



Configurable control system PNOZmulti 2 – many functions, one solution!

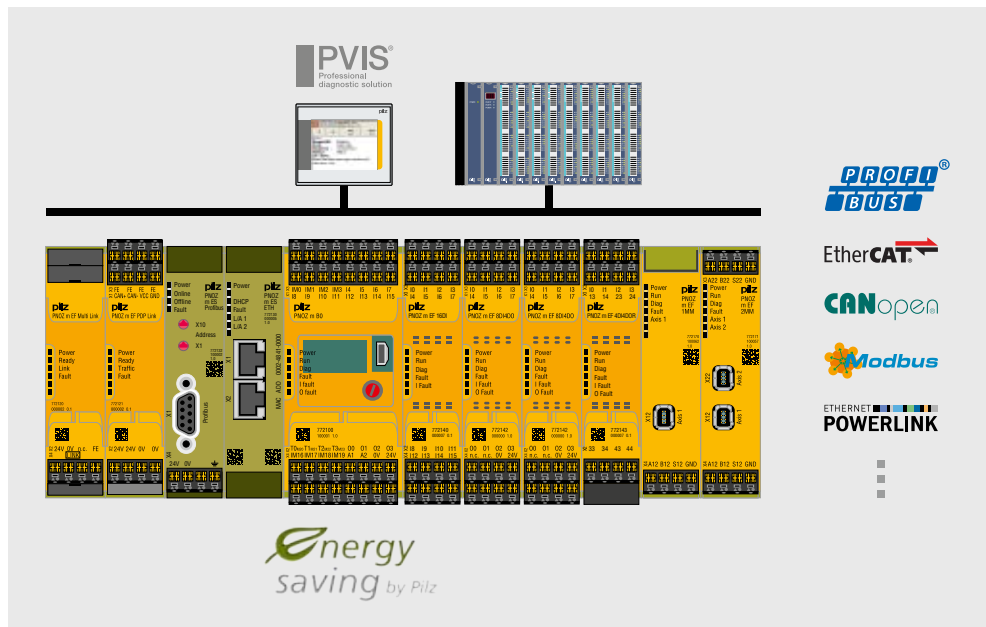
pilz
the spirit of safety

The configurable control system PNOZmulti 2 – the worldwide safety standard for all machine types for monitoring safety functions such as emergency stop, safety gates, lights grids and many more.



► Configurable control system PNOZmulti 2 – the future

The configurable control systems PNOZmulti 2 are used to implement multiple safety functions on plant or machinery. The system is modular and expandable, so the solution can grow with your machine as it expands or as its requirements change. A variety of expansion and communication modules are available.



The base unit from PNOZmulti 2 is particularly energy efficient – it uses up to 80 % less energy than comparable products. The illuminated display is an additional benefit – it enables particularly fast commissioning and diagnostics.

Flexible application

With PNOZmulti 2 you can standardise your safety! Thanks to the connection to various communication networks PNOZmulti 2 is becoming the worldwide safety standard. The safety architecture must only be created once and can then be connected to the various master operational control systems. It can be used regardless of type of machinery or plant, country and industry.



Configurable control systems PNOZmulti 2 – worldwide safety standard for all machine types.

ure-proof solution

Simple configuration with a complete Configurator

The PNOZmulti Configurator impresses with its wide variety of blocks. And it's very easy to handle: install, open, work intuitively!

The software tool has a broad function and command range, so that even larger projects can be easily implemented. And working with custom macros saves you time and effort.

High plant availability and short downtimes thanks to detailed diagnostic options

PNOZmulti 2 enables simple, fast diagnostics via its illuminated clear text display. Diagnostics can be displayed in different languages. You can also use our operator terminals PMI, the interfaces Ethernet TCP/IP and Modbus TCP, the master fieldbus or the status message to the connected PLC for diagnostics. That's flexibility!

A high degree of market success thanks to a complete system

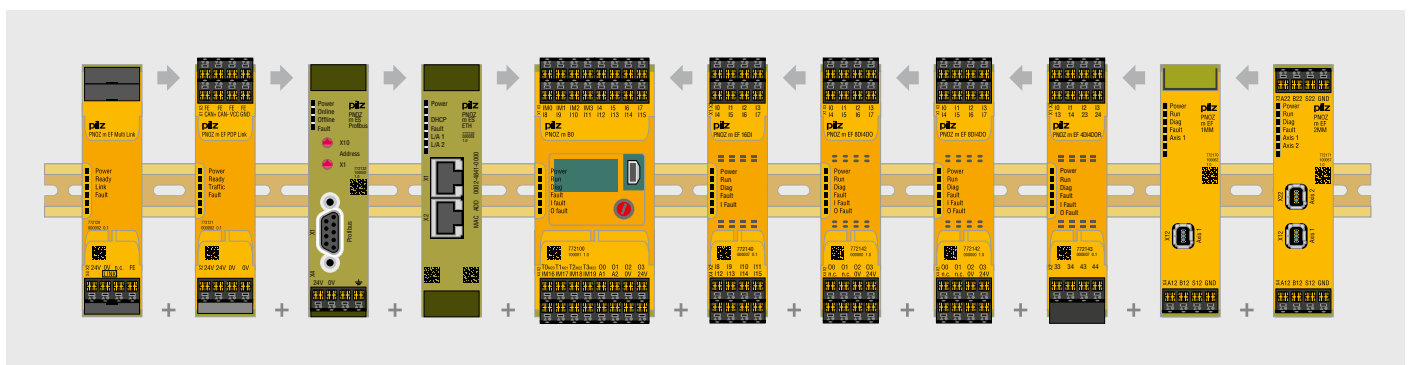
The variety of fieldbus and communication options (Profibus, EtherCAT, CANopen, Powerlink etc.) for the configurable control systems PNOZmulti 2 is a great benefit. Various expansion modules such as the safe motion monitoring modules, safe combined input/output modules or link modules also offer the highest degree of flexibility in the application.

Your benefits at a glance

- ▶ Short commissioning times through simple wiring and software tool PNOZmulti Configurator
- ▶ Simple and economical to expand by selecting compatible modules
- ▶ Simple, user-friendly diagnostics mean short downtimes and high plant availability
- ▶ One system to cover safety-related and standard control functions
- ▶ Fast time-to-market: Inputs and outputs are freely configurable
- ▶ Particularly energy efficient: Base unit consumes up to 80 % less energy than comparable products
- ▶ Certified worldwide



*Energy
saving by Pilz*



Expansion modules for various applications and connection to common fieldbus systems – that's flexibility.

► Expansion modules – for particular requirements

Safe motion monitoring

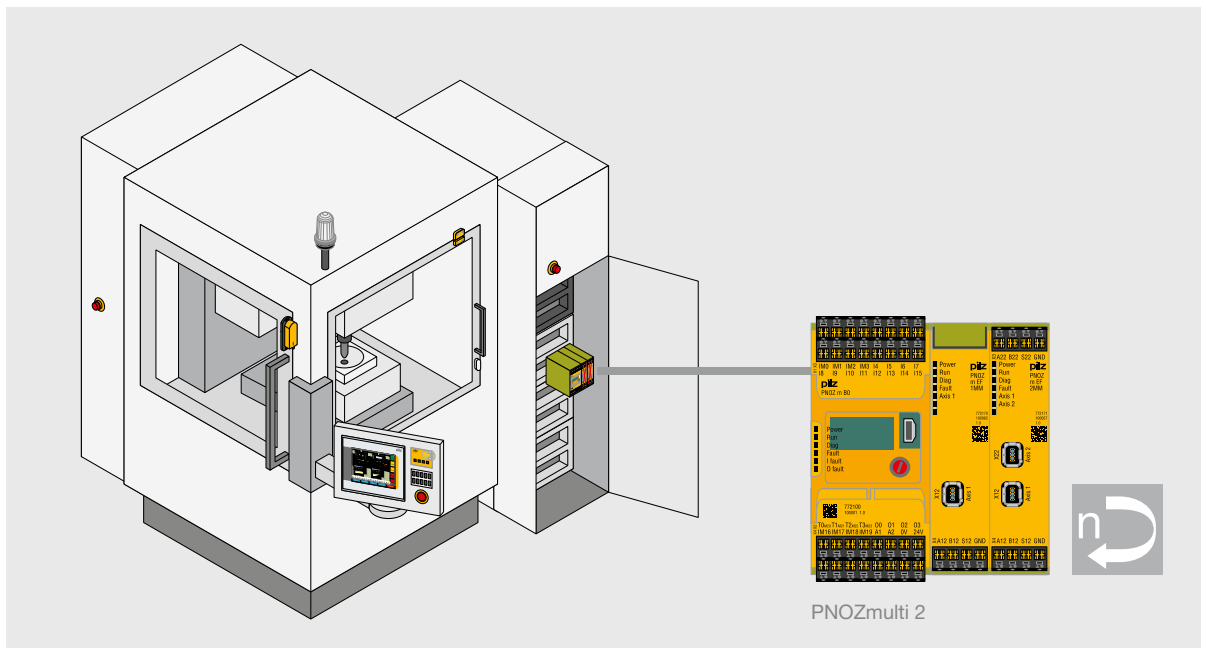
The safe motion monitoring modules for the configurable control systems PNOZmulti 2 ensure safe monitoring of your drives. Your plant and machinery are thus even more productive:

- Safety functions according to EN 61800-5-2 (Adjustable speed electrical power drive systems)
- Safe speed range: SSR
- Safe speed monitor: SSM
- Safe direction: SDI
- Safe operating stop: SOS

They reduce your costs and do so with the highest safety.

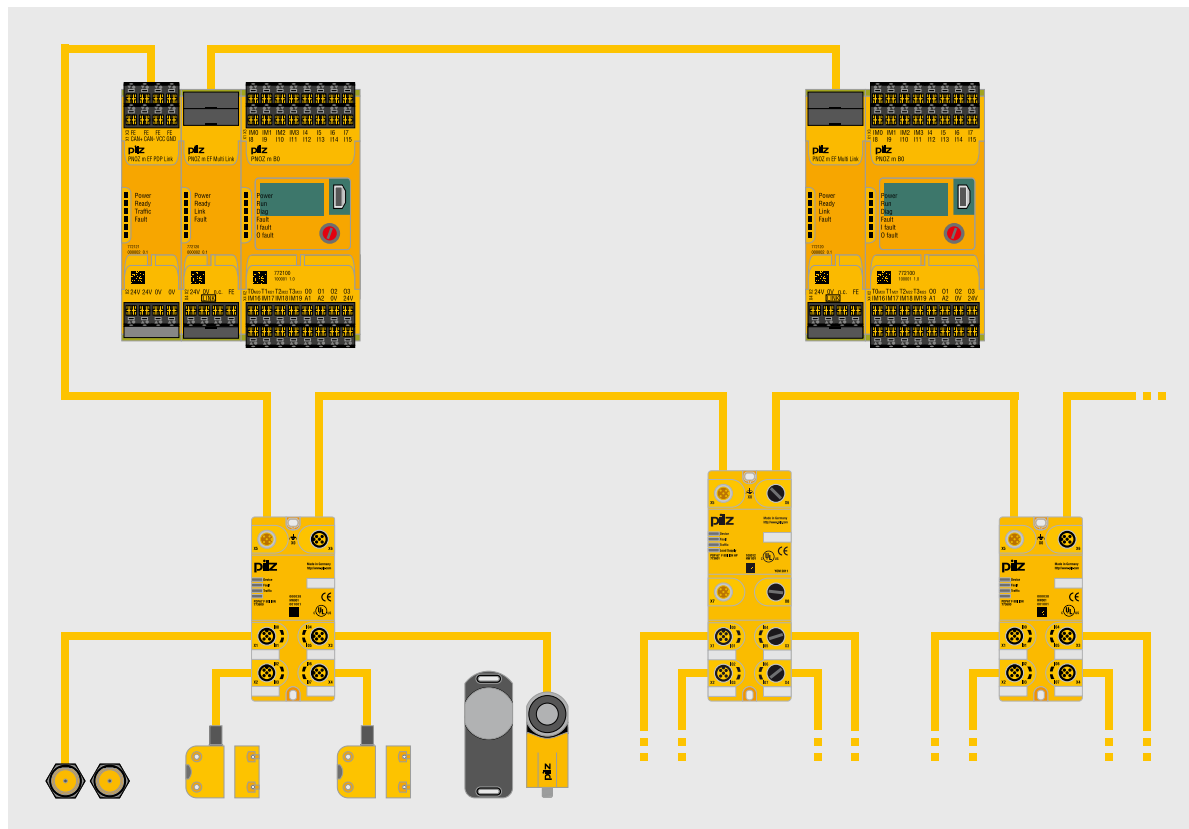
Modules are available for safe monitoring of one axis or two axes. Using the industrial interface Mini I/O, all common incremental encoders can be connected using drive-specific connection cables.

The safe motion monitoring modules for PNOZmulti 2 are easily configured using the software tool PNOZmulti Configurator.



The complete solution for safe motion monitoring:
Configurable control system PNOZmulti 2 with Pilz sensors and operator and visualisation systems.





The decentralised modules PDP67 can be connected to the PNOZmulti 2 via a link module – for cost-effective, simple, decentralised expansion. A link module is also available for networking several base units.

PNOZmulti 2 – with decentralised expansion

The configurable control systems PNOZmulti 2 can now be expanded using link modules for decentralisation and for safe communication between multiple base units. Safety functions on more complex plant and machinery can thus be easily implemented.

Decentrally in the field

The PDP link module serves as the interface for the decentralised modules PDP67 (to protection type IP67) to the base unit. As a result, the signals from the connected sensors are directly forwarded to this from the field for further processing. With up to 16 PDP67 modules on one base unit the number of sensors that can be connected increases by 64. This is what an economical solution looks like!

Complex tasks – a team effort

The multi link module enables simple, safe data exchange between several base units. Thanks to the modular structure of the PNOZmulti 2 different topologies can be implemented on one base unit with up to four link modules. As a result, users can connect several PNOZmulti units to implement safety functions for complex plant and machinery.

► Technical details PNOZmulti 2

Configurable control system PNOZmulti 2



PNOZ m B0



PNOZ m EF 16DI



PNOZ m EF 4DI4DOR



PNOZ m ES ETH



PNOZ m ES PROFIBUS

Further information:



Keep up-to-date on
► I/O modules

Webcode 10524

► Communication modules

Webcode 10525

Online information at www.pilz.com

Type	Application area
PNOZ m B0	► Base unit, efficient from 4 safety functions, modular and expandable ► Application range: to connect emergency stop pushbuttons, two-hand buttons, safety gate limit switches, light beam devices, scanners, enable switches, safety gate switches PSEN, operating mode selector switches, muting, safety mats, sensors
PNOZ m EF 16DI	Safe input module
PNOZ m EF 8DI4DO	Safe input/semiconductor output module
PNOZ m EF 4DI4DOR	Safe input/relay output module
PNOZ m EF 1MM	Safe monitoring of one axis
PNOZ m EF 2MM	Safe monitoring of two independent axes
PNOZ m EF PDP Link	Safe link module for connection of the decentralised modules PDP67
PNOZ m EF Multi Link	Safe link module for linking of several PNOZmulti 2 base units
PNOZ m ES ETH	Communication module with Ethernet/Modbus TCP interface
PNOZ m ES RS232	Communication module with serial interface
PNOZ m ES PROFIBUS	Communication module/fieldbus module PROFIBUS-DP (slave)
PNOZ m ES CANopen	Communication module/fieldbus module CANopen (slave, CiA 301 V4.2.0)
PNOZ m ES EtherCAT	Communication module/fieldbus module EtherCAT (slave, CANopen over EtherCAT)
PNOZ m ES Powerlink	Communication module/fieldbus module Powerlink V2 (slave, CANopen over Ethernet)

Common features

- Can be configured with the software tool PNOZmulti Configurator
- Status indicators via LEDs

Expansion modules:

- Max. 6 expansion modules can be connected to the right of the base unit
- Max. 1 communication and 1 fieldbus module can be connected to the left of the base unit

Features	Order number		
	Excl. terminals	1 set of spring-loaded terminals	1 set of plug-in screw terminals
▶ Base unit complies with PL e of EN ISO 13849-1 and SIL CL 3 of IEC 62061; the maximum achievable value depends on the application, e.g. number of outputs ▶ Configurable using PNOZmulti Configurator via chip card or USB interface ▶ Exchangeable program memory ▶ 20 safe inputs, up to 8 of which can be configured as auxiliary outputs ▶ 4 safe semiconductor outputs, depending on the application up to PL e, SIL CL 3 ▶ 4 test pulse outputs, up to 4 of which can be configured as standard outputs ▶ With illuminated display for error messages ▶ State of the supply voltage, the inputs and outputs, status and device information, customised texts can be displayed ▶ Rotary knob for menu control	772 100 Mini USB cable ▶ 3 m _____ 312 992 ▶ 5 m _____ 312 993 ▶ Chip card 8 kByte 1 piece _____ 779 201 ▶ Chip card 32 kByte 1 piece _____ 779 211	751 008	750 008
16 safe inputs	772 140	751 004	750 004
▶ 8 safe inputs ▶ 4 safe semiconductor outputs, depending on the application up to PL e, SIL CL 3	772 142	751 004	750 004
▶ 4 safe inputs ▶ Relay outputs: 4 safety outputs, depending on the application up to PL e, SIL CL 3	772 143	751 004	750 004
Support of safe drive function in accordance with EN 61800-5-2	772 170	783 542	793 542
Support of safe drive function in accordance with EN 61800-5-2	772 171	783 544	793 544
▶ Max. 4 PDP link modules to the base unit ▶ Max. 4 decentralised modules PDP67 F 8 DI ION (VA) or PDP67 F 8 DI ION HP (VA) to the link module	772 121	783 540	793 540
▶ Point-to-point connection via 4-core shielded and twisted-pair cable ▶ Transfer of 32 bit input data and 32 bit output data (virtual I/Os) ▶ Max. 4 multi link modules to the base unit	772 120	783 538	793 538
▶ Number of ETH interfaces: 2 ▶ Transmission rate 10 Mbit/s or 100 Mbit/s ▶ Connection to fieldbus via RJ45 connector	772 130	-	-
With serial interface RS232	772 131	783 538	793 538
▶ Station addresses from 0 ... 99, selected via rotary switch ▶ Transmission rate: max. 12 Mbit/s ▶ Connection to fieldbus via female 9-pin D-Sub connector	772 132	783 542	793 542
▶ Station addresses from 0 ... 99, selected via rotary switch ▶ Transmission rate: Max. 1 Mbit/s ▶ Transmission rate selected via rotary switch ▶ Connection to fieldbus via female 9-pin D-Sub connector	772 134	783 542	793 542
▶ Transmission rate: 100 Mbit/s ▶ max. 148 bytes TxPDO and 20 bytes RxPDO ▶ Connection to fieldbus via RJ45 connector	772 136	783 542	793 542
▶ Transmission rate: 100 Mbit/s ▶ Connection to fieldbus via RJ45 connector	772 119	783 542	793 542

*Height with spring-loaded terminals/plug-in screw terminals

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Pilz develops environmentally-friendly products using ecological materials and energy-saving technologies. Offices and production facilities are ecologically designed, environmentally-aware and energy-saving. So Pilz offers sustainability, plus the security of using energy-efficient products and environmentally-friendly solutions.



Presented by:

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