RTU32 Series

OPC UA Server

User guide

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1. Customer Information

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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Your satisfaction is our primary concern. Here is a guide to Brodersen customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in the product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult this manual first.
To receive the latest version of the user guide, please visit our Web site: https://www.brodersen.com

Choose the product in question under product search and under each product you will find accompanying data sheets, manuals, user guides etc.
If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our distributors are well trained and ready to give you the support you need to get the most from your Brodersen products. In fact, most problems reported are minor and are able to be easily solved over the phone.
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Product Warranty

Brodersen Systems warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Brodersen, or which have been subject to misuse, abuse, accident or improper installation. Brodersen assumes no liability under the terms of this warranty as a consequence of such events. Because of Brodersen's high quality control standards and rigorous testing, most of our customers never need to use our repair service. If a Brodersen product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time, and freight. Please consult your distributor for more details. If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, Product type and s/n, hardware and software version etc.) Note anything abnormal and describe the error in a product failure report.

2. Call your distributor and describe the problem. Please have your manual, product, and any helpful information readily available.

3. If your product is diagnosed as defective, make arrangement with your distributor about this.

4. Carefully pack the defective product, a complete failure report and a photocopy of proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
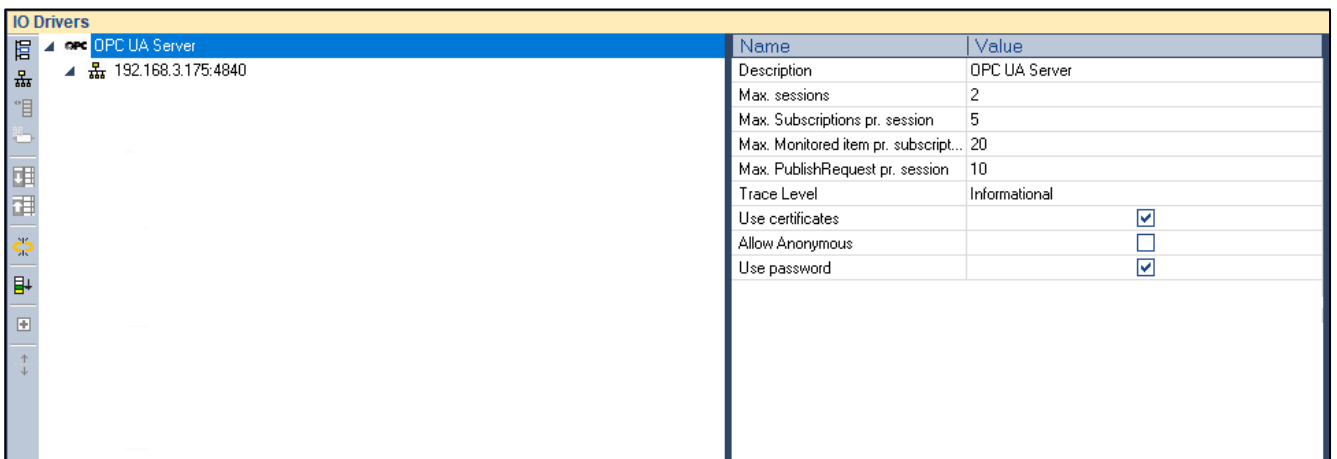
5. Ship it to your distributor.

2. Introduction

This document describes how to start working with the Brodersen OPC UA Server in Brodersen WorkSuite. It describes how to test the OPC UA Server running on a RTU32 using OPC UA Client software.

3. Create and configure the application

This chapter describes how to configure the different parts of the OPC UA Server configuration in Brodersen WorkSuite.

Create the OPC UA Server configuration

Start by opening the Fieldbus Configurations ( ), and add an "OPC UA Server" configuration:

The OPC UA Server is now added to the fieldbus configurator and you can start editing the configuration.

Configure the OPC UA Server configuration

Double-click on the first level of the configuration and configure the following:

- The description of the OPC UA Server
- Maximum number of sessions allowed on the OPC UA Server
- Maximum subscriptions allowed pr. session on the OPC UA Server
- Maximum monitored item pr. subscription on the OPC UA Server
- Maximum PublishRequest allowed pr. session of the OPC UA Server
- Select the debug/trace level
- Specify if the OPC UA Server should use certificate or not
    - It is possible to select use your own certificate or generate one
- Specify whether anonymous access is allowed
- Specify whether a username/password should be used

Double-click on the second level of the configuration and configure the following:

- The IP Address of the RTU32 that the OPC UA Server will receive requests from for incoming connections
- The port number that will be opened by the OPC UA Server to listen for incoming connections
- If certificates are used, then configure the "Security Policies" to be used by the OPC UA Server

Now you are ready to add "Tag Groups" – Right-click the level 2 of the configuration and select "Insert Slave/Data block", and enter a name for the tag group. The "Tag Group" is a way to organize your data points in the OPC UA Server. Once done adding the needed tag groups, add the variables to the tag group(s). Right-click the "Tag group" and select "Insert variable" and configure the following:

- Select the application variable to map
- Write the OPC Tag name – the name visible to the OPC UA Clients
- Select whether the OPC UA Client has "Read Only" Or "Read/Write"-access to the variable.

4. Build and download the application

Once done with the configuration of the OPC UA Server, you are ready to download the application to the RTU32.
- Select the communication parameters in menu "Tools" -> "Communication Parameters"
- Establish the connection through the menu "Project" -> "Online"

Result is:

The download is successful and the application started correctly.

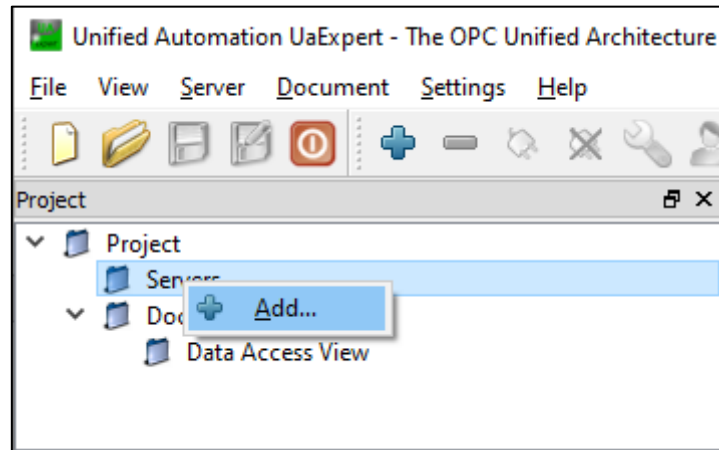The RTU32 is not running or communication parameters are wrong.

The application is not yet downloaded or an error occurred during startup. For more details look in the output view or the "RTU32 EventViewer"-tool.
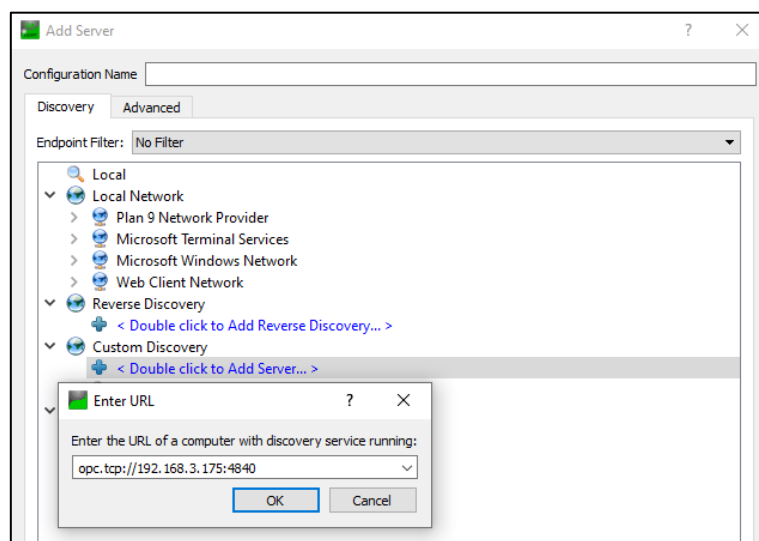
5. Connect to the OPC UA Server using UaExpert

In this example, we will use the OPC UA Client called "UaExpert" from Unified Automation GmbH. Visit their website to download their free client software https://www.unified-automation.com/
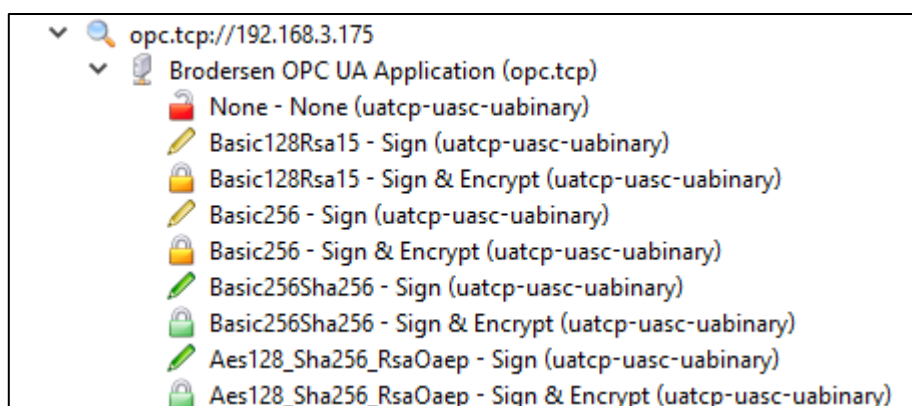
Right-click on the "Servers" to add your OPC UA Server:

Double-click in the "Custom Discovery" and enter the OPC UA Server URL in order to add the OPC UA Server running on the RTU32.

Choose one of the available endpoints:

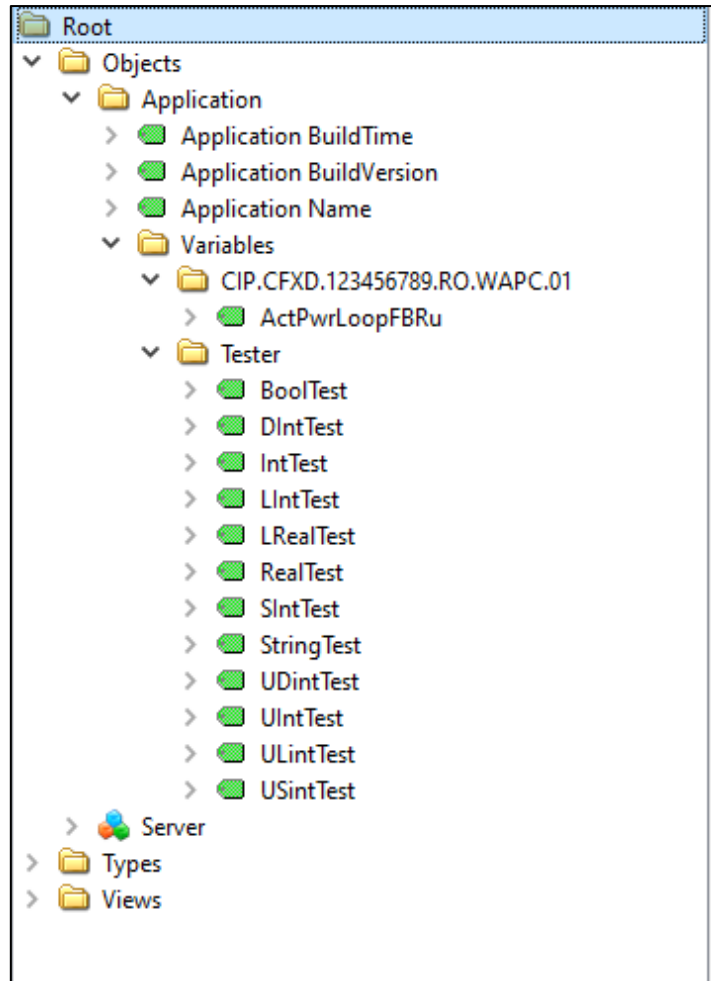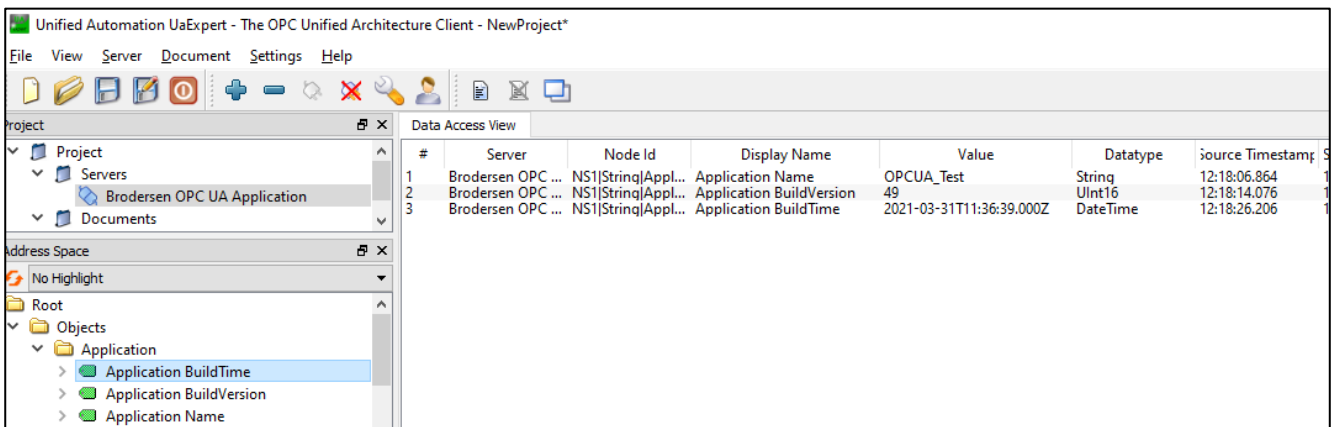The OPC UA Server is now available in the UaExpert project.

The configured data points are now available from the Brodersen OPC UA Server:

Reading variables from the OPC UA Server in UaExpert

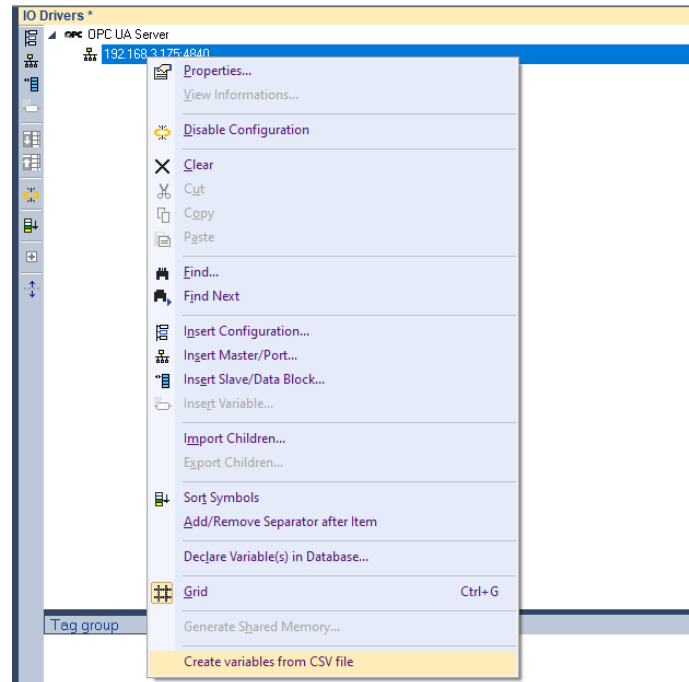Simply drag and drop the variables from the "Address Space"-area to the "Data Access View"-area

6. Create configuration from CSV file

It is possible to create a large amount of variables easily by importing tag groups and variables configuration from a CSV.

Right-click on the second level and click "Create variables from CSV File" and select the file to import.

Format of CSV file

Column	Column name	Type	Description
1	Type	Integer	Defines the type of information • 1: Tag group • 2: Variable
2	Name	String	Name of the tag group or variable name
3	Vartype	Integer	Type of variable in Brodersen WorkSuite • 0: None (Used for tag group) • 1: BOOL • 2: SINT • 3: USINT • 4: INT • 5: UINT • 6: DINT • 7: UDINT • 8: LINT • 9: ULINT • 10: REAL • 11: LREAL • 12: STRING
4	Tagname	String	OPC UA Tag name
5	Access	Integer	Read only or Read/Write access to the variable • 1: Read only • 3: Read/Write

Example:

Type, Name, Vartype, Tagname, Access
1, Taggroup, 0, Taggroup, 0
2, DoorOpen, 1, DoorOpen, 1