



THWD-3 and TH-3 Relative Humidity and Temperature Meters

User Manual



THWD-3 and TH-3

Relative Humidity and Temperature Meters

English

English

Relative Humidity Temperature Meters

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The THWD-3 and TH-3 are instruments to measure relative humidity and temperature. The extended probe allows the user to make measurements inside ducts or hard to reach areas. The Relative and MIN/MAX functions enable measurements to be made in two different areas and then compared. The large dual display and Data Hold function both make viewing the measurement results convenient. Both models utilize a capacitive sensor for humidity measure temperature in °C or °F with 0.1 %RH resolution. Both meters utilizes a capacitive sensor for humidity measurements up to 100% with a tenth percent resolution. With an auto power off feature to save battery life, protective cap for sensor life, vinyl carry case for transportation and battery installed, the TH-3 is the right choice for your atmospheric humidity measurement needs. Model THWD-3 has two extra features with the capability to also indicate Dew Point and Wet Bulb readings.

Safety Information

This meter has been designed and tested according to:

- EN50081-2
- EN50082-2

Symbols Used in this Manual

	Caution! Refer to the explanation in this Manual
	Caution! Risk of electric shock
	Conforms to relevant Australian standards
	Complies with European Directives
	Power ON / OFF
	Do not dispose of this product as unsorted municipal waste

Operating Instructions

Power-Up

- Press the  key to turn the Humidity/Temperature meter ON or OFF.

Selecting Temperature Units

When the meter is first powered on, the default scale setting is set to the Celsius (°C) scale. To change to Fahrenheit (°F) press the  button. Press again to revert to Celsius. The next time the meter is turned on, the scale setting will be the same as it was when you powered off last time.

Data-Hold Operation

The present reading may be held on the display by pressing the  button. When the held data is no longer needed, release the data-hold operation by pressing the  button again. When the meter is in the Data Hold mode, the , , and  buttons are disabled.

Relative Operation (TH-3 only)

Pressing the  button causes the meter to memorize the present reading. The difference between the new reading and the memorized data will be displayed. Press the  button again to exit the Relative mode.

MIN/MAX Operation

Pressing the  button places the meter in the MIN/MAX mode. In this mode the maximum value and minimum value is kept in the memory simultaneously and updated with every new data reading. Pressing the  button displays the MAX indicator and the Maximum value on the display. Pressing  again will display the MIN indicator and the Minimum value on the display. Pressing  again causes the MAX and MIN indicators to blink together. This means that these data have been updated in the memory and the reading is the present temperature and humidity. When the meter is in MIN/MAX mode, the  and  buttons are disabled. To exit MIN/MAX mode, press and hold  for two seconds.

Dew Point and Wet Bulb Temperature (THWD-3 only) Operation

The Meter displays ambient temperature when first turned on. To display dew point (DP) temperature, press **DP WB** once. Press **DP WB** again to switch to wet bulb (WB) temperature. Pressing **DP WB** a third time returns the Meter to ambient temperature. The display indicates when dew point and wet bulb temperatures are selected.

Auto Power Off

By default, when the meter is powered on, it is in the auto power off mode. The meter will power itself off after 30 minutes if no key operation is performed. To disable the auto power off feature, press and hold the **HOLD** button and then power on the meter. The auto power off symbol will disappear to indicate that auto power off is disabled.

Low Battery Condition

When the battery voltage is under proper operation requirement, the  symbol displays on the LCD and the battery needs to be replaced.

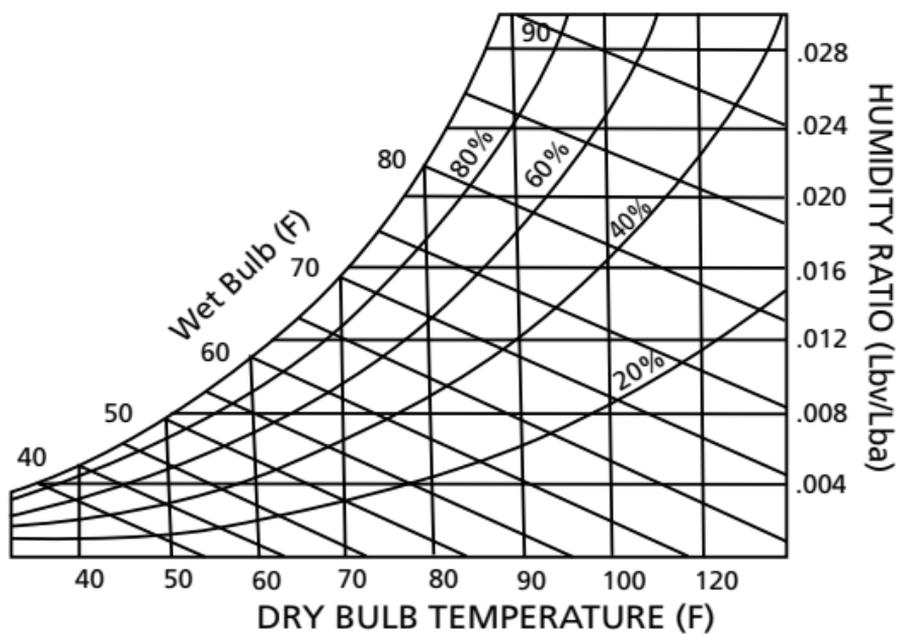
Wet Bulb Temperature Readings (TH-3)

Occasionally the Wet Bulb temperature is required. Use the following procedure and your TH-3 to obtain the wet bulb temperature.

1. Determine RH% condition with the TH-3.
2. Determine temperature (dry-bulb) with the TH-3.
3. Locate dry bulb (DB) temperature line on the Psychrometric chart (vertical line across the bottom of the chart).
4. Locate relative humidity (RH) line on the chart (curved line across the chart).
5. Find the intersection of the DB and RH lines on the chart.
6. Draw a diagonal line, starting at your intersection point, until the Wet Bulb (WB) point is determined. (The wet bulb temperature line is at the outmost curve of the chart).

For example, locate the DB temperature of 78 °F on the Psychrometer chart. Locate the RH conditions of 50% RH on the chart. Draw a diagonal line up to the 65 °F WB point.

Psychrometric Chart



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 STATUTORY - 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.

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.

Specifications

Display: Dual display

Operating Conditions: 0°C to 40°C; <80% RH

Storage Conditions: -10°C to 60°C; <70% RH

Altitude: Up to 2000 meters, Indoor operation.

Sample Rate: 2.5 times per second

Battery: 9 V Battery, NEDA 1604 or JIS 006P or IEC6F22

Battery Life: 85-hours continuous; (with alkaline battery)

Dimension: 240x54x34 mm (9.5x2.1x1.3 in)

Weight: Approx. 180g (6.4 oz.)

Accessories: Battery, instruction manual

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Humidity: 0% RH to 99% RH at 23°C
0°C to 55°C
32°F to 131°F

Range	Accuracy
10% RH to 90% RH	± 3% RH
<10, >90 %RH	± 5% RH

Temperature Coefficient: 0.1x(specified accuracy)/ °C
(<23 °C or >23 °C)

Sensor hysteresis: +/-1 %RH

Resolution: 0.1%RH

Response Time (@ t90; in slowly moving air): 180 sec

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Temperature:

Range	Accuracy
-20°C to 60°C	± 0.8 °C
-4°F to 140°F	± 1.6°F

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Wet Bulb Temperature:

Range	Accuracy
0°C to 55°C	± 0.8 °C
32°F to 131°F	± 1.6°F

Dew Point Temperature:

0°C to 55°C	± 0.8 °C
32°F to 131°F	± 1.6°F

Resolution: 0.1°C / 0.1°F

Response Time (@ t90; in slowly moving air): 10 sec

