# Technical Note

**ProSoft** ®
T E C H N O L O G Y

Where Automation Connects.

# 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

**inRAx** ®

ASIA PACIFIC | AFRICA | EUROPE | MIDDLE EAST | LATIN AMERICA | NORTH AMERICA

## 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 |

## How to contact us: Sales & Support

All ProSoft Technology® products are backed with unlimited technical support. Contact our worldwide Technical Support team directly by phone or email:

**Asia Pacific**
+603.7724.2080, support.asia@prosoft-technology.com
Languages spoken include: Chinese, Japanese, English

**Europe – Middle East – Africa**
+33 (0) 5.34.36.87.20, support.EMEA@prosoft-technology.com
Languages spoken include: French, English
europe@prosoft-technology.com,
fax to +33 (0) 5.61.78.40.52

**North America**
+1.661.716.5100, support@prosoft-technology.com
Languages spoken include: English, Spanish
orders@prosoft-technology.com,
fax to +1 661.716.5101

**Latin America (Sales only)**
+1.281.298.9109, latinam@prosoft-technology.com
Languages spoken include: Spanish, English

**Brasil**
+55-11.5084.5178, eduardo@prosoft-technology.com
Languages spoken include: Portuguese, English

# Contents

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

### *In This Chapter*

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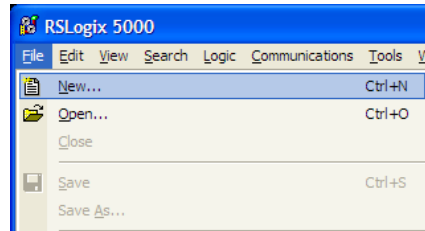
The entire ladder logic required by the MVI56(E)-MNETC is encapsulated in one, single Add-On Instruction. And, when the ladder logic .L5X file is imported, it automatically creates all the required User-Defined Data Types, Controller Tags, and the Add-On Instruction logic, all while adding the preconfigured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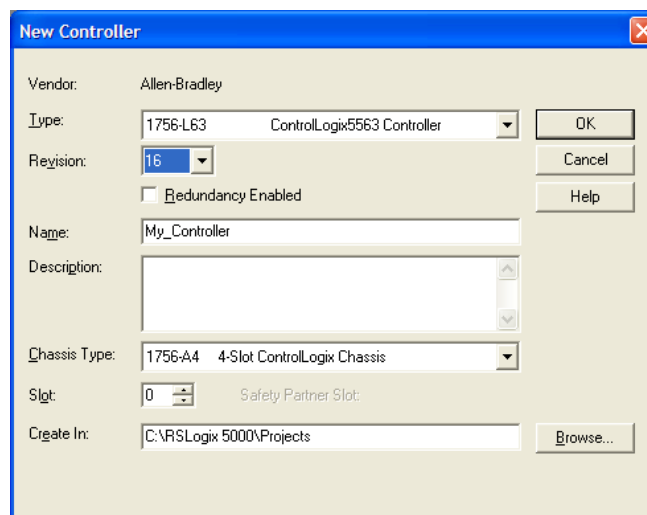
## Instructions

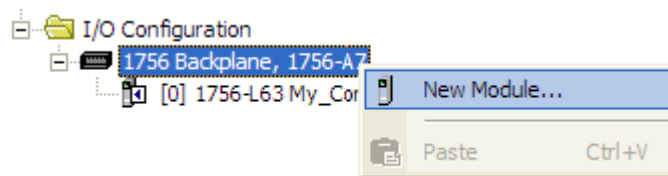**1** Open the **FILE** menu, and then choose **NEW…**



**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.
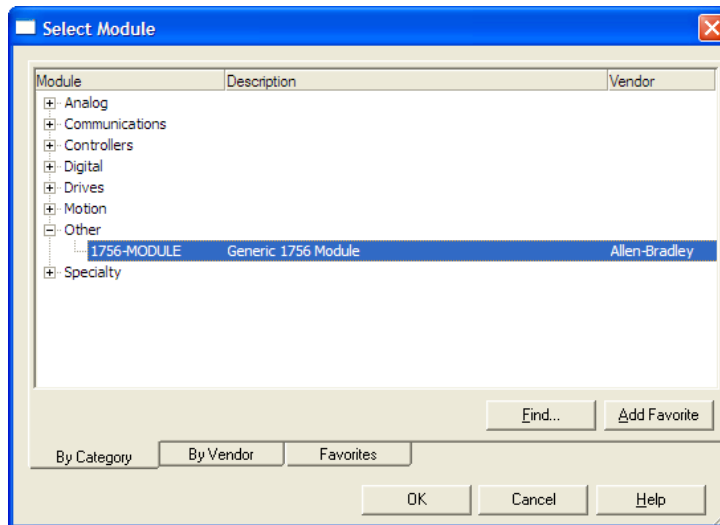**6** Select **SLOT 0** for the controller.



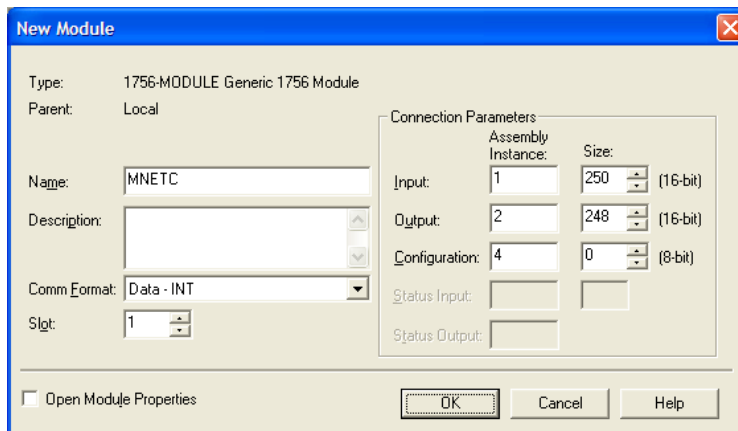**7** Add the MVI56(E)-MNETC module to the project.

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...**

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



**8** Select the **1756-MODULE (GENERIC 1756 MODULE)** from the list and click **OK.** This action opens the **NEW MODULE** dialog box.
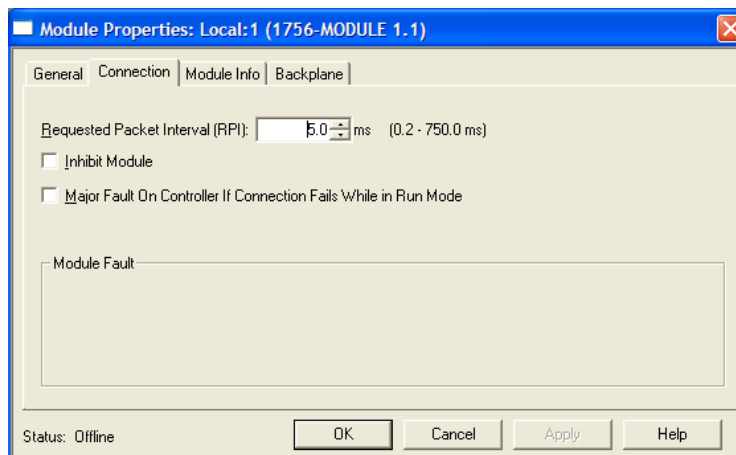
**9** In the **NEW MODULE** dialog box, enter the following values.

| 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 |

**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.
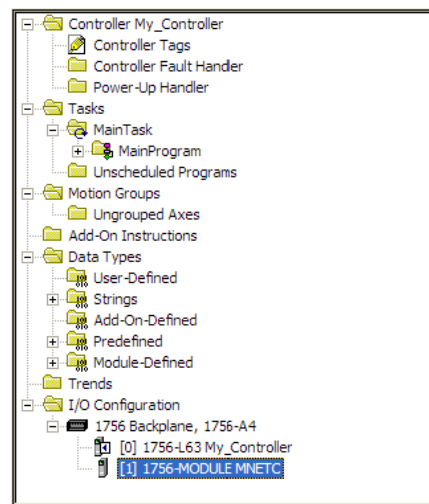
**10** Click **OK** to continue.

**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.
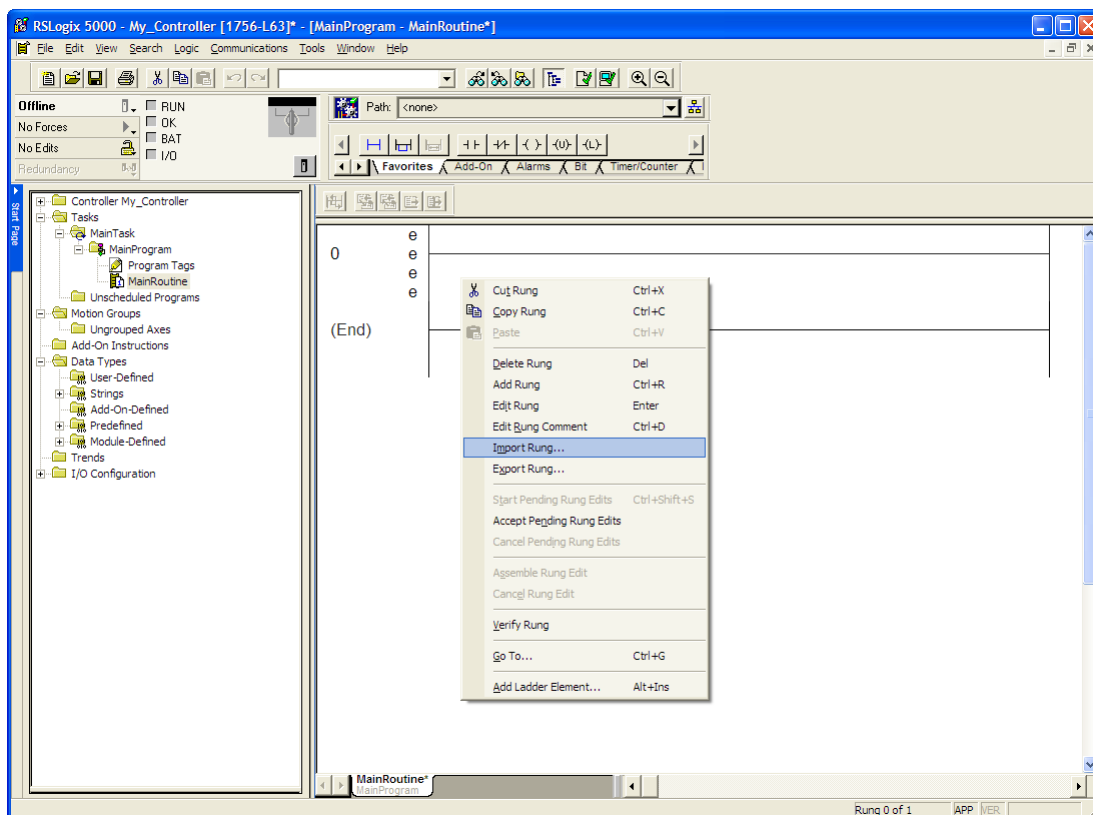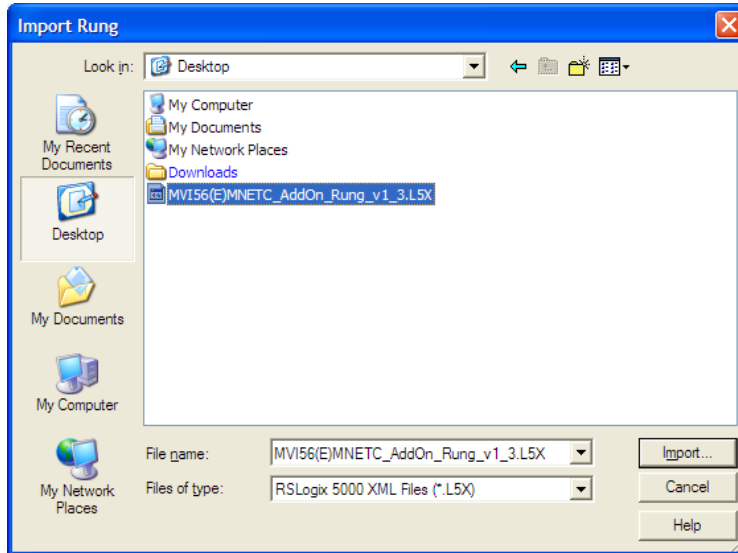


**12 Save the module.**

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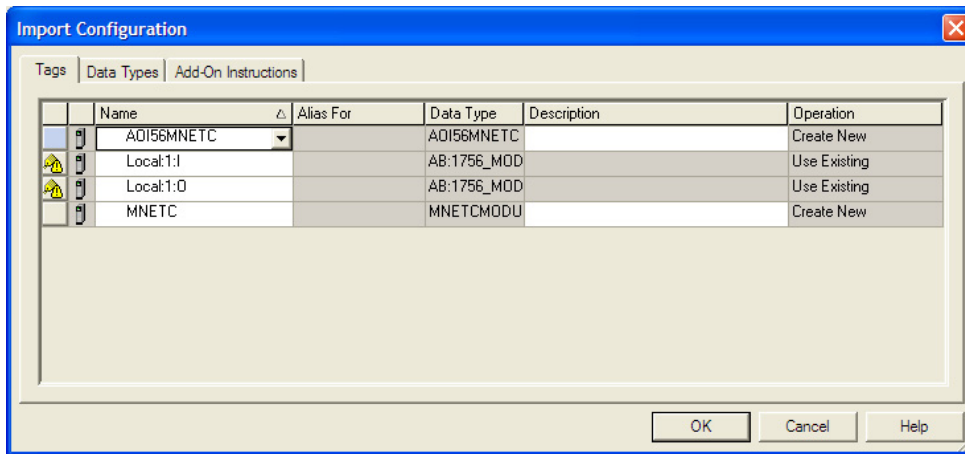


**13** In the **CONTROLLER ORGANIZATION** window, expand the **TASKS** folder and subfolder until you reach the **MAINPROGRAM** folder.

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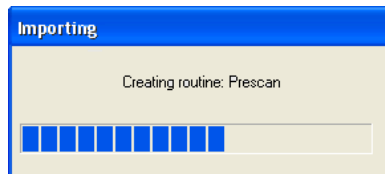
**16** Navigate to the location on your PC where you saved the Add-On Instruction (for example, "My Documents" or "Desktop"). Select the **MVI56(E)MODBUS TCP/IP CLIENT_ADDON_RUNG_<VERSION #>.L5X** file
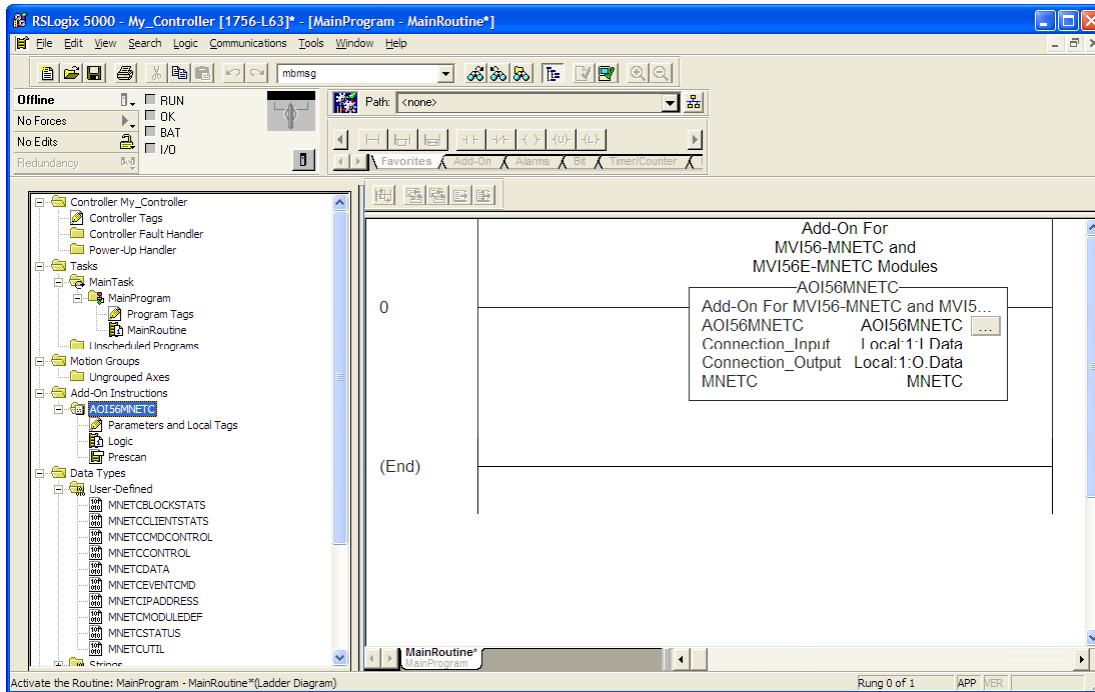


This action opens the **IMPORT CONFIGURATION** dialog box, showing the controller tags that will be created.
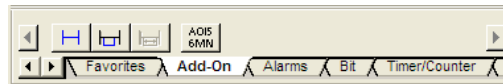


**17** If you are using the module in a different slot (or remote rack), select the correct connection input and output variables that define the path to the module. If your module is located in Slot 1 of the local rack, this step is not required.

**18** Click **OK** to confirm the import. RSLogix will indicate that the import is in progress:

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.



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.