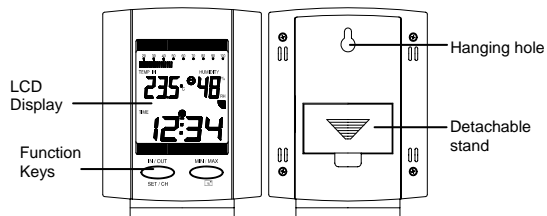


WIRELESS 433MHZ WEATHER STATION

INTRODUCTION:

Congratulations on purchasing this Weather Station with wireless 433MHz, which displays time/date, indoor/outdoor temperature and humidity, and receives up to two outdoor temperature and humidity channels. To enjoy the full benefits of this innovative product, please read this operating manual.

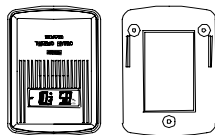
WEATHER STATION:



FEATURES:

- DCF radio-controlled clock with manual time settings option
- 12/24 hour time display format
- Calendar display
- Indoor temperature display in degrees Celsius (°C) or Fahrenheit (°F)
- Outdoor temperature display in degrees Celsius (°C) or Fahrenheit (°F)
- Indoor and outdoor humidity display in RH%
- Indoor comfort indicator icon
- Relative humidity level bar
- Indoor min/max temperature and humidity recordings with time and date
- Outdoor MIN/MAX temperature and humidity recordings with time and date
- Can receive up to two outdoor temperature and humidity channels (optional)
- Table standing or wall mounting (detachable table stand)

THE THERMO-HYGRO OUTDOOR TRANSMITTER



- Remote transmission of outdoor temperature and humidity to Weather Station by 433 MHz signals
- LCD showing outdoor temperature and humidity
- Wall mounting case

SETTING UP:

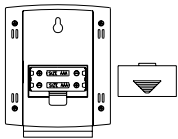
Please follow these steps to ensure that your new Weather Station works correctly with the temperature transmitter(s):

1. First, insert the batteries into the Weather station (see **"How to install and replace batteries in the Weather station"** below). Once the batteries are in place, all segments of the LCD will light up briefly. Then the indoor temperature, humidity level bar, and the time as 0:00 will be displayed. If the indoor temperature is not displayed after a few seconds, remove the batteries and wait for at least 30 seconds before reinserting them.
2. Once the indoor data is displayed proceed to step 3 only if you have purchase optional transmitter(s).
3. If you have purchase optional transmitter(s), within 82 seconds of activating the Weather station, place the batteries into the transmitter(s) (see **"How to install and replace batteries in the Thermo-Hygro outdoor transmitter"** below).
Note: Should the total time of inserting the batteries into the transmitters take longer than 82 seconds from the time of inserting the batteries into the Weather Station then temperature reception problems may occur. If the temperature is not being received, then see Checking for 433 MHz receptions, before resetting the units (see **Resetting the Weather Station** below).
4. The Weather Station can take up to 2 optional remote transmitters. If you have purchased additional transmitters, wait until the outdoor temperature has been received from the one transmitter before activating the next transmitter. However, ensure that you leave 10 seconds in between the reception of the last transmitter and the set-up of the following transmitter. The Weather Station will number the

transmitters in the order of set-up, i.e. the first transmitter will have the temperature and humidity displayed with the channel number 1 against it and so on.

5. When all the transmitters are set up, there is a testing period, during which the display switches quickly between all the received transmitters at random, according to which random transmission it receives. The process stops automatically when
 - (1) No keys are pressed after 82 seconds
 - (2) All the data of two channels are received
 - (3) Any key is pressed
6. Once the remote temperature **and humidity have been received** and displayed on the Weather station, the DCF-77 time code reception is automatically started. This takes typically between 3-5 minutes in good conditions. This time period is an excellent opportunity to locate the transmitter(s) in suitable location(s) outdoors. In order to ensure sufficient 433 MHz transmission however, this should under good conditions be no more than 25 meters from where the Weather station will be finally positioned (see notes on **"Positioning"** and **"433 MHz Reception"**).
7. If after 10 minutes, the DCF time has not been received, use the **IN/OUT/SET/CH key** to manually enter a time initially. The clock will automatically attempt to receive the DCF time **at each full hour or after manual set time**. When this is successful, the received time will override the manually set time. The date is also updated with the received time. (Please refer also to notes on **"Radio controlled Time Reception"** and **"Manual Time Setting"**).

HOW TO INSTALL AND REPLACE BATTERIES IN THE WEATHER STATION

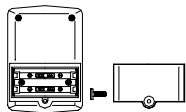


The Weather station uses 2 x AAA, IEC LR3, 1.5V batteries. To install and replace the batteries, please follow the steps below:

1. Insert finger or other solid object in the space at the bottom center of the battery compartment and lift up to remove the cover.
2. Insert batteries observing the correct polarity (see marking).
3. Replace compartment cover.

HOW TO INSTALL AND REPLACE BATTERIES IN THE THERMO-HYGRO OUTDOOR TRANSMITTER

The Thermo-Hygro Outdoor Transmitter uses 2 x AAA, IEC, LR3, 1.5V batteries. To install and replace the batteries, please follow the steps below:



1. Unscrew the screw on the back of the compartment and remove the cover.
2. Insert the batteries, observing the correct polarity (see marking).
3. Replace the battery cover on the unit and seal by re-screwing

Note:

In the event of changing batteries in any of the units, all units need to be reset by following the setting up procedures. This is because the transmitter at start-up assigns a random security code and this code must be received and stored by the Weather Station in the first 82 seconds of power being supplied to it.

BATTERY CHANGE

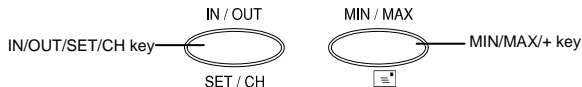
It is recommended to replace the batteries in all units on an annual basis to ensure optimum accuracy of these units.



Please participate in the preservation of the environment. Return used batteries to an authorized depot.

FUNCTION KEYS:

The weather station has 2 functions keys:



IN/OUT/SET/CH key:

- Enter manual setting modes: °C/°F temperature, 12/24 hour time, manual time and calendar
- Toggle between indoor/outdoor temperature and humidity data

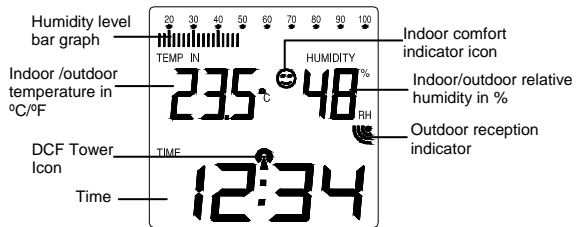
- Select outdoor transmitter (if more than 1 transmitter is used; optional)

MIN/MAX/+ key:

- Toggle between time and calendar display in normal display mode
- Toggle between MIN/MAX indoor temperature and humidity data
- Toggle between MIN/MAX outdoor temperature and humidity data
- Toggle between MIN/MAX data recorded time and date
- Change setting in manual setting modes

LCD SCREEN

The Weather Station's LCD is divided into 3 sections, displaying humidity level in a bar graph format, indoor/outdoor temperature and humidity, time and calendar information.



DCF-77 RADIO CONTROLLED TIME:

The time base for the radio controlled time is a Cesium Atomic Clock operated by the Physikalisch Technische Bundesanstalt Braunschweig, which has a time deviation of less than one second in one million years. The time is coded and transmitted from Mainflingen near Frankfurt via frequency signal DCF-77 (77.5 kHz) and has an approximately 1,500 km transmitting range. Your radio-controlled Weather Station receives this signal and converts it to show the precise time in summer or wintertime.

The quality of the reception depends greatly on the geographic location. In normal cases, there should be no reception problems within a 1500km radius of Frankfurt.

Once the outdoor temperature is displayed on the Weather station, the DCF tower icon in the clock display will start flashing in the LCD. This indicates that the clock has detected that there is a radio signal present and is trying to receive it. When the time code is received, the DCF tower becomes permanently lit and the time will be displayed.

If the tower icon flashes, but does not set the time or the DCF tower does not appear at all, then please take note of the following:

1. Recommended distance to any interfering sources like computer monitors or TV sets is minimum of 1.5 to 2 meters.
2. Within thick concrete rooms (basements, superstructures), the received signal is naturally weakened. In extreme cases, please place the unit close to a window and/or point its front or back towards the Frankfurt transmitter.
3. During nighttime, the atmospheric disturbances are usually less severe and reception is possible in most cases. A single daily reception is adequate to keep the accuracy deviation below 1 second.

MANUAL SETTINGS

Press the "IN/OUTSET/CH" key about 2 seconds to enter the following manual setting modes:

1. °C/°F Temperature setting
2. 12/24 Hour Time setting
3. Manual time setting
4. Calendar setting

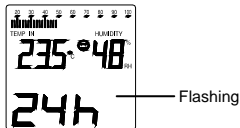
°C/°F TEMPERATURE DISPLAY SETTING



The temperature display can be selected to show temperature data in °C or °F. (Default °C)

1. The characters "°C" or "°F" will start flashing in LCD.
2. Use the "MIN/MAX/+" key to select "°C" for temperature reading in degrees Celsius or "°F" for temperature reading in degrees Fahrenheit.
3. Press the "IN/OUT/SET/CH" key again to confirm and to enter the "12/24 Hour time display setting".

12/24 HOUR TIME DISPLAY SETTING



The hour display can be selected to show hours in 12-hour or 24-hour settings. (Default 24-Hour)

1. Use the "MIN/MAX/+" key toggle between "12h" or "24h".
2. Press again the "IN/OUT/SET/CH" key to confirm and enter the "Manual time setting".

MANUAL TIME SETTING

In case the Weather station is not be able to detect the DCF-signal (disturbances, transmitting distance, etc.), the time can be manually set. The clock will then work like a normal Quartz clock.



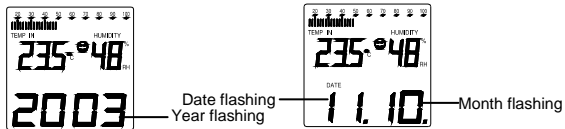
1. The hour digit starts flashing.
2. Use the "MIN/MAX/+" key to set the hours.
3. Press the "IN/OUT/SET/CH" key to enter the minutes. The minute digits start flashing.
4. Press the "MIN/MAX/+" key to set the minutes.
5. Press the "IN/OUT/SET/CH" key to confirm and enter the "Calendar setting".

Note:

The unit will still try to receive the signal at each full hour and after manual set time despite it being manually set. When it does receive the signal, it will change the manually set time into the received time. During reception attempts the DCF tower icon will flash. If reception has been unsuccessful, then the DCF tower icon will not appear but reception will still be attempted the following hour.

CALENDAR SETTING

The date default of the Weather station is 1. 1. in the year 2003. Once the radio-controlled time signals are received, the date is automatically updated. However, if the signals are not received, the date can also be set manually. To do this:



1. Use the "MIN/MAX/+" key to set the year (the range runs from 2000 to 2029).
2. Press the "IN/OUT/SET/CH" key and the month digit starts flashing.
3. Use the "MIN/MAX/+" key to set the month.
4. Press the "IN/OUT/SET/CH" key again, the day digit starts flashing,
5. Use "MIN/MAX/+" key to set the day.
6. Press the "IN/OUT/SET/CH" key again to exit the manual setting mode or wait for about 16 seconds for automatic timeout.

USING THE WEATHER STATION:

THE HUMIDITY LEVEL BAR:

Located above the temperature/humidity display, it shows the relative humidity level. The range is from 16% to 98%, and each bar corresponds to 2% of relative humidity. It automatically changes accordingly to the indoor/outdoor humidity display.

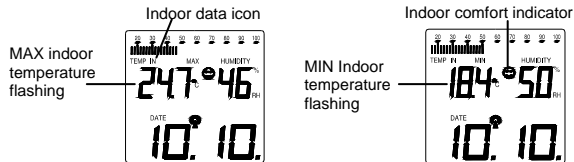
IN AND OUT ICONS

The icon "IN" or "OUT" will be displayed just above the temperature. "IN" represents the indoor temperature and humidity reading, whereas "OUT" represents the outdoor temperature and humidity reading.

Note: Should the outdoor temperature not be received within 2 minutes after inserting the batteries into a transmitter, then see "Checking 433 MHz reception" below.

MIN/MAX INDOOR TEMPERATURE RECORDINGS:

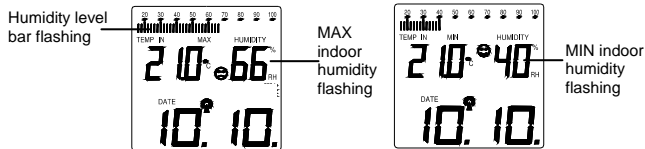
To display the MIN/MAX indoor temperature and humidity recordings and the time/date records, press "IN/OUT/SET/CH" key first to ensure that the LCD displays the indoor data.



1. Press the "MIN/MAX/+" key, the Weather Station shows the current date.
2. Press the "MIN/MAX/+" key a second time, the MAX indoor temperature and time record will show (temperature record flashing).
3. Press the "MIN/MAX/+" key, the MAX indoor temperature and date record will show (temperature record flashing).
4. Press the "MIN/MAX/+" key, the MIN indoor temperature and time record will show (temperature record flashing).
5. Repeat pressing the same button, the MIN indoor temperature and date record will show (temperature record flashing).

Note: The relative humidity record displayed next to the MIN/MAX temperature record is not the MIN/MAX relative humidity record, but the relative humidity recorded at this specific time.

MIN/MAX INDOOR HUMIDITY RECORDINGS:



1. Press the "MIN/MAX/+" key. The MAX indoor relative humidity record will show with the time record (humidity record and humidity level bar flashing).
2. Press the "MIN/MAX/+" key, the MAX indoor relative humidity record shows with the date record (humidity record and humidity level bar flashing).
3. Press the "MIN/MAX/+" key. The MIN indoor relative humidity record will show with the time record (humidity record and humidity level bar flashing).
4. Press the "MIN/MAX/+" key, the MIN relative humidity record shows with the date record (humidity record and humidity level bar flashing).

Note: The temperature displayed next to the MIN/MAX relative humidity record is not the MIN/MAX temperature record, but the temperature recorded at that specific time.

OUTDOOR TEMPERATURE 1 AND 2

If more than one transmitter is being used, simply press the "IN/OUT/SET/CH" key to toggle between the temperature and humidity readings of transmitter 1 and 2. If the reading is from transmitter 1, then the channel identification number "1" will be displayed below the outdoor temperature.

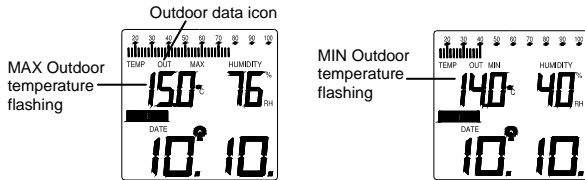
MIN/MAX OUTDOOR TEMPERATURE READING

To display MIN/MAX outdoor temperature recordings,

1. Press "IN/OUT/SET/CH" key to switch to outdoor data.
2. Choose the desired transmitter by pressing the "IN/OUT/SET/CH" key if more than 1 transmitter is used. Otherwise skip step 3.

Note:

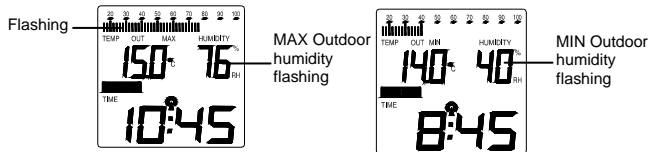
Once a new outdoor temperature high or low is reached, it will automatically be set into the Weather Station's memory. All the records are based on which transmitter is chosen.



3. Press the "MIN/MAX/+" key, the Weather Station shows the current date.
4. Press the "MIN/MAX/+" key a second time, the MAX outdoor temperature and time record will show (temperature record flashes).
5. Press the "MIN/MAX/+" key again, the MAX outdoor temperature and date record will show (temperature record keep flashing).
6. Press the "MIN/MAX/+" key, the MIN outdoor temperature and time record will show (temperature record flashes).
7. Press the "MIN/MAX/+" key, the MIN outdoor temperature and date record will show (temperature record keep flashing).

Note: The relative humidity record displayed next to the MIN/MAX temperature is not the MIN/MAX relative humidity record, but the relative humidity recorded at this specific time.

MIN/MAX OUTDOOR HUMIDITY READING



1. Press the "MIN/MAX/+" key. The MAX outdoor relative humidity record will show with the time record (humidity record and humidity level bar flashing).

2. Press the "MIN/MAX/+" key a second time. The MAX outdoor relative humidity record is showed with the date record (humidity record and humidity level bar flashing).
3. Press the "MIN/MAX/+" key again. The MIN outdoor relative humidity record will show with the time record (humidity record and humidity level bar flashing).
4. Press the "MIN/MAX/+" key. The MIN outdoor relative humidity record show with the date record (humidity record and humidity level bar flashing).

Note: The temperature record displayed next to the MIN/MAX relative humidity record is not the MIN/MAX temperature record, but the temperature recorded at this specific time.

RESETTING THE MIN/MAX TEMPERATURE AND HUMIDITY RECORDING:

During the MIN/MAX temperature and humidity record display, pressing the "IN/OUT/SET/CH" key will reset the displayed record to the current data.

CHECKING THE 433 MHz RECEPTION

In normal surroundings (for example away from interfering sources such as TV sets), the outdoor temperature can usually be easily received within 82 seconds. If the outdoor temperature is not displayed on the LCD after 2 minutes, then check the following:

1. The distance of the units should be at least 1.5 to 2 meters away from interfering sources such as computer monitors or TV sets.
2. Avoid placing the units onto or in the immediate proximity of metal doors, window frames or structures.

3. Using other electrical products such as headphones and speakers that operate on the same signal (433 MHz) can prevent the transmission pick up.
4. Neighbors using electrical products operating on the 433 MHz signal can also cause interference. In most severe cases, the reception is only possible once all other electrical products using the 433 MHz are switched off.
5. Within thick concrete rooms such as basements and tower blocks, the 433 MHz signal can be weakened (avoid placing near metal frames and structures).
6. Transmission can be affected by exposure to extreme temperature conditions. For example, if the weather has been extremely cold (under -25°C) for an extended period of time then the transmission signal may be weakened. (Please bear this in mind when positioning the transmitter).

Note: Should after checking the above list an outdoor temperature is still not received, then reset all the units.

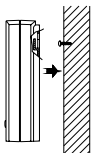
THERMO-HYGRO OUTDOOR TRANSMITTER:

The temperature and humidity are measured and transmitted every 60 seconds.

The range of the Thermo-Hygro outdoor transmitter may be affected by the temperature. At cold temperatures the transmitting distance may be decreased. Please bear this in mind when placing the transmitter

POSITIONING THE WEATHER STATION:

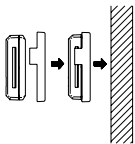
The Weather Station comes complete with a detachable stand that gives the option of table standing or wall mounting. To wall mount:



1. Fix a screw into the desired wall, leaving the head extended out by about 5mm.
2. Using the Weather Station's hanging hole, carefully hang it onto the screw.

Note: Always ensure that the unit locks onto the screw head before releasing.

POSITIONING THE OUTDOOR TEMPERATURE TRANSMITTER



The Thermo-Hygro Outdoor Transmitter is supplied with a holder that may be attached to a wall with the three screws supplied. Before securing the transmitter, ensure that the 433MHz signal is properly received. To attach to the wall, please follow the steps below:

1. Mark the wall using a pen through the holes in the holder to obtain the exact drilling position.
2. Drill holes in the wall at the points marked.
3. Screw holder onto wall.

There is also double sided tape included with the wall mount. On smooth surfaces this can be used instead of drilling holes. The mounting surface can, however, affect the transmission range. If for example the unit is attached to a piece of metal, it may then either reduce or increase the transmitting range. For this reason, we recommend not placing the unit on any metal surfaces or in any position where a large metal or highly polished surface

is in the immediate proximity (garage doors, double glazing, etc.). Before securing in place, please ensure that the Weather station can receive the 433MHz signal from the Thermo-hygro transmitter at the positions that you wish to situate them.

The Thermo-Hygro Outdoor Transmitter simply clicks in or out of the holder. When inserting or removing the Thermo-Hygro Outdoor Transmitter from the wall holder please hold both units securely.

CARE AND MAINTENANCE:

- Avoid placing the units in areas prone to vibration and shock as these may cause damage.
- Avoid areas where the units can be exposed to sudden changes in temperature, i.e. direct sunlight, extreme cold and wet/moist conditions as these will lead to rapid changes in temperature which reduces the accuracy of readings.
- When cleaning the LCD and casing, use a soft damp cloth only. Do not use solvents or scouring agents.
- Do not submerge the units into water.
- Immediately remove all low powered batteries to avoid leakage and damage. Replace only with new batteries of the recommended size.
- Do not make any repairs to the units. Please return them to the original point of purchase for repair by a qualified engineer. Opening and tampering with the units may invalidate its guarantee.

SPECIFICATIONS:

Temperature measuring range	
Indoor	: - 9.9°C to +50°C with 0.1°C resolution ("OF.L°C" displayed if outside this range)
Outdoor	: -29.9°C to +69.9°C with 0.1°C resolution ("OF.L°C" displayed if outside this range)
Indoor and outdoor humidity measuring range:	1% to 99% with 1% resolution ("-" displayed if outside this range)
Indoor temperature and humidity checking intervals:	every 10 seconds
Outdoor temperature and humidity reception	: 2 times in 10 minutes
Transmitting frequency	: 433.92 MHz
Power source	:
Weather Station	: 2 x AAA, IEC LR3, 1.5V batteries
Transmitter	: 2 x AAA, IEC LR3, 1.5V batteries
Battery life for both units	: Approximately 12 months (Alkaline batteries recommended)
Dimensions (L x W x H):	
Weather Station	: 90 x 21.5 x 105 mm (stand excluded)
Transmitter	: 56 x 24 x 80 mm (without wall bracket)

LIABILITY DISCLAIMER:

- The manufacturer and supplier cannot accept any responsibility for any incorrect readings and any consequences that occur should an inaccurate reading take place.
- This product is designed for use in the home only as indication of the temperature.

- This product is not to be used for medical purposes or for public information.
- The specifications of this product may change without prior notice.
- This product is not a toy. Keep out of the reach of children.
- No part of this manual may be reproduced without written authorization of the manufacturer.

R&TTE Directive 1999/5/EC

Summary of the Declaration of Conformity: We hereby declare that this wireless transmission device does comply with the essential requirements of R&TTE Directive 1999/5/EC.