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General Information

Thank you for purchasing the HOLMAN Aspect Wireless Data Centre WS5029 - Weather Station, Please read the operating instructions carefully to familiarise yourself with the features and modes of operation before using the instrument.

NOTE: Always remember to use high quality batteries & change them at least once per year.

Package Contents

Carefully unpack and remove the contents:

- 1× weather station main unit
- 1× stainless steel mast
- 1× thermo hygro sensor
- 1× rain sensor
- 1× wind speed sensor
- 1× wind direction sensor
- 3 x plastic mounting brackets
- Mounting screws
- Stainless steel accessory for fixing the mast

Technical Details

- Six keys: **MODE**, **+**, **-**, **ALARM**, **ALERT**, **SNOOZE/LIGHT**
- Time display in 12/24 format
- Continuous perpetual calendar up to 2099
- Display of Date, Month and Day of week
- Day of week display English
- Dual alarm with snooze function (5 minutes alarm interruption)
- 5 weather forecast: sunny, partly sunny, cloudy, rainy, storm .
- Barometer and bar and data of 12 hours history for air pressure
- Indoor /outdoor temperature and humidity with trend
- Max./min. of temperature and humidity
- Thermometer measuring range inside:°C to +50 °C , outside -20°C~60 °C
- Temperature display elective in °C or °F
- Temperature alert for indoor and outdoor
- Living space humidity
- Moon phase
- Wind speed in mph /kmh, wind speed 0~256kmh
- Wind direction in 16 directions
- Rainfall in mm and inch and display of 1hour, 24hour, TOTAL.
Rain volume (0~999.9MM)
- Low battery indication
- Blue background illumination LED.
- Main unit batteries: 2 x AA Batteries 1.5V (not included)

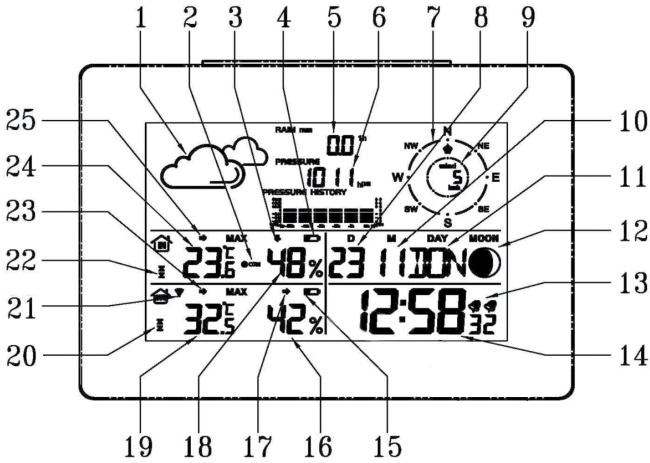
Outdoor sensor:

- Frequency: 917 MHz
- Transmission range: 100 metres in open area.
- **Batteries: 2 x AA Batteries 1.5V (not included)**

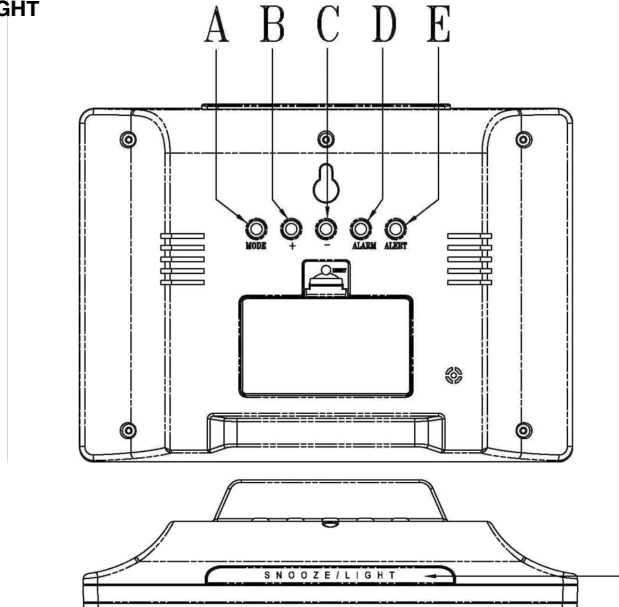
** Actual distance may be varied depending upon the environment, it will be shortened if with interference, such as a concrete wall etc.

Glossary

- | | | | |
|--------------------------|-----------------|-------------------------------|-------------------------------|
| 1. Weather Forecast | 8. Date | 15. Outdoor low battery | 22. Indoor temperature alert |
| 2. Living space humidity | 9. Wind speed | 16. Outdoor humidity | 23. Outdoor temperature trend |
| 3. Indoor humidity trend | 10. Month | 17. Outdoor humidity trend | 24. Indoor temperature |
| 4. Indoor low battery | 11. Day of week | 18. Indoor humidity | 25. Indoor temperature trend |
| 5. Rainfall | 12. Moon Phase | 19. Outdoor temperature | |
| 6. Air Pressure | 13. Dual alarm | 20. Outdoor temperature alert | |
| 7. Wind direction | 14. Time | 21. RF symbol | |



A = MODE B = + C = - D = ALARM E = ALERT F = SNOOZE/LIGHT

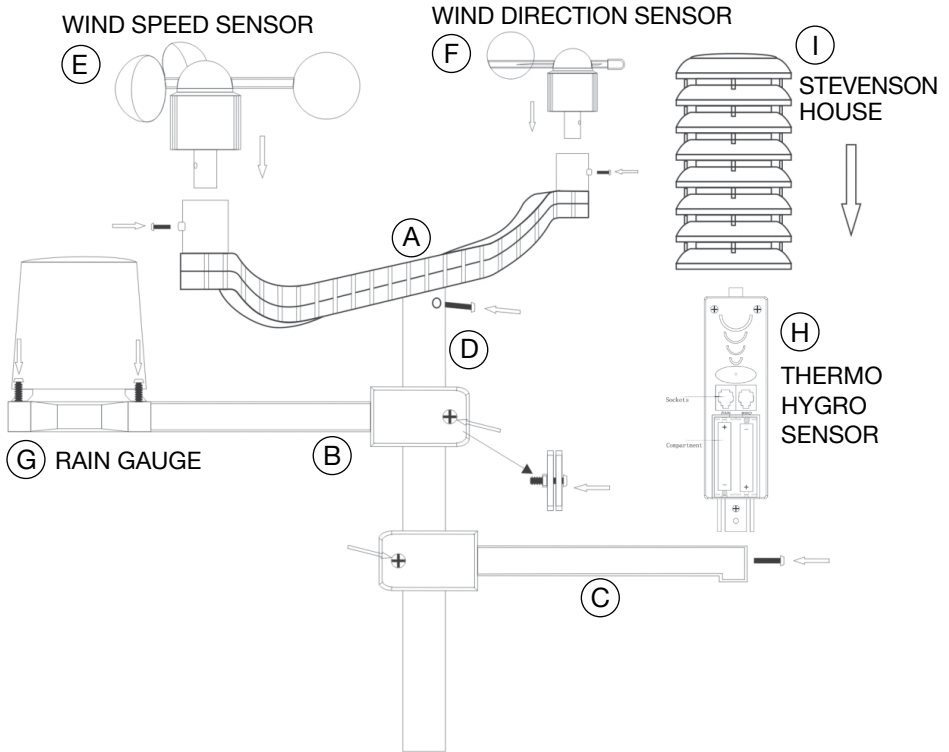


Assembling The Sensor Unit

Assembly of the Weather Station parts may take a little time.

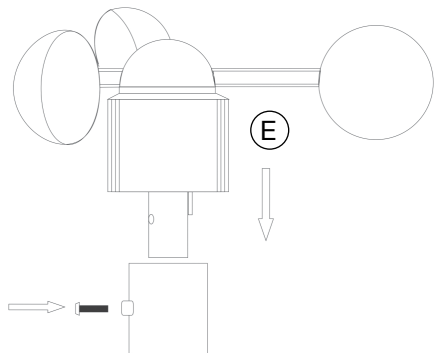
The following procedure is recommended for assembling and installing the sensor unit.

Please refer to below diagram through the duration of the assembly steps.



1) Fit the Wind Speed Sensor (E) to the end of the 'U-Shaped' plastic bracket (A)

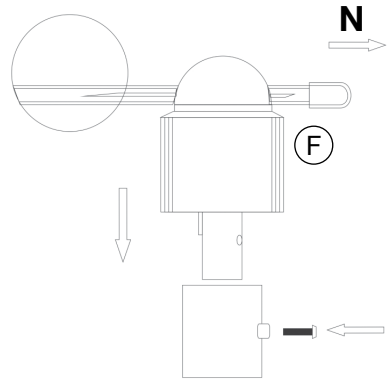
Insert the Wind Speed Sensor Head (E) into the bracket on the end of the plastic bracket (A) and fit the bolt and nut. Check that the buckets rotate freely. You will join the cable from this Wind Speed Sensor in the next step.



Assembling The Sensor Unit

2) Fit the Wind Direction Sensor (F) to the other end of the 'U Shaped' plastic bracket (A) and connect the cable (J) from the Wind Speed Sensor (E)

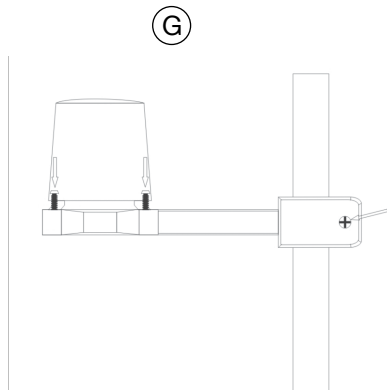
Insert the cable from the Wind Speed Sensor (E) into the socket in the base of the Wind Direction Sensor (F). Insert the Wind Direction head (F) facing north into the bracket on the other end of the plastic bracket (A). To make this easy please align the "North" indicator sticker with the NORTH direction. Fix the bolt and nut. Use the clips on the bottom of bracket (A) to secure the cable (J) from the Wind Speed Sensor.



3) Mount the Rain Gauge (G) onto the plastic bracket (B)

Place the Rain Gauge into the bracket and fix the 4 bolts and nuts in place. The cover of the Rain Gauge can be removed by rotating in an anti-clockwise direction. When replacing the cover it will only fit in one position. Rotate it clockwise to secure the cover in place.

It is important that the cover is secure.



4) Mount the plastic brackets (A, B & C) onto the stainless steel mast (D)

Starting at the top, insert the 'U Shaped' plastic bracket (A) into the top of the stainless steel pole (D) and fix with a bolt and nut. Slide plastic bracket (B) with the Rain Gauge onto the pole from the bottom and secure with a bolt and nut. Slide the remaining plastic bracket (C) with nothing attached so far, onto the pole from the bottom and secure with a bolt and nut.

Orientate the brackets A & B to ensure the Rain Gauge is away from the Wind Sensors and ensure that they do not come into contact. Likewise, the Thermo Hygro Sensor (once attached) will need to have space and not come into contact with any brackets. Once orientation is good, make sure all the bolts and nuts are secure.

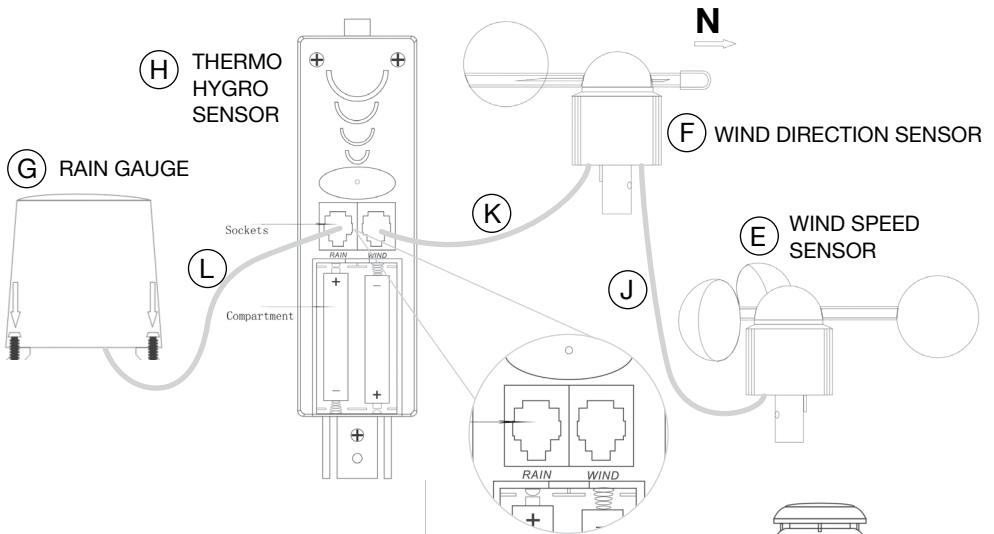
Assembling The Sensor Unit

5) Mount the Thermo Hygro Sensor (H) to the plastic bracket (C)

After installing the batteries - (refer to Page 6) fit the Thermo Hygro Sensor (H) to the plastic bracket (C) and fix with a bolt and nut.

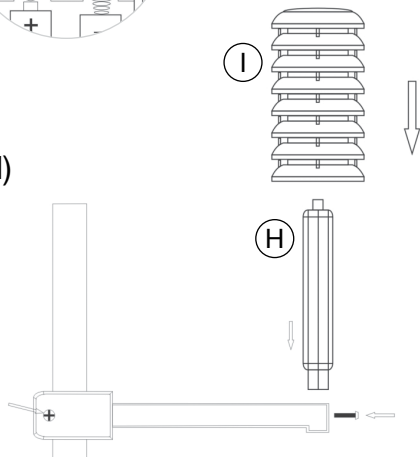
6) Connect the Wind Direction Sensor (F) and Rain Gauge (G) into the Thermo Hygro Sensor (H)

Connect the remaining cable (K) from the Wind Direction Sensor (F) into the socket labelled "WIND" on the Thermo Hygro Sensor (H). Connect the cable (L) from the Rain Gauge (G) into the socket labelled "RAIN" on the Thermo Hygro Sensor (H).



7) Add the Stevenson House (I) over the Thermo Hygro Sensor (H)

Now that the Wind Direction Sensor and Rain Gauge cables are secure, take the Stevenson House (I) and slide it over the Thermo Hygro Sensor (H). There are 4 small guide marks inside the Stevenson House to help locate it properly.



Powering Up the Weather Station

Note: It is very important that this process is done correctly. The internal and external units must connect through the wireless communication system and the initial power up routine allows this to happen. It is very important both units have the batteries installed within 3 minutes of each other.

You can complete the assembly of the outside sensor unit before the batteries are installed or you can install the batteries before you assemble the sensor unit. The important issue is that the batteries must be installed in BOTH the internal and external units almost simultaneously.

Installing the Batteries

1) Internal Main Display Unit

Open the battery cover located at the back of the unit and insert 2 x AA (Alkaline) Batteries in the correct orientation.

2) External Sensor Unit (Thermo Hygro Sensor)

Slide away the battery compartment lid and insert 2 x AA (Alkaline) Batteries in the correct orientation.

Note: If you have inserted both sets of batteries within 3 minutes of each other the 2 units will automatically "sync up". You know this will have happened when the outside temperature, humidity and wind speed / direction shows on the main unit.

If this does not happen then press the ALARM button for more than 3 seconds and the units will re-establish their wireless connection.

If this still fails to connect the units, then remove both sets of batteries and leave for 5 - 10 minutes so both units have time to reset themselves. Then re-install both sets of batteries as stated above and wait for the wireless connection to be made.

ALWAYS USE NEW GOOD QUALITY ALKALINE BATTERIES

Remember - After replacing batteries in either of the units to press the ALARM button for more than 3 seconds to allow the synchronisation process to occur.

Checking Wireless Connection

Checking the Wireless Connection is Achieved & Maintained

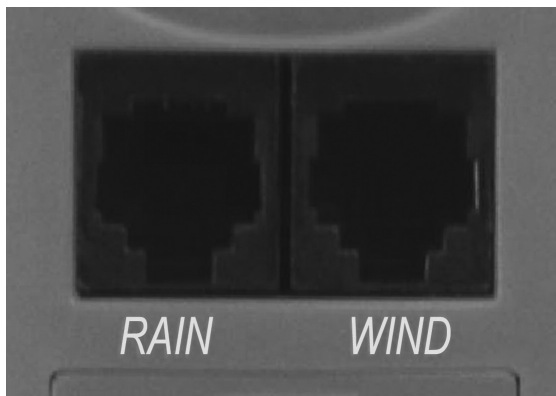
1) It is very important to install new high quality batteries in both the outside thermometer / hygrometer module and the internal receiver. Make sure the low battery indicator on the internal receiver does not show the batteries are low. Low batteries can cause the wireless connection to fail.

2) Make sure the red LED on the outside thermometer / hygrometer is flashing about once every minute (shown in picture 1).



Picture 1

3) Make sure the plugs from the Rain and Wind gauges are plugged into the correct sockets on the thermometer / hygrometer (shown in picture 2 below).




Picture 2

Checking Wireless Connection

4) Before installing the outside unit, test that the wireless connection is made.

i) Hold the “ALARM” button on the internal unit for 3 seconds.

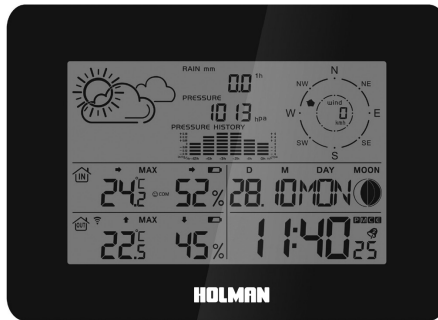
ii) The RF Symbol  will flash on the LCD for approximately 3 minutes (See Picture 3).

iii) While this is flashing insert (within 3 minutes) the batteries into the external thermometer / hygrometer (shown in picture 1). The LED light will flash when the unit is transmitting.



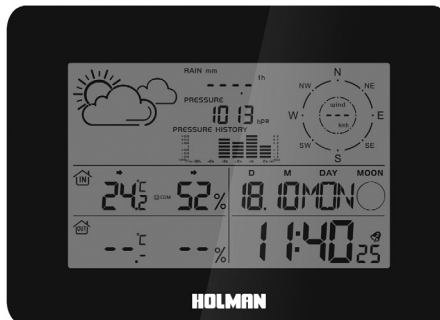
Picture 3

If **successful** the internal unit looks like picture 4



Picture 4

If **unsuccessful** the internal unit looks like picture 5



Picture 5

Checking Wireless Connection


5) Once the units are communicating then install the outside unit.

When placing both the inside and outside units remember they are subject to interference.

Try to:-

- i) Install both units as close as possible to each other.
- ii) Try and avoid outside interference by not placing them near computers, TVs or aerials etc.
- iii) Also remember concrete walls & floors can interrupt transmissions. Try and avoid as much as possible.

6) If the connection is successful initially & then fails occasionally, try to reduce the distance between the 2 units.

7) To “re-connect”, please hold the “ALARM” button down for 3 seconds, the  symbol will flash for 3 minutes and re-connection should be achieved.

Barometer Information

The barometric pressure is affected by 2 factors.

- i) The **Local** conditions in the atmosphere. A local storm will create a lower reading for example.
- ii) The height you are located above (or below) sea level. The barometric pressure will reduce by approximately 10 hpa for every 100 metres you go above sea level.

If you are comparing the barometric pressure you are reading against the reading from the BOM office, you must allow for the local differences.

The receiver unit allows you to adjust for the altitude you are above or below sea level.

To adjust this hold the **Snooze/Light** button down for 3 seconds. Then adjust the number (in metres) for your height above (or below) sea level.

Installation of the Weather Vane

Once the outdoor sensor is assembled and the wireless connection is working you need to install the sensor in a suitable location.

Hints for Installation

- 1) The sensor needs to be installed in 'Free Air' where the wind is flowing freely and rainfall is unimpeded.
- 2) A good place is on a sewer vent pipe that goes above the roof line of the house or shed.
- 3) A very effective way of fixing to a vent pipe is to use 3 or 4 cable ties that can secure the stainless steel pole in place, ensuring the sensors are located above the vent pipe.

Very important hint to ensure the wind direction is displayed correctly

You must orientate the weather sensor so the wind direction on the inside display unit is correct. It is important to have the base of the wind direction indicator aligned with the physical direction.

To make this easy please align the "North" indicator sticker with the NORTH direction. This should be done as you fix the weather sensor pole to whatever is supporting it.

Programming the Internal Main Unit

1) Introduction

Once the sensor unit is installed it is important to set the main internal receiver unit.

There is a lot of information shown on this display unit and most of the measurements can be displayed in more than one measurement standard.

For example the clock can operate in 12 hour AM & PM mode or in a 24 hour military style.

The rainfall can be in millimetres (mm) or in inches (in). The choice of how you run the measurements is yours.

To set all the parameters you must work your way logically through the measurements.

The numbers and settings are controlled by six setting keys on the top & back of the main unit. These are labelled **MODE**, **+**, **-**, **ALARM**, **ALERT & SNOOZE / LIGHT**.

2) Initial Operation

After inserting the batteries the main unit will connect with the outdoor sensor by wireless signal.

The 2 units must be properly “synchronised”. This should have been done during assembly. If not, the process take about 3 minutes to do. It is done automatically by both units providing both sets of batteries are installed within 3 minutes of each other. You will know when the connection has been made once the outside measurements are displayed on the main unit.

If a wireless connection is not made you can start the “sync” process by holding down the “ALARM” button for more than 3 seconds.

3) Initial Adjustments

When you first instal the batteries the first adjustment you can make is the “altitude setting”. You will note that the pressure will display a flashing number. This reading is in metres and refers to the height above or below sea level.

You should adjust this to reflect the altitude of the receiver unit by pushing the “+” or “-” buttons. This adjustment is necessary to ensure the barometric pressure reading is accurate. This is because the barometric pressure decreases with altitude.

Once adjusted push the **Snooze/Light** (f) button.

Next you will see the weather forecast (i) flash. By using the “+” or “-” key you can change this forecast to match what best fits your current weather conditions.

Once adjusted push the **Snooze/Light** (f) button.

HINT: This feature can also be accessed by holding down the Snooze/Light key for more than 3 seconds. The receiver unit allows the adjustment of altitude between 200 below and 2000 metres above sea level.

Programming the Internal Main Unit

4) Setting the Time, Date, °C or °F, Pressure in hPa or inhg & Rainfall in mm or in

To make these adjustments you must work through all the settings in sequence. If you stop for more than 20 seconds without adjusting a setting the unit will automatically default out of the programming cycle. If this happens you must start again.

To start hold the '**MODE**' button down for 3 seconds.

- The 12/24 hour will flash. Use “+” and “-” to select the option you require then press '**MODE**' to confirm.
- Next the DM/MD will flash, Use “+” or “-” to select the option you require then press '**MODE**' to confirm.
- Next the display for the year will flash. Use “+” or “-” to select the year then press '**MODE**' to confirm.
- Next the display for the month will flash. Use “+” or “-” to select the month then press '**MODE**' to confirm.
- Next the display for the date will flash. Use “+” or “-” to select the date then press '**MODE**' to confirm.
- Next the display for the hour will flash. Use “+” or “-” to select the hour then press '**MODE**' to confirm.
- Next the display for the minutes will flash. Use “+” or “-” to select the minutes then press '**MODE**' to confirm.
- Next the C/F for temperature will flash, Use “+” or “-” to select then press '**MODE**' to confirm.
- Next the hpa/inhg for air pressure will flash, Use “+” or “-” to select then press '**MODE**' to confirm.
- Lastly the mm/inch for rainfall and kmh/mpg will flash, Use “+” or “-” to select then press '**MODE**' to confirm.

Once you have completed all the '**MODE**' selections and confirmed them, your unit will be ready to display your choice of measurements on screen.

Hint:

- The clock automatically changes from set-up mode to time display mode if no keys are pressed for 20 seconds.

5) Daily alarm set-up

- Press '**MODE**' to switch from the time display to A1 display.
- Press and hold '**MODE**' for 3 seconds, the alarm time will flash.
- The alarm time hour will flash. Use “+” or “-” to select the hour then press '**MODE**' to confirm.
- next the minutes will flash. Use “+” or “-” to select the minutes then press '**MODE**' to confirm.
- Use the same set up as above for A2.

6) Daily alarm on/off

- 1st press “**ALARM**” to activate the alarm 1 with alarm symbol showing.
- 2nd press “**ALARM**” to cancel the alarm 1, then activate the alarm 2 with alarm symbol showing.
- 3rd press “**ALARM**” to activate the alarm 1 and alarm 2 with alarm symbol showing.
- 4th press “**ALARM**” to cancel all the alarms.

Hint:

- The clock automatically changes from set-up mode to time mode if no keys are pressed for 20 seconds.
- The alarm sounds for 2 minutes if no key is pressed to stop it.

7) Snooze function

To activate the snooze function, follow the steps below

- Press the key “**SNOOZE/LIGHT**”, while the alarm sounds, to activate the snooze function.
- If the snooze function is activated, the alarm symbol will flash.
- The alarm will repeat after 5 minutes.
- The snooze function can be stopped by pressing any key.

Programming the Internal Main Unit

12/24 hours mode

- The time display can be in 12 (AM/PM) or 24 hours mode, please follow the manual set-up to select

°C/°F temperature display

- The temperature display can be in °C or °F, please follow the manual set-up to select.

8) Max./ Min. for the indoor/outdoor temperature and humidity

- Press “+” to display the indoor/outdoor max./min. temperature and humidity, hold “+” for more than 3 seconds to delete the max./min. readings.

Temperature alert set-up

- Press “ALERT” for more than 3 seconds, the upper limit of inside temperature will flash, use “+” or “-” to set the maximum alert temperature.
- Next press “ALERT” and the lower limit of inside temperature will flash, use “+” or “-” to set the minimum alert temperature.
- Next press “ALERT” and the upper limit of outside temperature will flash, use “+” or “-” to set the maximum alert temperature.
- Next press “ALERT” and the lower limit of outside temperature will flash, use “+” or “-” to set the minimum alert temperature.
- When the alert is activated, the alert symbol will be shown.

Temperature alert on/off

Press and hold the “ALERT” button to set the temperature alert to “ON” or “OFF”.

- Alert **ON**: The temperature alert symbol will be shown on the display.
- Alert **OFF**: The temperature alert symbol will disappear.

Hint:

- The set-up process cannot be completed if the maximum temperature selected is lower than the minimum selected temperature.
- The minimum temperature selected must at least be 1°C below the maximum selected temperature.

9) Weather forecasts

These are determined from the barometric pressure readings. Sometimes they may vary from the actual weather. There are 5 weather forecasts each of which are depicted in picture form. It can take a few days for the forecaster to accurately predict the future weather. This is because the forecaster is based on the changes in barometric pressure. As described in 3) the weather forecast can be changed immediately after the batteries are installed or the **Snooze/Light** button is held down for 3 seconds.

Sunny Slightly Sunny Cloudy Rainy Storm

The barometric pressure is shown in hectopascals and millimetres of mercury. It is displayed in number format and also represented in bar graph form for the last 12 hours. This shows if the barometric pressure is rising, falling or is steady.

10) Wind speed in mph/kmh (0~215kmh)

- The wind speed can be shown in mph and kmh, please follow the manual set-up to select mph/kmh, the display of the speed is updated approximately every minute.

Wind direction

- There are 16 wind directions, the display of the direction is updated approximately every minute.

11) Rainfall display

- Rain fall can be shown in mm and inch, please follow the manual set-up to select either mm/inch.
- Press “—” to show the rainfall in Today, press again for Yesterday, then again for the TOTAL.
- Press “—” for more than 3 seconds to delete the volume accordingly, for example if the display shows Today and you delete the data, the others options will be unchanged, if the display shows Yesterday and you delete the data, the others options will be unchanged, and so on.
- The max. display reading for the rainfall is up to 999.99mm (99.99inch), at this maximum the display will flash, this data must be deleted by manual selection, or it will not update past these readings.

Note:

Rainfall is automatically reset every day at 9am (+/-).

Programming the Internal Main Unit

Illumination

- Press the **“SNOOZE/LIGHT”** button to activate the screen backlight for 8 seconds.

12) Moon phase display

The weather station uses saved data to show the moon phase



A: Full moon

B: Waning Gibbous

C: Third Quarter

D: Waning Crescent

E: New moon

F: Waxing Crescent

G: First Quarter

H: Waxing Gibbous

13) Living space humidity

The weather station uses saved data to determine the humidity in the living space and shows the respective symbols.



14) Low battery condition display

The weather station unit displays the low battery condition symbol to show you that the batteries of either the weather station or the outdoor sensor need to be replaced.

- Weather station low battery condition display: Replace the Indoor Unit batteries
- Outdoor sensor low battery condition display: Replace the Outdoor Unit batteries

15) RF connection to the outdoor sensor

- Press and hold the **“ALARM”** button for 3 seconds to search for the outdoor sensor, the RF signal symbol at the outside area will flash when trying to connect. RF reception is weaker in rooms with concrete walls (eg. in the basement) and in office buildings, the connection distance will be shortened if you have any interference. For extreme cases, please put the main unit near a window.

My internal main display unit is using excessive batteries

This can happen when your outdoor sensor is having trouble maintaining RF connection.

- If the station is new, consider the environment and any changes that can be made to assist this. Check that high quality, non rechargeable batteries have been used
- If the station is an older unit, consider replacing the outdoor sensor

Spare Part

Thermo Hygro Sensor

WSTHS:
2017 models or newer

Replace your thermo hygro sensor on our WS5029 Aspect Weather Station with this spare part. Please make sure to read your model version before ordering.*



SCAN FOR MORE INFO



My rain gauge has stopped working

When a rain gauge stops working this is usually due to a resident moving in. This is in many cases a spider, their webs are very good at stopping the sea-saw from moving. Remove the click lock lid carefully, allow your resident to escape and then clean up their mess. Surface spray may be used on the inside of the funnel to keep new residents from creating a home. Do not use spray on the sensor/cable area.

My rain gauge is reading without rain (or excessive rain)

If the rain gauge is able to wobble this can result in readings of 'rain' (wobble reading) – check the mounting pole is secure and unable to move or wobble



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