Co-funded by the Erasmus+ Programme of the European Union

INDI 4.0

PNOZmulti - Programming and Service

PILZ
THE SPIRIT OF SAFETY

Appendix B
General Issues

Module Program
Overview

PILZ | B-2

Modul program

Macro

Migration tool

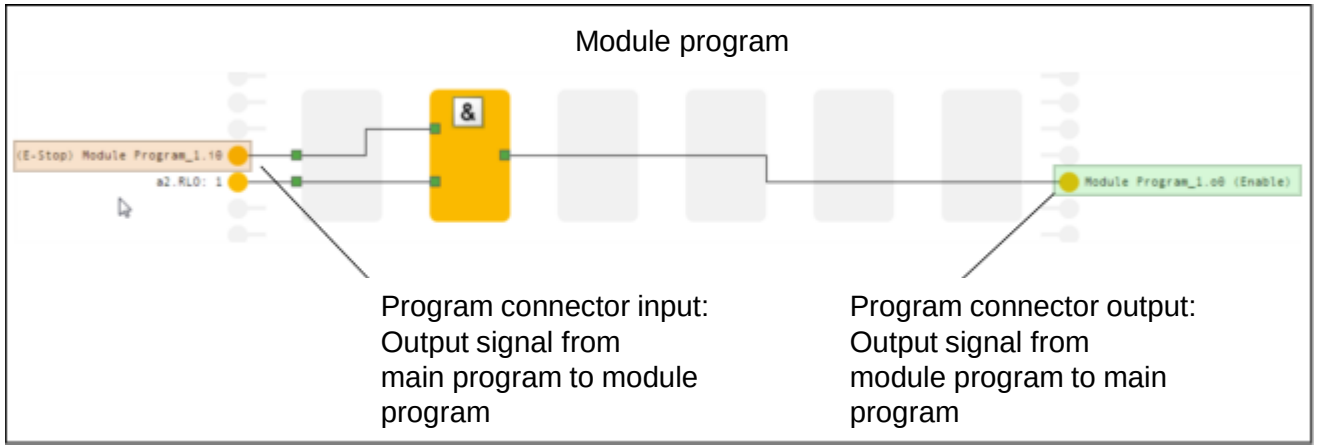
- The user program always consists of a main program
- In 2nd generation, complex modules are configured in their own sub-program, the module program.
  - Motion monitoring (1MM or 2MM)
  - Analog modules (4AI)
  - Output module for presses (8DI2DOT)
- The structure of a module program is identical to the main program.
  - Only those elements are made available that are required for the module to be configured.
- The module programs are linked to the main program via:
  - Program connector inputs
  - Program connector outputs

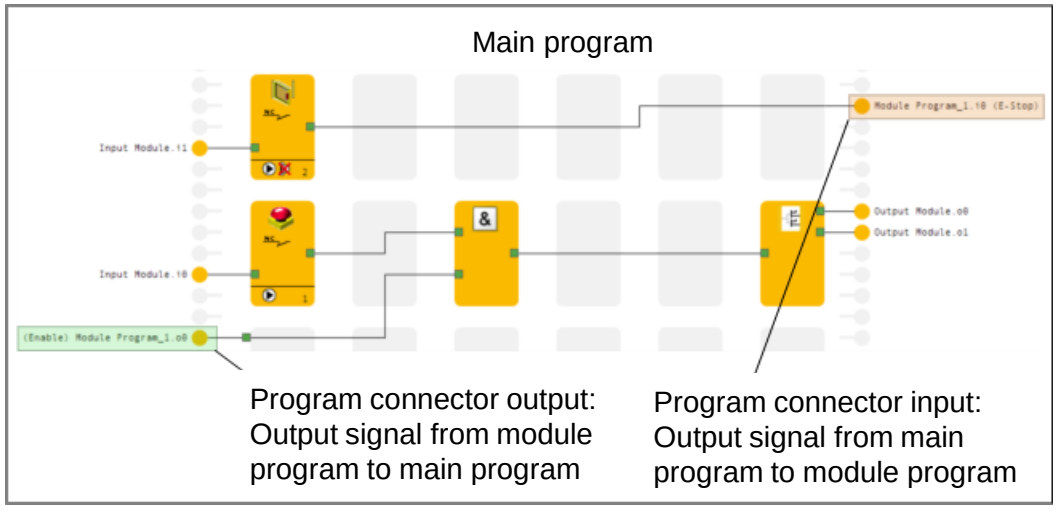
Module Program
Program connector in- and outputs

PILZ | B-2

Modul program

- Macro
- Migration tool



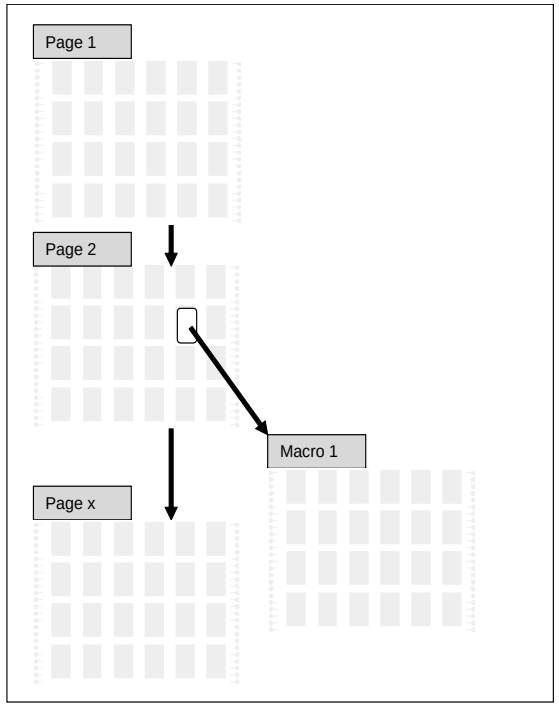


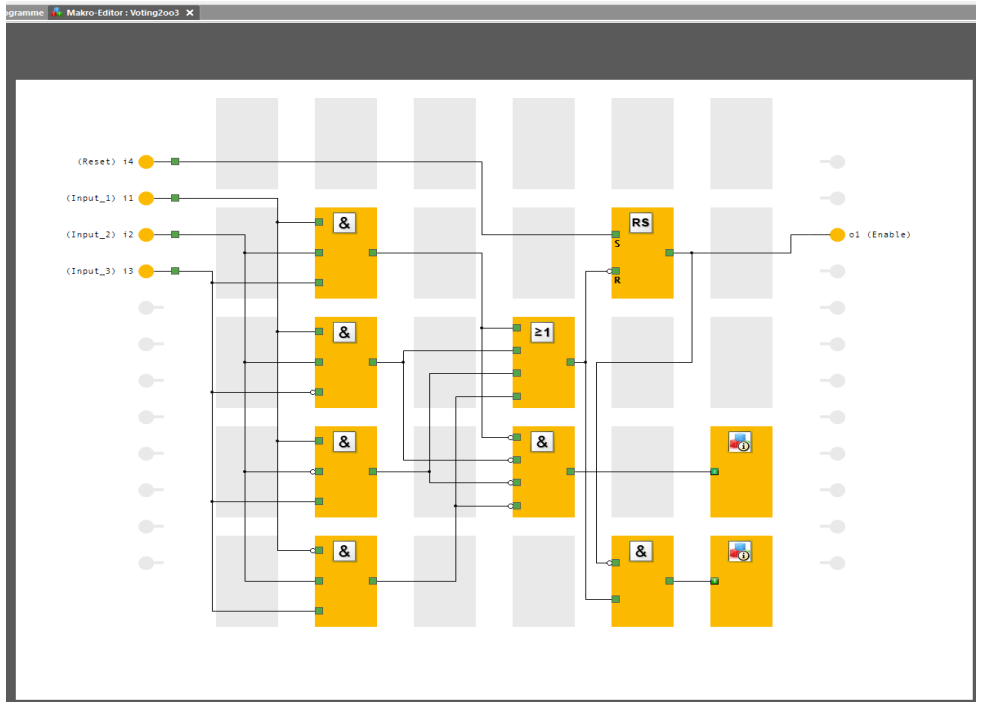
Macro
General

PILZ | B-3 +

- Modul program
- **Macro**
- Migration tool

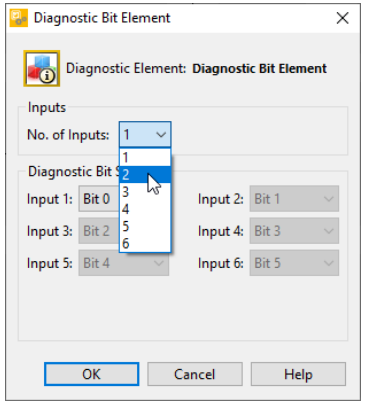
Macros are used for:
Improvement of the program structure / Library (example: voting 2oo3)

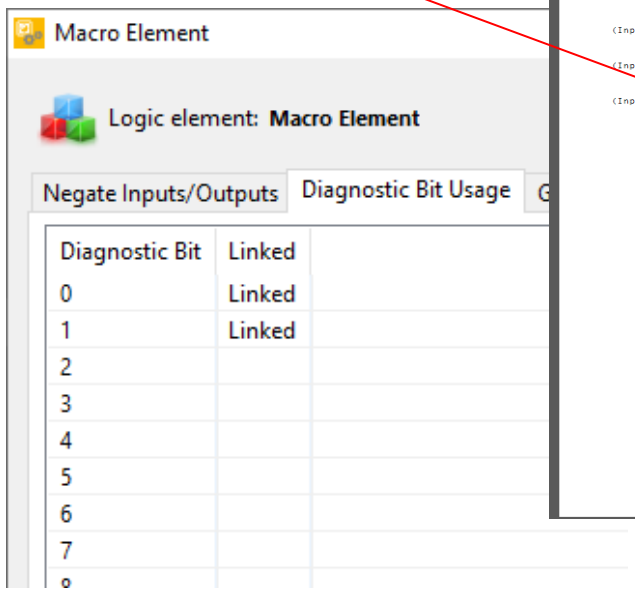


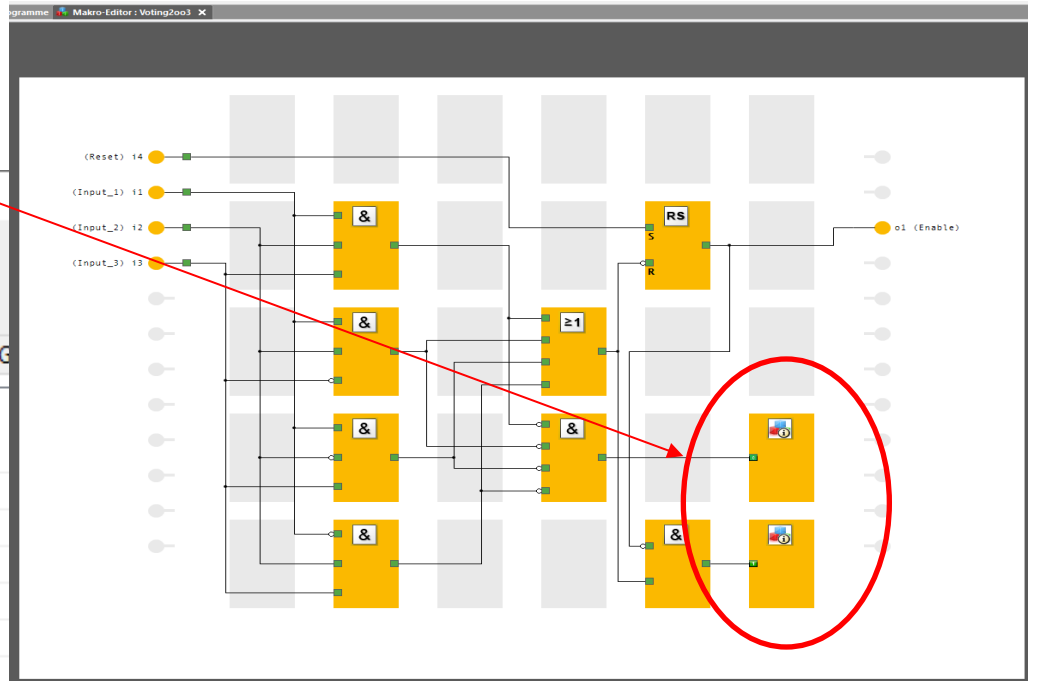


Macros can be read or write protected

Diagnosis via:
Macro diagnostic bit element







The diagnostic messages of the macro can:

- displayed in online mode of the PNOZmulti configurator
- displayed on a PVIS device

Migration Tool
General

PILZ | B-6

Modul program

Macro

Migration tool

- Tool to easily switch from 1st generation and Mini to 2nd generation
- Simple operation and handling
- Fully automatic change of hardware configuration
- Acceptance of the complete program with the exception of complex modules (e.g. speed and analog modules) CANNOT be accepted

Migration Tool

PILZ | B-6

Modul program

Macro

Migration tool

FROM		TO
Base units (1st generation): PNOZ m0p (ETH) PNOZ m1p (ETH) PNOZ m2p (ETH)	⇨	Possible base units: PNOZ m B0 PNOZ m B1
Base unit (1st generation): PNOZ m3p (ETH)	⇨	Possible base unit: PNOZ m B1 Brenner
Base units (mini): PNOZ mm0p PNOZ mm0.1p PNOZ mm0.2p	⇨	Possible base units: PNOZ m B0 PNOZ m B1
Base unit (2nd generation): PNOZ m B0	⇨	Possible base unit: PNOZ m B1

Migration Tool

PILZ | B-7

Modul program

Macro

Migration tool

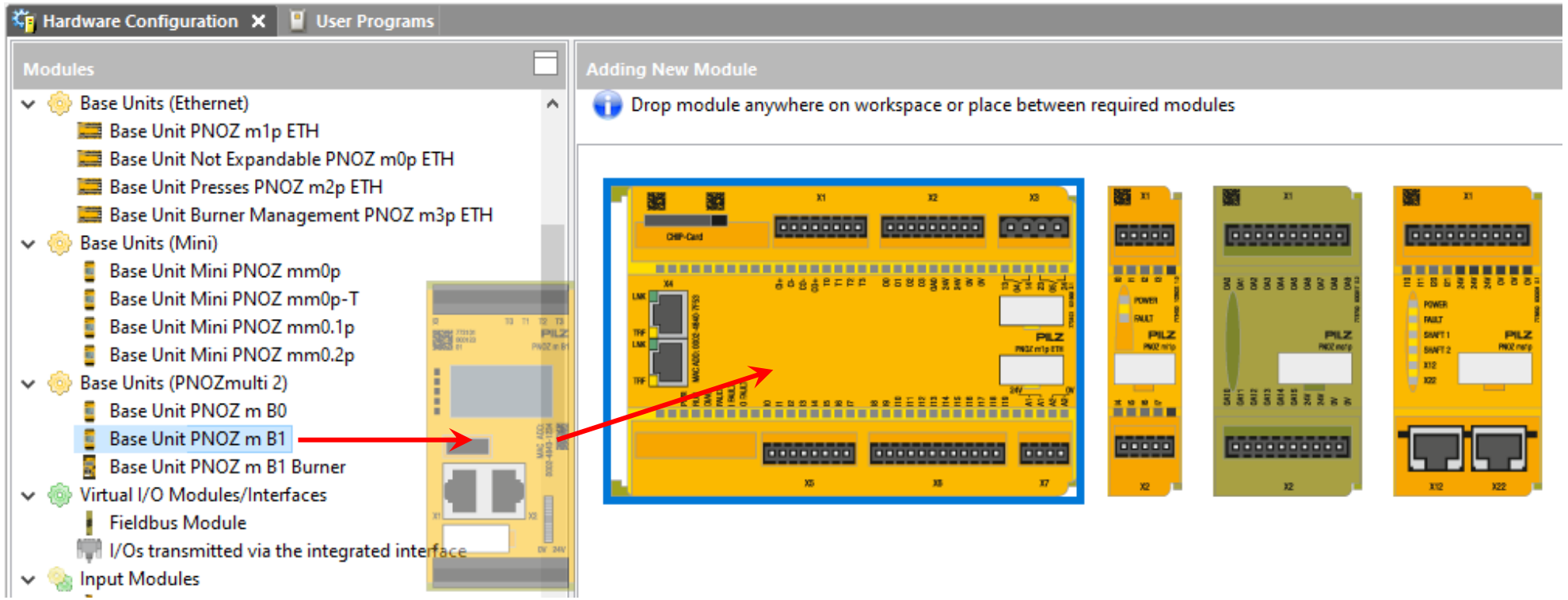
I/O modules that are not supported:

- Speed monitoring modules ms1p - ms4p (speed monitoring elements)
- Analog input module PNOZ ma1p (analog input element)
- Standard input module PNOZ mi2p (currently not available)
- Two-pole output module PNOZ mo3p (output element with the "two-pole" option. (Currently not available)

Migration Tool
Start the tool

PILZ | B-11

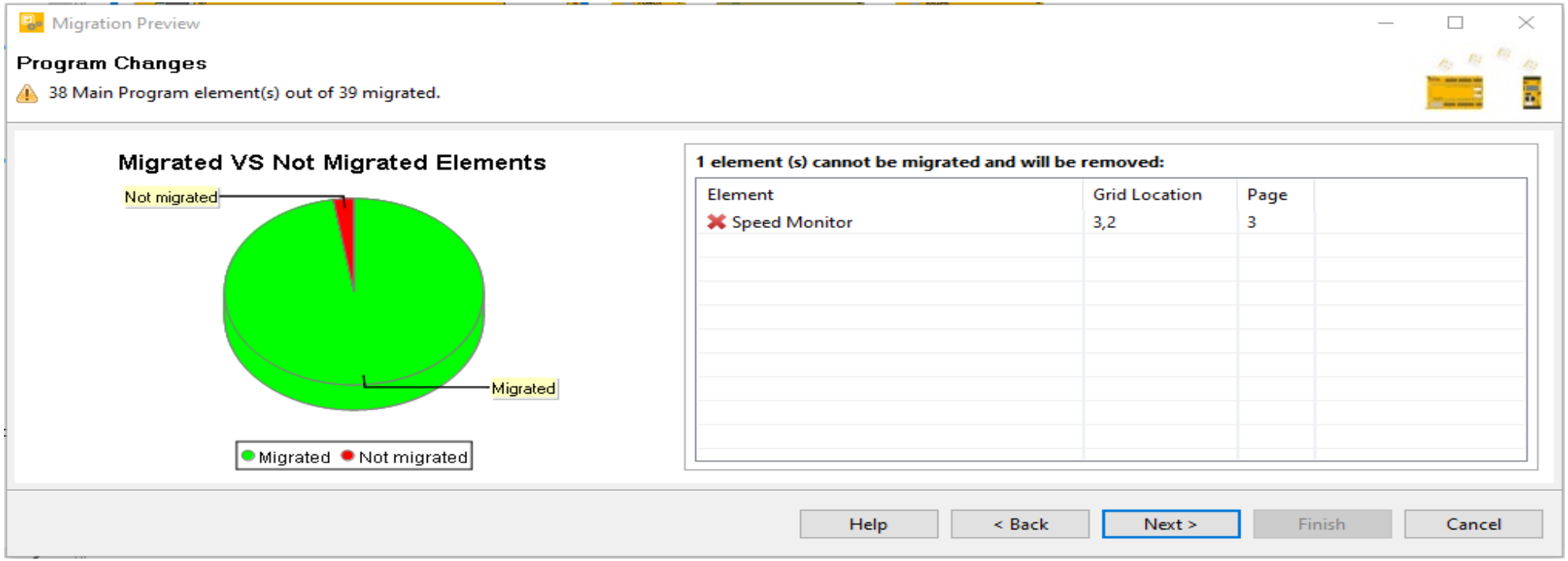
- Modul program
- Macro
- **Migration tool**



Migration Tool
Migration overview

PILZ | B-12

- Modul program
- Macro
- **Migration tool**

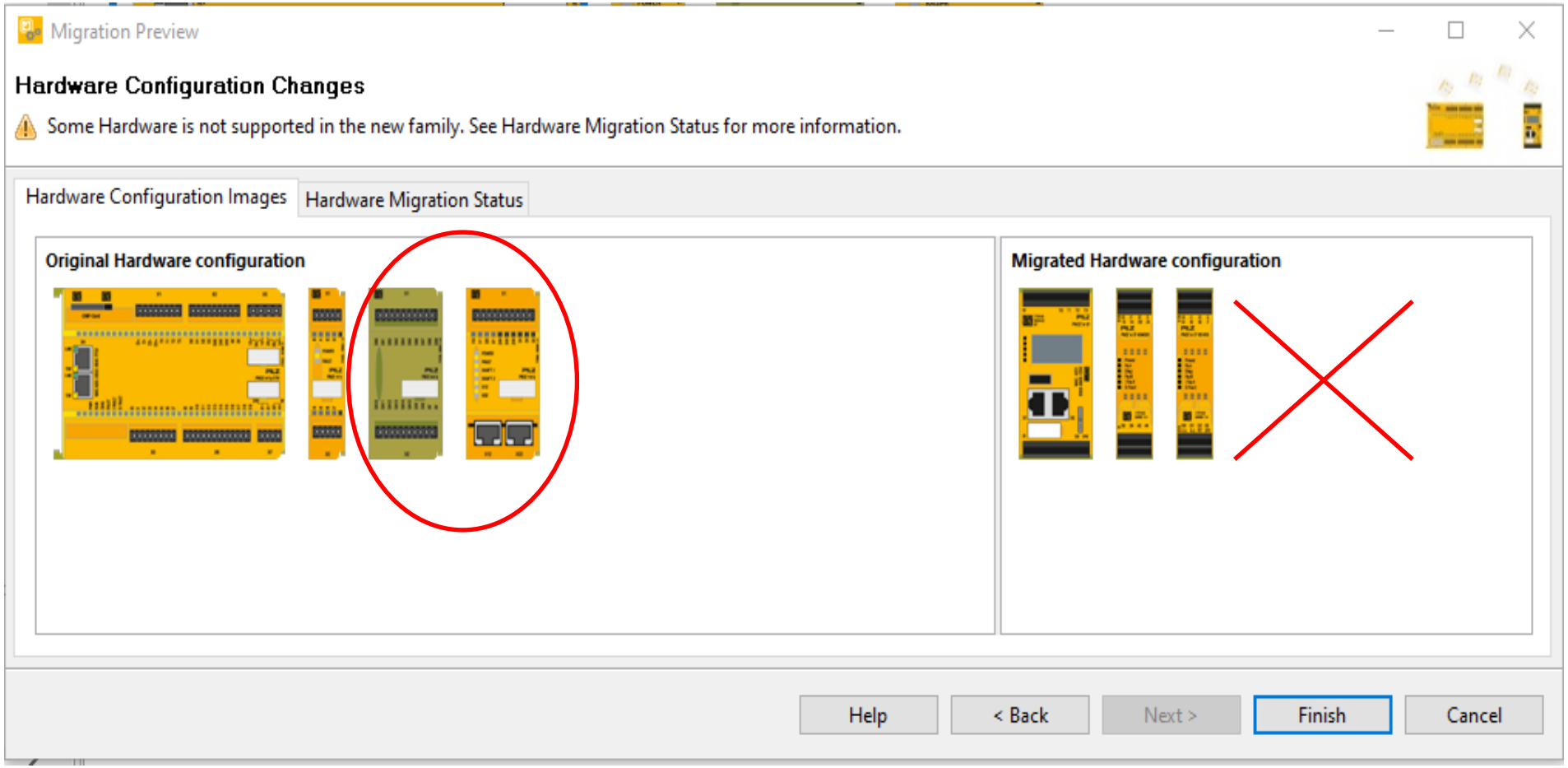


Migration Tool
The new hardware configuration

PILZ | B-12

- Modul program
- Macro
- **Migration tool**

Some modules have to be inserted manually

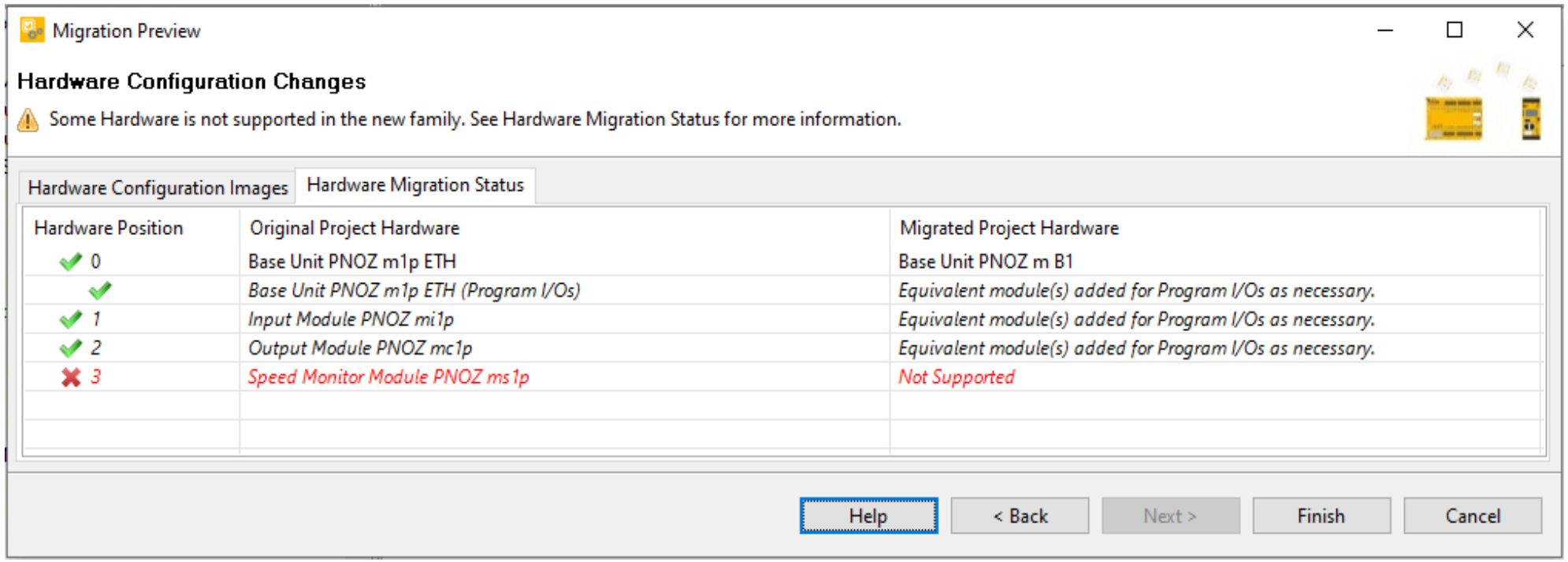


Migration Tool
Hardware configuration - migration status

PILZ | B-12

- Modul program
- Macro
- **Migration tool**

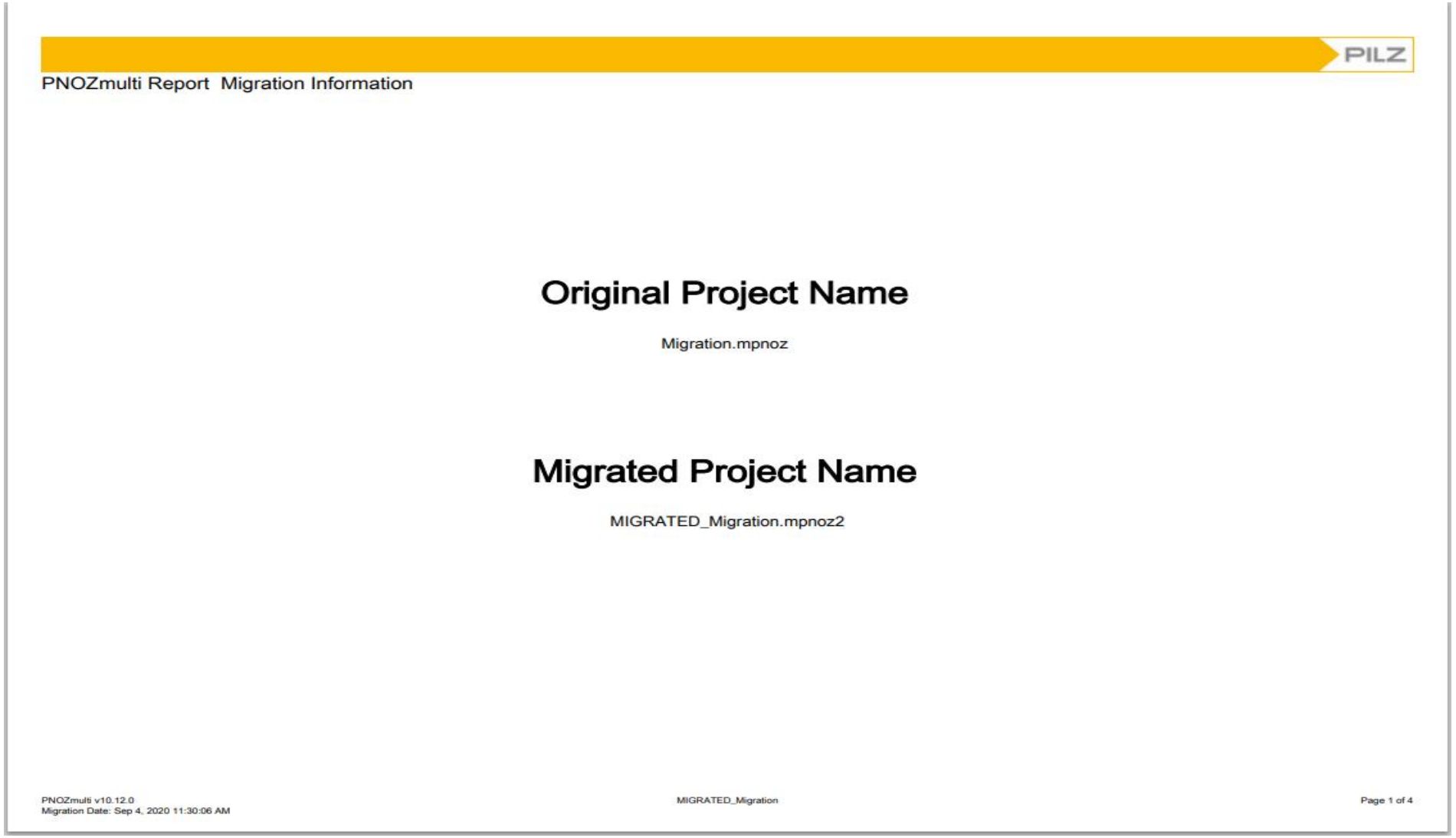
Hardware configuration log



Migration Tool
Migration report

PILZ | B-13

- Modul program
- Macro
- **Migration tool**


PNOZmulti Report Migration Information

PILZ

Original Project Name

Migration.mpnoz

Migrated Project Name

MIGRATED_Migration.mpnoz2

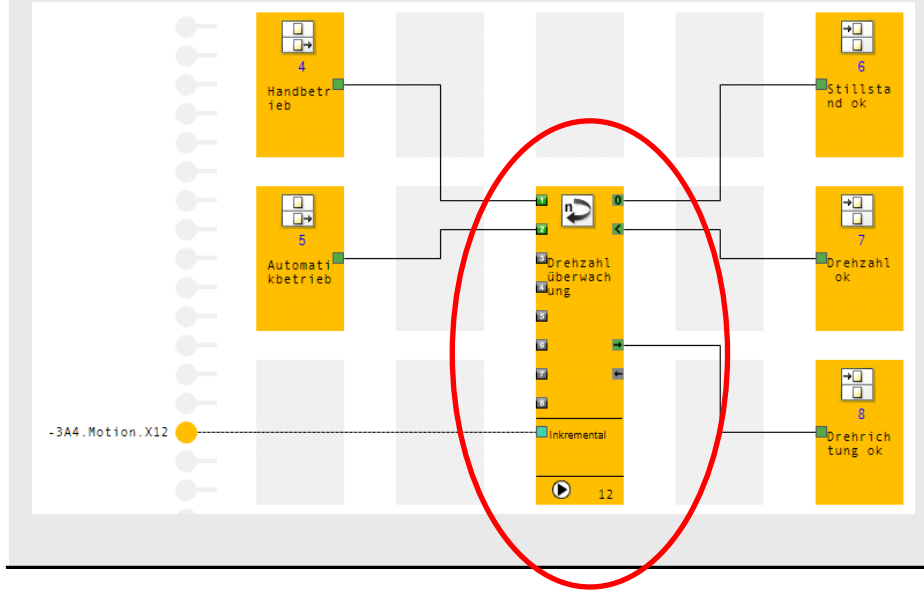
PNOZmulti v10.12.0
Migration Date: Sep 4, 2020 11:30:06 AM

MIGRATED_Migration

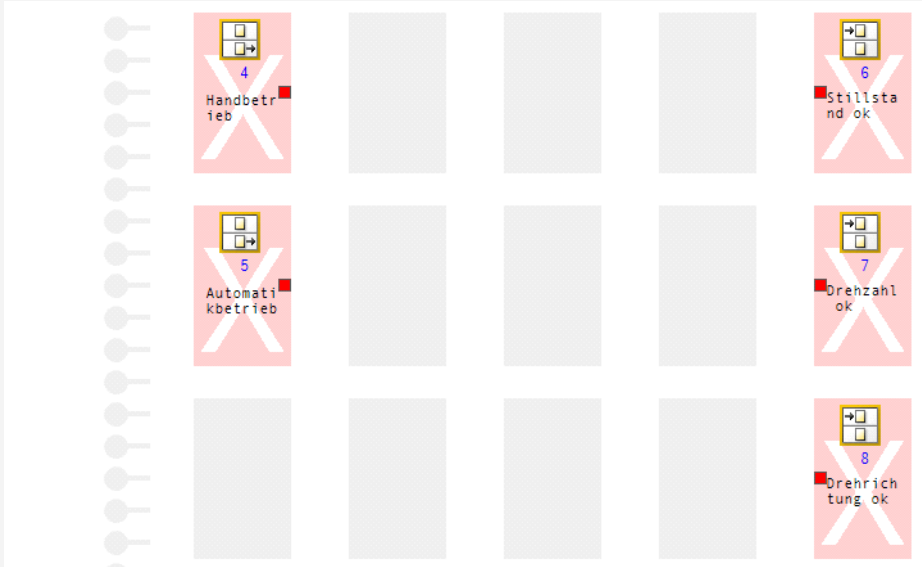
Page 1 of 4

Motion monitoring element from 1st generation

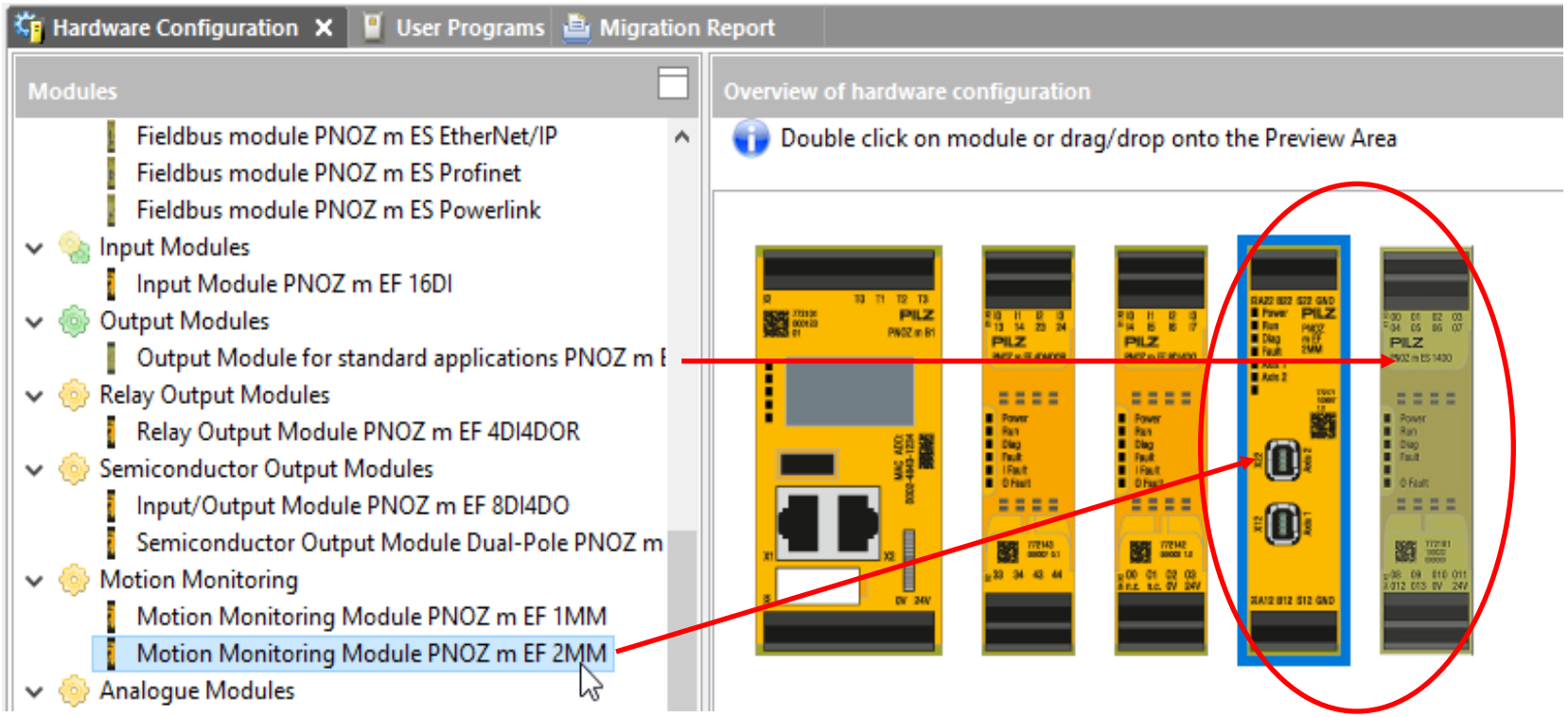
Before



After



Insert a new motion monitoring module:



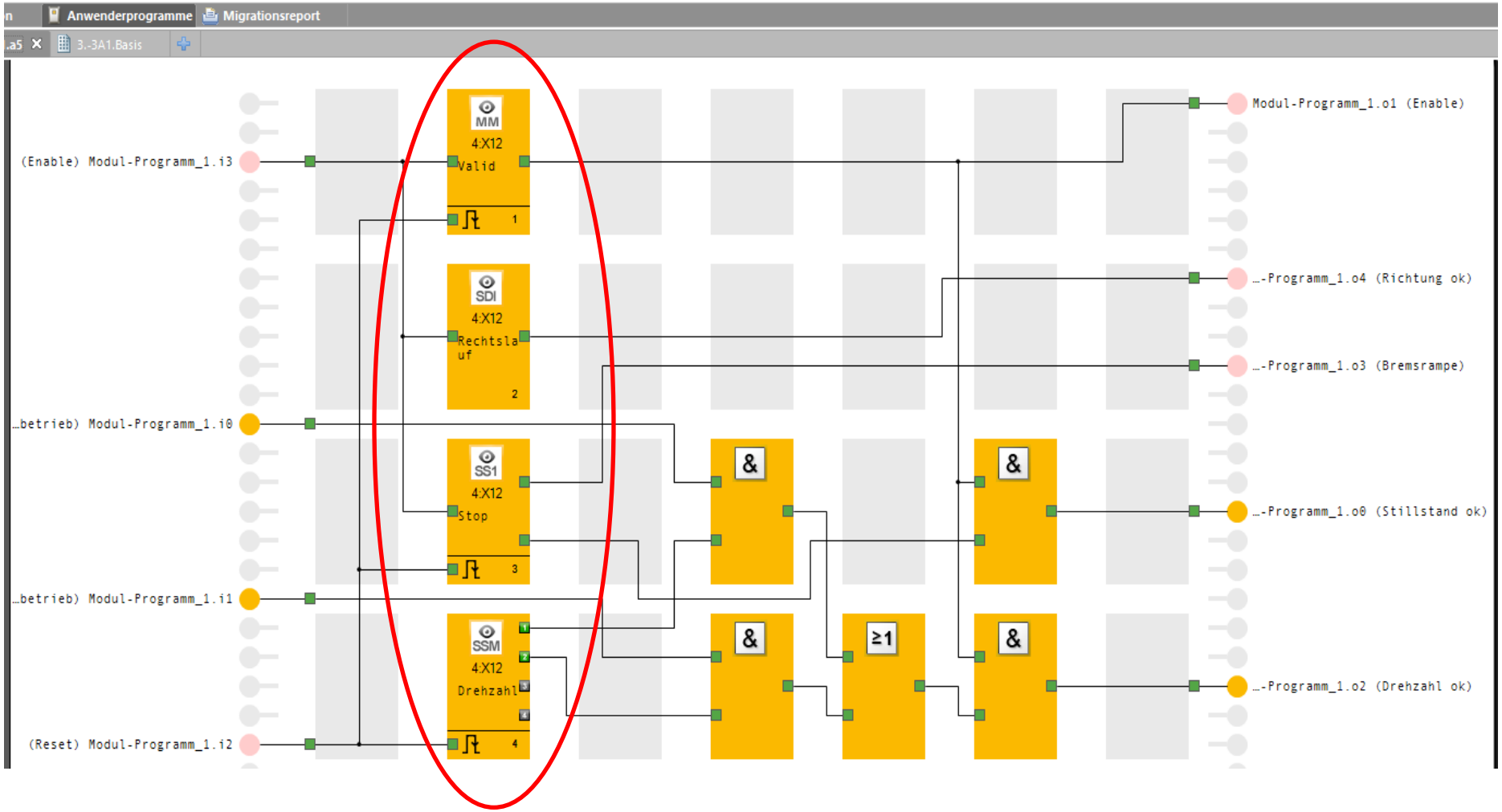
PILZ | B-15

Modul program

Macro

Migration tool

New elements of the motion module (in the module program)



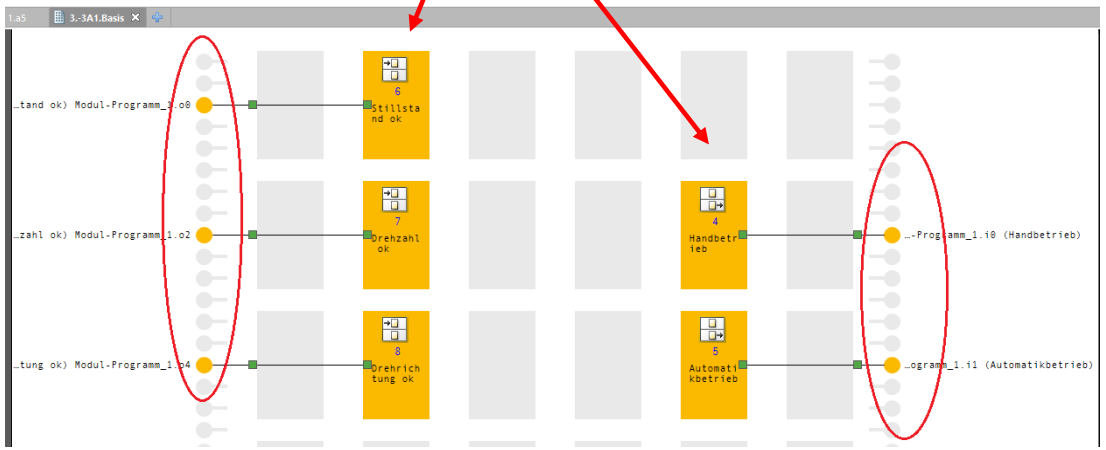
Migration Tool
Main program

PILZ | B-15 +

- Modul program
- Macro
- **Migration tool**

Old:

New:



Programming Exercise (optional)

Programming exercise (part 1)

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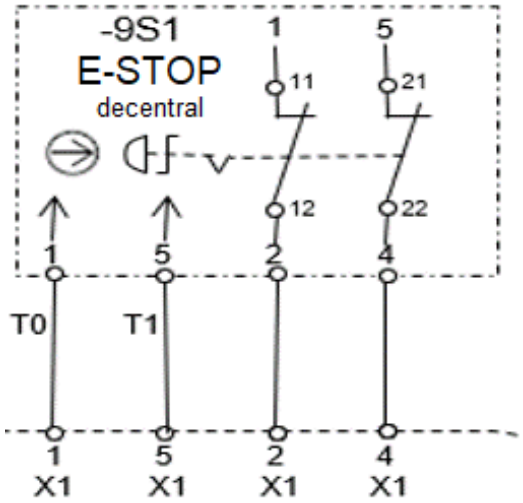

Programming exercise (part 2)

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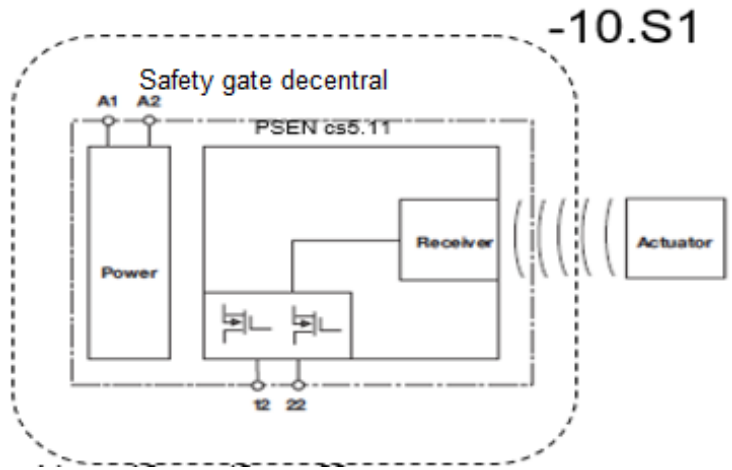

Automatisierungs-
technik

COMPONENTS
SYSTEMS
SERVICES

innovativ ökologisch
sicher wirtschaftlich

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