

# RUT901 OPC UA

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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.

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This manual page provides an overview of the OPC UA functionality in RUT901 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: <b>off</b>	Enables OPC UA service.
Port	integer[1..65535]; default: <b>empty</b>	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

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



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

## OPC UA Server Nodes

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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

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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: <b>none</b>	Name of the node instance, used for management purposes only.
ID namespace	integer [0..65535]; default: <b>none</b>	Specifies node ID namespace.
ID type	Numeric   String   GUID   Bytestring; default: <b>Numeric</b>	Specifies node ID type.
ID	dynamic; default: <b>none</b>	Specifies node ID (validation varies depending on <i>ID type</i> ).

## 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

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

# OPC UA Group Values

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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

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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: <b>off</b>	Enables specific OPC UA value instance.
Name	string; default: <b>none</b>	Name of the group value instance, used for management purposes only.
Prefix	string; default: <b>none</b>	String before the value.
Postfix	string; default: <b>none</b>	String after the value.
Replacement	string; default: <b>none</b>	String to replace everything in case of failure.
Server to retrieve data from	OPC UA server instance; default: <b>none</b>	Specifies which server to retrieve data from.
Server node	OPC UA server node instance; default: <b>none</b>	Specifies which server node to retrieve data from.