TFT COLORFUL DISPLAY
MULTIPLE-CHANNEL WEATHER STATION

Operation Manual

OVERVIEW

1. Inventory of contents

1) Base station
2) Five thermo-hygrometers
4) Power adapter
5) User manual

Console

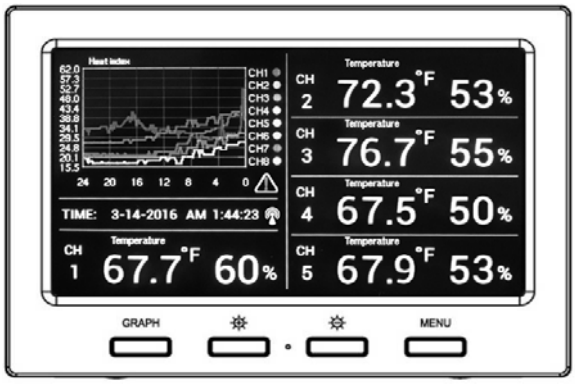


Figure 1

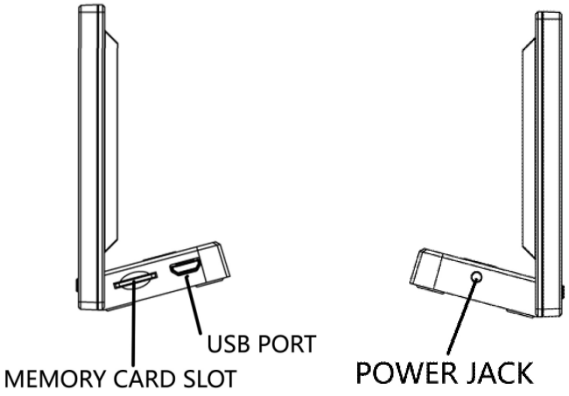


Figure 2

Outdoor sensors

Figure 3

2. Introduction

Thank you for your purchase this professional weather station. This device can receive signals up to at most 8 outdoor sensors and. All the sensors measure temperature, humidity, heat index and dew point and transmit to the console and displayed in defined channels.

This manual will guide you step-by-step through setting up your device. Use this manual to become familiar with your professional weather station, and save it for future reference.

3. Getting Started

Note: The power up sequence is performed in the order shown in this section (insert batteries in the remote transmitters first, display console second).

3.1 Thermo-Hygrometer Sensor Set Up

Note: To avoid operating problems, please take note of battery polarity before/when inserting any Alkaline Batteries (permanent damaged could be introduced by inserting the battery in wrong direction). Do not use rechargeable batteries. We recommend fresh alkaline batteries for outdoor temperature range between -20℃and 60℃ and fresh lithium batteries for outdoor temperature range between -40℃ and 60℃.

1. Remove the battery door on the back of the thermo-hygrometer sensor as shown in Figure 4.

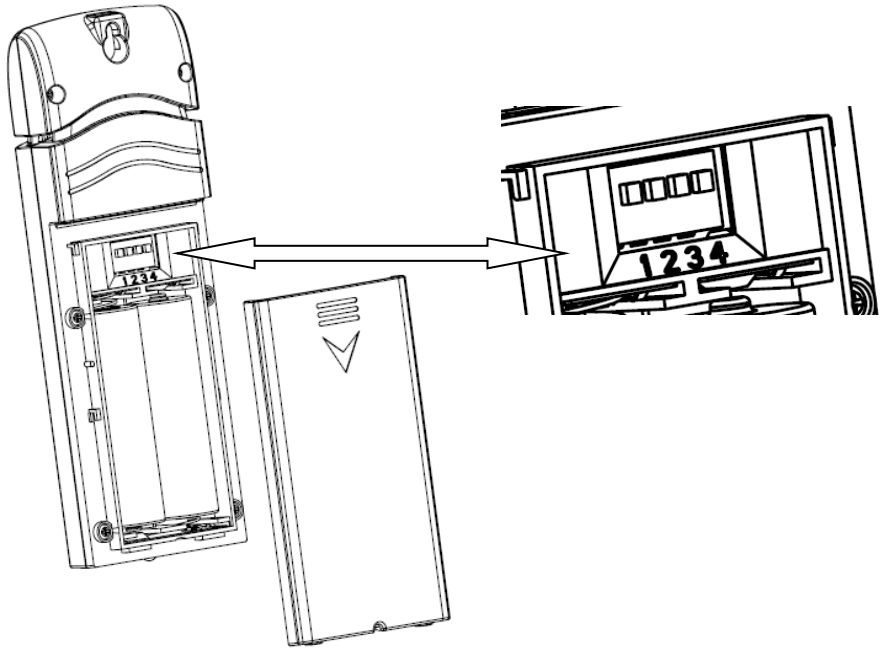


Figure 4

2. **Channel Number:** the weather station support up to eight sensors, and includes three transmitters. To set each channel number, change Dip Switches 1, 2, 3 as referenced in Figure 5.
3. **Temperature unit of Measure:** To change the sensor display units of measure (℉or ℃), change Dip Switch 4, as referenced in Figure 5.

: Pull down the button **: Pull up the button**

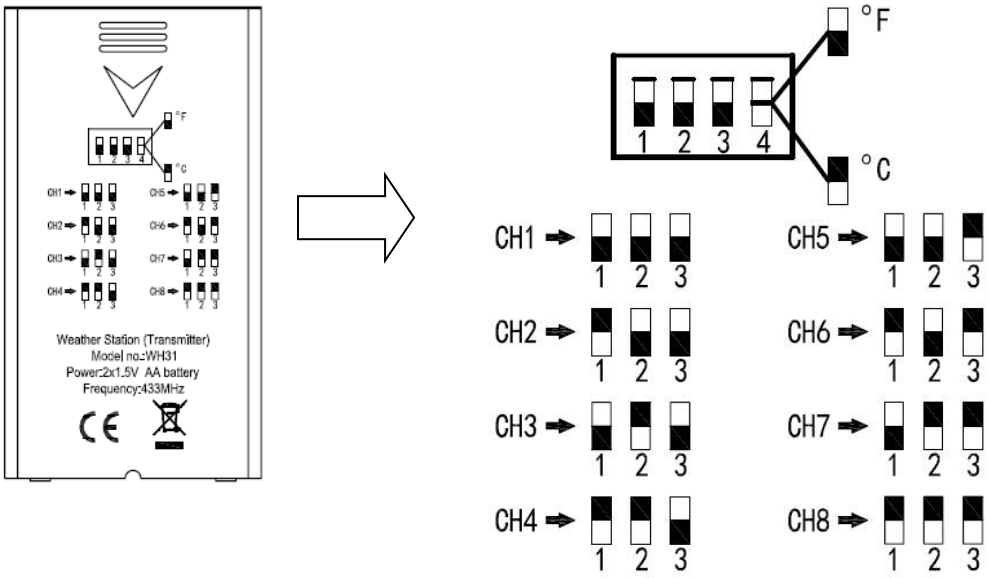


Figure 5

4. Insert two AA batteries
5. Wait for seconds until temperature and humidity displayed on the LCD screen of sensors.
6. Verify the correct channel number (CH) and temperature units of measure are on the display, as shown in Figure 6.

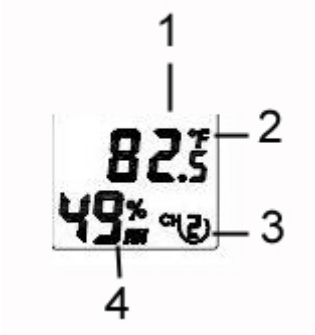


Figure 6

(1) Temperature
(2) Temperature units ((℉or ℃)
(3) Channel number
(4) Relative humidity

7. Repeat for the additional remote sensor, verifying each remote is on a different channel.

3.2 Display Console Set Up

1. Move the sensors about 1-3 meters away from the display console. With multiple sensor, make sure all sensors are powered up

2. Power on the display console by connecting the power adapter. The different channels will

display on the display console.
3. Wait 3 minutes or until the outdoor temperature is displayed in the weather station. ***Do not press any keys before outdoor sensor data received.***

3.3 Radio Controlled Clock (RCC)

After the remote sensor is powered up, the sensor will transmit weather data for 30 seconds, and then the sensor will begin radio controlled clock (RCC) reception. During the RCC time reception period (maximum 5 minutes), no weather data will be transmitted to avoid interference.

If the signal reception is not successful within 3 minute, the signal search will be cancelled and will automatically resume every two hours until the signal is successfully captured. The regular RF link will resume once RCC reception routine is finished. In some locations, RCC reception may take a couple of days to receive the signal.

Once the radio controlled time is RCC reception icon will turn on (reference Figure 9).

4. Remote Sensor Installation

- Before mount the units, ensuring that the receiver can still pick up the signal from transmitters. It is recommended to mount the sensors on a north facing wall, in a shaded area. Direct sunlight and radiant heat sources will result in inaccurate temperature readings. Although the sensors are water resistant, it is best to mount in a well protected area, such as under an eve.

1. Use a screw or nail to affix the remote sensor to the wall, as shown in Figure 7
2. Hang the remote sensor up on string, as shown in Figure 8.

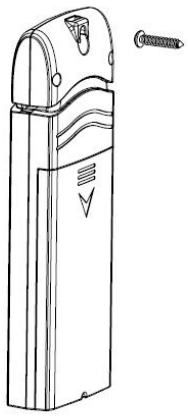


Figure 7

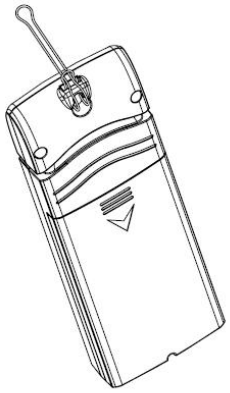


Figure 8

5. Program modes

5.1 Normal display Mode

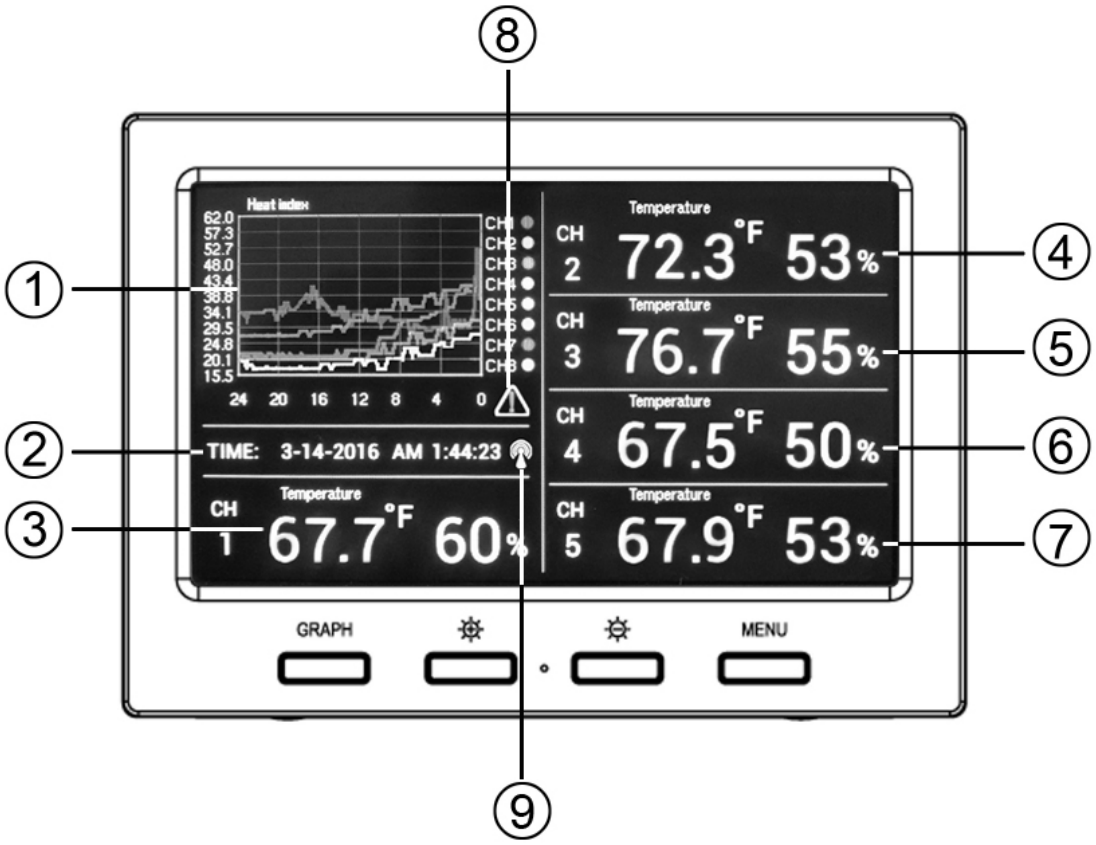


Figure 9

1. Graph for Temperature/Dew point/heat index/humidity of sensors.
2. Date and time.
3. Outdoor Temperature/Dew point/heat index/humidity for channel 1 and other channels defined to be displayed in CH1 area in turn.
4. Outdoor Temperature/Dew point/heat index/humidity for channel 2 and other channels defined to be displayed in CH2 area in turn.
5. Outdoor Temperature/Dew point/heat index/humidity for channel 3 and other channels defined to be displayed in CH3 area in turn.
6. Outdoor Temperature/Dew point/heat index/humidity for channel 4 and other channels defined to be displayed in CH4 area in turn.
7. Outdoor Temperature/Dew point/heat index/humidity for channel 5 and other channels defined to be displayed in CH4 area in turn
8. Alarm icon
9. RCC reception icon

After the console receives data from each remote sensor, user can press these 4 buttons for operation.

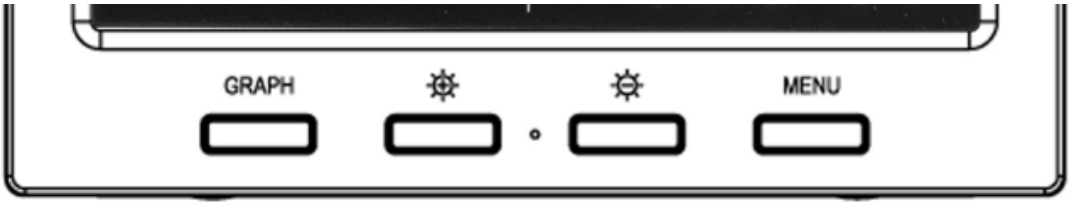
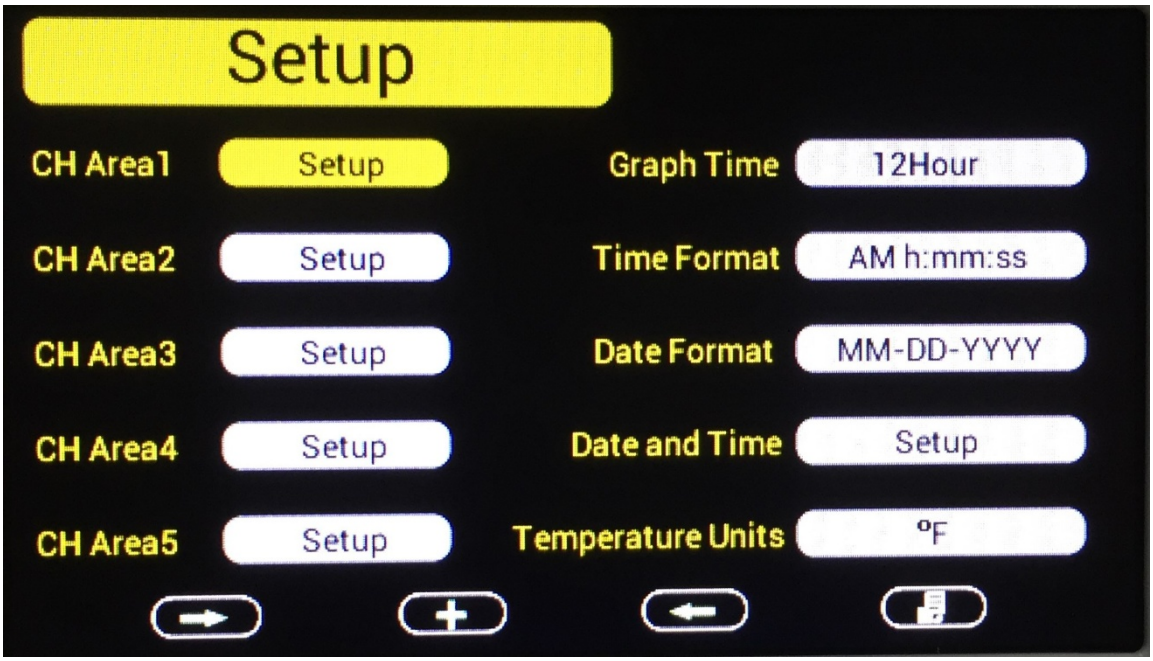


Figure 10

Icon	Description
GRAPH	**Graph key** Switch to display graph of Temperature/Dew point/heat index/humidity for all sensors
☼	**Brightness control key** Press this key to increase the brightness
☼	**Brightness control key** Press this key to decrease the brightness
MENU	**Menu Key** Press this key to enter menu and scroll to different modes

5.2 Setup Mode

Under Normal mode, press **MENU** key once to enter Setup Mode.

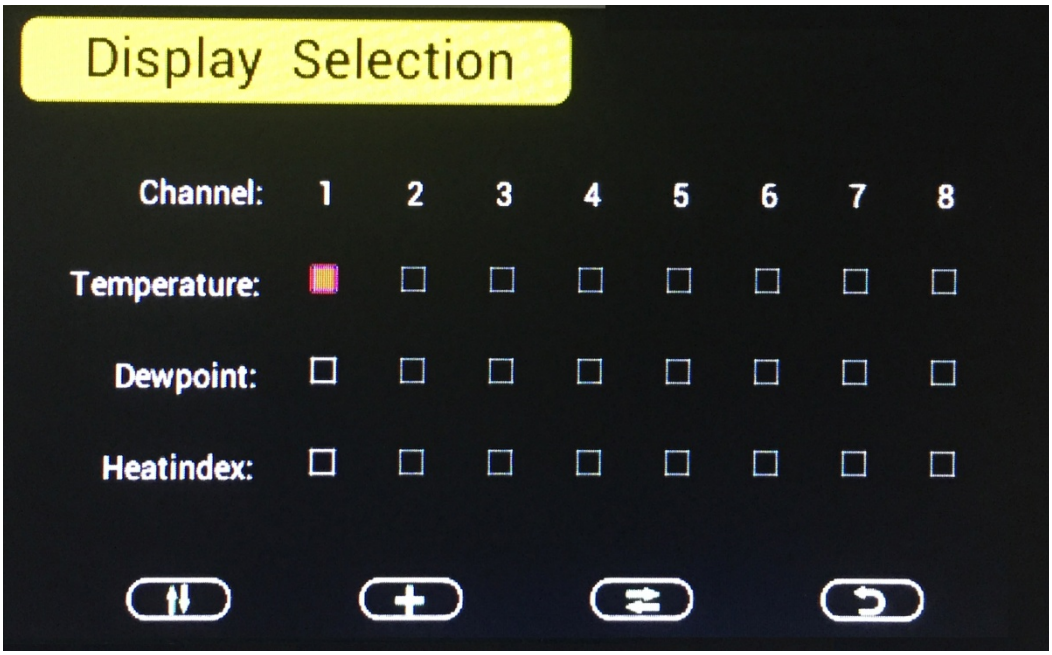


Icon	Description
→	**Scroll right key** Press this key to scroll down/right. .
+	**Selection key** Press this key to select and enter the option.

	Scroll left key Press this key to scroll up/left.
	Mode key Press this key to enter to next mode

CH Area1-5

Scroll to selected channel area, and press key to enter the setting interface as below:



Icon	Description
	Scroll right key Press this key to scroll down/up. .
	Selection key Press this key to select and enter the option.
	Scroll left key Press this key to scroll right/left.
	Return key Press this key to back to Setup main menu.

Press and key, a red dot will be moving among these boxes. Each box represents a certain channel (1-8) and parameter (Temperature, dew point, heat index). Press key, the wanted parameter of wanted channel would be displayed on the temperature position of channel area.

For example, press **Setup** Key of **CH Area1** to enter the **Area Section** interface, you will find temperature of channel 1 is default selected. Move the red dot to choose temperature of channel 5, the temperature and humidity of channel 1 and channel 5 would be displayed on CH1 Area in turn. Please note humidity data would be displayed automatically once you select the channel.

Graph Time

This is to set length of history time for graph among 12h/24h/48h/72h.

Time Format

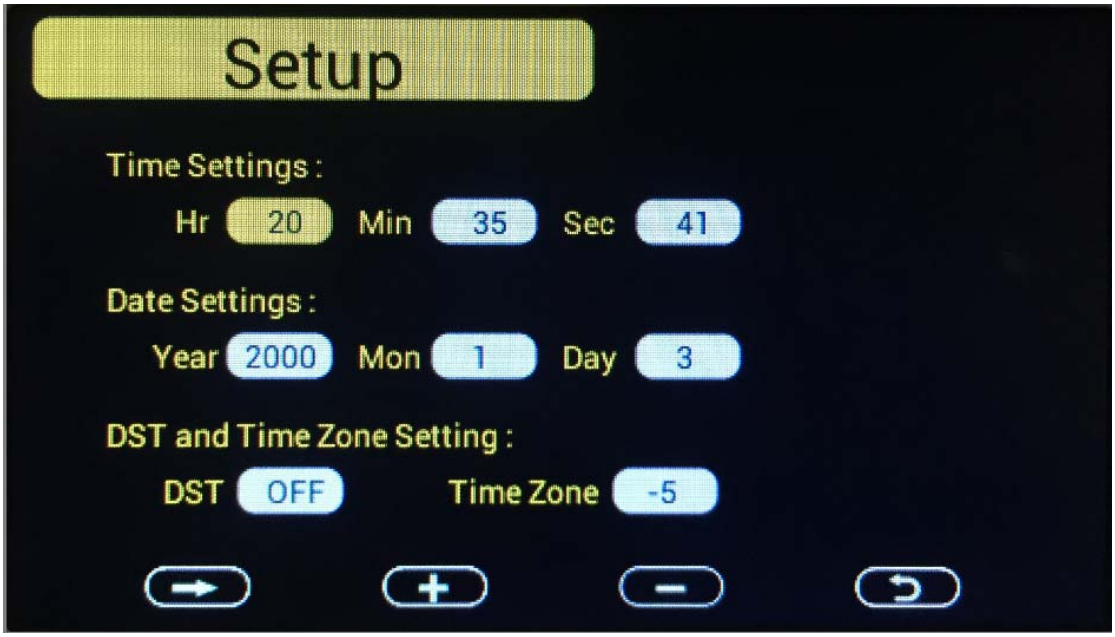
Select time format between AM h:mm:ss, h:mm:ss AM, h:mm:ss..

Date Format

Select date format between MM-DD-YYYY and DD-MM-YYYY

Date and time

This is to set time, date, DST, and time zone.

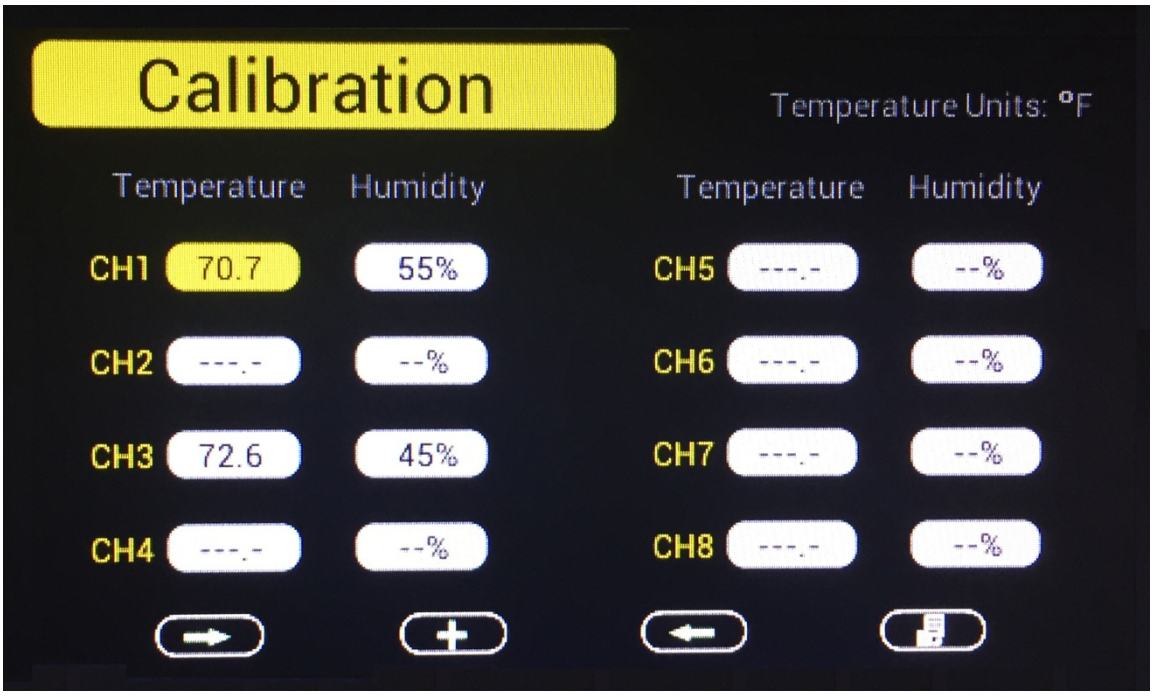


Temperature Units

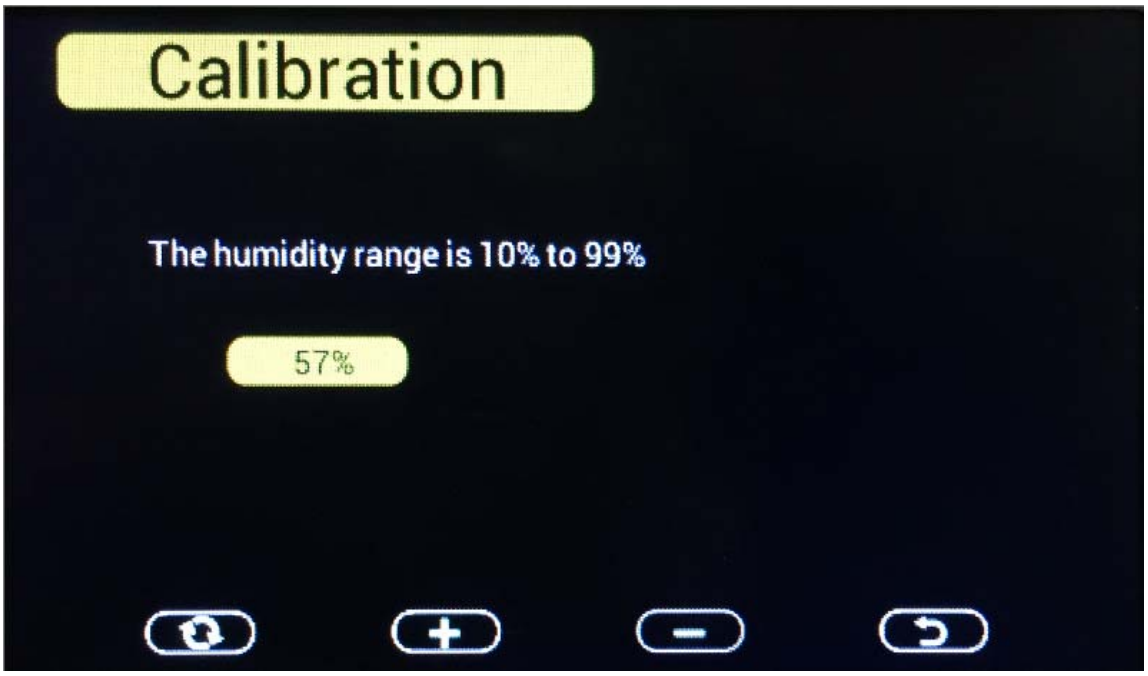
This is to select temperature units between ℃ and ℉

5.3 Calibration Mode

Under Normal mode, press **MENU** key twice to enter Calibration Mode. Users can calibrate the temperature and humidity of indoor and outdoor sensors here.


Calibration
Temperature Units: °F
Temperature
Humidity
Temperature
Humidity
CH1
70.7
55%
CH5
---.-
--%
CH2
---.-
--%
CH6
---.-
--%
CH3
72.6
45%
CH7
---.-
--%
CH4
---.-
--%
CH8
---.-
--%


Calibration
Temperature Uints: °F
The temperature range is -40.0 to 140.0
63.1

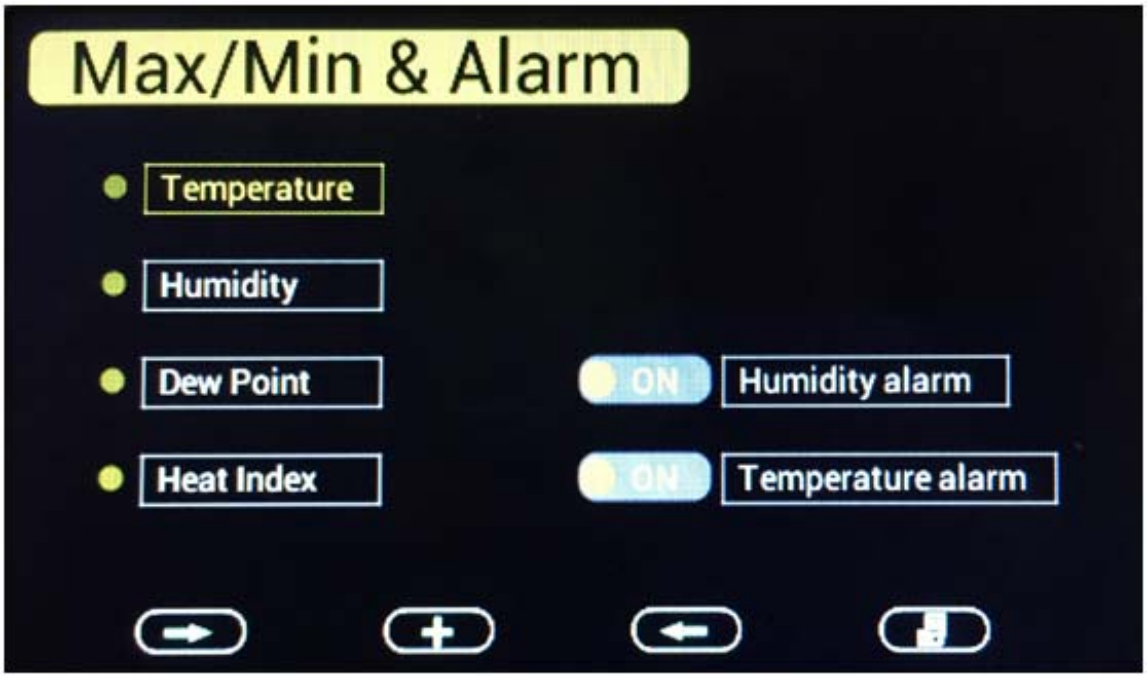


Icon	Description
	**Scroll down/right key** Press this key to scroll down/right. .
	**Selection/value increase key** Press this key to select parameter and enter the calibration interface. Increase the value during calibration.
	**Value Decrease key** Decrease the value during calibration.
	**Resume key** Press this key to cancel the calibration and resume the data.
	**Scroll up/left key** Press this key to scroll up/left.
	**Mode key** Press this key to enter to next mode
	**Return Key** Back to main menu of calibration mode.

5.4 Max/Min & Alarm Mode

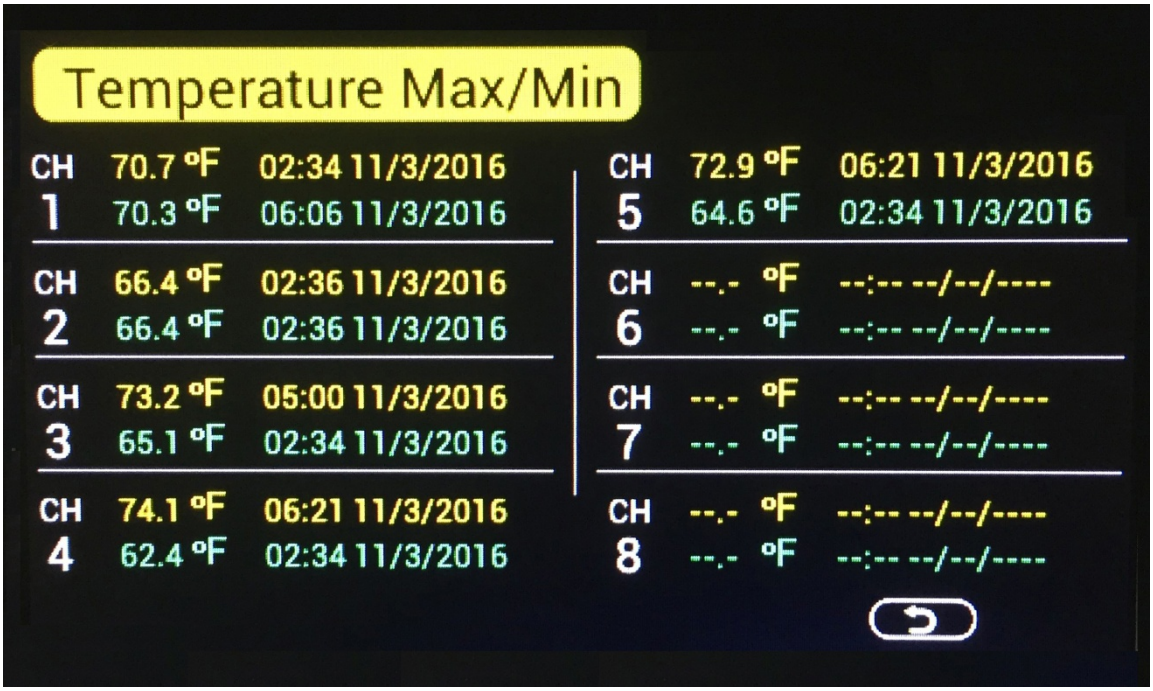
Under Normal mode, press **MENU** key three times to enter Max/Min & Alarm Mode. Users can check max/min records of temperature, humidity, dew point, heat index of each sensor.

And high/low alarms of humidity and temperature can be configured here.

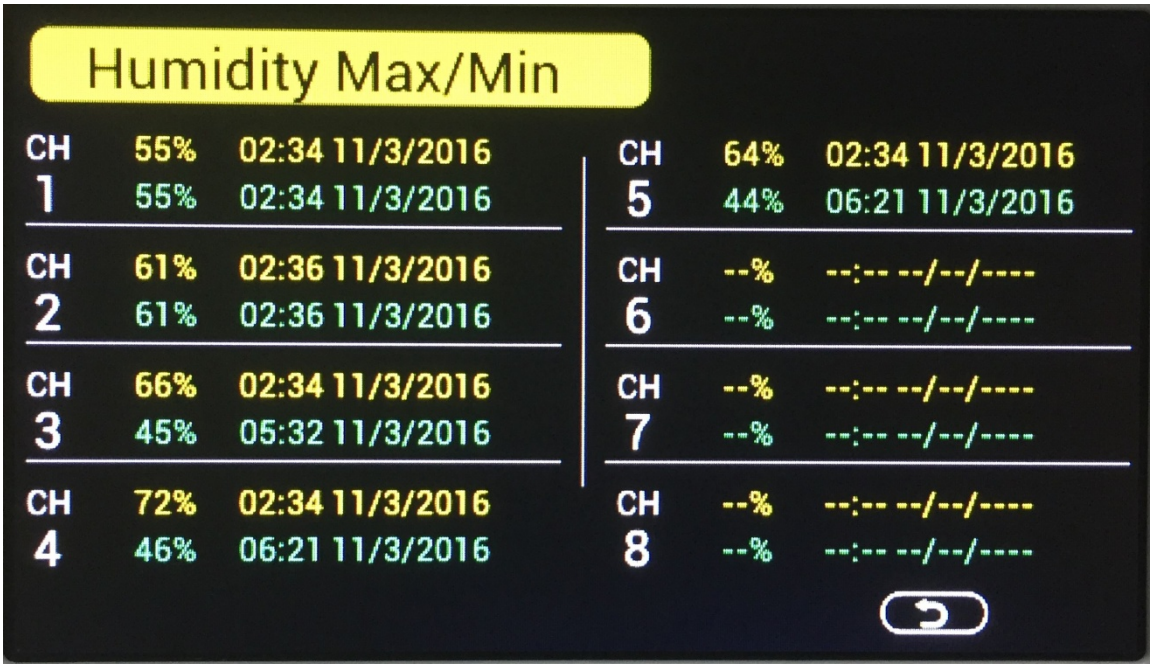


Icon	Description
	**Scroll down/right key** Press this key to scroll down/right. .
	**Selection/value increase key** Press this key to select parameter to check according max/min records. Switch on/off alarms and increase the value during alarm setup.
	**Value Decrease key** Decrease the value during alarm setup.
	**Scroll up/left key** Press this key to scroll up/left.
	**Mode key** Press this key to enter to next mode
	**Return Key** Back to main menu of calibration mode.

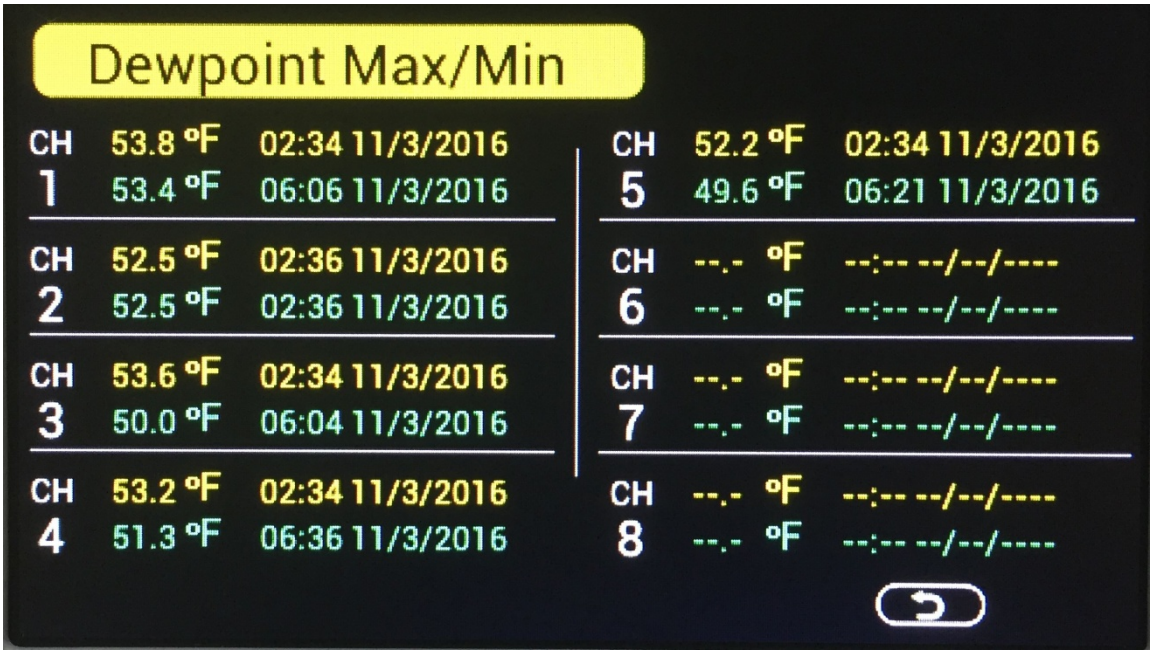
Temperature Max/Min interface



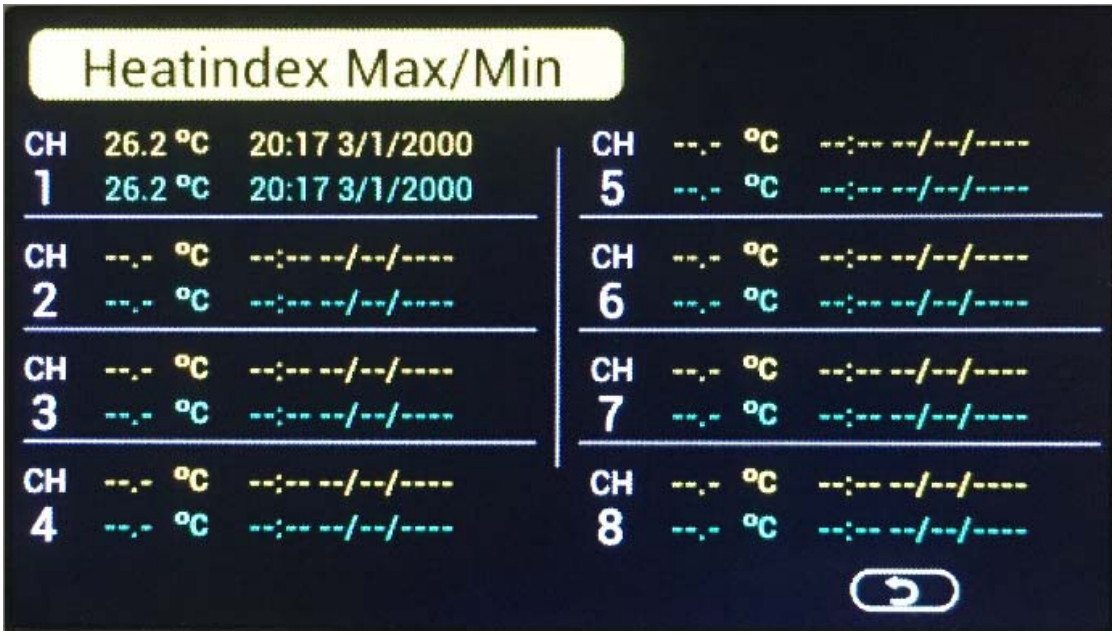
Humidity Max/Min interface



Dew point Max/Min interface

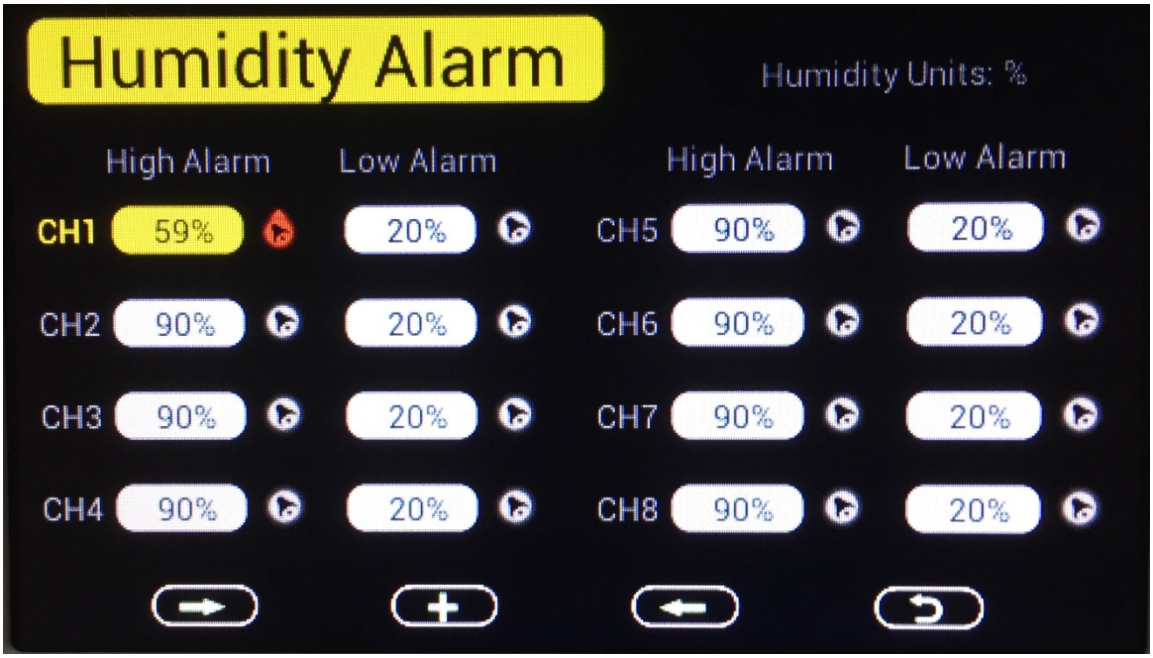


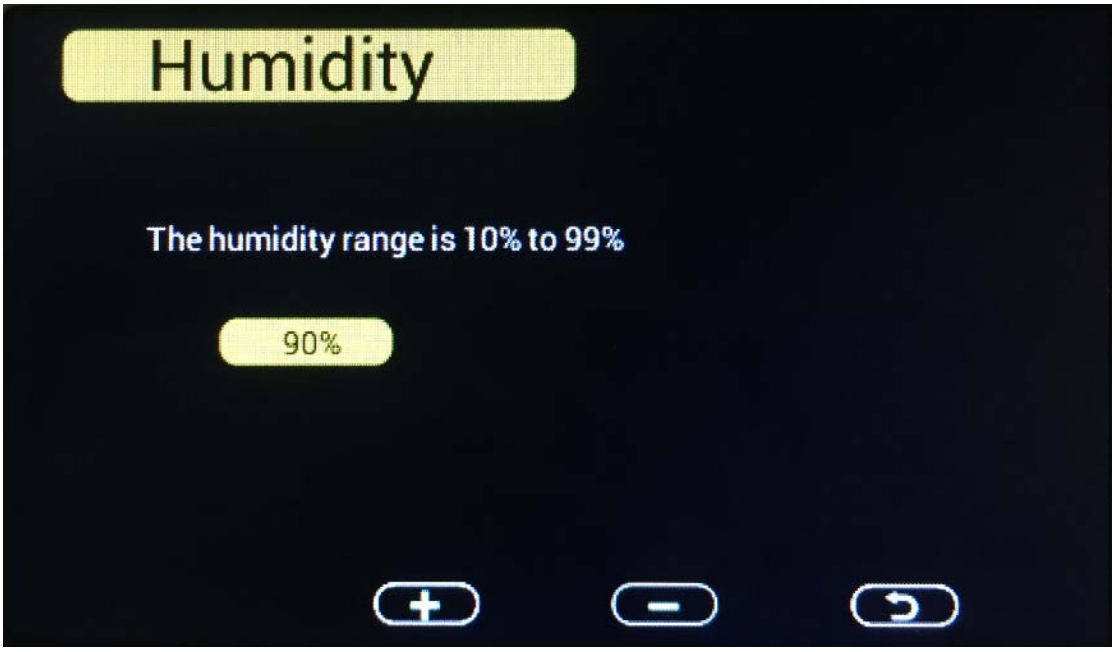
Heat index Max/Min interface



High/Low alarm of Humidity setting

To enter alarm setting interface, you need to select the alarm ON (default OFF): scroll to **OFF** key before Humidity alarm, and press  key to switch on the alarm. Then scroll to Humidity alarm and press  key to enter humidity alarm setting mode.





When an alarm condition has been activated, the specific alarm will sound and flash for 120 seconds, the alarm icon will turn to red color (high alarm) or blue color (low alarm).

The alarm icon will show on display console until the weather condition doesn't meet the user set level. Press any key to mute the alarm.

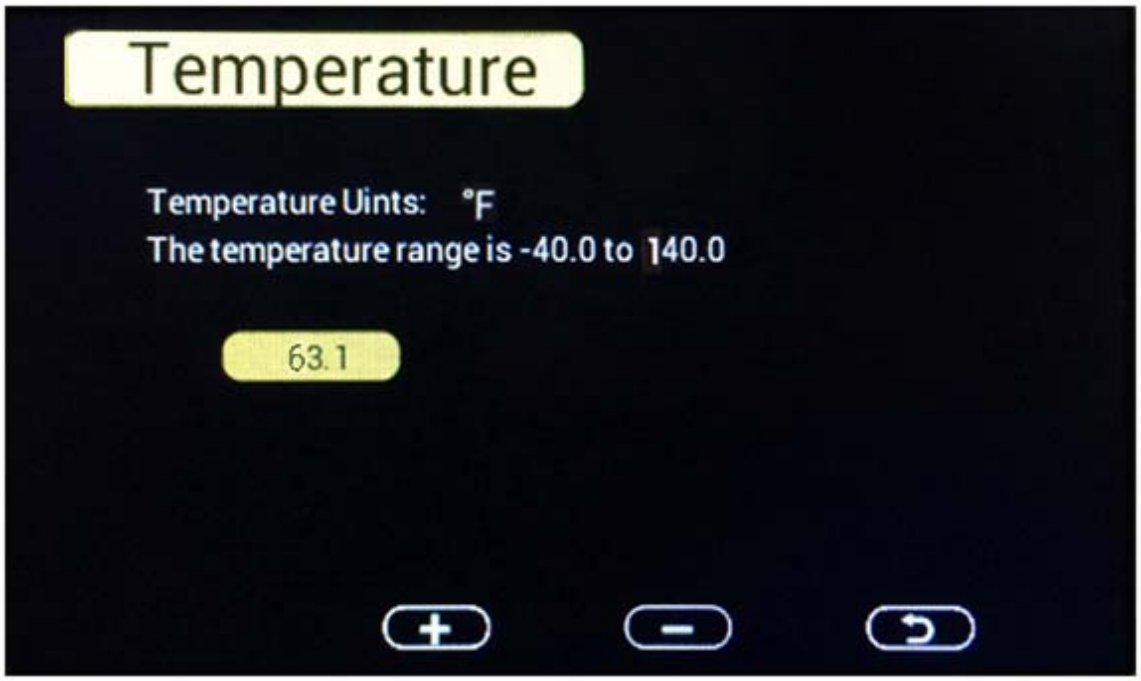
color change as below

	color

High alarm	Red – grey - red
Low alarm	Blue – grey - blue
High alarm & Low alarm both activated	Red – grey – blue – grey – red
Beep alarm stop	grey

High/Low alarm of Temperature setting

To enter alarm setting interface, you need to select the alarm ON (default OFF): scroll to **OFF** key before Temperature alarm, and press  key to switch on the alarm. Then scroll to Temperature alarm and press  key to enter Temperature alarm setting mode.



When an alarm condition has been activated, the specific alarm will sound and flash for 120 seconds, the alarm icon will turn to red color (high alarm) or blue color (low alarm).

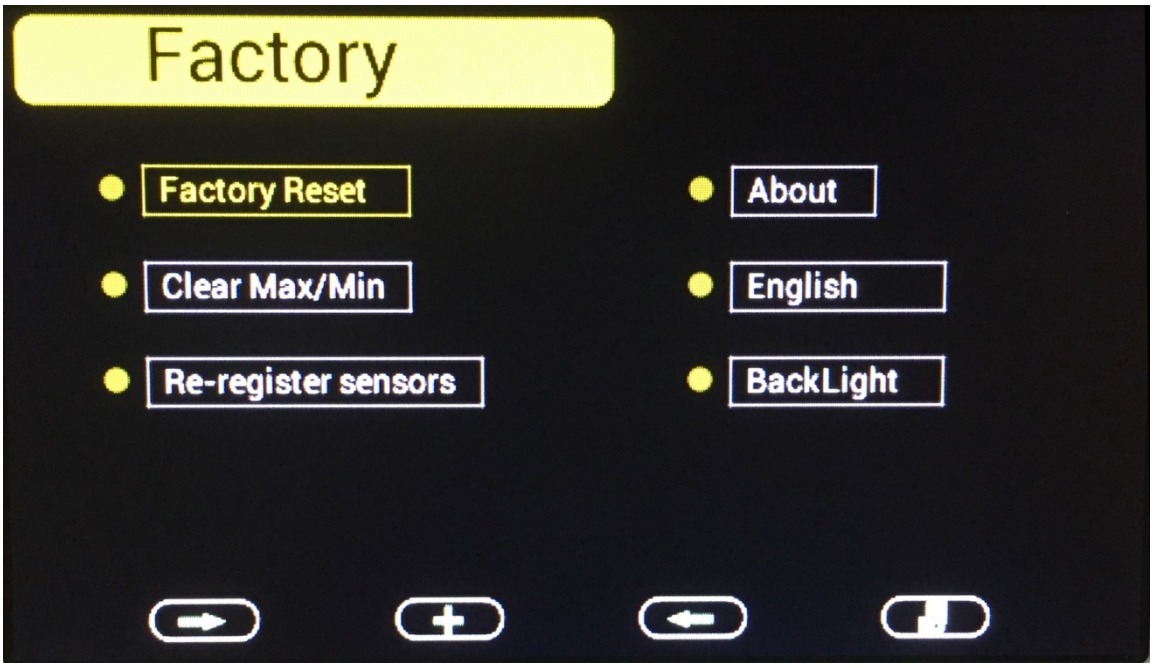
The alarm icon will show on display console until the weather condition doesn't meet the user set level. Press any key to mute the alarm.

color change as below

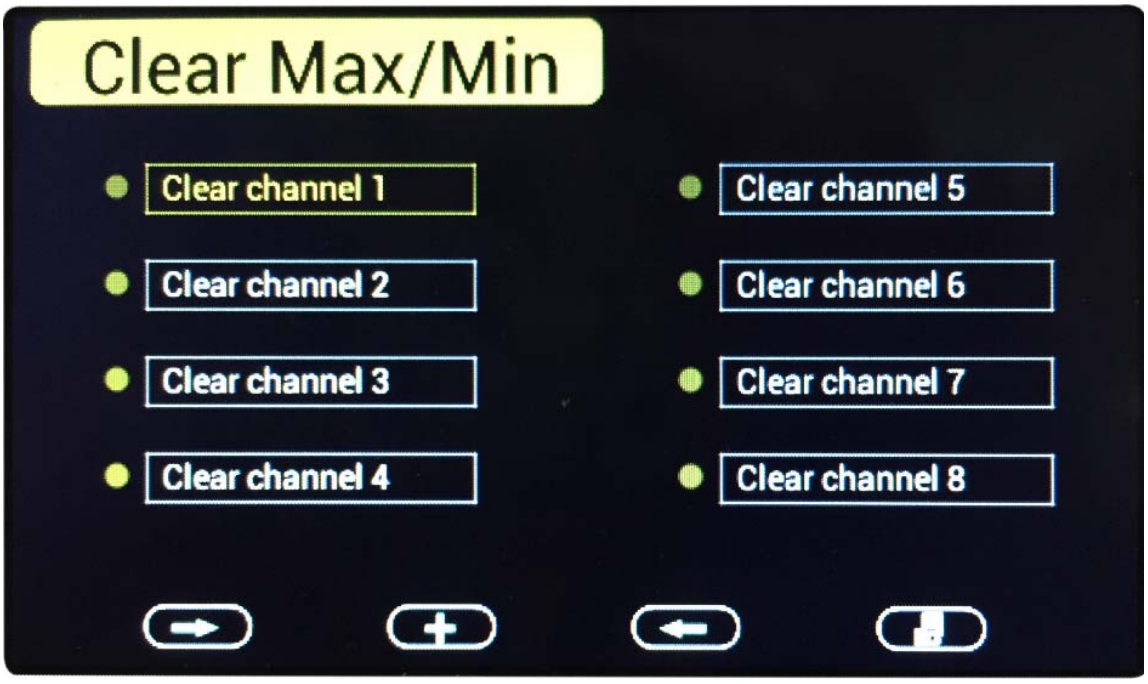
	color
High alarm	Red – grey - red
Low alarm	Blue – grey - blue
High alarm & Low alarm both activated	Red – grey – blue – grey – red
Beep alarm stop	grey

5.5 Factory

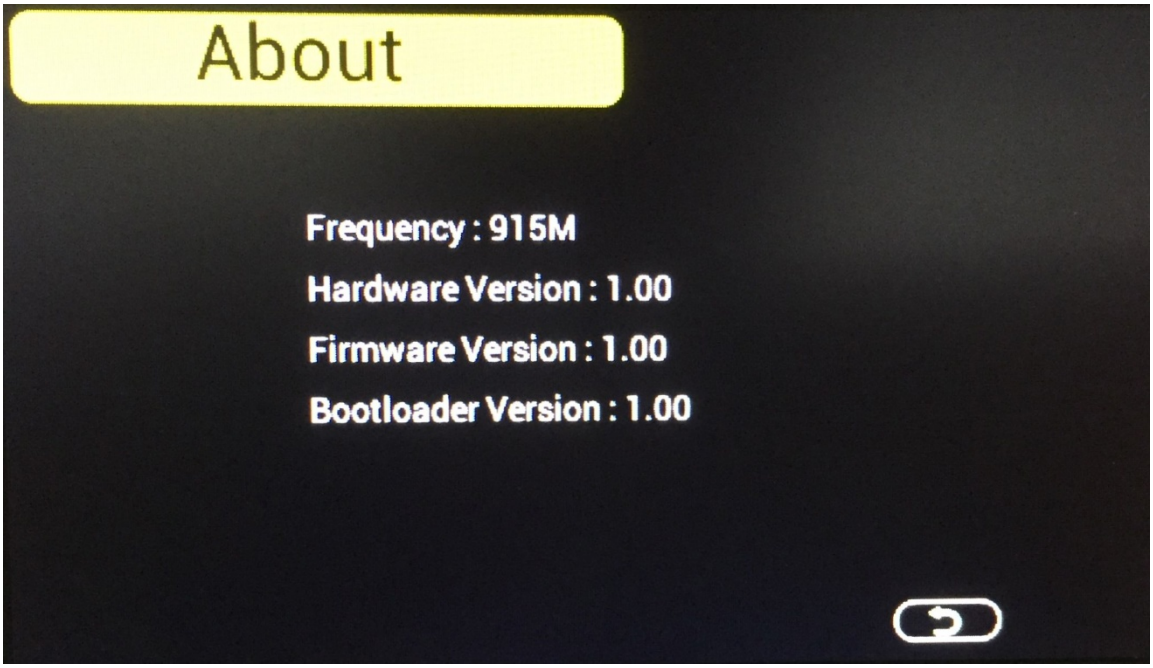
Under Normal mode, press **MENU** key four times to enter factory mode.



Factory reset: To reset the device to factory initial settings.
Clear Max/Min: Clear Max/Min records of specified outdoor sensor.

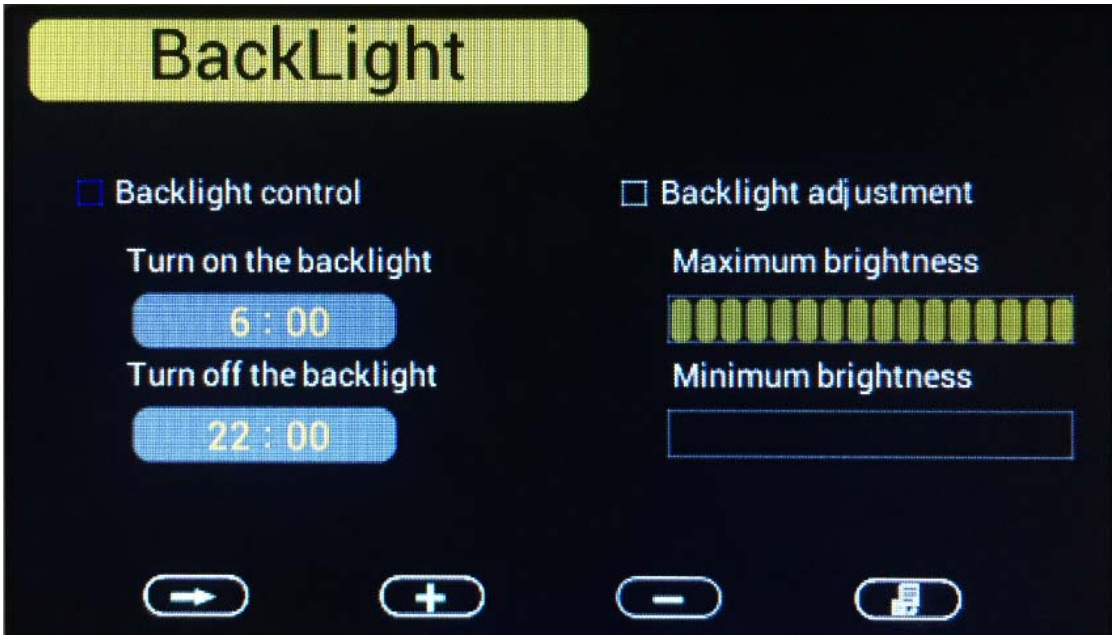


Re-register sensor： If the sensor display “-- --”, please scroll to it and enter to Re-register the sensor.
About: Check version information.



English: To switch language.

Backlight: Set the automatically on/off time spot of back light. And adjust the brightness range.



6. Specification

Transmission distance in open field : 100meter max.
Frequency : 868MHz/915MHz

Temperature measure range: : -40 to 60C
Resolution : 0.1℃

Humidity measuring range: 10% to 99%
Humidity accuracy : +/-5% under 0-45℃

Alarm duration : 120 sec
Water proof level : IPX3

Measuring interval

Outdoor sensor channel 1 : 61s
Outdoor sensor channel 2 : 62s
Outdoor sensor channel 3 : 63s
Outdoor sensor channel 4 : 69s
Outdoor sensor channel 5 : 65s
Outdoor sensor channel 6 : 66s
Outdoor sensor channel 7 : 67s
Outdoor sensor channel 8 : 68s

Power consumption

Base station : 5V DC adaptor (included)
Indoor sensor : 2xAA alkaline batteries (not included)
Remote sensor : 2xAA rechargeable batteries (not included)