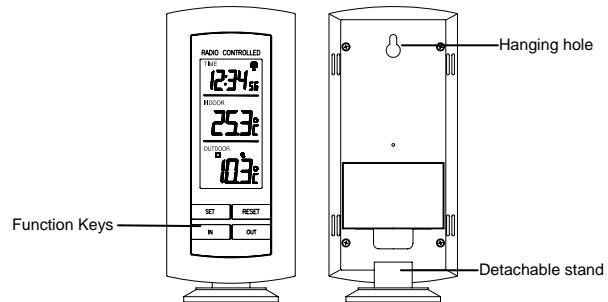


## 433 MHZ REMOTE THERMO

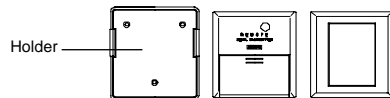
### INTRODUCTION:

Congratulations on purchasing this innovative 433MHz Remote Thermo which displays the time with up to the minute indoor and up to five outdoor temperature readings. To enjoy the full benefits of this innovative product, please read this operating manual.

### REMOTE THERMO:



## TEMPERATURE TRANSMITTER:

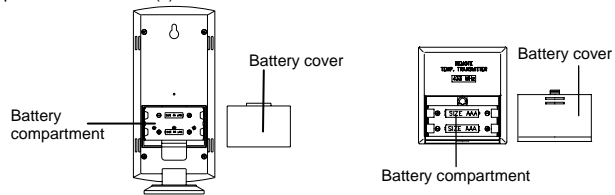


## FEATURES:

- LCD clock in 24 hour time display (hour, minutes, seconds)
- DCF-77 Radio Controlled time with manual settings
- Indoor and outdoor temperature reading in degree Celsius (°C)
- Can receive up to five Outdoor transmitters
- Indoor and outdoor temperature with Minimum and Maximum records and time received for outdoor only
- Table standing or wall mountable (detachable table stand)

## SETTING UP:

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



1. Flip open the battery cover at the back of the Remote Thermo as indicated above.
2. Checking the correct polarization, insert 2 x AA, IEC LR6, 1.5V batteries into the battery compartment and replace the cover (all the segments of the LCD screen will light up momentarily).
3. Remove the battery cover at the front side.
4. Checking the correct polarization, insert 2 x AAA, IEC LR3, 1.5V batteries into the battery compartment and replace the cover.

- If you have purchased additional outdoor transmitter(s) wait until the outdoor temperature has been received from the one transmitter before activating the next transmitter by repeating steps 3 and 4.
- However, ensure that you leave 10 seconds in between the reception of the last transmitter and the set-up of the following transmitter. The Remote Thermo 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.
- When the outdoor temperature(s) is received the Remote Thermo and transmitter(s) should be positioned in the desired places (see **Positioning & securing** below)

**Note:**

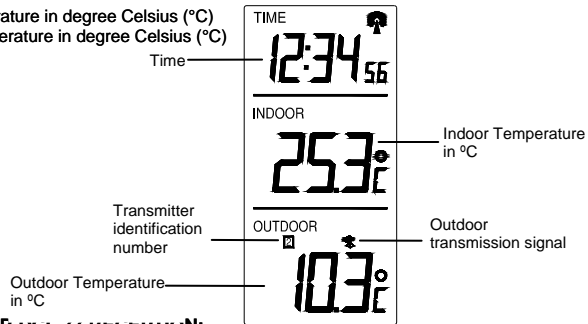
Should the total time of inserting the batteries into the transmitters take longer than 2-1/2 minutes from the time of inserting the batteries into the Remote Thermo then temperature reception problems may occur. If the temperature is not be received, then see **Checking for 433 MHz reception**, before resetting the units (see **Resetting the Remote Thermo** below).

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 Remote Thermo in the first 2-1/2 minutes of power being supplied to it.

**LCD SCREEN**

The Remote Thermo's LCD is comprised of three lines and once the batteries are inserted, all the segments will light up momentarily before displaying:

- Time “-:--”
- Indoor temperature in degree Celsius (°C)
- Outdoor temperature in degree Celsius (°C)



**CHECKING FOR 433 MHz RECEPTION:**

The Remote Thermo will automatically start scanning for the DCF-77 frequency signal after the battery is inserted. In normal surroundings (for example away from interfering sources such as TV sets), it takes between 3-5 minutes to receive the signal. If after 10 minutes after having inserted the batteries into the alarm clock and the DCF-77 signal is not received, then check the following list before manually setting the time (see Manual time setting):

1. The distance of the Remote Thermo should be at least 1.5-2.0 meters away from interfering sources such as computer monitors or TV sets.
2. Avoid placing the alarm clock onto or in the immediate proximity of metal, doors, windows frames or structures.
3. Within thick concrete rooms such as basements and tower blocks, the DCF-77 signal is naturally weaker. In extreme cases, place the alarm clock closer to a window and/or point its front or rear towards the general direction of the Frankfurt/Main transmitter (avoid positioning within close proximity of metal frames or structures).

**Note:**

Users may be located in areas where atmospheric disturbances are the direct cause for not receiving the DCF-77 frequency signal. During nighttime, atmospheric disturbances are usually less severe and reception is possible in most cases. With a single daily reception, it is adequate for the alarm clock to keep time deviation to below 0.5 seconds in a period of 24 hours.

When the clock is trying to receive the DCF signal, the reception icon will flash on the LCD. Once the signal is "locked", the DCF-77 tower icon will stay fixed on LCD and the received time will

automatically correct the manually set time. As well as the time, the date will also be received by the Remote Thermo and will be displayed accordingly in the calendar section of the LCD.

**TIME SETTING:**

After the batteries are inserted, set the time display as follow:

1. Press and hold the "SET" key about 3 seconds to enter the set mode. The Hour digit in the time section starts flashing
2. Using the "IN" key, enter the hours of the current time and then followed by pressing the "OUT" key to enter the minutes of the current time.
3. Press the "SET" key to exit the setting mode. Your Remote Thermo is now fully operational.

**USING THE REMOTE THERMO:**

**INDOOR TEMPERATURE:**

The indoor temperature is displayed on the second line of the LCD under the time. The Remote Thermo's built in sensor automatically measures the temperature once the batteries are inserted.

**MINIMUM AND MAXIMUM INDOOR TEMPERATURE RECORDINGS:**

By pressing the "IN" key the current indoor temperature will alternate between the minimum, maximum and current temperature recordings. Once a new indoor temperature high or low is reached, it will automatically set into the Remote Thermo's memory.

#### **OUTDOOR TEMPERATURE READING:**

The outdoor temperature reading is on the bottom line of the LCD under the indoor temperature. The Remote Thermo receives the outdoor temperature via 433 MHz frequency when the batteries are inserted into the transmitter within the 2-1/2 minutes of the setting up time (See **Setting up** above).

#### **Note:**

Should the outdoor temperature not be received within 2-1/2 minutes after inserting the batteries into a transmitter, then see "**Checking 433 MHz reception**" below.

#### **MINIMUM AND MAXIMUM OUTDOOR TEMPERATURE READING:**

By pressing the "OUT" key the current indoor and outdoor temperature will alternate between the minimum, maximum and current temperature recordings. The time when the minimum and maximum outdoor temperature records were received will be also shown on the LCD blinking (recorded time is for outdoor temperature only). Once a new outdoor temperature high or is low reached, it will automatically be set into the Remote Thermo's memory.

#### **RESETTING THE MINIMUM AND MAXIMUM TEMPERATURE RECORDING:**

By pressing and holding down the "IN" or "OUT" key for about 3 seconds then pressing the "RESET" key, the indoor or outdoor minimum and maximum temperature recordings will be reset to the current indoor or outdoor temperatures. Only the outdoor temperature display on the LCD will be reset. To reset another outdoor temperature, move to the desired transmitter number by pressing the "RESET" key.

#### **OUTDOOR TEMPERATURE 1, 2, 3, 4, AND 5**

If the more than one transmitter is being used, to alternate between the temperature readings of transmitter 1, 2, 3, 4, and 5 simply press the "RESET" key. If the reading is from transmitter 1, then the identification numbers 1 will be displayed in the outdoor temperature section of the LCD. The same will apply to the next transmitter and so on. However, if only one transmitter is used, no identification number will be displayed on the LCD.

#### **CHECKING FOR 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 2-1/2 minutes. If the outdoor temperature is not displayed on the LCD after 2-1/2 minutes, then check the following:

1. The distance of the units should be at least 1.5 - 2.0 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.

- Using other electrical products such as headphones and speakers that operate on the same signal (433 MHz) can prevent the transmission pick up.
- Neighbours 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.
- Within thick concrete rooms such as basements and tower blocks, the 433 MHz signal can be weakened (avoid placing near metal frames and structures).
- Transmission can be affected by exposure to extreme temperature conditions. For example, if the weather has been extremely cold (under  $-25^{\circ}\text{C}$ ) for an extended period of time then the transmission signal may be weakened. (Please bears this in mind when positioning the transmitter).

**Note:**

Should after checking the above list and the outdoor temperature is still not received, then reset the units (see **Resetting the Remote Thermo** below).

**RESETTING THE REMOTE THERMO:**

- Remove the batteries from the Remote Thermo and the transmitter(s)
- Wait at least 30 seconds and repeat the procedures specified in **Setting up** above.

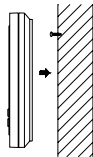
**Note:**

Remember when resetting, all units have to be reset and to always insert the batteries into the Remote Thermo first and then followed by the transmitter(s).

**POSITIONING**

**REMOTE THERMO:**

The Remote Thermo comes complete with a detachable stand that gives the option of table standing or wall mounting.



To wall mount:

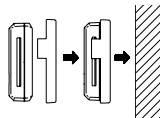
- Fix a screw into the desired wall, leaving the head extended out the by about 5mm.
- Using the Remote Thermo's hanging hole, carefully hang it onto the screw.

**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:



- Mark the wall using a pen through the holes in the holder to obtain the exact drilling position.
- Drill holes in the wall at the points marked.

3. Screw holder onto wall.

The Outdoor Transmitter simply clicks in or out of the holder. When inserting or removing the Outdoor Transmitter to or from the wall holder please hold both units securely to avoid tearing the holder from the wall.

There is also double sided tape included with the wall holder. 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 Remote Thermo can receive the 433 MHz signal from the Outdoor Transmitter at the positions that you wish to situate them.

#### **BATTERIES REPLACEMENT & MAINTENANCE:**

For best performance, batteries to all units should be replaced at least once a year to maintain optimum running accuracy. Ensure that the batteries used are new of the correct size.



**Please help in the preservation of the environment and return used batteries to an authorized depot.**

#### **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 : 5°C to +65°C with 0.1°C resolution  
(--.- displayed if outside this range)

