

PNOZmulti Programming and Service

Chapter 3 „PNOZmulti-Configurator“



PNOZ



PNOZmulti Configurator





PILZ | 03-3

System Requirements

User interface
Password
Connection establishment
Exercise
Important Menu
Programming exercise
Pages in PNOZmulti-Configurator
Exercise

System requirements:

Operating system: Windows 2000 / Windows XP / Vista (32Bit) / Windows 7 / Windows 8 / Windows 10

Processor: min 1GHz

RAM: mind. 1024 MB

Hard drive: 20GB; min. 15GB freier Speicherplatz

CD-ROM drive

Graphics card: Support for Super VGA graphics

Mouse

► Launch PNOZmulti-Configurator

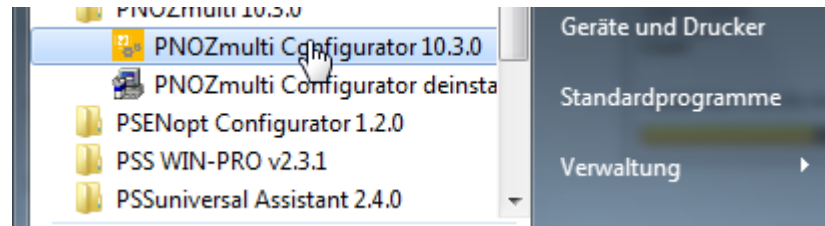


PILZ | 03-4

System Requirements

User interface
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Exercise
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Programming exercise
Pages in PNOZmulti-Configurator
Exercise

- In the Windows Start menu, select “Programs > ⇒ Pilz ⇒ PNOZmulti x.x.x ⇒ PNOZmulti Configurator x.x.x” or ...



- ...click on the PNOZmulti Configurator shortcut on your desktop.





PILZ | 03-5

System Requirements

User interface

Password

Connection establishment

Exercise

Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

- Basic licence:
= Single user license
- User licence:
= Copy licence for additional users (basic licence must be available)
- Time-limited licence:
= Temporary licence (1 – 12 months)
- All licences can be upgraded for subsequent versions
- PNOZmulti Service Tool:
 - Specifically for maintenance and service personnel; projects are safe from manipulation



PILZ | 03-6

System Requirements

User interface

Password

Connection establishment

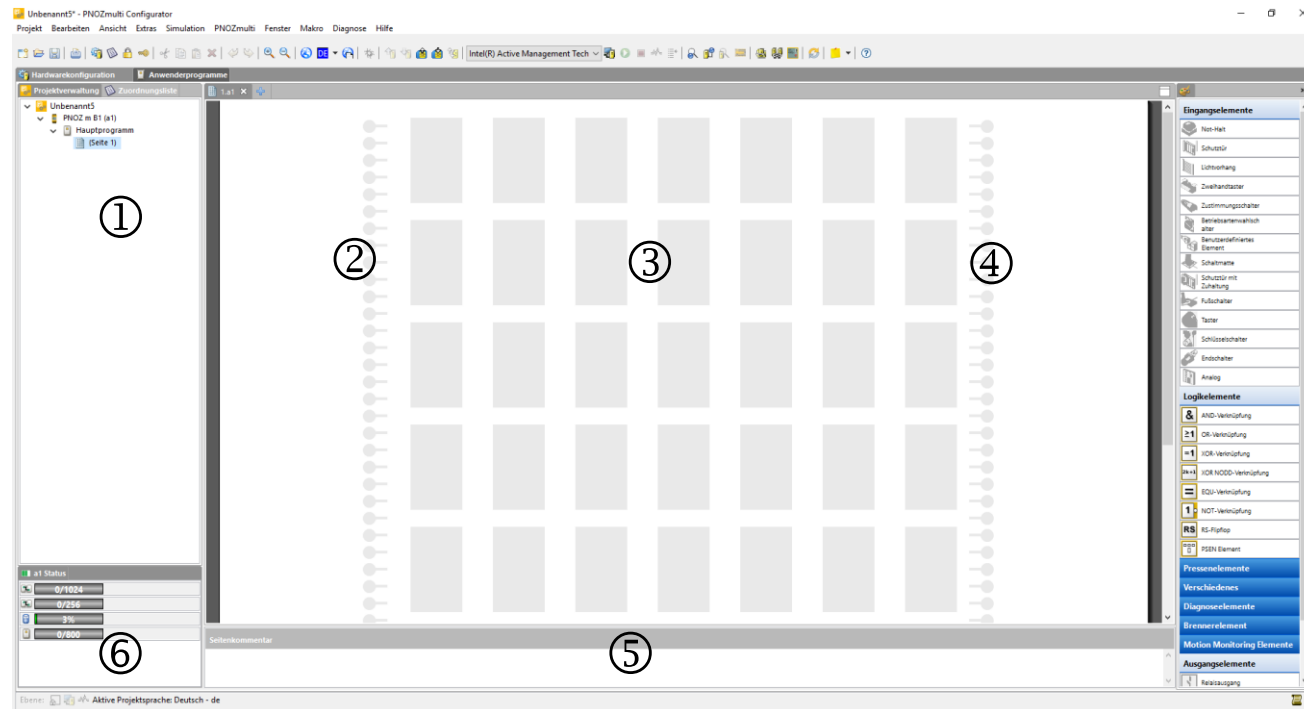
Exercise

Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise



- ① Project window, page overview
- ② Input cells. This is where the inputs are assigned to the PNOZmulti units.
- ③ The function, logic and output elements are positioned in this area.
- ④ Output cells. This is where the outputs are assigned to the PNOZmulti units.
- ⑤ Information window for page comments and the error stack.
- ⑥ Status bar



PILZ | 03-7

System Requirements

User interface

Password

Connection establishment

Exercise

Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

Set Passwords

Level 1

Password:

Confirmation:

Level 2

Password:

Confirmation:

Level 3

Password:

Confirmation:

OK Cancel Help

Password level 1

All the project's editing features are permitted.

Password level 2

No program changes can be made in the project.
The project can only be viewed.

Password level 3

No program changes can be made in the project. Parameters may be changed in the following elements:

- **Configure rotary cam arrangement**, when **Run monitoring** type is selected
 - Strokes per minute
 - Pulses per cycle
- **Configure speed monitor, Axis data** tab:
 - Gear ratio
 - Lead screw pitch
 - Pulses per cycle
 - Tolerance
 - Hysteresis
- **Configure speed monitor, Speeds** tab
 - Standstill
 - n1 ... n8 (only values that have already been entered can be edited)



PILZ | 03-8

System Requirements	Password level	Change Program	Change parameter	Save programm to hardware	Read program from hardware	Monitor status	Show error messages
User interface							
Password							
Connection establishment							
Exercise	-	No	No	No	No	Yes	Yes
Important Menu	1	Yes	Yes	Yes	Yes	Yes	Yes
Programming exercise							
Pages in PNOZmulti-Configurator	2	No	No	Yes	Yes	Yes	Yes
Exercise	3	No	No	YesYes	Yes	Yes	Yes

► Passwords with Write- and Read Protection



PILZ | 03-8

System Requirements

User interface

Password

Connection establishment

Exercise

Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

► Write protection

Password level	Change Program	Change parameter	Save programm to hardware	Read program from hardware	Monitor status	Show error messages
-	No	No	No	No	Yes	Yes
1	Yes	Yes	Yes	Yes	Yes	Yes
2	No	No	Yes	Yes	Yes	Yes
3	No	Yes	Yes	Yes	Yes	Yes

► Read protection

Password level	Change Program	Change parameter	Save programm to hardware	Read program from hardware	Monitor status	Show error messages
-	No	No	No	No	Yes	Yes
1	Yes	Yes	Yes	Yes	Yes	Yes
2	No	No	Yes	Yes	Yes	Yes
3	No	Yes	Yes	Yes	Yes	Yes



PILZ | 03-9 +

System Requirements

User interface

Password

Connection establishment

Exercise

Important Menu

Programming exercise

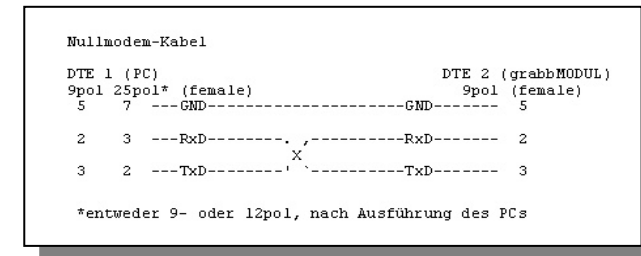
Pages in PNOZmulti-Configurator

Exercise

Base Units	RS232	USB	Ethernet
1st generation	X		X
Mini		X	X*
2nd generation „m B0“		X	X*
2nd generation „m B1“			X

*Ethernet-Communication retrofittable via communication module

- RS232
 - Null modem cable
 - 9-pole SUB-D connector on the base unit
- USB
 - Standard USB cable
 - Mini-USB port at base unit
- Ethernet
 - Cable at least category 5
 - RJ45 port at base unit
 - Network structures via switch possible





PILZ | 03-11 +

System Requirements

User interface

Password

Connection establishment

Exercise

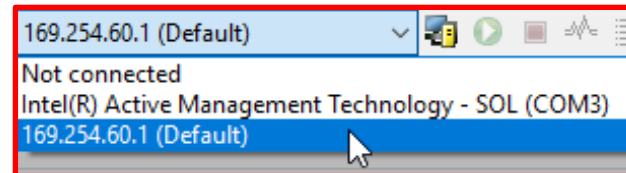
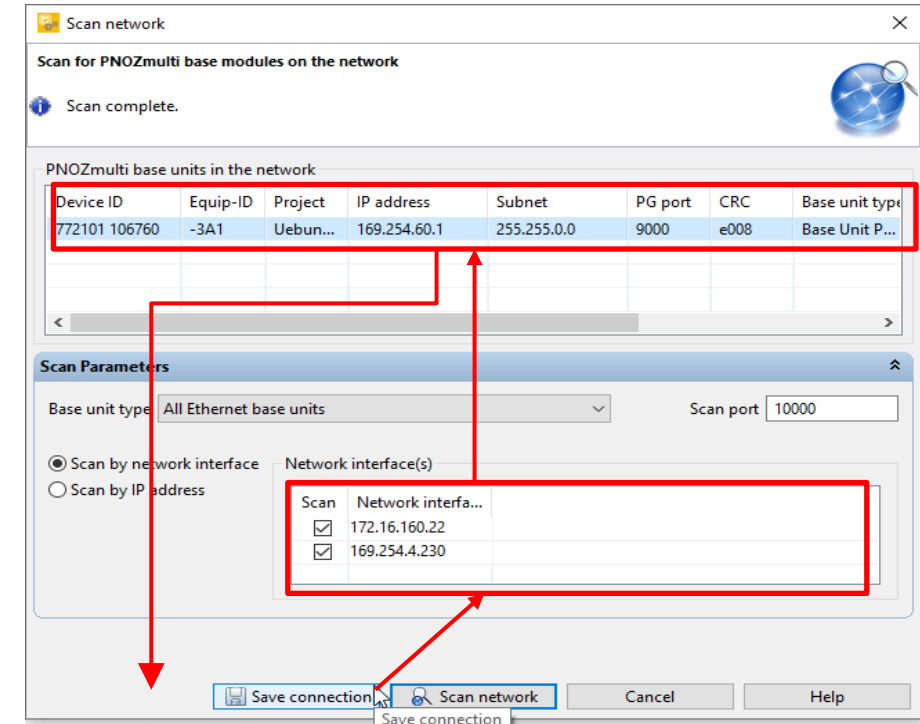
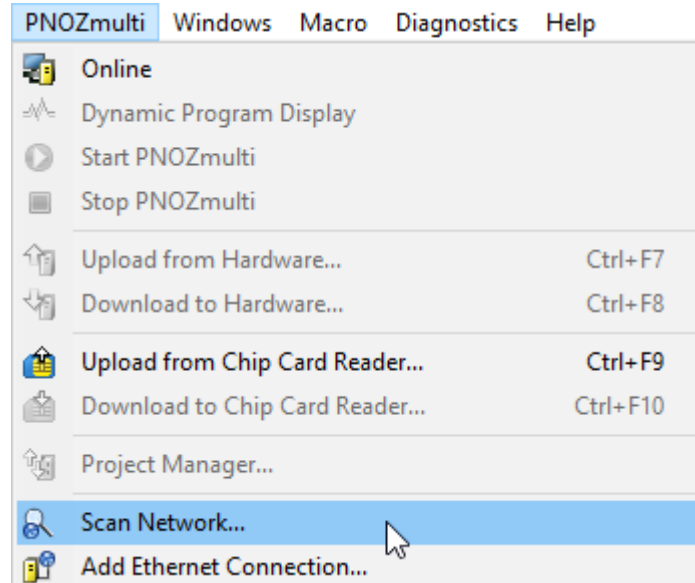
Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

Via the menu bar:



► Change IP-Adress of PNOZmulti



PILZ | 03-12

System Requirements

User interface

Password

Connection establishment

Exercise

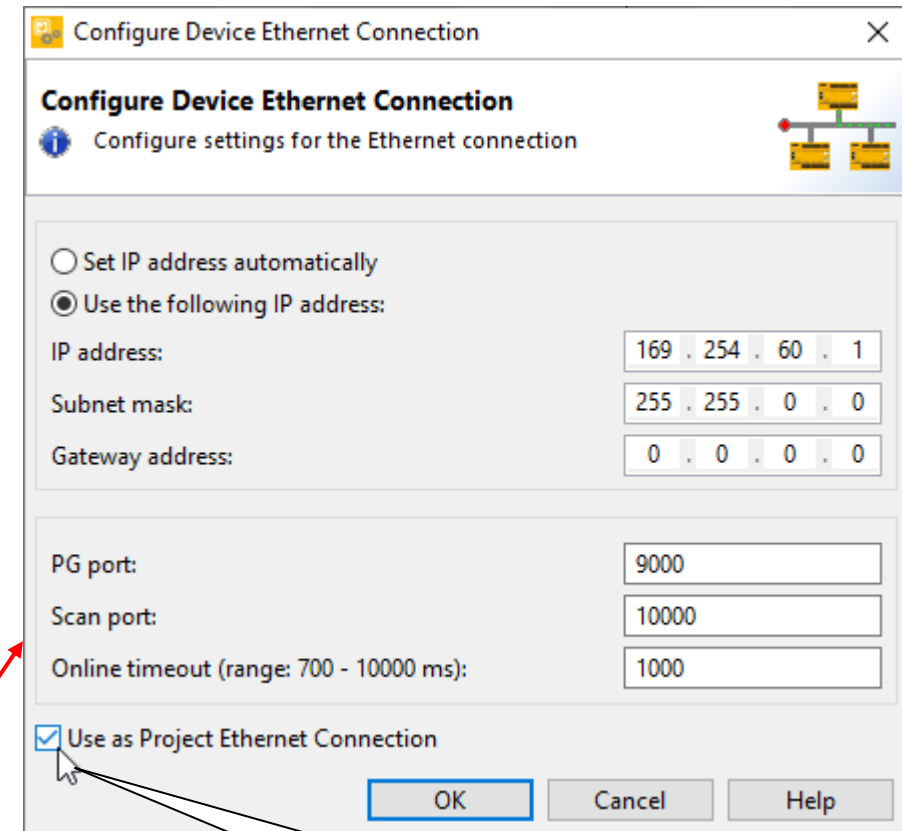
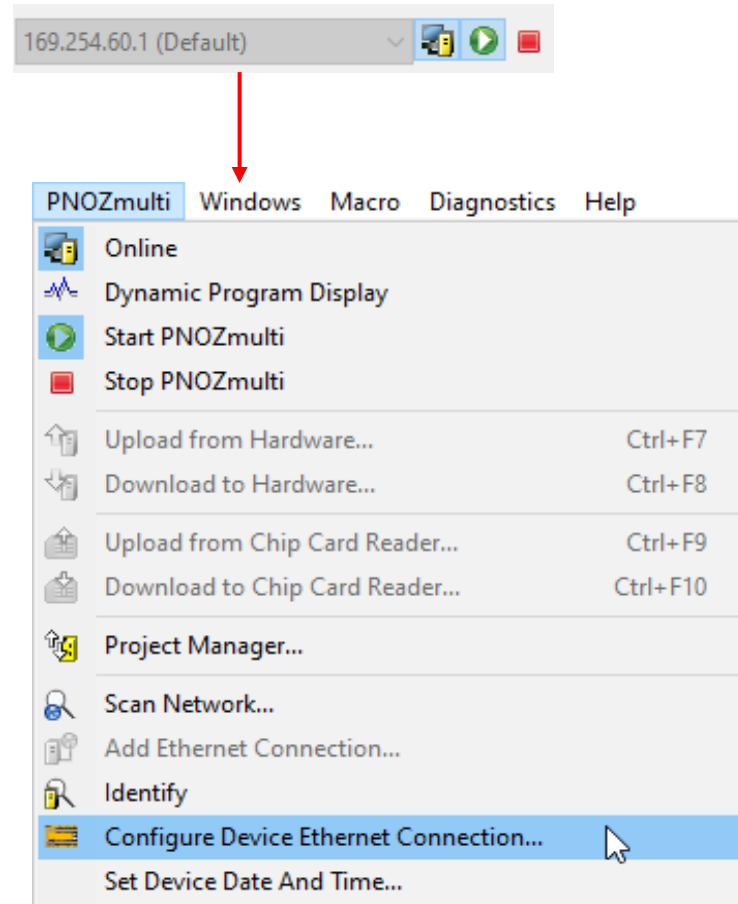
Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

Via the menu bar:



Note:
This option allows you to transfer the settings made here directly into the Ethernet configuration of the offline project.

▶ Selection of the interface



PILZ | 03-13+

System Requirements

User interface

Password

Connection establishment

Exercise

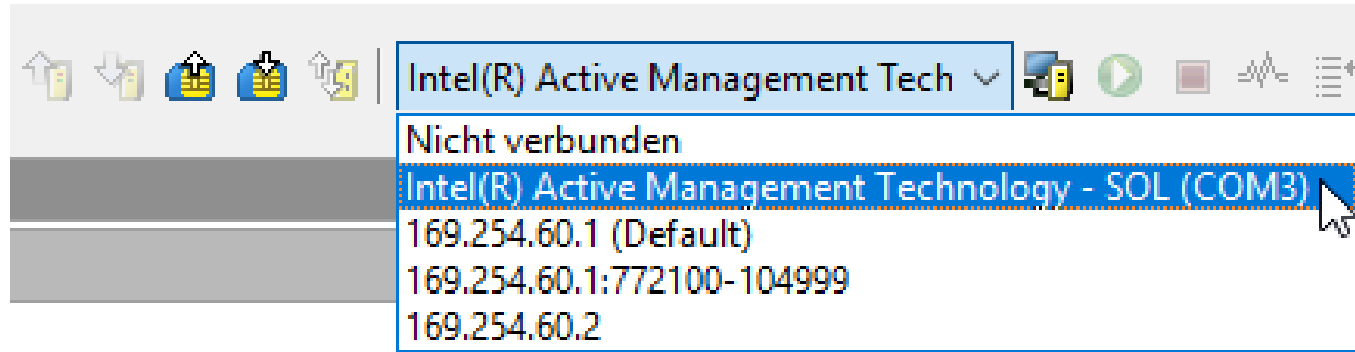
Important Menu

Programming exercise

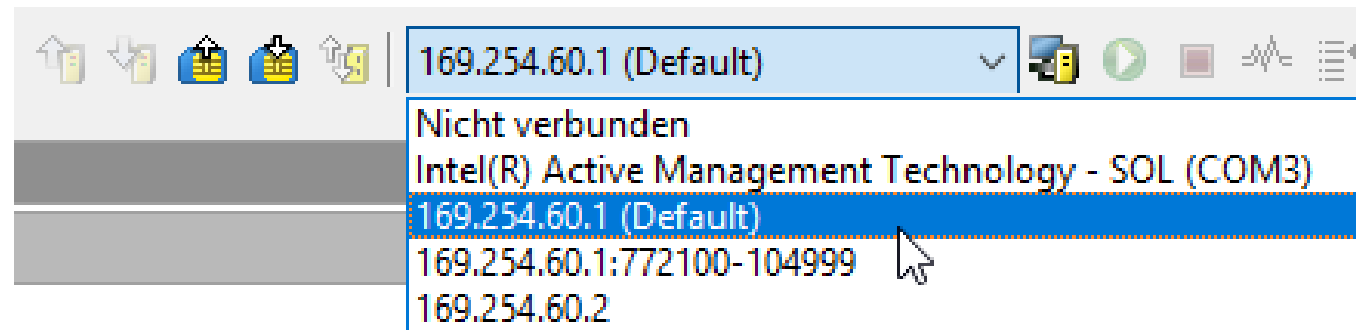
Pages in PNOZmulti-Configurator

Exercise

▶ Select the COM-Interface



▶ Select the IP-adress



► Exercise 3.1: Creating a Backup (Base Unit with USB-Storage)



PILZ | 03-15 +

System Requirements

User interface

Password

Connection establishment

Exercise

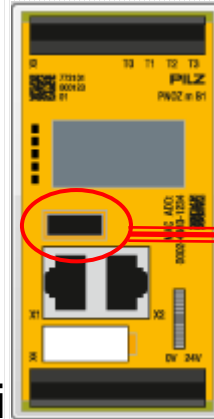
Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

Save the current PNOZmulti program on the PC



- Switch on the PNOZmulti
- Connect the cable
- Start the PNOZmulti Configurator
- Data Backup (page 3-20 / 3-21) (upload of PNOZmulti to PC)
- Password = 1
- Save to local Disk

For Training Notebooks!

Please save the project under the following path:

→ C:\Pilz\PNOZmulti-Projete\Participants\“Project 1”

▶ Exercise 3.1: Creating a Backup (Base Unit with Chipcard)



PILZ | 03-18 +

System Requirements

User interface

Password

Connection establishment

Exercise

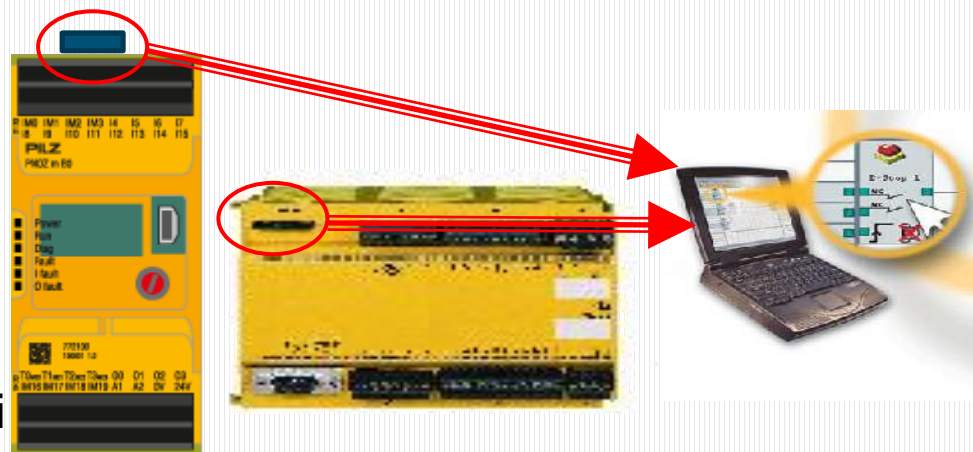
Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

Save the current PNOZmulti program on the PC



- ▶ Switch on the PNOZmulti
- ▶ Connect the cable
- ▶ Start the PNOZmulti Configurator
- ▶ Data Backup (page 3-20 / 3-21) (upload of PNOZmulti to PC)
- ▶ Password = 1
- ▶ Save to local Disk

For Training Notebooks!

Please save the project under the following path:

→ C:\Pilz\PNOZmulti-Projete\Participants\“Project 1”

► Important Menues



PILZ | 03-20

System Requirements

User interface

Password

Connection establishment

Exercise

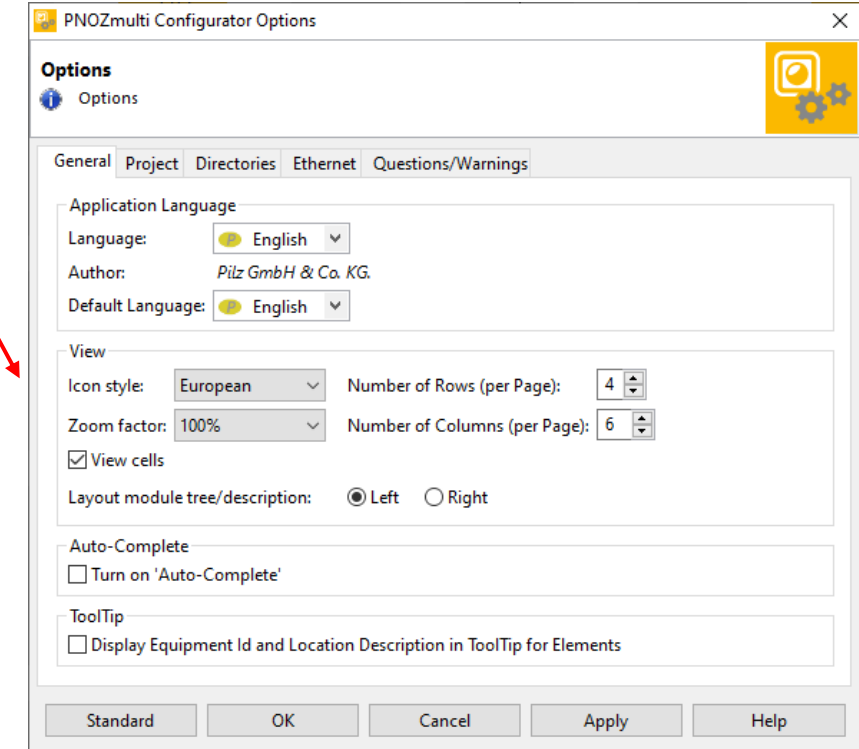
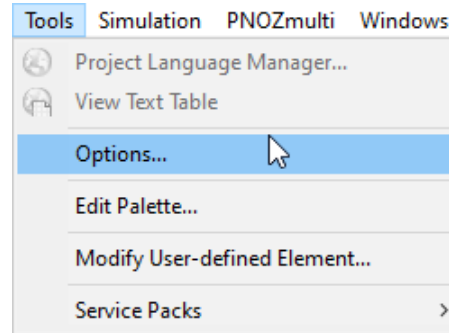
Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

- **General**
 - Language
 - Symbolic representation
- **Directories**
- **Ethernet settings**
 - IP Address
 - Subnet Mask
 - Gateway address
- **Info window**
 - Questions and suppress warnings



► Select interface for Chip Card Reader



PILZ | 03-21

System Requirements

User interface

Password

Connection establishment

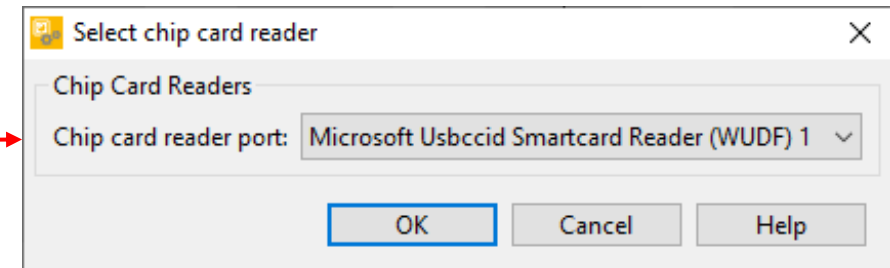
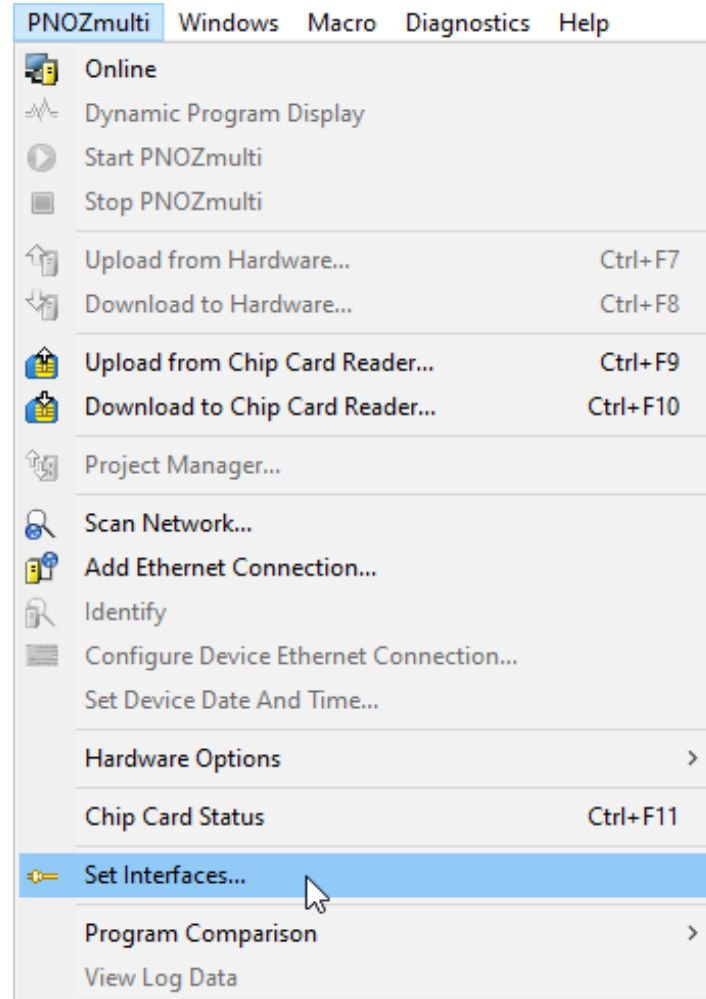
Exercise

Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise



► Programming-Exercise-1: Creating a new Project



PILZ | 03-22+

System Requirements

User interface

Password

Connection establishment

Exercise

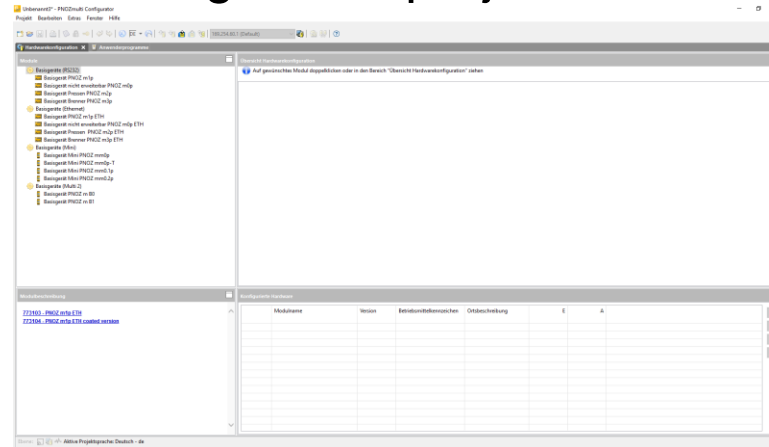
Important Menu

Programming exercise

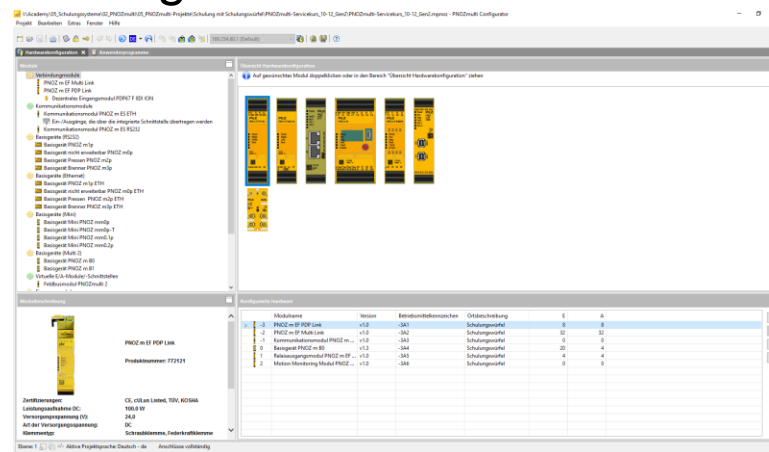
Pages in PNOZmulti-Configurator

Exercise

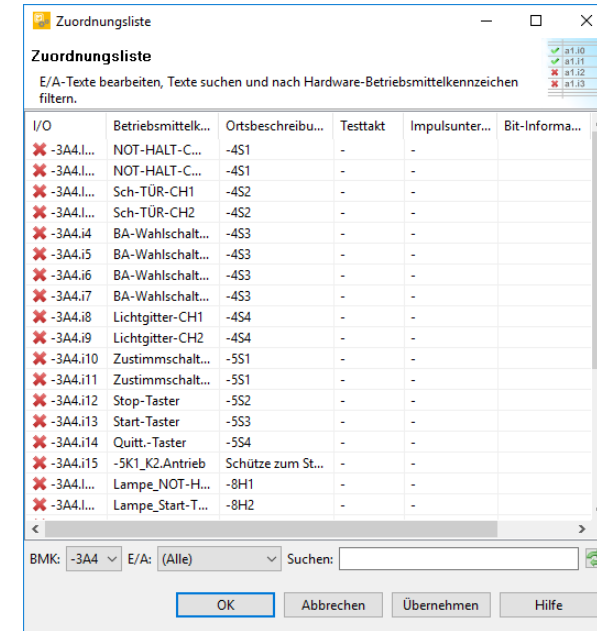
1. Creating a new project



2. Configuration of the hardware



3. Creating the assignment list



► Programming-Exercise-1: Specification of additional functions



PILZ | 03-30

System Requirements

User interface

Password

Connection establishment

Exercise

Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

Nr.	Description	PLr	Max. Response time	Priority
ZF1	System stop: When the stop button is pressed, the system stops.	-	100 ms	Low_2
ZF2	System startup: The system is only started when the start button (pos. edge) is pressed. The green lamp in the start button indicates the status.	-	100 ms	Low_2
ZF3	Lamp in the start button: If the start has taken place, the green lamp in the start button lights up.	-	100 ms	Low_3

► Programming-Exercise-1: Representation of the program



PILZ | 03-31

System Requirements

User interface

Password

Connection establishment

Exercise

Important Menu

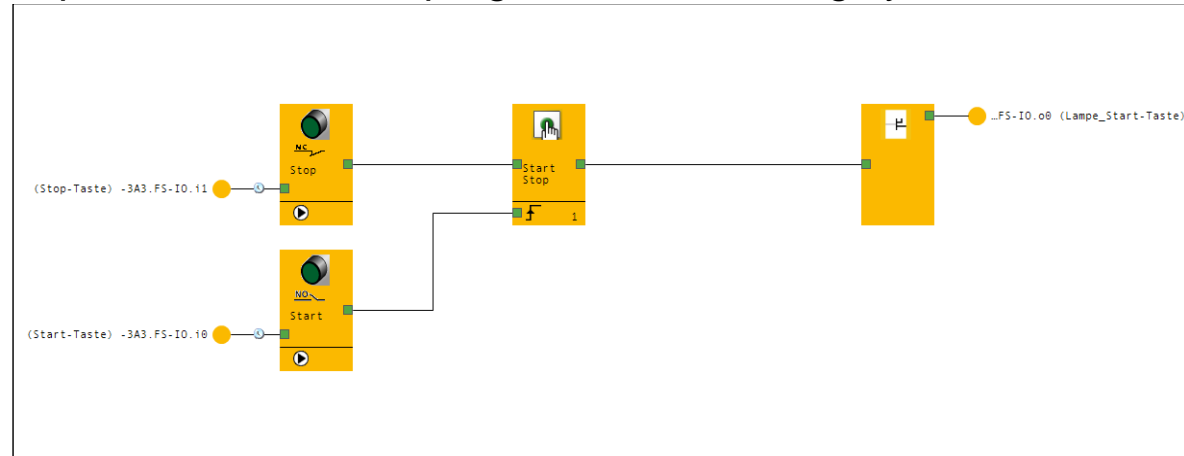
Programming exercise

Pages in PNOZmulti-Configurator

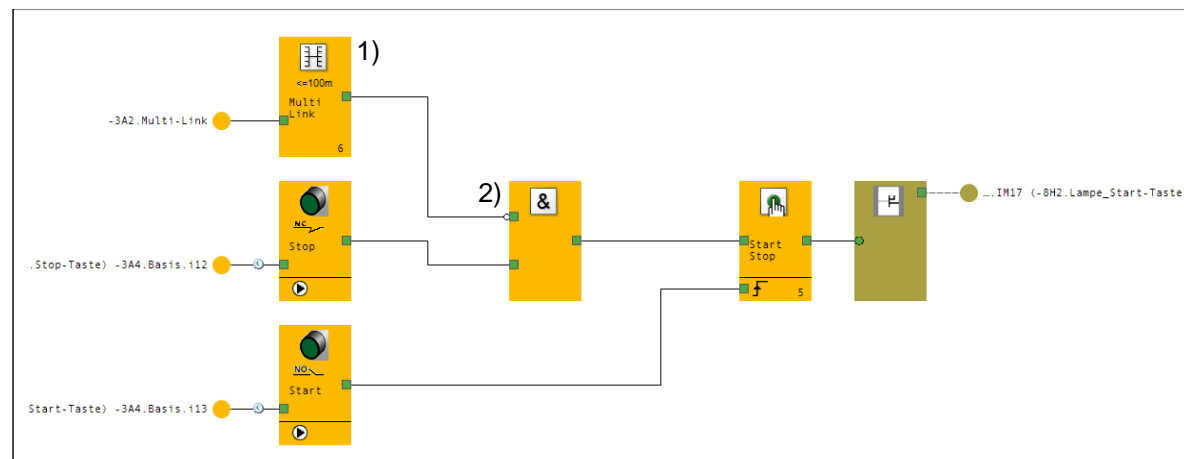
Exercise

III. Representation of the program in the PES training system.

IV. Representation of the program in the training system in cube form (base units of Generation 1).



V. Representation of the program in the training system in cube form (base units of Generation 2).



► Programming-Exercise-1: Transferring the program to the hardware



PILZ | 03-43 +

System Requirements

User interface

Password

Connection establishment

Exercise

Important Menu

Programming exercise

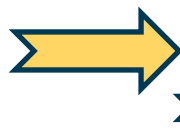
Pages in PNOZmulti-Configurator

Exercise

Online-mode



Via USB-Stick



The screenshot shows the 'Project Manager' window with the following details:

- Project Manager**: Manage projects for the PNOZmulti Configurator and the connected base unit.
- PNOZ Multi Configurator**:
 - Project Name: Uebung_Urloeschen_1000ms
 - Check Sum Safe: 5800
 - Last Modified: 14.7.2020 08:43:00
- Connected Base Unit**:
 - Buttons: Save from PNOZmulti Configurator to USB memory (highlighted), Up arrow, Down arrow.
- USB Drive**:

Name	Date Downloaded	R...
Uebung_Urloeschen_1000ms	04/03/2010 12:2...	
Uebung_Urloeschen_2500ms	04/03/2010 12:2...	
Uebung_Urloeschen_5000ms	04/03/2010 12:2...	
- Active Project**:
 - Project Name: Uebung_Urloeschen_2500ms
 - Check Sum Safe: 3710
 - Last Modified: 1.7.2019 13:31:00
 - Device Type: Base Unit PNOZ m B1
 - IP Address: 169.254.60.1

Via Chipcard



▶ Setting up the pages



PILZ | 03-47

System Requirements

User interface

Password

Connection establishment

Exercise

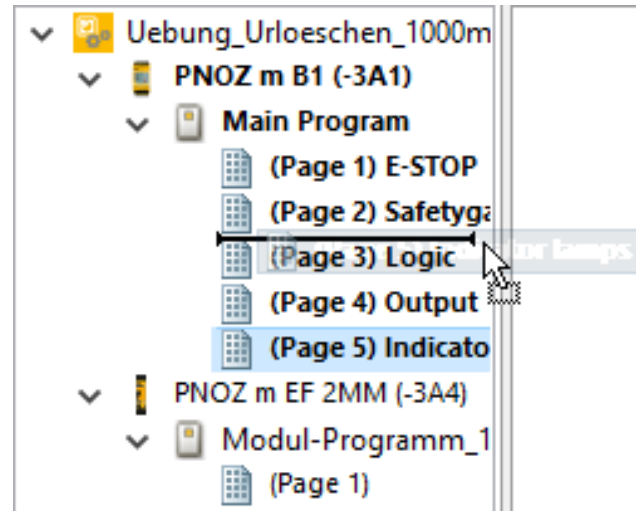
Important Menu

Programming exercise

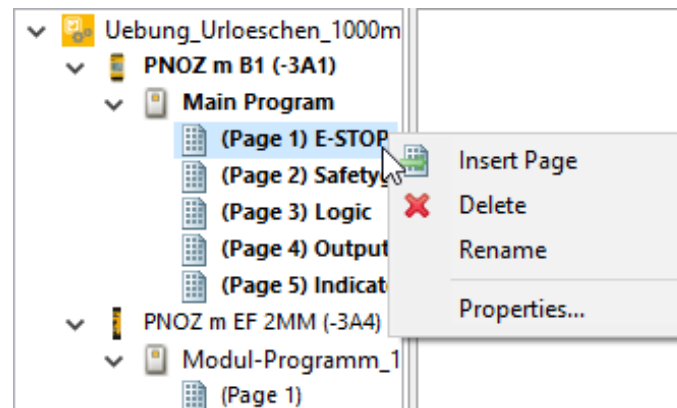
Pages in PNOZmulti-Configurator

Exercise

▶ Move pages by drag and drop



▶ Right click to edit pages





PILZ | 03-49

System Requirements

User interface

Password

Connection establishment

Exercise

Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

1. Question:

You want to make a backup copy of the user configuration (user program) stored in the PNOZmulti. What influence do the write protection and read protection attributes have?

	Correct	Number
1. None, You can create a backup copy if you are in possession of a password for one of the three password levels.	<input checked="" type="checkbox"/>	1
2. If the project has the write protection attribute, you cannot make a backup copy.	<input type="checkbox"/>	
3. If the project has the read protection attribute, you cannot make a backup copy.	<input type="checkbox"/>	
4. If the project has the read or write protection attribute, you do not need a password to create a backup copy.	<input type="checkbox"/>	



PILZ | 03-49

System Requirements

User interface

Password

Connection establishment

Exercise

Important Menu

Programming exercise

Pages in PNOZmulti-Configurator

Exercise

2. Question:

On which base units can the backup copy be made via an Ethernet network, with an add-on module?

	Correct	Number
1. PNOZmulti m0p...m3p (1st Gen.)	<input type="radio"/>	2
2. PNOZmulti m0p ETH...m3p ETH (1st Gen.)	<input checked="" type="checkbox"/>	
3. PNOZmulti mm0p...mm0.2p (Mini) or PNOZ m B0 (2nd Gen.)	<input type="radio"/>	
4. PNOZmulti m B1 (2nd Gen.)	<input checked="" type="checkbox"/>	

Automatisierungs- technik

COMPONENTS
SYSTEMS
SERVICES

innovativ ökologisch
sicher wirtschaftlich

Pilz GmbH & Co. KG
Felix-Wankel-Straße 2
73760 Ostfildern, Germany
Tel.: +49 711 3409-0
info@pilz.de

Always up-to-date information about Pilz
pilz.com

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