

General

This version is available in the following languages:

- ▶ German
- ▶ English

As soon as there is an update for the languages available from Pilz (French, Spanish, Italian, Japanese, Chinese), the languages can be downloaded from the Internet in a service pack. The current service pack is in the download area on the Pilz homepage at <http://www.pilz.com/support/downloads/>

This document contains important information, which must be noted. This document also contains details of the changes made in the software tool from one version to the next.

This product includes code licensed by RSA Security, Inc. Some portions licensed by IBM are available at <http://site.icu-project.org/download>.

System requirements

Operating system:	Windows 8.1, 10, 11 - (32 Bit, 64 Bit)
Processor:	min. 1 GHz (only x86 and x64 devices are supported)
RAM:	Min. 1024 MB
Hard disk:	20 GB; min. 15 GB of available disk space
Graphics card:	Support for Super VGA graphics
Browser:	Internet Explorer from Version 9

The operating systems Windows 98 and Windows ME are no longer supported from version 4.0.0.

The operating system Windows NT is no longer supported from version 5.2.0.

The operating system Windows 2000 is no longer supported from version 8.1.1.

The operating system Windows XP is no longer supported from version 9.6.0.

The operating system Windows Server 2003 is no longer supported from version 10.0.0.

The operating system Windows Vista is no longer supported from version 10.5.0.

The operating system Windows Server 2008 is no longer supported from version 10.12.0.

The operating system Windows 7 is no longer supported from version 10.12.0.

The operating system Windows 8 is no longer supported from version 10.12.0.

The operating system Windows 11 is supported only from Version 10.14.3 and Version 11.1.0.

Important information

Installation

Access rights

Write access to the installation directory is required in order to be able to install and start the software tool.

The user needs administrator rights for installation under Windows 8.1 and Windows 10.

You need access to "HKEY_LOCAL_MACHINE Registry key".

- ▶ Close programs

Please close all open programs on your PC before installing the software tool.

► Network installation

The software tool cannot be installed on a network drive.

Do not remove the DVD

Do not remove the DVD from the drive during the installation process.

Licensing

The demo version of the PNOZmulti Configurator is available after installation. The demo version has a restricted function range compared to the full version. To access the full version you first need to license the software.

Limitations of the Demo licence:

- A maximum of 10 elements can be inserted.
- Cannot transfer projects.
- Cannot save projects.
- Cannot print reports.
- Reports include the note on the demo version.
- Cannot perform the offline function Simulation.
- If you have a time-limited licence, do not reset the system clock, otherwise your licence will be cancelled.

For the PNOZmulti Configurator from Version 10.0.0 you will need a licence V10.0.0 or higher. Enter your new licence after the PNOZmulti Configurator is started for the first time.

Security

By default, PNOZmulti Configurator saves the project data in the personal user directory, for example: C:\User\<Username>. Please note that saving to a different path may lead to security restrictions.

Security incident management

Should the product have a security vulnerability, this will be published in a security advisory. You'll find the security advisories under www.pilz.com/security. You can also report any security problems there.

Printing

- The new print functionality requires a suitable program for displaying PDF files
- This program must support browser display. This option may have to be selected in the program menu.
- If more than one program for displaying PDF files is installed on your system, the program which supports browser display must be defined as the default.

Connections

The maximum permitted number of connections between elements is 253.

Exception: 1024 connections are permitted with base units PNOZ m B1.

Dynamic program display

When using dynamic program display, please note that the LED status is only displayed for the base units. The LED status of the expansion modules is not currently displayed.

Known problems

Importing macros from Version 9.6.0 or earlier

When importing macros from a project that was created using Version 9.6.0 or an earlier version and that includes a **Time element**, wrong time values may be imported.

After importing, check the time value for correctness. The problem can occur also with macros or read and write-protected macros provided by Pilz.

Read-protected macros created with Version 9.6.0 or an earlier version should be newly created.

If you have projects that include macros with time elements provided by Pilz, please contact Pilz to receive an updated version of the macro.

Saved macros on new Configurator version

When you install a new version of PNOZmulti Configurator, the macros from the Macro library may not be automatically available. In this case, move the macros manually in the file system from the **Macros** folder from 10.x. to 10.x+1.

Screen resolution

When a screen resolution is higher than 1280 x 1024, elements may not be displayed correctly.

On computers, **Surface Pro** with Windows 10 screen resolution problems can occur in PNOZmulti Configurator. To rectify the problem, reduce the resolution in the **Display** menu of your computer to 1440 x 900.

Open the assignment list in a spreadsheet application such as Excel, for example:

If the first character in a line is an operand, for example =, +, then Excel interprets the content of the cell as a value of a formula. You have to convert the characters to text.

In Excel, proceed as follows:

1. Highlight the columns concerned.
2. Select "Data" -> "Text to Columns...".
3. Keep the default settings in the first two steps.
4. In step 3, select "Column data format" -> "Text".
5. Click "Finish".

When characters are UTF-8-coded, you have to import and edit the assignment list in the spreadsheet application with UTF-8 code.

If you fail to do so, you will not be able to open the assignment list in the PNOZmulti.

In Excel, proceed as follows:

1. Create a new workbook.
2. Highlight the cell A1.
3. Select "Data" -> "External Data" -> "Import Text File".
4. Select "UTF-8" coding, and "Comma" as the separator.

Export/import of the mapping list in .csv format is faulty

We recommend using XML export when exporting and importing the hardware and mapping list.

During XML export it is ensured that all the files are imported successfully. The .csv import is restricted to a limited number of columns to be imported.

Problem after resaving csv. export files of the mapping list

When an exported .csv file is opened and resaved as a new .csv file, it is possible that the new .csv file can no longer be imported.

Remedy for this problem:

1. Export the mapping list.
2. Make the necessary changes and save the file. When you are prompted to save the same format, select **No** and save the file as a Unicode text file.
3. Then close all the opened files and change the extension of the resaved Unicode text file to .csv.
4. Import the .csv file.

Chip card readers with COM port

The operating systems Windows 7, Windows 8 and Windows 8.1 do not support chip card readers with COM port.

Chip card reader with USB interface (PNOZ chip card reader)

When communicating with the PNOZmulti Configurator no connection is established to the USB chip card reader (**PNOZ chip card reader, order no. 779 230**).

In this case, proceed as follows:

- ▶ In Windows Explorer in the PNOZmulti Configurator installation directory, open the sub-directory **Identive_CLOUD_win_installer**. <Installation directory>\USB_Chip-Card_Driver\Identive_CLOUD_win_installer
- ▶ Execute the **Setup** installation file, select **Repair program** and follow the prompts.

Or

- ▶ Plug in the Chipcard reader before installation.

Communication with the base unit

The PNOZmulti base unit must be connected directly to the configuration PC for communication.

Executing 2 instances of the PNOZmulti Configurator

We recommend that you do not drag macros from one instance of the PNOZmulti Configurator to another.

Message during communication with the PNOZmulti

When communicating with the PNOZmulti, the following message may appear: "No communication with PNOZmulti. The interface is already used."

In this case, proceed as follows:

- ▶ Switch off the supply voltage on the base unit.
- ▶ Remove and replace the chip card
- ▶ Switch the supply voltage on the unit back on and re-establish the connection

Opening PNOZmulti projects (.mpnoz files)

If the file name of a PNOZmulti project (.mpnoz files) uses characters that are not included in your operating system's Windows Codepage, an error message will appear if you wish to open the file by double-clicking on it or by using *Open with* from Windows. In this case, open the file in the PNOZmulti Configurator.

Problems when other devices with a COM connection are configured

If other device connections are configured with an outgoing virtual COM port, problems may occur when you start the PNOZmulti Configurator or open a project.

In this case, proceed as follows:

- ▶ Switch off Bluetooth or
- ▶ Remove the OUT virtual COM ports
- or
- ▶ Define which virtual COM ports should be considered in the PNOZmulti. If possible, exclude slow ports such as Bluetooth-based or non-existent ports. Select the COM ports that are to be considered as follows:
 - Open the command prompt in Windows, select the PNOZmulti Configurator's installation directory and enter the following command: `jre\bin\javaw.exe -Xmx256m -splash:splash.jpg -Dgnu.io.rxtx.SerialPorts=COM1;COM2;COM3;COM4;COM5 -classpath mpnoz.jar com.pilz.ie.mpnoz.MPNOZ`
After "*SerialPorts=*" enter the COM ports that are to be considered (in this example, only COM ports COM1 - COM5 are to be considered).

Importing help files for a service pack

Under Windows 7/8/8.1, you can only import the help files for a service pack if you have administrator rights.

ATEN USB-RS232 converter

ATEN USB-RS232 Converter is no longer supported for use with the PNOZmulti Configurator.

D-Link USB Ethernet adapter

If you are using the D-Link USB Ethernet adapter, make sure that the latest drivers are installed.

Background colour of a I/O mapping in PNOZmulti Network Editor

In certain situations the background colour of a I/O mapping is removed when the mapping is broken. The colour should only be removed when the I/O mapping is deleted.

Simulation

The start-up test of the function elements is not supported for the simulation.

In the simulation, the output of the safety valves element is always activated directly from the input element even when the feedback loop is switched off.

Saving to shared or networked drives

Saving an object to shared or networked drives such as OneDrive can fail unexpectedly. We recommend that you make a backup on a local network before saving the project to a network drive.

Remote access via VPN connection

Online access from the PNOZmulti Configurator to the PNOZmulti via VPN connection is possible for operations such as **Start PNOZmulti** or **Stop PNOZmulti**.

In longer processes such upload or download, terminations and errors may occur.

In Version 11.0.0, the max. selectable time for the Ethernet online timeout was increased to 60 s, to enable longer processing times.

Display of the maximum number of used status elements not correct

In the Status window the display of the used status elements is not correct. The limit is 254, however, the display is marked red when 251 is reached, and an entry is made in the error stack.

JAVA error message when starting the PNOZmulti Configurator

A JAVA error message can occur when PNOZmulti Configurator is started.

The error message occurs in conjunction with the use of specific drivers and the Windows environment.

Possible remedies:

- ▶ Reset driver for GPU card
- ▶ Update driver for GPU card
- ▶ Reinstall Java

Other possible remedies see <https://www.compuchenna.co.uk/java-platform-se-binary-stopped-working/>

Synchronisation of a SafetyNET p subproject when changing the hardware configuration

In SafetyNET p subprojects, the synchronisation in the network project may fail when the hardware configuration is changed.

Open the subproject again to synchronise the subproject.

Windows Defender app & browser settings

The PNOZmulti Configurator may fail to start due to a third-party dll file, which Pilz uses for licence management.

Reducing the exploit protection in the Windows system settings may solve the problem.

However, Pilz cannot take responsibility for the impact that changing the setting may cause.

Specifically, the following settings are not supported by PNOZmulti and prevent the PNOZmulti Configurator from starting:

- ▶ Arbitray Code Guard (ACG)
- ▶ Code Integrity Guard
- ▶ Disable Win32k system calls
- ▶ Export address filtering (EAF)

If you enable **Audit only** for these settings, the PNOZmulti Configurator will be permitted to start.

Also not supported:

- ▶ Control Flow Guard (CFG), if **Strict-CFG** is enabled.

If you disable this option, the PNOZmulti Configurator will be permitted to start.

Changes in Version 10.14.5

Optimisations

- ▶ After moving several outputs, the PNOZmulti Configurator sometimes closed. This issue has been resolved.
- ▶ Several non-critical security vulnerabilities have been closed.

Changes in Version 10.14.4

Optimisations

The following security vulnerabilities were fixed:

- ▶ Libraries have been updated to remedy any vulnerabilities in commons-io-2.4.jar and Guava from 25.0.
- ▶ Updates have been run to remedy any safety gaps in Zip Slip attacks.

Changes in Version 10.14.3

Optimisations

The following security vulnerabilities were fixed:

- ▶ Updates to remedy vulnerabilities in NSIS, the libraries of third-party service providers – Jackson, Logback, Beanshell, Log4j were added.
- ▶ Known XML eXternal Entity (XXE) Injection vulnerabilities have been addressed.

Changes in Version 10.14.2

Optimisations

- ▶ The unused Java library Log4j (Version 2.3) was removed.
- ▶ During migration, an incorrect input mapping occurred when I/Os had identical device IDs. This problem has been rectified.

Changes in Version 10.14.1

Optimisations

Cross references

Connection points with IDs greater than 127 (that is 128 ... 255) were not displayed in the list of cross references. This problem has been rectified.

Project report

The configurator ensures that a generated project report is saved in the default location when a project is closed.

Changes in Version 10.14.0

Modifications have no effect on the function

Changes in Version 10.13.0

New functions

New expansion modules PNOZmulti 2

New expansion modules for connection to the base units PNOZmulti 2 are supported:

PNOZ m EF 1MM2DO

Motion monitoring module with 2 additional safe semiconductor outputs and cascading input and output is supported.

PNOZ m EF 4DI4DORD

New expansion module with diverse relay outputs is supported.

New logic element PSEnmlock

The element is used to control and monitor the safety gate system PSEnmlock.

New element binary encoder

The element is used to convert an input signal to a binary-coded value.

New element binary decoder

The element is used to decode a binary-coded value.

Expanded function for the muting sensor element

An expanded muting function "L-Muting" can be configured.

Expanded function for the mathematical operations analogue element

New mathematical operations can be configured

- ▶ Multiplication
- ▶ Division

Changes in Version 10.12.0

New functions

New base unit PNOZ m B1 Burner

Base unit PNOZmulti 2 used to monitor and control furnaces is supported.

MSO flex

The input element MSO flex is used to configure and monitor the safety-related selection of safe operating modes. The element is used in connection with the PITreader and a selection facility (pushbutton, keypad).

For the element MSO flex 2 to 8 inputs are available for connecting external pushbuttons. This means that 2 to 8 operating modes can be configured.

Operating modes can optionally be configured as service operating modes.

MSO flex visu

The input element MSO flex visu is used to configure and monitor the safety-related selection of safe operating modes. The element is used in connection with the PITreader and a Visu display unit.

For the element MSO flex visu 2 to 8 operating modes can be configured. They then can be selected e.g. via a touch panel. Each element is assigned a workspace.

Operating modes can optionally be configured as service operating modes.

Changes in Version 10.11.0

New functions

SafetyNET p communication between PNOZmulti 2 systems and PMCprotego

PNOZmulti 2 systems can now communicate via SafetyNET p with PMCprotego. The PAS-motion projects of the PMCprotego SafetyNET p subscribers have to be created in PASmotion V1.4.0.

New version of motion monitoring modules PNOZmulti 2

A new version for the motion monitoring modules is supported for connection to the base unit PNOZmulti 2:

- ▶ PNOZ m EF 1MM (V2.3)
- ▶ PNOZ m EF 2MM (V2.3)

New function in Version 2.3:

A tolerance time can be configured for tracks AB, Z and S. The tolerance time influences the sensitivity towards invalid signal levels (e.g. in the event of EMC interference).

New fieldbus module for PNOZ m B1

Fieldbus module for connection to the base unit PNOZ m B1 is supported:

- ▶ **PNOZ m ES EtherNet/IP**

Fieldbus module for communication with EtherNet/IP

Changes in Version 10.10.0

New functions

New connected device PITreader

New connected device **PITreader** is supported for base units PNOZ m B1:

- ▶ A user can authenticate on PNOZmulti by inserting a transponder key in the PITreader read area and he is then authorised for specific actions.

- Configuration of the required PITreader authorisations with the element **PITreader authorisation**.

Macros for PNOZ m B1

The macro function is now also available for base units PNOZ m B1.

When migrating from base unit PNOZ m B0 to PNOZ m B1 macros are also migrated.

LOOP outputs as start inputs

LOOP outputs can now be selected with input elements as start inputs.

Changes in Version 10.9.1

Optimisations

Simulation

The stability and the reliability of the simulation offline function has been improved.

Changes in Version 10.9.0

New functions

Simulation

With the offline function **Simulation** you are able to test parts of your user program without a connection to the device. The user program is then simulated.

Changes in Version 10.8.0

New functions

New expansion module PNOZmulti 2

A new expansion module for connection to the base units PNOZmulti 2 is supported:

PNOZ m EF 4AI

- The expansion module provides 4 analogue inputs
- The configuration is performed in the module program
- Configurable monitoring functions
 - Work area monitoring in accordance with NAMUR NE43 recommendation or configurable
 - Scaling function
 - Plausibility check
 - Mathematical operations
 - Constant

- Threshold value monitoring
- Range monitoring
- Exact analogue value can be passed to a fieldbus or OPC server for diagnostic purposes
- Dynamic program display for analogue modules is expanded
- Current analogue values are displayed in a variable list

Changes in Version 10.7.0

New functions

New expansion module PNOZmulti 2

A new expansion module for connection to the base units PNOZmulti 2 is supported:

PNOZ m EF 8DI2DOT

- The expansion module provides 8 inputs and two dual-pole outputs.
- The configuration is performed in the module program
- Configurable pulse suppression for the inputs of the modules
- Open circuit detection for the dual-pole outputs
- Press elements are supported:
 - Press element operating modes
 - Rotary cam arrangement press element
 - Press element light curtain
 - Pulse detection press element

New fieldbus module for PNOZ m B1

Fieldbus module for connection to the base unit PNOZ m B1 is supported:

‣ **PNOZ m ES Powerlink**

Fieldbus module for communication with Powerlink

Other changes for the PNOZmulti Configurator

- In the PNOZmulti Configurator, the configuration data for the PVIS OPC Server UA is generated upon saving or binding.
- Module program connectors can be configured as the start input for function elements in the module program.

Changes in Version 10.6.0

New functions

Expanded functions for the base units PNOZ m B1

- In the hardware configuration, the individual fieldbus modules for the base units PNOZ m B1 are displayed and they can be individually inserted.

- ▶ In the hardware configuration a fieldbus module can now be configured, and also the virtual inputs/outputs that are downloaded via the interface.

New expansion module PNOZmulti 2

A new expansion module for connection to the base units PNOZmulti 2 is supported:

- ▶ **PNOZ m EF SafetyNET**

Expansion module for safe data exchange between PNOZmulti 2 systems via SafetyNET p RTFL.

New software tool PNOZmulti Network Editor

New software tool to create a SafetyNET p communication

New versions of the motion monitoring modules PNOZmulti 2

New versions for the motion monitoring modules are supported for connection to the base unit PNOZmulti 2:

- ▶ **PNOZ m EF 1MM (V2.2)**

- ▶ **PNOZ m EF 2MM (V2.2)**

New functions in Version 2.2:

- ▶ Additional monitoring functions: Safely limited acceleration monitoring and Safely limited acceleration range monitoring

Changes in Version 10.5.0

New functions

Support for PASvisu

The diagnostic data of PNOZmulti projects can now be visualised with PASvisu. When building the diagnostic configuration, a FQVN file is created for this. Using the PVIS OPC Server UA is required.

Changes in Version 10.4.0

New functions

Parts list function

A list can be generated, containing all the modules used in the hardware configuration as a CSV file. The parts list includes the order number and the quantity for each product used, and it can be imported into Pilz E-Shop.

Changes in Version 10.3.0

New functions

Expanded functions for the base units PNOZmulti 2 (PNOZ m B0, PNOZ m B1)

- ▶ The element **Safety mat** is supported.

Expanded functions for the base units PNOZ m B1

- ▶ Up to 12 safe modules can now be inserted to the right of the base unit.
- ▶ PVIS expanded diagnostics is supported.
- ▶ The fieldbus modules PNOZ m ES CC-Link and PNOZ m ES Profinet are supported.

New expansion module for base unit PNOZ m B1

A new expansion module for connection to the base unit PNOZ m B1 is supported:

- ▶ **PNOZ m ES 14DO**

The expansion module provides 14 semiconductor outputs for standard applications.

Changes in Version 10.2.0

New functions

Migration function

If you convert your hardware to a newer system (e.g. from PNOZmulti to PNOZmulti 2) you can now migrate the data from the original project largely automatically.

Copy and paste between 2 PNOZmulti systems.

You can now copy elements and inputs/outputs from one PNOZmulti system to another.

Changes in Version 10.1.0

New functions

New user text function

For each element that is added in the workspace a notepad can be created where user text can be entered.

Optimisation of pages

- ▶ The maximum number of columns and lines per page in the workspace has been increased to 9 lines and 12 columns.
- ▶ The window **Page user text** can be hidden to enlarge the workspace.

Design changes

The design of the configurator user interface has been updated.

Changes in Version 10.0.0

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New functions

New base unit

A new base unit is supported:

▶ **Base unit PNOZ m B1**

Base unit for the new configurable control system PNOZmulti 2

Additional functions in comparison with other PNOZmulti base units:

- Up to 8 expansion modules can be connected to the right of the base unit
- Up to 4 expansion modules can be connected to the left of the base unit
- Maximum program size expanded: Up to 1024 connections can be inserted between the elements.
- Projects are no longer stored on a chip card but on a USB memory. Multiple projects can be stored.
- Projects on the USB memory are managed in a Project Manager in the PNOZmulti Configurator.
- Date and time of base unit can be set in the PNOZmulti Configurator.

New fieldbus modules PNOZmulti 2

New fieldbus modules are supported for connection to the base unit PNOZ m B0:

▶ **PNOZ m ES EtherNet/IP**

Fieldbus module for communication with EtherNet/IP

▶ **PNOZ m ES Profinet**

Fieldbus module for communication with Profinet

New versions of the motion monitoring modules PNOZmulti 2

New versions for the motion monitoring modules are supported for connection to the base unit PNOZmulti 2:

▶ **PNOZ m EF 1MM (V2.0)**

▶ **PNOZ m EF 2MM (V2.0)**

New functions in Version 2.0:

- ▶ Configuration occurs in the module program
- ▶ Additional monitoring functions: Safe stop 1 monitoring and safe stop 2 monitoring

- ▶ The monitoring functions are configured in separate elements:
 - 1 motion monitoring element per axis
 - 2 safe speed range monitoring elements per axis
 - 2 safe direction monitoring elements
 - 3 safe operating stop monitoring elements
 - 3 safe speed monitoring elements per axis
 - 1 safe stop 1 monitoring element per axis
 - 1 safe stop 2 monitoring element per axis

Module programs for PNOZmulti 2

- ▶ With the PNOZmulti 2 system, motion monitoring modules are configured in a separate subprogram, the module program (mlQ).
- ▶ Supported modules: Motion monitoring modules PNOZ m EF 1/2MM (V2.0)
- ▶ One module program is created per module.
- ▶ Up to 32 diagnostic bits can be configured and then evaluated in the main program.

New initial value element

With the **Initial value** element you can specify an initial value at the output, which is to be present for a certain period when the device is switched on, irrespective of the input signal.

Other changes for the PNOZmulti Configurator

- ▶ Security information is displayed when downloading a project to a base unit or chip card/USB memory.
- ▶ On PNOZmulti 2 systems, test pulse suppression on the inputs can be activated if switch type 3 has been selected.

Changes in Version 9.6.0

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- ▶ German
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New functions

Advanced functions of the motion monitoring elements

- ▶ The monitoring functions Safe Direction Monitoring (SDI-M) and Safe Operating Stop Monitoring (SOS-M) can be configured.
- ▶ User-defined settings may be made.
- ▶ A unit calculator provides support with converting user-defined units.

- ▶ New sensor types are supported:
 - TTL, HTL (single-ended or differential signals)
 - sin/cos 1 Vss
 - Hiperface
- The encoders can be connected with or without Z index (0 index).

New fieldbus module PNOZmulti 2

A new fieldbus module for connection to the base unit PNOZm B0 is supported:

▶ **PNOZ m ES Powerlink**

Fieldbus module for communication with Ethernet POWERLINK

Other changes for the PNOZmulti Configurator

- ▶ New button in the toolbar: **Show/hide problems**
- ▶ When downloading a project to a base unit, a warning is now issued if the version of the base unit in the configured project is higher than that of the base unit into which the project is to be downloaded.
- ▶ Improvements when exporting elements and connections
- ▶ The "Cloud 2700F" chip card reader is now supported.

Changes in Version 9.5.0

New functions

This version is available in the following languages:

- ▶ German
- ▶ English
- ▶ French
- ▶ Spanish
- ▶ Italian
- ▶ Japanese
- ▶ Chinese

New expansion modules PNOZmulti 2

Two motion monitoring modules for connection to the base unit PNOZ m B0 are supported:

▶ **PNOZ m EF 1MM**

This expansion module monitors the safety functions "Safe speed monitoring" and "Safe speed range monitoring". This expansion module can monitor one axis.

Configuration in the PNOZmulti Configurator:

- 1 Motion monitor element
- 2 Safe speed monitoring elements

▶ **PNOZ m EF 2MM**

This expansion module monitors the safety functions "Safe speed monitoring" and "Safe speed range monitoring". This expansion module can monitor two axes independently.

Configuration in the PNOZmulti Configurator:

- 1 Motion monitor element per axis
- 2 Safe speed monitoring elements per axis

New motion monitoring elements

The motion monitoring elements are used to configure the motion monitoring modules

▶ **Motion monitor**

Element to configure the sensor data and speed range monitoring

▶ **Safe speed monitoring**

Element to configure safe speed monitoring

Other changes for the PNOZmulti Configurator

In the hardware configuration, 6 rather than the previous 4 modules can now be inserted to the right of the base unit PNOZ m B0.

Changes in Version 9.4.0

New functions

This version is available in the following languages:

- ▶ German
- ▶ English
- ▶ French
- ▶ Spanish
- ▶ Italian
- ▶ Japanese
- ▶ Chinese

New expansion modules PNOZmulti 2

Two new link modules for connection to the base unit PNOZ m B0 are supported:

▶ **PNOZ m EF Multi Link**

This expansion module is used for safe connection of two PNOZmulti base units. It contains the same functions as the link modules PNOZ ml1p and PNOZ mml1p.

▶ **PNOZ m EF PDP Link**

This expansion module is used for safe connection of decentralised input/output modules to a safety system PNOZmulti 2. It contains the same functions as the link modules PNOZ ml2p and PNOZ mml2p.

Changes in Version 9.3.0

This version is available in the following languages:

- ▶ German
- ▶ English
- ▶ French

- ▶ Spanish
- ▶ Italian
- ▶ Japanese
- ▶ Chinese

New functions

Safe Ethernet connection

The safe Ethernet connection enables a point-to-point connection of 48 virtual inputs and 48 virtual outputs between a PNOZmulti base unit and a PSS 4000 device. The inputs and outputs are safety-related. The virtual inputs/outputs and connection settings are configured in the PNOZmulti Configurator.

Changes in Version 9.2.0

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New functions

Tool languages function

Where languages are unavailable from Pilz, you can now translate these yourself for the user interface display. To do this, export a translation file in the source language from the PNOZmulti Configurator and then re-import the translated file in the target language.

The PNOZmulti Configurator is supplied in the tool languages German and English.

As soon as there is an update for the languages available from Pilz (French, Spanish, Italian, Japanese, Chinese), the languages can be downloaded from the Internet in a service pack. A service pack contains the texts for the user interface and the corresponding documentation.

The current service pack (file: PNOZmulti_Configurator_ ... _SPzip) is in the download area on the Pilz homepage at <http://www.pilz.com/support/downloads/>.

New logic element PSEN

This element PSEN is used to configure the safety switch PSEN cs1.19n.

Expanded function of the two-hand button element

A delay time can now be entered in the two-hand button element.

Changes in Version 9.1.1

This version is available in the following languages:

- German
- English
- French
- Spanish
- Italian
- Japanese
- Chinese

Changes in Version 9.1.0

This version is available in the following languages:

- German
- English

New functions

New base units

New base units are supported:

- **Base unit PNOZ m B0 Version 1.1**

Version 1.1 of the base unit of the new configurable control system PNOZmulti 2.

- **Base unit PNOZ mm0p-T**

Base unit for the new configurable control system PNOZmulti Mini. The base unit includes the same functions as PNOZ mm0p, but is also suitable for use where there are increased environmental requirements.

New expansion modules PNOZmulti 2

New expansion modules for connection to the base unit PNOZ m B0 are supported:

- **PNOZ m EF 4DI4DOR**

This expansion module provides 4 safe relay outputs and 4 inputs.

- **PNOZ m EF 16DI**

This expansion module provides 16 inputs.

You can configure 4 modules to the right of the base unit.

New fieldbus modules PNOZmulti 2

New fieldbus modules for connection to the base unit PNOZ m B0 are supported:

- **PNOZ m ES CANopen**

Fieldbus module for communication with CANopen

- **PNOZ m ES Profibus**

Fieldbus module for communication with Profibus

Improvements on the assignment list

- The assignment list can now be displayed directly on the configurator user interface. It is on the left-hand side of the configurator user interface beside the Project Manager.
- The options for searching and filtering have been enhanced.
- The print report now shows which inputs and outputs are used in the project.

- ▶ Improved updating of data.

Other changes for the PNOZmulti Configurator

- ▶ Level 2 password users can now change the IP address in "online" mode.
- ▶ With PNOZ m B0: All the diagnostic bits are now active when a group diagnostic message is inserted and no communication module is configured.
- ▶ An element ID is now automatically assigned to a copied element.

Changes in Version 9.0.1

This version is available in the following languages:

- ▶ German
- ▶ English
- ▶ French
- ▶ Spanish
- ▶ Italian
- ▶ Japanese
- ▶ Chinese

Changes in Version 9.0.0

This version is available in the following languages:

- ▶ German
- ▶ English

New functions

New base unit PNOZmulti 2

A new base unit for the configurable control system PNOZmulti 2 is supported:

▶ **PNOZ m B0**

Base unit for the new configurable control system PNOZmulti 2

New communication modules PNOZmulti 2

Two new communication modules for connection to the base unit PNOZ m B0 are supported:

▶ **PNOZ m ES ETH**

This expansion module is used for communication of the configurable control system PNOZmulti 2 via Ethernet.

▶ **PNOZ m ES RS232**

This expansion module is used for communication of the configurable control system PNOZmulti 2 via a serial interface RS232.

New expansion module PNOZmulti 2

A new expansion module for connection to the base unit PNOZ m B0 is supported:

▶ **PNOZ m EF 8DI4DO**

This expansion module provides 4 safe semiconductor outputs and 8 inputs.

Other changes for the PNOZmulti Configurator

The data for the module description can now be updated in the hardware configuration.
Please contact Pilz for the latest update.

Changes in Version 8.1.1

This version is available in the following languages:

- German
- English
- French
- Spanish
- Italian
- Japanese
- Chinese

Changes in Version 8.1.0

This version is available in the following languages:

- German
- English

New functions

New expansion modules PNOZmulti Mini

Fieldbus modules for connection to the base units PNOZ mm0.1p and PNOZ mm0.2p are supported.

New input element

Input element "safety mat" is now supported also for PNOZmulti Mini.

Loop formation (LOOP)

It is now possible to form loops by configuring virtual LOOP inputs and outputs.

Changes in Version 8.0.1

This version is available in the following languages:

- German
- English
- French
- Spanish
- Italian
- Japanese
- Chinese

Changes in Version 8.0.0

This version is available in the following languages:

- ▶ German
- ▶ English

New functions

Macros

There are now 2 types of macros:

▶ **As before: Templates**

This type of macro is supported since Version 7.0.0 of PNOZmulti Configurator:

A template simply serves as a model. Sections of the user program that are defined as templates are reused by inserting them into the user program as copies, which can then be edited independently.

▶ **New: Macro elements**

This macro type is new:

- A macro element combines the defined section of the user program (macro program) into one element. When reused, it is inserted into the user program as an element.
- Changes to the macro program will affect all places in the project in which a macro is used.
- The macro program can be created, edited and displayed in the Macro Editor.
- You can search for macro elements in the project.
- A report can be created for macro elements.

Assignment List

- ▶ Improved performance when opening the assignment list

Changes in Version 7.2.1

This version is available in the following languages:

- ▶ German
- ▶ English
- ▶ French
- ▶ Spanish
- ▶ Italian
- ▶ Japanese
- ▶ Chinese

Changes in Version 7.2.0

New functions

New base unit

A new base unit is supported:

- ▶ PNOZ mm0.2p

Base Unit Mini PNOZ mm0.2p

The base unit PNOZ mm0.2p contains the same functions as the PNOZ mm0.1p. It also contains an integrated interface for connecting two PNOZmulti base units

New speed monitors

Three new speed monitors are supported:

- ▶ PNOZ ms2p TTL
- ▶ PNOZ ms3p TTL
- ▶ PNOZ ms3p HTL

New expansion modules PNOZmulti Mini

Two new link modules for connection to the base units PNOZ mm0.1p and PNOZ mm0.2p are supported:

▶ PNOZ mml1p

This expansion module is used for safe connection of two PNOZmulti base units. It contains the same functions as the link module PNOZ ml1p.

▶ PNOZ mml2p

This expansion module is used for safe connection of decentralised input/output modules to a safety system PNOZmulti Mini. It contains the same functions as the link module PNOZ ml2p.

Logic Elements

New logic elements:

- ▶ EQU gate (equivalence)
- ▶ "Pulse edge evaluation" element

The inputs and outputs in the **AND**, **OR**, **XOR NODD** and **RS-Flipflop** gates can also now be negated.

Other changes for the PNOZmulti Configurator

- ▶ Projects from write-protected directories can now be opened.
- ▶ USB driver is installed automatically on the current versions of the base units PNOZmulti Mini.
- ▶ The "Hardware Configuration" window appears automatically when the PNOZmulti Configurator is started.

Changes in Version 7.1.1

This version is available in the following languages:

- ▶ German

- English
- French
- Spanish
- Italian
- Japanese
- Chinese

Changes in Version 7.1.0

This version is available in the following languages:

- German
- English

New functions

Expanded functions for the base unit Mini PNOZ mm0p

‣ Display Messages

You can configure messages with your own texts. These can be linked to function and logic elements and shown on the base unit display.

‣ Configurable inputs/outputs

- The inputs/outputs IM0 – IM3, IM16 – IM19 can be configured as inputs or as outputs for standard functions.
- The outputs T0 – T3 can be configured as outputs for standard functions or as test pulses.

‣ Additional elements are supported

The following elements can now be configured for the base unit PNOZ mm0p:

- Forward/backward event counter
- XOR gate (2k+1)
- Inputs can now be activated negated.

New base units

New base units are supported:

- PNOZ mm0.1p
- PNOZ m0p ETH
- PNOZ m2p ETH
- PNOZ m3p ETH

Base Unit Mini PNOZ mm0.1p

The base unit PNOZ mm0.1p contains the same functions as the PNOZ mm0p.

Additional functions are included:

‣ Relay output modules PNOZsigma

Relay output modules from the PNOZsigma range can be configured as expansion modules:

- PNOZ s7

- PNOZ s7.1
- PNOZ s7.2
- PNOZ s10
- PNOZ s11
- PNOZ s22

► **Communication Modules**

A serial or Ethernet communication module can be configured:

- PNOZ mmc1p ETH
- PNOZ mmc2p RS232

Virtual I/Os can also be configured (expandable to 128).

► **PVIS is supported**

PVIS expanded diagnostics can be used.

Base units PNOZ m0p ETH, PNOZ m2p ETH, PNOZ m3p ETH

The base unit PNOZ m0p, PNOZ m2p and PNOZ m3p is now also available as a version with Ethernet interface. The overall Ethernet function corresponds to that of the PNOZ m1p ETH.

Enhanced Ethernet functions

- The device Ethernet connection (connection on the base unit) and the project Ethernet connection (saved within the project) can now be configured separately.
- Device information is now displayed in the print report.
- Users working on password level 3 can now establish an online connection to an Ethernet base unit and change the Ethernet connection settings.
- The list of connections now contains the IP addresses of the last 5 base units to which an online connection has been established.
- There is a setting to show the device ID in the connection name in the list of connections.

Two-hand button element expanded

An input to deactivate two-hand monitoring can now be configured.

Configurable cable length for PNOZ ml1p

When configuring the link module PNOZ ml1p, the cable length can now be configured in the "link module status" element (≤ 100 m or > 100 (max. 1000 m))

Expanded print report function

You can now display your own logo on the front page.

Configurator can be used without administrator rights

Even users without administrator rights can now use the PNOZmulti Configurator (administrator access is still required for installation!).

Changes in Version 7.0.1

This version is available in the following languages:

- German
- English
- French

- ▶ Spanish
- ▶ Italian
- ▶ Japanese
- ▶ Chinese

Changes in Version 7.0.0

New functions

New expansion module for connecting decentralised inputs/outputs

A new connection module for connecting decentralised inputs/outputs is supported:

- ▶ PNOZ ml2p
 - Decentralised inputs can be configured in the function elements.
 - Up to 8 decentralised inputs per link module can be configured.
 - Decentralised standard outputs, 24 V outputs or test pulse outputs can be configured.

Expanded number of virtual inputs and outputs

The number of virtual inputs and outputs which are transmitted via the integrated interfaces and the fieldbus inputs and outputs can now be expanded from 24 to 128.

Macros

- ▶ One or more logic elements can be defined as macros and inserted elsewhere in the workspace. The logic elements included in the macro are inserted in the workspace and can be edited.
- ▶ You can export and import macros.
- ▶ Macros can be reused in various projects.

Muting element expanded

- ▶ The output parameter *Muting active* (to display the muting status) can now be activated or deactivated during the configuration of the muting element.
- ▶ The input parameters of a muting element can now also be connected to logic elements.

Exclusive OR operation expanded

- ▶ New logic element EXCLUSIVE OR (2k+1)
- ▶ You can now configure up to 5 inputs for the logic element EXCLUSIVE OR (=1).

Activate inputs expanded

Inputs that are activated via the input cells can now be negated.

Forward/backward event counter

The current counter status is now displayed on the element.

Workspace

- ▶ New window for hardware configuration
- ▶ Modules receive a default equipment ID when they are inserted.
- ▶ In the options you can select whether the module tree in the *Hardware configuration* window should be arranged to the right or to the left of the workspace.
- ▶ New elements list and bar for the macro library
- ▶ Bar can be shown and hidden

- Enhanced display of connection lines
- Elements can now be selected by double-clicking a cell in the workspace.
- The possible connections are highlighted when connecting elements.
- New display for limiting connections in the status window

Print report *workspace* expanded

- Display for negation was updated.
- Enhanced display of connection lines

Driver

The USB driver for the base unit PNOZ mm0p is now installed automatically.

Changes in Version 6.4.0

New functions

New base unit

A new base unit is supported:

- PNOZ m1p ETH.

Base unit PNOZ m1p ETH with 2 Ethernet interfaces

- The project and the diagnostic data are downloaded via Ethernet
- Ethernet base units can be configured
- The Ethernet connection can be configured
- The network can be scanned for Ethernet base units
- Possible to identify a base unit that is used to establish an Ethernet connection.

New speed monitor

A new speed monitor is supported:

- PNOZ ms2p HTL

A frequency of up to 200000 Hz can be configured.

Operating mode selector switch

A delay time can now be entered when the operating mode selector switch function element is configured (0 ... 3000 ms).

Forward/backward event counter

With this new logic element the counter can be

- Incremented, i.e. the counter status is increased by 1 until a configured value is reached, or
- Decrementing, i.e. the counter status is decreased by 1 until the counter status = 0.

PVIS muting element

New diagnostic element, which can be used to suppress PVIS messages from specific elements.

Group diagnostic message

New diagnostic element, with which you can configure up to 5 different diagnostic bits.

Language switching

If you change the user language in the *Options* menu, the PNOZmulti Configurator will be automatically restarted and the current project re-opened.

Changes in Version 6.3.0

New functions

New base unit

A new base unit is supported:

- ▶ PNOZ mm0p.

Base Unit Mini PNOZ mm0p

- ▶ 20 inputs and 4 safe semiconductor outputs can be configured.
- ▶ The semiconductor outputs on the PNOZ mm0p can be configured as safe semiconductor outputs with advanced fault detection.
- ▶ No expansion modules can be connected
- ▶ Project is downloaded via a USB port

Importing the hardware and assignment list

- ▶ There is a new option when importing an assignment list: "Read-only project". If this option is selected, the imported XML data cannot be modified.

Please note that this function is only available in the English and German versions.

Changes in Version 6.2.0

New functions

New base unit

A new base unit for burner management is supported:

- ▶ PNOZ m3p.

Base Unit Burner Management PNOZ m3p

- ▶ 6 different burner types can be controlled and monitored.
- ▶ Configuration is made via a wizard in PNOZmulti Configurator. The last page of the configuration wizard includes:
 - an overview of the configuration
 - the steps that are performed with this configuration
 - the set states of the inputs and/or states of the outputs during the corresponding steps.
- ▶ supports 3 diagnostic types

Print

- ▶ A PDF file is created to display a print report. Adobe reader is used to do this.
- ▶ The print preview is improved. There are more navigation and settings options available now.

- It is possible to insert a logo which will be shown in the header on all the pages of the print report.
- When printing, 2 title pages are issued where the project properties are described.
- In a hardware report the hardware modules are displayed now.

Enhanced display of connection lines

The algorithm for displaying the connection lines has been improved.

Project languages

Project texts can be exported, translated and reimported. Project texts are:

- Location descriptions for the input and output elements,
- user text,
- page names,
- page user text that can be entered on each page of the project,
- equipment identifiers can be translated (in the Tools/Activate options menu).

Expanded maximum number of characters

- a maximum of 32 characters for hardware equipment IDs
- a maximum of 23 characters for element equipment IDs
- a maximum of 40 characters for diagnostic unit names

Workspace

When drawing a connection to an input or output, a tooltip for the corresponding input or output is displayed.

Find

New option to find test pulses in the project

Icons

- Updated icons on toolbar
- Updated icons in the "Select Base Unit and Expansion Modules" window
- Updated icon to display activated PVIS events

Error stack

Refresh button added to update the error stack.

Changes in Version 6.1.0

New functions

New speed monitors

Two new speed monitors are supported:

- PNOZ ms3p
- PNOZ ms4p

Speed monitor PNOZ ms3p

The speed monitor PNOZ ms3p has the same functions as the speed monitor PNOZ ms2p, but it includes expanded diagnostics and more error stack information. Also, an input can be configured to deactivate speed monitoring. All the outputs are set to the signal status "0" as soon as the deactivation input has the signal status "1".

Speed monitor PNOZ ms4p

The speed monitor PNOZ ms4p has the same functions as the speed monitor PNOZ ms3p. However, only one axis can be configured and it is possible to configure up to 16 speeds. There are different diagnostic Bits from those in PNOZ ms3p. As in PNOZ ms3p, a deactivation input can be configured.

Project languages

Changed or new diagnostic configuration texts will be added to an existing text table. The original Pilz texts from the current version can be restored in PNOZmulti Configurator from the Project Language Manager.