



Write sensor parameter via Siemens TIA

English



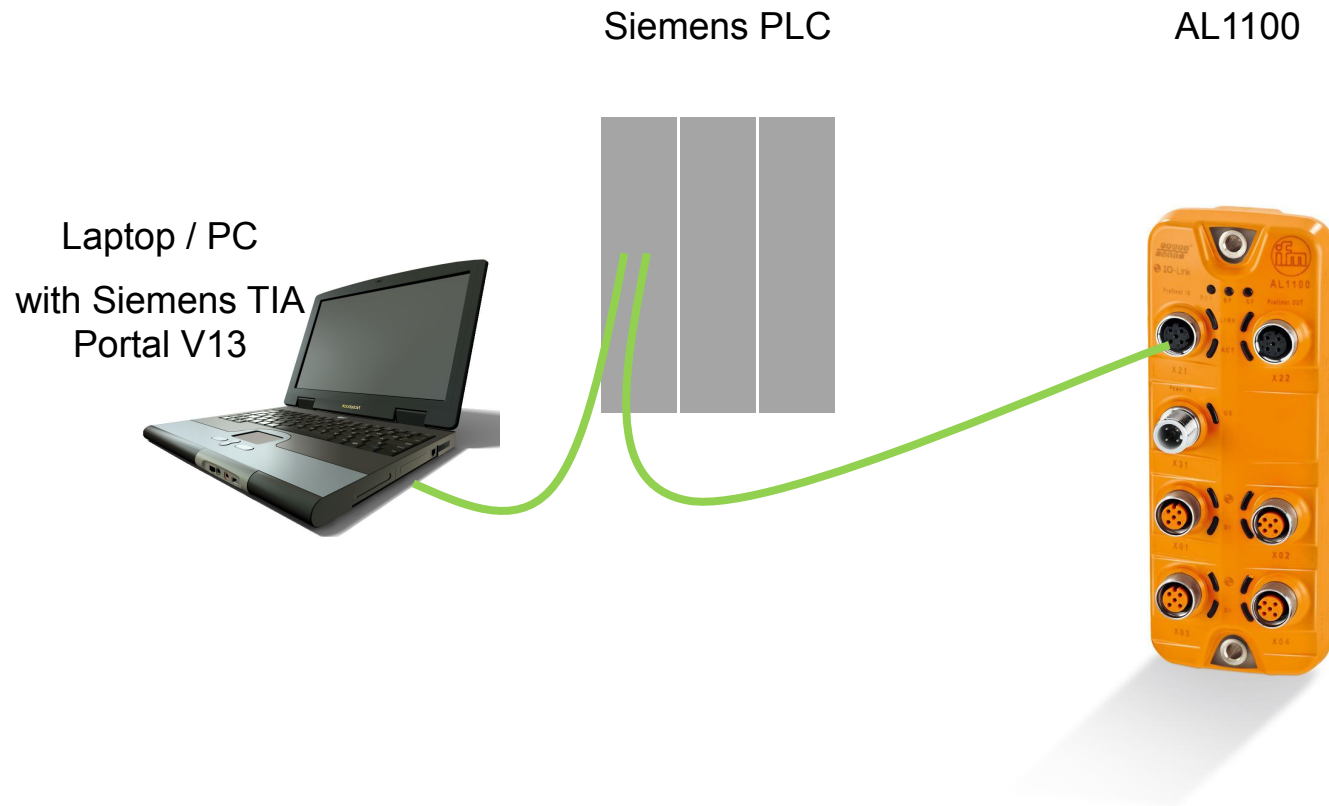
Contents:

1. Connect units
2. Configuration – AL1100 in TIA Portal V13
3. IO-Link parameter – O5D100
4. Read sensor parameter – S7-315-2 PN/DP
5. Read sensor parameter – S7-1500



Setup Guide – Write sensor parameter via Siemens TIA

1. Connect units

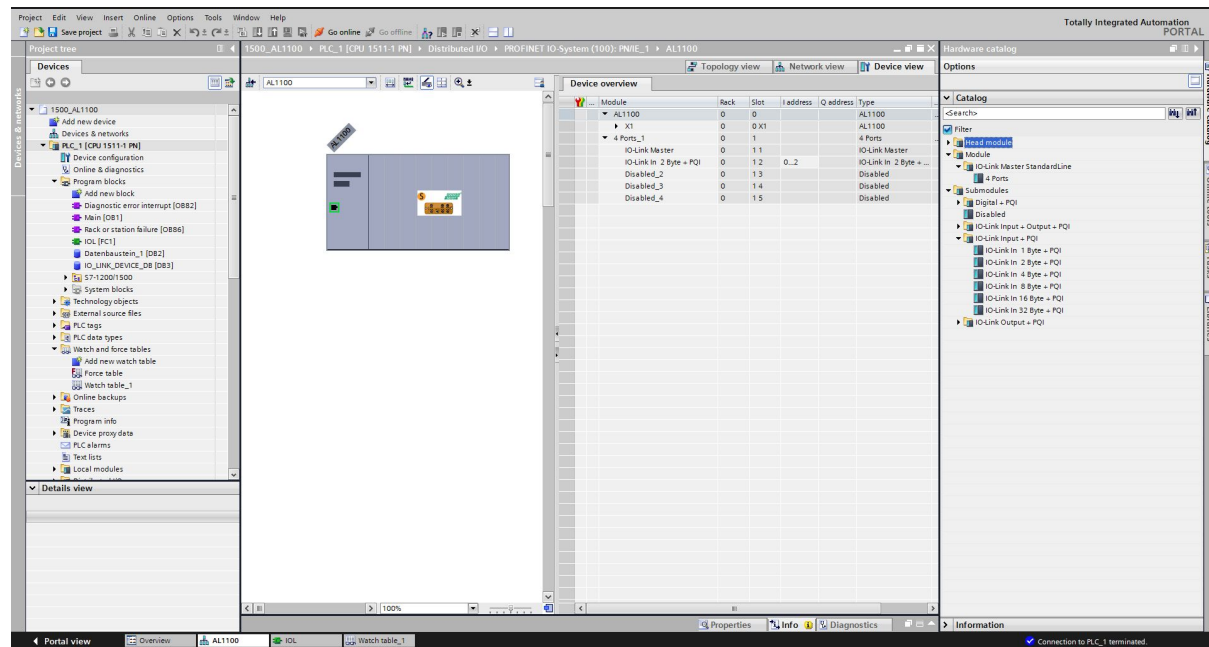




2. Configuration – AL1100 in TIA Portal V13

Install GSDML files for this device – [Get GSDML file](#)

- Download current GSDML file
- Update your catalogue
- Choose AL1100 and insert it to your network

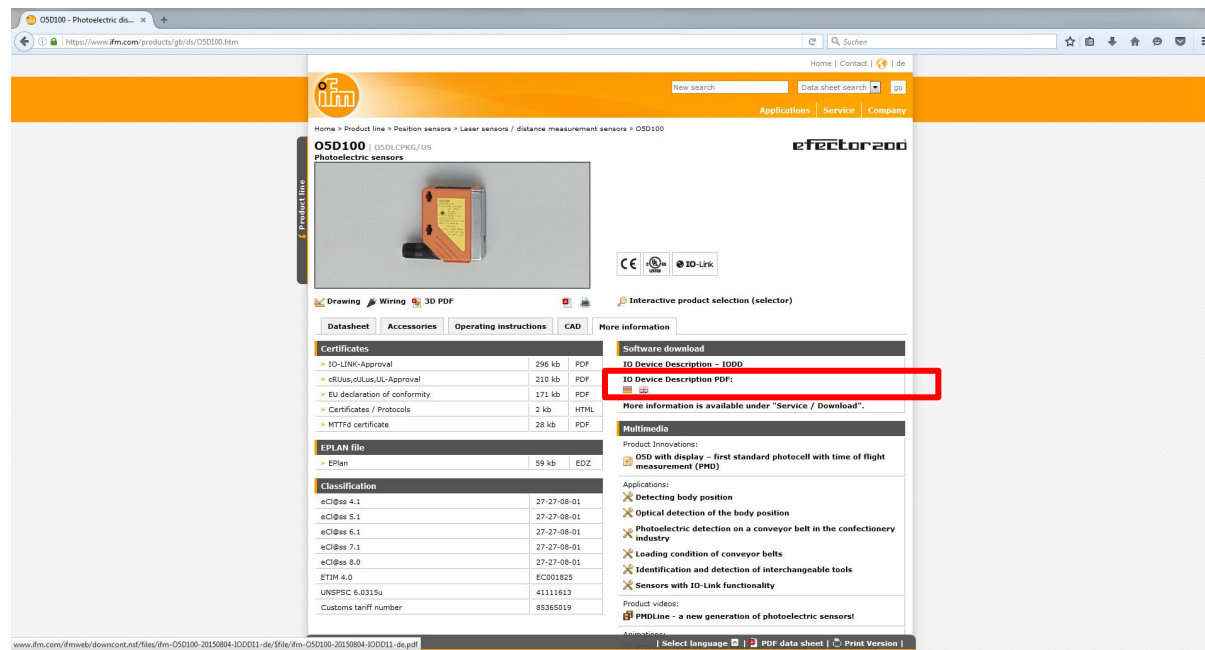




2. Configuration – AL1100 in TIA Portal V13

Connect [O5D100](#) to port 1

- Download IODD PDF





2. Configuration – AL1100 in TIA Portal V13

Connect [O5D100](#) to port 1

- This device has 2Byte cyclic data
- Last 4bits has to ignore

Process data (Process data input) Total bit length = 16

Name	Description	Data type	Bit offset	Bit length	Value range	Gradient	Offset	Unit
Distance	Fig. PDV1. Current distance.	IntegerT	4	12	5 to 200	1	0	cm
Switch state [OUT1]	Fig. BDC1. State depends on settings for BDC1.	BooleanT	0		(false) Inactive (true) Active			

PLC

PDV1

BD C1

na na na 0

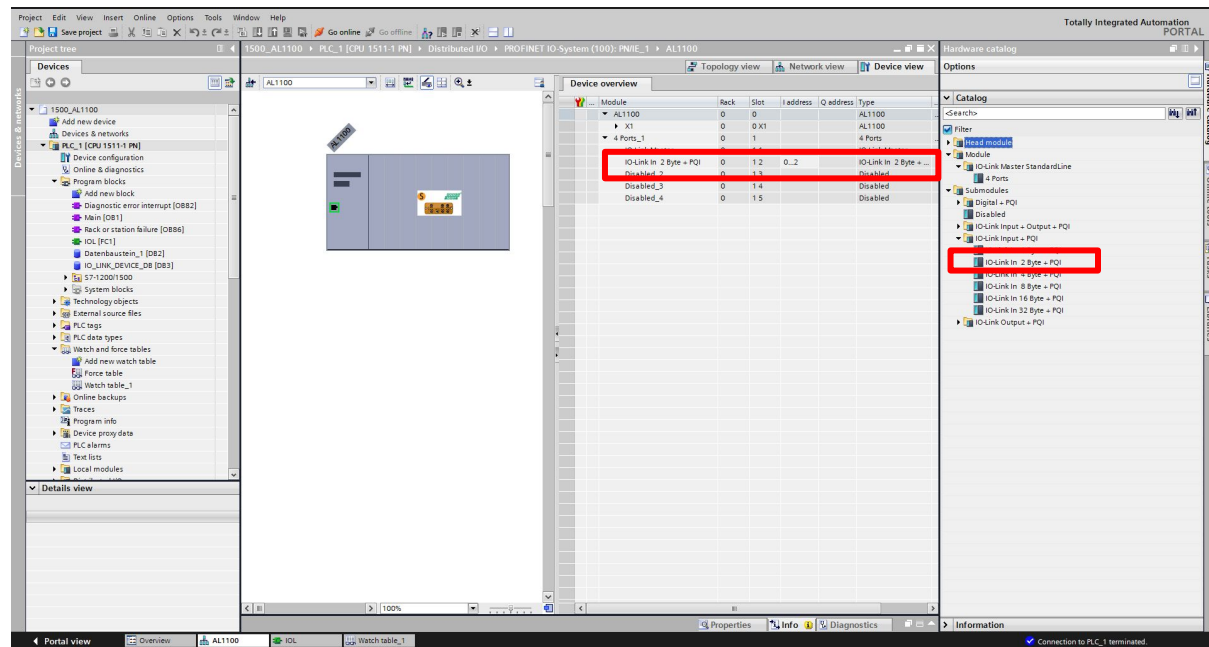
Page 3



2. Configuration – AL1100 in TIA Portal V13

Set-up your port length

- Choose ,IO-Link 2Byte + PQI‘
- Put it with Drag&Drop to your port
- Set your input-area





3. IO-Link parameter – O5D100

Parameter 80 – Laser On/Off

Variables

Name	Description	Index	Subindex	Data type	Length	Access rights	Default	Value range	Gradient	Offset	Unit
Laser	Laser configuration	80	Sub 0	UIntegerT	8 Bit	rw	(1) Laser on	(0) Laser off (1) Laser on			
Display	Display configuration	96	Sub 0	UIntegerT	8 Bit	rw	(1) Display on	(0) Display off (1) Display on (2) Display rotated			
Keylock		100	Sub 0	UIntegerT	8 Bit	rw	(1) Unlocked	(0) Locked (1) Unlocked			

- 8 Bit -> value ,1‘ to LEN (IO_Link_Device function block)



4. Read sensor parameter – S7-315-2 DP/PN

Find the ID for IO_Link_Device function block

- First input address of the port

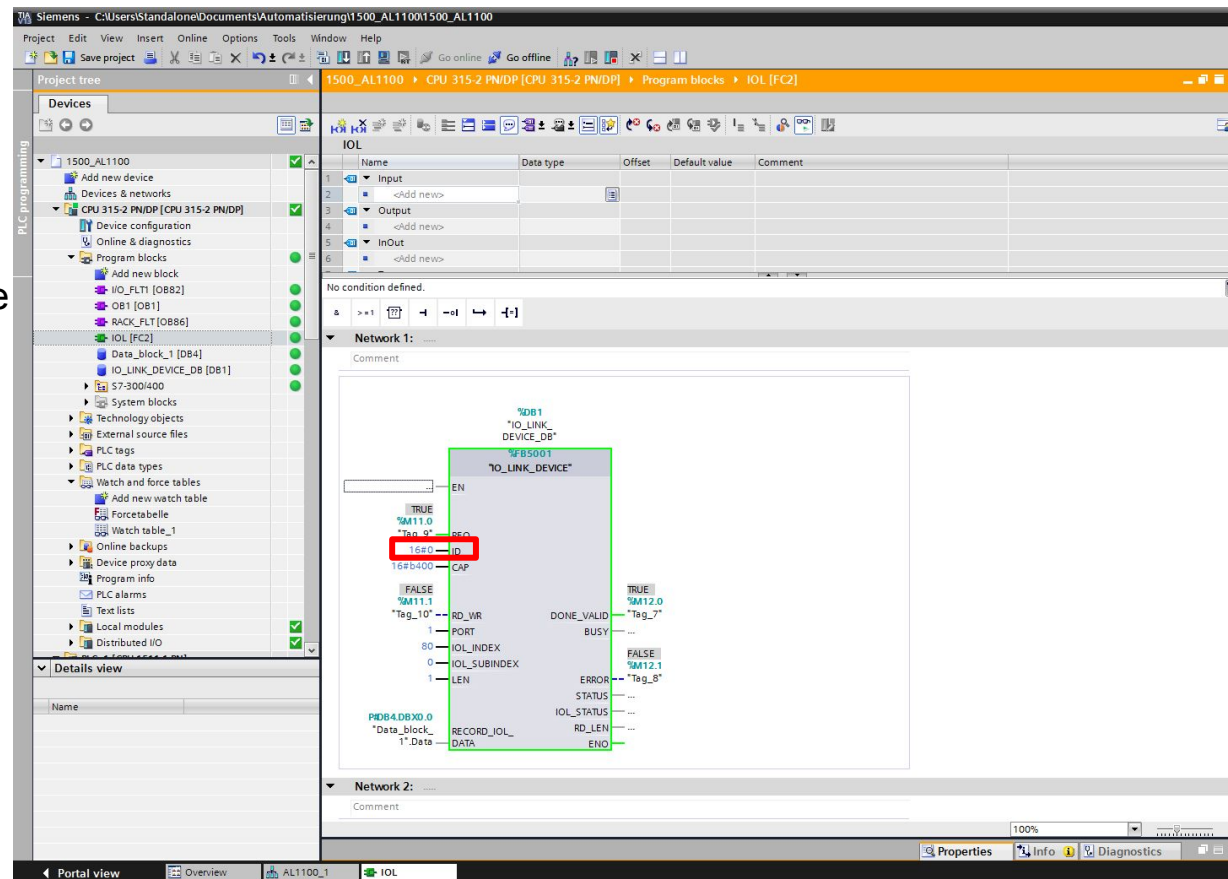
The screenshot shows the Siemens TIA Portal interface. The project tree on the left displays the hierarchy for '1500_AL1100', including 'CPU 315-2 PN/DP' and 'Distributed I/O'. The 'Device overview' table on the right lists modules and their addresses. The 'IO-Link In 2 Byte + PQI' module is highlighted, and its 'I address' '0..2' is circled in red.

Module	Rack	Slot	I address	Q address	Type
AL1100_1	0	0	2042*		AL1100
X1	0	0	2041*		AL1100
4 Ports_1	0	1			4 Ports
IO-Link Master	0	1	2038*		IO-Link M
IO-Link In 2 Byte + PQI	0	1	0..2		IO-Link In
Disabled	0	13	2037*		Disabled
Disabled_1	0	14	2036*		Disabled
Disabled_2	0	15	2035*		Disabled

4. Read sensor parameter – S7-315-2 DP/PN

Find the ID for IO_Link_Device function block

- **First input address of the port**
- ID and PORT is linked! If you change your port, you have to change your ID as well!!
- CAP = 16#B400





4. Read sensor parameter – S7-315-2 DP/PN

Find the data

- There will appear your data

The screenshot shows the Siemens TIA Portal interface. The Project tree on the left displays the hierarchy for '1500_AL1100', including 'CPU 315-2 PN/DP', 'Program blocks', and 'Watch and force tables'. The 'Watch table_1' is selected. The main window displays a table with the following data:

Name	Address	Display format	Monitor value	Modify value	Comment
// Request	%M11.0	Bool	TRUE	TRUE	
// True = write - False = read	%M11.1	Bool	FALSE	FALSE	
// Data byte 1	%DB4.DBBO	Hex	16#01	16#00	
// IO-Link Device acyclic - Done	%M12.0	Bool	TRUE		
// IO-Link Device acyclic - Error	%M12.1	Bool	FALSE		
Tag_8	<Add new>				



5. Read sensor parameter – S7-1500

Find the ID for IO_Link_Device function block

- Hardware identifier has convert to hexadecimal
- 270 dec -> 10E hex

Siemens - C:\Users\Standalone\Documents\Automatisierung\1500_AL1100\1500_AL1100

Project Edit View Insert Online Options Tools Window Help

Go online Go offline

Project tree: 1500_AL1100 > PLC_1 [CPU 1511-1 PN] > Distributed I/O > PROFINET IO-System (100): PNIE_1 > AL1100

Devices:

- 1500_AL1100
- Add new device
- Devices & networks
- CPU 315-2 PN/DP [CPU 315-2 PN/DP]
- PLC_1 [CPU 1511-1 PN]
- Device configuration
- Online & diagnostics
- Program blocks
- Add new block
- Diagnostic error interrupt [OB82]
- Main [OB1]
- Rack or station failure [OB86]
- IOL [FC1]
- Datenbaustein_1 [DB2]
- IO_LINK_DEVICE_DB [DB3]
- S7-1200/1500
- System blocks
- Technology objects
- External source files
- PLC tags
- PLC data types
- Watch and force tables
- Add new watch table
- Force table
- Watch table_1
- Online backups
- Traces
- Program info
- Device proxy data
- PLC alarms
- Text lists

Details view:

Module	Rack	Slot	I address	Q address	Type
AL1100	0	0			AL1100
X1	0	0 X1			AL1100
4 Ports_1	0	1			4 Ports
IO-Link Master	0	1 1			IO-Link Master
IO-Link In 2 Byte + PQI	0	1 2	0..2		IO-Link In
Disabled_2	0	1 3			Disabled
Disabled_3	0	1 4			Disabled
Disabled_4	0	1 5			Disabled

IO-Link In 2 Byte + PQI [Module]

General IO tags System constants Texts

General

Hardware identifier

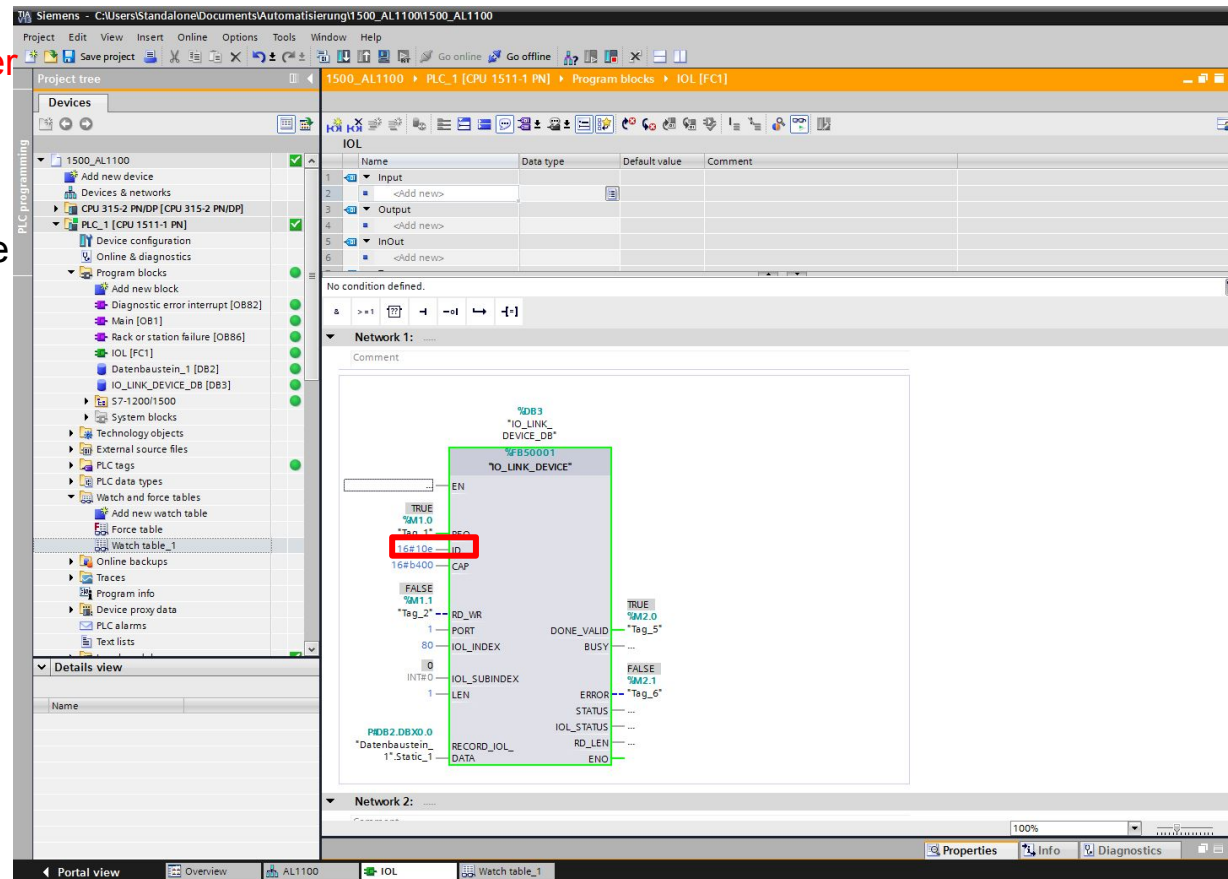
Hardware identifier: 270



5. Read sensor parameter – S7-1500

Find the ID for IO_Link_Device function block

- **Hardware identifier**
- ID and PORT is linked! If you change your port, you have to change your ID as well!!
- CAP = 16#B400





Setup Guide – Write sensor parameter via Siemens TIA

4. Read sensor parameter – S7-1500

Find the data

- There will appear your data

The screenshot shows the Siemens TIA Portal interface. The left pane displays the project tree for '1500_AL1100'. The main pane shows the 'Watch table_1' configuration. The table has columns for Name, Address, Display format, Monitor value, Modify value, and Comment. A red box highlights the entry 'Datenbaustein_1.Static_1[0]' with a value of 1.

Name	Address	Display format	Monitor value	Modify value	Comment
Process value Port1 - OSD100	%WD	Bin	2#0000_0000_0111_0001		
Tag_3	%I1.0	Bool	TRUE		
Distance	%MW4	DEC	7		
Request	%M1.0	Bool	TRUE	TRUE	
True = write - False = read	%M1.1	Bool	FALSE	TRUE	
Data byte 1	%DB2.DBBO	DEC+-	1	1	
IO-Link Device acyclic - Done	%M2.0	Bool	TRUE		
IO-Link Device acyclic - Error	%M2.1	Bool	FALSE		
Tag_6	<add new>				