

Dear Customer,

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

PRELIMINARY EXAMINATION

Remove the thermologger from the packing material and examine it carefully. For further assistance, please contact your local Hanna Instruments Office or email us at tech@hannainst.com.

Each thermologger is supplied complete with batteries and instructions.

Note: Ensure that the meter functions correctly and save all packing material. Items that need to be returned must be returned in their original packing material with the supplied accessories.

GENERAL DESCRIPTION

HI140 series is a family of temperature loggers with different ranges (see “Specifications” table). The user can interact with the meter, i.e. acquire logged data or set logger parameters, through an RS232 communication protocol and a PC.

The HI92140 Windows® compatible software supports the communication between the instrument and the PC through the HI90140 infrared transmitter.

To allow our users access to the latest version of Hanna Instruments PC compatible software, we made the products available for download at <http://software.hannainst.com>. Select the product code and click **Download Now**. After download is complete, use the **setup.exe** file to install the software.

The HI140 main features are: selectable logging enable/disable; programmable high and low alarm thresholds; programmable logging interval; logging start delay; programmable user ID; green and red LED indicators; RS232 optical communication link; non-volatile data storage in EEPROM of logging parameters and logged data; programmable real time clock; BEPS (Battery Error Prevention System). The loggers can memorize up to 7600 samples.

The expected battery life is about 4 years at 25 °C operating temperature.

All thermologgers are factory calibrated.

The case of the loggers is waterproof IP67. A plastic window on the top case enables optical data transmission to the HI90140 infrared transmitter and status indication for the user. The two external LEDs are used for communicating with the transmitter, while the logger status is indicated by the 2 central LEDs (green and red) as follows:

1. GREEN LED ALWAYS ON: this condition occurs when the meter has been reset, i.e. when batteries are changed, requiring a new setting of the logger parameters.
2. GREEN LED FLASHES ONCE EVERY 4": the meter is logging.
3. GREEN LED FLASHES TWICE EVERY 4": the meter is waiting for a delayed logging start.
4. RED LED FLASHES: an alarm condition has occurred (at least once).



SPECIFICATIONS

Model	Range	Resolution	Accuracy
HI140A(H)	-30.0 to 70.0 °C	0.5 °C	±1.5 °C
	-22.0 to 158.0 °F	0.5 °F	±3 °F
HI140B(H)	-10.0 to 30.0 °C	0.2 °C	±0.5 °C
	14 to 86 °F	0.4 °F	±1 °F
HI140C(H)	-30.0 to 10.0 °C	0.2 °C	±0.5 °C
	-22 to 50 °F	0.4 °F	±1 °F
HI140D(H)	20.0 to 60.0 °C	0.2 °C	±0.5 °C
	68 to 140 °F	0.4 °F	±1 °F
HI140E(H)	-30.0 to -10.0 °C	0.1 °C	±0.3 °C
	-22 to 14 °F	0.2 °F	±0.6 °F
HI140F(H)	20.0 to 40.0 °C	0.1 °C	±0.3 °C
	68 to 104 °F	0.2 °F	±0.6 °F
HI140G(H)	-5.0 to 15.0 °C	0.1 °C	±0.3 °C
	23 to 59 °F	0.2 °F	±0.6 °F
HI140H(H)	10 to 120 °C	1 °C	±2 °C
	50 to 248 °F	2 °F	±4 °F

Part numbers ending with “H” are provided with a molded eye (hook) for easy mounting. Models HI140H & HI140 HH are provided with an external probe with 1.5 m (5') cable.

	HI140	HI90140
EXTERNAL DIAMETER	86.5 mm (3.4")	159 mm (6.3")
HEIGHT	35 mm (1.4")	47.5 mm (1.9")
WEIGHT	150 g (5.54 oz.)	150 g (5.54 oz.)

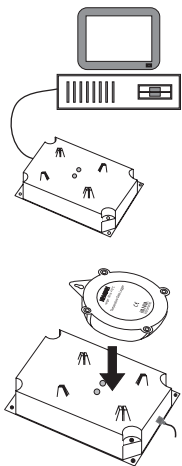
START UP

In order to communicate with the HI140 thermologger, the HI92140 application software must be installed on your PC.

Connect the HI90140 infrared transmitter to your computer through an RS232 port.

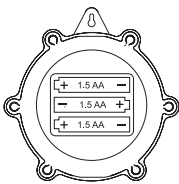
Place the HI140 on the transmitter as shown in the picture.

Run the HI92140 software and refer to the on-line help for any further information about setting the parameters of the logger, acquire logged data, etc.



BATTERY REPLACEMENT

Battery replacement must only take place in a non hazardous area using the appropriate battery type (1.5V AA). When the batteries need to be replaced, simply remove the screws on the rear cover of the logger and replace the three batteries with new ones, while paying attention to the correct polarity. After replacing the batteries, press the reset button on the printed circuit board. The red LED blinks and then the green LED stays on. Reattach the cover and tighten the screws.



Note: Each time the batteries are replaced, all logger parameters have to be set again by the user as soon as possible to avoid draining the batteries.

RECOMMENDATIONS FOR USERS

Before using this product, make sure it is entirely suitable for your specific application and for the environment in which it is used. Any variation introduced by the user to the supplied equipment may degrade the logger's performance. For yours and the logger's safety do not use or store the logger in hazardous environments.

CERTIFICATION

All Hanna Instruments conform to the CE 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.



RoHS
compliant



WARRANTY

HI140 loggers are guaranteed 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. Damage due to accidents, misuse, tampering or lack of prescribed maintenance is 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 packed 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.

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INSTRUCTION MANUAL

HI140 Series of Thermologgers & HI90140 Infrared Transmitter



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instruments