



Expansion modules

PNOZ mc4p



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

Approvals

	PNOZ mc4p
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Unit features

- ▶ Can be configured in the PNOZmulti Configurator
- ▶ Connection for DeviceNet
- ▶ Station addresses from 0 ... 63, selected via rotary switch
- ▶ Status indicators for communication with DeviceNet and for errors
- ▶ Max. 1 PNOZ mc4p units can be connected to the base unit
- ▶ A maximum of 24 outputs on the PNOZmulti safety system can be defined in the PNOZmulti Configurator for communication with DeviceNet. These outputs can be connected to outputs on
 - Logic elements
 - Time elements
 - Event counters
 - Connection points
 - Inputs on the safety system.

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 DeviceNet. The PNOZmulti modular safety system is used for the safety-related interruption of safety circuits. The unit is designed for use in:

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

The PNOZ mc4p expansion module is used for communication between the PNOZmulti modular safety system and DeviceNet.

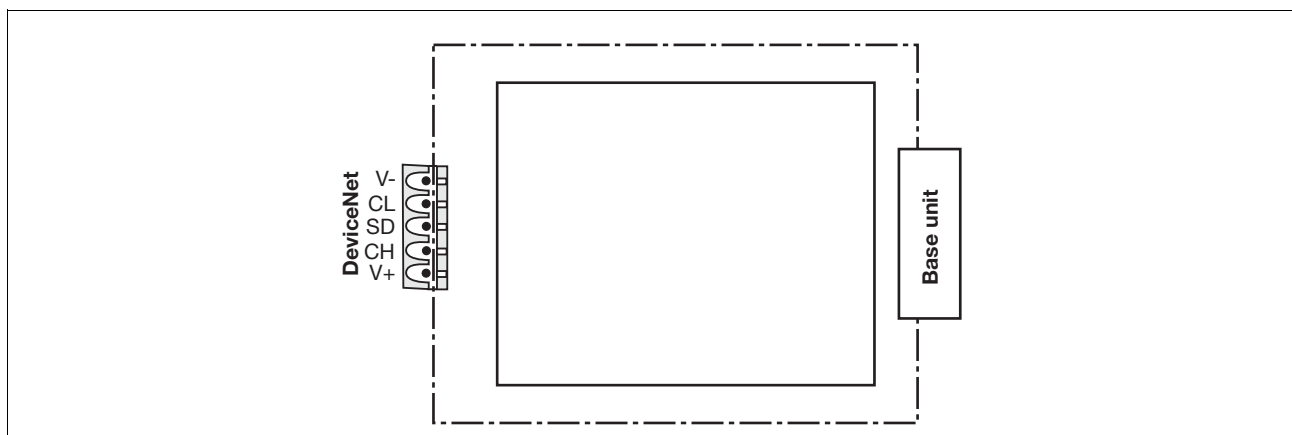
DeviceNet is designed for fast data exchange at field level. The PNOZ mc4p expansion module is a passive DeviceNet subscriber (Slave). The basic communication functions meet the requirements of the DeviceNet specification, Release 2.0. The central controller (master) reads input information from the slaves and writes output information to the slaves as part of each cycle. As well as the cyclical transfer of usable data, the PNOZ mc4p 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 3.0.0
 - ▶ Base unit PNOZ m1p: from Version 3.0
- Please contact Pilz if you have an older version.

Block diagram



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Function description

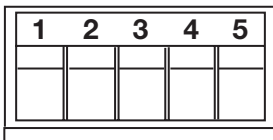
The data to be transferred via DeviceNet is selected and configured in the PNOZmulti Configurator. The

base unit and the PNOZ mc4p are connected via a jumper. The PNOZ mc4p is also supplied with voltage via this jumper. The station address and the transmission rate are set

using DIP switches. After the supply voltage is switched on or the PNOZmulti safety system is reset, the PNOZ mc4p is configured and started automatically.

Wiring

The wiring is defined in the circuit diagram of the PNOZmulti Configurator. It is possible to define which outputs on the safety system will communicate with DeviceNet. The connection to DeviceNet is made via a 5-pin screw connector



1: V-
2: CL (CAN_L)
3: SD (Schirm)
4: CH (CAN_H)
5: V+

V- CL SD CH V+

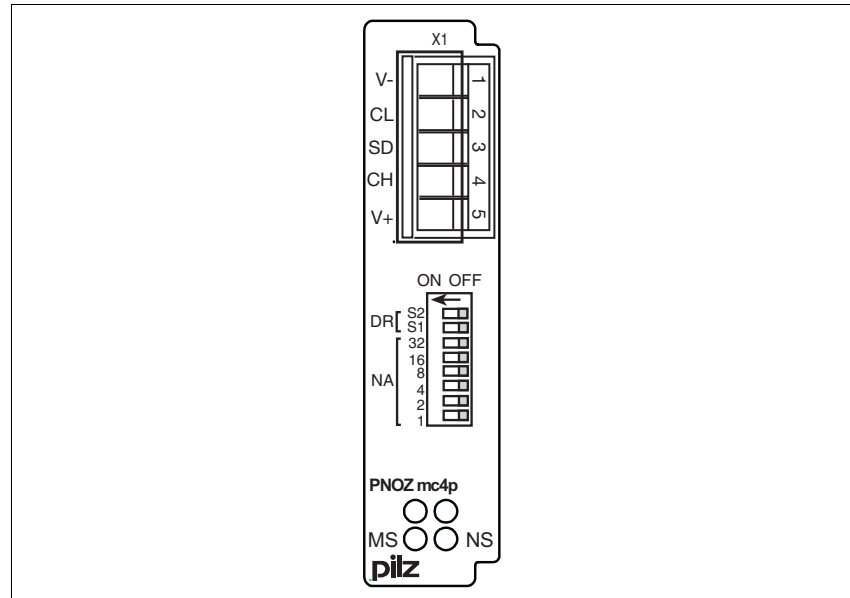
Please note:

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

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Terminal configuration

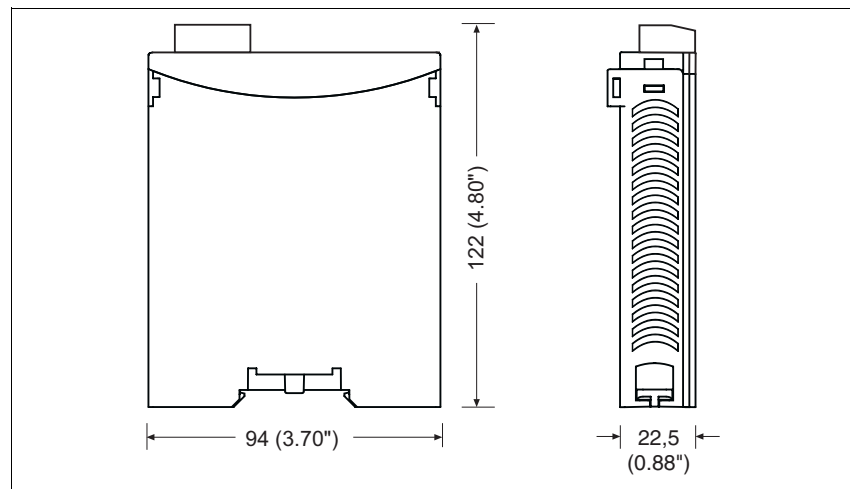


Installation

- ▶ 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 1.6 W
Times	
Supply interruption before de-energisation	Min. 20 ms
DeviceNet	
Supply voltage V+, V- via bus cable	24 VDC (11 VDC ... 25 VDC)
Power consumption	Max 0.75 W
Application range	Non-safety-related applications
Device type	Slave
Status indicator	LED
Station address	0 ... 63
Transmission rate	125, 250, 500 kBit/s
Connection	5-pin screw connector
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
Inner 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 122 mm
Weight with connector	146 g

Order reference			
Type	Features		Order no.
PNOZ mc4p	Expansion module	Fieldbus module, DeviceNet	773 722