



Description: Quick Start for configuring the ICONICS Simulator OPC 2.x Server.

OS Requirement: The operating system required is Win XP/2000/NT/95/98/Me.

General Requirement:

The Simulator OPC Server allows you to configure OPC Tags of which the process data is simulated. This server can be useful if you want to configure a complete SCADA/HMI application and test it prior to connecting it to a 'real' OPC Server.

Capabilities

- Simulation capabilities: Ramp, Sine, Random and Static.
- Supports OPC DA Specification v1.01a and v2.0
- Supports Folders and Sub-Folders for easy configuration and manageability
- Tag Multiplier let you create hundreds of tags in seconds
- Configuration Export/Import CSV (comma separated variable format) for bulk editing tag lists in for instance Text Editors or MS-EXCEL.
- OPC tags can be scaled and have ranges
- Online configuration

Configure the Simulator Server

To configure the Simulator OPC Server, the following steps have to be completed.

1. Start the **Simulator Configurator**.

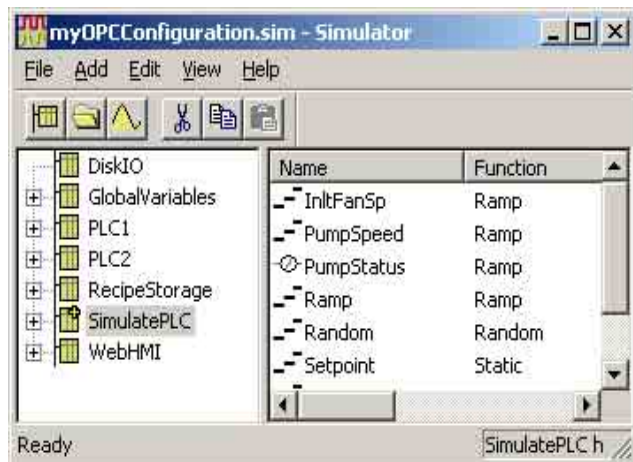


Fig.1 Simulator Configurator

2. Select **File, New** from the menu.
3. Select the **File, save** and specify **mySimulation.sim** as the name for your configuration file.

4. Select **Add, New Device...** from the menu.
5. Specify a Name for your device: **PLC**



Fig.2 Simulation device settings

6. Right mouse click on **PLC** in the left window, and select **New, Group...**



Fig.3 Logical name for a group of tags

7. Specify a name for the folder, for instance **Boiler** and select the **OK** button
8. Right mouse click on the **Boiler** group in the left window, and select **New, Tag...**
9. Specify a name for the tag, for instance **Temperature** and configure the tag as seen below.

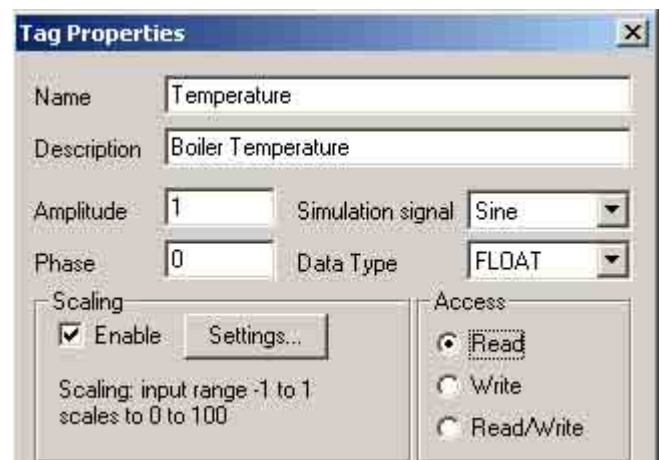


Fig.4 Settings for the Tag

10. The Scaling should be set to scale the Raw (sine) -1 to 1 to Engineering Units (temperature) 0 to 100.



Fig.5 Conversion settings for temperature tag

11. Select **OK**
12. Right mouse click on the folder **Boiler** in the left window, and select **New, Tag...**
13. Specify a name for the item, for instance **Pressure** and configure the tag as seen below.

Fig.6 Settings for the pressure tag

14. Select **OK**
15. Right mouse click once more on the folder **Boiler** in the left window, and select **New, Tag...**
16. Specify a name for the item, for instance **Setpoint** and configure the tag as seen below.

Fig.7 Settings for the set point tag

OPC Clients can now browse to the OPC Server and access the values.

17. Select **View, Monitor** to see live values.

Name	Function	Proc...	Value	Description
Pressure	Ramp	Cust...	98	
Setpoint	Static	Cust...	0	
Temperature	Sine	Cust...	35.358	Boiler Temp...

Ready Boiler has 2 Tags

Fig. 8 Monitoring 'live' process data

18. Select **File, Save** from the menu.
19. You can select **File, Exit** in order to exit the Simulator Configurator.

Any OPC Client, for instance GraphWorX32, can browse to the Simulator OPC Server and use the OPC Tag.

Advanced Capabilities

You could explore some of the advanced capabilities of the simulator OPC Server as well. The next example demonstrates how you configure 10 additional temperature tags of which the process value (Sine) is phase shifted in steps of 10 degrees.

1. Start the **Simulator Configurator**.
2. Click on your **Temperature Tag**
3. Select **Add, Multiply...** from the menu and specify the settings as seen below.

**Fig.9 Tag Multiplication**

4. Click **OK** and 100 additional tags will be created. Other advanced capabilities allow you to speed up configuration as well. Select **File, Export/Import CSV...** in order to create a text file, which you can manipulate in Notepad or MS-Excel. You could also create additional Folders (boiler2, boiler3...) and use the **Copy/Paste** or **Drag & Drop** functionality of the Simulator Configurator.