DXM Controller Configuration Quick Start Guide

Configuring the DXM Controller

The DXM Controller must be configured using the DXM Configuration Tool *software*.

To configure the DXM Controller, connect the DXM Controller's USB or Ethernet port to a computer.

The DXM Configuration Tool allows the user to define parameters for the DXM Controller, then saves the configuration in an XML file on the PC.

After the configuration file is saved, upload the XML configuration file to the DXM Controller for operation.

This quick start guide outlines the basic operations to set up a DXM Controller using the configuration software. For a more comprehensive explanation of features, refer the DXM Controller Instruction Manual or to the to DXM Configuration Tool Instruction Manual.
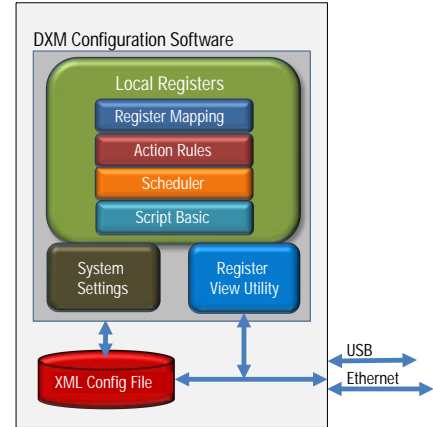
Configuration Example: Reading Registers on a Modbus Slave Device

The opening page of the DXM Configuration Tool displays the Local Registers tab. The local registers are the main global pool of registers that are defined by the user to store data within the DXM Controller. The bottom status bar displays the communications status, application status, and the DXM Configuration Tool version.

In this short example, we will configure the DXM Controller to read six registers on an external Modbus Slave device and save the data into the local registers.

The Local Register Configuration screen is the first screen that displays after you launch the DXM Controller.
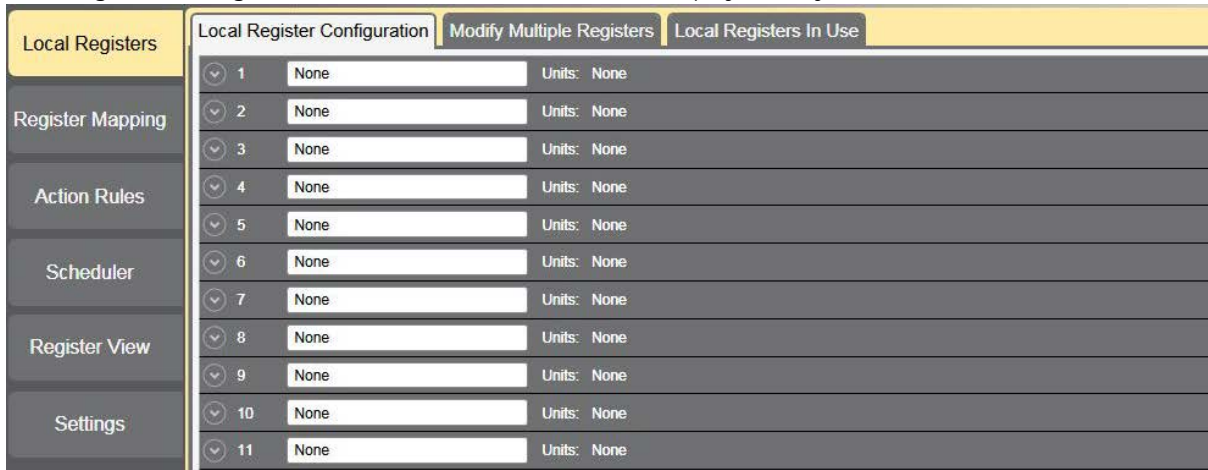

Figure 1. Local Registers Screen

Step 1: Define the Local Registers

Change the name and parameter settings for each Local Register under the Local Register Configuration tab.

You may change them individually or by using the Modify Multiple Registers feature.

This example screen uses the Modify Multiple Registers feature.

Figure 2. Modify Multiple Registers - Configuration Example

1. Click on the Modify Multiple Registers tab. Use this screen to quickly modify multiple local registers at a time.
2. Select the range of registers to change.
3. Select the fields to change in each local register. In our example, registers one through six will be changed and the names will be GPS Reg followed by an auto-incremented number. This example will also change the LCD permissions flag to *read* to allow the values of the local registers to display on the DXM Controller's LCD.
4. Click Change Registers to change the registers.

Step 2: Read the Registers

Under Register Mapping, the Read Rules or Write Rules interact with the Local Registers to exchange data with external Modbus devices.

This example screen shows a read rule created to read six registers (address 1 through 6), from Modbus Slave 4. The results are stored in the Local Registers 1 through 6.

Figure 3. Read Rules - Configuration Example

1. Change to the Register Mapping > Read Rules tab to define a Modbus read.
2. Click Add Read Rule.
3. Click the arrow next to the new rule to expand the information.

4. Type in a name into the name field.
5. Select the slave address. In this example, we will read from Slave ID 4.
6. Select the starting register and ending register. In this example, we will read from register 1 through register 6.
7. Select the beginning local register on the DXM Controller.
8. Enter a polling frequency. In this example we have entered five seconds.
9. If necessary, select the error condition. For this example, if the read function fails after three attempts, the read rule writes 12345 to the DXM Controller local registers. Notice the list of local register names this read rule is using.

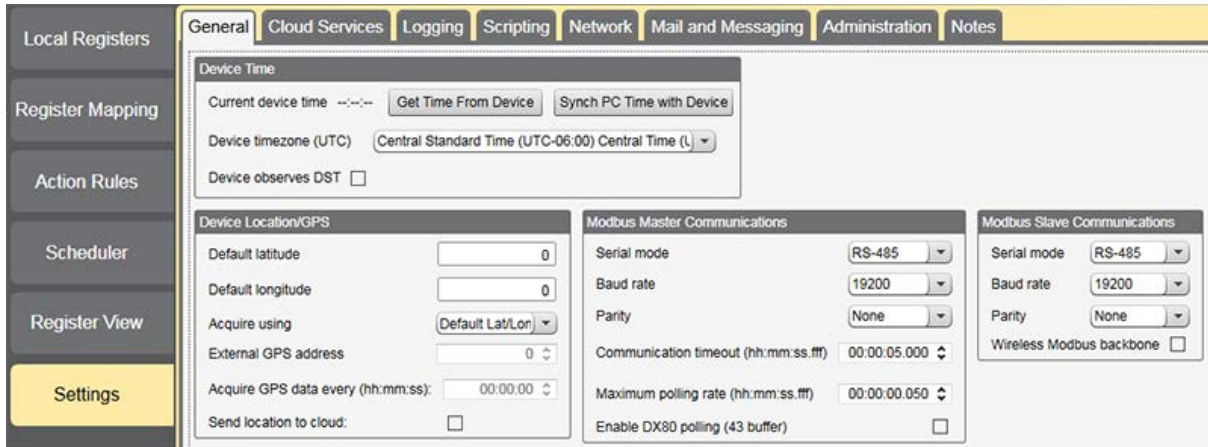### Step 3: Define the Time Zone and Set the Time Clock


Figure 4. Settings > General

Use the Settings > General tab to define the time zone and daylight saving option. The time zone and DST options are saved into the configuration file. If you connect the DXM Controller to a computer, click Sync PC Time with Device to set the time on the DXM Controller to match the time of the computer.

Step 4: Save the Configuration File

To save your configuration file, go to File > Save As. Enter a file name and save the file. The file name cannot contain spaces or special characters.

Step 5: Connect the DXM Controller

1. Connect the DXM Controller to the computer using the USB port.
2. From the Device menu, select Connection Settings.
3. From the dialog box, select the appropriate com port for the DXM communications.
4. Click Connect to connect to the DXM Controller.
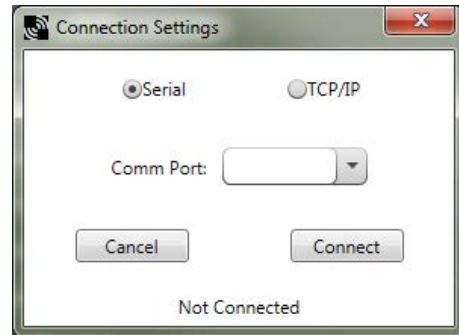
Step 6: Send the Configuration File to the DXM Controller

1. From the Device menu, select Send Configuration to Device.
2. Select the configuration file to load. The program will have pre-selected the file name you have previously saved. It is important to understand that the program only loads a file to the DXM Controller. The internal parameter settings are not sent to the device, only the saved configuration file is sent tp the DXM Controller.

After the file is selected, the configuration program begins uploading the file to the DXM Controller. The DXM configuration program reboots the controller after the program finishes uploading the configuration file. The new configuration is only read at startup and always requires a reboot or power cycle to take effect.

It will take a few seconds to the DXM Controller to reboot.

If the power cycles to the DXM Controller while the DXM Configuration Tool is connected, close the USB port from the software and unplug the USB cable. Reconnect the Controller by plugging the USB cable into the Controller, then select Device > Connection Settings.

The DXM Controller is now running the new configuration. On the DXM Controller's LCD screen, select the Registers menu by clicking the Enter button with the -> Registers menu highlighted. The local registers defined in the configuration tool display.
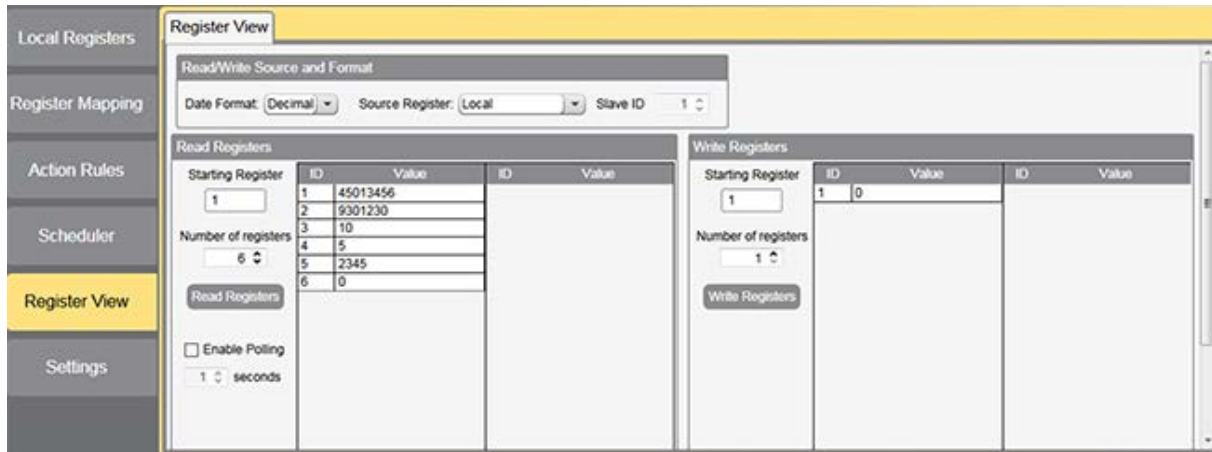
Tips and Tricks - Register View Screen

Figure 5. Register View

The Register View screen displays the results of a Modbus read/write utility built into the DXM Configuration Tool. Use this screen to read or write internal local registers or the registers of remote slave devices connected to the DXM Controller. Use this utility to debug DXM configurations and remote device problems.