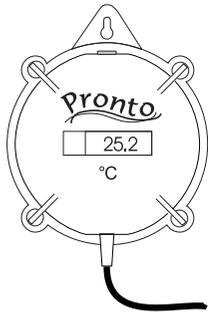


Instruction Manual

pronto

(HI 146-00, HI 146-01 & HI 146-99)

Thermometers



HANNA[®]
instruments

www.hannainst.com

Dear Customer,
Thank you for choosing a Hanna Instruments product.
Please read this instruction manual carefully before using the instrument.
If you need additional technical information, do not hesitate to e-mail us at tech@hannainst.com or view our worldwide contact list at www.hannainst.com.

PRELIMINARY EXAMINATION

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

Each meter is supplied with battery and instructions.

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

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

GENERAL DESCRIPTION

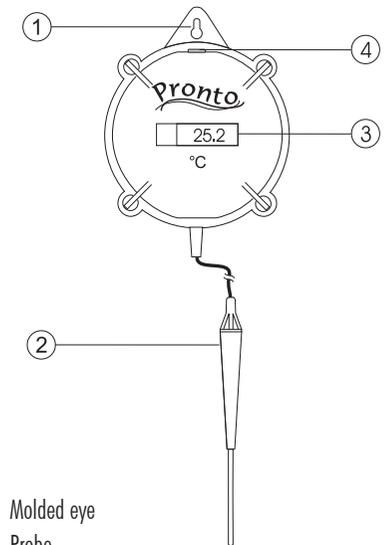
These instruments are specially designed to meet the needs of simple continuous monitoring of temperature. You can simply hang the meter right above the sample to be tested for continuous measurement. The probe is easy to clean and requires little maintenance. Three models are available:

- **HI 146-00** displays temperature in Centigrade degrees in IP54 casing (The housing has been completely sealed against vapors and humidity).
- **HI 146-01** displays temperature in Fahrenheit degrees in IP54 casing (The housing has been completely sealed against vapors and humidity).
- **HI 146-99** display temperature in Centigrade degrees in IP65 casing (The housing has been completely sealed against dust and humidity).

A protected switch allows a quick check of the meter accuracy at any time.

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FUNCTIONAL DESCRIPTION



1. Molded eye
2. Probe
3. Liquid Crystal Display
4. ON/OFF switch (not for HI 146-99)

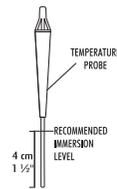
SPECIFICATIONS

HI 146-00	
Range	-50.0 to 150.0 °C
Resolution	0.1 °C
Accuracy	±0.3 °C (-20 to 90 °C), ±0.5 °C (outside)
HI 146-01	
Range	-58.0 to 302 °F
Resolution	0.1 °F (-58.0 to 199.9 °F), 1 °F (200 to 302 °F)
Accuracy	±0.5 °F (-4 to 194 °F), ±1 °F (outside)
HI 146-99	
Range	-50.0 to 150 °C
Resolution	0.1 °C
Accuracy	±0.3 °C (-20 to 90 °C), ±0.5 °C (outside)
Common Specifications	
Probe	Stainless steel probe with 2 m (6.6') cable
Battery Type	1 x 1.5V AA alkaline
Battery Life	approx. 3 000 hours
Environment	0 to 50 °C (32 to 122 °F); RH max 95%
Dimensions	86 x 110 x 43 mm (3.4 x 4.3 x 1.7")
Weight	150 g (5.3 oz.)

OPERATIONAL GUIDE

OPERATION

- Open the back cover and mount the battery (see "Battery Replacement").
- Dip the probe in the sample to be tested. An immersion level of 4 cm (1 ½") is recommended.
- Do NOT immerse the probe handle.
- Do NOT wrench the probe or put heavy objects on the cable. If the cable is damaged, the meter needs to be replaced.
- Press ON/OFF switch to power on the meter (not for HI 146-99).
- Wait for a few seconds for the display to stabilize.
- Variations in readings or fading display can indicate a weak battery.



CALIBRATION CHECK SWITCH

Remove the back cover and move the internal switch to the "TEST" position.

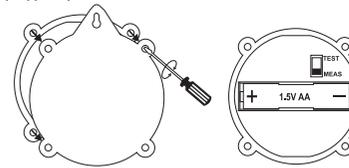
The display should show $0.0\text{ °C} \pm 0.3\text{ °C}$ ($32.0\text{ °F} \pm 0.5\text{ °F}$). Contact your dealer or the nearest Hanna Service Center for recalibration, if necessary.

To return to the measurement mode, move back the switch to "MEAS" position. Replace the back cover and tighten the screws.

BATTERY REPLACEMENT

When the display fades, remove the back cover and replace the 1.5V AA battery with a new one, while paying attention to its polarity. Reattach the back cover while ensuring that the gasket is in place before tightening the screws.

Battery should only be replaced in a safe area using the battery type specified in this instruction manual.



WARRANTY

The meters are guaranteed for two years against defects in workmanship and materials when used for their intended purpose and maintained according to instructions. The probe is guaranteed for six months. This warranty is limited to repair or replacement free of charge.

Damages due to accidents, 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 problem. 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 Technical Service department and then send it with shipping costs prepaid. When shipping any instrument, make sure it is properly packaged for complete protection.

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 areas could cause unacceptable interferences to radio and TV equipment. 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.