Data Sheet CODESYS EtherNet/IP Scanner SL

CODESYS EtherNet/IP Scanner is an additional option for controllers that are compatible with CODESYS. These devices are based on standard Ethernet ports to become EtherNet/IP scanners. The bus is configured from within the CODESYS Development System. Device configured in this way exchange real-time Ethernet messages with connected EtherNet/IP adapters.

Product description

A specific EtherNet/IP configurator is already integrated in the default setup of the CODESYS Development System. In order to use this, the user requires a license, which is already saved on the target system [1] or can be added later [2]. Furthermore, a protocol stack is required for establishing EtherNet/IP communication on the configured Ethernet port. This stack is supplied with the license as a CODESYS library. As an alternative, Hilscher fieldbus adapters can be equipped with an integrated protocol stack.

If CODESYS EtherNet/IP scanner is licensed on the device to be programmed, then it can communicate in real time with connected adapters, read their inputs, and write to their outputs. All parameters for communication are predefined in the configurator. These include IP addresses or network cards and adapters, the connections and their properties, the RPI (Requested Packet Interval), as well as the user parameters. The end user uses a service library to access the remote adapter in non-cyclic intervals from the IEC 61131-3 application (for example in order to read and write attributes).

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

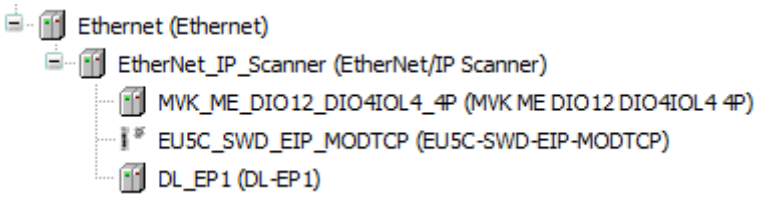
[2] Users can extend individual, compatible devices with CODESYS EtherNet/IP Scanner SL. The license is saved on a special device dongle (CODESYS Key) or software license container (Soft Key) on the target device.

Configurator

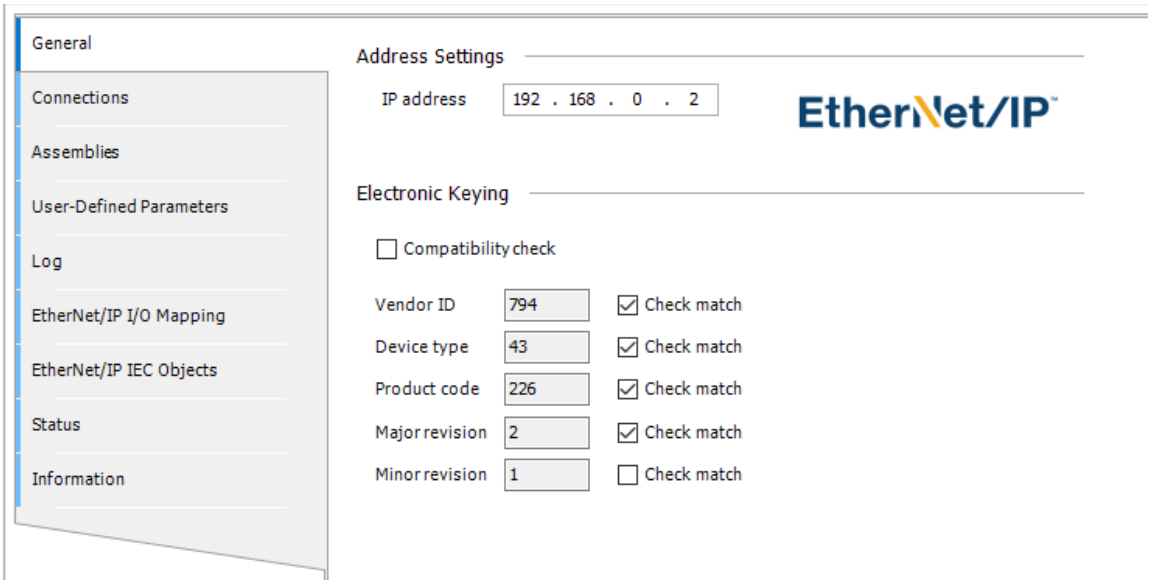
For IEC and NetX Stack the same configurator pages are available.

Editors	• Ethernet Bus Editor • EtherNet/IP Scanner Editor • EtherNet/IP Remote Adapter Editor
Communication Settings	• IP Address • Electronic Keying • EtherNet/IP Connections and configuration data

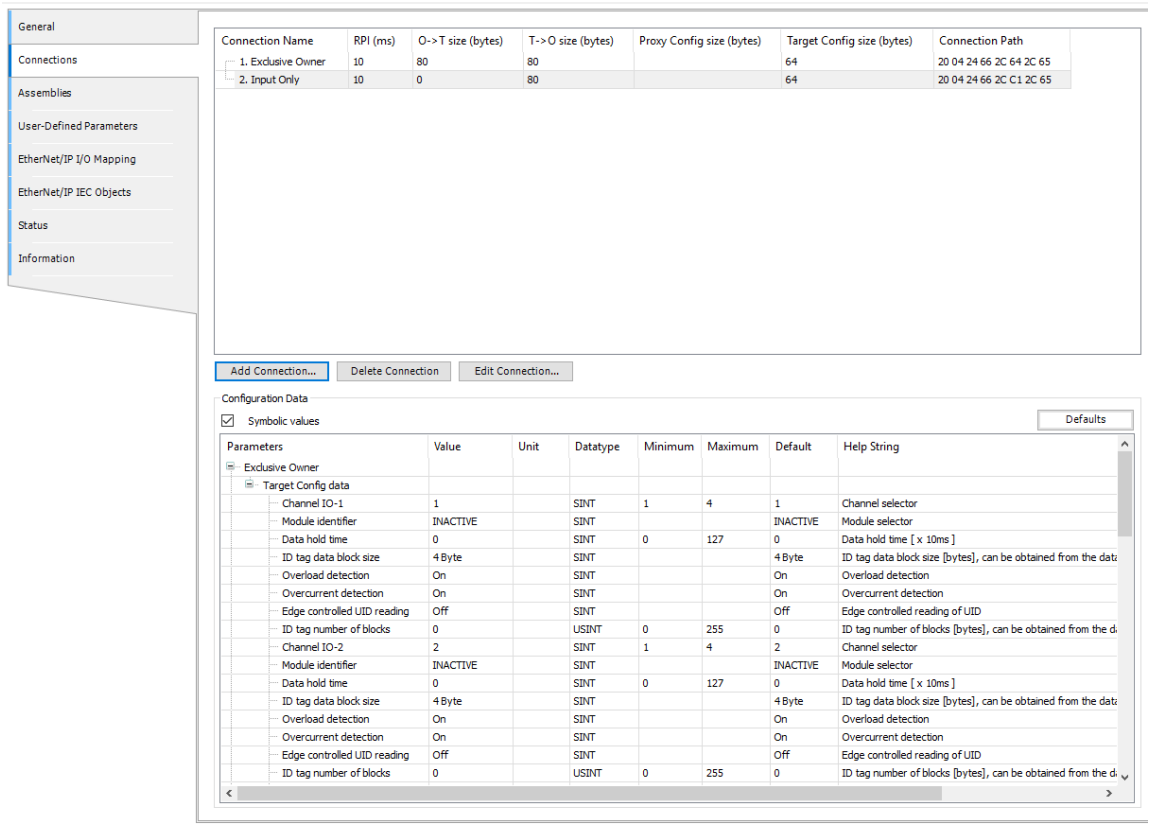
	• Input/Output Assembly Layout • custom specific configuration parameters • Connection timeout behaviour (not NetX)
Validation of configuration	supported
Diagnosis	• Display of device state in device tree • Display of connection errors on status page
EDS Import	supported
Generic Device	supported, for devices without EDS file
Device Scan	supported (not NetX)



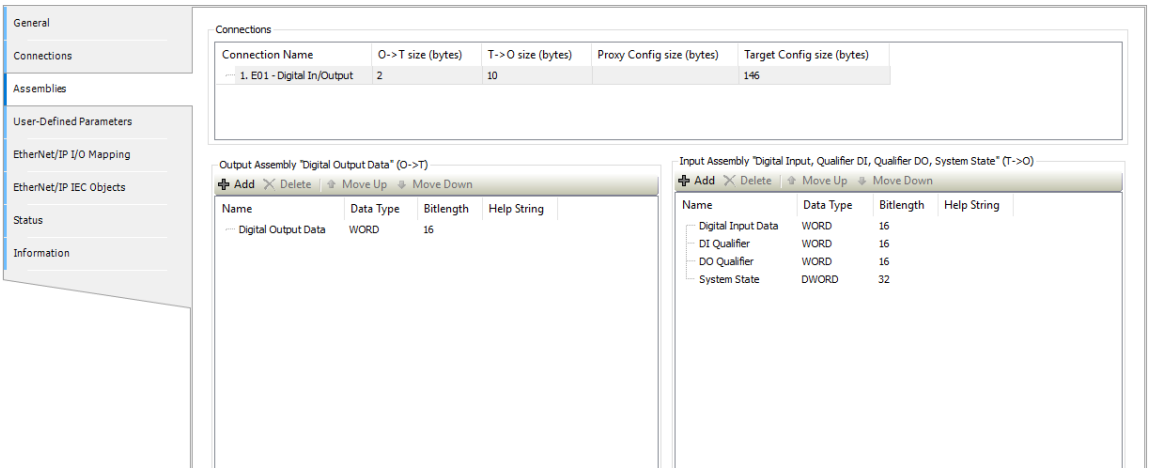
Picture 1: Device Tree



Picture 2: General communication settings



Picture 3: EtherNet/IP Connections



Picture 4: Assembly Layout

IEC Stack

The following table describes the functionality of the CODESYS IEC stack.

Supported Platforms	• 32/64 bit • Little/Big Endian
Specification	CIP Networks Library Volume 1 and 2
max. Number of Slaves	no restriction

max. Number of Connections	no restriction
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) • Connection Manager Object (16#6) • TCP/IP Interface Object (16#F5) • EtherNet Link Object (16#F6)
Vendor Specific Objects	• Consuming Assembly Manager Object (O->T) (16#300) • Producing Assembly Manager Object (T->O) (16#301)
Large ForwardOpen	supported
CIP Motion	not supported
CIP Sync	not supported
Device Level Ring (DLR)	not supported
Conformity	only certifiable in combination with CODESYS EtherNet/IP Adapter

NetX Stack

For Hilscher NetX Stack functionalities please refer to the Hilscher data sheet.

Supported Platforms	• 32 bit • Little Endian

API

EtherNet/IP Services IEC Library	Following functionblocks are available: • Get_Attributes_All, Get_Attribute_Single • Set_Attributes_All, Set_Attribute_Single • Start/Stop/Reset • Apply_Attributes • NOP • Generic_Service • Visualization-Templates

	The library is also supported by NetX Library!
API IEC Stack	• State and Diagnosis variables for scanner and adapters • Ethernet Status Information • Reset of scanner and adapter • Generic Device Diagnosis • Reconfigure
API NetX Stack	• Generic Device Diagnosis • Reconfigure No additional API functions available.

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 Scanner SL

Item number:

2303000007

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
Additional Requirements	• CODESYS Control runtime system on the device with SysSocket and SysEthernet component • Available Ethernet port on the device • WIBU Codemeter support
Restrictions	-
Licensing	

	Single device license: The license can be used on the target device/PLC on which the CODESYS runtime system is installed. It is needed if the device does not support the software by factory. You can verify this using the “Device Reader” project. It is available in the CODESYS Store. 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. *Note:* In demo mode, the software runs for two hours without a license. After that, a manual restart is required.
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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