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INDI4.0

PNOZmulti Programming and Service

Chapter 7
„PVIS®“

PILZ
THE SPIRIT OF SAFETY



PILZ | 07-2

General

Diagnosis of input and output elements

Diagnostic point

Diagnostic configurator

Diagnosis with ActiveX

Troubleshooting of

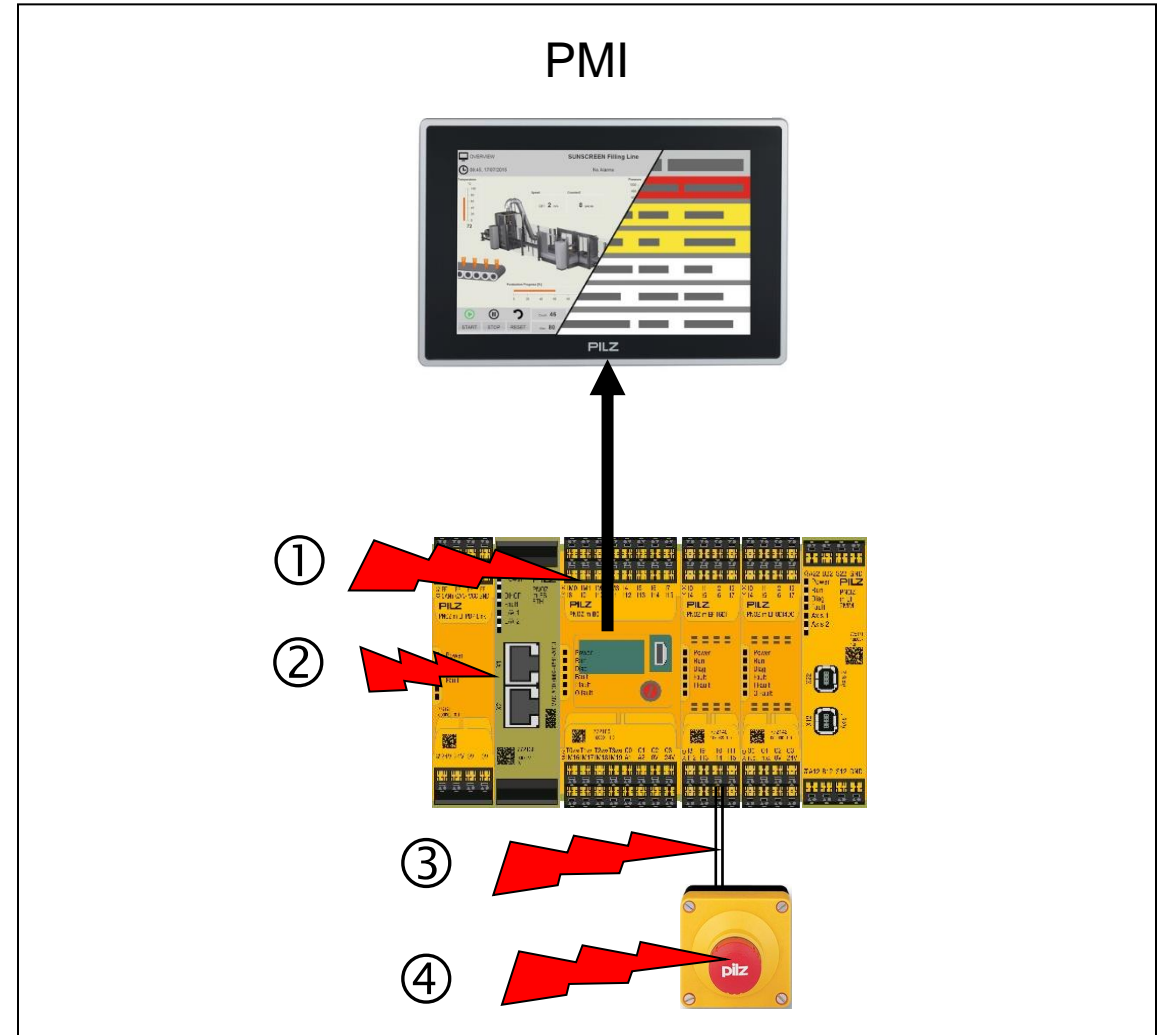
- ▶ the base unit ①
- ▶ the extension modules ②
- ▶ the wiring ③
- ▶ Operating errors ④

Troubleshooting of

- ▶ the In- and output elements

Process diagnosis via:

- ▶ Diagnostic points



▶ PVIS

System structure



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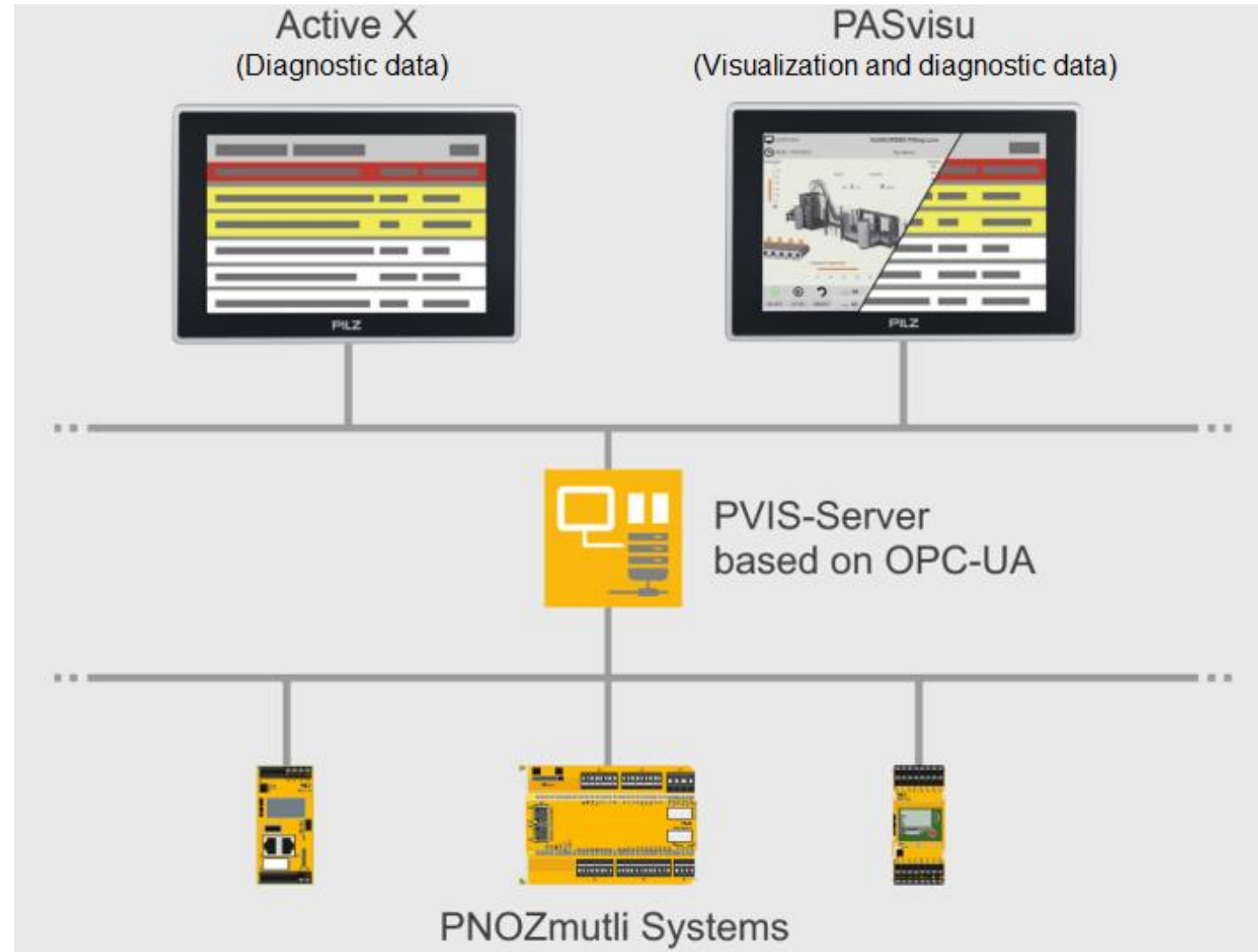
General

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► Diagnosis of Input and Output Elements



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General

Diagnosis of input and output elements

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Diagnosis with ActiveX

- Defined states of the elements
- Predefined message texts
- Predefined remedy texts
- Modifiable message and remedy texts

The screenshot shows the 'Configure Function Element' dialog box for an 'E-Stop' function element. The 'Switch type' is set to 'N/C - N/C-Monitored'. The 'PVIS' tab is active, showing a checked 'Activate PVIS' option and a 'Diagnostic type' dropdown set to 'E-STOP'. Below this is a table with columns for Bit No., Activated, Priority, Scope, and Description.

| Bit No. | Activated | Priority | Scope | Description |
|---------|-----------|----------|--------------|-------------------------------|
| 1 | ✓ | Error | Process | E-STOP pushbutton was... |
| 2 | ✓ | Error | Process | E-STOP pushbutton is re... |
| 5 | ✓ | Error | Plant/device | N/C contact 1 or 2 faile... |
| 8 | ✓ | Error | Plant/device | Error in the test pulse wi... |
| 12 | | Status | Plant/device | There is a 1 signal at inp... |
| 13 | | Status | Plant/device | There is a 1 signal at inp... |
| 14 | | Status | Plant/device | There is a 1 signal at inp... |
| 15 | | Status | Plant/device | There is a 1 signal at inp... |

► Diagnostic Point



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General

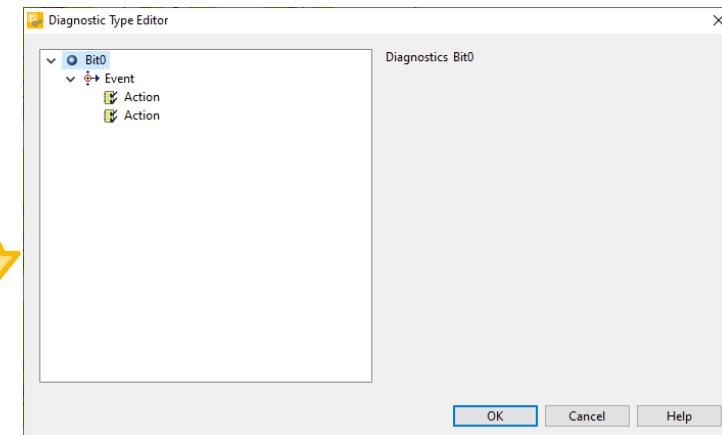
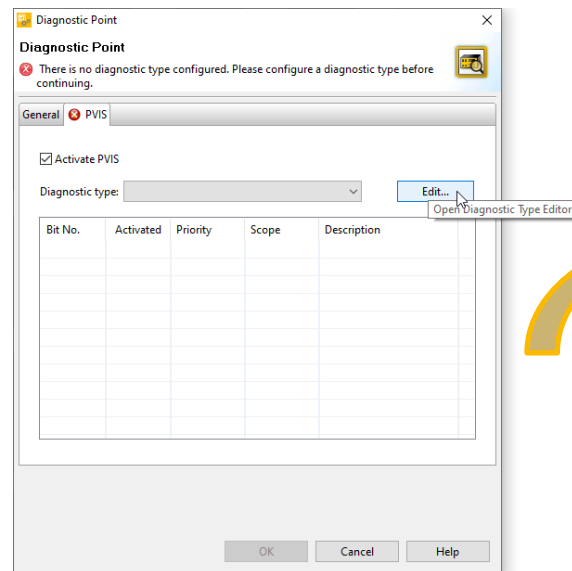
Diagnosis of input and output elements

Diagnostic point

Diagnostic configurator

Diagnosis with ActiveX

- Specially defined diagnostic messages
- Event message for bit operands
- Freely selectable message texts
- Freely selectable remedy texts



▶ Diagnostic Configurator General



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General

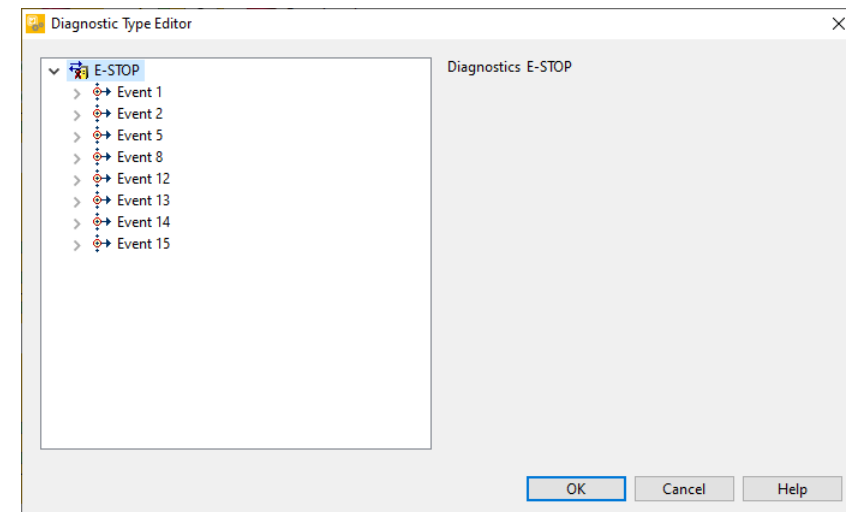
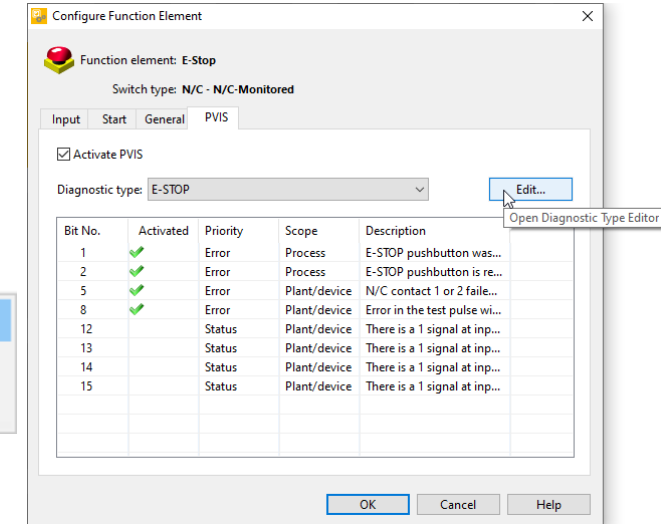
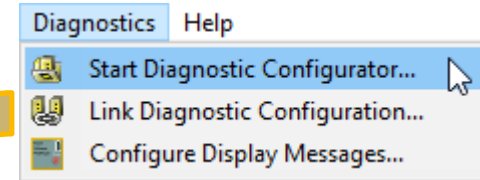
Diagnosis of input and output elements

Diagnostic point

Diagnostic configurator

Diagnosis with ActiveX

- ▶ Event message for bit operands
- ▶ Ready-made messages for all Pilz elements
- ▶ Freely selectable message texts
- ▶ Freely selectable help texts
- ▶ A distinction is made between:
 - Event
 - Action
- ▶ Actions can be edited



▶ Diagnostic Configurator Priorities



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General

Diagnosis of input and output elements

Diagnostic point

Diagnostic configurator

Diagnosis with ActiveX

- ▶ 3 Predefined:
 - ▶ Fault
 - ▶ Warning
 - ▶ Status information
- ▶ 12 User-defined examples:
 - ▶ Difficulties
 - ▶ Problem
 - ▶ Trouble
 - ▶ Information
 - ▶ Operation
 - ▶ :
 - ▶ :

Diagnostic Configurator

Diagnostic Types | **Priorities** | Scope | Responsibilities | Language

Enter the required priorities.

| Priority Class | Priority | Name |
|--------------------|----------|---------|
| Error | 1 | |
| | 2 | |
| | 3 | Error |
| | 4 | |
| | 5 | |
| Warning | 6 | |
| | 7 | |
| | 8 | Warning |
| | 9 | |
| | 10 | |
| Status Information | 11 | |
| | 12 | |
| | 13 | Status |
| | 14 | |
| | 15 | |

OK Cancel Apply Help

▶ Diagnostic Configurator Scope



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General

Diagnosis of input and output elements

Diagnostic point

Diagnostic configurator

Diagnosis with ActiveX

- ▶ 3 Predefined:
 - ▶ Plant/device
 - ▶ Process
 - ▶ ---
- ▶ 12 User-defined examples:
 - ▶ Fieldbus communication
 - ▶ Parameterization
 - ▶ Temperature
 - ▶ Speed monitoring
 - ▶ Operation
 - ▶ :
 - ▶ :

Diagnostic Configurator

Diagnostic Types | Priorities | **Scope** | Responsibilities | Language

Enter the required scopes.
Please note that the PMI m107 diag only displays the first 20 characters of the name.
The characters that are not displayed are highlighted in the table.

| | Name | |
|----|--------------|--|
| 1 | Plant/device | |
| 2 | Process | |
| 3 | --- | |
| 4 | | |
| 5 | | |
| 6 | | |
| 7 | | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |

OK Cancel Apply Help

▶ Diagnostic Configurator Responsibilities



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General

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Diagnosis with ActiveX

- ▶ Predefined stuff for:
 - Safety device
 - Periphery
 - Device malfunction
 - Project configuration
 - Bus
 - Sequence

- ▶ Examples for user defined responsibilities:
 - Maintenance level 1
 - Maintenance level 2
 - :
 - :

Diagnostic Configurator [X]

Diagnostic Types | Priorities | Scope | **Responsibilities** | Language

Enter the required responsibilities.
Please note that the PMI m107 diag only displays the first 20 characters of the name.
The characters that are not displayed are highlighted in the table.

| | Name | |
|----|-----------------------|--|
| 1 | Safety device | |
| 2 | Periphery | |
| 3 | Device malfunction | |
| 4 | Project configuration | |
| 5 | Bus | |
| 6 | --- | |
| 7 | Sequence | |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |

OK Cancel Apply Help



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Allgemein

Diagnose von Ein- und
Ausgangelemente

Diagnosepunkt

Diagnosekonfigurator

Prioritäten

Bereiche

Zuständigkeiten

Diagnose mit ActiveX

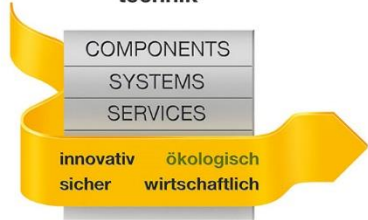
- ▶ Software component model from Microsoft
- ▶ Used to display variable information
- ▶ Display in Internet Explorer possible
- ▶ With the help of a prefabricated HTML file

| Zeitstempel | Priorität | Bereich | Ereignis | Gerät | BMK | Ortsbeschreibung |
|------------------------|-----------|---------|--|-------------|-----------|------------------|
| 2019-08-09 11:13:21 | Störung | Prozess | Schutztür wurde geöffnet. | Schutztür | Schutztür | |
| 2019-08-09 11:13:21 | Störung | Prozess | Not-Halt-Taster wurde betätigt. | Not-Halt | Not-Halt | |
| 2019-08-09 11:13:21 | Status | Prozess | Starttaster wartet auf das Eingangssignal. | Starttaster | | |

| Zuständigkeit | Abhilfe zum gewählten Ereignis | Gerät | BMK | Ortsbeschreibung |
|---------------------|---|-----------|-----------|------------------|
| Schutzzeichn ung | Schutztür schließen und ggf. quillieren. | Schutztür | Schutztür | |
| Peripherie | Sicherstellen, dass in der Verdrahtung der Schutztür keine Unterbrechungen vorhanden sind. | Schutztür | Schutztür | |
| Peripherie | Sicherstellen, dass die Kontakte der Schutztür fehlerfrei funktionieren. | Schutztür | Schutztür | |
| Peripherie | Sicherstellen, dass sich beim Betätigen der Schutztür der Zustand der LEDs an den Eingängen ändert. | Schutztür | Schutztür | |
| Peripherie | Bitte Kontakt mit Pilz aufnehmen. | Schutztür | Schutztür | |

Kein Bild zum Ereignis vorhanden

Automatisierungs- technik



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