

iQ Platform-compatible PAC OPC UA Server Module



Broadcast



OPC UA: Essential to stay ahead with data utilization

Today's manufacturing requires flexible, fast data utilization. The key is to add value to data by seamlessly connecting shop floor and IT systems.

► **OPC UA, anticipated as the standard for supporting digital transformation in manufacturing, is essential for success in data utilization**



Open Platform Communications
Unified Architecture

International data exchange standard for safe, reliable, manufacturer- and platform-independent industrial communication

Integrate the strengths of OPC UA into programmable controller systems

Resolve your concerns about data utilization with the three key strengths of OPC UA!

Concern
01 Adapting to communication protocols for devices from various manufacturers and systems, both old and new, is time-consuming and costly

Connect
Unified communication protocol between systems
● OPC UA enables communication with a unified protocol between devices and IT systems, thereby creating an open, manufacturer-independent network
Connect devices and IT systems with minimal effort and cost

Concern
02 With large amounts of critical data being exchanged more frequently, how can we prevent data leakage?

Secure
Connection destination authentication, communication encryption
● OPC UA ensures highly reliable communication with its robust security features, including certificates, encryption, and signatures
Protect data from theft and tampering

Concern
03 The need for updates on the link application each time new equipment is added complicates data sharing and system coordination

Communicate
Communicating the meaning and relationships of data
● OPC UA enhances system interoperability by standardizing data structures and interfaces using information models
● Various information models provided by industry organizations and vendors are planned to be supported
Ensure smooth data sharing and coordination between systems

OPC UA server module hardware specifications

| Item | RD81OPC96 |
|----------------------------------|---|
| SD memory card slot | SD memory card/SDHC memory card (2...16 GB) |
| Ethernet port | |
| Number of channels | 2 |
| Interface*1 | 1000BASE-T, 100BASE-TX, 10BASE-T |
| Max. number of cascaded stages*2 | 2 (100 Mbps), 4 (10 Mbps) |
| Max. segment length*3 (m) | 100 (between hub and node) |
| Interface | RJ45 |
| Setup software | |
| MX OPC UA Module Configurator-R | SW1DND-ROPCUA-E |

*1. The OPC UA server module determines 11000BASE-T/100BASE-TX/10BASE-T, and full/half duplex communication modes according to the hub.

When connecting to a hub that does not have auto-negotiation feature, configure the hub settings to match the communication mode.

*2. Based on use with a repeater hub. For switching hub, refer to the manufacturer's documentation.

*3. For maximum segment length between hubs, refer to switching hub manufacturer documentation.

OPC UA server module software specifications

| Item | Specifications |
|---|---|
| Profile | Embedded 2017 UA Server Profile, OPC Spec Version1.04 |
| Encryption setting (security policy)*4 | <ul style="list-style-type: none"> •None: no security •Aes256-Sha256-RsaPss: AES 256-bit encryption + SHA-256 •Aes128-Sha256-RsaOaep: AES 128-bit encryption + SHA-256 •Basic256Sha256: Basic 256-bit encryption + SHA-256 •Basic256 (deprecated): Basic 256-bit encryption •Basic128Rsa15 (deprecated): Basic 128-bit encryption |
| Signature setting (security mode) | <ul style="list-style-type: none"> •None: no security •Sign: add signature •Sign & Encrypt: add signature and encryption |
| User authentication setting | <ul style="list-style-type: none"> •Anonymous •User name/password •Certificate validation |
| Connected OPC UA clients | |
| Maximum number of sessions | 15 |
| Connectable Ethernet port | CH1 |
| OPC UA communication specifications*5 | |
| CreateMonitoredItems | SamplingInterval (ms) 200...60000 |
| ModifyMonitoredItems | Max. number of MonitoredItems Total for all sessions: 3000 |
| CreateSubscription | Max. number of Subscriptions Per session: 10 |
| ModifySubscription | Total for all sessions: 150 |
| Read | MaxNodesPerRead Max. number of nodes per request 25000 |
| Write | MaxNodesPerWrite Max. number of nodes per request 3000 |
| Information models and mapping specifications*5 | |
| Namespace | Number of Namespaces 10 |
| | Number of Nodes 50000 |
| Node | Number of mappable Variables (total) 25000 |

*4. Available security policies differ for each firmware version of the OPC UA server module and software version of the configuration tool. For details, please refer to the "MELSEC iQ-R OPC UA Server Module User's Manual (Application) (SH-081694ENG)".

*5. Either tag mode or information model mode can be selected depending on the use. This specification refers to the information model mode.

For details on the tag mode, please refer to "MELSEC iQ-R OPC UA Server Module User's Manual (Startup) (SH-081693ENG)".

For details on the information model mode, please refer to "MELSEC iQ-R OPC UA Server Module User's Manual (Information Model) (SH-082679ENG)".

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For safe use

• To use the products listed in this publication properly, always read the relevant manuals before use.

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