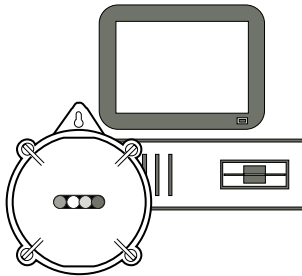


## **Instruction Manual**

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### **HI 92140/16 • HI 92140/32** Communication Software for HI 140 Temperature Loggers



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<http://www.hannacan.com>

Dear Customer,

Thank you for choosing a Hanna product. Please read this instruction manual carefully before using the software. This manual will provide you with all the necessary information for the correct installation and use of the program. If you need more technical information, do not hesitate to e-mail us at [techserv@hannacan.com](mailto:techserv@hannacan.com).

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## **PRELIMINARY EXAMINATION**

Remove the diskettes from the packing material and examine them to make sure that no damage has occurred during shipping. If any diskette is missing or damaged, please notify your Dealer.

**Note:** Save all packing material until you are sure that the diskettes function correctly. All defective items must be returned in the original packing with the supplied accessories.

## GENERAL DESCRIPTION

This program allows communication with the **HI 140** thermologgers. The program part numbers are **HI 92140/16** for the 16 bits version (Windows®3.11) and **HI 92140/32** for the 32 bits version (Windows®95). This is indicated on the top of the screen.

With the program the user can:

- enable or disable logging;
- program/request the User ID code (4 characters);
- set/request the Logging Interval (selectable from 1 minute to 23 hours and 59 minutes);
- set/request the High and Low alarm threshold: Alarm can be disabled;

- set/request the Logging Delay Start (selectable from (0 minute to 23 hours and 59 minutes);
- set/request the Real Time Clock (24 hour format);
- monitor the power supply of the logger (see BEPS: Battery Error Preventing System);
- request the lot data;
- set the communication port;
- enable/disable the request of all the logger parameters at connection;
- set/request starting and ending logging time;
- set/request the maximum number of samples to log;
- get on-line help.

### **HARDWARE REQUIREMENTS**

To use **HI 92140** on your computer, make sure you have the following minimum system requirements:

- A 486 PC;
- 4 Megabyte of RAM memory;
- A hard disk with 5 Megabyte free disk space;
- One mouse serial port and another one for the communication cable (if a mouse port is not available, the keypad can also be used).

### **SOFTWARE REQUIREMENTS**

The program needs Windows®3.11 (**HI 92140/16**) or Windows®95 (**HI 92140/32**). The program may not work properly if other communication programs (modem, fax, etc.) are running at the same time.

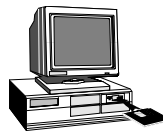
Windows®, Excel®, Word® are Registered Trademarks of "Microsoft Co."

## INSTALLATION

The files on the **HI 92140** diskettes are compressed and cannot be used until the installation has been completed.

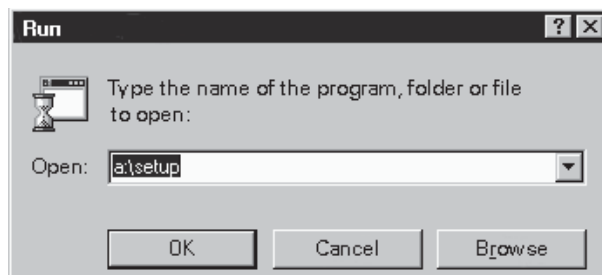
Turn your computer on and start Windows®.

Insert the #1 diskette into the appropriate drive.



Prior to running the setup program, close all Windows® applications. Then choose the **Run** command from the startup menu in Windows®95 or from the File menu of the Program Manager window in Windows®3.11 and type **a:\setup**.

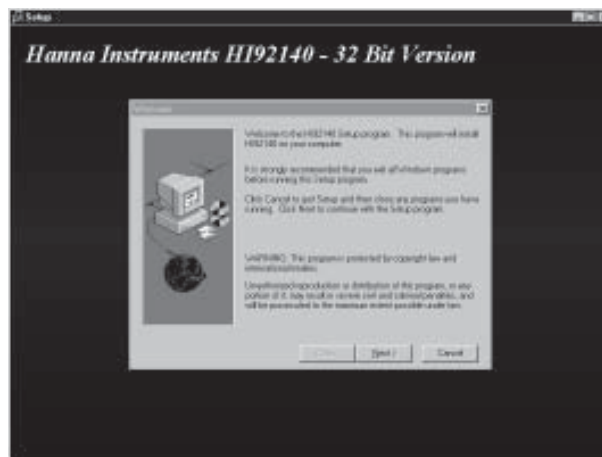
The setup program will start running and will load the setup files into memory.



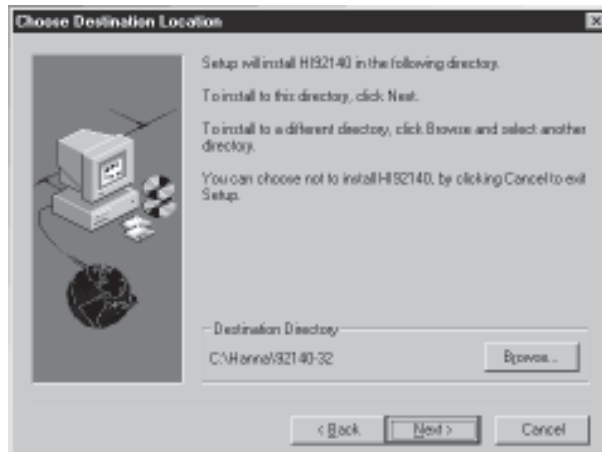
Follow the instructions and insert the successive diskettes when requested.  
The dialog boxes of the installation program are described step-by-step in the following pages.



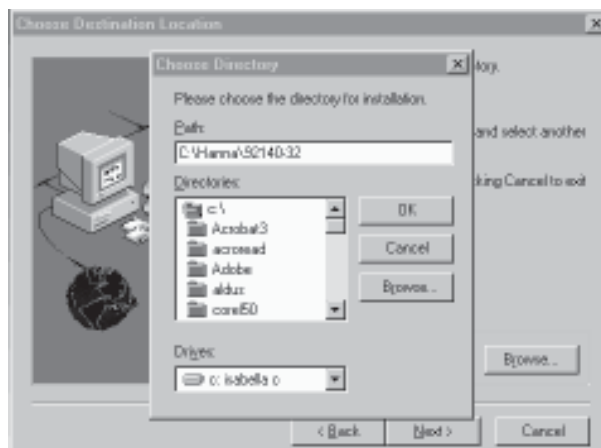
When the **Installation Program** dialog box appears click on **Next** button or press **Enter** key to proceed with the installation. By pressing **Cancel** you can exit the setup program.



The program will then display a dialog box to confirm the installation directory for HI 92140 software. The default directory is: **C:\Hanna\92140-32** (or -16 for Windows® 3.11 version).



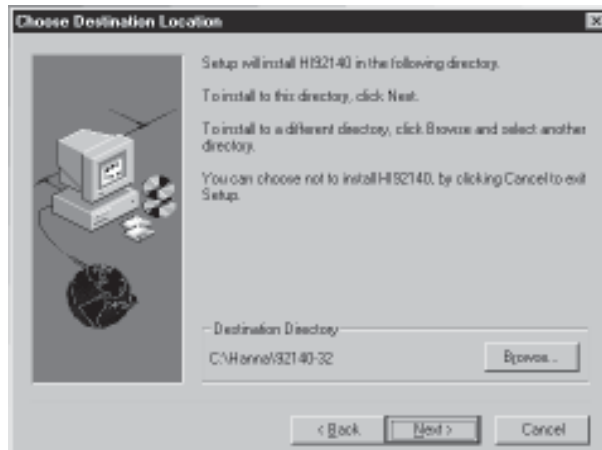
To change the directory, press the **Browse** button. The following window appears:



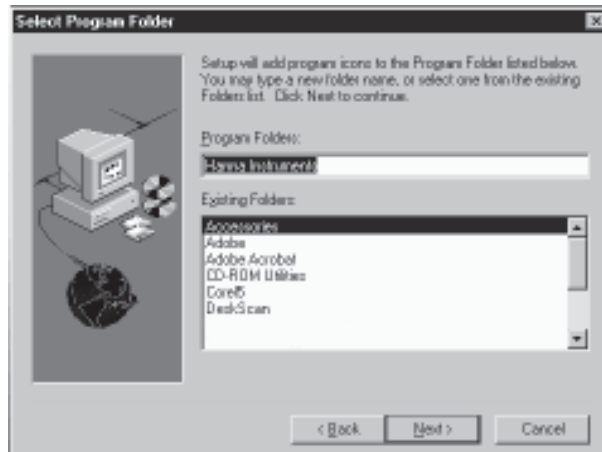
From the **Directories** box, select the new directory. If you want to change the drive, use **Drives** menu to select the drive where the program files will be installed.

**Note:** You can create a new directory by simply writing the correct path in the appropriate box.

To confirm your choice press the ENTER key or click on the **OK** button and the program will return to the previous window (Choose Destination Location).

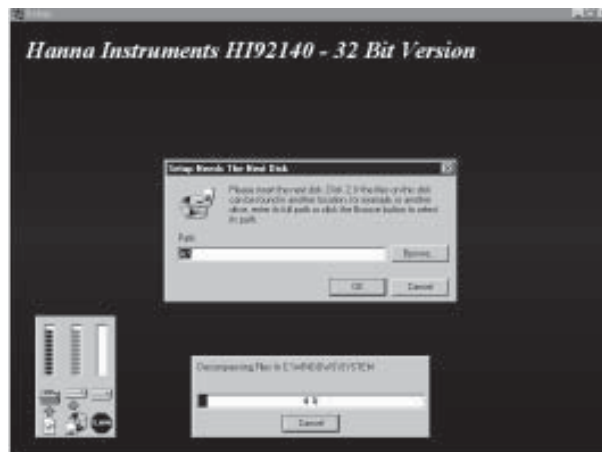


Click **Next** to proceed with the installation.  
The program will then display a window that allows the user to confirm or change the program folder to which **HI 92140** will be added. The default is Hanna Instruments.

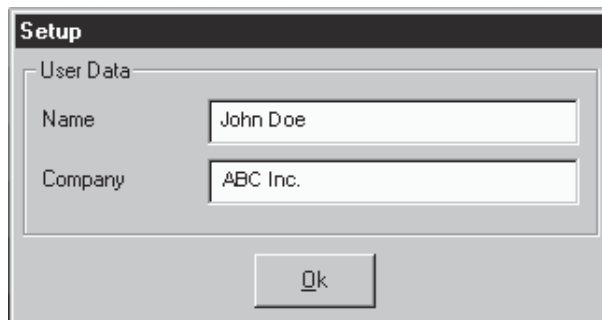


You can either choose an existing folder by simply clicking on its name or write a new name in the Program Folders box.

Click on **Next** to continue the installation. The program will now install the program files. Insert the successive

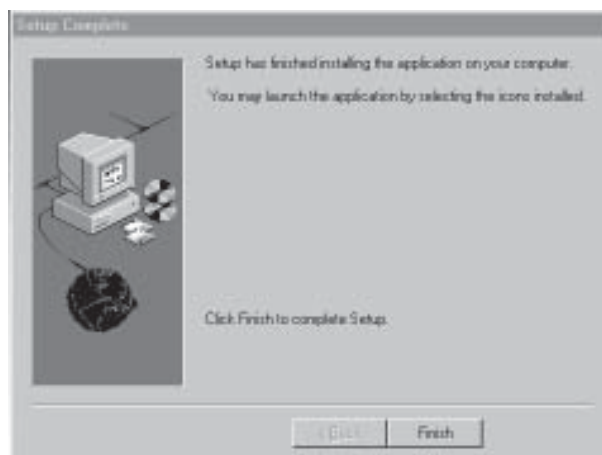


diskettes and press **OK** or the **Enter** key when requested. Prior to finishing the installation, the program will ask you to register. Click **OK** and the Registration window will appear.



The image shows a 'Setup' dialog box with a dark title bar. Below the title bar, there is a section labeled 'User Data' enclosed in a light gray border. Inside this section, there are two text input fields. The first field is labeled 'Name' and contains the text 'John Doe'. The second field is labeled 'Company' and contains the text 'ABC Inc.'. Below the 'User Data' section, there is a single button labeled 'Ok' with a small underline under the 'k'.

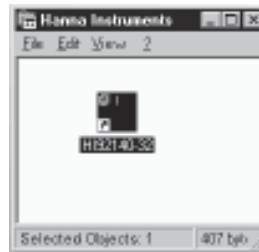
Enter all the requested information.  
After a few seconds, the program will notify the end of the installation procedure.





Click **Finish** to complete the Setup Procedure.

When the installation is completed, a **HI 92140** Program Folder (Program Group for



Windows 3.11) and icon are created.

**Note:** Store the set of diskettes in a safe place away from heat, dust and magnetic fields.

#### **Removing the program**

In case you need to remove **HI 92140** from your computer, it is recommended not to delete files, but to uninstall the application correctly. To do this for Windows®95, run install/uninstall applications from the control panel; for Windows®3.11 simply run the disinstallation program with a double click on the icon provided in the **HI 92140** Program Group.

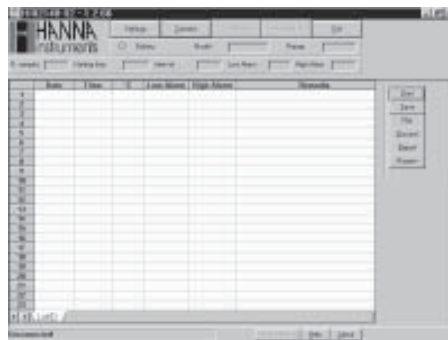
## INITIAL PREPARATION

**HI 92140** is an application software designed for use with the HI 140 series of NTC temperature loggers. The meter is connected to the computer through **HI 90140** infrared transmitter. Simply plug the transmitter to the computer through the RS232 port and place the **HI 140** on it.


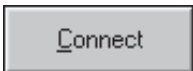
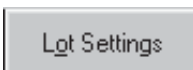

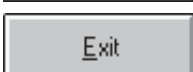
When all the connections are made, you can start the program with a double click on its icon in the program window (or either through the Startup menu for Windows<sup>®</sup>95 users).

## USING HI 92140

The program can be started once the thermologger is placed on the transmitter and the transmitter is connected to the PC. The main window will then look like the following:



In the upper part of the main window the following buttons are present:

	<b>Settings</b> , to enter the settings dialog box;
	<b>Connect/Unconnect</b> , to connect the instrument;
	<b>Lot Settings</b> , to set the parameter for the next recording
	<b>Request Lot</b> , to retrieve the current lot from the logger
	<b>Exit</b> , to exit the program

Connect the instrument by clicking **Connect**. In this way, the program retrieves and displays information about the logger model and its temperature range. The following relevant information about the logger are also available:

- number of recorded samples;
- logging start time;
- interval between each sample;
- alarm settings;
- logger's battery status (through an LED).

The screenshot shows the HANNA Instruments software interface. At the top, there are menu options: Settings, Unconnect, Lgt Settings, Request Lot, and Exit. Below these are fields for Battery status, Model (HI1400), and Range °C (20...60). There are also fields for N. samples (0), Starting time (15:44), Interval (00:01), Low Alarm, and High Alarm. The main part of the interface is a table with the following data:

	Date	Time	°C	Low Alarm	High Alarm	Remarks
1	03-09-97	15:44	24.8	--	--	
2	03-09-97	15:45	24.8	--	--	
3	03-09-97	15:46	24.9	--	--	
4	03-09-97	15:47	24.9	--	--	
5	03-09-97	15:48	25	--	--	

**Note:** A reduced set of parameters can be requested at connection disabling the “Logger parameters at connection” check box in the Settings Window (see below). In this case the main window will be updated with the logger model and range only.

The main window includes also a worksheet to display downloaded data. At the bottom the status bar is used to show all the useful messages and to monitor the activity of the program.

### **SETTINGS WINDOW**

To enter the settings window from the main window click on the Settings button.

You can choose one free comm port and the Celsius or Fahrenheit temperature format.

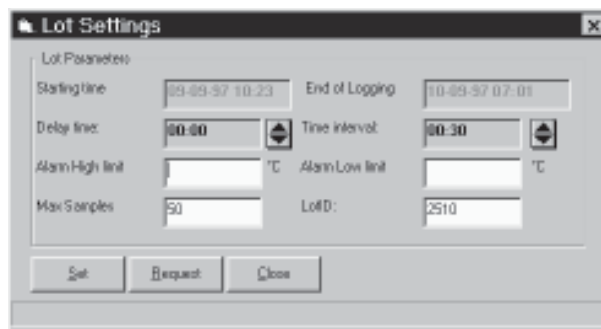
The baud rate is fixed at 1200 baud. The communication port can be chosen from COM1, 2, 3 and 4. If the message "Port not available" is displayed, the system is already using the port you have selected.



Clicking on the “Logger parameters at connection” check box at the bottom enables/disables the request of all the logger information at connection.

### **LOT SETTINGS**

By pressing the **Lot Settings** button in the main window you can enter a dialog box to set the logger for your next recording. The logging end time is automatically updated and displayed as you enter the lot data.



Select the desired time interval, the delay before logging, the low and high alarm values, the maximum number of samples, and the 4 characters lot identification number (default is 0000). Then click **Set** and after a few seconds the logger will be able to start working.

**Note:** The program automatically checks the values when the user selects the Set button.

Press **Request** to check if the setup has been fully performed and **Close** to close this dialog box and return to the main window.

**Note:** The **Lot Settings** button is available only when the logger is connected.

### **DISPLAY, EDIT & OUTPUT OF LOT DATA**

To download data the instrument must be connected.

To retrieve the logged data press the **Request Lot** button in the main window. After a few seconds the worksheet will display the logged sample and their



relative date and time together with the low and high alarm if any and the lot identification code.

The screenshot shows the HANNA Instruments software interface. At the top, there are menu options: 'Technic', 'Engineer', 'Lot Settings', 'Sensor List', and 'Data'. Below these are several control buttons: 'Status', 'Reset', 'Range', 'Range C', 'Interval', 'Low Alarm', and 'High Alarm'. The main area is a data log table with the following columns: 'Date', 'Time', '°C', 'Low Alarm', 'High Alarm', and 'Remarks'. The table contains 13 rows of data, with the first row starting at 09:03:57 and 28.2°C. The 'Remarks' column is currently empty. On the right side of the table, there are buttons for 'Print', 'Print', 'Default', 'Backup', and 'Refresh'. At the bottom of the window, there is a status bar with the text 'Requesting Logged Data done' and 'Configure | Model Settings | Help | 2004'.




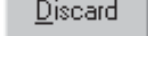
	Date	Time	°C	Low Alarm	High Alarm	Remarks
1	09-03-07	09:03	28.2	--	--	
2	09-03-07	09:04	28.1	--	--	
3	09-03-07	09:05	28.0	--	--	
4	09-03-07	09:06	28.0	--	--	
5	09-03-07	09:07	28.0	--	--	
6	09-03-07	09:08	28.0	--	--	
7	09-03-07	09:09	28.0	--	--	
8	09-03-07	09:10	28.0	--	--	
9	09-03-07	09:11	28.0	--	--	
10	09-03-07	09:12	28.0	--	--	
11	09-03-07	09:13	28.0	--	--	
12	09-03-07	09:14	28.0	--	--	
13	09-03-07	09:15	28.0	--	--	



User can add remarks in the last column. Note that the first line of remarks will be shown on the plot print out too (see below) so that it can be used to record the logging place or any other additional information.

**Note:** The label at the bottom of the worksheet is the sheet name. As a default, it reports the lot ID as in the **Lot Settings** window. As in Excel®, you can change the sheet name by double clicking the label and typing a new name in the prompted dialog box.

It is also possible to save, print, plot, discard current or previously stored data.

On the right side of the main window there are several other buttons:

- |   |  |
|---|--|
|  | <b>Print</b> , to print the data on the current worksheet;                     |
|  | <b>Save</b> , to save the data on the current worksheet (in Excel®4.0 format); |
|  | <b>Plot</b> , to plot the data on the current worksheet and print it;          |
|  | <b>Discard</b> , to clear the worksheet;                                       |

	<b>Report</b> , to get a summary of the lot information;
	<b>Review</b> , to review previously stored lot (in XLS format).

#### **Saving, Editing and Printing Data**

To print the data on the worksheet select the area you want to print and click **Print** (if no data are selected, the program will print all data on the worksheet). The standard Windows dialog box will appear, where print options may be chosen.

The save the lot press **Save**. As for Print, the standard dialog box allows the user to create a file in Excel 4.0 format.

The discard button clears all data from the current worksheet.

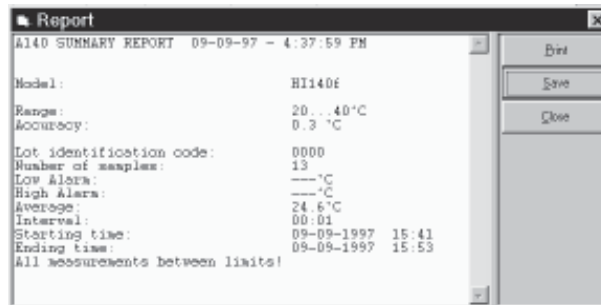
To review previously stored lot (in XLS format) press the **Review** button and select the file.

You can then modify, print or plot (see below) data on the worksheet.

**Note:** You can review one lot at a time. To open a new file first discard the current one and return to the main window.

#### **Viewing the Report**

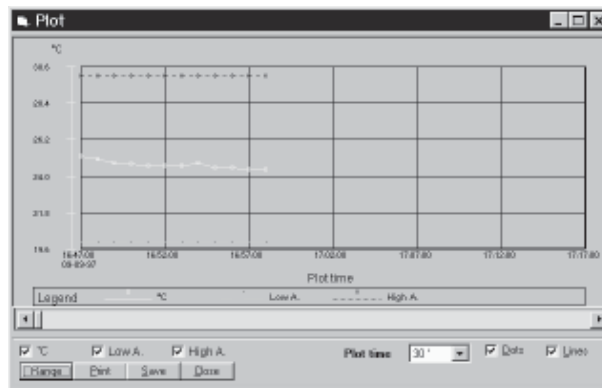
Pressing **Report** in the main window the Report dialog box will appear. The report contains summary information regarding the logger model and the current lot data such as the total number of samples, the number of times and the maximum time readings were outside the alarm bands.



The report can be printed, saved as .TXT file or closed (and return to the main window) by pressing the appropriate buttons in the Report window.

### **Plotting the Lot Data**

It is possible to obtain a plot of the data by pressing the **Plot** button. If no particular data rows are selected in the worksheet, the plot will include all data.



In case you want to plot just a particular batch of data, just select it in the worksheet, then press **Plot**.

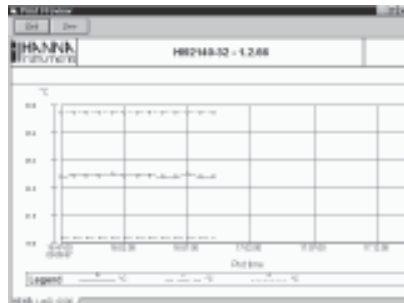
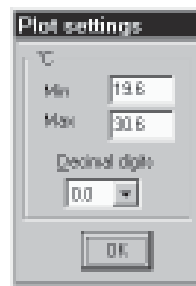
In the Plot window it is possible to select data categories to appear in the plot by clicking the 3 checkboxes located at the bottom (°C, Low Alarm, High Alarm).

Adjusting the horizontal axis resolution is done selecting the total plotting time in the Plotting time list. To move along plotted data you can use the horizontal scroll bar under the graph.

The two checkboxes on the right allow you to choose different displaying formats., i.e. if you want to have the data represented by lines, dots, or both. Generally speaking, if the number of samples is low, it might be better to display both lines and dots. While, for large samples, it is better to select lines.

The **Range** button opens the Plot Settings window which allows the range and the resolution to be selected on the vertical axis.

The **Print** button shows you a preview of the graph that can be immediately printed.



With a click of the mouse on the graph area user can obtain a magnified view of the plot. To go back to the standard view just click again on the graph.

By pressing the **Save** button, user can save the plot in a .WMF graphic format and export it to common programs such as Excel®, Word®, etc.

To close the plot window and return to the main window press **Close**.

**Note:** User can also add some remarks in the first line of the worksheet which will then be printed as description of the plot.

### **MODEL SETTINGS**

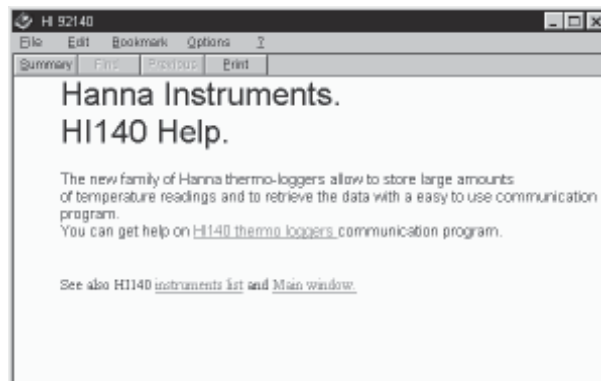
Users can get useful informations about the code of the model of the connected datalogger, its serial number and the number of firmware version by pressing the **Model Settings** button in the main window of the application. The Model Settings dialog box will then be displayed: just click on the Request button to let the program acquire these informations from the logger.



**Note:** These informations should be provided to the Customer Service in case of any requests of assistance.

### **GETTING HELP**

When in the main window, click on **Help** and the **HI 92140** Guide window will pop up.



### **EXIT THE PROGRAM**

To quit the program press **Exit** from the main window.

**Note:** Before quitting the program, it is recommended to disconnect the logger so that it may record a new set of data and to save the batteries.

### **ABOUT WINDOW**

Available from the main window with a click on **About** button (located at the bottom), this dialog box displays informations about version of the program, warranty, sales offices and trademarks.

## ACCESSORIES

HI 90140 Infrared transmitter for HI 140  
MAN92140R1 Instruction manual

## HI 140 MODELS

Without hook (molded eye):

HI 140A	-30.0 to 70.0°C
HI 140B	-10.0 to 30.0°C
HI 140C	-30.0 to 10.0°C
HI 140D	20.0 to 60.0°C
HI 140E	-30.0 to -10.0°C
HI 140F	20.0 to 40.0°C
HI 140G	-5.0 to 15.0°C

**With hook (molded eye):**

<b>HI 140AH</b>	-30.0 to 70.0°C
<b>HI 140BH</b>	-10.0 to 30.0°C
<b>HI 140CH</b>	-30.0 to 10.0°C
<b>HI 140DH</b>	20.0 to 60.0°C
<b>HI 140EH</b>	-30.0 to -10.0°C
<b>HI 140FH</b>	20.0 to 40.0°C
<b>HI 140GH</b>	-5.0 to 15.0°C

## **WARRANTY**

Unless explicitly stated in this agreement, the software and software documentation is provided and licensed "as is" without warranty of any kind, either express or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

Hanna Instruments warrants to a period of 90 days from the date of delivery that the Software will substantially conform to the Software documentation and specifications published by Hanna Instruments, and the media on which the Software is furnished will be free from defects in materials and workmanship under normal use. Hanna Instrument does not warrant that the functions contained in the Software will meet your requirements or that the operation of the Software will be either error-free or appear precisely as described in the Software documentation. You are responsible for selecting the Software to achieve your intended results and for the

installation, use and results obtained from the Software. The Software must be used with the computer and operating system for which it is designed, and in accordance with the Software documentation and specification requirements.

Hanna Instruments will replace defective media and documentation and correct substantial Software non-conformities at no charge, provided you return the item with dated proof of payment (in case of defect) or otherwise notify Hanna Instruments in writing (in case of substantial Software non-conformity) within 90 days from the date of delivery. If Hanna Instruments is unable to replace defective media or documentation or correct substantial Software non-conformities, Hanna Instruments will refund the license fee. These are your sole remedies for any breach of warranty. You or your dealer must return the enclosed registration card to Hanna Instruments in order for these remedies to be available to you and for you to be eligible for customer support and service during the warranty period.

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