

# Digital Hygrometer / Psychrometer

## 597



**The Value Leader™**  
[www.tpi-thevalueleader.com](http://www.tpi-thevalueleader.com)

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# 1. Introduction

Thank you for purchasing TPI brand products. The TPI 597 digital hygrometer / psychrometer is a state of the art, easy to use humidity tester designed to display ambient, dew point, and wet bulb temperature as well as humidity. The instrument is ruggedly constructed and comes with a 3 Year Guarantee.

## 2. General Overview & Guidelines

The TPI 597 hygrometer is guaranteed free from defects in materials and workmanship for 3 Years from the date of purchase. This guarantee does not affect your statutory rights. For additional information please refer to the included warranty card or contact TPI at 800-368-5719.. To maintain optimum performance, calibration is recommended once every year.

To obtain warranty performance or calibration of your meter: - Include with the product your name, address, phone number, written description of the problem and proof of purchase date. Carefully package and return to:

TPI / Attn. Repair  
9615 SW Allen Blvd. Suite 104  
Beaverton, OR 97005

General Guidelines:

Always allow the 597 sufficient time to acclimate to the test environment especially when moving from room to room.

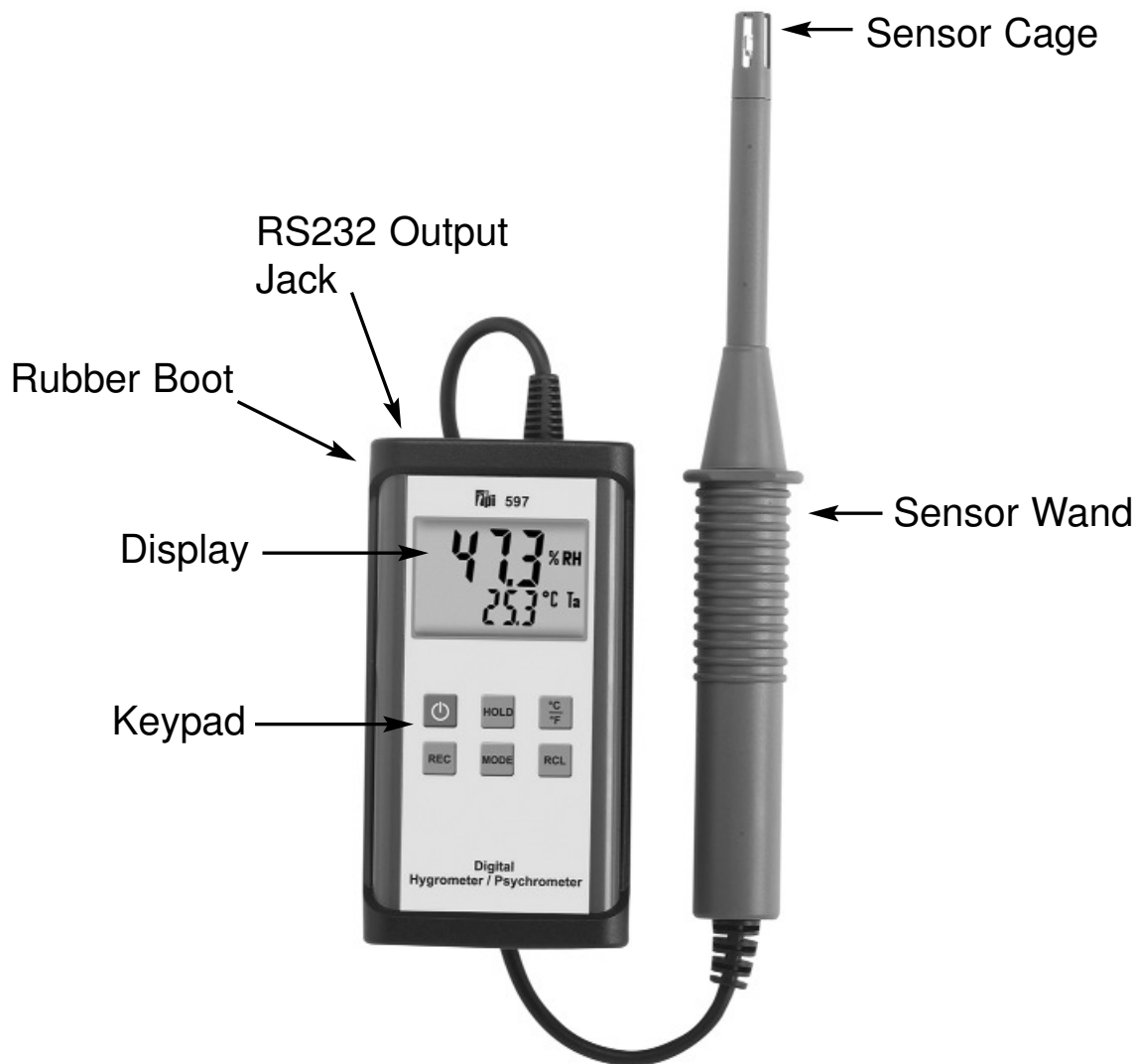
Always store and operate the 597 within the temperature and humidity limits outlined in the specifications area of this manual.

Never allow any object to enter the sensor area of the wand.

Your TPI 597 comes complete with the following standard accessories:

- TPI 597 Instrument
- Rubber Boot
- Battery (9Volt)
- Instruction manual

### 3. Instrument Overview



<b>Rubber Boot</b>	Protects the instrument from accidental damage
<b>Display</b>	Large 2 parameter LCD display
<b>Sensor Cage</b>	Houses and protects the sensor
<b>Keypad</b>	Selects all available functions
<b>Sensor Wand</b>	Handle for maneuvering sensor
<b>RS-232 Output Jack</b>	Use with optional cable part number A500 to stream data to a computer

## 4. Keypad Functions



Turns the instrument ON and OFF.



Freezes the displayed reading. When hold is active “DH” is displayed.



Switches the displayed temperature reading between Celsius and Fahrenheit.



Toggles the record feature ON and OFF. When record is active “REC” is displayed.




Toggles the displayed temperature reading between ambient ( $T_a$ ), dew point ( $T_d$ ), and wet bulb ( $T_w$ ).



When record is active, recall (RCL) is used to toggle between maximum recorded values (MAX), minimum recorded values (MIN), average recorded values (AVG), and turn on RS232 communication (RS-232).



## 5. Operating Instructions

1. Press the  key to turn the 597 on.
2. Humidity will be displayed in the upper portion of the display and temperature will be displayed in the bottom portion of the display.



Relative humidity (RH) displayed in percent.



Temperature displayed in Celsius or Fahrenheit.  
Ta = Ambient Temperature  
Td = Dew Point Temperature  
Tw = Wet Bulb Temperature

3. Press the  key to select the desired unit of measure for temperature.
4. Hold the sensor wand in the area to be tested.
4. Press the  key to cycle through the type of displayed temperature.

Ambient temperature = "Ta" displayed  
Dew Point temperature = "Td" displayed  
Wet Bulb temperature = "Tw" displayed

5. Press the  key to freeze the displayed readings as necessary.

## Using record (REC) and recall (RCL)


1. Press the  key to activate record mode.
2. Press the  key repeatedly to toggle the display through maximum, minimum, average readings, and to activate PC communication.

Maximum reading = "MAX" displayed

Minimum reading = "MIN" displayed

Average reading = "AVG" displayed

RS-232 communication active = "RS-232" displayed

3. Press the  key to return to normal operation.

## 6. PC Communication (RS-232)

1. Connect the A500 RS232 cable to the TPI 597 and computer.
2. As outlined above, turn the 597 on and activate communication mode.
3. Open Microsoft Hyper Terminal (or other serial program) and set the COM port as shown below.
  - a. Baud Rate: 9600
  - b. Data Bits: 8
  - c. Parity: None
  - d. Stop Bits: 1
  - e. Flow Control: None
4. The TPI 597 will stream data in ASCII format with an update rate of approximately 5 seconds.

## 7. Troubleshooting

<u>Problem</u>	<u>Solution</u>
Unit will not turn on	Change the battery
Will not display humidity or temperature.	Return to TPI for service

## 8. Battery Replacement

1. Remove the unit from the protective boot. The battery cover is at the bottom of the unit and is marked battery.
2. Loosen the battery compartment screw and remove the battery door by pulling on the screw.
3. Replace the battery.
4. Install the battery compartment door and tighten the screw. Put the protective boot back on the unit.

## 9. Care & Cleaning

Clean the 597 with a soft lint free cloth. Do not attempt to clean the sensor.



## 10. Specifications

**Display:** Dual display LCD with annunciators

### **Measurement Range and Accuracy**

#### **Humidity:**

Range: 0% to 100% (Temp: 32°F to 122°F / 0°C to 50°C)

Accuracy: 30% to 85% = +/- (2% of rdg + 2%RH) ( 59°F to 104°F / 15°C to 40°C)

<30% and >85% = +/-3%RH ( 59°F to 104°F / 15°C to 40°C)

+/-5% RH at temperatures <59°F (15°C) or >104°F (40°C)

Resolution: 0.1% RH

Wet Bulb: Calculated

Dewpoint: Calculated

#### **Temperaure:**

Range: -40°F to 212°F

Accuracy: +/- (0.5% of reading + 2.0°F)

Resolution: 0.1°

Range: -40°C to 100°C

Accuracy: +/- (0.5% of reading + 1.0°C)

Resolution: 0.1°

#### **Operating Temperature & Humidity (Base Unit):**

32°F to 122°F (0°C to 50°C) at less than 90% RH

#### **Power Source:**

9V Alkaline Battery (30 hour typical battery life)

#### **Dimensions:**

5.8" x 2.9" x 1.2" (148mm x 73mm x 30mm)

#### **Weight:**

0.3lbs (0.14kg)

# Notes

# Notes

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