WH6000

Manual (EN)
WH6000 WI-FI Internet Wireless Weather station

WH6000

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INTRODUCTION

Thank you for selecting Wi-fi weather station with 6-in-1 professional sensor. This system gathers and automatically uploads accurate and detailed weather data to Weather Underground website - the famous weather service which allows weather observers to upload their local weather data with automated personal weather stations (PWS) - at which you can access and upload your weather data freely. This product offers professional weather observers or serious weather enthusiasts robust performance with a wide range of options and sensors . You will get your own local forecast, high/lows, totals or averages and graphs for virtually all weather variables without using a PC .

Wi-fi Weather Station includes a 6-in-1 wireless outdoor sensor which transmits outdoor temperature, humidity, wind speed, wind direction, rainfall and UV with solar power . Also, the included wireless indoor sensor, which can add to a sensor array of maximum 7 units, transmits your indoor temperature & humidity to the console . Both sensors are fully assembled and calibrated for your easy installation . They send data at a low power radio frequency to the console from up to 150m/450 feet away (line of sight) .

In the main console, a high-speed processor is embedded to analyze the received weather data and these real-time data can be published to *Wunderground.com* through your home Wi-fi router. The console can also synchronize with internet time server to keep the time and weather data time stamp of high precision . The wide-viewing-angled with high-contrasted LCD display shows informative weather readings with advanced features, such as high/low alert alarm, different weather index, multi-functional bar chart and MAX/MIN records . With the built-in sunrise/sunset and moon phase feature, this system is truly a remarkably personal yet professional weather station for your own backyard.

Note:
This instruction manual contains useful information on the proper use and care of this product . Please read this manual through to fully understand and enjoy its features, and keep it handy for future use .
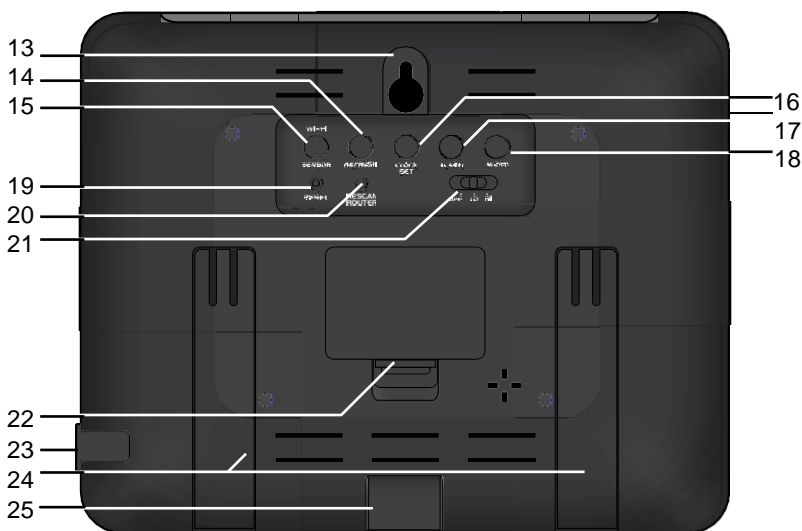
OVERVIEW

MAIN CONSOLE

1 . [BARO] key
2 . [WIND] key
3 . [ALARM / SNOOZE] key
4 . [INDEX] key
5 . [RAINFALL] key

6 . LCD display
7 . [GRAPH / Λ] key
8 . [°F / °C / V] key
9 . [HISTORY] key

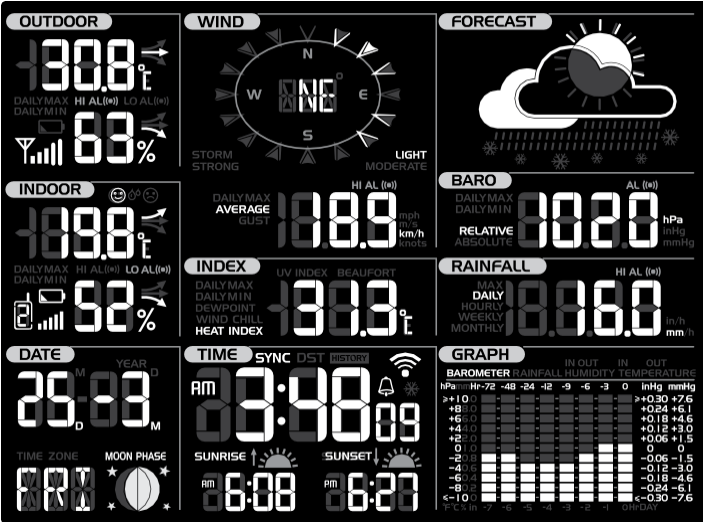10 . [MAX / MIN] key
11 . [CHANNEL] key
12 . Status LED

13 . Wall mounting holder
14 . [REFRESH] key
15 . [Wi-fi / SENSOR] key
16 . [CLOCK SET] key
17 . [ALARM] key

18 . [ALERT] key
19 . [RESET] key
20 . [RESCAN ROUTER] key
21 . Backlight dimmer sliding switch (Off / Lo / Hi)
22 . Battery compartment

23 . USB socket (for firmware update only)
24 . Table stand
25 . Power jack

4

1 . Outdoor temperature & humidity
2 . Indoor temperature & humidity
3 . Calendar & moon phase
4 . Wind direction & speed
5 . Weather index

6 . Time, sunrise/sunset & system status
7 . Weather forecast
8 . Barometer
9 . Rainfall
10 . Multi-function historical bar cha

WIRELESS INDOOR SENSOR

Pairing the wireless Indoor sensor with the console

1 . Remove the battery door of the sensor .
2 . Insert 2 x AA size batteries into the battery compartment . Make sure you insert them the right way according to the polarity information marked on the battery compartment .
3 . Close the battery door. The transmission status LED will begin to flash every 1 minute.

Note:
- · If you need to re-assign the sensor channel, firstly slide the channel slide switch to the new channel that you decided, then press [SENSOR] key on the console, and then press [RESET] key on the sensor to pair the sensor with the console again.
- · Avoid placing the sensors in direct sunlight, rain or snow.
- · To avoid the sensor/s and console pairing failure during new console setup, please power up the sensor/s first, and then press [RESET] key on the main unit (no need on sensors) .

Placing the wireless Indoor sensor

Place a screw on the wall that you wish to hang the sensor on . Hang the sensor onto the screw by the wall mounting holder . You can also place the sensor on a table by itself .
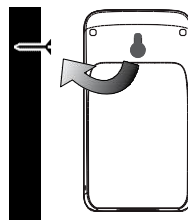
WIRELESS OUTDOOR SENSOR

Your wireless outdoor sensor measures wind-speed, wind-direction, rainfall, UV index, temperature and humidity for you .

Pairing the wireless outdoor sensor with the console
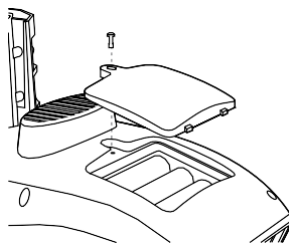
1 . Unscrew the battery door at the bottom of the unit and insert the batteries according to the polarity information marked on the battery compartment .
2 . Screw on tightly .
3 . Once the batteries are installed, the transmission status LED will begin to flash.

Note:
- · Ensure the battery door screw locked well .
- · Ensure the transmission status LED is flashing every 12 seconds .

Installing the wireless outdoor sensor

Install the wireless outdoor sensor to an open location with no obstructions above and around the sensor for accurate rain and wind measurement .

Mounting guideline

1. Install the sensor at least 1.5m off the ground for better and more accurate wind measurements.
2. Choose an open area within 150 meters from the main console.
3. Install the sensor as level as possible to achieve accurate rain and wind measurements. Use the level indicator on the sensor to ensure a level installation.
4. Mount the sensor with the wind meter end pointing to North to correctly orient the direction of the wind vane.

Mounting pole and stand (not included)

At least 1.5m from ground
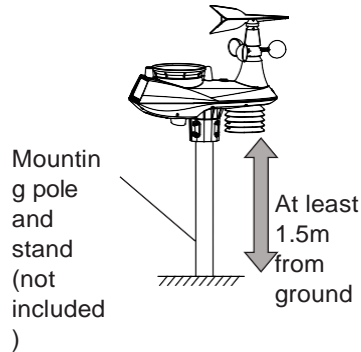
MAIN CONSOLE

Backup battery installation

1. Remove the battery door of the main console.
2. Insert 3 new AAA batteries.
3. Close the battery door.

Powering up the console

1. Plug the adaptor into the DC jack.
2. Press [RESET] key to re-start the console.
3. After reset, all LCD segments will show. The console will enter AP (access point) mode and the status LED will turn on green.

LED
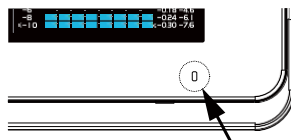
The Console status LED can show the following status:

Status	LED status
AP mode for setup	Flash green light
Connected to Wi-fi router	Blue light
Search the Wi-fi router and fail connection	Flash blue light
Firmware update	Flash red light
Manual sensor pairing mode by pressing [Wi-fi / SENSOR] key	Flash cyan light
Refresh the upload data and sync internet time by press [Refresh] key	Flash purple

Note:
This console has a dual backup system which allows you to backup different settings and history records .

Backup item list		
By battery backup	- Time & Date - Max/Min records - Alert setting values	- Bar chart records - Past 24 hours weather history data records
By built-in memory backup	- Router setting - Weather server setting - Time server link	- Latitude and longitude - Time Zone offset - Channel history

Setting the console's time zone
This weather station console will synchronize the clock with the UTC time server once you set the time server and connected to the internet . In order to display the correct time and activate the sunrise/sunset function, you need to set the correct time zone:
1 . Press and hold [CLOCK SET] key for 2 seconds to enter time zone setting in time setting mode .
2 . Press [∧] or [∨] key to select the correct time zone.
3 . Press [CLOCK SET] key again to enter the next setting .
4 . The setting sequence: Time zone → DST ON/OFF → Hour → Minute → Second → 12/24 hour format → Year → Month → Date → M-D/D-M format → TIME SYNC ON/OFF → Language
5 . Press [CLOCK SET] key to save and exit the setting mode, or the unit will automatically exit the setting mode 60 seconds later without pressing any button.

Pairing the wireless indoor and outdoor sensors with the console
The console will automatically search and connect to your wireless indoor and outdoor sensor . You can also press [Wi-fi / SENSOR] key to search for your sensors manually . Once your sensors pair up successful, the sensor signal strength indication and weather information will appear on your console display .

Note:
The status LED will flash cyan light, once you press [Wi-fi / SENSOR] key to search the sensors manually .

CREATE A WUNDERGROUND ACCOUNT AND SETUP WI-FI CONNECTION

A. Register your Wi-fi personal weather station (PWS)
1 . In *https://www.wunderground.com* click on the "Join" button on the top right corner to open the registration page . Follow the instructions to create your account.
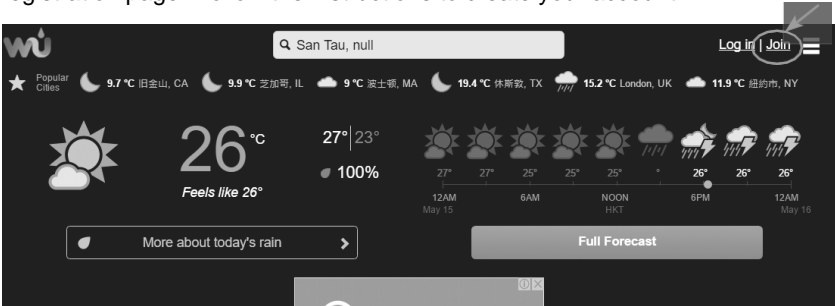
Note:
You need to validate your email address before you can register your weather station . Click "*Send Validation Email*" to receive an email from *wunderground.com* that contains a validation link. Click on the link to finish the validation.

2 . After you have created your account and completed the Email validation, please go back to the WUndergound web page . Click " ☰ " button on the top right corner to open the drop-down menu and select "*Add Weather Station*" to create your station ID.

3 . Pin the location on the map . Enter the height above ground of the wireless outdoor sensor you installed . Jot down the longitude/latitude value for the further setup step .

4 . Enter a name for your PWS, then choose "*Other*" for "*Station Hardware*" . Once you have completed, click "*Submit*" .

5 . Jot down Your Station ID and Station key for the further setup step .

B. Setup the Wi-fi Console to transmit weather data to *wunderground.com*

1 . When you plug the adaptor into the DC jack to power up the Wi-fi console during the first time start up, or press and hold the [Wi-Fi / SENSOR] key for 6 seconds in normal mode, the Status LED on the main console will flash green light to signify that it has entered into the AP mode, in which the console is ready for the Wi-fi setup.

2 . Use your Wi-fi enabled smart phone or computer device to directly connect to the console's SSID: *PWS-XXXXXX* .
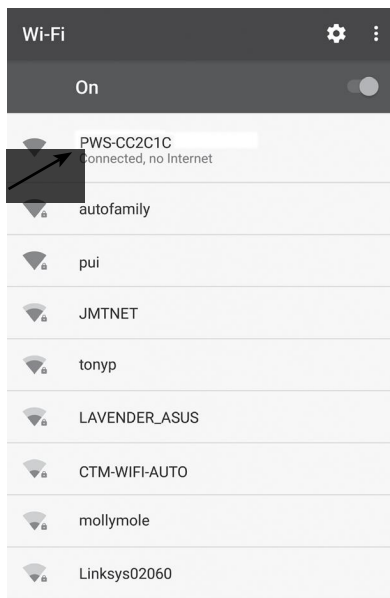
3 . Once connect, open the internet browser and enter *192.168.1.1* into the URL blank, then press the *Enter* key to access the console's setup interface.

Note:
   - Since different web browsers are slightly different, please make sure you enter the *192.168.1.1* in the URL blank .

4 . Fill in the connection information for the setup interface . Your PWS will base on this information to connect the Wi-fi router.

Note:
   · Depending on your web browser, the layout of the setup interface will be a bit different .
   · To find your latitude and longitude, visit Google Maps and directly click on the location that you want to check and the latitude and longitude will be shown (negative value of latitude represents South, negative value of longitude represents West).

5. Click "*Apply*" to finish the setup. If all the information you entered is correct, the setup interface will show as the following. If it does not change, check and fill in the missing information.

Once the setup information is uploaded to the console, the LED status light will turn solid blue

Firmware version: 1.00
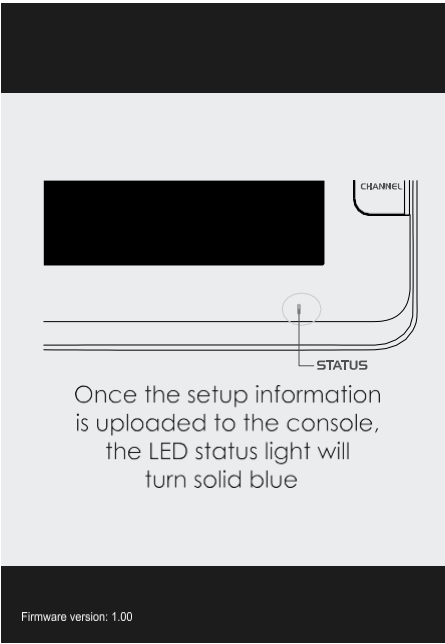
Once the setup is completed, the Wi-fi console will disconnect the Wi-fi connection with your smart phone or computer and start to search for the router that you have assigned . If the connection is successful, the status LED of the Wi-fi console will change to blue and the Wi-fi icon 📶 will show on the LCD without flashing.

Wi-fi setup device requirements

Supported device	Built-in Wi-fi with AP mode function smart devices, laptops or PCs: Android smartphone, Android pad, iPhone, iPad or Windows laptop
Wi-fi standard	802 .11 b/g/n, supports AP mode
Web browser	Browsers that support HTML 5, such as the latest version of Chrome, Safari, IE, Edge, Firefox or Opera

Router requirements

Wi-fi standard	802 .11 b/g/n
Security type supported	WEP/ WPA / WPA2 / open (for routers with no password)

1 . To view the wireless outdoor sensor's live data in a web browser (PC or mobile version),
please visit www .*wunderground.com*, and then, In the menu bar, enter your "station ID" in the
searching box . The weather information will show up on the next page .

2 . You can also use the Apple ipad's "WunderStation" app to login your own weather station and
view your CH 1 wireless Indoor sensor's temperature and humidity live data .

TIME & DATE, MOON PHASE, SUNRISE & SUNSET

The *TIME* and *DATE* information windows locate at the bottom left of the console display . You can view all the time related information and console status in these two sections .

Moon Phase
The moon phase is determined by the time, date and time zone . The following table explains the moon phase icons of the Northern and Southern hemispheres . Please refer to *ORIENTING THE 6-IN-1 SENSOR TOWARDS SOUTH* section about how to setup for the Southern hemispheres .

Northern hemisphere	Moon Phase	Southern hemisphere
	New Moon	
	Waxing Crescent	
	First quarter	
	Waxing Gibbous	
	Full Moon	
	Waxing Gibbous	
	Third quarter	
	Waxing Crescent	

Sunrise & Sunset Time
The console indicates your location's sunrise & sunset time by the time zone, latitude and longitude you entered . Please insert the correct information in the regarding settings . If the latitude and longitude values do not match the time zone, the sunrise & sunset time cannot be shown .

Wi-fi CONNECTION STATUS

As soon as the console successfully connects to the Wi-fi router, the Wi-fi signal icon " 📶 " will appear on the LCD display. If the Wi-fi signal is not stable or the console is trying to connect to the router, the icon will flash.

If the icon disappears, it means the console cannot connect to the Wi-fi router or enter the AP mode .

TIME SERVER CONNECTION STATUS

After the console has connected to the internet, it will attempt to connect to the internet time server to obtain the UTC time . Once the connection succeeds and the console's time has been updated, the " SYNC " icon will appear on the LCD . The time will automatically synchronize Internet time server at 12:00AM and 12:00PM per day . Also you can press the [REFRESH] key to get the internet time manually within 1 minute .

SETTING DATE & TIME

Wi-fi Weather Station is designed to obtain the local time from and to synchronize with the assigned internet time server. If you want to use this device offline, you can set the time and date manually .

1 . In normal mode, press and hold [CLOCK SET] key for 2 seconds to enter date and time setting mode .
2 . Press [GRAPH / Λ] or [°F / °C / V] key to adjust the value, or press and hold to change rapidly .
3 . While in date and time setting mode, press [CLOCK SET] key to switch to the next setting .
4 . The setting sequence is: Time Zone → DST ON/OFF → Hour → Minute → Second → 12/24Hr → Year → Month → Day → M-D/D-M → Internet time sync ON/OFF → Language
5 . After completing the language setting, press [CLOCK SET] key to save and exit the setting mode .

TIME ZONE setting	00H → 01H...23H → -23H...-01H → 00H	
DST ON/OFF setting		
Hour > Minute > Second setting	→ →	
12/24Hr setting	/	
Year > Month > Day setting	→ →	
M-D/D-M setting	Month-Day / Day-Month	
Internet time sync		Language	EN ↔ FR ↔ DE ↔ ES ↔ IT ↔ NL ↔ RU ↔ EN

SETTING ALARM TIME

1 . In normal time mode, press and hold [ALARM] key for 2 seconds until the alarm hour digit flashes to enter alarm time setting mode.
2 . Press [GRAPH / Λ] or [°F / °C / V] key to adjust the value, or press and hold to change rapidly .
3 . The setting sequence is: Hour → Minute .
4 . After completing the minute setting, press [ALARM] key to save and exit the setting mode .

Note:
  · The alarm will automatically be turned on with the icon " 🔔 " displays after you set the alarm time .
  · Press [ALARM / SNOOZE] key to stop the current alarm and enter snooze . The alarm icon will flash continuously. The alarm will sound again after 5 minutes. Snooze can be operated continuously in 24 hours .
  · When the alarm sounds, it will stop automatically without pressing any button in 2 minutes . Also, you can press and hold the [ALARM / SNOOZE] key for 2 seconds or press [ALARM] key to stop the current alarm . The alarm will repeat in the next day .

ACTIVATING ALARM AND TEMPERATURE PRE-ALARM FUNCTION

1 . In normal mode, press [ALARM] key to show the alarm time for 5 seconds .
2 . When the alarm time displays, press [ALARM] key again to activate the alarm function . Or press [ALARM] key twice to activate the alarm with ice pre-alarm function .

Alarm off	**Alarm on**	**Alarm with ice-alert**

Note:
Once the ice pre alert activates, the preset alarm will sound 30 minutes earlier if the outdoor temperature is below -3°C .

INDOOR AND OUTDOOR TEMPERATURE & HUMIDITY

You can view the in/outdoor channels' temperature & humidity readings and the related information at the top-left or middle left column of the LCD.

Note:
In normal mode, press [°F / °C / V] key to switch between °C/°F .

The *OUTDOOR* Window
The OUTDOOR window displays the thermo-hygro readings of wireless outdoor 6-in-1 weather sensor .

Wireless outdoor sensor signal strength:

No signal	**Weak signal**	**Good signal**

Note: Please locate the console where can receive good sensor signal .

The *INDOOR* Window
The INDOOR window displays the thermo-hygro reading of wireless indoor thermo-hygro sensor(s) (Ch.1 -Ch.7)

Wireless Indoor sensor signal strength:

No signal	Weak signal	Good signal

Note: Please locate the sensors where console can receive good signal .

Viewing Different Indoor Channel
This console is capable to pair with up to 7 wireless indoor thermo-hygro sensors. If you have 2 or more sensors, you can press [CHANNEL] key to switch between different indoor channels in normal mode, or press and hold [CHANNEL] key for 2 seconds to toggle auto-cycle mode to display the connected channels at 4 second intervals.
During auto-cycle mode, press [CHANNEL] key to stop the auto cycle and display the current channel .

Comfort Indication
The comfort indication is a pictorial indication based on indoor air temperature and humidity in an attempt to determine comfort level. Each indoor channel has independent comfort indication.

☹	☺	◌◌☹
Too cold	Comfortable	Too hot

Note:
Comfort indication can vary under the same temperature, depending on the humidity .
There is no comfort indication when temperature is below 0°C (32°F) or over 60°C (140°F).

Temperature / Humidity Trend
The temperature / humidity trend indicator shows the trends of changes in the forthcoming few minutes . Arrows indicate a rising, steady or falling trend .

Arrow indicator			
Temperature / Humidity trend	Rising	Steady	Falling

Note:
When temperature is below -40°C, the LCD will display "Lo" . If temperature is above 80°C, LCD will display "HI" .
When humidity is below 1%, LCD will display "Lo" . If humidity is above 99%, LCD will display "HI" .

WIND

The wind speed, direction and related information will be displayed in the *WIND* window at the top-row-middle .

Viewing Wind Direction

Past wind directions indicator of last 5 minutes

Wind direction in 360° or 16-direction

Real time wind direction indicator

Wind speed level

Average / gust wind speed
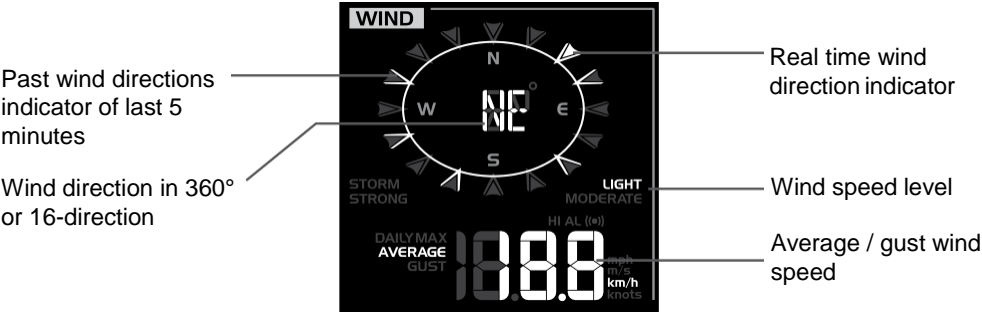
To select the wind display mode

In normal mode, press [WIND] key to switch between AVERAGE wind speed and GUST wind speed .

To set the wind speed unit and direction display format

1 . In normal mode, press and hold [WIND] key for 2 seconds to enter into wind speed unit mode and the unit will flash. And then press [GRAPH / ∧] or [°F / °C / ∨] key to change the wind speed unit in this sequence: m/s → km/h → knots → mph

2 . Press [WIND] key again to enter into wind direction display format setting mode . The wind direction reading will flash. And then press [GRAPH / ∧] or [°F / °C / ∨] key to select the display format between 360° and 16-direction .

3 . Press [WIND] key again to return to normal mode .

Wind Speed Level

Level	LIGHT	MODERATE	STRONG	STORM
Speed	0.1km/h ~19km/h	20km/h ~ 49km/h	50km/h ~ 88km/h	> 89km/h

WEATHER INDEX

The weather index window (*INDEX*), in the middle of the LCD, displays the UV INDEX, BEAUFORT, WIND CHILL, HEAT INDEX and DEWPOINT .

In normal mode, press [INDEX] key to view the weather indices in this sequence: UV INDEX → BEAUFORT → WIND CHILL → HEAT INDEX → DEWPOINT

Note:

In normal mode, press [°F / °C / ∨] key to switch between °C/°F .

UV Index

The UV index reflects the UV data collected by the wireless outdoor sensor that the detectable range is 0~16.

1 . In normal mode of the console, press and hold [INDEX] key for 10 seconds to enter into UV index calibration mode

2 . Use [GRAPH / Λ] or [°F / °C / V] key to adjust the UV gain magnification factor

3 . Press the [INDEX] key twice to confirm and exit the setting

Note:
· The default UV gain magnification factor is 1.0, and can be adjusted up or down in increments of 0 .1 .

Beaufort Scale
The Beaufort scale is an international scale of wind velocities ranging from 0 (calm) to 12 (Hurricane force) .

Beaufort Scale	Description	Wind Speed	Land Condition
0	Calm	< 1 km/h	Calm . Smoke rises vertically .
		< 1 mph	
		< 1 knots	
		< 0 .3 m/s	
1	Light air	1.1 ~ 5km/h	Smoke drift indicates wind direction . Leaves and wind vanes are stationary .
		1 ~ 3 mph	
		1 ~ 3 knots	
		0.3 ~ 1.5 m/s	
2	Light breeze	6 ~ 11 km/h	Wind felt on exposed skin . Leaves rustle . Wind vanes begin to move .
		4 ~ 7 mph	
		4 ~ 6 knots	
		1.6 ~ 3.3 m/s	
3	Gentle breeze	12 ~ 19 km/h	Leaves and small twigs constantly moving, light flags extended.
		8 ~ 12 mph	
		7 ~ 10 knots	
		3.4 ~ 5.4 m/s	

4	Moderate breeze	20 ~ 28 km/h	Dust and loose paper raised . Small branches begin to move .	
		13 ~ 17 mph		
		11 ~ 16 knots		
		5.5 ~ 7.9 m/s		
5	Fresh breeze	29 ~ 38 km/h	Branches of a moderate size move . Small trees in leaf begin to sway .	
		18 ~ 24 mph		
		17 ~ 21 knots		
		8.0 ~ 10.7 m/s		
6	Strong breeze	39 ~ 49 km/h	Large branches in motion . Whistling heard in overhead wires . Umbrella use becomes difficult. Empty plastic bins tip over .	
		25 ~ 30 mph		
		22 ~ 27 knots		
		10.8 ~ 13.8 m/s		
7	High wind	50 ~ 61 km/h	Whole trees in motion . Effort needed to walk against the wind .
		31 ~ 38 mph	
		28 ~ 33 knots	
		13.9 ~ 17.1 m/s	
8	Gale	62 ~ 74 km/h	Some twigs broken from trees . Cars veer on road . Progress on foot is seriously impeded
		39 ~ 46 mph	
		34 ~ 40 knots	
		17.2 ~ 20.7 m/s	
9	Strong gale	75 ~ 88 km/h	Some branches break off trees, and some small trees blow over . Construction /temporary signs and barricades blow over .
		47 ~ 54 mph	
		41 ~ 47 knots	
		20.8 ~ 24.4 m/s	
10	Storm	89 ~ 102 km/h	Trees are broken off or uprooted, structural damage likely .
		55 ~ 63 mph	
		48 ~ 55 knots	
		24.5 ~ 28.4 m/s	
11	Violent storm	103 ~ 117 km/h	Widespread vegetation and structural damage likely .
		64 ~ 73 mph	
		56 ~ 63 knots	
		28.5 ~ 32.6 m/s	
12	Hurricane force	≥ 118 km/h	Severe widespread damage to vegetation and structures . Debris and unsecured objects are hurled about .
		≥ 74 mph	
		≥ 64 knots	
		≥ 32.7m/s	

Wind Chill
A combination of the wireless outdoor sensor's temperature and wind speed data determines the current wind-chill factor.
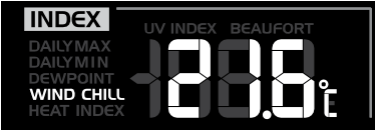
Heat Index
The heat index, which is determined by the wireless outdoor sensor's temperature & humidity data, when the temperature is between 27°C (80°F) and 50°C (120°F).
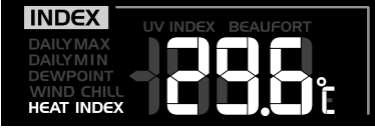
Heat Index range	Warning	Explanation
27°C to 32°C (80°F to 90°F)	Caution	Possibility of heat exhaustion
33°C to 40°C (91°F to 105°F)	Extreme Caution	Possibility of heat dehydration
41°C to 54°C (106°F to 129°F)	Danger	Heat exhaustion likely
≥55°C (≥130°F)	Extreme Danger	Strong risk of dehydration / sun stroke

Dewpoint
· The dew point is the temperature below which the water vapor in air at constant barometric pressure condenses into liquid water at the same rate at which it evaporates. The condensed water is called *dew* when it forms on a solid surface.
· The dew point temperature is determined by the temperature & humidity data from wireless outdoor sensor.

WEATHER FORECAST

The weather forecast window (*FORECAST*) locates at the upper right corner of the LCD. The console is built with a sensitive pressure sensor, by which the proven sophisticated software forecasts the weather of the next 12~24 hours within a 30~50km (19~31 miles) radius.

Sunny	**Slightly cloudy**	**Cloudy**
Rainy	**Rainy / Stormy**	**Snowy**
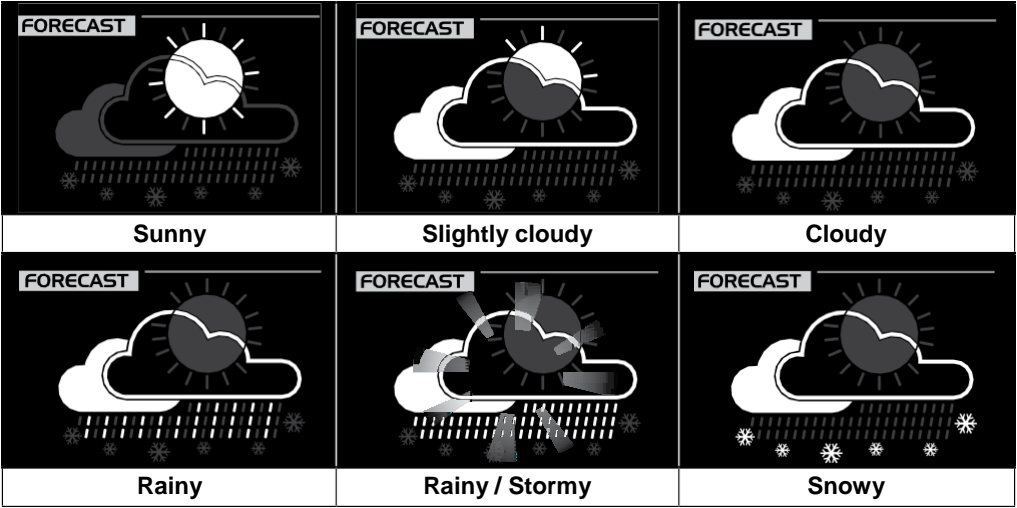
Note:
  · The weather forecast is reflecting the weather situation for next 12 hours, it may not necessarily reflect the current situation.
  · The "Snowy" icon will be displayed when the outdoor temperature is below -3°C (26°F), and under cloudy or rainy forecast.

BAROMETRIC PRESSURE

The barometric pressure window (*BARO*) locates in the middle right of the LCD Barometric pressure: the atmospheric pressure is the pressure at any location of the Earth caused by the weight of the column of air above it. One atmospheric pressure refers to the average pressure and gradually decreases as altitude increases. Meteorologists use barometers to measure atmospheric pressure. Since variation in atmospheric pressure greatly affected by weather, it is possible to forecast the weather by measuring the changes in pressure.

To set the barometer unit and select the wind display mode
1. In normal mode, press [BARO] key to change the barometer unit in this sequence: hPa → inHg → mmHg
2. In normal mode, press and hold [BARO] key to switch between ABSOLUTE/RELATIVE display.

| Absolute | The absolute atmospheric pressure of your location. |
| Relative | The relative atmospheric pressure based on the sea level |

To set the RELATIVE atmospheric pressure value
1. Obtain the atmospheric pressure data of the sea level (it is also the relative atmospheric pressure data of your home area) through the local weather service, internet or any weather information source.
2. In normal mode, press and hold [BARO] key for 2 seconds until "ABSOLUTE" or "RELATIVE" icon flashes.
3. Press [GRAPH / ∧] or [°F / °C / ∨] key to switch to "RELATIVE" mode.
4. Press [BARO] key once again, the "RELATIVE" atmospheric pressure digit flashes.
5. Press [GRAPH / ∧] or [°F / °C / ∨] key to change its value.
6. Press [BARO] key to save and exit the setting mode.

Note:
  · When you change the RELATIVE atmospheric pressure value, the weather indicators will change along with it.
  · The built-in barometer detects the environmental absolute atmospheric pressure changes. Based on the data collected, it predicts the weather conditions in the forthcoming 12 hours. The weather indicator will change according to the detected absolute atmospheric pressure after operating the clock for 1 hour.
  · The RELATIVE atmospheric pressure is based on the sea-level pressure you entered but it will change with the absolute atmospheric pressure after operating the clock for 1 hour.

RAINFALL

The *RAINFALL* reading displays in the middle right of the LCD . It shows how many mm/inches of rain have accumulated in the rain collector in one-hour time period to indicate the current rainfall rate .

To set the rainfall unit

1 . Press and hold [RAINFALL] key for 2 seconds to enter unit setting mode .
2 . Press [GRAPH / Λ] or [°F / °C / V] key to toggle between mm (millimeter) and in (inch) .
3 . Press [RAINFALL] key to confirm and exit the setting.

To select the rainfall display mode
Press [RAINFALL] key to toggle between:

1 . DAILY - the total rainfall from midnight
2 . HOURLY - the total rainfall in the past hour
3 . WEEKLY - the total rainfall of the current week
4 . MONTHLY- the total rainfall of the current calendar month
5 . Accumulate - the total rainfall since the last reset

Note:
- · In normal mode, press and hold [HISTORY] key for 2 seconds to reset the Accumulate rainfall record .
- · To avoid the fault data, please reset the Accumulate rainfall when you reinstall your wireless outdoor sensor to other location
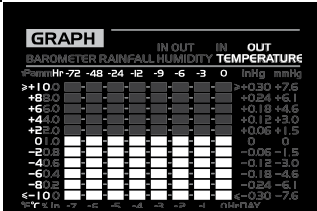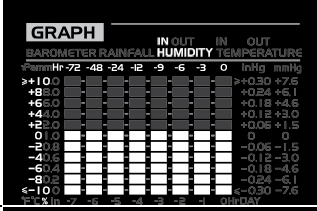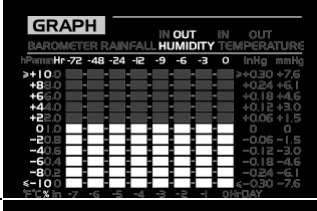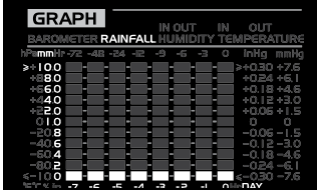
HISTORY GRAPH

The history graph (*GRAPH*), at the bottom right of the LCD, displays different weather histories in bar chart format .

To view different graphs
In normal mode, press [GRAPH / Λ] key to toggle between different types of graph:
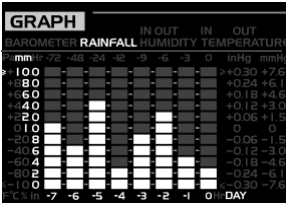
Weather variable	Unit of measure	Record time range	Graph
Barometric pressure	hPa, inHg and mmHg	Past 72 hours	
Indoor temperature (according to the current channel)	°F or °C	Past 72 hours	

Outdoor temperature	°F or °C	Past 72 hours	
Indoor humidity (according to the current channel)	%	Past 72 hours	
Outdoor humidity	%	Past 72 hours	
Rainfall	mm or in	Past 7 days (daily)	

To view the daily MAX/MIN

The console can record the daily MAX/MIN weather data for your easy review .

· In normal mode, press [MAX / MIN] key to check the daily MAX/MIN records. The display sequence is: outdoor MAX temperature & humidity → outdoor MIN temperature & humidity → current channel's indoor MAX temperature & humidity → current channel's indoor MIN temperature & humidity → MAX average wind speed → MAX gust → MAX dew point → MIN dew point → MAX wind chill → MIN wind chill → MAX heat index → MIN heat index → MAX UV index → MAX Beaufort → MAX pressure → MIN pressure → MAX daily rainfall.

· Press and hold [MAX / MIN] key for 2 seconds to reset all the MAX/MIN records.

To view the history data (the records in the past 24 hours)

The console automatically stores the weather data of the past 24 hours .

1 . Press [HISTORY] key to check the beginning of the current hour's weather data, e .g . the current time is 7:25 am, March 28, the display will show the data of 7:00am, March 28 .

2 . Press [HISTORY] key repeatedly to view older readings of the past 24 hours, e .g . 6:00am (Mar 28), 5:00am (Mar 28), …, 10:00am (Mar 27), 9:00am (Mar 27), 8:00am (Mar 27)

Note:

The LCD will display the history data records and their time & date .

WEATHER ALERT SETTING

Weather Alert can alert you of certain weather conditions . Once the alert criterion is met, the alarm sound will activate and the LCD's alert icon will flash.

To set alert
1 . Press [ALERT] to select and display the desired weather alert reading in the sequence below:

Alert reading Sequence	Setting Range	Display Section	Default Value
Outdoor Temperature High Alert	-40°C ~ 80°C	Outdoor temperature & humidity section (*OUTDOOR*)	40°C
Outdoor Temperature Low Alert			0°C
Outdoor Humidity High Alert	1% ~ 99%		80%
Outdoor Humidity Low Alert			40%
Indoor Temperature High Alert	-40°C ~ 80°C	Current Indoor temperature & humidity section (*INDOOR*)	40°C
Indoor Temperature Low Alert			0°C
Indoor Humidity High Alert	1% ~ 99%		80%
Indoor Humidity Low Alert			40%
Wind Speed	0.1m/s ~ 50m/s	Wind direction & speed section (*WIND*)	17 .2mm/h
Pressure Drop (within 30 minutes)	1hPa ~ 10hPa	Barometer section (*BARO*)	3hPa
Daily Rainfall	1mm ~ 1000mm	Rainfall section (*RAINFALL*)	100mm

2 . Under the current alert reading, press and hold [ALERT] key for 2 seconds to enter alert setting and the alert reading will flash.
3 . Press [GRAPH / Λ] or [°F / °C / V] key to adjust the value or press and hold the key to change rapidly .
4 . Press [ALERT] key to save the alert reading then press [ALARM] key to toggle the regarding alert on/off .
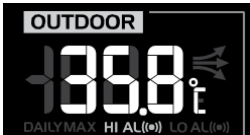
Alert on   Alert off

5 . Press any key on the front side to save and back to normal mode, or it will automatically back to normal mode after 30 seconds without pressing any key .

To silence the alert alarm:
Press [ALARM / SNOOZE] key to silence the alert alarm or let the alarm automatically turn off after 2 minutes .

Note:
· Once the alert is triggered, the alarm will sound for 2 minutes and the related alert icon will flash.
· If the alert alarm is automatically off after 2 minutes, the alert icon will stop flashing.
· The weather alert will sound again when the weather readings falls into the alert range again .

POINTING THE 6-IN-1 SENSOR TO SOUTH

The outdoor 6-in-1 sensor is calibrated to point to North for the maximum accuracy . However, for the user's convenience (e .g . users in the Southern hemisphere), it is possible to use the sensor with the wind vane pointing to South .

1 . Install the wireless outdoor sensor with its wind meter end pointing to South . (Please refer to INSTALLATION OF THE WIRELESS OUTDOOR SENSOR for mounting details)
2 . In normal mode of the console, press and hold [INDEX] key for 8 seconds to enter into the UV index calibration mode, then press the index again until the "N" icon appears on the weekday location to enter into the sensor orientation mode
3 . Use [GRAPH / Λ] or [°F / °C / V] key to change to lower part (Southern Hemisphere) .
4 . Press [INDEX] key to confirm and exit.
5 . Press the [REFRESH] to synchronize the internet time after you complete the setting

Note:

· Changing the hemisphere setting will automatically switch the direction of the moon phase on the display .

MAINTENANCE

BATTERY REPLACEMENT

When the low battery indicator " " displays, it indicates that the wireless outdoor 6-in-1 weather sensor or the current channel wireless Indoor thermo-hygro sensor battery power is low. You should replace with fresh AA size batteries at once .

CLEANING THE RAIN COLLECTOR

1 . Unscrew the rain collector by turning it 30°anticlockwise .
2 . Gently remove the rain collector .
3 . Clean and remove any debris or insects .
4 . Install the collector when it is clean and fully dried .
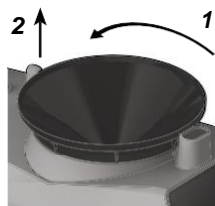
CLEANING THE HYGRO-THERMO SENSOR OF THE WIRELESS OUTDOOR SENSOR

1 . Remove the 2 screws at the bottom of the radiation shield .
2 . Gently pull out the shield .
3 . Carefully remove any dirt or insects on the sensor casing (do not let the sensors inside get wet) .
4 . Clean the shield with water to remove any dirt or insects .
5 . Install all the parts back when they are clean and fully dried .
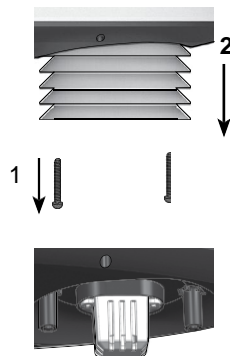
CLEANING THE UV SENSOR AND CALIBRATION

Clean the UV sensor cover lens

For precision UV measurement, gentle clean the UV sensor cover lens by the pure water regularly .

UV Sensor Degradation

Over time, the UV sensor will naturally degrade . The UV sensor can be calibrated with a utility grade UV meter .

CONSOLE FIRMWARE UPDATE

1 . Unzip the "*Update.zip*" file
2 . Copy the unzipped "*Update*" folder to the USB mass storage driver .

Important note:

· The USB mass storage driver should be FAT32 format
· The "*Update*" folder must be the USB mass storage driver's root directory)
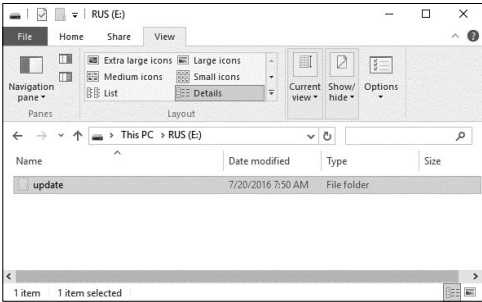
3 . Disconnect the main console's DC power from the power outlet and remove the backup batteries . Plug the USB mass storage driver to the USB socket at the right side of the main console .

4 . Reconnect the main console's DC power to start the update process

Important note:

· In the meantime, do not remove the USB mass storage driver.
· If the firmware update still not restart, you can try to press the reset key to trigger the update process .

5 . During the update process, the Console status LED will flash in red color and LCD will show the update status as below:
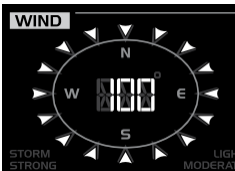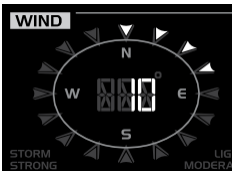
Updating screen   →   Update completed and waiting for reboot

6 . Once the update completed, the main console will restart and return to the normal display screen .
7 . Remove the USB mass storage driver from the main console .
8 . Set the time zone on the main console .
9 . Enter the WU connection information and set time server in the setup UI .

Note:
- · The USB port is for firmware update only.
- · Please keep connect the power during the firmware update process.
- · During firmware update process the Wi-fi will be disable until the update success and it will reconnect to your Wi-fi router and upload the data again. If the console cannot connect to your route, you need to re-enter the router and WU connection information and set time server in the setup UI again .

PRECAUTIONS

- · Read and keep these instructions .
- · Do not subject the unit to excessive force, shock, dust, temperature or humidity .
- · Do not cover the ventilation holes with any items such as newspapers, curtains etc .
- · Do not immerse the unit in water . If you spill liquid over it, dry it immediately with a soft, lint-free cloth .
- · Do not clean the unit with abrasive or corrosive materials .
- · Do not tamper with the unit's internal components. This invalidates the warranty.
- · Only use fresh batteries . Do not mix new and old batteries .
- · Only use attachments / accessories specified by the manufacturer.
- · Images shown in this manual may differ from the actual display .
- · When disposing of this product, ensure it is collected separately for special treatment .
- · Placement of this product on certain types of wood may result in damage to its finishing for which manufacturer will not be responsible. Consult the furniture manufacturer's care instructions for information .
- · The contents of this manual may not be reproduced without the permission of the manufacturer .
- · When replacement parts are required, be sure the service technician uses replacement parts specified by the manufacturer that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.
- · Do not dispose old batteries as unsorted municipal waste . Collection of such waste separately for special treatment is necessary .
- · The socket outlet shall be installed near the equipment and shall be easily accessible .
- · Technical specifications and user manual contents for this product are subject to change without notice .
- · Place the main console at least 20cm from nearby persons .

MAIN CONSOLE

General Specification	
Dimensions (W x H x D)	215 x 172 x 29mm (8 .5 x 6 .8 x 1 .1in)
Weight	639g (with batteries)
Main power	DC 5V, 1A adaptor
Backup battery	3 x AAA size 1 .5V batteries (alkaline recommended)
Operating temperature range	-5˚C ~ 50˚C
Wi-fi Communication Specification	
Wi-fi standard	802 .11 b/g/n
Wi-fi operating frequency :	2 .4GHz
Supported device for setup UI	Built-in Wi-fi with AP mode function smart devices, laptops or PCs: Android smart phone, Android pad, iPhone, iPad or Windows laptop
Recommended web browser for setup UI	Web browsers that support HTML 5, such as the latest version of Chrome, Safari, IE, Edge, Firefox or Opera .
Wireless Sensor side Communication Specification	
Support sensors	1 Wireless 6-in-1 weather outdoor sensor and up to 7 Wireless hygro-thermo indoor sensors
RF frequency	915Mhz (US version) / 868Mhz (EU or UK version) / 917Mhz (AU version)
RF transmission range	150m
Time Related Function Specification	
Time display	HH: MM: SS
Hour format	12hr AM/PM or 24 hr
Date display	DD / MM or MM / DD
Time synchronize method	Through Internet time server to synchronize the UTC
Weekday languages	EN / DE / FR / ES / IT / NL / RU
Hour offset	+13 ~ -12 hour
DST	ON / OFF
Barometer Display & Function Specification Note: The following details are listed as they are displayed or operate on the console .	
Barometer unit	hPa, inHg and mmHg
Measuring range	540 ~ 1100hPa (relative setting range 930 ~ 1050hPa)
Accuracy	(700 ~ 1100hPa ± 5hPa) / (540 ~ 696hPa ± 8hPa) (20.67 ~ 32.48inHg ± 0.15inHg) / (15.95 ~ 20.55inHg ± 0 .24inHg) (525 ~ 825mmHg ± 3.8mmHg) / (405 ~ 522mmHg ± 6mmHg) Typical at 25°C (77°F)
Resolution	1hPa / 0 .01inHg / 0 .1mmHg
Weather forecast	Sunny/Clear, Slightly Cloudy, Cloudy, Rainy, Rainy / Stormy and Snowy
Display modes	Current
Memory modes	Historical data of past 24 hours, daily Max / Min
Alarm	Pressure change alert

Indoor / Outdoor Temperature Display & Function Specification Note: The following details are listed as they are displayed or operate on the console .	
Temperature unit	°C and °F
Display range	-40 ~ 80°C (-40 ~ 176°F)
Accuracy	55 ~ 60°C ± 0.5°C (131 ~ 140°F ± 0.9°F) 10 ~ 55°C ± 0.4°C (50 ~ 131°F ± 0.7°F) -20 ~ 10°C ± 1.3°C (-4 ~ 50°F ± 2.3°F) -40 ~ -20°C ± 1.9°C (-40 ~ -4°F ± 3.4°F)
Resolution	0 .1°C / 0 .1°F
Display modes	Current
Memory modes	Historical data of past 24 hours, daily Max / Min
Alarm	Hi / Lo temperature alert
Indoor / Outdoor Humidity Display & Function Specification Note: The following details are listed as they are displayed or operate on the console .	
Humidity unit	%
Display range	0 ~ 100%
Accuracy	0 ~ 90% RH ± 2.5% RH @ 25°C (77°F) 90 ~ 100% RH ± 3.5% RH @ 25°C (77°F)
Resolution	1%
Display modes	Current
Memory modes	Historical data of past 24 hours, daily Max / Min
Alarm	Hi / Lo Humidity Alert
Wind Speed & Direction Display and Function Specification Note: The following detail are listed as they are displayed or operate on the console .	
Wind speed unit	mph, m/s, km/h and knots
Wind speed display range	0 ~ 112mph, 50m/s, 180km/h, 97knots
Resolution	0 .1mph, 0 .1m/s, 0 .1km/h, 0 .1knots
Speed accuracy	±2.2 mph or ±10% (whichever is greater)
Display mode	Gust/Average
Memory modes	Historical Data of past 24 hours, daily Max Gust/Average
Alarm	Hi Wind Speed Alert (Average / Gust)
Wind direction resolutions	1 degree
Rain Display & Function Specification Note: The following details are listed as they are displayed or operate on the console .	
Unit for rainfall	mm and in
Accuracy for rainfall	± 7%
Range of rainfall	0 ~ 19999mm (0 ~ 787.3 in)
Resolution	0 .254mm (0 .01in)
Display modes	Current
Memory modes	Historical Data of the past 24 hours, daily Max
Rainfall display mode	Hourly / Daily / Weekly / Monthly / Total rainfall
Alarm	Hi Daily Rainfall Alert

Weather Index Display & Function Specification
Note: The following details are listed as they are displayed or operate on the console

Weather index mode	UV Index, Beaufort, Wind Chill, Heat Index and Dew point
UV index range	0 ~ 16
Beaufort scale	0 ~ 12
Wind Chill range	-40 ~ 18°C, wind speed >4.8km/h
Heat index range	26 ~ 50 °C
Dew point range	-20 ~ 60°C
Display modes	Current
Memory modes	Historical Data of past 24 hours, Daily Max / Min

WIRELESS 6-IN-1 WEATHER OUTDOOR SENSOR

Dimensions (W x H x D)	392 .5 x 326 x 144 .5mm (15 .5 x 12 .8 x 5 .7in)
Weight	1096g (with batteries)
Main power	3 x AA size 1 .5V batteries (Alkaline batteries recommended)
Auxiliary power	Solar panel
Weather data	Temperature, Humidity, Wind speed, Wind direction, Rainfall and UV index
RF transmission range	150m
RF frequency	915Mhz (US) / 868Mhz (EU, UK) / 917Mhz (AU)
Transmission interval	• 12 seconds for wind speed and wind direction data • 24 seconds for temperature, humidity, UV and rain data
Operating range	-40 ~ 60°C (-40 ~ 140°F) Lithium batteries required

WIRELESS HYGRO-THERMO INDOOR SENSOR

Dimensions (W x H x D)	61 x 113 x 39 .5mm (2 .4 x 4 .4 x 1 .6in)
Weight	144g (with batteries)
Main power	2 x AA size 1 .5V batteries (alkaline recommended)
Weather data	Temperature and humidity
RF frequency	915Mhz (US) / 868Mhz (EU, UK) / 917Mhz (AU)
RF transmission range	150m
Transmission interval	60 seconds
Operating range	-40 ~ 60°C (-40 ~ 140°F) Lithium batteries required

CE ☒

Notes on the return of batteries according to §12 BatterieVO: Batteries do not belong in the household waste. Please dispose of all batteries as required by law, disposal in domestic waste is expressly prohibited. Batteries and rechargeable batteries can be dispensed free of charge at municipal collection points or in the shops on the spot.

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declaration of conformity

Hereby we declare, HS-Group GmbH & Co.KG, Escherstr. 31, 50733 D-Cologne, that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5 / EC.

The declaration of conformity for this product can be found at: www.froggit.de or on reques.