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.
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.
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.

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

**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.

**Decentreally 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

<table>
<thead>
<tr>
<th>Type</th>
<th>Application area</th>
</tr>
</thead>
</table>
| 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
## Technical details Configurable control systems PNOZmulti 2

### Features

- 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

### Order number

<table>
<thead>
<tr>
<th>Order number</th>
<th>1 set of spring-loaded terminals</th>
<th>1 set of plug-in screw terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>772 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mini USB cable</td>
<td>3 m 312.992</td>
<td>3 m 312.993</td>
</tr>
<tr>
<td>Chip card 8 kByte 1 piece</td>
<td>779.201</td>
<td>Chip card 32 kByte 1 piece</td>
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</table>

### Excl. terminals

- 1 set of spring-loaded terminals
- 1 set of plug-in screw terminals

<table>
<thead>
<tr>
<th>Feature</th>
<th>Excl. terminals</th>
<th>1 set of spring-loaded terminals</th>
<th>1 set of plug-in screw terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 safe inputs</td>
<td>772.140</td>
<td>751.004</td>
<td>750.004</td>
</tr>
<tr>
<td>8 safe inputs</td>
<td>772.142</td>
<td>751.004</td>
<td>750.004</td>
</tr>
<tr>
<td>4 safe semiconductor outputs, depending on the application up to PL e, SIL CL 3</td>
<td>772.143</td>
<td>751.004</td>
<td>750.004</td>
</tr>
<tr>
<td>Support of safe drive function in accordance with EN 61800-5-2</td>
<td>772.170</td>
<td>783.542</td>
<td>793.542</td>
</tr>
<tr>
<td>Support of safe drive function in accordance with EN 61800-5-2</td>
<td>772.171</td>
<td>783.544</td>
<td>793.544</td>
</tr>
<tr>
<td>Support of safe drive function in accordance with EN 61800-5-2</td>
<td>772.121</td>
<td>783.540</td>
<td>793.540</td>
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<tr>
<td>Point-to-point connection via 4-core shielded and twisted-pair cable</td>
<td>772.120</td>
<td>783.538</td>
<td>793.538</td>
</tr>
<tr>
<td>Number of ETH interfaces: 2</td>
<td>772.130</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Station addresses from 0 ... 99, selected via rotary switch</td>
<td>772.132</td>
<td>783.542</td>
<td>793.542</td>
</tr>
<tr>
<td>Transmission rate: 10 Mbit/s or 100 Mbit/s</td>
<td>772.134</td>
<td>783.542</td>
<td>793.542</td>
</tr>
<tr>
<td>Connection to fieldbus via female 9-pin D-Sub connector</td>
<td>772.136</td>
<td>783.542</td>
<td>793.542</td>
</tr>
<tr>
<td>Station addresses from 0 ... 99, selected via rotary switch</td>
<td>772.119</td>
<td>783.542</td>
<td>793.542</td>
</tr>
<tr>
<td>Transmission rate: 100 Mbit/s</td>
<td>772.119</td>
<td>783.542</td>
<td>793.542</td>
</tr>
<tr>
<td>Transmission rate: 100 Mbit/s</td>
<td>772.119</td>
<td>783.542</td>
<td>793.542</td>
</tr>
</tbody>
</table>

*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.

Support

Technical support is available from Pilz round the clock.

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