

User Manual



RHT32

Digital Psychrometer



Introduction

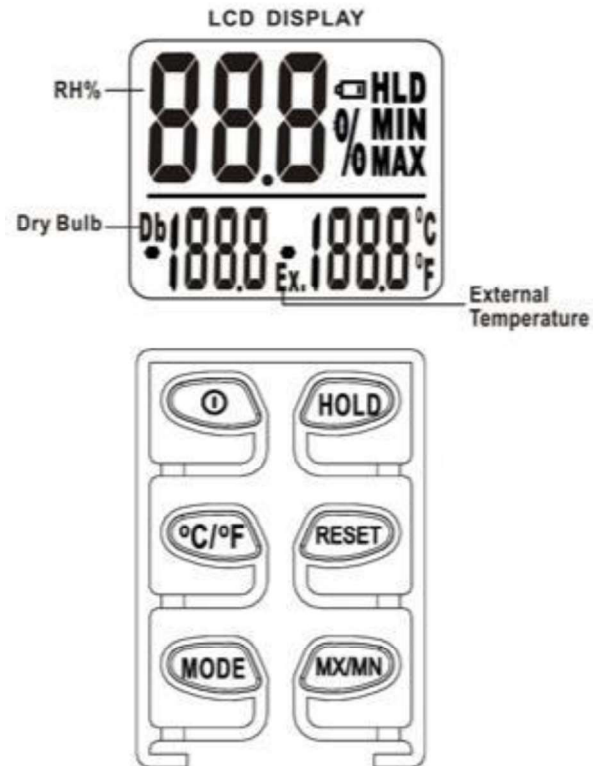
Congratulations on your purchase of the Triplett RHT32 Digital Psychrometer. This unique meter designed as pocket size, battery operated for Humidity, Dry Bulb, Dew Point, Wet Bulb, External Temperature & Temperature Differential measurement. The sensor is also specially protected by protective turn cap.

The psychrometer is a micro processor-based design. A must device for HVAC engineers use.

Description

METER DESCRIPTION

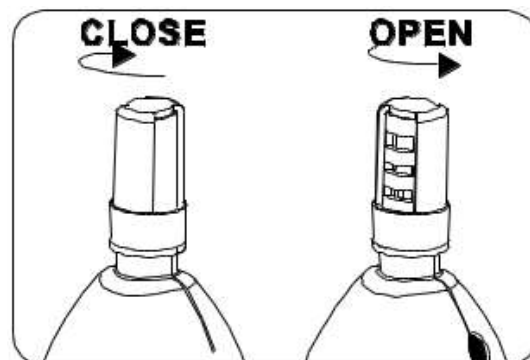
1. **ⓘ** Power On/Off Button
 2. **°C/°F** Button, Switch
between °C and °F
 3. **MODE** Button, Switch
between Db & DP (Db=Air
Temperature)
 4. **HOLD** Button
Hold display
ⓘ Power Button +
HOLD = Non-Sleep mode
(The default setting is auto-sleep
in 5 minutes)
1. **RESET** Button,
Reset Min/Max memory
 2. **MN/MX** Button
Display minimum value of
memory from when the
meter is turned on to now.
Display maximum
value of memory from
when the meter is turned
on to now.



Operation

Sensor Protective Cap

Turn the protective cap (top of meter), in the direction of the OPEN arrow to allow air into the sensor cavity. Turn the cap in the direction of the CLOSE arrow to protect the sensors. Always open the cap to take measurements and close when storing.



Meter Power

Press the power button for one second to switch the meter ON/OFF. The meter will perform a short self-test when switched ON.

Auto Power Off (Sleep Function)

The meter will turn itself off after 5 minutes.

To override Auto Power Off function, press **ⓘ** + HOLD while the meter is off. When "n" appears (see figure A), release the HOLD button. The meter is now in Non-Sleep Mode.



Figure A

Mode Options

1. Turning on the protective sensor cap in counterclockwise direction.
2. Turn meter on by pressing **ⓘ** power button (see figure B).
3. Press C/F key for more than 1 second to convert reading to desired unit. Both the temperature and relative humidity measurement will display simultaneously (see figure C).

Figure B



Figure C (requires optional probe)



Data Hold Function

1. Press "HOLD" button until (HLD) appears in display.
2. The current reading is now held and will not change until the Hold function is cancelled (see figure D).
3. Press "HOLD" button again to cancel the Hold function.



Figure D

The Hold function can be used on humidity, dew-point, dry bulb/T1, external temperature/ T2, wet bulb and temperature difference.

Dew Point Function

1. Press MODE button until "DP" appears on display.
2. Select to display dew point or dry bulb (air temp.) in any mode while the unit is on (see figure E).



Figure E



Figure E1

Wet Bulb Function

Turn the meter on by pressing  power button.
You will see "Wb" temperature indicated on the display (see figure E1).

External Temperature Function

1. Plug the optional external probe into the meter.
 2. Press the RESET button until "Ex" appears on display.
- The meter will now display external probe temperature. See figure F.



Figure F

Note: If the probe isn't plugged in meter, "Ex" won't appear on display even when pressing the RESET button.

Min/Max Function

1. Press and hold MN/MX button until (MIN) appears on the display (see figure G). The display is now showing minimum humidity and temperature readings currently in the memory.
2. Press and hold MN/MX button again until (MAX) appears on the display (see figure H). The display is now showing maximum humidity and temperature readings currently in the memory.
3. To return to the current temperature and humidity readings press and hold the MN/MX button until Min or Max disappear from the display.
4. Press the RESET or the MN/MX button for more than two seconds to clear currently in the memory.

Figure G



NOTE: While checking the MIN/MAX value for "Ex" don't replace the probe or you will get an error code. If you don't plug the probe into socket before turning the meter on, the error code will also appear when you check the MIN/MAX value.

NOTE: Low battery power tends to give inaccurate readings, therefore make sure you have enough power.

Calibration

WARNINGS


- You can exit the calibration procedure without saving the data in the memory by pressing the "ON/OFF" button before step 4. During step 4, press the "ON/OFF" button to exit the calibration mode.
 - Auto power off is disabled in calibration mode.
 - For the highest accuracy, the calibration should be operated at 23°C.
 - If the reading is out of 75.3% 0.5% at step 4, this indicates the calibration has failed. See troubleshooting section below.
1. Turn the meter off and plug the sensor probe into 33% salt bottle. Press the "ON/OFF + C/F " buttons for more than one second to enter calibration mode.
 2. "32.8%" will flash on the display, when "---.-" is showing on the display, that means the values are invalid in the calibration process. After 30 min, the flashing will stop to indicate the procedure is finished.
 3. Move the sensor to 75% salt bottle and press "MN/MX" for more than one second to enter 75.3% calibration. "75.3%" will flash on the display.
 4. The flashing will stop after 30 minutes, at this point the entire calibration is completed and the calibration data has been saved in memory.

Maintenance

Cleaning and storage

5. Clean the meter housing with the sensor cap closed, using a lightly damp cloth and mild detergent when necessary. Do not use solvents or abrasives.
6. Store the meter -- with the protective cap closed -- in an area with moderate temperature and humidity (refer to the operating/storage conditions specifications).

Battery Replacement

When the batteries need replacing, the  symbol will appear on the LCD. Replace the two (2) 1.5 'AAA' batteries in the rear battery compartment, observing correct polarity.



Never dispose of used batteries or rechargeable batteries in household waste. As consumers, users are legally required to take used batteries to appropriate collection sites, the retail store where the batteries were purchased, or wherever batteries are sold.

Disposal: Do not dispose of this instrument in household waste. The user is obligated to take end-of-life devices to a designated collection point for the disposal of electrical and electronic equipment.

Other Battery Safety Reminders

Never dispose of batteries in a fire. Batteries may explode or leak.

Never mix battery types. Always install new batteries of the same type.

Error Message Displays

1. **ER1:** Relative Humidity measurement failure. Have the meter repaired or replaced.
2. **ER2:** Internal temperature circuit failure. Have the meter repaired or replaced.
3. **ER3:** Reference resistance failure. Have the meter repaired or replaced.
4. **ER4:** Internal temperature sensor measurement is out of range. Always measure within the published specified range.
5. **ER5:** External temperature sensor measurement is out of range. Always measure within the specified range of the external temperature sensor.

Specifications

	Range and Resolution	Accuracy
Humidity	0.0 to 100.0% RH	±3% RH (10 to 90%) @ 23°C
Temperature (internal sensor)	-20 to 50°C (-4.0 to 122.0°F)	±1°C (±1.8°F)
Temperature (external probe range)	-20 to 70°C (-4.0 to 158.0°F)	±1°C (±1.8°F)

Display Triple-reading LCD

Sensor Types Relative Humidity: Precision capacitance sensor

Temperature (internal): Thermistor

T2 Temperature probe: Thermistor

Response Time 60 seconds typical

Dew Point range -68 to 50°C (-90.4 to 122.0°F) (calculated from RH and air temperature measurements)

Wet Bulb range -21.6 to 50°C (-6.88 to 122.0°F) (calculated from RH and air temperature measurements)

Operating Conditions -20 to 50°C (-4 to 122°F); < 99% RH non-condensing

Storage Conditions -40 to 85°C (-40 to 185°F); <99% RH non-condensing

Power Supply 2 x 1.5V 'AAA' batteries

Battery Life Approx. 80 hours

Dimensions / Weight 178.5 x 48.8 x 25.2mm (7.0 x 1.9 x 1.0"); 140g (4.9 oz.)

Warranty

Triplett / Jewell Instruments extends the following warranty to the original purchaser of these goods for use. Triplett warrants to the original purchaser for use that the products sold by it will be free from defects in workmanship and material for a period of (1) one year from the date of purchase. This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons in any way or purchased from unauthorized distributors so as, in our sole judgment, to injure their stability or reliability, or which have been subject to misuse, abuse, misapplication, negligence, accident or which have had the serial numbers altered, defaced, or removed. Accessories, including batteries are not covered by this warranty

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