

**R6040**

# **REED** **INSTRUMENTS**

## **Psychrometer/ Thermo- Hygrometer**



## **Instruction Manual**

# Table of Contents

Intoduction .....	4
Product Quality.....	4
Safety .....	4
Features.....	4
Specifications.....	5-6
Included.....	6
Instrument Description .....	7
Display Description .....	8
Operating Instructions.....	9-11
<i>Power ON/OFF</i> .....	9
<i>Selecting Measurement Modes</i> .....	9
<i>Data Hold</i> .....	10
<i>MAX/MIN Function</i> .....	10
<i>Backlight</i> .....	10
<i>Enabling/Disabling HI and LO Alarms</i> .....	11
Setup Mode.....	11-14
<i>Selecting the Temperature Unit of Measure</i> .....	12
<i>Setting the Data Logging Sampling Rate</i> .....	12
<i>Setting the Upper-Limit Temperature &amp; Humidity Alarms (HI)</i> .....	12
<i>Setting the Lower-Limit Temperature &amp; Humidity Alarms</i> .....	13
<i>Enabling or Disabling the Auto-Power OFF Function</i> .....	13
<i>Setting the Date and Time</i> .....	13
<i>Setting the Temperature &amp; Humidity Offset</i> .....	14

*continued...*

Data Logging .....	14-16
<i>Data Recording Modes</i> .....	14
<i>Manual Data Logging Mode</i> .....	14
<i>Automatic Data Logging Mode</i> .....	15
<i>Viewing Recorded Data</i> .....	15
<i>Clearing Recorded Data</i> .....	15
<i>Software Installation</i> .....	16
<i>Recorded Data Upload</i> .....	16
Battery Replacement.....	16
Applications.....	17
Accessories and Replacement Parts .....	17
Product Care .....	17
Product Warranty .....	18
Product Disposal and Recycling .....	18
Product Support.....	18

## Introduction

Thank you for purchasing your REED R6040 Psychrometer/Thermo-Hygrometer. Please read the following instructions carefully before using your instrument. By following the steps outlined in this manual your meter will provide years of reliable service.

## Product Quality

This product has been manufactured in an ISO9001 facility and has been calibrated during the manufacturing process to meet stated product specifications. If a certificate of calibration is required please contact the nearest authorized REED distributor or authorized Service Center. Please note an additional fee for this service will apply.

## Safety

Never attempt to repair or modify your instrument. Dismantling your product, other than for the purpose of replacing batteries, may cause damage that will not be covered under the manufacturer's warranty. Servicing should only be provided by an authorized service center.

## Features

- Measures relative humidity, ambient temperature and dew point/wet bulb temperatures
- Backlit LCD simultaneously displays selected temperature and relative humidity
- User selectable °C, or °F
- Data Hold and MAX/MIN functions
- User adjustable alarms with visual indicators
- User selectable sampling rate
- Manual and auto data storage
- Internal memory stores up to 999 groups of data
- View stored data, charts or real-time measurement with software
- Low battery indicator and auto shut off

# Specifications

## Temperature

Measuring Range:	-4 to 158°F (-20 to 70°C)
Accuracy:	±0.5°F (0.3°C)
Resolution:	0.1°F/°C

## Dew Point

Measuring Range:	-109 to 158°F (-78.2 to 70°C)
Accuracy:	±1.4°F (0.8°C)
Resolution:	0.1°F/°C

## Humidity

Measuring Range:	0 to 99.9% RH
Accuracy:	±2% RH
Resolution:	0.1% RH

## General Specifications

Display:	LCD
Backlit Display	Yes
Data Hold	Yes
Min	Yes
Max	Yes
High/Low Alarms	Yes (visual)
Alarm Indicators	High (red), Low (blue)
Belt Clip	Yes
Datalogging Capabilities	Yes
Real-Time Clock and Date Stamp	Yes
Selectable Sampling Rate	Yes (1 sec to 59 mins and 59 secs)
Auto Shut-off	Yes (on/off, 5-60 mins)
Low Battery Indicator	Yes
Power Supply	4x AAA Batteries or USB-C
Internal Memory	Yes (Up to 999 groups)

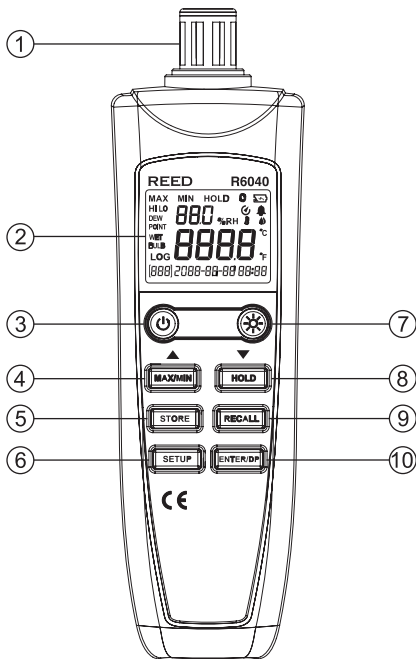
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PC Connectivity	USB Cable (Type-C)
Software	Yes (download from website)
Software OS Compatibility	Windows 7/8/10/11
Product Certifications	CE, ROHS
Operating Temperature	-4 to 158°F (-20 to 70°C)
Storage Temperature	14 to 140°F (-10 to 60°C)
Operating Humidity Range	0-99.9%
Dimensions	6.1 x 1.97 x 1.1" (155 x 50 x 28mm)
Weight	3.6oz (102g)

## Included

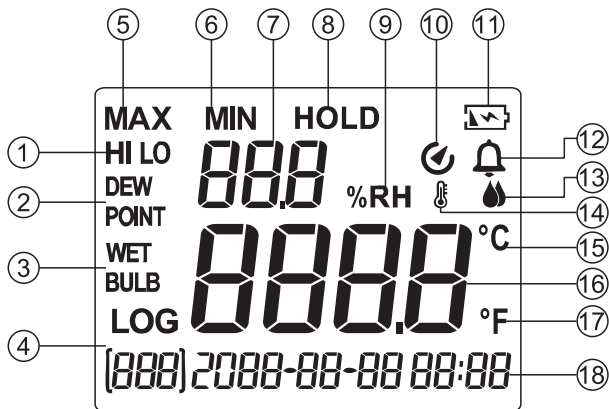
- USB cable
- Batteries
- Carrying Case

# Instrument Description



- |                        |                                   |
|------------------------|-----------------------------------|
| 1. Protective Cover    | 6. SETUP Button                   |
| 2. LCD Display         | 7. Backlight Button               |
| 3. Power Button        | 8. HOLD/Down Button               |
| 4. MAX/MIN/Up Button   | 9. Data RECALL Button             |
| 5. Data Storage Button | 10. ENTER/Measurement Mode Button |

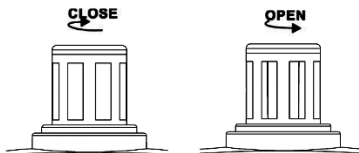
# Display Description



- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 1. HI/LO Measurement Indicator       | 10. Auto Power Off Indicator         |
| 2. Dew Point Unit of Measure         | 11. Battery Status Indicator         |
| 3. Wet Bulb Unit of Measure          | 12. Alarm Indicator                  |
| 4. Storage Group Number Indicator    | 13. Humidity Indicator               |
| 5. Maximum Value Indicator           | 14. Temperature Indicator            |
| 6. Minimum Value Indicator           | 15. Temperature Unit of Measure (°C) |
| 7. Relative Humidity Value           | 16. Measurement Value                |
| 8. Data Hold Indicator               | 17. Temperature Unit of Measure (°F) |
| 9. Relative Humidity Unit of Measure | 18. Date/Time Stamp                  |

# Operating Instructions

**WARNING:** Make sure to open the sensor protection cap before taking measurements to ensure accurate readings.



## Power ON/OFF

Press and hold the POWER button for 2 seconds to turn the meter ON or OFF.

## Selecting Measurement Modes

The R6040 offers 3 types of measurement modes:

- Humidity/Temperature (Air)
- Dew Point (DP)
- Wet Bulb (WB)

1. When the meter is on, press the **ENTER/DP** button to toggle between Air, WB or DP.
2. The upper display will indicate % Relative Humidity and the lower display will indicate the Air Temperature, Wet Bulb Temperature or Dew Point Temperature.

**Note:** Rapid temperature and humidity changes (i.e., moving your meter from indoors to outdoors) may cause inaccurate readings, therefore, it is always recommended to allow your meter to get acclimated to its new environment (approx. 10-15 minutes).

*continued...*

## **Data Hold**

1. While taking a measurement, press the **HOLD** button to freeze the current measurement(s) on the display.
2. While in this mode a "HOLD" symbol will appear on the display.
3. Press the **HOLD** button again to resume normal operation.

**Note:** When the Data Hold feature is active all buttons except the **POWER** button are disabled.

## **MAX/MIN Function**

1. While taking a measurement, press the **MAX/MIN** button to enter the **MAX/MIN** function.
2. The first values to appear on the display in this function are the Maximum values as indicated by the "MAX" symbol and are updated when new maximum data values have been taken.
3. Press the **MAX/MIN** button again and the Minimum Values will now appear as indicated by the "MIN" symbol and are updated when new minimum data values have been taken.
4. Press the **MAX/MIN** button a third time and both the "MAX" and "MIN" symbols will blink simultaneously while continuing to update the readings in memory and can be viewed by returning to the appropriate function. While in this function, the meter displays the current measurement values only.
5. To exit the **MAX/MIN** function, press and hold the **MAX/MIN** button for two seconds.

## **Backlight**

Press the Backlight button to turn the LCD Backlight on and off.

*continued...*

## Enabling/Disabling HI and LO Alarms

1. Press and hold the backlight button to activate the "HI" alarm. The alarm indicator will appear on the LCD.
2. If the measurement exceeds the upper-temperature set limit, the red backlight will flash every 500ms.
3. If the measurement falls below the lower-temperature set limit, the blue backlight will flash every 500ms.
4. If both the upper and lower limit alarms are triggered, the red and blue backlights will alternate flashing every 500ms.

**Note:** Corresponding icons will light up when an alarm is triggered. For example, if the alarm is due to the upper-temperature limit being reached, the red backlight, the temperature icon, and the upper limit icon (**HI**) will flash together.

5. To deactivate the alarm, press and hold the backlight button again. The alarm indicator will disappear.

## Setup Mode

Press the **SETUP** button to enter Setup Mode. The first screen displayed will be the temperature unit of measure screen. Press the **SETUP** button continuously to cycle through the following parameters.

Parameters	Description
Ut	Selecting the temperature unit of measure
INt	Setting the datalogging sampling rate
HI	Setting Upper-Limit Temperature & Humidity Alarms
LO	Setting Lower-Limit Temperature & Humidity Alarms
SLP	Enabling or disabling the auto-power off function
YYYY-MM-DD HH:MM	Setting the date and time
t-o	Setting Temperature/Humidity Offset

*continued...*

**Note:** The meter will automatically exit out of Setup mode and resume normal operations if no key is pressed within 15 seconds.

### *Selecting the Temperature Unit of Measure*

1. Press the **SETUP** button to enter the temperature unit of the measure setup screen, indicated by "Ut" on the LCD.
2. Press **▲/▼** buttons to select between °F or °C.
3. Press the **SETUP** button to confirm the selection and skip to the next parameter.

### *Setting the Data Logging Sampling Rate*

1. Press the **SETUP** button twice to enter the data logging sampling rate setup screen, indicated by "int" on the LCD.
2. Press the **▲** or **▼** buttons to adjust the data logging sampling rate for automatic data storage.
3. Press and hold the **▲** or **▼** buttons to quickly increase or decrease the set time.
4. The sampling rate can be set up to 59:59 or down to 00:00 (auto data storage is disabled at 00:00).
5. Press the **SETUP** button to confirm the selection and skip to the next parameter.

### *Setting the Upper-Limit Temperature & Humidity Alarms (HI)*

1. Press the **SETUP** button three times to enter the upper-limit setup screen, indicated by "HI" on the LCD.
2. Press the **ENTER/DP** button to toggle between upper-limit temperature, humidity, dew-point temperature, and wet-bulb temperature screens.
3. Press the **▲/▼** buttons to adjust the values.
4. Press the **SETUP** button to confirm the selection and skip to the next parameter.

*continued...*

## ***Setting the Lower-Limit Temperature & Humidity Alarms***

1. Press the **SETUP** button four times to enter the lower-limit setup screen, indicated by "LO" on the LCD.
2. Press the **ENTER/DP** button to toggle between lower-limit temperature, humidity, dew-point temperature, and wet-bulb temperature screens.
3. Press **▲/▼** buttons to adjust the values.
4. Press the **SETUP** button to confirm the selection and skip to the next parameter.

## ***Enabling or Disabling the Auto-Power OFF Function***

1. Press the **SETUP** button five times to enter the auto-power OFF setup screen, indicated by the "SLP" icon on the LCD.
2. Press the **▲/▼** buttons to set the auto power OFF time between 5 and 60 minutes.
3. Press and hold the **▲** or **▼** buttons to quickly increase or decrease the set time.
4. If the set time is less than 5 minutes, the "OFF" icon will appear, and the auto-power OFF function is disabled.
5. Press the **SETUP** button to confirm the selection and skip to the next parameter.

## ***Setting the Date and Time***

1. Press the **SETUP** button six times to enter the date and time setup screen.
2. Press the **ENTER/DP** button to toggle between Year/Month/Day/ Hour/Minute.
3. Press the **▲** or **▼** to adjust the selected date/time values.
4. Press and hold the **▲** or **▼** buttons to quickly increase or decrease the set date/time values.
5. The internal time is only saved after the minute values are set and the **ENTER/DP** button is pressed again.
6. Press the **SETUP** button to confirm the selection and skip to the next parameter.

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## *Setting the Temperature & Humidity Offset*

1. Press the **SETUP** button seven times to enter the temperature and humidity offset setup screen, indicated by "t-o" on the LCD.
2. Press the **ENTER/DP** to toggle between temperature offset (t-o), humidity offset (h-o), dew-point temperature offset (d-o), and wet-bulb temperature offset (b-o).
3. Press the ▲ or ▼ buttons to adjust the offset value within a range of -6 to 6.
4. Press the **SETUP** button to confirm the selection.

## **Data Logging**

### *Data Recording Modes*

**Manual Data Logging:** Press the **STORE** button to log up to 999 readings manually.

**Automatic Data Logging:** Setup the meter parameters to automatically log up to 999 readings.

### *Manual Data Logging Mode*

In manual mode, the **STORE** button is pressed to manually log a reading. To setup the meter for manual data logging, follow steps 1 through 3 below.

1. Set the data logging sampling rate to "00:00" seconds (see "Setting the Data Logging Sampling Rate" section for details).
2. Press the **STORE** button to log up to 999 readings manually.
3. The meter will display "LOG" and the storage location. For example, "LOG 001" indicates that the data has been saved in storage slot 001.

*continued...*

## *Automatic Data Logging Mode*

In automatic mode, the desired data logging sampling rate can be set between 00:01 second and 59:59 minutes prior to recording. To setup the meter for automatic data logging, follow steps 1 through 5 below:

1. Set the data logging sampling rate between 00:01 and 59:59 (minutes).
2. Press and hold the **STORE** button to activate automatic data logging.
3. The meter will continuously flash "LOG" along with the storage location.
4. The storage location will update each time a reading is recorded at the set sampling rate.
5. To end the current data logging session, press and hold the **STORE** button for 2 seconds.

## *Viewing Recorded Data*

1. Press **RECALL** to view the recorded data.
2. The display will show the storage area (e.g., LOG 001).
3. Press the ▲ or ▼ buttons to scroll through the saved readings.

**Note:** The meter will start from the most recent data recorded when exiting the **STORE** mode.

4. Press the **ENTER/DB** button to initiate a quick review of the recorded data, scrolling from entries 01 to 999.
5. After reaching entry 999, the review will stop automatically.
6. To exit the review mode, press the **RECALL** button to resume normal operation.

## *Clearing Recorded Data*

Press and hold **RECALL** while in **RECALL** mode to clear all recorded data. The display will show "dELE" until the data is fully erased, after which it will resume normal operation.

**Note:** Once initiated, all data will be permanently deleted. Recorded data cannot be cleared selectively.

*continued...*

## Software Installation

Visit [www.REEDInstruments.com/software](http://www.REEDInstruments.com/software) to download the R6040 software.

Full specifications and Operating System compatibility can be found on the product page at [www.REEDInstruments.com](http://www.REEDInstruments.com).

If you have specific questions related to your application and/or questions related to software setup and functionality please contact the nearest authorized distributor or Customer Service at [info@reedinstruments.com](mailto:info@reedinstruments.com) or 1-877-849-2127.

## Recorded Data Upload

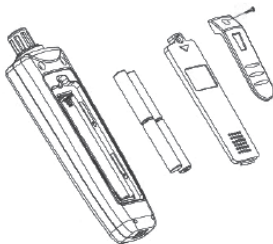
To download recorded data, generate reports, or view data in real time, connect the R6040 device to your PC using the included USB cable. After connecting, follow the instructions provided in the software manual located in the Help section.

**Note:** The USB interface can power the meter.

## Battery Replacement

When the "🔋" icon appears on the LCD, the batteries should be replaced.

1. Remove the screw with a Philips screwdriver and open the battery cover.
2. Replace the 4 x "AAA" batteries.
3. Secure the battery cover back and tighten the screw.



## Applications

- Environmental studies
- Food distribution
- HVAC/R system installation
- Greenhouses and industrial spaces
- Saunas
- Humidors
- Museums
- Lab Monitoring

## Accessories and Replacement Parts

- **CA-05A** Medium Soft Carrying Case

Don't see your part listed here? For a complete list of all accessories and replacement parts visit your product page on [www.reedinstruments.com](http://www.reedinstruments.com).

## Product Care

To keep your instrument in good working order we recommend the following:

- Store your product in a clean, dry place.
- Change the battery as needed.
- If your instrument isn't being used for a period of one month or longer please remove the battery.
- Clean your product and accessories with biodegradable cleaner. Do not spray the cleaner directly on the instrument. Use on external parts only.

## Product Warranty

REED Instruments guarantees this instrument to be free of defects in material or workmanship for a period of one (1) year from date of shipment. During the warranty period, REED Instruments will repair or replace, at no charge, products or parts of a product that proves to be defective because of improper material or workmanship, under normal use and maintenance. REED Instruments total liability is limited to repair or replacement of the product. REED Instruments shall not be liable for damages to goods, property, or persons due to improper use or through attempts to utilize the instrument under conditions which exceed the designed capabilities. In order to begin the warranty service process, please contact us by email at 1-877-849-2127 or [info@reedinstruments.com](mailto:info@reedinstruments.com) to discuss the claim and determine the appropriate steps to process the warranty.

## Product Disposal and Recycling



Please follow local laws and regulations when disposing or recycling your instrument. Your product contains electronic components and must be disposed of separately from standard waste products.

## Product Support

If you have any questions on your product, please contact your authorized REED distributor or REED Instruments Customer Service by phone at 1-877-849-2127 or by email at [info@reedinstruments.com](mailto:info@reedinstruments.com).

Please visit [www.REEDInstruments.com](http://www.REEDInstruments.com) for the most up-to-date manuals, datasheets, product guides and software.

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