

Operational Guide

Technical Service

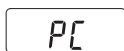
This instrument is factory calibrated, but it is generally recommended to have all thermometers recalibrated at least once a year.

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

Initial Operation

The logger is supplied complete with a CR2032 lithium battery. Open the battery compartment cover (see "Battery Replacement" section for details), insert the battery with the + sign facing up and tighten back the compartment cover.

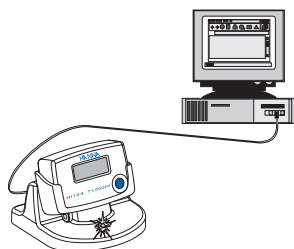
The display will show the "PC" message to indicate that the logger needs to be programmed through a PC.



Startup

In order to communicate with the logger, the application software must be installed on your PC.

Connect **HI144002** communication cradle to your computer through a USB port, and place the **HI144** on the cradle.



Run the application software. The yellow LED on the cradle blinks to indicate that the communication is active. **Do not remove the logger while the LED is blinking.**

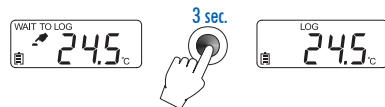
The following operating parameters can be set:

- Measurement Unit: °C or °F
- Starting Type: PC Start, Button Start or Date/Time Start (hh:mm:ss)
- Logging Method: Wrap Around Memory, until memory is full (at 8000 samples) or number of samples (a maximum of 8000)
- Logging Interval: from 1 minute to 24 hours (1 minute resolution)
- High and Low Alarm thresholds
- Logger Password

Click on the **Program** key to program the logger with the selected options.

If the starting type was set to **PC Start**, then the **Start** key will become active. Click to **Start**.

If the starting type was set to **Button Start**, then the logger display will indicate that the logger button has to be pressed to start logging. Keep the button pressed for about 3 seconds.



If the starting type was set to **Date/Time Start**, then the logger will automatically start logging at the programmed time.

Button Functions

Pressing the logger button will give different outputs depending on the logger status.

- If the logger is in "WAIT TO LOG" status, then pressing the button will navigate through current measurement, high and low alarm thresholds.



- If the logger is in "LOG" or "LOG DONE" status, then pressing the button will navigate through current measurement, maximum and minimum recorded values.

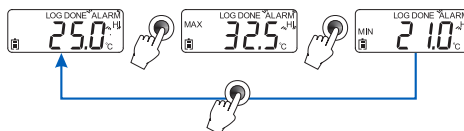


- If you keep the button pressed, after 2 seconds the display will show alternatively (toggle every 2 seconds) the high and low alarm thresholds.



Notes:

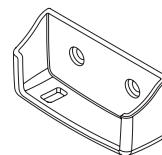
- If an alarm threshold has not been set, then the logger will display the "dis" (disabled) message.
- If an alarm condition has occurred during logging, then in the "LOG" or "LOG DONE" status the corresponding alarm indication ("ALARM HI" or "ALARM LO") will blink.



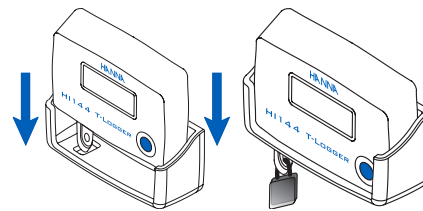
Wall Installation

The logger is supplied complete with wall cradle and lock (mounting materials as screws and dowels are not included).

Position the wall cradle at the desired location and fix it to the wall with proper screws.



Insert the logger into the cradle and secure it with the supplied lock.



HI144 T-Logger



Certification

All Hanna Instruments products conform to CE RoHS compliant European Directives.

Disposal of Electrical & Electronic Equipment. The product should not be treated as household waste. Instead hand it over to the appropriate collection point for the recycling of electrical and electronic equipment which will conserve natural resources.

Disposal of waste batteries. This product contains batteries, do not dispose of them with other household waste. Hand them over to the appropriate collection point for recycling. Ensuring proper product and battery disposal prevents potential negative consequences for the environment and human health. For more information, contact your city, your local household waste disposal service, the place of purchase or go to www.hannainst.com.

Recommendations for Users

Before using Hanna Instruments products, make sure that they are entirely suitable for your specific application and for the environment in which they are used. Any variation introduced by the user to the supplied equipment may degrade the meter's performance. For yours and the instrument safety do not use or store the instrument in hazardous environments.

Warranty

HI144 logger and communication cradle are warranted for two years against defects in workmanship and materials when used for their 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 your local Hanna Instruments Office. 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 (RGA) 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.

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 or appearance of its products without advance notice.

Thank You

Thank you for choosing a Hanna Instruments product. Please read this instruction manual carefully before using the meter.

For more information about Hanna Instruments and our products, visit www.hannainst.com or e-mail us at sales@hannainst.com.

For technical support, contact your local Hanna Instruments Office or e-mail us at tech@hannainst.com

Find your local Hanna Instruments Office on www.hannainst.com

Preliminary Examination

Remove the instrument from the packing and examine it carefully to make sure that no damage has occurred during shipping. Notify your nearest Hanna Customer Service Center if damage is observed.

Each **HI144** is supplied with:

- CR2032 lithium battery
- wall cradle
- lock
- instruction manual

Each **HI144-10** is supplied with

- **HI144**
- **HI144002** USB communication cradle
- **HI92144** Windows® compatible application software uploaded on a USB stick
- CR2032 lithium battery
- wall cradle
- lock
- instruction manual

Note: Save all packing material until you are sure that the meter works correctly. Any damaged or defective items must be returned in their original packing material together with the supplied accessories.

General Description

HI144 is a temperature data logger with internal NTC sensor able to memorizes 8000 logs. The user can program the device or download the logged data through the **HI144002** USB communication cradle. The **HI92144** Windows® compatible application software supports the communication between the logger and the PC.

The main features of **HI144** temperature logger include:

- Up to 8000 logged samples
- Selectable logging interval, from 1 minute to 24 hours
- Selectable measurement unit, °C or °F
- Programmable high and low alarms
- Logger password
- Logging through PC Start, Button Start or Data/Time Start
- Non-volatile logging parameters and data storage
- Storage and display of minimum or maximum measured values
- Battery level indicator on display
- IP65 protection

Specifications

Range	-30.0 to 70.0 °C / -22.0 to 158.0 °F
Resolution	0.1°C / 0.1°F
Accuracy	± 0.4 °C (-20 to 60 °C); ± 0.6 °C (outside) ± 0.7 °F (-4 to 140 °F); ± 1.1 °F (outside)
Calibration	Factory calibrated
Data Logging	Up to 8000 samples
Logging Interval	User selectable, from 1 minute to 24 hours
Battery Type	1 x CR2032 3V lithium battery
Battery Life	2 years
Environment	0 to 50 °C (32 to 122 °F) RH max. 100%
Dimensions	60 x 37 x 17 mm (2.4 x 1.5 x 0.7")
Weight (with batteries)	29.4 g (1 oz.)
Casing Ingress	
Protection Rating	IP65 (watertight)

Data transfer to PC

To download logged data, remove the logger from its installation and place it on **HI144002** communication cradle connected to your PC through a USB port.

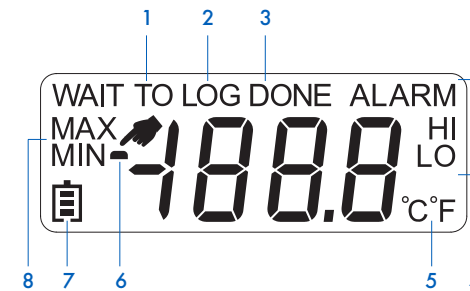
The memory content can then be downloaded from the instrument to the PC using the Windows® compatible application software offered by Hanna Instruments.

This software allows you to use the powerful capabilities of most spread sheet programs (e.g. Excel®, Lotus 1-2-3®) and to make any elaboration available (e.g. graphics, statistic analysis, etc.).

The user-friendly online help and clear messages will support you throughout.

During data transfer the yellow LED on the cradle blinks to indicate that the communication is active. **Do not remove the logger while the LED is blinking.**

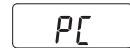
LCD Functional Description



1. "WAIT TO LOG": Waiting to start logging
2. "LOG": Logging in progress
3. "LOG DONE": Logging completed
4. High and Low alarm values
5. Measurement unit
6. Start by pressing the logger button
7. Battery level indicator
8. Maximum and minimum logged values

Battery Replacement

Each time the battery is installed, the logger enters reset status and displays the "PC" message.



Then it starts to calculate remaining battery life and displays current battery level through a 4-tag indicator.



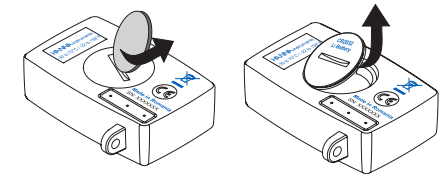
When the last tag (empty battery) starts blinking, the battery level is below 5%. It is recommended to change the battery with a new one.



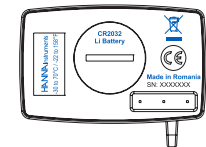
Battery replacement must only take place in a safe area and using the appropriate battery type (CR2032 3V lithium battery).

Note: It is recommended to use a new battery for replacement, otherwise the battery level indication could be not reliable.

When the battery needs to be replaced, open the battery compartment cover at the back using a small coin. Turn counter-clockwise to open.



Insert the new battery with the + sign facing up, tighten back the compartment cover and program the instrument.



Note: Dispose the depleted battery (Li) according to local regulations.