

Connecting a Magelis® XBTG/XBTGT Operator Terminal to an Allen-Bradley ControlLogix EtherNet/IP Module

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Introduction

The Magelis® XBTG/XBTGT operator terminal from Schneider Electric can be integrated into an Allen-Bradley ControlLogix automation system. This instruction bulletin describes how to connect the Magelis XBTG/XBTGT operator terminal to an Allen-Bradley ControlLogix EtherNet/IP module, and how to configure the software for the connection.

Figure 1: Magelis XBTG/XBTGT Operator Terminal



Hardware Requirements

You will need the following hardware for this application:

1. The Magelis XBTG/XBTGT operator terminal appropriate for your application. If Modbus® TCP/IP is required, select a model with an Ethernet port. The XBTG4330 operator terminal is used in this example.
2. A serial download cable appropriate for the XBTG/XBTGT operator terminal. The XBTZG915 cable is used in this example.
3. An Allen-Bradley ControlLogix ENBT/A EtherNet/IP module. Obtain the module from an authorized Allen-Bradley distributor.

Software Requirements

You will need the following software for this application:

1. Vijeo Designer software, version 4.3.0 or higher, to program the Magelis operator terminal.
2. RSLogix 5000 software and accessories purchased from an authorized Allen-Bradley distributor.

References

This instruction bulletin describes how to connect the Magelis XBTG/XBTGT operator terminal to an Allen-Bradley ControlLogix EtherNet/IP module. It does not provide instructions for using Vijeo Designer software or the Allen-Bradley products. For more information, obtain the documentation listed in Table 1 from www.Telemecanique.com or from your local Schneider Electric representative.

Table 1: Documentation

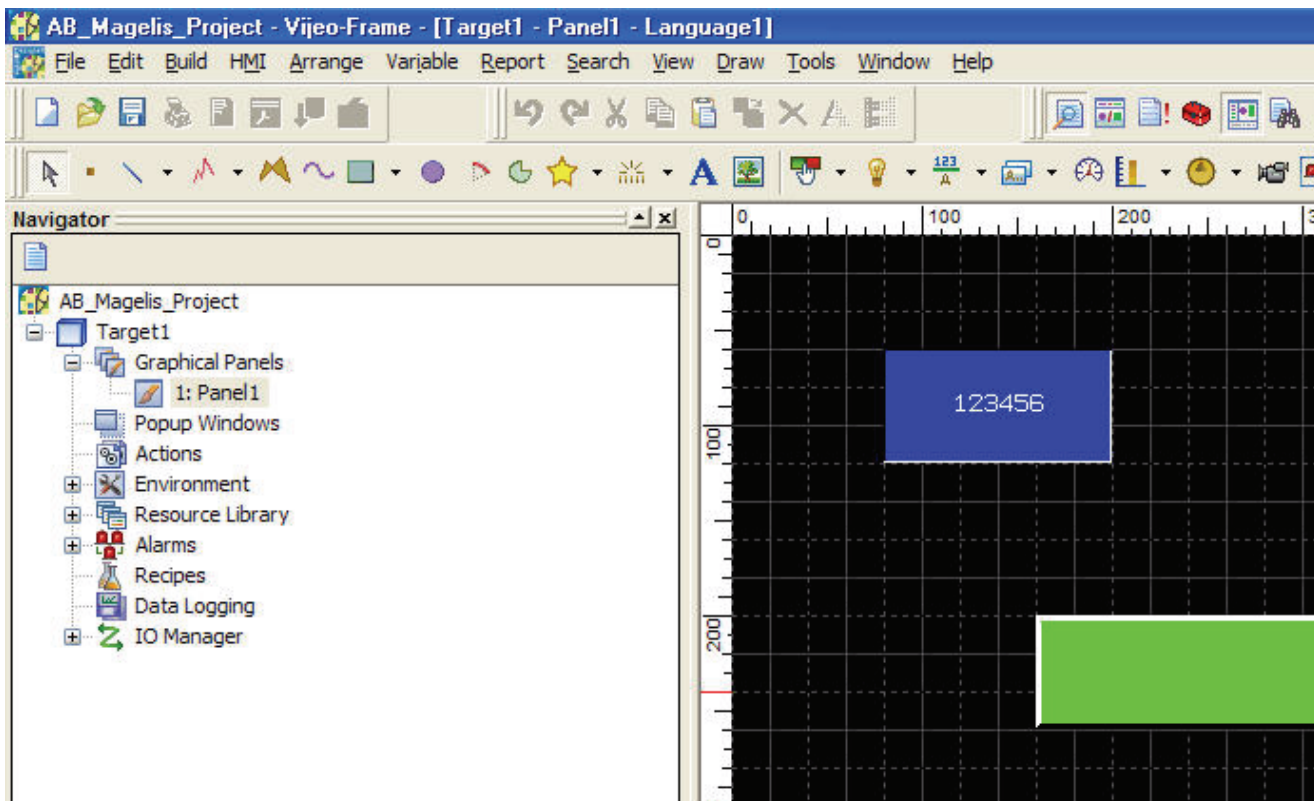
Document Title	Document Number
Magelis XBTGT Operator Terminal User's Manual	35010372
Catalog Human Machine Interfaces	MKTED206071EN
Allen-Bradley EtherNet/IP (Native) Driver Manual	Available from Vijeo Designer Help menu

Connecting the Magelis XBTG/XBTGT Operator Terminal

To connect the Magelis XBTG/XBTGT operator terminal to the Ethernet network:

1. Connect the Magelis XBTG/XBTGT operator terminal to an Ethernet switch on the control network.
2. Connect a laptop PC to the Magelis XBTG/XBTGT operator terminal using an appropriate serial download cable. This example uses a Magelis XBTG4330 operator terminal with an XBTZG915 serial download cable.
3. Launch Vijeo Designer on the laptop PC and open a project to start the configuration process for communicating with the Allen-Bradley ControlLogix automation system. See Figure 2.

Figure 2: Start Vijeo Designer

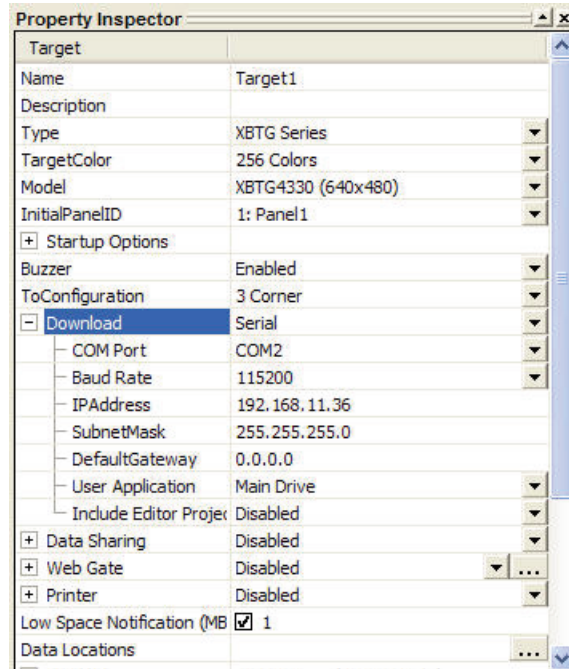


Setting Up the Communication Protocol

To setup the communication protocol:

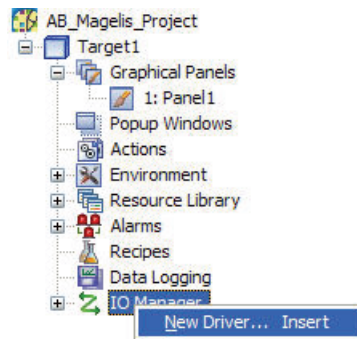
1. Select Serial from the drop down list in the Property Inspector window as shown in Figure 3. Select the correct COM Port for the laptop PC, and set the baud rate to 115200. This example shows COM Port 2.

Figure 3: Property Inspector Window



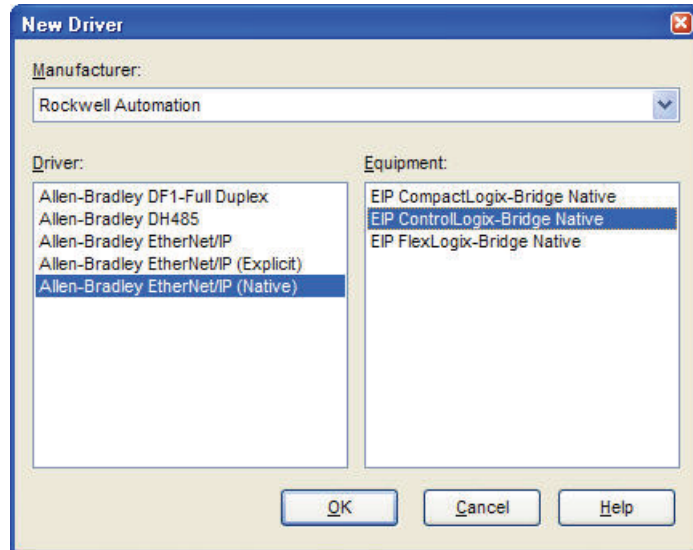
2. Add a new driver by right clicking on IO Manager and selecting New Driver. See Figure 4.

Figure 4: Selecting the New Driver



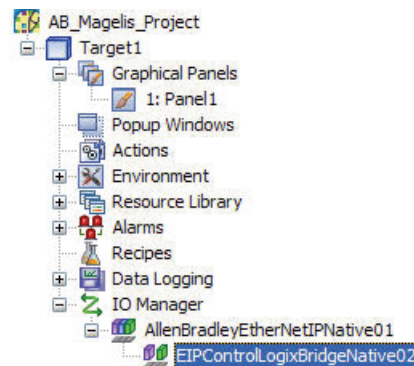
3. Select Rockwell Automation from the Manufacturer drop down list, and select the EIP ControlLogix-Bridge Native driver as shown in Figure 5.

Figure 5: Select EIP ControlLogix-Bridge Native Driver



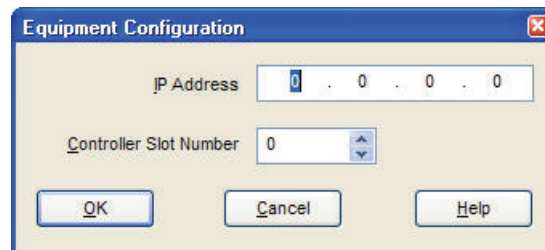
4. Double-click on EIP ControlLogixNativeBridge02 to open the Equipment Configuration window. See Figure 6.

Figure 6: Open the Equipment Configuration Window



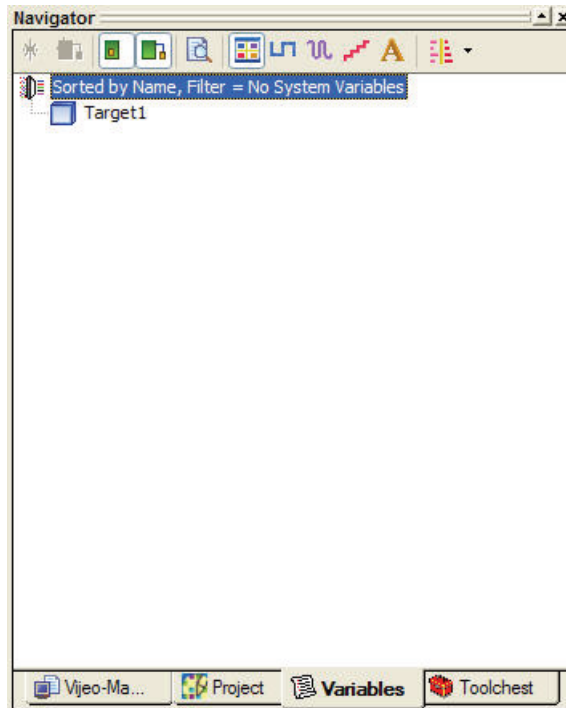
5. Enter the IP address of the ControlLogix ENBT/A module and the controller slot number of the XBTG/XBTGT operator terminal into the Equipment Configuration window. See Figure 7.

Figure 7: IP Address and Controller Slot Number



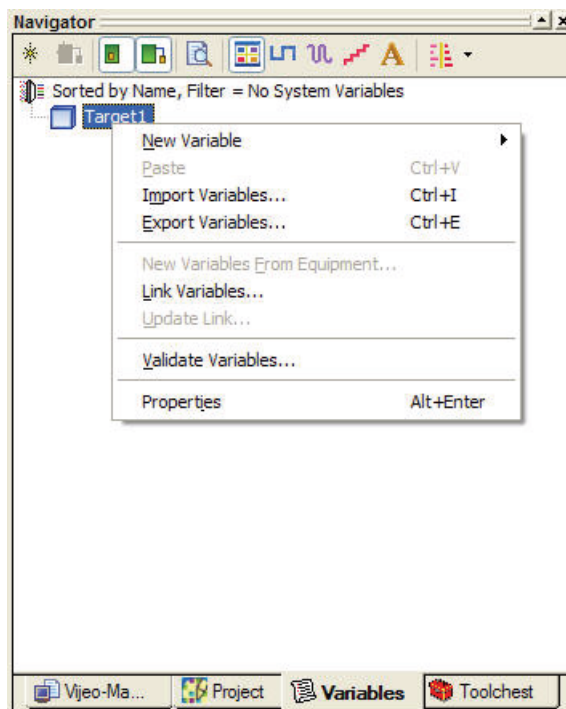
6. Select the Variables tab in the Navigator window. See Figure 8.

Figure 8: Variables Tab in the Navigator Window



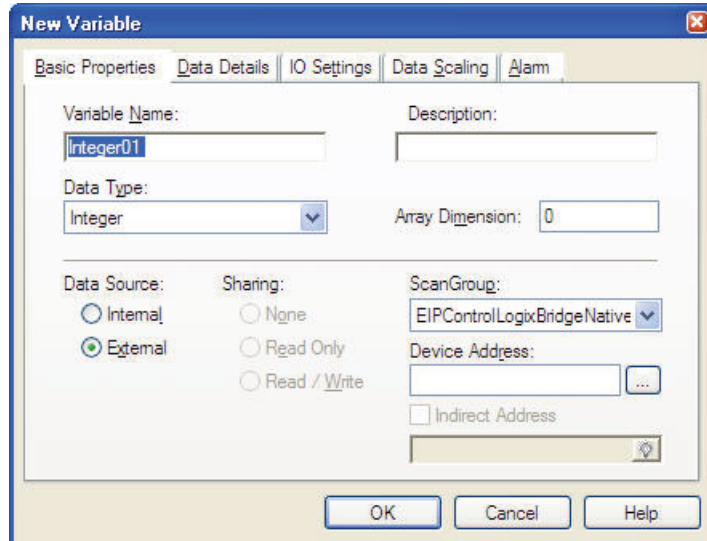
7. Right click on Target1 to add New Variables. See Figure 9.

Figure 9: Adding a New Variable



8. Add the Variable Name and Data Type in the New Variable window. See Figure 10. The valid Data Types are listed in the *Allen-Bradley EtherNet/IP (Native) Driver* manual. Use the Vijeo Designer Help menu to display this manual.

Figure 10: Adding Variable Name and Data Type



9. Press the button beside the Device Address as shown in Figure 11. This will bring up the AB EIP ControlLogix-Native Tags window as shown in Figure 12 on page 7. This window allows the tag to be added exactly as it is tagged within the Allen-Bradley ControlLogix processor. The example window shows the Allen-Bradley tag "integer1." Click OK to accept the tag.

Figure 11: New Variable Window

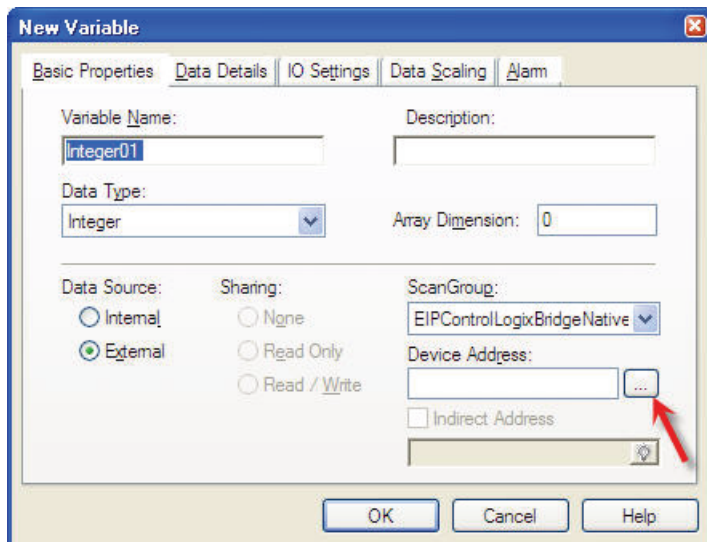


Figure 12: AB EIP ControlLogix-Native Tags



If you are using program tags from the ControlLogix system, the correct syntax is as follows. Note that <TaskName> and <name_of_Tag> must be typed exactly as shown in the RSLogix 5000 software:

Program: <TaskName>.<name_of_Tag>

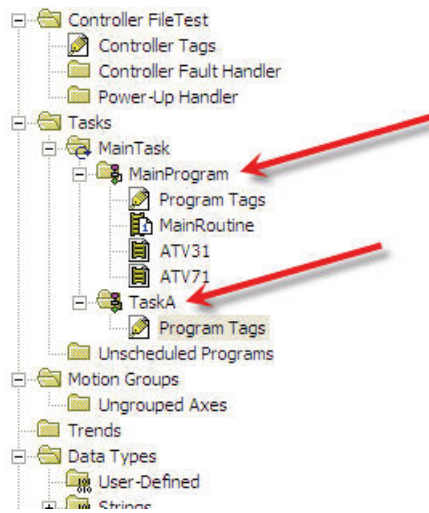
For example:

Program:MainProgram.booleantag1

Program:TaskA.booleantag1

See Figure 13.

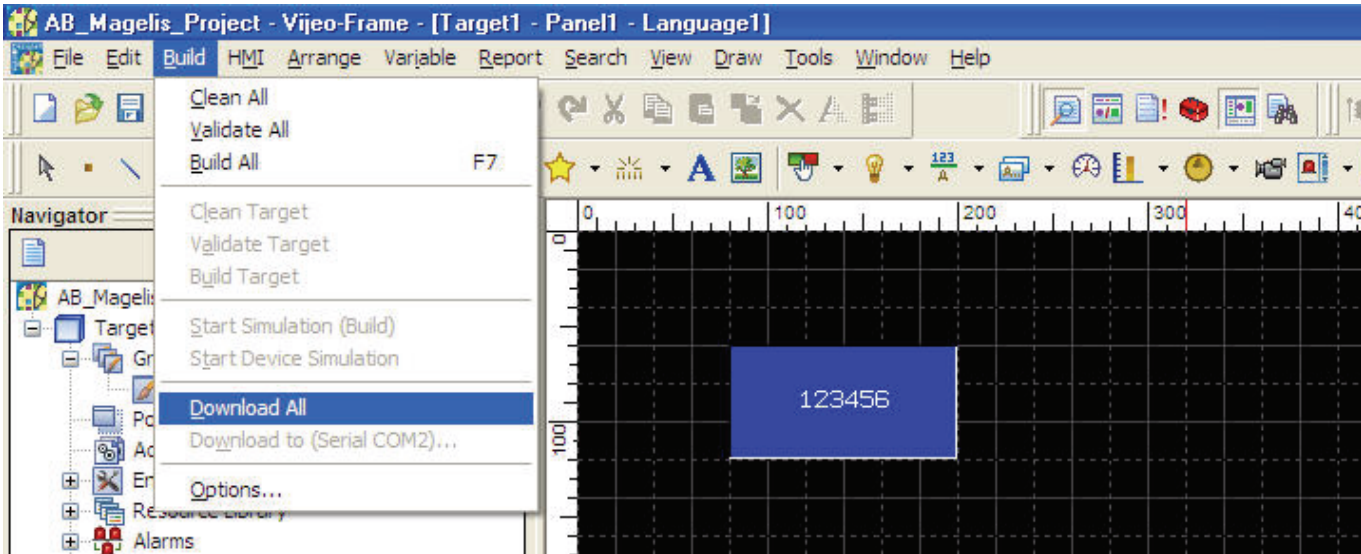
Figure 13: Main Program and Task A



10. Create a panel with a few simple objects to test the connection to the ControlLogix automation system.

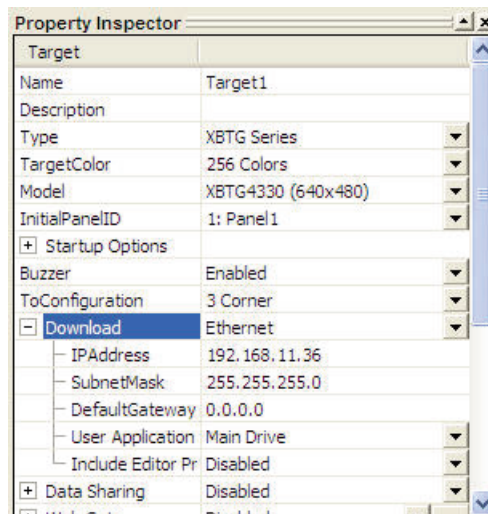
11. After you have verified the connection, build the application and download it to the XBTG/XBTGT operator terminal by selecting Download All from the Build menu as shown in Figure 14.
12. Test the functionality of the system.

Figure 14: Build Menu



13. After the initial download is complete, the XBTG/XBTGT operator terminal will have an IP Address assigned. The download communication type can then be changed to Ethernet for future downloads. See Figure 15.

Figure 15: Changing the Download Communication Type



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