7. Configuring data loggers

Data loggers that are entered into the DataTrac 3 database for the first time must be configured in order for the loggers to collect correct data. The "Configure" tool is used to assign the correct sensor in each port, select charting colors, add user defined calibration coefficients, modify chart axes, and to set target range among others. Use the steps below to configure data loggers.

– Select data logger name in the device directory.

– Select "Configure" on the toolbar after the data is displayed in the chart/table format. When the node is selected, chose "Yes" if a dialog box that asks to configure the node appears.

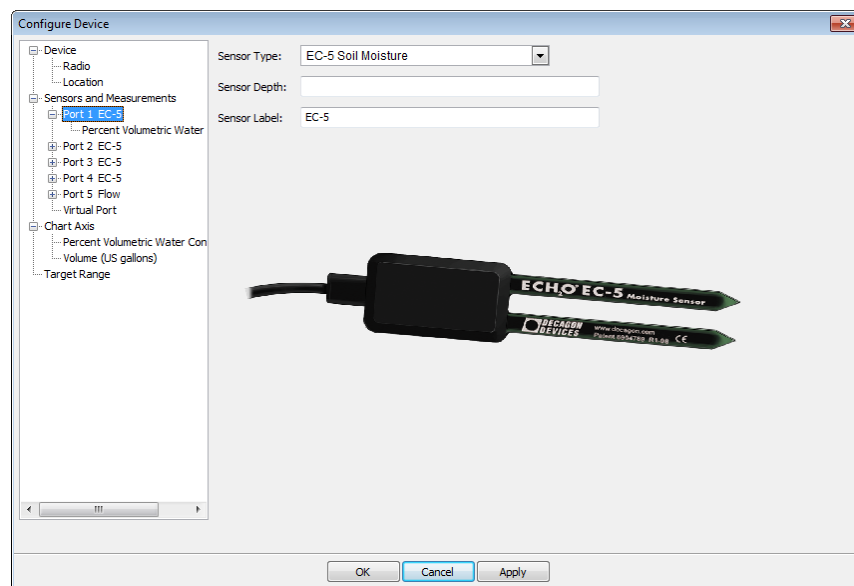– The "Configuration Device" window will appear (Figure 6).

Figure 6. The Configure Device screen.

Device

– Under "Device", "Radio" and "Location" will show information that was entered when the data logger was configured using ECH2O Utility.

Sensors and Measurements

– Under "Sensors and Measurements", click on Port 1 to Port 5 and select the corresponding sensor on the right (Figure 7).

– Sensor label and information such as sensor depth for soil moisture sensors can also be entered.
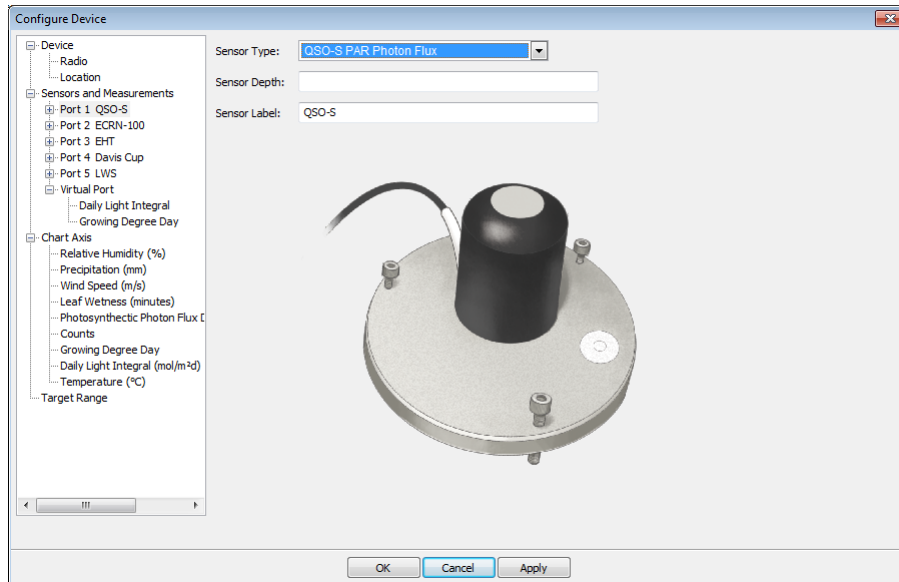
Figure 7. Photosynthetically active radiation (PAR) sensor is selected from the drop down list.

− Click on the + sign in front of the port number. The parameter(s) measured by the sensor selected will be displayed.

− Click on the parameter name and select the trace color, line width and markers desired on the right (Figure 8). These selections will be displayed when data is displayed in chart view.

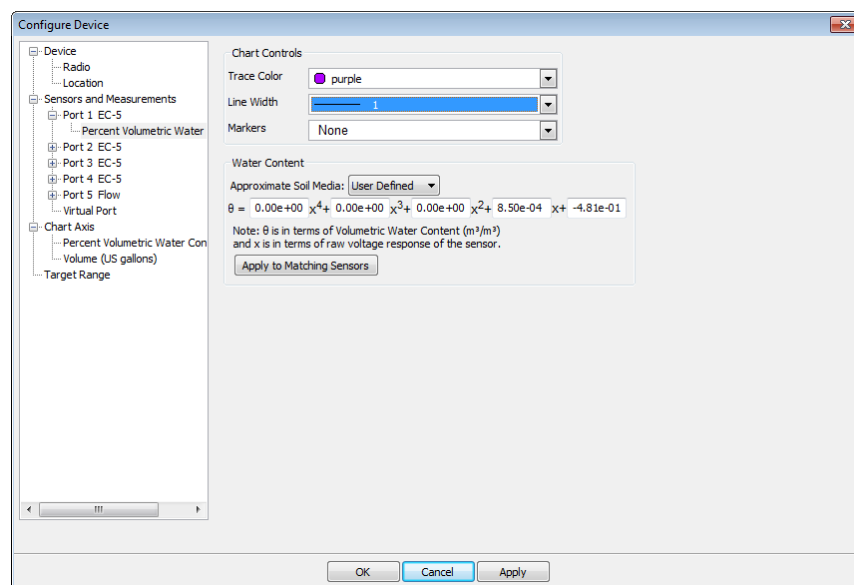− Click "Apply" to save the changes made.

Figure 8. The Configure Device window showing option for entering custom calibration coefficient.

Entering user defined sensor calibrations

- For sensors that need custom calibration (such as soil moisture sensors), select the "User Defined" option from the "Appropriate Soil Media" drop down menu (Figure 8).

- Enter coefficients of the custom calibration equation made.

- Click on "Apply to Matching Sensors" to apply calibration coefficients to similar sensors within the node.

- Click "Apply" to save the changes made.

Chart Axis

- Select each axis under the Chart Axis option (Figure 9).

- In the window on the right, enter the range (minimum and maximum) desired for the parameter selected.

- Chose axis color.

- Uncheck the "Draw Axis" to hide the parameter (both axis and data) in chart view.
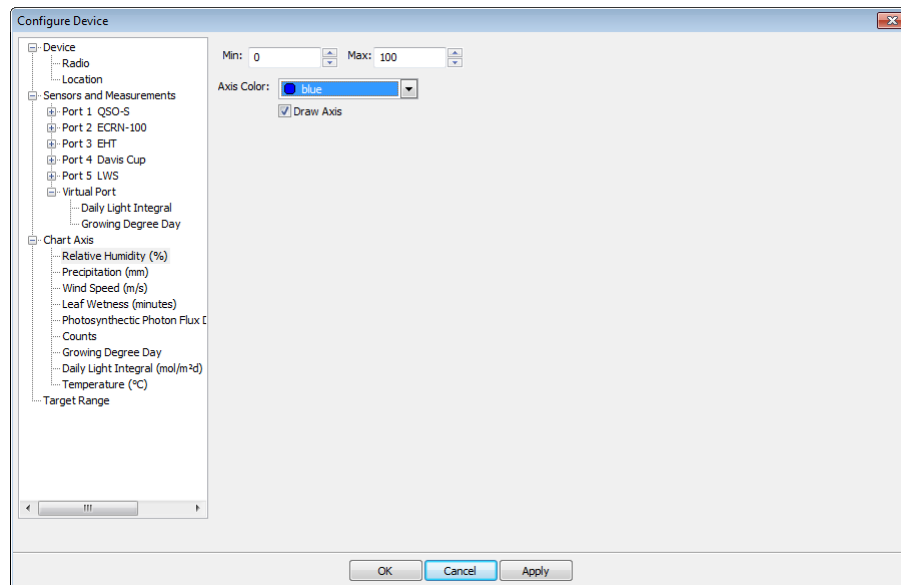
- Click "Apply" to save changes made.

Figure 9. Minimum and maximum values for the parameter relative humidity are set.

Target Range

This can be set for any sensor/parameter.

- Click on "Target Range".

- On the window on the right, click on the green + sign to add the parameter desired.

- From the drop down menu for "Measurement", select the sensor and parameter for which target range is desired.

- Enter name, starting and ending date, the lower and upper values desired and select color.
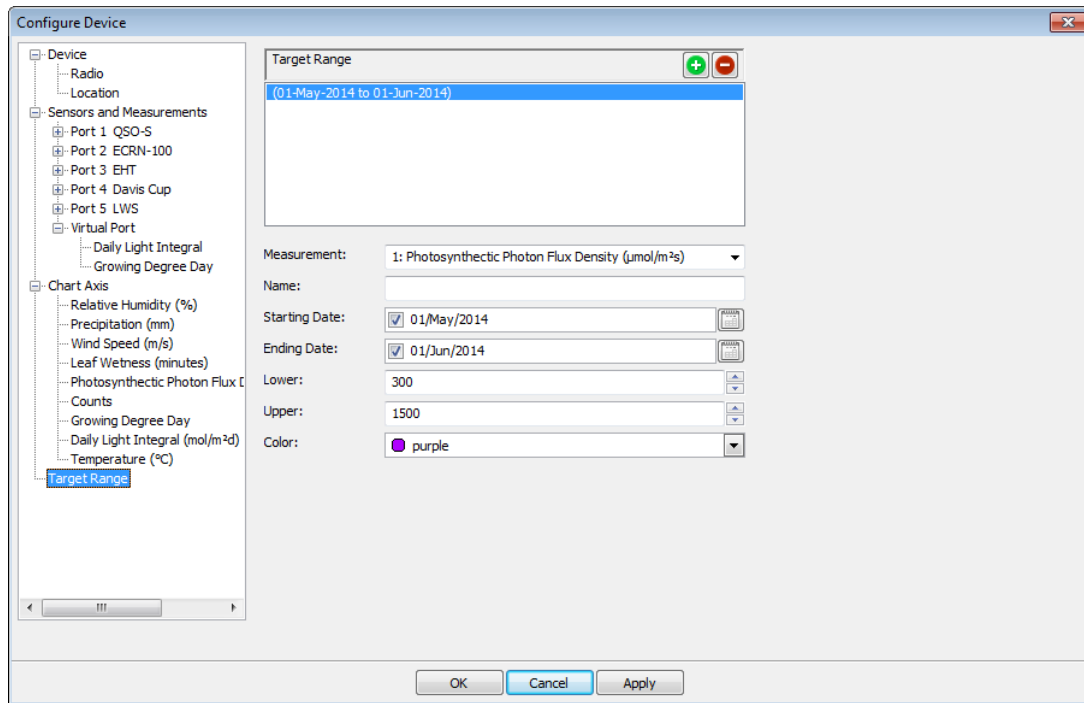
- Click "Apply" to save changes made.

Figure 10. A target range for a photosynthetically active radiation (PAR) sensor.

Finally, to save all configuration changes made, click "Ok".