

Technical Note

MVI56(E)-MNETC Add-On Instruction Installation Guide

Modbus TCP/IP Client Communication Module Document Code: 661472 Author: ProSoft Technical Publications Date: December 10, 2009





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Document Information

Author	ProSoft Technical Publications
Description	Modbus TCP/IP Client Communication Module
Date	December 10, 2009
Revision	1.03.00
Product Name	MVI56(E)-MNETC
Document Code	661472

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December 10, 2009

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Add Modbus TCP/IP Client Communication to ControlLogix with an Add-On Instruction for RSLogix® 5000 Version 16

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Introduction

Beginning with version 16 of RSLogix[™] 5000 software, Rockwell Automation added an extremely helpful feature to make it easier that ever to set up third party modules, custom code, or proprietary code. They called this new feature an "Add-On Instruction" (AOI). This AOI feature allows third party vendors, panel builders, and system integrators to create ladder logic code that can be protected for safety or security reasons and can be locked to ensure that the code remains unchanged.

ProSoft Technology®'s inRAx® Modbus TCP/IP Client Communication Module for ControlLogix®, the MVI56(E)-MNETC, is provided with an Add-On Instruction to allow easy integration of the module into new or existing RSLogix 5000 Version 16 and newer projects.

ProSoft Technology® has enhanced the MVI56(E)-MNETC module's Add-On Instruction in a way that will significantly simplify installation.

Now users can integrate the module into a new or existing project by importing a single ladder logic import file, as opposed to importing multiple User Defined Data Types and ladder logic rungs, one-by-one.

The entire ladder logic required by the MVI56(E)-MNETC is encapsulated in one, single Add-On Instruction. And, when the ladder logic .L5X file is imported, it automatically creates all the required User-Defined Data Types, Controller Tags, and the Add-On Instruction logic, all while adding the preconfigured AOI instruction to the ladder rung.

This new way of importing an AOI as a completed ladder rung enables quicker and easier integration of the MVI56(E)-MNETC with fewer chances for human typographical errors and ladder coding or setup errors.





Instructions

1 Open the **FILE** menu, and then choose **NEW...**

👪 RSLogix 5000									
<u>F</u> ile	Edit View Search Logic Communication	is <u>T</u> ools <u>W</u>							
Ē	<u>N</u> ew	Ctrl+N							
2	Open	Ctrl+O							
	Close								
	<u>S</u> ave	Ctrl+S							
	Save <u>A</u> s								

- 2 Select your ControlLogix controller model.
- 3 Select Revision 16.
- 4 Enter a name for your controller, such as "My_Controller".
- 5 Select your ControlLogix chassis type.
- 6 Select **SLOT 0** for the controller.

New Controlle	r	×
Vendor:	Allen-Bradley	
<u>T</u> ype:	1756-L63 ControlLogix5563 Controller	OK
Re <u>v</u> ision:	16 💌	Cancel
	Redundancy Enabled	Help
Na <u>m</u> e:	My_Controller	
Descri <u>p</u> tion:		
<u>C</u> hassis Type:	1756-A4 4-Slot ControlLogix Chassis	
Sl <u>o</u> t:	0 Safety Partner Slot:	
Cr <u>e</u> ate In:	C:\RSLogix 5000\Projects	Browse

7 Add the MVI56(E)-MNETC module to the project.

In the **CONTROLLER ORGANIZATION** window, select **I/O CONFIGURATION** and click the right mouse button to open a shortcut menu. On the shortcut menu, choose **New Module...**

	7		
[] [0] 1756-L63 My_Cor	1	New Module	
	B	Paste	Ctrl+V



This action opens the **SELECT MODULE** dialog box.

Select Module		N 100 N
Module B Analog Communications Digital Drives Motion Other 1756-MODULE Specialty	Description Generic 1756 Module	Vendor Allen-Bradley
By Category By V	endor Favorites OK	Eind Add Favorite

8 Select the **1756-MODULE (GENERIC 1756 MODULE)** from the list and click **OK.** This action opens the **New MODULE** dialog box.

New Module						×
Туре:	1756-MODULE Generic 1756 Module					
Parent:	Local	- Connection Pa	Assembly	Size:]
Na <u>m</u> e:	MNETC	<u>I</u> nput:	Instance: 1	250	(16-bit)	
Descri <u>p</u> tion:		O <u>u</u> tput:	2	248		
	~	Configuration:	4	0	• (8-bit)	
Comm <u>F</u> ormat:	Data - INT	<u>S</u> tatus Input:				
Sl <u>o</u> t:	1 🗧	Status Output:				
— Open Modu	le Properties	(ОК		el	Help	



Parameter	Value
Name	Enter a module identification string. Example: Modbus TCP/IP Client.
DESCRIPTION	Enter a description for the module. Example: Modbus TCP/IP Client Communication Module
Comm Format	Select DATA-INT.
SLOT	Enter the slot number in the rack where the MVI56(E)-MNETC module is located.
INPUT ASSEMBLY INSTANCE	1
INPUT SIZE	250
OUTPUT ASSEMBLY INSTANCE	2
OUTPUT SIZE	248
CONFIGURATION ASSEMBLY INSTANCE	4
CONFIGURATION SIZE	0

9 In the **New Module** dialog box, enter the following values.

Important: You must select the COMM FORMAT as DATA - INT in the dialog box, otherwise the module will not communicate over the backplane of the ControlLogix rack.

- 10 Click OK to continue.
- **11** Edit the Module Properties. Select the **Requested Packet Interval** value for scanning the I/O on the module. This value represents the minimum frequency at which the module will handle scheduled events. This value should not be set to less than 1 millisecond. The default value is 5 milliseconds. Values between 1 and 10 milliseconds should work with most applications.

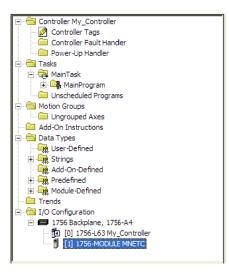
Module Properties: Local:1 (1756-MODULE 1.1)	×
General Connection Module Info Backplane	
Requested Packet Interval (RPI): 5.0 + ms (0.2 - 750.0 ms) Inhibit Module Major Fault On Controller If Connection Fails While in Run Mode	
Module Fault	
Status: Offline OK Cancel Apply Help	

12 Save the module.

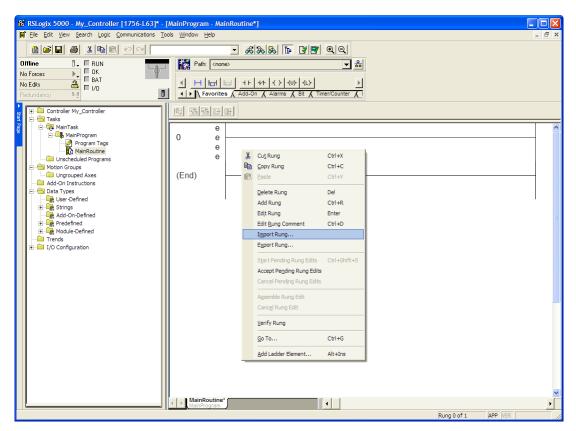


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Click OK to close the dialog box. Notice that the module now appears in the CONTROLLER ORGANIZATION window.



- 13 In the CONTROLLER ORGANIZATION window, expand the TASKS folder and subfolder until you reach the MAINPROGRAM folder.
- 14 In the MAINPROGRAM folder, double-click to open the MAINROUTINE ladder.
- **15** Select an empty rung in the new routine, and then click the right mouse button to open a shortcut menu. On the shortcut menu, choose **IMPORT RUNG...**



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16 Navigate to the location on your PC where you saved the Add-On Instruction (for example, "My Documents" or "Desktop"). Select the MVI56(E)ModBus TCP/IP CLIENT_ADDON_RUNG_<VERSION #>.L5X file

Import Rung						
Look in:	🞯 Desktop		•	(di 📰 •	
My Recent Documents Desktop My Documents My Computer	My Computer My Documents My Network Pla Downloads	ices C_AddOn_Rung_v1_3.L5X				
My Network Places	File <u>n</u> ame: Files of type:	MVI56(E)MNETC_AddOn_Ru RSLogix 5000 XML Files (*.L5		_3.L5X	•	Import Cancel Help

This action opens the IMPORT CONFIGURATION dialog box, showing the controller tags that will be created.

Im	Import Configuration									
ſ	Tags Data Types Add-On Instructions									
			Name	Δ	Alias For	Data Type	Description	Operation		
		1	A0I56MNETC	-		A0I56MNETC		Create New		
	2	Ð	Local:1:1			AB:1756_MOD		Use Existing		
	2		Local:1:0			AB:1756_MOD		Use Existing		
		1	MNETC			MNETCMODU		Create New		
							ОК	Cancel Help		

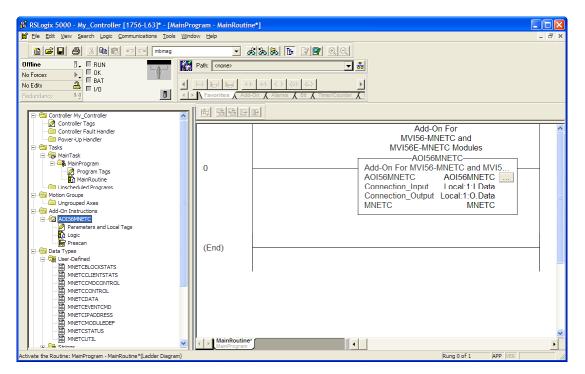
- 17 If you are using the module in a different slot (or remote rack), select the correct connection input and output variables that define the path to the module. If your module is located in Slot 1 of the local rack, this step is not required.
- 18 Click OK to confirm the import. RSLogix will indicate that the import is in progress:

Importing	
Creating routine: Prescan	

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When the import is completed, the new rung with the Add-On Instruction will be visible as shown in the following illustration.



The procedure has also imported new User Defined Data Types, data objects and the Add-On instruction for your project.

Favorites Add-On Alarms Bit Timer/Counter	

Save the application and then download the sample ladder logic into the processor.

Benefits

This process for importing the MVI56(E)-MNETC Add-On Instruction into the RSLogix ladder logic file has replaced the practice of importing User Defined Data Types and multiple rungs of ladder in multiple ladder files.

This enhancement allows you to easily integrate the module into a new or existing RSLogix project without manually copying over each file. Doing so practically eliminates human typographical errors. Additionally, errors that do occur are significantly easier to correct.