

GRID X Series GX-CL110 ProfiNet coupler with CoDeSys



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1. Solution

1.1 Install "CoDeSys V3"

Download "CoDeSys V3.5 Patch 4" demo version, available on:

http://www.3s-software.com/index.shtml?en_download

Start "setup.exe" and follow installation instructions.

Take care that both products "IDE" and "SoftPLC" will be installed.

1.2 Create a new project

Select "Menu -> File -> New Project..." or press [Ctrl] + N.

管 New Pro	oject					×
<u>C</u> ategories	i.	<u>T</u> emplates				
	ojects	Empty project	HMI project	Standard project	Standard project w	
A project co	ontaining one device, one ap	plication, and an e	empty implement	tation for PLC_	PRG	
<u>N</u> ame	Untitled8					
<u>L</u> ocation	Location C:\Users\youdo.yu\Documents ~					
	OK Cancel					

Fig1.1 Create a new project

Select "Standard project" and assign name and storage folder.

Afterwards press button "OK"



Standard	Project		\times
	You are abou objects withi - One program - A program F - A cyclic task - A reference	It to create a new standard project. This wizard will create the following n this project: mmable device as specified below PLC_PRG in the language specified below < which calls PLC_PRG to the newest version of the Standard library currently installed.	
	Device	CODESYS Control Win V3 x64 (3S - Smart Software Solutions GmbH)	~
	PLC_PRG in	Ladder Logic Diagram (LD)	~
		OK Cancel	

Fig1.2 Create a new project

Select "CoDeSys Control Win V3 x64" as target device and programming language for PLC_PRG. Afterwards press button "OK".



Fig1.3 Create a new project



1.3 Add ProfiNet device

Open background menu with a right mouse button click on "Device(CoDeSys

Control Win V3 x64)"

📦 Untitled8.project* - COI	DES	/S			-	٥	×
<u>File Edit View Pro</u>	ojec	t FBD/LD/I <u>L B</u> uild <u>O</u> nline	D	ebug <u>I</u> ools <u>W</u> indow <u>H</u> elp			₹
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Chtitled8		▼ 1 P	RO	GRAM PLC_PRG		General	^
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PLC Logic	Ж.	Cut		x0: B00L;		🎫 Box	
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	2	Paste	Ī	-		-UAR ASSI	gnme
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Ę	2	Properties		x0 <u>y0</u>		The Exec	ute
8		Add Object	•		æ	Boolean Op	erat
6	5	Add Folder			Œ	Math Opera	ators
		Add Device			۰	Other Oper	ator
		Update Device	-1			Function Bl	ocks
	ĩ	Edit Object			8	Ladder Eler	nent
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		Export mappings to CSV				Coil	
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Sevices Devices		Dreas-mail-			<		>
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Fig1.4 Add Profinet device

Select "Add Device ...".

Loienet					
Action		Undeks das tes			
Append device () Insert device (Update device			_
String for a full text search	Vendor	<all vendors=""></all>			
Name Fieldbuses CANbus	Vendor		Version	Description	
🖶 – 🔐 EtherCAT 🖃 – 🎬 Ethernet Adapter					
Burdi EtherCAT Burdi Ethernet Adapter Burdi Ethernet Ethernet EtherNet/IP Burdi Automation	3S - Smart Softwar	re Solutions GmbH	3.5.16.0	Ethernet Link.	

Fig1.5 Add ProfiNet device

Select "Ethernet" and press button "Add Device". Afterwards leave dialog with a click on button "Close".



The wizard adds the ProfiNet device to control it.

i Ethernet 🗙			
General	Network interface		
Log	IP address	192 . 168 . 0 . 1	
Status	Subnet mask	255 . 255 . 255 . 0	
Ethernet Device I/O Mapping	Default gateway Adjust operating	0 . 0 . 0 . 0 system settings	
Ethernet Device IEC Objects			
Information			

Fig1.6 Add ProfiNet device

Press browse to select the network adapter. Make sure the gateway is active and the path to the soft plc is activated.

Select Network Adapt	er	
MAC address B40EDE94585D F02F74A35E2B B60EDE945859 B40EDE945859	Name 藍牙網路連線 乙太網路 'Device'WPF_{7D031008-3BDD-49B0-A52C-CEA3D657884E} 'Device'WPF_{0025F806-B98F-4003-B941-59F699CD658A}	Description Bluetooth Device (Personal Area Network) Intel(R) Ethernet Connection (10) I219-V Microsoft Microsoft
		OK Abort

Fig1.7 Select Network Adapter



Open background menu with a right mouse button click on

"Ethernet(Ethernet)"



Fig1.8 Add Profinet device

Select "Add Device ..."

Add Device				>				
ame PN_Controller								
Action								
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String for a full text search	Vendor	<all vendors=""></all>		~				
Name	Vendor		Version	Description				
E- I Fieldbuses								
🗉 - 👄 EtherNet/IP								
🖅 💷 Modbus								
🖻 🛲 Profinet IO								
🗷 🛲 Profinet IO Device								
Profinet IO Master								
PN-Controller	3S - Smart Software S	Solutions GmbH	3.5.16.40	Profinet IO Controller				
<				>				
Group by category Display all versions (for experts only) Display outdated versions								

Fig1.9 Add ProfiNet device

Select "PN-Controller" and press button "Add Device".

Afterwards leave dialog with a click on button "Close".



1.4 Add ProfiNet-Slave device

Install GX-CL110 product GSDML.

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File Edit View Project Build Online	Debug Tools Window Help	▼ √" 〒 蒸 ¢
Devices	Image: Stratus Image: Stratus Information Port-OBE	• TooBox • 4
< >> Sevices POUs	Messages - Total 1 error(s), 0 warning(s), 2 message(s) - Profinet Profinet Latebald: 0 0 0 0 0 Procomole Protect user for	×

Fig1.10 Install GX-CL110 product GSDML.

Device Repository > Install > Select file

₃ Device F	Repository					×
Location	System Repositor (C:\ProgramData	y \CODESYS\D	evices)		~	Edit Locations
Installed D	evice Descriptions					
String for	a full text search	La contra de	Vendor	<all vendors=""></all>	~	Install
Name		Vendor	Version	Description		Uninstall
₩ ∰ Fi ₩ ₩ ₽ ₩ Ø S	ieldbuses IMI devices LCs oftMotion drives					Details
						Close

Fig1.11 Install GX-CL110 product GSDML.



scan the device

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File Edit View Project Build Online Debu	ug Tools Window Help				₹
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Devices 🗸 🕂 🖬	Ethernet PLC_PRG PN_Controller X Device	-	ToolBox	•	ф X
Untitled8 Gen Device (CODESYS Control Win V3 x64)	eral Station name controller				
Application Over	rview Default Slave IP Parameter				
Ubrary Manager	ology First IP address 192 . 168 . 1 . 2				
□ 📓 Task Configuration Med	Last IP address 192 168 1 254 Subnet mask 255 255 0				
PLC_PRG	0 I/O Mapping Default gateway 0 . 0 . 0 . 0				
PN_Controller.CommCycle PNIC	0 IEC Objects I/O Provider / Consumer Status				
Ethernet (Ethernet)	Application stop>Substitute values				
Stat	us Port Data				
Info	rmation Part-001 Pearetation/port				
	Check Cable length Check MAU type				
<		>			
Messag	ges - Total 2 error(s), 0 warning(s), 7 message(s)	ч х			
Profin	et	(nobody)	0	0

Fig1.12 Add ProfiNet-Slave device

Login with PLC.

Open background menu with a right mouse button click on

"PN-Controller(PN-Controller)"



Fig1.13 Add ProfiNet-Slave device

Select "Scan for Device "



1.5 Assign variables

Choose the register card EtherCatI/O access. Assign variables to the different

modules.



Fig1.14 Assign variables