Using the CR800 Datalogger to test ECI-2 instruments

A couple of things must be done before using the Datalogger to test ECI-2 instruments. First, the LoggerNet software must be installed on a computer that will be used for testing. Then, the datalogger must be setup in the LoggerNet software to establish communication.

After these basic setups are complete, you are ready to start testing. To test, you must download test code into the datalogger to run verification measurements on the ECI-2 instrument. After some time, data will be available within the datalogger that can be retrieved and verified using LoggerNet.

All that has just been described is discussed in detail below and has been broken into 5 sections.

1 – Install the LoggerNet Software

This step must be done first if LoggerNet does not already exist on your computer. Insert the CD LoggerNet installation CD and install the program.
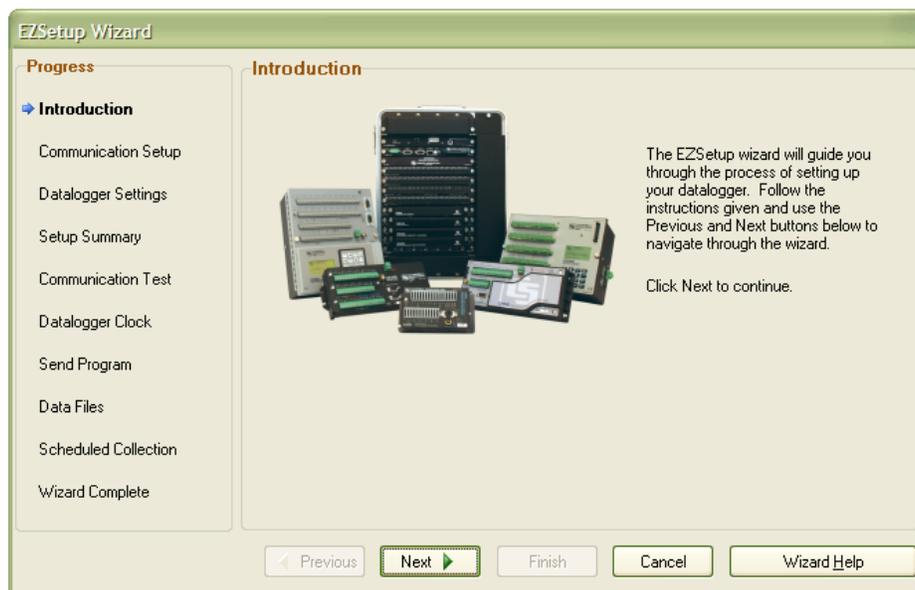
2 – Setup Datalogger in LoggerNet

Make sure that that an RS-232 cable is hooked up to a serial port on the computer. Open up LoggerNet (there should be a shortcut on the desktop after installation). The EZSetup Wizard may pop up, if so then you are good. If not, go to Main and click Setup.

Then click Add in the top-left corner:
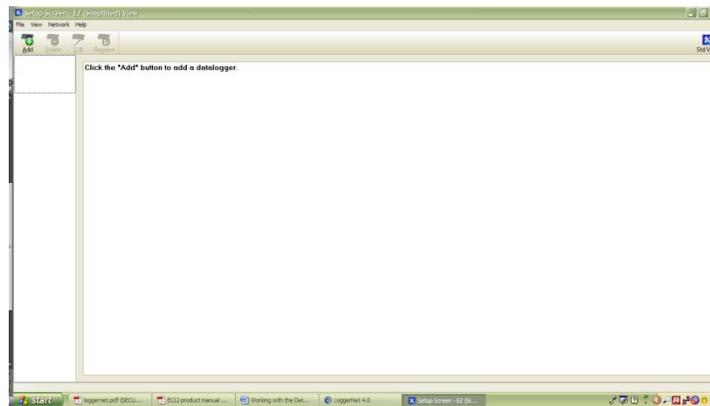
The EZSetup Wizard should popup and look like this:

Click next. In "Datalogger Type" then scroll down to "CR800Series". This label will appear in Datalogger Name after is has been clicked. That is correct. Hit next. For "Connection type" click Direct Connect. Click next. Choose your COM port. Click next. Leave the Datalogger Settings as is. Click next. Click next again after reviewing Setup Summary. From here you may test communication with the datalogger or you may hit finish.

When this is finished, restart LoggerNet and go to Main -> Connect. You should see CR800Series in the "Stations" area. Click on it and click Connect in the top-left corner. You are now ready to send programs.

3 – Connect ECI-2 to Datalogger

The ECI2 has 3 wires coming out of it. These are listed below:

1) Blue Wire – Data Line
2) White Wire – Power
3) Black Wire – Ground

Connect the blue wire to the C1 terminal. Connect the black wire to the G terminal. Connect the white wire to the 12V terminal.

4 – Download Test Code

Test code must be downloaded each time you test a different instrument because they are individually addressed. For example, one instrument may have address "T" while another has is set to address "1". A test script was written and is called ECI2_TEST_PROG_CR800.CR8 and is located on the support page of the www.corrosioninstrument.com web site. This test code can be updated using the LoggerNet CRBasic Editor. In LoggerNet go to Program -> CRBasic Editor. Go to File -> Open and locate ECI2_TEST_PROG_CR800.CR8. You should see a line that says "'Change Address Here". This is where you insert the address of the ECI-2 that you are trying to test. If for example I wanted to test address "T", this line would look like:
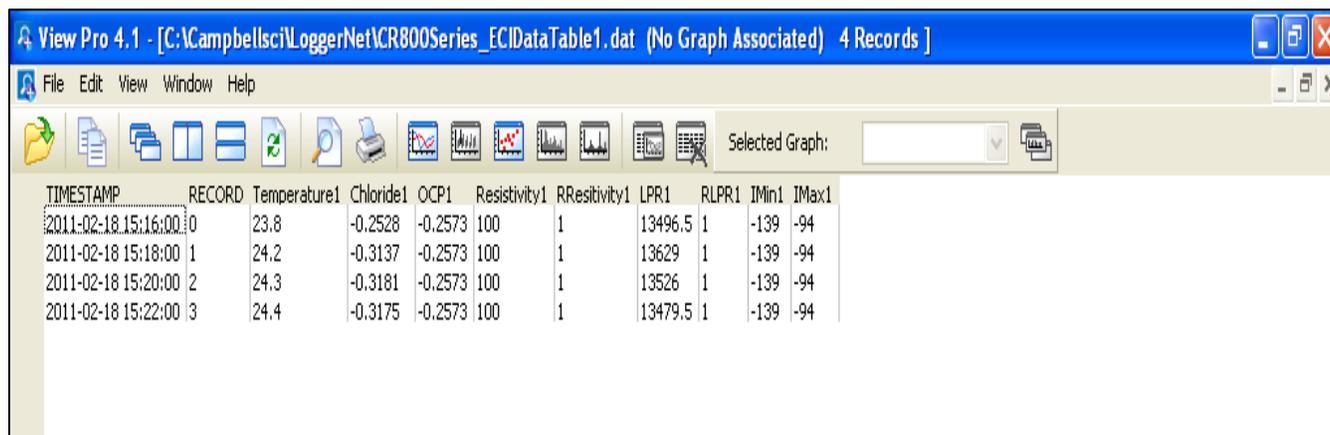
<p style="text-align:center">SDI12Recorder (ECIData1(),1,"T","V!",1,0)</p>

It is important to not change anything but the address. Save this file.

You are now ready to program the datalogger with the test code. In LoggerNet, go to Main -> Connect and connect to the datalogger. (It is good practice to set the clock each time you connect. To do this hit Set.) To send the program hit "Send…" in the Program tab. Locate ECI2_TEST_PROG_CR800.CR8. A warning sign will pop-up, just hit "Yes". The file has now been sent and the ECI-2 will be performing measurements every 2 minutes.

5 – Retrieving Verification Data

In the Connect Screen, hit "Collect Now". Hit view file and a table should pop up that looks like this:

This particular instrument ran for 8 minutes, allowing it 4 measurement cycles. The values in this table can be referenced to the "ECI-2 Product Manual" to check for validity.