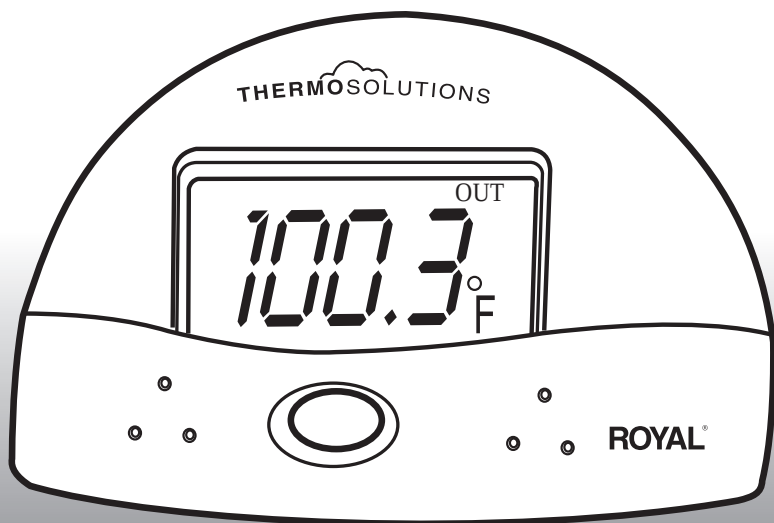


ROYAL[®]

WS10 thermometer

OPERATIONAL MANUAL



INSTRUCTION MANUAL

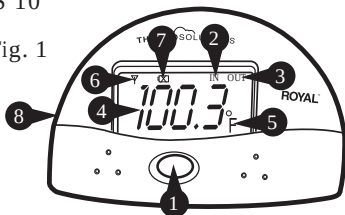
Congratulations on purchasing the Royal WS 10 Thermosolutions Thermometer. This model features Indoor Temperature and Outside Temperature. Outside Temperature is provided with the 434 MHz cable free temperature sensor. No wire installation is required. For additional convenience, a magnetic backing has been used for placement on kitchen refrigerators.

Please read all the instructions to ensure understanding of the features.

The WS 10 uses a liquid crystal display. On occasion the display has an appearance of being damaged. This is especially true when first receiving the unit or when moving the unit. It is recommended leaving the unit on a flat table for 10 minutes. The liquid in the display will fill all the voided areas.

WS 10

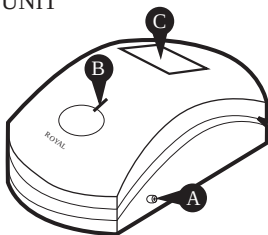
Fig. 1



1. IN/OUT Toggle
2. Inside Indicator
3. Outside Indicator
4. Temperature
5. Celsius (°C) / Fahrenheit (°F)
6. Antenna icon
7. Battery low indicator
8. Channel (at the back)

REMOTE UNIT

Fig.2



- A. Test button
- B. LED light
- C. Display

BEFORE YOU BEGIN

For best operation:

- * Insert the remote unit batteries before inserting the batteries into the main unit.
- * Place the main unit as close as possible next to the remote unit. This will ensure easier synchronization between the transmission and reception of the signals.
- * Position the remote unit and main unit within the effective transmission range, which, in usual circumstances, is 75 to 100 feet.

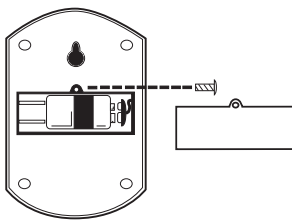
WARNING: When attaching the WS 10 to a metal object such as a refrigerator the transmission distance from the remote is reduced to 50 feet.

NOTE: Building materials and where the main and remote units are positioned vastly affect the transmission range. Try various locations for best results.

INSTALLATION OF THE BATTERY IN THE REMOTE UNIT

The remote unit uses AA x 2 batteries. To install or replace the batteries, please follow these steps:

Fig.3



- * Unscrew the screw on the back of the compartment and remove the cover.
- * Insert the batteries, observing the correct polarity.
- * Replace the battery cover on unit and seal by re-screwing tightly.

It is recommended replacing the batteries in both units on an annual basis to ensure optimum accuracy. If the low battery indicator illuminates on the base unit, while the outside temperature is displayed, it is time to replace the batteries in the remote.

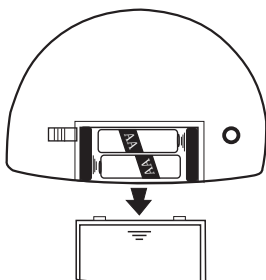
NOTE:

After changing the batteries in the Transmitter or Base unit, both units must be completely reset as per the Setting Up instructions.

INSTALLATION OF THE BATTERIES IN THE MAIN UNIT

The WS 10 uses two "AA" batteries. Should the LCD become dimmer or the low battery indicator illuminates, then the batteries in this unit should be changed. To install or replace the batteries, please follow these steps:

Fig.4



- * Slide the battery door cover off in the direction of the arrow.
- * Insert 2 AA batteries, following the polarity shown inside the battery compartment.
- * Replace battery cover.

SETTING UP

1. Once the batteries have been placed in the Remote unit, they will start transmitting temperature readings in 30 seconds. By depressing the side Test button on the Remote unit (Fig. 2A), the signal to the base unit will immediately update the outside temperature. The LED on the remote unit will illuminate after depressing the Test button. This indicates the signal is being sent. The Remote will sense the temperature change every 30 seconds. When there is a $\pm 0.3^{\circ}\text{F}$ change, it will update the base. If there is no more than $\pm 0.3^{\circ}\text{F}$ change, it will update the base unit per 5 minutes.
2. If the Base Unit doesn't receive a signal, the outside temperature will continue to blink.
3. It is recommended testing the units side by side prior to installing the units. Once the units synchronize, install the units as per the INSTALLATION SECTION of this manual.

TO SET CENTIGRADE (C) or FAHRENHEIT (F) for the Base Unit

This model has two types of temperatures on the base unit; Centigrade and Fahrenheit. To set the correct type, press and hold the Toggle Button in. Continue to depress the Toggle button until the temperature changes.

NOTE: The remote unit is preset at Fahrenheit only.

TO VIEW THE DIFFERENT REMOTE TEMPERATURES

In outdoor temperature mode, press the "Channel" button on the back of the unit to access the other remote units.

434 MHz RECEPTION

The Royal Thermosolutions WS 10 will receive outside temperature readings utilizing wireless 434MHz transmission. Please see the following guidelines when selecting a location for the installation of your Royal WS 10 and Wireless Remote. A magnetic strip has been added for installation on the kitchen refrigerator.

1. The maximum transmission range is 80-100 feet from the Remote to the WS10 (in open space). However, this depends on the surrounding environment and interference levels.
2. The distance of the WS 10 or Remote should be at least 6 feet away from any interfering sources.
3. Avoid positioning the WS10 or Remote onto or in the immediate proximity of metal window frames.
4. Neighbors using other electrical devices operating on the 434 MHz signal could cause interference.
5. Extreme temperatures may affect the Wireless Remote Range. If it has been extremely cold (under -13°F) for an extended period of time, then the transmission power from the remote will not be sufficient due to the nature of Alkaline batteries. Please bring in the remote unit when temperatures fall below -13°F to protect the batteries from freezing.

INSTALLATION - REMOTE UNIT

Royal provides both screws and double-sided tape. On smooth surfaces this can be used for mounting instead of drilling holes. The surface can, however, affect the transmission range. If, for example, the unit is attached to a piece of metal, it may either reduce or increase the transmitting range. For this reason we recommend not placing the unit on any metal surface or in any position where a large metal surface is in the immediate proximity. Before securing in place please insure that the Temperature Base Unit can receive the signal from the Remote unit from where you wish to situate them both.

OUTDOOR TEMPERATURE

- * Press and release the Toggle Button
- * The OUT indicator and Antenna Icon will illuminate
- * If the Antenna Icon does not illuminate or if dashes "-" appear, the WS 10 has not received an update within the last hour from the remote unit. First press the Toggle Button twice to update the Outdoor Temperature. Next check the remote batteries and refer to the Setting Up and 434 MHz sections of this manual.

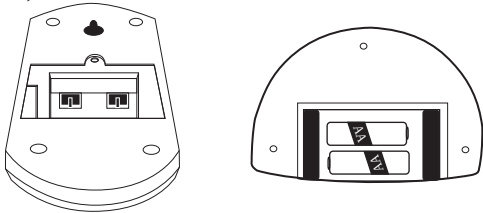
INDOOR TEMPERATURE

- * Press and release the Toggle Button.

SETTING UP ADDITIONAL REMOTES

By simply placing batteries in the additional remotes, the system will assign the additional remotes a number from 2 - 3. To check the temperature on these remotes depress the channel button on the back of the base unit.

Fig. 5,6



SPECIFICATIONS

MAIN UNIT

Indoor Temperature Measurement

Displayed IN Temperature Range	:	0 ~ +50°C (+32 ~ +122°F)
Proposed Operating Range	:	0 ~ +50°C
Temperature Resolution	:	0.1°C

Remote Temperature Measurement

Displayed OUT Temperature Range	:	-20°C ~ +60°C
Proposed Operating Range	:	-20°C ~ +60°C
Temperature Resolution	:	0.1°C

REMOTE UNIT

Measurable Temperature Range	:	-20°C ~ +60°C
Operating Temperature Range	:	-20°C ~ +60°C
Temperature Resolution	:	0.1°C
RF Transmission Frequency	:	434 MHz
No. Of Remote Unit	:	One only
RF Transmission Range	:	25 meters
Temperature Sensing Cycle	:	10 seconds

Power

- Main Unit	:	3V ("AA" size x 2)
- Remote Unit	:	3V ("AA" size x 2)

STANDARD WARRANTY

OLIVETTI OFFICE USA, Inc. d/b/a ROYAL CONSUMER INFORMATION PRODUCTS, 379 Campus Drive Somerset, NJ 08875 WARRANTS that your NEW Royal product is free of defects of workmanship and materials. If there is a defect or malfunction of this product, Royal will repair it free of charge as follows:

PARTS: New or comparable rebuilt parts in exchange for defective parts for ONE YEAR from date of customer purchase.

LABOR: Royal provides labor warranty for NINETY DAYS from date of end-user purchase. Product must be sent postage prepaid and insured to Royal. At completion of the repair, the consumer will be responsible for return shipping charges from Royal, and for any parts or services no longer covered under warranty.

This warranty does not apply to persons who purchased this product second hand or used.

This warranty does not include adjustments, parts and repair by circumstances beyond the control of Royal, including but not limited to, fire, or other casualty, accident, neglect, abuse, abnormal use or battery leakage damage.

THERE ARE NO OTHER EXPRESSED WARRANTIES EXCEPT AS STATED HEREIN. AFTER THE PERIOD OF EXPRESSED WARRANTY SET FORTH HEREIN, THERE ARE NO EXPRESSED OR IMPLIED WARRANTIES AND THOSE EXCLUDED INCLUDE THOSE OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE. Royal shall NOT be held liable for CONSEQUENTIAL DAMAGES resulting from any failure, defect or malfunction of this product. Some States do not allow limitations on how long an implied warranty lasts and some States do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

WARRANTY PROCEDURES

Royal has taken great care to insure the product you have purchased will provide years of trouble-free service. Should the product require service within the first 30 days after purchase, Royal strongly recommends you return the product to the place of purchase for replacement. Please note this 30-day replacement period may be subject to the limitations of the return policy that has been established by your retailer, may not be available at your retailer, or may be for a different period of time as established by your retailer. Your retailer may allow exchanges past this 30-day period. Should this be the case, Royal strongly recommends you return the product to the place of purchase for replacement.

TO OBTAIN SERVICE UNDER THE TERMS OF THIS WARRANTY:

In the event you are unable to obtain a replacement product from your retailer, please do the following:

1. Send a copy of your original sales receipt showing original purchase date along with your mailing address and a note describing the nature of the problem to:

Royal Consumer Warranty Processing
PO Box 161
Jamison, PA 18929-0161

Do Not Return the Product to This Address!

2. You will receive a return authorization number within 7-10 business days from the date your return request is received if it is determined that there is a basis for a replacement product. The return authorization form you receive will list the return procedures, applicable charges, if any, and the correct shipping address for the returned product.

PRODUCT SUPPORT HOTLINE:

For questions on use of this product call 1-800-272-6229 Monday through Friday between the hours of 8:30AM and 5:00PM EST. You can also email Royal at hotline@royal.com. Allow two to three weeks for email response.

INSTRUCTION TO THE USER

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications not authorized by the manufacturer may void users authority to operate this device.

ROYAL[®]
Consumer Information Products
379 Campus Drive
Somerset, NJ 08875