



Expansion modules

PNOZ mc8p



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

Approvals

	PNOZ mc8p
	

Unit features

- ▶ Can be configured in the PNOZmulti Configurator
- ▶ Connection for Ethernet IP and Modbus TCP
- ▶ Transmission rate 10 MBit/s (10BaseT) and 100 MBit/s (100BaseTX)
- ▶ IP address is set via DIP switches on the front of the unit
- ▶ Status indicators for communication and for errors
- ▶ Max. 1 PNOZ mc8p can be connected to the base unit
- ▶ A maximum of 24 inputs and 24 outputs on the PNOZmulti safety system can be defined in the PNOZmulti Configurator for communication with Ethernet IP and Modbus TCP.

Unit description

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

- ▶ E-STOP installations

- ▶ Safety circuits in accordance with VDE 0113 Part 1 and EN 60204-1

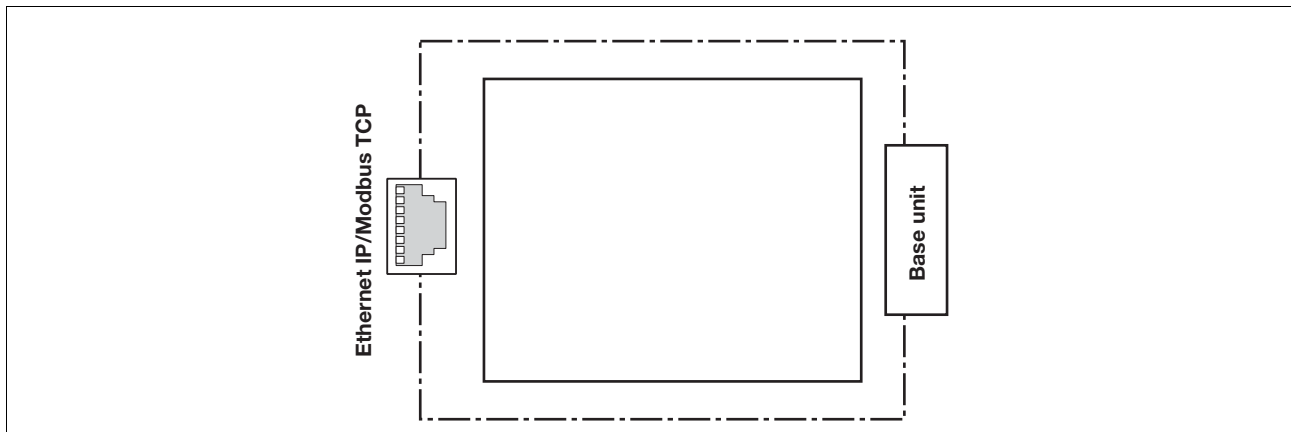
The PNOZ mc8p expansion module is used for communication between the PNOZmulti modular safety system and Ethernet IP plus Modbus TCP. Ethernet IP and Modbus TCP is designed for fast data exchange at field level. The PNOZ mc8p expansion module is a passive Ethernet IP (Adapter) or Modbus TCP (Slave) subscriber. The basic functions of communication with Ethernet IP and Modbus TCP conform to IEEE 802.3. The central controller (master) reads input information from the slaves and writes output information to the slaves as part of each cycle. As well as the cyclical transfer of usable data, the PNOZ mc8p can also be used for diagnostics and commissioning functions.

The expansion module may not be used for safety-related functions.

System requirements

- ▶ PNOZmulti Configurator: from Version 4.0.2
- ▶ Base unit PNOZ m0p: From Version 1.1
- ▶ Base unit PNOZ m1p: From Version 4.1
- ▶ Base unit PNOZ m2p: From Version 1.1

Block diagram



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Function description

The data to be transferred via Ethernet IP or Modbus TCP is selected and configured in the PNOZmulti Configu-

rator. The base unit and the PNOZ mc8p are connected via a jumper. The PNOZ mc8p is also supplied with voltage via this jumper. After the supply voltage is switched on or the PNOZ-

multi safety system is reset, the PNOZ mc8p is configured and started automatically.

Verdrahtung

The wiring is defined in the circuit diagram of the PNOZmulti Configurator. It is possible to define which inputs and outputs on the safety system will

communicate with Ethernet IP and Modbus TCP. The connection to Ethernet IP and Modbus TCP is made via RJ45 connectors.



8 1

Pin	Standard
1	TD+ (Transmit+)
2	TD- (Transmit-)
3	RD+ (Receive+)
4	n.c.
5	n.c.
6	RD- (Receive-)
7	n.c.
8	n.c.

n.c.: not connected

Please note:

- ▶ Information given in the “Technical details” must be followed.
- ▶ Use copper wire that can withstand 75 °C.

Please note the following when connecting to Ethernet IP and Modbus TCP:

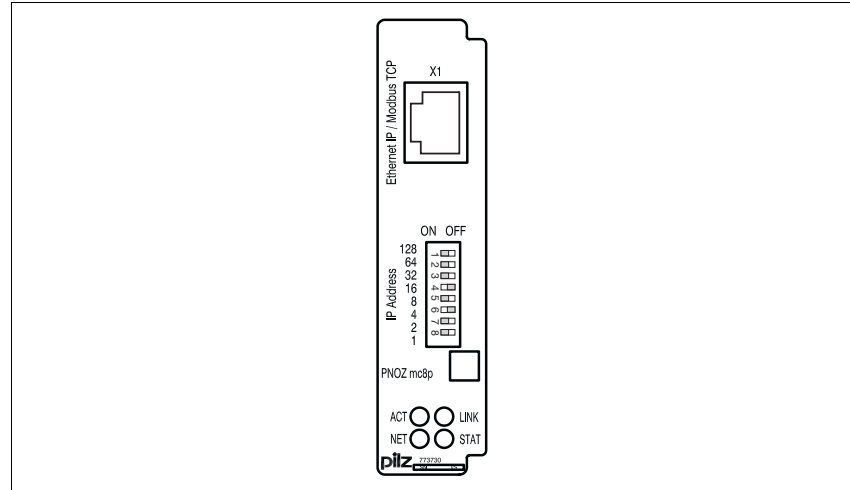
- ▶ The following minimum requirements of the connection cable and connector must be met:
 - Only use standard industrial Ethernet cable and connectors.
 - Only use double-shielded twisted pair cable and shielded RJ45 connectors (industrial connectors).
 - 10BaseT or 100BaseTX cable in accordance with the Ethernet standard (min. Category 5)
- ▶ Measures to protect against interference:

Ensure the requirements for the industrial use of Ethernet are met (IEEE 802.3u).

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Terminal configuration

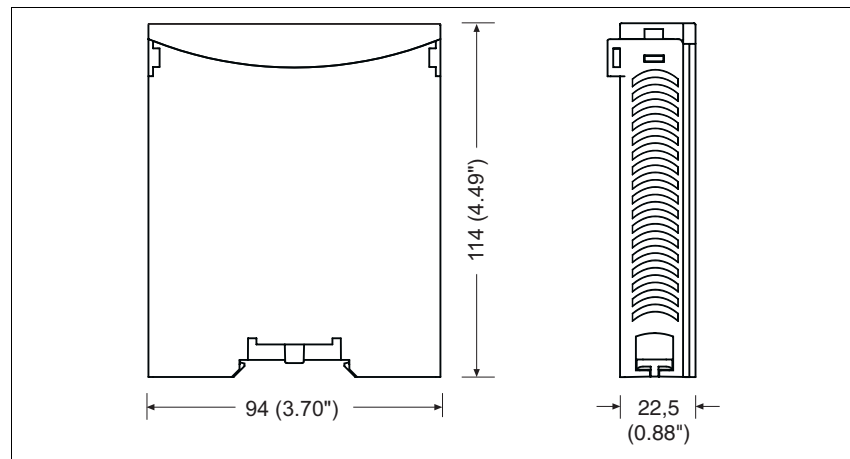


Installation

- ▶ 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.

The expansion module must always be installed to the left of the base unit. A distance of at least 20 mm must be maintained between the expansion module and any external heat sources.

Dimensions



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Notice

This data sheet is only intended for use during configuration. For installation and operation, please refer to the op-

erating instructions supplied with the unit.

Technical details	
Electrical data	
Supply voltage (U _B) via base unit	24 VDC
Power consumption at U _B	Max 2.5 W
Times	
Supply interruption before de-energisation	Min. 20 ms
Ethernet IP/Modbus TCP	
Application range	Non-safety-related applications
Device type	
Ethernet IP	Adapter
Modbus TCP	Slave
Status indicator	LED
Connection	
Ethernet IP/Modbus TCP	RJ45 socket
Galvanic isolation	Yes
Test voltage	500 VAC
Environmental data	
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
EMC	EN 61000-6-2, 10/01
Ambient temperature	0 ... +55 °C
Storage temperature	-25 ... +70 °C
Mechanical data	
Protection type	
Mounting (e.g. cabinet)	IP54
Housing	IP20
Terminals	IP20
DIN rail	
Top hat rail	35 x 7.5 EN 50022
Recess width	27 mm
Housing material	
Housing	PPO UL 94 V0
Front	ABS UL 94 V0
Dimensions (H x W x D)	94 x 22.5 x 114 mm
Weight with connector	140 g

Order reference			
Type	Features		Order no.
PNOZ mc8p	Expansion module	Fieldbus module, Ethernet IP, Modbus TCP	773 730