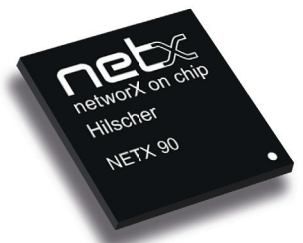


IoT Solution Firmware

Real-Time Ethernet + OPC UA and MQTT

- Available for: **netRAPID modules and netX SoCs**
- Connect your field devices to the cloud, drive OT/IT Convergence
- Combine Real-Time Ethernet protocols PROFINET and EtherNet/IP with IoT Protocols OPC UA Server and MQTT Client
- Enable
 - Asset Management
 - Condition Monitoring
 - Diagnostics
 - Extended Configuration & Parameterization
 - Visualization
 - Predictive Maintenance
- Real time and IoT data transfer over the same network cable
- Fast time to market, low entry barrier, due to abstract data object model
- Easy to use Graphical User Interface for OPC UA information model design
- Seamless integration into Hilscher netFIELD IoT Solutions



→ QR Code Link: IoT Solution Firmware
Service-Hotline: +49 (0) 6190 9907-90
www.hilscher.com

Real-Time Ethernet + MQTT / OPC UA – IoT Solution Firmware

Utilize valuable field device data

Many field devices generate and hold useful data, much more than utilized by a PLC application and transported over Real-Time Ethernet communication channels.

→ The IoT Solution firmware with OPC UA and MQTT protocol support, raise the data treasure and make it available for sophisticated applications in the cloud or on Edge Gateways.

→ No hassle with protocol details: Due to an abstract data object model, the user application just reads and writes data. The Hilscher firmware transparently feed it into the IoT protocols and information models.

→ Integrated Webserver: Beside OPC UA and MQTT, the same data can be simultaneously displayed via web-applications.

Full Real-Time Ethernet functionality

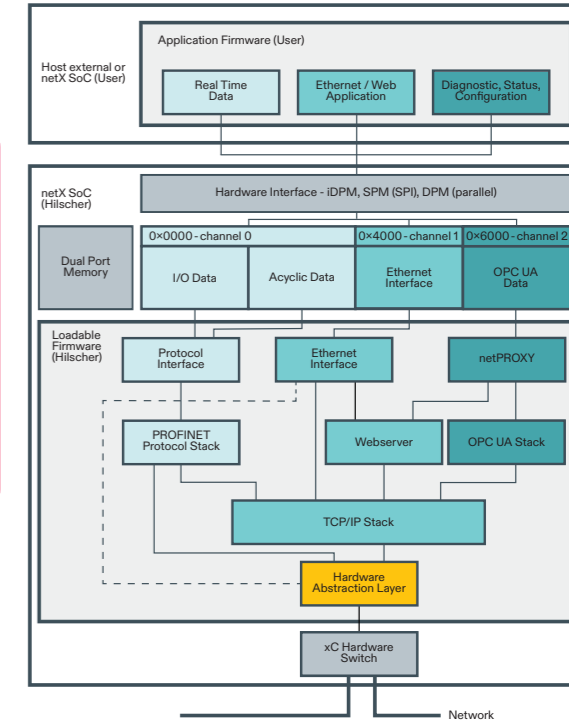
→ PROFINET and EtherNet/IP are operated in parallel to the IoT protocols with highest priority to assure short cycle times down to 1msec.

→ Dedicated dual port memory channels strictly separate real time and IoT data. This ensures backward compatibility to none-IoT firmware variants and provides a scalable firmware offering.

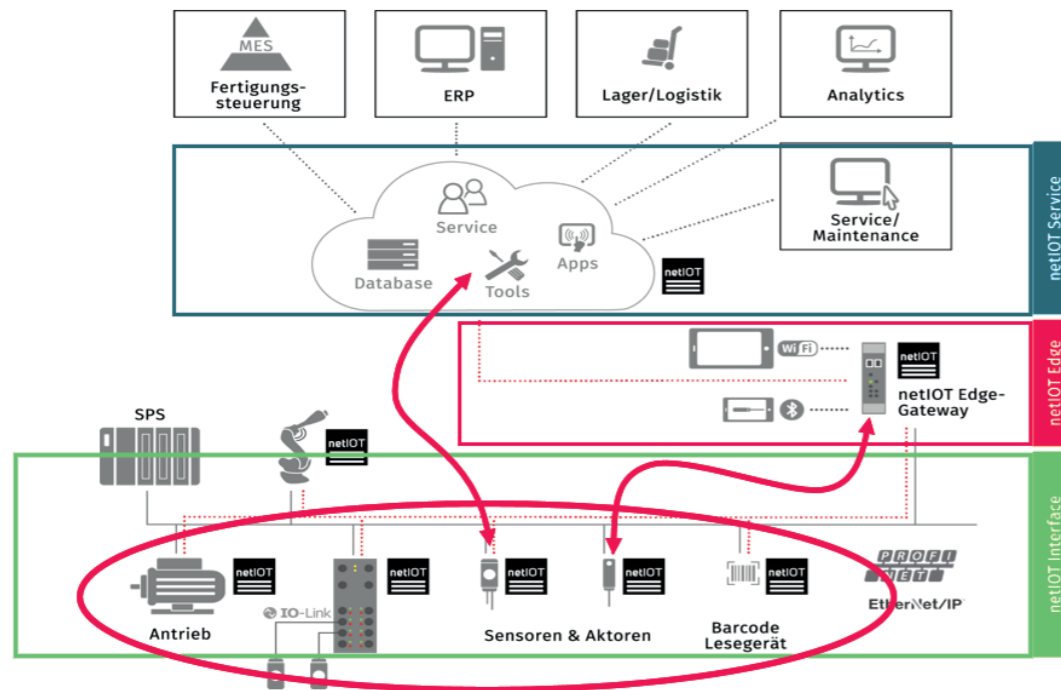
→ An additional Ethernet Interface provides TCP/IP and UDP socket functionality, as well as RAW Ethernet data transfer. Thus enabling applications to implement own protocols.

→ All communication functionalities run over the same physical network cable.

→ cifX API and netPROXY Host API functions, simplify application access to process- and IoT-data



Industrial Cloud Communication



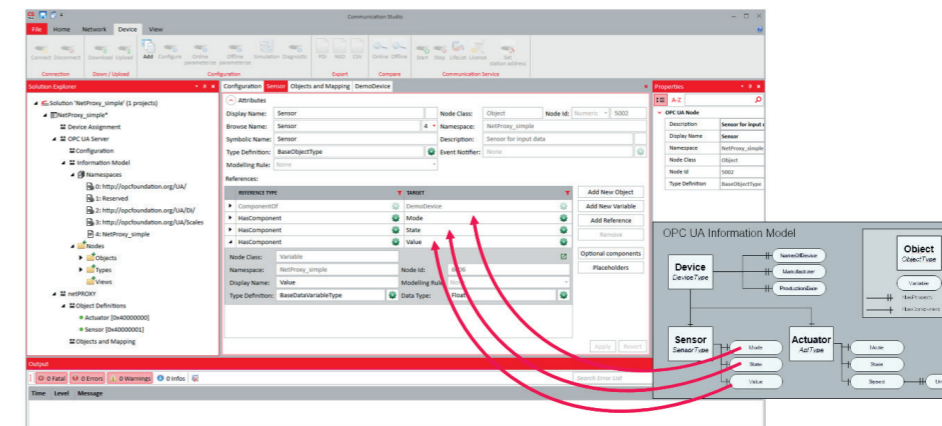
Easy and efficient information model design

→ Information models are designed by the Communication Studio tool with an intuitive graphical user interface.

→ OPC UA and MQTT variables are mapped to abstract data objects, accessible by the application.

→ Existing UA companion specifications can be imported and used as base for device specific information models.

→ The IoT configuration, including UA information model, is loaded by the Hilscher firmware.



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Product Information

Technical Data

Technical Data: OPC UA Server

OPC UA Version
V1.04

OPC UA Profiles
Micro Embedded Device Server Profile

Maximum number of Sessions/Clients
5

Maximum number of Subscriptions per Session
5

Maximum number of Monitored Items per Subscription
20

Minimum Sampling Intervall
50 msec

Minimum Publishing Interval
100 msec

Transport
Minimum Publishing Interval

User Token Facet
Anonymous: Username, Password

Technical Data: MQTT Client

MQTT Version
V3.1.1

Payload Encoding
Binary, JSON

Default sampling interval
100 msec

Maximum number of topics (publications and subscriptions)
32

Maximum size of each topic
256 Byte

Maximum number of sessions (broker)
4

Maximum number of transactions per session
8

Authentication
Username and user password

Will message, will topic
yes

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



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