MULTI-CHANNEL IN-OUT CABLEFREE THERMO-HYGROMETER

MODEL: BHGR618

USER'S MANUAL

INTRODUCTION

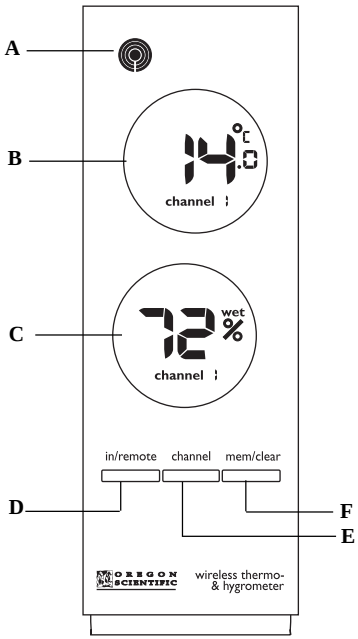
Congratulations on your purchase of the Multi-Channel In-Out Thermometer / Hygrometer (BHGR618) with a 433MHz cable-free thermo-hygro sensor.

Enclosed with this package is one (1) main display unit and one (1) cable-free remote thermo-hygro sensor unit.

The main unit has an LCD that shows recordings for indoor and outdoor temperatures, humidity, maximum and minimum recordings. The unit supports up to three 433MHz remote thermo-sensors or thermo-hygro sensors. A variety of additional sensors can be purchased separately.

No wire installation is required between the main and remote units. As the BHGR618 operates at 433MHz, it can be used in the U.S. and most places in Continental Europe.

FEATURES & KEY CONFIGURATION : MAIN UNIT



A RF SIGNAL INDICATOR
- Indicates the signal-receiving status of the unit

B Upper window
- Displays the temperature data

C Lower window
- Displays the humidity data

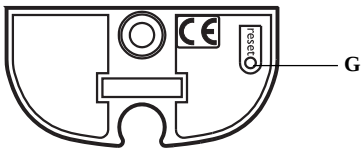
D [IN / REMOTE]
- Selects between the main-unit display and a selected remote unit
- Activates search mode

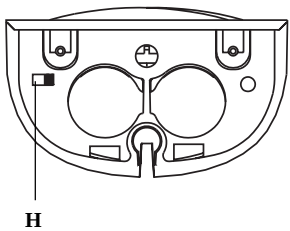
E [CHANNEL] button
- Selects among different channels
- Activates remote sensor scanning mode

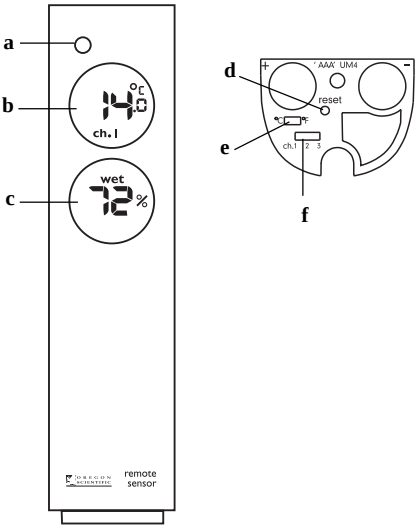
F [MEM / CLEAR] button
- Recalls the maximum or minimum temperature and humidity readings
- Clears the maximum and minimum temperature and humidity memory of remote sensor channels or the main unit display

G [RESET]
- Returns all settings to default values and erases all memories

H [°C/°F] slide switch
- Selects between degree Centigrade (°C) and Fahrenheit (°F)







FEATURES: REMOTE THERMO-HYGRO SENSOR (Model BHGR 228)

a **LED indicator**
Flashes when the remote unit transmits a reading

b **Upper window**
Displays temperature data

c **Lower window**
Displays humidity data

d **[RESET]**
Returns all settings to default values

e **°C/°F slide switch**
Selects between Centigrade (°C) and Fahrenheit (°F)

f **Channel slide switch**
Designates the remote unit Channel 1, Channel 2 or Channel 3

BEFORE YOU BEGIN

To ensure proper functioning of the BHGR618 follow this setup procedure.

For best operation:

1. Assign different channels to different remote units.
2. Insert batteries for remote units before doing so for the main unit (see instructions for battery installation).
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.

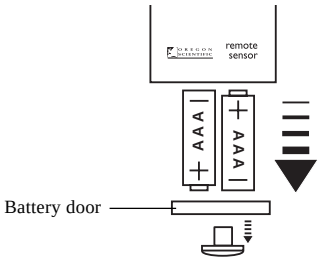
BATTERY AND CHANNEL INSTALLATION: REMOTE UNIT

The remote thermo-hygro sensor unit uses two (2) UM-4 or “AAA” size alkaline batteries.

Follow these steps to install / replace batteries:

1. Loose the screw on the battery door.
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 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”)



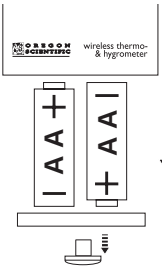
***Note** that once a channel is assigned to a remote unit, you can only change it by removing the batteries or resetting the unit.*

BATTERY INSTALLATION: MAIN UNIT

The main unit uses two (2) UM-3 or “AA” size alkaline batteries.

Follow these steps to install / replace batteries:

1. Remove the screw to open the battery door.
2. Insert the batteries strictly according to the polarities shown therein.
3. Select the temperature display unit on the °C / °F slide switch.
4. Replace the battery door and fasten the screw. Replace the batteries when the low-battery indicator of the indoor temperature lights up (Repeat the steps described in section "BEFORE YOU BEGIN")



If not disposed of properly, batteries can be harmful. Protect the environment by taking exhausted batteries to authorized disposal stations.

GETTING STARTED

Once batteries are placed in a given remote sensor unit, it will start transmitting information at 40-second intervals.

Also, for approximately a 3-minute duration, the main unit will automatically search for signals once batteries are installed. Upon

successful reception, the individual channel temperature reading will be displayed on the upper window and the respective humidity reading on the lower window. The main unit will automatically update its readings at about 40-second intervals.

If no signals are received, blanks " --- " will be displayed and the RF signal indicator will not show.

To force a signal search:

- Press and hold **IN/REMOTE** for 2-seconds to enforce a 3-minute search.

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 & HUMIDITIES

Display of readings from a remote sensor or the main unit is a one-step procedure. The remote sensor channel or the main unit display is indicated under the readings.

To display indoor temperature & humidity :

- Press **IN / REMOTE** until "in" is displayed under the readings.

To display remote temperature & humidity :

- Press **CHANNEL** until the appropriate remote sensor channel is displayed under the readings.

If no readings are received from one particular channel for more than 15 minutes, blanks " --- " will be displayed until further readings are successfully searched. Check the remote sensor to ensure that it is secure and that the correct channel has been selected. Optionally, press and hold **IN/REMOTE** for 2-seconds to enforce a search.

MAXIMUM AND MINIMUM TEMPERATURE AND HUMIDITY

The maximum and minimum recorded temperature and humidity readings will automatically be stored in the memory.

To display the maximum and minimum display memory:

1. Select the channel to be checked.
2. Press **[MEM/CLEAR]** once to display the maximum reading and again the minimum reading. The respective indicators, MAX or MIN will be displayed.

To clear the memory:

- Press and hold **[MEM/CLEAR]** for 2-seconds.

If you press **[MEM/CLEAR]** now, the maximum and minimum reading will have the same values as the current ones until different readings are recorded.

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.

COMFORT LEVEL INDICATORS

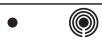
The comfort level indicators COM, WET or DRY will tell you if the curent environment is comfortable, too wet or too dry.

The comfort indicators will appear on the display of the main and remote units when the following conditions are satisfied:

Indicator displays on the unit	Temperature Range	Humidity Range	Shows that the Current Environment
COM	20°C to 25°C (68°F to 77°F)	40%RH-70%RH	Ideal range for both relative humidity and temperature
WET	-5°C -+ 50°C (23°F - 122°F)	OVER-70%RH	Contains excess moisture.
DRY	-5°C -+ 50°C (23°F - 122°F)	Below 40%RH	Contains inadequate moisture
No Indicator	Less than 20°C(68°F) or More than 25°C (77°F)	40%RH to 70%RH	No comment

HOW TO READ THE RF SIGNAL INDICATOR

The RF signal indicator shows the signal-receiving status of the main unit. There are three possible forms:

The unit is in searching mode.	
Transmission data are securely registered.	
No signals.	

REMOTE SENSOR SCANNING

The unit can be set to automatically scan and display readings from the remote sensors. When the remote-sensor mode is active, the display will show the readings from one channel for about 4-second and then proceed to the next channel display.

To activate the remote-sensor scanning mode:

- Press and hold **CHANNEL** for 2-seconds.

To deactivate the remote-sensor scanning mode:

- Press any button.

DISCONNECTED SIGNALS

If without obvious reasons the display for a particular channel goes blank, press[**IN/REMOTE]** 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 readings will resume once the interference recedes.

LOW BATTERY WARNING

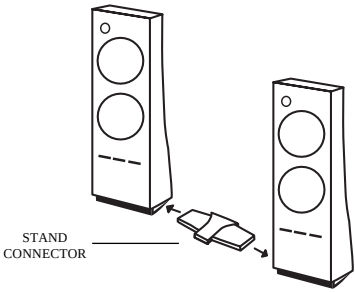
When it is time to replace batteries, the respective low-battery indicator will show up when the respective channel is selected. The battery level of the main unit will be shown on the indoor temperature when it is running low.

THE RESET BUTTON

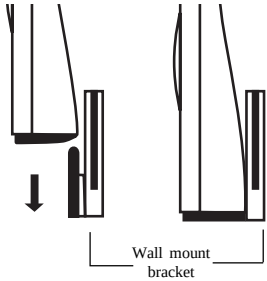
This button is only used when the unit is operating in an unfavorable way or malfunctioning. Use a blunt stylus to hold down the button. All settings will return to their default values.

TABLE STANDING OR WALL MOUNTING

Table-Standing :
Your unit comes with stand connector for connecting it to other modular units.

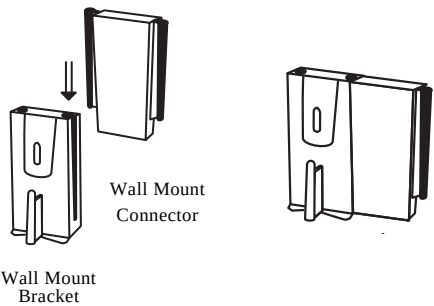


Wall-mounting:

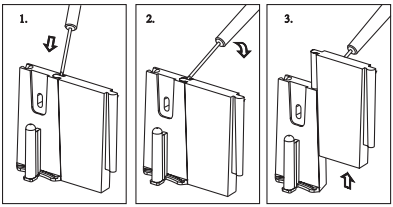


Connector:

Use wall-mount connector to align with other wall-mount bracket if necessary.



Un-install the brackets:



MAINTENANCE

When handled properly, this unit is engineered to give you years of satisfactory service. Here are a few product care instructions:

1. Do not immerse the unit in water. If the unit comes in contact with water, dry it immediately with a soft lint-free cloth.
2. Do not clean the unit with abrasive or corrosive materials. A b r a s i v e cleaning agents may scratch the plastic parts and corrode the electronic circuit.
3. Do not subject the unit to excessive: force, shock, dust, temperature, or humidity. Such treatment may result in malfunction, a shorter electronic life span, damaged batteries, or distorted parts.
4. Do not tamper with the unit's internal components. Doing so will terminate the unit's warranty and may cause damage. The unit contains no user-serviceable parts.
5. Only use new batteries as specified in this instruction manual. Do not mix new and old batteries as the old batteries may leak.
6. Read this instruction manual thoroughly before operating the unit.

SPECIFICATIONS

Main unit

Proposed operating range	:	- 5.0° C to 50.0°C (23.0° F to 122.0°F)
Temperature resolution	:	0.1° C to (0.2°F)
Relative Humidity	:	25% RH to 95% RH Operating range

Remote thermo-hygro unit

Proposed operating range	:	-20.0° C to 60.0°C (-4.0° F to 140.0°F)
Temperature resolution	:	0.1° C to (0.2°F)
Relative Humidity Operating range	:	25% RH to 95% RH

General

RF Transmission Frequency	:	433 MHz
No. of Remote unit	:	Maximum of 3
RF Transmission Range	:	Maximum 30 meters
Temperature compensation	:	0.1° C to (0.2°F)
Temperature sensing cycle	:	around 40 seconds

Power

Main unit	:	2 pcs UM-3 or “AA” 1.5V alkaline battery
Remote sensing unit	:	2 pcs UM-4 or “AAA” 1.5V alkaline battery

Weight

Main unit	:	126.67 g
Remote sensing unit	:	90 g

Dimensions

Main unit(H xW xD)	:	166 x 58 x 32 mm
Remote sensing unit	:	166 x 40 x 31 mm

EC-DECLARATION OF CONFORMITY

This product contains the approved transmitter module **TX 03** and complies with the essential requirements of Article 3 of the R&TTE 1999/5/EC Directives, if used for its intended use and that the following standard(s) has/have been applied:

Efficient use of radio frequency spectrum

(Article 3.2 of the R&TTE Directive)

Applied standard(s) **EN 300 220-3,V1.1.1:2000-09**

Electromagnetic compatibility

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

Applied standard(s) **EN 300 489-1+3:2000-08**

Safety of information technology equipment

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

Applied standard(s) **EN 60950:2000**

Additional information:

The product is therefore conform with the Low Voltage Directive 73/23/EC, the EMC Directive 89/336/EC and R&TTE Directive 1999/5/EC (appendix II) and carries the respective CE marking.

VS-Villingen / Germany January 2002

Gerhard Preis

R&TTE Representative of manufacturer

CE 0359 !

RTTE Compliant Countries :

All EC countries, Switzerland (CH)

And Norway (N)

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 contents of this manual may not be reproduced without the permission of the manufacturer.