

User's Guide

**EXTECH**<sup>®</sup>  
**INSTRUMENTS**

**Digital Psychrometer**

**Model RH390**



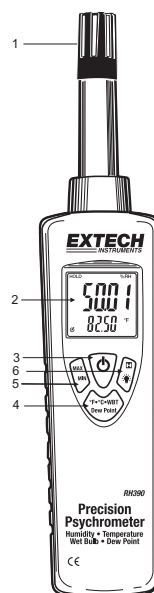
## Introduction

Congratulations on your purchase of the Extech RH390 Digital Psychrometer. This device measures Humidity, Air Temperature, Dew Point temperature and Wet Bulb temperature. Advanced features include Data Hold, Auto Power Off, and MAX/MIN reading. Careful use of this meter will provide years of reliable service. Please visit our website ([www.extech.com](http://www.extech.com)) to check for the latest version of this User Guide, Product Updates, and Customer Support.

## Meter Description

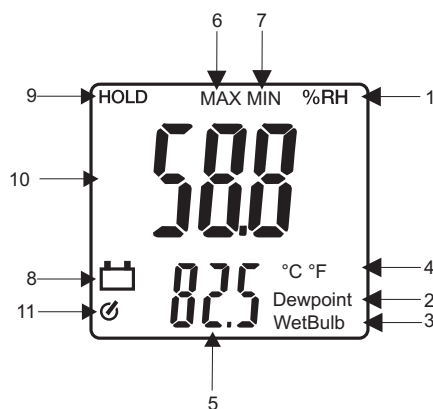
1. Humidity & Temperature Sensor
2. LCD Display
3. Power ON/OFF button
4. °F/°C/WBT (wet bulb)/Dew Point button
5. MIN/MAX button
6. HOLD/Backlight button

Note: The battery compartment is located on the rear of the instrument



## Display Description

1. Relative Humidity %
2. Dew Point
3. Wet Bulb
4. °C/°F
5. Temp/WB/DP Display
6. Maximum
7. Minimum
8. Low Battery
9. Hold
10. RH% Display
11. Auto Off



## Operation

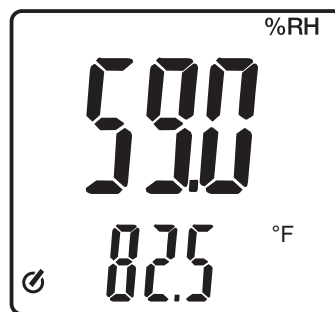
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### Power

Press the power button(  ) to turn power on or off.

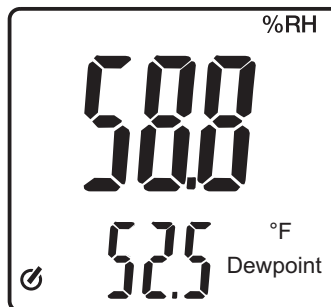
### Taking measurements

1. Hold the probe in the area to be tested.
2. Allow adequate time for readings to stabilize.
3. The Relative Humidity measurement appears in the top display.
4. Pressing the **°F/°C/WBT/Dew Point** button toggles the lower display between Temperature (°F), Temperature (°C), Dew Point (°C), Dew Point (°F), Wet Bulb (°C) and Wet Bulb (°F).



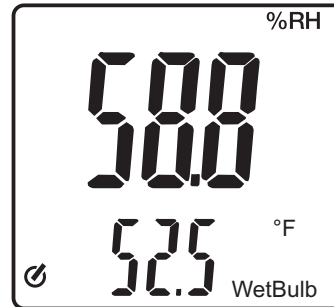
### Dew Point measurements

1. To select the Dew Point measurement, press the **°F/°C/WBT/Dew Point** button until DEWPOINT (°F or °C) appears in the lower right.
2. Dew Point temperature is now displayed.



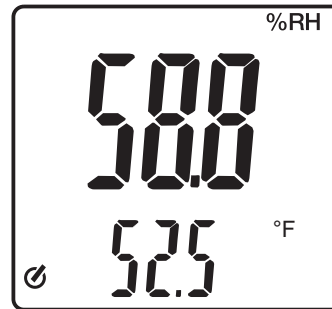
### Wet Bulb measurements

1. To select the Wet Bulb measurement, press the °F/°C/WBT/Dew Point button until WET BULB (°F or °C) appears in the lower right.
2. Wet Bulb temperature is now displayed.





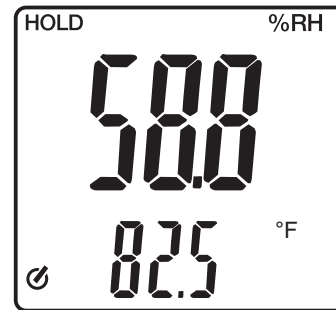
### Temperature measurements

1. To select the temperature measurement, press the °F/°C/WBT/Dew Point button until °C or °F appears in the lower right.
2. Temperature is now displayed.



### Data Hold

Press the hold button (  ) momentarily to freeze the displayed readings. "HOLD" will appear on the upper left-hand side of the display. Press the hold button (  ) again to return to normal operation.



### Minimum (MIN) Maximum (MAX) Function

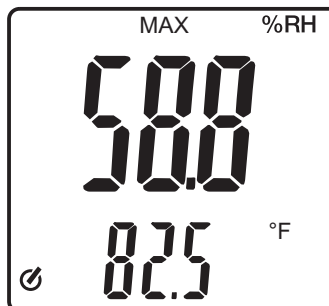
The MIN/MAX mode allows the user to view only the lowest (**MIN**) or highest (**MAX**) readings.

Press the **MAX/MIN** button once and "**MAX**" appears on the display. The LCD is now displaying the maximum humidity in the top display and the maximum reading of the selected parameter in the bottom display. The display will not change until a higher reading is registered.


Press the **MAX/MIN** button again and "**MIN**" appears on the display. The LCD is now displaying the minimum humidity and the minimum second reading in the bottom display. The display will not change until a lower reading is registered.

To exit the MIN/MAX mode, press and hold the **MIN/MAX** button for 2 seconds until the "**MAX**" or "**MIN**" icon disappears.


**Note:** Readings are automatically reset when switching from one display to the next (MAX to MIN).





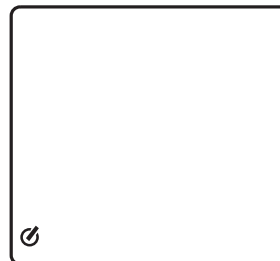
### Backlight

Press and hold the light button (  ) until the backlight comes on. To turn the backlight off press and hold the light button (  ) until the backlight turns off.

### Automatic Power OFF

The meter has a default setting that automatically shuts the meter off after 10 minutes (indicated by the  symbol on the display. This battery saving feature can be disabled. To disable the auto power off function, simply press and hold the hold button

(  ) while powering on. The  symbol will not appear when auto power off has been disabled. The meter will revert to the default auto-off mode when powered off.



## Maintenance

### Cleaning and storage

1. The meter should be cleaned with a damp cloth and mild detergent when necessary. Do not use solvents or abrasives.
2. Store the meter in an area with moderate temperature and humidity (refer to the operating and storage range in the specifications chart earlier in this manual).

### Battery Replacement

When the battery power falls low, the battery symbol will appear on the LCD. Replace the 9 Volt battery by removing the Philips head screw holding the rear battery compartment cover to access the battery compartment. Ensure that the compartment cover is securely fastened when finished.



You, as the end user, are legally bound (**Battery ordinance**) to return all used batteries and accumulators; **disposal in the household garbage is prohibited!**

You can hand over your used batteries / accumulators at collection points in your community or wherever batteries / accumulators are sold!

**Disposal:** Follow the valid legal stipulations in respect of the disposal of the device at the end of its lifecycle

## Specifications

Function	Range and Resolution	Accuracy
Humidity	0.0 to 10.0%RH	±3%RH
	10.0 to 90.0%RH	±2%RH
	90.0 to 100.0%RH	±3%RH
Temperature	-30.0 to -20.0°C -22.0 to - 4.0°F	±1.5°C ±2.7°F
	-19.9 to 70.0°C -3.9 to 158.0°F	±1°C ±1.8°F
	70.1 to 100.0°C 158.1 to 199.0°F	±1.5°C ±2.7°F
Wet Bulb	0 to 80°C (32 to 176°F)	Calculated from RH and air temperature measurements
Dew Point	-30 to 100°C (-22 to 199°F)	

Display	Dual LCD
Response Time:	<30 seconds (90% of final value in moving air)
Operating Conditions	32 to 122°F (0 to 50°C); < 80% RH non-condensing
Storage Conditions	-40 to 185°F (-40 to 85°C); <99% RH non-condensing
Power Supply	9 Volt battery
Battery Life	Approx. 24 hours
Dimensions / Weight	7.8 x 1.7 x 1.3" (200 x 45 x 33mm); 7 oz. (200g)

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