

# **INTERNET PROTOCOL WEATHER STATION**

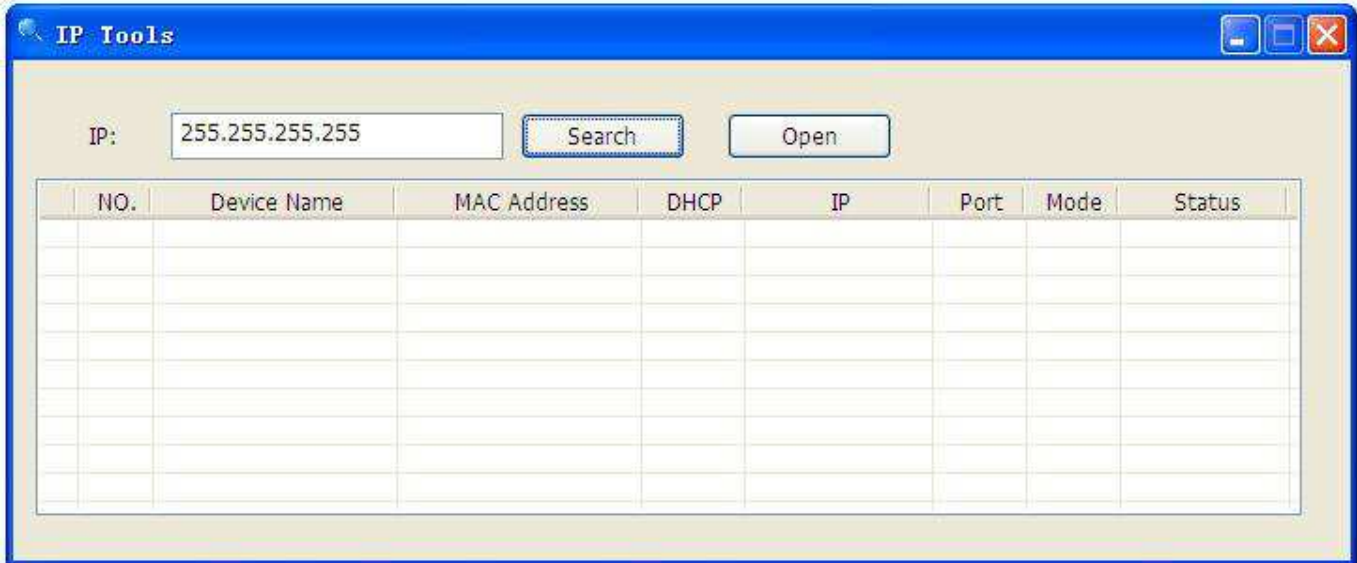
## **Operation Manual**

## WH2600 Hardware requirements

- Broadband router
- An “always-on” connection to the Internet — A high speed DSL or cable internet connection that maintains constant connection to the internet.

## Software Installation

Firstly the WH2600 should be connected to router. Then install the IP scan software “IP Tools” on PC. Double click IP Tools icon to run the software



Click **Search** button to search the WH2600 IP address. Enter the IP address of WH2600 into the web browser.

The **Login** dialog box displays will pop-up  
Enter the Username and Password. The default username and password are both admin.

## Setting

After successfully login the **Setting** dialog box displays. There are five tabs, "**Local Network**", "**Weather Network**", "**Station Settings**", "**Live Data**" and "**Calibration**".



# 1. Local Network Setting

## Weather Logger 1.0

The screenshot shows the 'Local Device Network Settings' window. At the top, there are tabs for 'Local Network', 'Weather Network', 'Station Settings', 'Live Data', and 'Calibration'. The 'Local Network' tab is selected. Below the tabs, the title 'Local Device Network Settings' is displayed. The settings are as follows:

IP Address	Receive Automatically(DHCP) ▼
Static IP Address	192.168.0.99
Static Subnet Mask	255.255.255.0
Static Default Gateway	192.168.0.1
Static DNS Server	205.171.3.65
Server Listening Port	5000

At the bottom of the window, there are four buttons: 'Apply', 'Cancel', 'Restore default', and 'Reboot'.

### Local Device Network Settings

Normally user do not need to set the Local Device Network Settings.

- 1) **IP Address** (default is Receive Automatically(DHCP))
- 2) **Static IP Address** (default is 192.168.0.99)
- 3) **Static Subnet Mask** (default is 255.255.255.0)
- 4) **Static Default Gateway** (default is 192.168.0.1)
- 5) **Static DNS Server** (default is 205.171.3.65)
- 6) **Server Listening Port** (default is 5000) Enter a integer between 1024~65535

Press **Apply** button then press **Reboot** button to apply settings.

This is a close-up view of the bottom of the settings window, showing the four buttons: 'Apply', 'Cancel', 'Restore default', and 'Reboot'.

## 2. Weather Network Setting

The screenshot shows the 'Weather Logger 1.0' application window. At the top, there are five tabs: 'Local Network', 'Weather Network', 'Station Settings', 'Live Data', and 'Calibration'. The 'Weather Network' tab is selected. Below the tabs, the 'Weather Station Settings' dialog box is open. It contains the following fields and controls:

- Remote Server:** A dropdown menu with 'rtupdate.wunderground.com' selected.
- Server IP/Hostname:** A text input field containing 'rtupdate.wunderground.com'. Below it, a blue note reads: 'Please enter host name or IP address(e.g. rtupdate.wunderground.com or 38.102.136.125)'. The note is partially obscured by the 'Server Port' field.
- Server Port:** A text input field containing '80'.
- Station ID:** A text input field containing 'IGUANGDO16'. Below it, a blue note reads: 'Example: KAZPHOEN11'.
- Password:** A text input field with masked characters (dots).
- At the bottom, there are two buttons: 'Apply' and 'Cancel'.

- 1) **Remote server** (default is rtupdate.wunderground.com)
- 2) **Server IP/Hostname** (default is rtupdate.wunderground.com)  
Please enter host name or IP address(e.g. rtupdate.wunderground.com or 38.102.136.125)
- 3) **Server Port** (default is 80) Enter a integer between 1024~65535
- 4) **Station ID:** enter the Account name

Log into the weather website: [www.wunderground.com](http://www.wunderground.com) →Click the weather station under local weather category, you will find the PWS(Personal Weather Station) information. → Click “ Register my personal weather station” →After finishing sign up you will get one Station ID, it is the Server Account Name

- 5) **Password:** enter the password

Go to [www.wunderground.com](http://www.wunderground.com), register your account. Password is the password you use to log in to Wunderground site.

**Please Note:** Make sure you enter the ID in all capitals, and the password exactly as you chose it, both fields are case sensitive.

### NOTE:

To upload data to [www.wunderground.com](http://www.wunderground.com) you only need to input Server Account Name and Passwd. You don't need to change the other settings.

### 3. Station Settings

Weather Logger 1.0

Local Network Weather Network **Station Settings** Live Data Calibration

**Wireless Transmitter Settings**

Indoor Sensor Type WH25 ▾  
Outdoor Sensor1 Type WH24 ▾  
Outdoor Sensor2 Type None ▾  
Wireless Receive Frequency 434 ▾

**DST and Time Zone Setting**

Time Zone -5  
Please enter an integer between -12~12  
Daylight Saving Time on ▾

**Units of Measure**

Wind m/s ▾  
Rainfall mm ▾  
Pressure hpa ▾  
Temperature degC ▾  
Solar Radiation w/m2 ▾

Apply Cancel

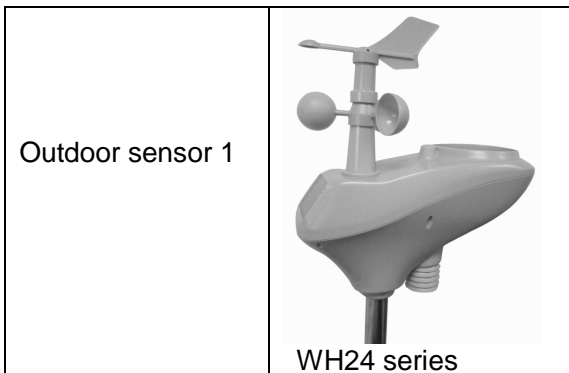
#### 3.1 Wireless Transmitter Settings

**Wireless Transmitter Settings**

Indoor Sensor Type WH25 ▾  
Outdoor Sensor1 Type WH24 ▾  
Outdoor Sensor2 Type None ▾  
Wireless Receive Frequency 434 ▾

There are 434MHZ, 868MHZ and 915MHZ frequencies optional. But we will default the specific frequency matching your unit. So you don't need to set it.





### 3.2 DST and Time Zone Settings

#### DST and Time Zone Setting

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Time Zone

Please enter an integer between -12~12

Daylight Saving Time

- 1) **Time Zone** (default is -5)  
Please enter an integer between -12 to 12. Enter the time zone for your specific area.
- 2) **Daylight Saving Time**(default is on)

### 3.3 Units of Measure

#### Units of Measure

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Wind	<input style="width: 80px;" type="text" value="mph"/>
Rainfall	<input style="width: 80px;" type="text" value="mm"/>
Pressure	<input style="width: 80px;" type="text" value="inhg"/>
Temperature	<input style="width: 80px;" type="text" value="degC"/>
Solar Radiation	<input style="width: 80px;" type="text" value="w/m2"/>

- 1) **Wind** (default is mph)
- 2) **Rainfall** (default is mm)
- 3) **Pressure** (default is inhg)
- 4) **Temperature** (default is degC)
- 5) **Solar Radiation** (default is w/m2)

Press **Apply** button to apply settings.

#### 4. Live Data: display the current sensor data

## Weather Logger 1.0

Local Network	Weather Network	Station Settings	Live Data	Calibration
<b>Live Data</b>				
Receiver Time:	<input type="text" value="06:09 07/24/2014"/>			
Indoor Sensor ID	<input type="text" value="0x52"/>			
Outdoor Sensor1 ID	<input type="text" value="0xac"/>			
Outdoor Sensor2 ID	<input type="text" value="0x--"/>			
Indoor Temperature	<input type="text" value="28.5"/>			
Indoor Humidity	<input type="text" value="38"/>			
Absolute Pressure	<input type="text" value="1004.00"/>			
Relative Pressure	<input type="text" value="1013.10"/>			
Outdoor Temperature	<input type="text" value="26.2"/>			
Outdoor Humidity	<input type="text" value="60"/>			
Wind Direction	<input type="text" value="254"/>			
Wind Speed	<input type="text" value="0.0"/>			
Wind Gust	<input type="text" value="0.0"/>			
Solar Radiation	<input type="text" value="0.00"/>			
UV	<input type="text" value="0"/>			
UVI	<input type="text" value="0"/>			
Hourly Rain Rate	<input type="text" value="0.00"/>			
Daily Rain	<input type="text" value="0.00"/>			
Weekly Rain	<input type="text" value="0.60"/>			
Monthly Rain	<input type="text" value="0.60"/>			
Yearly Rain	<input type="text" value="0.60"/>			

**5. Calibration:** This part is to calibrate the weather data.

## Weather Logger 1.0

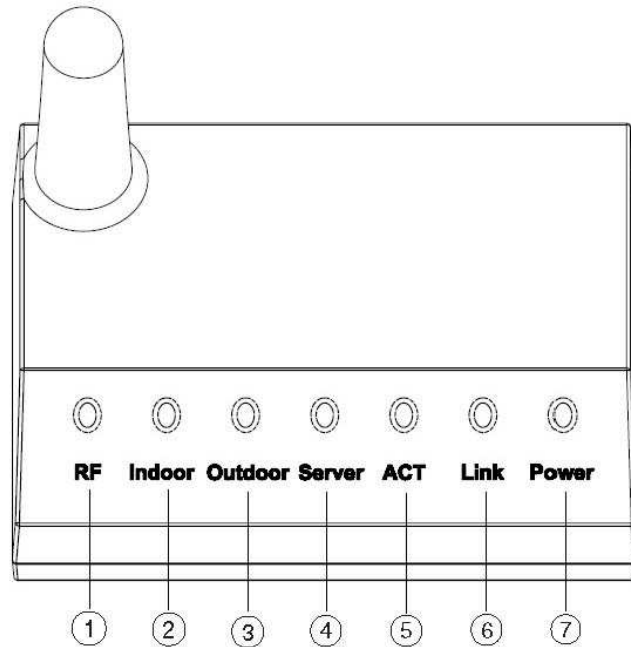
Local Network	Weather Network	Station Settings	Live Data	Calibration
<b>Calibration</b>				
Solar Radation Wavelength (w/m <sup>2</sup> vs lux)	<input type="text" value="126.7"/>	<b>Range: 1.0 to 1000.0 Default: 126.7</b>		
Solar Radation Gain	<input type="text" value="1.00"/>	<b>Range: 0.10 to 5.00 Default: 1.00</b>		
UV Gain	<input type="text" value="1.00"/>	<b>Range: 0.10 to 5.00 Default: 1.00</b>		
Wind Speed Gain	<input type="text" value="1.00"/>	<b>Range: 0.10 to 5.00 Default: 1.00</b>		
Rain Gain	<input type="text" value="1.00"/>	<b>Range: 0.10 to 5.00 Default: 1.00</b>		
Indoor Temperature Offset	<input type="text" value="0.0"/>	<b>Range: -10C/-18F to 10C/18F Default: 0.0</b>		
Indoor Humidity Offset	<input type="text" value="0"/>	<b>Range: -10 to 10 Default: 0</b>		
Absolute Pressure Offset	<input type="text" value="0.00"/>	<b>Range: -30.00hpa/-0.89inhg/-22.39mmhg to 30.00hpa/0.89inhg/22.39mmhg Default: 0.00</b>		
Relative Pressure Offset	<input type="text" value="9.10"/>	<b>Range: -30.00hpa/-0.89inhg/-22.39mmhg to 30.00hpa/0.89inhg/22.39mmhg Default: 0.00</b>		
Outdoor Temperature Offset	<input type="text" value="0.0"/>	<b>Range: -10C/-18F to 10C/18F Default: 0.0</b>		
Outdoor Humidity Offset	<input type="text" value="0"/>	<b>Range: -10 to 10 Default: 0</b>		
Wind Direction Offset	<input type="text" value="0"/>	<b>Range: -180 to 180 Default: 0</b>		
<input type="button" value="Apply"/> <input type="button" value="Cancel"/> <input type="button" value="Default"/>				

- 1) Solar Radation Wavelength Range(w/m<sup>2</sup> vs lux): 1.0 to 6000.0 ; Default: 126.7
- 2) Solar Radation Gain Range: 0.10 to 5.00 ; Default: 1.00
- 3) Wind Speed Gain Range: 0.10 to 5.00 ; Default: 1.00
- 4) Rain Gain Range: 0.10 to 5.00 ; Default: 1.00
- 5) Indoor Temperature Offset Range: -10C/-18F to 10C/18F ; Default: 0.0
- 6) Indoor Humidity Offset Range: -10 to 10 ; Default: 0
- 7) Absolute Pressure Offset Range: -30.00hpa/-0.89inhg/-22.39mmhg to 30.00hpa/0.89inhg/22.39mmhg; Default: 0.00
- 8) Relative Pressure Offset Range: -30.00hpa/-0.89inhg/-22.39mmhg to 30.00hpa/0.89inhg/22.39mmhg; Default: 0.00
- 9) Outdoor Temperature Offset Range: -10C/-18F to 10C/18F ; Default: 0.0
- 10) Outdoor Humidity Offset Range: -10 to 10 ; Default: 0
- 11) Wind Direction Offset Range: -180 to 180 ; Default: 0

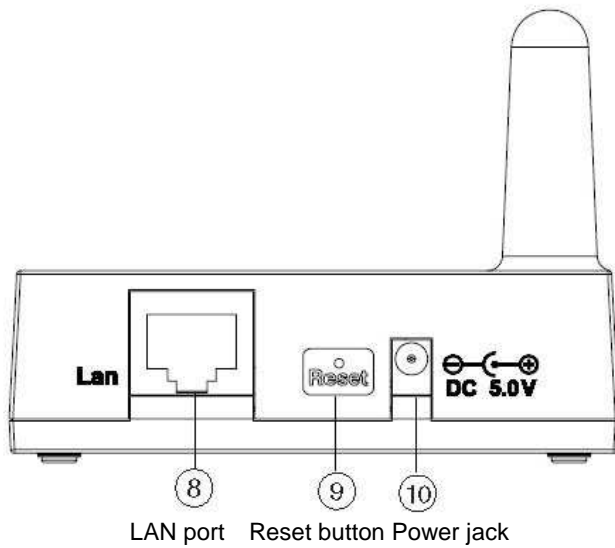


## OVERVIEW

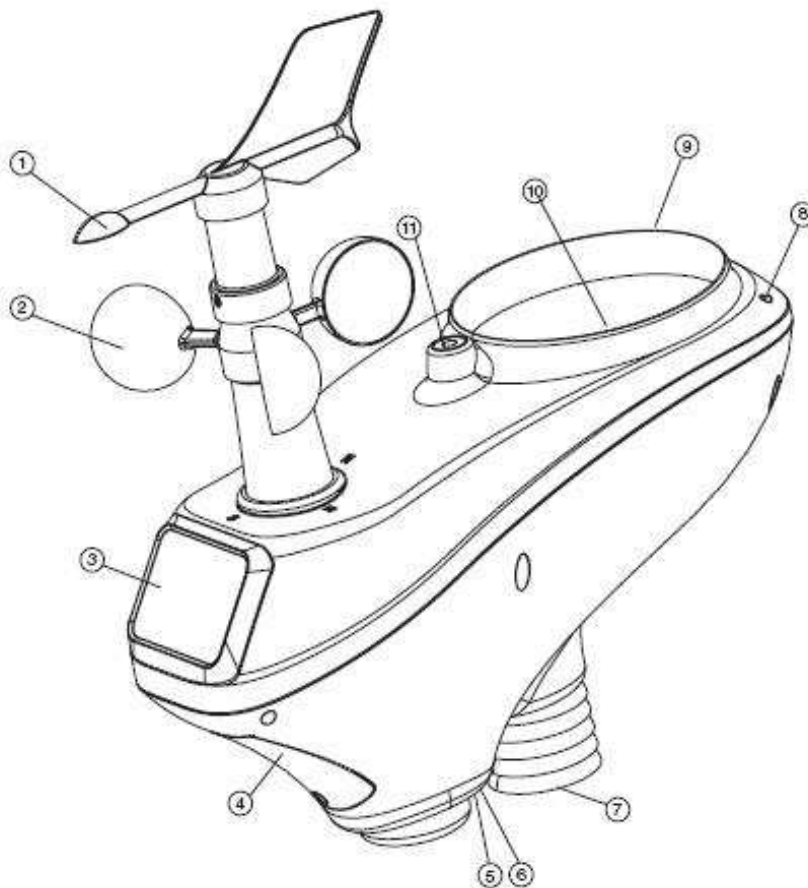
### WH2600



1. RF indicator: the LED indicator is flash once receive the RF signal
2. Indoor indicator:
  - Light on: the unit registers the indoor transmitter successfully
  - Light off: the unit registers the indoor transmitter unsuccessfully
  - Light flash: the unit didn't receive the date for ten minutes continuously
  - The unit will start to register the new transmitter if it didn't receive the data for two hours.
3. Outdoor indicator:
  - Light on: the unit registers the outdoor transmitter successfully
  - Light off: the unit registers the outdoor transmitter unsuccessfully
  - Light flash: the unit didn't receive the date for ten minutes continuously
  - The unit will start to register the new transmitter if it didn't receive the data for two hours.
4. Server indicator:
  - Light on: the unit connect with server successfully
  - Light off: the unit connect with server unsuccessfully
  - Light flash: the unit didn't connect with server for ten minutes continuously
5. ACT indicator: Network communication status.
  - When data transmission is proceeding it flashes once each second
6. Link indicator: When internet link is available it turns on.
7. Power indicator



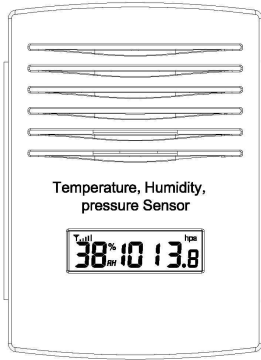
**Outdoor sensor WH24 series:**



- 1. Wind Vane
- 2. Wind Speed Sensor
- 3. Solar panel
- 4. Battery compartment
- 5. LED Indicator: light on for 4s if the unit power up. Then the LED will flash once every 16 seconds (the sensor transmission update period).
- 6. Reset button

- 7. Thermo-hygro sensor
- 8. UV sensor
- 9. Light sensor
- 10. Rain collector
- 11. Bubble level

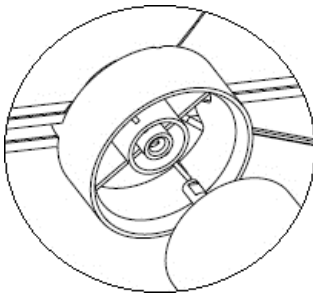
## Indoor sensor WH25



## Installation

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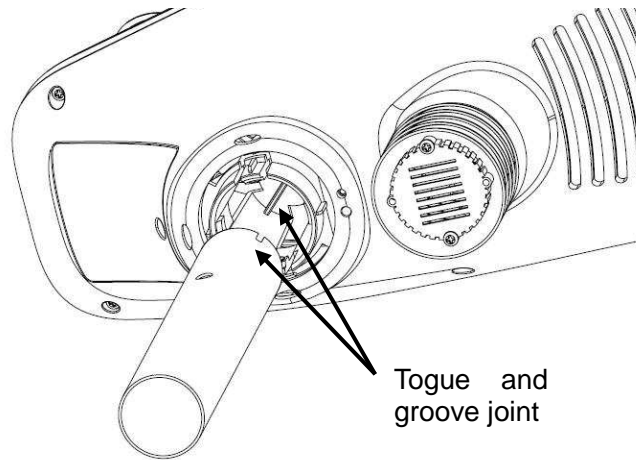
Before placing and installing all components of the weather station at their final destination, please set up the weather station with all parts being nearby for testing the correct function.



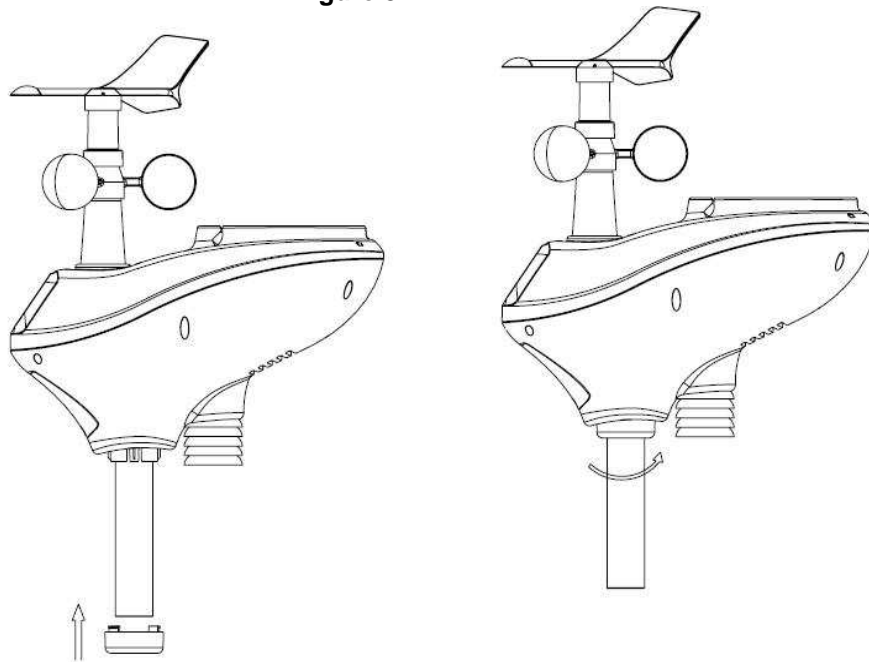
**Figure 1**

**Figure 2**

2. Insert the pole into the base, as shown in figure 3. Spin the lid onto the base as shown in figure 4.

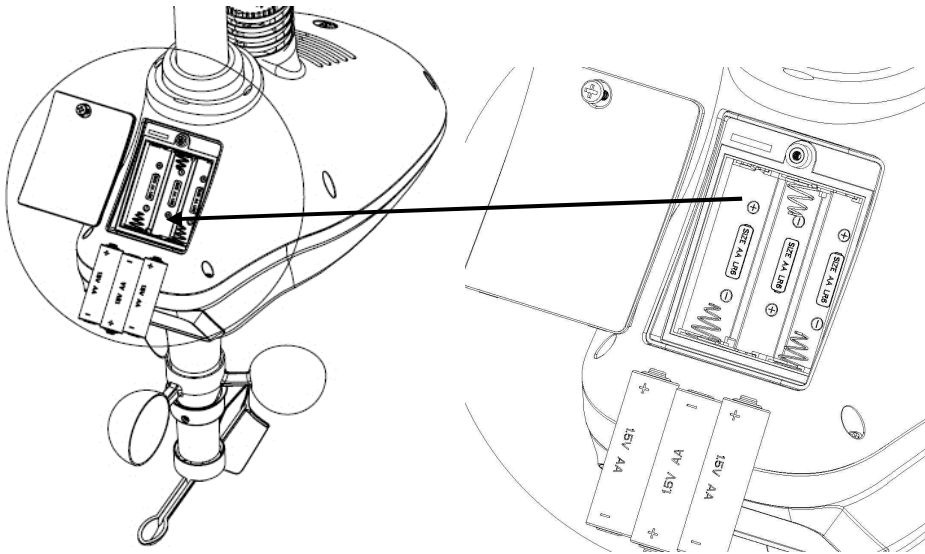


**Figure 3**



**Figure 4**

3. Locate the battery door on the thermo-hygrometer / rain gauge transmitter, as shown in Figure 5. Turn the set screw counter clockwise to loosen the screw to open the battery compartment. Insert 3XAA rechargeable batteries in the battery compartment. The LED indicator on the back of the transmitter will turn on for four seconds and normally flash once every 16 seconds (the sensor transmission update period).

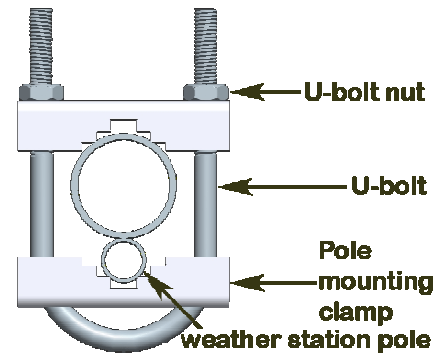


**Figure 5**

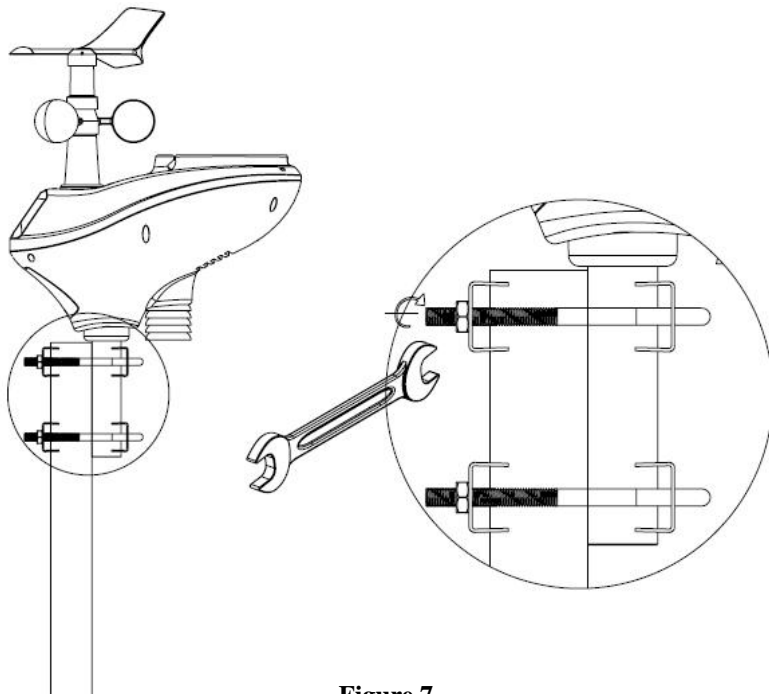
**Note:** If no LED light up or is lighted permanently, make sure the battery is inserted the correct way or a proper reset is happened. Do not install the batteries backwards. You can permanently damage the thermo-hygrometer.

4. Fasten the mounting pole to your mounting pole or bracket (purchased separately) with the two U-bolts, mounting pole brackets and nuts, as shown in Figure 6.

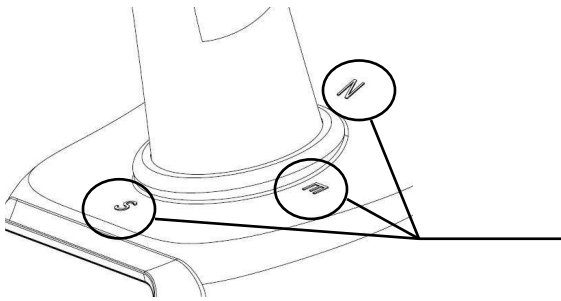
Tighten the mounting pole to your mounting pole with the U-Bolt assembly, as shown in Figure 7..



**Figure 6**

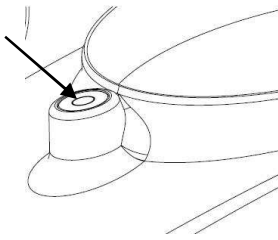


**Figure 7**



**Figure 8**

there are four alphabet letter of “N,”“E,”“S”and “W” representing for the direction of North, East, South and West, as Figure 8. Wind direction sensor has to be adjusted so that the directions on the sensor are matching with your real location. Permanent wind direction error will be introduced when the wind direction sensor is not positioned correctly during installation.



**Figure 9**

***Level the sensors***

Use the bubble level on the rain sensor as a guide to verify that sensors are level.

**indoor sensor WH25**

Remove the battery door on the back of the sensor with a Philips screwdriver (there is only one screw, at the bottom of the unit). Insert two AAA batteries as shown in Figure 10 (we recommend lithium batteries for cold weather climates, but alkaline batteries are sufficient for most climates).

Replace the battery door and set screw. Note that the temperature, humidity and pressure will be displayed on the LCD display. Looking at the back of the unit from left to right, the polarity is (-) (+) for the top battery and (+) (-) for the bottom battery.



**Figure 10**

## Specifications

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### Outdoor data

Transmission distance in open field :	100m(330 feet)
Frequency :	433 MHz / 868 MHz / 915 MHz (option)
Temperature range :	-40°C--60°C (-40□ to +140□)
Accuracy :	+ / - 1 °C
Resolution :	0.1°C
Measuring range rel. humidity :	1%~99%
Accuracy :	+/- 5%
Rain volume display :	0 – 9999mm (show --- if outside range)
Accuracy :	+ / - 10%
Resolution :	0.3mm (if rain volume < 1000mm) 1mm (if rain volume > 1000mm)
Wind speed :	0-50m/s (0~100mph) (show --- if outside range)
Accuracy:	+/- 1m/s (wind speed< 5m/s) +/-10% (wind speed > 5m/s)
Light :	0-400k Lux
Accuracy :	+/-15%
Measuring interval outdoor sensor WH24:	16 sec
Measuring interval outdoor sensor WH7:	48 sec
Measuring interval indoor sensor WH25 :	64 sec

### Indoor data

Indoor temperature range :	-40°C--60°C (-40°F to + 140°F) (show --- if outside range)
Resolution :	0.1°C
Measuring range rel. humidity :	1%~99%
Resolution :	1%
Measuring range air pressure :	300-1100hPa (8.85-32.5inHg)
Accuracy :	+/-3hpa under 700-1100hPa
Resolution :	0.1hPa (0.01inHg)
Alarm duration :	120 sec

### Power consumption

Base station :	5V DC adaptor (included)
Indoor sensor WH25 :	2xAAA alkaline batteries (not included)
Remote sensor WH24 :	3xAA alkaline rechargeable batteries (included)
Remote sensor WH7 :	2 xAA alkaline batteries (not included)