fieldbus module for transmitting switch and error status, e.g. to a PLC
- Detects shorts across the input contacts

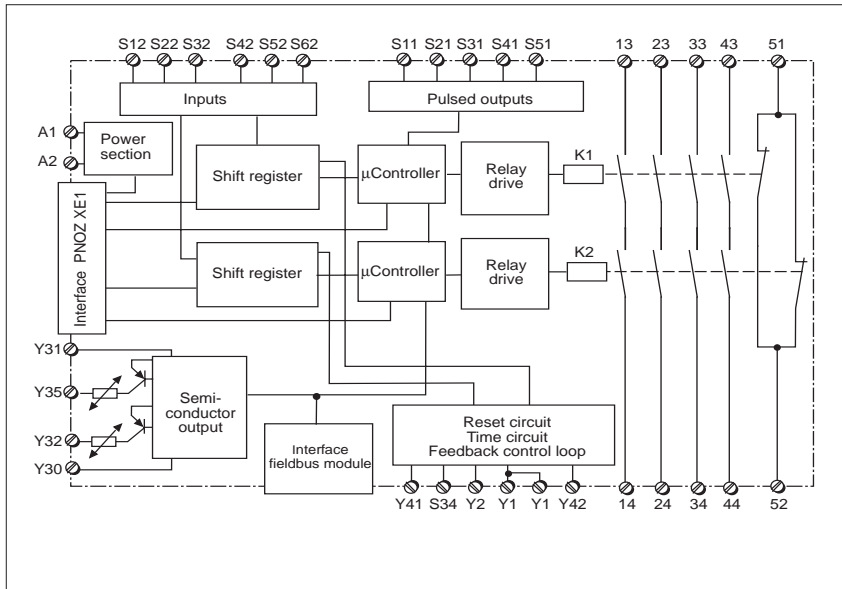
- Increase in the number of safety contacts available by connecting expander modules
- LEDs for relay and input circuits, power, error type and error location.

### Operating Modes

- Single-channel operation
- Dual-channel operation
- Triple-channel operation
- Automatic reset
- Manual reset
- Monitored manual reset

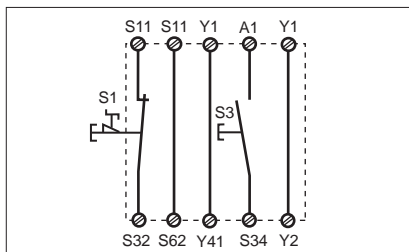
## PNOZplus - Master Unit PNOZ XM1

### Internal Wiring Diagram

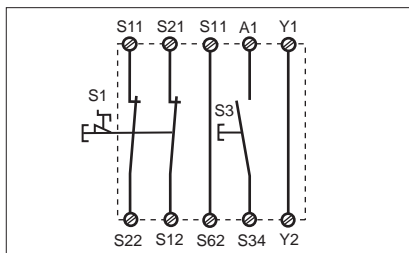


### External Wiring

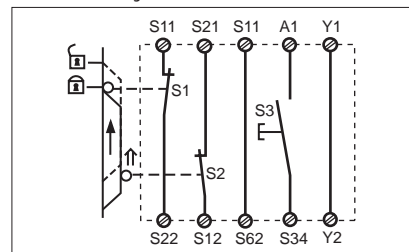
● Example 1  
Single-channel E-STOP wiring with manual reset.



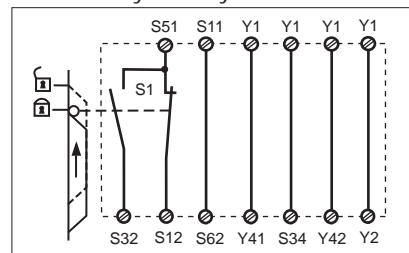
● Example 2  
Dual-channel E-STOP wiring with monitored manual reset.



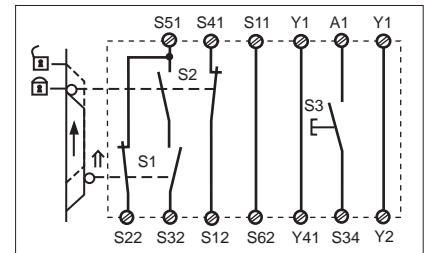
● Example 3  
Dual-channel safety gate control with monitored manual reset.  
Simultaneity: 3 s.



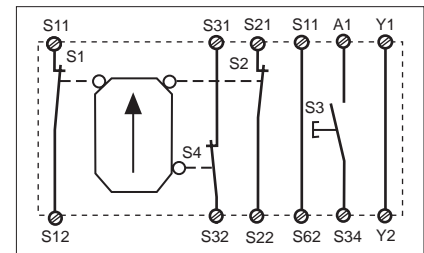
● Example 4  
Single-channel safety gate control with automatic reset.  
Simultaneity: infinity.



● Example 5  
Dual-channel safety gate control with manual reset.  
Simultaneity: 3 s.



● Example 6  
Triple-channel safety gate control with monitored manual reset.



- Key

S1/2/4: E-STOP or safety gate switch

S3: Reset button

↑ Switch operated

🔒 Gate open

🔒 Gate closed

## PNOZplus - Master Unit PNOZ XM1

### General Technical Data

Unless stated otherwise in the technical details for the specific unit

#### Electrical Data

Frequency Range AC	50 ... 60 Hz
Residual Ripple DC	160 %
Contact Material	AgSnO <sub>2</sub>
Continuous Duty	100 %

#### Environmental Data

EMC	EN 50081-1, 01/92, EN 50082-2, 03/95
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 0110 part 1, 04/97
Ambient Temperature	-10 ... +55 °C
Storage Temperature	-40 ... +85 °C

#### Mechanical Data

Torque Setting on Connection Terminals	0.6 Nm (screws)
Mounting Position	Any
Housing Material	Thermoplast Noryl SE 100
Protection	Mounting: IP 54 Housing: IP 40 Terminal Range: IP 20

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

### Order references

Type	U <sub>B</sub>	Order No.
PNOZ XM1	24 V DC	774 600