



THWD-5

Relative Humidity Temperature Meter

Users Manual



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English

THWD5_Rev001

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Limited Warranty and Limitation of Liability

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Repair

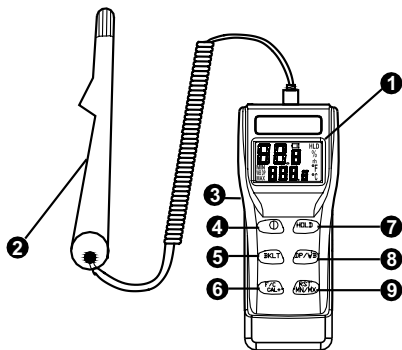
All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the 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

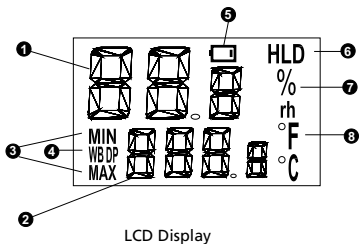
Please read the warranty statement and check your battery before requesting repair. During the warranty period any defective test tool can be returned to your Amprobe® Test Tools distributor for an exchange for the same or like product.

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.



- 1** Large LCD digital dual display
- 2** Extended probe for easy target access.
- 3** Tripod mountable
- 4** ON/OFF pushbutton to turn the unit on and off
- 5** Backlight pushbutton for easy use in dark places
- 6** Temperature ($^{\circ}\text{C}$ & $^{\circ}\text{F}$ units selectable)/ Calibration pushbutton
- 7** Data Hold pushbutton to stop on the last reading
- 8** DP/WB pushbutton for dew point or wet bulb.
- 9** RST/Min/Max pushbutton to display the minimum or the maximum of the actual measurement. Also use to reset the Min/Max value.



LCD Display

- 1** Relative Humidity display
- 2** Temperature, Wet Bulb, Dew Point display
- 3** Min/Max indicator
- 4** Dew point and Wet bulb indicator
- 5** Low battery indicator
- 6** Data Hold Indicator
- 7** Humidity indicator
- 8** Temperature unit indicator

THWD-5 Relative Humidity Temperature Meter

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INTRODUCTION

The THWD-5 psychrometer is a microprocessor-based design for HVAC and Plant Maintenance technicians and engineers.

Easy to use for readings of Relative Humidity, Temperature as well as Wet bulb and Dew point measurements.

Use the Min/Max functions to record the lowest and highest values measured.

It is equipped with an extended probe for easy target access, a large dual LCD display with backlight.

The THWD-5 also offers a tripod mounting on the back of the unit.

OPERATIONS

Power On/off

Press the power button (4) to turn the meter on and off.

The meter will enter the auto sleep mode after 20 minutes of non-operation.

Backlight

Press the backlight button (5) to turn the backlight on and off. It will remain on for 10 seconds and turn itself off.

Temperature unit selection

Press °C °F pushbutton in normal mode to switch between °C and °F.

Hold Reading

Press Data Hold (7) button in normal mode to hold the current reading.

Press it again to unlock and proceed with continuous reading.

Air/Dew Point/Wet Bulb measurement

Press and hold for two seconds the DP WB pushbutton to switch between air temperature, Dew point and Wet bulb reading. (Do not do when in Calibration mode.)

Reset/Min/Max value reading

Press and hold for two seconds the Min/Max (9) pushbutton to turn on this feature. The meter will start capturing readings as minimum and maximums of the readings. Press the pushbutton to step through and retrieve the minimum and maximum readings captured of both relative humidity and temperature. Press and hold for two seconds the Min Max button to turn this feature off.

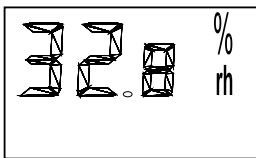
Press and hold for more than one second to reset the minimum and the maximum value.

Disable the Auto Sleep mode

Press ON/OFF (4) + Hold (7) to turn on the meter and enter the normal mode with auto sleep off.

CALIBRATION

1. Make sure the THWD-5 is turned off. Plug the meter's probe into a known trusted 32.8% salt bottle. Press "On/Off + F/C" pushbuttons simultaneously for more than one second to enter the calibration mode.
2. 3x.x% will be flashing on LCD (see fig.1). After 30 minutes the "3x.x%" will stop flashing.



The calibration for the "3x.x%" is now completed. Proceed with the 7x.x% calibration.

Fig. 1

3. Remove the meter from the 32.8% salt bottle and place it into a 75.3% salt bottle. Press Min Max Reset pushbutton for more than one second to enter the 7x.x% calibration mode. "7x.x%" will be flashing on LCD. After 30 minutes the "7x.x%" will stop flashing. The calibration process is now complete.

Note:

- Auto power off is automatically disabled during calibration procedure.
- In order to get high accuracy, you must do the calibration at $23 \pm 2^{\circ}\text{C}$ ($73 \pm 2^{\circ}\text{F}$) and steady airflow in the room.
- If the value differs from 7x.x% or 3x.x% for more than 0.3%, the calibration fails. (see trouble-shooting)

TROUBLESHOOTING

Power on but no display

- Make sure the time of pressing the On/Off pushbutton is more than 100 ms.
- Check the batteries are in place, good contact and correct polarity.
- Replace the batteries and try again.

Flickering display and then disappears

- Check whether the low battery indicator displayed before display disappeared. If yes, replace the batteries.
- Turn on the meter by pressing "On/Off + Hold" key to disable auto power off.

Calibration failure

- Check whether the low battery indicator displayed before calibration. If yes, replace the batteries and try again.
- Make sure the meter probe is well sealed when plugging into the salt bottle.
- Make sure the free air temperature is within 23 ± 2 C and the airflow is stable.

E 11

- RH calibration error. Re-calibrate again.

E 33

- Circuit error in RH measurement. Return the meter for repair.

E 34

- Circuit error in Temperature measurement channel. Return the meter for repair.

Note: When the meter is on, plug with a probe will also result in "E 33i or E 34i in Max. and Min. mode.

SPECIFICATIONS

Range:

- RH measurement: 0~100%
- Temperature: -10~60 °C (14 to140°F)
- DP : -73.4 to 59.9 °C (-100.0 to139.8°F)
- WBT: -13.4 to 59.9°C (7.88 to 139.8°F)

Accuracy:

- RH : +/-3% from 10-90% (at calibration temperature); +/-5% for others .
- Temperature: +/-0.6°C(+/-1°F)

Storage Temperature: -20°C to 60°C (-4°F to 140°F)

Operating Temperature: 0°C to 50°C (32°F to 122°F)

Standard accessories

- 1 ea THWD-5 meter
- 1 ea probe on extension cable
- 1 ea Users Manual
- 1 ea Hard carrying case
- 4 ea Batteries (AAA)