

OM-CP Data Logger Calibration Procedure

Procedure Applicable to the following logger: OM-CP-RFRHTEMP2000A

Materials Required:

OM-CP-RFRHTEMP2000A Data Logger

Interface Cable

OM-CP Data Logger Software

A stable temperature environment with a calibrated reference instrument. A

stable humidity chamber with a calibrated reference instrument.

Note: A Two-Point (two temperature/humidity—low and high) calibration is recommended and is typically more accurate than a One-Point (single temperature/humidity) calibration.

To calibrate the ambient channel:

1. Connect the logger to the interface cable.
2. Right click the device in the [Connected Devices](#) panel and select [Properties](#).
3. Select the [Calibration](#) section of the [Properties](#) window. Record the original values so that it will be possible to revert to the previous calibration is desired. Click on the [Calibrate](#) button.
4. Select the check-box for [Ambient Temperature](#). Click [Next](#).
5. Select the [Gain and offset](#) option. Set the [Gain](#) to [1](#) and the [Offset](#) to [0](#) and then select [Next](#). This resets the logger to factory specifications. Click [Write](#) and then [Yes](#) to save the default calibration to the logger. Click [Close](#) to exit the calibration
6. Start the logger using the desired start method.
7. Place the logger in the first stable temperature environment. This will be the Low Measurement environment. Wait for the temperature to stabilize. Some loggers may require more time to stabilize.
8. Record the time and exact temperature at which the environment stabilizes. These will be used as the Low Measurement reference points for the calibration. In a one point calibration, proceed to step 12.

9. Place the logger in the second stable temperature environment. This will be the High Measurement environment. Wait for the temperature to stabilize.
10. Record the time and exact temperature at which the environment stabilizes. These will be used as the High Measurement reference points for the calibration.
11. Remove the logger from the environment. [Stop](#) the device and [Download](#) to retrieve the data.
12. Go to the [Datasets](#) folder in your File [Database](#). Select the newly downloaded dataset. Right-click the dataset and select [Add to new report](#) → [Data table](#). This will generate a new data table report for this dataset.
13. In the data table report, locate the time recorded earlier when the environment had stabilized at the temperature being calibrating against and write down the temperature the device recorded along with the actual temperature already documented.
14. Go to the Connected Devices panel, right click the logger and select Properties. Select the [Calibration](#) section from the [Properties](#) window, and click [Calibrate](#). Select the check-box for [Ambient Temperature](#). Click [Next](#).
 - a. One Point Calibration: Set the [Gain](#) to 1 and the [Offset](#) to the difference between the actual temperature and the temperature the logger recorded at the time recorded earlier. For example, if the actual reference temperature being calibrated against was 50 degrees Celsius, and the recorded temperature was 49.5, the offset is -.5 degrees Celsius.
 - b. Two Point Calibration: Click [High and low values](#). Select the temperature unit used. Enter the actual temperature into the [Reference value](#) fields and the recorded temperature into the [Device reading](#) fields for both the Low measurement and High measurement points.
15. Click [Next](#). Review the entered values and click [Write](#) and [Yes](#) to save the new calibration to the device. The software will calculate and fill in the Gain and Offset.
16. Click [Close](#) to finish the calibration procedure.

To calibrate the Humidity channel:

1. Connect the logger to the interface cable.
2. Right click the device in the [Connected Devices](#) panel and select [Properties](#).
3. Select the [Calibration](#) section of the [Properties](#) window. Record the original values so that it will be possible to revert to the previous calibration is desired. Click on the [Calibrate](#) button.
4. Select the check-box for [Humidity](#), unselect the check-box for [Temperature](#). Click [Next](#).
5. Select the [Gain and offset](#) option. Set the [Gain](#) to [1](#) and the [Offset](#) to [0](#) and then select [Next](#). This resets the logger to factory specifications. Click [Write](#) and then [Yes](#) to save the default calibration to the logger. Click [Close](#) to exit the calibration
6. Start the logger using the desired start method.
7. Place the data logger in the first stable humidity environment. This will be the Low Measurement environment. Wait for the humidity to stabilize, and then let the logger run for a minimum of four hours. Some loggers may require more time to stabilize.
8. Record the time before removing the logger, and the exact value of the reference. These will be used as the Low Measurement reference points for the calibration. In a one point calibration, proceed to step 13.
9. Place the data logger in the second stable humidity environment. This will be the High Measurement environment. Wait for the humidity to stabilize, and then let the logger run for a minimum of four hours. Some loggers may require more time to stabilize.
10. Record the time before removing the logger, and the exact value of the reference. These will be used as the High Measurement reference points for the calibration.
11. Remove the logger from the environment. [Stop](#) the device and [Download](#) to retrieve the data.

12. Go to the [Datasets](#) folder in your File [Database](#). Select the newly downloaded dataset. Right-click the dataset and select [Add to new report](#) → [Data table](#). This will generate a new data table report for this dataset.
13. In the data table report, locate the times recorded earlier when removing the logger from each environment. Ensure that the values had stabilized before those points. These will be used as your low and high device readings.
14. Go to the Connected Devices panel, right click the logger, and select Properties. Select the [Calibration](#) section from the [Properties](#) window and click [Calibrate](#). Select the check-box for [Humidity](#), unselect the check-box for [Temperature](#). Click [Next](#).
 - a. One Point Calibration: Set the [Gain](#) to [1](#) and the [Offset](#) to the difference between the actual humidity and the humidity the logger recorded at the time recorded earlier. For example, if the actual reference humidity being calibrated against was 50 %RH, and the recorded humidity was 49.5, the offset is -.5 %RH.
 - b. Two Point Calibration: Click [High and low values](#). Enter the actual humidity into the [Reference value](#) fields and the recorded humidity into the [Device reading](#) fields for both the Low measurement and High measurement points.
15. Click [Next](#). Review the entered values, and click [Write](#) and [Yes](#) to save the new calibration to the device. The software will calculate and fill in the Gain and Offset.
16. Click [Close](#) to finish the calibration procedure.