

Manual

WuTooth



Typ
Modell
Release

Bluetooth
97100, 97101
1.02, Nov 2012

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Subject to errors and modifications:

Since we can make mistakes, none of our statements should be used without verification. Please inform us of all errors or misunderstandings which you become aware of so that we can recognize and eliminate them as quickly as possible.

Only perform work on and with W&T products if it is described here and you have completely read and fully understood the manual. Unauthorized actions can result in hazards. We are not liable for the consequences of unauthorized actions. When in doubt, please contact us or your dealer!

Introduction

The W&T WuTooth allows you to measure air temperature and relative humidity, log the information and use your Android smartphone to access it via Bluetooth.



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1 Commissioning

The W&T WuTooth can be powered by a AA battery (also rechargeable) or a USB interface.

1.1 Powering with AA / rechargeable battery

The unit is supplied with a battery already installed and ready to use. To change the battery proceed as follows:

Open the housing by turning the lower latch and remove the board.

Change the (rechargeable) battery and observe the correct polarity indicated in the battery holder.



Replace the board and tighten the latch.



A rechargeable battery cannot be charged while in the device. Instead use an appropriate charger.

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1.2 Powering from the USB interface

Connect the Micro-USB cable (available as an accessory) to the WuTooth by connecting the plug to the WuTooth through the opening in the lower cover. The device can now be powered by a USB plug-in power supply or from any computer USB port.

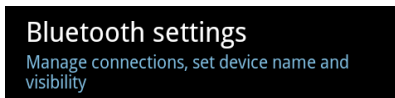
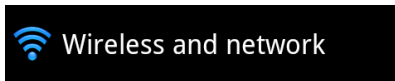
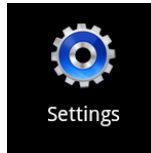


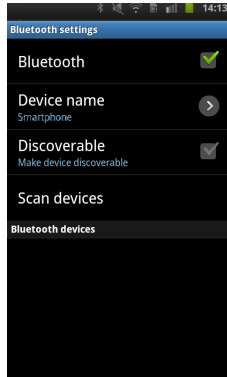
The USB port is intended only for power and is not a data interface.

2 Connecting the WuTooth

2.1 Pairing

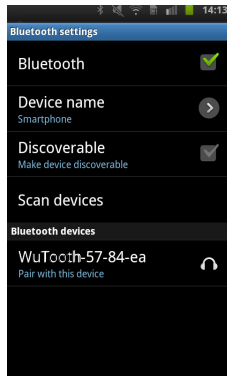
To use the WuTooth in the app the device must first be paired in your smartphone settings. This is done under:



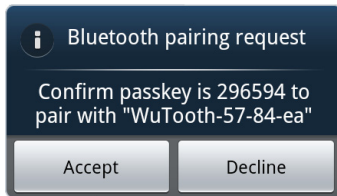


Activate the WuTooth by shaking until the red LED inside begins to flash.

Now tap on “Find device” on your smartphone. After a short time your device will be shown in the list:



Now tap on the desired WuTooth and confirm the following coupling prompt with “Accept”.

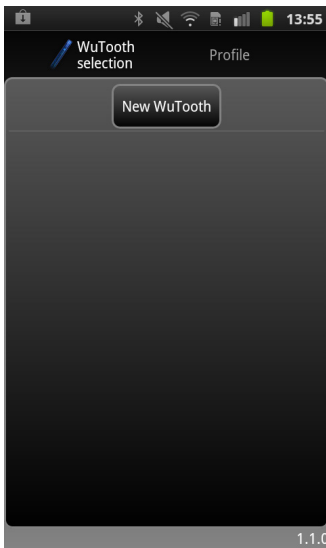


3 WuTooth App

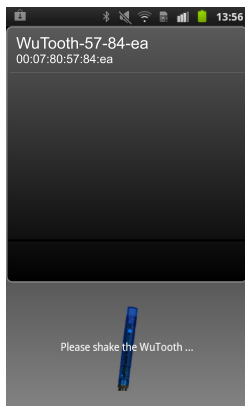
The WuTooth app can be downloaded at no charge from the Google Play Store.



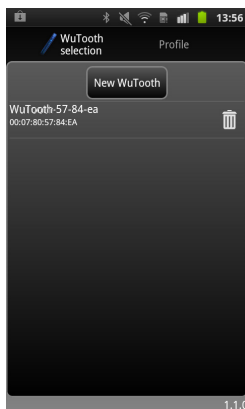
Start the app after downloading from your smartphone menu.



Shake the WuTooth and tap on “New WuTooth”. The smartphone now begins to search for all devices within range.



As soon as your WuTooth is displayed, select it by tapping on it.



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The device now appears in your inventory list.

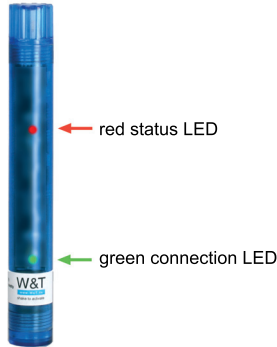
Tapping on the WuTooth in your inventory list takes you to the device overview where you can use all the functions:

- Display the current measurement values
- Select, save and delete measurement series
- Display average values
- Display the saved measurement data in table format
- Display the saved measurements as a graphic
- Display multiple measurement series in a common graphic
- Configure the WuTooth

More information about the individual functions can be found in the context menu of the app under "Help".

4 Indicators

The WuTooth has two internal LEDs which indicate the status of the device.



4.1 LED indicators

Red LED flashes twice briefly, green LED off:

red LED ●● ●● ●●
green LED OFF

Ready for a connection. A connection to the device can be established.

Red LED flashes once a second, green LED on:

red LED ● ● ● ●
green LED ██████████

There is a Bluetooth connection

5 Activating Bluetooth

The various operating modes are configured using the configuration software.

5.1 Mode: Shake to activate

In standard mode you activate the device by shaking it. This turns the unit on and causes it to wait for a connection. If no connection is established within 50s, the unit turns itself off and must be reactivated.



The data logger continues to run even when the stick is deactivated.



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5.2 Mode: On every x minutes

The device is activated as in “Shake to activate” mode. In addition, the device activates itself automatically every full minute for 10s to enable a connection.

This mode is recommended if the device is kept in a difficult to access location.

5.3 Mode: Always on

In this mode the device is continually ready to receive and can accept connections.

This mode is only recommended if the USB power source is used, since the device uses more power which would drastically reduce the battery life.

6 Instructions according to the German Battery Law

Since the W&T WuTooth contains a battery or rechargeable battery, we are obligated by the German Battery Law (BattG) to inform you of the following. Batteries and rechargeable batteries may not be disposed of with household waste, rather you are legally required to return used batteries and rechargeable batteries. Used batteries can contain hazardous materials which if not properly stored or disposed of can harm the environment our your health.

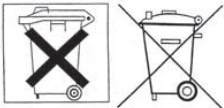
Batteries also contain important raw materials such as iron, zinc, manganese or nickel and are recycled. You can either return used batteries to us or turn them in at no charge to a dealer or municipal collection point near you. Returning to sales locations is restricted for end users to normal quantities and to such used batteries which the seller carries or has carried for sale as new batteries.

The crossed-out trash container indicates that you are not permitted to dispose of batteries and rechargeable batteries along with household waste.

Pb = Battery contains lead

Cd = Battery contains cadmium

Hg = Battery contains mercury



7 Technical data

Prod. No.:	97100
Communication:	Bluetooth
Power supply:	1 AA rechargeable battery, 1.2V, or 1 AA battery 1.5V Alternative: USB Micro Port for 5V supply via power supply
Measuring unit:	
Sensor:	Temperature sensor
Measuring range:	-25°C...85°C
Resolution:	1/100 °C
Measuring error:	Temperature: typ. @ 25°C ±0.2°C max. @ -25..85°C ±0.5°C
Refresh rate:	1, 5, 10, 15 min.
Memory depth:	min. 88 days (refresh rate 1x per minute) max. 3.6 years (refresh rate every 15 minutes)
Other data:	
Power supply:	AA standard or rechargeable battery 1.2-1.5V or USB 5V AC adapter
Current consumption:	AVG < 1 mA Bluetooth active: max. 70mA Bluetooth inactive: max. 12mA
Housing:	Plastic housing length 187mm, diameter approx. 24.5mm
Weight:	approx. 80g incl. battery
Ambient storage temperature:	-40..+85°C
Ambient operating temperature:	-25 .. +85°C (observe operating parameters of the actual battery)

Prod. No.:	97101
Communication:	Bluetooth
Power supply:	1 AA rechargeable battery, 1.2V, or 1 AA battery 1.5V Alternative: USB Micro Port for 5V supply via power supply
Measuring Unit:	
Sensor:	Combined temperature and humidity sensor
Measuring range:	-25°C...85°C, 0..100% relative humidity
Resolution:	1/100 °C, 1/100% relative humidity
Measuring error:	Temperature: typ. @ 25°C ±0.3°C max. @ -25..85°C ±2°C Relative humidity:
	<p>Maximum absolute error of the relative humidity in the temperature range of 0 .. 80 °C</p>
Refresh rate:	1, 5, 10, 15 min.
Memory depth:	min. 88 days (refresh rate 1x per minute) max. 3.6 years (refresh rate every 15 minutes)
Other data:	
Power supply:	AA standard or rechargeable battery 1.2-1.5V or USB 5V AC adapter
Current consumption:	AVG < 1mA Bluetooth active: max. 70mA Bluetooth inactive: max. 12mA
Housing:	Plastic housing length 187mm, diameter approx. 24.5mm
Weight:	approx. 80g incl. battery
Ambient storage temperature:	-40...+85°C
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8 Weak points



W&T is known as a manufacturer of long-lived, reliable products. But even we aren't perfect. Especially when we take on new areas it can happen that weak points become evident whose solution we are already working on but which we unfortunately cannot resolve in our accustomed rapid manner:

8.1 Bluetooth Stack

The Android Bluetooth-Stack is unstable at times, which can result in freezing or crashing of the app. In this case you are forced to quit the app using Settings -> Applications and turn the app off and then on again. This restores function. The app is currently undergoing revision to eliminate this problem.

8.2 WuTooth construction

The WuTooth circuit board is very thin where the battery compartment is located and should be handled with care to avoid breaking the webs. In addition the battery compartment may have contact problems. In this case you must open the WuTooth and reinsert the battery into its compartment. This design will be improved in future versions.