



A Sierra Monitor Company

SlotServer User Manual

**FS-RA-CLX-LON-000
SlotServer LonWorks Open Interface**

APPLICABILITY & EFFECTIVITY

Effective for all systems manufactured after May 1, 2001

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1. Introduction

1.1. About this product

The SlotServer LonWorks Open Interface allows an Allen Bradley ControlLogix platform to pass data between a ControlLogix CPU and a standard LonWorks communications network. The SlotServer Module provides a standard generic profile in LonWorks that allows most of the more common Standard Network Variable Types (SNVT's) to be bound to the SlotServer for data transfer.

The SlotServer Module is configured in a ControlLogix Rack using standard RSLogix 5000 I/O configuration combined with "CIP Generic" message block calls to allow for efficient transfer of LonWorks data.

1.2. About LonWorks and Profiling

Inherent to the design of LonWorks is the intention that all nodes residing on a LonWorks network possess a profile which accurately describes the network variables available to the LonWorks network. This profile is declared to the LonWorks network by means of an External Interface File (XIF). This XIF remains unchanged for any particular profile. In other words, a change in the XIF is by definition a new profile.

The Open Interface profile for SlotServer provides a generic list of SNVT's that can be used to bind the most common LonWorks data types to the SlotServer for data transfer. This document describes the fixed Open Interface profile for the SlotServer. As a LonMark compatible product, the SlotServer platform is also capable of supporting other profiles. For further information, please contact FieldServer Technologies and enquire about available Specific Profiles and other SlotServer Profiling Services.

1.3. Connection Capability

SLOTSERVER MODE	LONWORKS NODES	COMMENTS
CLIENT (SCANNER)	15	As an implicitly bound object in LonWorks, the LonWorks protocol supports the binding of this device to no more than 15 other nodes.
SERVER (ADAPTER)	N/A	The ControlLogix CPU is always configured as a scanner to communicate with the SlotServer adapter.

2. Pre-Startup checklist

2.1. Accessories supplied with the SlotServer

Please verify that the following components were supplied with the SlotServer module:

FieldServer Technologies PART #	Description
	2-way combi-comb connector for LonWorks port
	Software CD
	CAT-5 Direct Ethernet Cable
	Documentation Binder

2.2. Third party components (not supplied by FieldServer Technologies)

The following components will need to be procured as a minimum for achieving a LonWorks/ControlLogix integration. Ensure that these are available before commencing with commissioning

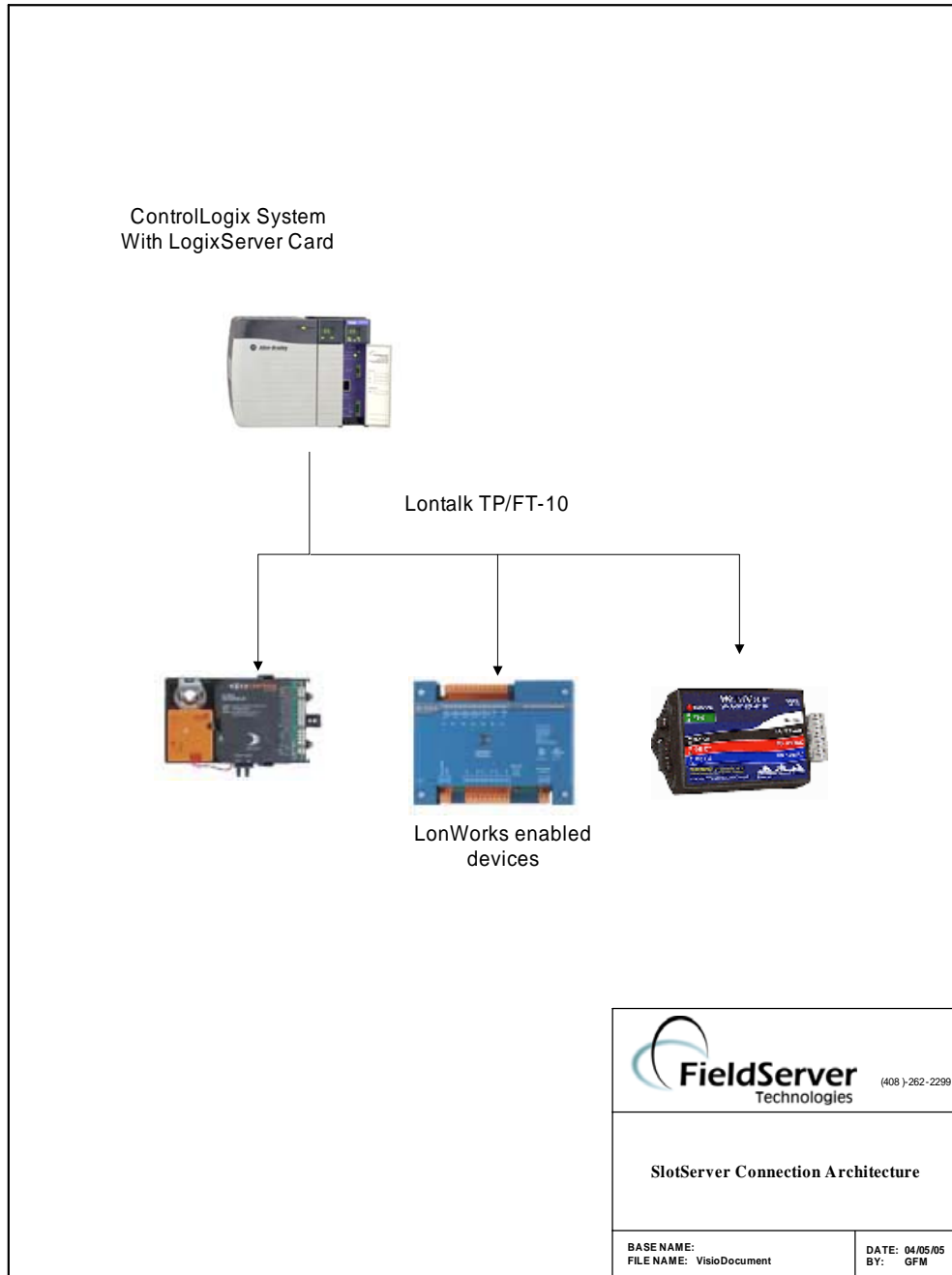
Part #	Description
AB1756-Ax	ControlLogix Rack
AB1756-L55/L61	ControlLogix CPU
AB1756-PA7x	ControlLogix PSU
9324-RLD300ENE	RSLOGIX 5000
	LonWorks NetWork Manager (e.g.: LonMaker)
	LonWorks Network components.

2.3. Required configuration for the SlotServer

In order to achieve data transfer between CPU tags and LonWorks network variables, the SlotServer will need to be commissioned into a LonWorks network using a LonWorks Network Manager. Once commissioned and bound, a subset of the Data from the LonWorks network is accessed by I/O image transfer or the full amount of data by programming MSG blocks in the ControlLogix CPU. The ControlLogix CPU uses CIP Generic Custom read and write operations to achieve data transfer from the SlotServer Module to the CPU tags.

3. SlotServer Topology

The diagram below shows a typical implementation of the SlotServer LonWorks Open Interface Module



3.1. Hardware Connection Tips / Hints

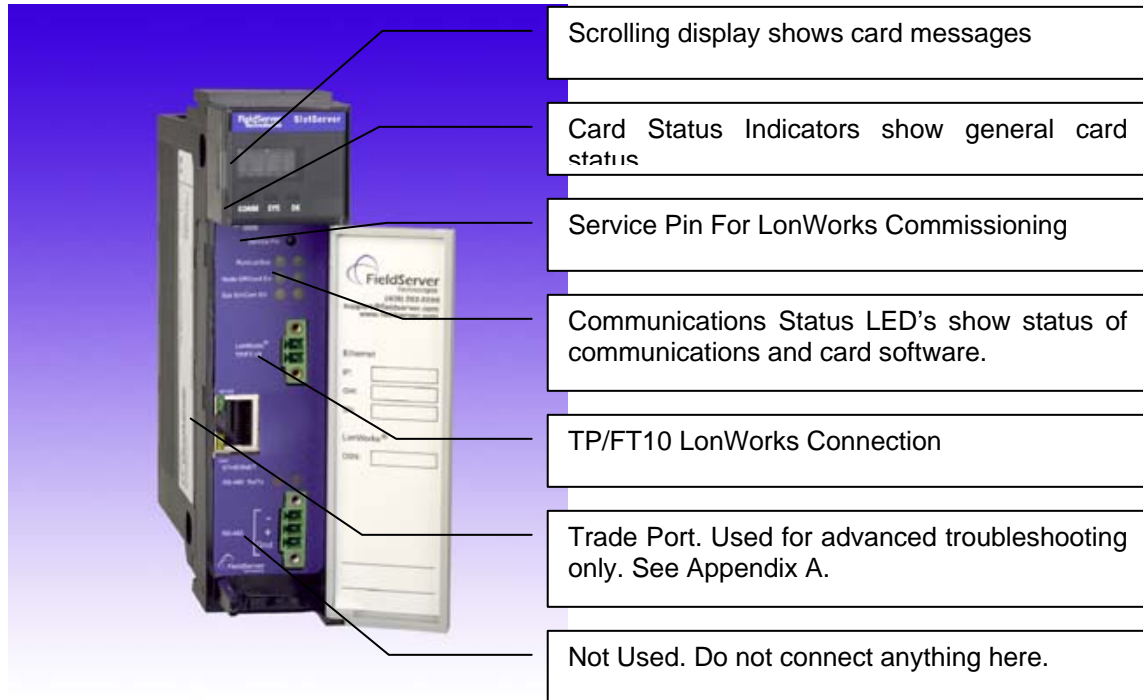
- The LonWorks TP/FT-10 medium is polarity insensitive and therefore does not require attention to connection orientation on the pins.
- Follow the Rockwell documentation for guidelines on inserting the SlotServer module into the ControlLogix backplane / rack.

4. SlotServer Installation

The SlotServer plugs directly into the AB1756 ControlLogix rack. Take note of the slot number used for the SlotServer as this will be needed when configuring the I/O in the RSLogix software.

4.1. SlotServer Ports and Displays

Note that there are several hardware ports available on the SlotServer card, but that this SlotServer model only makes use of a select few. The ports and displays of interest are as shown in the diagram below:



4.1.1. Scrolling Display

This will Display an OK status when the SlotServer has powered up successfully.

4.1.2. Card Status Indicators:

The Comm and OK lights will indicate green when the SlotServer has powered up successfully. The Sys indicator will indicate green if the Lon Nodes are all communicating, and red otherwise.

4.1.3. Service Pin

To be used for commissioning the SlotServer into a LonWorks network

4.1.4. Communications Status LED's

Run	When the SlotServer is powered up, this light will start flashing after approximately 2 minutes. If this light does not flash, the firmware is not running, and that the SlotServer will not be operating.
LonSvc	This light will flash when the card's Neuron chip is unconfigured, and will extinguish when the SlotServer has been commissioned into a Network.
NodeOff	This light indicates that a device bound to the SlotServer on the LonWorks network is not communicating. Use the LonWorks Network Manager to troubleshoot the problem.
Conf Err	This light indicates an error in the configuration of the card. Since this model is shipped pre-configured, this light should never come on unless the card configuration is tampered with
Sys Err	This light indicates that an unexpected operation state occurred. The light can be reset by cycling power to the card. If the error re-occurs persistently, then contact FieldServer Technical support for assistance with troubleshooting after setting up the trade port as shown in Appendix A.
Com Err	This light indicates that a communication error occurred. Use the LonWorks NetWork Manager to troubleshoot the problem, or refer to Appendix A.1.

4.1.5. TP/FT10 LonWorks connection

This two wire connection is polarity insensitive and can be multi-dropped into a LonWorks NetWork.

4.1.6. Trade Port

The Trade port is an Ethernet port that can be used for advanced troubleshooting (See Appendix A.1). Use standard Ethernet cables for this connection.

4.2. Inside Cover Door Label

Note that a label has been provided on the inside of the cover door for the User to document important or useful configuration parameters used. In particular, special provision has been made to document the Trade port IP parameters, as well as the LonWorks DSN (Domain/Subnet/Node) allocated by the Network Manager. These fields are there to be utilized at the User's discretion.

4.3. Technical Specifications

Slot width	1
BackPlane Current Load	0.6A
Operating Temperature	0-60 Deg C (32-140 Deg F)
Storage Temperature	-40 – 85 Deg C (-40 – 185 Deg F)
Humidity	5-95% (Non-Condensing)
Allen Bradley Platform:	ControlLogix 1756 Rack
LonWorks Connection type:	TP/FT-10
LonWorks Connection Capability ¹	As an implicitly bound object in LonWorks, the LonWorks protocol supports the binding of this device to no more than 15 other nodes.
LonWorks Point Capability	See Appendix D

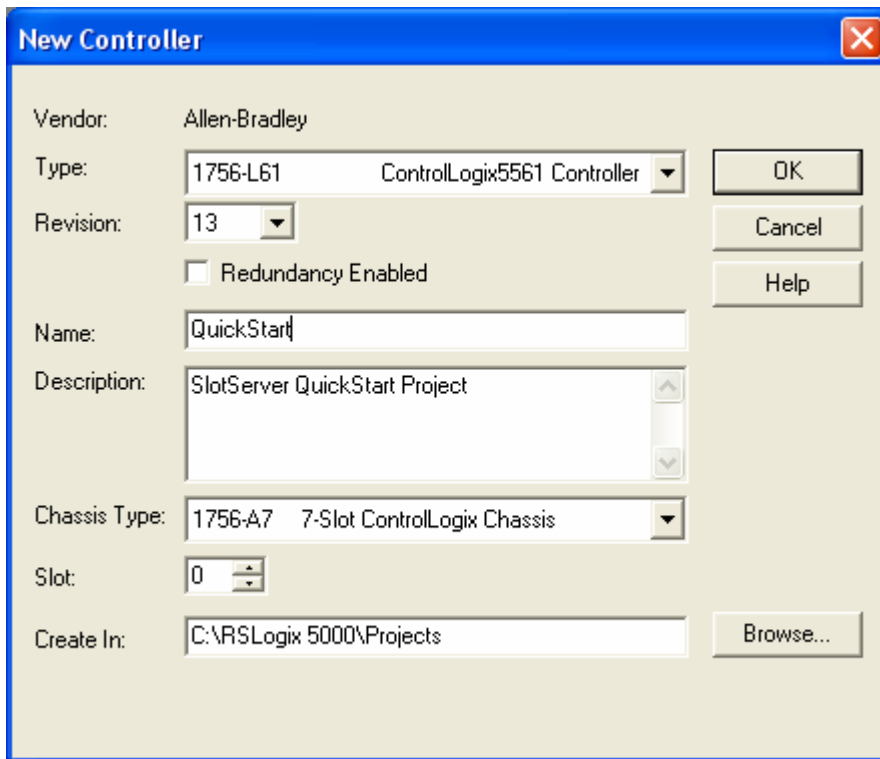
¹ A LonWorks Network Management Tool (e.g.: LonMaker,Rover, LonWatcher etc) is required to commission a LonWorks network. This tool is used for creating the variable bindings on the network.

5. SlotServer Communications Quick Start Example Project

The discussion that follows describes the basic steps to set up and test the system for transferring data between CPU tags and the SlotServer using the I/O image method. 84 Network Variables of the full 2,600 points are available using this easy to get going method. Refer to the Advanced Project if you wish to access more than 84 Network Variables.

5.1. Step 1: Create or use an existing RSLogix project

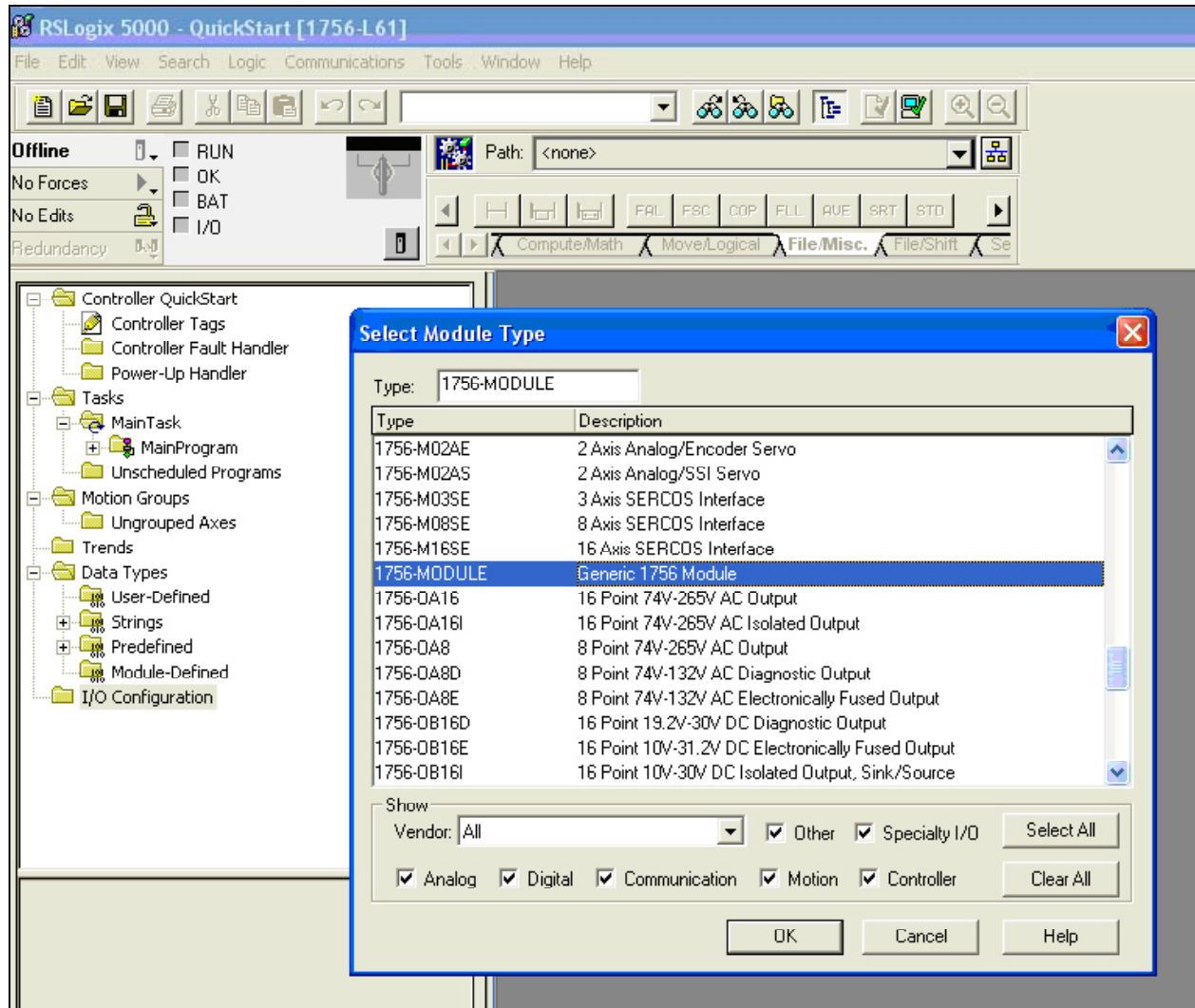
- Use File, New to create a new project or File, Open to open an existing project.
- Make sure to choose the correct Slot number in the rack where your Controller resides.



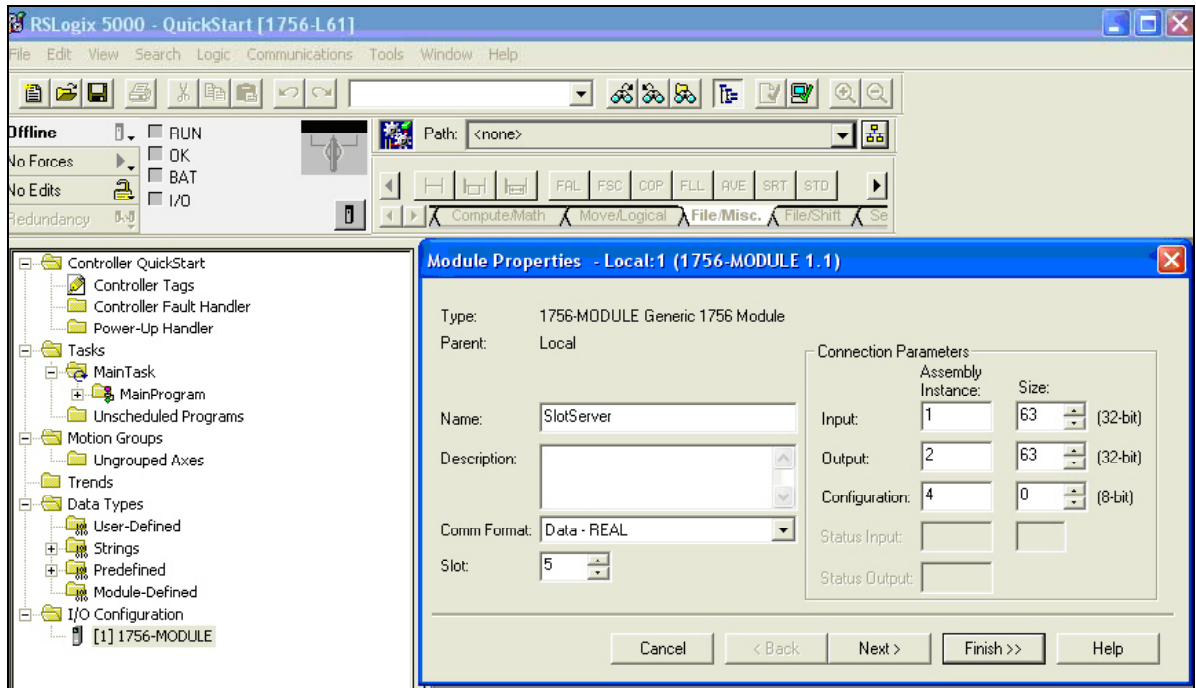
Note: Your Controller may be of a different type to the one shown in the example.

5.2. Step 2: Add and configure the SlotServer as an IO Module

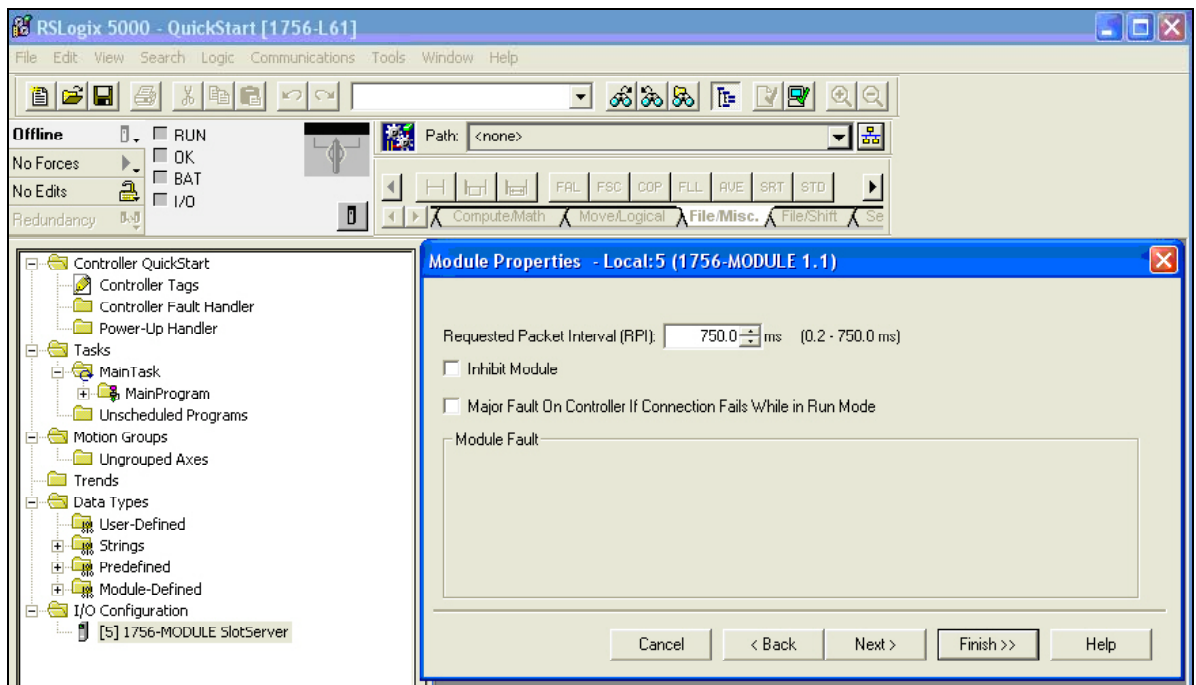
- Right-click on I/O Configuration and select “New Module”.
- Choose the 1756-MODULE



- Configure the SlotServer Module using the settings as shown below:
- Be sure to choose the correct Slot number in the rack where your SlotServer resides. The example below uses Slot number 5.



- Click Next and choose a RPI of 750 ms. This is the rate at which the I/O image data will be transferred.



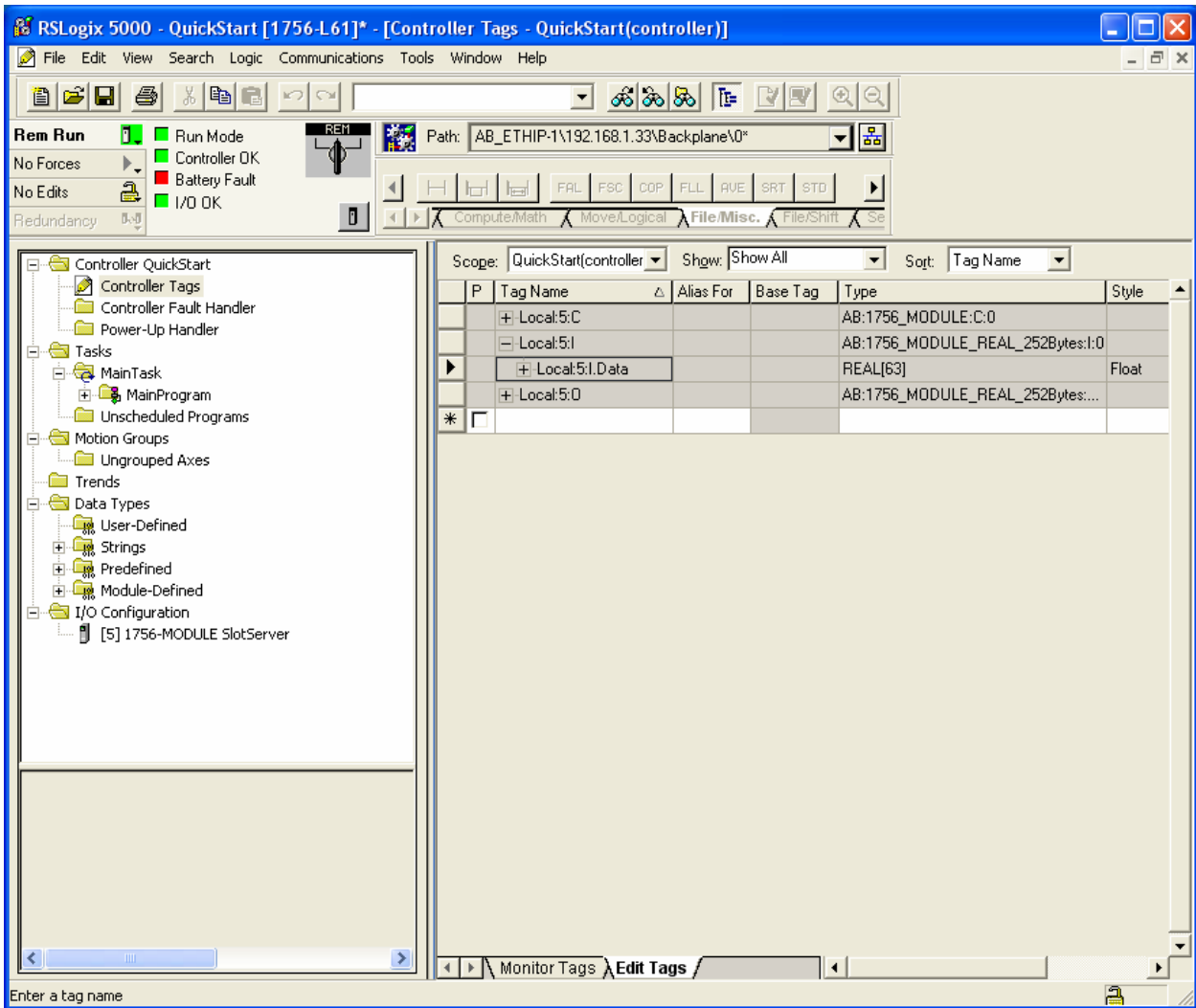
- Click Finish to complete the Module Properties setup.

5.3. Step 3: Bind LonWorks Variables

The SlotServer's LonWorks Network Variables must be bound to other devices using a Network Management Tool such as LonMaker. See Appendix C for more details on how to use a Network Management Tool to make the bindings.

5.4. Step 4: Download the RSLogix Program and Run

Use the Who Active or Communications Path directly to Download and Run the Program on the Controller/CPU.



5.5. Step 5: Interpret the Network Variable Data

LonWorks Input Variable Values can be found under the Local: 5:I.Data Tag and LonWorks Output Variable Values must be written into the Local: 5:O.Data

The :5: denotes the Slot number in the Rack that contains the SlotServer - your setup may use a different number.

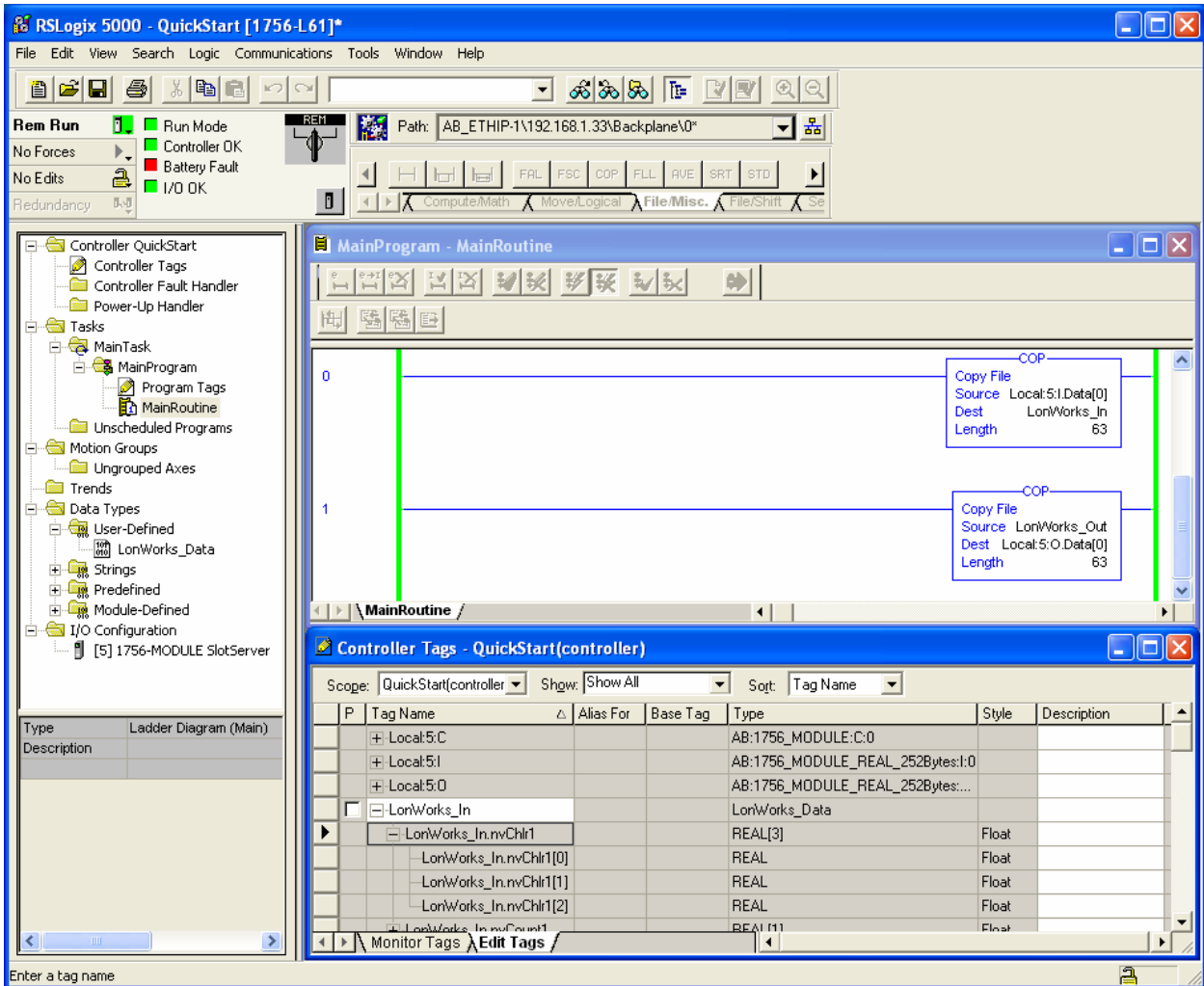
The Variables are arranged as follows for the Quick-Start example project:

Input Data Tag	Output Data Tag	NV name (i) for Input (o) for Output	LonWorks SNVT Type
Local:5:I.Data[0]	Local:5:O.Data[0]	Nv(i)(o)Chlr1_01	SNVT_chlr_status: chlr_run_mode
Local:5:I.Data[1]	Local:5:O.Data[1]		SNVT_chlr_status: chlr_op_mode
Local:5:I.Data[2]	Local:5:O.Data[2]		SNVT_chlr_status: chlr_state
Local:5:I.Data[3]	Local:5:O.Data[3]	nv(i)(o)Count1_01	SNVT_count_f
Local:5:I.Data[4]	Local:5:O.Data[4]	nv(i)(o)Count2_01	SNVT_count_f
Local:5:I.Data[5]	Local:5:O.Data[5]	nv(i)(o)Ctlnc1_01	SNVT_count_inc_f
Local:5:I.Data[6]	Local:5:O.Data[6]	nv(i)(o)Ctlnc2_01	SNVT_count_inc_f
Local:5:I.Data[7]	Local:5:O.Data[7]	nv(i)(o)Flow1_01	SNVT_flow_f
Local:5:I.Data[8]	Local:5:O.Data[8]	nv(i)(o)HVMod1_01	SNVT_hvac_mode
Local:5:I.Data[9]	Local:5:O.Data[9]	nv(i)(o)HVSts1_01	SNVT_hvac_status: hvac_sts_mode
Local:5:I.Data[10]	Local:5:O.Data[10]		SNVT_hvac_status: hvac_heat_out_pri
Local:5:I.Data[11]	Local:5:O.Data[11]		SNVT_hvac_status: hvac_heat_out_sec
Local:5:I.Data[12]	Local:5:O.Data[12]		SNVT_hvac_status: hvac_cool_out
Local:5:I.Data[13]	Local:5:O.Data[13]		SNVT_hvac_status: hvac_econ_out
Local:5:I.Data[14]	Local:5:O.Data[14]		SNVT_hvac_status: hvac_fan_out
Local:5:I.Data[15]	Local:5:O.Data[15]		SNVT_hvac_status: hvac_in_alarm
Local:5:I.Data[16]	Local:5:O.Data[16]	nv(i)(o)Lev1_01	SNVT_lev_cont
Local:5:I.Data[17]	Local:5:O.Data[17]	nv(i)(o)Occ1_01	SNVT_occupancy
Local:5:I.Data[18]	Local:5:O.Data[18]	nv(i)(o)Occ2_01	SNVT_occupancy
Local:5:I.Data[19]	Local:5:O.Data[19]	nv(i)(o)Perc1_01	SNVT_lev_percent
Local:5:I.Data[20]	Local:5:O.Data[20]	nv(i)(o)Perc2_01	SNVT_lev_percent
Local:5:I.Data[21]	Local:5:O.Data[21]	nv(i)(o)Perc3_01	SNVT_lev_percent
Local:5:I.Data[22]	Local:5:O.Data[22]	nv(i)(o)Perc4_01	SNVT_lev_percent
Local:5:I.Data[23]	Local:5:O.Data[23]	nv(i)(o)Perc5_01	SNVT_lev_percent
Local:5:I.Data[24]	Local:5:O.Data[24]	nv(i)(o)Perc6_01	SNVT_lev_percent
Local:5:I.Data[25]	Local:5:O.Data[25]	nv(i)(o)Perc7_01	SNVT_lev_percent
Local:5:I.Data[26]	Local:5:O.Data[26]	nv(i)(o)Perc8_01	SNVT_lev_percent
Local:5:I.Data[27]	Local:5:O.Data[27]	nv(i)(o)PPM1_01	SNVT_ppm

Input Data Tag	Output Data Tag	NV name (i) for Input (o) for Output	LonWorks SNVT Type
Local:5:I.Data[28]	Local:5:O.Data[28]	nv(i)(o)Press1_01	SNVT_press
Local:5:I.Data[29]	Local:5:O.Data[29]	nv(i)(o)Press2_01	SNVT_press
Local:5:I.Data[30]	Local:5:O.Data[30]	nv(i)(o)Setpt1_01	SNVT_temp_setpt: Occupied_cool
Local:5:I.Data[31]	Local:5:O.Data[31]		SNVT_temp_setpt: Standby_cool
Local:5:I.Data[32]	Local:5:O.Data[32]		SNVT_temp_setpt: Unoccupied_cool
Local:5:I.Data[33]	Local:5:O.Data[33]		SNVT_temp_setpt: Occupied_heat
Local:5:I.Data[34]	Local:5:O.Data[34]		SNVT_temp_setpt: Standby_heat
Local:5:I.Data[35]	Local:5:O.Data[35]		SNVT_temp_setpt: Unoccupied_heat
Local:5:I.Data[36]	Local:5:O.Data[36]		nv(i)(o)State1_01
Local:5:I.Data[37]	Local:5:O.Data[37]	nv(i)(o)State2_01	SNVT_state
Local:5:I.Data[38]	Local:5:O.Data[38]	nv(i)(o)State3_01	SNVT_state
Local:5:I.Data[39]	Local:5:O.Data[39]	nv(i)(o)State4_01	SNVT_state
Local:5:I.Data[40]	Local:5:O.Data[40]	nv(i)(o)Sw1_01	SNVT_switch
Local:5:I.Data[41]	Local:5:O.Data[41]		SNVT_switch
Local:5:I.Data[42]	Local:5:O.Data[42]	nv(i)(o)Sw2_01	SNVT_switch
Local:5:I.Data[43]	Local:5:O.Data[43]		SNVT_switch
Local:5:I.Data[44]	Local:5:O.Data[44]	nv(i)(o)Sw3_01	SNVT_switch
Local:5:I.Data[45]	Local:5:O.Data[45]		SNVT_switch
Local:5:I.Data[46]	Local:5:O.Data[46]	nv(i)(o)Sw4_01	SNVT_switch
Local:5:I.Data[47]	Local:5:O.Data[47]		SNVT_switch
Local:5:I.Data[48]	Local:5:O.Data[48]	nv(i)(o)Sw5_01	SNVT_switch
Local:5:I.Data[49]	Local:5:O.Data[49]		SNVT_switch
Local:5:I.Data[50]	Local:5:O.Data[50]	nv(i)(o)Sw6_01	SNVT_switch
Local:5:I.Data[51]	Local:5:O.Data[51]		SNVT_switch
Local:5:I.Data[52]	Local:5:O.Data[52]	nv(i)(o)Sw7_01	SNVT_switch
Local:5:I.Data[53]	Local:5:O.Data[53]		SNVT_switch
Local:5:I.Data[54]	Local:5:O.Data[54]	nv(i)(o)Sw8_01	SNVT_switch
Local:5:I.Data[55]	Local:5:O.Data[55]		SNVT_switch
Local:5:I.Data[56]	Local:5:O.Data[56]	nv(i)(o)Temp1_01	SNVT_temp_p
Local:5:I.Data[57]	Local:5:O.Data[57]	nv(i)(o)Temp2_01	SNVT_temp_p
Local:5:I.Data[58]	Local:5:O.Data[58]	nv(i)(o)Temp3_01	SNVT_temp_p
Local:5:I.Data[59]	Local:5:O.Data[59]	nv(i)(o)Temp4_01	SNVT_temp_p
Local:5:I.Data[60]	Local:5:O.Data[60]	nv(i)(o)Temp5_01	SNVT_temp_p
Local:5:I.Data[61]	Local:5:O.Data[61]	nv(i)(o)Temp6_01	SNVT_temp_p
Local:5:I.Data[62]	Local:5:O.Data[62]	nv(i)(o)Temp7_01	SNVT_temp_p

5.6. Step 6: (Optional) Arrange Data into User Defined Tags

You can make a User Defined Data Type and create a Tag for each LonWorks Data In and LonWorks Data Out. Use a ladder COPY instruction to copy between the User Defined Data Type Tag and the Local Tag.



6. Complete SlotServer Communications Project

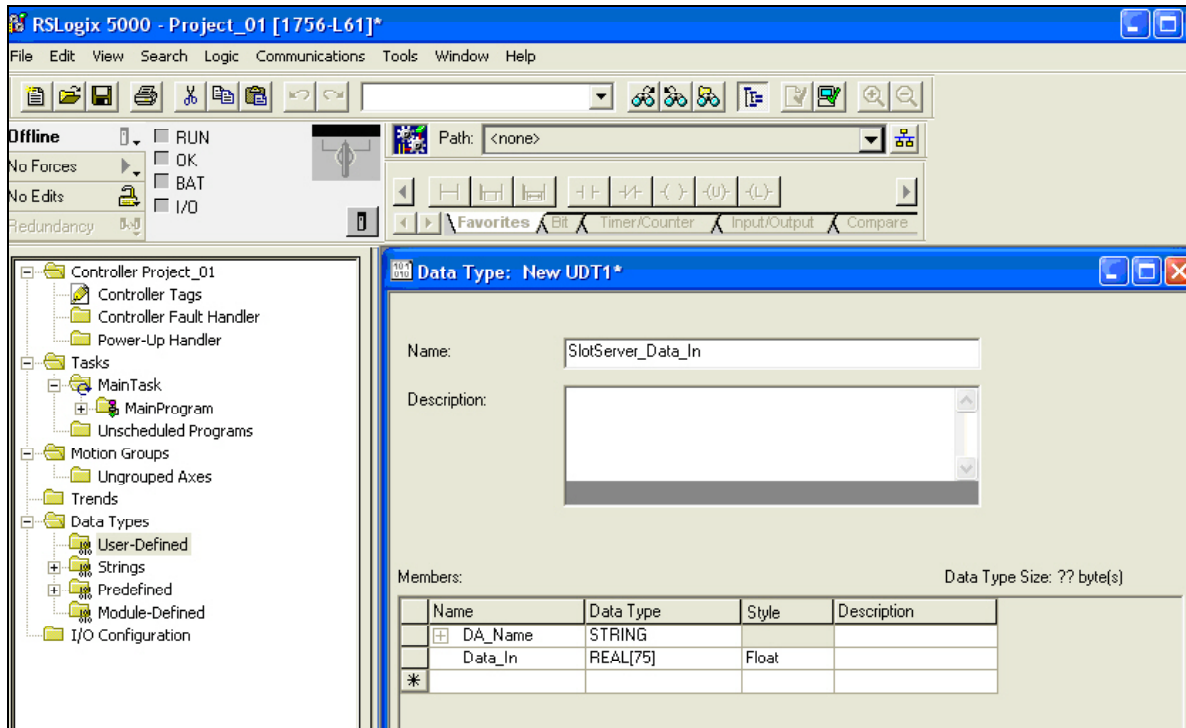
The Complete Project uses Message Blocks to transfer 25 Input and 25 Output Blocks of Lonworks Data. See Appendix D for the Variable List.

6.1. Step 1: Add the SlotServer Module

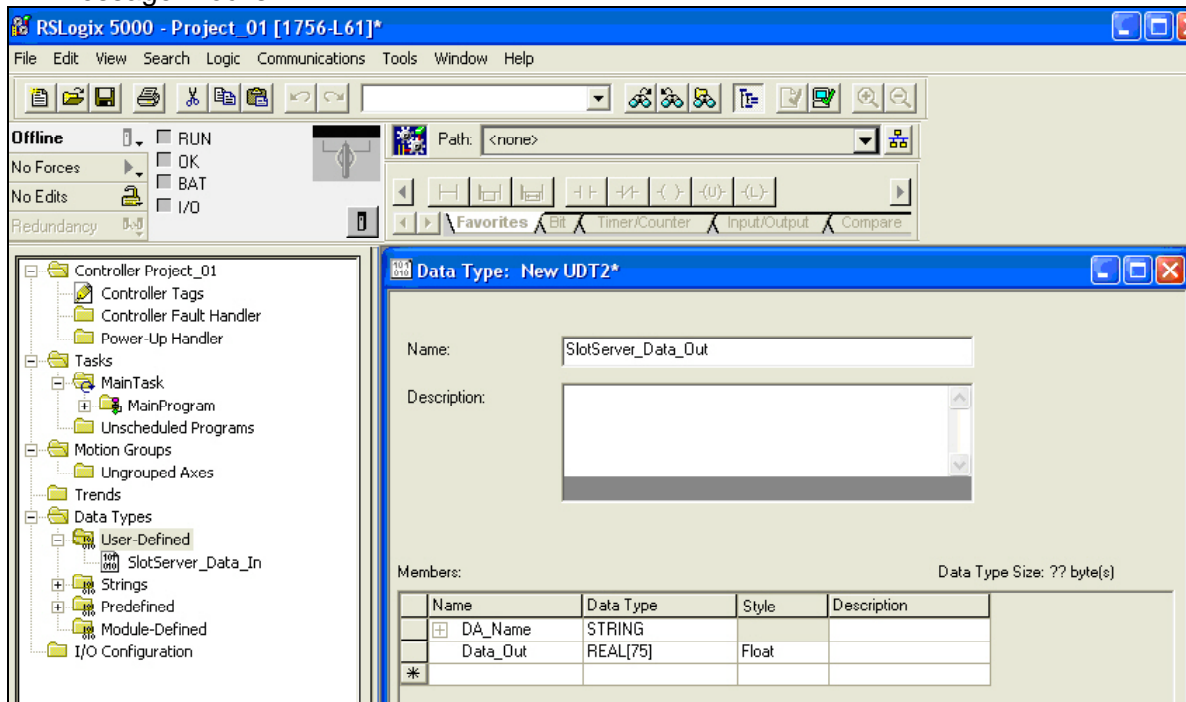
Follow Steps 1 & 2 of the Quick Start example to add the SlotServer to the RSLogix Project.

6.2. Step 2: Create two User Defined Data Types

- Right-click on Data Types, User-Defined, and select New Data Type.
- Create a new Data Type as shown below to be used with Read(In) type Message Blocks:

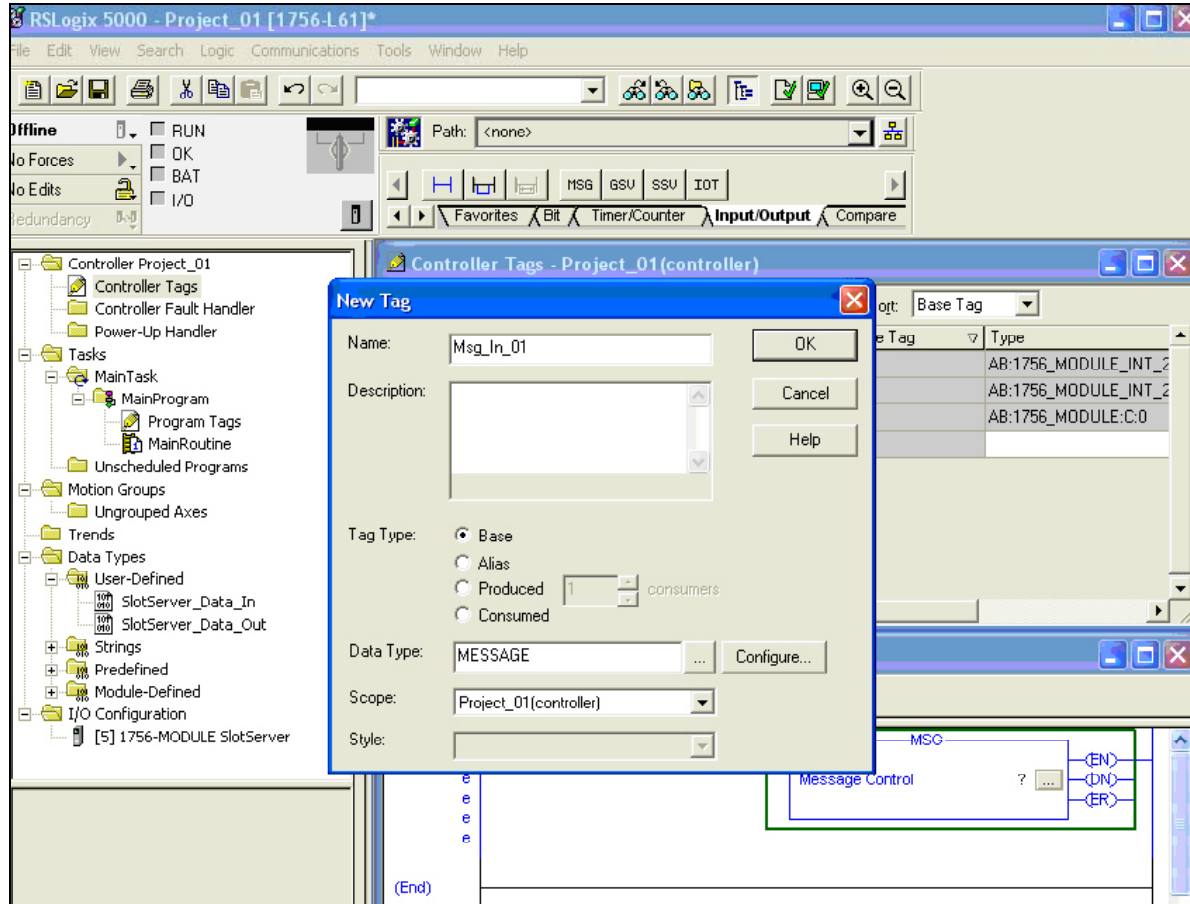


- Repeat the procedure to create a new Data Type to be used with Write(Out) type Message Blocks.

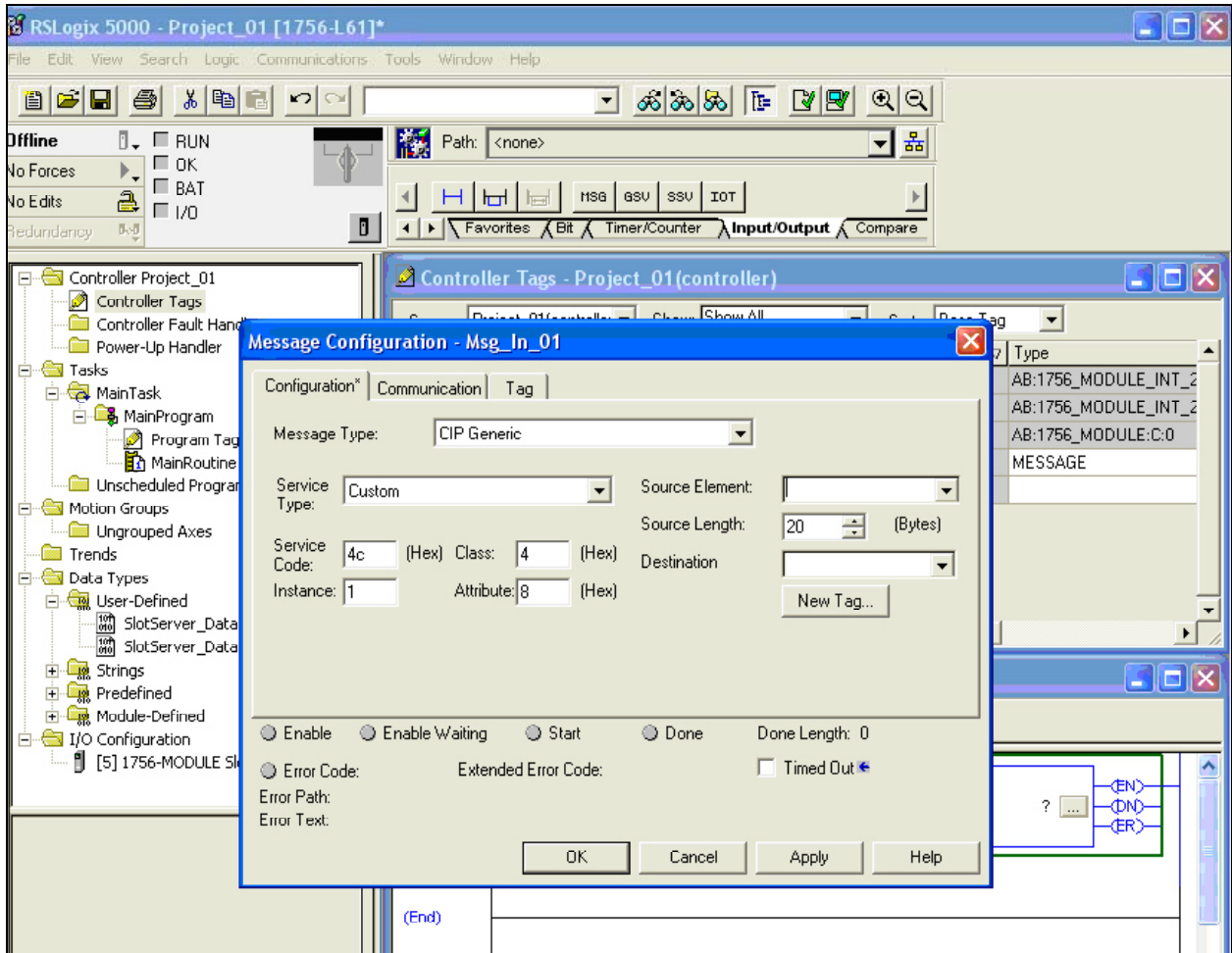


6.3. Step 3: Add and Configure a Read(In) Message Block

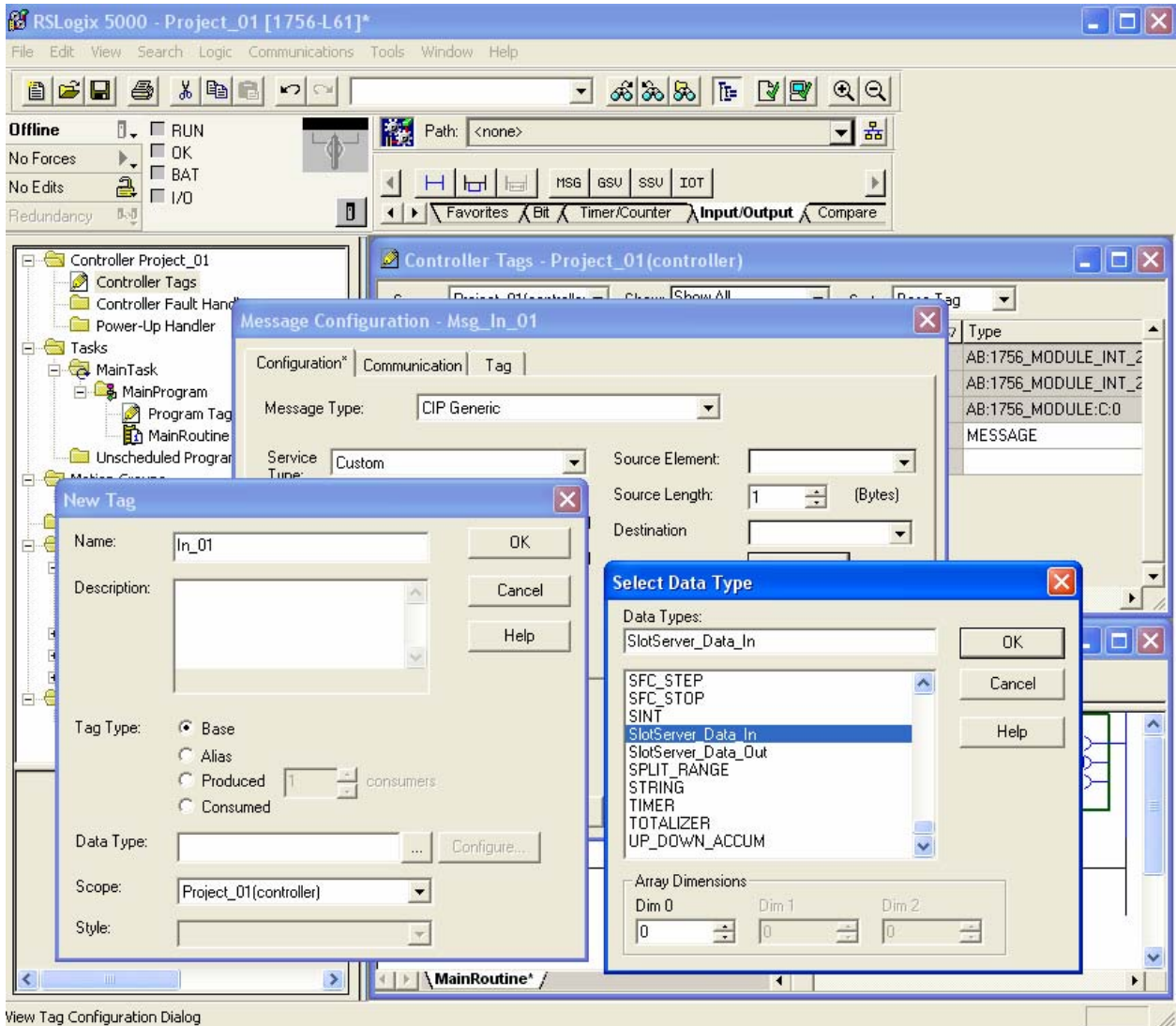
- Add an Examine On element and Message Block to the first rung of the ladder logic.
- Right Click on the Message Control ? bar and Select New Tag.
- Configure the Tag by naming it Msg_In_01 as shown below:



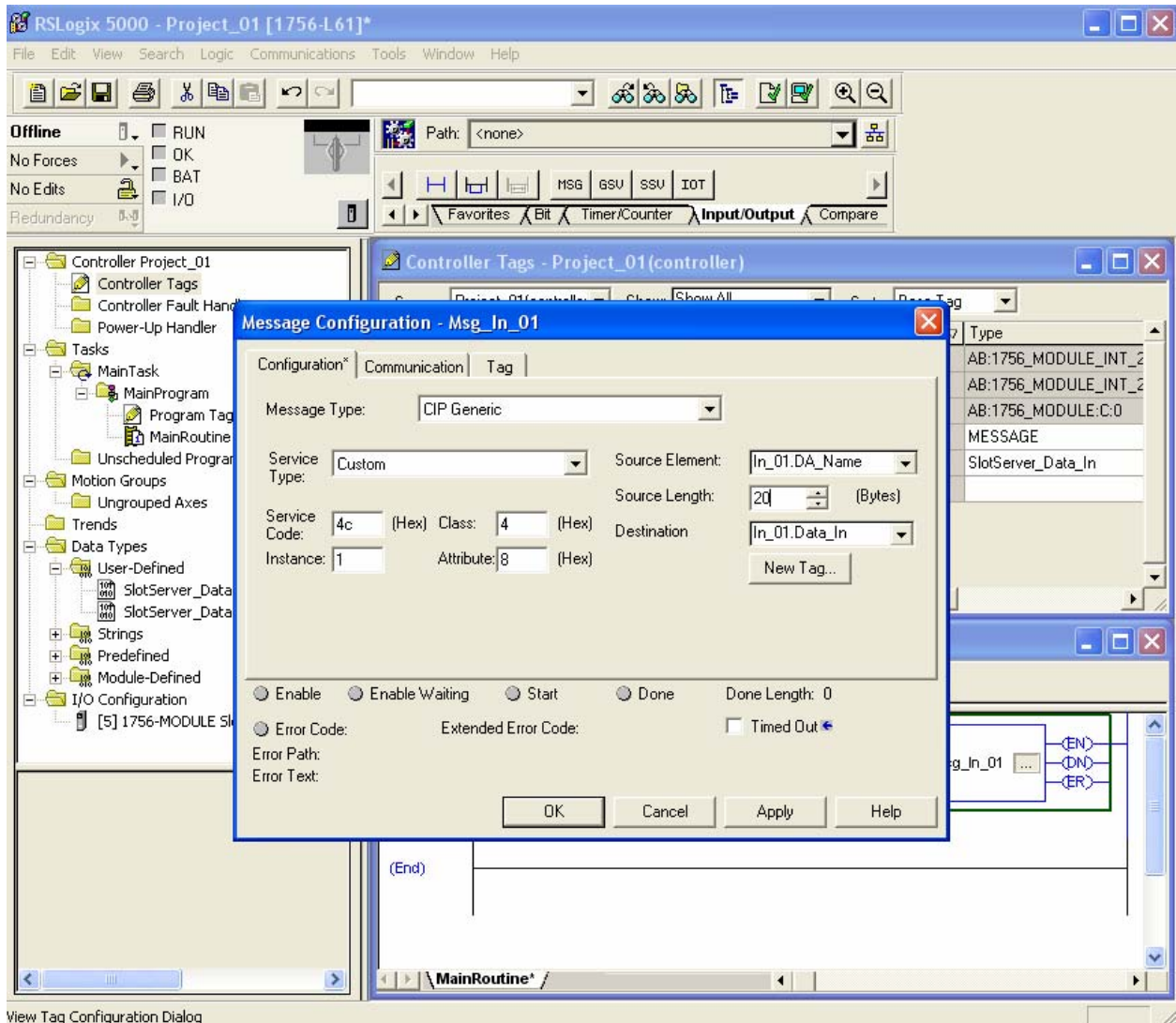
- Click on Configure and use the parameters as shown below for a Read Message block:



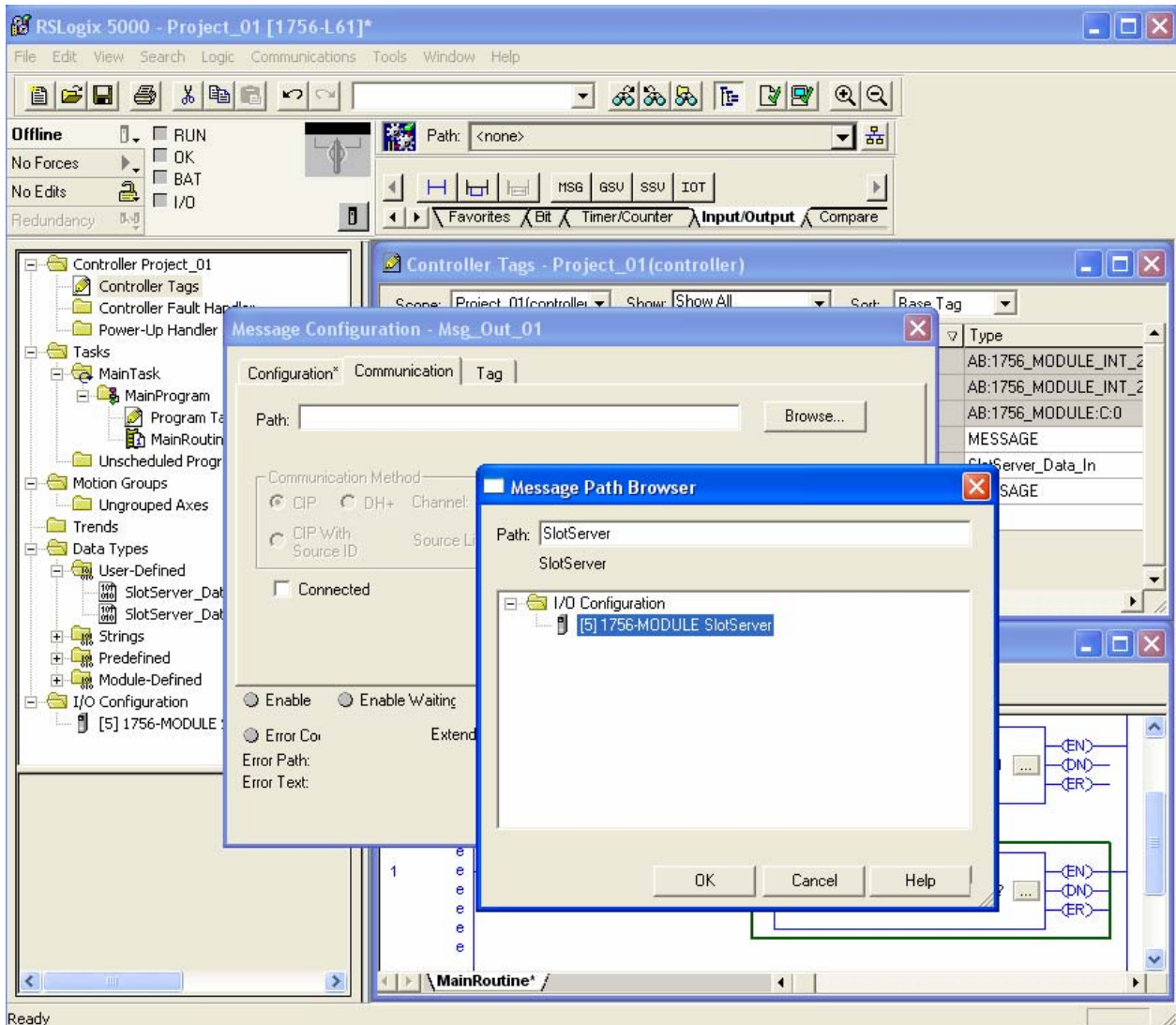
- Click in the Source Element field and then click on New Tag.
- Name the Tag as shown below and select the Read User defined data type “SlotServer_Data_In” you created in the previous Step.



- Select the DA_Name element as the Source Element and the Data_In element as the Destination Element of the Message Block.

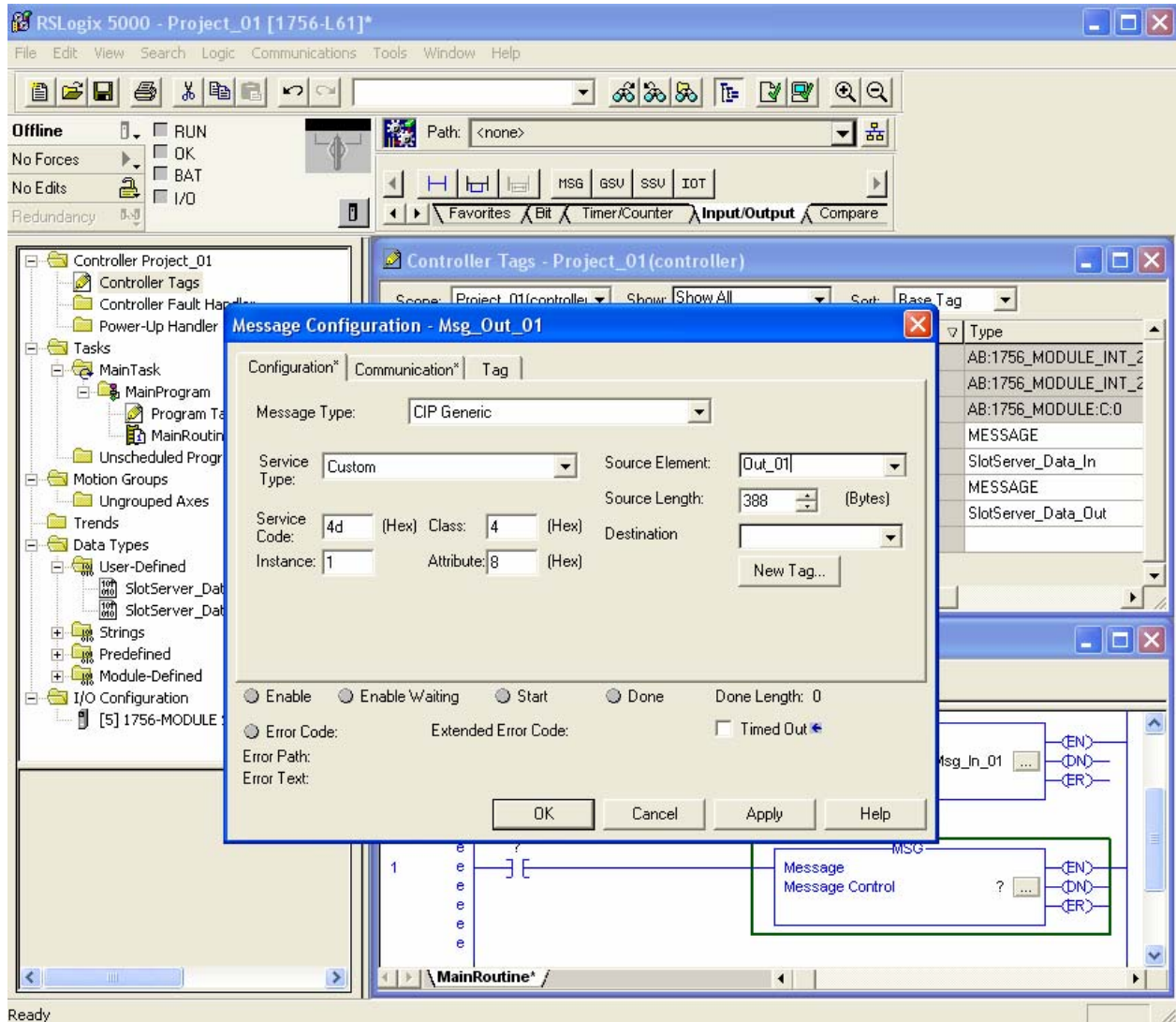


- Complete the Message Block Configuration by Browsing to the SlotServer device in the rack on the Communication Tab.



6.4. Step 4: Add and Configure a Write(Out) Message Block

- Add an Examine On element and Message Block to the first rung of the ladder logic.
- Right Click on the Message Control ? bar and Select New Tag.
- Configure the Tag by naming it Msg_Out_01 and Configure the Message Data Type by choosing the SlotServer_Data_Out User Defined Data Type you created in Step 4.
- Configure the MESSAGE Data Type for Write as shown below:

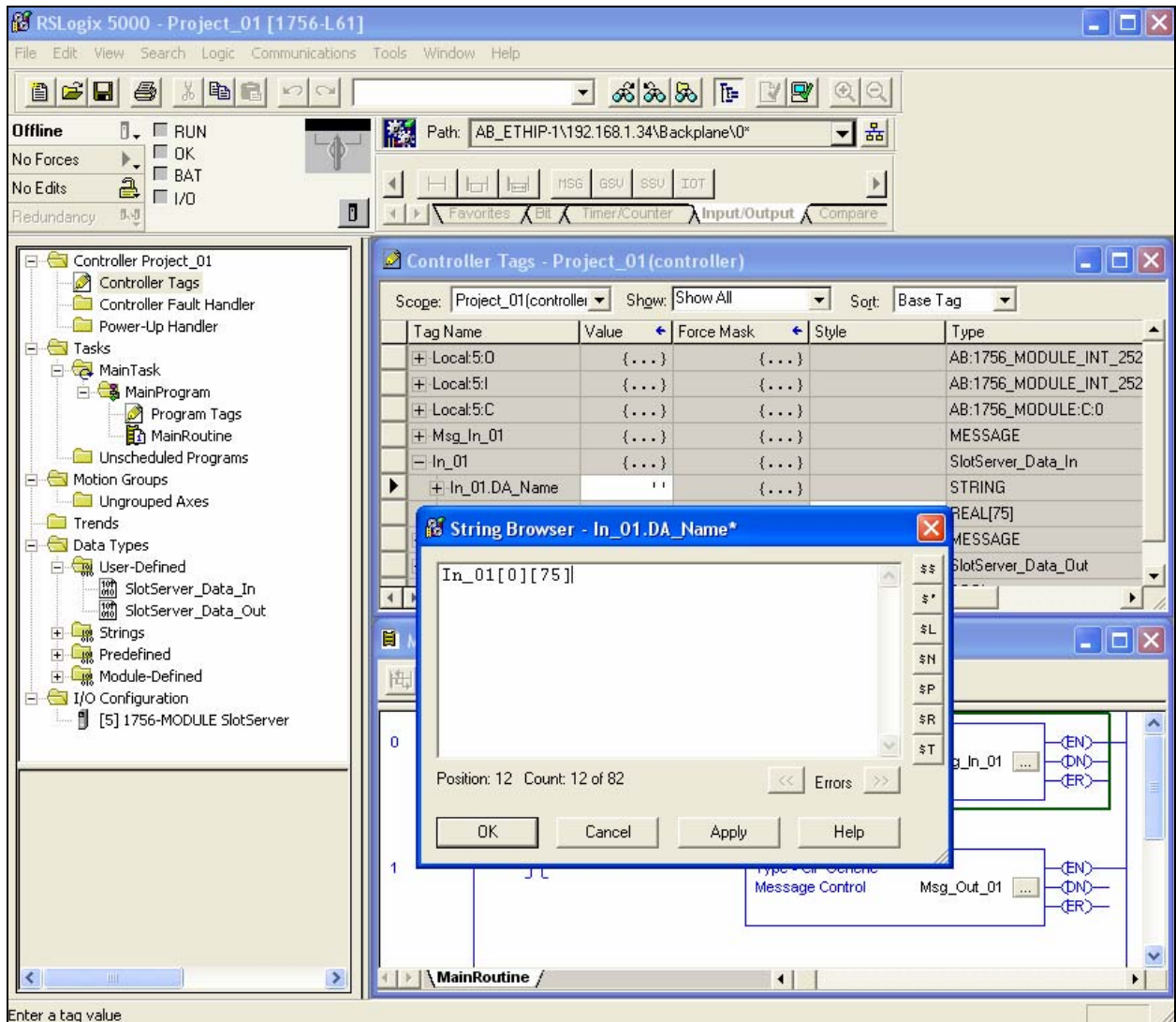


- Finally, click on the Communication tab and browse to the SlotServer to set the communications path.

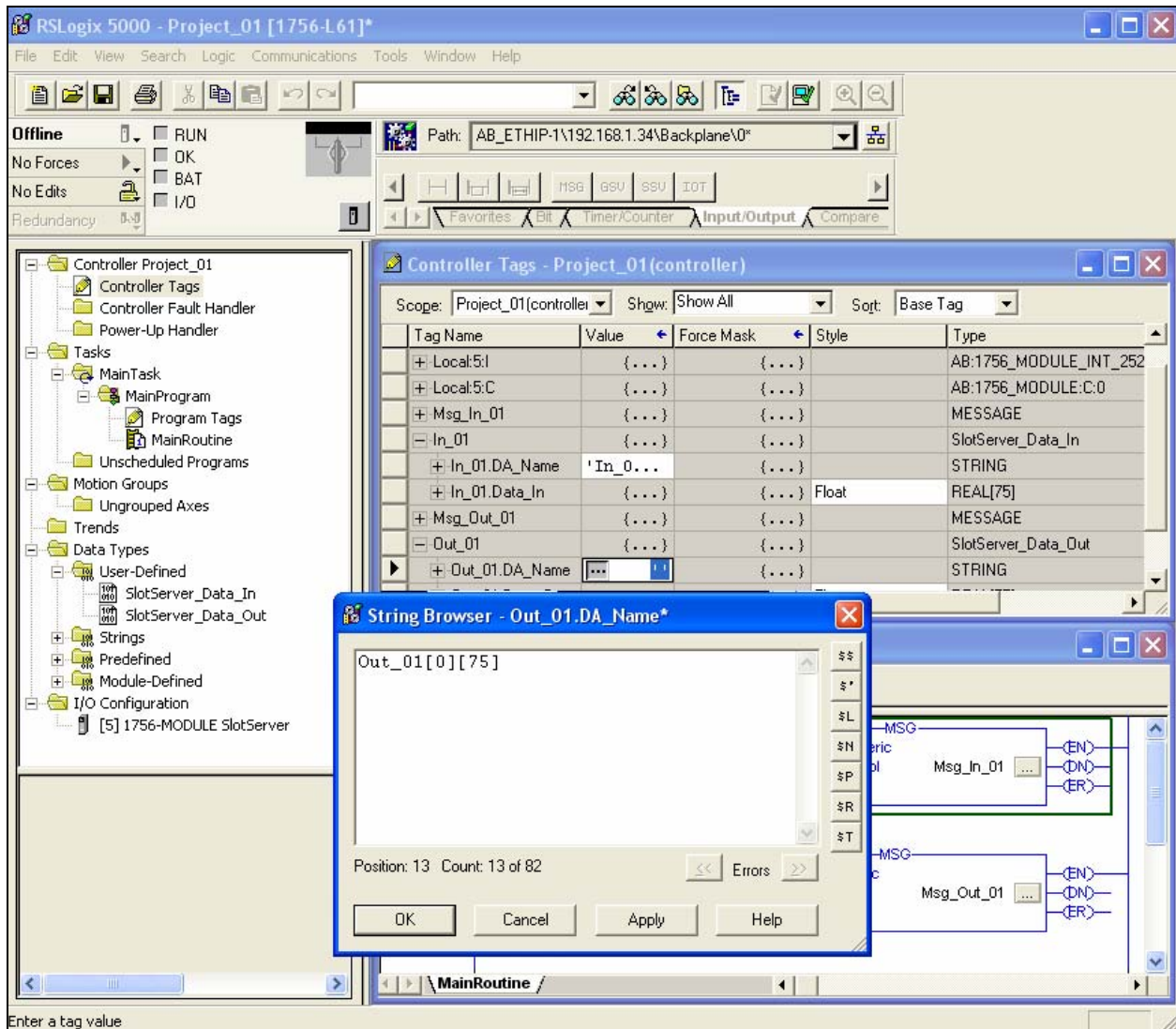
6.5. Step 5: Assign Data Array Names

Each Message Block's Source Element Tag holds an element that addresses a data array on the SlotServer.

- Open the In_01 CPU Tag and edit the DA_Name element adding the name of the data array as shown below: The format is DA_Name[offset][number of elements]. Note that the LonMark certified configuration supplied with the SlotServer is already configured for 75 elements per data array, so use the syntax as shown below:



- Do the same for the Out_01 CPU Tag:



6.6. Step 6: Create logic to control the Message Blocks

A simple method for testing is to create a Bool Tag that is examined by the two “Examine On” elements of the Message Blocks. The Tag value can be manually set to 1 and 0 to trigger and test for data transfer.

6.7. Step 7: Save and download the RSLogix program.

After Saving and Downloading, be sure to Set the Controller to Run mode.

6.8. Step 8: Commission the LonWorks NetWork

To effect actual transfer of LonWorks data, the next step is to present the SlotServer profile to the LonWorks network by commissioning the SlotServer into the network with a LonWorks Network Manager. The precise method for doing this varies depending on the Network Manager used, but Appendix C shows how this can be achieved using LonMaker for Windows. Other Network managers follow similar philosophies to achieve the same goal.

Once the SlotServer is commissioned, it can be bound to the variables of interest.

Communications should now be enabled between the LonWorks variables and the CPU tags. If the data is not being transferred, refer to Appendix B for hints and tips on troubleshooting the application.

The detailed tag list available for data transfer can be found in Appendix D. Should more advanced operation or functionality be required than described above, then refer to Appendix A for documentation of advanced topics.

Appendix A. Advanced Topics

Appendix A.1. Using the FieldServer RUI for troubleshooting.

As a FieldServer enabled product, the SlotServer supports the use of the FieldServer Utilities for diagnostic purposes. It should not be necessary to connect these utilities to the SlotServer. However, if the need arises, then the following steps are advised:

- Download the utilities software (or just RuiNet) from www.fieldserver.com
- Download the FieldServer Utilities manual
- Get familiar with the utilities by reading the Utilities manual
- Connect to the Ethernet port on the SlotServer as prescribed by the FieldServer Utilities manual.
- Follow directions on each of the features of the Utilities to achieve the desired result

Note: It is possible to change the profile of the SlotServer by loading a new configuration with these utilities. However, doing so for this particular product will void the Warranty on the product and doing so without consulting FieldServer Technologies is strongly discouraged.

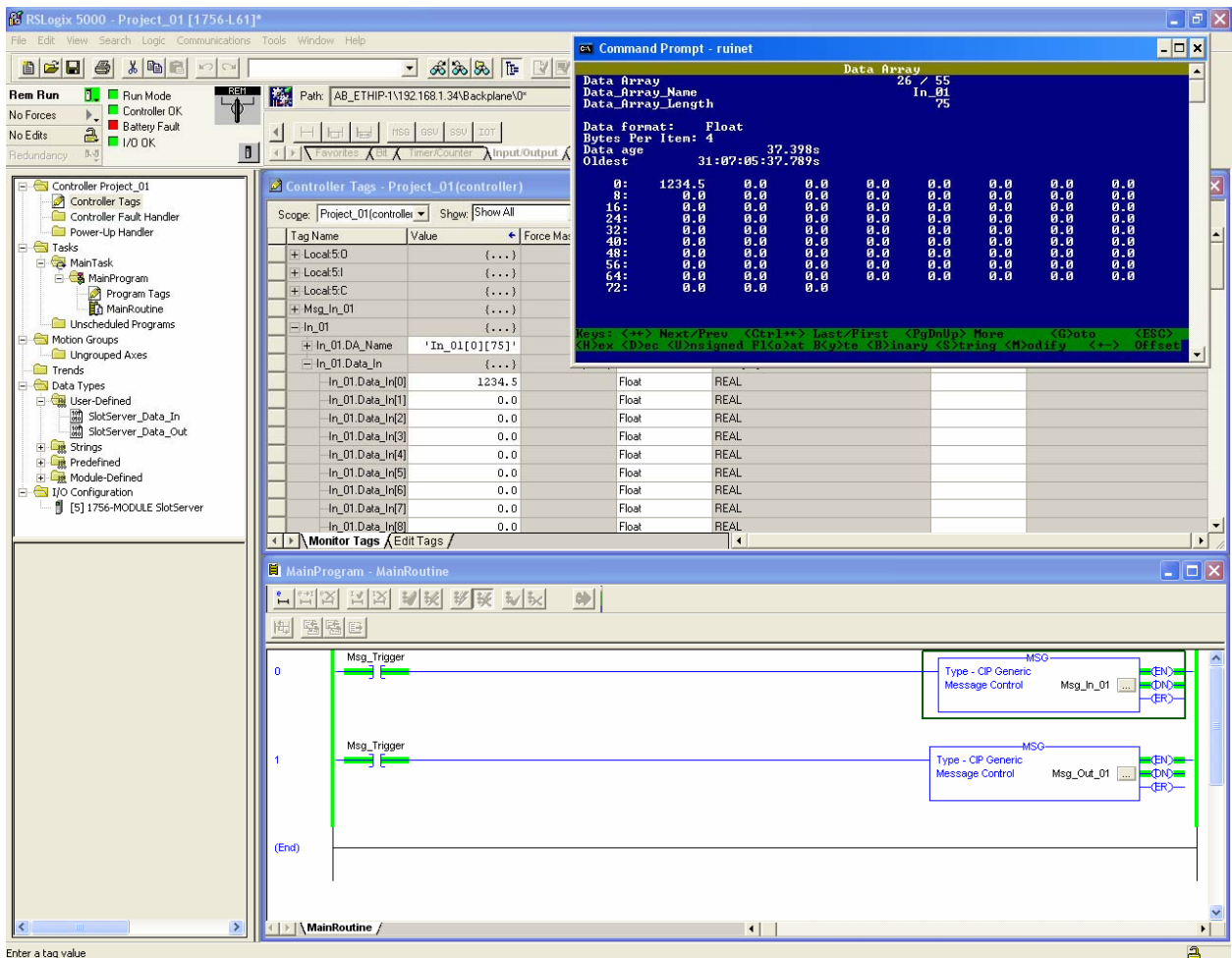
Appendix B. Troubleshooting tips

Appendix B.1. Things to check when communications has failed.

- Check for loose cabling on the LonWorks network
- Verify that the bindings in the LonWorks network have not been broken by checking the variable status' with the LonWorks Network Manager.
- If the LonWorks Network Manager shows the communications to be healthy, then check the tag names used in the MSG blocks in the RSLogix program.
- Verify that the correct program is loaded to the CPU
- Verify that Custom Generic functions are being used in the MSG blocks
- Check the communications tab in the MSG block. Make sure that the path is correct.
- Verify that the correct data types for the tags have been used.

Appendix B.2. Use the FieldServer RUI utility to check data transfer

The screenshot below shows the Read data transfer for the In_01 Tag.



The screenshot below shows the Write data transfer for the Out_01 Tag:

The screenshot displays the RSLogix 5000 software interface for Project_01 [1756-1.61]. The main window shows the 'Controller Tags - Project_01(controller)' table with the following data:

Tag Name	Value
Local5:0	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
Local5:1	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
Local5:C	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
Msg_In_01	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
In_01	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
In_01.DA_Name	'In_01[0][75]'	(...)	(...)	(...)	(...)	(...)	(...)	(...)
In_01.Data_In	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
Msg_Out_01	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
Out_01	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
Out_01.DA_Name	'Out_01[0][75]'	(...)	(...)	(...)	(...)	(...)	(...)	(...)
Out_01.Data_Out	(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
Out_01.Data_Out[0]	9876.5	Float	REAL	REAL[75]				
Out_01.Data_Out[1]	0.0	Float	REAL	REAL				
Out_01.Data_Out[2]	0.0	Float	REAL	REAL				
Out_01.Data_Out[3]	0.0	Float	REAL	REAL				
Out_01.Data_Out[4]	0.0	Float	REAL	REAL				

The 'Command Prompt - ruinet' window shows the following data array transfer details:

```

Data Array          Data Array
Data_Array_Name     1 / 55
Data_Array_Length   Out_01
                   75
Data format:        Float
Bytes Per Item:     4
Data age            10.785s
Oldest              31:07:05:37.789s
0: 9876.5  0.0  0.0  0.0  0.0  0.0  0.0  0.0
8: 0.0     0.0  0.0  0.0  0.0  0.0  0.0  0.0
16: 0.0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
24: 0.0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
32: 0.0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
40: 0.0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
48: 0.0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
56: 0.0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
64: 0.0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
72: 0.0    0.0  0.0  0.0  0.0  0.0  0.0  0.0
    
```

The 'MainProgram - MainRoutine' window shows a ladder logic diagram with two rungs. Rung 0 contains a 'Msg_Trigger' coil and a 'Type - CIP Generic Message Control' block connected to 'Msg_In_01'. Rung 1 contains a 'Msg_Trigger' coil and a 'Type - CIP Generic Message Control' block connected to 'Msg_Out_01'. The diagram also shows 'END', 'DNC', and 'ERR' indicators for each control block.

Appendix C. Using LonMaker to Commission a SlotServer

- Ensure that the SlotServer and the LonMaker PC are on the same LonWorks network.
- Open the existing Network in LonMaker, or create a new Network
- Click on “Create New Network” and follow the network wizard, making the following selections:
 - Network Interface: Choose Network Attached
 - Management Mode: Choose Onnet unless you are working offline
 - Register Plug-ins required. None
- Once Visio is open with the Network showing, drag a new device onto the drawing from the toolbox.
- Follow the Device Network, making the following selections
 - Enter Device Name: Choose commission device
 - Specify Device Template: Choose upload from device
 - Specify Device Channel: Choose Auto Detect
 - Specify Device Properties: Leave as is (Ping is optional)
 - Identify Device: Choose service pin
 - Device Application Image: Leave unchecked
 - Initial State: Online
- Press the service pin on the SlotServer when asked to do so, and the SlotServer will be commissioned.
- Drag a new function block onto the drawing from the toolbox. Give the function block a name and ensure that it is allocated to the SlotServer device.
- Once the function block is on the drawing, you can drag input and output variables onto the function block. When you do this, LonMaker will show you the variables available for binding. Click on the variables you require (or use the select all option), and they will be commissioned onto the function block.
- You are now ready to connect these variables to other devices by dragging connections from the toolbox and connecting the variables.

Appendix D. Network Variables List – LonWorks Open Interface Profile

Appendix D.1. LonWorks Network Variables Summary

The SlotServer LonWorks Open Interface Profile contains 50 Functional Blocks containing a total of 2,600 Network Variables of different SNVT Types.

Input Data Function Blocks:

In_01 .. In_25

Output Data Function Blocks:

Out_01 .. Out_25

Each Function Block contains the following Network Variables:

NV name (i) for Input (o) for Output	LonWorks SNVT Type
nv(i)(o)Amp1	SNVT_amp
nv(i)(o)Amp2	SNVT_amp
nv(i)(o)Chlr1	SNVT_chlr_status
nv(i)(o)Count1	SNVT_count_f
nv(i)(o)Count2	SNVT_count_f
nv(i)(o)Ctlnc1	SNVT_count_inc_f
nv(i)(o)Ctlnc2	SNVT_count_inc_f
nv(i)(o)Flow1	SNVT_flow_f
nv(i)(o)Freq1	SNVT_freq_hz
nv(i)(o)HVMod1	SNVT_hvac_mode
nv(i)(o)HVSts1	SNVT_hvac_status
nv(i)(o)Lev1	SNVT_lev_cont
nv(i)(o)Obj1	SNVT_obj_status
nv(i)(o)Occ1	SNVT_occupancy
nv(i)(o)Occ2	SNVT_occupancy
nv(i)(o)Perc1	SNVT_lev_percent
nv(i)(o)Perc2	SNVT_lev_percent
nv(i)(o)Perc3	SNVT_lev_percent
nv(i)(o)Perc4	SNVT_lev_percent
nv(i)(o)Perc5	SNVT_lev_percent
nv(i)(o)Perc6	SNVT_lev_percent
nv(i)(o)Perc7	SNVT_lev_percent
nv(i)(o)Perc8	SNVT_lev_percent
nv(i)(o)PPM1	SNVT_ppm
nv(i)(o)Press1	SNVT_press
nv(i)(o)Press2	SNVT_press
nv(i)(o)Setpt1	SNVT_temp_setpt
nv(i)(o)State1	SNVT_state
nv(i)(o)State2	SNVT_state
nv(i)(o)State3	SNVT_state
nv(i)(o)State4	SNVT_state

NV name (i) for Input (o) for Output	LonWorks SNVT Type
nv(i)(o)Sw1	SNVT_switch
nv(i)(o)Sw2	SNVT_switch
nv(i)(o)Sw3	SNVT_switch
nv(i)(o)Sw4	SNVT_switch
nv(i)(o)Sw5	SNVT_switch
nv(i)(o)Sw6	SNVT_switch
nv(i)(o)Sw7	SNVT_switch
nv(i)(o)Sw8	SNVT_switch
nv(i)(o)Temp1	SNVT_temp_p
nv(i)(o)Temp2	SNVT_temp_p
nv(i)(o)Temp3	SNVT_temp_p
nv(i)(o)Temp4	SNVT_temp_p
nv(i)(o)Temp5	SNVT_temp_p
nv(i)(o)Temp6	SNVT_temp_p
nv(i)(o)Temp7	SNVT_temp_p
nv(i)(o)Temp8	SNVT_temp_p
nv(i)(o)TodEv1	SNVT_tod_event
nv(i)(o)VltAC1	SNVT_volt_ac
nv(i)(o)VltAC2	SNVT_volt_ac
nv(i)(o)Volt1	SNVT_volt
nv(i)(o)Volt2	SNVT_volt

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