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GS20A-CM-ENETIP

Add-On Instruction Walk-Through

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Purpose

Purpose of this document:

The purpose of this document is to help guide the user through the process of successfully integrating the GS20_DriveControlAndStatus_AOI into their Studio5000 project.

Purpose of this Add-On Instruction:

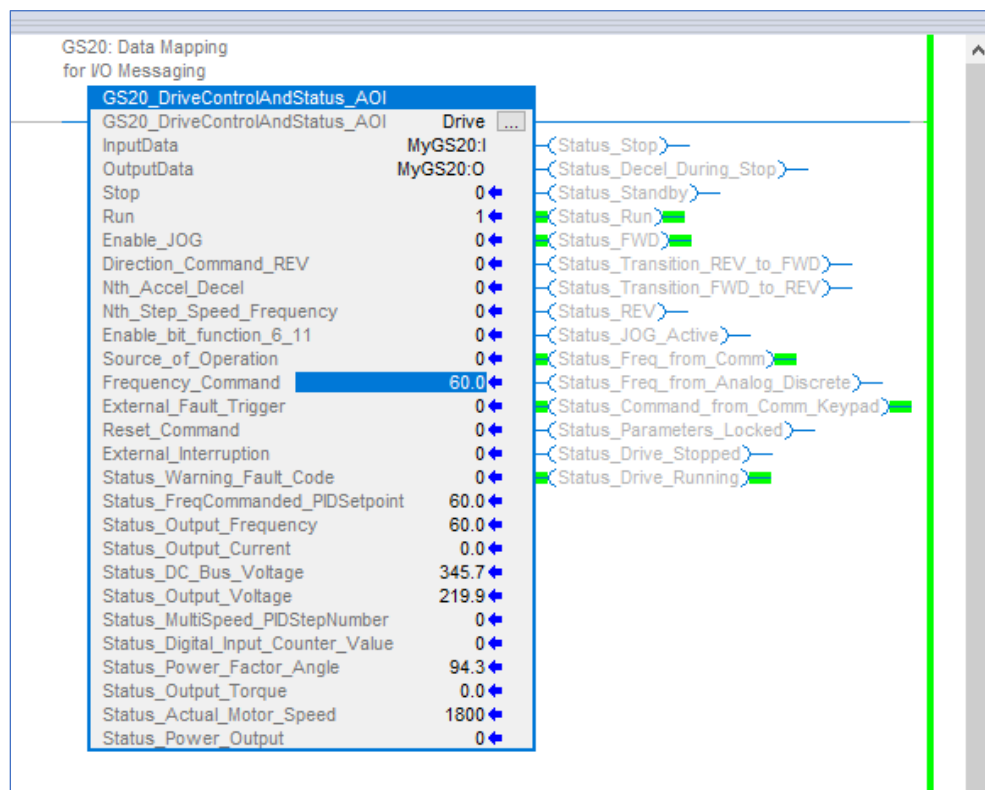
The 'GS20_DriveControlAndStatus' Add-On Instruction (AOI) unpacks raw Input Data (T->O) from an array and maps this data into meaningful drive related status tags for the user. Likewise, the AOI also maps meaningful drive related command tags and packs the data into the raw Output Data (O->T) array. The purpose of the AOI is to simplify the mapping (packing/unpacking) of the raw Input/Output Data. For operation of the drive, the user must provide their own logic.

Introduction

The Add-On Instruction for the GS20 removes the cumbersome task of having to map the EtherNet/IP IO Messaging data from generic arrays into specific and meaningful tags. This helps YOU get integrated faster.

This walk-through will cover:

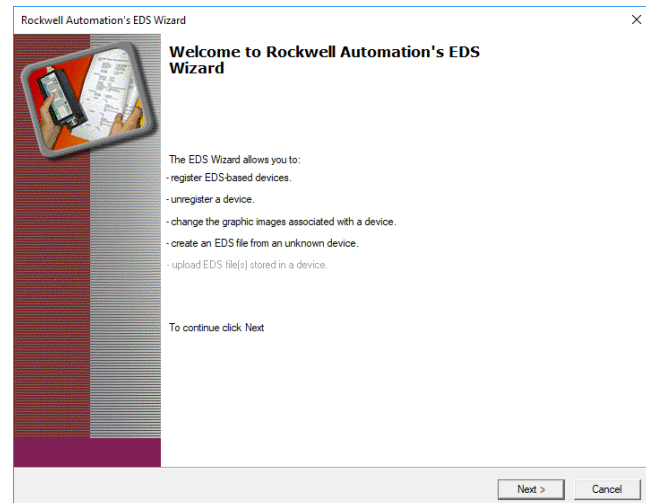
- Registering the GS20 EDS File
- Creating a new module (IO Messaging Adapter) in Studio5000
- Importing the GS20 Add-On Instruction
- Using the GS20 Add-On Instruction in your project.



Register GS20 EDS File

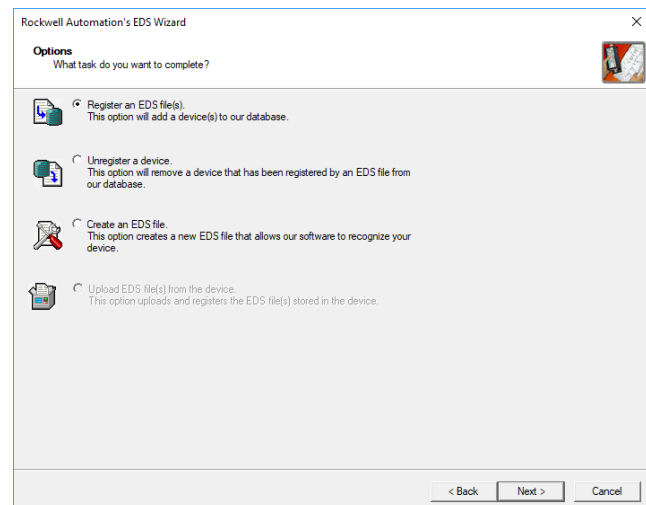
Step 1: Open Rockwell Automation's EDS Wizard from the Tools Menu in Studio5000 and register the GS20's EDS file.

Click 'Next.'

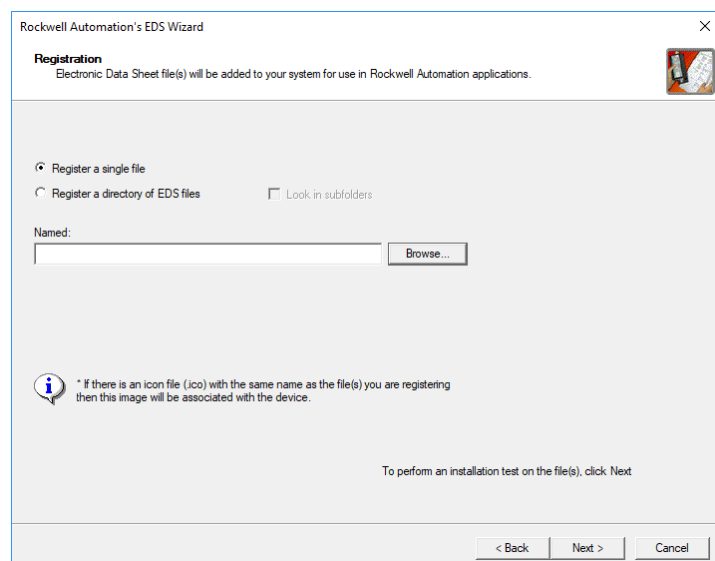


Step 2: Select 'Register an EDS file.'

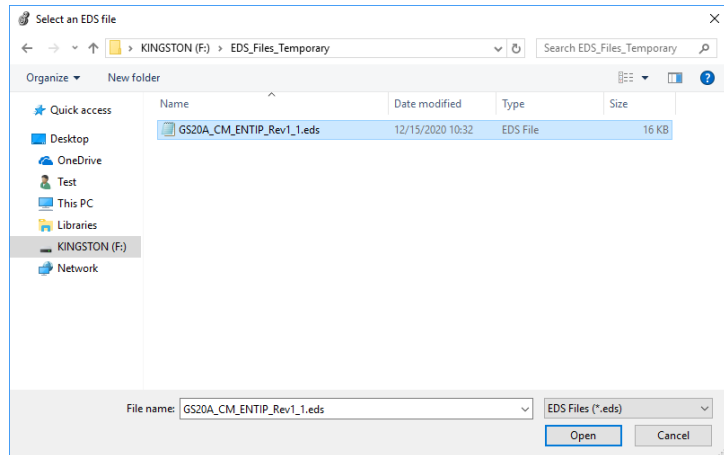
Click 'Next.'



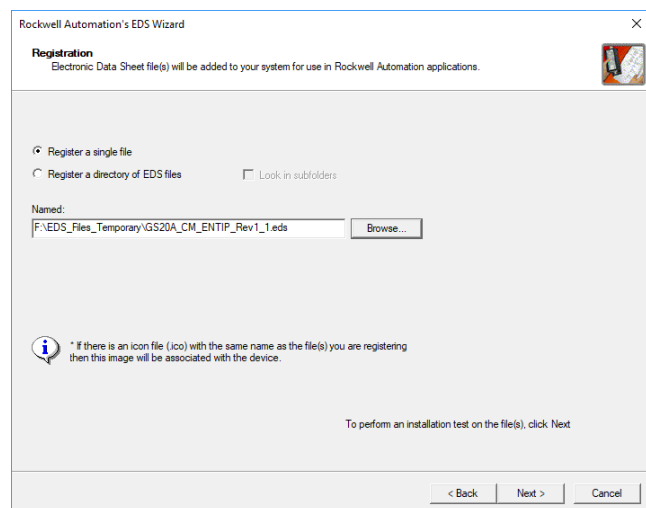
Step 3: Select 'Register a single file' and 'Browse' to select the directory where the *GS20A_CM_ENTIP_Rev1_x.eds* file resides.



Step 4: Select the
GS20A_CM_ENTIP_Rev1_x.eds file.
Click 'Open.'

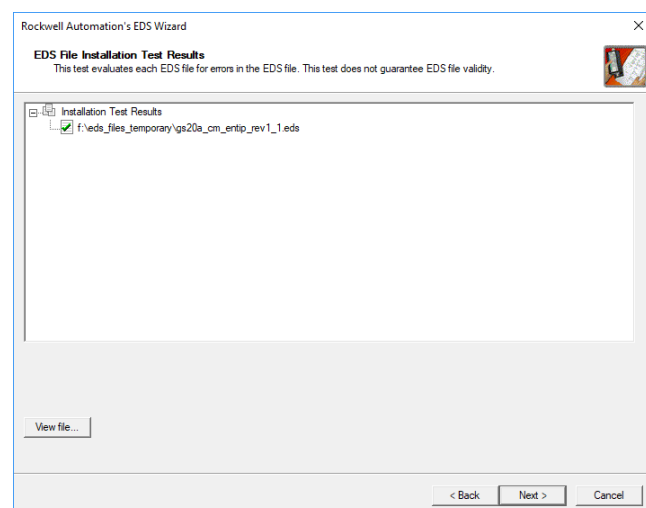


Step 5: The Named field should show the
directory path to your EDS file.
Click 'Next.'



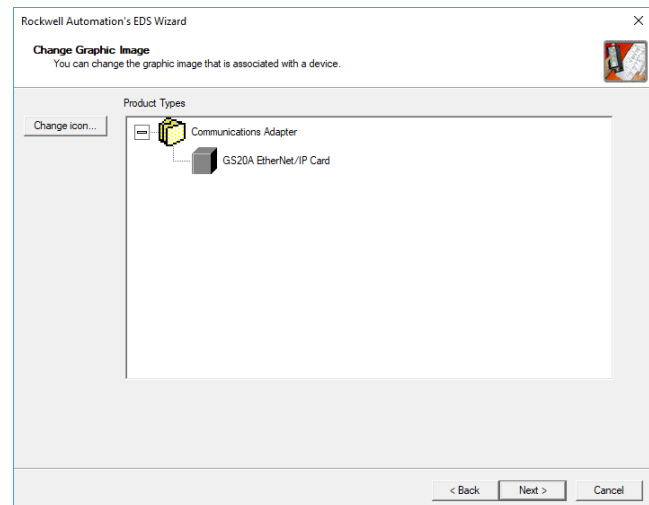
Step 6: The EDS File Wizard will evaluate the EDS
file. The green checkmark indicates a valid EDS
file without errors.

Click 'Next.'



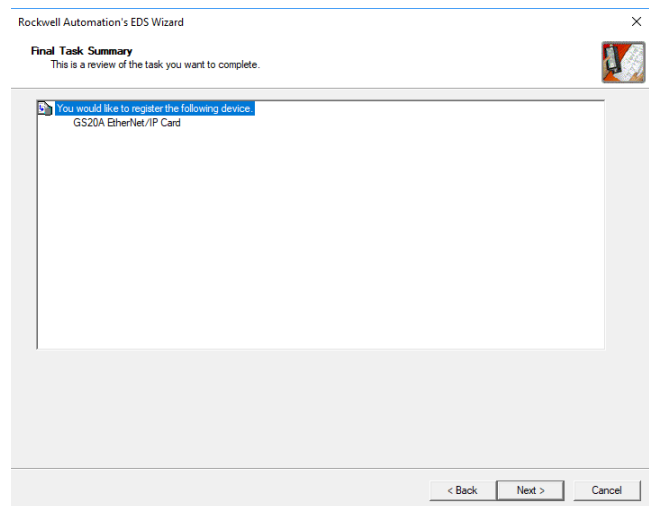
Step 7: The EDS Wizard allows the for icon of the device to be changed. This step can be skipped.

Click 'Next.'



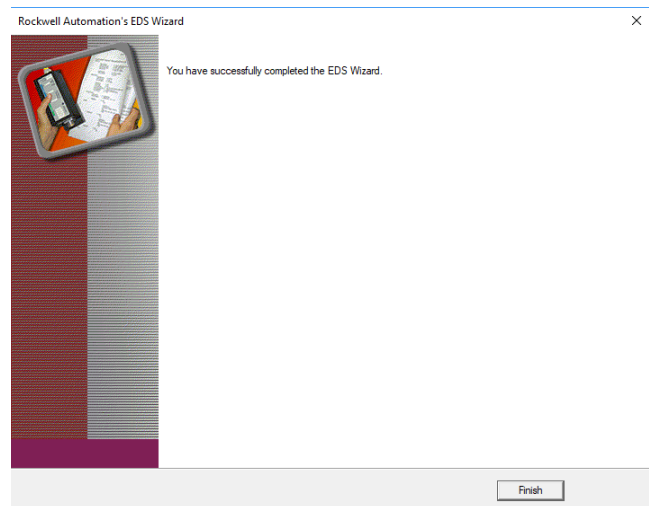
Step 8: Confirm that you are registering the EDS file for the GS20.

Click 'Next.'



Step 9: The EDS file has been successfully registered.

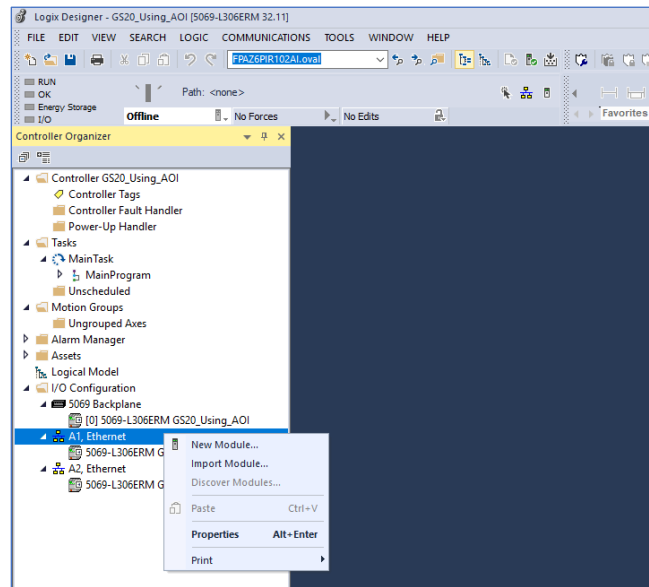
Click 'Finish.'



Create NEW Module

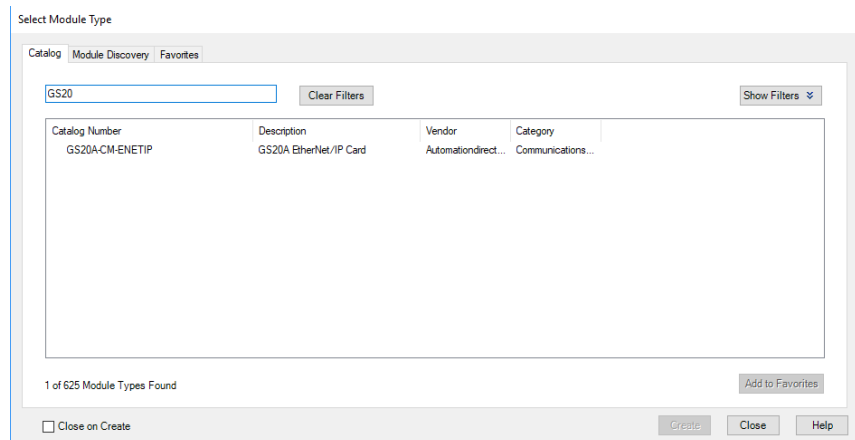
Step 1: In the Studio5000 project, right-click on the network adapter that is connected to the GS20.

Select 'New Module.'



Step 2: Type 'GS20' in the filter field. The GS20A-CM-ENETIP catalog number shows in the results.

Select the result and click 'Create.'

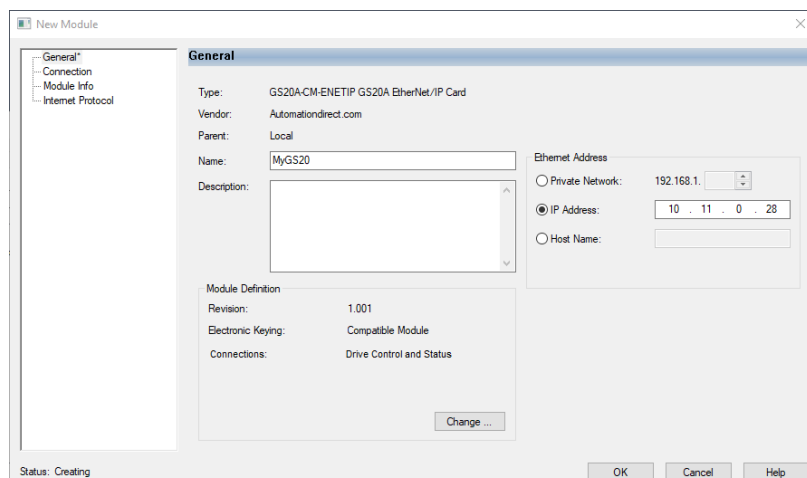


Step 3: In the New Module window, provide the following:

- A name for the device
- The IP address of the GS20A-CM-ENETIP

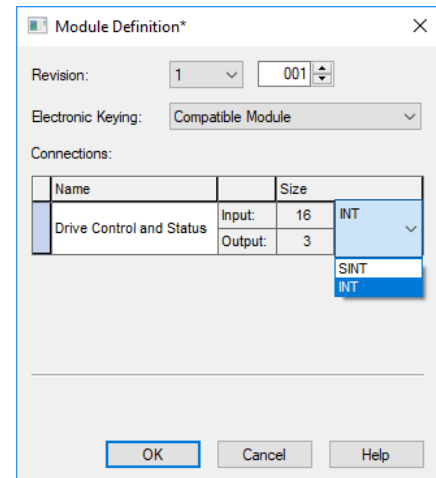
***** IMPORTANT *****

Click 'Change.'



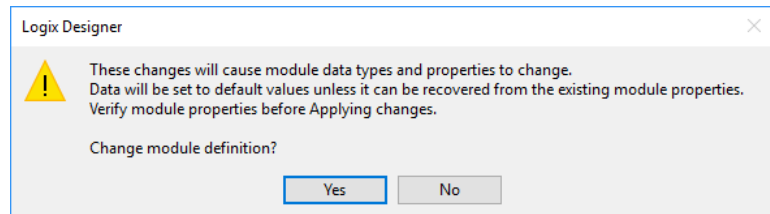
Step 4: *****IMPORTANT***** Select the data type INT. This will result in 16 Input elements and 3 Output elements. The data mapping in the GS20 manual, the EDS file, and the Add-On Instructions ALL map using 16-bit boundaries.

Click 'OK.'

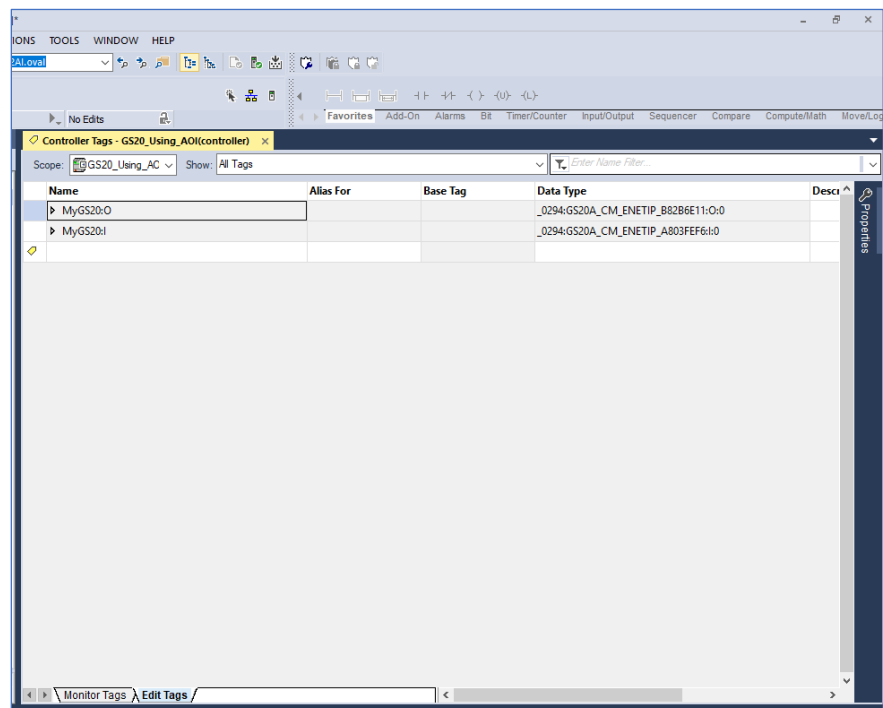


Step 5: A pop-up window regarding the changing of the module properties will appear.

Click 'Yes.'

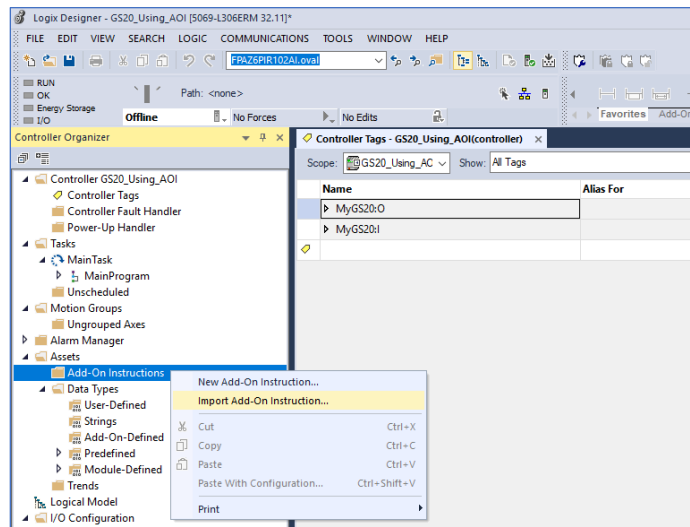


Step 6: Close out of the Module Definition windows. Take note of the data type for the Input and Output arrays associated with the new module. These Input and Output elements will be referenced by the Add-On-Instruction later.



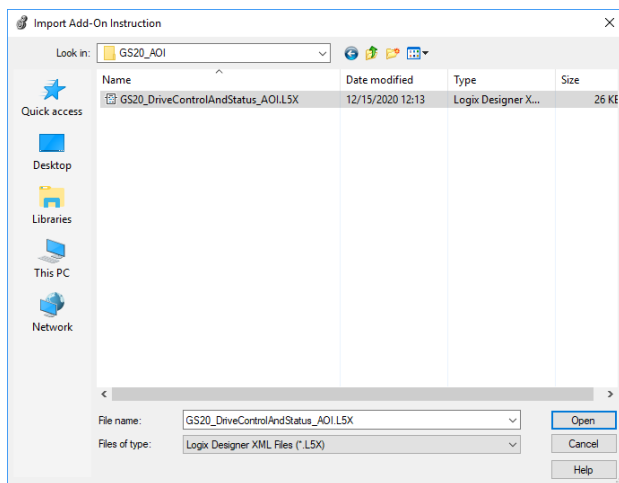
Import Add-On Instruction

Step 1: From the Controller Organizer window right-click on 'Add-On Instructions' and select 'Import Add-On Instruction.'



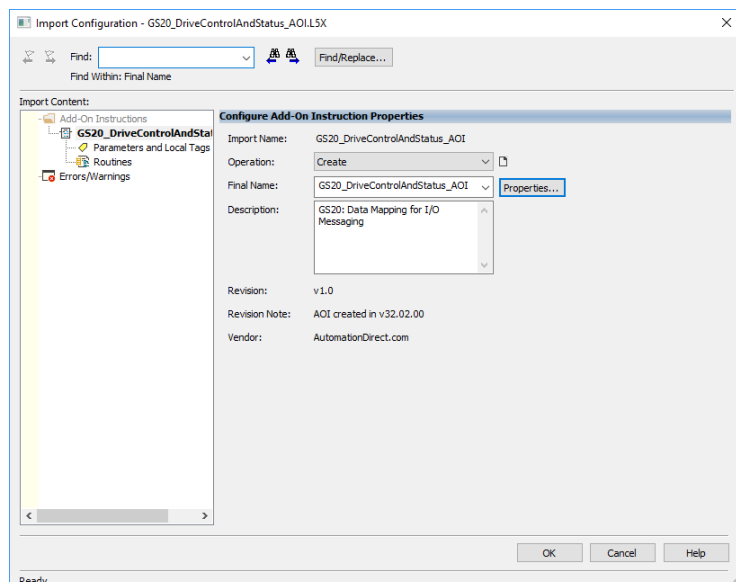
Step 2: Select the directory where the *GS20_DriveControlAndStatus_AOI.L5X* file resides.

Click 'Open.'

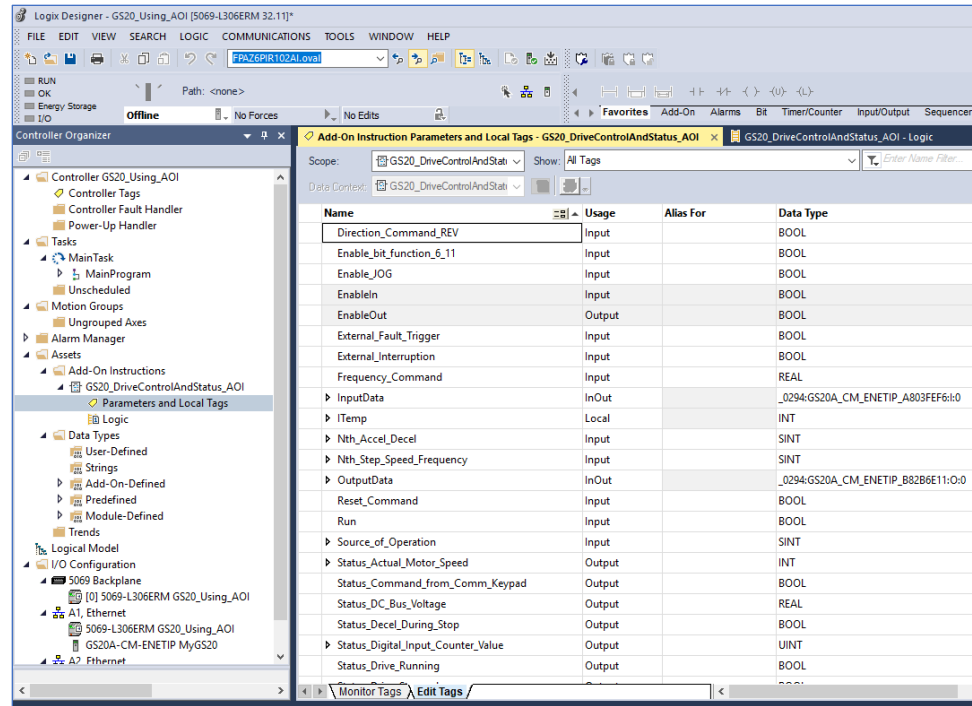


Step 3: The Import Configuration window opens.

Click 'OK.'

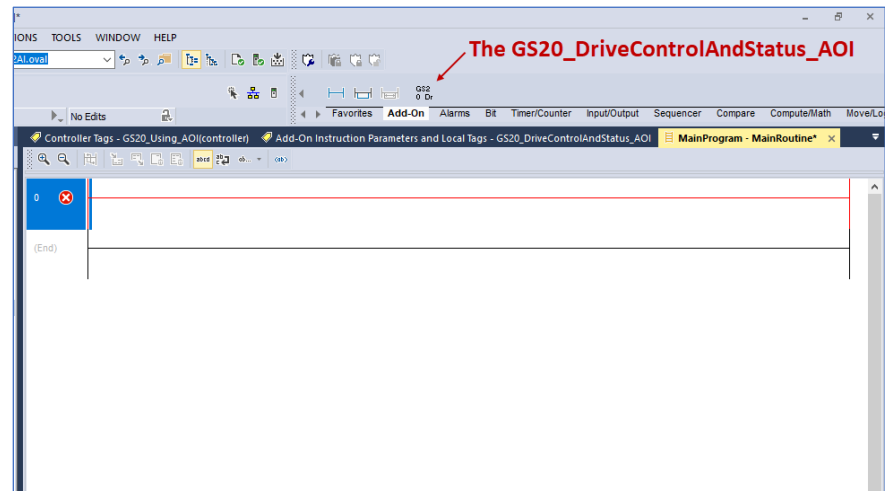


Step 4: The import successfully brings in the Parameters, Local Tags, and Logic that makes up the Add-On Instruction.



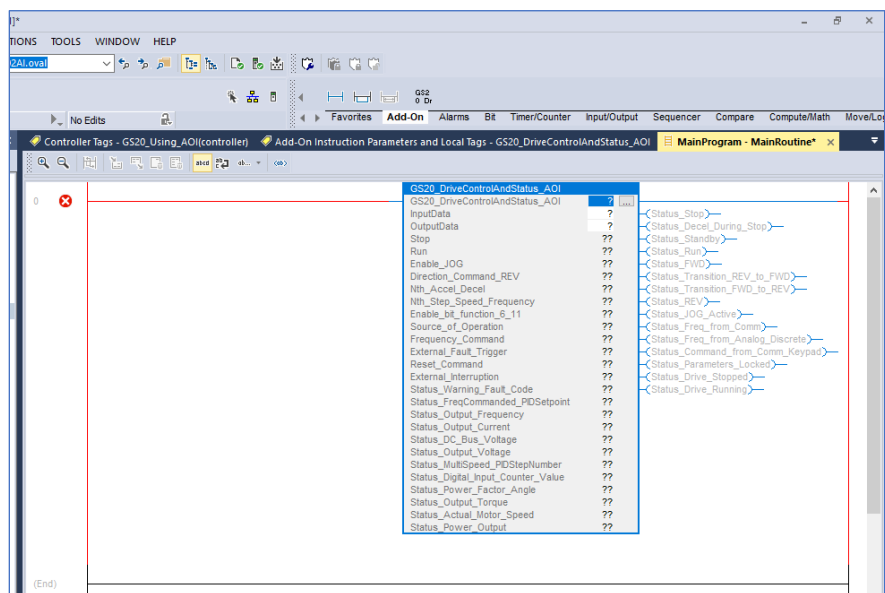
Use Add-On Instruction

Step 1: From the Main Program – Main Routine, add the new GS20 AOI to the ladder from the ‘Add-On’ instruction category.

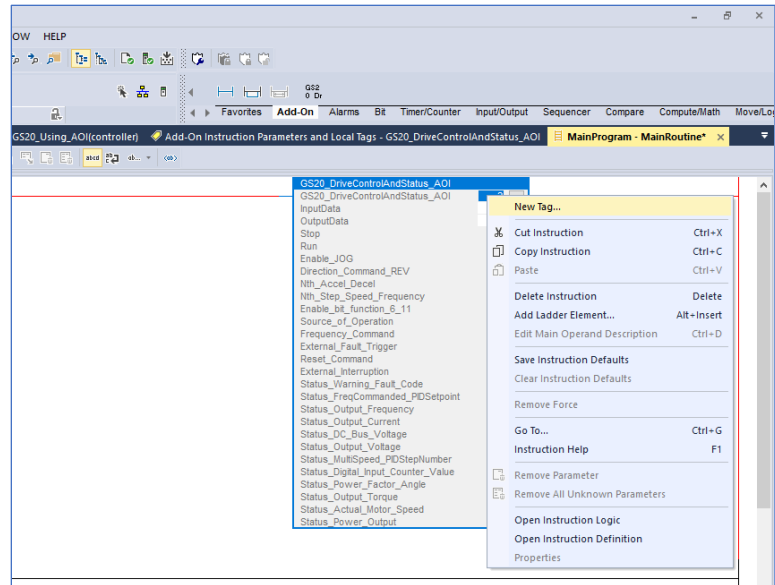


Step 2: Three fields within the Add-On Instruction are required to be completed:

- The object that will use the AOI.
- The source of the Input Data that will be passed TO the Add-On Instruction.
- The destination of the Output Data that will be returned FROM the Add-On Instruction.



Step 3: Right-click on the GS20_DriveControlAndStatus_AOI field and select 'New Tag...'

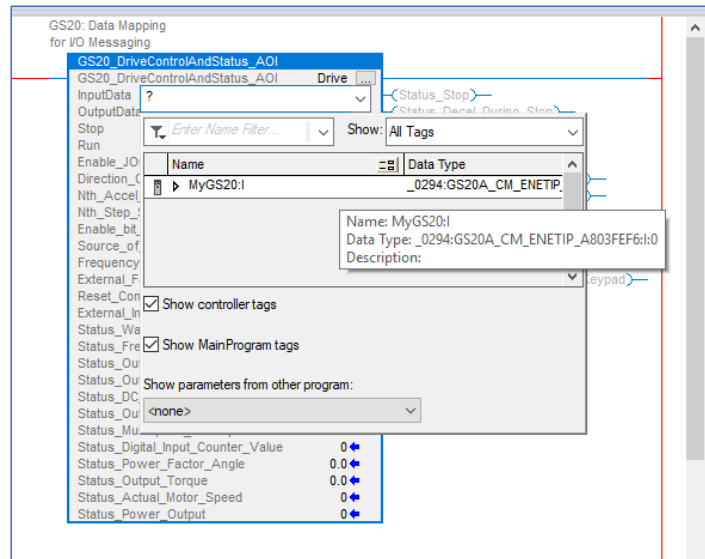


In this example, we've created a tag named 'Drive' with the data type of: GS20_DriveControlAndStatus_AOI

Click 'Create.'

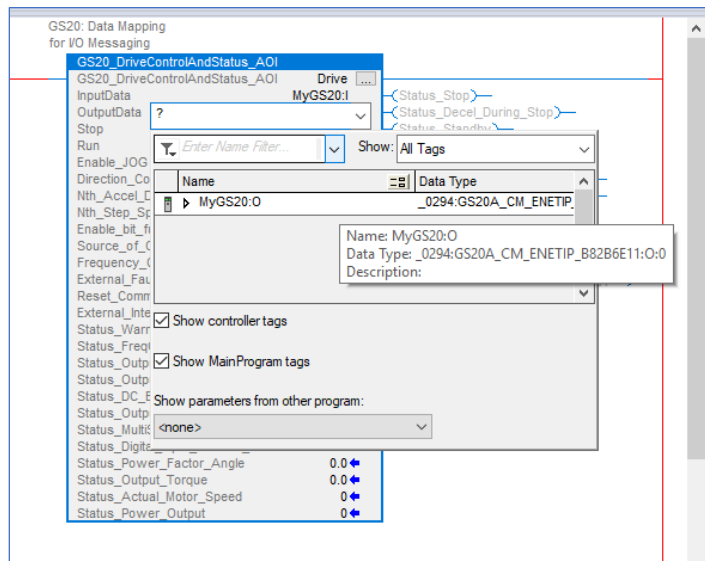
Step 4: In the 'InputData' field select the Input Data structure that was created when the NEW Module was created. The data type should be:

'_0294:GS20A_CM_ENETIP_A803FEF6:I:0'

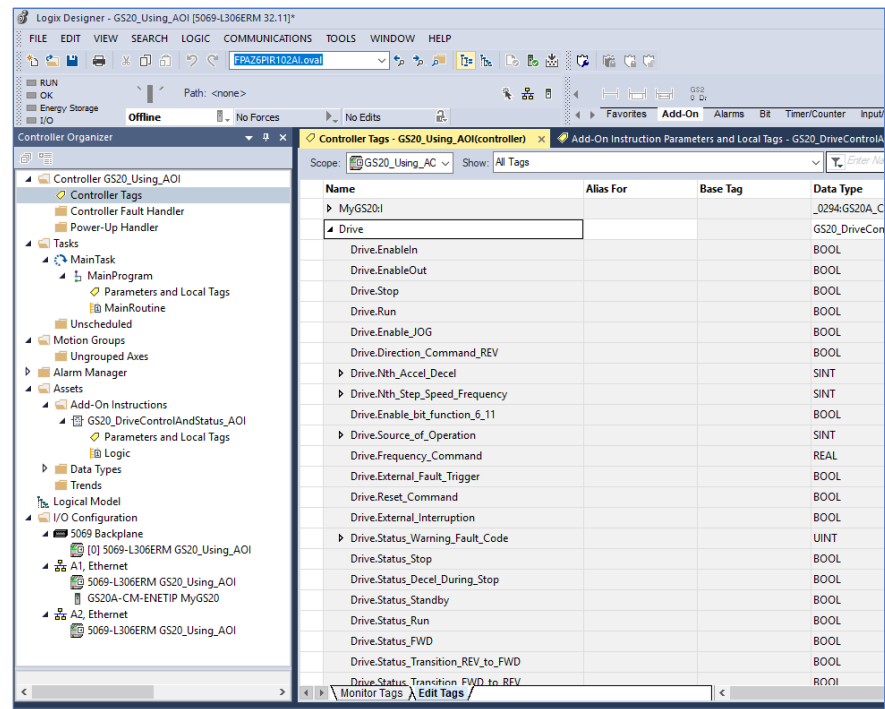


Step 5: In the 'OutputData' field select the Output Data structure that was created when the NEW Module was created. The data type should be:

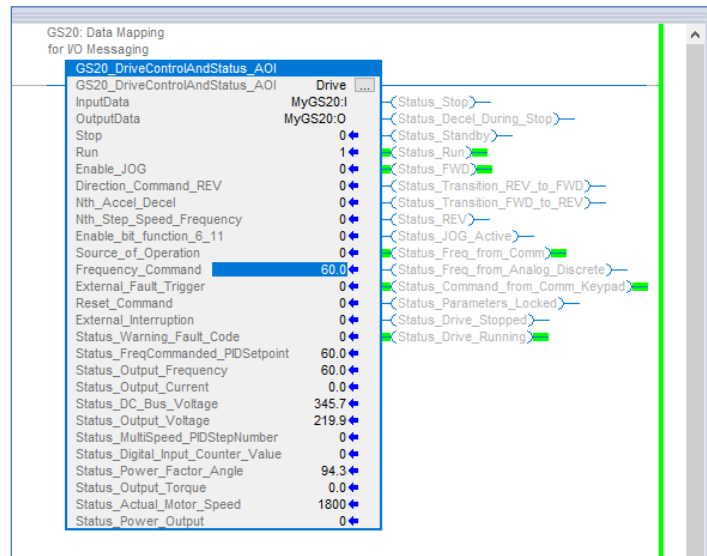
'_0294:GS20A_CM_ENETIP_B82B6E11:O:0'



The object 'Drive' has been created and has each of the associated structure members from defined by the GS20 AOI.



Step 6: Download the project to the CPU and observe the mapping of the Input and Output Data.



Notes:

Note: For the most current mapping and descriptions of the Input and Output Data for the GS20A-CM-ENETIP module, see Appendix B of the Durapulse GS20 AC Drive Manual.

Note: While images used in this document may differ slightly from what a user might see in their software as a result of updates to the Add-On Instruction, the process outlined in the document should be the same.