CONTROLGATE™ AOP/XML CONFIGURATION - APPLICATION NOTE

This guide is used to output a Custom Add-On Profile XML Configuration file from the Maintenance Hub to be uploaded in Studio 5000® for an EtherNet/IP™ integration. These files assist in automating the integration process by creating custom data types, descriptive tags, and organizing data so that it makes the process easier for our users to get their data where they would like it.

Before getting started, please note that the GraceSense™ ControlGate™ Custom Add-On Profile is only compatible with Studio 5000 v21 and greater and not compatible with any version RSLogix 5000®. More details can be found accompanying EtherNet/IP™ Integration Guide.

See the below accompanying files for more information:
- ControlGate™ Communication Configuration Guide
- EtherNet/IP™ Integration Guide - Studio 5000

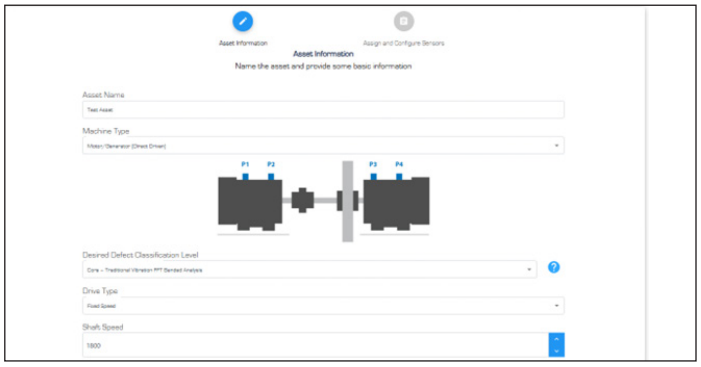
ASSET CONFIGURATION

1. Visit http://hub.gracesense.com and log in

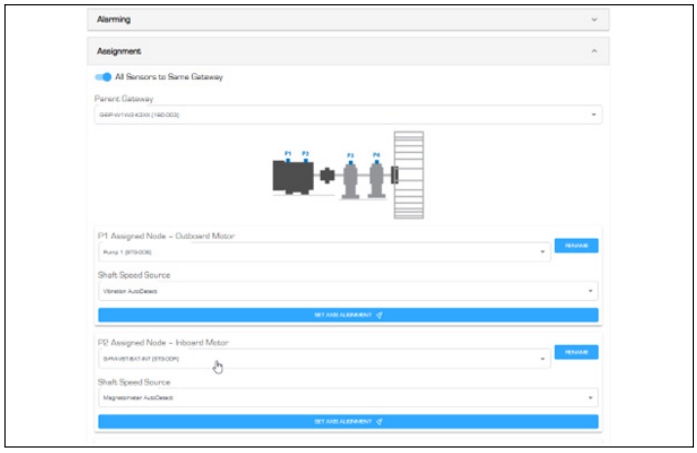
2. Using the top menu, navigate to Home > Vibration Analysis

3. This will take you to the Vibration Analysis page where you can configure assets. Assets are the combination of the motor and the driven machine. On these assets you will configure and assign your sensors based on their physical location on the motor/machine. To begin, click “Add Asset” on the top right of the screen to navigate to the Asset Configuration Wizard.

4. On the first page of the configuration screen, you will enter your asset’s information, such as Name, Machine Type, Shaft Speed, and the Vibration Data you want returned (refer to Additional Information section below). Once all information is entered, click “Next” to proceed.



5. On the second page of the configuration screen, you will assign and configure your sensors to the asset. Ensure that the Parent Gateway field is correctly selected to the gateway this sensor will be connected to - this will create the Parent-Child relationship. Once configured, click “Save” at the bottom of the page to apply the settings.



Note: In a Control Integration, sensors (children) must be assigned to a specific ControlGate™ (parent) due to how the memory maps work within the control system. This is done automatically when establishing the parent-child relationship. Sensors cannot be auto-assigned, which removes the self-healing network that is typically employed in a cloud-only solution. This unique system configuration causes unique files that must be used with the specific ControlGate serial number and not compatible with other serial numbers.

6. Repeat this process for each of your assets/sensors to ensure proper configuration and assignment.

AOP XML EXPORT

1. Using the top menu, navigate to Settings > ControlGate Configuration

2. In the assigned section, hover over the Gateway you would like to generate the AOP XML for. Click on Edit, then select Export AOP XML.

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3. Your AOP XML Configuration via the Maintenance Hub is now complete! Repeat this process for each Gateway in your system.

   See the EtherNet/IP™ Integration Guide to import your AOP XML into your Studio 5000® project.

Number of sensors per Gateway by Defect Classification Level

	Basic	Core	Intermediate	Advanced
Number of Sensors	38	14	8	3

ADDITIONAL INFORMATION: DEFECT CLASSIFICATION LEVEL AND IMPACT ON CONFIGURATION

The way an Asset, sensor, or Gateway is configured will directly impact the AOP XML file that is exported from the database. Before exporting an AOP XML file, you will want to ensure that your system is configured exactly as you would like it, as it is easier to edit from the Maintenance Hub (and advised only to make changes from the Maintenance Hub unless if the user fully understands ramifications of tag/register modification of all fields). These include renaming of sensors, setting sampling rates, changing the drive type, or choosing a different Defect Classification Level.

There are 4 different Defect Classification Levels for Vibration and Temperature Sensors. See these different options listed below and details about each. Depending on what vibration analysis data channels you would like to bring into your control system and the number of sensors needed per ControlGate™, one of these options should meet your needs. If you do have any questions or would like to see if there is a custom option for your application, feel free to reach out to us at Sales@GraceTechnologies.com.

VIBRATION ANALYSIS CHANNELS BASED ON DEFECT CLASSIFICATION LEVEL

Channels	Basic	Core	Intermediate	Advanced
X,Y,Z - Overall Amplitude	X	X	X	X
X,Y,Z - Sub-Synch Amplitude		X	X	X
X,Y,Z - 1X Amplitude		X	X	X
X,Y,Z - 2X Amplitude		X	X	X
X,Y,Z - 3X Amplitude		X	X	X
X,Y,Z - BRG Amplitude		X	X	X
X,Y,Z - Hlo Amplitude			X	X
X,Y,Z - Hhi Amplitude			X	X
X,Y,Z - GBF x 1			X	X
X,Y,Z - GBF x 2			X	X
X,Y,Z - GBF x 3			X	X
X,Y,Z - Phase				X
X,Y,Z - Overall Frequency				X
X,Y,Z - Sub-Synch Frequency				X
X,Y,Z - 1X Frequency				X
X,Y,Z - 2X Frequency				X
X,Y,Z - 3X Frequency				X
X,Y,Z - BRG Frequency				X
X,Y,Z - Hlo Frequency				X
X,Y,Z - Hhi Frequency				X