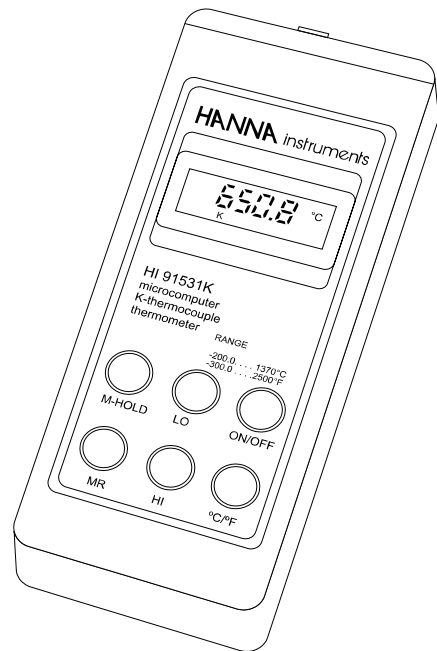


Instruction Manual

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**HI9063 - HI91530K  
HI91531K - HI91532K**

**Portable Waterproof  
Microprocessor  
K-Type Thermocouple  
Thermometers**



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 **HANNA**  
instruments  
<http://www.hannainst.com>

  
These Instruments are in  
Compliance with the CE Directives

Dear Customer,

Thank you for choosing a Hanna Instruments Product.

Please read this instruction manual carefully before using the instrument.

This manual will provide you with all the necessary information for the correct use of the instrument, as well as a precise idea of its versatility in a wide range of applications.

These instruments are in compliance with **CE** directives EN 50081-1 and EN 50082-1.

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*ISO 9000 Certified  
Company since 1992*

## PRELIMINARY EXAMINATION

Remove the instrument from the packing material and examine it carefully to make sure that no damage has occurred during shipment. If noticeable damage is found, notify your Dealer.

Note: Save all packing material until the instrument has been observed to function correctly because all defective items must be returned to the Dealer in their original packing.

## GENERAL DESCRIPTION

The HI 9063, HI 91530K, HI 91531K and HI91532K are microprocessor-based thermometers that allow temperature measurement using interchangeable K-type thermocouple probes. The non-linearity of the temperature probe is linearized by the built-in microprocessor, which also provides accurate compensation for variations in the measurement circuit and the reference junction.

A wide range of HI 766 K-type thermocouple temperature probe are available as optional (see Accessories).

Standard features include:

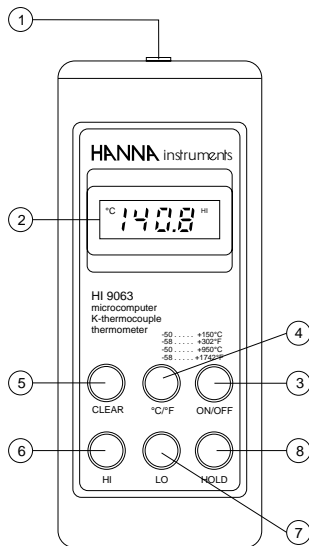
- display and clearing of maximum/minimum temperature measured (except HI91530K)
- reading hold
- low battery detection

These functions are easily accessible through the waterproof rubber keypad. Self-explanatory symbols are used to remind the user of the operating mode or condition.

Upon request these meters, exception made for HI9063, are also available with a Factory Calibration Certificate against NIST Standard.

Recalibration service is available at your nearest Hanna Service Center.

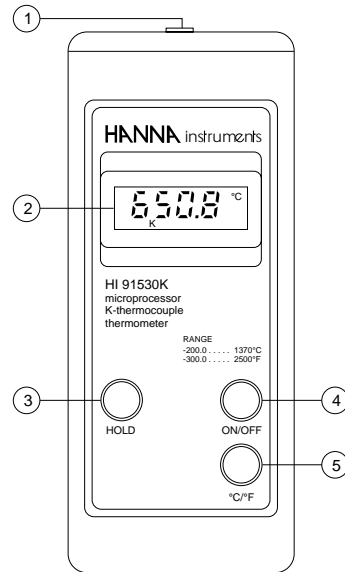
## FUNCTIONAL DESCRIPTION HI9063 1 CHANNEL THERMOMETER



- 1) Probe Connector
- 2) LCD Display
- 3) ON/OFF Switch
- 4) Temperature Measurement Unit Selection
- 5) CLEAR Key
- 6) Maximum Measured Temperature
- 7) Minimum Measured Temperature
- 8) HOLD Key.

Range	°C	-50.0 to 150.0°C & -50 to 950°C
	°F	-58.0 to 302.0°F & -58 to 1742°F
Resolution	°C	0.1°C / 1°C
	°F	0.1°F / 1°F
Accuracy (@ 20°C/68°F)		±0.3% F.S. for one year, excluding probe error
Typical EMC Deviation		±3°C (with HI 766 probes) ±6°F (with HI 766 probes)
Probe		K-Type Thermocouple (optional) (see pages 14-17)
Battery Type & Life		4 x 1.5 Volt, AA size 500 hours of continuous use
Environment		-10 to 50°C (14 to 122°F), 100%RH
Dimensions		196 x 80 x 60 mm (7.7 x 3.1 x 2.4")
Weight		425 g (15 oz.)

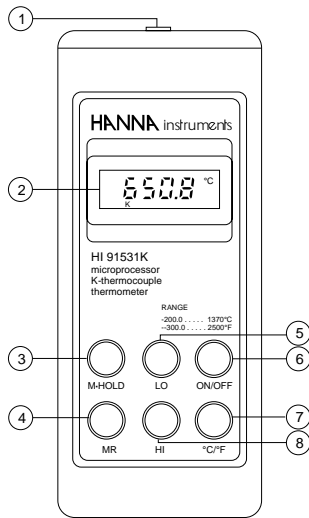
## FUNCTIONAL DESCRIPTION HI91530K 1 CHANNEL THERMOMETER



- 1) Probe Connector
- 2) LCD Display
- 3) HOLD Key
- 4) ON/OFF Key
- 5) Temperature Measurement Range Selection (°C or °F).

Range	°C	-200.0 to 1370°C
	°F	-300.0 to 2500°F
Resolution	°C	0.1°C (up to 999.9°C) / 1°C
	°F	0.1°F (up to 999.9°F) / 1°F
Accuracy (@ 20°C/68°F)		±0.2% Full Scale for one year, excluding probe error
Typical EMC Deviation		±3°C (with HI 766 probes) ±6°F (with HI 766 probes)
Probe		K-Type Thermocouple (optional) (see pages 14-17)
Battery Type & Life		4 x 1.5 Volt, AA size 500 hours of continuous use
Environment		-10 to 50°C (14 to 122°F), 100%RH
Dimensions		196 x 80 x 60 mm (7.7 x 3.1 x 2.4")
Weight		425 g (15 oz.)

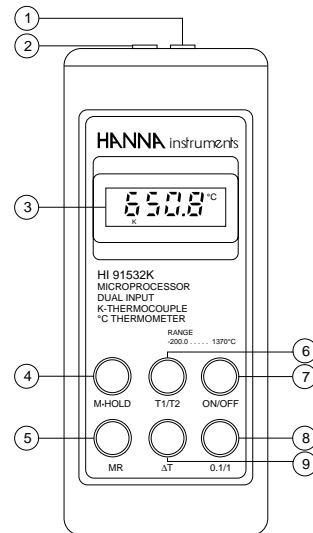
## FUNCTIONAL DESCRIPTION HI91531K 1 CHANNEL THERMOMETER



- 1) Probe Connector
- 2) LCD Display
- 3) HOLD and Temperature Memorization
- 4) Memorized Temperature
- 5) Minimum Measured Temperature
- 6) ON/OFF Key
- 7) Temp. Measur. Range Selection (°C or °F)
- 8) Maximum Measured Temperature.

Range	°C	-200.0 to 1370°C
	°F	-300.0 to 2500°F
Resolution	°C	0.1°C (up to 999.9°C) / 1°C
	°F	0.1°F (up to 999.9°F) / 1°F
Accuracy (@ 20°C/68°F)		±0.2% Full Scale for one year, excluding probe error
Typical EMC Deviation		±3°C (with HI 766 probes) ±6°F (with HI 766 probes)
Probe		K-Type Thermocouple (optional) (see pages 14-17)
Battery Type & Life		4 x 1.5 Volt, AA size 500 hours of continuous use
Environment		-10 to 50°C (14 to 122°F), 100%RH
Dimensions		196 x 80 x 60 mm (7.7 x 3.1 x 2.4")
Weight		425 g (15 oz.)

## FUNCTIONAL DESCRIPTION HI91532K 2 CHANNELS THERMOMETER



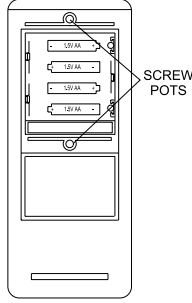
- 1) Probe Connector for T2
- 2) Probe Connector for T1
- 3) LCD Display
- 4) HOLD and Temperature Memorization
- 5) Memorized Temperature
- 6) Probe Input Selection (T1 or T2)
- 7) ON/OFF Key
- 8) Temperature Resolution (0.1°C or 1°C)
- 9) Temperatures Difference.

Range	-200.0 to 1370°C
Resolution	0.1°C (up to 999.9°C) / 1°C
Accuracy (@ 20°C/68°F)	±0.2% Full Scale for one year, excluding probe error
Typical EMC Deviation	±3°C (with HI 766 probes)
Probe	K-Type Thermocouple (optional) (see pages 14-17)
Battery Type & Life	4 x 1.5 Volt, AA size 500 hours of continuous use
Environment	-10 to 50°C (14 to 122°F), 100%RH
Dimensions	196 x 80 x 60 mm (7.7 x 3.1 x 2.4")
Weight	425 g (15 oz.)

# OPERATIONAL GUIDE

## INITIAL PREPARATION

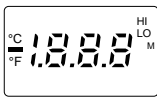
To install the batteries, turn the unit over and unscrew the battery cover. Remove the battery cover exposing the battery compartment as shown in the diagram. Remove and unwrap the new batteries prior to installation. Place the batteries in the compartment while paying attention to their polarity. After the batteries are installed, replace the battery cover to the back of the instrument.



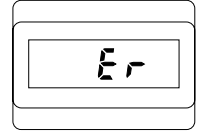
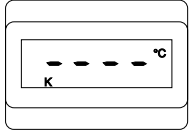
To switch the instrument on, press the ON/OFF key.



The thermometer will carry out a brief self-test. All of the segment on the LCD will be displayed during this period. After the test the thermometer will revert to the measurement mode.



If a probe is not plugged in, the display will show "Er" in HI 9063 or "-----" in the other models.

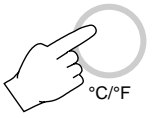


To switch your thermometer off, press the ON/OFF key.

## MEASURING SCALE (°C/°F) (HI 9063, HI 91530K AND HI 91531K ONLY)

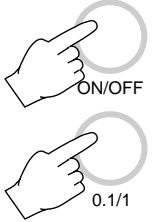
When the meter is turned on, it automatically defaults to the °C scale.

Measurements can be performed in either the Centigrade or Fahrenheit scale. To change the scale, press the °C/°F button once.



## RESOLUTION (HI 9063 AND HI 91532K ONLY)

When switched on, the instrument operates in the wider measurement range with a resolution of 1°. The measurement range may be changed to a higher resolution by pressing once again the ON/OFF key in HI9063 or the 0.1/1 key in HI91532K.



## HI/LO MEMORY (HI 9063 AND HI 91531K ONLY)

The maximum and minimum temperature are continuously monitored and stored in memory throughout the measuring process. These readings may be recalled at any time.

Simply press either the HI or LO key to view the respective readings. The appropriate indicator ("HI" or "LO"), will be displayed along with the value retrieved from memory. The values will be kept stored until the CLEAR function is activated or the meter is turned off.



## CLEAR HI/LO FUNCTION (HI 9063 AND HI 91531K ONLY)

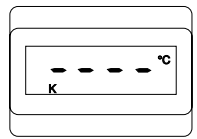
In HI9063, by pressing the CLEAR key, the present measurement reading is assigned to the highest and lowest temperature memories, i.e. both memories have equal temperature reading.



The "HI" and "LO" display indicators will blink three times to notify user that cleaning process is in progress.



In HI91531K, by pressing the HI and LO keys at the same time, the present temperature value is assigned to the highest and lowest temperature memories, i.e. both memories have equal temperature reading. The display will show "-----" to notify the user that cleaning process is in progress.



### HOLD MODE (HI9063 AND HI91530K ONLY)

The reading hold function is activated by the HOLD key. In HI9063, the measured temperature is frozen on the display when this function key is pressed, and to resume normal operational mode, press this key again. In HI91530K, keep the HOLD key pressed to freeze the reading on the display, and to resume normal operational mode, release this key. A blinking "M" on display indicates the operation mode in both models.



### MEMORY (HI 91531K AND HI 91532K ONLY)

The reading memory function is activated by the M•HOLD key.

The measured temperature is frozen on the display and stored in the memory of the instrument when this function key is pressed.

A "HOLD" and a blinking "MEM" on display indicates the operation mode.

Once the M•HOLD key is pressed, the temperature reading displayed at that time will be stored into memory.

To freeze the reading on the display, simply continue to press and hold the M•HOLD key.

Once the key is released the instrument will return to its normal operational mode. To retrieve the last memorized temperature value press MR key and "MEM" will appear with the reading.



### PROBE SELECTION (HI 93532K ONLY)

When switched on, the instrument automatically shows the temperature measured by Probe 1 (T1) and a "K1" appears on the LCD display.



To view the input temperature of Probe 2 (T2), press the T1/T2 key and a "K2" will appear on the display.



### TEMPERATURE DIFFERENCE (HI93532K ONLY)

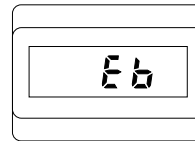
The difference between the temperature measured by the two probes can be displayed by simply pressing the  $\Delta T$  key.

A " $\Delta$ " will appear on the right-hand of the display to indicate this function.



### LOW BATTERY DETECTION

The instrument stops to operate when the low battery signal is detected. This is indicated by the code "Eb" in HI9063 and "BAT" in all other models. The batteries must be replaced (see page 13).



## DISPLAY CODES GUIDE

Display	Description
°C	The instrument is reading in the Centigrade scale.
HI9063, HI91530K and HI91531K only:	
°F	The instrument is reading in the Fahrenheit scale.
HI91530K, HI91531K and HI91532K only:	
- - - -	The probe is not connected to the instrument or the reading is out of range.
HOLD	Freezes current reading on display.
BAT	Batteries are weak, replace batteries.
HI9063 and HI91531K only:	
HI	The instrument shows the highest measured value.
LO	The instrument shows the lowest measured value.
HI91531K and HI91532K only:	
MEM	The value of the temperature memorized is recalled.
MEM	Freezes current reading on the display and stores the reading value into memory.
HOLD	
HI91532K only:	
K1	The instrument shows the temperature measured by probe 1.
K2	The instrument shows the temperature measured by probe 2.
Δ	The instrument shows the difference between the temperature measured by the two probes.
HI9063 only:	
Er	The probe is not connected to the instrument or the reading is out of range.
Eb	Low battery error, replace the batteries.
M (blinking)	HOLD function is active.

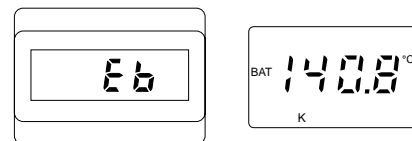
## CALIBRATION

All Hanna Instruments thermometers have been accurately pre-calibrated at the factory. It is generally recommended to have all thermometers recalibrated at least once a year.

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

## BATTERY REPLACEMENT

The instrument stops to operate when the low battery signal is detected. This is indicated by the code "Eb" in HI9063 and "BAT" in all other items.

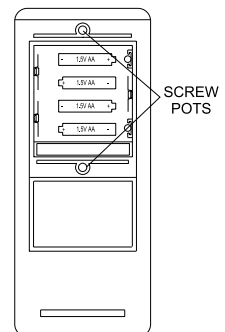


Battery replacement must only take place in a non hazardous area using the battery types specified in this instruction manual (see page 17).

To install the batteries, turn the unit over and unscrew the 2 screws on the battery cover.

Remove the battery cover exposing the battery compartment as shown in the diagram. Unwrap the four new 1.5 V AA batteries prior to installation.

Place the batteries in the compartment while paying attention to their polarity (see diagram). After the batteries are installed, replace the battery cover to the back of the instrument.

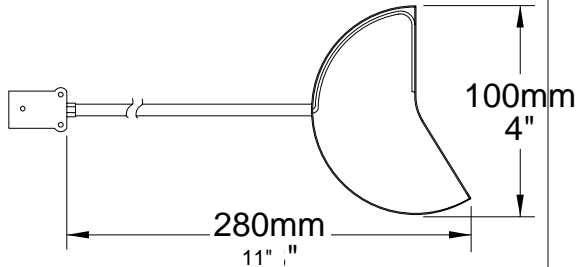


## ACCESSORIES

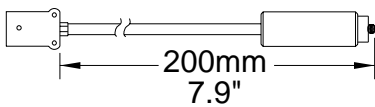
### K-TYPE THERMOCOUPLE PROBES

WITH DETACHABLE HANDLE & MINI-CONNECTOR  
(to be used in conjunction with the HI 766HD probe handle):

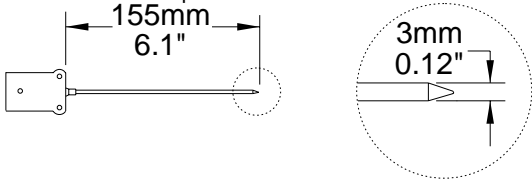
HI 766PA Roller surface probe, max 320°C/600°F



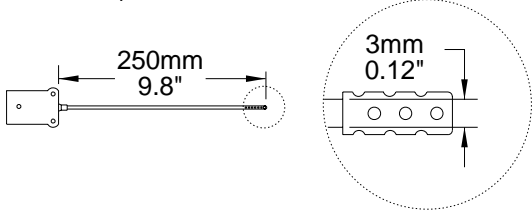
HI 766PB Surface probe, max 650°C/1200°F



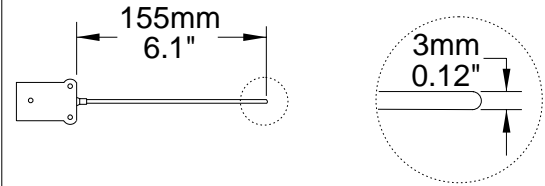
HI 766PC Penetration probe, max 900°C/1650°F



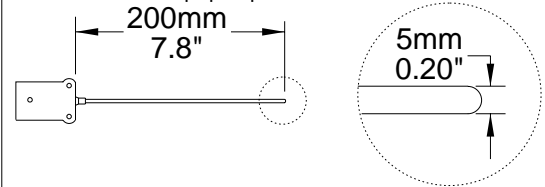
HI 766PD Air probe, max 300°C/570°F



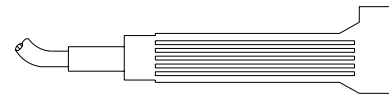
HI 766PE1 General purpose probe, max 900°C/1650°F



HI 766PE2 General purpose probe, max 900°C/1650°F

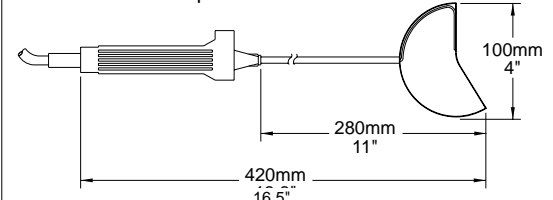


HI 766HD Rugged thermocouple probe handle with 1m (3.3') cable fitted with a mini-connector

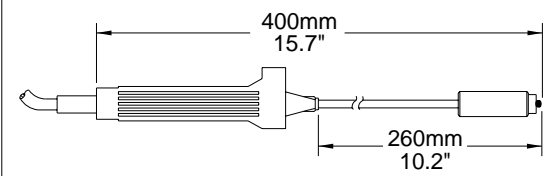


WITH INTEGRAL HANDLE, 1 M CABLE & MINI-CONNECTOR:

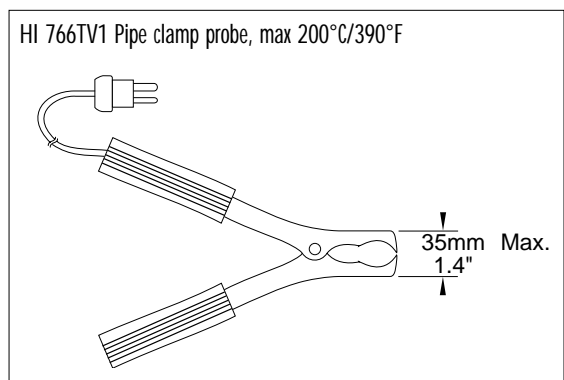
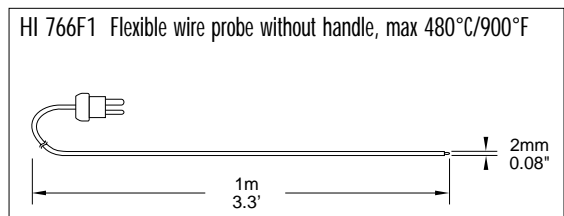
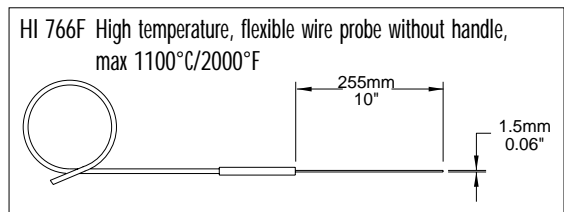
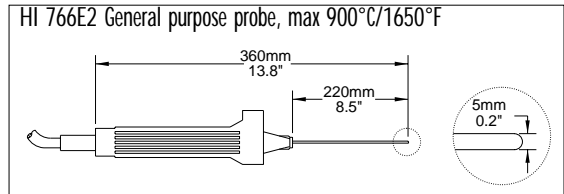
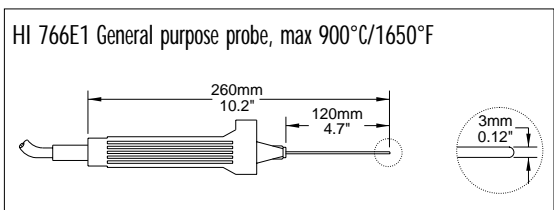
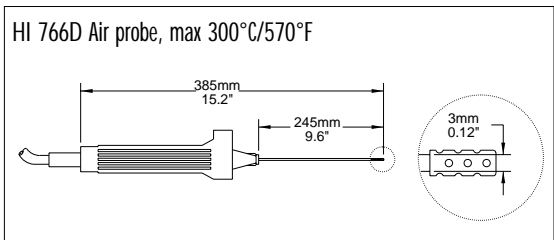
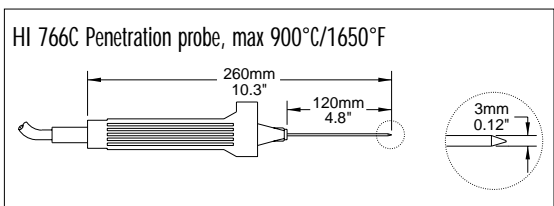
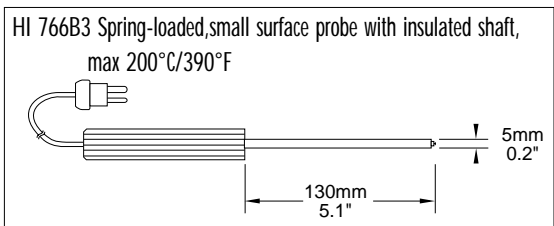
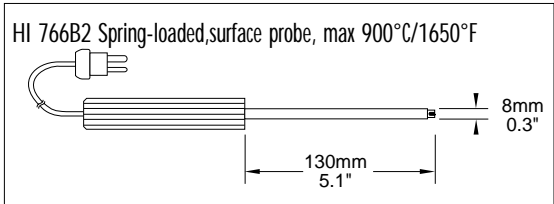
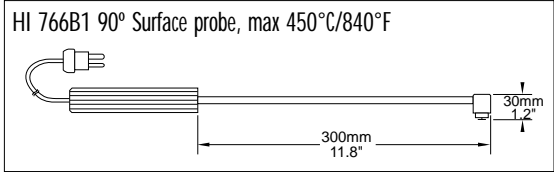
HI 766A Roller surface probe, max 320°C/600°F



HI 766B Surface probe, max 650°C/1200°F







**OTHER ACCESSORIES**

- HI 721308 1.5V, AA size alkaline battery (10 pcs)
- HI 721318 Hard carrying case holding up to 3 temperature probes, dimensions: 340x 230 x 90 mm
- MANKWPR2 Instruction Manual

## 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 instructions. The electrodes and the probes are warranted 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.


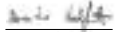
If service is required, contact the dealer from whom you purchased the instrument. If under warranty, report the model number, date of purchase, serial number and the nature of the failure. If the repair is not covered by the warranty, you will be notified of the charges incurred. If the instrument is to be returned to Hanna Instruments, first obtain a Returned Goods Authorization number from the Customer Service department and then send it with shipping costs prepaid. When shipping any instrument, make sure it is properly packaged for complete protection.

To validate your warranty, fill out and return the enclosed warranty card within 14 days from the date of purchase.

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

## CE DECLARATION OF CONFORMITY

						
<b>CE</b>						
<b>DECLARATION OF CONFORMITY</b>						
We						
Hanna Instruments Srl V.le delle industrie 12 35010 Ronchi di Villafranca (PD) ITALY						
herewith certify that the thermometers						
<b>HI 9063 HI 91530K HI 91531K HI 91532K</b>						
have been tested and found to be in compliance with the following regulations:						
<table><tr><td><b>IEC 801-2</b></td><td>Electrostatic Discharge</td></tr><tr><td><b>IEC 801-3</b></td><td>RF Radiated</td></tr><tr><td><b>EN 55022</b></td><td>Radiated, Class B</td></tr></table>	<b>IEC 801-2</b>	Electrostatic Discharge	<b>IEC 801-3</b>	RF Radiated	<b>EN 55022</b>	Radiated, Class B
<b>IEC 801-2</b>	Electrostatic Discharge					
<b>IEC 801-3</b>	RF Radiated					
<b>EN 55022</b>	Radiated, Class B					
Date of Issue: <u>01-03-1996</u>	 D. Volpato - Engineering Manager 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 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 24VAC or 60VDC.

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

In particular cases the meters could turn off. In such cases they can be turned on by pressing the ON/OFF key.

PRINTED IN ITALY

MANKWPR3  
05/98



<http://www.hannainst.com>