

Oregon
SCIENTIFIC


Multi-Channel In-Out Cable Free Thermometer
Model: EMR899

User Manual

GB

MULTI-CHANNEL IN-OUT CABLE FREE THERMOMETER

MODEL: EMR899

USER MANUAL

INTRODUCTION

Congratulations on purchasing the EMR-899 Multi-Channel In-Out Thermometer with 433MHz cable free sensor.

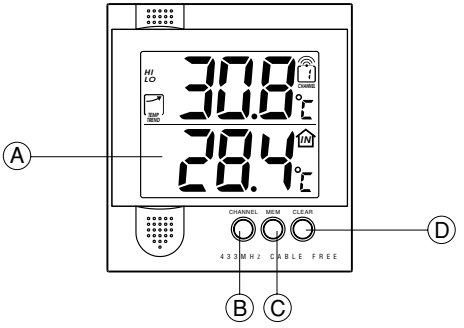
The EMR-899 is an easy-to-use, state-of-the-art thermometer. The basic package comes with a main unit, the temperature station, and a remote unit, the thermo sensor.

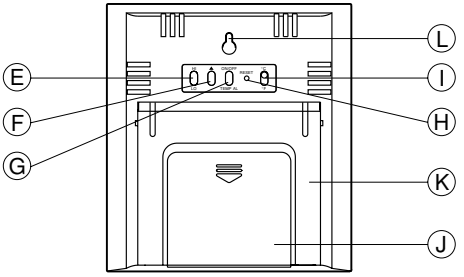
The main unit has extra-large read-outs for indoors temperature and that collected and transmitted by the remote unit. The main unit can support up to three remote units.

The main unit is capable of monitoring temperature changes of remote sites. You set the upper and lower temperature limits and the alarm will go off when those limits are exceeded. The maximum and minimum temperature of different sites can also be retrieved quickly.

No wire installation is required between the main and remote units. As the EMR-899 operates at 433MHz, it can be used in the U.S. and most places in Continental Europe.

MAIN FEATURES: MAIN UNIT





Ⓐ **EXTRA LARGE TWO-LINE DISPLAY**
Facilitates easy reading of remote and indoors temperatures

Ⓑ **CHANNEL BUTTON**
Selects among different channels

Ⓒ **MEMORY (MEM) BUTTON**
Recalls the maximum or minimum temperature of individual channels

Ⓓ **CLEAR BUTTON**
Clears the maximum and minimum temperatures of individual channels

Ⓔ **HIGH (HI)/LOW (LO) BUTTON**
Set the upper or lower temperature alarm limits of individual channels

Ⓕ **ADVANCE (▲) BUTTON**
Sets the readings for the upper or lower temperature of individual channels

Ⓖ **TEMPERATURE ALARM (TEMP AL) ON/OFF BUTTON**
Turns on or off the temperature alarm of individual channels

Ⓗ **RESET BUTTON**
Returns all settings to default values and erases temperature memories

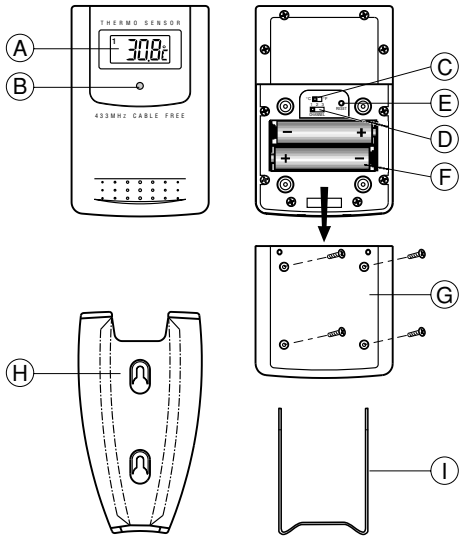
Ⓘ **°C/°F SLIDE SWITCH**
Selects between degree Centigrade (°C) and Fahrenheit (°F)

Ⓙ **BATTERY COMPARTMENT**
Accommodates two AA-size batteries

Ⓚ **RETRACTABLE TABLE STAND**
For standing the main unit on a flat surface

Ⓛ **WALL-MOUNT RECESSED HOLE**
For mounting the main unit on a wall

MAIN FEATURES: REMOTE UNIT



Ⓐ **LCD**
Displays the current temperature monitored by the remote unit

Ⓑ **LED INDICATOR**
Flashes when the remote unit transmits a reading

Ⓒ **°C/°F SLIDE SWITCH**
Selects between Centigrade (°C) and Fahrenheit (°F)

Ⓓ **CHANNEL SLIDE SWITCH**
Designates the remote unit Channel 1, Channel 2 or Channel 3

Ⓔ **RESET BUTTON**
Returns all settings to default values

Ⓕ **BATTERY COMPARTMENT**
Accommodates two AAA-size batteries

Ⓖ **BATTERY DOOR**

Ⓗ **WALL-MOUNT HOLDER**
Supports the remote unit in wall-mounting

Ⓘ **REMOVABLE TABLE STAND**
For standing the remote unit on a flat surface

BEFORE YOU BEGIN

For best operation,

1. Assign different channels to different remote units.
2. Insert batteries for remote units before doing so for the main unit.
3. Place the main unit as close as possible next to the remote unit, reset the main unit after installing batteries. This will ensure easier synchronization between the transmission and reception of signals.
4. Position the remote unit and main unit within effective transmission range, which, in usual circumstances, is 20 to 30 meters.

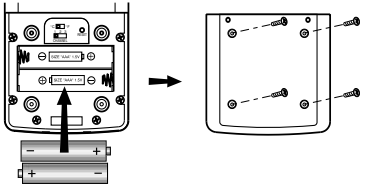
   Note that the effective range is vastly affected by the building materials and where the main and remote units are positioned. Try various set-ups for best result.

   Though the remote units are weather proof, they should be placed away from direct sunlight, rain or snow.

BATTERY AND CHANNEL INSTALLATION: REMOTE UNIT

The remote unit uses two AAA-size batteries. To install them,

1. Remove the screws on the battery compartment.
2. Select the channel number on the CHANNEL slide switch.
3. Select the temperature display unit on the °C/°F slide switch.



4. Insert the batteries strictly according to the polarities shown therein.
5. Replace the battery compartment door and secure its screws.

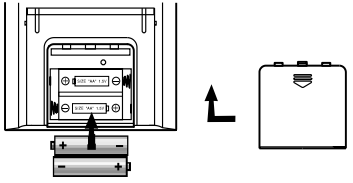
Replace the batteries when the low-battery indicator of the particular channel lights up on the main unit. (Repeat the steps described in section “BEFORE YOU BEGIN”)

Note that once a channel is assigned to a remote unit, you can only change it by removing the batteries or resetting the unit.

BATTERY INSTALLATION: MAIN UNIT

The main unit uses two AA-size batteries. To install them,

1. Slide open the battery compartment door.
2. Insert the batteries strictly according to the polarities shown therein.



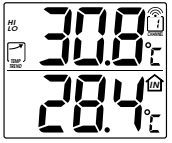
3. Replace the battery compartment door.

Replace the batteries when the low-battery indicator of the indoors temperature lights up. (Repeat the steps described in section "BEFORE YOU BEGIN")

GETTING STARTED

Once batteries are in place for the remote units, they will start transmitting temperature readings at 30-second intervals.

The main unit will also start searching for signals for about a minute once batteries are installed. Upon successful reception, the individual channel temperatures will be displayed on the top line and the indoors temperature on the bottom line. The main unit will automatically update its readings at about 30-second intervals.



If no signals are received, blanks "- - -" will be displayed and the kinetic wave icon will show " ". Press CHANNEL and MEM simultaneously to enforce another search for about 30 seconds. This is useful in synchronizing the transmission and reception of the remote and main units.

Repeat this step whenever you find discrepancies between the reading shown on the main unit and that on the respective remote unit.

HOW TO CHECK REMOTE AND INDOOR TEMPERATURES

The indoors temperature is shown on the bottom line of the display.

As for the remote sites or channels, press CHANNEL to go from one channel to another. The kinetic wave display on the channel number indicates the reception of that particular channel is in good order.

If no readings are received from one particular channel for more than two minutes, blanks "- - -" will be displayed until further readings are successfully searched. Check the remote unit is sound and secure. You can wait for a little while or press CHANNEL and MEM simultaneously to enforce an immediate search. Of course no reading will be shown if no remote unit is assigned to that channel.

The temperature trend indicator on the screen shows the trend of readings collected at that particular remote site. Three trends, rising, steady and falling, will be shown.

Arrow indicator			
Temperature Trend	Rising	Steady	Falling

If the temperature goes above or below than the temperature measuring range of the main unit or the remote unit (stated in specification), the display will show “HHH” or “LLL”.

HOW TO READ THE KINETIC WAVE DISPLAY

The kinetic wave display shows the signal receiving status of the main unit. There are three possible forms:

The unit is in searching mode.	
Temperature readings are securely registered.	
No signals.	

MAXIMUM AND MINIMUM TEMPERATURES

The maximum and minimum recorded indoor temperatures and those of each channel will be automatically stored in memory. To display them,

1. Select the channel to be checked.
2. Press MEM once to display the maximum temperature and again the minimum temperature. The respective indicators, MAX or MIN will be displayed.

To clear the memory, press CLEAR. All segments of the display will light up for two seconds. The display will return to the last screen with maximum and minimum temperature erased from memory.

If you press MEM now, the maximum and minimum temperatures will have the same values as the current ones until different readings are recorded.

HOW TO USE TEMPERATURE ALARMS

The temperature alarms allow you to set the upper and lower limits of readings for individual channels. The alarm will go off if a limit is exceeded. To set the alarm,

1. Select the channel to be set.
2. Press the HI/LO button for the upper (HI) or lower (LO) limit. AN “OFF” message will be displayed if the alarm for that limit is turned off.
3. Use the ADVANCE (▲) button to set the upper or lower temperature.

   If this is the first time you set the limits, the lower limit will start from -50°C (-58°F) and the upper limit +70°C (158°F). Otherwise, the reading will start from the temperature last selected.

   Each press on the button will increase the temperature by one degree. Holding on the button will step up the increment to five.
4. Press TEMP AL ON/OFF button to switch off the “OFF” message. The set limit will be displayed.

5. Press HI/LO button to set another limit or return to normal display. The respective HI, LO or both indicators will light up to signify the status of the alarm.

When an alarm goes off, the display will switch to the respective channel with the display flashing. If undisturbed, the alarm will go off for a whole minute. Press any key to mute the alarm momentarily. The alarm will go off again if the temperature still exceeds the set limit.

To disable an alarm altogether, select the channel and use TEMP AL ON/OFF to turn if off.

If you have set the upper and lower temperatures for more than one channel and the limits are exceeded, the alarm will go off with the display switching from one channel to another at five seconds intervals.

DISCONNECTED SIGNALS

If without obvious reasons the display for a particular channel goes blank, press CHANNEL and MEM to enforce an immediate search. If that fails, check:

1. The remote unit of that channel is still in place.
2. The batteries of both the remote unit and main unit. Replace as necessary.

   Note that when the temperature falls below freezing point, the batteries of outdoor units will freeze, lowering their voltage supply and the effective range.
3. The transmission is within range and path is clear of obstacles and interference. Shorten the distance when necessary.

TRANSMISSION COLLISION

Signals from other household devices, such as door bells, home security systems and entry controls, may interfere with those of this product and cause temporarily reception failure. This is normal and does not affect the general performance of the product. The transmission and reception of temperature readings will resume once the interference recedes.

NOTE ON °C AND °F

The unit of temperature display is selected on the °C/°F slide switch. Select °C for Centigrade or °F for Fahrenheit.

Note that the remote temperature display on the main unit is dominated by the selection on the °C/°F slide switch of the main unit. Whatever the display units of the remote sensors are, they will be automatically converted to the chosen one of the main unit.

LOW BATTERY WARNING

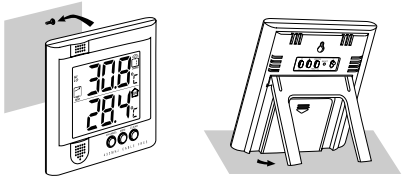
When it is time to replace batteries, the respective low-battery indicator will show up when the respective channel is selected. The battery level of the main unit will be shown on the indoor temperature when it is running low.

HOW TO USE THE TABLE STAND OR WALL MOUNTING

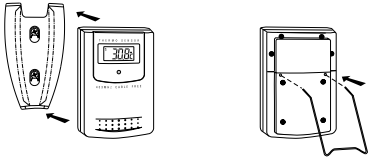
The main unit has a retractable table stand, which when flipped open, can support the unit on a flat surface. Or you can flip close the stand and mount the unit on a wall using the recessed screw hole.

As for the remote unit, it comes with a wall-mount holder and a removable stand. Use either to hold the unit in place.

Main unit Wall-mount Table Stand



Remote unit Wall-mount Table Stand



THE RESET BUTTON

This button is only used when the unit is operating in an unfavorable way or malfunctioning. Use a blunt stylus to hold down the button. All settings will return to their default values.

PRECAUTIONS

This product is engineered to give you years of satisfactory service if you handle it carefully. Here are a few precautions:

1. Do not immerse the unit in water.
2. Do not clean the unit with abrasive or corrosive materials. They may scratch the plastic parts and corrode the electronic circuit.
3. Do not subject the unit to excessive force, shock, dust, temperature or humidity, which may result in malfunction, shorter electronic life span, damaged battery and distorted parts.
4. Do not tamper with the unit's internal components. Doing so will invalidate the warranty on the unit and may cause unnecessary damage. The unit contains no user-serviceable parts.
5. Only use fresh batteries as specified in the user's manual. Do not mix new and old batteries as the old ones may leak.
6. Always read the user manual thoroughly before operating the unit.

SPECIFICATIONS

Temperature Measurement

Main unit

Indoor Temperature measurement

Displayed IN temperature range	:	-9.9°C to +70.0°C (-9.9°F to 158.0°F)
Proposed operating range	:	-5.0°C to +50.0°C (23.0°F to 122.0°F)
Temperature resolution	:	0.1°C (0.2°F)

Remote Temperature measurement

Displayed OUT temperature range	:	-50.0°C to +70.0°C (-58.0°F to 158.0°F)

Proposed operating range	:	-5.0°C to +50.0°C (23.0°F to 122.0°F)
Temperature resolution	:	0.1°C (0.2°F)

Remote unit

Displayed range	:	-50.0°C to +70.0°C (-58.0°F to 158.0°F)
Proposed operating range	:	-20.0°C to +60.0°C (-4.0°F to 140.0°F)
Temperature resolution	:	0.1°C (0.2°F)
RF Transmission Frequency	:	433 MHz
No. of Remote unit	:	Maximum of 3
RF Transmission Range	:	Maximum 30 meters
Temperature sensing cycle	:	around 30 seconds

Power

Main unit	:	use 2 UM-3 or "AA" 1.5V alkaline batteries
Remote sensing unit	:	use 2 UM-4 or "AAA" 1.5V alkaline batteries

Weight

Main unit	:	250 gm
Remote sensing unit	:	100 gm

Dimension

Main unit	:	117 x 107 x 26 mm
Remote sensing unit	:	92 x 60 x 21 mm

CAUTION

- The content of this manual is subject to change without further notice.
- Due to printing limitation, the displays shown in this manual may differ from the actual display.
- The manufacturer and its suppliers held no responsibility to you or any other person for any damage expenses, lost profits, or any other claim arise by using this product.
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EC-DECLARATION OF CONFORMITY

This product contains the approved transmitter module that complies with the essential requirements of Article 3 of the R&TTE 1999 / 5 / EC Directive, if used as intended and the following standards have been applied:

Safety of information technology equipment

(Article 3.1.a of the R&TTE Directive)

Applied Standard **EN 60950-1 : 2001**

Electromagnetic compatibility

(Article 3.1.b of the R&TTE Directive)

Applied Standards

ETSI EN 301 489-1-3 (Ver.1.4.1) : 2002-08

Efficient use of radio frequency spectrum

(Article 3.2 of the R&TTE Directive)

Applied Standards

ETSI EN 300 220-3 (Ver1.1.1) : 2000-09

Additional information:

The product herewith complies with the requirements of the Low Voltage Directive 73 / 23 / EC, the EMC Directive 89 / 336 / EC and carries the CE marking accordingly.

Carmelo Cubito

Agrate Brianza (MI) / Italy January 2004

Manufacturer's EU R&TTE Representative

CE

COUNTRIES RTTE APPROVAL COMPLIED

All EC countries, Switzerland (CH)

and Norway (N)





086-001798-359