▲ AMPROBE®

THWD-10 / THWD-10W
RH Meter
RH Meter with Wireless

Users Manual
- **Mode d'emploi**
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- **Manual d'Uso**
- **Manual de uso**

THWD-10
THWD-10W

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Users Manual

Limited Warranty and Limitation of Liability
Your Amprobe product will be free from defects in material and workmanship for 1 year from the date of purchase. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Amprobe's behalf. To obtain service during the warranty period, return the product with proof of purchase to an authorized Amprobe Test Tools Service Center or to an Amprobe dealer or distributor. See Repair Section for details. THIS WARRANTY IS YOUR ONLY REMEDY. ALL OTHER WARRANTIES - WHETHER EXPRESS, IMPLIED OR STAUTORY - INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE HEREBY DISCLAIMED. MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

Repair
All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe® Test Tools.

In-Warranty Repairs and Replacement – All Countries
Please read the warranty statement and check your battery before requesting repair. During the warranty period any defective test tool can be returned to your Amprobe® Test Tools distributor for an exchange for the same or like product. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you. Additionally, in the United States and Canada In-Warranty repair and replacement units can also be sent to a Amprobe® Test Tools Service Center (see address below).

Non-Warranty Repairs and Replacement – US and Canada
Non-warranty repairs in the United States and Canada should be
sent to a Amprobe® Test Tools Service Center. Call Amprobe® Test
Tools or inquire at your point of purchase for current repair and
replacement rates.

In USA   In Canada
Amprobe Test Tools   Amprobe Test Tools
Everett, WA 98203   Mississauga, ON L4Z 1X9
Tel: 877-AMPROBE (267-7623)   Tel: 905-890-7600

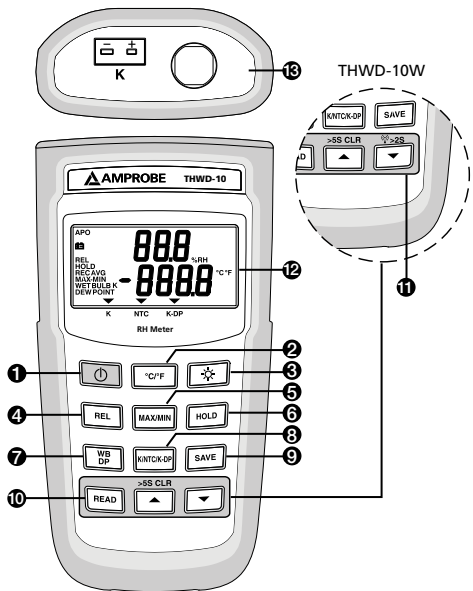**Non-Warranty Repairs and Replacement – Europe**
European non-warranty units can be replaced by your Amprobe®
Test Tools distributor for a nominalv charge. Please check the
"Where to Buy" section on www.amprobe.com for a list of
distributors near you.
European Correspondence Address*

Amprobe® Test Tools Europe
In den Engematten 14
79286 Glottertal, Germany
Tel.: +49 (0) 7684 8009 - 0
*(Correspondence only – no repair or replacement available from
this address. European customers please contact your distributor.)

THWD-10/THWD-10W RH Meter

1) "⏻" Power

2) °C /°F

3) "☼" backlight

4) "REL" Relative

5) "MAX/MIN" Record

6) "HOLD" Data Hold

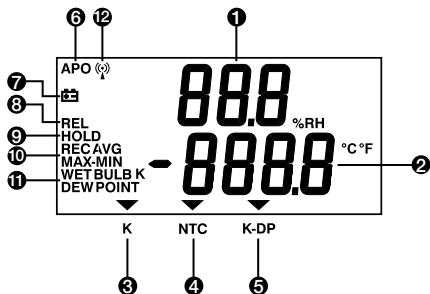7) "WB DP" WB/DP/Ambient temperature

8) "K/NTC/K-DP"

9) "SAVE" data save

10) "READ" data recall

11) Wireless(THWD-10W)

12) Display

13) Input

Screen Display

1) Humidity display

2) Temperature display

3) K type temperature measurement mode

4) NTC temperature measurement mode

5) K type temperature minutes Dew point temperature mode

6) Automatic power off enabled

7) Low battery

8) Relative enabled

9) HOLD enabled

10) Maximum,Minimum, Maximum-Minimum, or average reading displayed

11) Wet bulb or dew point temperature displayed

12) Wireless function enabled (THWD-10W)

CONTENTS

SYMBOLS

⚠	Caution! Refer to the explanation in this Manual
CE	Complies with European Directives
FC	Tested Comply With FCC Standards
☒	Do not dispose of this clamp meter as unsorted municipal waste.

⚠ WARNING and PRECAUTIONS
- *To avoid electrical shock, do not use this instrument when working voltages at the measurement surface over 24V AC or DC.*
- *To avoid damage or burns, do not make temperature measurement in microwave ovens.*
- *Repeated sharp flexing can break the thermocouple leads. To prolong lead life, avoid sharp bends in the leads, especially near the connector.*
- *Do not immerse the hygrometer sensor head into liquids since this causes permanent damage to the sensor.*

Federal Communications Commission
This device THWD-10W complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note
This equipment THWD-10W 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. This
equipment generates, uses and can radiated 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.

Shielded interface cables must be used in order to comply
with emission limits.

Changes or modifications not expressly approved by the
party responsible for compliance could void the user's
authority to operate the equipment.

Wireless Note
Wireless receiver must keep a distance at least 40cm from
the meter and meter to meter distance must be at least
30cm.

UNPACKING AND INSPECTION

Your shipping carton should include:

1	Meter
4	AAA batteries
1	Software CD ROM (THWD-10W)
1	USB Wireless Antenna (THWD-10W)
1	K type thermocouple
1	Manual
1	Plain white box

If any of the items are damaged or missing, return the complete package to the place of purchase for an exchange.

INTRODUCTION

The instrument hereafter referred to as **"the Meter"** is a battery powered meter that measures relative humidity and temperature. Through a few easy to use controls, the Meter displays three different temperature points of the air surrounding the meter's sensor: ambient, wet bulb, and dew point.

Features

- Wireless two ways transmission. (THWD-10W only)
- Highly stable humidity measurement ±2.5%.
- Processing %RH and temperature simultaneously.
- Two in one wide range thermometer and humidity function.
- Wet/Dry bulb, dew point and %RH.
- Easy switching between K/NTC/K-DP.
- Max/Min/AVG/REL/HOLD function.
- APO function.

OPERATING INSTRUCTIONS

"⏻" Power Switch

The "⏻" key turns the thermometer on or off. In the SET mode cannot be powered off. Exit SET mode to power off.

APO function mode

Press "⏻" power key for more than 4 seconds to disable the auto-power function.

The display will show "**APO OFF**".

"°C/°F" Selecting the Temperature Scale

Readings are displayed in either degrees Celsius(°C) or degrees Fahrenheit(°F). When the thermometer is turned on, it is set to the temperature scale that was in use when the thermometer was last turned off. To change the temperature scale, press the "**°C/°F**" key.

" ☼ " Button

Press the "☼" key to trigger on the backlight function, press the "☼" key again to cancel the backlight function. The backlight will switch-off automatically after 30 seconds.

"REL" Button

Press the "**REL**" key to enter Relative mode, zero the display, and store the displayed Reading as a reference value and annunciator REL is displayed. Press "**REL**" key again to exit the relative mode. In this mode, press "**HOLD**" key to stop reading, all values are frozen, press "**HOLD**" key again to restart reading.

"MAX/MIN" Button

Press "**MIN/MAX**" key to enter the MIN/MAX recording mode and REC shows on the display. The beeper emits a tone when a new minimum or maximum measurement is recorded. Press "**MIN/MAX**" key again to cycle through

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the current readings:

    MAX: The highest measurement recorded.
    MIN: The lowest measurement recorded.
    MAX-MIN: The difference of the highest and the lowest measurement.
    AVG: The average values of the measurements.

Press "**MIN/MAX**" key over two seconds to exit the function. In this mode, press "**HOLD**" key to stop recording, all values are frozen, press "**HOLD**" key again to restart recording. In this mode, the APO function and other keys are disabled, excluding "**HOLD**" and Back-light keys. Press and hold down the "**MAX/MIN**" key for more than 2 seconds to exit the MAX/MIN function.

"HOLD" Button
Press the "**HOLD**" key to enter the data hold mode, the "**HOLD**" annunciator is displayed at the center-left of display. When data hold mode is selected, the meter held the present readings and stops all further measurements. Press the "**HOLD**" key again to cancel data hold mode, causing meter to resume taking measurements.

"WB/DP" Button
In the NTC data Mode, the Meter displays ambient temperature when first turned on. To display wet bulb(WB) temperature, press "**WB/DP**" key once. Press the "**WB/DP**" again to switch to dew point(DP) temperature. Press "**WB/DP**" a third time returns the Meter to ambient temperature.

"K/NTC/K-DP" Button
Press the "**K/NTC/K-DP**" key, the meter can cycle through "**K-TYPE**", "**NTC**", "**KDP**".
*K-DP = K-TYPE temperature minutes Dew point temperature.

"SAVE" Button
The save function stores the %RH, K-TYPE, NTC, Wet bulb, Dew point data in a nonvolatile memory. Press the "**SAVE**" key to save the current data, the word SAVE is displayed to indicate the data are saved. The build in memory can store up to 256 data.

"READ", "▲", "▼" Button
To recall the readings from memory, press "**READ**" key. To check the memorized data just to press "**▲**" or "**▼**" until the desired memorized data is displayed. To return the meter to normal operation, press "**READ**" key again.
* CLR SAVE DATA:
Pressing the "**▲**" key for more than 5 seconds to clears all the saved data in memory. And lower display show "**Clr**" about 2 second.

Wireless Mode: (THWD-10W)
Press the "((°))" key for more than two seconds to start wireless function. Press the "((°))" key again for another two seconds to stop wireless function. The wireless mode will shut down if there is no wireless signal for two minutes.

To SET CH/ID to 00,00, press the "**▼**" key and " ⏻ " power key for more than 6 seconds with the meter powered down. The meter will set channel and ID to 00,00 status. The second display will show 00, which means that the channel and ID has been set to 00.

To check the channel and ID of the meter
When the meter is off, press "**°C/°F**" key and "⏻" for 5 seconds, LCD's main display will show channel number, the second display will show ID number.

SPECIFICATION

Electrical

Temperature Scale	Celsius or Fahrenheit user-selectable
Measurement Range	K-Type -50°C to 1000°C, (-50°F to 1832°F)
Resolution	0.1°C or 0.2°F
Accuracy	Accuracy is specified for operating temperatures over the range of 18°C to 28°C (64°F to 82°F), for 1 year, not including thermocouple error. ±(0.1% rdg + 1°C) on -50°C to 1000°C ±(0.1% rdg + 2°F) on -50°F to 1832°F ±(0.05% rdg + 1.4°F) -58°F to -328°F
Sensor	Thermistor temperature sensor
Range	0°C to 60°C, (32°F to 140°F)
Resolution	0.1°C/°F
Accuracy	±2°C on 0°C to 10°C ±0.5°C on 10°C to 45°C ±2°C on 45°C to 60°C ±4°F on 32°F to 50°F ±1°F on 50°F to 113°F ±4°F on 113°F to 140°F

Relative Humidity

Sensor	Capacitive Humidity Sensor
Range	0% to 100% RH
Accuracy	±2.5% at 25°C (77°F), 10% to 90% RH ±5% at 25°C (77°F), 0% to 10% RH, 90% to 100% RH

Sensor Response Time for 90% of Total Range	60sec typical.
Sensor Hysteresis (excursion of 10% to 90% to 10% RH)	±1%RH typical
Temperature Coefficient	0.1 times the applicable accuracy specification per °C from 0°C to 18°C and 28°C to 50°C (32°F to 64°F and 82°F to 122°F).
Input Protection	24V dc or 24V ac rms maximum input Voltage on any combination of input pins.
Input Connector	Accepts standard miniature thermocouple connectors (flat blades spaced 7.9mm, center to center).

Environmental

Ambient Operating Ranges	0°C to 50°C (32°F to 122°F) <80% R.H.
Storage Temperature	-20°C to 60°C (-4°F to 140°F) <70% R.H.

General

Display	5 digit liquid crystal display (LCD).
Overload	"----.-" or "OL" is display..
Reading Rate	1 time per second.

Auto power off	15 minutes, press power key to resume operation.
Battery	4 X 1.5V AAA
Battery Life	200 hours typical with carbon zinc battery.
Dimensions	160mm(H) x 83mm(W) x 38mm(D); 6.3 in (H) x 3.3 in (W) x 1.5 in (D).
Weight	Approx. 230g (0.5lb) including batteries.
Supplied Probe	4 feet type "K" thermocouple bead wire (Teflon tape insulated). Maximum insulation temperature 260°C (500°F). Wire accuracy ±2.2°C or ±0.75% of reading (whichever is greater) from 0°C to 800°C (32°F to 1472°F).

((·)) Wireless Features

Frequency range 910~920MHz (THWD-10W)
Low current consumption less than 1mA.
The transmitting distance can reach 25M without magnetic interference.

CE - **EMC:** Conforms to EN61326-1.
This product complies with requirements of the following European Community Directives: 89/ 336/ EEC (Electromagnetic Compatibility) and 73/ 23/ EEC (Low Voltage) as amended by 93/ 68/ EEC (CE Marking). However, electrical noise or intense electromagnetic fields in the vicinity of the equipment may disturb the measurement circuit. Measuring instruments will also respond to unwanted signals that may be present within the measurement circuit. Users should exercise care and take appropriate precautions to avoid misleading results when making measurements in the presence of electronic interference.
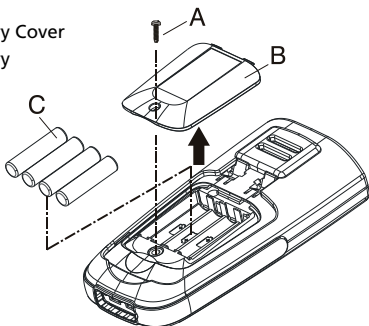
MAINTENANCE AND REPAIR

⚠ *WARNING*

To avoid possible electrical shock, disconnect the thermocouple connectors from the thermometer before removing the cover.

Installing and Replacing Battery

A. Screw
B. Battery Cover
C. Battery

1. Power is supplied by 4pcs 1.5V (SIZE AAA) UM-4 R03.

2. The "⊡" appears on the LCD display when replacement is needed. To replace battery remove screw from back of meter and lift off the battery cover.

3. Remove the batteries from the battery compartment and replace them with new ones.

4. When not use for long time, remove the battery.

5. Do not store the unit in place with temperature and humidity beyond the recommended storage temperature.

Cleaning

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.

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