

FS-8705-51 – OPC UA

DATASHEET – Rev 4

DESCRIPTION

The OPC UA Driver allows the FieldServer to transfer data to and from devices over Ethernet using the OPC UA protocol. The OPC UA Driver uses TCP, either connecting to an OPC UA server using regular `opc.tcp` or securely using `https`. If using `https`, users can upload their client certificate and private key. The default port is 26543 and is configurable.

The driver was developed for the OPC Unified Architecture protocol specification from the OPC Foundation. The specification can be found at <https://opcfoundation.org/developer-tools/specifications-unified-architecture>.



The FieldServer can emulate both a Client and a Server. When configured as a Client, the OPC UA driver will connect to the configured OPC UA Servers and attempt to read the requested data points. This data is stored on the FieldServer to be mapped to other protocols or simply to be viewed. When configured as a Server, the OPC UA driver creates an endpoint that other OPC UA Clients can connect to, and creates the OPC objects and attributes based on the configuration to make data from other protocols available to OPC UA Clients.

CONNECTION FACTS

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

| FIELDSEVER MODE | NODES | COMMENTS |
|-----------------|-------|--|
| Client | * | The client mode can connect to multiple OPC UA Servers as a Client to read multiple data points. The limiting factor is the point count of the Fieldserver device. |
| Server | 1 | The server mode supports setting up one OPC UA resource endpoint, but multiple OPC UA clients can connect to it to read data. |

FORMAL DRIVER TYPE

Ethernet
Client or Server

COMPATIBILITY

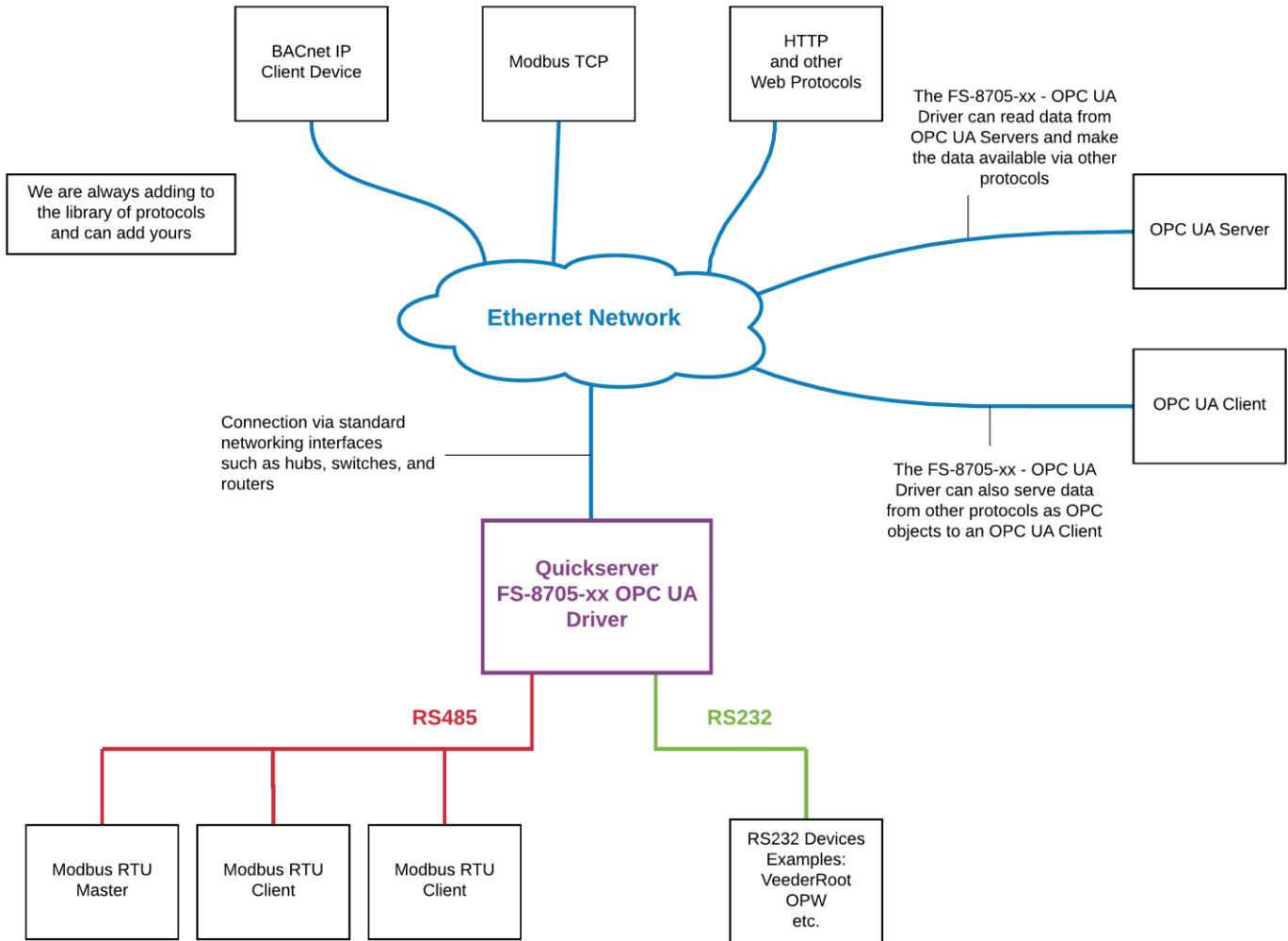
| FIELDSEVER MODEL | COMPATIBLE |
|------------------------|------------|
| QuickServer FS-QS-1xxx | Yes |
| QuickServer FS-QS-2xxx | Yes |
| QuickServer FS-QS-3xxx | Yes |

CONNECTION INFORMATION

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

CONNECTION CONFIGURATIONS

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



COMMUNICATION FUNCTIONS

Supported Datatypes

- Null
- Boolean
- SByte
- Byte
- Int16
- UInt16
- Int32
- UInt32
- Int64
- UInt64
- Float
- Double
- String
- DateTime
- Guid
- ByteString

Supported OPC Attribute Types

The following is a list of attributes that can be read from an OPCUA object. The most common one will be the 'Value' attribute, but the OPCUA driver supports reading from the other attributes as well.

- NodeId
- NodeClass
- BrowseName
- DisplayName
- Description
- WriteMask
- UserWriteMask
- IsAbstract
- Symmetric
- InverseName
- ContainsNoLoops
- EventNotifier
- Value
- DataType
- ValueRank
- ArrayDimensions
- AccessLevel
- UserAccessLevel
- MinimumSamplingInterval
- Historizing
- Executable

Client:

- Connect (using opc.tcp or https)
- CreateSession (with or without username and password)
- Read

Server:

- Read
- Write

* The OPC UA Server does support not security certificates at this time.

CUSTOMER SUPPORT

OPCUA 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 OPCUA devices that have been tested. Other devices may be supported.

| DEVICE | TESTED (FACTORY/SITE) |
|--|--------------------------|
| OPC Foundation Reference Client/Server | 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 |
|-------------|-------|-------------------|----------------------|---|
| 27 Oct 2020 | ACF | 0.0.1 | 1 | Created document |
| 27 Oct 2020 | ACF | 0.0.1 | 2 | Formatting |
| 26 May 2020 | ACF | 0.0.1 | 3 | Added unsupported server functionality. |
| 27 May 2021 | YC | 0.01 | 4 | Updated to new template |