RUTXR1 OPC UA

The information in this page is updated in accordance with firmware version **RUTX_R_00.07.06.10**.

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Summary

OPC Unified Architecture (**OPC UA**) is a cross-platform, open-source, IEC62541 standard for data exchange from sensors to cloud applications developed by the OPC Foundation. The *UA* in OPC UA stands for “Unified Architecture” and refers to the latest specification of the standard. It differs from its predecessor in that it is platform-independent, moving away from COM/DCOM to purely binary TCP/IP or alternatively SOAP.

This manual page provides an overview of the OPC UA functionality in RUTXR1 devices.

Note: OPC UA is additional software that can be installed from the **System → Package Manager** page.

OPC UA Configuration

The **OPC UA Configuration** section is used to enable the service.

Field	Value	Description
Enable	off | on; default: **off**	Enables OPC UA service.
Port	integer[1..65535]; default: **empty**	Enables service port.

OPC UA Servers

The OPC Server is the basis of OPC communication. It is a software that implements the OPC standard and thus provides the standardized OPC interfaces to the outside world. To add a new server, enter an instance name and click the 'Add' button.

After clicking 'Add' you will be redirected to the newly added server's configuration page.

OPC UA Server Configuration

The **OPC UA Server Configuration** section is used to configure the parameters of an OPC UA Server.

Field	Value	Description
Enable	off | on; default: **off**	Enables specific OPC UA server instance.
Name	string; default: **none**	Name of the server, used for management purposes only.
URL	url; default: **none**	Specifies OPC UA endpoint URL.
Timeout	integer [10..3600000]; default: **none**	Specifies server timeout in ms.

OPC UA Server Nodes

A node is the basic unit of data in the OPC UA address space, which provides a standard way for OPC UA servers to represent objects to OPC UA clients. Nodes are pieces of information (for example, a unique temperature) and consist of attributes, the actual data value, and one or more references to other nodes, each in its own address space. A unique temperature will therefore take up multiple addresses in an address space.

By default, there are no nodes configured. To add a new server node, enter an instance name and click the 'Add' button.

After clicking 'Add' you will be redirected to the newly added server node's configuration page.

OPC UA Server Node Configuration

The **OPC UA Server node Configuration** section is used to configure the parameters of an OPC UA Server Node.

Field	Value	Description
Name	string; default: **none**	Name of the node instance, used for management purposes only.
ID namespace	integer [0..65535]; default: **none**	Specifies node ID namespace.
ID type	Numeric | String | GUID | Bytestring; default: **Numeric**	Specifies node ID type.
ID	dynamic; default: **none**	Specifies node ID (validation varies depending on *ID type*).

OPC UA Value Groups

A Value Group is a collection of different specific group values. Each value configured under this group will be returned inside the same group array.

By default, there are no value groups configured. To add a new group, enter an instance name and click the 'Add' button.

After clicking 'Add' you will be redirected to the newly added value group's configuration page.

OPC UA Value Group Configuration

The **OPC UA Value Group Configuration** section is used to configure the parameters of an OPC UA Value Group.

Field	Value	Description
Enable	off | on; default: **off**	Enables specific OPC UA value group instance.
Name	string; default: **none**	Name of the value group instance, used for management purposes only.
Scheduling type	Period; default: **Period**	Specifies method of scheduling data retrievals.
Period	integer [1..86400]; default: **none**	Specifies time duration between data retrievals in seconds.
Failure mode	None | Any | All; default: **None**	
Failure storage	off | on; default: **off**	Whether to store results of a failure.
Failure replacement	string; default: **none**	Results of a failure will be replaced by this string
Prefix	string; default: **none**	String going before all the values.
Midfix	string; default: **none**	String going between all the values.
Postfix	string; default: **none**	String going after all the values.

OPC UA Group Values

A **Group Value** is a specific value retrieved from a defined server node.

By default, there are no group values configured. To add a new value, enter an instance name and click the 'Add' button.

After clicking 'Add' you will be redirected to the newly added group value's configuration page.

OPC UA Group Value Configuration

The **OPC UA Group Value Configuration** section is used to configure the parameters of an OPC UA Group Value.

Field	Value	Description
Enable	off | on; default: **off**	Enables specific OPC UA value instance.
Name	string; default: **none**	Name of the group value instance, used for management purposes only.
Prefix	string; default: **none**	String before the value.
Postfix	string; default: **none**	String after the value.
Replacement	string; default: **none**	String to replace everything in case of failure.
Server to retrieve data from	OPC UA server instance; default: **none**	Specifies which server to retrieve data from.
Server node	OPC UA server node instance; default: **none**	Specifies which server node to retrieve data from.