

# **TOUCH SCREEN WEATHER STATION WITH SOLAR POWERED**

## **About this manual**

Thank you and congratulations on selecting this professional weather station! We are positive you will enjoy the benefits of accurate weather readings our instruments offer. A solar powered weather station has the advantage of being able to provide energy for long periods of time.

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.

## **Glossary of Common Terms**

### **LCD**

“LCD” is an acronym for “Liquid Crystal Display”. This is a common type of display screen used in televisions, computers, watches, and digital clocks.

### **BAROMETER & BAROMETRIC PRESSURE**

A barometer is a device that measures the pressure of the air pushing on it—this measurement is called the barometric pressure. We don’t actually feel the barometric pressure because the air pressure is pushing equally in every direction.

### **RELATIVE AIR PRESSURE**

Relative air pressure is the same as the barometric pressure. The calculation of relative air pressure is a combination of the absolute air pressure and the altitude.

### **ABSOLUTE AIR PRESSURE**

Absolute air pressure is the actual air pressure on the barometer without regard to altitude.

### **INCHES OF MERCURY (inHg)**

Inches of Mercury are the common unit of measurement for air pressure in the United States.

### **HECTOPASCALS (hPa)**

Hectopascals are the common units of measurement for air pressure in the International System (SI) of measurement. The hectopascal holds the same value

## Important Note:

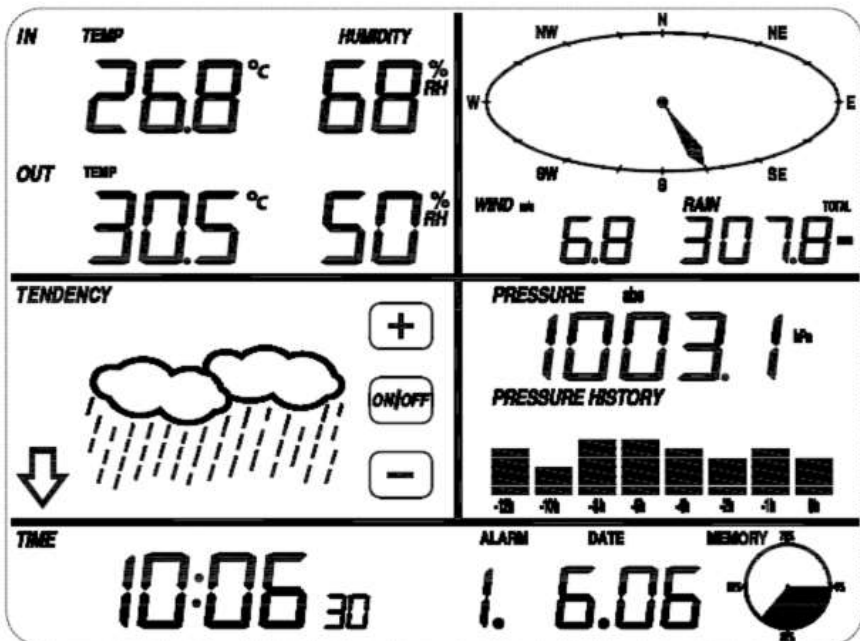
Before inserting batteries, please carefully read the operation manual.

The touch screen weather station includes a base station (receiver), an integrated outdoor unit consisting of solar-panel/wind direction sensor/wind speed sensor/rain gauge/thermo-hygro sensor, USB cable and a PC software package on CD-ROM.



The Base Station is equipped with a Touch Screen LCD Monitor and allows the display of a large variety of time and weather data.

Left Top LCD: IN-OUT temperature and humidity  
Right Top LCD: Wind and Rain measurement  
Left Middle LCD: Weather Forecast (Tendency)  
Right Middle LCD: Air Pressure and Air Pressure History  
Bottom Line LCD: Time and Date, Memory Data Usage

**Note:** The presence of the "Alarm-On icon" in the section means that the particular alarm has been enabled.



## Important Operation Notes

All actions and functions of the weather station are started on the touch screen by slightly touching (not pressing!) the related areas, touch the flashing , ON/OFF or  to make the corresponding selection or increase the value.

Every time a programming step is activated by touching a switching area on the Touch Screen a tone will sound, and the back light is switched on for a few seconds as well.

If no areas are pressed for 30 seconds, the LCD will automatically revert to the normal display mode (automatic time out).

## Getting Started

### Setup Sensors

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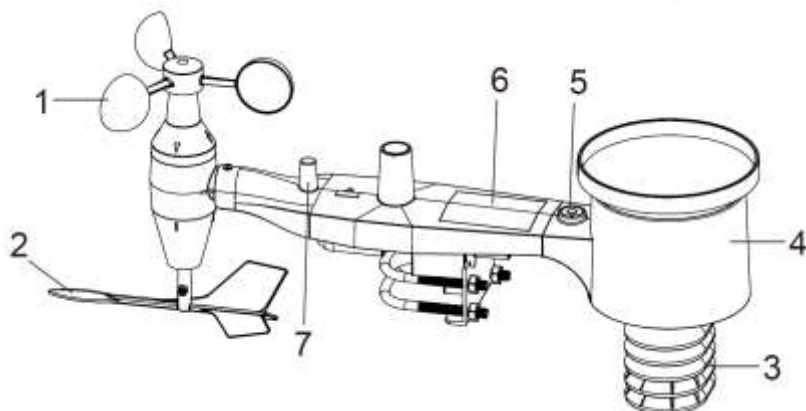


Figure 1

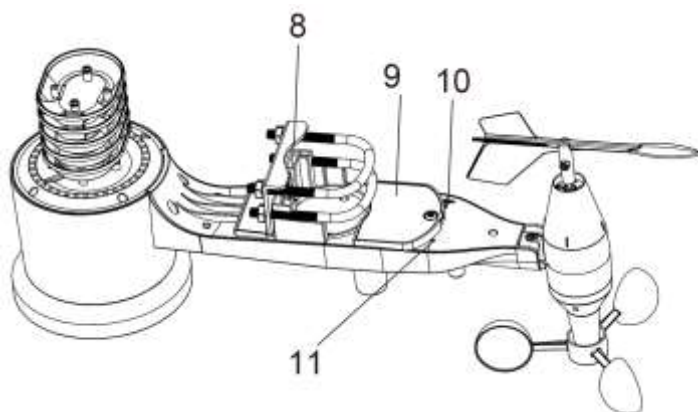
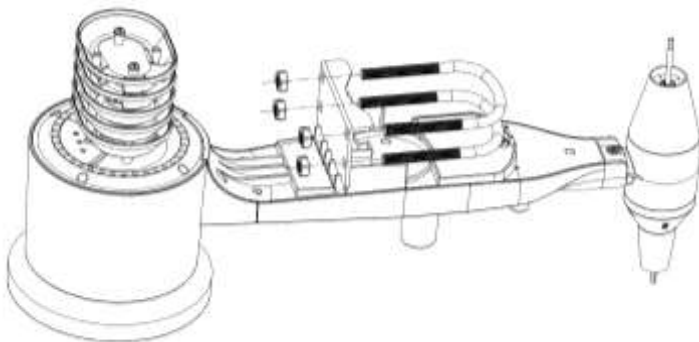


Figure 2

1. Wind Speed Sensor
2. Wind Vane
3. Thermo-hygro sensor
4. Rain collector
5. Bubble level
6. Solar panel
7. Antenna
8. U-Bolt
9. Battery compartment
10. Reset button
11. LED Indicator: light will turn on for 4s when the unit is powered up. Then the LED will flash once every 48 seconds (the sensor transmission update period).

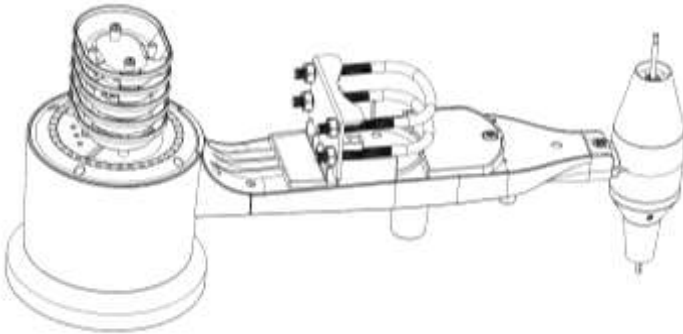
## 1. Install U-bolts and metal plate

Installation of the U-bolts, which are in turn used to mount the sensor package on a pole, requires installation of an included metal plate to receive the U-bolt ends. The metal plate, visible in Figure 3 has four holes through which the ends of the two U-Bolts will fit. The plate itself is inserted in a groove on the bottom of the unit (opposite side of solar panel). Note that one side of the plate has a straight edge (which goes into the groove), the other side is bent at a 90-degree angle and has a curved profile (which will end up “hugging” the mounting pole). Once the metal plate is inserted, insert both U-bolts through the respective holes of the metal plate as shown in Figure 3.



**Figure 3: U-Bolt installation**

Loosely screw on the nuts on the ends of the U-bolts. You will tighten these later during final mounting. Final assembly is shown in Figure 4.

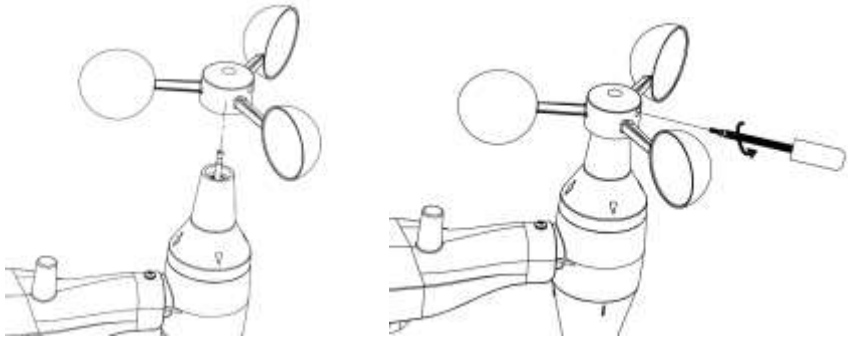


**Figure 4: U-Bolts and nuts installed**

The plate and U-Bolts are not yet needed at this stage but doing this now may help avoid damaging the wind vane and the wind speed cups later on. Handling of the sensor package with wind vane and speed cups installed to install these bolts is more difficult and more likely to lead to damage.

## **2. Install wind speed cups**

Push the wind speed cup assembly onto the shaft on the top side of the sensor package, as shown in Figure 5 (left side image). Tighten the set screw, with a Philips screwdriver (size PH0) (right side image). Make sure the cup assembly can rotate freely. There should be no noticeable friction when it is turning.

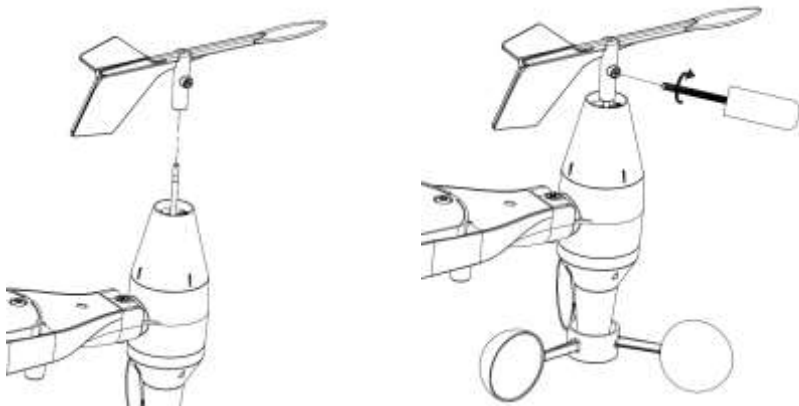


**Figure 5: Wind speed cup installation diagram**

## **3. Install wind vane**

Push the wind vane onto the shaft on the opposite side to the wind cups, until it goes no further, as shown in Figure 6 (left side image). Next, tighten the set screw, with a Philips screwdriver (size PH0) (right side image) until the wind vane cannot be removed from the axle. Make sure the wind vane can

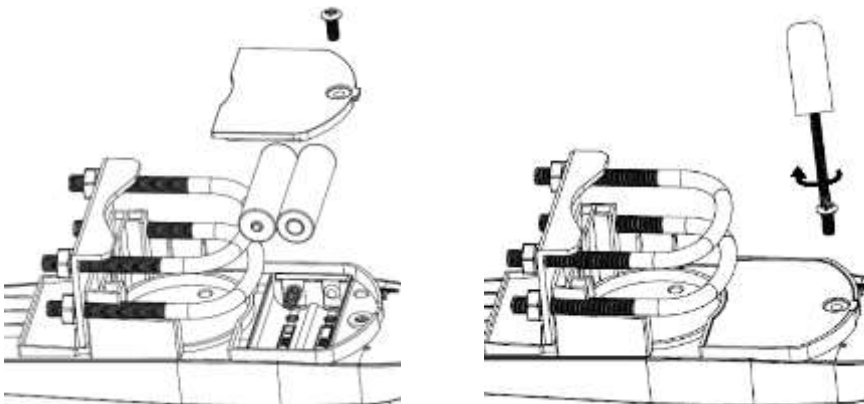
rotate freely. The wind vane's movement has a small amount of friction, which is helpful in providing steady wind direction measurements.



**Figure 6: Wind vane installation diagram**

#### **4. Install Batteries**

Open the battery compartment with a screwdriver and insert 2 AA batteries in the battery compartment. The LED indicator on the back of the sensor package will turn on for four seconds and then flash once every 48 seconds indicating sensor data transmission (the sensor transmission update period).



**Figure 7: Battery installation diagram**

**Note:** If LED does not light up or is on permanently, make sure the battery is inserted the correct way and inserted fully, starting over if

necessary. Do not install the batteries backwards as it may permanently damage the outdoor sensor.

**Note:** We recommend Lithium batteries for cold weather climates, but alkaline batteries are sufficient for most climates. Rechargeable batteries have lower voltages and should never be used.

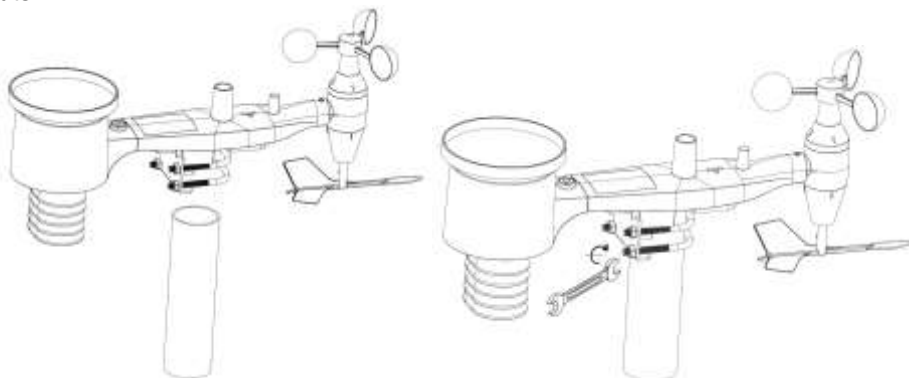
## 5. Mount outdoor sensor

### Before you mount

Before proceeding with the outdoor mounting detailed in this section, you need to make sure the base station can receive the data from outdoor sensor, while you keep the assembled outdoor sensor package nearby (although preferably not closer than 1.5m from the console). This will make any troubleshooting and adjustments easier and avoids any distance or interference related issues from the setup.

After setup is complete and everything is working, return here for outdoor mounting. If issues show up after outdoor mounting they are almost certainly related to distance, obstacles etc.

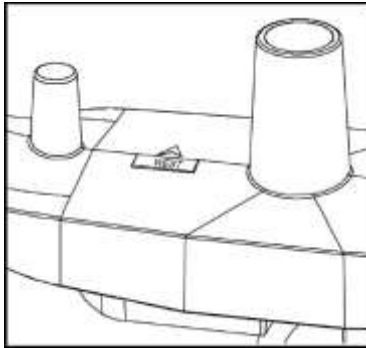
Reference Figure 8, the mounting assembly includes two U-Bolts and a bracket that tightens around a 1 to 2" diameter pole (not included) using the four U-Bolt nuts.



**Figure 8: Sensor package mounting diagram**

### Note

Beside the antenna, there is an arrow icon with “**WEST**” words (Figure 9) representing the direction of **west**. The sensor body has to be adjusted so that the “**WEST**” indication is facing to real west direction in your location. A compass device is recommended to help adjust direction. Permanent wind direction error will be introduced when the outdoor sensor is not installed in right direction.



**Figure 9**

Now look at the bubble level. The bubble should be fully inside the red circle. If it is not, wind direction, speed, and rain readings may not operate correctly or accurately. Adjust the mounting pipe as necessary. If the bubble is close, but not quite inside the circle, and you cannot adjust the mounting pipe, you may have to experiment with small wooden or heavy cardboard shims between the sensor package and the top of the mounting pole to achieve the desired result (this will require loosening the bolts and some experimentation).

Make sure you check, and correct if necessary, the northly orientation as the final installation step, and now tighten the bolts with a wrench.

## **6. Reset Button and Transmitter LED**

Using a bent-open paperclip, press and hold the RESET BUTTON (see Figure 10) to affect a reset: the LED turns on while the RESET button is depressed, and you can now let go. The LED should then resume as normal, flashing approximately once every 48 seconds.

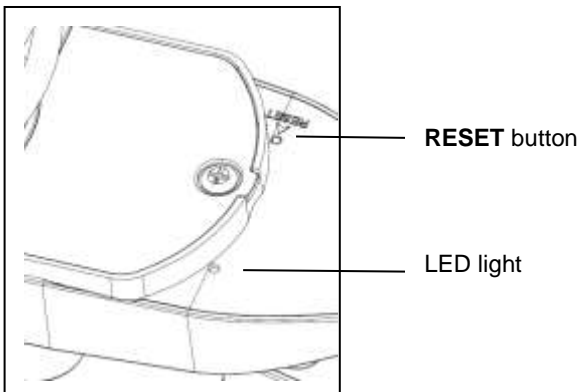




Figure 10

## 7. Best Practices for Wireless Communication

**Note:** To ensure proper communication, mount the remote sensor(s) upright on a vertical surface, such as a wall. **Do not lay the sensor flat.**

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 433/868/915 MHz 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 300 feet line of sight (no interference, barriers or walls) but typically you will get 100 feet 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.

The following is a table of reception loss vs. the transmission medium. Each “wall” or obstruction decreases the transmission range by the factor shown below.

Medium	RF Signal Strength Reduction
Glass (untreated)	5-15%
Plastics	10-15%
Wood	10-40%
Brick	10-40%
Concrete	40-80%
Metal	90-100%

## Set up display

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**Note:** Because of the default settings already determined by the manufacturer it may not be necessary for the majority of users to perform – except the Relative Air Pressure (see further down) - any further basic settings. Changes, however, can be easily made.

For basic settings, the following menu is started by touching the Touch Screen in the desired display area.

The basic settings can now be performed in the following successive order:  
Note: setting procedure can be exited at any time by touching any other function area (except “+”, “-” or “ON/OFF”).

### Indoor temperature



Activate the indoor temperature related setting by

- 1) Touch the INDOOR TEMPERATURE section, + button and – button will be flashing. Touch the + button or – button to Shift the display unit between °C and °F
- 2) Touch the INDOOR TEMPERATURE section again to set the indoor temperature high alarm function, the +, ON/OFF and – button will be flashing, HI AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been enabled).
- 3) Touch the INDOOR TEMPERATURE section the third time to set the indoor temperature low alarm function, the +, ON/OFF and – button will be flashing, LO AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been

- enabled).
- 4) Touch the INDOOR TEMPERATURE section the fourth time to display maximum indoor temperature record, the maximum records will be flashing, MAX icon will light up as well. Hold the flashing max value for 3s, the maximum value will be reset to current reading.
  - 5) Touch the INDOOR TEMPERATURE section the fifth time to display minimum indoor temperature record, the minimum records will be flashing, MIN icon will light up as well. Hold the flashing min value for 3s, the minimum value will be reset to current reading.

## Outdoor temperature



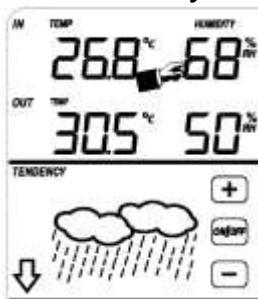
Activate the outdoor temperature related setting by

- 1) Touch the OUTDOOR TEMPERATURE section, + button and – button will be flashing. Touch the + button or – button to Shift the display between Outdoor Temperature, Wind Chill and Dew Point.
- 2) Touch the OUTDOOR TEMPERATURE section again, + button and – button will be flashing. Touch the + button or – button to Shift the display unit between °C and °F
- 3) Touch the OUTDOOR TEMPERATURE section the third time to set the outdoor temperature high alarm function, the +, ON/OFF and – button will be flashing, HI AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been enabled).
- 4) Touch the OUTDOOR TEMPERATURE section the fourth time to set the outdoor temperature low alarm function, the +, ON/OFF and – button will be flashing, LO AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been enabled).
- 5) Touch the OUTDOOR TEMPERATURE section the fifth time to display maximum outdoor temperature record, the recorded maximum value will be flashing, MAX icon will light up. Hold the flashing max value for 3s, the

maximum value will be reset to current reading.

- 6) Touch the OUTDOOR TEMPERATURE section the sixth time to display minimum outdoor temperature record, the recorded minimum value will be flashing, MIN icon will light up as well. Hold the minimum value for 3s, the minimum value will be reset to current reading.

## Indoor humidity



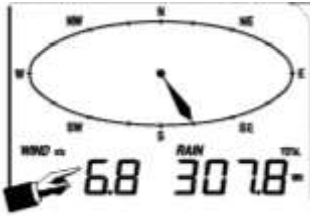
Activate the indoor humidity related setting by

- 1) Touch the INDOOR HUMIDITY section again to set the indoor humidity high alarm function, the +, ON/OFF and – button will be flashing, HI AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been enabled).
- 2) Touch the INDOOR HUMIDITY section again to set the indoor humidity low alarm function, the +, ON/OFF and – button will be flashing, LO AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been enabled).
- 3) Touch the INDOOR HUMIDITY section the third time to display maximum indoor humidity record, the recorded maximum value will be flashing, MAX icon will light up as well. Hold the maximum value for 3s, the maximum value will be reset to current reading.
- 4) Touch the INDOOR HUMIDITY section the fourth time to display minimum indoor humidity record, the recorded minimum value will be flashing, MIN icon will light up as well. Hold the minimum value for 3s, the minimum value will be reset to current reading.

## Outdoor humidity

Procedures and settings follow the same process as Indoor humidity

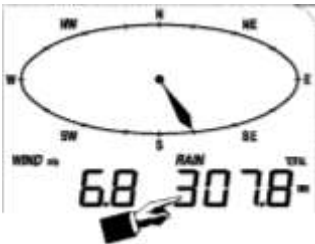
## Wind speed



Activate the wind related setting by

- 1) Touch the WIND SPEED section, + button and – button will be flashing. Touch the + button or – button to Shift the display between Wind Average Speed and Gust Speed.
- 2) Touch the WIND SPEED section again, + button and – button will be flashing. Touch the + button or – button to select wind speed unit between km/h, mph, m/s, knots, bft
- 3) Touch the WIND SPEED section the third time to set the high alarm function, the +, ON/OFF and – button will be flashing, HI AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been enabled).
- 4) Touch the Wind SPEED section the fourth time to set wind direction alarm function, the wind direction arrow will start to flashing. Touch + or – to select desired alarm for wind direction, press ON/OFF to enable or disable the wind direction alarm.
- 5) Touch the Wind SPEED section the fifth time to display maximum wind speed record, the recorded maximum value will be flashing, MAX icon will light up as well. Hold the maximum value for 3s, the maximum value will be reset to current reading.

## Rain



Activate the rain related setting by

- 1) Touch the rain section, + button and – button will be flashing. Touch the + button or – button to Shift the display between 1h, 24h, week, month and total rain.
- 2) Touch the rain section again, + button and – button will be flashing. Touch the + button or – button to select rain fall unit between mm, inch.

- 3) Touch the rain section the third time to set the high alarm function, the +, ON/OFF and – button will be flashing, HI AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been enabled).
- 4) Touch the rain section the fourth time to display current maximum rain fall record. Touch the rain section for 3s will reset the maximum rain fall value to current value.
- 5) Touch the rain section the fifth time to reset rain fall value to 0 by pressing the rain section for 3s, then 1h, 24h, week, month and total rain will be reset to 0.

## Weather forecast

### TENDENCY



- 1) Touch the WEATHER FORECAST section, + button and – button will be flashing. Touch the + button or – button to Shift the display between the SUNNY, PARTLY CLOUDY, CLOUDY, and RAINY icons
- 2) Touch the WEATHER FORECAST section again, + button and – button will be flashing. Touch the + button or – button to set the pressure threshold from 2-4hPa (default 2hPa)
- 3) Touch the WEATHER FORECAST section the third time, + button and – button will be flashing. Touch the + button or – button to set the storm threshold from 3-9hPa (default 4 hPa)

## Pressure



- 1) Touch the PRESSURE section, + button and – button will be flashing. Touch the + button or – button to Shift the display between Absolute pressure and Relative pressure.
- 2) Touch the PRESSURE section again, + button and – button will be flashing. Touch the + button or – button to Shift the display unit between hPa, inHg and mmHg.

- 3) Touch the PRESSURE section the third time to set the Relative Pressure value. The + and – button will be flashing, rel icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in great step.
- 4) Touch the PRESSURE section the fourth time to set the pressure high alarm function, the +, ON/OFF and – button will be flashing, HI AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been enabled).
- 5) Touch the PRESSURE section the fifth time to set the pressure low alarm function, the +, ON/OFF and – button will be flashing, LO AL icon will light up. Touch the + button or – button to change the value, hold the + button or – button for 3s to change the number in greater steps. Touch the ON/OFF button to choose the alarm on or off (if alarm is enabled, the speaker icon will be turned on indicating the alarm function has been enabled).
- 6) Touch the PRESSURE sections the sixth time to display maximum pressure record, to display maximum pressure, the recorded maximum value will be flashing, MAX icon will light up as well. Hold the maximum value for 3s, the maximum value will be reset to current reading.
- 7) Touch the PRESSURE section the seventh time to display minimum pressure record, to display minimum pressure record, the recorded minimum value will be flashing, MIN icon will light up as well. Hold the minimum value for 3s, the minimum value will be reset to current reading.

**Note:** when absolute pressure is selected, step 3 will be skipped since absolute pressure is selected for display.

### Pressure bar graph

Touch the PRESSURE BAR GRAPH section and then press + or – to toggle the bar graph time scale between 12hrs or 24 hrs. for pressure history.

### Time



- 1) Touch the TIME section, + button and – button will be flashing. Touch the + button or – button to adjust the contrast level from 0 to 8. (default 5)
- 2) Touch the TIME section again, + button and – button will be flashing. Touch the + button or – button to set the time zone.
- 3) Touch the TIME section the third time, + button and – button will be flashing. Touch the + button or – button to Shift the 12/24 hours format.
- 4) Touch the TIME section the fourth time to set the hour, the + and – button will be flashing. Touch the + button or – button to change the value.
- 5) Touch the TIME section the fifth time to set the Minute, the + and – button will

be flashing. Touch the + button or – button to change the value.

## Date



- 1) Touch the DATE section, + button and – button will be flashing. Touch the + button or – button to shift between alarm time, date and week date.
- 2) Touch the DATE section again, + button and – button will be flashing. Touch the + button or – button to Shift between DD-MM format and MM-DD format for the date.
- 3) Touch the DATE section the third time, + button and – button will be flashing. Touch the + button or – button to set the year. Hold the + button or – button for 3s to change the number in great step.
- 4) Touch the DATE section the fourth time, + button and – button will be flashing. Touch the + button or – button to set the month. Hold the + button or – button for 3s to change the number in greater steps.
- 5) Touch the DATE section the fifth time, + button and – button will be flashing. Touch the + button or – button to set the day. Hold the + button or – button for 3s to change the number in greater steps.
- 6) Touch the DATE section the sixth time, + button and – button will be flashing. Touch the + button or – button to set the alarm hour. Hold the + button or – button for 3s to change the number in greater steps.
- 7) Touch the DATE section the seventh time, + button and – button will be flashing. Touch the + button or – button to set alarm minute. Hold the + button or – button for 3s to change the number in greater steps. Touch ON/OFF to enable or disable time alarm function.

## Memory

Touch Memory section to activate history data toggle display, + button and – button will be flashing. Press – to toggle forward to see earlier weather history data together with time stamp, press + to see later history weather data. When history data is displayed, the corresponding time will be displayed in the time section area (History data saving interval can only be changed using the PC software that comes with this product, the default history data saving time interval is preset to 30 minutes prior to shipment).

Touch Memory section again will trigger the memory clear procedure: the word “CLEAR” will be flashing, the full memory usage icon will be flashing. Press and hold the memory full icon for 3 seconds to clear the memory.



## Maintenance

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1. Clean the rain gauge once every 3 months. Rotate the funnel counter-clockwise and lift to expose the rain gauge mechanism, and clean with a damp cloth. Remove any dirt, debris and insects. If bug infestation is an issue, spray the array lightly with insecticide.



2. Clean the solar panel every 3 months with damp cloth.
3. Replace batteries every 1-2 years. If left in too long, the batteries may leak due to environmental challenges. In harsh environments, inspect the batteries every 3 months (when cleaning the solar panel).
4. When replacing the batteries, apply a corrosion preventive compound on the battery terminals, available at most hardware stores.
5. In snowy environments, spray the top of the weather station with anti-icing silicon spray to prevent snow build up.

## PC Connection

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In addition to the display on the Touch Screen, the Weather Station allows the read-out of all measured and displayed time and weather data in the form of complete history data sets, viewable on a PC

### Data Storage

For a comprehensive weather history, the Base Station allows the internal storage of up to 4080 complete sets of weather data with time and date. The base station will lose all weather data if there is an interruption of power supply. When the memory capacity of the Weather Station is exhausted the oldest data sets stored will be overwritten by the new ones entered.

## **Data Recall**

Certain weather data or setting values can only be read out, processed, and displayed by means of a PC. Also, the settings of the storing intervals from 5 minutes to 240 minutes for the storage of data sets can only be changed via a PC.

## **Connections and Software**

The wiring between Weather Station and PC takes place by means of an included USB cable.

The EasyWeather software can be download from

<http://download.ecowitt.net/down/softwave?n=Easyweather>

It must be installed on the PC.

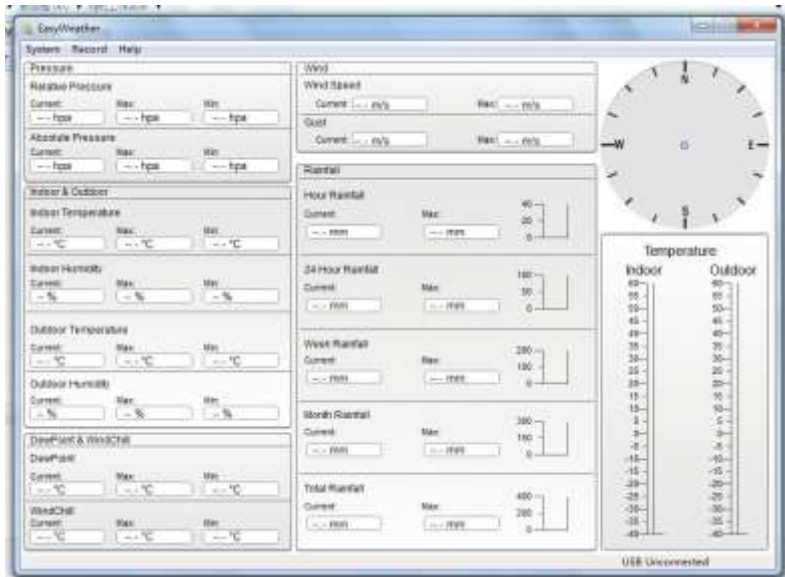
This software allows the display of all present weather data with graphic symbols. It also allows the display, storage, and printing of history data sets, this is useful when the internal memory on the display unit has exceeded the maximum 4080 data sets.

## **PC software installation**

The installation software is very simple: double click the setup.exe file and follow the steps popped up.

Make sure you are running the program under the administrator accounts of your windows PC platform. Otherwise the graphic function might not work when the graph display mode is needed to display all history data.

When you run the program for the first time, the current weather readings will be displayed and the sub line of the window will show related information regarding the reading of all history data into the PC. Please note that when there is large amount of data being uploaded, it will take a few minutes before the system can respond to your setup settings. Otherwise it will display a “read weather data fail” error message, this is because the USB port is reading the data from the memory and the system is not able to respond any further job tasks.



When memory is full, it will take about two minutes to upload all history data into PC and it will take another two minutes to process all history data for graphic display.

A detailed software user manual can be found in the help menu.

## Specifications

### Outdoor data

Transmission distance in open field	: 100m (300 feet)
Frequency	: 433MHz
Temperature range	: -40°C--60°C (-40°F to +140°F)
Accuracy	: + / - 1 °C
Resolution	: 0.1°C
Measuring range rel. humidity	: 1% ~ 99%
Accuracy	: +/- 4% in range 20-80%RH, +/- 6% in OTHER ranges
Rain volume display	: 0 – 9999mm (show --- if outside range)
Accuracy	: + / - 6%
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)
Measuring interval thermo-hygro sensor	: 48 sec
Water proof level	: IPX3

### Indoor data

Measuring interval pressure / temperature	: 48 sec
Indoor temperature range	: 0°C--50°C (32°F to + 122°F) (show --- if outside range)
Resolution	: 0.1°C
Measuring range rel. Humidity	: 1% ~ 99%
Resolution	: 1%
Measuring range air pressure	: 300-1100hpa (8.85inHg – 32.5inHg)
Accuracy	: +/-3hpa (absolute pressure) : +/-3hpa under 700-1100hPa
Resolution	: 0.1hpa (0.01inHg)
Alarm duration	: 120 sec

## Power consumption

Base station	:	3XAA 1.5V LR6 Alkaline batteries (not included)
Remote sensor	:	2xAA 1.5V LR6 Alkaline batteries (not included)
Battery life	:	Minimum 12 months for base station Minimum 12 months for thermo-hygro sensor



**Please help in the preservation of the environment and return used batteries to an authorized depot.**

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# EasyWeather PC Software User Manual

## 1.0 General Information

This Weather Station is a high quality, easy to use weather monitoring system that reads, displays and records the weather data from internal as well as external sensors. Along with the internally measured values for indoor temperature, indoor humidity and air pressure the outdoor sensor will take data for temperature, humidity, wind and rainfall. Operation of these units is by wireless transmission to the Base Station.

After installing the “EasyWeather” program, your PC can display all indoor data as well as the weather data from the Base Station that has been received from the external sensors. Simply use the supplied USB cable and connect the Base Station to the PC. You will then be able to track your current and historical weather data.

## 2.0 System Requirements

To install the "EasyWeather" software onto your PC, the minimum requirements are as follows:

Operating System: Windows NT4 (Service Pack  $\geq$  6a), Windows 2000, Windows XP, Windows Vista. Windows 7/8/10, MAC OS

Internet Explorer 6.0 or above

Processor: Pentium III 500 MHz or above

Memory: at least 128MB, 256MB recommended

Base Station and PC must be connected by USB cable

## 3.0 Installation of the “EasyWeather” Software

Firstly, the Base Station and the Outdoor Sensors should be connected and checked for correct function (see **Operation Manual for WS1080 Touch Screen Weather Station** for setting up the Weather Station). After successfully checking, install the “EasyWeather” software as follows:

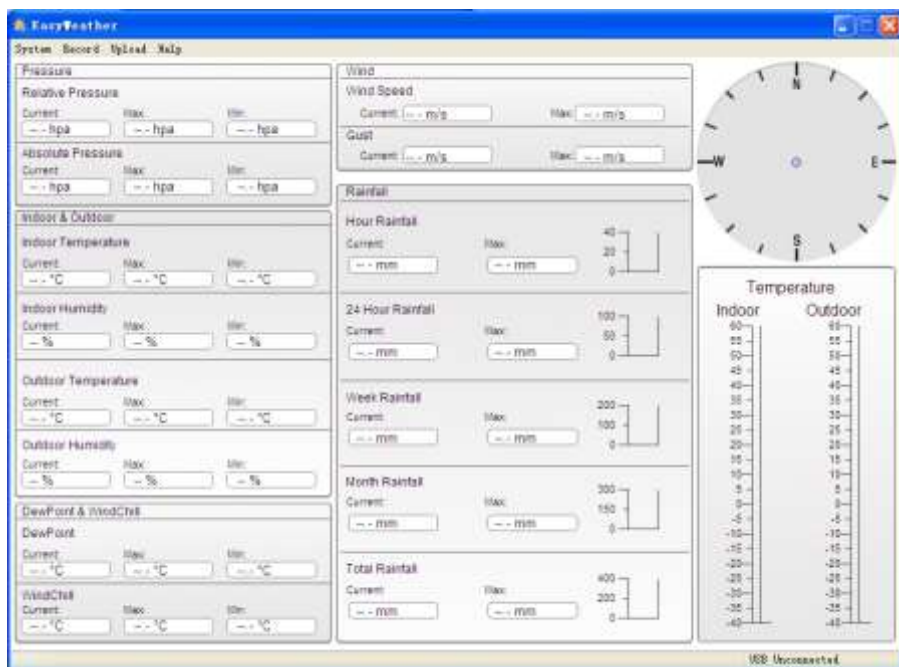
1. Switch on your PC, Download the EasyWeather software from. <http://download.ecowitt.net/down/software?n=Easyweather>
2. Double click “Easyweather.exe”
3. Select the installation process language option and click ok
4. Click next and select the destination folder (change directory when needed)
5. Click next and select the shortcut folder (change directory when needed)

6. Click next and select the additional tasks.
7. Click next and setup is now ready to begin installing Easyweather on your computer.
8. Click install, software will be installed automatically
9. Press Finish to finish the installation process and exit. If you tick “Launch Easyweather” the software will start to run.
10. From “Start—All Programs—EasyWeather” path and double click the “EasyWeather” icon to start application.

Note: The graphic function needs the software to be installed under the administrator account. If it is installed under limited user accounts, the graphic function of the software might not work correctly.

## 4.0 Basic Settings of the “EasyWeather” Software

After the “EasyWeather.exe” program has been started; the following main window will appear on the PC screen:



All the settings from the base unit is mirrored into the PC software, so once you have completed your required settings on the base unit, you don't need to make any setting changes in the PC software. However, you can still easily make any setting changes you want through the PC and download the changes into the

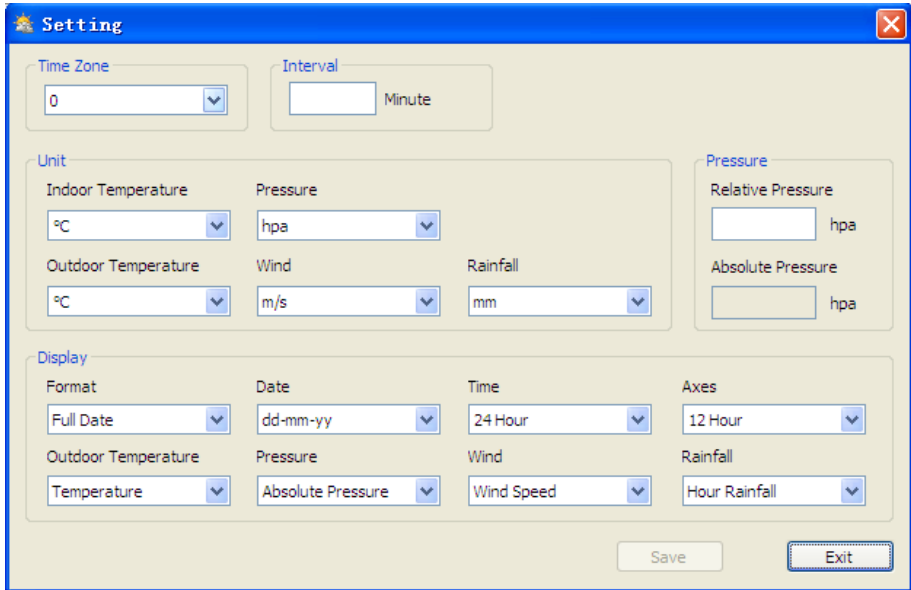
base station (the setting changes will take one minute to sync to the base station).

When the base station is connected to the PC, it shows “USB Connected” at the bottom of screen. If there isn't a base station connected, it shows “USB Unconnected”.

**Tool Bar:** The tool bar at the top of the screen has 4 options; System, Record, Upload and Help.

## 4.1 System option

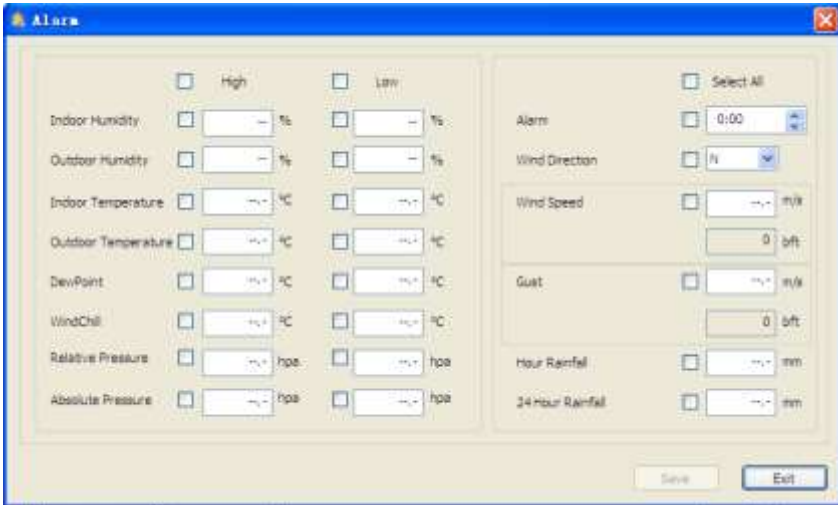
### 4.1.1 Click the System button to enter the Setting menu



This section is used to set up the PC software display, and base station units. Once you have made your choices, press Save to make the setting effective.



#### 4.1.2 Click Alarm button, enters the Alarm menu



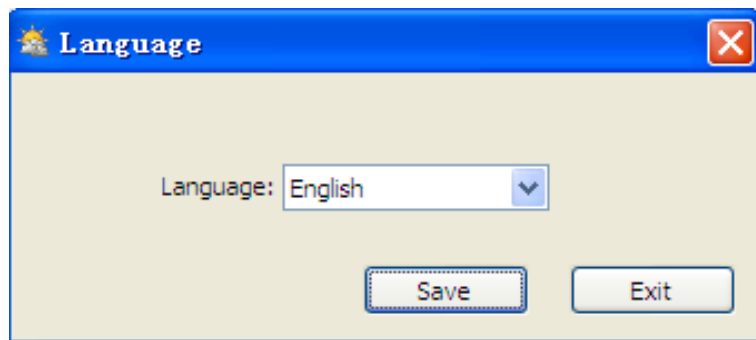
This section is used to set the desired time, high or low alarm value for the base unit, as well as to enable or disable the corresponding alarm function. Once you made your choices, select Save to make the setting effective. If you don't want to make any change, just press Cancel and exit without change.

#### 4.1.3 Click Max/Min button, enters the Max/Min menu



This section is used to display the recorded min and max value recorded with a time stamp. Min/Max reset can only be done through key operation on the base station.

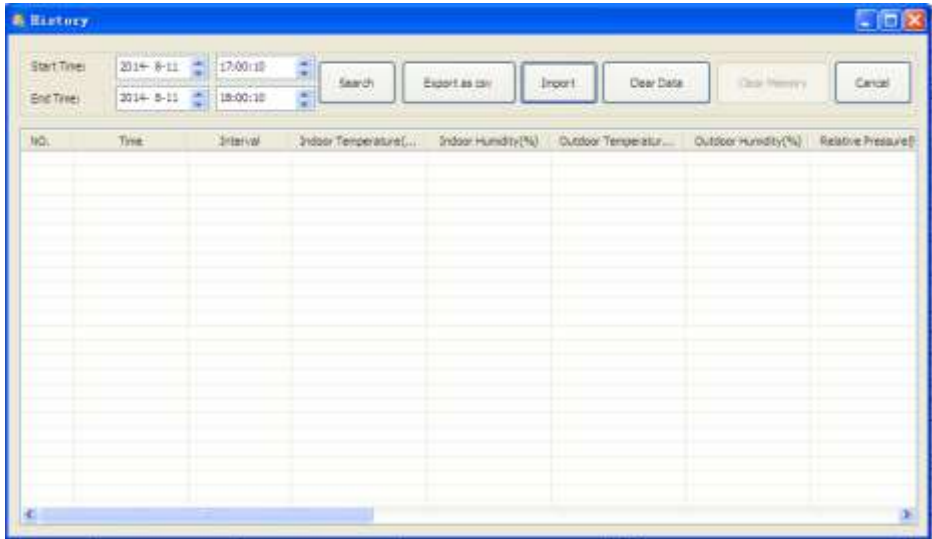
#### 4.1.4 Click Language button, enters the Language menu



#### 4.2 Record option



## 4.2.1 Click History button, enters the History menu



This section is used to display recorded history data in a spread sheet. If you want to see all the historical data in a desired time period, choose the time duration and press **Search** to load the history data. With the **Export** button, you can export the selected history data into excel format file.

The software version 6.2 uses .dat file format, the software version above 6.2 uses .mdb format. You can import the old version data to the new version data to migrate the two different data base data, by press the **Import** button.

When memory on the base station is full, press the **“Clear Memory”** button to refresh the memory space on the base station (remember to upload all data before pressing this button).

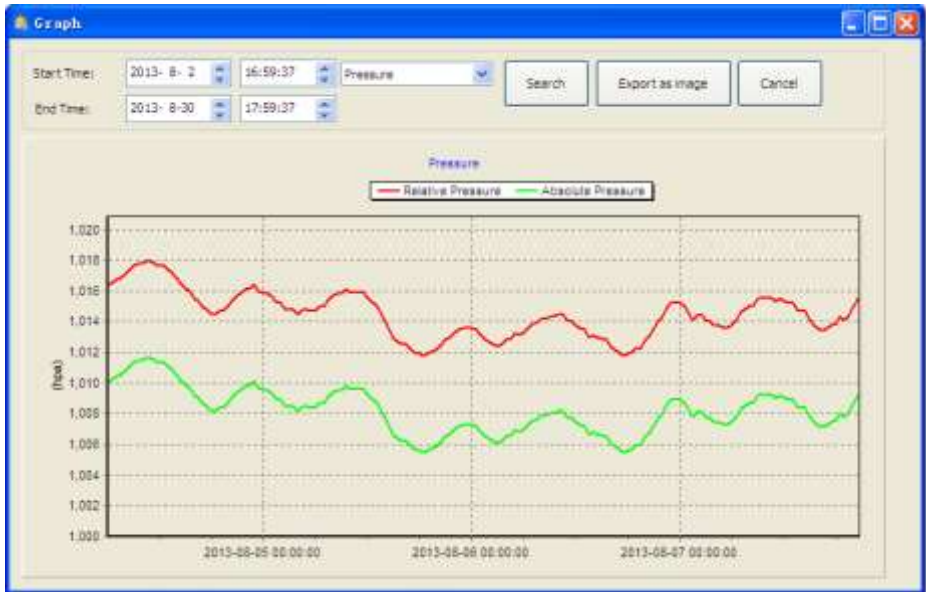
If you want to start a new weather history record, press **“Clear Data”** button to clear up the data base, all historical weather data will be deleted (if you would like to keep a backup history file before deleting all weather data, you can make a copy of the “EasyWeather.mdb” file into another folder or just rename the “EasyWeather.mdb” file, such as “Jan-07.dat”, for future reference.)

## 4.2.2 Click Graph button, enters the Graph menu



In this section, you can see the history data plotted in graph format for easier observation. If you want to see more details, just use your mouse to select the area you want and the display will automatically update to a more detailed scale:





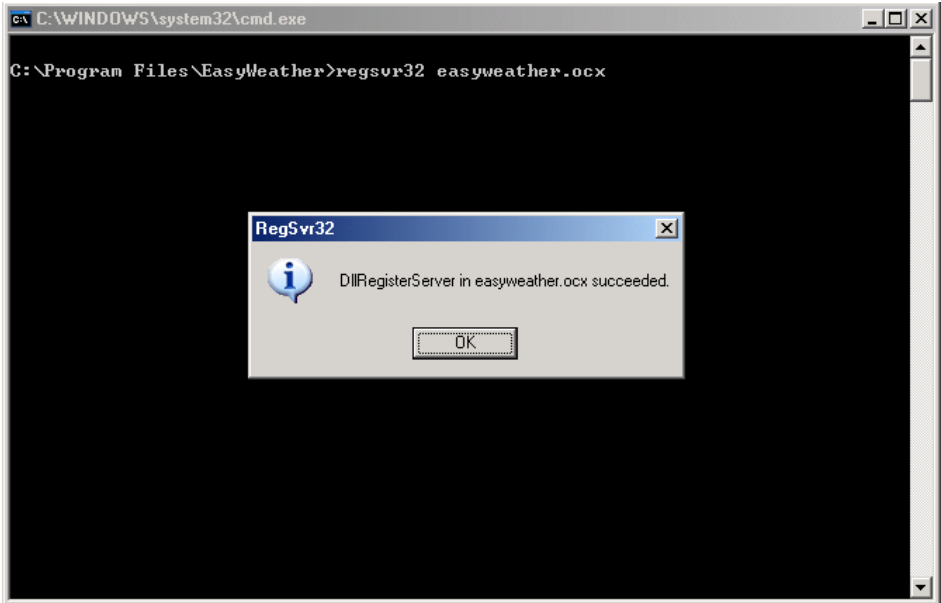
With the Export as image button, you can export the selected graph into .jpeg format file.

You can change the Y axel by scrolling the mouse up and down roller.

### What to do if graph function is not working

This is the most encountered problem with this software. To make the graph function working properly, please check the following step:

- 1, find the folder where the "EasyWeahter.exe" file is located
2. Create a file name "reg\_graph.bat" file with WordPad or notepad editor program
3. Type "regsvr32 easyweather.ocx" and save the reg\_graph.bat file
4. Double click "reg\_graph.bat" file and it should register the graphic driver again. If successful, then the following window will be displayed:



## 4.3 Upload option

**Note:** This feature is only available in EasyWeather Version 8.3 or greater.

To upload weather data to the internet, from EasyWeather, select **Upload** from the menu bar.

### 4.3.1 Upload to WeatherUnderground.com

Select **Upload | WeatherUnderground** from the menu bar.

You can upload data to website. [www.wunderground.com](http://www.wunderground.com) or their own website. If you choose [www.wunderground.com](http://www.wunderground.com) you do not need to set the server, server type and port. If you choose custom, you will need to set the server, server type and port.

**Upload**

Website:

Server:

Type:

Port:

Upload Type:

ID:

PassWord:

Auto Upload

**Upload**

Website:

Server:

Type:

Port:

Upload Type:

ID:

PassWord:

Auto Upload

To upload data to Wunderground.com, you must first register on the Wunderground.com website. Registration is free.

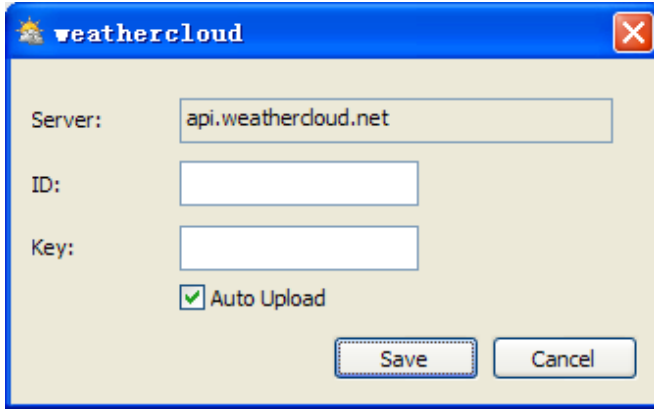
1. Visit <http://www.wunderground.com/> and select Join if you do not have an account.
2. Once registered with Wunderground.com you will need to sign up your station. To get started visit:

<http://www.wunderground.com/weatherstation/setup.asp>

3. Enter your Station ID, and password into the ID and Password fields provided in the EasyWeather software, and select the **Auto Upload** checkbox.

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

#### 4.3.2 Upload to WeatherCloud



The screenshot shows a dialog box titled "weathercloud" with a blue header bar. It contains the following fields and controls:

- Server:** A text box containing "api.weathercloud.net".
- ID:** An empty text box.
- Key:** An empty text box.
- Auto Upload:** A checked checkbox.
- Buttons:** "Save" and "Cancel" buttons at the bottom right.

#### 4.3.3 Upload your weather data to WeatherObservationWebsite (WOW)

Select **Upload | WeatherObservationWebsite** from the menu bar.



The screenshot shows a dialog box titled "WeatherObservationsWebsite" with a light blue header bar. It contains the following fields and controls:

- Server:** A text box containing "wow.metoffice.gov.uk".
- ID:** An empty text box.
- PassWord:** An empty text box.
- Auto Upload:** A checked checkbox.
- Buttons:** "Save" and "Cancel" buttons at the bottom right.

To upload data to wow.metoffice.gov.uk, you must first register on the wow.metoffice.gov.uk website. Registration is free.



Once you are logged in you will need to create a new WOW site. “Sites” are the means by which WOW organizes weather data you contribute. Basically, WOW builds a personal web site for your weather station. Associated with the web site is two items you will need to allow uploading of data:

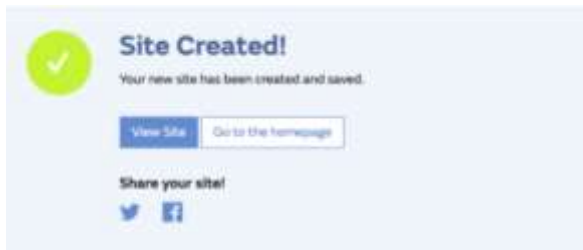
**Site ID:** This is an arbitrary number that is used to distinguish your site from another. This number appears (in brackets) next to or underneath the name of your site on the site information page, for example: 6a571450-df53-e611-9401-0003ff5987fd

**Authentication Key:** This is a 6-digit number that is used to ensure data is coming from you and not another user.

Begin setting up a new site by clicking “Enter a Site” :



You will be presented with a form where you detail your station’s location and a bunch of other settings related to how you wish the site to operate. After you complete the setup, you should see:



Make sure you are (still) logged in to the WOW site. Login as necessary. Now click on “My Sites” in the navigation bar at the top. If you have only 1 site, you will now be shown its page. If you have multiple, you will have to choose the correct one first. On this page, you will find the site id just below the map:



You will also need to establish a unique 6 digits PIN code that you should keep secret. It is the “Authentication Key.” Setup this number by clicking on “Edit Site” ) and filling out the with a 6-digit number of your choice:

### Authentication Key

123456

You will need both “Site ID” and “Authentication Key” to setup the upload configuration for WOW in the Weather Server.

In your mobile application, navigate to the “Device List” page and tap on the device you want to configure WOW for. You will then be shown the “wunderground.com” configuration. Please ignore and tap “Next” to see the “Weathercloud” configuration. Please press “Next” one more time and you will now be on the screen where you will configure WOW.

On this screen you will fill out “Station ID” with the WOW “Site ID” value, and “Station Key” with the WOW “Authentication Key” you created. Press “Save” to finalize the configuration.

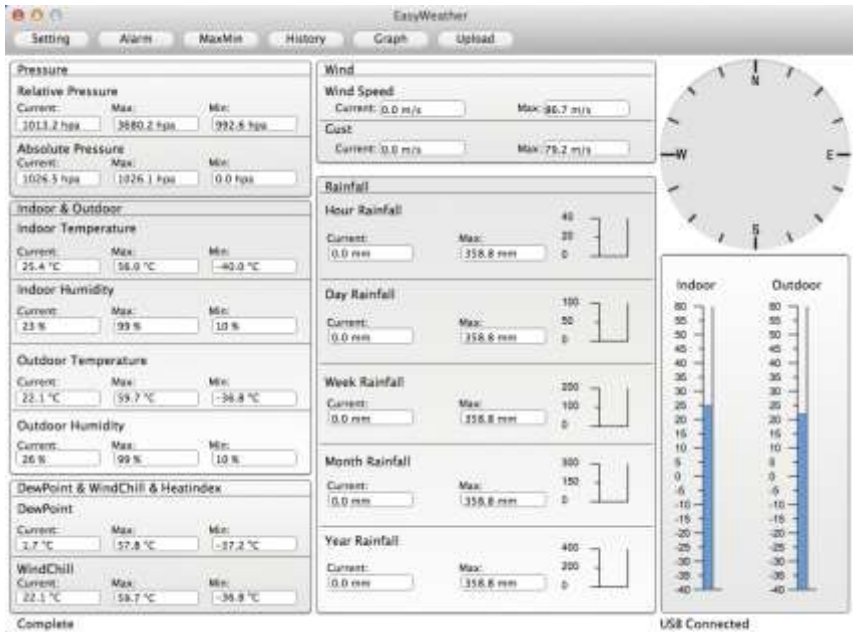
## 4.4 Help option



Click About EasyWeather button, enters the About menu

## 5.0 “EasyWeather” Software on MAC OS

Insert the CD-ROM into the CD-ROM Drive and double click the EasyWeather software icon, the main interface as below will be opened:



The functions of MAC OS are the same to the windows version. Once the device is connected to MAC PC by USB cable, settings, alarms of all weather parameters can be done here. Max/Min record, all history record can be viewed. History records can be exported as excel or PDF file.

## 5.1 Setting option:

Please refer to 4.1.1

Setting

Interval: 1 Minute Time Zone: 0

Unit  
Temperature: °C Pressure: hap Wind: m/s  
Rainfall: mm

Calibration  
Relative Pressure: 1013.2 hpa  
Absolute Pressure: 1026.5 hpa

Display  
Date: DD/MM/... Format: Full Date Time: 24 Axis: 24  
Pressure: Relative... Wind: Wind Speed Rainfall: DAY Outdoor Temperature: Tempera...

Save Cancel

## 5.2 Alarm option:

Please refer to 4.1.2

Alarm

<input type="checkbox"/> High	<input type="checkbox"/> Low
Indoor Humidity: <input type="checkbox"/> 90 %	<input type="checkbox"/> 20 %
Outdoor Humidity: <input type="checkbox"/> 80 %	<input type="checkbox"/> 20 %
Indoor Temperature: <input type="checkbox"/> 30.0 °C	<input type="checkbox"/> 10.0 °C
Outdoor Temperature: <input type="checkbox"/> 30.0 °C	<input type="checkbox"/> 10.0 °C
DewPoint: <input type="checkbox"/> 35.0 °C	<input type="checkbox"/> -20.0 °C
WindChill: <input type="checkbox"/> 35.0 °C	<input type="checkbox"/> -20.0 °C
Relative Pressure: <input type="checkbox"/> 1079.9 hpa	<input type="checkbox"/> 980.8 hpa
Absolute Pressure: <input type="checkbox"/> 1079.9 hpa	<input type="checkbox"/> 980.8 hpa

<input type="checkbox"/> Select
Alarm: <input type="checkbox"/> 1:00 AM
Wind Direction: <input type="checkbox"/> E
Wind Speed: <input type="checkbox"/> 10.0 m/s
Gust: <input type="checkbox"/> 20.0 m/s
Hour Rainfall: <input type="checkbox"/> 50.0 mm
Day Rainfall: <input type="checkbox"/> 300.8 mm

Save Cancel

## 5.3 Max/Min option

Max/Min

<b>Indoor Humidity</b> Max: 99% 2010-01-14 11:53 Min: 10% 2010-01-14 12:43	<b>Wind Speed</b> Max: 86.7 m/s 2010-03-09 14:53
<b>Outdoor Humidity</b> Max: 99% 2010-01-03 19:57 Min: 10% 2010-01-01 12:00	<b>Gust</b> Max: 79.2 m/s 2010-03-09 14:53
<b>Indoor Temperature</b> Max: 36.0 °C 2010-01-14 12:20 Min: -40.0 °C 2010-01-04 21:55	<b>Hour Rainfall</b> Max: 358.8 mm 2010-01-01 12:20
<b>Outdoor Temperature</b> Max: 59.7 °C 2010-01-01 12:02 Min: -36.8 °C 2010-03-15 20:21	<b>Day Rainfall</b> Max: 358.8 mm 2010-01-01 12:20
<b>DewPoint</b> Max: 57.8 °C 2010-01-03 08:12 Min: -37.2 °C 2010-01-02 02:00	<b>Week Rainfall</b> Max: 358.8 mm 2010-01-01 12:20
<b>Absolute Pressure</b> Max: 1029.2 hpa 2010-01-01 12:00 Min: 0.0 hpa 2010-01-01 12:02	<b>Month Rainfall</b> Max: 358.8 mm 2010-01-01 12:20
<b>Relative Pressure</b> Max: 8880.2 hpa 2011-10-25 20:34 Min: 892.6 hpa 2010-01-10 04:45	<b>Total Rainfall</b> Max: 358.8 mm 2010-01-01 12:20
<b>Wind Chill</b> Max: 59.7 °C 2010-01-01 12:02 Min: -36.8 °C 2010-03-15 20:21	

Cancel

## 5.4 History option:

Please refer to 4.2.1

History

Strat Time: 17/12/2013 4:53 PM End Time: 17/12/2015 5:53 PM

Select Export Clean History Clean Memory Cancel

ID	Time	Interval	InTemp	InHum	OutTemp	OutHum	AbsPressure	RelPressure	DewPoint	WindDir	Wind	Gust	W
4053	2015-11-27 09:19	1	25.4	23	22.4	28	1022.1	1025.8	3.0	22.4	0.0	0.0	--
4056	2015-11-27 09:20	1	25.4	23	22.4	28	1022.1	1025.8	3.0	22.4	0.0	0.0	--
4057	2015-11-27 09:21	1	25.4	23	22.4	28	1022.1	1025.8	3.0	22.4	0.0	0.0	--
4058	2015-11-27 09:22	1	25.4	23	22.4	28	1022.1	1025.8	3.0	22.4	0.0	0.0	--
4059	2015-11-27 09:23	1	25.4	23	22.4	28	1022.1	1025.8	3.0	22.4	0.0	0.0	--
4060	2015-11-27 09:24	1	25.4	23	22.4	28	1022.1	1025.8	3.0	22.4	0.0	0.0	--
4061	2015-11-27 09:25	1	25.4	23	22.4	28	1022.2	1025.9	3.0	22.4	0.0	0.0	--
4062	2015-11-27 09:26	1	25.4	23	22.4	29	1022.2	1025.9	3.5	22.4	0.0	0.0	--
4063	2015-11-27 09:27	1	25.4	23	22.3	29	1022.1	1025.8	3.4	22.3	0.0	0.0	--
4064	2015-11-27 09:28	1	25.4	23	22.3	29	1022.0	1025.7	3.4	22.3	0.0	0.0	--
4065	2015-11-27 09:29	1	25.4	23	22.3	29	1022.1	1025.8	3.4	22.3	0.0	0.0	--
4066	2015-11-27 09:30	1	25.4	23	22.3	29	1022.0	1025.7	3.4	22.3	0.0	0.0	--
4067	2015-11-27 09:31	1	25.4	23	22.3	29	1022.2	1025.9	3.4	22.3	0.0	0.0	--
4068	2015-11-27 09:32	1	25.4	24	22.3	29	1022.1	1025.8	3.4	22.3	0.0	0.0	--
4069	2015-11-27 09:33	1	25.6	24	22.4	29	1022.2	1025.9	3.5	22.4	0.0	0.0	--
4070	2015-11-27 09:34	1	25.6	24	22.4	29	1022.1	1025.8	3.5	22.4	0.0	0.0	--
4071	2015-11-27 09:35	1	25.7	24	22.4	29	1022.2	1025.9	3.5	22.4	0.0	0.0	--
4072	2015-11-27 09:36	1	25.6	24	22.4	29	1022.1	1025.8	3.5	22.4	0.0	0.0	--
4073	2015-11-27 09:37	1	25.7	24	22.4	29	1022.1	1025.8	3.5	22.4	0.0	0.0	--
4074	2015-11-27 09:38	1	25.7	24	22.4	30	1022.1	1025.8	4.0	22.4	0.0	0.0	--
4075	2015-11-27 09:39	1	25.6	24	22.4	30	1022.0	1025.7	4.0	22.4	0.0	0.0	--
4076	2015-11-27 09:40	1	25.7	24	22.4	30	1022.0	1025.7	4.0	22.4	0.0	0.0	--
4077	2015-11-27 09:41	1	25.8	25	22.4	30	1022.0	1025.7	4.0	22.4	0.0	0.0	--
4078	2015-11-27 09:42	1	25.8	25	22.4	30	1022.0	1025.7	4.0	22.4	0.0	0.0	--
4079	2015-12-17 17:30	5	26.6	47	26.2	49	1004.0	1017.3	14.7	26.2	0.0	0.0	--
4080	2015-12-17 17:31	1	25.4	23	22.1	26	1012.9	1026.2	1.7	22.1	0.0	0.0	--
4081	2015-12-17 17:32	1	25.4	23	22.1	26	1012.8	1026.1	1.7	22.1	0.0	0.0	--
4082	2015-12-17 17:33	1	25.4	24	22.1	26	1012.8	1026.1	1.7	22.1	0.0	0.0	--
4083	2015-12-17 17:53	5	26.6	47	26.2	49	1004.0	1017.3	14.7	26.2	0.0	0.0	--

## 5.5 Graph

Please refer to 4.2.2



## 5.6 Upload option:

Please refer to 4.3

The screenshot shows a window titled "Upload" with a light gray background. It contains several input fields and a checkbox. The fields are: "Website:" with a dropdown menu showing "www.wunderground.com"; "Server:" with a text box containing "rtupdate.wunderground.com"; "Type:" with a dropdown menu showing "php"; "Port:" with a text box containing "80"; "Upload Type:" with a dropdown menu showing "Customize"; "ID:" with an empty text box; "Password/Key:" with an empty text box; and "StationNum:" with an empty text box. At the bottom left, there is a checked checkbox labeled "Auto Upload". At the bottom right, there are two buttons: "Save" and "Cancel".

## 5.7 Check software version



Click About EasyWeather button, enter the About menu to check version information

### **Special Notes about time synchronization between PC and sub-station:**

The PC software obtains its own time scale through the time interval marker from the base station history data, and the PC software automatically synchronizes the weather data with a time stamp calculated. Thus, the history data file can have a different time when the PC time and base station time is not the same. In order to make the time scale correct, remember to set the PC time and base station time as the same, and further to this, no weather data is allowed to be missed or over-written. If the history weather memory on the base station is cleared by manual settings, then the history weather data since the last upload is lost permanently.

Before memory is used up (memory icon on LCD display showing 100% full), remember to upload weather history data to PC periodically.

If a reset happens for the rain fall on the base station, then there will be rain fall value discrepancy between the PC and the base station.

### **Legal Notes**

- We reserve the right to delete or change any image whether or not purposely uploaded onto the server by a user of the Touch display weather station and the EasyWeather software products.
- The EasyWeather software products are protected by copyright laws and international copyright treaties as well as other intellectual property laws and treaties.
- You may not copy the printed materials accompanying the products.