

Specware 9.6.0 Build 0290 – Calibration Feature (1000 and 2000 Series Stations)

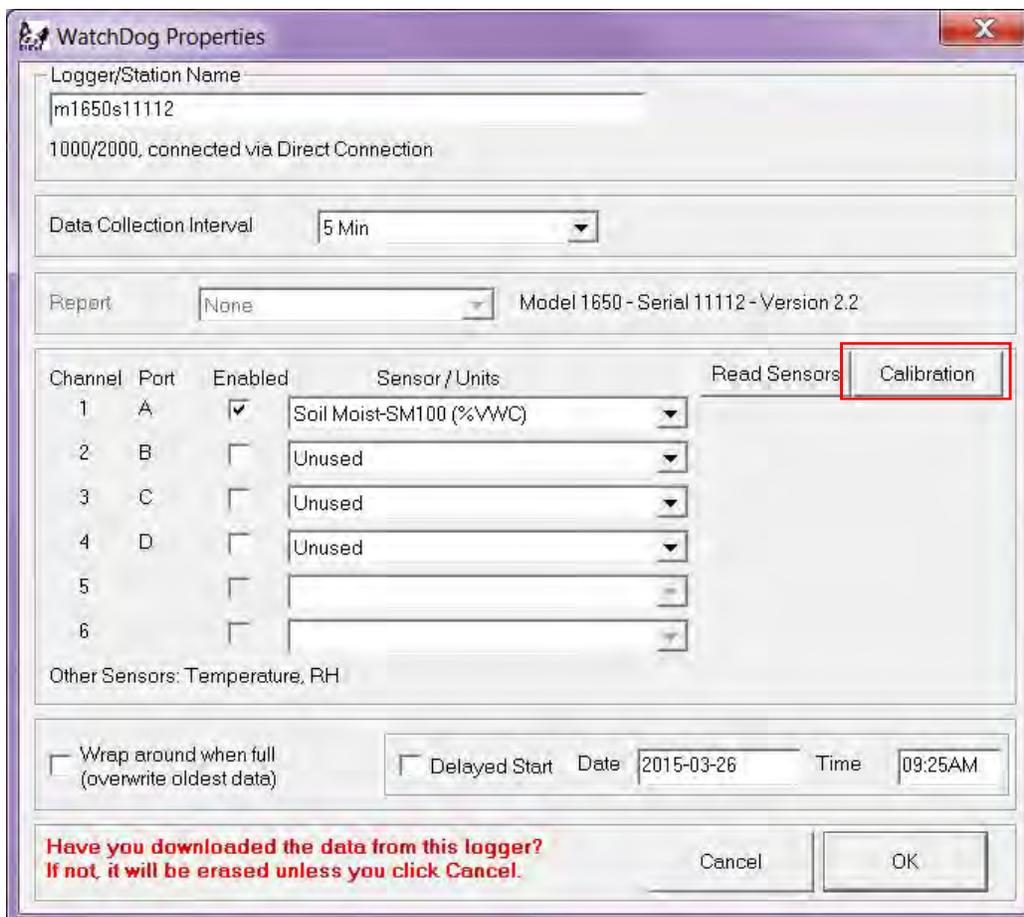
Introduction

In situations where a customer would like to adjust the output of a WatchDog sensor such that it matches the value of a known standard, Specware software's calibration feature allows the user to create sensor-specific adjustments. A calibration only applies to a specific sensor plugged into a specific port of a specific logger.

Procedure

For the sensor of interest, collect two simultaneous data values; a.) The actual value determined by an external measurement device, and b.) The value output by the WatchDog logger on the channel to which that sensor will be connected. Up to three calibration points are allowed per sensor/channel/logger combination.

Open Specware software and bring up the **WatchDog Properties** screen. Click the **Calibration** button.



The screenshot shows the 'WatchDog Properties' dialog box. The 'Logger/Station Name' field contains 'm1650s11112' and '1000/2000, connected via Direct Connection'. The 'Data Collection Interval' is set to '5 Min'. The 'Report' dropdown is set to 'None' and the version is 'Model 1650 - Serial 11112 - Version 2.2'. A table lists channels 1 through 6 with their respective ports and sensor types. Channel 1 is enabled and uses a 'Soil Moist-SM100 (%VWC)' sensor. Channels 2, 3, 4, 5, and 6 are disabled and use 'Unused' sensors. A 'Read Sensors' button is present, and the 'Calibration' button is highlighted with a red box. At the bottom, there are checkboxes for 'Wrap around when full (overwrite oldest data)' and 'Delayed Start', along with date and time fields. A red warning message is displayed at the bottom: 'Have you downloaded the data from this logger? If not, it will be erased unless you click Cancel.' The 'Cancel' and 'OK' buttons are also visible.

Channel	Port	Enabled	Sensor / Units	Read Sensors
1	A	<input checked="" type="checkbox"/>	Soil Moist-SM100 (%VWC)	<input type="button" value="Calibration"/>
2	B	<input type="checkbox"/>	Unused	
3	C	<input type="checkbox"/>	Unused	
4	D	<input type="checkbox"/>	Unused	
5		<input type="checkbox"/>		
6		<input type="checkbox"/>		

Other Sensors: Temperature, RH

Wrap around when full (overwrite oldest data) Delayed Start Date: 2015-03-26 Time: 09:25AM

**Have you downloaded the data from this logger?
If not, it will be erased unless you click Cancel.**

Cancel OK

This will bring up the **Calibration Table** screen.

Channel	Port	Sensor	1, 2 or 3 Adjustments:					
			From	To	From	To	From	To
1	A	Soil Moist-SM100	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
2								
3								
4								
5								
6								
7	G	Temperature	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
8	H	RH	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Cancel OK

Although all channels are listed on the screen, only those configured with a sensor have the six input boxes used to enter calibration data. These are organized as three sets of "From-To" adjustment pairs. For each channel, you can specify up to 3 adjustments. If the fields are left empty, no adjustment will be made for that channel. Enter the first single calibration point into the left pair. The value in the **From** field is the value output by the WatchDog logger. The value in the **To** field is the actual value of that sensor. Essentially, Specware is converting the number from its default value to the actual value.

For example, if your humidity sensors reads 44.0, but should read 45.4, enter 44.0 and 45.4 in the first **From** and **To** boxes. When downloading data into SpecWare, all humidity values will then have 1.4 added before the data is stored. For a two-point calibration, enter the **From** (reading) and **To** (standard) values into the second pair. This creates a linear adjustment. If 3 calibration points are entered, two linear adjustments will be made, one for data less than the center pair, and one for data greater than the center pair.

Important: Adjustments are made as data is stored. The device's LCD will continue to show the pre-adjusted values.