telldus™

Adjustment or Calibration of Trådlös väderstation (14759)

Note: The calibrated value can only be adjusted on the console. The remote sensor(s) always displays the un-calibrated or measured value.

Note: The measured humidity range is between 10 and 99%. Humidity cannot be accurately measured outside of this range. Thus, the humidity cannot be calibrated below 10% or above 99%.

The purpose of calibration is to fine tune or correct for any sensor error associated with the devices margin of error. The measurement can be adjusted from the console to calibrate to a known source.

Calibration is only useful if you have a known calibrated source you can compare it against, and is optional. This section discusses practices, procedures and sources for sensor calibration to reduce manufacturing and degradation errors. Do not compare your readings obtained from sources such as the internet, radio, television or newspapers. They are in a different location and typically update once per hour.

The purpose of your weather station is to measure conditions of your surroundings, which vary significantly from location to location.

The Trådlös väderstation supports up to eight remote sensors. Each of the eight sensors can be calibrated.

1.   Temperature Calibration

In normal mode, press and hold the **SET** and **CHANNEL/+** buttons at the same time for five seconds to enter the temperature calibration mode. The indoor temperature will begin flashing.

Press the **[+]** or **[-]** button to increase or decrease the temperature reading (in increments of 0.1). Press and hold the **[+]** or **[-]** button for three seconds to increase or decrease rapidly.

Press the **ALARM** button to reset to the current value.

Press the **SET** button to switch between temperature channels 1 through 8. To exit the calibration mode at any time, press the **SNOOZE/LIGHT** button on the top of the display console. If no operation is performed, the calibration mode will timeout in 30 seconds.

2.   Humidity Calibration

In normal mode, press and hold the **SET** and **MIN/MAX/-** buttons at the same time for five seconds to enter the humidity calibration mode. The indoor humidity will begin flashing.

Press the **[+]** or **[-]** button to increase or decrease the humidity reading (in increments of 1%). Press and hold the **[+]** or **[-]** button for three seconds to increase or decrease rapidly.

Press the **ALARM** button to reset current value.

Press the **SET** button switch to channel humidity 1through 8. To exit the calibration mode at any time, press the **SNOOZE/LIGHT** button on the top of the display console. If no operation is performed, the calibration mode will timeout in 30 seconds.

Note: Humidity is a difficult parameter to measure accurately and drifts over time. The calibration feature allows you to zero out this error. To calibrate humidity, you will need an accurate source, such as a sling psychrometer or Humidipaks One Step Calibration kit.

3.   Absolute and Relative Barometer, Wind and Rain Calibration

3.1.   Quick Reference Guide:

Command	Mode	Default	Settings

[SET] + [ALARM] + 3 seconds	Absolute Barometer Offset	0.00	Press **[+]** or **[-]** to adjust the absolute pressure up or down. **Note** that you normally not calibrate absolute pressure unless you have a specific application example, measuring air density.
[SET]	Relative Barometer Offset	0.00	Press **[+]** or **[-]** to adjust the relative pressure offset up or down. See discussion below on how to calibrate relative pressure based on conditions at a local airport.
[SET]	Wind Gain	1.00	Press **[+]** button or **[-]** to adjust the wind gain up or down.
[SET]	Rain Gain	1.00	Press **[+]** button or **[-]** to adjust the rain gain up or down.
[SET]	Exit Calibration Mode		

3.2.

[SET] + [ALARM] + 3 seconds = press and hold the SET and ALARM buttons at the same time for 3 seconds.
[SET] = press (but do not hold) the SET button

3.3. Step by Step Guide

In normal mode, press and hold the **SET** and **ALARM** buttons at the same time for five seconds to enter the barometer, wind speed, rainfall and calibration mode. To skip over a parameter, press (do not hold) the SET button. The word CAL will appear at the bottom of the screen.

4. Absolute Pressure Calibration

The absolute pressure offset will begin flashing. The default offset is 0.00 inHg.

Press the **[+]** or **[-]** button to increase or decrease the absolute pressure offset.
Press and hold the [+] or [-] button for three seconds to increase or decrease rapidly.
Press the **ALARM** button to reset current value.

Example: The calibrated pressure source measures 28.00 inHg. The display absolute pressure reads 28.83 inHg on the console.

Offset = 28.00 – 28.83 = 0.83 inHg.

5. Relative Pressure Calibration

Press the **SET** button and the relative pressure offset will flash. The default is 0.00 inHg

Press the **[+]** or **[-]** button to increase or decrease the relative pressure offset.
Press and hold the [+] or [-] button for three seconds to increase or decrease rapidly.
Press the **ALARM** button to reset current value.

Example: The local official barometer measures 30.00 inHg. The display absolute pressure reads 29.92 inHg on the console.

Offset = 30.00 – 29.92 = 0.08 inHg.

📝 **Note:** The display console displays two different pressures: absolute (measured) and relative (corrected to sea-level).

To compare pressure conditions from one location to another, meteorologists correct pressure to sea-level conditions. Because the air pressure decreases as you rise in altitude, the sea-level corrected pressure (the pressure

your location would be at if located at sea-level) is generally higher than your measured pressure.

Thus, your absolute pressure may read 28.62 inHg (969 mb) at an altitude of 1000 feet (305 m), but the relative pressure is 30.00 inHg (1016 mb).

The standard sea-level pressure is 29.92 in Hg (1013.2hpa). This is the average sea-level pressure around the world. Relative pressure measurements greater than 29.92 inHg (1013.2hpa) are considered high pressure and relative pressure measurements less than 29.92 inHg are considered low pressure.

To determine the relative pressure for your location, locate an official reporting station near you (the internet is the best source for real time barometer conditions, such as Weather.com or Wunderground.com), and set your weather station to match the official reporting station.

6.   Wind Gain Calibration

Press the **SET** button and the wind gain will flash. The default is 1.00 (the display will show 100 but it is actually 1.00. There is no provision for the decimal point).

Press the [+] or [-] button to adjust the wind speed calibration factor from 0.75 to 1.25, where:

Calibrated Wind Speed = Calibration factor x Measured Wind Speed

Press and hold the [+] or [-] button for three seconds to increase or decrease rapidly.
Press the **ALARM** button to reset current value.

Note: The wind gust is also affected by the wind speed calibration factor.

Discussion: Wind speed and wind gust are adversely affected by installation constraints. The rule of thumb is to install the weather station four times the distance of the height of the tallest obstruction (for example, a 6 m house would require an installation 24 m away).

In many instances, due to trees and other obstructions, this is not possible. The wind speed calibration allows you to correct for these obstructions.

In addition to installation challenges, wind speed bearings (any moving part) wears over time. To correct for wear, the correction value can be increased until the wind cups must be replaced.

Without a calibrated source, wind speed is a difficult parameter to measure. We recommend using a calibrated wind meter and constant, high speed fan.

7.   Rain Calibration

Press the **SET** button again and the Rain Calibration value will begin flashing (the default is 1.0). Press the [+] or [-] button to adjust the rain calibration factor from 0.75 to 1.25, where:

Calibrated Rain = Calibration factor x Measured Rain

Press and hold the [+] or [-] button for three seconds to increase or decrease rapidly.
Press the **ALARM** button to reset current value.

Discussion: The rain collector is calibrated at the factory based on the funnel diameter. The bucket tips every 0.01" of rain (referred to as resolution). The accumulated rainfall can be compared to a sight glass rain gauge with an aperture of at least 4".

Note: that debris and insects can collect inside the tipping mechanism (they make a good spiders nest). Carefully remove the funnel and inspect the tipping mechanism for debris prior to calibration.