

WIRELESS WEATHER STATION INSTRUCTION MANUAL

Excelvan®

MODEL NO.: WH1175

	Page
1. INTRODUCTION	2
1.1 PACKAGE CONTENTS	2
1.2 FEATURES	2
2. INSTALLATION	3
2.1 INSTALLING THE BATTERIES	3
2.2 MOUNTING	4
2.2.1 BASE STATION	4
2.2.2 REMOTE SENSOR	5
3. OVERVIEW	7
3.1 BASE UNIT-LCD	7
3.2 WEATHER FORECASTING	8
3.3 PRESSURE TENDENCY INDICATOR	9
3.4 PRESSURE SENSITIVITY SETTING FOR WEATHER FORECASTING	9
3.5 STORM WARNING INDICATOR	9
3.6 ICE ALERT	9
3.7 COMFORT INDEX	10
4. PROGRAM MODE	10
4.1 SETTING MODE	10
4.2 ALARM MODE	11
4.3 MIN/MAX MODE	12
4.4 CHANNEL MODE	12
5. TROUBLESHOOTING	12
6. SPECIFICATION	13

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

1. Introduction

Thank you for purchasing this Wireless Weather Station. Designed for everyday use, the weather station will prove to be an asset of great value for your personal use in the home or office. Please read this instruction manual thoroughly to fully understand the correct operation of your weather station and benefit from its unique feature. *This Operation Manual is part of this product and should be kept in a safe place for future reference. It contains important notes on setup and operation.*

1.1 Package Contents

- 1x Weather station base unit
- 1x remote Sensor
- 2 x Mounting screws
- 1 x Hanging string
- Instruction manual

1.2 Feature

- 1) Wireless outdoor and indoor temperature (°F or °C)
- 2) Wireless outdoor and indoor humidity
- 3) Digital barometer (mmHg, hPa/mb, inHg)
- 4) Memory max/min (for temperature, humidity and air pressure)
- 5) Radio controlled time and date with manual setting.
- 6) Daylight saving time manual setting on/off
- 7) Comfort index
- 8) Weather forecast tendency
- 9) Symbol forecast (sun, partly cloudy, cloudy, rain (or snow when temperature is below °C), thunder storm (rain or snow flashing))
- 10) Weather forecast based on changing barometric pressure
- 11) Time alarm
- 12) Can receive up to 3 sensors
- 13) Wall hanging or free standing
- 14) Included one transmitter
- 15) Synchronized instant reception
- 16) Low battery indicator on the receiver

2. Installation

2.1 Installing the Batteries

Note: Please note the polarity when inserting/replacing batteries in the unit, failure to do so may result in permanent damage. Use good quality Alkaline Batteries and avoid rechargeable batteries.

- 1) Insert two AAA batteries into the remote sensor. After the remote sensor is powered up, the sensor will transmit weather data every 8s for 8 times. After this learning period is over, then the transmitter will transmit every 48s.
- 2) Insert three AA batteries into the weather station. When the base station is powered up, a short beep will sound and all LCD segments will light up for about 4 seconds before it enters into learning mode to learn the sensors security code. Every time the remote sensor is powered up (for example after a change of batteries), a random security code is transmitted and this code must be synchronized with the base station to receive weather data.
- 3) Wait 3 minutes or until the outdoor temperature is displayed in the weather station. ***Do not press any keys before outdoor sensor data received.*** The wireless weather station can receive up to 3 temperature sensors. If you have purchased additional remote sensors, repeat step 1) for all extra sensors. However, ensure that you leave 10 seconds in between the reception of the last sensor and the set-up of the following sensor. The wireless weather station will number the sensors in the order of set-up; i.e. the first temperature sensor will have the temperature displayed with 1.
- 4) After the learning mode, the base station will start the radio controlled time reception. The receiver will start RCC time reception period for 10 minutes maximum, and no weather data will be received during this period of time. If RCC signal can't be synchronized with the base station within 1 minute, the signal search will be cancelled and will automatically resume every hour on the hour until the signal is successfully captured. Regular RF link will be established once RCC reception routine is finished.
- 5) Mount the units, ensuring that the receiver can still pick up the signal from the transmitter. To measure outdoor temperature, place the transmitter outdoors. It will transmit the temperature from its location.

Note: DO NOT PRESS ANY KEY on the base station until the first set of data is display on the LCD. This ensures that the base station has synchronized with the sensors and that the system is now functioning. If a key is pressed before the weather station receives the temperature signal, or battery change happened on remote sensor side, please hold the base station + button for 3s to re-learn the current channel sensor signal. If you have purchased additional remote sensors, hold the + button for 5s to re-learn all sensors signal.

Please wait 10 seconds before re-insert the battery again to make a proper reset for both transmitter and receiver.

Note for Radio Controlled Time:

The time and date display is based on the signal provided by the highly accurate government operated atomic clock. The base station will continue to scan for the radio controlled time signal each day at 2:00, 8:00, 12:00 and 20:00 despite it being manually set. If reception has been unsuccessful, then the radio controlled time icon will not appear but reception will still be attempted continually. If reception has been successful, the received time and date will overwrite the manually set time and date.

Note:

 Please participate in the preservation of the environment by properly disposing of all used-up batteries and accumulators at designated disposal points. Never dispose of batteries in a fire as this may cause explosion, risk of fire or leakage of dangerous chemicals and fumes

2.2 Mounting

2.2.1 Base Station

With one foldable legs at the back of the unit, the base station can be placed onto any flat surface or wall mounted at the desired location by the hanging holes at the back of the unit. It is important to check that the radio signal can be received before permanently mounting any of the units

2.2.2 Thermo-Hygrometer Sensor Set Up

Note: To avoid permanent damage, please take note of the battery polarity before inserting the batteries.

Remove the battery door on the back of the sensor. Insert two AA batteries.

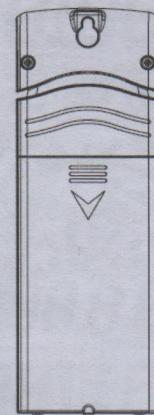


Figure 1

We recommend lithium batteries for cold weather climates, but alkaline batteries are sufficient for most climates. We do not recommend rechargeable batteries. They have lower voltages, do not operate well at wide temperature ranges, and do not last as long, resulting in poorer reception.

Install the battery door. Note that the temperature and humidity will be displayed on the LCD display. Looking at the back of the unit from left to right, the polarity is (-) (+) for the top battery and (+) (-) for the bottom battery.

It is recommended you mount the remote sensor outside on a north facing wall, in a shaded area, at a height at or above the receiver. If a north facing wall is not possible, choose a shaded area, under an eave.

Direct sunlight and radiant heat sources will result in inaccurate temperature readings. Although the sensor is weatherproof, it is best to mount in a well-protected area, such as an eave.

1. Use a screw or nail to affix the remote sensor to the wall, as shown in Figure 2
2. Hang the remote sensor up on string, as shown in Figure 3.

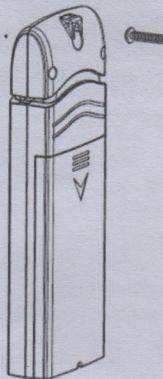


Figure 2

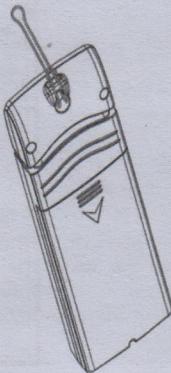


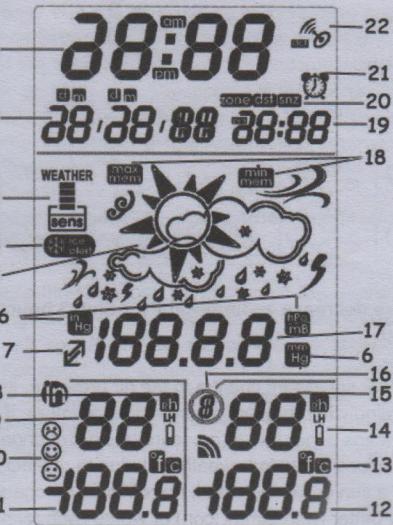
Figure 3

Note: Make sure the sensor is mounted vertically and not lying down on a flat surface. This will insure optimum reception. Wireless signals are impacted by distance, interference (other weather stations, wireless phones, wireless routers, TVs and computer monitors), and transmission barriers, such as walls. In general, wireless signals will not penetrate solid metal and earth (down a hill, for example).

3. Overview

3.1 Base unit-LCD

The following illustration shows a normal LCD display for description purposes only.

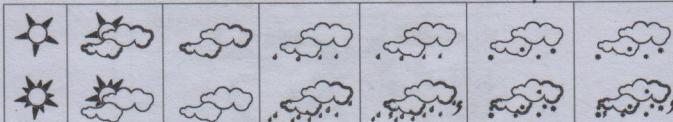


1. time
2. date/day of week
3. pressure sensitivity icon
4. ice alert
5. weather forecast icon
6. pressure display unit
7. weather tendency arrow
8. humidity unit
9. indoor humidity display
10. comfort index
11. indoor temperature display
12. outdoor temperature display
13. temperature unit
14. base station low battery indicator
15. outdoor humidity display
16. number showing sensor unit
17. pressure display
18. MIN/MAX icon
19. alarm time
20. snooze
21. alarm icon
22. DCF tower icon for time reception

3.2 Weather forecasting



Wind



If the air pressure decrease $\geq 3\text{mmHg/hPa}$ within 3 hours, the wind icon will be displayed.

For every sudden or significant change in the air pressure, the weather icons will update accordingly to represent the change in weather. If the icons do not change, then it means either the air pressure has not changed or the change has been too slow for the wireless weather station to register. However, if the icon displayed is a sun or raining cloud, there will be no change of icon if the weather gets any better (with sunny icon) or worse (with rainy icon) since the icons are already at their extremes. The icons displayed forecasts the weather in terms of getting better or worse and not necessarily sunny or rainy as each icon indicates. For example, if the current weather is cloudy and the rainy icon is displayed, it does not mean that the product is faulty because it is not raining. It simply means that the air pressure has dropped and the weather is expected to get worse but not necessarily rainy.

3.3 Pressure tendency indicator



The tendency indicators arrow is located beside the air pressure value to show the air pressure tendency and provide a forecast of the weather to be expected by the decreasing or increasing air pressure. The upward arrow means that the air pressure is increasing and the weather is expected to become better. The downward arrow means that the air pressure is decreasing and the weather is expected to become worse.. The base unit measures the air pressure per 10minutes. If the air pressure continuous increasing 3 times the arrow will be upward, if the air pressure continuous decreasing 3 times the arrow will be downward, otherwise the tendency arrow will not show up.

3.4 Pressure sensitivity setting for weather forecasting

WEATHER

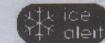


The pressure threshold can be set to suit the user's requirement for weather forecasting from 2-4hPa (default 2hPa). There is pressure sensitivity icon on the top left corner of LCD to indicate the pressure threshold by number of dots. For areas that experience frequent changes in air pressure requires a higher setting compared to an area where the air pressure is stagnant. For example if 4hPa is selected, then there must be a fall or rise in air pressure of at least 4hPa before the weather station will register this as a change in weather.

3.5 Storm warning indicator

The storm waning pressure threshold can be set to suit the user's requirement from 3-5hPa (default 4hPa).When there is a fall over pressure threshold within 3 hours, the storm forecasting will be activated, the storm icon will flash indicating the storm warning feature has been activated.

3.6 Ice alert



When outdoor temperature between -3 to 1 degree ice alert icon would be indicated.

If you have purchased additional remote sensors, ice alert is base on the temperature of Channel 1 sensor

3.7 comfort index



There are three symbols can be displayed depending on indoor humidity for the comfort index:

RH<45%	RH 45%~65%	RH >65%
Dry	Comfort	Wet

4. Program Mode

The base station has four keys for easy operation: **SET** key, **ALARM** key, **MIN/MAX/-** key, **+** key, **SNOOZE/LIGHT** key.

4.1 Setting Mode

- While in normal mode, press the **SET** key shortly to shift the display of Time and Year.
- While in normal mode, press the **SET** key for 3s to enter the setting mode,
- In the setting mode, press the **SET** key to select the following setting in sequence, press **+** key to select the units or scrolls the value. Press **MIN/MAX** key to decrease the value.:
 - 1. Five language select for day display
(English:EN→Russia:RU→German:GE→France:FR→Spain:ES)
 - 2. LCD contrast level select from 1 to 8. (Default 4)
 - 3. Time zone

At Europe, 0 for GMT+1 time zone, 1 for GMT+2 time zone, -1 for GMT time zone.

The default time zone setting value is 0 base on Germany DCF time (GMT+1)

For countries not at the same time zone area of Germany, it needs to set the correct time zone so that correct time can be displayed after radio controlled clock time is received successfully. For example it should be set as "-1" for UK.

- 4. RCC on/off
- 5. 12/24 hours
- 7. DDMM/MMDD (Day Month/ Month Day)

8. Year (2000-2099)

9. Month

10. Date

11. Hour

12. Minute

13. Temperature display unit degree Celsius or Fahrenheit

14. Air pressure display units in hPa, mmHg or inHg

15. Air pressure value setting from 800hPa to 1100hPa.

16. Pressure threshold setting (default 2hPa, see 3.4)

17. Storm threshold setting (default 4hPa, see 3.5)

18. Weather forecast icon setting.

- After the final mode, the manual setting returns to the normal display mode.
- If no key is pressed for 30s, the setting mode will return to normal display mode at any time.
- Press SNOOZE/LIGHT key or if no key is pressed for 30s, the setting mode will return to normal display mode at any time.

4.2 Alarm mode

- While in normal mode, press the **ALARM** key to set the alarm on/off. If alarm on, alarm icon and alarm time display. If alarm off, OFF alarm icon and

OFF display.

- While in normal mode, press the **ALARM** key for 3s to enter the alarm time setting mode: the alarm hour digits will flash, to set the desired hour by using the **+** or **MIN/MAX** keys. Press the **SET** key again the alarm minute digits will flash, to set the desired minute by using the **+** or **MIN/MAX** keys. Press the **SET** key to confirm and exit the alarm time setting mode.

Note: When an alarm has been triggered, the alarm will sound and alarm icon flash for 120s. Press SNOOZE/LIGHT key to silence the alarm for 7minutes and then the alarm will sound again when that time is up. Press any key except SNOOZE/LIGHT key to stop the alarm. Or hold the SNOOZE/LIGHT for 3s to stop the alarm and not enter snooze mode. When been the normal model, press SNOOZE/LIGHT key to light 5 seconds and then closed.

4.3 MIN/MAX mode

- Press the **MIN/MAX** key to shift the display the maximum value and minimum value (air pressure, outdoor temperature, outdoor humidity and indoor temperature, indoor humidity)
- While in the minimum or maximum mode, press **MIN/MAX** key for 2 seconds individual minimum or maximum record will be reset to current reading.

4.4 Channel Mode

- If you have purchased additional remote sensors, press + key to display the different outdoor temperature.
- Hold the + key for 3s to re-learn the current channel sensor signal. If you have purchased additional remote sensors, hold the + button for 5s to re-learn all sensors signal.

5. Troubleshooting

Q 1. No signal from remote sensor

- A There can be many reasons for this, the following steps should help you troubleshoot this problem.
 - 1.1 Make sure that the batteries in the remote sensor are not depleted.
 - 1.2 Reduce the distance between transmitter and receiver
 - 1.3 Remove the batteries from the base station and the remote sensor and reset the weather station in the right order as described in section 2 of this manual.
 - 1.4 This problem could also be a result of radio interference in your neighborhood, try relocating the sensor and the base station

Q 2 Remote sensor drops off intermittently

- A Possible interference from other sources, try relocating the sensor or the base station. Radio device operation on the same frequency can also cause interference.

Q 3 Temperature or the pressure is incorrect.

- A Check/ Replace the batteries. Also make sure that the remote sensor is not place near objects that can act as sources of heat or cold. Adjust the relative air pressure value from a reliable source such as TV or radio

6. Specifications

Outdoor data

Transmission distance in open field	: 100meter max.
Frequency	: 433MHz
Temperature range	: -40°C to +60°C (show --- if outside range)
Resolution	: 0.1°C
Measuring interval remote sensor	: 60 sec
Humidity	: 10-99%
Resolution	: 1%

Indoor data

Measuring interval of temperature	: 60 sec
Measuring interval of Pressure	: 10 minutes
Indoor temperature range	: -10°C to +60°C
Resolution	: 0.1°C
Measuring range air pressure	: 300hPa – 1100hPa
Resolution	: 0.1hPa
Accuracy	: 3hPa under 800hPa-1100hPa
Humidity	: 10-99%
Resolution	: 1%

Power consumption

Base station	: 3XAA 1.5V LR6 Alkaline batteries
Remote sensor	: 2xAAA 1.5V LR03 Alkaline batteries