Calibration Report:  
Temperature/Relative Humidity Sensor  
S/N: T0420063

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Summary

Calibration Date : 15 July 2004    Next Calibration Date : 15 July 2005

A collection, analysis and calibration of data from Temperature/Relative Humidity Sensor, SN: T0420063, has been completed. The calibration was performed by the calibration laboratory, Wyle Laboratories. These data were collected by Wyle Laboratories on July 15, 2004.

MANUFACTURER : Campbell Scientific  
MODEL : CS500  
SERIAL NUMBER : T0420063

The test data presented in data table format show the Temperature/Relative Humidity sensor output in mV from select data points.

Sensor scaling are from 0 – 1 V for 0 – 100% RH and 0 – 1 V for −40 to 60 °C. RH deviation from standard indication was −0.4% @ 20.1% RH, 2.1% @ 50% RH, 1.4% @ 80% RH and 2.5% @ 50.1% RH. Temperature deviation from standard indication was 0.1 °C @ 21.2 °C and 0.1 °C @ 29.9 °C. Units were powered by 12 VDC using a Campbell Scientific 21x datalogger. Probe offset = −50mV. The sensor meets the Manufacturer’s tolerance of +/- 3.2% for RH and +/- 1°C for Temperature.

Linear fits with Coefficients are provided on plots on the following pages.

NOTE: This probe with S/N: T0420063 is the same probe that has S/N: LT418838. The LT # is on the cable and the T0420063 is on the probe itself. Will document the S/N on the probe for future calibrations.
### Humidity Test

<table>
<thead>
<tr>
<th>Standard Indication (@21.2 Deg C) % Relative Humidity</th>
<th>UUT Indication (@21.2 Deg C) % Relative Humidity</th>
<th>UUT Indication in mV</th>
<th>Deviation (@21.2 Deg C) % Relative Humidity</th>
<th>Manufacturer's Tolerance ± % Relative Humidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.1</td>
<td>19.7</td>
<td>196.78</td>
<td>-0.4</td>
<td>3.2</td>
</tr>
<tr>
<td>50.0</td>
<td>52.1</td>
<td>520.94</td>
<td>2.1</td>
<td>3.2</td>
</tr>
<tr>
<td>80.0</td>
<td>81.4</td>
<td>814.42</td>
<td>1.4</td>
<td>3.2</td>
</tr>
<tr>
<td>50.1</td>
<td>52.6</td>
<td>525.76</td>
<td>2.5</td>
<td>3.2</td>
</tr>
</tbody>
</table>

### Temperature Test

<table>
<thead>
<tr>
<th>Standard Indication Degrees C</th>
<th>UUT Indication Degrees C</th>
<th>UUT Indication mV</th>
<th>Deviation Degrees C</th>
<th>Manufacturer's Tolerance Degrees C</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.2</td>
<td>21.3</td>
<td>613.25</td>
<td>0.1</td>
<td>± 1</td>
</tr>
<tr>
<td>29.9</td>
<td>30.0</td>
<td>699.85</td>
<td>0.1</td>
<td>± 1</td>
</tr>
</tbody>
</table>

**Note:** Humidity probe calibrated with Campbell Scientific 21X. Reference voltage set to mfg. Spec on 21X data logger.

Manufacturer: Vaisala Humitter
Serial Number: T0420063
Work Order: 478489
Calibration Procedure: C614T.0022

ECN: A030992
Model: 50YC
Range: See Below
Humidity: 43 Percent

Tech: 2907
Date: 7/15/2004
Approved: 2675
Temperature: 23 deg C

Manufacturer: Campbell Scientific
Serial Number: 5955
Work Order: 478488
ECN: 0056368
Model: 21X

Analog output = 0-1 V 0-100% RH.
Analog output = 0-1 V -40 to 60°C.
Probe offset = -50 mV
Relative Humidity Linear fit from Temp/TH sensor (SN: T0420063)

POLYNOMIAL FIT DATA:

Pwr, Coef

0 | 2.398130127360E-01
1 | 9.681750687379E-02
Temperature Linear Fit from Temp/RH sensor (SN-T0420063)

POLYNOMIAL FIT DATA:

```
Pwr_Cof
0 | -4.040826485252E+01
1 | 1.004619088715E-01
```