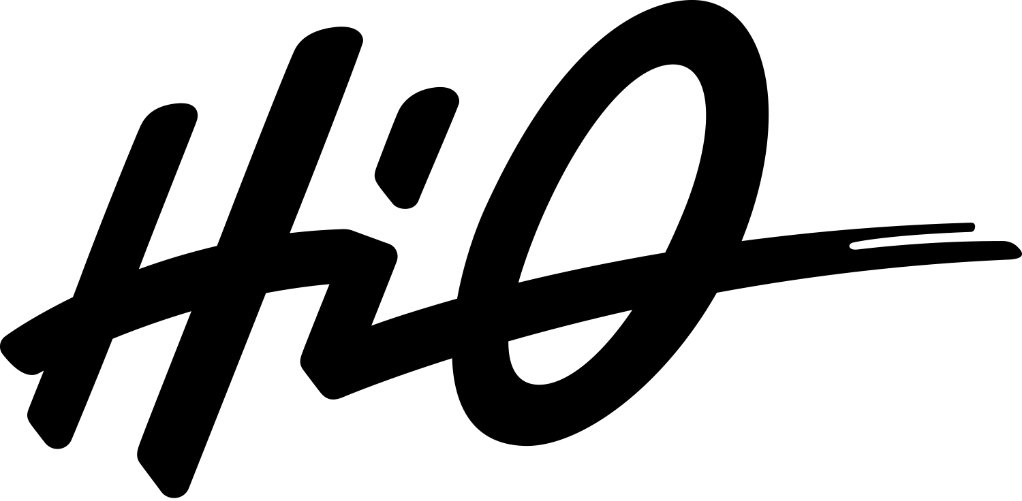
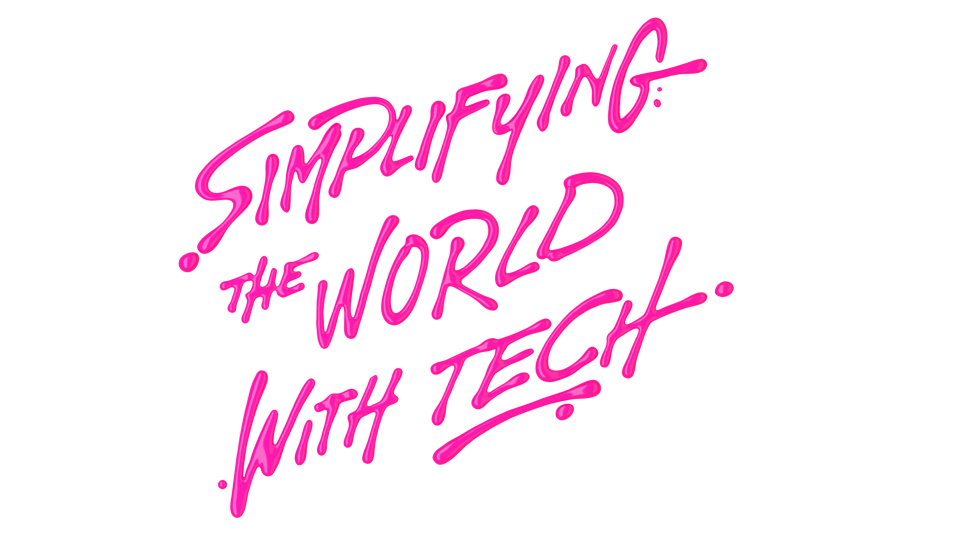
OPC interface for Hoist Measurement Kit



# Overview

An OPC Server has been added to the Hoist Measurement Kit. The previous storage to database is still active and manual mode can be activated. HoistOpcServer is developed in .NET 4.8 and the delivered instance of GL\_HoistMeasurement is upgraded to .NET 4.8 as well. OPC Foundation extensions has been added by Nuget on top project level.

# Manual mode

To enable manual mode if MII is not available or for test purpose the system can be started with flag ManualEdit = 1 in Params.xlsx

# OPC Server

OPC Server is started when Hoist Measurement Kit is started.

## Client Connection

OPC Client can connect to the server with *opc.tcp://[ComputerName]:48030/OPCUAServer* where [ComputerName] is name or IP of the Server host. Current security connections are available:

* Anonymous
* Basic256
* Basic256 & Sha 256

The security and port number can be edited in OPCUAServer.Config.xml

## Tags

### Available tags

The following tags are available at delivery time

|  |  |  |  |
| --- | --- | --- | --- |
| Tag | Datatype | Direction | Comment |
| SerialNrIn | String | Input (To Hoist) |  |
| Drop | Double | Input |  |
| Width | Double | Input |  |
| MountOffSetVert | Double | Input |  |
| OffsetLaserOnProd | Double | Input |  |
| ToleranceWidthPlus | Double | Input |  |
| ToleranceDropPlus | Double | Input |  |
| ToleranceWidthMinus | Double | Input |  |
| ToleranceDropMinus | Double | Input |  |
| ToleranceDropDiff | Double | Input |  |
| BottomBarRadius | Double | Input |  |
| PrefMeasDist | Double | Input |  |
| Endcapcompensation | Double | Input |  |
| MeasureDrop | Integer | Input |  |
| MeasureWidth | Integer | Input |  |
| MeasureSquareness | Integer | Input |  |
| HasCords | Integer | Input |  |
| StartMeasure | Integer | Input |  |
| ResultFeedback | Integer | Input | 1=Approved, 2=Repeat, 3=Reject |
| SerialNumberOut | String | Output |  |
| DateTime | String | Output | Date + Time |
| MeasuredDropA | Double | Output |  |
| MeasuredDropB | Double | Output |  |
| MeasuredDropC | Double | Output |  |
| DeltaDrop | Double | Output |  |
| MeasuredWidth | Double | Output |  |
| HoistState | String | Output |  |
| HoistError | Integer | Output | 0=No Error, 1=Error on screen |

### Tag integration

All tags should be available in the AllSignals class for easy read/write in Hoist.

Hoist

OPC UA Server module

Tags

MII

AllSignals

Input tags are set to default when application starts, Shade is approved or rejected.

Output tags are set to default when production cycle starts (SeqStep = 0).

### Edit tags

All tags are defined in ModelDesign.xml. If a tag is added, removed or renamed it requires the server to be rebuilt. This is done by executing BuildDesign.bat that will regenerate the files

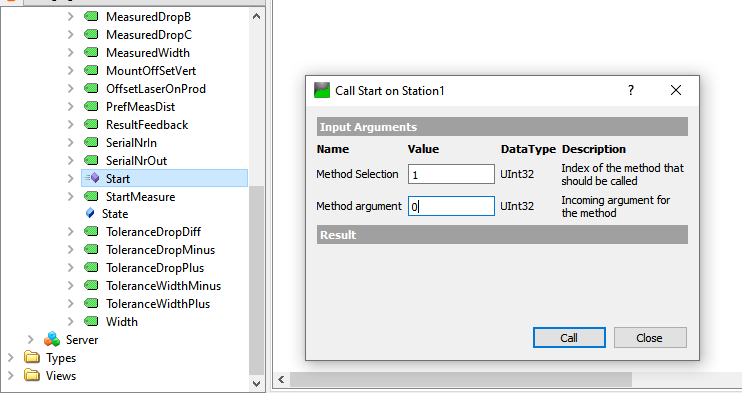
* ModelDesign.csv
* OPCUAServer.Classes.cs
* OPCUAServer.NodeSet.xml
* OPCUAServer.NodeSet2.xml
* OPCUAServer.PredefinedNodes.uanodes
* OPCUAServer-PredefinedNodes.xml
* OPCUAServer.Types.bsd
* OPCUAServer.Types.xsd

After the tags are matched with AllSignals.cs, the project can be rebuilt.

## Methods

### Available methods

For test purpose there is a HomingRequest method delivered. To call it execute Start method with argument 1 set to value = 1.



### Method integration

All methods should be available as events in the Methods class for easy integration in Hoist. If an error occurs in Hoist, it will be provided to the client. To avoid client to get stuck on method calls there is a timeout set by default to 10 seconds. For longer tasks to be performed they need to be handled outside the executing event.

#### Methods.cs

public event OpcEventHandler HomingRequest;

private const uint HOMINGREQUEST = 1;

private ServiceResult OnStart(…)

{

…

lock (m\_processLock)

{

switch (methodSelection)

{

case HOMINGREQUEST:

HomingRequest?.Invoke(this, new OpcEventArgs(methodArgument));

break;

default:

break;

}

}

…

}

#### MainForm.vb

Private Sub StartOpcServer()

…

AddHandler OpcServer.Methods.HomingRequest, AddressOf Me.OpcHomingRequest

…

End Sub