Data Sheet CODESYS EtherNet/IP Adapter SL

The CODESYS EtherNet/IP Adapter is an add-on for CODESYS compatible PLCs. By means of standard Ethernet ports, these devices are converted into EtherNet/IP adapters. The bus is configured directly from within the CODESYS Development System. Devices that are configured in this way exchange Ethernet messages with interconnected EtherNet/IP scanners.

Product description

A specific EtherNet/IP configurator is already integrated in the standard setup of the CODESYS Development System. To use this, the user requires a license, which is either already stored in the target system [1] or can be added later [2]. In addition, a protocol stack is required for implementing the EtherNet/IP communication on the configured Ethernet port. This stack is supplied with the license as a CODESYS library.

If the CODESYS EtherNet/IP Adapter is licensed on the device to be programmed, then it can communicate with connected scanners and operate EtherNet/IP modules. All parameters for communication are predefined in the configurator. An adapter-EDS-file is included in the standard delivery.

Configurator

Editors	• Ethernet Bus Editor • EtherNet/IP Adapter Editor • EtherNet/IP Module Editor
Communication Settings	• IP Address • Device Identification (Vendor ID, Product Code, …) • I/O Data Data Layout (module configuration)
Creation of custom assembly layout	supported
Valdidation of configuration	supported
Diagnosis	• Display of device state • Display of connection errors on status page
EDS Export	Export of an EDS file suitable for the configuration.

IEC Stack

Supported Platforms	• 32/64 bit • Little/Big Endian

Specification	CIP Networks Library Volume 1 and 2
max. Number of Connections	no restriction
max. Number of Input/Output Assemblies	No restriction; The supplied EDS files support only one Input and Output Assembly by default. But this can be extended by creating own corresponding EDS files. In this way, I/Os can be distributed over several Assemblies/Connections.
Configuration Assembly	not supported
Connection Types	• Class 1 (I/O Messaging) • Class 3 (Explicit Messaging) • UCMM
I/O Connection Types	• Point to Point and Multicast • Cyclic Transmission • Exclusive Owner, Listen Only, Input Only • Tag based connections (one Tag per connection)
Minimal RPI	1 ms
Supported Objects	• Identity Object (16#1) • Message Router Object (16#2) • Assembly Object (16#4) • Connection Manager Object (16#6) • QoS Objekt (16#48) • TCP/IP Interface Object (16#F5) • EtherNet Link Object (16#F6) • LLDP Management Object (16#109)
Large ForwardOpen	supported
LLDP	only transmission supported
CIP Motion	not supported
CIP Sync	not supported
Device Level Ring (DLR)	not supported
ACD	supported, deactivated by default
Conformance	tested with CT19.1 test tool and CODESYS EtherNet/IP V4.5.1.0 on: CODESYS Control for Raspberry Pi SL V4.9.0.0 and CODESYS Control RTE 3.5.19.20

API

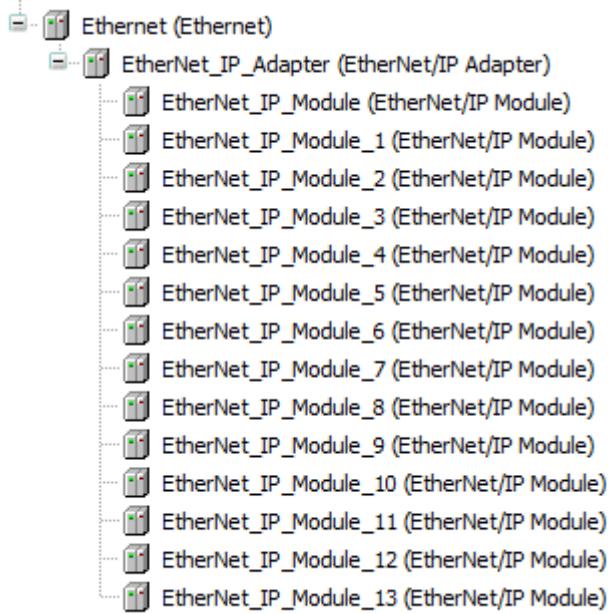|	
Diagnosis	• State and Diagnosis variables • Ethernet Status Informationen • Generic Device Diagnose

Reconfigure	supported
other functionalities	• Reset of adapter
	• Registration of own CIP Objects

[1] Device manufacturers can equip their products with CODESYS EtherNet/IP Adapter and license them in advance. The use license is already included in SoftPLC systems from 3S-Smart Software Solutions (for example, CODESYS Control Win and CODESYS Control for Raspberry Pi).

[2] End users can extend single, compatible devices with CODESYS EtherNet/IP Adapter SL. The license is saved on a special device dongle (CODESYS Key) or software license container (Soft Key) on the device.

Screenshots

- Ethernet (Ethernet)
  - EtherNet_IP_Adapter (EtherNet/IP Adapter)
    - EtherNet_IP_Module (EtherNet/IP Module)
    - EtherNet_IP_Module_1 (EtherNet/IP Module)
    - EtherNet_IP_Module_2 (EtherNet/IP Module)
    - EtherNet_IP_Module_3 (EtherNet/IP Module)
    - EtherNet_IP_Module_4 (EtherNet/IP Module)
    - EtherNet_IP_Module_5 (EtherNet/IP Module)
    - EtherNet_IP_Module_6 (EtherNet/IP Module)
    - EtherNet_IP_Module_7 (EtherNet/IP Module)
    - EtherNet_IP_Module_8 (EtherNet/IP Module)
    - EtherNet_IP_Module_9 (EtherNet/IP Module)
    - EtherNet_IP_Module_10 (EtherNet/IP Module)
    - EtherNet_IP_Module_11 (EtherNet/IP Module)
    - EtherNet_IP_Module_12 (EtherNet/IP Module)
    - EtherNet_IP_Module_13 (EtherNet/IP Module)

EtherNet_IP_Adapter ×

General	EDS-Datei	
EtherNet/IP Adapter I/O Mapping	Vendor Name	3S - Smart Software Solutions GmbH
EtherNet/IP Adapter IEC Objects	Vendor ID	1285
Status	Product Name	EtherNet/IP Adapter
Information	Product Code	120
	Major Revision	1
	Minor Revision	1

EtherNet/IP

Export EDS File...

Consuming Assembly: Consumed Data (Instance 16#64)
Producing Assembly: Produced Data (Instance 16#65)

Consuming Assembly "Consumed Data" (O-->T)

+ Add × Delete | ⬆ Move Up ⬇ Move Down

Name	Data Type	Bit Length	Unit	Help String
Generic Parameter	DWORD	32		
Generic Parameter	DWORD	32		
Generic Parameter	USINT	8		
Generic Parameter	INT	16		

Producing Assembly "Produced Data" (T-->O)

+ Add × Delete | ⬆ Move Up ⬇ Move Down

Name	Data Type	Bit Length	Unit	Help String
Generic Parameter	USINT	8		
Generic Parameter	USINT	8		
Generic Parameter	USINT	8		
Generic Parameter	USINT	8		
Generic Parameter	USINT	8		

General information

Supplier:

CODESYS GmbH
Memminger Strasse 151
87439 Kempten
Germany

Support:

Technical support is not included with this product. To receive technical support, please purchase a CODESYS Support Ticket.

https://support.codesys.com

Item:

CODESYS EtherNet/IP Adapter SL

Item number:

2303000006

Sales/Source of supply:

CODESYS Store
https://store.codesys.com

Included in delivery:

- License key

System requirements and restrictions

Programming System	CODESYS Development System V3.5.17.0 or higher
Runtime System	CODESYS Control V3.5.12.0 or higher
Supported Platforms/ Devices	Note: Use the project "Device Reader" to find out the supported features of your device. "Device Reader" is available for free in the CODESYS Store.
Additional Requirements	• CODESYS Control runtime system on the device with SysSocket, SysEthernet and SysFile component. • Available Ethernet port on the device • WIBU Codemeter support
Restrictions	CT19.1 compliance requires runtime version 3.5.19.0 or newer for some operating systems (e.g. Windows, VxWorks).
Licensing	

DEVICE

Single device license: The license can be used on the target device/PLC on which the CODESYS runtime system is installed.

Licenses are activated on a software-based license container (soft container), which is permanently connected to the controller. Alternatively, the license can be stored on a CODESYS Key (USB dongle). By replugging the CODESYS Key, the license can be used on any other controller.

Required Accessories	Optional: CODESYS Key

Note: Technical specifications are subject to change. Errors and omissions excepted. The content of the current online version of this document applies.

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