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iQ Platform-compatible PAC OPC UA Server Module

MELSEC iQ-R series

Brief

MELSEC iQ-R Series Broadcast

Embedded OPC UA server realizes robust control system

The MELSEC iQ-R Series OPC UA server module integrates the OPC UA server directly into the equipment control system as a robust alternative to a computer-based configuration.

Simple data management

Efficient tag data management provided utilizing data structure format and storage of tag names within the equipment. Implementation of an IT system is improved such as with SCADA simply by selecting the stored tag.

Highlights

- Embedded OPC UA server
- Simple data management
- Flexible and robust security
- Intuitive configuration software
- Vendor-neutral control system

Flexible and robust security

OPC UA security function such as certificate, encrypt and signature can be set based on system requirements.

Easy implementation using configuration software

This intuitive setup tool enables easy system configuration, reducing overall development time. In addition, import of GX Works3 project data allows labels used for the programmable CPU to be utilized directly as OPC UA tags.

Wide-ranging applications

Embedding the OPC UA server into the control equipment increasing the various applications based on OPC UA.

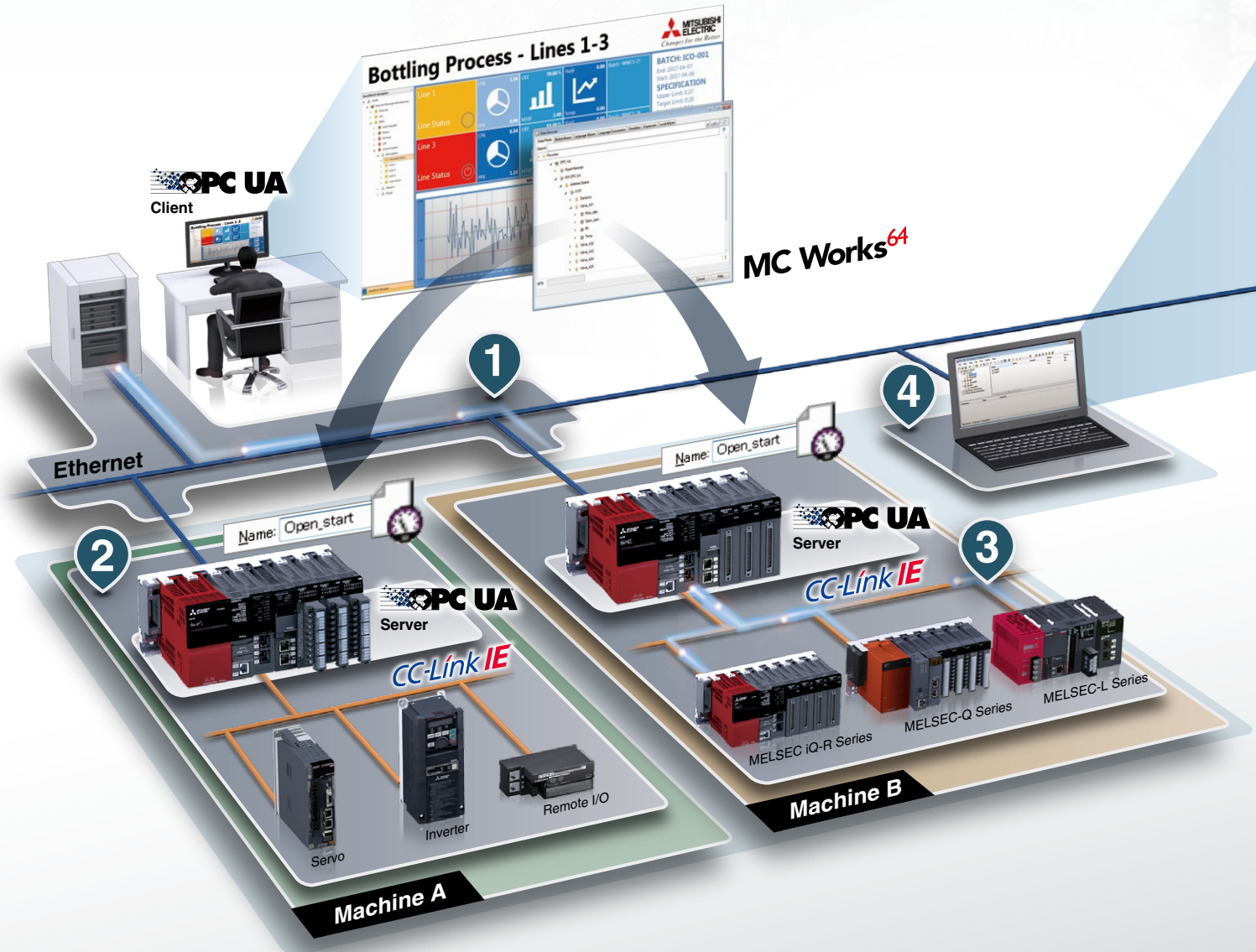
OPC UA Server

OPC Unified Architecture

OPC Unified Architecture (OPC-UA) is a platform-independent communications standard developed by the OPC foundation that offers reliable and secure data communications between the manufacturing-level and IT-level systems. OPC-UA is easily ported across various platforms, providing a highly scalable, vendor-neutral control system that ensures secure and reliable communications between the plant floor and IT systems, such as Mitsubishi SCADA MC Works64 or an ERP system.

❶ Robust security with protection against unauthorized data access

The MELSEC iQ-R Series OPC UA server module utilizes the robust security features of OPC UA, together with dual Ethernet ports, it offers multifaceted security settings between the OPC UA server-embedded control system and client IT system.



❷ Embedded OPC UA server improves system reliability and reduces cost

The OPC UA server module can be installed directly on the MELSEC iQ-R Series base unit realizing an embedded OPC UA server within the machine. This improves reliability by eliminating the requirement for a computer-based server, which can be vulnerable to high security risks such as computer viruses. Less hardware maintenance is required, reducing overall system cost as industrial control systems have a longer product service life compared to computers. Efficient tag data management provided utilizing data structure format and storage of tag names within the equipment. Implementation of an IT system is improved such as with SCADA simply by selecting the stored tag.

❹ Reduce overall development time with easy-to-use configuration software

Utilizing MX OPC UA Module Configuration-R, intuitive features such as the wizard-based settings can substantially reduce development time, enable easy registration of tag data by importing GX Works3 project label data, and simplify server module maintenance.

❸ Flexible configuration supports seamless connectivity

The MELSEC iQ-R Series OPC UA server module enables data collection through seamless communication between an OPC UA client and MELSEC-Series controllers, such as the MELSEC iQ-R Series, Q Series and L Series. Seamless connectivity is supported on CC-Link IE, CC-Link and Ethernet-based networks, supporting utilization with both new and existing control 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
Data transmission speed		1 Gbps, 100 Mbps, 10 Mbps
Max. number of cascaded stages*1		2 (100 Mbps), 4 (10 Mbps)
Max. segment length*2 (m)		100 (between hub and node)
Interface		RJ45
Setup software		
MX OPC UA Module Configurator-R		SW1DND-ROPCUA-E

*1. Based on use with a repeater hub. For switching hub, refer to the manufacturers documentation.
*2. For maximum segment length between hubs, refer to switching hub manufacturer documentation.

OPC UA server module software specifications

Item		Specifications
Profile		Embedded UA Server Profile 1.03
Encryption setting (security policy)		•None: no security •Basic128Rsa15: 128 bit encryption •Basic256: 256 bit encryption •Basic256Sha256: 256-bit encryption (using Sha256 algorithm)
Signature setting (security mode)		•None: no security •Sign: add signature •Sign & Encrypt: add signature and encryption
User authentication setting		•Anonymous •User name/password •Certificate validation
Basic operating specifications		
Connection method		Ethernet IPv4
Simultaneously connected configuration software		1
Device memory input/output specifications		
Max. number of tags		10000
Access device	Max. number	8
	Type	•RCPU •QCPU (Q mode) •LCPU
Data collection period	Max. number of definitions	8
	Setting cycle	200 ms…24 h
Connected OPC UA clients		
Max. number of connections		15
Connectable Ethernet port		CH1

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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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Specifications are subject to change without notice.