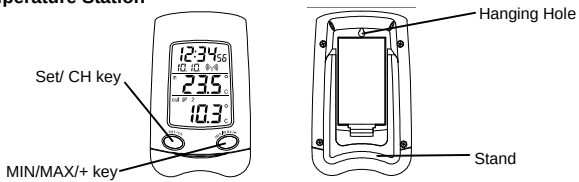
WIRELESS 433 MHz TEMPERATURE STATION

Instruction Manual

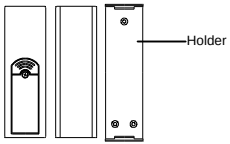
INTRODUCTION:

Congratulations on purchasing this tiny 433MHz Temperature Station which displays the time with second and up to three outdoor temperature readings. With only two easy to use keys, this innovative product is ideal for use in the home or office.

The Temperature Station



The Outdoor Temperature Transmitter



FEATURES:

The Temperature Station

- LCD clock in 24 hour time display (hour, minutes, seconds)
- DCF-77 Radio Controlled time with manual settings
- Date and month calendar display
- Indoor and outdoor temperature reading in degree Celsius (°C)

- Can receive up to three outdoor transmitters
- Indoor and outdoor temperature with Minimum and Maximum records and time received
- Table standing or wall mountable (hidden table stand)

The Outdoor Temperature Transmitter

- Remote transmission of outdoor temperature to Temperature Station by 433 MHz signal
- Wall mounting case

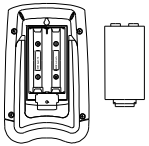
SETTING UP:

1. First, inert the batteries into the Temperature Station (see "**How to install and replace batteries in the Temperature Station**" below). Once the batteries are in place, all the segments will light up momentarily. If the indoor temperature reading is not displayed after 30 seconds, remove the batteries and wait for at least 10 seconds before reinserting them.

2. Within 3 minutes of activating the Temperature Station, place the batteries into the outdoor transmitter (see "**How to install and replace batteries in the outdoor transmitter**" below).
3. After a few seconds of inserting the batteries into the transmitter, the Temperature Station will start receiving data from the transmitter(s). The remote temperature will then be displayed on the Temperature Station. If this does happen after 15 minutes, the batteries will need to be removed from both units and reset from step 1.
4. The Temperature Station can take up to 3 remote transmitters. If you have purchased additional transmitter, follow step 2 for extra transmitters. However, ensure that you leave 10 seconds in between the reception of the last transmitter and the set-up of the following transmitter. The Temperature Station will number the transmitters in the order of set-up, i.e. the first transmitter will have the temperature displayed with the 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. Pressing any key will stop this process. The process also stops automatically if no keys are pressed for a few minutes.

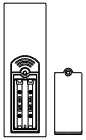
6. Once the remote temperature has been received and is displayed on the Temperature Station, the DCF-77 time code reception is automatically started. This takes typically between 3-5 minutes in good conditions. This time period is an excellent opportunity to locate the transmitter(s) in suitable location(s) outdoors. In order to ensure the sufficient 433 MHz transmission however, this should under good conditions be no more than 25 meters from where the Temperature Station will finally be positioned.
7. If after 10 minutes the DCF time has not been received, use the SET/ CH key to manually enter a time initially. The clock will automatically attempt to receive the DCF time at each full hour. When this is successful, the received time will override the manually set time. The data is also updated with the received time (Please refer also to "**DCF-77 Radio controlled time**" and "**Manual time setting**")

HOW TO INSTALL AND REPLACE BATTERIES IN THE TEMPERATURE STATION



1. Flip open the battery cover at the back of the Temperature Station.
2. Checking the correct polarization, insert 2 x AA, IEC LR6, 1.5V batteries into the battery compartment
3. Replace the cover

HOW TO INSTALL AND REPLACE BATTERIES IN THE TEMPERATURE TRANSMITTER



1. Remove the battery cover at the front side with a small screwdriver.
2. Insert the batteries, observing the correct polarity (see battery compartment marking).
3. Replace the battery cover on the unit.

Note:
In the event of changing batteries in any of the units, all units need to be reset by launching the setting up procedures. This is because a random security code is assigned by the transmitter at start-up and this code must be received and stored by the Temperature Station in the first minutes 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 help in the preservation of the environment. Return used batteries to an authorized depot.

FUNCTION KEYS:

Temperature Station:

There are two easy-to-use function keys in the Temperature Station

SET/CH key (Setting/Channel)

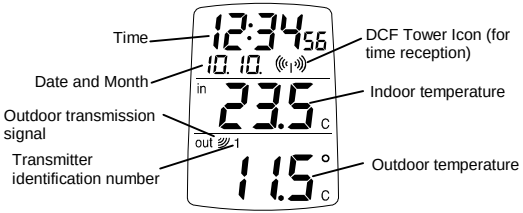
- Press and hold for about 3 seconds to enter the Manual setting mode.

- Used to toggle between the current outdoor transmitters 1, 2 and 3 (if more than 1 transmitter is used)

MIN/MAX/+ key (Min/ Max temperature)

- Used to toggle between the minimum and maximum recorded readings of indoor/ outdoor temperature and the time of record.

LCD SCREEN


Time
Date and Month
Outdoor transmission signal
Transmitter identification number
DCF Tower Icon (for time reception)
Indoor temperature
Outdoor temperature
12:34 56
10. 10.
in
23.5 C
out 1
11.5 C

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 a transmitting range of approximately 1,500 km. Your radio-controlled Temperature 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 Temperature Station, the DCF tower icon in the clock display will start flashing in the upper left corner. 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:

- Recommended distance to any interfering sources like computer monitors or TV sets is a minimum of 1.5 - 2 metres.
- Within ferro-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.
- 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.

SETTING MODE

MANUAL TIME SETTING

In area where reception of the DCF-77 time is not possible, the time can be manually set. The clock will then be a normal Quartz clock. Once the DCF signal is detected, it will change the manually set time into the received time. Please proceed the following setting steps at the first time before using the Temperature Station.

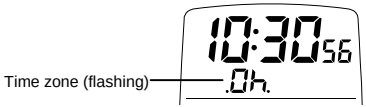
1. Press and hold the “SET/CH” key for about 3 seconds to enter the Manual time setting mode. The Minute digit in the time section starts flashing.
2. Use the MIN/MAX/+ key to set the Minute.
3. Press the SET/CH key to enter the hour. The hour digit start flashing.
4. Use the MIN/MAX/+ key to set the Hour.
5. Press again the SET/CH key to confirm and enter the **Time zone setting** mode.

TIME ZONE SETTING

The time zone can be set between ± 9 hours (default 0 hour)

1. Press the SET/CH key to enter the time zone setting. The time zone starts flashing.
2. Use the MIN/MAX/+ key to change the time zone

3. Press the “SET/CH key to confirm and enter the **Calendar setting** mode.



CALENDAR SETTING

The date default of the Temperature 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:

1. Press the SET/CH key to enter the Year (the Year digit will be flashing). Use the MIN/MAX/+ key to set the year.

2. Press the SET/CH key to enter the Month (the Month digit will be flashing). Use MIN/MAX/+ key to adjust the month

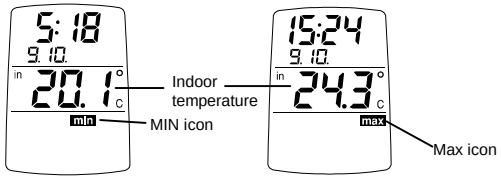
3. Then press the SET/CH key to enter the Day. Use MIN/MAX/+ key to adjust the day.

4. Press the SET/CH key to confirm and exit the **Calendar setting** mode.

CHECKING THE MIN/ MAX TEMPERATURE

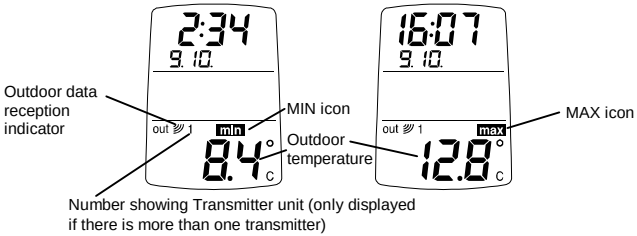
INDOOR MIN/ MAX TEMPERATURE

1. Press the MIN/MAX/+ key once to display the indoor minimum display and the time of record.
2. Press the MIN/MAX/+ key a second time to show the indoor maximum display and the time of record.



OUTDOOR MIN/ MAX TEMPERATURE

The outdoor LCD show the outdoor temperature, the reception indicator, the minimum or maximum reading. A number above the temperature will also be shown if more than one transmitter has been used



1. Press the SET/CH key to select the transmitter (only available if more than one transmitter is used).
2. Press the MIN/MAX/+ key three time to show the outdoor minimum temperature display and the time of record.
3. Press the MIN/MAX/+ key again to show the outdoor transmitter temperature display and the time of record
4. Press the MIN/MAX/+ to return to current outdoor temperature display.

RESETTING THE MIN/ MAX TEMPERATURE

RESETTING THE INDOOR MIN/ MAX TEMPERATURE

1. Press the MIN/MAX/+ key once to enter the indoor temperature display.
2. Press and hold the SET/CH key for about 3 seconds. This will reset both the minimum and maximum indoor temperature data to the current time, date and indoor temperature.

RESETTING THE OUTDOOR MIN/ MAX TEMPERATURE

1. Press the SET/CH key to select the particular transmitter to be reset (if more than one transmitter is used)
2. Press the MIN/MAX/+ key three times to enter the outdoor temperature display
3. Press and hold the SET/CH key for about 3 seconds. This will reset both the minimum and maximum outdoor temperature data to the current time, date and outdoor temperature.

OUTDOOR TRANSMITTER

The outdoor temperature is measured and transmitted every 60 seconds.
The range of the Temperature 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.

433 MHz RECEPTION:

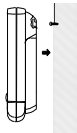
The Temperature Station will receive the temperature data within 15 minutes. If the temperature data is not being received 15 minutes after setting up (the display shows “---”), then please check the following points:

1. The distance of the Temperature Station or transmitter should be at least 1.5 to 2 meters away from any interfering sources such as computer monitors or TV sets.
2. Avoid placing the receiver onto or in the immediate proximity of metal window frames.

POSITIONING

THE TEMPERATURE STATION:

The Temperature Station comes complete with a convenient stand that gives the option of table standing or wall mounting. Before wall mounting, please check that the outdoor temperature can be received from the desired locations. To wall mount:

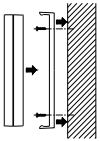


1. Fix a screw into the desired wall, leaving the head extended out the by about 5mm.
2. Using the Temperature Station's hanging hole, carefully hang it onto the screw.

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

OUTDOOR TRANSMITTER:

The Outdoor Transmitter is supplied with a holder that may be attached to a wall with the three screws or double-sided tape supplied. To attach to the wall using screws, 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 Temperature Station can receive the 433 MHz signal from the Temperature transmitter at the positions that you wish to situate them.
The Temperature Transmitter simply clicks in or out of the holder. When inserting or removing the Temperature Transmitter from the wall holder please hold both units securely.

CARE AND MAINTENANCE:

- Extreme temperatures, vibration and shock should be avoided as these may cause damage to the units and give inaccurate forecasts and readings.
- When cleaning the displays and casings, use a soft damp cloth only. Do not use solvents or scouring agents as they may mark the LCD and casing.
- Do not submerge the units in water.

- Immediately remove all low powered batteries to avoid leakage and damage. Replace only with new batteries of the recommended type.
- Do not make any repair attempts to the units. Return it to its original point of purchase for repair by a qualified engineer. Opening and tampering with the units may invalidate its guarantee.
- Do not expose the units to extreme and sudden temperature changes, this may lead to rapid changes in forecasts and readings and thereby reduce their accuracy.

SPECIFICATIONS:

Temperature measuring range		
Indoor	:	0ºC to +59.9ºC with 0.1ºC resolution (“OFL” displayed if outside this range)
Outdoor	:	-29.9ºC to +69.9ºC with 0.1ºC resolution (“OFL” displayed if outside this range)
Indoor Temperature checking interval	:	every 10 seconds
Outdoor Temperature reception	:	every 1 minute
Power Supply:		

Temperature Station	:	2 x AA, IEC LR6, 1.5V
Outdoor Temperature Transmitter	:	2 x AAA, IEC LR3, 1.5V
Battery life cycle	:	approximately 12 months (Alkaline batteries recommended)
Dimensions (L x W x H)		
Temperature Station	:	115.2 x 70 x 29 mm
Outdoor Temperature Transmitter	:	40 x 22 x 128 mm

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 not to be used for medical purposes or for public information.
- This product is only designed to be used in the home as indication of the future weather and is not 100% accurate. Weather forecasts given by this product should be taken only as an indication and not as being totally accurate.
- 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 consent 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.