WIRELESS 433 MHz TEMPERATURE STATION
### Instruction Manual

INTRODUCTION:
Congratulations on purchasing this Temperature Station with wireless 433 MHz Weather Station which displays the time, date, indoor temperature, and up to three outdoor temperature readings. It is further featuring a DCF-77 radio controlled clock with calendar display and two alarms. With LED back light and eight easy to use function keys, this innovative product is ideal for use in the home or office.
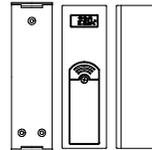
FEATURES:
The Temperature Station

- LCD Display
- Function keys
- Hanging Hole
- Battery cover
- Detachable stand
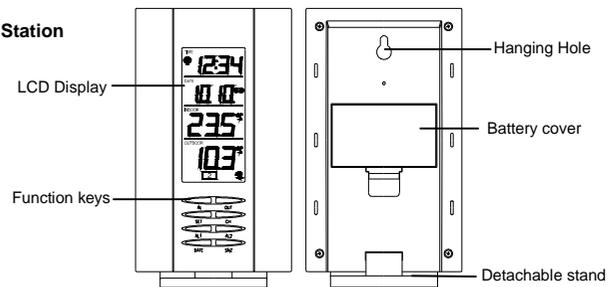
- DCF-77 Radio controlled time with manual setting option
- 24 hour display
- Time zone option ±9 hours

- Hour and minute display, seconds indicated by flashing dot
- Features 2 alarms with snooze function
- Weekday with date or date with month calendar display
- Indoor temperature reading in °C with MIN/MAX recordings
- Outdoor temperature reading (for up to 3 transmitters) in °C with MIN/MAX recordings
- All minimum and maximum recordings show date and time received and can be reset
- Can take up to three outdoor transmitters
- LED back light
- Wall mountable or table standing

The Outdoor Temperature Transmitter

- Remote transmission of outdoor temperature to Weather Station by 433 MHz
- Shower proof casing
- Wall mounting case
- Mounting at a sheltered place. Avoid direct rain and sunshine

SETTING UP:
1. First, insert 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 segments of the LCD will light up briefly and a short signal tone will sound. Then the indoor temperature, the time as 0:00 and the date as 1.1. will be displayed. If the indoor temperature is not displayed after a few seconds, remove the batteries and wait for at least 10 seconds before reinserting them. Once the indoor data is displayed proceed to step 2.

2. Within 3 minutes of activating the Temperature Station, place the batteries into the Temperature Transmitter (see "**How to install and replace batteries in the Temperature Transmitter**" below).
3. After inserting the batteries into the transmitter, the Temperature Station will start receiving data from the transmitter. The outdoor temperature should then be displayed on the Temperature Station. If this does not happen within 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 transmitters, follow step 2 for all 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. 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 sufficient 433MHz transmission however, this should under good conditions be no more than 25 meters from where the Temperature Station will be finally positioned (see notes on "**Positioning**" and "**433MHz Reception check**").
6. If after 10 minutes the DCF time has not been received, use the SET key to manually enter a time initially. The clock will automatically attempt each hour to receive the DCF 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**" and "**Manual time setting**").

HOW TO INSTALL AND REPLACE BATTERIES IN THE TEMPERATURE STATION
The Temperature Station uses 2 x AA, IEC LR6, 1.5V batteries. To install and replace the batteries, please follow the steps below:
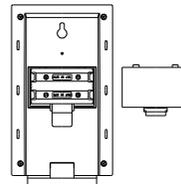
1. Insert finger or other solid object in the space at the bottom center of the battery compartment and lift up to remove the cover.
2. Insert batteries observing the correct polarity (see marking).
3. Replace compartment cover.

HOW TO INSTALL AND REPLACE BATTERIES IN THE TEMPERATURE TRANSMITTER
The Outdoor Temperature transmitter uses 2 x AAA, IEC LR3, 1.5V batteries. To install and replace the batteries, please follow the steps below:
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 following 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 3 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.
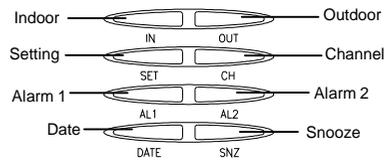
Please participate in the preservation of the environment. Return used batteries to an authorised depot.

FUNCTION KEYS:

Temperature Station:
The temperature station has eight easy to use function keys.

```
Indoor ——————————————— Outdoor
                IN      OUT
Setting ——————————————— Channel
                SET     CH
Alarm 1 ——————————————— Alarm 2
                AL1     AL2
Date ——————————————————— Snooze
                DATE    SNZ
```

SET key (Setting)
- Used to enter the set mode for the following functions: Time, Time zone, Year, Date, Weekday
- Used to stop the alarm

IN key (Indoor)
- Used to toggle between the current / maximum/ minimum indoor temperature
- Press for around 3 seconds to reset the indoor maximum and minimum temperature records (will reset all temperatures to current level)
- Changes the hour, time zone, year, day and weekday setting when in set mode
- Changes the hour setting in alarm mode
- Used to stop the alarm

OUT key (Outdoor)
- Used to toggle between the current / maximum/ minimum outdoor temperatures
- Press for around 3 seconds to reset the outdoor maximum and minimum temperature records (will reset all temperatures to current level of the relative transmitter being reset- each transmitter's data must be reset separately)
- Changes the minute and date setting when in set mode
- Changes the minute setting in alarm setting mode

- Used to stop the alarm

CH key (Channel)
- Used to toggle between the outdoor temperature transmitters 1, 2 and 3.
- Used to stop the alarm
- Used to exit the manual and alarm set modes

AL1 key (Alarm 1)
- Press to display the time set for Alarm ((1)) and to simultaneously set Alarm ((1)) ON/ OFF
- Press for around 3 seconds to enter the Alarm ((1)) setting mode
- Used to stop the alarm

AL2 key (Alarm 2)
- Press to display the time set for Alarm ((2)) and to simultaneously set Alarm ((2)) ON/ OFF
- Press for around 3 seconds to enter the Alarm ((2)) setting mode
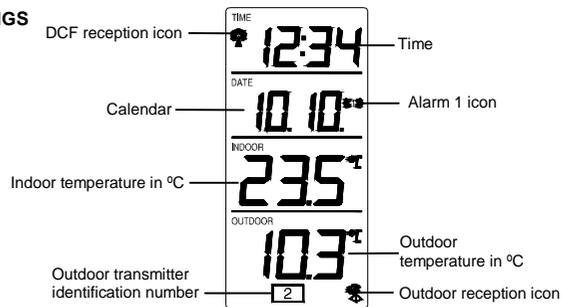- Used to stop the alarm

DATE key
- Used to toggle between the two date display modes and the two alarm times
- Used to stop the alarm

SNZ key (Snooze)
- Used solely to activate the snooze function for the alarm

LCD SCREEN AND SETTINGS

DCF reception icon — TIME **12:34** — Time

Calendar — DATE **10 10** — Alarm 1 icon

Indoor temperature in ºC — INDOOR **23.5** ℃

Outdoor transmitter identification number — OUTDOOR **10.3** ℃ — Outdoor temperature in ºC

[2] — Outdoor reception icon

For better distinctness the LCD screen is split into 4 sections displaying the information for time, date, indoors and outdoors.

LCD 1 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 meters.
- 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 - the reception is possible in most cases. A single daily reception is adequate to keep the accuracy deviation below 1 second.

MANUAL TIME SETTING:

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

Hours (flashing) — TIME **12:34** — Minutes (flashing)

1. Press and hold down the SET key until the time display flashes.
2. Use the IN key to set the hours and the OUT key to set the minutes. Pressing these keys continuously moves the hours consecutively by 1 and the minutes consecutively by 5.
3. Press the SET key to confirm and enter the "**Time zone setting**" mode or exit the setting mode by pressing the CH key.

Note:
The unit will still try to receive the signal every hour 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.

TIME ZONE SETTING:

Time Zone (flashing)

The time zone default of the Weather Station is 0. To reset the time zone:
1. The current time zone value starts flashing.
2. Use the IN key to set the time zone. The range runs from 0 to 9 and then runs from -9 back to 0 in consecutive 1-hour interval.
3. Press the SET key to confirm and enter the "**Date setting**" mode or exit the setting mode by pressing the CH key

LCD 2 DATE SETTING:
The second section of the LCD shows the weekday and date, Alarm ((1)) time or Alarm ((2)) time. It also shows the Alarm ON/OFF icons ((1)) and ((2)).

DATE SETTING:

Year (flashing)   Date (flashing) Month (flashing)   Weekday (flashing) Date (flashing)
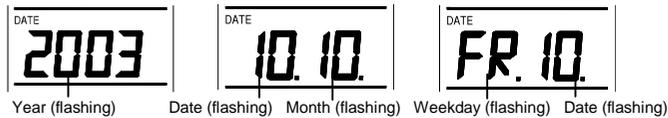
The date default of the Temperature Station is 1.1. or WE 1. in the year 2003. Once the radio-controlled time signals are received, the date is automatically updated. If the signals are not received, you can adjust the date manually. To do this:
1. Press the SET key after completing the time zone setting in order to enter the year setting (flashing). Reset the year by pressing the IN key. The range runs from 2000 to 2029.
2. Press the SET key again to enter the month and date display (flashing).
3. Using the OUT key, set the month required. Using the IN key, set the date required.
4. Press the SET key again to enter the weekday display (flashing).
5. Using the IN key, set the weekday required.
6. Press the SET key once more to confirm and exit the manual setting.

ALARM SETTING:


Alarm time   Alarm icon

1. Press and hold down the AL1 key until the alarm time display flashes.
2. Use the IN key to set the hour and the OUT key to set the minutes. Pressing these keys continuously moves the hours consecutively by 1 and the minutes consecutively by 5.
3. Either press the AL1 key once more to confirm and return to the normal display or do not touch any buttons for around 15 seconds to confirm the set time.
4. To activate the alarm function, press the AL1 button once for Alarm 1. You should now see the Alarm ((1)) symbol to represent the Alarm 1 being ON.
5. To de-activate, press the AL1 button once again.
6. The steps for setting, activating and de-activating Alarm 2 are the same, but using the AL2 button instead of AL1.

SNOOZE SETTING AND STOPPING THE ALARM:
1. When the alarm is sounding, press the SNZ to activate the snooze function. The alarm will stop and re-activate after the snooze interval of 9 full minutes.
2. To stop the alarm completely, press any keys other than the SNZ key.

LCD 3 INDOOR TEMPERATURE:

Minimum display
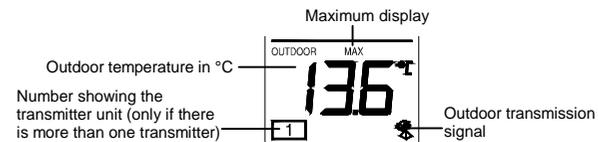
INDOOR   MIN

15.8 ℃ ——— Indoor temperature in °C
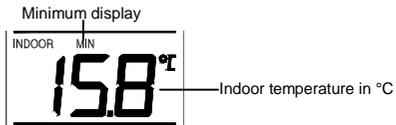
The indoor temperature is measured automatically and displayed on the third section of the LCD.

TOGGLING AND RESETTING THE INDOOR RECORDINGS:
1. To toggle between the indoor current, minimum and maximum temperature data and the times at which they were recorded, press the IN key:
    Once to show the minimum temperature values with time and date recorded.
    Twice to show the maximum temperature values with time and date recorded.
    Three times to return to the current time, date and temperature levels.
2. To reset the minimum and maximum temperature data and the times at which they were recorded, press the IN key continuously for about 3 seconds. This will reset all minimum and maximum data recorded to the current time, date and temperature. The min/max temperatures recorded are of current time and they remain unaffected by the time zone setting.

LCD 4 OUTDOOR TEMPERATURE:
The fourth LCD section shows the outdoor temperature and a transmission signal. A number besides the temperature will also show if more than one transmitter is used.

Maximum display

OUTDOOR   MAX

Outdoor temperature in °C ——— 13.6 ℃

Number showing the transmitter unit (only if there is more than one transmitter) ——— ·1   Outdoor transmission signal

TOGGLING AND RESETTING THE OUTDOOR RECORDINGS:
1. To toggle between the outdoor current, minimum and maximum temperature data and the times at which they were recorded, press the OUT key:
    Once to show the minimum temperature value with time and date recorded
    Twice to show the maximum temperature value with time and date recorded
    Three times to return to the current time, date and temperature level
2. To toggle between transmitters, press the CH key:
    Once to show transmitter 2
    Twice to show transmitter 3
    Three times to return to transmitter 1
Note: The transmitter number will only be displayed if there is more than one transmitter detected.
3. To reset the minimum and maximum temperature data and the times at which they were recorded, press the OUT key continuously for about 3 seconds. This will reset all minimum and maximum data recorded to the current time, date and temperature. The min/max temperatures recorded are of current time and they remain unaffected by the time zone setting.

TEMPERATURE TRANSMITTER:
The temperature is measured and transmitted to the Temperature Station approximately 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 positioning the transmitter. Also the batteries may be
reduced in power.

433MHz RECEPTION CHECK:
The Temperature station will receive the temperature data within 15 minutes. If the temperature data i s 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.
3.   Using other electrical products such as headphones or speakers operating on the same signal frequency
      (433MHz) may prevent correct signal transmission and reception.
4.   Neighbours using electrical devices operating on the 433MHz signal frequency can also cause interference.

Note:
When the 433MHz signal is received correctly, do not re-open the battery cover of either the transmitter or Temperature
Station, as the batteries may spring free from the contacts and force a false reset. Should this happen accidentally then
reset all units (see **Setting up** above) otherwise transmission problems may occur.

The transmission range is around 25m from the transmitter to the Temperature station (in open space). However, this
depends on the surrounding environment and interference levels. If no reception is possible despite the observation of
these factors, all system units have to be reset (see **Setting up**).

POSITIONING THE TEMPERATURE STATION:
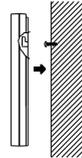
The Temperature station comes attached with a removable table stand, which provides the option of
table standing or wall mounting the unit. Before wall mounting, please check that the outdoor
temperature(s) can be received from the desired location(s). To wall mount:
1.   Fix a screw (not supplied) into the desired wall, leaving the head extended out the by about
      5mm.
2.   Remove the stand from the Temperature station by pulling it away from the base and hang the
      station onto the screw. Remember to ensure that it locks into place before releasing.

POSITIONING THE OUTDOOR TEMPERATURE TRANSMITTER
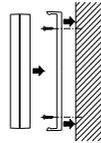
The Temperature Transmitter is supplied with a holder that may be attached to a wall with the three
screws supplied. To attach to the wall, please follow the steps below:
1.   Mark the wall using a pen through the holes in the holder to obtain the exact drilling position.
2.   Drill holes in the wall 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 Temperature Station can receive the 433MHz 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 to or 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 them to their original point of purchase for repair by a qualified engineer. Opening and tampering with the units may invalidate their guarantee.
- Do not expose the units to extreme and sudden temperature changes, as this may lead to rapid changes in forecasts and readings and thereby reduce their accuracy.

SPECIFICATIONS:

Temperature measuring range:

Indoor	:	0.1ºC to +50.0ºC 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	:	twice in 10 minutes

Power supply:

Temperature Station	:	2 x AA, IEC LR6, 1.5V
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 (with stand)	:	86 x 30 x 144mm (excluding stand)
Outdoor Transmitter	:	40 x 22 x 128mm (excluding 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 not to be used for medical purposes or for public information.
- This product is only designed to be used in the home as indicator of temperatures and is not 100% accurate. Readings 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.