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

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 fut

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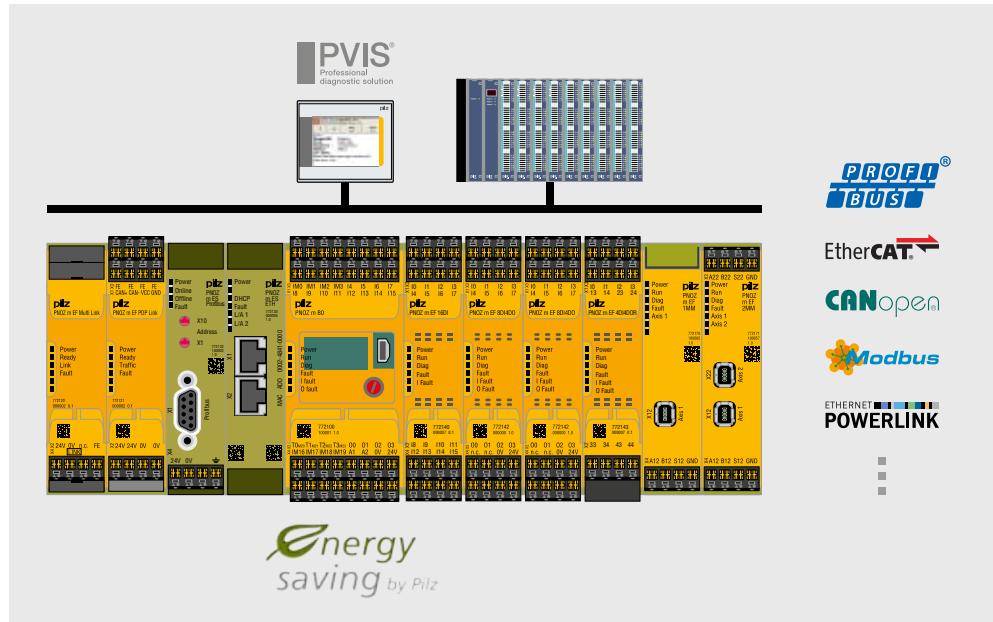
The base unit from PNOZmulti 2 is particularly energy efficient – it uses up to 80 % less energy than comparable products. The illuminated display is an additional benefit – it enables particularly fast commissioning and diagnostics.

Flexible application

With PNOZmulti 2 you can standardize 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
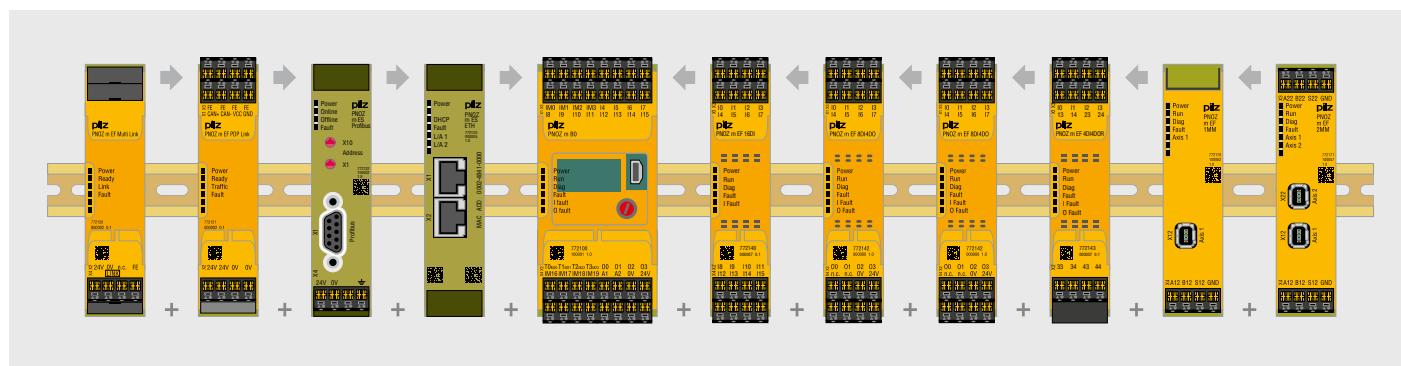
Expansion modules for various applications and connection to common fieldbus systems – that's flexibility.

# ▶ 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.
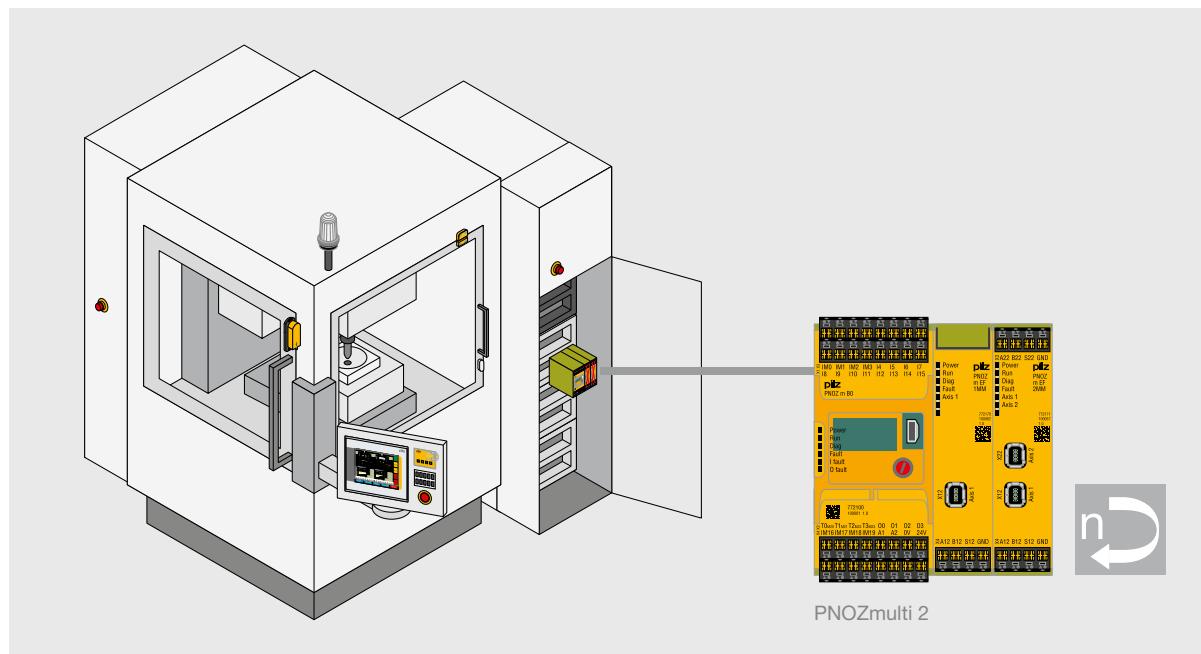
PNOZmulti 2

The complete solution for safe motion monitoring:
Configurable control system PNOZmulti 2 with Pilz sensors and operator and visualization systems.
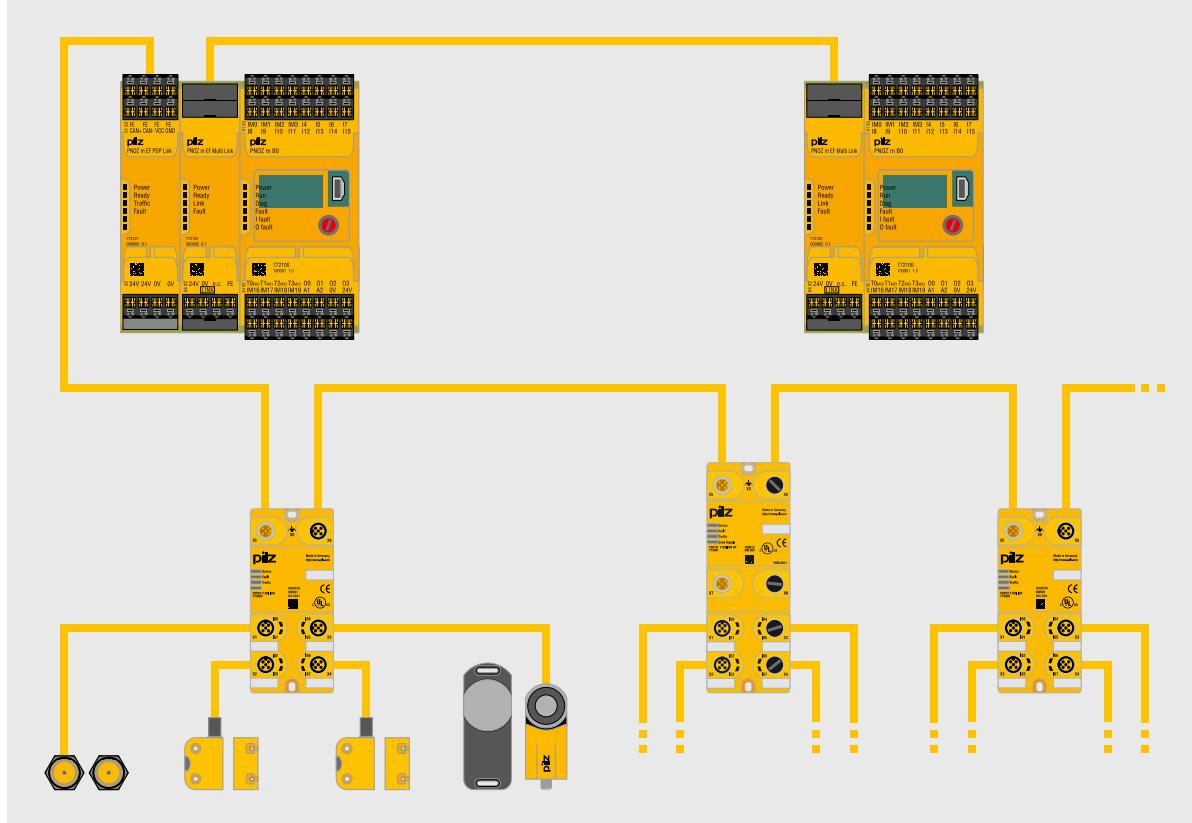
The decentralized modules PDP67 can be connected to the PNOZmulti 2 via a link module –
for cost-effective, simple, decentralized expansion. A link module is also available for networking several base units.

PNOZmulti 2 – with decentralized expansion

The configurable control systems PNOZmulti 2 can
now be expanded using link modules for decentralization
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
decentralized 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

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 decentralized 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

Further
information:

Keep
up-to-date on
▶ I/O modules

🖑 Webcode 10524

▶ Communication
modules

🖑 Webcode 10525

Online information
at www.pilz.com

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, customized 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 decentralized 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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energy saving by Pilz

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