

Dec. 09, 2020



FS-8705-101 – MQTT

MQTT - MQ Telemetry Transport

DESCRIPTION

The MQTT Driver allows the FieldServer to transfer data from devices over Ethernet using the MQTT protocol. The MQTT Driver uses TCP. The default port is 1883 and is configurable.

The driver was developed for the streaming MQ Telemetry Transport (MQTT) protocol. MQTT is an OASIS standard messaging protocol for the Internet of Things (IoT). It is designed as an extremely lightweight publish/subscribe messaging transport that is ideal for connecting remote devices with a small code footprint and minimal network bandwidth. See <https://mqtt.org/> for more information

The FieldServer can emulate both a MQTT Subscriber (Client) and Publisher (Server). When configured as a Subscriber, the MQTT driver will connect to the configured MQTT brokers and subscribe to the configured topics for data. This data is stored on the FieldServer to be mapped to other protocols or simply to be viewed. When configured as a Publisher, the MQTT driver connects to the configured MQTT brokers and publishes data received from other protocols to make them available to MQTT Subscribers.

CONNECTION FACTS

This table summarizes the number of connections this driver supports for each of its modes.

FIELDSEVER MODE	NODES	COMMENTS
Client	*	The FieldServer can be configured to subscribe to multiple topics on multiple MQTT brokers
Server	*	The FieldServer can be configured to publish to multiple topics on multiple MQTT brokers

FORMAL DRIVER TYPE

Ethernet

Client Server

COMPATIBILITY

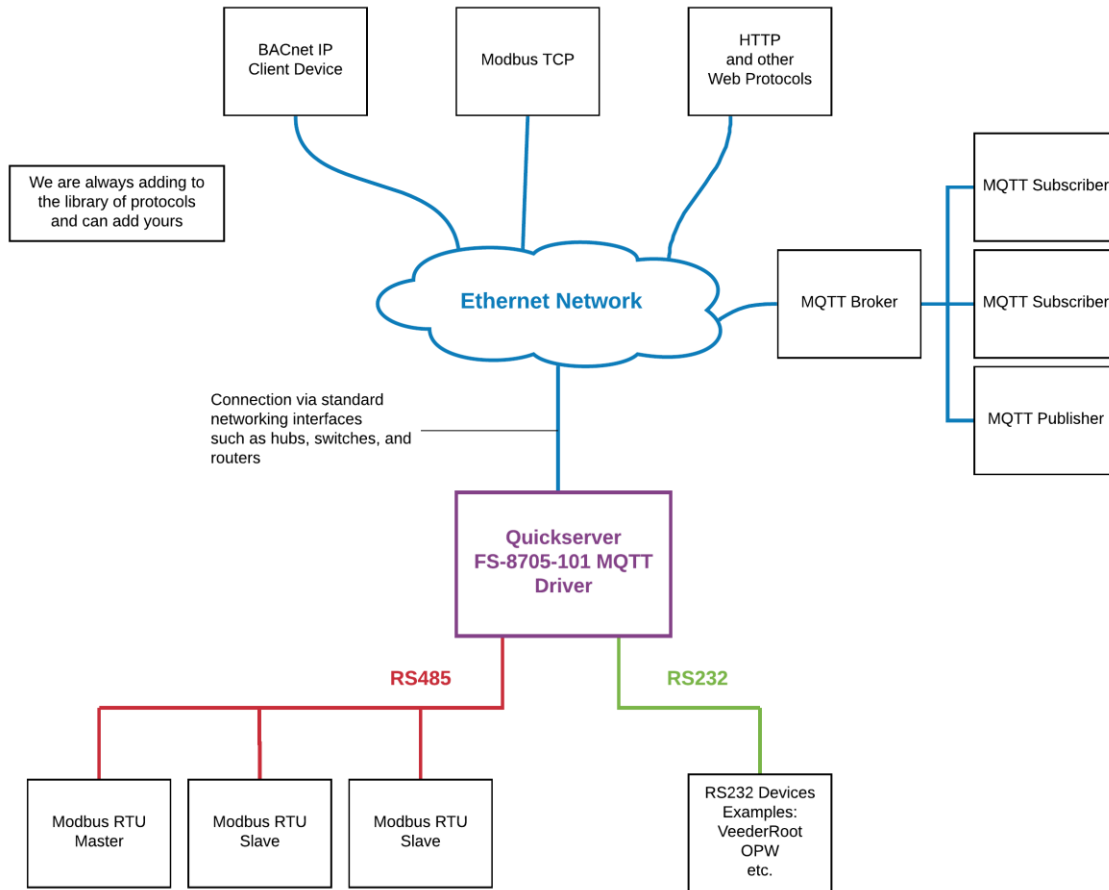
FIELDSEVER MODEL	COMPATIBLE
QuickServer FS-QS-1xx0	Yes
QuickServer FS-QS-1xx1	Yes
QuickServer FS-QS-2xx0	Yes

CONNECTION INFORMATION

Connection Type: Ethernet
 Ethernet Speeds Supported: 10Base-T, 100Base-T

CONNECTION CONFIGURATIONS

This block diagram lists common network connections that can monitor MQTT data using other protocols like Modbus® RTU/TCP, BACnet® and HTTP.



COMMUNICATION FUNCTIONS

The FieldServer configured as a Subscriber will connect to the configured MQTT brokers and subscribe to various topics. The MQTT driver does not support wildcards in the topic, and thus is only able to connect to individual topics. The MQTT driver currently only supports subscribing to topics

that contain raw data values (For example: 100.45, 2, -15, 'Hello World', etc). Please contact Chipkin if the topic contains JSON or XML that needs to be parsed.

The FieldServer configured as a Publisher will connect to the configured MQTT brokers and will publish data on the configured intervals. The data is published to the configured topics using the following JSON format:

```
{  
  "value": 99.400002,  
  "lastModified": 1607027632113,  
  "id": "mqttAEDriver/broker.hivemq/PubTest"  
}
```

Where "value" is the raw data value, "lastModified" is the unix epoch timestamp of when the data was last modified or updated, and "id" is the internal FieldServer data id for this data point.

CUSTOMER SUPPORT

MQTT Driver for FieldServer was developed by Chipkin, and we are proud to provide support for our products. For technical support, sales and customer service, please call us at 1 (866) 383-1657.

Thanks for choosing Chipkin's products and integration services to meet your building and industrial automation requirements!

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APPENDIX A: DEVICES TESTED

This tables summarize the MQTT devices that have been tested. Other devices may be supported.

DEVICE	TESTED (FACTORY/SITE)
HiveMQ Public MQTT Broker	Factory
HiveMQ MQTT Browser Client	Factory
Eclipse Mosquitto broker	Factory
Eclipse Mosquitto publisher	Factory
Eclipse Mosquitto subscriber	Factory

REVISION HISTORY

This table summarizes the update history for this protocol data sheet. Please contact Chipkin by phone or email for an updated version of this document.

DATE	RESP.	DRIVER VERSION	DOCUMENT REVISION	COMMENTS
08 Dec 2020	ACF	0.0.1	0.1	Created document
09 Dec 2020	ACF	0.0.1	0.2	Updated Devices Tested