Platform MX6 Software option S108 CODESYS EtherNet/IP Adapter

1 Identification

Identification	
Option ID	S108
Order number	S-05000310-0000
Short name	CODESYS EtherNet/IP Adapter
Brief description	With this software option, it is possible to integrate the control as an EtherNet/IP Adapter (Slave) in an EtherNet/IP network.
Revision ID document	V3.0

2 System requirements and restrictions

System requirements and restrictions								
Supported platforms and devices	Berghof PLC devices of the MX6 platform (e.g.: MCs, CCs, DCs) Additional information regarding availability and compatibility can be found in options sec- tion of the product catalog.							
Firmware	MX6-PLC from version 1.16.0, CODESYS from 3.5 SP10 Patch 1							
Additional requirements	 Ethernet port 							
Restrictions	_							



3 Product description

This software option activates the license for the in CODESYS integrated EtherNet/IP Adapter (Slave) for the device. The EtherNet/IP Adapter expansion is based on the implementation of the company 3S for CODESYS.

With the EtherNet/IP configurator, the CODESYS development system supports the project planning of EtherNet/IP Networks. The configurator allows that all EtherNet/IP settings for the EtherNet/IP Adapter can be comfortable set. With the EtherNet/IP Adapter, it is possible to exchange data with EtherNet/IP Scanners inside the network. All parameters for communication are predefined in the configurator. An Adapter-EDS-file can be created out of the CODESYS IDE.

For full documentation of the different Ethernet/IP Adapter and Module configuration menus please check the CODESYS Online help under:

https://help.codesys.com/webapp/_enic_f_adapter;product=core_EthernetIP_Configuration_Editor;version=3.5.15.0

4 Technical data

Technical data	
Conformity	ODVA tested
Compatibility	Combination with Ethernet/IP scanner possible

5 Quick Start Guide

With this illustrated quick start guide it is possible to create a functional Ethernet/IP adapter within a few minutes.

5.1 Preparatory tasks

In the web configuration of the PLC the "Static" mode for the ETH1 interface in the "Network Configuration menu" has to be selected. The ETH0 interface can't be in the same subnet while using Ethernet/IP. Save the configuration and reboot the PLC to activate the settings.

Configuration Network	COMMON	
<u>CAN</u> <u>Time and Date</u> <u>Display</u> <u>FTP-Server</u> SSH-Server	Hostname DNS Server 1 DNS Server 2	270011200-00035 0.0.0.0 0.0.0.0
WEB-Server Users SVC Config Config Protection Reset Config	ETHO Mode:	static 👻
System Info Licenseinfo	IPAddress	169.254.255.35
<u>Screenshot</u> <u>Update</u> Reboot	NetMask Gateway	255.255.255.0 0.0.0.0
PLC-Manager	ETH0:1	
<u>Control</u> <u>Config</u> <u>Application Info</u> Application Files	Mode:	inactive 🗸
Font Files	ETH1	
Diagnostics		
<u>PLC Log</u> System Log	Mode:	static 🗸
<u>Ethernet</u> CAN	IPAddress	192.168.1.1
Storage	NetMask	255.255.255.0
System Dump	Gateway	0.0.0

5.2 Addition of the ethernet adapter

At first an ethernet adapter has to be integrated into the CODESYS project, through the CODESYS function "Add Device" by right clicking on the PLC-Device in the devices window in CODESYS.

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evices		→ Ț X							
Untitled 1				lame:					
🖻 👚 🚹 Device	(Bera	nof MX6 Control)	l r	Action:					
🖮 🗐 PLC	Ж	Cut		Append device) Plug d	evice 🔘 U	pdate device		
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	e	Paste	Ì	String for a fulltext search		Vendor:	<all vendors=""></all>		
	\times	Delete		Name	Vendor			Version	Description
	ħ	Properties		 Miscellaneous Fieldbuses 					
	*:::	Add Object 🔸		CANbus					
	\bigcirc	Add Folder		🗄 📴 🔐 EtherCAT					
		Add Device		Ethernet Adapter					
		Update Device		🔟 Ethernet	3S - Sm	art Software	Solutions GmbH	3.5.15.0	Ethernet Link.
	Ô	Edit Object		EtherNet/IP Home&Building Automation					
		Edit Object With		E Modbus					

5.3 Configuration of the ethernet adapter

With a double click on the newly added Ethernet adapter you can open the configuration. Set the Ethernet interface and IP settings same as configured in the webinterface.

Devices - 4 ×	Ethernet 🗙				
Untitled1					
Device (Berghof MX6 Control)	General	Interface: eth1			
E PLC Logic					
Application	Ethernet Device Parameters	IP Address 192 . 168 . 1 . 1			
📶 Library Manager	Status	Subnet Mask 255 . 255 . 255 . 0			
PLC_PRG (PRG)	Status				
🖃 🎉 Task Configuration		Default Gateway 0 . 0 . 0 . 0			
🖻 🍪 MainTask	Ethernet Device I/O Mapping	Adjust Operating System Settings			
PLC_PRG	Ethernet Device IEC Objects				
Ethernet (Ethernet)					
	Information				

5.4 Addition of the Ethernet/IP Adapter

After that the Ethernet/IP Adapter can be added under the ethernet adapter via "Add Device".

Devices		- ₽ X	1	Add Dev	ice				>
🖃 🎒 Untitled1		-							
🖮 🔟 Device (Berghof MX6 Cont	rol)		Nam	e Ethe	erNet_IP_Adapter				
🖹 🗐 PLC Logic			- 40	tion					
🖻 🧔 Application									
👘 📶 Library Manag	ger		\circ	Append	device O Insert device O Plug		pdate device		
PLC_PRG (PR	G)		Str	ing for a	fulltext search	Vendor	<all vendors=""></all>		~
🖃 🔣 Task Configur	ation		E	ing tor a			<air vehuors=""></air>		
🖮 🍪 MainTask			N	ame		Vendor		Version	Description
PLC_	PRG			- 🔟 Fie	ldbuses				
\min Ethernet (Ethernet)			4	🖹 - 😑	EtherNet/IP				
	Ж	Cut			👄 EtherNet/IP Local Adapter				
	e <mark>r</mark>	Сору			🗄 💮 EtherNet/IP Adapter	3S - Smart Sof	tware Solutions GmbH	3.5.15.20	A device that
	Ē	Paste			👄 EtherNet/IP Scanner				
	\times	Delete			Modbus				
		D-fti	-1-	±	Profinet IO				
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	1.1.1	Add Object							
		Add Folder							
		Add Device							
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5.5 Addition of Ethernet/IP Modules

Depending on the desired configuration, one or more Ethernet/IP Modules must then be added to the Ethernet/IP Adapter with "Add Device".

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Untitled1		•	I.	Ad		ce							^
🖮 🔟 Device (Berghof MX6 Control)			L	Name	Ethe	rNet_IP	Module						
⊨ 🗐 PLC Logic			L			inet_ir_	Houule						
🖹 🍈 Application			L	Actio	n								
🗂 Library Manager			L	A	ppend	device	🔵 Ins	ert device	Plug device) Update	device		
PLC_PRG (PRG)			L]
🖹 🌃 Task Configuration			L	String	g for a	fulltext se	earch		Vendo		vendors>		~
😑 🍪 ENIPAdapterIOTask			L	Nan	ne				Vendor			Version	Description
EtherNet_IP_Adapter.IOCycle			L	l 🖃	iii Eiel	dbuses							
🖹 🍪 ENIPAdapterServiceTask			L			EtherNe	/TP						
EtherNet_IP_Adapter.ServiceCyd	e		L			- Ethe		Module					
🖻 👹 MainTask			L					et/IP Module	3S - Smart So	ftware So	lutions GmbH	3.5.14.0	A device that wor
PLC_PRG			L			<u> </u>		i ya i iouuic					
🖹 🔟 Ethernet (Ethernet)			L										
EtherNet_IP_Adapter (EtherNet/IP Adapter)	Ж	Cut											
		Сору											
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	e	Prope	rtie	s									
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		Add F	old	er								_	>
		Add D	evi	ce				Display all vers	ions (for expert	s only)	Display out	dated version	
		• •	-					propray an vers	iona (i or experi	a only)		aacea version	,

5.6 Configuration of the Ethernet/IP Module

With a double click on the newly added Ethernet/IP Module you can open the device configuration. Under "Module" you set the data type of the module and whether it is an input or output value.

Devices – 👎 🗙	EtherNet_IP_Module X			
	General EtherNet/IP Module I/O Mapping EtherNet/IP Module IEC Objects Status Information	Module Informa Module Vendor name Vendor ID Product name Product code Major revision Minor revision	tion Byte Input Module Byte Output Module Word Input Module Word Input Module DWord Input Module DWord Input Module DWord Input Module Real Input Module Real Input Module Big Input Module Big Input Module Dig Input Module Big I	EtherNet/IP ⁻

Repeat adding and configuring Ethernet/IP Modules until you have all data you want to communicate via Ethernet/IP in your I/O image.

5.7 Configuration of the Ethernet/IP Adapter

With a double click on the Ethernet/IP Adapter you can open the device configuration after the module configuration. Here you can set the device information such as manufacturer, product name, etc. and automatically generate an EDS file matching the adapter and module configuration. The EDS file then allows easy integration into an Ethernet/IP scanner.

Devices 👻 🕂 🗙	EtherNet_IP_Adapter 🗙			
□ Untitled I □ Device (Berghof MX6 Control)	General	EDS File		
BI PLC Logic Dec Logic Dec Logic Dec Logic	Log	Vendor name	3S - Smart Software Solutions GmbH	EtherNet/IP [*]
- 👘 Library Manager - 🗐 PLC_PRG (PRG)	EtherNet/IP Adapter I/O Mapping	Vendor ID	1285	
	EtherNet/IP Adapter IEC Objects	Product name Product code	EtherNet/IP Adapter	
EtherNet_IP_Adapter.IOCyde	Status	Major revision	1	
EtherNet_IP_Adapter.ServiceCyde	Information	Minorrevision	1	
ー・愛 MainTask ー・団 PLC_PRG ー・団 Ethernet (Ethernet)		Install to Device	Repository Export EDS File	
EtherNet_IP_Adapter (EtherNet/IP Adapter)				
EtherNet_IP_Module (EtherNet/IP Module)				

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