



## OPC UA Server and Client

**Openness, Productivity and Connectivity – Unified Architecture**

The OPC UA Server is a pure software solution and can be executed directly on the controller CPU without additional hardware. It offers full and transparent access to the process values of the control application. Systems for visualization, Scada or data logging can use OPC UA as a manufacturer independent interface. An additional Windows PC for execution of the OPC server software is no longer required.

More benefits from the direct execution on the controller are the automatic recognition of process data without the need to create a configuration, and the accurate source time stamps. If requested, the communication is encrypted, and the communication partners can be identified unambiguously by TLS certificates. Plain communication without login data and the certification check are of course still possible.

- Data Access according to OPC UA specification
- Is installed as additional service on the controller
- Quality is granted by participation at Interop workshops and conformance tests

### Server

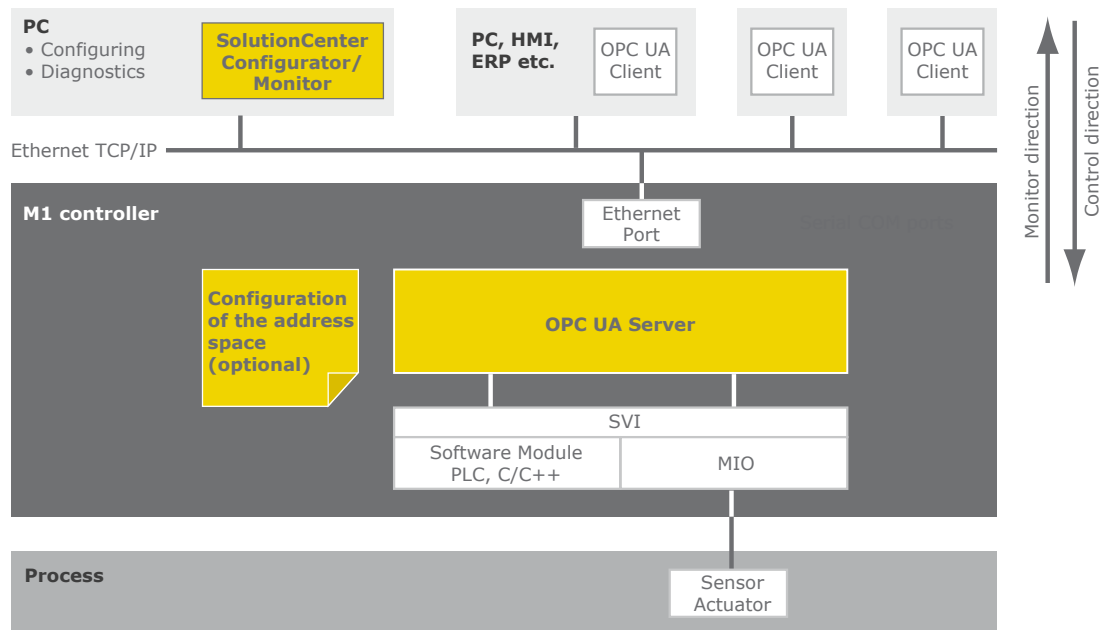
- Displays the process values of the controller in its address space without additional configuration steps
- Considers access permissions on variables at reading and writing
- Write access can be logged
- The supply of variables can also be restricted via the configuration in the SolutionCenter

### Client

- Connection to multiple external UA servers
- Subscription of values also without programming
- Write values without programming
- Current values from subscriptions are automatically available in the process image and HMI
- Operation from the application program by function blocks to PLCopen
- Functional interface for the application from C/C++

Item	Item no.
OPC-UA-DVD	00022170-00
OPC-UA-DA-Server RT	00022170-63
OPC-UA-Client/Server RT	00028783-63
OPC-UA-Client RT	00028782-63

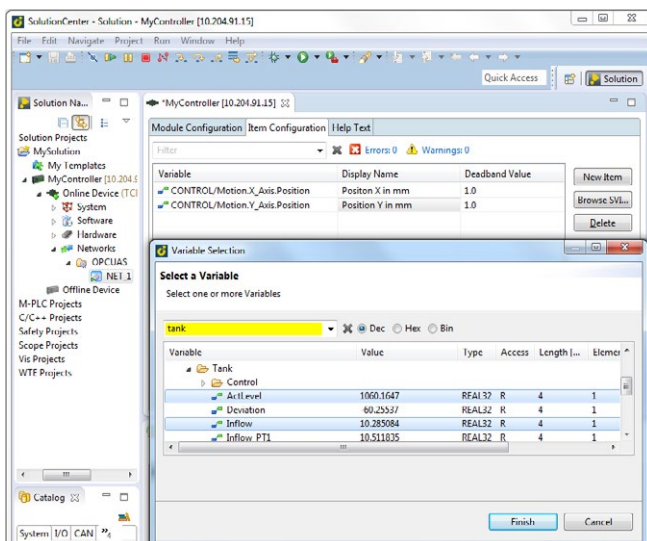
# OPC Solutions



OPC UA Server on the M1 controller

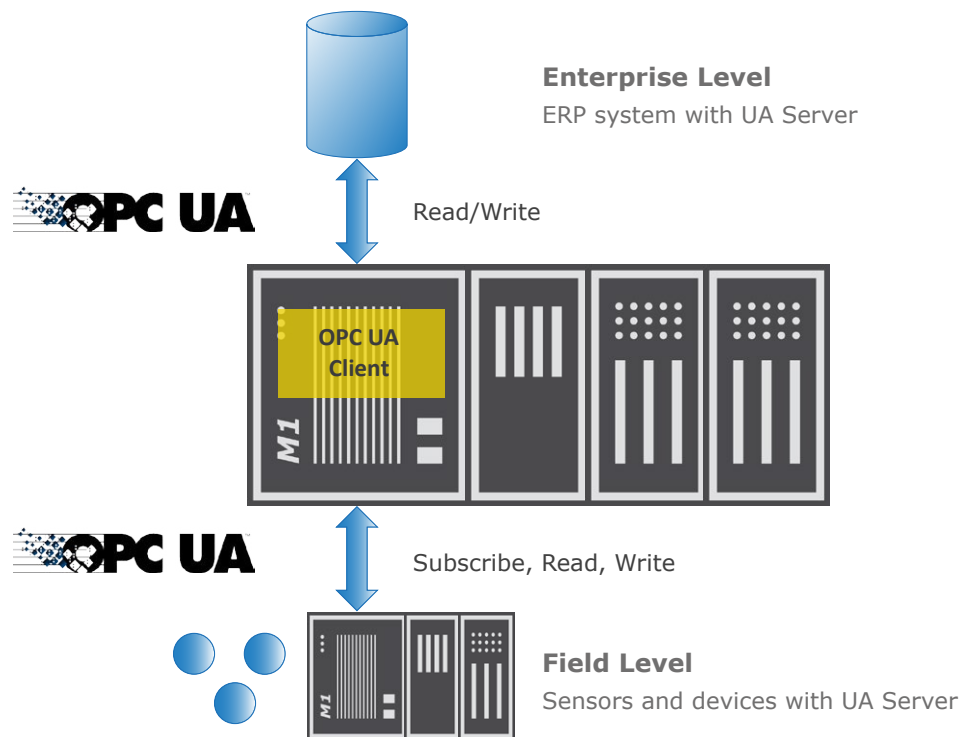
OPC UA Server	
Security features	
Encryption	See Security Profile
Protection against overload (DoS)	CPU load caused by clients can be avoided by limiting the minimum sample rate
Public Key Infrastructure	File based on the controller
Access logging	Connections and write operations are stored in the security log of the controller
Restriction of visible variables	The address space can be configured in the SolutionCenter. If the security settings and access rights to the controller are used, visibility also depends on the login of the OPC UA client.
Diagnose	
State variables	Number of active sessions
	Number of active subscriptions
	Number of items monitored by subscription
Show functions	List of sessions
	List of all software modules in the address space
	List of all items in subscriptions
Logbook messages	Amount and type of messages can be selected by debug levels
Supported OPC UA Profiles	
Security Profile	Security Policy - None
	Security Policy - Basic128Rsa15 (selectable separately for sign and encryption)
	Security Policy - Basic 256 (selectable separately for sign and encryption)
Transport Profile	UA-TCP UA-SC UA Binary
Server Profiles	Base Server Behaviour Facet
	Basic DataChange Subscription Server Facet
	Core Server Facet
	Embedded UA Server
	Enhanced DataChange Subscription Server Facet
	Low End Embedded Device Driver Facet

OPC UA Server	
Supported OPC UA Information Models	
Information models	Data Access (DA)
Supported OPC UA Service Sets	
Discovery Service Set	FindServers
	GetEndpoints
SecureChannel Service Set	OpenSecureChannel
	CloseSecureChannel
Session Service Set	CreateSession
	ActivateSession
	CloseSession
	Cancel
View Service Set	Browse
	BrowseNext
	TranslateBrowsePathToNodeIds
	RegisterNodes
	UnregisterNodes
Attribute Service Set	Read
	Write
MonitoredItem Service Set	CreateMonitoredItems
	ModifyMonitoredItems
	SetMonitoringMode
	SetTriggering
	DeleteMonitoredItems
Subscription Service Set	CreateSubscription
	ModifySubscription
	SetPublishingMode
	Publish
	Republish
	DeleteSubscriptions



Optional restriction of the supply of variables

# OPC Solutions



Application fields of the OPC UA Clients

OPC UA Client	
Security	
Encryption	See Server → Security Profile
Certificates	According to standard X509
Public Key Infrastructure (PKI)	File-based on the controller
Verifying server certificate	Optional. Allowed server certificates are stored in the PKI.
User interface (API)	
Function blocks to PLCopen	UA_Connect, UA_Disconnect UA_WriteList, UA_ReadList UA_ConnectionGetStatus UA_NamespaceGetIndexList UA_NodeGetHandleList UA_NodeReleaseHandleList UA_TranslatePathList
Application from C/C++	Function interface, header file
Subscription	Without programming via configuration. Last values are displayed in the process image; writing is also possible via process mapping. Automatic establishing and monitoring the connection.

OPC UA-Server/Client - General Features	
Installation	
Shipping	Separately installable product (service); Delivery on DVD or as a download
Target platform	Installation as service on the M1 controller. Depending on the configuration operation as client, server or both.
Installation tool	Bachmann SolutionCenter
License	Requires a runtime license for each controller CPU (independent of number of remote stations and data points), different licenses for server and client
License protection	License file depending on hardware
System requirements	
CPU Hardware	All M1 CPU types (MH200, MC200, MPC200, MX200) except ME200 serie
Memory	Minimum 64 MB, recommended 128 MB
System software version	From M-Base 3.95

Order codes		
Item	Item no.	Description
OPC-UA-DVD	00022170-00	Software and documentation to operate the OPC UA Server on one M1 controller. Provides access to process variables via ethernet according to the OPC UA Data Access standard. Without a valid Runtime License the OPC UA Server runs only temporarily for 2h in demo mode.
OPC-UA-DA-Server RT	00022170-63	License to operate the OPC UA Server on one controller CPU. Provides communication over the ethernet interface with standards-compliant client software via OPC Unified Architecture according to Data Access Specification.
OPC-UA-Client RT	00028782-63	License to operate the OPC UA client on one controller CPU. Provides read/write and subscribe to standard-compliant client software via OPC Unified Architecture according to Data Access Specification.
OPC-UA-Client/Server RT	00028783-63	License for the combined operation of the OPC UA client and server on one controller CPU.