Getting Started With Your Campbell Scientific Equipment

NOTES:

Program Filename:
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Station Names:
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Serial Numbers:
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PakBus Addresses:
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CAMPBELL SCIENTIFIC®
WHEN MEASUREMENTS MATTER

Getting Started With Your Campbell Scientific Equipment

READ THIS FIRST

This guide outlines the general steps for setting up a Campbell Scientific measurement and control system.

The *Resource DVD* included with each order contains all of Campbell Scientific's current manuals, along with product brochures and starter software. Detailed instructions and programming help for Campbell Scientific products are found in these files.

1   Unpack the shipping boxes.
- Pull apart all packing materials to ensure no small parts are missed. Check for additional layers of parts below the top layer.
- Check the equipment against the order's packing list.
- File the sales order and packing list.
- Locate the *Resource DVD*.

2   Insert the Resource DVD into a computer.
- Review the appropriate sensor manuals on the DVD for installation guidelines. Manuals are also available at www.campbellsci.com.au/manuals.
- Review the appropriate tripod/tower/mounting pole manual for the proper setup procedure (if ordered).
- Review the datalogger manual *Quick Start* section, along with any other pertinent information needed in that manual.
- Install *LoggerNet*, *PC400*, or *RTDAQ*. If this software was not purchased, install the *PC200W* software found on the *Resource DVD*.
- If the order includes components requiring drivers (such as network interfaces, USB devices, spread spectrum radios, or modems), install the drivers from the *Resource DVD* as instructed in the product manuals. Typically, the drivers need to be installed prior to connecting the device to the computer.
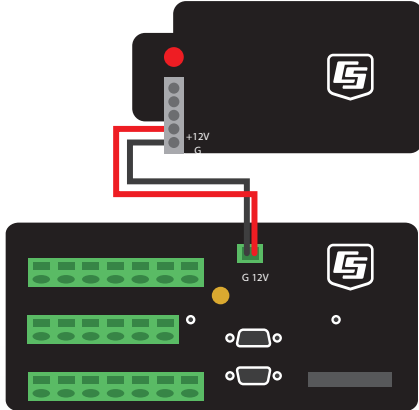
- LoggerNet
- RTDAQ
- PC400
- PC200W

3   Basic hardware setup (prewired systems skip this step).
- With the power supply disconnected or switched to **OFF**, attach one end of the red wire to the **12V** terminal on the datalogger power connector. Attach one end of the black wire to the **G** terminal on the connector. Connect the free end of the red power wire to one of the **12V** terminals on the power supply and the free end of the black power wire to one of the **G** terminals.
- Connect the datalogger to the computer using an RS-232 cable. If the computer does not have a serial port, a USB to serial cable (pn: 17394) may be used.

NOTE: For the purpose of this test, the hardware will be tested using battery power only. No external power will be applied until the system is deployed to the field.

4 Open the *Short Cut* datalogger program creation software. In *LoggerNet*, *Short Cut* is found under **Program**. In *PC200W* and *PC400*, *Short Cut* is found in the **Tools** menu (or clicking on the red 'clock' icon).
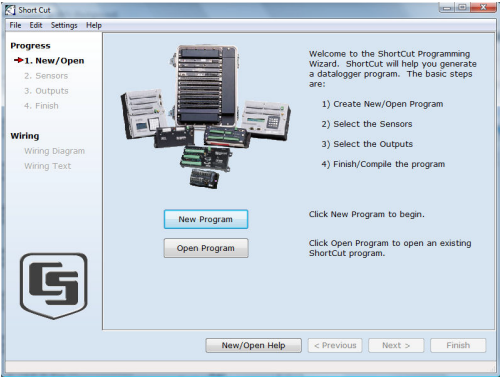
- Use *Short Cut* to generate a basic datalogger program for all the sensors that will be attached to the datalogger.
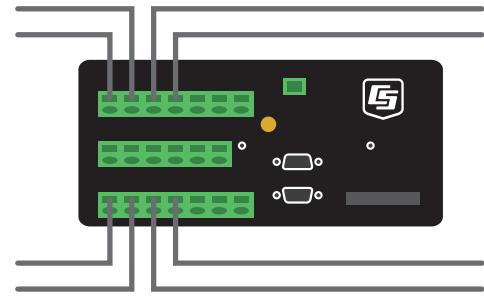
 Short Cut

NOTE: Video tutorials covering datalogger programming and other topics relevant to Campbell Scientific products are available at:

www.youtube.com/user/CampbellScientific

5 Follow the wiring diagram created by *Short Cut* to attach the sensors to the datalogger. The wiring must match the diagram exactly for the sensors to be measured correctly.

6 Use *PC200W*, *PC400*, *LoggerNet*, or *RTDAQ* to send the program to the datalogger. Connect to the datalogger and view the real-time sensor measurements in the **Public** table.

- Are the sensors making good measurements?
- If any sensor is not reading as expected, change the sensor setting in *Short Cut* and repeat steps 6–7. Also verify that all sensors wires are properly wired to the datalogger.
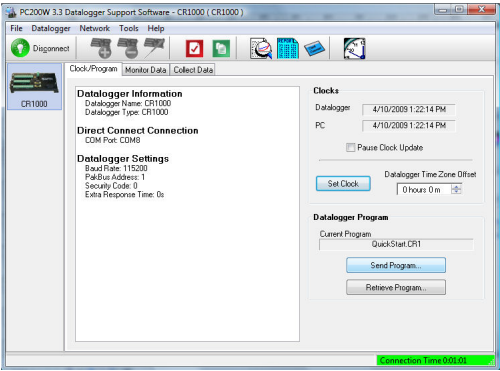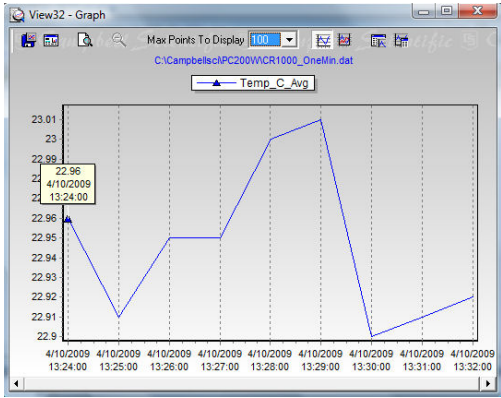
7 After giving the datalogger sufficient time to take multiple measurements, collect and review the data.

- Are the data values within the range of what is expected for each sensor?
- Are the records being stored correctly to the data table(s) and at the desired interval?
- If the data will be post-processed, is it in a file format that can be used?
- Do the data values provide the information expected?

8 [Optional] Using the *CRBasic Editor* (not available in *PC200W*), expand the program for any need beyond the basic *Short Cut* program. Take the time to add comments to the program to explain.
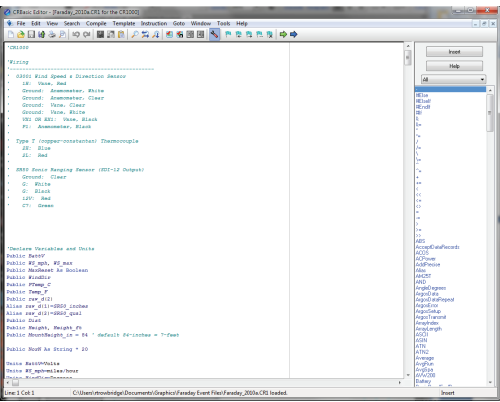
9 Make an archival copy of the program and wiring diagram by saving them to a second computer or storage device. Printing a hard copy to place in the enclosure is also recommended.

10 Connect any communication devices to the datalogger.

- Configure and test each communication device.
- Refer to the device's manual on the *ResourceDVD* for additional information.
- If using *LoggerNet*, use *Network Planner* to assist in the configuration of each device. The *Network Planner* is in the *LoggerNet* **Launch | Tools** category. Alternatively, use the *Device Configuration Utility* (found on the *Resource DVD*) to set up the device as indicated in the user manual.
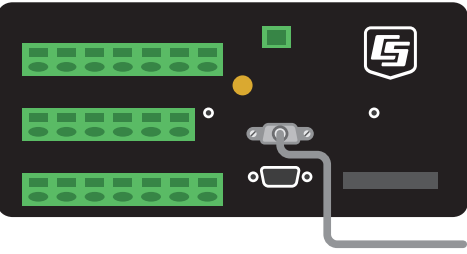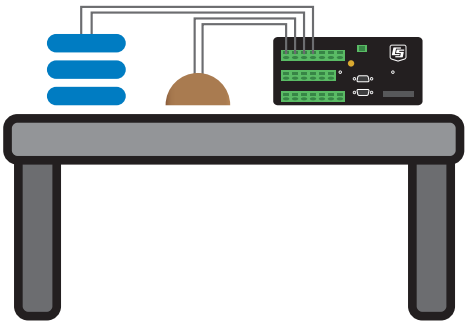
11 Before deploying the system in the field, assemble the system as much as possible. Note what tools and hardware are needed to complete the assembly. Make sure these tools and hardware are available for final assembly in the field.

12 Deploy the system in the field and test by repeating steps 5–7 to confirm the system is functioning.