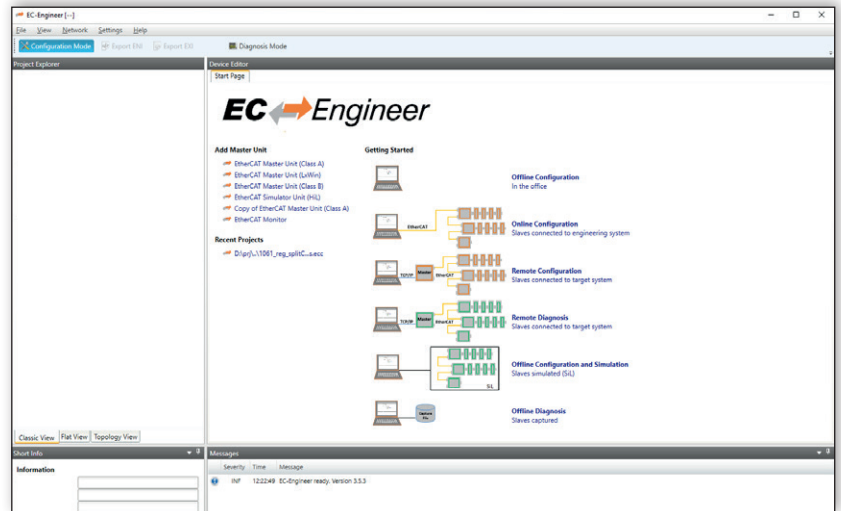


EtherCAT®

Configuration and Diagnosis Tool

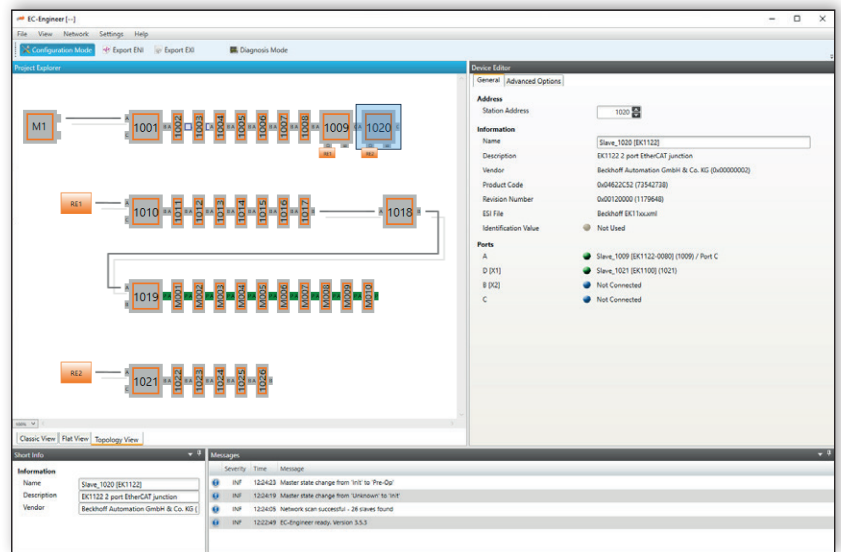
Overview

EC-Engineer is a powerful software tool used for configuration, diagnosis, and monitoring of EtherCAT® networks. Using this single tool one can handle all required engineering and diagnosis tasks in a quick and comfortable way. The modern, clear, and very intuitive user interface, which is also rarely using popup dialogs, is crucial for a smooth experience in configuring, diagnosing, and monitoring of EtherCAT® systems.



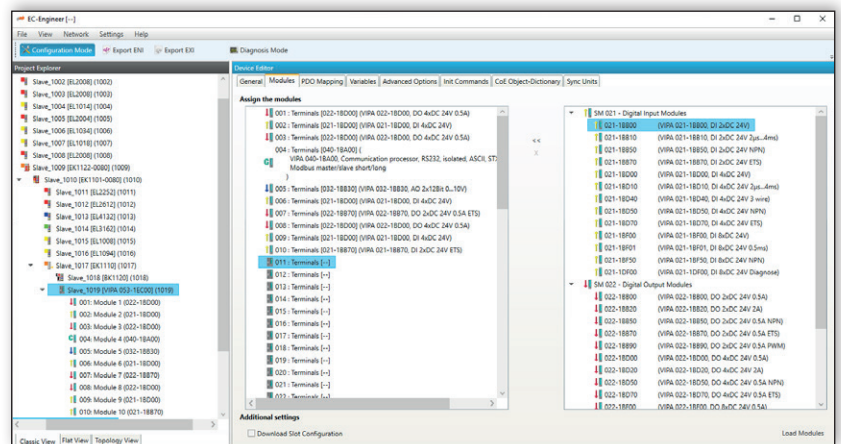
Online or Offline Configuration

When using EC-Engineer the EtherCAT® configuration can be done “offline” in the lab/office or “online” when connected with the real EtherCAT® network on the machine. It doesn’t matter whether the EtherCAT® slaves are connected with the local Windows®/Linux PC where EC-Engineer is running, or with the control system where the control application’s master stack is running. In either case the slaves and the network topology can easily be determined using the “Bus Scan” feature. EC-Engineer has an integrated Windows® EtherCAT® Master that is able to run and verify the system. If the slaves are connected to the control system, then the master stack running on the controller will take over communication and provide all services and information which are needed for diagnosis and monitoring over to EC-Engineer remotely (for example via TCP/IP).



Modern Design

The graphical user interface of EC-Engineer is optimized to have a high level of usability. The user can adjust the look and feel by choosing his preferred theme and language. The common use cases are immediately exposed at the start page, like building a simple offline configuration, an online configuration by scanning the connected network, a remote configuration or a remote diagnosis of the connected target system. Browsing through the connected slaves is possible by means of the project explorer that presents all slaves as an icon-based tree for quick access while configuring or diagnosing the bus.



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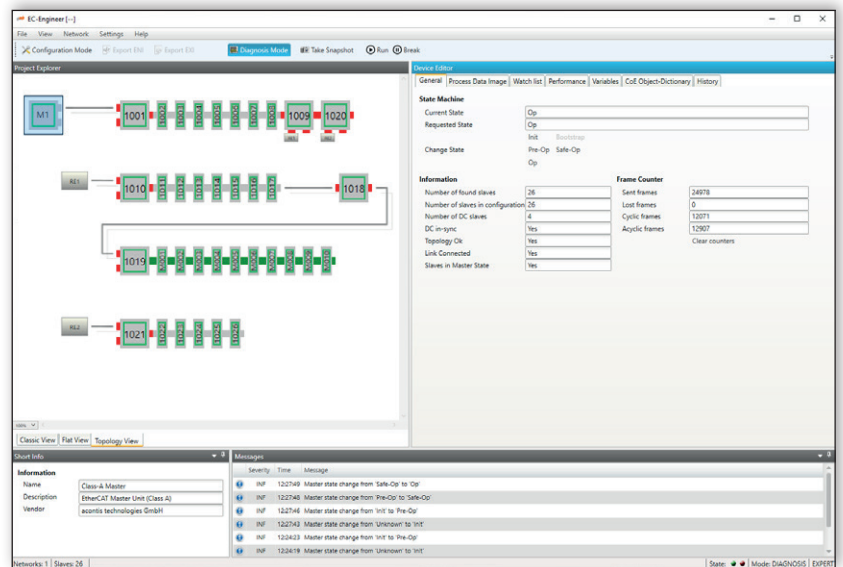
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EtherCAT® Configuration and Diagnosis Tool

Powerful Diagnosis and Monitoring

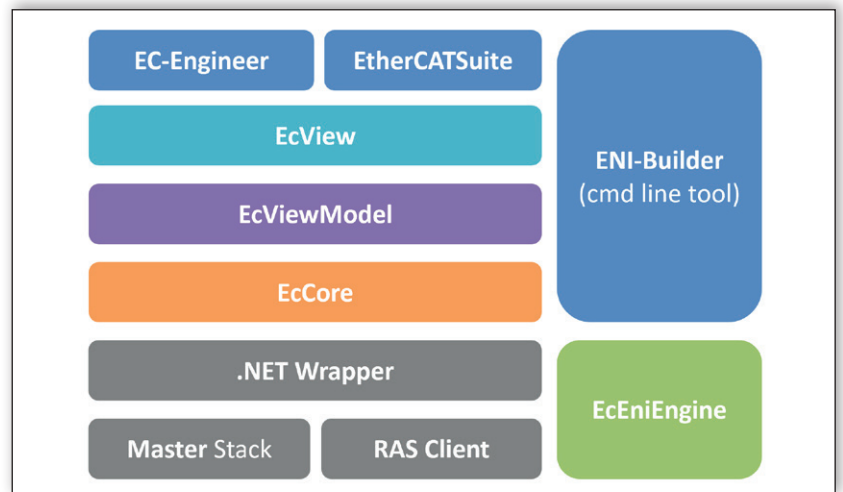
EC-Engineer is a sophisticated tool for diagnosis and monitoring as well. Using a TCP/IP connection with the EtherCAT® Master both master and slaves can be viewed and analyzed. Display of the system status and the process data content as well as more complex functions like reading the object dictionary or downloading new slave firmware are available then. A special view is provided for analyzing erroneous or incomplete EtherCAT® network startup.

To perform a diagnosis of an EtherCAT® master controller, only the IP address of the controller is required. All required information, including the content of the ENI file, is then supplied by the EC-Master to EC-Engineer.



Software Development Kit

Using the available SDK all, or some, EC-Engineer features can be integrated into existing engineering applications. Also, brand labeling and customer specific enhancements can be achieved. EC-Engineer's business logic layers 4 and 5 are available on Windows® and Linux. The user interface layers are based on the Microsoft® WPF Technology. The EC-ENI-Builder command line application is able to create an ENI file based on the ESI files and a simple list of the slaves and how they are connected.



Advantages and Benefits

- Easy-to-use, modern, light-weight EtherCAT® configuration tool to build an configuration in less steps
- Preserve against wrong configurations: Available options can be restricted to those features supported by master controller
- Powerful diagnosis and online functions
- Software Development Kit for customization and integration available
- Licensing model for redistribution available

Editions for Windows® and Linux

- EC-Engineer: Windows® 10
- EC-Engineer Plus: Windows® 10
- EC-Engineer Web: Windows® 10 and Linux

Configuration Features

- Support of EtherCAT® Slave Information (ESI / ETG.2000) files
- Support of EtherCAT® Network Information (ENI / ETG.2100) file
- Automatic determination of the connected slaves: Network Scan
- Support for slaves based on Modular Device Profile (MDP / ETG.5101)
- Support for Distributed Clocks (DC / ETG.1000)
- Ethernet of EtherCAT® (EoE) and ADS of EtherCAT® (AoE) settings
- Support for EtherCAT® P (ETG.1000.2P)
- Definition of "Hot Connect" groups and identification

Diagnosis and Monitoring Features

- Master and Slave State (read and control)
- Process (I/O) data (read and force)
- ESC Register and EEPROM (read and write)
- Master and slave object dictionaries
- Firmware upload and download via CoE
- Comparison of configuration and real network: Network mismatch view
- and many more features



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