



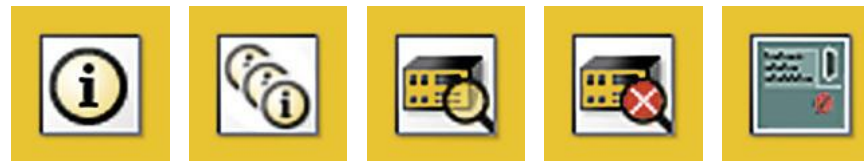
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INDI 4.0

PNOZmulti Programming and Service

PILZ
THE SPIRIT OF SAFETY

Chapter 5 „Diagnostic Elements“



► Overview over Diagnostic elements



PILZ |

Overview diagnostic elements

Diagnostic word

Group diagnostic message

Diagnostic point

Mute PVIS message

Display message

Programming exercise



Diagnostic Word

- Individual evaluation of the states of elements



Group Diagnostic Message

- Collective evaluation of the states of elements
- Output own collective messages to a **PVIS** device



Diagnostic Point

- Outputting your own messages to a **PVIS** device



Mute PVIS Message

- Dynamic suppression of **PVIS messages**



Display Message

- Own messages on PNOZmulti-Mini & 2nd generation display



PILZ | 05-2

Overview diagnostic elements

Diagnostic word

Group diagnostic message

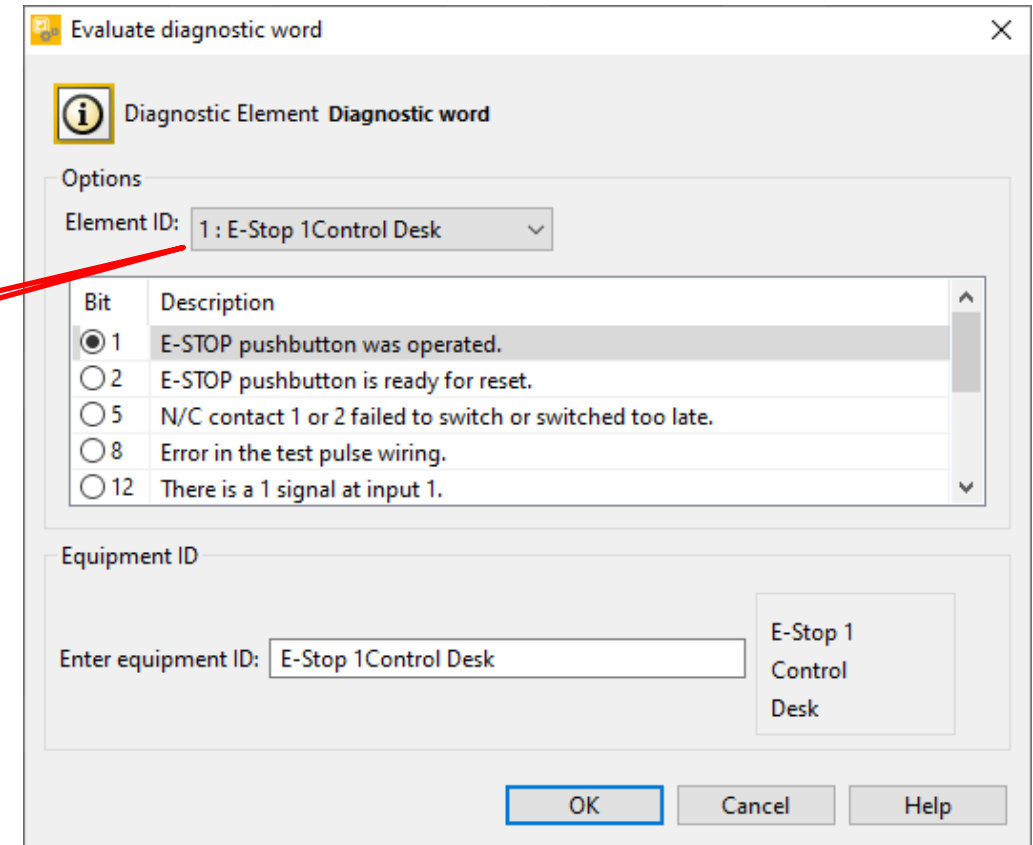
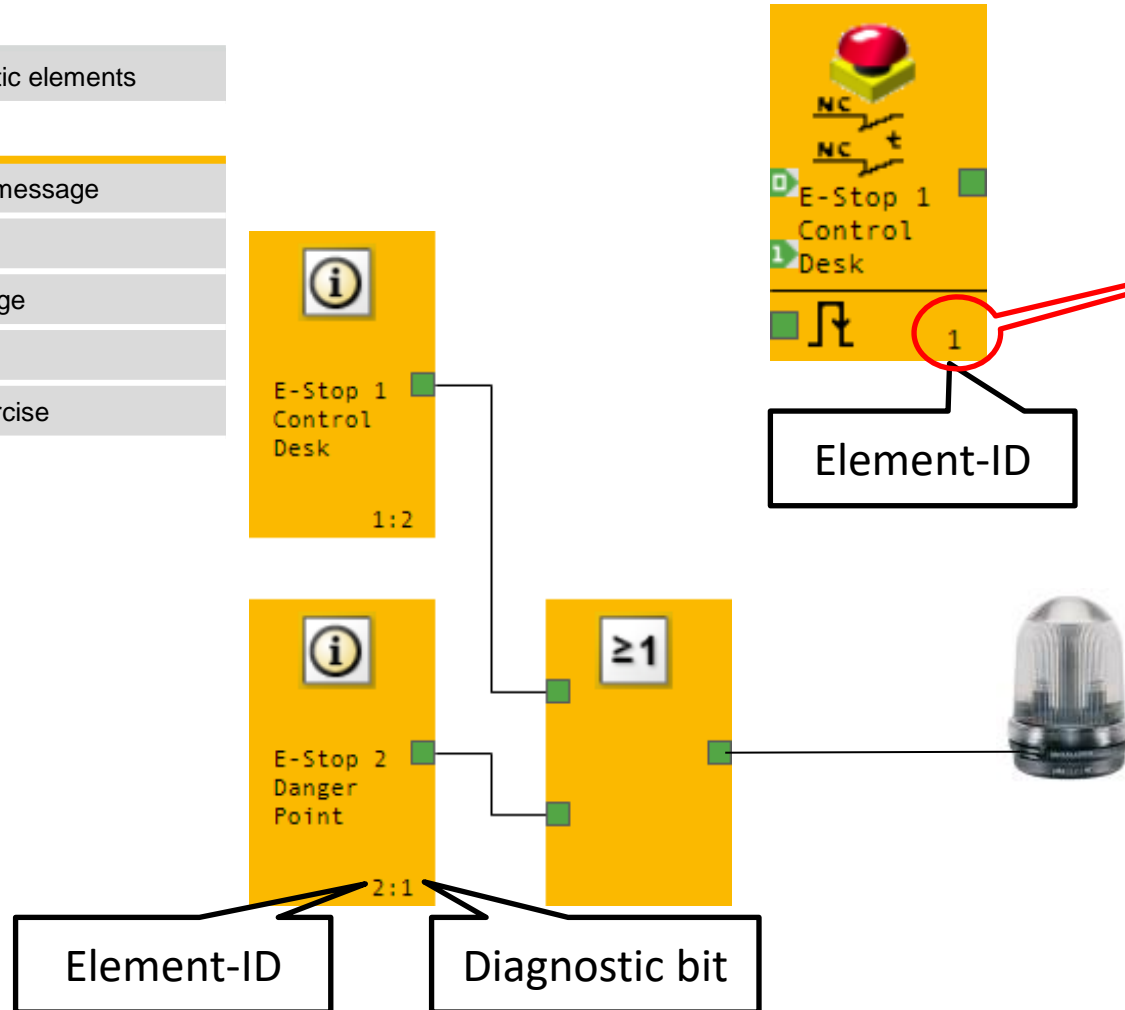
Diagnostic point

Mute PVIS message

Display message

Programming exercise

► Using the diagnostic data in the program



▶ Group Diagnostic Messages



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Overview diagnostic elements

Diagnostic word

Group diagnostic message

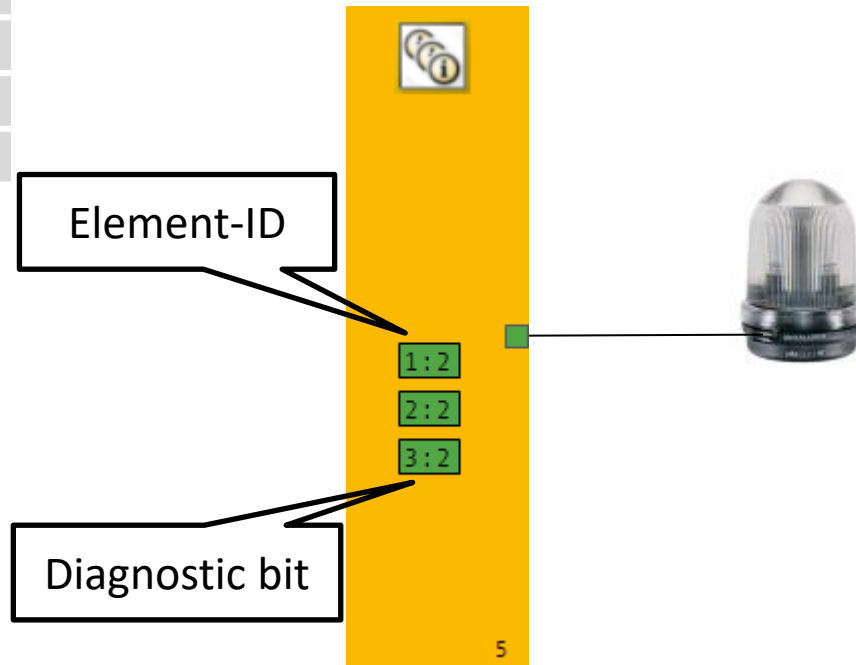
Diagnostic point

Mute PVIS message

Display message

Programming exercise

- ▶ Summaries of up to 5 diagnostic words in one block
- ▶ Adjustable switch-on and switch-off delay
- ▶ PVIS messages



Group Diagnostic Message

PVIS Element: Group Diagnostic Message

Settings: General PVIS

Activated	Element ID	Bit No.	Negation	Delay time (ms)	Description
<input checked="" type="checkbox"/>	1	2	<input type="checkbox"/>	0	E-STOP pushbutton is ready for reset.
<input checked="" type="checkbox"/>	2	2	<input type="checkbox"/>	0	E-STOP pushbutton is ready for reset.
<input checked="" type="checkbox"/>	3	2	<input type="checkbox"/>	0	Safety gate is ready for reset.
<input type="checkbox"/>			<input type="checkbox"/>		
<input type="checkbox"/>			<input type="checkbox"/>		

Output options

Switch-off delay (range: 0 - 3000) 2000 ms

Memory active



► Diagnostic Point



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Overview diagnostic elements

Diagnostic word

Group diagnostic message

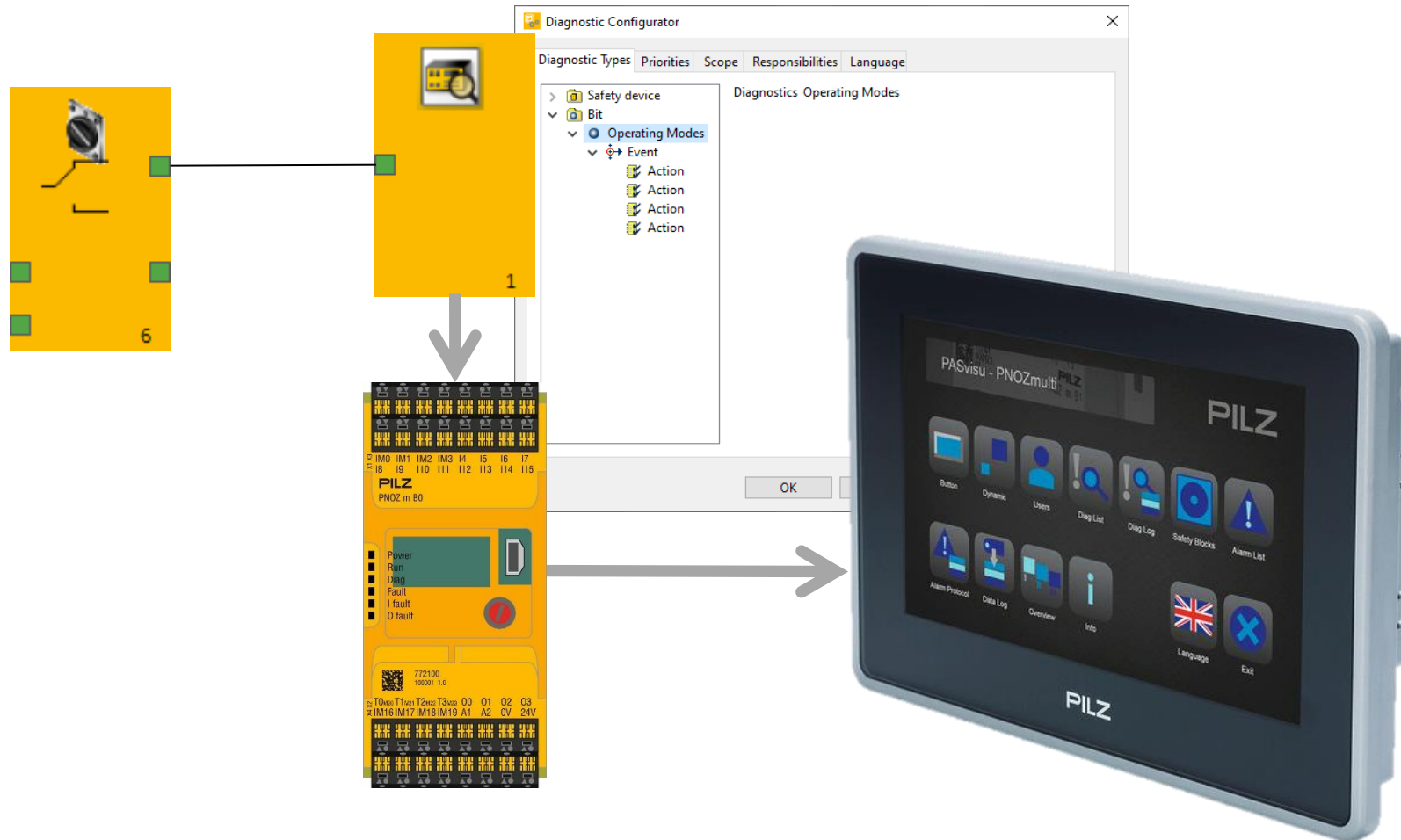
Diagnostic point

Mute PVIS message

Display message

Programming exercise

- Create your own diagnostic messages
- Display via PVIS

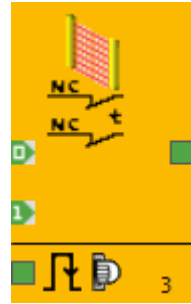


► Mute PVIS Messages

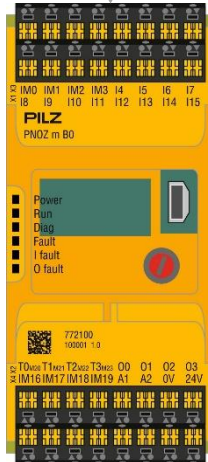
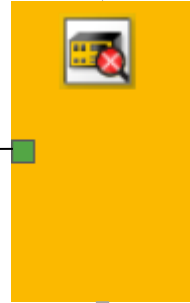


PILZ | 05-5

- Overview diagnostic elements
- Diagnostic word
- Group diagnostic message
- Diagnostic point
- Mute PVIS message**
- Display message
- Programming exercise



Activation
for muting



- For deliberate suppression of diagnostic messages
- Activation via input on the element

Mute PVIS Messages

PVIS Element: Mute PVIS Messages

Available Element IDs

Element ID	Equipment ID
<input type="checkbox"/> 1	E-Stop 1Control
<input type="checkbox"/> 2	E-Stop 2Danger
<input type="checkbox"/> 3	Safety Gate 1 T
<input checked="" type="checkbox"/> 4	Light Curtain



► Display Message



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Overview diagnostic elements

Diagnostic word

Group diagnostic message

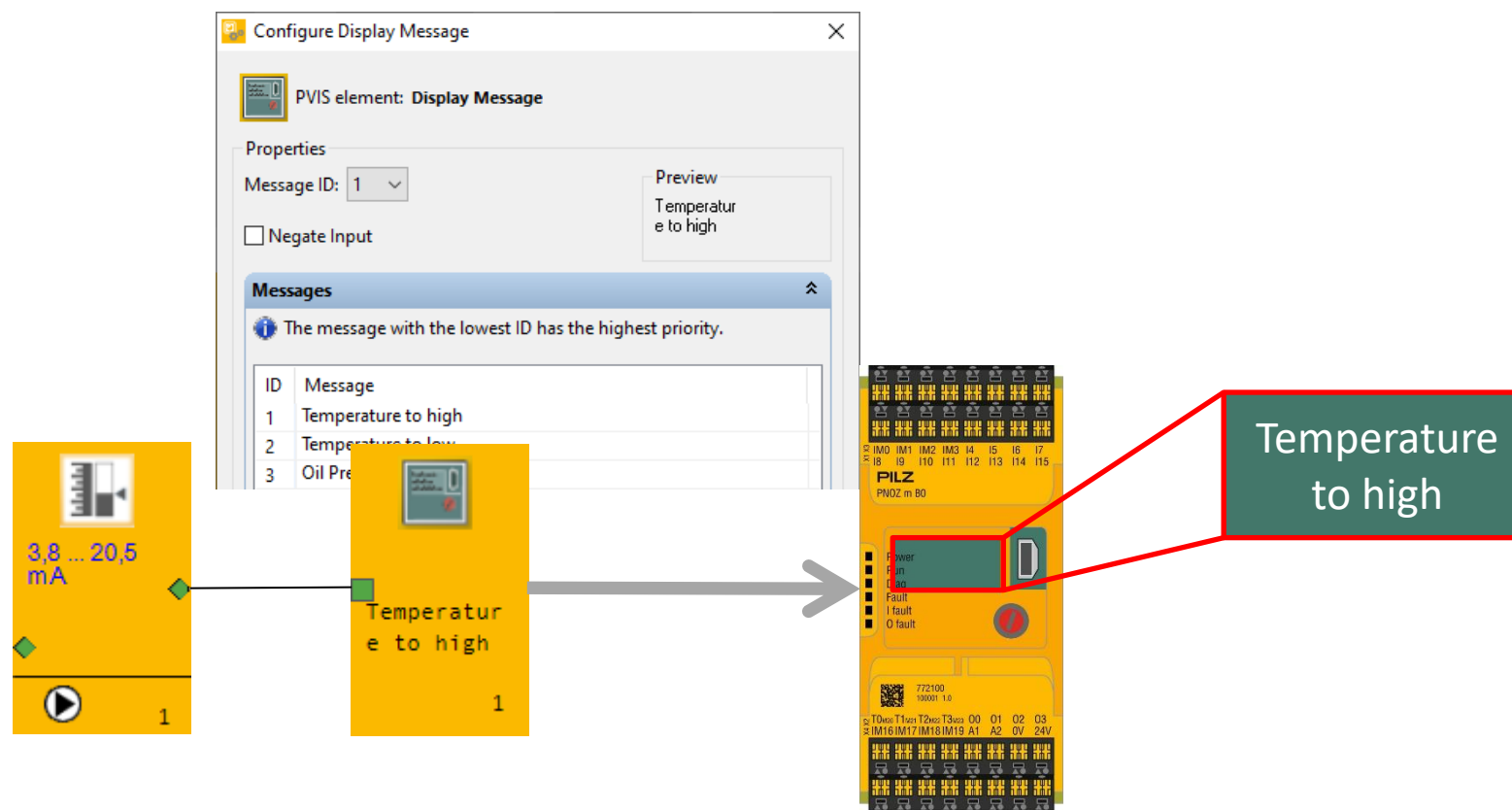
Diagnostic point

Mute PVIS message

Display message

Programming exercise

- Create your own text messages on the display of the base unit
- Activation of the message via input on the element
- Can be used for base units with display



► Programming Exercise 3

Specification



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Overview diagnostic elements

Diagnostic word

Group diagnostic message

Diagnostic point

Mute PVIS message

Display message

Programming exercise

No.	Description	PLr	Max. Reaktion Time	Priority
SF1	E-STOP (control console) (as in programming exercise no. 2)	d	100 ms	High
SF2	E-STOP (control console) (as in programming exercise no. 2)	d	100 ms	High
SF3	Safety gate (control console) (as in programming exercise no. 2)	d	100 ms	Med.
SF4	Light curtain (as in programming exercise no. 2)	d	40 ms	Med.
AF1	Plant stop (as in programming exercise no. 1)	-	100 ms	Low_2
AF2	Plant stop (as in programming exercise no. 1)	-	100 ms	Low_2
AF3	Ready to start: If the machine is ready to start, the illuminated pushbutton "Machine Start" is to flash (1 Hz). As soon as the drive is running, this lamp will be lit continuously.	d	100 ms	Low_3
AF4	Ready to reset: If the safety functions "E-STOP" and/or "Safety gate" are ready to reset, the illuminated pushbutton "Quit" is to flash (1 Hz).	d	100 ms	Low_3

► Programming Exercise 3

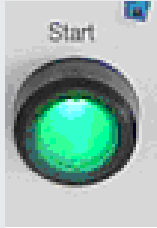

Side structure



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Overview diagnostic elements
Diagnostic word
Group diagnostic message
Diagnostic point
Mute PVIS message
Display message
Programming exercise

The following table shows the page structure with designation and functional description.

Main program	Functional description	Graphic
Page 1	See programming exercise no. 2	
Page 2 (Start-Stop)	Extension to programming exercise no. 2: The signal lamp "Start" is used for operator guidance and for minimal diagnostics on the machine. This is where readiness to start is signalled.	
Page 3 (signal lamp Quit)	The signal lamp "Quit" is used for operator guidance and for minimal diagnostics on the machine. This is where readiness to reset is signalled.	

► Programming Exercise 3

Display of the program – page 2



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Overview diagnostic elements

Diagnostic word

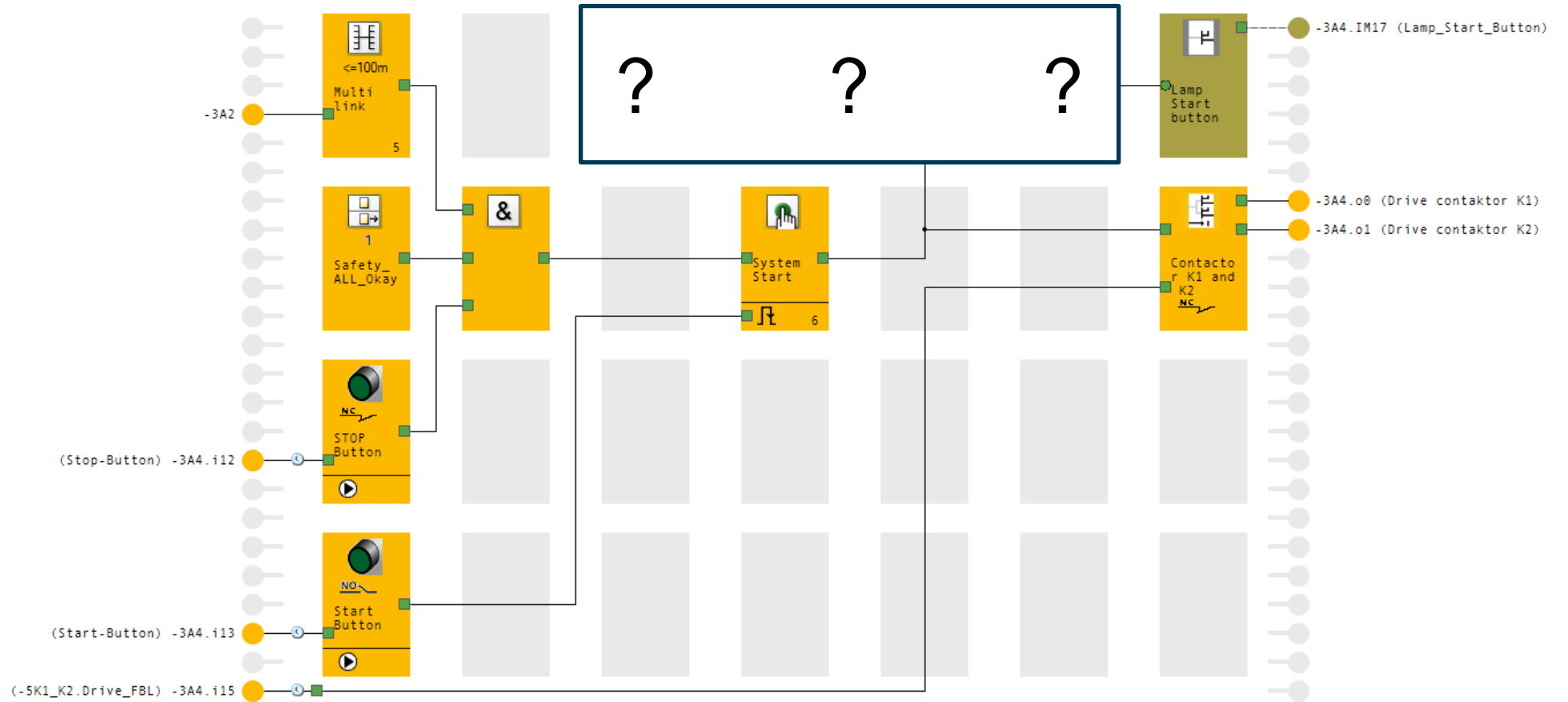
Group diagnostic message

Diagnostic point

Mute PVIS message

Display message

Programming exercise



► Programming Exercise 3

Display of the program – page 3



PILZ | 05-8

Overview diagnostic elements

Diagnostic word

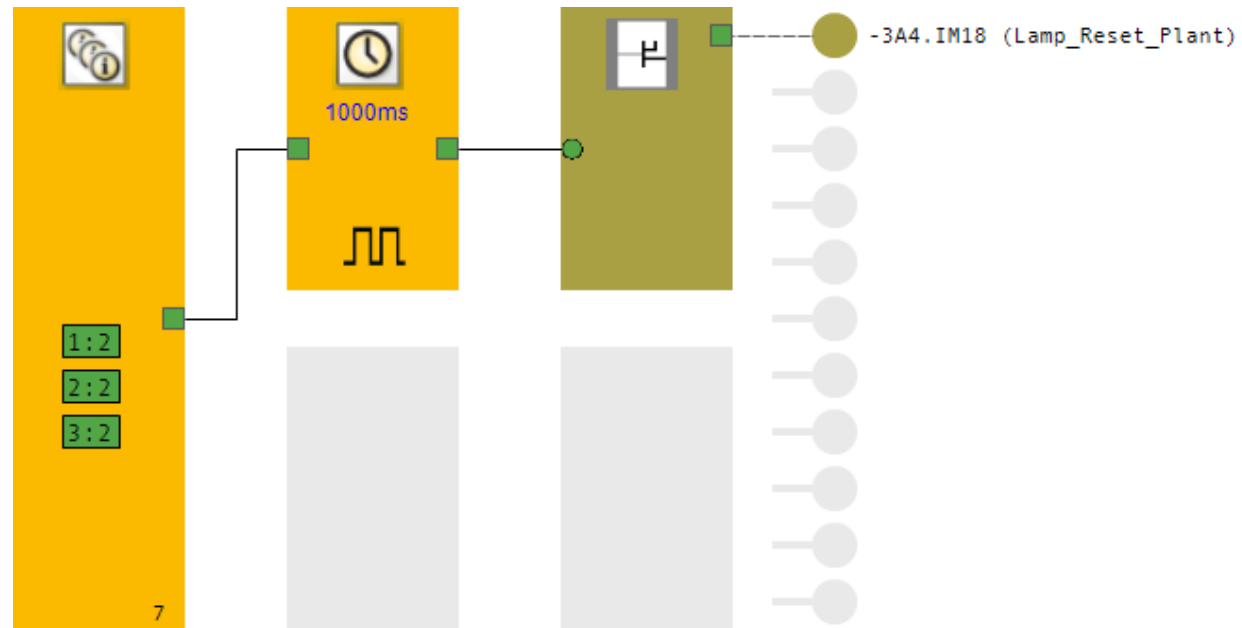
Group diagnostic message

Diagnostic point

Mute PVIS message

Display message

Programming exercise



Automatisierungs- technik

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innovativ ökologisch
sicher wirtschaftlich

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