

Allen-Bradley Micro800 Series

Information Sheet for Crimson v3.0+

Compatible Devices

- Allen-Bradley Micro800 Series PLCs

Verified Device

- Micro820 2080-LC20-20QBB

Overview

The Micro800 Series driver allows access to data tags in Allen-Bradley Micro800 series PLCs. It also provides a method to import tag definitions from Connected Components Workbench into Crimson 3.0.

Device Configuration

The driver is found in the driver picker dialog, listed as "Micro800 Master" under the manufacturer "Allen-Bradley". There are several properties that can be configured for Ethernet and serial communications:

Ethernet

IP Address: This is the IP address of the target Micro800 PLC.

Transaction Timeout: This is the amount of time that the driver will wait before a transaction is considered to have failed. Shorter times will detect failures sooner, but longer times will be more tolerant of slow connections.

Serial

Source Address: This is the source address that the HMI will use.

Data Link Layer: Select between Full-Duplex or Half-Duplex communications. This should be configured to match the setting used by the Micro800 PLC.

Frame Validation: Choose from CRC or BCC for the frame validation. This should be configured to match the setting used by the Micro800 PLC.

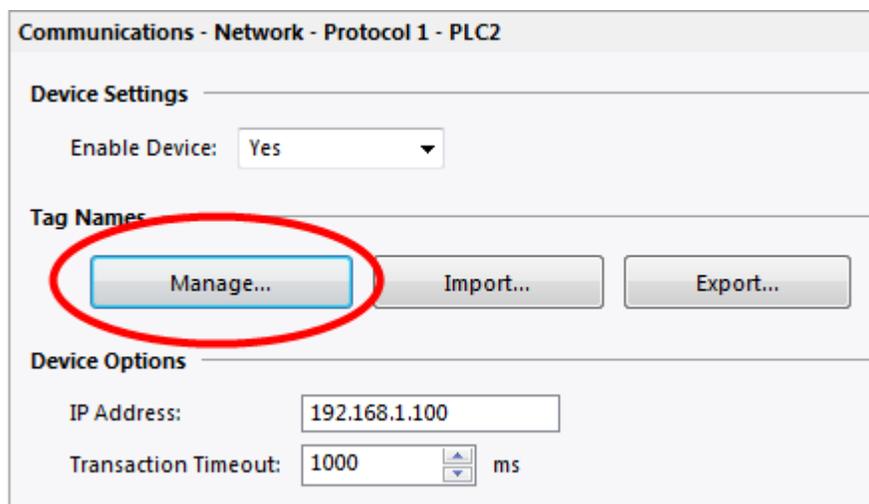
Station Number: This is the station number of the target Micro800 PLC.

Transaction Timeout: This is the amount of time that the driver will wait before a transaction is considered to have failed. Shorter times will detect failures sooner, but longer times will be more tolerant of slow connections.

Tag Creation

The driver maintains a list of tag names that correspond to the tags configured in the Micro800 PLC. A tag import mechanism is provided, but these tags can also be manually created.

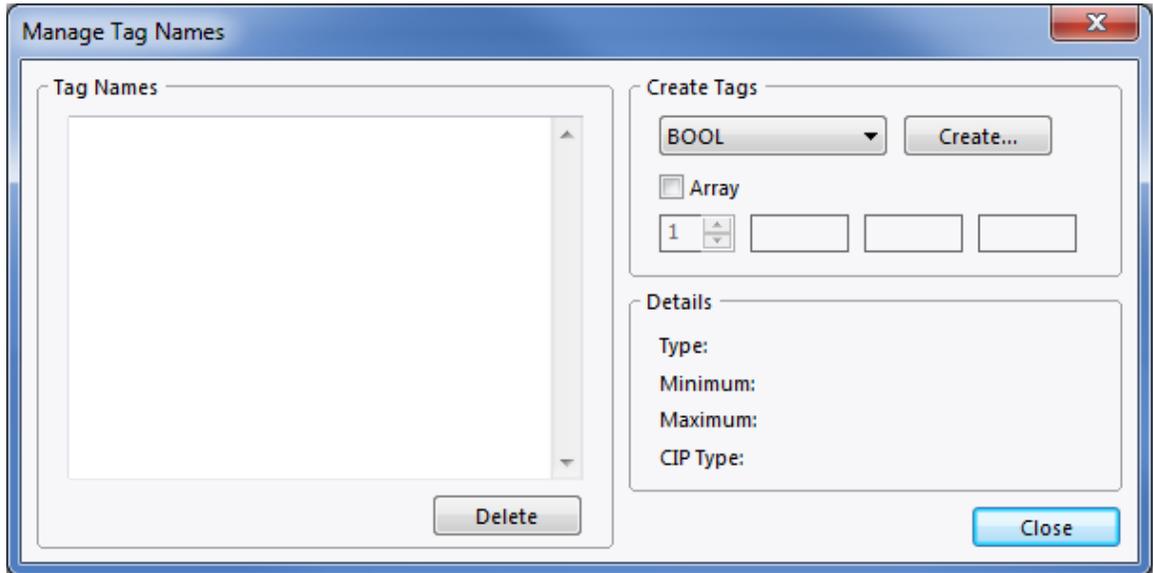
To create a tag, click on the Manage button from the device configuration page:



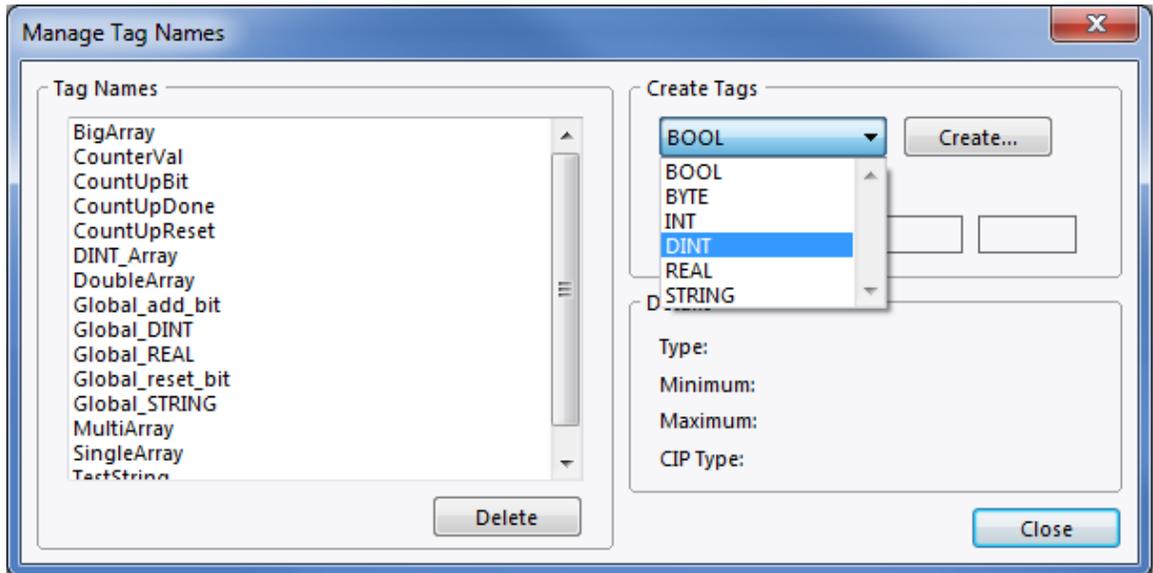
The screenshot shows a configuration window titled "Communications - Network - Protocol 1 - PLC2". It is divided into three sections: "Device Settings", "Tag Names", and "Device Options".

- Device Settings:** Contains a dropdown menu for "Enable Device:" set to "Yes".
- Tag Names:** Contains three buttons: "Manage...", "Import...", and "Export...". The "Manage..." button is highlighted with a red circle.
- Device Options:** Contains a text input for "IP Address:" with the value "192.168.1.100" and a spinner control for "Transaction Timeout:" set to "1000" ms.

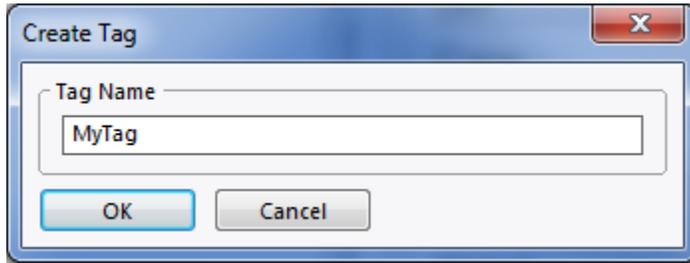
The following dialog will appear:



To create a new tag, select the appropriate type from the drop-down box:

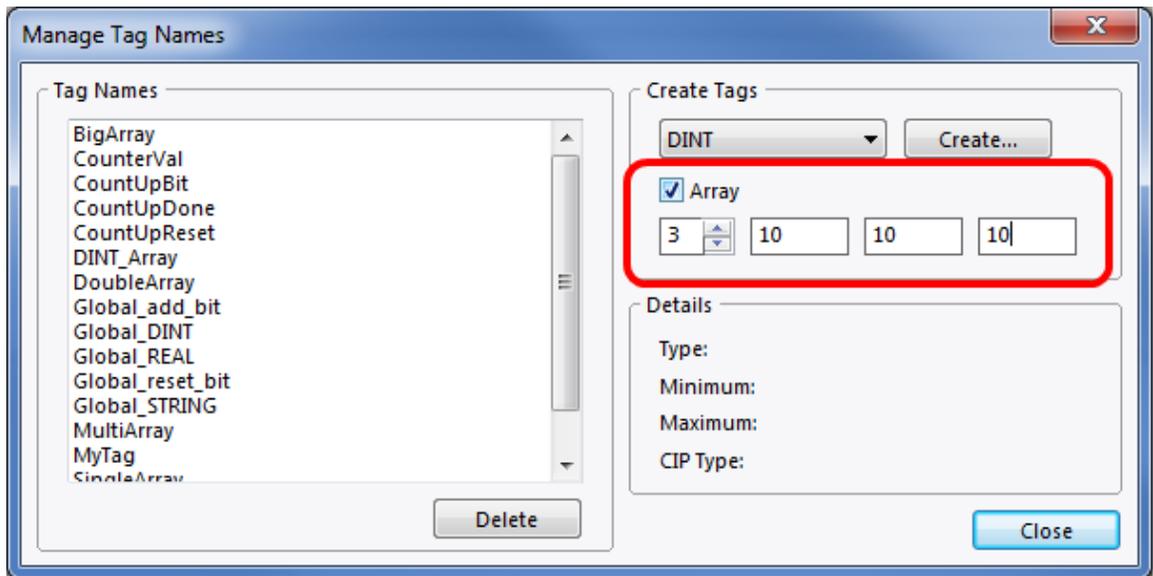


Then click the Create button and the following dialog will appear:



Enter the name of the tag as found in Connected Components Workbench and click OK.

To create an array, click the Array checkbox and set how many dimensions the array should be, up to a maximum of 3. This will enable a corresponding box for each dimension. Enter the maximum size of the array for each dimension. The dimensions are assumed to start at index and span to the maximum dimension, inclusive. Then click create and name the tag as above. Arrays of strings are not supported.

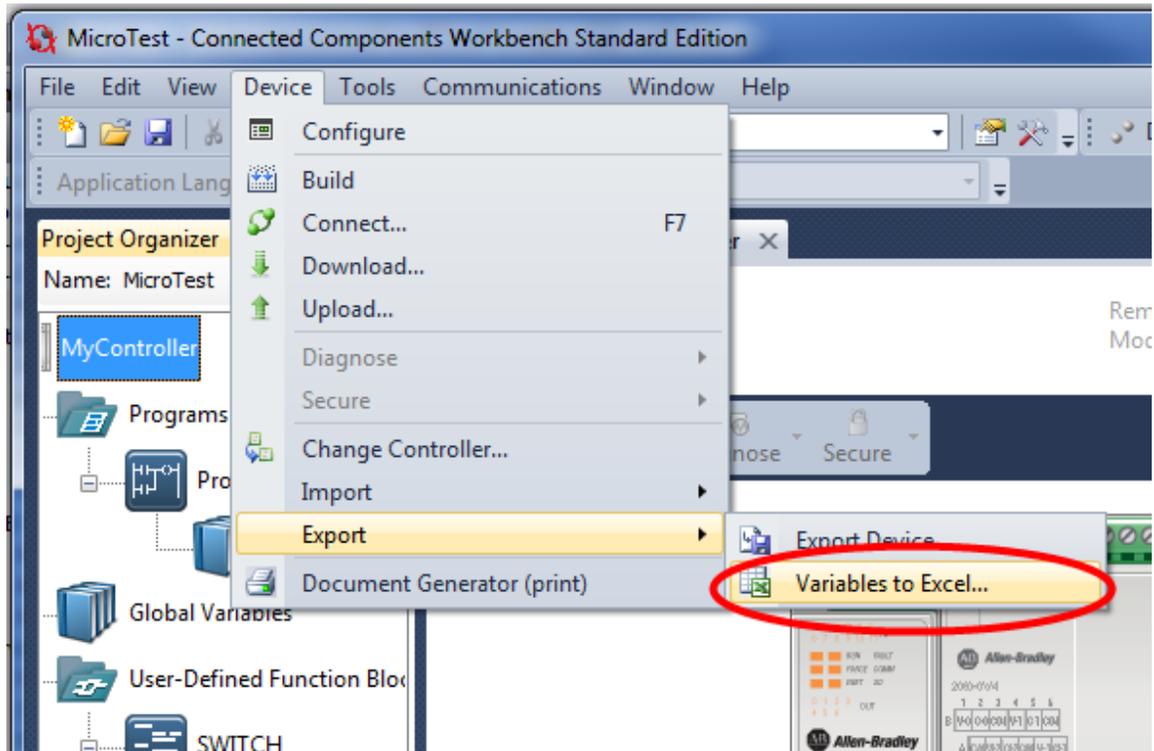


Tag Import and Export

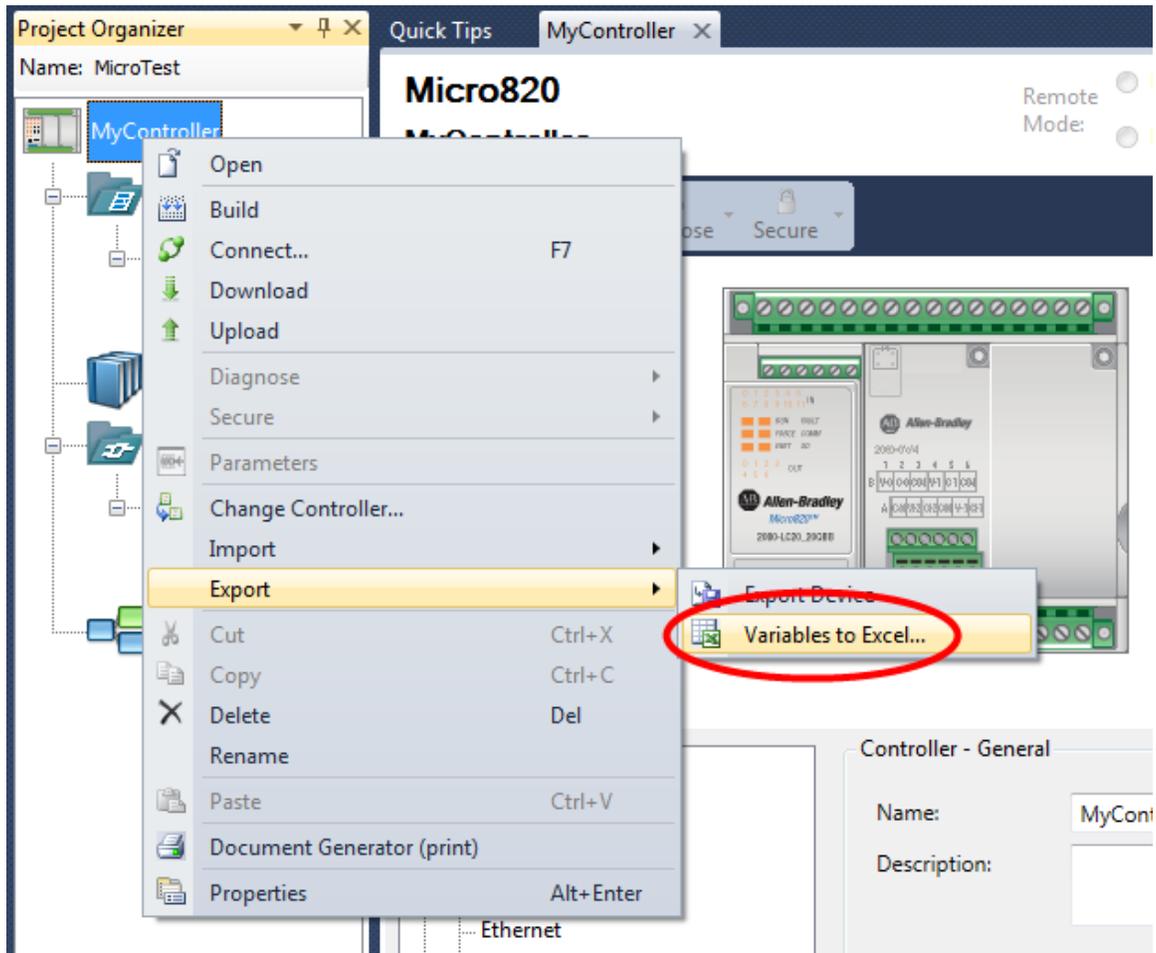
This section will describe the procedure to export tags from Connected Components Workbench and then import the file into Crimson 3.0.

First, open the project for the Micro800 PLC in Connected Components Workbench. There are two ways to export the tags in the project to a file.

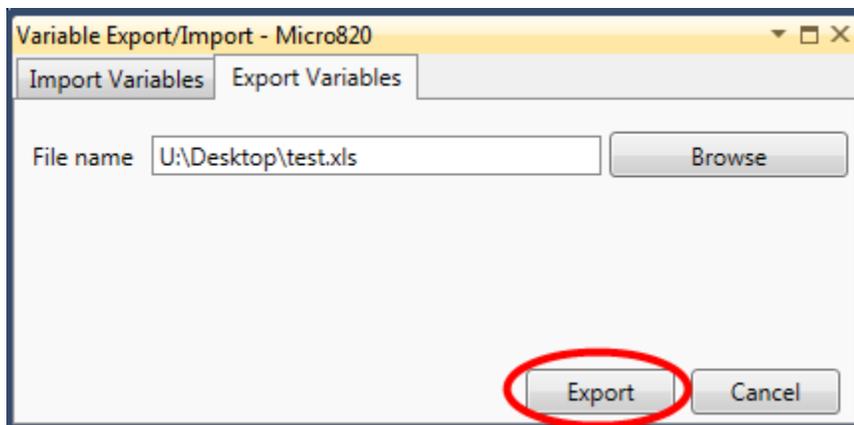
The first way is to select the Device menu from the main menu bar. Then select Export->Variables to Excel:



Alternatively, right-click on the controller's name, and select Export->Variables to Excel:

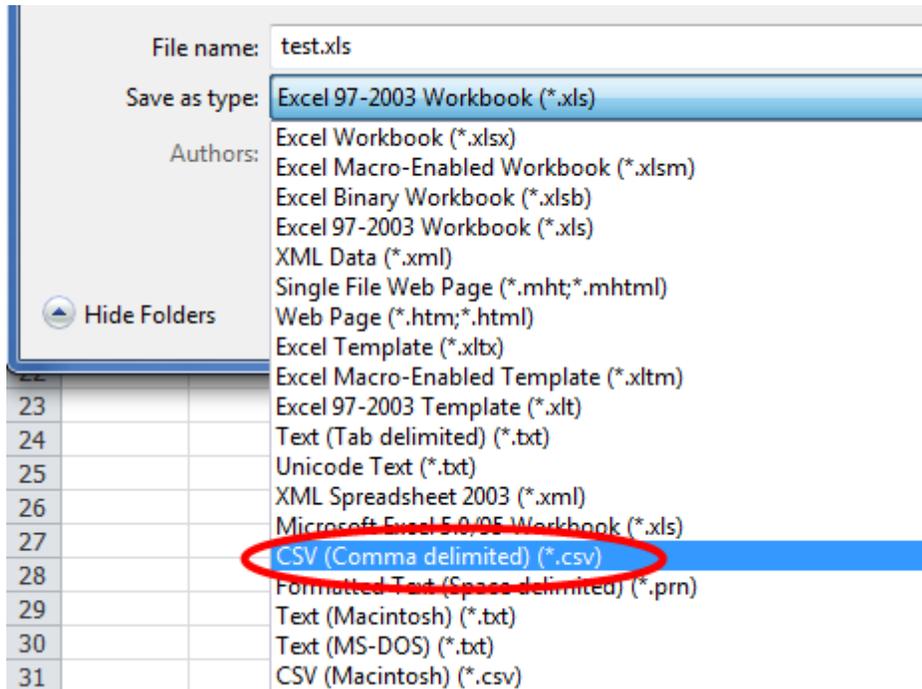


A dialog will appear. Select the desired location and name for the exported file and click the Export button:

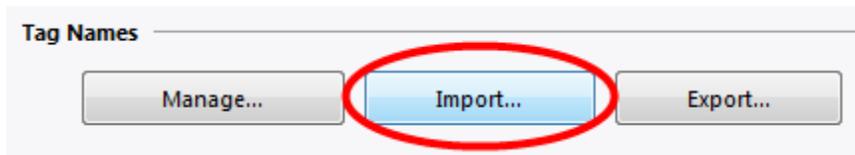


Now the variables are in a spreadsheet file in Excel format, but Crimson 3.0 is unable to read Excel files directly. The file will need to be saved as a Comma Separated Values (CSV) file as described below.

First, open the exported spreadsheet file in Excel. Then, select File->Save As from the main menu bar. Select the CSV file type from the drop-down menu, and save the file:



Now go to Crimson 3.0, and click on the import button in the driver's configuration page:

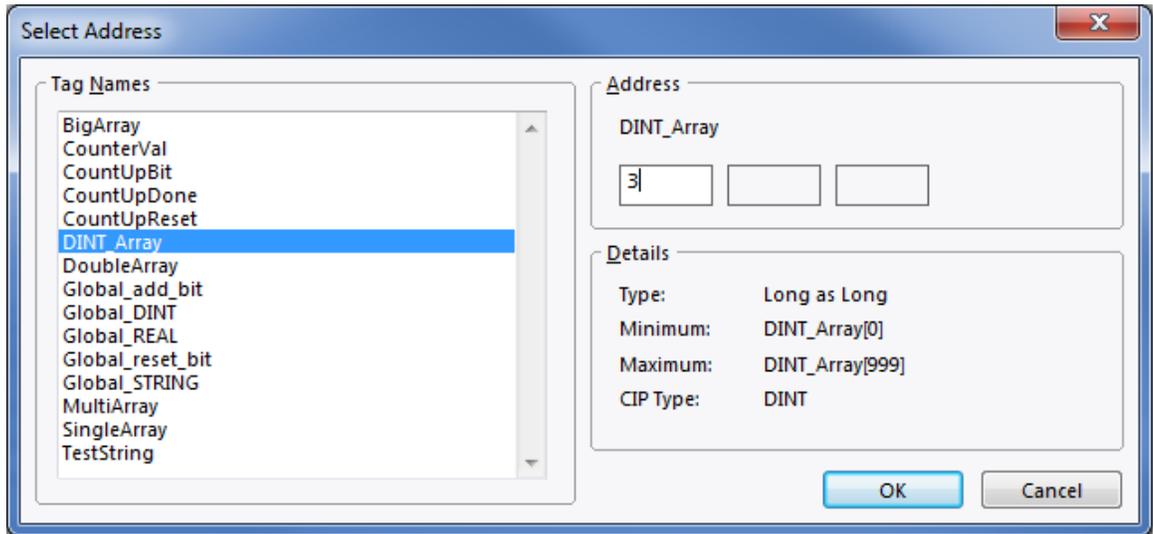


Use the file selection dialog to navigate to the location where the CSV file was saved. Click the Open button and the tags in the file will be automatically created and are available to map in Crimson 3.0.

Tags can also be exported from Crimson 3.0 to a CSV file. Select the export button and use the dialog to select a name and location for the exported file. This file can be imported in other Crimson 3.0 databases.

Mapping to Crimson 3.0 Tags

Once the Micro800 PLC tags have been configured for the driver, the PLC tags can be mapped to tags in Crimson 3.0. Simply create a tag in Crimson 3.0, select the name of the device and the following dialog will appear:



Highlight the desired tag name and click OK. If the tag name represents an array, enter the desired offsets into the offset boxes and then click OK.

Cable Information

RS232 Serial Connection

Micro800	Red Lion Device
Tx	2 Rx
Rx	5 Tx
G	3/4 COMM

Ethernet – Standard Ethernet Cable

Revision History

2/4/2016 – Created