FT016T Outdoor Thermo-Hygrometer
User Manual

1. Introduction

Thank you for your purchase of the FT016T wireless outdoor Thermo-Hygrometer. The following user guide provides step by step instructions for installation, operation and troubleshooting.

2. Getting Started

The FT016T wireless indoor / outdoor thermo-hygrometer consists of a display console (receiver), and a wireless thermo-hygrometer (remote transmitter).

2.1 Parts List

QTY	Item
1	Thermo-Hygrometer transmitter Dimensions (LxWxH):6.8 x5.0 x 2.0cm
1	User Manual

2.2 Remote Thermo-Hygrometer Sensor Set Up

Note: To avoid permanent damage, please take note of the battery polarity before inserting the batteries.

Pull down on the battery door to open the battery compartment, as shown in Figure 1.2. Insert two fresh AAA batteries (with the negative terminal of the battery in contact with each spring). Lithium batteries are recommended for cold weather environments. Slide the top lip of the battery door into the battery compartment guide and snap the bottom battery door bracket into place. The LED shown in Figure 1.1 will light up (visible through the plastic).

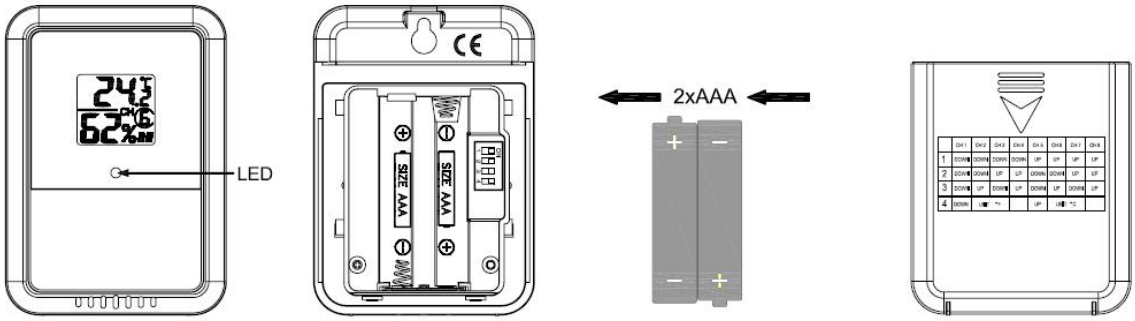

Figure 1
Figure 6

1. **BEFORE** inserting the batteries, locate the dip switches on the inside cover of the lid of thetransmitter.
   7 displays all four switches in the OFF position (factory default setting).

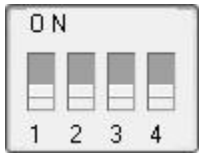

Figure 7

2. **Channel Number:** The FT016T supports up to eight transmitters. To set each channel number (the default is Channel 1), change Dip Switches 1, 2 and 3, as referenced in Table 1.

3. **Temperature Units of Measure:** To change the transmitter display units of measure (°F vs. °C), change Dip Switch 4, as referenced in Table 1.

DIP SWITCH				FUNCTION
1	**2**	**3**	**4**	
DOWN	DOWN	DOWN	---	Channel 1
DOWN	DOWN	UP	---	Channel 2
DOWN	UP	DOWN	---	Channel 3
DOWN	UP	UP	---	Channel 4
UP	DOWN	DOWN	---	Channel 5
UP	DOWN	UP	---	Channel 6
UP	UP	DOWN	---	Channel 7
UP	UP	UP	---	Channel 8
---	---	---	DOWN	°F
---	---	---	UP	°C

Table 1

4. Insert two AAA batteries.
5. After inserting the batteries, the remote sensor LED indicator will light for 4 seconds, and then flash once per 60 seconds thereafter. Each time it flashes, the sensor is transmitting data.
6. Verify the correct channel number (CH) and temperature units of measure (°F vs. °C) are on the display, as shown in Figure 8.

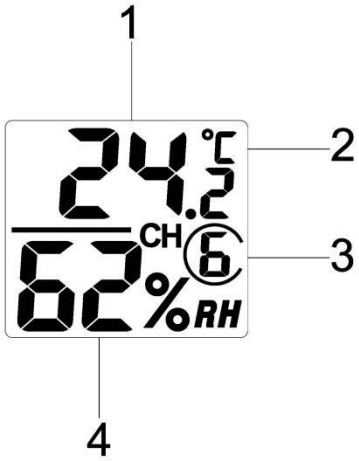

Figure 8

(1) temperature
(2) temperature units (°F vs. °C)
(3) channel number
(4) relative humidity

Close the battery door.

2.4 Sensor Operation Verification

Verify the humidity sensors match closely with the console and the sensors are in the same location (about 1-3 meters apart). The sensors should agree within 10% (the accuracy is ± 5%). Allow about 30 minutes for all sensors to stabilize. The humidity can be adjusted or calibrated later to match each other a known source.

Verify the temperature sensors match closely with the console and sensor array in the same location (about 1-3 meters apart). The sensors should be within 2°C (the accuracy is ± 1°C). Allow about 30 minutes for all sensors to stabilize. The temperature can be adjusted or calibrated later to match each other or a known source.

3. Remote Sensor Installation

It is recommended you mount the remote sensor on a north facing wall, in a shaded area. Direct sunlight and radiant heat sources will result in inaccurate temperature readings. Although the sensor is water resistant, it is best to mount in a well protected area, such as an eve.

Use a screw or nail (not included) to affix the remote sensor to the wall, as shown in **Figure 6**.

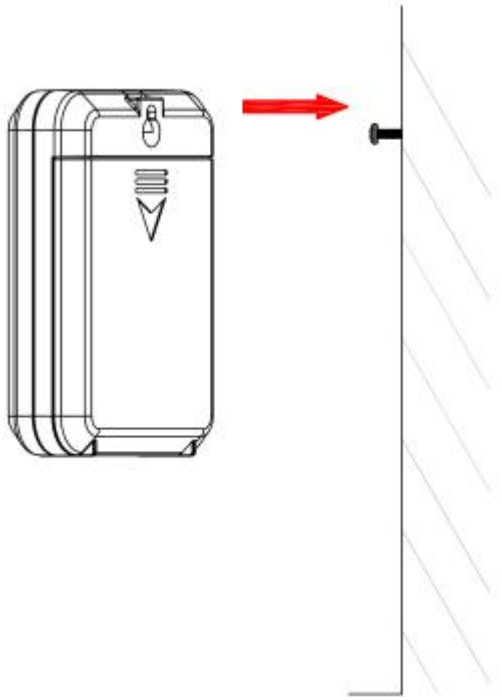

Figure 6

4. Best Practices for Wireless Communication

Wireless communication is susceptible to interference, distance, walls and metal barriers. We recommend the following best practices for trouble free wireless communication.

1. **Electro-Magnetic Interference (EMI)**. Keep the console several feet away from computer monitors and TVs.
2. **Radio Frequency Interference (RFI).** If you have other 433.92MHz devices and communication is intermittent, try turning off these other devices for troubleshooting purposes. You may need to relocate the transmitters or receivers to avoid intermittent communication.
3. **Line of Sight Rating.** This device is rated at 100m line of sight (no interference, barriers or walls) but typically you will get 30m maximum under most real-world installations, which include passing through barriers or walls.
4. **Metal Barriers.** Radio frequency will not pass through metal barriers such as aluminum siding. If you have metal siding, align the remote and console through a window to get a clear line of sight.

5. Glossary of Terms

Term	Definition
Accuracy	Accuracy is defined as the ability of a measurement to match the actual value of the quantity being measured.
Hygrometer	A hygrometer is a device that measures relative humidity. Relative humidity is a term used to describe the amount or percentage of water vapor that exists in air.
Range	Range is defined as the amount or extent a value can be measured.

6. Specifications

6.1 Wireless Specifications

- Line of sight wireless transmission (in open air): 100 meters, 30meters under most conditions
- Frequency: 433 MHz
- Update Rate: 60 seconds

6.2 Measurement Specifications

The following table provides specifications for the measured parameters.

Measurement	Range	Accuracy	Resolution
Outdoor Temperature	-40 to 60 °C	± 1 °C	0.1 °C
Outdoor Humidity	10 to 99%	± 5% (only guaranteed between 20 to 90%)	1 %

6.3 Power Consumption

- Remote sensor : 2 x AAA 1.5V Alkaline or Lithium batteries
- Battery life:
  Minimum 24 months for remote thermometer sensor (use lithium batteries in cold weather climates less than -20 °C)

FCC Caution.

§ 15.19 Labelling requirements.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

§ 15.21 Information to user.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

§ 15.105 Information to the user.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help