

## General

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 Server 2003/Vista (32 Bit)/7 (32 Bit, 64 Bit)/8 (32 Bit, 64 Bit)/8.1 (32 Bit, 64 Bit)
Processor:	Min. 1 GHz
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.

## Important information

### Installation

#### Access rights

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

To install under Windows Server 2003, Windows Vista, Windows 7, Windows 8 and Windows 8.1, users must have administrator rights.

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

Where licences are subject to a time restriction, do not put back the system clock or your licence will be rendered invalid.

An existing licence is not valid for version 9.0.0. Enter your new licence when you start the PNOZmulti Configurator for the first time.

## 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 are 253.

## Known problems

### Workspace

Elements may be displayed incorrectly when the screen resolution is higher than 1280 x 1024.

### 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.

### Chip card readers with COM port

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

Problems

### Communication with the base unit

The PNOZmulti base unit must be connected directly to the configuration PC for communication. Remote access (remote desktop connection) to the connected PC is not possible when communicating with the PNOZmulti base unit.

### 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

### Importing macros

Problems may arise when importing macros from a project < Version 9.0.0. In this case, proceed as follows:

- ▶ Remove the macro from the macro library
- ▶ Open the macro from the Project Manager,
- ▶ re-save it in the Macro Editor and then add it to the macro library.
- ▶ Export and import the macro again

### 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 outgoing 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.rtx.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 considered).

**Activated inputs for standard applications are not shown in grey**

If the **Show/hide problems** button is activated in the toolbar, then an unconnected activated input for standard applications will not be shown in grey.

**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.

## Changes in Version 9.6.0

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/>

## New functions

**Additional functionality 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 Chipcard Reader "Cloud 2700F" 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

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 on the Pilz homepage.

## 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\_ ... \_SP ... .zip) 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 ( $\leq 100$  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
- ▶ Decrementated, 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.