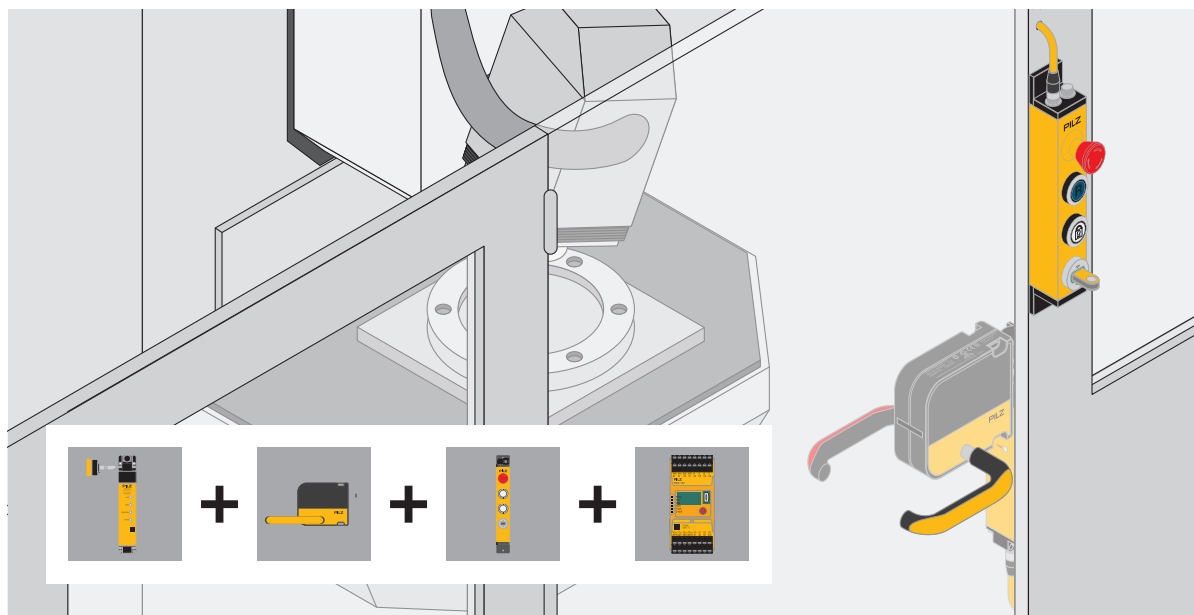


► The perfect combination – automation solutions



Modular safety gate system

The modular safety gate system offers you an individual safety gate solution that is ideally tailored to your application. That means you can combine individual components flexibly to suit your own particular requirements.

Put together your system for safety gate monitoring – optionally with access permission management.

The following components are available for selection:

- Safety gate sensor PSENmlock for safe interlocking and safe guard locking up to PL e. Different versions are available as a base unit, for series connection and with and without power reset
- PSENmlock handle module for accessible safety gates with integrated escape release and simple, flexible installation inside and outside of the danger zone

- Escape releases and suitable handles for the safety gate system PSENmlock
- Pushbutton unit PITgatebox for simple operation of the safety gate system, optionally with integrated access permission system PITreader
- Safety Device Diagnostics (SDD) for comprehensive diagnostic and status information as well as for the safe series connection of safety sensors and targeted individual control of the guard locking of individual switches in the series

Combining with the configurable safe small controller PNOZmulti 2 gives you a cost-effective, complete, one-stop solution.



from Pilz

Modular safety gate system – components

Sensor	PSEnmlock (safety guard locking device) ► PSEnmlock base version (with/without auto. reset) ► PSEnmlock series connection (with/without auto. reset) 		
Handle	Handle module Integrated escape release, for swing/sliding gates	Handles For swing gates 	For sliding gates 
Escape release		Escape releases Classic escape release 	Remote escape release 
Pushbutton unit	PITgatebox¹⁾    		
Pushbutton unit with access permission system	PITgatebox with PITreader 		
Evaluation device	Configurable safe small controllers PNOZmulti 2 		
Diagnostics and targeted control	Safety Device Diagnostics 		

¹⁾ Figure shows only one selection. Additional versions are available

Additional information on the modular safety gate system:

Webcode:
web194460

Online information at www.pilz.com

Configurable safe small controllers

Firewall SecurityBridge – protect your controller

With the firewall SecurityBridge you protect the configurable safe small controllers PNOZmulti 2 against manipulation through unauthorised access. It is connected upstream of the base unit and functions as a VPN server. This banishes the spectre of espionage and manipulation, and guarantees the safety of your employees and the availability of your machinery! Further information from page 112.



Webcode:
web188268

Online information at www.pilz.com

► Configurable safe small controllers PNOZmulti 2

Configurable safe small controllers PNOZmulti 2 – base units

Common features

- Modular and expandable
- Application range: for monitoring E-STOP buttons, two-hand buttons, safety gate limit switches, light beam devices, scanners, enable switches, safety gate switches PSEN, operating mode selector switches, pressure-sensitive mats, safe motion monitoring and many other applications
- Safety-related characteristic data: depending on the application, up to Performance Level PL e/Cat. 4 of EN ISO 13849-1 and Safety Integrity Level (SIL) CL 3 of EN/IEC 62061
- Can be configured using the software tool PNOZmulti Configurator
- Exchangeable program memory
- Illuminated display for status and device information
- If the diagnostic solution PVIS is activated, it is possible to display customised texts
- Visualisation software PASvisu, with direct connection to PNOZmulti
- Supply voltage: 24 VDC
- LED status indicators
- Plug-in connection terminals: either spring-loaded terminals or screw terminals available as obligatory accessories



PNOZ m B1



PNOZ m B1 Burner



PNOZ m B0

Type	Features
PNOZ m B1	► Automation project is transferred to the base unit using a USB stick (512 MB, included) or via the integrated ETH interface: - multiple projects can be stored - only one can be executed - managed via the project manager ► Larger programs in the PNOZmulti Configurator only with PNOZ m B1: - up to 1 024 connection lines possible - macro programming not yet available - module programs (mIQ) supported ► Date and time for PNOZ m B1 can be set in the PNOZmulti Configurator ► USB stick as storage medium
PNOZ m B1 Burner	Base unit – specifically for burner management: ► Control and monitoring of furnaces, e.g. monitoring of safety sequences, combustion air pressure, ignition, flame, external compound controller and leak-tightness control ► Control of safety valves, ignition valves, exhaust valves, ignition, external compound controller and combustion air blowers
PNOZ m B0	► Automation project is transferred to the base unit using a chip card (not included, available as an accessory) or via the integrated USB interface ► 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 ► Chip card as storage medium

technical details

	Certification	Order number		
		Without terminals	Plug-in spring-loaded terminals	Plug-in screw terminals
▶ 4 test pulse outputs for detecting shorts across contacts between the inputs, otherwise no inputs and outputs on the base unit ▶ Right side: max. 12 safe expansion modules, 1 output module for standard applications ▶ Left side: up to 4 safe link modules, max. 1 fieldbus module ▶ Modbus TCP on board ▶ Display with backlighting for diagnostics, for activating the project, Ethernet settings, for setting the date and time of the system, for stopping and starting the device ▶ Multifunction switch for menu control ▶ 2 Ethernet interfaces with switch: transmission rate 10 MBit/s, 100 MBit/s; connector type RJ45 ▶ Dimensions (H x W x D) in mm: 100 x 45 x 120.2	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	772 101 RJ45 cable ▶ 1.5 m _____ 314 094	751 016	750 016
▶ Monitoring of the following oil and gas burner types: Master burner with direct ignition, master burner with indirect ignition and joint flame monitoring ▶ Up to 12 burner function blocks can be configured per base unit ▶ Safety-related characteristic data: depending on the application, up to Performance Level PL e/ Cat. 4 of EN ISO 13849-1 and Safety Integrity Level (SIL) CL 3 of IEC 61508 ▶ Other features: as for PNOZ m B1	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	772 102	751 016	750 016
▶ 4 test pulse outputs, up to 4 of which can be configured as standard outputs ▶ Right side: max. 6 safe expansion modules ▶ Left side: max. 4 safe link modules, max. 1 fieldbus module and max. 1 communication module ▶ Display with backlighting to indicate the status of the supply voltage and the inputs and outputs ▶ Rotary knob for menu control ▶ Dimensions (H x W x D) in mm: 101.4/98 ¹⁾ x 45 x 120	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	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 (1 set)	750 008 (1 set)

¹⁾ Height incl. plug-in spring-loaded terminals/screw terminals

Keep up-to-date on PNOZmulti 2 base units:

 Webcode: web150382

Online information at www.pilz.com

► Configurable safe small controllers PNOZmulti 2

Configurable safe small controllers PNOZmulti 2 – expansion modules, connectible on the right



PNOZ m EF 16DI



PNOZ m EF 4AI



PNOZ m EF 8DI4DO



PNOZ m EF 4DI4DOR

Type	Application area
PNOZ m EF 16DI	Safe input module
PNOZ m EF 4AI	Safe analogue input module
PNOZ m EF 8DI4DO	Safe input/semiconductor output module
PNOZ m EF 4DI4DOR	Safe input/relay output module

Common features

- For each expansion module PNOZ m EF 4AI, PNOZ m EF 8DI2DOT, PNOZ m EF 1MM/2MM a separate module program (mIQ) with 256 connection lines can be configured. The user program consists of a main program and one or more module programs. The module program is set up like the main program. Configuration is performed directly in the module program. Processing is decentralised and occurs in the module.

technical details

Features	Certification	Order number		
		Without terminals	Plug-in spring-loaded terminals	Plug-in screw terminals
▶ 16 safe inputs ▶ Monitoring of shorts across contacts by means of test pulse outputs at the inputs ▶ Dimensions (H x W x D) in mm: 101.4 x 22.5 x 120	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	772 140	751 004 (1 set)	750 004 (1 set)
▶ 4 independent safe analogue current inputs, each input can be configured separately ▶ Current range: 4 ... 20 mA, measuring range: 0 ... 25 mA ▶ Resolution: 15 bit + sign bit; sampling rate: 10 kHz ▶ Workspace monitoring in accordance with Namur NE 43 (range limits are freely configurable) ▶ Limit value/range monitoring (limit values freely configurable) ▶ Safety-related characteristic data: depending on the application, up to PL e in accordance with EN ISO 13849-1 and up to SIL CL 3 in accordance with EN/IEC 62061 ▶ Exact analogue values can be passed on via fieldbus to a higher level controller for diagnostic purposes. Visualisation via the web-based software PASvisu. ▶ Dimensions (H x W x D) in mm: 101.4 x 22.5 x 120	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	772 160	751 004 (1 set)	750 004 (1 set)
▶ 8 safe inputs ▶ 4 safe semiconductor outputs, depending on the application up to PL e, SIL CL 3 ▶ Dimensions (H x W x D) in mm: 101.4 x 22.5 x 120	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	772 142	751 004 (1 set)	750 004 (1 set)
▶ 4 safe inputs ▶ 4 safe relay outputs, depending on the application up to PL e and SIL CL 3 ▶ Dimensions (H x W x D) in mm: 101.4 x 22.5 x 120	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	772 143	751 004 (1 set)	750 004 (1 set)

In order to use the full scope of the PNOZmulti Configurator, you will need a valid licence in addition to the software package. Purchasing a licence converts the demo software with restricted functionality to a full version. Information on the available licences can be found at www.pilz.com, webcode: web151344

Demo software can be downloaded from the Internet (for registered users), information at www.pilz.com/pnozmulti-tools, webcode: web150399

Keep up-to-date on PNOZmulti 2 I/O modules:

 Webcode: web150385

Online information at www.pilz.com

► Configurable safe small controllers PNOZmulti 2

Configurable safe small controllers PNOZmulti 2 – expansion modules, connectible on the right



PNOZ m EF 8DI2DOT



PNOZ m EF 1MM



PNOZ m EF 2MM



PNOZ m ES 14DO

Type	Application area
PNOZ m EF 8DI2DOT	Dual-pole semiconductor output module
PNOZ m EF 1MM	Safe motion monitoring module for monitoring one axis
PNOZ m EF 2MM	Safe motion monitoring module for monitoring two axes
PNOZ m ES 14DO	Output module for standard applications

Common features

- For each expansion module PNOZ m EF 4AI, PNOZ m EF 8DI2DOT, PNOZ m EF 1MM/2MM a separate module program (mIQ) with 256 connection lines can be configured. The user program consists of a main program and one or more module programs. The module program is set up like the main program. Configuration is performed directly in the module program. Processing is decentralised and occurs in the module.

technical details

Features	Certification	Order number		
		Without terminals	Plug-in spring-loaded terminals	Plug-in screw terminals
▶ 2 dual-pole safety outputs using semiconductor technology: Depending on the application, up to PL e in accordance with EN ISO 13849-1 and up to SIL CL 3 in accordance with EN/IEC 62061. The outputs are suitable for controlling a press safety valve in accordance with EN ISO 16092-2. Open circuit detection can be configured ▶ 8 digital inputs: the inputs can be used to evaluate a run monitor for press applications. Configurable pulse suppression at the inputs. ▶ 2 test pulse outputs for detection of shorts across contacts ▶ Press elements in the PNOZmulti Configurator: operating modes such as setup, single-stroke and automatic; monitoring a mechanical rotary cam arrangement; run monitoring to monitor the mechanical transmission for shear pin breakage; monitoring of electrosensitive protective equipment in detection and/or cycle mode; control and monitoring of the press safety valve plus cycle initiation via a two-hand control device ▶ Dimensions (H x W x D) in mm: 101.4 x 22.5 x 120	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	772 144	751 004 (1 set)	750 004 (1 set)
▶ Safe monitoring functions in accordance with EN 61800-5-2 (electrical power drive systems with adjustable speed) - Stop 1 (SS1) and stop 2 (SS2) - Safe speed monitoring (SSM) - Safe speed range monitoring (SSR-M) - Safe direction monitoring (SDI-M) - Safe operating stop monitoring (SOS-M) - Safely limited acceleration (SLA-M) - Safe acceleration range (SAR-M) - Analogue voltage (track S) ▶ Dimensions (H x W x D) in mm: 101.4 x 22.5 x 111	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	772 170	783 542 (1 set)	793 542 (1 set)
	CE, cULus Listed, EAC (Eurasian), TÜV, KOSHA	772 171	783 544 (1 set)	793 544 (1 set)
▶ Expansion module with 14 semiconductor outputs for non-safety-related applications ▶ Max. 1 output module can be connected on the right side of the base unit PNOZ m B1 ▶ Dimensions (H x W x D) in mm: 101.4 x 22.5 x 120	CE	772 181	751 004 (1 set)	750 004 (1 set)

In order to use the full scope of the PNOZmulti Configurator, you will need a valid licence in addition to the software package. Purchasing a licence converts the demo software with restricted functionality to a full version. Information on the available licences can be found at www.pilz.com, webcode: web151344

Demo software can be downloaded from the Internet (for registered users), information at www.pilz.com/pnozmulti-tools, webcode: web150399

Keep up-to-date on PNOZmulti 2 I/O modules:

 Webcode: web150385

Online information at www.pilz.com