

# 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



# 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 cataloge
- Choose AL1100 and insert it to your network

Project tree										_@=×	Hardware catalog	
Devices						a To	opology v	view d	Network	view 🕅 Device view	Options	
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- 1500_AL110		~			• A	L1100	0	0		AL1100	Search>	ini j
Add new	device				,	X1	0	0 X1		AL1100	C Citere	
Devices i	networks		100		<b>*</b> 4	Ports 1	0	1		4 Ports		
PLC_1 (C	U 1511-1 PN]		*			IO-Link Master	0	11		IO-Link Master	Head module	
Devic	configuration					IO-Link In 2 Byte + POI	0	12	0_2	IO-Link In 2 Byte +	• Module	
😼 Onlin	& diagnostics					Disabled 2	0	13		Disabled	• I IO-Link Master StandardLine	
🔻 🛃 Progra	m blocks					Disabled 3	0	14		Disabled	4 Ports	
🚽 Ac	i new block	=	S ###			Disabled 4	0	15		Disabled	▼ III Submodules	
👛 Di	gnostic error interrupt [OB82]					0.000.00_4		1.5		0.000100	Digital + PQI	
🖀 Ma	in (OB1)										Disabled	
🔁 Ra	k or station failure [OB86]										IO-Link Input + Output + PQI	
IO	[FC1]										▼ III IO-Link Input + PQI	
Da	tenbaustein_1 [DB2]										IO-Link In 1 Byte + PQI	
10	LINK_DEVICE_DB [DB3]										IO-Link In 2 Byte + PQI	
E 57	1200/1500										IO-Link In 4 Byte + PQI	
▶ 100 SV	tem blocks										IO-Link In 8 Byte + PQI	
+ 🕞 Techr	alogy objects										IO-Link In 16 Byte + PQI	
E a Extern	al source files										IO-Link In 32 Byte + PQI	
PIC 17	ns										IO-Link Output + PQI	
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The Watch	and force tabler											
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2. Configuration – AL1100 in TIA Portal V13

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#### Connect O5D100 to port 1

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EU declaration of conformity	171 kb PDF	More information is available under "Service / Deveload"	
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# 2. Configuration – AL1100 in TIA Portal V13

#### Connect O5D100 to port 1

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

			tomatischer 200111 •							
Process data (Process data input)	Total bit length = 16									
Name	Description	Data type	Bit offset	Bit length	Value range	Gradient	Offset U	Init		
Distance	Fig. PDV1. Current distance.	UIntegerT	4	12	5 to 200	1	0 с	m		
Switch state [OUT1]	Fig. BDC1. State depends on settings for BDC1	BooleanT	0		(false) Inactive					
					(true) Active					
				1						
				7	LDD C4 L					
			PDV1		BDC1					
	▲PLC 15		7	na	i na na O					



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	Default	Value range	Gradient	Offset	Unit
						rights					
Laser Laser configuration	Laser configuration	80	Sub 0	UInteger <sup>1</sup>	8 Bit	rw	(1) Laser on				
								(0) Laser off			
								(1) Laser on			
Display Disp	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				1
								(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

JA Siemens - C:\Users\Standalone\Documents\Automatisierung\1500 AL1100\1500 AL1

 First input address of the port

	□ ◀ 1500_AL1100 → C					
Devices				🚆 Topology v	iew 🔥 Net	twork view 📝 Device vie
<u> </u>	💷 🛃 👉 🛛 AL1100_1	💌 🖽 🖽 🕄 🔍 ±	E Devic	e overview		
			<u>^</u> *	. Module	Rack Slot	I address Q address Type
▼ 1500_AL1100	. 🗹 🔼			<ul> <li>AL1100_1</li> </ul>	0 0	2042* AL110
Add new device		22		▶ X1	0 0 X1	2041* AL110
Devices & networks	-	110		<ul> <li>4 Ports_1</li> </ul>	0 1	4 Port
<ul> <li>CPU 315-2 PN/DP [CPU 315-2 PN/DP]</li> </ul>		**		IO-Link Master	0 11	2038* IO-Lin
Device configuration		<b></b>		IO-Link In 2 Byte + PQI	0 12	02 IO-Lin
Contine & diagnostics				Disabled	0 13	2037 Disab
Program blocks				Disabled_1	0 14	2036* Disab
Add new block				Disabled_2	0 15	2035* Disab
		S ###				
Data block 1 [DB4]						
ST-200(400						
System blocks	-					
Technology objects						
External source files						
PLC tags						
PLC data types						
Watch and force tables						
Add new watch table			×			
E Forcetabelle						
Watch table 1						
Online backups						
Device proxy data						
Program info						
PLC alarms						
Text lists						
Local modules						
Distributed I/O						
	~					
Details view						
Name						
Add new device						
Devices & networks						
CPU 315-2 PN/DP						
PLC 1						
Common data						
Documentation settings						
anguages & resources			¥			
274410.2102	< 11	> 100%	····· ?···· •		11	
				C Propertie	in the late	Diagnostics



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

Find the ID for IO\_Link\_Device function block

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IOL

- Project Edit View Insert Online Options Tools Window Help First input address 🗄 💁 🌄 Save project 🚇 🐰 🟦 🗈 🗙 🍏 🛨 (\*\* 🗄 🛄 🌇 🔛 🕼 🖉 Go online 🖉 Go offline 🔥 🕞 🧩 🛁 🛄 of the port Devices 000 ID and PORT is 1500\_AL1100 Add new device linked! If you Bevices & networks CPU 315-2 PN/DP [CPU 315-2 PN/DP] ~ IN Device configuration change your port, & Online & diagnostics Rogram blocks Add new block you have to change
  - your ID as well!! CAP = 16#B400



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

#### Find the data

 There will appear your data

		1500		DP [CPU 315-2 P		and force tables	Watch table_1		
Devices									
00		÷.	1 10 1, 1, 2 1	00j					
		;	Name	Address	Display format	Monitor value	Modify value	2 Comment	
1500_AL1100		1 // F	Request						
Add new device		2	"Tag_9"	%M11.0	Bool	TRUE	TRUE	<b>I</b>	
Bevices & networks		3 // 1	rue = write - False = read						
CPU 315-2 PN/DP [CPU 315-2 PN/DP]		4	"Tag_10"	%M11.1	Bool	FALSE	FALSE	🗹 🔔	
T Device configuration		5 // 0	Data byte 1						
😼 Online & diagnostics		6	"Data_block_1".Data[0]	%DB4.DBB0	Hex	16#01	16#00	🗹 🛕	
🔻 🔂 Program blocks	0 =	7 11	O-Link Device acyclic - Done						
💕 Add new block		8	"Tag_7"	%M12.0	Bool	TRUE			
I/O_FLT1 [OB82]	•	9 // 1	O-Link Device acyclic - Error						
🖀 OB1 [OB1]	•	10	"Tag_8"	%M12.1	Bool	FALSE			
RACK_FLT [OB86]	•	11		<add new=""></add>					
IOL [FC2]									
🧧 Data_block_1 [DB4]	•								
IO_LINK_DEVICE_DB [DB1]	•								
S7-300/400	•								
System blocks									
Technology objects									
External source files									
PLC tags									
PLC data types									
<ul> <li>Watch and force tables</li> </ul>									
Add new watch table									
Forcetabelle									
Watch table_1									
Online backups									
Device proxy data									
Program info									
PLC alarms									
E Text lists									
Local modules									
Distributed I/O	<b>×</b>								



5. Read sensor parameter – S7-1500

Find the ID for IO\_Link\_Device function block





5. Read sensor parameter – S7-1500

Find the ID for IO\_Link\_Device function block





4. Read sensor parameter – S7-1500

#### Find the data

 There will appear your data

		U_ALTIOU + PLC_T[CPU IST							
	2	# 1 10 91 % 2 m ·	ው 1						
		i Name	Address	Display format	Monitor value	Modify value	4	Comment	
<b>X</b>	1	// Process value Port1 - O5D100							
	2	"Tag 3"	96IWO	Bin	2#0000 0000 0111 0001				
	3	// SP1							
	4		%11.0	Bool	TRUE				
	5	// Distance							
	6	"Tag_4"	%MW4	DEC	7				
	7	// Request							
• -	8	"Tag 1"	1 %M1.0	Bool	TRUE	TRUE			
	9	// True = write - False = read							
•	10	"Tag 2"	%M1.1	Bool	FALSE	TRUE			
	1	// Data byte 1							
	1	"Datenbaustein 1" Static 1	01 %DB2 DB80	DEC+/-	1	1			
		UDH INK DEVICE ACVUIC - DODE		or con					
	14	"Tao 5"	%M7.0	Bool	TRUE				
	15	// IO-l ink Device acyclic - Error	10112.10	0001	in the				
	16	"Tag 6"	961/2.1	Bool	FALSE				
	17	lug_0	cadd news	0001	E mese				
	17		Chur news						
	-								
•	-								
	-								
_ ~									
		A      A	1         Name           1         IProcess value Port1-OSD100           2         "Teg_3"           4         IPortess value Port1-OSD100           2         "Teg_3"           4         IPortess value Port1-OSD100           2         "Teg_3"           4         IPortess value Port1-OSD100           5         IPortess value Port1-OSD100           6         "Teg_4"           7         IRequest           8         "Teg_1"           9         ITue = write -False = read           10         "Teg_2"           11         "Teg_2"           12         "Teg_2"           13         IPO-Int Device acyclic - Unite           14         "Teg_5"           15         IPO-Int Device acyclic - Error           16         "Teg_6"	Image: Second	Image         Name         Name <t< td=""><td>Image         Participation         Participation         Participation           1         Process value Port1 - OSD100         Bin         20000_0000_0111_0001           2         Trag_3*         %WVO         Bin         20000_0000_0111_0001           4         Still 0         Bool         Bin         20000_0000_0111_0001           5         // Distance         Still 0         Bool         Bin         20000_0000_0111_0001           5         // Distance         Trag_4*         %AM.0         Bcc         7           7         // Request         Trag_2*         %AM.1         Bool         Bin         20000_000_0111_0001           9         // True = write -False = read         10         Trag_2*         %AM.1         Bool         Extract           10         Trag_2*         %AM.2         Bool         Bool         Bool         Extract           15         // Toue write -False = read         Static_100         %AD2.1         Bool         Extract         FALSE           15         // Toue write -False = read         Static_10         %AD2.1         Bool         Extract         FALSE           16         Trag_6*         %AD2.1         Bool         Extract         FALSE         FALSE<!--</td--><td>Image         Name         <t< td=""><td>Image         Page         <t< td=""><td>Image         Products         Public Young         Public Young</td></t<></td></t<></td></td></t<>	Image         Participation         Participation         Participation           1         Process value Port1 - OSD100         Bin         20000_0000_0111_0001           2         Trag_3*         %WVO         Bin         20000_0000_0111_0001           4         Still 0         Bool         Bin         20000_0000_0111_0001           5         // Distance         Still 0         Bool         Bin         20000_0000_0111_0001           5         // Distance         Trag_4*         %AM.0         Bcc         7           7         // Request         Trag_2*         %AM.1         Bool         Bin         20000_000_0111_0001           9         // True = write -False = read         10         Trag_2*         %AM.1         Bool         Extract           10         Trag_2*         %AM.2         Bool         Bool         Bool         Extract           15         // Toue write -False = read         Static_100         %AD2.1         Bool         Extract         FALSE           15         // Toue write -False = read         Static_10         %AD2.1         Bool         Extract         FALSE           16         Trag_6*         %AD2.1         Bool         Extract         FALSE         FALSE </td <td>Image         Name         <t< td=""><td>Image         Page         <t< td=""><td>Image         Products         Public Young         Public Young</td></t<></td></t<></td>	Image         Name         Name <t< td=""><td>Image         Page         <t< td=""><td>Image         Products         Public Young         Public Young</td></t<></td></t<>	Image         Page         Page <t< td=""><td>Image         Products         Public Young         Public Young</td></t<>	Image         Products         Public Young         Public Young