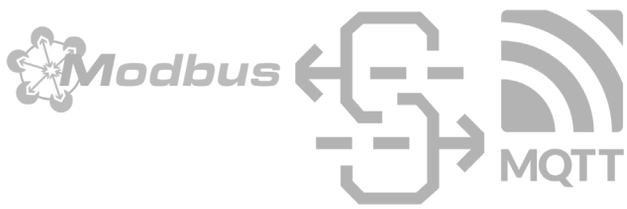
Modbus to MQTT Adapter

Data bridge between Modbus and IIoT applications

- → Connects IIoT applications to Modbus systems in minutes
- → Compatible with all Modbus RTU or TCP server devices
- → Open, description file-based Modbus configuration via integrated web UI
- → Utilizing the widely adopted MQTT protocol as the application data interface



Enable seamless connectivity to Modbus RTU or TCP systems

The platform-independent container netFIELD App Modbus to MQTT Adapter enables host devices, such as edge gateways, to exchange data between Modbus RTU or TCP server devices and user applications via an MQTT message bus.

Users upload simple, JSON-encoded Modbus device description files through the app's integrated UI, providing the necessary device metadata, including supported register and coil configurations. These files serve as the basis for configuring the Modbus read/write transactions with devices.

For MQTT communication, the app functions as an MQTT client, translating Modbus data from/into MQTT topics: one topic for publishing data during Modbus read operations, and another for subscribing to data for Modbus write actions. Data within these topics is encoded and decoded in JSON format. For read commands, the app publishes data to the MQTT broker at user-defined intervals. For write commands (subscriptions), the received data is sent to Modbus after being published by the MQTT broker in response to publishing actions from connected MQTT clients.

This app is ideal for upgrading Modbus-based systems with IIoT or smart services, leveraging field and control data from Modbus devices to gain real-time insights into physical processes. This enables, for example, faster response times in predictive maintenance or increased system productivity through real-time data analysis, leading to derived actions.

Under the netFIELD brand, Hilscher also offers additional communication containers, edge device platforms, and a central management solution for the devices and containers.

→ netFIELD App Modbus to MQTT Adapter
Service-Hotline: +49 (0) 6190 9907-90
www.hilscher.com

Product Information

Technical Data

General

Software type
Container

Repository
https://hub.docker.com/r/hilscherautomation/ netfield-app-modbus-to-mqtt-adapter

Hardware requirements

Prozessor architecture
AMD64, ARM64

Container size
400 MB, unpacked

Memory requirements
Minimum 200 MB

Data interface
Ethernet or serial

Software requirements

Operating system
Linux

Container runtime environment
Required, e.g. Docker

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

Runtime properties

Primary communication protocol
Modbus TCP or RTU (as client)

Secondary communication protocol
MQTT (as client)

Supported Modbus devices
247

Supported Modbus services
Registers: Read Input (FC4), Read Holding (FC3) , Write Holding (FC16)
Coils: Read Discrete (FC2), Read Coils (FC1) , Write Coils (FC15)

Data quantity per device transaction
Maximum 125 registers / 2000 coils

Data throughput
100 ms (internal conversion cycle time)

Licensing

Container protection
CodeMeter licensing technology

Product activation
License key

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

Billing model
One-time payment

Note: Technical data subject to change.

Product overview

NFA-MBU-OTP	1917.066	netFIELD App Modbus to MQTT Adapter, floating license including all updates within 1 year after license activation

Ergänzende Produkte

NFX8M-D2-N32-010	1918.010	**netFIELD Compact X8M** ARM computer platform for containerized applications with serial port and dual Ethernet
NFX8M-D2-N32-012	1918.012	**netFIELD Compact X8MC** ARM computer platform for containerized applications with serial port and dual Ethernet plus support for CAN and Digital IOs
NIOT-E-TIJCX-GB-RE/NFLD	1321.300/ NFLD	**netFIELD OnPremise** x64 computer platform for containerized applications with dual serial ports and dual Ethernet plus support for Industrial Ethernet

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empowering communication

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