

Control Techniques Unidrive M

Information Sheet for CTVUE Configurator 3

Compatible Devices

Control Techniques Unidrive M Series

Compatible Models

Unidrive M700

Unidrive M701

Overview

The Unidrive M driver provides access to many predefined parameters for drives running in Open Loop, RFC-A, RFC-S and Regen modes. Users can export the predefined list to a CSV file, edit or add parameters, and then import the edited file. Finally, users can access data by using generic Modbus addresses.

Device Configuration

To configure serial communications, first set the drop number to the drive's serial address. Set the ping register to an address that can be read via Modbus, the default value is typically acceptable. The drive should be connected to the HMI using a CTVue-EP-485 cable.

To configure TCP communications, the IP address should be set to that of the desired drive. The TCP port should match the Modbus/TCP port setting on the drive; the default value of 502 is generally correct. The unit number can be set if needed. Connect the HMI to the drive using a standard Ethernet cable.

For both serial and TCP communications, the Modbus register mode must be set correctly. The Modbus register mode can be set to either standard or modified. The setting on the HMI should match the setting on the drive. Accessing parameters numbered greater than 99 requires that both the drive and the device configuration use modified mode. Failure to set the register mode correctly will result in communication errors and/or data being read or written to the wrong parameter.

- To set the Modbus register mode on a drive that uses serial communications, set parameter 11.024 on the drive. Modes ending with "M" are modified, otherwise they are standard. Consult the Unidrive M manual entry on 11.024 – Serial Mode for more information.
- To set the Modbus register mode on an Ethernet equipped drive, set parameter 4.15.013 on the drive. In this parameter, a 0 enables standard register mode and a 1 enables modified addressing mode. Consult the Unidrive M manual entry on 4.15.013 – Modbus Register Addressing Mode for more information.

Lastly, the Drive Mode should be set in CTVue Configurator 3. The choices are Open Loop, RFC-A, RFC-S, and Regen. These options change which predefined parameters will be available when mapping a tag.

Managing Parameters

The Unidrive M driver allows the predefined parameters to be exported to a CSV file. This file can then be edited using a text editor or a spreadsheet application. The edited CSV file can then be imported back into the Unidrive M driver in CTVue Configurator.

To export parameters, click on the Export Parameters button under the device configuration causing a file save dialog will appear. Use the dialog to navigate to the desired directory and type a name for the file. Click the save button to export the parameters to the selected file. The exported file can then be edited if desired. The contents of the file are detailed below.

The first line of the CSV file is a header that describes the required attributes for each of the entries that follow it: TYPE, ID, DESCRIPTION and MENUNUMBER. The file then contains two general types of entries, menus and items, with one entry per line.

The first type of entry is a menu. A menu entry contains the word "MENU" under the "TYPE" column. The "ID" column contains the title of the menu. The "DESCRIPTION" column contains a short description of the menu. Lastly, the "MENUNUMBER" column contains the number of the menu, which should match the number of the corresponding menu on the drive. This number must be unique.

The second type of entry is an item, which is a parameter associated with a menu. An item entry contains its Modbus type under the "TYPE" column. The "ID" column contains the item's number within the menu, which should match that of the drive. The "DESCRIPTION" column contains a short description of the item. Finally, the "MENUNUMBER" column defines which menu the item should be associated with.

To import parameters, click the Import Parameters button under the device configuration. Note that importing parameters will clear any parameters associated with the current file. Therefore, a confirmation dialog appears. Click "Yes" to continue and select a file. Click

"No" to stop the import process without importing parameters. Use the file open dialog that appears to locate the desired CSV file. Click "Open" to open the file and import the parameters found inside of it.

Accessing Data

Using Pre-Configured Parameters:

After creating a tag and setting its data source to the Unidrive M device configured above, the address selection dialog will appear. The left-hand side of the dialog shows the available menus for the current drive mode. Click on a menu entry in the left box to load the available parameters in the right-hand box. Highlight a parameter in the right-hand box and click the OK button to map a tag to a parameter.

Parameters can be searched for in the address dialog by entering a search term in the text box found to the left of the Search button. Enter a term to search for and click the Search button. The right hand box will then contain any predefined parameters that contain the search term. These parameters can then be mapped as above.

Parameters can be sorted by name or by their menu number. After opening a menu's parameters or searching for a keyword, click on the "Sort A-Z" button to sort alphabetically by the parameter's description. Click "Sort 0-n" to sort the displayed parameters by their number.

Using Modbus:

Generic Modbus data access is available by using the Modbus menu. To map a Modbus tag, follow these steps:

From the left menu on the address selection dialog, find the entry labeled "Modbus". Click on this entry to display the available Modbus tables in the right table. Highlight the desired table in the right-hand box, and the text entry box labeled "Offset" will become active and show the prefix for the selected table. Enter the desired offset into the box and click "OK" to map the tag.

Cable Information

CTVue-EP-485 for serial connections

Standard Ethernet cable for Ethernet connections

Revision History

5/1/2013 – Revised for new interface

4/16/2013 – Created