Solar Powered Wireless Wi-Fi Weather Station

TP3000WC Operation Manual

Contents

Display console....5
Features....5
1. Sensor Array Components....7
1.1 Install U-bolts and metal plate....7
1.2. Install Wind Vane....9
1.3. Install Wind Speed Sensor (Anemometer)....10
1.4. Install Batteries....10
1.5. Mount Outdoor Sensor....11
1.6 Reset Button and Transmitter LED....11
2. Best Practices for Wireless Communication....12
3. Display Unit Set up....14
3.1. Display Console Layout....14
3.2. Initial Display Console Set Up....15
Console Operation....17
Program mode....17
1. Quick Display Mode (Updates every 5 Seconds)....17
2. Setting Mode – Using the Set button....22
- TIME SETTING....22
- UNIT SETTING....23
- RECORD SAVE INTERVAL....23
- RAIN SEASON SETTING....23
- BAROMETRIC SETTING....24
- KEY BEEP SETTING....24
- CALIBRATION SETTING....24
- TRANSMITTER ID....25

3. Alarm Mode....25
4. Max/Min Mode....26

5. History Mode 27
Other Console Functions 28
Weather Tendency indicators 28
Moon Phases 28
Beaufort Scales (Wind Speed) 29
Specifications 29
Live Internet Publishing 31
Android Software Operation 32
Connecting the Weather Station Console to Wi-Fi 32
1. Preliminary Wi-Fi Set-Up Notes: 32
2. Download mobile application 32
3. Connect the Console to Wi-Fi (Android) 32
4. Configure Device 32
5. Upload your data to Web Based Weather Service 34
a) Upload to Wunderground.com 35
b) Upload to Weathercloud.net 37
c) Upload to WeatherObservationsWebsite (WOW) 38
6. Mobile application – Device list 40
7. Mobile application – Check WU weather data and graph 41
8. Mobile application – Remove or Add WU ID 42
9. Mobile application – Set Units 42
iOS Software Operation 43
Connecting the Weather Station Console to Wi-Fi (iOS) 43
1. Preliminary Wi-Fi Set-Up Notes: 43
2. Download mobile application 44
3. Configure Device 44
4. Upload your data to web weather services 46
a) Upload to Wunderground.com 47
b) Upload to Weathercloud.net 48
c) Upload to WeatherObservationsWebsite (WOW) 48
5. Mobile application – Device list 51
6. Mobile application – Check WU weather data and graph 51
7. Mobile application – Remove or Add WU ID 52
8. Mobile application – Set Units 53

Registering with WeatherUnderground.com via a PC or Mac. 54
Registering with WeatherCloud.net via a PC or Mac 56
PC Software Operation 58
Connect the display console with the PC software:.....58
Basic Functions of the "WeatherSmartIP" Software.....60
Maintenance 65
Troubleshooting Guide.....66
FCC Statement.....71
Warranty Information.....72

About this manual

Thank you for purchasing the ProWeatherStation™. This device provides accurate weather readings and is Wi-Fi capable to stream live data from your weather station to the internet so that users can enjoy remote monitoring of weather conditions.

This manual will guide you step-by-step through setting up your device. Use this manual to become familiar with your ProWeatherStation™. Please save it for future reference.

Glossary of Common Terms

NIST
This is an internet-based time service. The display time is updated daily to keep the time accurate on the display.

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 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 with adjustments due to 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 is 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. One inch of Mercury is the equivalent value of 33.86389 Hectopascals.

Important Note:
The ProWeatherStation TP3000WC is mostly assembled for ease of use. The Outdoor Sensor array relies on solar power which charges an internal supercapacitor. 2 AA batteries provide backup power when needed (i.e.; solar panel shaded or covered with snow). The outdoor Sensor Array and Console use 433Mhz RF signals relaying data to the display console about every 16 seconds. The display console may operate with batteries, or, be powered using the included 5V adapter for constant display and Wi-Fi features. When running on batteries, you must press a key to view the display, Wi-Fi connectivity will be disabled. When connected to local Wi-Fi network, the display console can upload data automatically to a Weather Service without the need for a PC and can also be accessed from a PC utilizing the WeatherSmartIP software.

Package Contents:

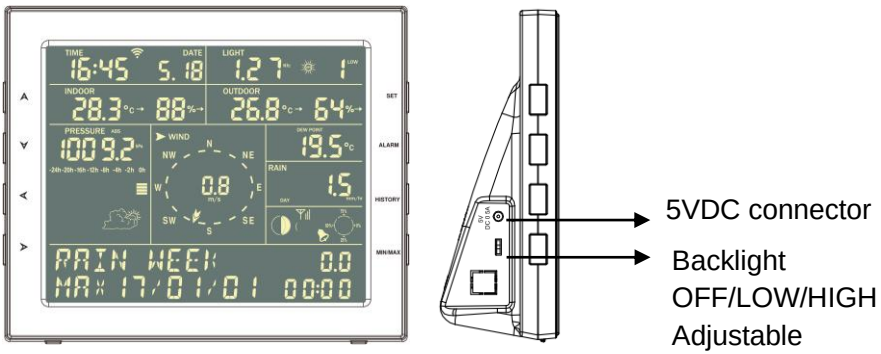
Below please find the package content:

QTY	Item
1	Display Console
1	Outdoor Sensor (Temp/Humidity / Rain Gauge / Wind Speed Sensor/ Wind Direction / Light-UV Sensor) 2 AA Batteries included
2	U-bolt with mounting plate
1	120/220VAC 5V 500mA Adapter (Required for Wi-Fi communications and always on display)
1	User Manual

Note: An AC adaptor is included. Please try to place this adapter at least 0.5m (20") from the display console to avoid radio interference.

OVERVIEW

Display console



Features

- Time and date, Moon phase.
- Indoor temperature and humidity
- Outdoor temperature and humidity
- Wind chill, gust, wind direction.
- Rainfall - Displays rain level and rainfall data in 24 hours, one week, one month, one-year, total rain and rainfall event.
- Wind speed in mph, km/h, m/s, knots or Beaufort
- Wind direction with 360 degrees
- Wind chill, dew point, and heat index temperature display.

- Barometric, weather forecast.
- MAX, MIN value with time stamp. High/ low alarm.
- Light and UV index
- Non-Volatile Memory: Saves the data when batteries are changed
- WeatherSmart Wi-Fi PC software
- Uploads your Data to Various Weather Services

ProWeatherStation™ Setup

Warning: Any metal object may attract a lightning strike, including your weather station mounting pole. Never install the weather station during a storm.

Warning: Installing your weather station in a high location may result in injury or death. Perform as much of the initial checkout and assembly on the ground, preferably inside a building or home. Only install the weather station on a clear, dry day.

Note:
Before placing and installing all components of the weather station at their destination, please set up the display console(receiver) and outdoor sensor(transmitter) in a room and get familiar with the functions.

Power up sequence must be performed in the following order: Insert batteries in the Outdoor Sensor Array first; Display Console second).

Attention:
- Do not mix old and new batteries
- Do not use Rechargeable batteries.
- Use Lithium batteries for sensor array when the outdoor temperature is lower than 0 degrees Celsius
- Ensure batteries are installed with correct polarity (+/-)

1. Sensor Array Components

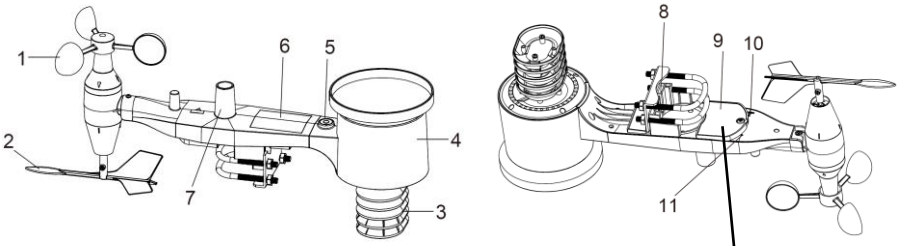


Figure 1

1. Wind Speed Sensor
2. Wind Vane
3. Temp/Humidity sensor
4. Rain collector
5. Bubble level
6. Solar panel
7. Light sensor and UV sensor
8. U-Bolt
9. Battery compartment
10. Reset button
11. LED Indicator: light on for 4s if the unit powers up. Then the LED will flash once every 16 seconds (the sensor transmission update period).

1.1 Install U-bolts and metal plate

Installation of the U-bolts, which are in turn used to mount the sensor package on a pole (pole not included), requires the 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 “engaging” the mounting pole. Once the metal plate is in place, insert both U-bolts through the respective holes of the metal plate as shown in Figure 3.

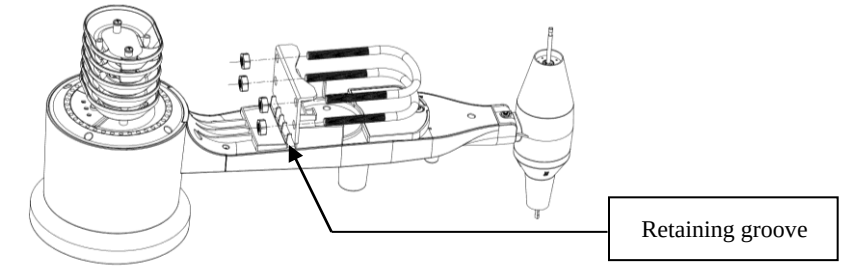


Figure 3 U-Bolt installation

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.

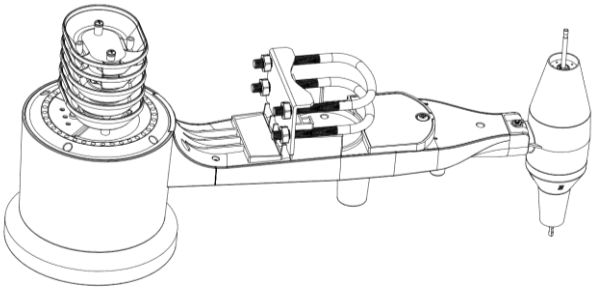


Figure 4 U-Bolts and nuts installed

The plate and U-Bolts are not yet needed at this stage but installing now usually prevents damage to the wind vane and wind speed cups later.

Use Caution when handling the Sensor Array!

Handling of the sensor package with the wind vane and speed cups installed requires added attention to avoid damage.

1.2. Install Wind Vane

Align flat edges and gently push the wind vane onto the shaft as shown in figure 5.
Tighten the set screw as shown in figure 6. Wind vane will move less freely than the wind speed sensor. This damping effect helps maintain stable wind direction measurement.

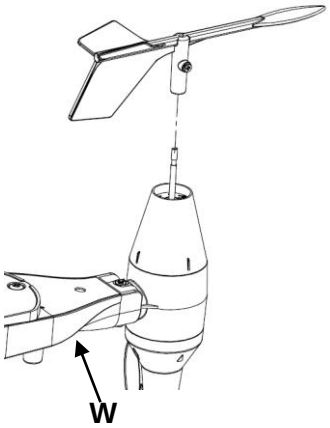


Figure 5

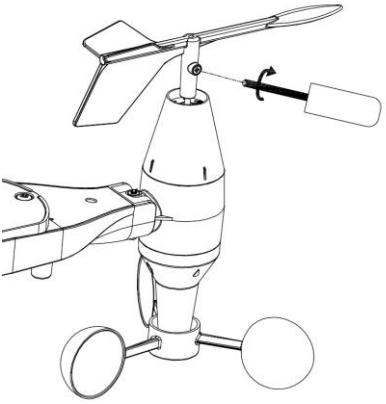


Figure 6

There is an indicator on the body of the outdoor sensor array showing the “West” direction. The entire outdoor sensor array must be positioned so this arrow points towards West when mounted.
This will ensure that the internal compass readings are accurate.

1.3. Install Wind Speed Sensor (Anemometer)

Gently push the wind cup onto the shaft as shown in figure 7.
Tighten the set screw as shown in figure 8. Make sure the wind speed cups are level and spin freely.

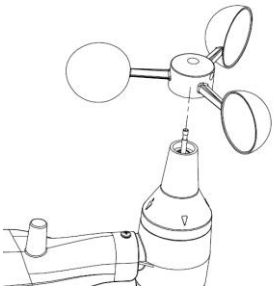


Figure 7

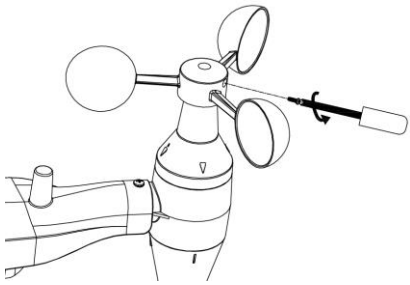


Figure 8

1.4. Install Batteries

Make sure the solar panel is covered, then insert (2) AA batteries in the battery compartment. The LED indicator on the back of the transmitter will illuminate for four seconds and normally flash once every 16 seconds (the sensor transmission update period).

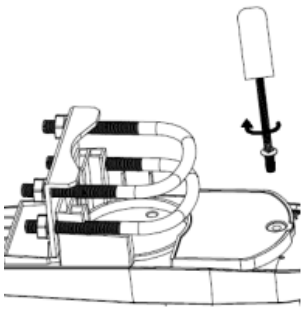


Figure 9

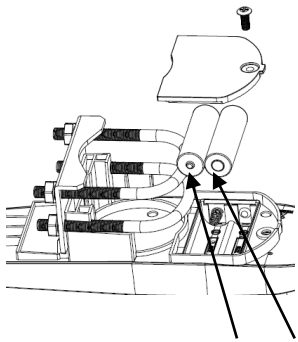


Figure 10

Note: If no LED lights up or is lit full time, make sure the batteries are

inserted with correct polarity. **Caution! Do not install the batteries backwards as you can permanently damage the outdoor sensor**. If the LED function is not as expected, remove the batteries, wait 30 seconds, cover the solar panel and then re-install batteries.

Note: We recommend lithium batteries for cold weather climates. Alkaline batteries are enough for moderate climates. Rechargeable batteries should **never** be used because they have lower voltages.

1.5. Mount Outdoor Sensor

Reference Figure 11 & 12. The mounting assembly includes two U-Bolts and a bracket that tightens around a 1 to 2" diameter pole (pole not included) using the four U-Bolt nuts.

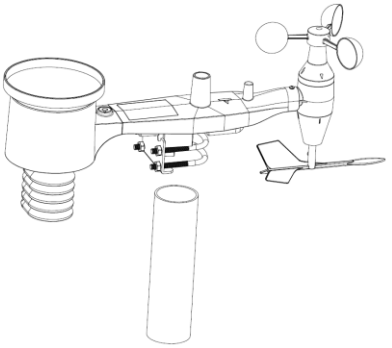


Figure 11

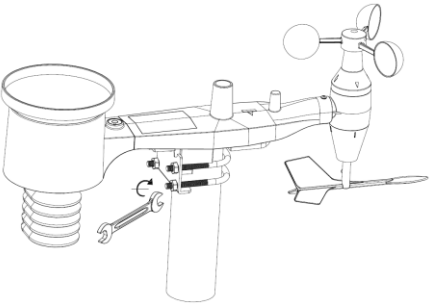


Figure 12

Note: Use the bubble level beside the rain sensor as a guide to verify that sensors are level.
Note: Rotate the entire sensor array to make sure the West indicator arrow is pointing towards West.

1.6 Reset Button and Transmitter LED

In the event the sensor array is not transmitting, reset the sensor array:

With an open-ended paperclip, press and hold the **RESET BUTTON** for 3 seconds to initiate a reset: LED turns on while RESET button is

pressed, and resumes normal operation after the Reset button is released: LED will flash every 16s during normal operation.

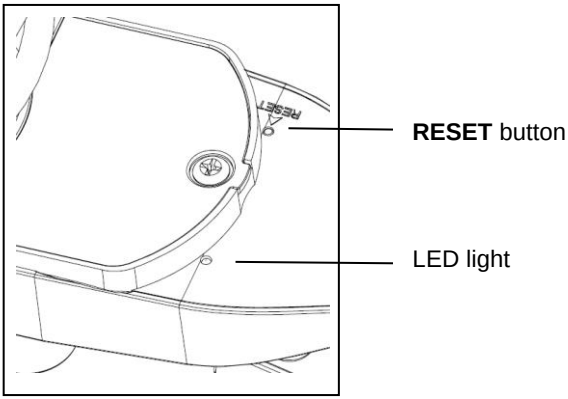


Figure 13

2. Best Practices for Wireless Communication

Note:

The open field distance between the display console and the outdoor sensor array can reach up to 300 feet providing there are no interfering obstacles such as buildings, trees, vehicles, high voltage lines, etc. Under normal use, the display console is indoors and the sensor array is outdoors having walls in-between which will reduce the overall range distance.

Radio interference such as PC monitors, radios or TV sets can interfere with radio communications between the sensor array and display console. Please take this into consideration when choosing the location of the display console. If you have issues with connecting to the outdoor sensor array, try a different location for the display console.

Wireless communication is susceptible to interference, distance, walls, and metal barriers. We recommend the following best

practices for trouble-free wireless communications.

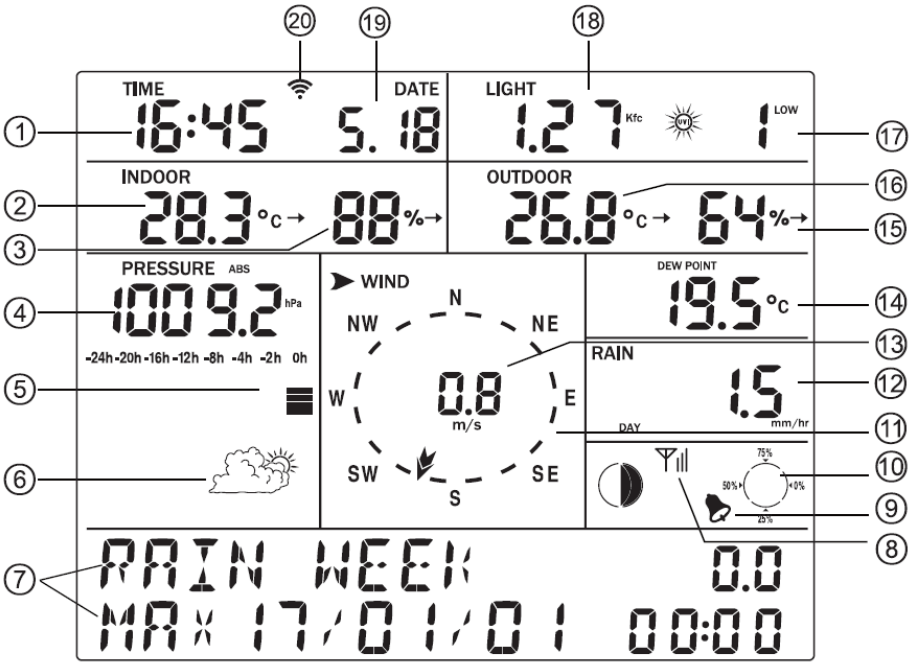
1. **Electro-Magnetic Interference (EMI)**. Keep the console several feet away from computer monitors and TVs.
2. **Radio Frequency Interference (RFI).** If you have other 433 MHz devices and communication is intermittent, try turning off these other devices for troubleshooting purposes. You may need 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 or tinted windows. 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 or Tinted Glass	90-100%

3. Display Unit Set up

3.1. Display Console Layout

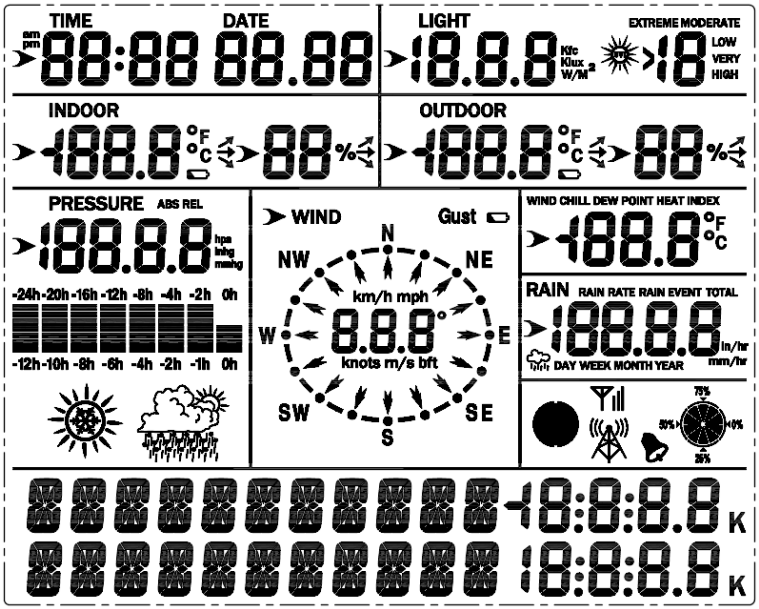


1.Time	2.Indoor Temperature
3.Indoor Humidity	4.Barometric Pressure
5. Barometric Pressure graph	6.Weather Forecast icon
7. Dynamic information display area	8. RF signal
9. Alarm icon	10. Memory status
11.Wind direction	12.Rainfall
13.Wind speed/Gust speed	14. Wind chill/Dew point/Heat index
15.Outdoor Humidity	16.Outdoor Temperature
17.UV index	18.Light
19.Date	20.Wi-Fi Signal icon

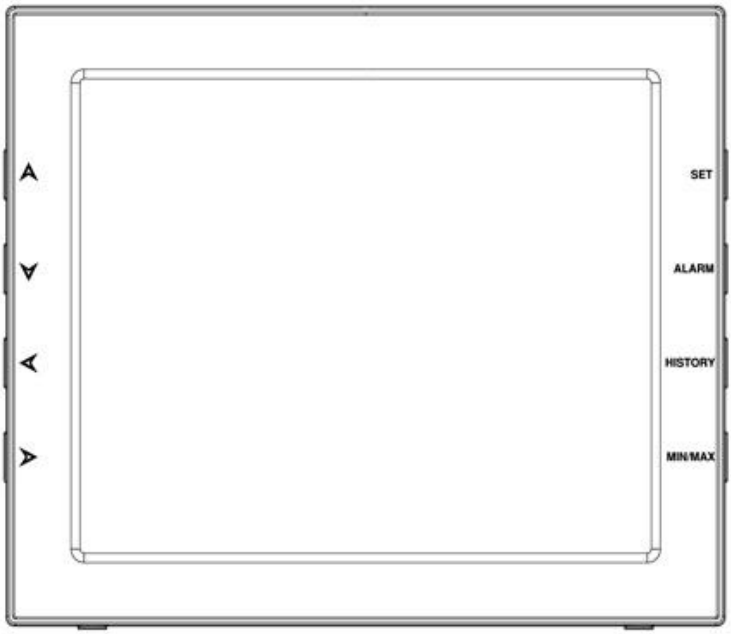
3.2. Initial Display Console Set Up

3.2.1 The unit will turn on all segments of the LCD for 3 seconds after power up. The unit will start to register data from the outdoor sensor array in approximately 3 minutes.

3.2.2 Full display



3.2.3 Key function



SET: Enter the setting mode
ALARM: Display high or low alarm function / turn on/off the alarm
HISTORY: Display history records / return to normal mode
MAX/MIN: Display the MAX, MIN value
: Move to the previous information (normal mode) or + (programming mode)
: Move to next information (normal mode) or– (programming mode)
: Move to previous segment/move to the main menu during setting.
: Move to next segment/ move to submenu during setting.

Console Operation

Note: Multiple display console settings can be easily set up using the WeatherSmartIP PC software. To do this, the software needs to be installed on a PC and the display console needs to be connected to your Wi-Fi network. Instructions on connecting your display console are located later in this user guide (see table of contents).

Program mode

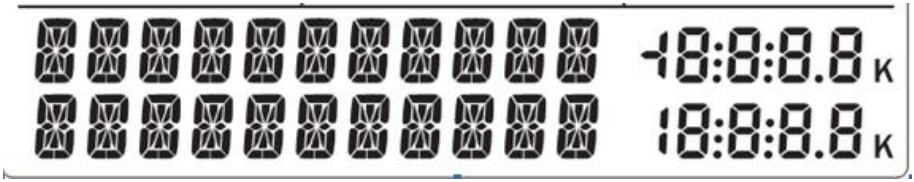
The screen is divided into 10 segments for selection and there is a message display panel on the bottom segment.

There are six program modes: **norma**l, **setting mode**, **history mode**, **alarm mode**, **max/min mode** and **calibration mode**.
To "**exit**" any mode at any time, press the HISTORY key or waiting for a 30-second timeout to take effect.

Normally, if the segment selected has multi parts, press the SET key to choose different part. Example: the current section is RAIN, you can press the SET key to alternate the display of RAIN RATE, RAIN EVENT, DAY, WEEK, MONTH, YEAR and TOTAL.

1. Quick Display Mode (Updates every 5 Seconds)

In the normal mode press" ⮜ "or" ⮞" key to switch among different segments. The respective chosen segment will be marked with the arrow symbol" ▶". And there will be corresponding information display on the message board which is the lower 2 lines on the screen.



The 11 digits on left display text, The right side displays figures. The display will automatically switch after a few seconds. Or use the "⮝" or "⮟" keys to manually switch the display.

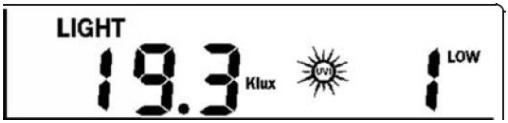
If any alarms are triggered, the alarm information will be displayed in real time as well.

- Time and date

If the arrow symbol "➤" is in this segment, the following information will appear on the message board:

a) Year, Weekday
b) Alarm time and status of the alarm(on/off)
c) Moon phase. (Reference Section *Other Console Functions/Moon phase* for detail)
d) If connected with Wi-Fi, the device time will synchronize with the internet time (UTC Time, you need to set the time zone for local time).

- Light and UV

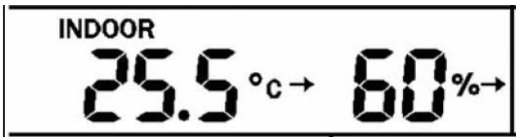


If the arrow symbol "➤" is in this segment, the following information with time stamp will appear on the message board:

a) The max light strength value of the day.

b) The max light strength value since the last reset
c) The max UV index value of the day.
d) The max UV index value since the last reset.

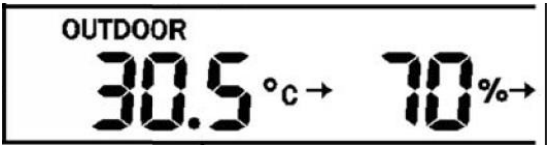
- Indoor temperature



If the arrow symbol "▶" is in this segment, the following information with time stamp will appear on the message board:

a) Max indoor temperature value of the current day.
b) Min indoor temperature value of the current day.
c) Max indoor temperature value since the last reset
d) Min indoor temperature value since the last reset
e) Max indoor humidity value of the current day.
f) Min indoor humidity value of the current day.
g) Max indoor humidity value since the last reset
h) Min indoor humidity value since the last reset

- Outdoor temperature/ humidity



If the arrow symbol "▶" is in this segment, the following information with time stamp will appear on the message board:

a) Max outdoor temperature value of the current day.
b) Min outdoor temperature value of the current day.
c) Max outdoor temperature value since the last reset
d) Min outdoor temperature value since the last reset
e) Max outdoor humidity value of the current day.
f) Min outdoor humidity value of the current day.

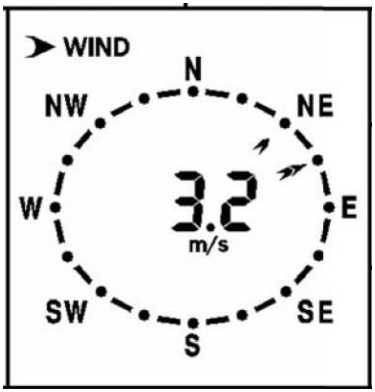
g) Max outdoor humidity value since the last reset
h) Min outdoor humidity value since the last reset

- Barometric

If the arrow symbol "➤" is in this segment, the following information with time stamp will appear on the message board:

a) Max relatively barometric pressure of the current day
b) Min relatively barometric pressure of the current day
c) Max relatively barometric pressure since the last reset
d) Min relatively barometric pressure since the last reset
e) Max absolute barometric pressure of the current day
f) Min absolute barometric pressure of the current day
g) Max absolute barometric pressure since the last reset
h) Min absolute barometric pressure since the last reset

- Wind and gust speed



If the arrow symbol "▶" is in this segment, the following information with time stamp will appear on the message board:

a) The max wind speed of the current day
b) The max wind speed since the last reset.
c) The max wind gust speed of the current day
d) The max wind gust speed since the last reset.

- Wind chill, dew point, heat index

If the arrow symbol "▶" is in this segment, the following information with time stamp will appear on the message board:

a) Min wind chill temperature of the current day
b) Min wind chill temperature since the last reset
c) Max dew point temperature of the current day
d) Min dew point temperature of the current day
e) Max dew point temperature since the last reset
f) Min dew point temperature since the last reset
g) Max heat index of the day of the current day.
h) Max heat index of the day since the last reset

- Rainfall

If the arrow symbol "▶" is in this segment, the following information with time stamp will appear on the message board:

a) Max rain rate of the current day
b) Max rain rate since the last reset
c) Max Rainfall data of current day

d) Max Rainfall data of last week
e) Max Rainfall data of last month
f) Max Rainfall data of last year

2. Setting Mode – Using the Set button

2.1 In normal mode, press SET key for 2 secs. to enter the setting mode.

Then press" ⮜ "button to transfer among different setting function:

TIME SETTING
UNIT SETTING
RECORD SAVE INTERVAL
RAIN SEASON SETTING
BAROMETRIC SETTING
KEY BEEP SETTING
CALIBRATION SETTING
TRANSMITTER ID

When the desired setting function is displayed, press the"⮞" key to start the associated setting menu. Change a setting with the key ⮝ / ⮟ .Holding the ⮝ / ⮟ key for 2 seconds will increase/decrease digits in great steps. Press HISTORY key or wait for 30 seconds at any time, the device will return to normal mode.

- **TIME SETTING**

  After entering setting mode, the first setting function "TIME SETTING" will appear on the message board. Use the "⮞" key to select the desired sub-functions:

  a) TIME FORMAT:12H/24H
  b) DATE FORMAT:MM-DD-YYYY / DD-MM-YYYY / YYYY-MM-DD select
  c) TIME: Manual setting of time and date
  d) TIME ZONE
  e) DAYLIGHT SAVING TIME: switch on/off the reception of DST.
  f) NORTH/SOUTH: Set northern/southern hemisphere for moon phase

- **UNIT SETTING**

  After entering setting mode, the first setting function" TIME SETTING" will appear on the message board. Press "⮜" key to switch to "UNIT SETTING" display.

  Then use the "⮞" key to select the desired sub-functions:

  a) Light unit select (lux, fc, w/m2)
  b) Temperature unit select (C, F)
  c) Pressure unit select (hpa, inhg, mmhg)
  d) Wind speed unit select (km/h, mph, knots, m/s, bft)
  e) Rainfall unit select (mm, inch)

- **RECORD SAVE INTERVAL**: to set the interval of data recording.

  Under setting mode, the first setting function appearing on the message board is" TIME SETTING", Press "⮜" key repeatedly to switch to "RECORD SAVE INTERVAL" display.

  Use the "⮞" key to start setting of recording interval.

  Use the ⮝ / ⮟ keys to select the desired recording interval for measured values.

- **RAIN SEASON SETTING**

  Under setting mode, the first setting function appearing on the message board is" TIME SETTING". Press "⮜" button repeatedly to switch to "RAIN SEASON SETTING" display.

  Press the "⮞" button to start setting of the month of rain season. Press the ⮝ / ⮟ buttons to select the month from January to December.

  Rain season is the time of year when most of a region's average annual rainfall occurs. Rain season influences the annual rainfall maximum, minimum and total value. The annual rainfall and annual max/min rainfall resets at 12:00 AM of the first day of the selected month.

- **BAROMETRIC SETTING**

  Under setting mode, the first setting function appearing on the message board is" TIME SETTING". Press the "⮜" button repeatedly to switch to "BAROMETRIC SETTING" display.
  Then press the"⮞" button to select the desired sub-functions:

  Barometric Setting: Press ⮝ / ⮟ buttons to change the historical graph time between 12 and 24 hours.

- **KEY BEEP SETTING**

  Under setting mode, the first setting function appearing on the message board is" TIME SETTING". Press "⮜" button repeatedly to switch to "KEY BEEP SETTING" display.
  Use the "⮞" button to start setting button beep.
  Press ⮝ / ⮟ buttons to switch on/off the button beep.

- **CALIBRATION SETTING** (Offset Adjustments for each function)

  a) IN TEMP OFFSET
  Offset for indoor temperature.
  b) IN HUMI OFFSET
  Offset for indoor humidity.
  c) OUT TEMP OFFSET
  Offset for outdoor temperature.
  d) OUT HUMI OFFSET
  Offset for outdoor humidity
  e) ABS BARO OFFSET
  Offset for absolute barometric pressure. Absolute and Relative Pressure require offsets for the Altitude above Sea Level for your area. Get local pressure readings from a local source like Weather.Gov, Local Airports, Weather Channels, Wunderground.com, etc. If your Console readings vary from the source, you may enter positive or negative offsets to calibrate the readings.
  f) REL BARO OFFSET

Offset for relative barometric pressure. See above for more info.

g) WIND DIR OFFSET

Wind direction can be adjusted by 0-359°.

h) WIND SPEED FACTOR

Wind speed calibration coefficient: default 1 (range is Range is 0.1-2.5)

i) RAINFALL FACTOR

Rain factor calibration coefficient: default 1 (range is Range is 0.1-2.5)

j) RAIN DAY TOTAL

Calibration for total rainfall of 1 day. (Range is 0-9999mm)

k) RAIN WEEK TOTAL

Calibration for total rainfall of 1 week (Range is 0-9999mm)

l) RAIN MONTH TOTAL

Calibration for total rainfall of 1 month (Range is 0-9999mm)

m) RAIN YEAR TOTAL

Calibration for total rainfall of 1 year (Range is 0-9999mm)

n) RAIN TOTAL

Calibration for total rainfall since the last reset. (Range is 0-9999mm)

- **TRANSMITTER ID**

  Display the transmitter ID.

3. Alarm Mode

In normal mode, press ALARM key you will enter high alarm mode, and press ALARM key again you will switch to low alarm mode.

- HIGH ALARM SETTING

  Press ≪/≫ key to transfer among the different segments and press ∧/∨ key to adjust the value of the high alarm.

a) TIME ALARM –Set time alarm.
b) IN TEMP HIGH ALARM --Set indoor temperature high alarm
c) IN HUMI HIGH ALARM --Set indoor humidity high alarm
d) OUT TEMP HIGH ALARM-- Set outdoor temperature high alarm
e) OUT HUMI HIGH ALARM-- Set outdoor humidity high alarm
f) ABS BARO HIGH ALARM --Set absolute barometric pressure high alarm

g) REL BARO HIGH ALARM --Set relative barometric pressure high alarm
h) WIND HIGH ALARM --Set wind speed high alarm
i) GUST HIGH ALARM --Set gust speed high alarm
j) DEW POINT HIGH ALARM --Set dew point high alarm
k) HEAT INDEX HIGH ALARM --Set heat index high alarm
l) RAIN RATE HIGH ALARM --Set rainfall rate high alarm
m) RAIN DAY HIGH ALARM --Set rainfall day high alarm

- LOW ALARM SETTING
  a) IN TEMP LOW ALARM--Set indoor temperature low alarm
  b) IN HUMI LOW ALARM --Set indoor humidity low alarm
  c) OUT TEMP LOW ALARM --Set outdoor temperature low alarm
  d) OUT HUMI LOW ALARM --Set outdoor humidity low alarm
  e) ABS BARO LOW ALARM --Set absolute barometric low alarm
  f) REL BARO LOW ALARM --Set relative barometric low alarm
  g) WIND CHILL LOW ALARM --Set wind chill low alarm
  h) DEW POINT LOW ALARM --Set dew point low alarm

Under alarm mode, press the SET button to switch on/off the alarm.
Press the ALARM button to switch between high alarm and low alarm setting.
Press the HISTORY button or wait for 30 seconds at any time to return to normal mode.

When the alarm is activated, the alarm icon will be displayed on the right of the message board. When an alarm is triggered, the base station will emit a sound beep and the alarm icon flashes. The corresponding text alarm message appears on the message board. Press any button to stop sound beep. But the alarm icon will continue to flash if the weather data still above or below the threshold.

4. Max/Min Mode

In Normal Mode, press the MIN/MAX button to enter the max/min mode. In this mode, you can view all minimum/maximum records of weather parameters.

Press MIN/MAX to switch among below records:

TODAY MAX—The maximum values during the current day
HISTORY MAX –The maximum values since the last reset
TODAY MIN --The minimum values during the current day
HISTORY MIN --The minimum values since the last reset

Press ⮜/⮞ button to switch among max/min records of different parameters, together with the time and date stamp.

Each individual Maximum/minimum value can be cleared by pressing the SET button for 2 seconds during this mode.
Press the HISTORY button or wait for 30 seconds to return to Normal Mode.

5. History Mode

In normal mode, press the history button to switch to history. In this mode, you can view individual history data records in internal memory. The base station can log 3552 records in total.

If there's no historical data, it will show "HISTORY NONE RECORD" on the message board. Otherwise, it will display message e.g." HISTORY P/R 1.01" and "YEAR 16.06".

P 1=Page 1 (Each page has 32 data records)
R 01= data record 01
YEAR 16=year 2016

The time and date of the record displays on the time section.

Press the ⮝/ ⮟ button to switch to next/prerecord.
Press the ⮜/⮞ button to switch to next/pre-page.

To Clear Console History:
In History mode, push the "SET" button for 2 seconds to clear all the memory.

Other Console Functions

Weather Tendency indicators

There are arrow symbols besides the indoor/outdoor temperature and humidity segments to indicate weather trend:

Tendency indicators		Humidity	Temperature
↗	Rising	Rising rate >= 10% within 30 minutes	Rising >= 1℃ within 30 minutes
→	Steady	Change rate < 10% within 30 minutes	Change rate < 1℃ within 30 minutes
↘	Falling	Falling rate >= 10% within 30 minutes	Falling >= 1℃ within 30 minutes

Moon Phases

Make sure to program your console's North/South Hemisphere setting (Page 21-22)

Icon: Northern Hemisphere	Moon Phase Description	Icon: Southern Hemisphere
	NEW MOON	
	WAXING CRESCENT MOON	
	FIRST QUARTER MOON	
	WAXING GIBBOUS MOON	
	FULL MOON	

	WANING GIBBOUS MOON	
	LAST QUARTER MOON	
	WANING CRESCENT MOON	

Beaufort Scales (Wind Speed)

Wind speed	Beaufort number	Description
0-1mph（0-1.6kph）	0	Calm
1-3mph（1.6-4.8kph）	1	Light air
3-7mph（4.8-11.3kph）	2	Light breeze
7-12mph（11.3-19.3kph）	3	Gentle breeze
12-18mph（19.3-29.0kph）	4	Moderate breeze
18-24mph（29.0-38.6kph）	5	Fresh breeze
24-31mph（38.6-49.9kph）	6	Strong breeze
31-38mph（49.9-61.2kph）	7	Near gale
38-46mph（61.2-74.1kph）	8	Gale
46-54mph（74.1-86.9kph）	9	Strong gale
55-63mph（88.5-101.4kph）	10	Storm
64-73mph(103-117.5kph)	11	Violent storm
74mph or above（119.1kph）	12	Hurricane

Specifications

Outdoor data

Transmission distance in open field: 100m (330 feet)
Frequency: 433MHZ

Temperature range: -40˚C--60˚C (-40℉ to +140℉)

Accuracy: + / - 1 °C
Resolution: 0.1˚C

Measuring range rel. humidity: 10%～99%
Accuracy: +/- 5%

Rain volume display: 0 – 9999mm (show --- if outside range)
Accuracy: + / - 10%
Resolution: 0.3mm (if rain volume < 1000mm)
1mm (if rain volume > 1000mm)

Wind speed: 0-50m/s (0~100mph) (show --- if outside range)
Accuracy: +/- 1m/s (wind speed< 5m/s)
+/-10% (wind speed > 5m/s)
UVI range: 0 to 15 index
Light: 0-200k Lux
Accuracy: +/-15%
Measuring interval outdoor sensor: 16 sec

Indoor data
Measuring interval pressure / temperature: 48 sec
Indoor temperature range: 0˚C--50˚C (14°F to + 140°F) (show --- if outside range)
Resolution 0.1˚C
Measuring range rel. humidity 10%～99%
Resolution 1%

Measuring range air pressure: 300-1100hPa (8.85-32.5inHg)
Accuracy: +/-3hpa under 700-1100hPa
Resolution: 0.1hPa (0.01inHg)
Alarm duration: 120 sec

Power consumption
Base station: 5V DC adaptor (included)
Base station: **(**3) AA 1.5V LR6 Alkaline batteries (not included)
Remote sensor: (2) AA batteries (included), The primary power source is the solar panel. The batteries provide backup power when there is limited solar energy

Note: Where the outdoor temperature is lower than -20˚C, make sure to use Lithium Batteries. Normal alkaline batteries should not be used if the outdoor temperature is lower than -20 ˚C. Alkaline battery capacity is severely reduced by cold and will affect the performance of the ProWeatherStation™

Live Internet Publishing

This weather station can send data to the following free hosting services:

Hosting Service	Website	Description
Weather Underground	Wunderground.com	Weather Underground is a free weather hosting service that allows you to send and view your weather station data real-time, view graphs and gauges, import text data for more detailed analysis and use iPhone, iPad and Android applications available at Wunderground.com. Weather Underground is a subsidiary of The Weather Channel and IBM.
WOW	http://wow.metoffice.gov.uk/	WOW is a UK based weather observation website.
Weather Cloud	WeatherCloud.net	Weathercloud is a real-time weather social network formed by observers from around the world.

The weather station can also operate alone - showing weather data on the display console and computer (only if the weather station console and computer are connected to the same Wi-Fi). This mode does not require an internet connection to operate.

Android Software Operation

Connecting the Weather Station Console to Wi-Fi

To send weather data to these services you must connect your console to the internet via 2.4GHz Wi-Fi. The console can only operate using Wi-Fi when the external power adapter is connected and plugged in!

1. **Preliminary Wi-Fi Set-Up Notes:**

   Work with both units (Console and Sensor Array) indoors and within the same room as your Network. Be sure that the Console is powered using the provided wall plug power adapter and the Sensor Array has fresh batteries.

   To avoid sending erroneous information to a Weather Service, you will proceed through Section 1.1 following the steps for downloading the APP to your Mobile Device and connecting to your local 2.4GHz Wi-Fi. Once you have established a proper Wi-Fi connection, place the Sensor Array in its proper outdoor location.

   Clear the Console history: In History mode, push the “SET” button for 2 seconds to clear all the memory

   Then, log into your preferred Weather Service.

   The correct data readings may now be shared with the Weather Service.

2. **Download mobile application**

   Wi-Fi configuration is done using your mobile. Start by downloading the “WS View” application from the Google Play store.

3. **Connect the Console to Wi-Fi (Android)**

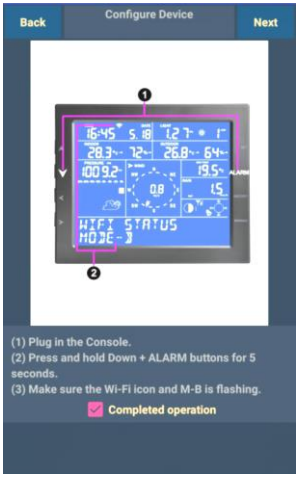
   Now activate the application you have downloaded on your mobile device. The following instructions will generally show screenshots for the Android application side by side.

4. **Configure Device**

Note: If you own a dual band router (2.4 GHz and 5.0 GHz), make sure you connect to the 2.4 GHz band, otherwise the Weather Station will fail connecting to Wi-Fi.

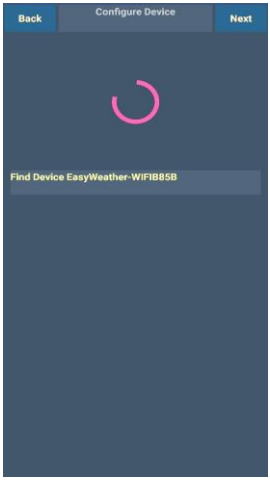
1)

Select the device you have from the device list, then press **Next**



2)

Operate as per the information, tick the box to confirm “completed operation”, press **Next.**



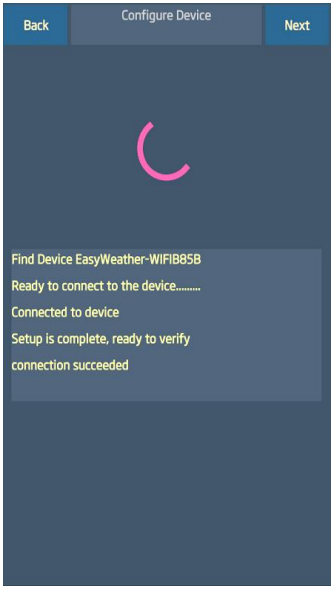
3)

The app would then search for the ProWeatherStation console:
The device named “EasyWeather-WI-FI” followed by four characters.

4)

Press Scan and select the Wi-Fi network you would like the console to connect to, you may also type in the SSID and password, and press Next

Note: SSID and passwords are case sensitive. Make sure you connect to a 2.4GHz band.



5)

The app will then connect your ProWeatherStation to your Wi-Fi. If configured successfully it will jump to "**Upload Setting**" screen automatically. If the configuration fails, make sure the Wi-Fi icon and Mode-B is flashing and you are putting in the correct SSID and password.

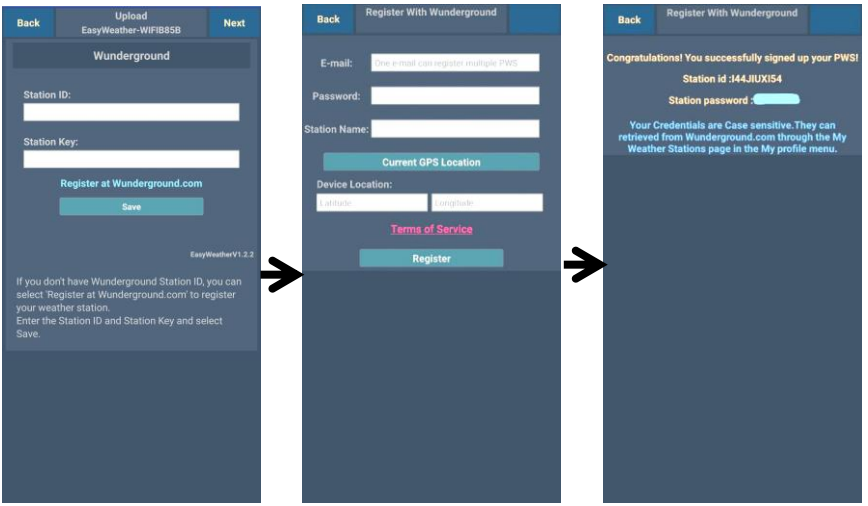
5. Upload your data to Web Based Weather Service

Your console can send your sensor data to select internet-based weather services: Wunderground.com, Weathercloud.net and, WOW. Users need to register at their preferred website to get a station ID and password. These steps are optional, you don't have to register to each site to get the ProWeatherStation to work. If you choose not to upload data right now, press the Back button.

Note：Users can register to Wunderground.com directly through the WS

View App, Weathercloud and WOW through a web browser

a) Upload to Wundergound.com



1)

Upload your weather data to **Wunderground.com**

Input Station ID & Station Key, press **Save**. Your station ID will be added on the WU Station ID.
then press **Nex**t.
Jump to the screen about Upload your weather data to Weathercloud.net

If you don't have a Wunderground Station ID and Key, press "**Register at Wunderground.com**" to Register with Wunderground.

2)

Register at Wunderground.com

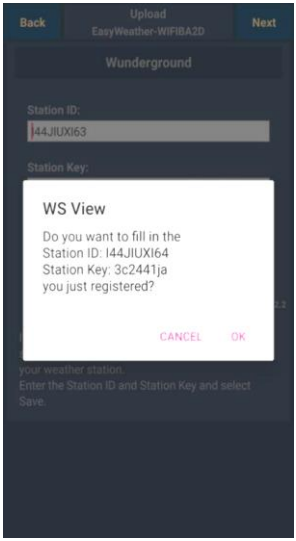
Enter your valid **e-mail address** and **password** to obtain the Station ID & Station Key from Wunderground.com.
Enter the **Station Name** you want.
Press "**Current GPS Location**" to get the device current location of Latitude and Longitude.

Then press **Register**

3)

If registered successfully, you'll receive a Station ID and Station password / key. You will also receive an e-mail about the information of Station ID and Station password / key

Then press **Back** to return to the **Upload** screen



4)

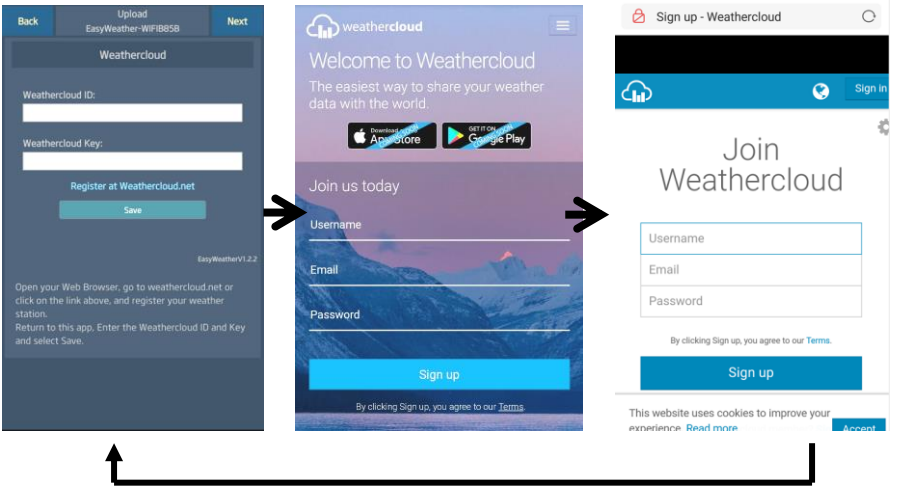
Select **OK** to fill in the Station ID and Station password / key automatically.

Press **Save** Your station ID will be added on the WU Station ID. Upload **to Wunderground.com** Setting finish.

Press **Nex**t. Jump to the screen about Upload your weather data to Weathercloud.net

Press **Back** if you don't want to upload the data to another website.

b) Upload to Weathercloud.net



1)

Upload your weather data to **Weathercloud.net**

Input Weathercloud ID & Weathercloud Key, press **Save** then press **Nex**t.

If you don't have Weathercloud ID and Key, press "Register at Weathercloud.net"

2)

Register at Weathercloud.net

Visit weathercloud.net and enter a Username, Email and Password to sign up

Respond to the validation email from Weathercloud (it may take a few minutes)

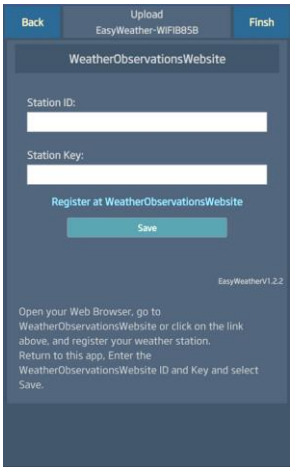
3)

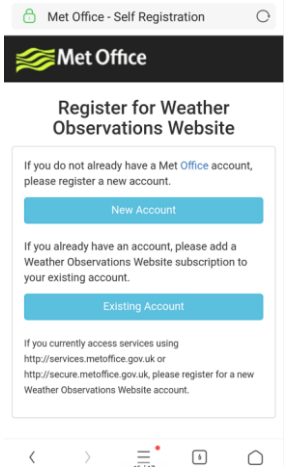
You will then be prompted to add a device/ Select "Create device" and enter your station's information. Select Fine Offset as the manufacturer and WH Series as the Model. Select WS Tool as the Link Type. Fill in other information as needed

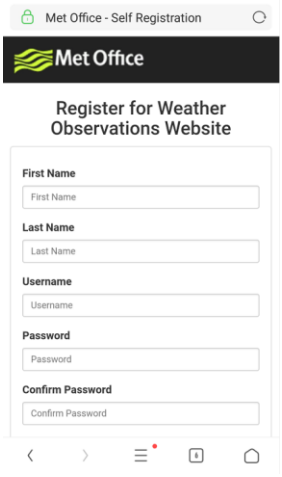
After registering your station, take note of the "Weathercloud ID" and "Key" presented to you.

Enter these values in the mobile application and press Save

c) Upload to WeatherObservationsWebsite (WOW)







1)

Upload your weather data to WOW

Input Weathercloud ID & Weathercloud Key, press **Save**.

then press **Finish**. Jump to the **Device List** home screen

If you don't have WOW ID and Key, press "Register at WeatherObservationsWebsite".

2)

Register at WeatherObservationsWebsite

Choose "New Account" you will be presented with a form to fill out

3)

The actual form is longer, but all questions should be self-explanatory. Complete and submit the form. You will shortly receive an email with instructions on how to log in

Now wait for the email to arrive and click the link in that email to confirm your email address.

Follow instructions on the screen and log into the site

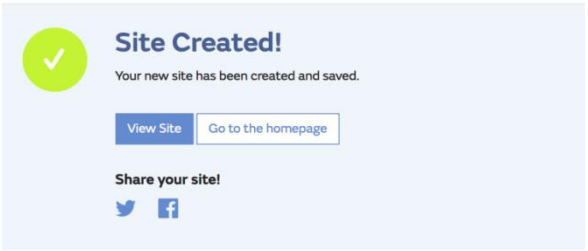
Once you are logged in you will need to create a new WOW site. “Sites” are the means by which WOW organizes weather data you contribute. Basically, WOW builds a personal web site for your weather station. Associated with the web site are two items you will need to allow uploading of data:

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

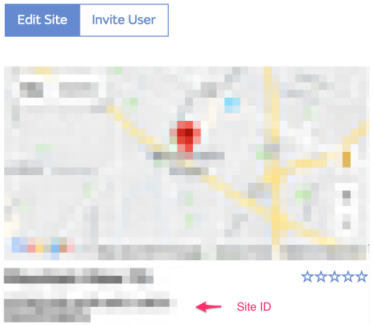
Authentication Key: This is a 6-digit number that is used to ensure data is coming from you and not another user.

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

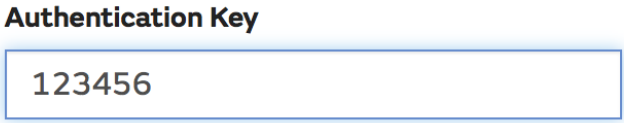
You will be presented with a form where you detail your station’s location and a few other settings related to how you wish the site to operate. After you complete the setup, you should see:



Make sure you are (still) logged in to the WOW site. Log in 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.” Set up this number by clicking on “Edit Site”) (**Error! Reference source not found.**) and entering a 6-digit number (Authentication Key) of your choice:



You will need both “**Site ID**” and “**Authentication Key**” to set up 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.

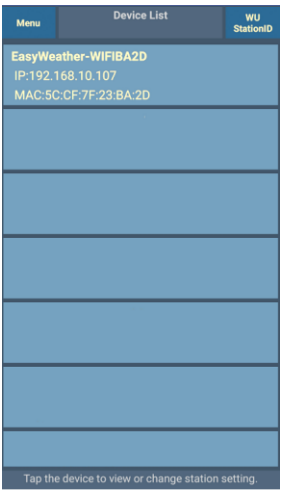
On this screen, you will fill out “Station ID” with the WOW “Site ID” value, and “Station Key” with the WOW “Authentication Key” you created. Press “Save” to finalize the configuration.

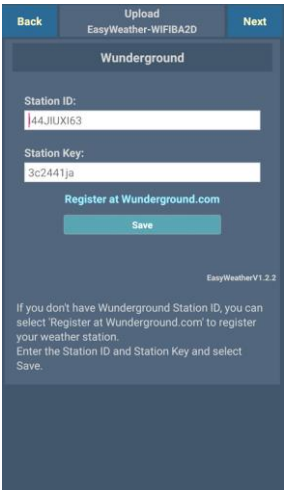
6. Mobile application – Device list

You can see your console through the “Device List” menu option:

Tapping on your console’s entry in the device list will bring you to the page where you can change WU registration information. If

you want to stop your console upload data to Wunderground, delete your Station ID and select "**Save**".

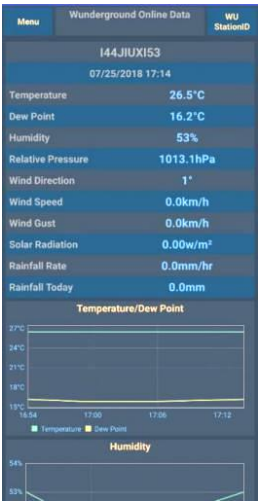


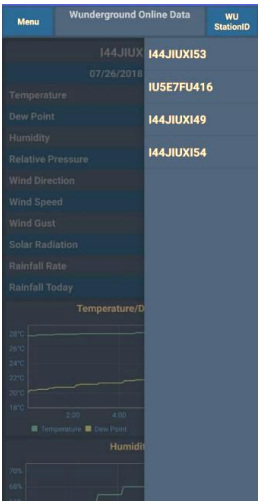


7. Mobile application – Check WU weather data and graph

In the mobile application tap **Menu** choose **WU Dashboard** and you will be presented with a page listing current conditions for that station.

If you have added multiple WU IDs, tap on the WU Station ID to switch to view data from other IDs.

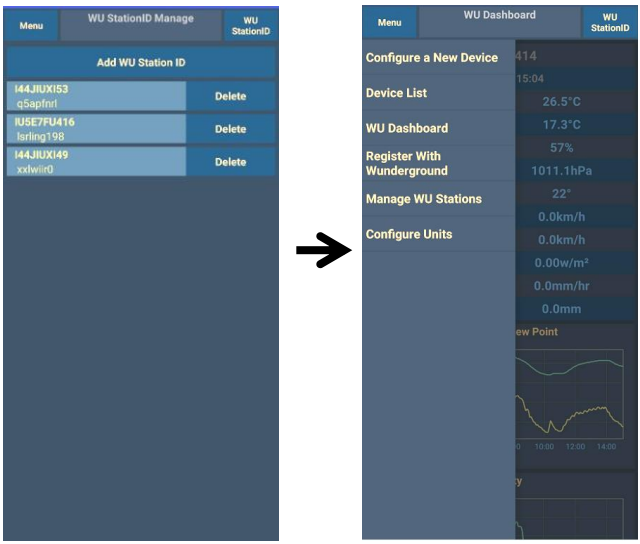




8. Mobile application – Remove or Add WU ID

If you have previously registered your console for use with wunderground.com and wish to remove this device data display from App, use the "**Manage WU Station**" menu option after tapping on the settings icon, select **"Delete"** your console from the list and confirm you wish to delete the station. The Station ID will delete from WU Station ID list and will not have the data information on the APP. But the data will upload to Wunderground.com as usual.

If you want to add a new weather station to view its data on the APP, and this device is registered in Wunderground.com, select "**Add WU Station ID**" and input the WU station ID of this new device.



9. Mobile application – Set Units

You may want to change the units in which sensor values are reported. To do so, click on the **"Configure Units**" menu after tapping on the settings icon. Next, tap on the sensor type you wish to change the reporting units for and set the units as desired.

iOS Software Operation

Connecting the Weather Station Console to Wi-Fi (iOS)

To send weather data to these services you must connect your console to the internet via Wi-Fi. The console can only operate using Wi-Fi when the external power adapter is connected and plugged in!

1. **Preliminary Wi-Fi Set-Up Notes:**

   Work with both units (Console and Sensor Array) indoors and within the same room as your Network. Be sure that the Console is powered using the provided wall plug power adapter and the Sensor Array has fresh batteries.

   To avoid sending erroneous information to a Weather Service, you will proceed through Section 1.1 following the steps for downloading the APP to your Mobile Device and connecting to your local 2.4GHz Wi-Fi. Once you have established a proper Wi-Fi connection, place the Sensor Array in its proper outdoor location.

   Clear the Console history: In History mode, push the “SET” button for 2 seconds to clear all the memory

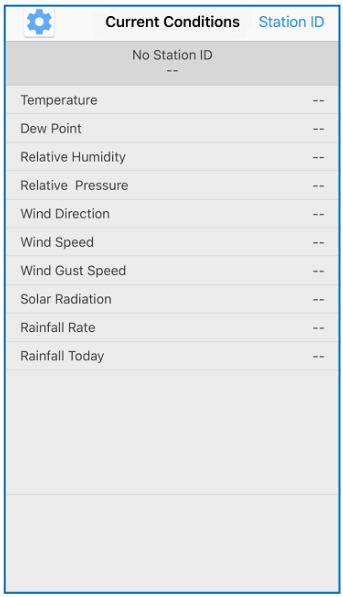
   Then, log into your preferred Weather Service.

   The correct data readings may now be shared with the Weather Service.

2. Download mobile application

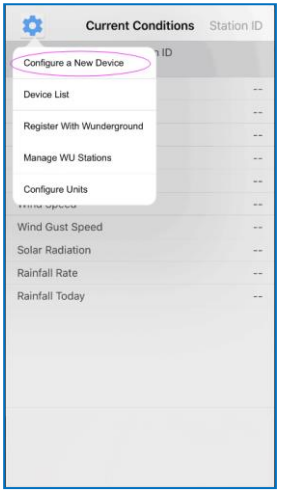
Wi-Fi configuration is done using your mobile device. Start by downloading the "**WS View**" application from the Apple App Store.

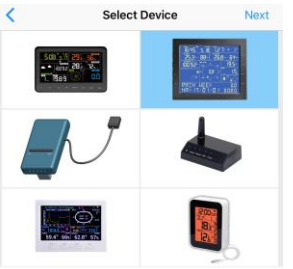
Activate the application you have downloaded on your mobile device. The main screen will indicate your station is off-line (because it is not yet connected to Wi-Fi).



3. Configure Device

Note: If you own a dual band router (2.4 GHz and 5.0 GHz), make sure you connect to the 2.4 GHz band, otherwise it will fail to connect the weather station to Wi-Fi.





1)

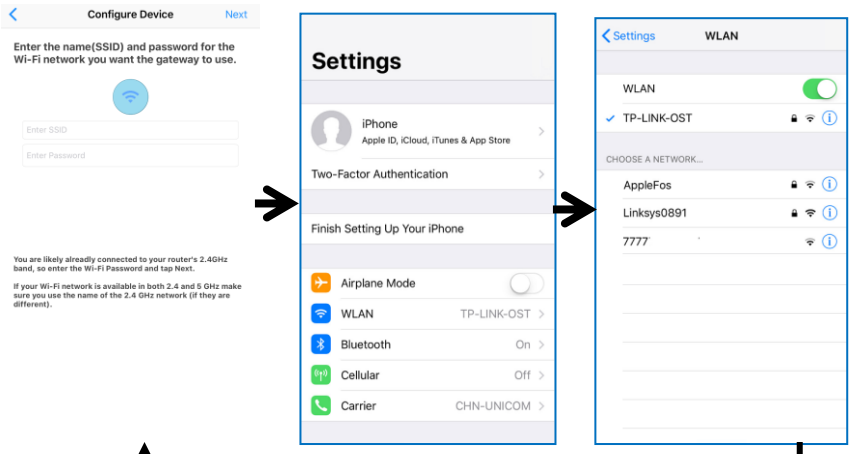
Tap on the settings icon and select “Configure a New Device”.

2)

Select the device you have from the device list, then press Next

3)

Operate as per the information, tick the box to confirm “completed operation”, press **Next.**

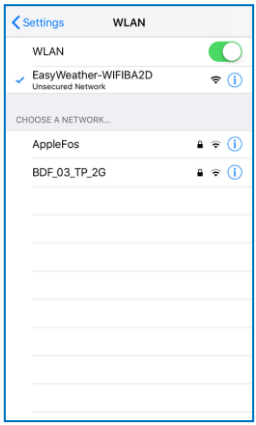


4)

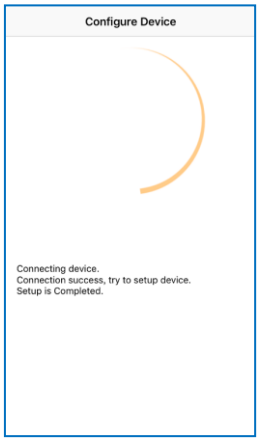
Enter your Wi-Fi **SSID** and **password** and press **Next**.

You may also go to your Wi-Fi settings and connect to your Wi-Fi network then return to WS View App

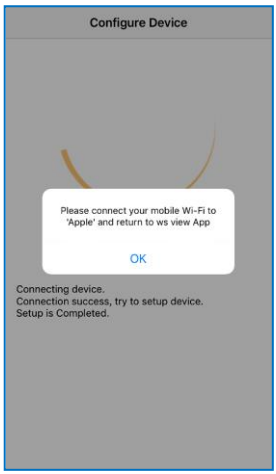
5)
Follow the instructions as stated on the screen.



6)
Select device Wi-Fi. The device named "EasyWeather-WIFxx xxl"" and return to WS View App



7)
If the console successfully connects, the page will jump to "**Upload Setting**" screen automatically.



If you see the mesage "Please connect your mobile Wi-Fi to (Wi-Fi Network name) and return to WS View App". Go back to your Wi-Fi settings, connect to your network, then switch back to the WS View App. Press **OK** to continue.

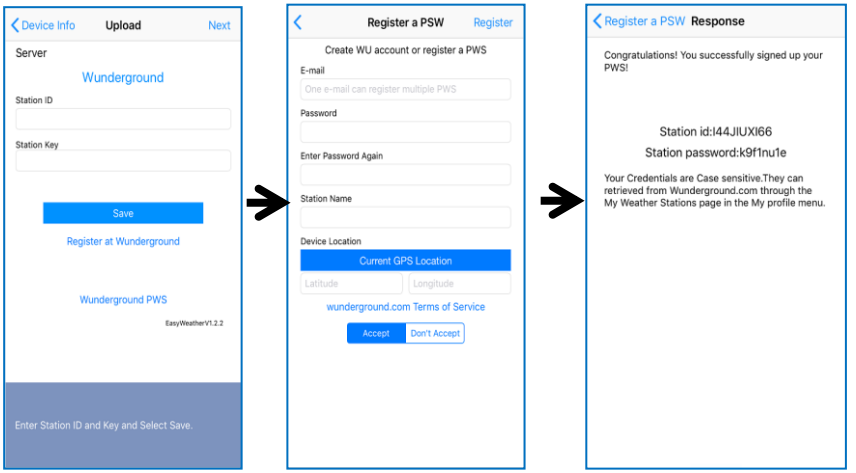
4. Upload your data to web weather services

Your console can send your sensor data to select internet-based weather services: Wunderground.com, Weathercloud.net and, wow.metoffice.gov.uk. Users need to register at their preferred website to get a station ID and password. These steps are optional, you don't have to register to each site to get the ProWeatherStation to work. If you choose not to upload data right

now, press the Back button.

Note：Users can register to Wunderground.com directly through the WS View App, Weathercloud and WOW through a web browser

a) Upload to Wunderground.com



1)

Upload your weather data to **Wunderground.com**

Input Station ID & Station Key, press **Save**. Your station ID will be added on the WU StationID.

then press **Nex**t. Jump to the screen about Upload your weather data to **Weathercloud.net**

If you don't have Wunderground Station ID and Key, press "Register at Wunderground.com" to sign up for an account.

2)

Register at Wunderground.com

Enter your valid **e-mail address** and **password** to obtain the Station ID & Station Key from Wunderground.com. Enter the **Station Name** you want. Press "**Current GPS Location**" to get the device current location of Latitude and Longitude.

Then press **Register**

3)

If registered successfully,

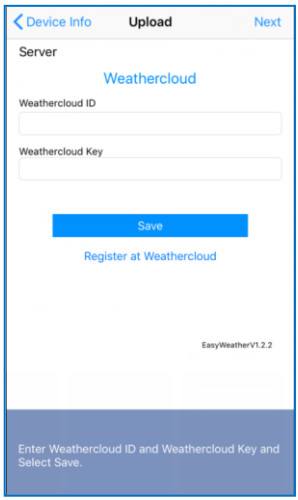
you'll receive a Station ID and Station password / key. You will also receive an e-mail about the information of Station ID and Station password / key

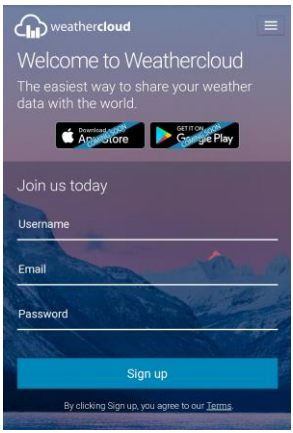
Then return to Upload Wunderground screen to input Station ID & Station Key.

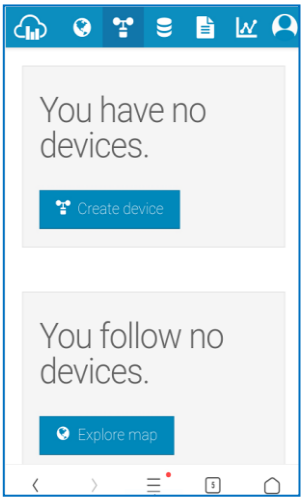
b) Upload to Weathercloud.net

Input Weathercloud ID & Weathercloud Key, press **Save**. Then press **Next**.

If you don't have a Weathercloud ID and Key, press "Register at Weathercloud.net" to open a web browser, then sign up.







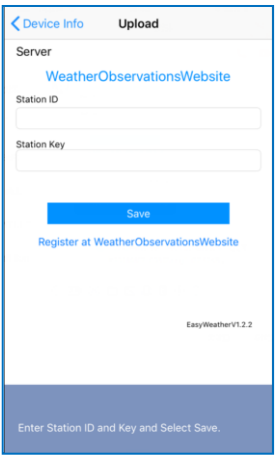
You will then be prompted to add a device. Select "Create device" and enter your station's information. Select Fine Offset as the manufacturer and WH Series as the Model. Select WS Tool as the Link Type. Fill in other information as needed

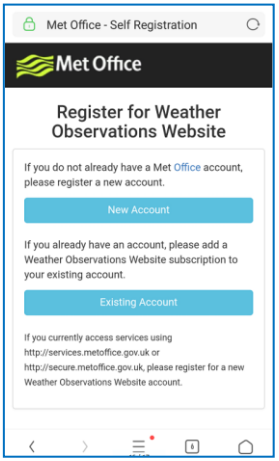
After registering your station, take note of the "Weathercloud ID" and "Key" presented to you.

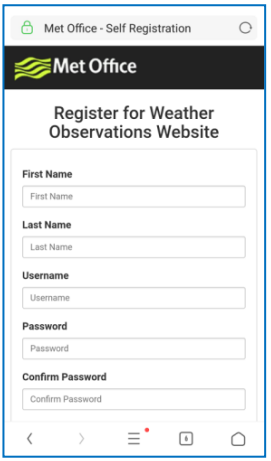
Go back to the app and input your Weathercloud press **Save**. Then press **Next**.

c) Upload to WeatherObservationsWebsite (WOW)

Input WOW Station ID and Key, press **Save**. Then press **Finish**.
If you don't have a WOW ID and Key, press "Register at WeatherObservationsWebsite" to open a web browser, then sign up.







Follow instructions on the screen and log in to the site

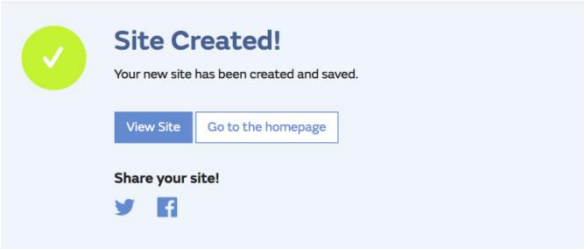
Once you are logged in you will need to create a new WOW site. “Sites” are the means by which WOW organizes weather data you contribute. Basically, WOW builds a personal web site for your weather station. Associated with the web site are two items you will need to allow uploading of data:

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

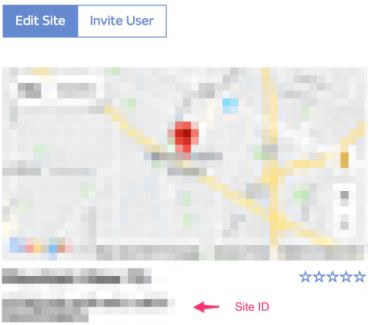
Authentication Key: This is a 6-digit number that is used to ensure data is coming from you and not another user.

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

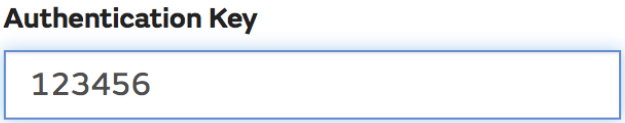
You will be presented with a form where you detail your station’s location and a bunch of other settings related to how you wish the site to operate. After you complete the setup, you should see:



Make sure you are (still) logged in to the WOW site. Log in 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.” Set up this number by clicking on “Edit Site”) (**Error! Reference source not found.**) and entering a 6-digit (Authentication Key) number of your choice:



You will need both “Site ID” and “Authentication Key” to set up 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.

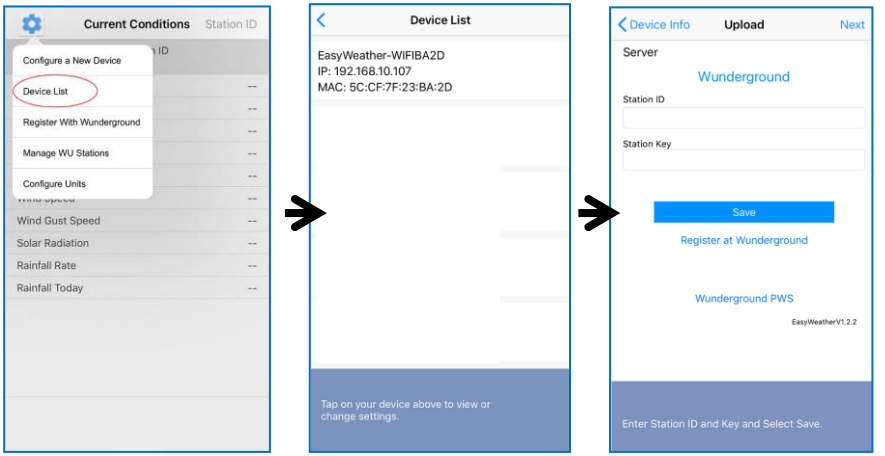
Please press “Next” one more time and you will now be on the screen where you will configure WOW.

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.

5. Mobile application – Device list

You can see your console through the “Device List” menu option:

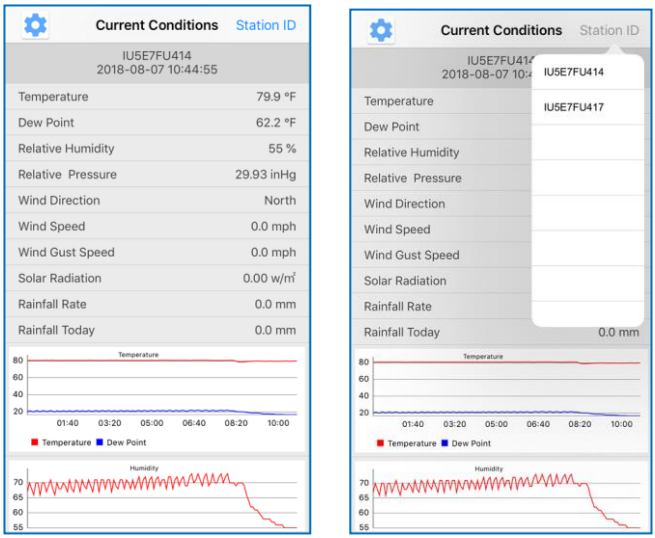
Tapping on your console’s entry in the device list will bring you to the page where you can change WU registration information. If you want to stop your console upload data to Wunderground, delete your Station ID and select “**Save**”.



6. Mobile application – Check WU weather data and graph

In the mobile application tap **Menu** choose **WU Dashboard** and you will be presented with a page listing current conditions for that station.

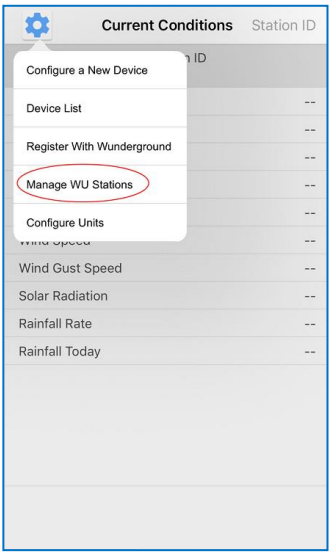
If you have added multiple WU IDs, tap on the WU Station ID to switch to view data from other IDs.

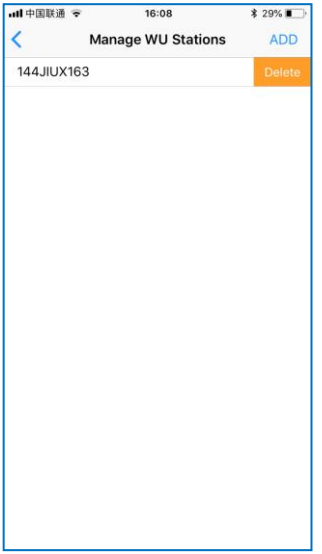


7. Mobile application – Remove or Add WU ID

If you have previously registered your console for use with wunderground.com and wish to remove this device data display from App, use the "**Manage WU Station**" menu option after tapping on the settings icon, select **"Delete"** your console from the list and confirm you wish to delete the station. The Station ID will delete from WU Station ID list and will not have the data information on the APP. But the data will upload to Wunderground.com as usual.

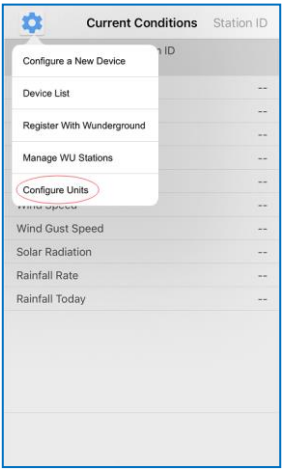
If you want to add a new weather station to view its data on the APP and this device is registered in Wunderground.com, select "**Add WU Station ID**" and input the WU station ID of this new device.

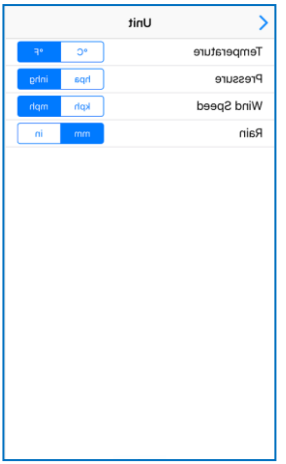




8. Mobile application – Set Units

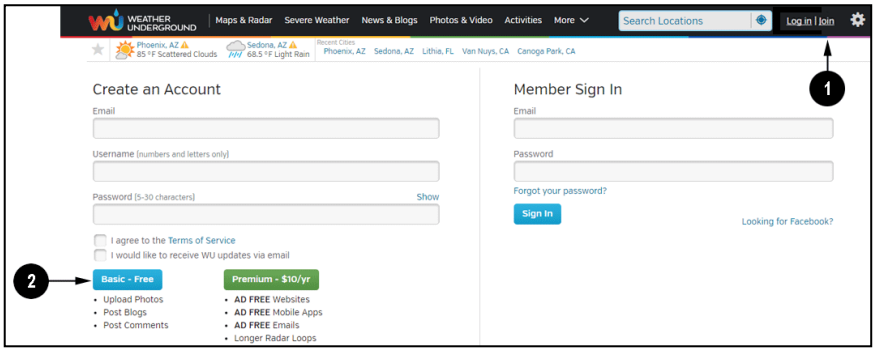
You may want to change the units in which sensor values are reported. To do so, click on the **"Configure Units**" menu after tapping on the settings icon. Next, tap on the sensor type you wish to change the reporting units for and set the units as desired.



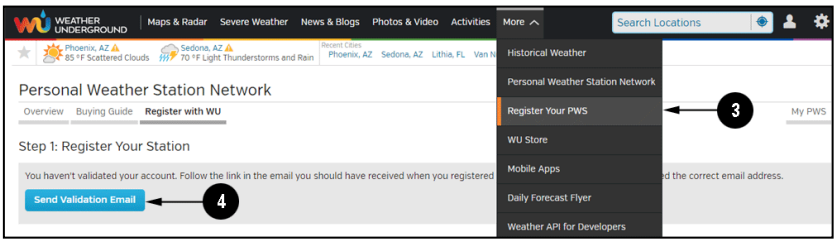


Registering with WeatherUnderground.com via a PC or Mac.

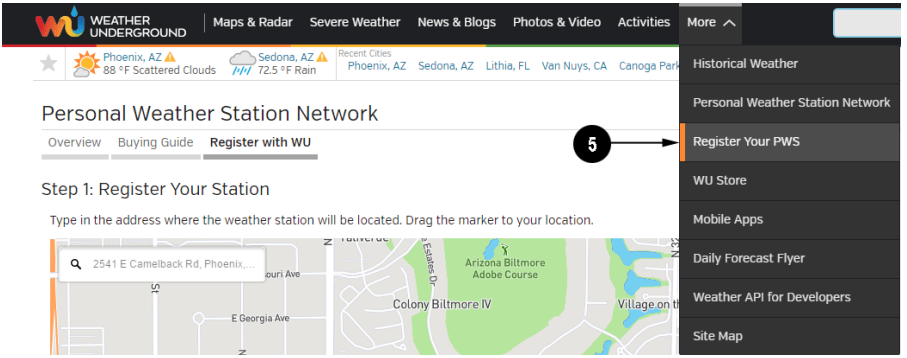
1. Visit Wunderground.com and select the **Join** link at the top of the page. Select the **Free** sign up option.



2. Select **More | Register Your PWS**.
3. Click **Send Validation Email**. Respond to the validation email from Wunderground (it may take a few minutes).



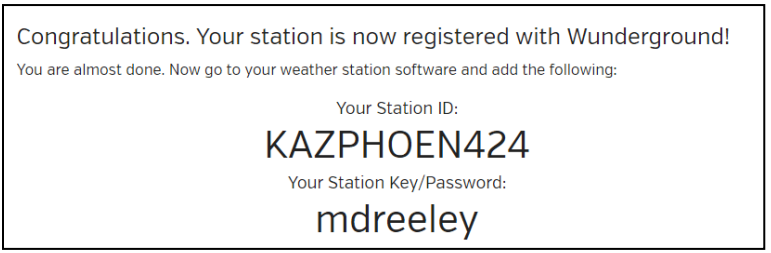
4. Select More | Register Your PWS again and enter all the information requested.



5. After registering your station, make a note of the following:
   - Station ID
   - Station Key / Password

Enter the Station ID (ID) and Station Key (Password) into the WS View.

Next image is an example (Your station ID and password will be different)



Note: Your station ID will have the form: KSSCCCC###, where K is for USA station (I for international), SS is your state, CCCC is your city and ### is the station number in that city.

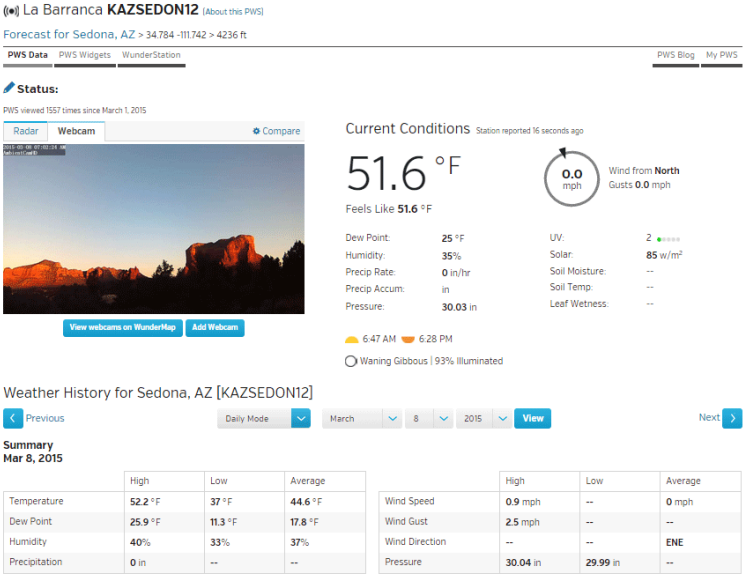
In the example above, KAZPHOEN424 is in the USA (K), State of Arizona (AZ), City of Phoenix (PHOEN) and #424.

Viewing your Data on Wunderground.com

There are several ways to view your data on Wunderground:

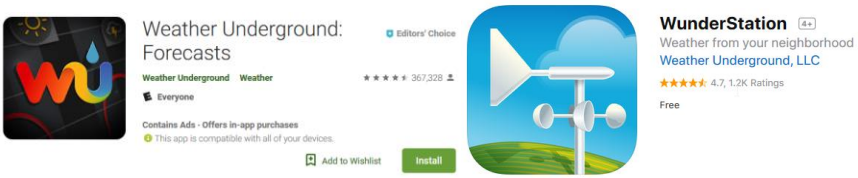
Web Browser

Visit:http://www.wunderground.com/personal-weather-station/dashboard?ID=STATIONID where **STATIONID** is your personal station ID (example, KAZSEDON12).



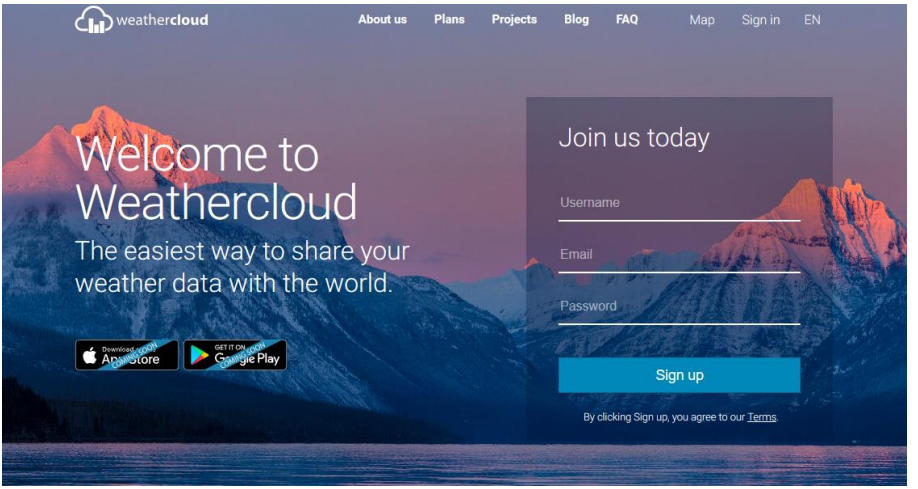
Mobile Apps

Download the mobile app and sign in. Visit: https://www.wunderground.com/download for a complete list of Mobile apps for iOS and Android.

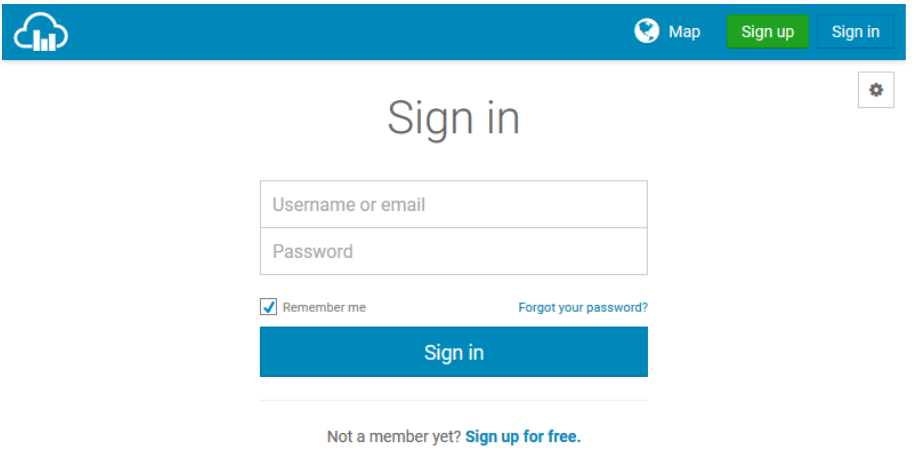


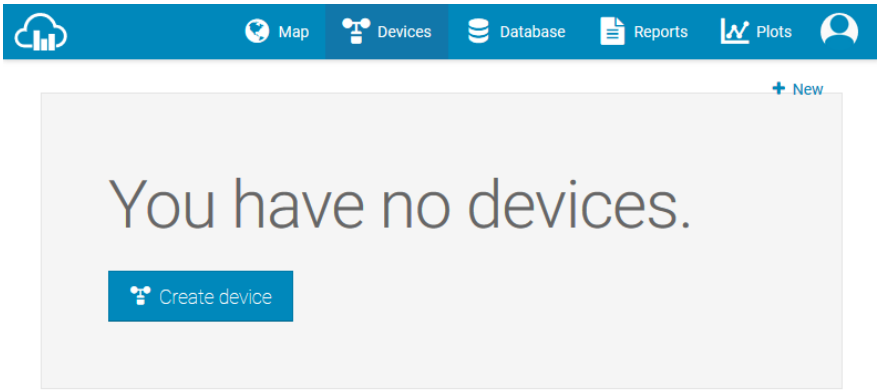
Registering with WeatherCloud.net via a PC or Mac

1. Visit WeatherCloud.net and enter a Username, Email, and Password.



2. Verify your account by clicking on the link contained in the email from WeatherCloud (it may take a few minutes).
3. Sign in to your account https://app.weathercloud.net/signin





4. Select **Create Device** and enter your weather station information. Select Fine Offset as the manufacturer and WH Series as the Model. Select WS Tool as the Link Type. Fill in other information as needed. After registering your station, take note of the Weathercloud ID and Key

Enter the Weathercloud ID (ID), Key (password) into the WS View app.

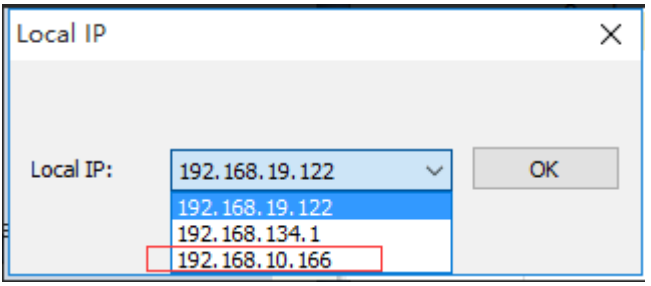
PC Software Operation

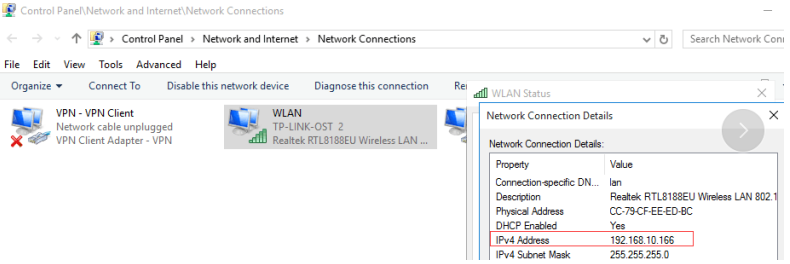
The ProWeatherStation™ has a PC software available to adjust the settings and monitor the readings.

Connect the display console with the PC software:

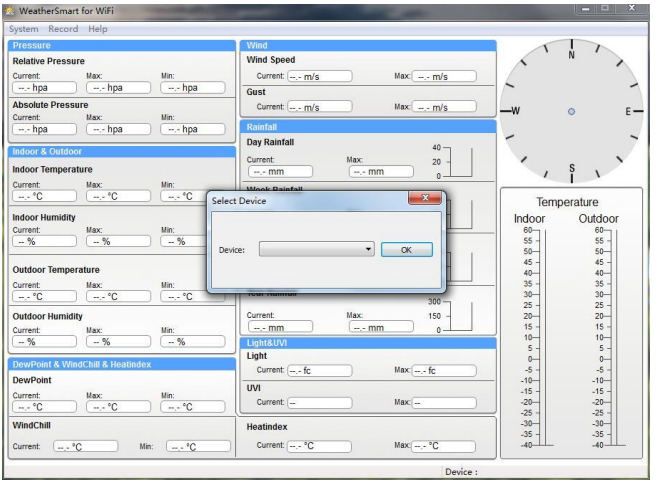
1. Download and install the PC software from: https://tyconsystems.com/Assets/WeatherSmart IP v1.1.zip
2. Make sure your PC is in the same network (connected via Wi-Fi or Ethernet) as the Weather Station console. Connect your console to your Wi-Fi network by following the instructions in this user guide (See Table of Contents).
3. Launch the software and select the IP address of your PC (check the

properties of the Wi-Fi network on your computer to find the IP address) and click OK.

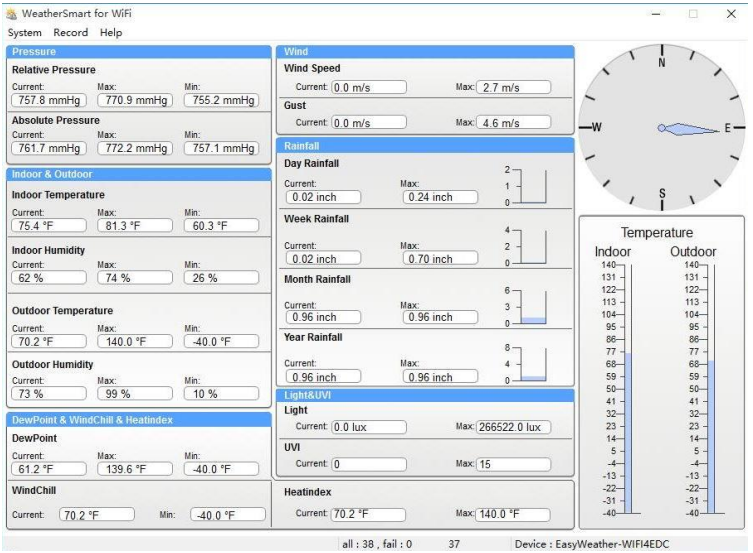




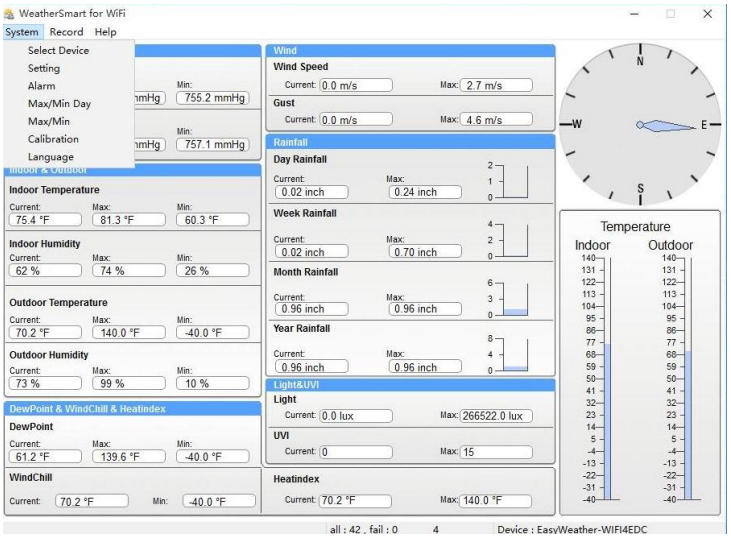
4. Under **System** column, click **Select Device** and choose weather station device IP address (weather station display IP address can be found on Device List from your WS View app). Click OK.



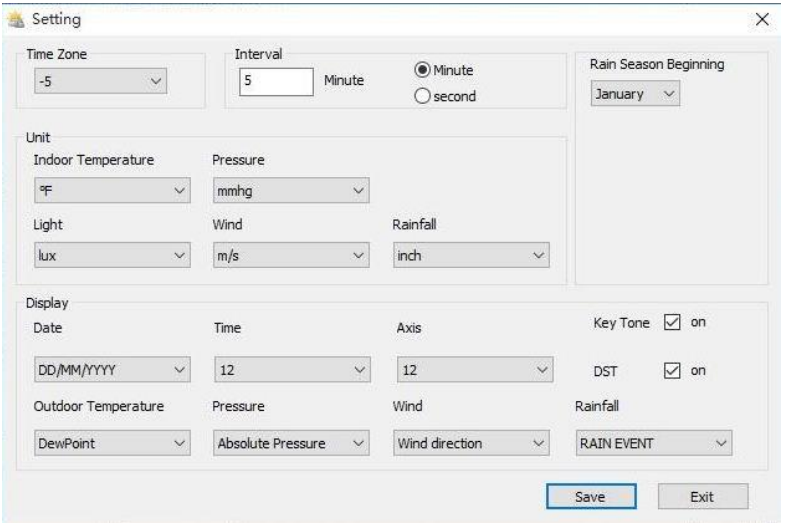
5. PC will try to connect to weather station now.
6. When connected successfully the weather data will show.



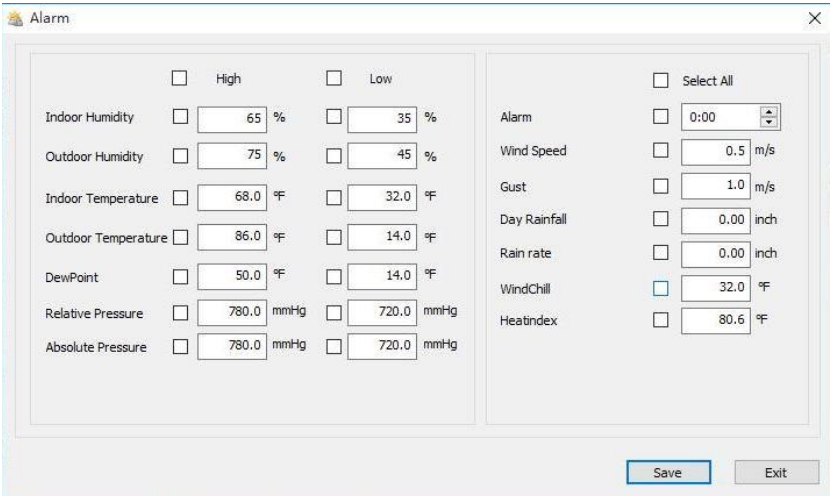
Basic Functions of the "WeatherSmartIP" Software System



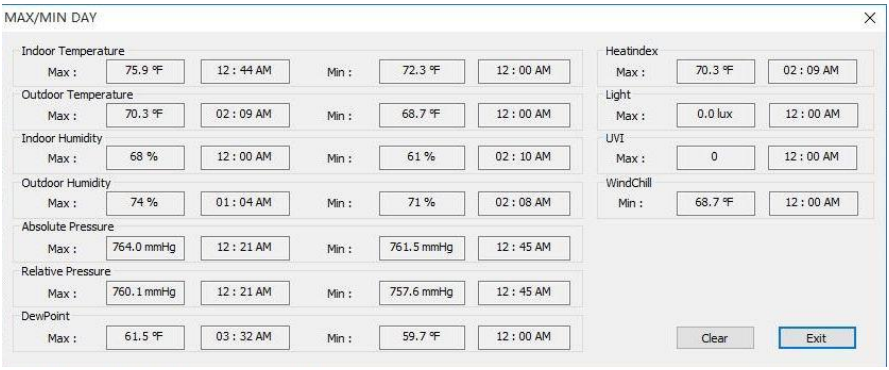
Setting



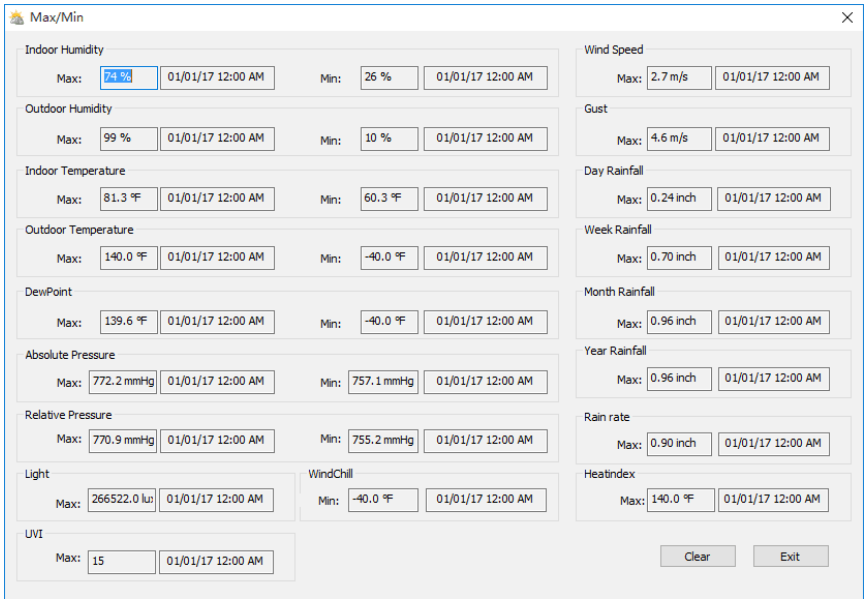
Alarm



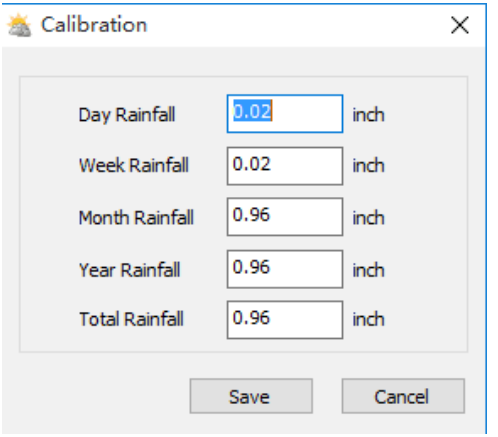
Max/Min Day



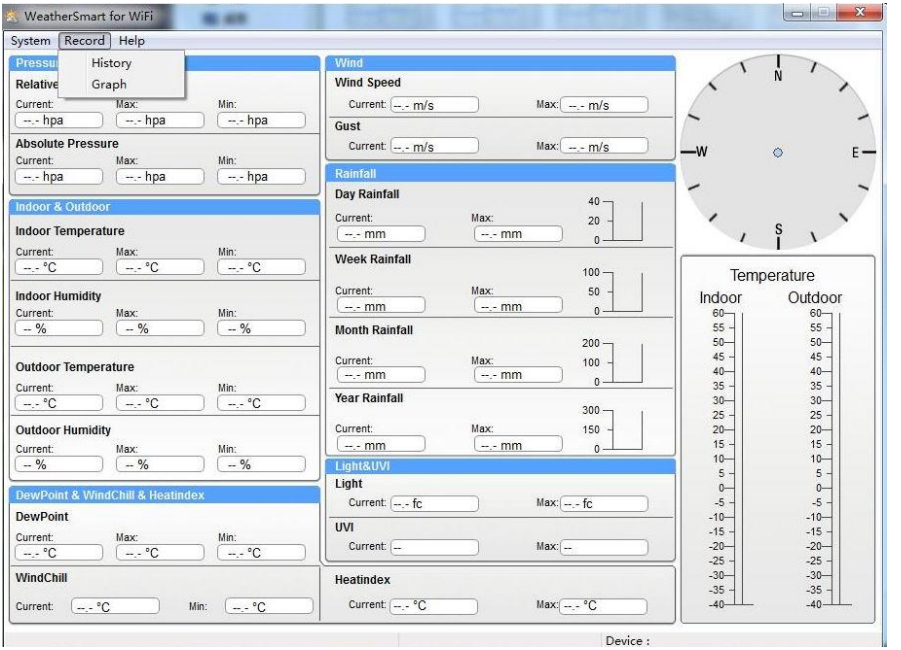
Max/Min History



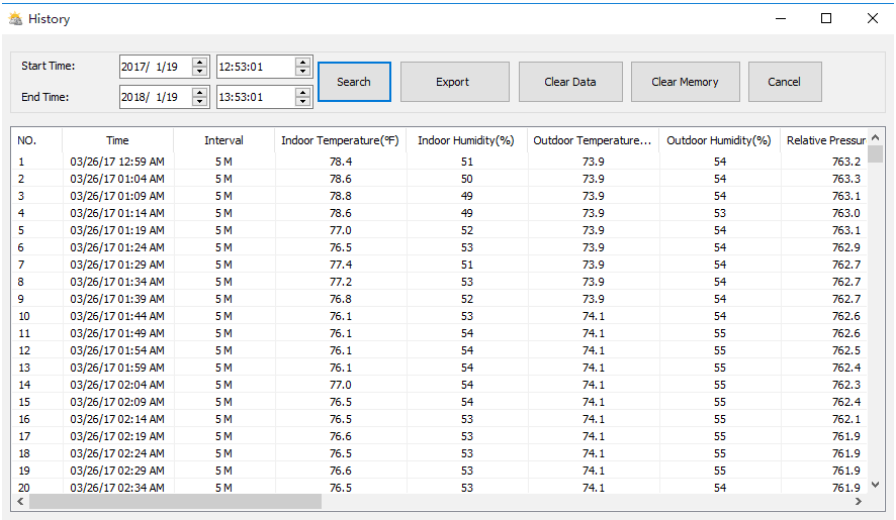
Calibration



Record



History

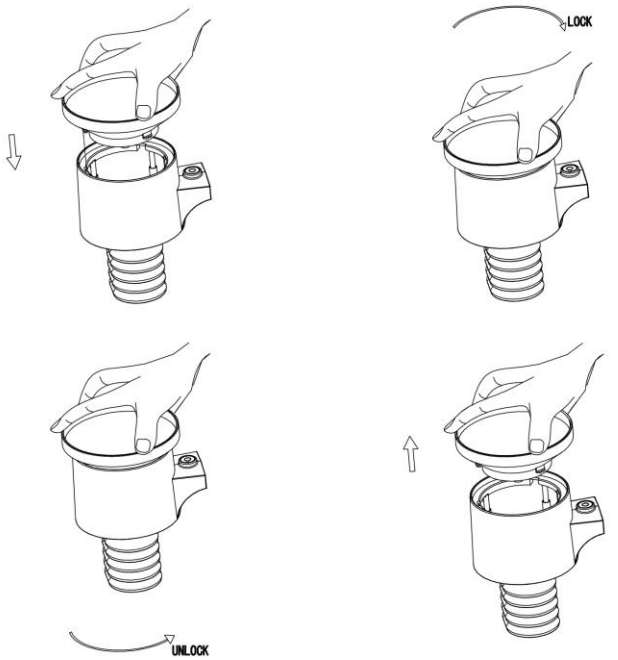


NO.	Time	Interval	Indoor Temperature(°F)	Indoor Humidity(%)	Outdoor Temperature...	Outdoor Humidity(%)	Relative Pressur
1	03/26/17 12:59 AM	5 M	78.4	51	73.9	54	763.2
2	03/26/17 01:04 AM	5 M	78.6	50	73.9	54	763.3
3	03/26/17 01:09 AM	5 M	78.8	49	73.9	54	763.1
4	03/26/17 01:14 AM	5 M	78.6	49	73.9	53	763.0
5	03/26/17 01:19 AM	5 M	77.0	52	73.9	54	763.1
6	03/26/17 01:24 AM	5 M	76.5	53	73.9	54	762.9
7	03/26/17 01:29 AM	5 M	77.4	51	73.9	54	762.7
8	03/26/17 01:34 AM	5 M	77.2	53	73.9	54	762.7
9	03/26/17 01:39 AM	5 M	76.8	52	73.9	54	762.7
10	03/26/17 01:44 AM	5 M	76.1	53	74.1	54	762.6
11	03/26/17 01:49 AM	5 M	76.1	54	74.1	55	762.6
12	03/26/17 01:54 AM	5 M	76.1	54	74.1	55	762.5
13	03/26/17 01:59 AM	5 M	76.1	54	74.1	55	762.4
14	03/26/17 02:04 AM	5 M	77.0	54	74.1	55	762.3
15	03/26/17 02:09 AM	5 M	76.5	54	74.1	55	762.4
16	03/26/17 02:14 AM	5 M	76.5	53	74.1	55	762.1
17	03/26/17 02:19 AM	5 M	76.6	53	74.1	55	761.9
18	03/26/17 02:24 AM	5 M	76.5	53	74.1	55	761.9
19	03/26/17 02:29 AM	5 M	76.6	53	74.1	55	761.9
20	03/26/17 02:34 AM	5 M	76.5	53	74.1	54	761.9

Graph

Maintenance

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 radiation sensor and solar panel every 3 months with a 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 Amazon and most hardware stores.
5. In snowy environments, spray the top of the weather station with anti-icing silicon spray to prevent snow build up.

Troubleshooting Guide

Problem	Solution
Wireless remote (outdoor unit) not reporting to console. There are dashes (--) on the display console.	Verify the outdoor sensor array LED is flashing. It should flash every 16secs The outside sensor has an LED on the underside, just above the battery compartment. The LED will normally flash every 16 seconds. If the LED is not flashing every 16 seconds, replace the batteries in the outside outdoor sensor array. If the batteries were recently replaced, check the polarity. If the LED is flashing every 16 seconds, proceed to the next step. There may be a temporary loss of communication due to reception loss related to interference or other location factors, or the batteries may have been changed in the remote and the console has not been reset. The solution may be as simple as removing and re-applying power. (Power Cycle) 1. Make sure you have fresh batteries in the display console. 2. With the sensor array and console 10 feet away from each other, remove the batteries from the display console and wait 10 seconds. Put the batteries back in. 3. Do not touch any buttons for several

Problem	Solution
	minutes. 4. The remote sensor search icon will flash on the display. Wait several minutes for this icon to turn off. 5. If the search icon turns off and the outdoor temperature and humidity are still showing dashes (--), the remote sensor is defective. If the sensor properly syncs up, proceed to the next step “How to prevent intermittent wireless communication” **How to prevent intermittent wireless communication issues:** 1. Install a fresh set of batteries in the remote sensor array and console. For cold weather environments, install lithium batteries. 2. The maximum line of sight communication range is 300’ but most users will get 100’ or less due to environmental conditions. Move the sensor and remote closer together. 3. If the sensor assembly is too close (less than 5’), move the sensor assembly away from the display console. 4. Make sure the remote sensors are not transmitting through solid metal like aluminum siding (acts as an RF

Problem	Solution
	shield), or earth barrier (down a hill). 5. Move the display console around electrical noise generating devices, such as computers, TVs and other wireless transmitters or receivers. 6. Move the remote sensor to a higher location. Move the remote sensor to a closer location.
Temperature sensor reads too high in the day time.	Try to shade the temp/humidity sensor. Don't restrict airflow.
Indoor and Outdoor Temperature do not agree	1. Allow up to one hour for the sensors to stabilize due to signal filtering. The indoor and outdoor temperature sensors should agree within 4 °F (the sensor accuracy is ± 2 °F). 2. Perform a temperature calibration (reference Section 2.1)
Indoor and Outdoor Humidity do not agree	1. Allow up to one hour for the sensors to stabilize due to signal filtering. The indoor and outdoor humidity sensors should agree within 10 % (the sensor accuracy is ± 5 %) 2. Perform a humidity calibration (reference Section 2.1)
Relative pressure does not agree with official reporting station	1. You may be viewing the relative pressure, not the absolute pressure. 2. Make sure you properly calibrate the barometer to an official local weather station (reference Section 2.1) 3. The barometer is only accurate to ± 0.08 inHg within the following relative pressure range: 27.13 to 32.50 inHg,

Problem	Solution
	which corresponds to an altitude of -2,200 to 2,700 feet. At higher altitudes, expect some non-linearity or error.
Time is incorrect	Make sure your time zone and daylight savings settings are correct.
The forecast icon is not accurate	The weather station console must run for several days to trend barometric pressure. The weather forecast is an estimation or generalization of weather changes in the next 24 to 48 hours and varies from location to location. The tendency is simply a tool for projecting weather conditions and is never to be relied upon as an accurate method to predict the weather.
Moon phase is not correct	Check your calendar date and make sure it is correct
Display console contrast is weak	Replace console batteries with a fresh set of batteries.
Data not reporting to Wunderground.com	1. Confirm your password or key is correct. It is the password you registered on Wunderground.com. Your Wunderground.com password cannot begin with a non-alphanumeric character (a limitation of Wundeground.com, not the station). Example, $oewkrf is not a valid password, but oewkrf$ is valid. 2. Confirm your station ID is correct. The station ID is all caps, and the most common issue is substituting an O for a 0 (or vice versa). Example,

Problem	Solution
	KAZPHOEN11, not KAZPH0EN11 3. Make sure the date and time are correct on the console. If incorrect, you may be reporting old data, not real-time data. 4. Make sure your time zone is set properly. If incorrect, you may be reporting old data, not real-time data. 5. Check your router firewall settings. The console sends data via Port 80.
No Wi-Fi connection	1. Check for Wi-Fi symbol on the display. If wireless connectivity is successful, the Wi-Fi icon will be displayed in the time field. 2. Make sure your modem Wi-Fi settings are correct (network name, and password). 3. Make sure the console is plugged into AC power. The console will not connect to Wi-Fi when powered by batteries only. 4. The console only supports and connects to 2.4 GHz routers. If you own a dual-band router, make sure you connect to the 2.4GHz band. 5. The console does not support guest networks.

FCC Statement

Statement according to FCC part 15.19:

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Statement according to FCC part 15.21:

Any changes or Modifications not expressly approved by this company could void the user's authority to operate the equipment.

Statement according to FCC part 15.105:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in an installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

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

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement.

Warranty Information

We disclaim any responsibility for any technical error, printing error, or their consequences.

All trademarks and patents are recognized.

We provide a 1-year limited warranty on this product against manufacturing defects in materials and workmanship.

This limited warranty begins on the original date of purchase, is valid only on products purchased and only to the original purchaser of this product. To receive warranty service, the purchaser must contact us for problem determination and service procedures.

This warranty covers only actual defects within the product itself and does not cover the cost of installation or removal from a fixed installation, normal set-up or adjustments, claims based on misrepresentation by the seller or performance variations resulting from installation-related circumstances.