

# HI 99550

## Non-Contact Infrared Thermometers



### WARRANTY

HI 99550 is warranted for two years against defects in workmanship and materials when used for its intended purpose and maintained according to instructions. This warranty is limited to repair or replacement free of charge.

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

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 charges incurred. If the instrument is to be returned to Hanna Instruments, first obtain a Returned Goods Authorization Number from the Customer Service department and then send it with shipment costs prepaid. When shipping any instrument, make sure it is properly packaged for complete protection.

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

Dear Customer,  
Thank you for choosing a Hanna product.  
This manual will provide you with the necessary information for the correct operation of the meter. Please read it carefully before using the meter.  
If you need additional technical information, do not hesitate to e-mail us at [tech@hannainst.com](mailto:tech@hannainst.com).  
These instruments are in compliance with the CE directives.

### PRELIMINARY EXAMINATION

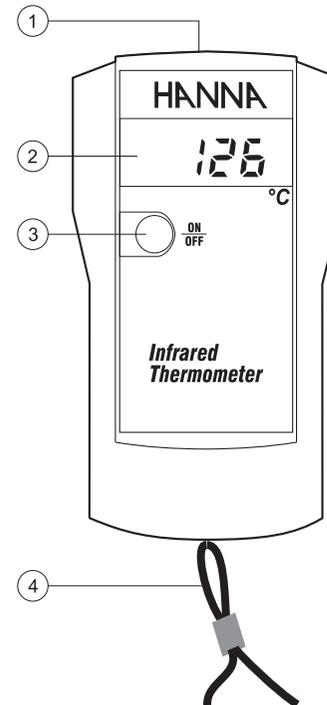
Remove the instrument from the packing material and examine it carefully to make sure that no damage has occurred during shipment. If there is any damage, notify your Dealer.  
Each instrument is supplied complete with battery and instructions.

**Note:** Conserve all packing material until the instrument has been observed to function correctly. Any defective item must be returned in its original packing.

### GENERAL DESCRIPTION

Infrared radiation emitted from objects depends on its temperature. The HI99550 infrared thermometer employs this technology to measure the surface temperature. Infrared sensors are extremely practical with an instantaneous response time. Their non-invasive nature of the measurements can be a great benefit to substantial virgin industries where products are sold open ended. This type of non-invasive measurement is also useful when the surface temperature is high, for difficult to reach places or delicate hygiene requirements.  
In order to measure the temperature, simply point to the product or the spot and hold down the measurement key. The measured value will be immediately displayed on the LCD.  
HI99550 is designed with a wrist strap and ergonomic shape for greater ease of use.  
The fast response time and the LCD function make this infrared thermometer particularly attractive for quality control in the factory or on the production line.  
Two models are available for measurement in degrees Celsius or Fahrenheit (HI99550-00 and HI99550-01).

### FUNCTIONAL DESCRIPTION



1. Infrared sensor
2. Liquid Crystal Display (LCD)
3. ON/OFF and hold button
4. Wrist-strap

### SPECIFICATIONS

	HI 99550-00	HI 99550-01
Range	-10 to 300 °C	14 to 572 °F
Resolution	1 °C	1 °F
Accuracy	±2% of reading or ±2°C	±3°F
Typical EMC Deviation	±2 °C	±4 °F
Emissivity	0.95	
Wave Length	6 to 14 μm	
Typical Response Time	1 second	
Optic Coefficient	3 : 1 (ratio of distance to diameter of target diameter); minimum distance 30 mm (1.2")	
Battery Type	1 x 9V	
Battery Life	approx. 150 hours of continuous use	
Environment	0 to 50 °C (32 to 122 °F); RH max 95%	
Dimensions	143 x 80 x 38 mm (5.6 x 3.2 x 1.5")	
Weight	320 g (11.3 oz.)	

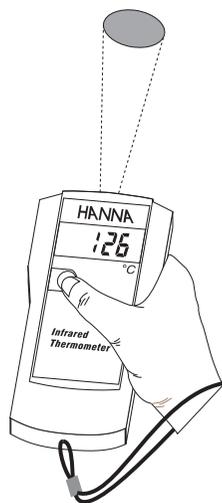
### ACCESSORIES

- HI 710004 Soft carrying case
- HI 710007 Blue shockproof rubber boot
- HI 710008 Orange shockproof rubber boot
- HI 721316 Rugged carrying case
- HI 731318 Wiping tissue (4 pcs)
- HI 740016 Battery cover
- HI 740123 Wrist-strap

## OPERATIONAL GUIDE

### Temperature Measurement

To obtain the temperature of an object, simply aim the sensor in the direction of the object. Keep the "ON/OFF" button pressed for a few seconds until the reading stabilizes.

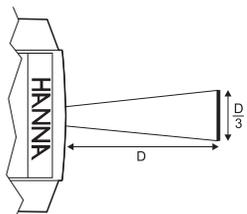


The instrument will continue reading the temperature, while the "ON/OFF" button is pressed. When released, the instrument freezes the reading for a few seconds and then switches off automatically.

### Reading Distance

The distance between the sensor and the object is an important factor in the infrared measurement.

The relation between "distance/object area" of the instrument is 3:1. This means that the diameter of the measured area is one third of the distance between the sensor and the object.



For example, if the sensor is 15 cm away from the object, the instrument measures the temperature of an area with a 5 cm diameter.

### Emissivity

The instrument measures the temperature of objects with an emissivity of 0.95, which is the characteristic of most substances such as organic material, water, plastic, fabrics, etc.

To measure substances that have a polished surface and are very reflective, the emissivity needs to be compensated.

It is advisable to cover the object with black paint or black adhesive tape to compensate for the reflectivity.

### Precaution

To avoid damage, do not hold the sensor too close to a heat source, for a long period.

### Sensor Cleaning

To maintain the instrument's accuracy, it is important that the sensor lens is kept clean.

To clean the sensor gently pass a humid and non-abrasive cloth (HI 731318) on the lens.

### Low Battery

A blinking "V" on the display indicates a low battery level.

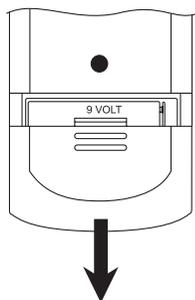


It is recommended to replace the battery soon.

## BATTERY REPLACEMENT

Battery replacement must only take place in a safe area and using a 9V alkaline battery.

Simply slide off the battery cover on the back of the meter, detach the battery from the terminals and attach a new 9V battery, while paying attention to the correct polarity.



Replace the battery cover.

## CE DECLARATION OF CONFORMITY



### DECLARATION OF CONFORMITY

We

Hanna Instruments Italia Srl  
via E.Fermi, 10  
35030 Sarmeola di Rubano - PD  
ITALY

herewith certify that the thermometers:

HI 99550 HI 99551

have been tested and found to be in compliance with the following regulations:

IEC 801-2	Electrostatic Discharge
IEC 801-3	RF Radiated
EN 55022	Radiated, Class B
EN 61010-1	User Safety Requirement

Date of Issue: 28-04-1999.

D. Volpato - Engineering Manager  
On behalf of  
Hanna Instruments Italia S.r.l.

### Recommendations for Users

Before using these products, make sure that they are entirely suitable for the environment in which they are used.

Operation of these instruments 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 instruments' EMC performance.

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

## SALES & TECHNICAL SERVICE CONTACTS

### Australia

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

### China

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

### Egypt

Tel. & Fax (02) 2758.683

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For e-mail contacts and complete list of Sales and Technical offices, please see

[www.hannainst.com](http://www.hannainst.com)