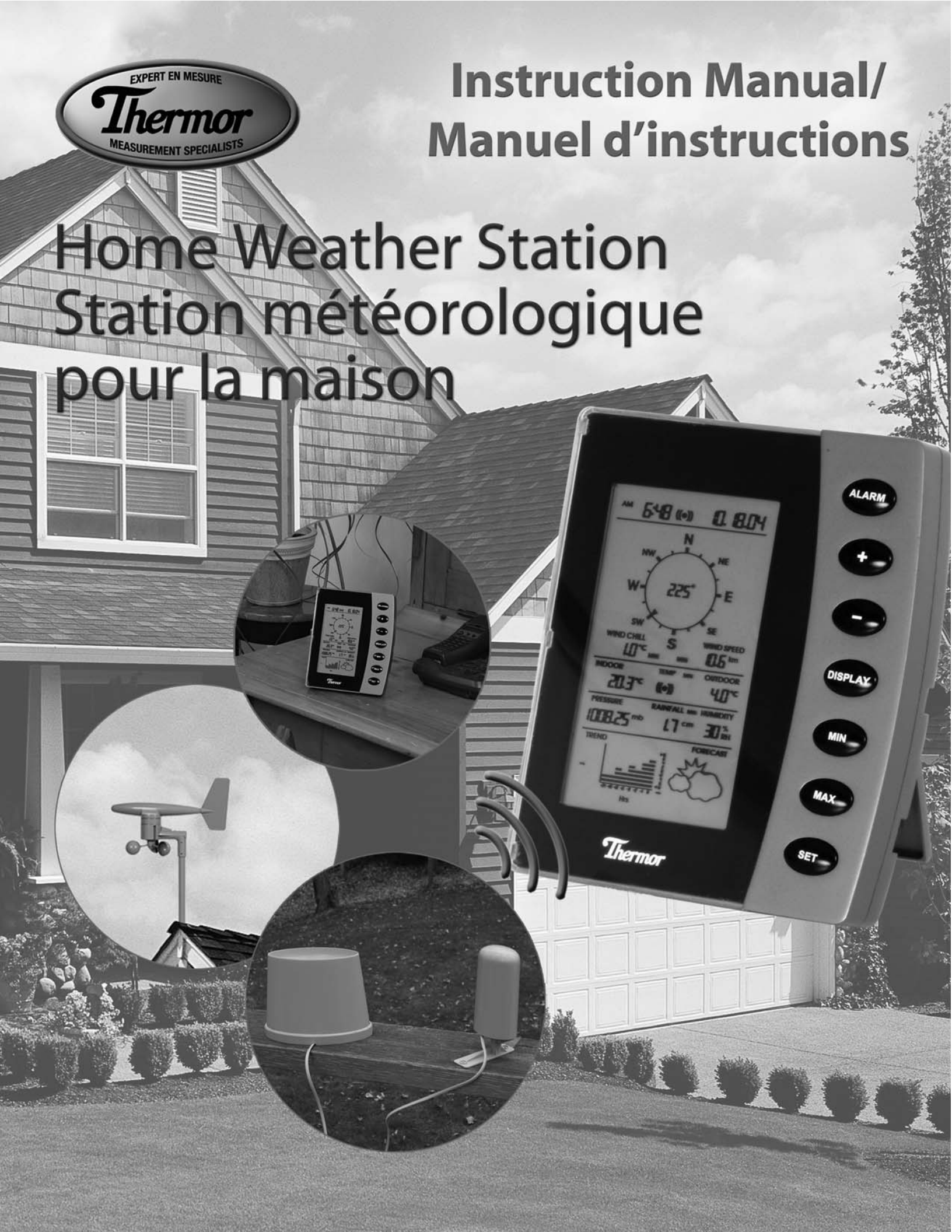
EXPERT EN MESURE
Thermor
MEASUREMENT SPECIALISTS

Instruction Manual/ Manuel d'instructions

Home Weather Station
Station météorologique pour la maison



Home Weather Station (HWS)
Instruction Manual

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This instruction manual is part of this product and should be kept in a safe place for future reference. It contains important information on setup and operation.

1. INTRODUCTION

Thank you for purchasing Thermor's Wireless Home Weather Station (HWS). Developed with state of the art technology and digital electronics, this device provides instant readouts of the weather conditions around you.

To understand how to properly install and program your weather station, please read this instruction manual carefully and keep it in a safe place.

The Home Weather Station and its accuracy is meant for personal use. This information should not be used for scientific purposes.

2. SAFETY NOTES

- Damage caused by failure to comply with this instruction manual will invalidate any warranty! The manufacturer and supplier will not be held liable for any damages due to failure to comply with this product!
- In case of harm or damage to a person or property caused by improper handling or failure to comply with this instruction manual, the manufacturer and supplier cannot be held liable.
- For reason of safety and operation, alteration to this device is strictly prohibited.
- To operate the weather station, use only supplied adapter and batteries of the recommended type.
- Do not leave discharged batteries in the device as these may corrode and release chemicals that may damage the unit.
- Inserting batteries in an incorrect polarity will cause damage to this product.
- Do not dispose of new or used batteries in a fire as the may explode or release dangerous chemicals into the environment.
- This product is not a toy; keep out of the reach of children.
- This product is not to be used for medical purposes or for public information.
- Any modification or alteration to this product is strictly prohibited without the manufacturer's authorization and may prohibit the user's further use to this product.

3. WEATHER STATION FUNCTION AND FEATURES

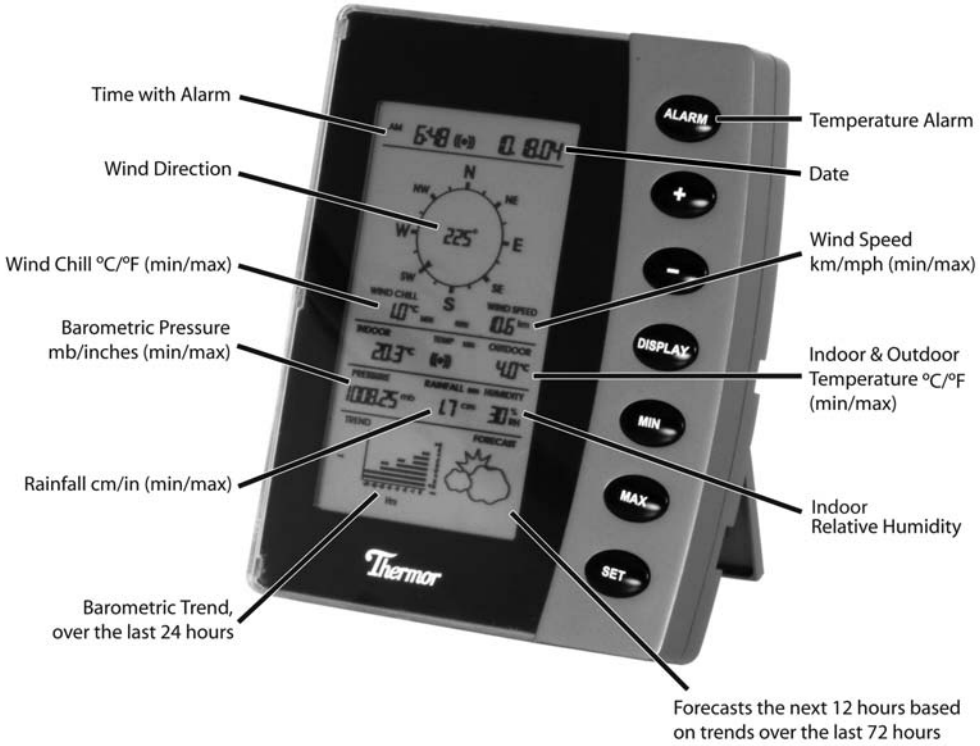
The home monitor measures the indoor environment of its surrounding area (temperature, humidity and atmospheric pressure) and receives weather data from the following three outdoor sensors:

1) Thermometer-Transmitter Sensor
2) Wind Sensor (speed and direction)
3) Rain Gauge Sensor (cumulative rainfall)

The data from the outdoor sensors is transmitted every 128 seconds to bring you the latest weather information which is displayed on the home monitor's LCD (updating the information faster is prohibited by FCC criteria and would drastically reduce battery life). The outdoor thermometer-transmitter sensor is the main data communication unit. The thermometer-transmitter connects to the wind and rain sensors via insulated cables, whereby power and weather information is transferred. The collected data is then transmitted by the thermometer-transmitter back to the home monitor. Weather data is sent from the thermometer-transmitter sensor by wireless transmission -- 433MHz (up to 100 meters in open space).

Features of the Home Monitor

- Displays time and date with alarm clock
- Displays weather conditions and records minimum and maximum values
- Displays indoor and outdoor temperature in Fahrenheit (°F) or Celsius (°C) -- user selectable
- Displays indoor relative humidity (RH%)
- Displays barometric (air) pressure reading in inches of mercury (inHg) or millibars (mb) -- user selectable
- Displays cumulative rainfall data since last reset in inches (in) or centimeters (cm) – user selectable
- Displays wind speed in miles per hour (mph) or kilometers per hour (km) -- user selectable
- Wind direction display with LCD compass as well as numerical (e.g. 225°) and abbreviated characters (e.g. NE)
- Wind chill temperature display
- Displays weather forecast using weather icons (sunny, partly cloudy, cloudy or rainy)
- Barometric trend chart in inches of mercury (inHg) or millibars (mb) -- user selectable
- Indoor and outdoor temperature alarms that are set by the user (rising temperature alarm only)



Features of the Thermometer-Transmitter Sensor

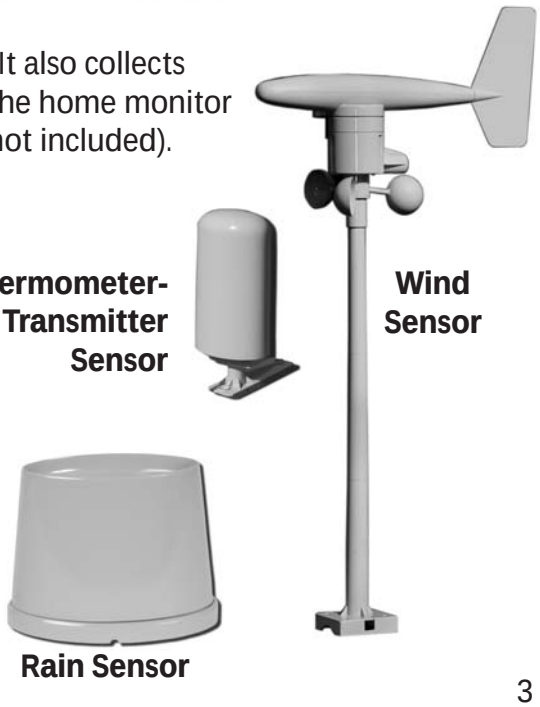
The thermometer-transmitter sensor measures the outdoor temperature. It also collects readings from the rain gauge and wind sensor, then transmits the data to the home monitor via wireless 433MHz transmission. The transmitter uses two AA batteries (not included).

Features of the Wind Sensor

The wind sensor measures wind speed and wind direction and sends the data to the thermometer-transmitter sensor, which in turn transmits the data to the home monitor. Operating power is taken from the thermometer-transmitter sensor by cable connection.

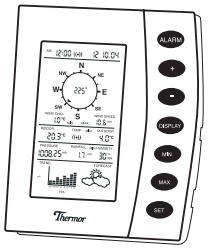
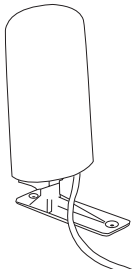
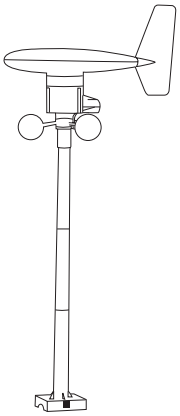
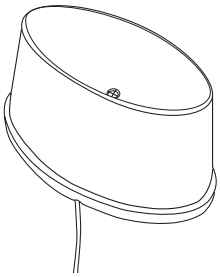
Features of the Rain Sensor

The Rain Sensor measures cumulative rainfall and sends the data to the thermometer-transmitter sensor via cable connection, which is then transmitted back to the home monitor. The cable connection also supplies operating power from the thermometer-transmitter sensor to the Rain Sensor.



4. COMPONENTS OF YOUR HOME WEATHER STATION

Before setting up, carefully unpack the contents onto a table or flat surface and check that the following pieces are included in the package:

Item	Components	Fittings	Illustration
Home Monitor	• Main unit	• AC/DC 120V power • Adapter – primary use (included) **NOTE:** 3 x AA batteries should be used for back-up purposes only.	
Thermometer & Transmitter Sensor	• Main unit • Rain protection cover • Base bracket	• 2 x 1.75" wall mounting screws • Plastic anchors for screws *requires 2 x AA batteries (**Recommendation:** use lithium AA batteries (view "Battery Installation" section)	
Wind Sensor	• Main unit with wind vane • 30ft cable (9 m) (already attached to the main unit) • Mast • Base bracket	• 2 x U–bolts to secure to a mast • 8 x washers • 4 x nuts • 8 x 0.25" screws (to fix mast to main unit and base bracket) • 4 x 2.75" screws (to fix base bracket to a flat surface)	
Rain Sensor	• Main unit • 30ft cable (9 m) (already attached to the main unit)	• 2 x 2.75" screws (to fix rain sensor to a flat surface)	

5. SETTING UP THE WEATHER STATION

CAUTION: Great care must be taken when mounting the Home Weather Station components. The manufacturer/supplier can not be held liable for personal or property damage when setting up the components. Please use caution when choosing a mounting point.

A. Mounting

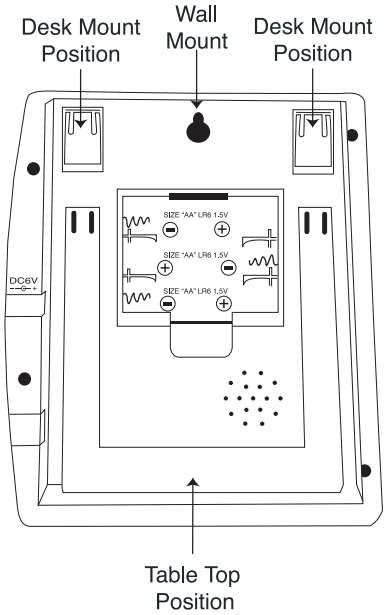
IMPORTANT: Prior to drilling mounting holes and permanently affixing any of the units, please ensure the following points are considered:

1. Cable lengths of the units meet with your distance requirements at mounting points.
2. Signal from the thermometer-transmitter sensor can be received by the Home Monitor at mounting point.
3. Make sure the transmitter is easily accessible. You will have to periodically replace batteries. Mount it as close to the ground as possible.

Mounting
Home Monitor

With three retractable legs at the back of the Home Monitor, the unit can be placed onto any flat surface or mounted on a wall by using a nail or screw (not provided).

- To prevent improper temperature measurements, make sure that the Home Monitor is not placed in direct sunlight, or placed in an area with drafts caused by heaters or air conditioners.
- Do not mount the home monitor on a wall which has metal heat/air conditioning ductwork or high voltage wiring in the wall behind the station, it may interfere with its ability to receive data from the transmitter.
- For proper data transmission, do not mount the home monitor closer than 5 feet from a computer, fluorescent lights or other electrical appliances. Such devices dramatically decrease signal reception, and in some cases, prevent all signals from, reaching the thermometer-transmitter sensor.
- If the main unit is in an area of transmission interference (e.g. on or near concrete walls, home appliances, computers or metal objects) the distance of transmission will be drastically reduced or non-existent.



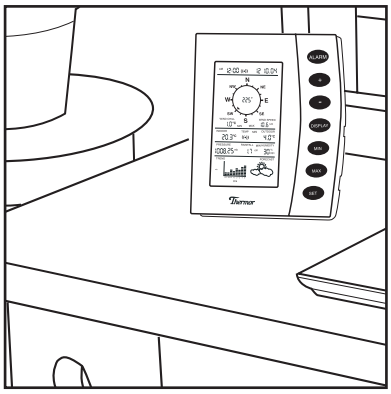
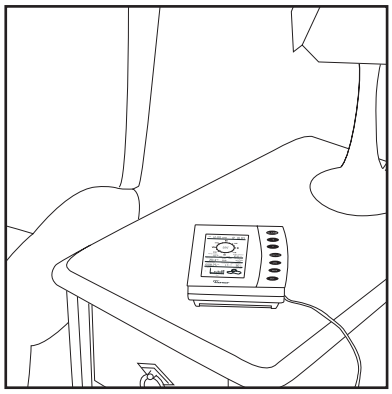
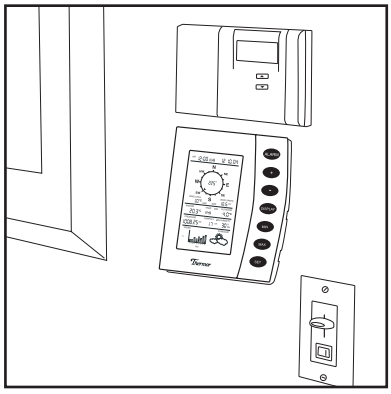


Table Top Position



Desk Mount Position



Wall Mount

Mounting

Wind Sensor

First, choose whether the wind sensor will be mounted vertically or horizontally (on a mast). Make sure that you position the wind sensor in a free, open area that is not protected by objects, which may distort or interfere with the wind (e.g. large buildings, trees, chimney, etc.).

Cable Preparation for Vertical Mounting

1. Run the cable that is already fastened to the wind sensor through the vertical joining section (see right).
2. Run the cable through the extension pole but do not secure the pole to any sections yet.
3. Now run the cable through the top of the base-bracket and the through the small rectangular section found on one side of the base-bracket.

NOTE: Make sure that you completely pull the cable through the wind sensors extension pole and base-bracket to reduce the amount of slack on the cord.

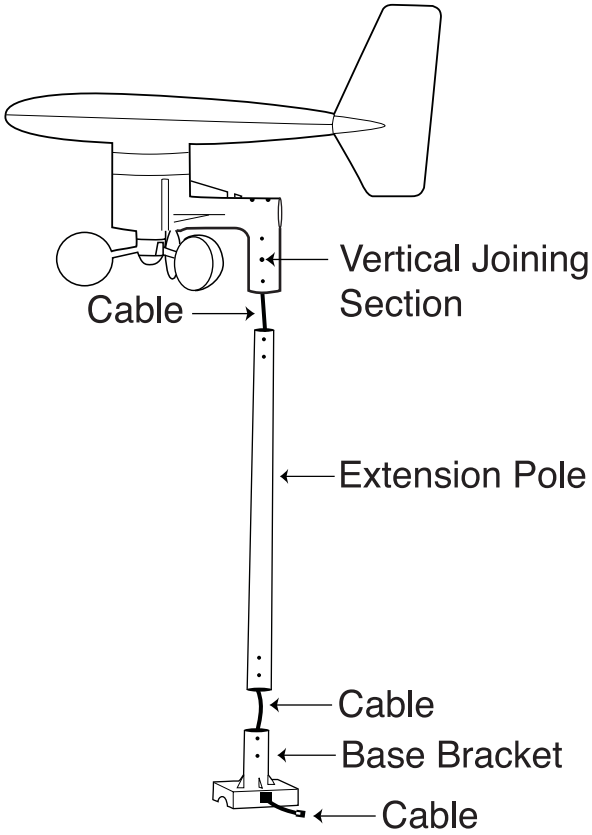
Vertical mount

1. Make sure that the wind vane can rotate freely before fastening the unit permanently into position.
2. Insert one end of the pole extension provided into the base-bracket.
3. Secure the connection point of the pole extension and base-bracket using the 0.25" metal screws provided to prevent rotation at the joining point. (Use 4 x 0.25" screws to ensure stability).
4. Insert the vertical joining section on the bottom of the wind sensor into the top of the pole extension. (Ensure that you pull all cable slack through the side of the base-bracket to prevent creasing or cutting the cable).
5. Secure the wind sensor to the mounting pole using the 0.25" screws provided to make sure that the pole connection does not rotate. (Use 4 x 0.25" screws to ensure stability).

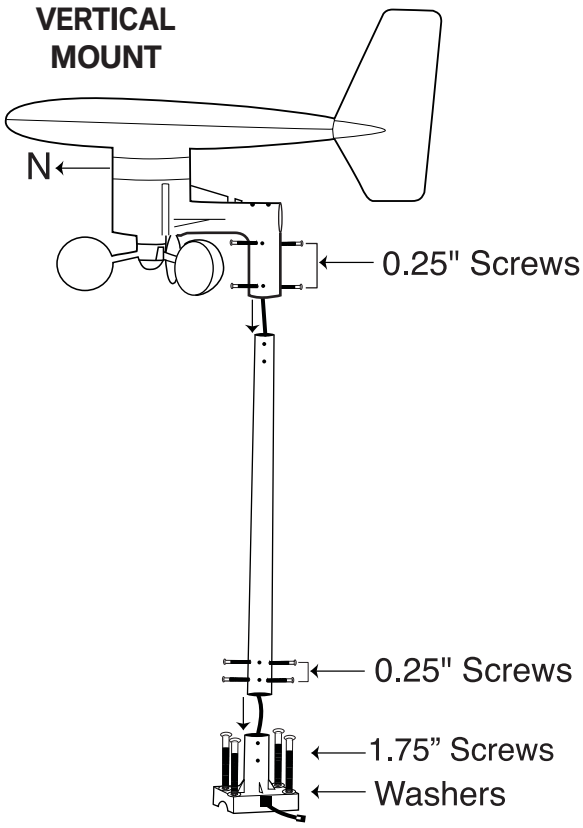
IMPORTANT: For accurate readings, it is important to mount the wind sensor so that the directional prints on the casing are facing their respective directions (e.g. "**N**" on the casing is facing north). If necessary, use a standard compass to determine north.

6. Using 4 x 1.75" screws provided, secure the wind sensors base-bracket to a flat surface.

NOTE: Make sure that when you are securing the base bracket with the 1.75" screws, you are aware of the cable. Prevent driving a screw through a cable!



VERTICAL MOUNT



Horizontal Mounting

Cable Preparation for Horizontal Mounting

1. Run the cable that is already fastened to the wind sensor through the horizontal joining section (see below).
2. Run the cable through the extension pole but do not secure the pole to any sections yet.
3. Now run the cable through the top of the base-bracket and then through the small rectangular section found on one side of the base-bracket.

NOTE: Make sure that you completely pull the cable through the wind sensor's extension pole and base-bracket to reduce the amount of slack on the cord.

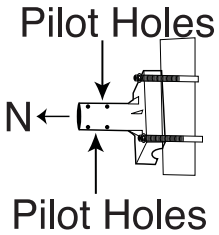
Horizontal mount – using a mast/antenna/pole

NOTE: It is not recommended to secure the wind sensor horizontally from a wall or chimney because doing so will interrupt the flow of wind from at least one direction.

MOUNT WITH "N" FACING NORTH:

For accurate readings, it is important to mount the wind sensor so that the directional prints on the casing are facing their respective directions (e.g. "N" on the casing is facing north). If necessary, use a standard compass to determine north.

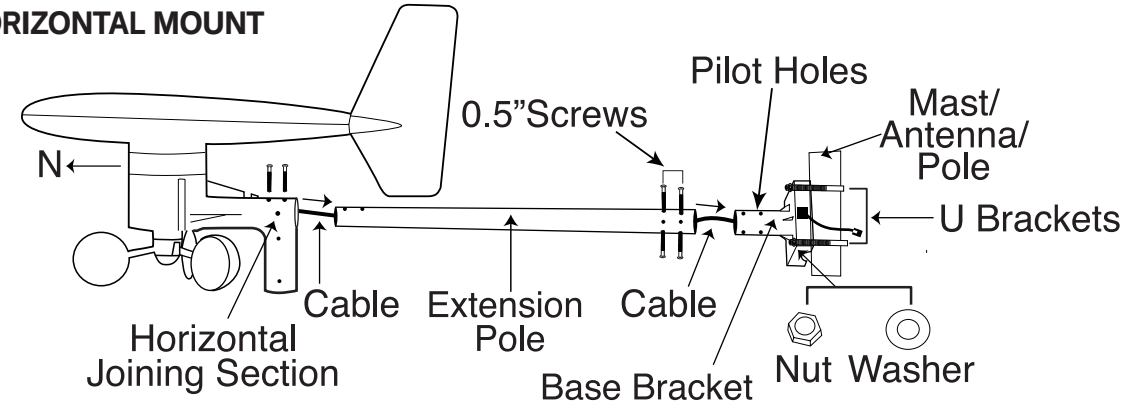
1. Make sure that the wind vane can rotate freely before fastening the unit permanently.
2. Using 2 x U-bolts, 4 x nuts and 4 x washers, secure the base-bracket of the wind sensor to a stable mast/antenna/pole. (Masts made of lead or other materials will cause faulty readings).



IMPORTANT: Make sure that the pole insert of the base-bracket is facing north (**N**) and the pilot holes are on the top AND bottom.

3. Use the pole extension provided to distance the wind sensor from the stable mast/antenna/pole. Insert one end of the pole extension into the base-bracket.
4. Secure the connection point of the pole extension and base-bracket using the 0.25" screws provided to prevent rotation at joining point. (Use 4 x 0.25" screws to ensure stability).
5. Insert the pole extension into the horizontal joining section. (Ensure that you pull all cable slack through the side of the base-bracket to prevent creasing or cutting the cable).
6. Secure the horizontal joining section to the mounting pole using the 0.5" screws provided to make sure that the pole connection does not rotate.

HORIZONTAL MOUNT

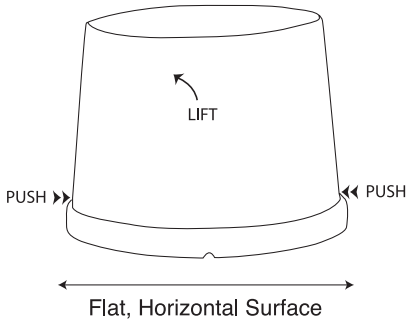


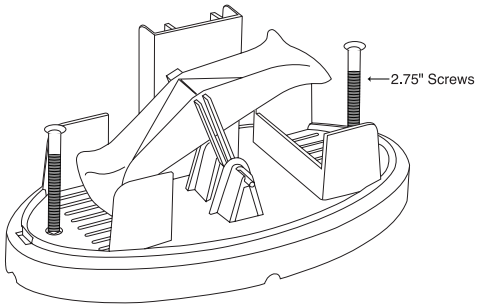
Mounting
Rain Sensor

It is important that the rain sensor has the correct exposure to ensure accurate rainfall measurements. Place the rain sensor as far away as possible from tall buildings, trees or other obstructions. It is suggested that the rain sensor should be no closer to tall objects or obstructions than twice the height of the object compared to the sensor. However, low bushes, fences or walls in the vicinity of the gauge are not objectionable, as these usually help break up the force of the wind during stormy weather conditions.

NOTE: It is recommended by Environment Canada that you mount the rain sensor 18“ (46 cm) above ground or surface to prevent water from splashing off the ground/surface, into your rain gauge.

1. **In order for the rain sensor to work properly, you MUST place the rain sensor on a flat, horizontal surface.**
2. Remove the rain gauge lid by pushing on the tabs at either end, and pulling it upwards off the base.
3. Test that water can flow freely between the base of the rain sensor and horizontal mounting surface – pour clear water over the water collection device and view the flow.
4. Using 2 x 2.75” screws, secure the base of the rain gauge to the flat, horizontal surface.





Mounting
Thermometer-Transmitter Sensor

It's recommended to mount the thermometer-transmitter sensor on a lower level wall on your home.

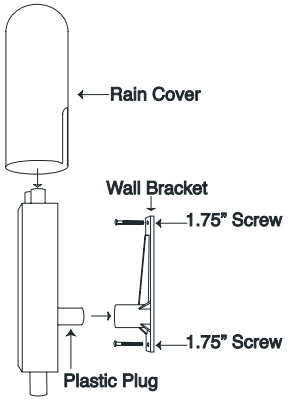
Wall Mount

1. Affix the wall bracket onto a desired wall using the 1.75” screws provided.
2. Insert the plastic plug on the back of the thermometer-transmitter sensor into the wall bracket socket.

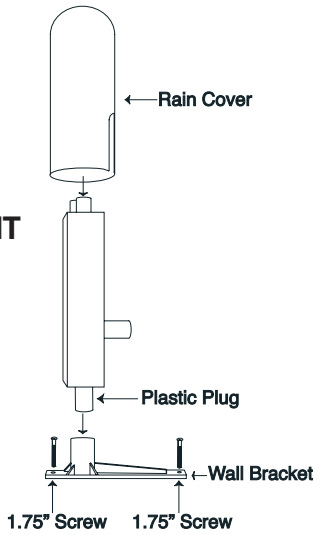
Vertical Mount

1. Affix the wall bracket onto a flat, horizontal surface using the 1.75” screws provided.
2. Plug in the thermometer-transmitter using the plastic plug found on the bottom of the sensor into the wall bracket socket. **DO NOT** mount the thermometer-transmitter sensor upside down.

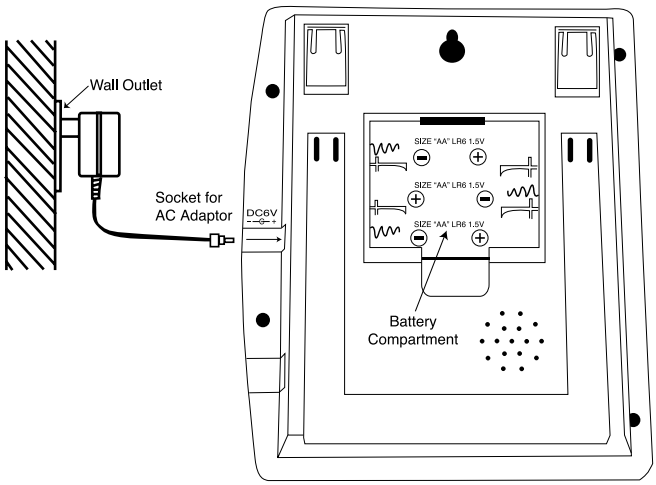
WALL MOUNT



VERTICAL MOUNT



B. Powering up your HWS (for the first time):
First, locate the AC adapter (included in this set) and batteries (optional: for back-up purposes only) to power the home monitor.
NOTE: If you chose not to use the battery back-up, you will lose memory data (max/min, trend chart and forecast) if there happens to be a power faliure.
IMPORTANT: When using adapter to power the home monitor, you MUST insert the plug in the home monitor FIRST, and follow these instructions:



Using AC adapter:
Home monitor
NOTE: Batteries should only be used in the Home Monitor for memory back-up.
1. Remove any batteries.
2. **FIRST** plug in the AC adapter to the main power outlet in your wall.
3. Insert the adapter into the DC socket located on the right side of the Home Monitor.

Once the AC/DC adaptor has been plugged in,
4. "IO" will flash at the top left side of the LCD and "- - -" will appear in the centre of the compass rose. See diagram A.

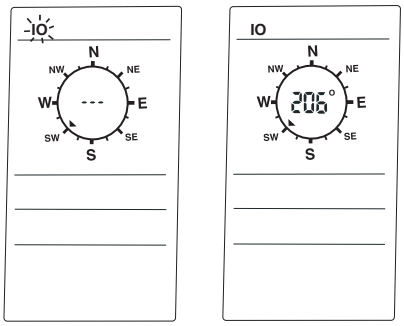


DIAGRAM A **DIAGRAM B**

Battery Installation
Thermometer-Transmitter Sensor
5. Make sure the "slide switch" is in the NORMAL position (view diagram C).
6. Remove the battery cover found below the two sockets.
7. Insert 2 x AA batteries according to the correct polarity.

IMPORTANT: In alkaline batteries, the chemical reaction that generates electrical currents stops at approximately -10ºC. Lithium batteries continue to generate power down to -40ºC. If the thermometer-transmitter sensor is exposed to extreme cold temperatures, the battery life will fail faster than normal. It is suggested to use **lithium AA batteries**, rather than regular alkaline AA batteries to withstand colder temperatures.

Once the batteries have been inserted in the transmitter,
8. Move the slide switch to the "SET ID" position. If the monitor is receiving transmissions properly from the transmitter, a transmission ID number will appear in the centre of the compass rose (e.g. 206, 300, etc.). **WAIT until "IO" stops flashing at the top left of the LCD** (See diagram B).
9. Push the SET button to store the transmission ID. The main unit will automatically go to normal display mode.
10. **Move the "slide switch" on the transmitter to the "NORMAL" position.**
11. Replace the battery cover and the rain cover.

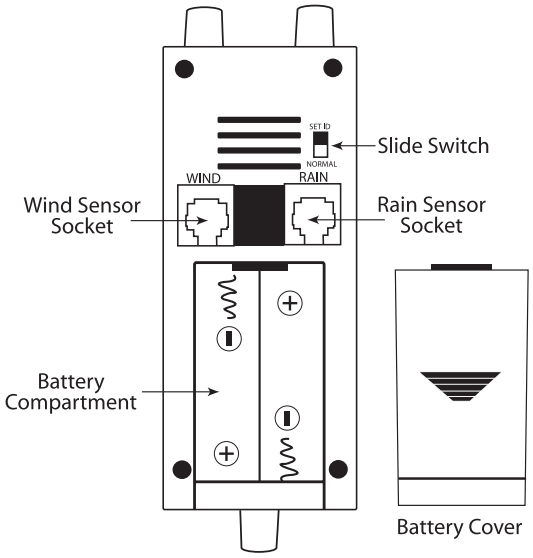


DIAGRAM C

Battery Installation
Home Monitor Back-Up Power
1. Remove the battery cover found on the back of the home monitor.
2. Insert 3 x AA batteries according to the correct polarity.
3. Replace the battery cover.

C. Changing the transmitter batteries

1. Press and hold the "DISPLAY" button until the LCD exits normal display mode, and "IO" begins to flash in the top left corner.
2. Follow steps 5 – 12 in the "Powering up your HWS (for the first time)" section above.

NOTE:

- At any time, you can exit the transmission ID setting mode by pushing the "DISPLAY" button, however, the ID will NOT store and NO weather information will be communicated between the outdoor transmitter and home monitor.
- Once the slide switch on the transmitter is in the NORMAL position, it will not generate a new ID even if the switch is placed in the SET ID position. Therefore, if you want to change the ID, you must remove the batteries from the transmitter, and start from step 1 of "Changing the transmitter batteries" section.

D. Connecting the sensors

Thermometer-Transmitter Sensor

Once the monitor has been plugged in, the thermometer-transmitter batteries are inserted and the transmission ID has been setup, you can now insert the cables that run from the outdoor sensors into the corresponding sockets on the thermometer-transmitter.

1. You will see two sockets: one for the wind sensor, another for the rain sensor.
2. Connect the cables of the wind and rain sensors to the corresponding sockets on the thermometer-transmitter by 'clicking' them into place.
3. Place the rain cover over the transmitter.

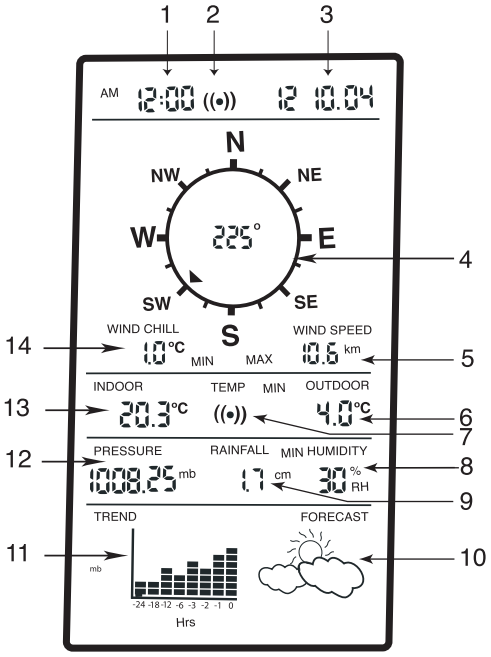
6. WIRELESS TRANSMISSION

The HWS utilizes a transmitter, which broadcasts at 433mHz approximately every 128 seconds to conserve battery life. Like a cell phone signal, the transmission strength is affected by many external objects that cause electromagnetic interference. Proximity to power and electrical appliances adversely affect the signal. Therefore, we strongly advise that you experiment with the placement of both the transmitter and the home monitor. If the conditions are good, you will be able to transmit at the maximum range of 100m, but if you are in an area with a lot of interference, the range will be less (View "Mounting Home Monitor" on page 5).

Once the unit is powered up correctly, the thermometer-transmitter will start to send weather information to the Home Monitor.

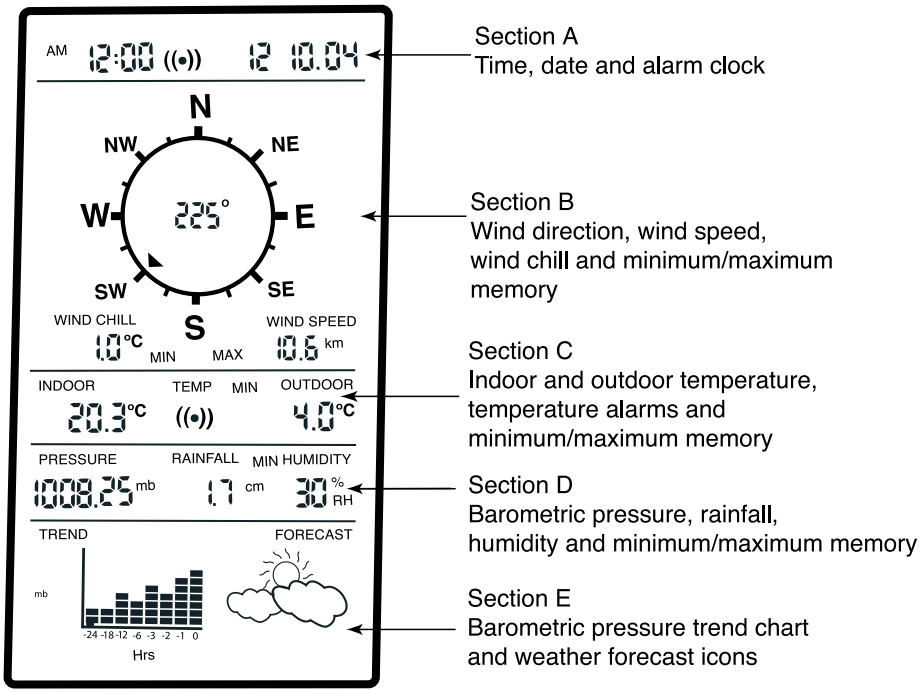
7. LCD OVERVIEW

1. Time
2. Alarm clock icon
3. Date
4. Wind direction
5. Wind speed (km or mph)
6. Outdoor temperature (°C or °F)
7. Temperature alarm icon
8. Relative Humidity (RH%)
9. Rainfall (cm or inches)
10. Weather forecast icons
11. Barometric pressure trend chart (inHg or mb)
12. Absolute barometric pressure (inHg or mb)
13. Indoor temperature (°C or °F)
14. Wind chill temperature (°C or °F)



8. LCD BREAKDOWN

Once the weather station has been setup correctly, the following information will be displayed on the LCD. This is called the "Normal Display Mode".
(Refer to diagram)

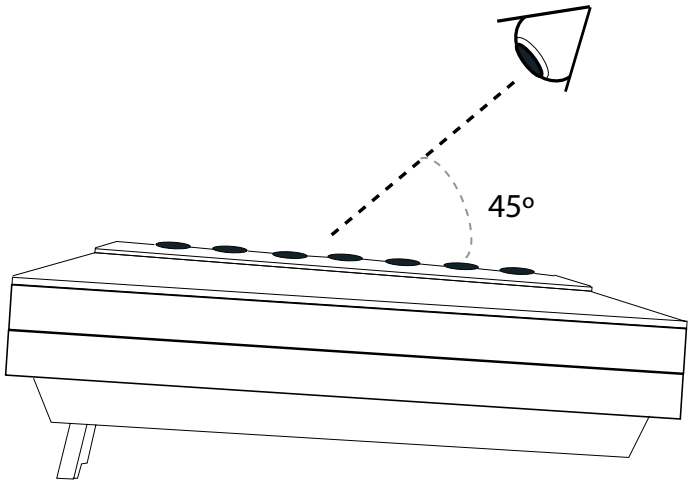


NOTE: If you press the DISPLAY button, the LCD screen will display certain sections. Continually press the DISPLAY button to go through all the different display sections eventually returning to the "Normal Display Mode".

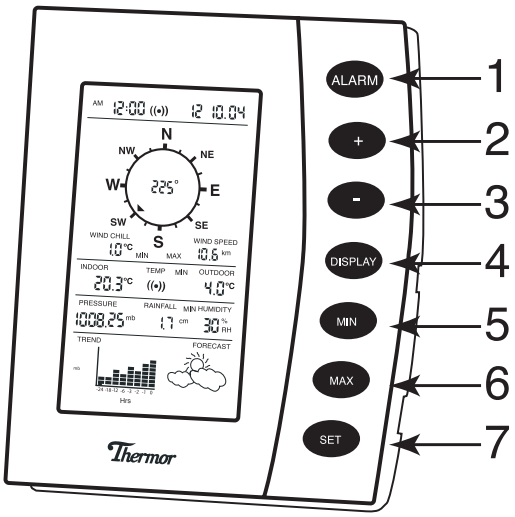
9. OPTIMUM VIEWING ANGLE

The Home Weather Station can be placed in multiple positions as previously discussed in "Mounting The Home Monitor" on page 5.

You must always keep in mind that the LCD screen is constructed with an "optimum viewing angle". Your eye should be at a 45º angle to view the LCD screen clearly.



10. BUTTON BREAKDOWN (Quick Reference)



No.	Button	Function
1.	**ALARM** button	• Press and release to enter "Alarm Set Mode" • Toggles between the multiple segments of the "Alarm Set Mode" • Turns all sounding alarms off (Alarm clock, indoor/outdoor temperature alarms)
2.	"**+**" button	• Increases values in the "Set Display Mode" (time and date) • Increases values in "Alarm Display Mode" (clock alarm, indoor temperature alarm and outdoor temperature alarm) • Press and hold to reset cumulative rainfall memory • Toggles between mode settings in the "Set Display Mode" (°C, °F, km, mph, mb, inch/inHg, cm, inch)
3.	"**-**" button	• Decreases values in the "Set Display Mode" (time and date) • Decreases values in the "Alarm Display Mode" (clock alarm, indoor temperature alarm and outdoor temperature alarm) • Toggles between mode settings in the "Set Display Mode" (°C, °F, km, mph, mb, inch/inHg, cm, inch) • Activates backlight in "Normal Display Mode"
4.	**DISPLAY** button	• Runs through 10 different display combinations with assorted sections on the LCD • Press and hold to enter "ID setting mode" if changing transmitter batteries.
5.	**MIN** button	• Displays minimum memory recordings (Wind Chill [˚C only], Wind Speed, Indoor/outdoor Temperature, Pressure, Rainfall and Humidity) • Press and hold to reset ALL minimum memory recordings
6.	**MAX** button	• Displays maximum memory recordings (Wind Chill [˚C only], Wind Speed, Indoor/outdoor Temperature, Pressure, Rainfall and Humidity) • Press and hold to reset ALL maximum memory recordings
7.	**SET** button	• Press and hold to enter "Set Display Mode" • Toggles between the multiple segments of the "Set Display Mode" • Activates alarms in the "Alarm Set Mode" (clock alarm, indoor temperature alarm and outdoor temperature alarm) • Press to store the transmission ID when in the "ID setting mode"

11. SETTING THE HOME MONITOR

NOTE: If you pause at any time for more than 7 seconds while setting the time, date, or measurement preferences, the Home Monitor will automatically return to "normal display mode" and exit the "set display mode". Your inputted information will be saved, however, you must start from step one if you did not complete the settings you intended to input.

"Set Display Mode" – Personalized Settings

Time:

1. Press and hold the **SET** button for 3 seconds to enter "set display mode".
2. The hour digit(s) will begin to flash in Section A on the LCD. (Refer to page 10, "LCD Breakdown").
3. Using the "**+**" or "**-**", toggle until you reach the correct hour(s).
4. Press the **SET** button again.
5. The minute digit(s) will begin to flash.
6. Using the "**+**" or "**-**", toggle until you reach the correct minute(s).

Date:

7. Press the **SET** button again.
8. The year digits will begin to flash.
9. Using the "**+**" or "**-**", toggle until you reach the correct year.
10. Press the **SET** button again.
11. The month digits will begin to flash.
12. Using the "**+**" or "**-**", toggle until you reach the correct month.
13. Press the **SET** button again.
14. The date digits will begin to flash.
15. Using the "**+**" or "**-**", toggle until you reach the correct date.

Wind Speed (km or mph):

16. Press the **SET** button again.
17. "Wind Speed" and the current unit of measure (km or mph) will begin to flash in Section B.
18. Using the "**+**" or "**-**", toggle to your preferred unit of measure – kilometers (km) or miles (mph).
19. Once you have decided on your preference, press the **SET** button again.

Temperature (°C or °F):

20. "Wind Chill", "Indoor", "Outdoor" and the current unit of measure (°C or °F) will begin flashing in Sections B and C.
21. Using the "**+**" or "**-**", toggle to your preferred unit of measure – Celsius (°C) or Fahrenheit (°F).
22. Once you have decided on your preference, press the **SET** button again.

Pressure (mb or inHg):

23. "Pressure", "Trend" and the current unit of measure (mb or inch/in Hg) will begin flashing in Sections D and E.
24. Using the "**+**" or "**-**", toggle to your preferred unit of measure – millibars (mb) or inches of mercury (inch/in Hg).

NOTE: inches of mercury are represented as "in Hg" (on the "Trend" chart) and as "inch" (under the "Pressure"segment of Section D) – both represent the same unit of measure.

25. Once you have decided on your preference, press the **SET** button again.

Rainfall (cm or inch):

26. "Rainfall" and the current unit of measure (cm or inch) will begin flashing.
27. Using the "**+**" or "**-**", toggle to your preferred unit of measure – centimeters (cm) or inches (inch).
28. Press the **SET** button to exit the "set display mode", or wait 7 seconds so that the unit returns to the "normal display mode" automatically. All set information will be stored.

12. SETTING THE ALARM

NOTE: If you pause at any time for more than 7 seconds while setting the time, indoor or outdoor temperature alarms, the Home Monitor will automatically return to "normal display mode" and exit the "alarm set mode". Your inputted information will be saved, however, you must start from step one if you did not complete setting the alarms you intended to do.

"Alarm Set Mode"
Alarm Clock:

1. Firmly press and release the **ALARM** button for no more than 2 seconds to enter the "alarm set mode".
2. The hour digits will begin to flash in Section A of the LCD. (Refer to page 10, "LCD Breakdown").
3. Using the "**+**" or "**-**", toggle until you reach the desired hour(s) for the alarm clock to sound.
4. Press the **ALARM** button again.
5. The minute digit(s) will begin to flash.
6. Using the "**+**" or "**-**", toggle until you reach the desired minute(s) for the alarm to sound.
7. Press the **ALARM** button again.
8. "((•))" icon will begin to flash.
9. To activate the alarm, press the **SET** button. The "((•))" icon will stop flashing to indicate that the alarm is active. (To have the alarm inactive, ensure that the "((•))" icon is flashing)

Indoor Temperature Alarm:

10. Press the **ALARM** button again to progress to the indoor temperature alarm.
11. "INDOOR" and "TEMP" will begin to flash in Section C of the LCD.
12. Using the "**+**" or "**-**", toggle until you reach the desired temperature for the temperature alarm to sound.
13. Press the **ALARM** button again.
14. "((•))" icon will begin to flash.
15. To activate the indoor temperature alarm, press the **SET** button. The "((•))" icon will stop flashing to indicate that the alarm is active. (To have the alarm inactive, ensure that the "((•))" icon is flashing)

Outdoor Temperature Alarm:

16. Press the **ALARM** button again to progress to the outdoor temperature alarm.
17. "TEMP" and "OUTDOOR" will begin to flash in Section C of the LCD.
18. Using the "**+**" or "**-**", toggle until you reach the desired temperature for the temperature alarm to sound.
19. Press the **ALARM** button again.
20. "((•))" icon will begin to flash.
21. To activate the outdoor temperature alarm, press the **SET** button. The "((•))" icon will stop flashing to indicate that the alarm is active. (To have the alarm inactive, ensure that the "((•))" icon is flashing).

NOTE:

- You can only set a temperature alarm for a rising temperature (eg. current temperature = 20˚C), you must set the alarm for 21˚C+).
- When the clock alarm sounds, the "((•))" logo in Section A of the LCD will begin to flash to the right of the time.
- When the temperature alarm sounds, Section C of the LCD will indicate which alarm is ringing by flashing "INDOOR" or "OUTDOOR" and the "((•))" logo.
- If both the indoor and outdoor alarms are sounding, "INDOOR", "OUTDOOR" and the "((•))" logo will flash in Section C of the LCD.

13. TURNING OFF THE ALARM(S)

- If any of the alarms sound, press and release the **ALARM** button to deactivate the signal ("beeping"). -- "((•))" flashes to indicate which alarm has sounded. This will only turn off the alarm that has sounded at that particular point in time.

Example: If the alarm clock sounds and the temperature alarms are set, you can press the ALARM button to turn

off the alarm clock, however, the temperature alarms will remain active.

- Once you have deactivated a sounding alarm by pressing the ALARM button, you must reset the alarm by following all the steps in the "Setting the Alarm" section.

14. MINIMUM OR MAXIMUM MEMORY RECALL

Press the MIN button to recall all the minimum recorded weather measurements. (Including: Wind Chill (˚C only), Wind Speed, Indoor Temperature, Outdoor Temperature, Pressure, Rainfall and Humidity).

Press the MAX button to recall all the maximum-recorded weather measurements. (Including: Wind Chill (˚C only), Wind Speed, Indoor Temperature, Outdoor Temperature, Pressure, Rainfall and Humidity).

15. MINIMUM OR MAXIMUM MEMORY RESET

Press and hold the MIN button for 4 or more seconds to reset all the minimum recorded weather measurements.

Press and hold the MAX button for 4 or more seconds to reset all the maximum recorded weather measurements.

16. RAINFALL MEASUREMENT RESET

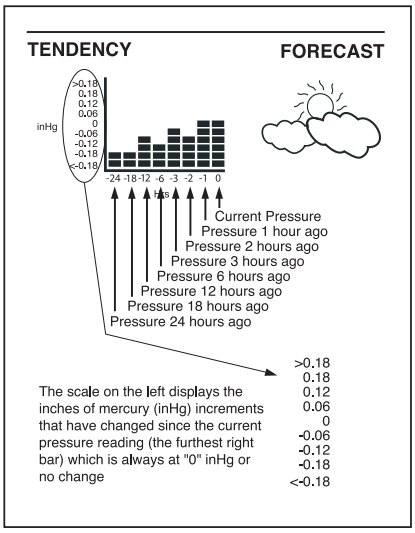
The Home Weather Station calculates cumulative rainfall. To reset the rainfall reading, press and hold the "+" button for 4 or more seconds. "- - -" (dashes) will appear to indicate that the rainfall has reset. After about 128 seconds, the reading will return to 0.0 cm (or 0.0 inch).

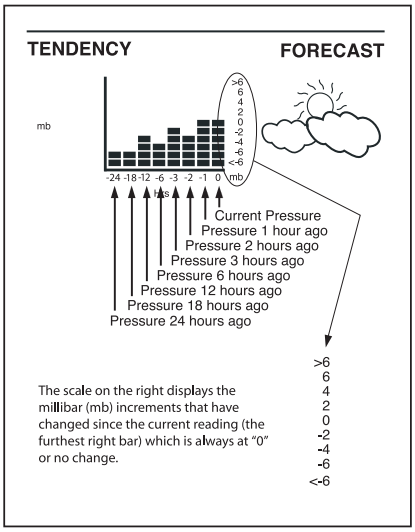
17. RAIN GAUGE MAINTENANCE

- It is recommended that you inspect and clean your rain gauge every couple of months. Remove any leaves that may have fallen into the collection bowl.
- Remove the lid on the rain gauge and check if there is anything obstructing the tipping bucket mechanism.
- The rain gauge is not designed to register snowfall, therefore, to avoid damage to the unit, it is recommended that you bring the unit in during the winter, or if it is mounted in a permanent position, cover it to protect it from snowfall.

18. TREND CHART

Please review the following tips on understanding your trend chart.



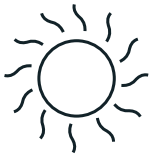


NOTE:

- The trend chart will not appear in the Section E after powering up the home monitor for the first time. It has to collect air pressure data for 24 hours before it can display a trend.
- If at anytime power is lost to the home monitor, all trend information will be erased and must be collected again for 24 hours to display a trend once the power is restored.

19. WEATHER FORECASTING

- Weather forecasting is an extremely complex science. Even professional meteorologists with the best equipment and the aid of radar and satellite imagery often have difficulty forecasting with absolute certainty. The prediction models meteorologists use consider many weather variables; including: barometric pressure, wind direction, wind speed, dew point, etc.
- The forecast function in the Home Weather Station is based solely on barometric pressure and the trend recordings of general weather conditions associated with various pressure levels. It therefore has a limited ability to forecast for the multitude of specific conditions it will encounter. It provides a general forecast of weather changes in the same way a wall barometer forecasts changes in weather, however it does record and account for trends that influences the forecast icon.


Sunny

Partly Cloudy

Cloudy

Rainy

IMPORTANT:

- The forecast icon will always appear as "Partly Cloudy" upon powering up the home monitor. During this time the main station is collecting pressure information in order to generate a proper forecast.
- The first 72 hours of forecast icons may be inaccurate from what you are viewing out your window, however, the unit continually gathers pressure data to develop trends, in turn predicting forecasts of coming weather conditions. The longer the station is powered increases the forecast accuracy.

20. BAROMETRIC PRESSURE

- The Home Weather Station's barometer display will differ from local sources (TV, radio, internet, etc.). This is because barometric pressure quoted in these types of mediums is "barometric pressure adjusted to sea level", which is <u>theoretical atmospheric pressure</u> that accounts for decreasing air pressure with elevation. Air pressure decreases 1.0 inHg for every 1000 feet you go up in elevation. Consequently, the air pressure at the top of a mountain is considerably less than at sea level.
- The HWS uses a sensor to measure the "absolute" or actual barometric pressure. For forecasting purposes, however, the relative changes in pressure and pressure trends indicate the coming weather. In general, rising pressure indicates improving weather, while falling pressure indicates deterioration of current conditions.
- To determine **<u>theoretical atmospheric pressure</u>**, please follow this procedure:

1. Determine your elevation (meters or feet above sea level) by using **TABLE 1 or 2** below. The internet or an atlas are also good sources to determine your elevation if the chart does not provide the correct information for your general area (View section 27: Resources to look at).

2. Using the barometric tables (**TABLE 3 - TABLE 11**), find the table that is close to your current elevation:

TABLE 3 = 250 m above sea level
TABLE 4 = 500 m above sea level
TABLE 5 = 750 m above sea level
TABLE 6 = 1000 m above sea level
TABLE 7 = 1250 m above sea level
TABLE 8 = 1500 m above sea level
TABLE 9 = 1750 m above sea level
TABLE 10 = 2000 m above sea level
TABLE 11 = 2250 m above sea level

3. Once you have chosen the correct table, view the pressure reading on the HWS and run your finger along the top of the table until the current pressure falls between the correct range.
4. Now view the outdoor temperature reading on the HWS and run your finger down the pressure column to match the temperature range along the left side of the table.
5. Your finger now lays on the number of millibars (mb) you must add to the absolute pressure on the HWS display to determine theoretical atmospheric pressure.

NOTE: you must repeat the actions above every time there is a change in pressure, temperature or altitude to retrieve the correct theoretical atmospheric pressure.

Example:
TORONTO, ON
Elevation (TABLE 1): 173 m above sea level
HWS current barometric pressure reading: 987.56 mb
HWS current outdoor temperature reading: 25ºC
a) Go to TABLE 3 (250m above sea level), which is the closest table to Toronto's elevation.
b) Run finger along the top of table to reach 970-989.9 mb.
c) Run finger down chart to reach 16.0 to 25.9ºC.
d) Add 28.8 mb to the current pressure reading on HWS: 28.8 mb + 987.56 mb = 1, 016.36 mb
Theoretical Atmospheric Pressure = 1,016.36 mb*
***Interesting Fact:** If your weather network provides you with kPa (or Kilopascals), divide the millibars (mb) by 10 (above Toronto example = 101.63 kPa)

TABLE 1: Elevation of Major Cities in Canada

	Above Sea Level	
City	**m**	**ft**
Calgary, AB	1049	3440
Charlottetown, PE	49	161
Churchill Falls, NF	449	1443.20
Edmonton, AB	670	2198
Fredericton, NB	21	69
Halifax, NS	51	167
Iqaluit, NU	33	108
Montreal, QC	36	118
Ottawa, ON	114	374
Quebec City, QC	74	243
Regina, SK	577	1893

	Above Sea Level	
City	**m**	**ft**
Saskatoon, SK	504	1653
Prince George, BC	691	2266
St. John's, NF	140	459
Thunder Bay, ON	199	653
Toronto, ON	173	567
Vancouver, BC	4	13
Victoria, BC	19	62
Whitehorse, YT	706	703
Winnipeg, MA	239	784
Yellowknife, NT	206	676

NOTE: The elevation in meters (m) and feet (ft) refers to the elevation of the observing location above mean sea level according to Environment Canada: http://www.climate.weatheroffice.ec.gc.ca/climateData/canada_e.html

TABLE 2: Elevation of Major Cities in the US

US City	Altitude (feet above sea level)	US City	Altitude (feet above sea level)
Albuquerque, NM	4,945	Miami, FL	10
Austin, TX	505	Milwaukee, WI	635
Baltimore, MD	20	Minneapolis, MN	815
Boston, MA	21	Nashville-Davidson, TN	450
Charlotte, NC	720	New Orleans, LA	5
Chicago, IL	595	New York, NY	55
Cleveland, OH	660	Oakland, CA	25
Colorado Springs, CO	5,890	Oklahoma City, OK	1,195
Columbus, OH	780	Omaha, NE	1,040
Dallas, TX	435	Philadelphia, PA	100
Denver, CO	5,280	Phoenix, AZ	1,090
Detroit, MI	585	Portland, OR	77
El Paso, TX	3,695	Sacramento, CA	30
Fort Worth, TX	670	St. Louis, MO	455
Fresno, CA	285	San Antonio, TX	650
Honolulu, HI	21	San Diego, CA	20
Houston, TX	40	San Francisco, CA	65
Indianapolis, IN	717	San Jose, CA	90
Jacksonville, FL	20	Seattle, WA	125
Kansas City, MO	750	Tucson, AZ	2,390
Las Vegas, NV	2,030	Tulsa, OK	804
Long Beach, CA	29	Virginia Beach, VA	10
Los Angeles, CA	340	Washington, DC	25
Memphis, TN	275	Wichita, KS	1,290
Mesa, AZ	244		

21. BAROMETRIC PRESSURE CONVERSIONS

TABLE 3

Elevation at Station **250 m**
Add to Station Pressure to obtain Mean Sea Level Pressure

Temp ºC	Station Pressure, mb 930 / 949.9	950 / 969.9	970 / 989.9	990 / 1009.9	1010 / 1029.9	1030 / 1049.9	1050 / 1069.9
-44.0 to -34.1	34.8	35.6	36.3	37.0	37.8	38.5	39.3
-34.0 to -24.1	33.4	34.1	34.8	35.5	36.2	36.9	37.6
-24.0 to -14.1	32.0	32.7	33.4	34.1	34.8	35.4	36.1
-14.0 to -4.1	30.8	31.5	32.1	32.8	33.4	34.1	34.7
-4.0 to 5.9	29.7	30.3	30.9	31.6	32.2	32.8	33.5
6.0 to 15.9	28.6	29.2	29.8	30.4	31.0	31.7	32.3
16.0 to 25.9	27.6	28.2	28.8	29.4	30.0	30.6	31.2
26.0 to 35.9	26.7	27.3	27.8	28.4	29.0	29.6	30.1

TABLE 4

Elevation at Station **500 m**
Add to Station Pressure to obtain Mean Sea Level Pressure

Temp ºC	Station Pressure, mb 900 / 919.9	920 / 939.9	940 / 959.9	960 / 979.9	980 / 999.9	1000 / 1019.9	1020 / 1039.9
-44.0 to -34.1	68.4	69.9	71.4	72.9	74.4	75.9	77.4
-34.0 to -24.1	65.5	67.0	68.4	69.9	71.3	72.7	74.2
-24.0 to -14.1	62.9	64.3	65.6	67.0	68.4	69.8	71.2
-14.0 to -4.1	60.4	61.8	63.1	64.4	65.8	67.1	68.4
-4.0 to 5.9	58.2	59.5	60.7	62.0	63.3	64.6	65.8
6.0 to 15.9	56.1	57.3	58.5	59.8	61.0	62.2	63.5
16.0 to 25.9	54.1	55.3	56.5	57.7	58.9	60.1	61.3
26.0 to 35.9	52.3	53.5	54.6	55.8	56.9	58.1	59.2

TABLE 5

Elevation at Station **750 m**
Add to Station Pressure to obtain Mean Sea Level Pressure

Temp ºC	Station Pressure, mb 870 / 889.9	890 / 909.9	910 / 929.9	930 / 949.9	950 / 969.9	970 / 989.9	990 / 1009.9
-44.0 to -34.1	100.7	103.0	105.3	107.6	109.9	112.2	114.4
-34.0 to -24.1	96.4	98.6	100.8	103.0	105.2	107.4	109.6
-24.0 to -14.1	92.5	94.6	96.7	98.8	100.9	103.0	105.1
-14.0 to -4.1	88.8	90.8	92.9	94.9	96.9	98.9	100.9
-4.0 to 5.9	85.5	87.4	89.3	91.3	93.2	95.2	97.1
6.0 to 15.9	82.3	84.2	86.1	88.0	89.8	91.7	93.6
16.0 to 25.9	79.4	81.2	83.1	84.9	86.7	88.5	90.3
26.0 to 35.9	76.7	78.5	80.2	82.0	83.7	85.5	87.2

TABLE 6

Elevation at Station **1000 m**
Add to Station Pressure to obtain Mean Sea Level Pressure

Temp ºC	Station Pressure, mb 840 / 859.9	860 / 879.9	880 / 899.9	900 / 919.9	920 / 939.9	940 / 959.9	960 / 979.9
-44.0 to -34.1	131.6	134.7	137.8	140.9	144.0	147.1	150.2
-34.0 to -24.1	125.9	128.9	131.9	134.8	137.8	140.8	143.7
-24.0 to -14.1	120.7	123.6	126.4	129.2	132.1	134.9	137.8
-14.0 to -4.1	115.9	118.6	121.4	124.1	126.8	129.5	132.3
-4.0 to 5.9	111.5	114.1	116.7	119.3	122.0	124.6	127.2
6.0 to 15.9	107.3	109.9	112.4	114.9	117.5	120.0	122.5
16.0 to 25.9	103.5	106.0	108.4	110.8	113.3	115.7	118.1
26.0 to 35.9	100.0	102.3	104.7	107.0	109.4	111.7	114.1

TABLE 7

Elevation at Station **1250 m**
Add to Station Pressure to obtain Mean Sea Level Pressure

Temp ºC	Station Pressure, mb 810 / 829.9	830 / 849.9	850 / 869.9	870 / 889.9	890 / 909.9	910 / 929.9	930 / 949.9
-44.0 to -34.1	161.4	165.0	169.0	172.9	176.8	180.8	184.7
-34.0 to -24.1	154.0	157.8	161.6	165.3	169.1	172.8	176.6
-24.0 to -14.1	147.6	151.2	154.8	158.4	162.0	165.6	169.2
-14.0 to -4.1	141.6	145.1	148.5	152.0	155.4	158.9	162.3
-4.0 to 5.9	136.1	139.4	142.8	146.1	149.4	152.7	156.0
6.0 to 15.9	131.0	134.2	137.4	140.6	143.8	147.0	150.2
16.0 to 25.9	126.3	129.4	132.5	135.6	138.6	141.7	144.8
26.0 to 35.9	121.9	124.9	127.9	130.8	133.8	136.8	139.8

TABLE 8

Elevation at Station **1500 m**
Add to Station Pressure to obtain Mean Sea Level Pressure

Temp ºC	Station Pressure, mb 790 / 809.9	810 / 829.9	830 / 849.9	850 / 869.9	870 / 889.9	890 / 909.9	910 / 929.9
-44.0 to -34.1	191.4	196.2	201.0	205.8	210.6	215.3	220.1
-34.0 to -24.1	182.9	187.5	192.1	196.6	201.2	205.8	210.4
-24.0 to -14.1	175.1	179.5	183.9	188.3	192.6	197.0	201.4
-14.0 to -4.1	168.0	172.2	176.4	180.6	184.8	189.0	193.2
-4.0 to 5.9	161.4	165.4	169.5	173.5	177.5	181.6	185.6
6.0 to 15.9	155.3	159.2	163.1	166.9	170.8	174.7	178.6
16.0 to 25.9	149.6	153.4	157.1	160.9	164.6	168.3	172.1
26.0 to 35.9	144.4	148.0	151.6	155.2	158.8	162.4	166.0

TABLE 9

Elevation at Station **1750 m**
Add to Station Pressure to obtain Mean Sea Level Pressure

Temp ºC	Station Pressure, mb 770 / 789.9	790 / 809.9	810 / 829.9	830 / 849.9	850 / 869.9	870 / 889.9	890 / 909.9
-44.0 to -34.1	221.0	226.7	232.3	238.0	243.7	249.3	255.0
-34.0 to -24.1	211.0	216.4	221.9	227.3	232.7	238.1	243.5
-24.0 to -14.1	201.9	207.1	212.3	217.5	222.7	227.8	233.0
-14.0 to -4.1	193.6	198.6	203.5	208.5	213.4	218.4	223.4
-4.0 to 5.9	185.9	190.7	195.4	200.0	205.0	209.7	214.5
6.0 to 15.9	178.8	183.4	188.0	192.6	197.1	201.7	206.3
16.0 to 25.9	172.2	176.6	181.1	185.5	189.9	194.3	198.7
26.0 to 35.9	166.1	170.4	174.6	178.9	183.1	187.4	191.7

TABLE 10

Elevation at Station **2000 m**
Add to Station Pressure to obtain Mean Sea Level Pressure

Temp ºC	Station Pressure, mb 740 / 759.9	760 / 779.9	780 / 799.9	800 / 819.9	820 / 839.9	840 / 859.9	860 / 879.9
-44.0 to -34.1	246.5	253.0	259.6	266.2	272.7	279.3	285.9
-34.0 to -24.1	235.2	241.5	247.8	254.0	260.3	266.6	272.9
-24.0 to -14.1	225.0	231.0	237.0	243.0	249.0	255.0	260.9
-14.0 to -4.1	215.5	221.3	227.0	232.8	238.5	244.3	250.0
-4.0 to 5.9	206.9	212.4	217.9	223.4	229.0	234.5	240.0
6.0 to 15.9	198.9	204.2	209.5	214.8	220.1	225.4	230.7
16.0 to 25.9	191.5	196.6	201.7	206.8	211.9	217.0	222.1
26.0 to 35.9	184.6	189.6	194.5	199.4	204.3	209.2	214.2

TABLE 11

Elevation at Station **2250 m**
Add to Station Pressure to obtain Mean Sea Level Pressure

Temp ºC	Station Pressure, mb 720 / 739.9	740 / 759.9	760 / 779.9	780 / 799.9	800 / 819.9	820 / 839.9	840 / 859.9
-44.0 to -34.1	273.9	281.4	288.9	296.4	303.9	311.4	318.9
-34.0 to -24.1	261.2	268.4	275.6	282.7	289.9	297.0	304.2
-24.0 to -14.1	249.7	256.5	263.4	270.2	277.1	283.9	290.8
-14.0 to -4.1	239.1	245.7	252.2	258.8	265.3	271.9	278.4
-4.0 to 5.9	229.4	235.7	242.0	248.3	254.6	260.9	267.1
6.0 to 15.9	220.5	226.5	232.5	238.6	244.6	250.7	256.7
16.0 to 25.9	212.2	218.0	223.8	229.6	235.4	241.2	247.1
26.0 to 35.9	204.5	210.1	215.7	221.3	226.9	232.5	238.1

22. TROUBLESHOOTING

LCD is blank	A. This occurs because there is no power supplied to the main unit. 1. Check the AC power connections to the receiving unit and the power from the wall outlet. 2. Check the batteries and make sure they are not dead. 3. Check the polarity of the batteries in the battery compartment. 4. Replace the batteries. (View section 5B: Setting up the Weather Station – Powering up your HWS) 5. Press the DISPLAY button to see if you are in a particular display mode screen. (View section 8: LCD Breakdown)
Outdoor information not displayed Wind speed and direction not displayed Outdoor temperature not displayed **NOTES on items in the home that generate frequency trouble:** • Family radios (CB's, walky-talky) • Digital cable or satellite boxes radiate frequencies that will interfere with transmission • HAM radios • Microwave Ovens	A. This is usually caused by transmission interference or low battery power in the transmitter. B. Make sure the slide switch is on "NORMAL" after the transmission ID setup is complete (View page 9). i) Are there dashes for the outdoor temperature reading? ii) Are there dashes for the wind speed reading? iii) Are there dashes for the wind direction reading? **IF YES TO ALL QUESTIONS ABOVE:** 1. Check batteries in the transmitter. Replace if needed. (View section 5B: Setting up the Weather Station – Powering up your HWS) 2. Bring the transmitter and receiver side-by-side and remove all the batteries. Replace them all (View section 5B: Setting up the Weather Station – Powering up your HWS) and observe whether ALL the outdoor readings show up. Check the timing of updates on the receiving unit (outdoor readings should change every 128 seconds). Then, place the receiver and transmitter back in their regular mounting positions. Check the timing of updates AGAIN on the receiving unit. If you notice the updates occur every 128 seconds, there should be no problem. If updates occur greater than 128 seconds (4 minutes 16 seconds +) or no updates occur there is transmission interference between the receiver and the transmitter. BOTH UNITS MUST BE PLACED IN DIFFERENT LOCATIONS WITH MINIMAL TRANSMISSION INTERFERENCE. **IF THERE ARE DASHES ONLY WHERE THE WIND SPEED AND DIRECTION ARE DISPLAYED AND THE UNIT IS REGISTERING AN OUTDOOR TEMPERATURE:** 3. Check that the wires are connected from the wind sensor to the transmitter in the right slot (labeled "wind") and are fully inserted. If nothing happens after 4.5 minutes, remove the batteries from both components and re-insert them. (View section 5B: Setting up the Weather Station – Powering up your HWS).
Wind speed does not change	A. This is usually an indication that the batteries have died in the transmitter. 1. To conserve battery power, the transmitter broadcasts the wind speed data (and all other weather information) every 128 seconds (2 min. 8 sec.) to the inside monitor. (View section 6: Wireless Transmission).

	2. Check the batteries in the transmitter. Replace if needed. (View section 5B: Setting up the Weather Station – Powering up your HWS) 3. Make sure that the wind speed sensor cord is securely fastened in the "wind" slot on the transmitter. (View section 5D: Setting up the Weather Station – Connecting the sensors) 4. Bring the transmitter and receiver side-by-side and remove all the batteries. Replace them all (View section 5B: Setting up the Weather Station – Powering up your HWS) and observe whether ALL the outdoor readings show up. Check the timing of updates on the receiving unit (outdoor readings should change every 128 seconds). Then, place the main unit and transmitter back in their regular mounting positions. Check the timing of updates AGAIN on the receiving unit. If you notice the updates occur every 128 seconds, there should be no problem. If updates occur greater than 128 seconds (4 minutes 16 seconds +) or no updates occur there is transmission interference between the receiver and the transmitter. BOTH UNITS MUST BE PLACED IN DIFFERENT LOCATIONS WITH MINIMAL TRANSMISSION INTERFERENCE.
Outdoor readings stopped after two days, one week, etc	1. Battery voltage supplied by the 2 x AA batteries in the transmitter is affected by cold weather, especially alkaline batteries. Low voltage decreases the transmission distance significantly. If you are experiencing weather below -10°C, it is suggested to use lithium batteries and place the monitor and transmitter as close as possible to each other. 2. Electrical storms can cause transmission to stop. If this occurs, you must reset the receiver and transmitter by removing the batteries and re-inserting them correctly (View section 5B: Setting up the Weather Station – Powering up your HWS). DO NOT do this during the electrical storm! 3. Electromagnetic interference can occur from different sources that transmit radio waves that may affect how the main unit receives data from the transmitter (if at all). It is recommended that you place the transmitter and receiver significantly close together if there is a large amount of electromagnetic interference in your area. Even interference from appliances in your home may cause transmission to stop. 4. IF TRANSMISSION HAS STOPPED, you must bring the transmitter and receiver side-by-side and remove all the batteries. Replace the batteries (View section 5B: Setting up the Weather Station – Powering up your HWS) and observe whether ALL the outdoor readings show up. Check the timing of updates on the receiving unit (outdoor readings should change every 128 seconds). Then, place the receiver and transmitter back in their regular mounting positions. Check the timing of updates AGAIN on the receiving unit. If you notice the updates occur every 128 seconds, there should be no problem. If updates occur greater than 128 seconds (4 minutes 16 seconds +) or no updates occur there is transmission interference between the receiver and the transmitter. BOTH UNITS MUST BE PLACED IN DIFFERENT LOCATIONS WITH MINIMAL TRANSMISSION INTERFERENCE.
Pilot holes in the mast creates horizontal mounting difficult on the wind sensor	1. You can attempt to drill new pilot holes in the mounting pole for the screws so that the unit will mount properly. This will not void your warranty.

	2. If you do not wish to drill your own holes, please call the 800 number found in the warranty section (26) and we will issue you a new one. (We will NOT pay for postage, just the parts). 3. Attempt to mount the unit vertically instead. (View section 5A: Setting up the Weather Station – Mounting).
None of the buttons work	A. This usually is a case of the "microprocessor" inside the main unit is in need of more power. Attempt to plug in the main unit using the AC/DC adaptor or replace the batteries with new ones. If your unit has new batteries or is already plugged in, attempt to reset the main unit by removing the cord from the wall or taking out the batteries. Then re-insert them (View section 5B: Setting up the Weather Station – Powering up your HWS). B. If the problem continues, you must bring the transmitter and receiver side-by-side and remove all the batteries. Replace the batteries (View section 5B: Setting up the Weather Station – Powering up your HWS) and observe whether ALL the outdoor readings show up. Check the timing of updates on the receiving unit (outdoor readings should change every 128 seconds). Then, place the receiver and transmitter back in their regular mounting positions. Check the timing of updates AGAIN on the receiving unit. If you notice the updates occur every 128 seconds, there should be no problem. If updates occur greater than 128 seconds (4 minutes 16 seconds +) or no updates occur there is transmission interference between the receiver and the transmitter. BOTH UNITS MUST BE PLACED IN DIFFERENT LOCATIONS WITH MINIMAL TRANSMISSION INTERFERENCE.
Wind direction is displaying faulty readings	i) Are you mounting the unit on a mast or metal pole? ii) Do you know what the pole is made of? 1. Aluminum poles should not affect the wind direction readings, however, masts or poles made of lead or other dense metals can affect the magnetic sensors in the wind sensor causing the unusual readings. Move the wind sensor, if necessary, or use the vertical mount procedure. (View section 5A: Setting up the Weather Station – Mounting) 2. Freezing rain can cause the wind direction pointer to stop moving, thus constantly displaying the same direction. You can attempt to remove the ice from the wind sensor, but it is <u>strongly advised to wait</u> for milder weather to do so.
Wind direction is stuck on one direction	A. Freezing rain can cause the wind direction pointer to stop moving, thus constantly displaying the same direction. You can attempt to remove the ice from the wind sensor, but it is strongly advised to wait for milder weather to do so. B. This is also an indication that there is transmission interference or batteries have died in the transmitter. 1. Check the batteries in the transmitter. Replace if needed. (View section 5B: Setting up the Weather Station – Powering up your HWS)

	2. Make sure that the wind speed sensor is securely fastened in the "wind" slot on the transmitter. (View section 5D: Setting up the Weather Station – Connecting the sensors) 3. Bring the transmitter and receiver side-by-side and remove all the batteries. Replace them all (View section 5B: Setting up the Weather Station – Powering up your HWS) and observe whether ALL the outdoor readings show up. Check the timing of updates on the receiving unit (outdoor readings should change every 128 seconds). Then, place the main unit and transmitter back in their regular mounting positions. Check the timing of updates AGAIN on the receiving unit. If you notice the updates occur every 128 seconds, there should be no problem. If updates occur greater than 128 seconds (4 minutes 20 seconds +) or no updates occur there is transmission interference between the receiver and the transmitter. BOTH UNITS MUST BE PLACED IN DIFFERENT LOCATIONS WITH MINIMAL TRANSMISSION INTERFERENCE.
Pressure reading is too high / low / changed	The pressure sensor in your weather station is very sensitive to voltage changes. If you scroll through the display screen (using the DISPLAY button) or plug in the AC adaptor with the batteries in it, the pressure may change because the voltage to the sensor has either increased or decreased. After a very short period of time, the pressure sensor will adjust itself back to the correct pressure readings.
Only transmits when the transmitter is right beside the receiver	A. There is a large amount of transmission interference with the current location of the main unit and transmitter. There may be too many walls or electrical interference (caused by appliances in your home) between the two units. 1. Significantly reduce the distance between the main unit and the transmitter. 2. Place the main unit and transmitter side-by-side, and re-insert the batteries (View section 5B: Setting up the Weather Station – Powering up your HWS). Observe whether ALL the outdoor readings show up. Check the timing of updates on the receiving unit (outdoor readings should change every 128 seconds). Then, place the main unit and transmitter in their potential mounting positions. Check the timing of updates AGAIN on the receiving unit. If you notice the updates occur every 128 seconds, there should be no problem. If updates occur greater than 128 seconds (4 minutes 16 seconds +) or no updates occur there is transmission interference between the receiver and the transmitter. BOTH UNITS MUST BE PLACED IN DIFFERENT LOCATIONS WITH MINIMAL TRANSMISSION INTERFERENCE.
No outdoor reading occur even after resetting the units	A. Make sure the slide switch is on "NORMAL" after the transmission ID setup is complete. (View Page 9) B. Make sure that you have unplugged and removed the batteries from the main unit AND the transmitter. Re-insert the batteries in the transmitter ONLY. Put the transmitter directly on top of a radio (preferably a clock-

	radio due to the size – stereo radios may be too large for this test), and tune the radio to FM 107.9. You should hear a loud beep or pulse roughly every 128 seconds. Time the pulse to ensure this occurs approximately every 128 seconds. If no pulse is heard, the transmitter's batteries are dead or the transmitter is defective. If the pulse does occur approximately every 128 seconds, place the main unit and the transmitter side by side (turn off your radio). Re-insert all the batteries (View section 5B: Setting up the Weather Station – Powering up your HWS) and observe whether ALL the outdoor readings show up. Check the timing of updates on the receiving unit (outdoor readings should change roughly every 128 seconds). Then, place the main unit and transmitter back in their regular mounting positions. Check the timing of updates AGAIN on the receiving unit. If you notice the updates occur every 128 seconds, there should be no problem. If updates occur greater than 128 seconds (4 minutes 16 seconds +) or no updates occur there is transmission interference between the receiver and the transmitter. BOTH UNITS MUST BE PLACED IN DIFFERENT LOCATIONS WITH MINIMAL TRANSMISSION INTERFERENCE. ** NOTE: the radio test is only confirming that the transmitter is sending out a signal. This proves that the transmitter should not be sent back because it is diagnosed as faulty**
Wind speed too high (190 km to 200 km)	Transmission issues usually cause this to occur from other appliances or radio waves in the air. If the problem persists, you should consider replacing the batteries in the transmitter (View section 5B: Setting up the Weather Station – Powering up your HWS) and possibly moving the location of the transmitter and receiver.
Temperature alarm cannot be set to a degree lower than what is registered.	E.g. –15°C outside, alarm is set for –30˚C, alarm goes off. You can only set the alarm to sound to an "increasing" degree of temperature: -15˚C outside, you must set your alarm to -14˚C, -13˚C or higher
Wind speed too low Wind speed not accurate	1. This situation can occur because the wind speed transmission is **NOT REAL TIME**. Therefore, it will not register gusts unless they occur just prior to transmission (transmission occurs every 128 seconds). 2. Is the **<u>anemometer clear of obstructions?</u>** Wind speed & direction can be affected radically by obstructions that interfere with actual wind. This affect can take place many meters away from the sensor. Example: a 40' tree even 50 meters from the sensor on the roof of a house will disturb enough wind that the unit will never give proper data from the direction of that tree.

	3. Wind speed and directional data will not change if there is **"transmission interference".** That means that some of the data transmitted has been corrupted by other sources emitting waves. This could be anything – wiring in walls, appliances, other electrical devices operating in proximity of the monitor or transmitter, or between the two. 4. Freezing rain can cause the wind speed cups to stop moving, thus constantly displaying 0.0 wind speed. You can attempt to remove the ice from the wind sensor, but it is strongly advised to wait for milder weather to do so. Bring the transmitter and receiver side-by-side and remove all the batteries. Replace them all (View section 5B: Setting up the Weather Station – Powering up your HWS) and observe whether ALL the outdoor readings show up. Check the timing of updates on the receiving unit (outdoor readings should change every 128 seconds). Then, place the main unit and transmitter back in their regular mounting positions. Check the timing of updates AGAIN on the receiving unit. If you notice the updates occur every 128 seconds, there should be no problem. If updates occur greater than 128 seconds (4 minutes 20 seconds +) or no updates occur there is transmission interference between the receiver and the transmitter. BOTH UNITS MUST BE PLACED IN DIFFERENT LOCATIONS WITH MINIMAL TRANSMISSION INTERFERENCE.
Barometric trend doesn't work	The trend function will not display after power up until it has collected 24 hrs of pressure data. (View section 18: Trend Chart).
Forecast icons don't change Forecast icons limitations	The forecast icon will always appear as "Partly Cloudy" upon powering up the home monitor. The first several hours of forecast data may be inaccurate, because the home monitor needs to collect barometric pressure information. Over time the forecast icon's accuracy will improve. (View section 19: Weather Forecasting) The "most accurate" professional weather forecasting system is only 70.2% accurate. Forecasting is a very complex science involving very powerful computer models, satellite imagery and radar. Scientific forecasts consider barometric pressure, wind direction, dew point, etc. The HWS forecast only evaluates the barometric pressure change over a certain period of time. It is very much like using a traditional dial barometer for predicting changes in the weather.
Optimum viewing angle	The home monitor LCD display was designed with an optimum viewing from a desk position. This angle is approximately 45°. The LCD screen works from other directions, but it is best to consider the Optimum Viewing Angle (Section 9).
Min/Max recall for fahrenheit wind chill readings appear inaccurate	The minimum and maximum memory for wind chill is stored in <u>Celsius only.</u>

23. PRODUCT SPECIFICATIONS

Reading	Range	Accuracy/Precision
Outdoor temperature	-40°C to 60°C (-40°F to 140°F)	+/- 2°C (+/-4ºF)
Indoor temperature	0°C to 40°C (32°F to 104°F)	+/-2°C (+/-4°C)
Humidity	20% to 95% relative humidity	+/- 7%
Wind Speed	0 to 100 km/h (0 to 60 mph)	+/-1% of the range (Km/h or mph)
Air Pressure	840 – 1200 mb (24.8-35.4 inHg)	+/- 4mb (+/-0.2 inHg)
Wind direction	16 directions	
Rainfall	0 to 99.9 cm (0 to 39.3 in)	+/-0.5 cm (+/-0.2 In)
Transmission distance	Over 100 meters (300 feet)	Like a cellular phone, this is dependent upon transmission interference.

24. WARRANTY

Thermor's Home Weather Station is guaranteed to be free from defects in material and workmanship for one year from the date of purchase. The warranty does not apply if the defect or malfunction is a result of user abuse, mis-use, alteration, modification or damages in transit.

PLEASE CONTACT THERMOR LTD. BEFORE SENDING THE UNIT IN FOR REPAIRS AT:

1-800-387-8520

If necessary, send the defective or malfunctioning unit, freight and insurance prepaid, with the original sales receipt and a cheque for $10.00 to cover return shipping and handling to:

Thermor Ltd.
395 Cochrane Drive
Markham, ON
CANADA
L3R 9R5

25. RESOURCES TO LOOK AT...

Environment Canada:
http://www.weatheroffice.ec.gc.ca
http://www.climate.weatheroffice.ec.gc.ca/climateData/canada_e.html

Real Estate Journal -- Wall Street Journal (for US city elevation information):
http://homes.wsj.com/cityprofiles/

26. FCC INFORMATION

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for 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 a particular 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.