Appion®

RHT100

RELATIVE HUMIDITY TEMPERATURE

Introduction

The RHT100 provides extreme accuracy when measuring the moisture and air temperature being expelled from an A/C system. The RHT100 makes system diagnostics easier and more reliable.

Table of Contents

Safety

- Do not use the measuring instrument and probes to measure on or near live parts.
- Never store the measuring instrument/measuring cells together with solvents and do not use any desiccants.
- Do not use leaky or damaged batteries.
- Use only specified batteries. (AA Batteries)
- Battery operating temperatures may vary by manufacturer. The batteries supplied with this unit are for storage and operating between 32°F - 104°F (0°C - 40°C)
- Operate the measuring instrument only within the parameters specified in this user manual.
- Do not expose handles and feed lines to temperatures in excess of 70°C unless they are expressly permitted for higher temperatures. Temperatures given on probes relate only to the measuring range of the sensors.
- Batteries must only be changed in a non-hazardous area.
- Dispose of batteries in accordance with any applicable local laws and regualtions.
- Do not dispose of the product or battery in a fire or heat above 100°C.
  WARNING: *Do NOT touch insert any objects into the sensor port. Doing so may permanently damage the sensor.*
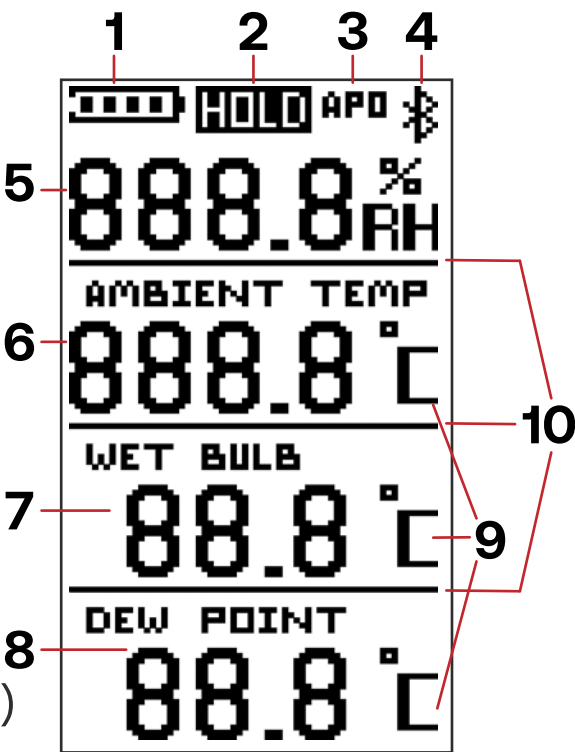 **WARNING:** *Do NOT remove the sensor port housing.*

Package Contents

(1)   RHT100 Relative Humidity Temperature Gauge
(1)   Digital Gauge Carrying Case
(2)   AA Batteries
(1)   Quick Start Guide

Display

1 - Battery Level Indicator
2 - Hold Indicator (Flashing)
3 - Auto Power Off Indicator
4 - Bluetooth Indicator
5 - Relative Humidity
6 - Ambient Temperature
7 - Wet Bulb
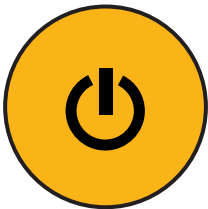8 - Dew Point
9 - Units
10 - Separation Lines (Flashing)

Temperature Units:

Fahrenheit/ Celcius

Controls

	Backlight/Units	Power	Hold

	Backlight On/Off	Gauge Power On	Hold Values On/Off
Press		**Both** - APO Toggle On/Off	
	Both - Bluetooth Toggle On/Off		
Hold	Units Selection	Gauge Power Off	

PRESS a button for the "press" function
HOLD a button for 2 seconds for the "Hold" function

Controls (cont.)

Power

- Quick Press
  - Gauge Power On
- Hold
  - Gauge Power Off

Backlight/Units

- Quick Press
  - Backlight On/Off
    When the backlight is toggled on, the backlight stays on for 1 minute.
- 2 Seconds Hold
  - Units Selection
    Pressing and holding the backlight button for 2 seconds toggles the temperature units.
- Backlight + Power
  - Bluetooth Toggle On/Off

Hold

- Quick Press
  - Hold Values On/Off
- Hold + Power
  - Auto Power Off Toggle On/Off

Using the RHT100

1. Power the gauge on.
2. Connect the gauge via Bluetooth to the Appion Central App (optional)
3. Hold or use the goose neck to hook the the humidity/temperature sensor directly in the air flow-path of the system being tested.
4. Monitor the results via the backlit display or the Appion Central App.

Appion Central™ Bluetooth Operation

Note: Bluetooth communication requires a compatible device running the Appion Central™ App. Development of the Appion Central™ App is ongoing, and any information presented in this manual about the Appion Cental™ App may not be up to date. Visit AppionTools.com or your device's App Store for the latest Appion Central™ App and additional information.

1. With the RHT100 powered on, press and hold the "Backlight/Units" button AND the "Power" button for a few seconds, until the Bluetooth symbol begins flashing on the RHT100 screen.
2. In the Appion Central™ App, "Scan" for devices, and connect as shown in the Appion Central™ App. When using multiple Appion gauges, it may be easiest to connect <u>all</u> of the gauges first, then disconnect if needed.
3. If the connection is lost due to exceeding the Bluetooth range, or due to loss of power, repeat Step 1, then "Reconnect" the RHT100 through the Appion Central™ App interface.

Note: Bluetooth range may vary due to obstructions or interference. The Appion Central™ App will indicate when communication is lost.

Note: The RHT100 will continue to operate normally even if Bluetooth communication is lost.

Appion Central™ App

Scan to dowload app and access user guide.

Specifications

Weight:
114 g / 4.02 oz (without batteries)

Gauge Body Dimensions:
260 x 48.25 x 25.4 mm / 10.23 x 1.9 x 1 in

Flexible Probe Dimensions:
Length: 107 mm / 4.2 in
Diameter: 9.75 mm / .38 in

Gauge Operating Temperature:
-20 °C to 55 °C / -4 °F to 131 °F (limited by battery performance)

Storage Temperature:
-20 °C to 60 °C / -4 °F to 140 °F (without batteries)

Battery Type:
2x AA

Battery Life:
Bluetooth On: 500 hours at 25 °C / 500 hours at 77 °F
Bluetooth Off: TBD

Wireless Range:
TBD (line of sight)

Auto Power Off Time:
15 minutes (Selectable On/Off)

Specifications (cont.)

Sensor Response Time:
Temperature: 10 °C in 1 Second (0 °C to 70 °C) / 18 °F in 1 Second (32 °F to 158 °F)
Relative Humidity: 20% RH 3-5 Seconds (40% to 80% RH at 25 °C) / 20% RH 3-5 Seconds (40% to 80% RH at 77 °F)

Sensor Operating Range:
Temperature: -40 °C - 100 °C / -40 °F - 212 °F
Relative Humidity: 0% - 100% RH

Resolution:
Temperature: .1 °C / .1 °F
Relative Humidity: .1% RH

Temperature Sensor Accuracy:
Low Temp Range: +/-.5 °C (-40 °C to 0 °C) / +/-.9 °F (-40 °F to 32 °F)
Mid Temp Range: +/-.2 °C (0° C to 70 °C) / +/- .36 °F (32 °F to 158 °F)
High Temp Range: +/-.5 °C (70 °C to 100 °C) / +/-.9 °F (158 °F to 212 °F)

Relative Humidity Sensor Accuracy:
+/- 4.5% RH (<10% RH at 25 °C) / +/- 4.5% RH (<10% RH at 77 °F)
+/- 3.5% RH (10% to 20% RH at 25 °C) / +/- 3.5% RH (10% to 20% RH at 77 °F)
+/- 2.5% RH (20% to 80% RH at 25 °C) / +/- 2.5% RH (20% to 80% RH at 77 °F)
+/- 3.5% RH (>80% RH at 25 °C) / +/- 3.5% RH (>80% RH at 77 °F)

Regulatory Information

This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including the interference that may cause undesired operation.

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which may be determined by turning the equipment off and on, the user is encouraged to try to connect the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Caution

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada Radio Equipment

This device complies with Industry Canada license exempt RSS-247 standard. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference that may cause undesired operation of the device.

Équipement radio d'Industrie Canada
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio
exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) l'appareil ne
doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Warranty Information

Appion Inc. (Hereinafter Appion) warrants that this equipment will, under normal and anticipated use, be free from defects in materials and workmanship for a period of one (1) year from the date of purchase by Purchaser from an Appion-authorized distributor.

The complete Manufacturer's Limited Warranty is available online at AppionTools.com.

All warranty services must receive Appion Factory Authorization and an RGA number prior to any action. Contact your local Appion authorized distributor to obtain the RGA number and shipping instructions. To help us provide the best service, be sure to have the following information available:

- Serial number of the equipment
- Purchase date of the defective unit
- A detailed description of the problem

Appion offers technical troubleshooting customer support for the lifetime of every product. Regardless of your warranty status, you can always contact us for assistance. Our website includes additional technical information that can help you experience the fullest potential of our products, making tour job quicker and easier.

Appion RHT100 Warranty Registration Card

Please complete this card and return it within 10 days of purchase with a copy of your sales receipt.

Your Name	Your Company
Street Address	Phone Number
City	State Zip
Email Address	Serial Number
Place of Purchase	Date of Purchase

How did you learn about our products?
(Please only check one)

☐ Wholesaler _____
☐ Recommended By: _____
☐ Magazine
☐
☐ Newspaper Ad
☐ Internet

Please select your primary line of business.
(Check all that apply)

☐ Automotive
☐ Commercial
☐ Residential
☐ Service
☐ Installation
☐

Register by <u>Mail</u>:
  Appion Inc.
  2800 South Tejon Street
  Englewood, CO 80110 USA

Register by <u>Email</u> or <u>Fax</u>:
1. Scan this page AND a copy of your sales receipt.
2. Email to: Sales@AppionTools.com
<u>or</u> Fax this page and your sales receipt to: 1-303-937-1599

What features most interested you?
(Check all that apply)

☐ High Production
☐ Low Cost
☐ Low Maintenance
☐ Portability
☐ Ease of Use
☐ Other: _____

Scan for Product Registration

QR Code Index

Appion Central App Download

Product Registration

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