

RHT90

Professional Handheld Temperature, Humidity and Dew Point Meter

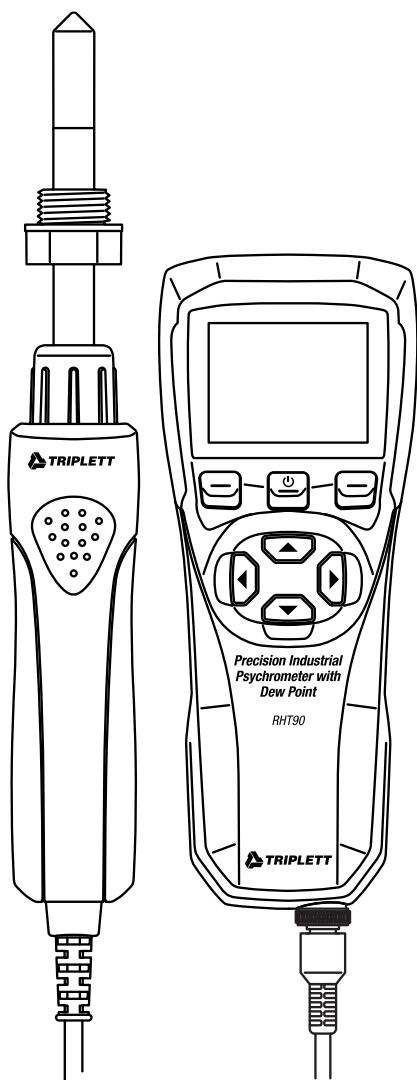


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Introduction

The **Triplet RHT90 Professional Handheld Temperature, Humidity, and Dew Point Meter** provides precise and reliable measurements across a wide range of environmental conditions. Designed for industrial spot-checking and field use, it features a high-accuracy sensor optimized for low humidity applications, rapid response time, and excellent long-term stability. The RHT90 is capable of direct dew point measurement under varying temperature and pressure conditions, making it ideal for process monitoring and quality control. Its intuitive color display, data logging capability, and USB connectivity allow users to easily record, transfer, and analyze measurement data using standard PC software such as Microsoft Excel. Built with durable materials and a rechargeable lithium battery, the RHT90 delivers professional-grade performance in a compact, user-friendly design.

What's in the box:

- (1) RHT90 Professional Handheld Temperature, Humidity, and Dew Point Meter
- (1) High Accuracy Probe
- (1) User Manual

Stay updated:

For the most recent version of the user manual, always visit the official Triplet website: www.triplett.com and search for **RHT90**.

Features

- Designed for industrial spot-checking and on-site environmental monitoring.
- Accurate measurement range from -58 °F to 86 °F (-50 °C to 30 °C).
- High-quality sensor optimized for precise low-humidity measurement.
- Minimal maintenance requirements with excellent long-term stability.
- Sensor withstands condensation and fully recovers after exposure to moisture.
- Fast response time, enhanced by the optional Sensor Purge function.
- Intuitive color LCD interface for clear and easy operation.
- Data can be logged internally and transferred to a PC for viewing in Microsoft Excel.
- Multiple display options for temperature, relative humidity, dew point, frost point, and H₂O (ppmv or ppmw).
- Built-in 3.7 V rechargeable Li-ion battery with universal 5 V Micro USB charging port.
- “Hold” function to freeze readings and option to manually save measurement data.
- Data logger function supports recording and saving up to 32,000 data sets.
- USB mass storage mode allows easy file transfer directly to a computer.
- Rugged, industrial-grade design for professional and long-term field use.

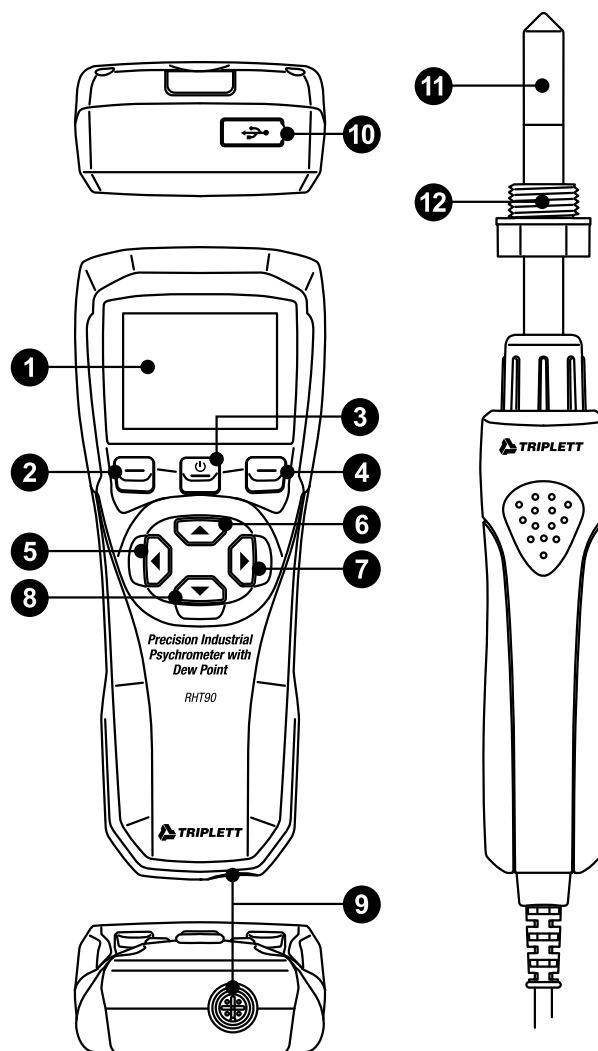
Using this instrument under the following conditions may lead to inaccurate reading or false alarms:

- Exposure to water immersion or excessive moisture.
- Rapid temperature fluctuations between operating environments.
- Operation in areas with strong air currents or wind.
- Presence of organic solvents, adhesives, cleaning gases, combustible gases, or foaming agents, which may trigger sensor error alarms.
- High concentrations of refrigerant, which can saturate the sensor and cause temporary malfunction.

Meter Descriptions

Product Description

1. LCD Color Screen
2. Return/Exit Button
3. Power/Hold Button
4. Enter/Select Button
5. Left Button
6. Up Button
7. Right Button
8. Down Button
9. Interface (Measurement Probe)
10. Micro USB Interface
11. Sensor Tip with Protective Cap
12. Mounting Threads (0.5")



Button Descriptions

Function Buttons (F1, F2, F3)

The context-sensitive function buttons

(F1  , F2  , and F3 ) are located directly

below the display, from left to right. The function

of each button depends on the icon or text shown above it on the screen. The only fixed assignment is the F2 Power ON/OFF control.

- F1 – Performs the function indicated above it (commonly Exit or Back).
- F2 – Short press: Power ON; Long press: Power OFF.
- F3 – Performs the function indicated above it (commonly Select or Confirm).

See below for descriptions of the icons and text that may appear above these buttons.

Arrow Buttons (▲ ▼ ◀ ▶)

The four arrow buttons are used to navigate menus, adjust parameters, and review recorded data:

- Use ▲ / ▼ to move between menu options or change values.
- Use ◀ / ▶ to scroll through lists or graphs.
- When viewing recorded or held data graphs, ◀ / ▶ move the cursor along the data curve.
- ▲ / ▼ are also used during firmware updates.

Function Button Icons and Text Descriptions

Icon/Text	Button	Function Description
 (Exit Icon)	F1	Return from (exit) the current menu.
✓ (Checkmark Icon)	F3	Select, confirm, or change a menu option.
HOLD	F2	Freeze the displayed readings. See Sections 6.4 and 8 for details.
 (Menu Icon)	F3	Open the Programming Menu
 (Graph Icon)	F1/F3	From the Home screen, view and step through real-time graphs.
 (View File Icon)	F2	View Data Log file or Data Hold file summary page.
 (Sampling Rate Icon)	F2	Adjust graph sampling rate (1, 5, 30 sec / 1, 5, 10 min).
 (Save Icon)	F3	Save readings captured with the Data Hold function.

Operation

Getting Started – Quick Tips

1. Connect the probe to the port at the bottom of the meter.
2. Remove the probe's protective cap and mount in the process under test using the threaded connector (0.5") or place into the ambient air to be measured.
3. Short press F2 function button to power ON the meter and the Home page will appear.
4. View the three displayed readings. Press the left or right arrow button to view the readings in a concise text format. Press the left or right arrow buttons to return to the Home page.
5. Press F2 (HOLD), to freeze readings. Press F1 to release the held readings. Press the F3 button, while readings are held, to save them.
6. Press F1 to view the real-time readings plotted on a set of 4 graphs. When the first graph is shown, the graph icon moves above F3. Press F3 to step through the graph page. Press F2 to set the interval of the time between captured readings. Press F1 to return to the Home page.
7. Press F3 to open the Programming menu.
8. Long press F2, until the progress bar reaches 100% to power OFF.

Configuring the Probe for Use

Connecting the Probe to the meter

- The probe connects to the port at the bottom of the meter. The four-pin connection is keyed allowing only one insertion orientation. Ensure proper orientation before applying pressure when inserting, do not force the connector. Once the probe is connected to the meter, tighten the knurled screw to secure the connection.

Connecting the Probe to a Process

- Remove and safely store the probe's protective cap. Insert the probe into the access port of the process under test. The probe has 0.5" threads for mounting or can also be used in ambient air.

Setting the Probe Pressure

Set the probe's Pressure setting to match the gas under test. See the steps below.

- Press F3 to open the programming menu.
- Use the left or right arrow to scroll to *Environment*.
- Press F3 to open the *Environment* menu.
- At the **Pressure (P:)** menu option, press F3.
- Use the arrow buttons to set the pressure (psi). Press F1 to confirm and return to the previous menu.

Setting the Probe Polar Mass

Set the probe's Molar Mass setting to match the gas under test. See the steps below. The molar mass of air is 28.96 g/mol and the molar mass of SF6 is 146.05 g/mol.

- Press F3 to open the Programming menu.
- Use the left or right arrow to scroll to *Environment*.
- Press F3 to open the *Environment* menu.
- At the **PPM** option (2nd row), press F3.
- Use the arrow buttons to set the molar mass value. Press F to confirm



and to return to the previous menu.

Note: Use the arrow buttons to set the probe molar mass to match the molar mass of the gas under test.

Purging Moisture from Probe (Purification)

When you activate the Purification option, the probe enters a five-minute purge cycle. See the steps below.

- Press F3 to open the programming menu.
- Use the left or right arrow to scroll to *Environment*.
- Press F3 to open the *Environment* menu.
- At the **Purification** option, press F3.
- The display will show an alert message indicating that a five-minute purge cycle is in process. The meter menus are not accessible during the purge cycle. When the purge cycle is complete, the alert message will be switched off, and the meter menus will be fully operational.

Powering On the Meter

The RHT90 is supplied with a 3.7V rechargeable lithium battery. Insert the battery in the rear compartment, observing correct polarity. The rear compartment is secured by one screw.

The battery status icon is located on the upper right-hand corner of the display .

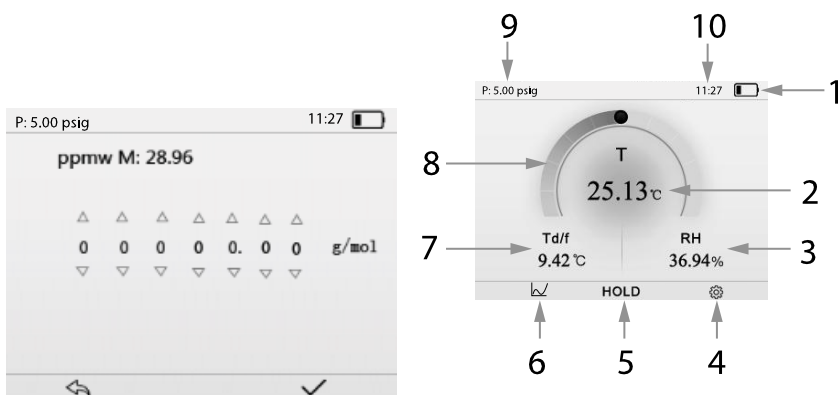
To charge the battery, connect the RHT90 to a power source using the supplied USB cable and AC mains plug. When the RHT90 is charging, the battery status icon appears with a charging symbol embedded .

Short press F2 to power the meter. Long press F2, until the displayed progress bar reaches 100%, to power the meter off.

Home Page

Home Page Description

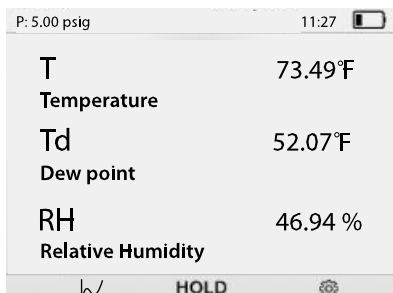
The home page appears soon after the meter is powered on.



1. Battery voltage status.
2. Temperature reading.
3. Selectable reading (relative humidity, in this example).
4. Programming menu icon. Press F3 under this icon to open the menu.
5. Data Hold. Press F2 under the word HOLD to freeze the displayed readings.
6. Press F1 to view real-time readings plotted on x-y graphs. Once in the graph mode, the graph icon will appear above F3. Press F3 at that point to step through all four of the real-time data graphs.
7. Selectable reading (dew point/frost point temperature, in this example). See *Display* in the Programming menu for details.
8. Temperature reading, shown on a bar graph.
9. Selectable pressure value. Ensure the probe pressure value to match the gas under test.
10. Time, in hours and minutes. Set the Time in the *Settings* programming menu. If you select the 12-hour clock mode, the display will show AM or PM after the time.

Home Page Summary Display

If you press the left or right arrow button at the Home page, the readings are presented in a summary format as shown below. Press the left or right arrow button to return to the Home page.



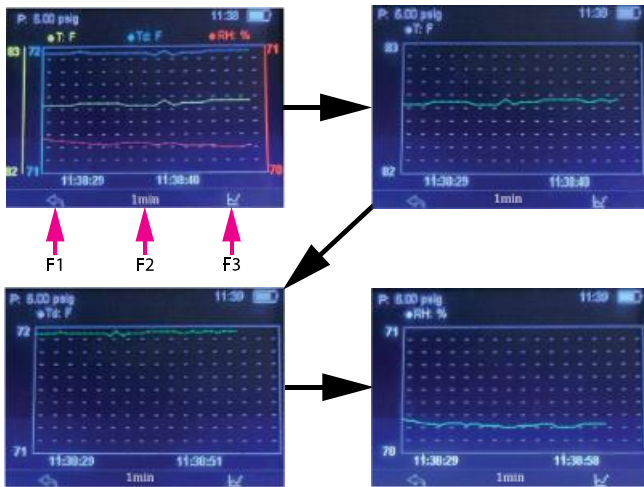
Note: Press the left or right arrow button from the Home page to view the readings in summary format.

Real-Time Readings Plotted on Graphs

If you press F1 on the Home page, you can view readings plotted in real-time on a set of four graphs.

The first graph (upper left) shows all three readings plotted on one graph. The remaining three graphs show one reading per graph. Note that once you've accessed the graph mode, the graph icon is located above F3. Press F3 to step through all graphs.

Press F2 to set the rate at which readings are plotted on the graphs. You can select 1 second (1S), 5 seconds (5S), 30 seconds (30S), 1 minute (1min), 5 minutes (5min), or 10 minutes (10min). Press F1 to return to the Home page.



Note: Real-time readings shown on four graphs. Press F1 from the Home Page to open the first graph (upper left) which shows all readings on one graph. Press F3 to step through the other graphs which show one reading per graph and then back to the first graph. Press F2 to change the sampling rate (interval between each captured reading). Press F1 to return to the Home page.

Data Hold Mode

The Data Hold feature allows you to freeze readings on the display. The readings are held on the display until you release them, as explained below.

1. From the Home page, press F2 under the word HOLD.
2. The display will show the word **HOLD** in red, and the readings will be frozen.
3. To save these readings press F3 .
4. To release the readings and return to the Home page, press F1.

The readings that you save in the Data Hold mode are saved to a file named *Hold and Save* in the RHT90 internal flash drive for later viewing on the meter display and for downloading to a PC. Files downloaded to a PC can be opened in a spreadsheet for general use and for creating professional reports. See *Data Recording*, for complete information on viewing and downloading recorded data.

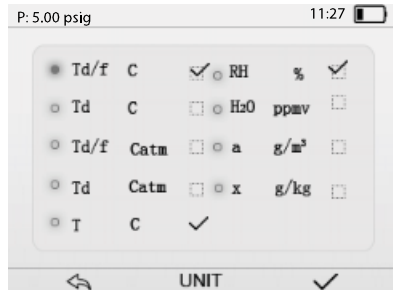
Programming Menu



Press F3 to open the Programming menu. The menu has five (5) items, *Functions*, *Recording*, *Display*, *Environment*, and *Settings*. Use the left/right arrow buttons to highlight an item. Press F3 to open an item. Press F1 from any page to return to the previous page. Each menu option is outlined below, with complete details provided in separate dedicated sections where necessary.

Display Menu

The *Display* menu is where you select the two readings that are displayed on the Home page, on the lower left and lower right side of the temperature reading (the temperature reading at the center of the Home page is fixed; it cannot be removed or changed).



NOTE: Display menu. Select the readings that will be displayed on the Home page. The temperature reading is fixed on the Home page; the two other readings are selected on this menu page. Press F2 under UNIT to change the unit of measure for a highlighted reading.

Use the arrow buttons to scroll to a reading, and then press F3 to select or deselect the reading. Three readings must be always selected, otherwise an error message will appear. You must deselect a reading, when three are already selected, before you can select a new one.

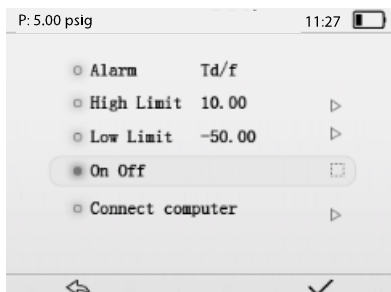
Press F2 (UNIT), to change the unit of measure for the selected reading. Press F1 to return to the main menu.

Functions Menu

In the *Functions* menu you can configure low and high Alarms, turn the Alarms ON/OFF, and initiate meter-to-PC communication, after connecting the RHT90 to a PC using the supplied USB cable. Use the arrow buttons to scroll.

Press F3 to open or select an item.,

PC interface, for details.



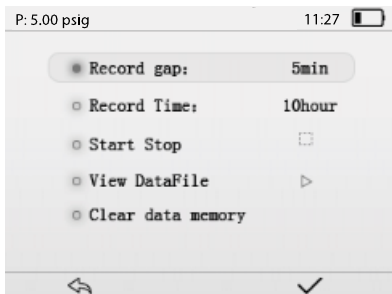
NOTE: Functions menu. Set Low/High Alarm Limits and switch the Alarm function ON/ OFF. Initiate meter/PC communication after connecting the meter to the PC using the supplied USB cable.

Recording Menu

In the *Recording* menu you can start/stop the data logger, configure the log-ging sample rate (gap) and session duration (time), and view/erase logged

data. Use the arrow buttons to scroll. Press F3 ✓ to open or select an option.

See *Data Logging*, for specifics.



NOTE: The first Recording menu page. See Section 8, *Data Recording*, for additional display pages and instructions.

Environment Menu

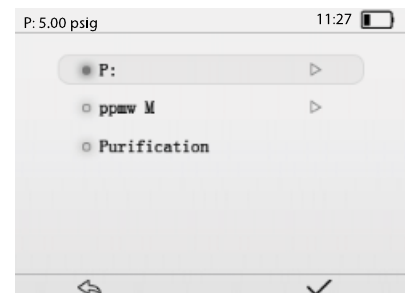
In the *Environment* menu you can set the probe's pressure and molar mass values to match the gas pressure/molar mass under test. In this menu, you can also purge the probe of process liquids and condensation by selecting

Purification. Use the arrow buttons to scroll. Press F3 ✓ to open or select an

option. See specifics on Probe Pressure, Molar Mass, and

Purification.

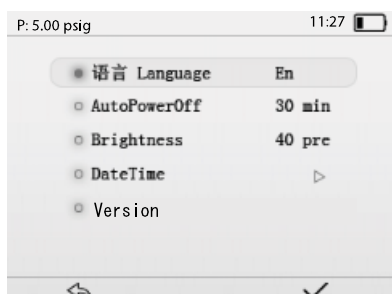
NOTE: The first Environment menu page. See dedicated Probe section for additional screens and instruction



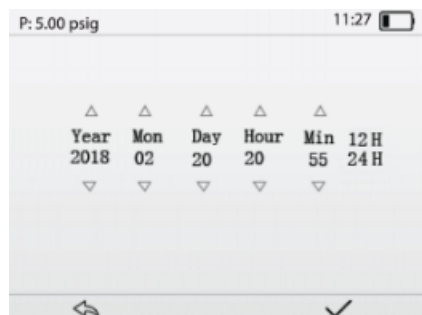
Settings Menu

In the *Settings* menu you can set the displayed language, auto power off (APO) time, display brightness, date/time, and keypad tone ON/OFF. You can also view the meter firmware version.

Press F3 ✓ to open and to change the setting. Additional information below.



- Language selection: Press F3 to select a language.
- Auto Power Off (APO) time: Press F3 to set the APO time to OFF, 10, 15, 20, 25, or 30 minutes. Note that APO is disabled while the Data Logging is running. The APO function will be enabled automatically when the Data Logging stops recording.
- Display brightness: Press F3 to select the brightness level from 1 (dimmiest) to 10 (brightest).
- Date/Time setting: Use the navigation arrow buttons to set the Year, Month, Day, Hour, and Minutes. You can also select 12 or 24 clock modes. When 12-hour clock mode is selected, the display shows AM or PM after the time.
- Keypad tone ON/OFF: Press F3 to set the keypad tone ON or OFF.



NOTE: Setting the Time and Date. Use the arrow buttons to change the Year, Month, Day, Hour, Minutes, and 12- or 24-hour clock.

Data Recording Overview

There are two ways to record readings to the RHT90 internal flash drive. One way is using the **Data Logger**, where readings are automatically recorded at a selectable sample rate over a programmable time. The second way is using the **Data Hold** function.

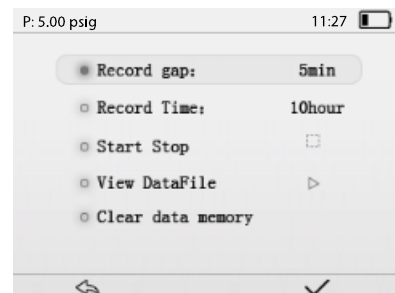
The internal flash drive can store up to 32 files. Each file can hold 1000 readings for an overall total of 32,000 readings. Data recorded using the Data log-ger or the Data Hold function can be viewed on the RHT90 display (graphically and as text summary) and downloaded to a PC for viewing and saving in spreadsheet programs.

Note that even though the RHT90 shows only 3 readings at one time on its Home page, *all* available readings are captured when data is recorded, as shown below.

Programming the Data Logger

Navigate to the *Recording* page in the programming menu, by first pressing

F3 and then use the arrow buttons to step Recording. Press F3 ✓ to open the *Recording* menu and then use the arrow buttons to step through the options. Set the Data logger options as explained below.



NOTE: Recording menu on the *main* page.

Record Gap: Use F3 to set the sampling rate of the Data logger. Set it to re-cord a reading every 10 seconds, 1 minute, 5 minutes, 10 minutes or 20 minutes.

Record Time: Use F3 to set the logging duration: 1, 5, 10, 12, 24, or 48 hours. Data logging sessions will automatically end after the programmed recording time. You can manually stop a recording session by selecting **Stop** in the *Recording* menu.

For long logging sessions, it is recommended that you connect the RHT90 to

a power source to ensure that it does not switch off during the session because of a low battery condition.

The APO (automatic power off) function is disabled while the RHT90 is logging. When logging stops the APO function is again active. The APO utility is configured in the *Settings* programming menu

Start/Stop Data Log Recording

On the *Recording* page, scroll to the **Start/Stop** option and press F3 to start or stop the Data logger. When the logger is record-

ing, a red circle is shown at the top of the screen. The logger will automatically stop when the programmed logging time has elapsed; the red circle will switch off. Note that you can manually stop the recording at any time by selecting **Stop** in the *Recording* menu.

Data Recording Using the Data Hold Function

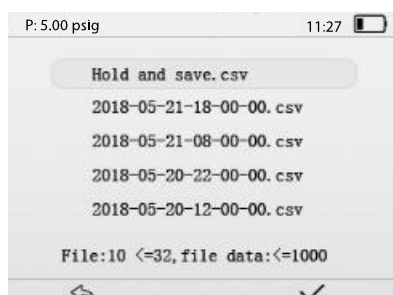
As mentioned in *Button Descriptions*, and, *Data Hold*, you can freeze displayed readings by pressing F2 (HOLD). The word HOLD (in red) then appears on the display, indicating that the Data Hold function is engaged, and the readings are frozen.

If you press F3, in the Data Hold mode, the held readings will be stored to a file named *Hold and Save*, in the internal flash drive. These readings can be viewed on the RHT90 display (graphically and as text) and can be down-

loaded to PC. Press F1 to exit the Data Hold mode.

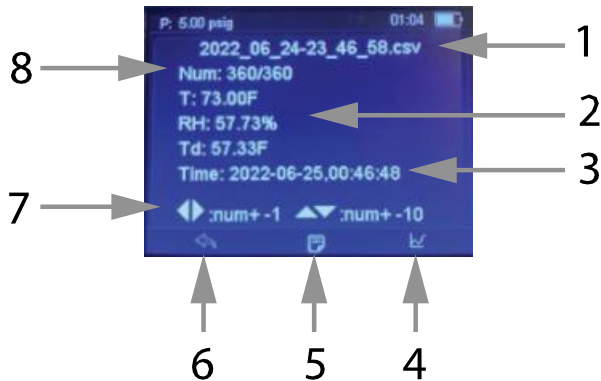
Viewing Recorded Data on the RHT90 Display

To view readings saved by the Data Logger or the Data Hold function, scroll to the View Data File option in the Recording menu and press F3. The list of stored files will appear. Use the up and down arrow buttons to scroll through the files. Data logger files are named using the date and time of recording – there is a data log file for each logging session. All data saved using the Data Hold function, however, are cumulatively saved in **one file** named *Hold and Save*. Press F3 to open a selected file.



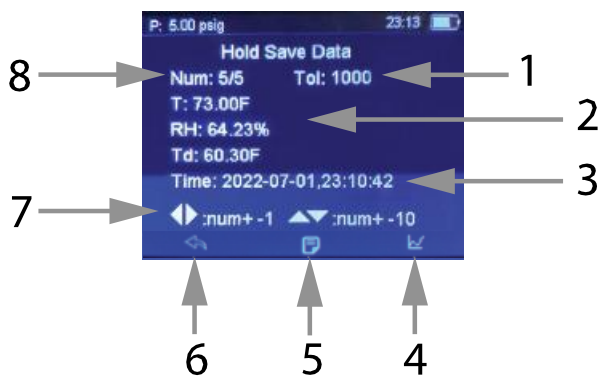
NOTE: Data Logger files are named using the date and time of the logging session (one file for each logging session). There is only one Data Hold file, named 'Hold and Save', which stores all the readings that you save, at various times, using the Data Hold function.

The figure below shows an opened Data Logger file. The other shows an opened Data Hold file. Reference the steps below each diagram for details regarding the opened file.



An example of an opened Data Log file viewed on the RHT90 display.

1. Filename for saved Data Log file.
2. Logged reading values.
3. Time and date of readings.
4. Press F3 to step through graphical representations of the logged data, as covered in the next section.
5. Press F2 to show a summary page of the logged data file, as shown in the next section.
6. Press F1 to return to the previous page.
7. Use the left/right arrow buttons to scroll data one by one; use the up/down arrow buttons to scroll data ten readings at a time.
8. In this example, reading number 360, of the 360 saved readings in the file, is shown on this page.



NOTE: An example of an opened Data Hold file, viewed on the RHT90 display.

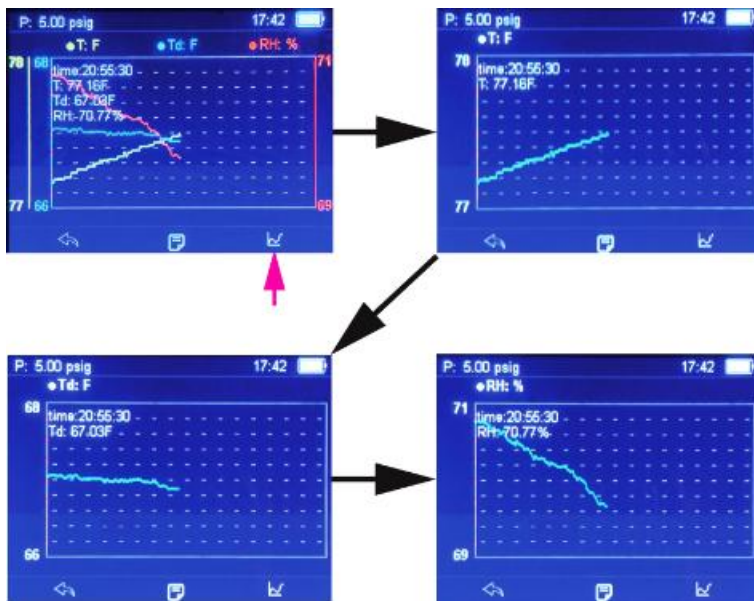
1. Total number of readings that can be stored in one file is 1000. Up to 32 files can be stored in the RHT90.
2. Saved readings.
3. Time and Date of readings.
4. Press F3 to step through graphical representations of the readings, as

5. covered in the next section.
6. Press F2 to show a summary page of the data file, as shown in the next section.
7. Press F1 to exit this page. Use the left/right arrow buttons to step through readings one at a time. Use the up/down arrows to skip 10 readings at a time.
8. In this example, reading number 5, of the 5 saved readings, is shown.

Viewing Data Files on Graphs

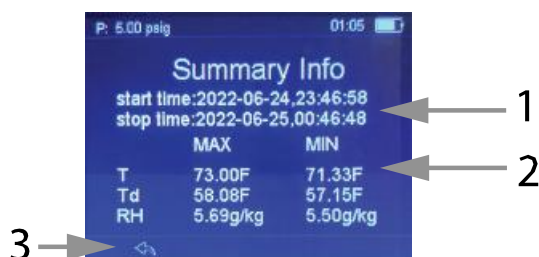
When you press F3 from an opened Data Log or Data Hold file, the data are presented on graphs. Step through the set of four graphs by pressing F3

The first graph that appears shows all readings on one graph, as shown on the upper left screen, below. The next three graphs show each reading represented on its own graph. Use the left and right arrow buttons to move the cursor along a data curve to analyze individual measurement points.



NOTE: Graphical representations of recorded data. Press F3 in an opened data file to step through the four graphs. The first graph (upper left) shows all the data on one graph, the second screen (upper right) shows only the Temperature data, the next two screens show the user-selected readings. In this example, dew point and relative humidity. Use the left/right arrow buttons to move the cursor along a curve to analyze individual measurement points.

Press F2, from a graph page, to show a summary of the data file, as shown below.



Data file summary page.

1. Start and Stop time and date for the recorded data.
2. Maximum (MAX) and Minimum (MIN) values show the highest and lowest readings recorded in a data file.
3. Press F1 to return to previous page.

Clearing Data Memory

To clear ALL user data, scroll to the **Clear Data Memory** option in the *Recording* menu and press F3 to execute the procedure. Press F1 to abort the procedure and to return it to the previous page. Back up important data to your PC, before clearing user data.

NOTE: When you clear memory, all Data Log files, Data Hold files, and the firmware file are removed. Please back up all important data on the current firmware or upgrade the firmware; see the firmware updated instructions

Downloading and Backing Up Data Files to a PC

Recorded data is stored in plain text CSV (Comma Separated Values) files, and can be easily opened in spreadsheet programs. See below for an example of a data file opened in a spreadsheet.

To download and back up files, connect the RHT90 to a PC using the supplied USB cable. The RHT90 USB port is located at the top of the meter. Once connected, go to *Functions* in the programming menu and select **Connect Computer**; the PC will recognize the RHT90 as an external storage drive. Simply move files from the RHT90 root directory to the PC to download and back up files.

Num	Date	Time	T	Td/F	RH	H2Oppm	a	x	Td	Td(atm)	Td(atm)	pressure	ppmM
#1	6/21/2022	0:10:00	67.68F	50.65F	54.29%	12569ppmv	9.30g/m3	7.81g/kg	50.63F	10.36Catm	10.36Catm	-0.00psig	28.96g/mol
#2	6/21/2022	0:10:10	67.68F	50.65F	54.31%	12573ppmv	9.30g/m3	7.82g/kg	50.63F	10.36Catm	10.36Catm	-0.00psig	28.96g/mol
#3	6/21/2022	0:10:20	67.68F	50.65F	54.29%	12570ppmv	9.30g/m3	7.81g/kg	50.63F	10.36Catm	10.36Catm	-0.00psig	28.96g/mol
#4	6/21/2022	0:10:30	67.66F	50.63F	54.28%	12559ppmv	9.29g/m3	7.81g/kg	50.63F	10.35Catm	10.35Catm	-0.00psig	28.96g/mol
#5	6/21/2022	0:10:40	67.66F	50.61F	54.27%	12557ppmv	9.29g/m3	7.81g/kg	50.63F	10.34Catm	10.34Catm	-0.00psig	28.96g/mol
#6	6/21/2022	0:10:50	67.66F	50.61F	54.26%	12555ppmv	9.29g/m3	7.81g/kg	50.63F	10.34Catm	10.34Catm	-0.00psig	28.96g/mol

NOTE: Data file opened in a spreadsheet. Note that ALL available readings are captured, not only the three readings that are shown on the RHT90 Home page. Each reading is numbered and date/time stamped.

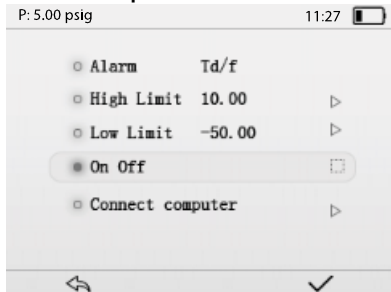
Alarm Utility Overview

The RHT90 has a programmable low and high alarm. In the programming menu, you enable/disable the alarm function, select a specific parameter to monitor, and set the low and high alarm limits. When an alarm is triggered, a red alarm icon will flash at the top of the display, and the beeper will sound.

Alarm Operation

1. Press F3 to open the Programming menu.
2. Use the left or right arrow to scroll to *Functions*.
3. Press F3 to open the *Functions* menu.
4. At the **Alarm** row, press F3 to select a reading type to monitor.

5. Scroll to **High Limit** and press F3. Use the arrow buttons to set the high alarm limit. Press F3 to confirm.
6. Scroll to **Low Limit** and press F3. Use the arrow buttons to set the low alarm limit. Press F3 to confirm.
7. Scroll to **ON/OFF** and press F3 to turn the alarm function ON or OFF.
8. Press F1 to return to the main menu.
9. When an alarm is triggered, the red alarm icon will flash at the top of the display and the alarm beeper will sound. To silence the alarm, select OFF in the *Functions* menu.



NOTE: Functions menu showing the low and high alarm options. Note that the Connect to Computer option is used when connecting the RHT90 to a PC, see *PC Inter-face*, for specifics.

PC Connection Overview

The RHT90 can be connected to a PC to download saved Data Logger and Data Hold readings and to perform a firmware upgrade. Use the supplied USB cable to connect the RHT90 to a PC USB port. The RHT90 USB port is located at the top of the meter as shown in Meter Description.

Initiating Meter-to-PC Communication

1. Connect the meter to the PC using the supplied USB cable.
2. Press F3 to  open the programming menu.
3. Use the left arrow button to step to *Functions*.
4. Use the down arrow button to scroll to **Connect to Computer**.
5. Press F3 at the **Connect to Computer** command to initiate communication.
6. The USB icon will appear at the top of the RHT90 display when communication has been established. The PC will recognize the RHT90 as a standard external drive. The RHT90 drive will appear in *File Explorer* (Windows) or in the *Finder* (Mac).
7. With the RHT90 powered OFF, hold the **UP** and **DOWN** arrow buttons while powering ON the RHT90 (short press F2). Release the arrow buttons when you see *UBOOT* on the RHT90 display.
8. Connect the RHT90 to the PC using the supplied USB cable.

9. The PC should now recognize the RHT90 as an external storage drive. For Windows, the RHT90 drive will be given a drive letter in File Explorer (**E:**, for example). For Mac, the RHT90 drive icon will appear on the desktop.
10. Move the firmware file from your PC to the root (top level) directory of the RHT90.

Updating the RHT90 Firmware

Occasionally, the RHT90 firmware is updated to add or improve functionality. Follow the steps below to check for, and perform, available firmware updates. Please check in to www.triplett.com for any latest updates.

General Specifications

Display	Color multifunction LCD with adjustable brightness.
Control buttons	Three (3) context-sensitive function buttons and four (4) arrow buttons for navigation and programming.
Programming menu	Intuitive user interface offers five (5) menu categories (<i>Display, Functions, Recording, Environment, and Settings</i>) for customizing and configuring the meter.
Alarm utility	Low and High Alarms. Users select reading to monitor and alarm limits. Triggered alarms alert the user visually and audibly.
Data storage	Data Logger and Data Hold functions allow readings to be saved to internal flash drive. Internal drive can store 32 files; each file can hold 1000 readings. Readings are saved as CSV files that can be opened in a spreadsheet.
PC Interface	Supplied micro-USB cable for connecting to PC. PC interface allows data file downloading and firmware upgrades.
Meter battery power	3.7 V rechargeable lithium battery (included). Supplied USB cable and AC mains plugs for charging.
Operating conditions	Temperature: 14 to 140°F (-10 to 60°C) Relative Humidity: 10 to 90 % (non-condensing)
Dimensions	Meter: 7.5 x 3.0 x 1.6 in. (192 x 77 x 40 mm) Probe: 10.5 x 1.6 x 1.4 in.
Weight	Meter: 21.1 oz. (598 g); Probe: 10.8 oz. (307 g)

Specifications

Measurement Specifications

FUNCTION	RANGE	RESOLUTION	ACCURACY Specified at 68°F (20°C) unless otherwise noted
Relative Humidity	0 to 5 % 5 to 15 % 15 to 100 %	0.01 %	RH <5%: $\pm(0.025 \%RH + 17.5\% \text{ of reading})$ RH >5%: $\pm(1 \%RH + 5\% \text{ of reading})$ RH > 15%: $\pm(2 \%RH + 3\% \text{ of reading})$
Temperature	14 to 140°F (-10 to 60°C)	0.01°	0.54°F ($\pm 0.3^\circ\text{C}$)
Dew Point	-40 to 86°F (- 40 to 30°C) -58 to -40°F (- 50 to -40°C)	0.01°	$\pm 3.6^\circ\text{F}$ ($\pm 2^\circ\text{C}$) $\pm 4.5^\circ\text{F}$ ($\pm 2.5^\circ\text{C}$) Specified at 16 to 25°C (61 to 77°F)
Humid/dry air (H2O ppm)	40 to 20,000 ppm	1	$\pm(8.3\% \text{ of reading} + 7.3 \text{ ppm})$
Response time	Flow rate: 0.2m/s, 1 bar pressure, 20°C (68°F) 63% [90%] 32 to -40°F Td (0 to -40°C Td) 20s [120s] -40 to 32°F Td (-40 to 0°C Td) 10s [20s]		

List of Measurements and Calculated Readings

Function	Ranges
Temperature (T)	14.00 to 140.00°F (-10.00 to 60.00°C)
Dew point/Frost point temperature (T d/f)	-58.00 to 86.00°F (-50.00 to 30.00°C)
Dew point temperature (Td)	-58.00 to 86.00°F (-50.00 to 30.00°C)
Dew point / frost point temperature in atmospheric pressure (T d/f atm)	-58.00 to 68.00°F atm (-50.00 to 20.00°C atm)
Dew point temperature in atmospheric pressure (Td atm)	-58.00 to 68.00°F atm (-50.00 to 20.00°C atm)
Relative humidity (RH%)	0.00 to 100.00 %RH
Humid air / dry air (H ₂ O PPM _v [by volume] or PPM _w [by weight])	4 to 20,000 H ₂ O PPM _v or PPM _w
Absolute humidity (a)	0.2 to 40.0 gr/ft ³ (0.5 to 100.0 g/m ³)
Mixing ratio (r)	2 to 700 gr/lbs (0.2 to 100 g/kg)

Maintenance

Battery Replacement

If the supplied rechargeable 3.7 lithium battery needs to be replaced, contact customer support – support@triplett.com

Replace the battery if it will not hold a charge or exhibits unusual behavior (overheating, warping, leaking, etc.). Please dispose of battery responsibly, following all applicable regulations; contact customer support if you require assistance.

Cleaning

To clean the body of the RHT90 meter and the RHT90 probe, use lightly dampened, lint-free cloth. Use a mild detergent, if necessary. Dry the unit completely before use. Do not use abrasives or solvents to clean any area of the meter.

To clean the display, use a soft cloth moistened with a high-quality lens cleaner to gently wipe the glass. The display can be scratched if wiped with a rough material.

Warranty Statement

Triplett Test Equipment offers a two-year warranty to the original purchaser of its products. We guarantee that our products will be free from defects in workmanship and materials for two (2) years from the purchase date.

This warranty does not cover:

- Products purchased from unauthorized distributors.
- Items that have been repaired or altered by unauthorized individuals.
- Damage from misuse, abuse, misapplication, negligence, or accidents.
- Products with altered, defaced, or removed serial numbers.
- Accessories, including batteries.

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