

Instruction Manual

HI 99551 • HI 99556

Infrared Thermometers

for the Food Industry



WARRANTY

HI 99551 and HI 99556 are warranted for two years against defects in workmanship and materials when used for its intended purpose and maintained according to instructions. **Probes are guaranteed for a period of six months.**

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.

All rights are reserved. Reproduction in whole or in part is prohibited without the written consent of the copyright owner.

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.

If you need additional technical information, do not hesitate to e-mail us at 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 meter is supplied complete with:

- HI 765PW temperature probe (HI 99556 only)
- 9V battery
- instruction manual

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

HI 99551 and HI 99556 thermometers employ infrared technology to measure the surface temperature.

Infrared measurements are extremely practical with a fast response time, typically around 1 second.

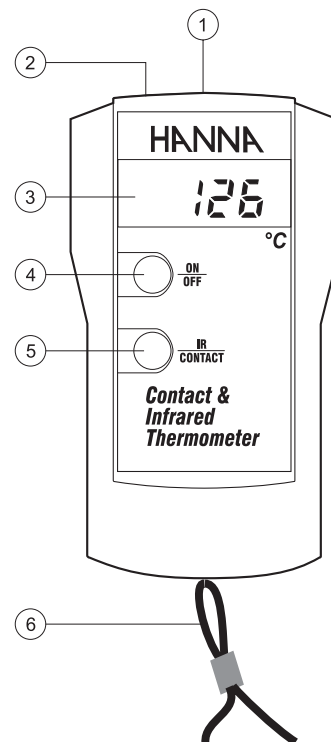
Another main advantage is the non-intrusive nature of the measurement, which is particularly attractive in the food industry since it translates itself into substantial savings by leaving products intact, especially those sealed or pre-wrapped. This type of non-intrusive measurement is also useful when the surface temperature is high, for difficult-to-reach places or due to hygiene requirements.

Simply point to the product or the spot and hold down the measurement key. The measured value will be immediately displayed on the LCD.

If in addition to surface measurement, you must check the core temperature too, then **HI 99556** is the ideal solution: simply attach the external probe to the meter and you will have a 2-in-1 infrared-thermistor thermometer.

Different models are available, with different temperature ranges.

FUNCTIONAL DESCRIPTION



1. Infrared sensor
2. Temperature probe connector (HI 99556 only)
3. Liquid Crystal Display (LCD)
4. ON/OFF button
5. IR/CONTACT button to select infrared sensor or external probe (HI 99556 only)
6. Wrist-strap

SPECIFICATIONS

	HI 99551-00 HI 99556-00	HI 99551-01 HI 99556-01	HI 99551-10 HI 99556-10
Range IR Sensor	-10 to 300°C	14 to 572°F	-20 to 199.9°C
Range Probe (HI 99556 only)	-40 to 150°C	-40 to 302°F	-40 to 150.0°C
Resolution IR Sensor	1°C	1°F	0.1°C
Resolution Probe (HI 99556 only)	0.1°C	1°F	0.1°C
Accuracy IR Sensor	±2% of reading or ±2°C (-00 and -10 models); ±2% of reading or ±3°F (-01 models)		
Accuracy Probe (HI 99556 only)	±0.5°C (-20 to 120°C) / ±1°F (0 to 250°F); ±0.5°C / ±1°F + 1% reading (outside)		
Typical EMC Deviation IR Sensor	±1°C	±2°F	±1°C
Typical EMC Deviation Probe (HI 99556 only)	±0.5°C	±1°F	±0.5°C
IR Sensor			
Response Time	1 second		
Optic Coefficient	3:1 (distance/target diameter)		
Minimum Distance	30 mm (1.2")		
Emissivity	0.95 (fixed)		
Wave Length	6 to 14 µm		
Probe	HI 765PW (included) (HI 99556 only)		
Battery Type	1 x 9V alkaline (IEC 6LR61)		
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.)		

OPERATIONAL GUIDE

INFRARED SENSOR MEASUREMENT

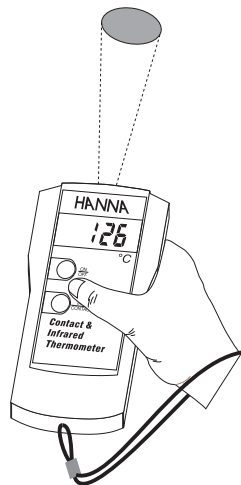
Switch the instrument on.

For **HI 99556** models, check that the instrument is in IR (infrared) mode.

If necessary (a "P" tag appears on the LCD to indicate "external probe mode"), press the IR/CONTACT button to switch to IR (infrared) measurement mode.



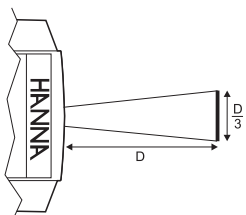
To measure the temperature of an object, simply aim the sensor in the direction of the object.



READING DISTANCE

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

The relation between "distance/object area" 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.

EMISSION

The instruments measure 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.

WARNING

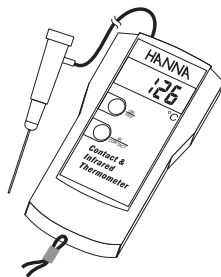
To avoid damage, do not hold the sensor too close to a heat source for a long period.

SENSOR CLEANING

To maintain the instrument's accuracy, it is important that the sensor lens is kept clean. To clean the sensor, gently wipe the lens with a humid and non-abrasive cloth (**HI 731318**).

EXTERNAL PROBE (HI 99556 only)

Connect the **HI 765PW** temperature probe to the connector on top of the instrument.



MEASUREMENT MODE

Press the IR/CONTACT button to select the external probe measurement mode: "P" appears on the LCD to indicate that the mode has been entered.



Dip the probe in the substance which to be measured (an immersion level of approximately 4 cm is recommended), and wait for the reading to stabilize.

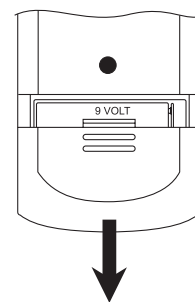
LOW BATTERY

These instruments continuously check the battery status. If the battery level is too low to ensure reliable reading, the meter shuts off the LCD completely. In this case and if the meter can not be switched on, it is recommended to replace the battery immediately.

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.



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
- HI 765PW** Penetration thermistor probe with white handle

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 thermometer

HI 99556

has been tested and found to be in compliance with EMC Directive 89/336/EEC and Low Voltage Directive 73/23/EEC according to the following applicable normative:

EN 50082-1: Electromagnetic Compatibility - Generic Immunity Standard
IEC 801-2 Electrostatic Discharge
IEC 801-3 RF Radiated

EN 50081-1: Electromagnetic Compatibility - Generic Emission Standard
EN 55022 Radiated, Class B

EN 61010-1: Safety requirements for electrical equipment for measurement, control and laboratory use

Date of Issue: 28-04-1999

P. Cesa - Technical Director
On behalf of
Hanna Instruments 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 interference to radio and TV equipment, 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 damage or burns, do not perform any measurement in microwave ovens.



PEWA
Messtechnik GmbH

Weidenweg 21
58239 Schwerte

Tel.: 02304-96109-0
Fax: 02304-96109-88
E-Mail: info@pewa.de
Homepage : www.pewa.de