CODESYS OPC UA Client SL

An extension for CODESYS SoftPLC systems for data exchange with OPC UA servers.

Product description

The CODESYS OPC UA Client can be used to connect to any OPC UA servers and exchange data with them. The client provides an API to connect to an OPC UA server and execute the different kind of OPC UA requests.

The OPC UA Client API supports the following services:

Discovery:

- GetEndpoints
- FindServers
- FindServersOnNetwork

Session:

- CreateSession
- ActivateSession
- DeleteSession

View:

- Browse
- BrowserNext
- RegisterNodes
- UnregisterNodes
- TranslateBrowsePathsToNodeIds

Attribute:

- Read
- Write

Subscription:

- CreateSubscription
- ModifySubscription
- SetPublishing
- Publish (Handled by the Runtime itself)
- DeleteSubscription

MonitoredItems:

- The client is able to handle both types of monitored items (event and sampling). The only difference in handling is the callbacks that are called for both types.
- CreateMonitoredItems
- DeleteMonitoredItems
- ModifyMonitoredItems
- SetMonitoringMode

Security: The OPC UA client uses the existing security related runtime interfaces to handle the encryption algorithms and certificates. The client registers itself to the certificate store for easy configuration of the client certificates.

SecurityProfiles:

- None
- Basic256Sha256 (Sign, Sign_and_Encrypt)
- Aes128_Sha256_RsaOaep
- Aes256_Sha256_RsaPss

User token policy:

- Anonymouse
- Username

An example demonstrating how to use the API is available in the CODESYS Store: 'OPC UA Client Example'.

Additionally it is possible to connect the OPC UA Client to an OPC UA Server within the CODESYS IDE via the "Data Source Manager" object. OPC UA Servers can be added online or offline.

Online: Using the IP adress the client connects to the server and detects the existing variables and types. The user can select the objects to be browsed.

Offline: Using an OPC UA information model file the client reads the variables and types from the information model. A connection to the server is not required.

Also see [CODESYS Online Help](https://content.helpme-codesys.com/en/CODESYS%20Communication/_cds_obj_data_source_communication_opc_ua_server.html).

The CODESYS OPC UA Client supports the following profiles.

UA Features	Profiles	Link
Core	Core 2017 Client Facet	http://opcfoundation.org/UA-Profile/Client/Core2017
	Discovery Client Facet	http://opcfoundation.org/UA-Profile/Client/Discovery
	AddressSpace Lookup Client Facet	http://opcfoundation.org/UA-Profile/Client/AddressSpaceLookup

UA Features	Profiles	Link
	UA-TCP UA-SC UA-Binary	http://opcfoundation.org/UA-Profile/Transport/uatcp-uasc-uabinary
Data Acess	Attribute Read Client Facet	http://opcfoundation.org/UA-Profile/Client/AttributeRead
	Attribute Write Client Facet	http://opcfoundation.org/UA-Profile/Client/AttributeWrite
	DataChange Subscriber Client Facet	http://opcfoundation.org/UA-Profile/Client/DataChangeSubscriber
Events	Event Subscriber Client Facet	http://opcfoundation.org/UA-Profile/Client/EventSubscriber
Methods	Method Client Facet	http://opcfoundation.org/UA-Profile/Client/Method
Alarms&Conditions	A & C Base Condition Client Facet	http://opcfoundation.org/UA-Profile/Client/ACBaseCondition
	A & C Refresh2 Client Facet	http://opcfoundation.org/UA-Profile/Client/ACRefresh2
	A & C Enable Client Facet	http://opcfoundation.org/UA-Profile/Client/ACEnable
	A & C Alarm Client Facet	http://opcfoundation.org/UA-Profile/Client/ACAlarm
Historical Acess	not yet supported	
Redundancy	not yet supported	
Security	User Token – Anonymous Facet	http://opcfoundation.org/UA-Profile/Security/UserToken/Anonymous
	User Token – User Name Password Client Facet	http://opcfoundation.org/UA-Profile/Security/UserToken/Client/UserNamePassword
	None	http://opcfoundation.org/UA/SecurityPolicy#None
	SecurityPolicy [B] – Basic256Sha256	http://opcfoundation.org/UA/SecurityPolicy#Basic256Sha256
	Aes128-Sha256-RsaOaep	http://opcfoundation.org/UA/SecurityPolicy#Aes128_Sha256_RsaOaep
	Aes256-Sha256-RsaPss	http://opcfoundation.org/UA/SecurityPolicy#Aes256_Sha256_RsaPss

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General information

Supplier:

CODESYS GmbH
Memminger Strasse 151
87439 Kempten
Germany

Support:

Technical support is not included with this product. To receive technical support, please purchase a CODESYS Support Ticket.

https://support.codesys.com

Item:

CODESYS OPC UA Client SL

Item number:

2302000042

Sales / Source of supply:

CODESYS Store
https://store.codesys.com

Included in delivery:

- License key
- License agreement

System requirements and restrictions

Programming System	CODESYS Development System V3.5.17.0 or higher
Runtime System	CODESYS Control V3.5.17.0 or higher
Supported Platforms/ Devices	CODESYS SoftPLC systems
	Note: Use the tool "Device Reader" to find out the supported features of your device (free of charge component of CODESYS Development System).
Additional Requirements	-
Restrictions	-
Licensing	

DEVICE

Single Device License: The license can be used on the target device/PLC on which the CODESYS Runtime System is installed.

Licenses are activated on a software-based license container (soft container), which is permanently connected to the controller. Alternatively the license can be stored on a CODESYS Key (USB-Dongle). By replugging the CODESYS Key, the license can be used on any other controller.

Note: In demo mode, the software runs for two hours without a license. After that, a manual restart is required.

Required Accessories	Optional: CODESYS Key

Note: Technical specifications are subject to change. Errors and omissions excepted. The content of the current online version of this document applies.

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