DIGITAL POCKET HEAT INDEX MONITORS

USER'S MANUAL



SAM800HI (Sports Model)
SAM800IND (Industrial Model)

Please read this manual carefully and thoroughly before using this product.

TABLE OF CONTENTS

Introduction . . . . . 2 – 3
Key Features 3
What's in the Box 3
Product Overview . . . . . 3 – 4
Setup Instructions . . . . . 4 – 5
    Install Battery 4
    Reset Heat Index DANGER Setpoint (optional) 5
Operating Instructions . . . . . 5 – 6
    Real-Time Display Modes 5
    Displaying Min/Max Readings . . . . . 5 – 6
    Disabling Auto Power Off 6
Specifications . . . . . 6 – 7
Operating & Maintenance Tips 7
Warranty Information . . . . . 7 – 8
Return for Repair Policy 8

INTRODUCTION

Thank you for purchasing General Tools & Instruments' SAM800HI or SAM800IND Digital Pocket Heat Index Monitor. Please read this user's manual carefully and thoroughly before using the instrument.

Both models measure ambient temperature and relative humidity (RH) and calculate the Dew Point and the Heat Index based on those values. Dew Point can be considered an air saturation temperature associated with RH. The higher the RH, the closer the Dew Point is to the ambient temperature. Heat Index is an attempt to quantify how hot a combination of temperature and RH "feels".

The only differences between the SAM800HI (Sports model) and the SAM800IND (Industrial model) are the color of the housing (red vs. black) and the packaging (illustrated box vs. white box).

The front-panel **MODE**, **MIN/MAX** and **HOLD** buttons let you choose a pair of readings to show on the two-line LCD. The options are:

- Heat Index + ambient temperature
- RH + ambient temperature

- Dew Point + ambient temperature
- Minimum, maximum and held readings of any of the three pairs

KEY FEATURES

- Adjustable Heat Index **DANGER** setpoint
- Min/Max memory + data hold
- 2-line x 4-digit LCD
- °F/°C switch
- 20-minute Auto Power Off function (can be disabled)
- Pocket clip on back
- 1 year limited warranty

WHAT'S IN THE CASE

The SAM800HI and SAM800IND each come in a box along with a "CR2032" button battery and this user's manual.

PRODUCT OVERVIEW

Figure 1 shows all of the controls, indicators and physical features of the SAM800HI/SAM800IND. Figure 2 shows all possible indications on the LCD. Familiarize yourself with the positions and functions of all controls, indicators and physical features before moving on to the Setup Instructions and Operating Instructions.

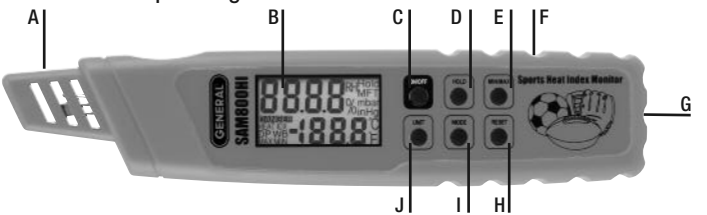


Fig. 1. The controls, indicators and physical features of the SAM800HI/SAM800IND

A. Ambient temperature and relative humidity (RH) sensors

B. 2-line x 4-digit LCD

C. **ON/OFF** button

D. **HOLD** button. "Freezes" both readouts.

E. **MIN/MAX** button. Displays lowest, and then highest values of both parameters in selected display mode.

F. Pocket clip (on back)

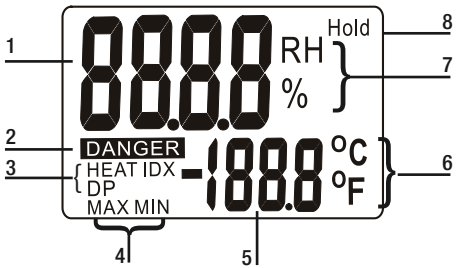
G. Battery compartment (on back)

H. **RESET** button. Clears Min/Max memory.

I. **MODE** button. Selects one of three display options: 1) Heat Index + ambient temperature; 2) RH + ambient temperature; or 3) Dew Point + ambient temperature.

J. **UNIT** button. Selects Fahrenheit or Celsius temperature unit.

Fig. 2. All possible display indications



1. Primary readout
2. **DANGER** alert. Flashes (and beeper sounds) when calculated Heat Index value exceeds setpoint.
3. **HEAT IDX** and **DP**. Indicate that primary readout is showing a Heat Index or Dew Point temperature.
4. **MAX** and **MIN**. Indicate that primary and secondary readouts are showing maximum or minimum values.
5. Secondary readout
6. **°C** and **°F**. Indicate selected temperature unit.
7. **RH** and **%**. Indicate that primary readout is showing a %RH value.
8. **Hold**. Indicates that both readouts are showing held ("frozen") readings.

SETUP INSTRUCTIONS

INSTALL BATTERY

1) Use a coin to open the battery compartment on the back on the unit.
2) Place the included "CR2032" button battery in the battery well with the printed side up. Using a fingertip, push the battery down until it is fully seated.
3) Replace the battery compartment cover and secure it.

RESET HEAT INDEX DANGER SETPOINT (OPTIONAL)

The SAM800HI/SAM800IND monitor is factory-set to sound a visual and audible alarm when the Heat Index exceeds 82°F. To change this setpoint:

1) With the unit powered off, press and hold the **ON/OFF** button for at least 3 seconds. Doing so will cause the display to show the following terms, all flashing: **82.0, °F** and **HEAT IDX**.
2) Press the **UNIT** button to decrease the setpoint by 0.1°F per press, or the **MODE** button to increase the setpoint by the same amount. You can press and hold either button to make large changes quickly.
3) When the primary display shows the new Heat Index **DANGER** setpoint that you want, press the **HOLD** button to save the setting. The beeper will sound to confirm that the setting was saved. The unit will then power on in the last selected display mode.

OPERATING INSTRUCTIONS

REAL-TIME DISPLAY MODES

To monitor ambient temperature, RH, Heat Index and/or Dew Point in real time, begin by pressing the **ON/OFF** button to power on the unit. The unit will power on in the last selected display mode.

To change display modes, press the **MODE** button. Ambient temperature is always shown on the secondary (lower) readout. Pressing the **MODE** button cycles the value shown on the primary (upper) display from Heat Index (**HEAT IDX**) to **RH%** to Dew Point (**DP**), and then back to Heat Index.

To hold ("freeze") any pair of readings on both displays, press the **HOLD** button. **Hold** will appear on the top line of the LCD. **To release the hold**, press the **HOLD** button again. The **Hold** indication will disappear.

To change the temperature unit to or from °F (the factory default) or °C, press the **UNIT** button.

DISPLAYING MIN/MAX READINGS

The SAM800HI/SAM800IND monitor can display the lowest and highest ambient, Dew Point and Heat Index temperatures and/or RH values recorded during a measuring session. A measuring session begins when the unit is powered on and ends when the unit is powered off. However, the Min/Max memory can be reset at any time.

To display the lowest (minimum) values of the two parameters shown in the selected mode, press the **MIN/MAX** button once. The Min values will appear in their assigned positions, with temperature on the lower readout and RH, Dew Point or Heat Index on the upper readout. **MIN** will appear on the bottom line of the LCD to indicate that the readouts are showing minimum values.

To display the highest (maximum) values of the two parameters shown in the selected mode, press the **MIN/MAX** button a second time. Like Min values, the Max values will appear in their assigned positions on the primary and secondary readouts. **MAX** will appear on the bottom line of the LCD to indicate that the readouts are showing maximum values.

To exit Min/Max mode and resume showing real-time values, press and hold the **MIN/MAX** button a third time.

To clear the Min/Max memory, press the **RESET** button. The instrument will confirm the erasure by briefly showing all LCD indications at the same time, followed by a single beep.

DISABLING AUTO POWER OFF

To conserve battery charge, the SAM800HI/SAM800IND monitor automatically powers off after any 20-minute period of front-panel inactivity.

To disable this Auto Power Off function, power the unit off and then power it back on in the following special way: Press and hold the **HOLD** button before pressing the **ON/OFF** button. Doing so will cause a large, lower-case "n" to appear on the LCD. Two seconds later, the **n** will disappear and the instrument will power on normally—but with the APO function disabled. There is no display indication of APO status (whether the function is enabled or disabled).

SPECIFICATIONS

- Temperature Measurement Range: 32° to 122°F (0° to 50°C)
- Temperature Measurement Accuracy: ±1.8°F (±1°C)
- Relative Humidity Measurement Range: 0 to 100%
- RH Measurement Accuracy: ±3% of reading from 10 to 90%RH; ±4% of reading elsewhere
- Dew Point Measurement Range/Accuracy: 32° to 140°F (0° to 60°C)/ ±3%
- Heat Index Range/Accuracy: 70° to 115°F (21° to 45°C)/ ±3%

- Response Time: 15 seconds, max
- Display Size: 1.4 in. diagonal
- Display Type: 2-line x 4-digit LCD
- Display Resolutions: 0.1° (temperatures), 0.1% (RH)
- Auto Power Off Trigger: 20 minutes of front-panel inactivity
- Battery Life: 100 hours (average)
- Dimensions: 6.7 x 1.85 x 0.5 in. (168 x 47 x 15mm)
- Power Source: 1 "CR2032" battery (included)

OPERATING & MAINTENANCE TIPS

When all display indications flash at once, it's time to replace the "CR2032" battery that powers the thermometer (although measurements will remain valid for several hours after the icon first appears). To replace the battery, follow the instructions on p. 4.

After subjecting the SAM800HI/SAM800IND to a large change in ambient temperature, wait at least 30 minutes before making measurements to guarantee the accuracy of readings.

Remove the battery when storing the unit or when you do not expect to use it for an extended period of time (months rather than weeks).

Do not disassemble the unit or immerse it in water. Doing so voids the 1-year limited warranty.

WARRANTY INFORMATION

General Tools & Instruments' (General's) SAM800HI or SAM800IND Digital Pocket Heat Index Monitor is warranted to the original purchaser to be free from defects in material and workmanship for a period of one year. Subject to certain restrictions, General will repair or replace this instrument if, after examination, the company determines it to be defective in material or workmanship. The warranty period begins on the date of purchase. You are encouraged to register your product online. General will extend your warranty an additional 60 days if you register at www.generaltools.com/ProductRegistry.

This warranty does not apply to damages that General determines to be from an attempted repair by nonauthorized personnel or misuse, alterations, normal wear and tear, or accidental damage. The defective unit must be returned to General Tools & Instruments or to a General-authorized service center, freight prepaid and insured.

Acceptance of the exclusive repair and replacement remedies described herein is a condition of the contract for purchase of this product. In no event shall General be liable for any incidental, special, consequential or punitive damages, or for any cost, attorneys' fees, expenses, or losses alleged to be a consequence of damage due to failure of, or defect in any product including, but not limited to, any claims for loss of profits.

Register now at www.generaltools.com/ProductRegistry to receive a 60-day extension to your warranty.

RETURN FOR REPAIR POLICY

Every effort has been made to provide you with a reliable product of superior quality. However, in the event your instrument requires repair, please contact our Customer Service to obtain an RGA (Return Goods Authorization) number before forwarding the unit via prepaid freight to the attention of our Service Center at this address:

General Tools & Instruments
80 White Street New York, NY 10013
212-431-6100

Remember to include a copy of your proof of purchase, your return address, and your phone number and/or e-mail address.

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SAM800HI, SAM800IND User's Manual

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