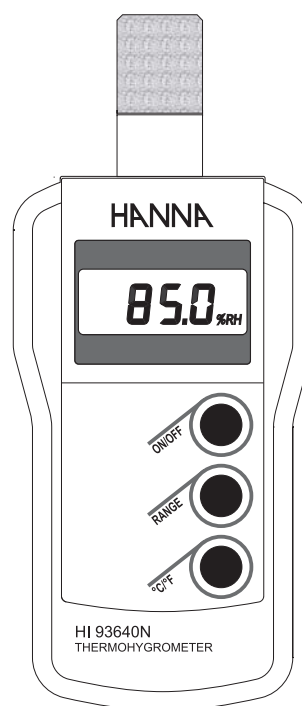


## Instruction Manual

---

# HI 93640N

## Portable Thermohygrometer



---

 **HANNA**<sup>®</sup>  
instruments  
[www.hannainst.com](http://www.hannainst.com)

Dear Customer,  
 Thank you for choosing a HANNA product.  
 Please read this instruction manual carefully before using the instrument.  
 For additional technical information, do not hesitate to e-mail us at [tech@hannainst.com](mailto:tech@hannainst.com)  
 This instrument is in compliance with the **CE** directives.

## TABLE OF CONTENTS

PRELIMINARY EXAMINATION .....	3
GENERAL DESCRIPTION .....	3
FUNCTIONAL DESCRIPTION .....	4
SPECIFICATIONS .....	5
OPERATIONAL GUIDE .....	6
BATTERY REPLACEMENT .....	7
ERROR MESSAGES .....	8
FACTORY RECALIBRATION .....	8
ACCESSORIES .....	8
WARRANTY .....	9

## PRELIMINARY EXAMINATION

Remove the instrument from the packing material and examine it to make sure that no damage has occurred during shipping. If there is any damage, notify your Dealer.

**HI93640N** is supplied complete with probe sintered cap, batteries (3 x 1.5V AA) and instructions.

**Note:** Save all packing material until you are sure that the instrument functions correctly. All defective items must be returned in the original packing with the supplied accessories.

## GENERAL DESCRIPTION

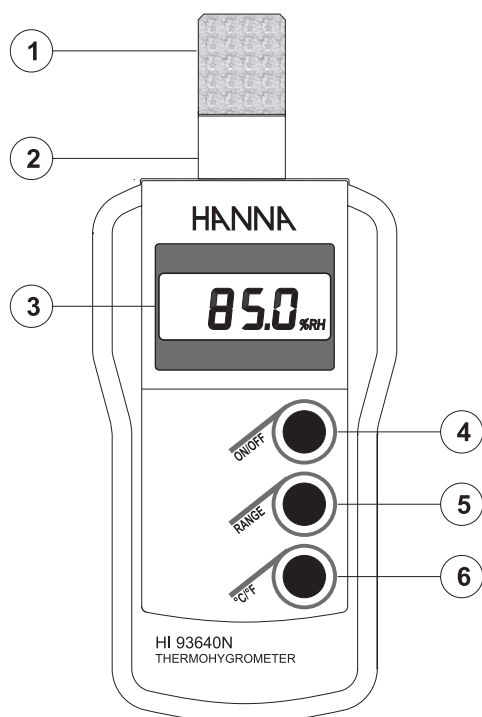
**HI93640N** portable thermohygrometer provides reading with high precision and quick response time for both RH (Relative Humidity) and temperature.

**HI93640N** is a compact, portable and versatile instrument to monitor relative humidity anywhere.

The built-in thin-film capacitance sensor assures accurate measurements from 10 to 95% RH with a resolution of 0.1%.

**Note: The RH probe sensor must never come into contact with water or other liquids.**

## FUNCTIONAL DESCRIPTION



- 1) Detachable sintered cap
- 2) Built-in RH/temperature probe
- 3) Liquid Crystal Display (LCD)
- 4) **ON/OFF** key, to turn the meter ON and OFF
- 5) **RANGE** key, to switch between %RH and temperature measurements
- 6) **°C/°F** key, to change the temperature measure unit

4

## SPECIFICATIONS

<b>Range</b>	10.0 to 95.0 % RH 0.0 to 60.0°C / 32.0 to 140.0°F
<b>Resolution</b>	0.1 % RH 0.1°C / 0.1°F
<b>Accuracy</b>	±3 % RH (50 to 85 % RH) ±4 % RH (outside) ±0.5°C / ±1°F
<b>Environment</b>	0 to 60°C (32 to 140°F); RH max 98% non-condensing
<b>Battery Type / Life</b>	3 x 1.5V AA / approx. 1000 hours of use
<b>Dimensions</b>	190 x 80 x 36 mm (7.5 x 3.1 x 1.4")
<b>Weight</b>	250 g (8.8 oz.)

5

## OPERATIONAL GUIDE

Turn the meter on by pressing the ON/OFF button.

**At start-up** the instrument displays all LCD segments for a few seconds, then it shows **the current RH (Relative Humidity) measurements**.

The humidity sensor should be exposed to a current of air moving at 0.5 m (20") per second or more.

In the absence of air movement, the response can be accelerated by moving the probe.

**The probe sensor must never come into contact with water or other liquids.**

If this happens, or if condensation causes drops to form on the surface of the humidity sensor, turn the instrument off and wait until the liquid has evaporated completely. In order to accelerate the evaporation process, expose the humidity sensor to a current of air.

For a faster response, remove the sintered cap. Whenever the probe is to be used in a dusty or smoky environment, the cap must be kept on at all times.

**To take temperature measurements**, press the RANGE button to display the temperature mode, then select the °C or °F measure unit with the °C/°F button.

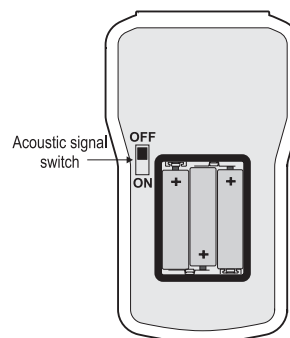
The meter is provided with an acoustic signal feature activated when buttons are pressed, which can be disabled using a switch located in the battery compartment (see figure on next page).

## BATTERY REPLACEMENT

When the battery level is below 10%, the battery symbol blinks on the LCD to warn the user.

If the battery level is too low to ensure proper operations, the Battery Error Prevention System (BEPS) turns the meter off. Immediately replace the batteries with new ones.

Batteries are accessed by separating the front and the back halves of the meter: unscrew the 4 screws on the back of the meter and carefully replace the three batteries, while paying attention to their polarity.

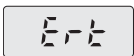


Reattach the back making sure that the gasket is in place and tighten the 4 screws to ensure a watertight seal.

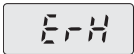
Battery replacement must only take place in a safe area and using 1.5V AA alkaline batteries.

## ERROR MESSAGES

- Blinking values denote indicative readings. This will occur for the RH display if the measured temperature is less than 0°C or greater than 60°C.
- A blinking full scale value means that the reading is out of range.



Error in temperature measurement: reading is extremely over range or sensor is damaged.



Error in RH measurement: the sensor is wet or damaged.

## FACTORY RECALIBRATION

All HANNA instruments® thermohygrometers have been precalibrated at the factory, using thermal humidity chambers.

It is generally recommended to have all thermohygrometers recalibrated at least once a year.

For an accurate annual recalibration, contact your dealer or the nearest Hanna Service Center.

## ACCESSORIES

- |           |                               |
|-----------|-------------------------------|
| HI 710007 | Blue shockproof rubber boot   |
| HI 710008 | Orange shockproof rubber boot |
| HI 710011 | Probe sintered cap            |
| HI 710031 | Rugged carrying case          |

## WARRANTY

All Hanna Instruments **meters are warranted for two years** against defects in workmanship and materials when used for their intended purpose and maintained according to the instructions.

Damages due to accidents, misuse, tampering or lack of prescribed maintenance are not covered.

This warranty is limited to repair or replacement free of charge.

If service is required, contact the dealer from whom you purchased the instrument.

If under warranty, report the model number, date of purchase, serial number and the nature of the failure.

If the repair is not covered by the warranty, you will be notified of the charge for repair or replacement.

If the instrument is to be returned to Hanna Instruments, obtain a Return Goods Authorization from the Customer Service Department first and then send it with shipment cost prepaid.

When shipping any instrument, make sure it is properly packaged for complete protection.

Hanna Instruments reserves the right to modify the design, construction and appearance of its products without advance notice.

### **Recommendations for Users**

Before using this product, make sure that it is entirely suitable for the environment in which it is used.

Operation of this instrument in residential area could cause unacceptable interferences to radio and TV equipments, requiring the operator to take all necessary steps to correct interferences.

Any variation introduced by the user to the supplied equipment may degrade the instrument's EMC performance.

To avoid electrical shock, do not use these instruments when voltages at the measurement surface exceed 24 Vac or 60 Vdc.

To avoid damages or burns, do not perform any measurement in microwave ovens.

## SALES & TECHNICAL SERVICE

### **Australia:**

Tel. (03) 9769.0666 • Fax (03) 9769.0699

### **China:**

Tel. (10) 88570068 • Fax (10) 88570060

### **Egypt:**

Tel. & Fax (02) 2758.683

### **Germany:**

Tel. (07851) 9129-0 • Fax (07851) 9129-99

### **Greece:**

Tel. (210) 823.5192 • Fax (210) 884.0210

### **Indonesia:**

Tel. (21) 4584.2941 • Fax (21) 4584.2942

### **Japan:**

Tel. (03) 3258.9565 • Fax (03) 3258.9567

### **Korea:**

Tel. (02) 2278.5147 • Fax (02) 2264.1729

### **Malaysia:**

Tel. (603) 5638.9940 • Fax (603) 5638.9829

### **Singapore:**

Tel. 6296.7118 • Fax 6291.6906

### **South Africa:**

Tel. (011) 615.6076 • Fax (011) 615.8582

### **Taiwan:**

Tel. 886.2.2739.3014 • Fax 886.2.2739.2983

### **Thailand:**

Tel. 66.2619.0708 • Fax 66.2619.0061

### **United Kingdom:**

Tel. (01525) 850.855 • Fax (01525) 853.668

### **USA:**

Tel. (401) 765.7500 • Fax (401) 765.7575

MAN93640N 1/105

*For e-mail contacts and complete list of Sales and Technical offices, please see [www.hannainst.com](http://www.hannainst.com)*