Guide to the Dynaview IIIC OPC UA Server

Overview

OPC UA (OPC Unified Architecture) is a protocol used for factory automation among others. There is an excellent article in [Wikipedia](#) about this protocol. The Dynaview server uses the [OPC DA](#) (OPC Data Access), a subset of the OPC UA standard.

Clients

Many PLCs and factory automation computers can act as OPC DA clients. There is a [free client](#) "UaExpert" from Unified Automation that will run on many Macs and PCs. You may want to use this client when testing the Dynaview installation.

Logging into a Dynaview OPC UA server

This should be as easy as pointing your client toward the URL of the Dynaview. If you have set a static address for the Dynaview, you can just enter that address in dotted notation into the client, for example "192.168.0.50". Even if you have set up the Dynaview to use a dynamic address, you can discover what address has been assigned on the "About" screen in the Dynaview: *Setup|About.*

Data exposed

There are two top-level assemblies, RealTime and RecipeDefinition. Both are read-only in the V1.0 release. Data in the RealTime assembly is updated every 1000ms, while data in the RecipeDefinition assembly is only updated with a new recipe is loaded into the Dynaview. For this reason, we recommend polling the Dynaview no faster than 500ms.

1.   RealTime

Here we expose the sensed data.

Name	Format	Comment
AlarmLevel	String	none, warning, or limit
ImageLength	Float	Has units property
RecipeName	String	Concatenation of short and long name.
RollLength	Float	Has units property
SavingData	Boolean	If a report is being generated

UpdatePeriod(ms)	Integer	100, 250 or 500ms Dynaview screen update rate.
WebSpeed	Float	Has units property

All units properties are strings as set in the recipe (cm, mm, in, m/sec, etc.).

2.   RecipeDefinition

Here are all the parameters included in a recipe. Parameters are arranged in groups. Most parameters are as described in the Dynaview manual. Exceptions are noted.

Alarms

Name	Format	Comment
IgnoreAfterRollChange	Float	Has units property
LimitEnable	Boolean	subgroup
HighLimit	Float	Has units property
LowLimit	Float	Has units property
WarningEnable	Boolean	subgroup
HighWarning	Float	Has units property
LowWarning	Float	Has units property

Lengths

Name	Format	Comment
TargetLength	Float	Has units property
SamplingValue	Integer	See below
FixedSamplingEna	Boolean	See below
DisplayRange	Float	Has units property
WheelFactor	Float	Always near 1.000

SamplingValue and FixedSamplingEna

There two parameters are how a Dynaview manages minimum resolution and the ability to always average over some multiple of images. The default values are *FixedSamplingEna false* and *SamplingValue 1*. This lets the Dynaview manage averaging automatically. If the recipe calls for some minimum resolution, the SamplingValue will be some integer greater than 1 and FixedSamplingEna will still be false. If the recipe calls for always averaging over some number of images, SampleValue will be that number of images and FixedSamplingEna will be true.

MarkSensor

Name	Format	Comment
GateEnable	Boolean	subgroup
GateOffset	Float	Has units property
LightOnDark	Boolean	

RecipeNames

Name	Format	Comment
Folder	String	Concatenation of folder short name and description
Recipe	String	Concatenation of recipe short name and description

Reports

Name	Format	Comment
PrintGraphic	Boolean	
PrintText	Boolean	
SaveToFile	Boolean	
Sampling		subgrop
Interval	Float	Has units property
NumberOfSamples	Integer	
SampleAll	Boolean	

Not Grouped

Name	Format	Comment
AnalogSpan	Float	Has units property
RollLengthUnits	String	
SmoothingValue	Integer	

All units properties are strings as set in the recipe (cm, mm, in, m/sec, etc.).

Remarks

Porcine Associates is very interested in what our customers are using the OPC UA server for. If you need other parameters exposed, or would like to see some parameters read-write, be sure to email your preferences to info@porcine.com, or call +1(650-326-2669).