EtherCAT Tap App

Enrich IIoT projects quickly and efficiently with EtherCAT process data

- → Non-interacting and PLC-neutral EtherCAT data tapping
- → IIoT-suitable data provision via MQTT
- → Simplified start-up with automatic decoding of the ENI file
- → Import symbol information directly from ENI files

Creating IIoT value from EtherCAT process data through passive network tapping

The platform-independent container netFIELD App EtherCAT Tap analyzes the data stream of an EtherCAT controlled network in real-time and transfers filtered device process data into the IIoT protocol MQTT. For each packet of process data, it must be specified whether EtherCAT data is tapped continuously or at intervals and, if the latter, which topic and at which interval the data is transmitted to the MQTT broker. An EtherCAT data buffer and MQTT payload transmission as a data array prevent data overflows.

A physical data switch is used to unobtrusively tap data on the Ethernet network for forwarding to the container context. It's installed directly after the EtherCAT controller and run by Hilscher's netMIRROR in combination with a netX-SoC network controller integrated in the container host. Tapping data parallel to the controller and making it available to IIoT technologies enables long-term data analysis and the identification of trends and error scenarios. Plant operators benefit from increased asset productivity through predictive maintenance, minimization of downtime, and optimization of workflows through intelligent machine learning algorithms.

The EtherCAT network configuration is automatically obtained from TwinCAT or other engineering tools via the ENI file. By importing ENI project data, symbol information is also imported. Process data to be published to the MQTT broker is determined in the network tree.

Under its netFIELD brand, Hilscher offers further communication containers, edge device platforms and a cloud-based remote management solution for devices and containers.

→ QR code link: netFIELD App EtherCAT Tap
Service hotline: +49 (0) 6190 9907-90
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empowering communication

FACT SHEET
TECHNICAL DATA

General

Product
netFIELD App EtherCAT Tap

Software type
Container

Repository
https://hub.docker.com/r/hilscherautomation/netfield-app-ethercat-tap

Hardware requirements

Processor architecture
x64, ARM64 (each with netX-SoC support)

Container size
400 MB, unpacked

Memory requirements
Minimum 200 MB, plus 100 KB of usable data buffer size per filtered process data

Data feed
2x 10/100 Mbit netX-SoC based industrial Ethernet ports (via netMIRROR Ethernet mirror tap)

Software requirements

Operating system
Linux

Container runtime environment
Required, e.g., Docker

Data distribution
Any MQTT broker, e.g., Mosquitto (Access within the container network context)

Runtime properties

Inbound protocol
EtherCAT (as listening-only device)

Inbound protocol sampling rate
Continuous traffic or configurable sampling intervals per packet of process data

Outbound protocol
MQTT (as a client)

Outbound protocol send rate
Adjustable from 1 ms, typically 100 ms

Data throughput
Processor performance dependent

Licensing

Container protection
CodeMeter licensing technology

Product activation
License key

Network license server:
Required for license storage and retrieval (Windows and Container)

Billing model:
One-time payment

Product name	Product number	Brief description
NFA-ECT-OTP	1917.058	netFIELD App EtherCAT Tap floating license Includes all updates within 1 year of license activation

Note: All technical data may be changed without further notice.

Optional items

Product name	Product number	Brief description
NFA-PNT-OTP	1917.057	netFIELD App PROFINET Tap, floating license Includes all updates within 1 year of license activation
NMR-TFE-RE	7340.100	netMIRROR 10/100 Mbit Ethernet mirror TAP
NIOT-E-TIJCX-GB-RE/NFLD	1321.300/NFLD	netFIELD OnPremise x64 computer platform for containerized applications with netX support