

Technical Note



Migrating MVI69-MNET to the Enhanced MVI69E-MBTCP CompactLogix® Modbus TCP/IP module

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Document Brief

This document describes how to migrate an existing MVI69-MNET Modbus TCP/IP Module for CompactLogix® to the new MVI69E-MBTCP CompactLogix® module using the “Legacy Mode” functionality. Legacy Mode allows you to replace an existing MVI69-MNET module with the MVI69E-MBTCP without any changes to the existing ladder logic. This feature is only supported with MVI69E-MBS firmware version 1.11.001 or later.

The existing user may also convert the existing MVI69-MNET PCB configuration to the MVI69E-MBTCP module in Legacy Mode. This conversion procedure is supported by PCB version 4.4.24.20.0302 or later.

The main differences between the MVI69-MNET module and the Enhanced MVI69E-MBTCP module in Legacy Mode are as follows:

- 1) Configuration and Debug on the MVI69E-MBTCP is done via an Ethernet connection to the module instead of via an RS232 serial port connection that was available on the MVI69-MBS.
- 2) The MVI69E-MBTCP Module supports a lower current draw (500 mA) and provides a greater power supply distance rating (4 slots) when compared to the MVI69-MNET module (800 mA and P/S distance rating of 2).

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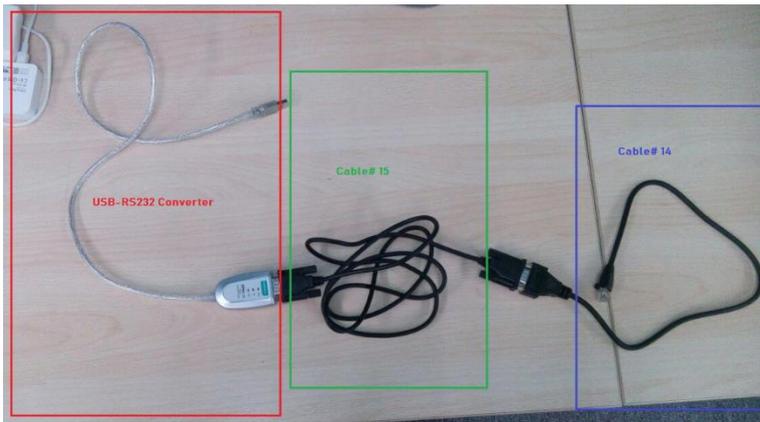
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I. What you will need...

1. A Computer with the following applications installed:
 - a. ProSoft Configuration Builder, version v4.4.24.20.0302 or later
2. MVI69-MNET Configuration file.
 - a. An offline version of the file saved on a PC can be used
 - b. If you need to upload the configuration file from a module you will need a Serial Debug port connecting cable – This is a combination of ProSoft Cable#14 and Cable#15 (supplied with MVI69-MNET at time of purchase) and an RS232-USB Conversion cable (if PC does not have a built in RS-232 Serial port).

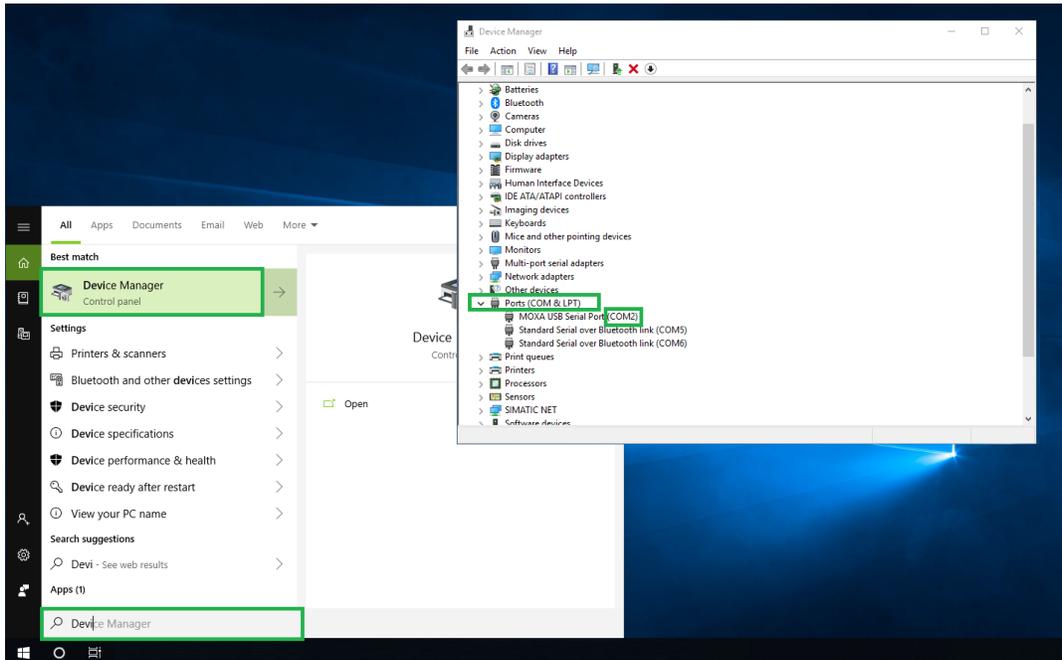


II. Obtain Configuration file for MVI69-MNET module

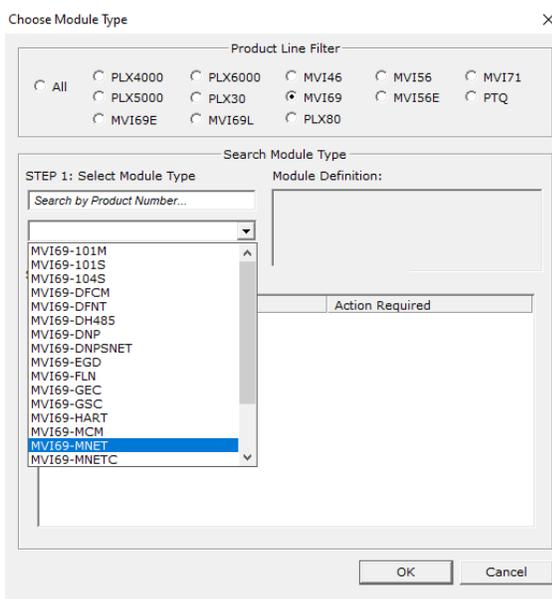
To convert from the MVI69-MNET module to the MVI69E-MBTCP module operating in “Legacy Mode”, you will need to open the configuration file in ProSoft Configuration Builder (PCB). If you have the current offline configuration file for the MVI69-MNET module, you may move on to the next step, however if you wish to upload the configuration file from a module follow the below described steps.

Connect one end of Cable#14 to the Debug Port of the MVI69-MNET module and connect the USB end of the RS232-USB converter to your PC.

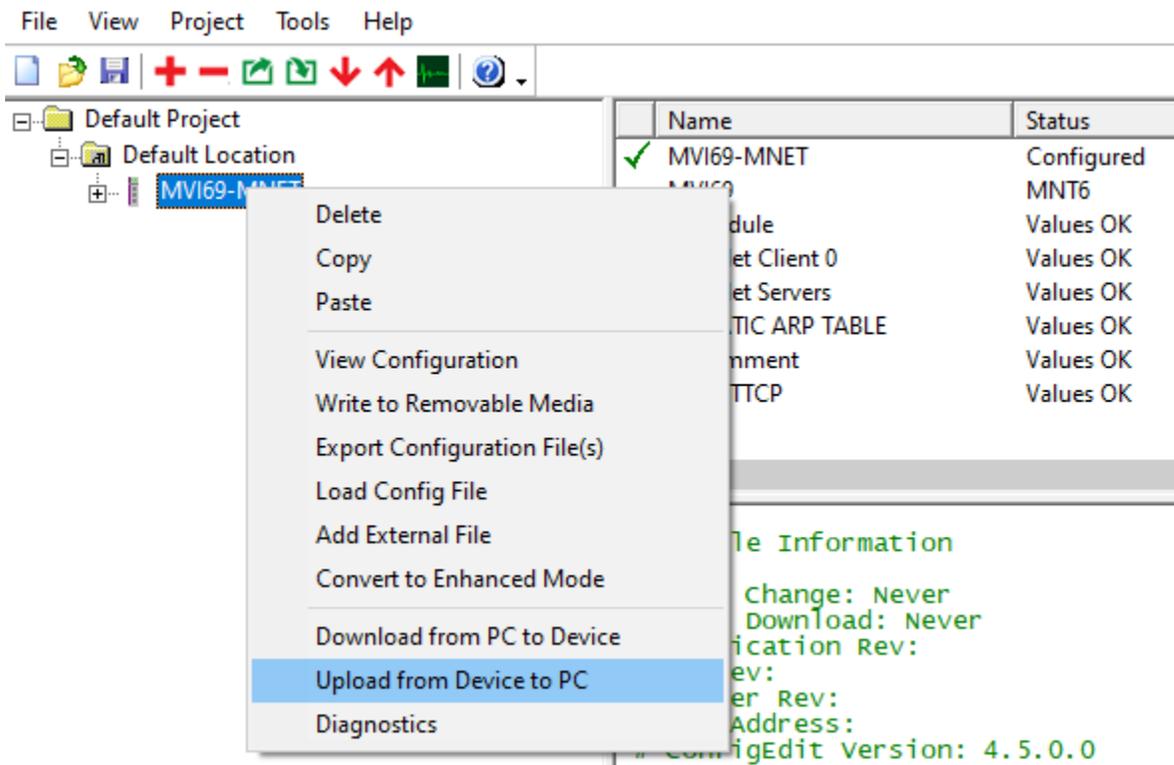
If you need to know what COM port is being used by your PC you can look in the device manager and it will show you the COM port being used, as shown below:



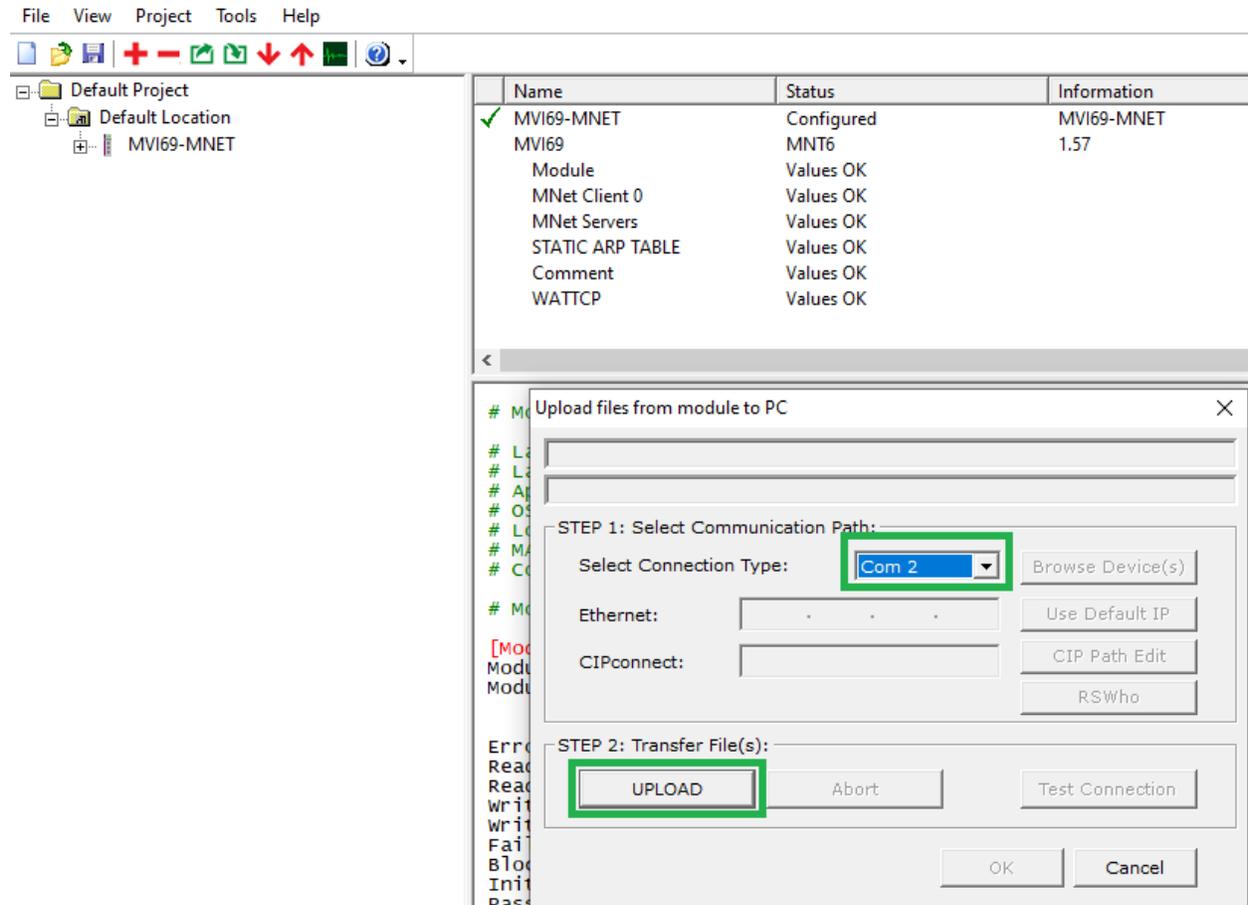
Startup ProSoft Configuration Builder (PCB), select the MVI69-MNET module from the select module tree.



Once you have the module selected, right click the module name and select “Upload from Device to PC” from the pop-up tree.



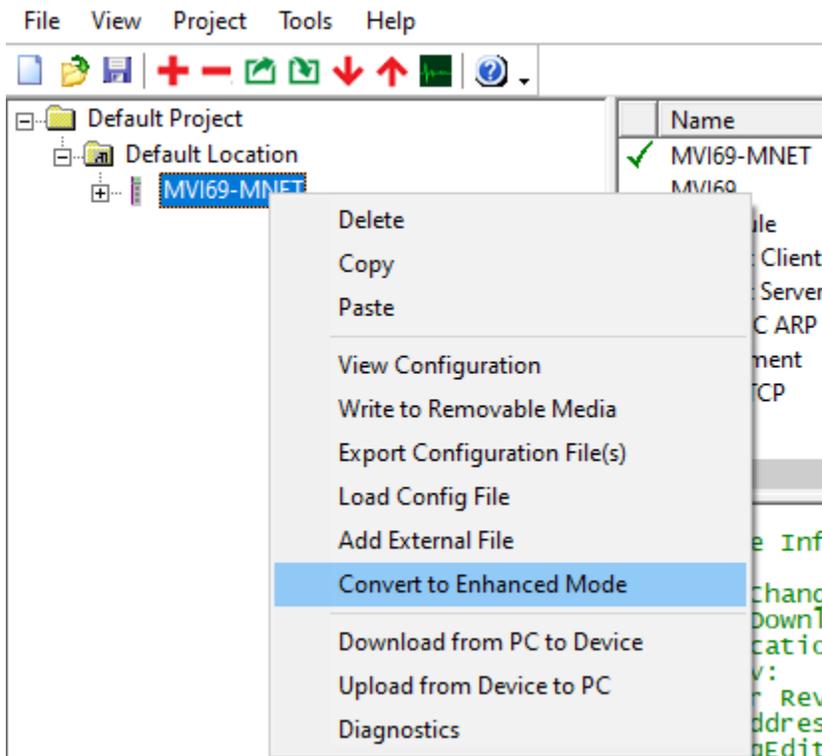
From the window below, check the com port and select “UPLOAD”



This will upload the configuration from the MVI69-MNET module. Now would be a good time to “Save” the PCB file (or .ppf file).

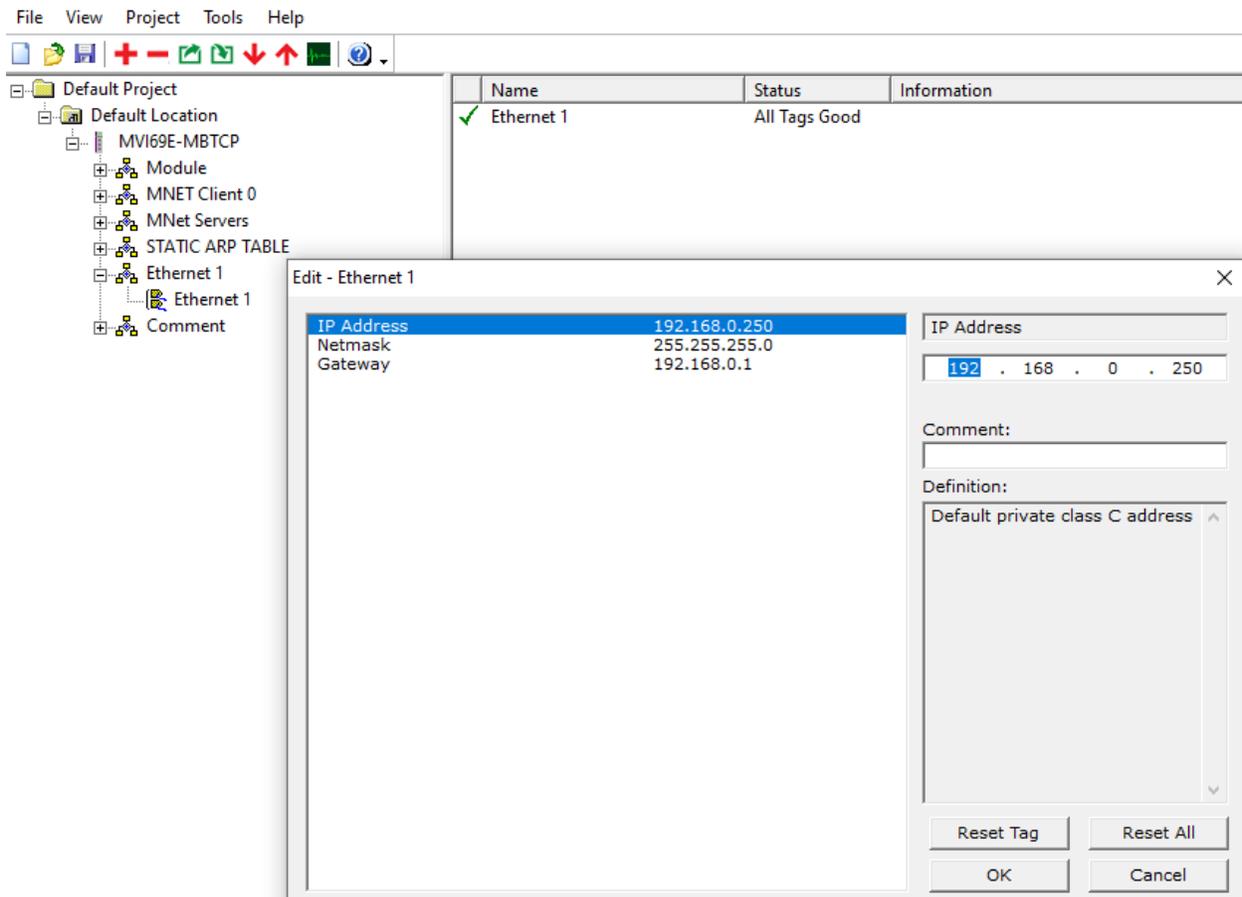
III. Convert MVI69-MNET configuration to MVI69E-MBTCP

To convert the configuration file from your MVI69-MNET simply open the configuration file in version 4.4.24.20.0302 (or greater) of PCB, select the module and right mouse click. Select “Convert to Enhanced Mode” as shown below



This will automatically convert the configuration file to the MVI69E-MBTCP.

The configuration of the Ethernet port of the MVI69E-MBTCP module will be converted from the configuration file of the MVI69-MNET module. Open the “Ethernet 1” tab as shown below to set or change the IP Address of the module:



The MVI69E-MBTCP module uses this IP address for downloading of the configuration file and diagnostics as well as communication with Ethernet devices. The default IP address of the module is the 192.168.0.250 as shown above.

IV. Placing MVI69E-MBTCP module in “Legacy Mode”

For the MVI69E-MBTCP module to support the configuration file of the MVI69-MNET module, you will need to open a web browser and select the “Legacy Mode” option from the webpage of the module. This can be done by connecting to the default IP address of the module as shown below:

- 1 Open the MVI69E-MBTCP webpage. For further information, please see ***Error! Reference source not found.*** in the User Manual for additional details.
- 2 Click on the *Advanced Settings* option.

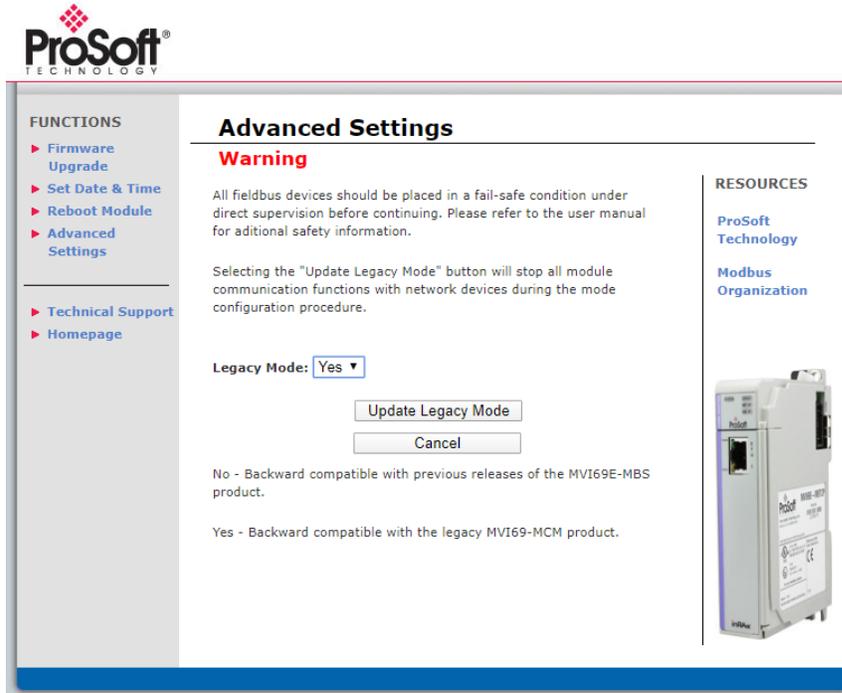
ProSoft[®]
TECHNOLOGY

Modbus TCP/IP Module for CompactLogix MVI69E-MBTCP	
Module Name	MVI69E-MBTCP
Ethernet Address (MAC)	00:0D:8D:03:35:12
IP Address	192.168.0.250
Product Revision	1.10.012 2.6.33.7 #16
Firmware Version Date	07/19/19 - 01
Serial Number	00024512
Legacy Mode	No
Status	Running
Uptime	00:00:26

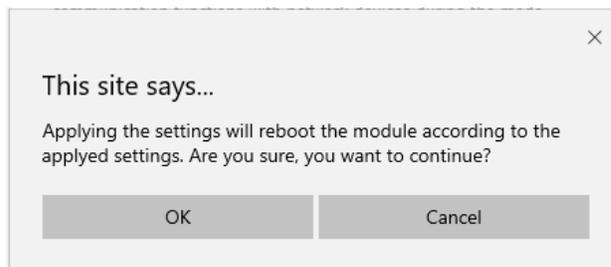
RESOURCES

- [ProSoft Technology](#)
- [Modbus Organization](#)

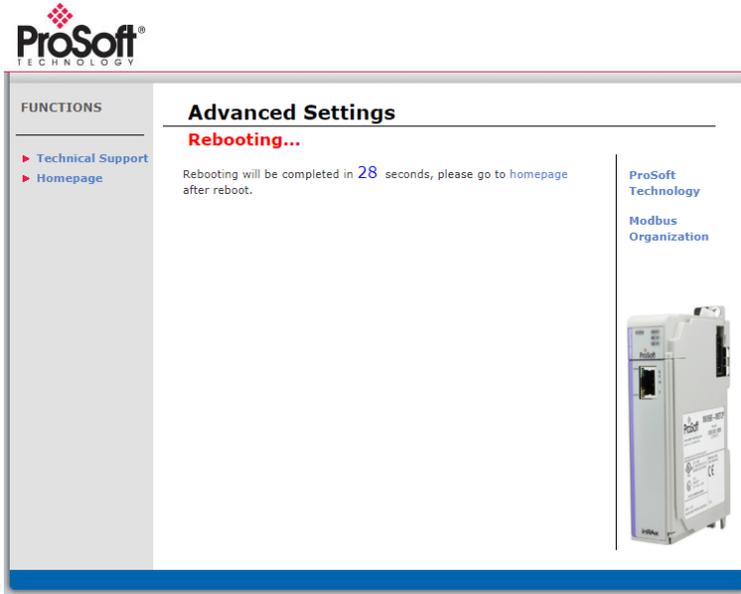
- 3 In the *Advanced Settings* page, change the **LEGACY MODE** field to 'Yes', then click on the **UPDATE LEGACY MODE** button.



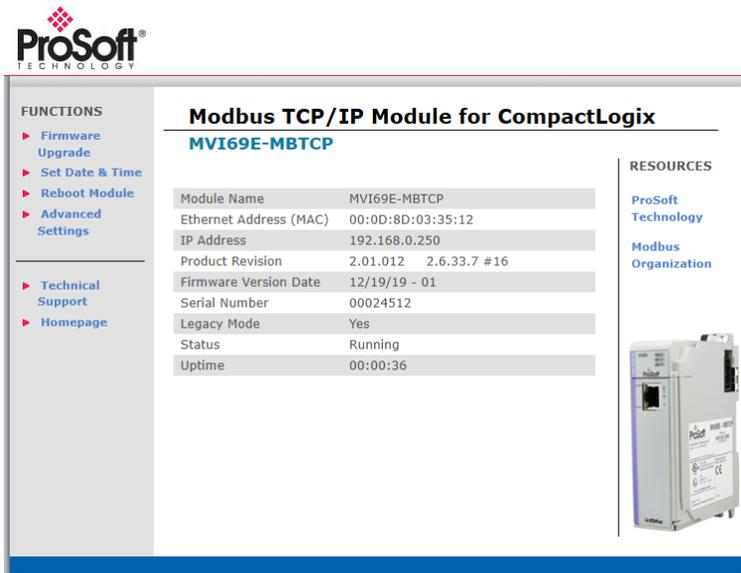
- 4 Confirm the update by clicking **OK**.



- 5 The module will reboot during the update process.



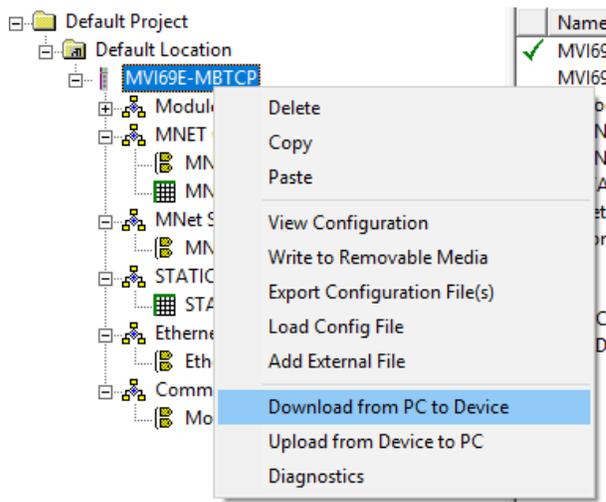
- 6 Once complete, the homepage displays **Legacy Mode – Yes**.



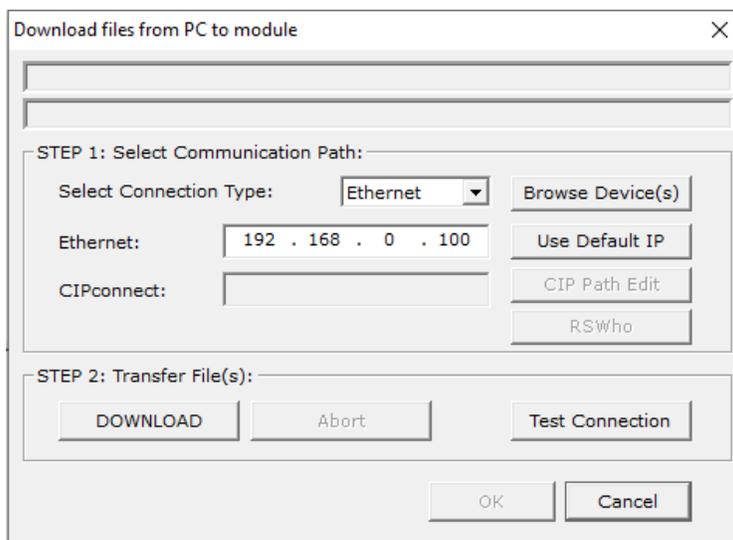
V. Download PCB Configuration to the MVI69E-MBTCP module

Now that the PCB configuration file for the MVI69-MNET module has been converted over to an MVI69E-MBTCP configuration and the MVI69E-MBTCP module is in a mode to accept the legacy configuration file, we can download the file to the module for operation.

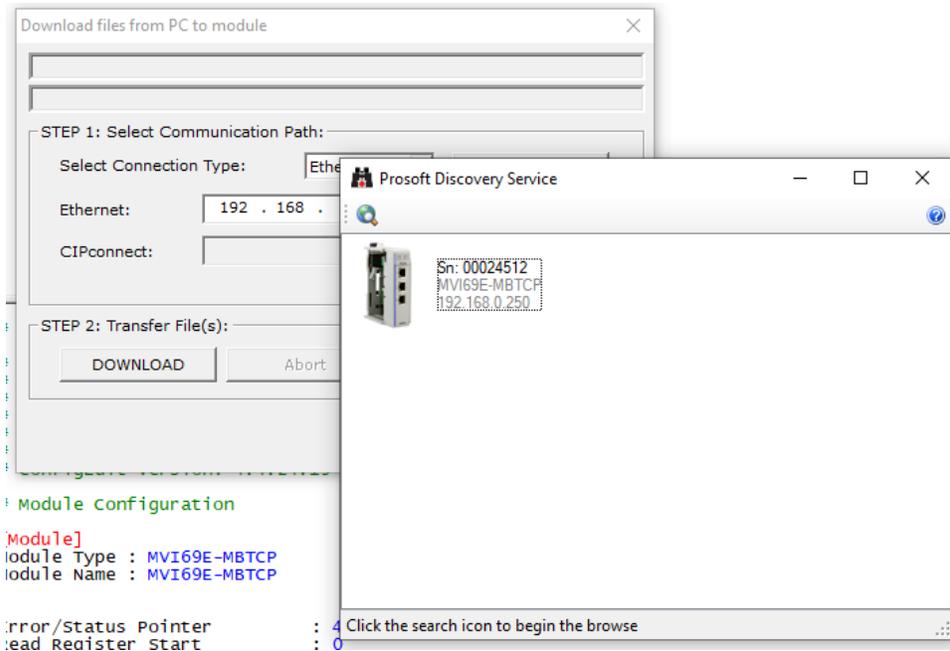
- 1 Right-click on the *MVI69E-MBTCP* icon and select **DOWNLOAD FROM PC TO DEVICE**.



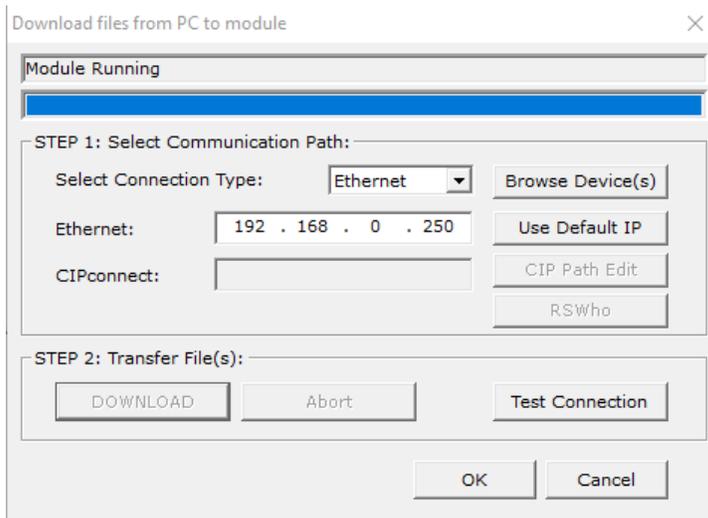
- 2 In the *Download files from PC to module* dialog, click on the **BROWSE DEVICE(S)** button. The ProSoft Discovery Service Utility searches for ProSoft devices on the network.



- 3 Double-click on the module icon.



- 4 Click **DOWNLOAD**. When complete, the 'Module Running' message is displayed.



Once complete, the MVI69E-MBTCP in Legacy Mode will operate similarly to the MVI69-MNET.

VI. Optional Add-On Instruction for the MVI69E-MBTCP module

So while the intent of the “Legacy Mode” operation is to allow the MVI69E-MBTCP module to operate as a direct drop-in replacement unit for the MVI69-MNET module (without any ladder logic changes), there is an optional Add-On Instruction that can be added to the MVI69-MBTCP ladder code.

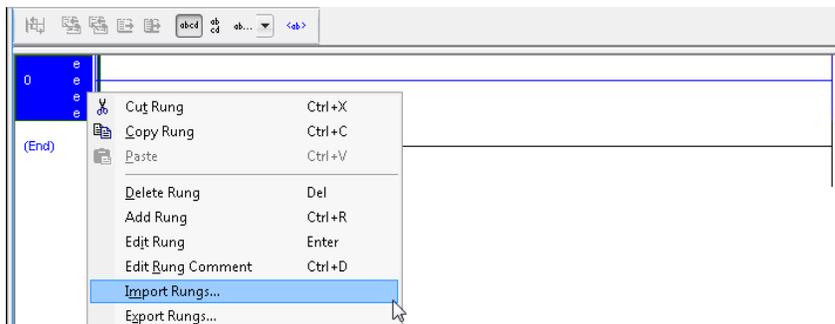
The Optional AOI supports the following optional features:

- Read/Write IP Address
- Read/Write Date Time

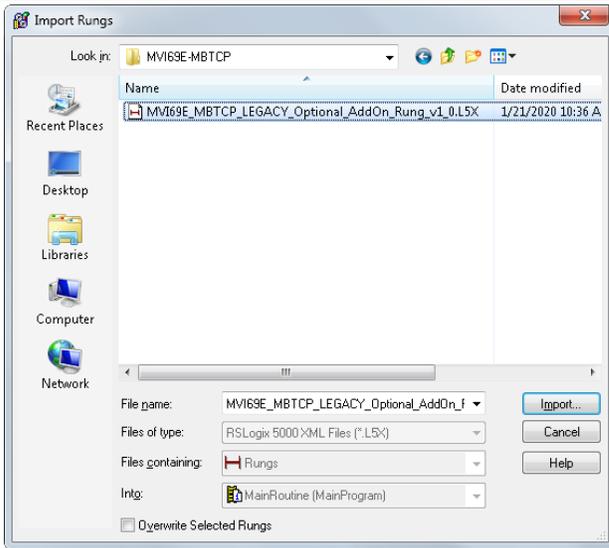
Using controller tags, the Optional AOI allows you to request and set the module’s IP address, date, and time. These optional features are not supported by the MVI69-MNET legacy module.

Note: The Optional AOI may be added to an existing legacy MVI69-MNET application to add the new functionality during a module replacement.

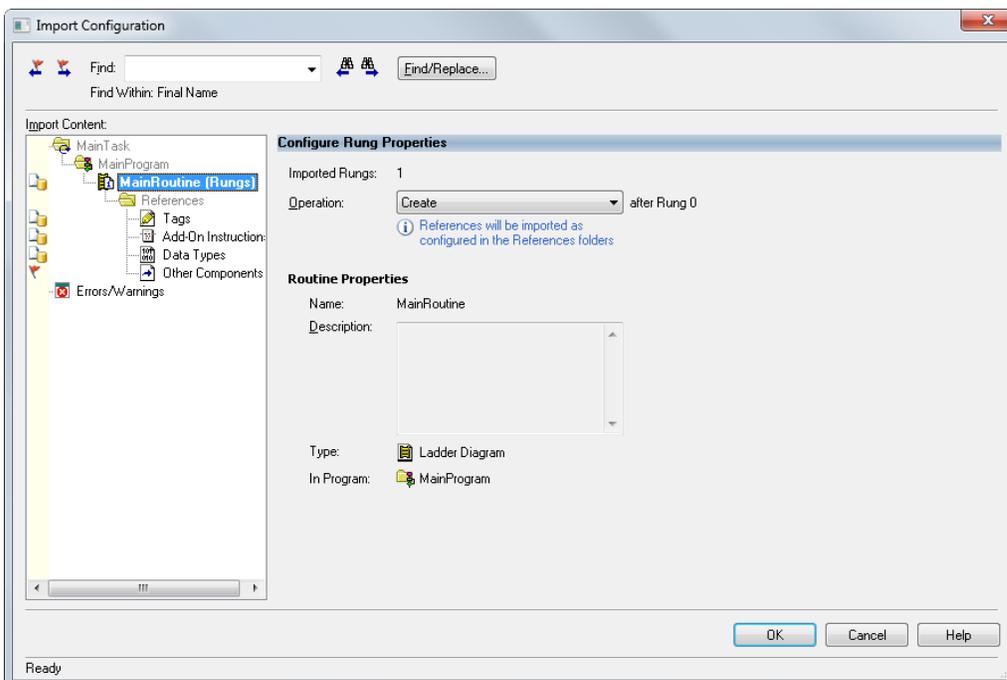
- 1 Add a new rung to the existing processor ladder logic. Right-click on the new rung and select *Import Rungs...*



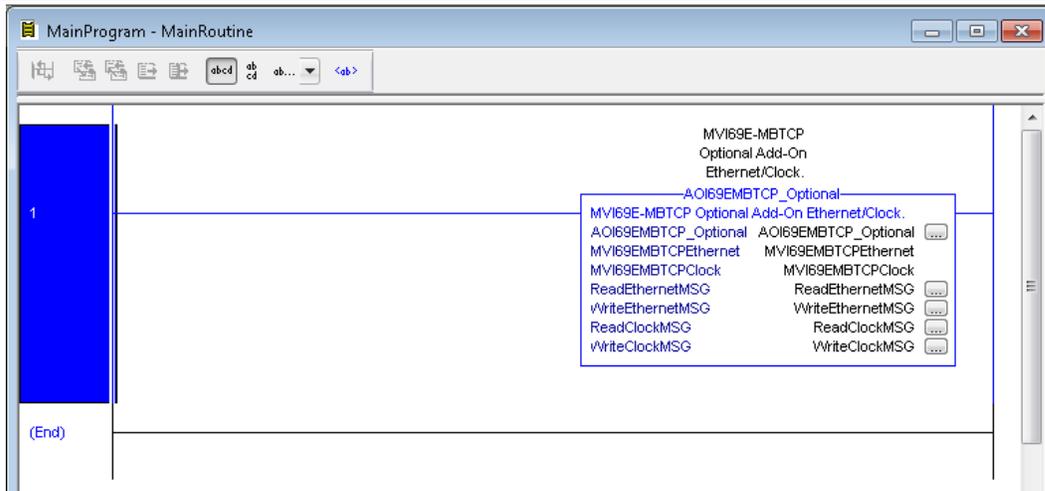
- 2 Select the Optional AOI file: *MVI69E_MBTCP_Optional_AddOn_Rung.L5X*



- 3 At the *Import Configuration* window, select the *Operation* parameter to **CREATE**. Then click **OK**.



- 4 The imported AOI rung is now in place.



For further details on the use of the AOI for setting the IP address of the module, please refer to the MVI69E-MBTCP user manual for configuration and setup.