



MiniM.O.L.E.® rH

Users Help Guide

Rev 4.3.3

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Equipment

The MiniM.O.L.E.[®] rH provides one Relative Humidity (rH) and one Temperature channel of static data logging, suitable for Dry Cabinet, manufacturing plant ambient monitoring. With LCD Display, Magnet start, 1 second to 10 day sample rate.



Features/Functions:

- **Start Switch:** This is an internal switch that is triggered when using the [Start Magnet](#).
- **Relative Humidity (rH) & Temperature Sensors:** These are an external Relative Humidity Type “K” Thermocouple sensor. Both are protected by an plastic grid.
- **Data Contacts:** When connected to the USB Dock Station, these contacts transfers data to the computer.

- **LCD Display:** Provides the feature of displaying the last log reading or current reading without downloading. Refer to the table below for complete features.

State:	Action:	LED	LCD Display
Ready	Indicates Profiler is "Ready" to record data	Quick flashing	
Start	Indicates Profiler is starting recording process.	Quick flashing	
Recording (rH)	Indicates Profiler is recording rH data.	Flashing at log interval	
Recording (Temperature)	Indicates Profiler is recording temperature data.	Flashing at log interval	
End	Indicates Profiler recording process has ended	No illumination	
Data Transfer	Indicates data is being uploaded or downloaded	Steady Illumination	rH/Temperature display

USB Dock Station

The USB Dock Station is required for the MiniM.O.L.E.[®] rH to communicate with the M.O.L.E.[®] MAP software. The USB cable connects to a computer USB Port and then the user inserts the MiniM.O.L.E.[®] rH into the station cradle mating the brass contacts from both units.



Start Magnet

The MiniM.O.L.E.[®] rH Start Magnet activates the unit by triggering an internal start switch. This magnet is used only to initiate recording data after the unit is configured using the **Setup Instrument** wizard. To **Stop** recording data, the user downloads the data run by using the **Read Instrument** wizard or the memory limit has been reached.



Setup

Communications Setup

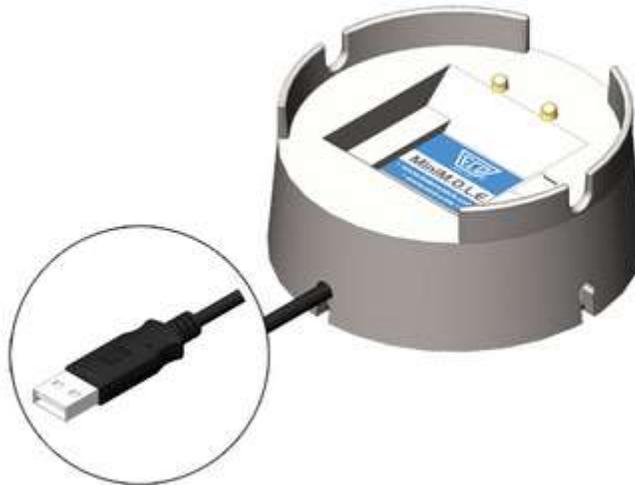
Prior to operation the M.O.L.E. Profiler must be configured to properly communicate with the M.O.L.E.® MAP Software.



The M.O.L.E.® MAP software must be installed prior to communications setup. (Refer to [Software Installation](#) for more information).

To connect the M.O.L.E. Profiler:

- 1) Insert the USB computer interface cable from the Dock Station into a computer USB Port.

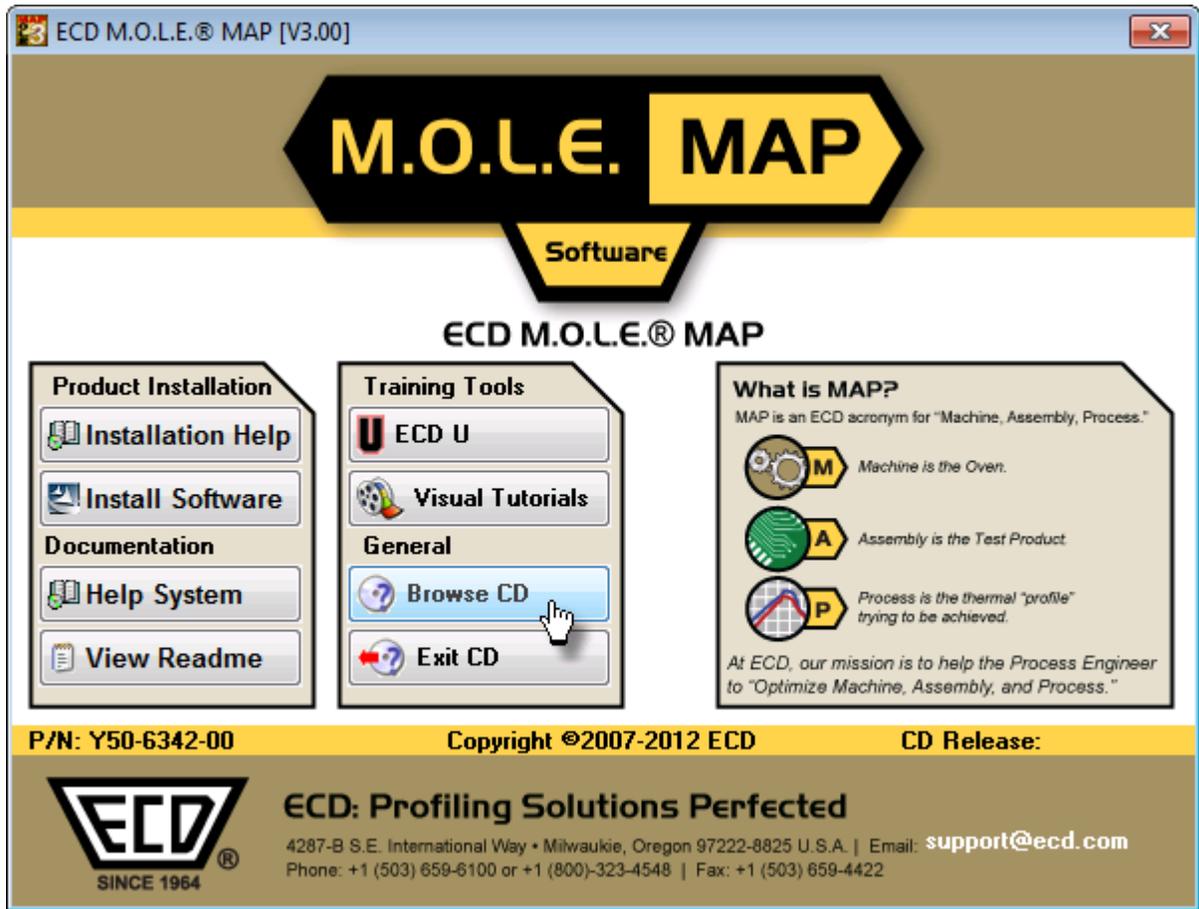


- 2) Place the M.O.L.E. Profiler into the USB Dock Station, making sure that the two metallic contacts on the bottom of the M.O.L.E. Profiler are aligned with the contact pins on the USB Dock Station and that the M.O.L.E. Profiler is firmly seated.



Typically the device drivers are already installed on Windows 7 & XP operating systems. In some cases the user will be required to manually install them.

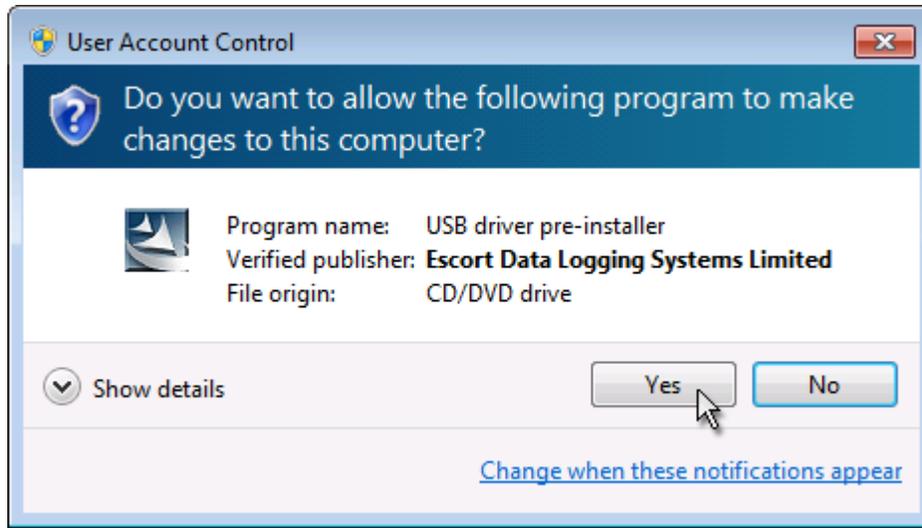
3) Browse to the \DriverMMrH\Installer\ folder on the M.O.L.E.® MAP Software installation CD.



- 4) To install the device drivers on a 32-bit operating systems, double-click **VCP_Driver_Installer.exe**. For 64-bit operating systems, double-click **VCP_Driver_Installer_x64.exe**.



Depending on your operating system security settings, a Security Warning dialog box may appear. Click the **Yes** command button to continue.

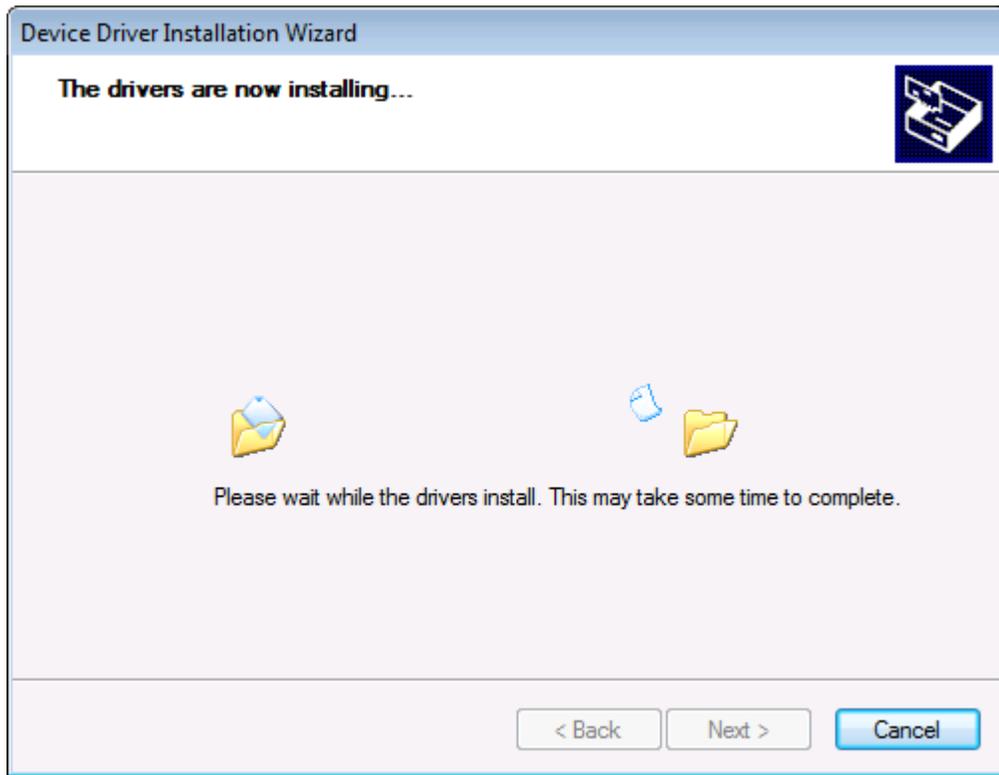


- 5) "VCP Driver Installer.exe" extracts DPInst.exe and driver files into a temporary folder then starts the installation wizard.



- 6) Click the **Next** command button.

7) The wizard starts device driver installation.



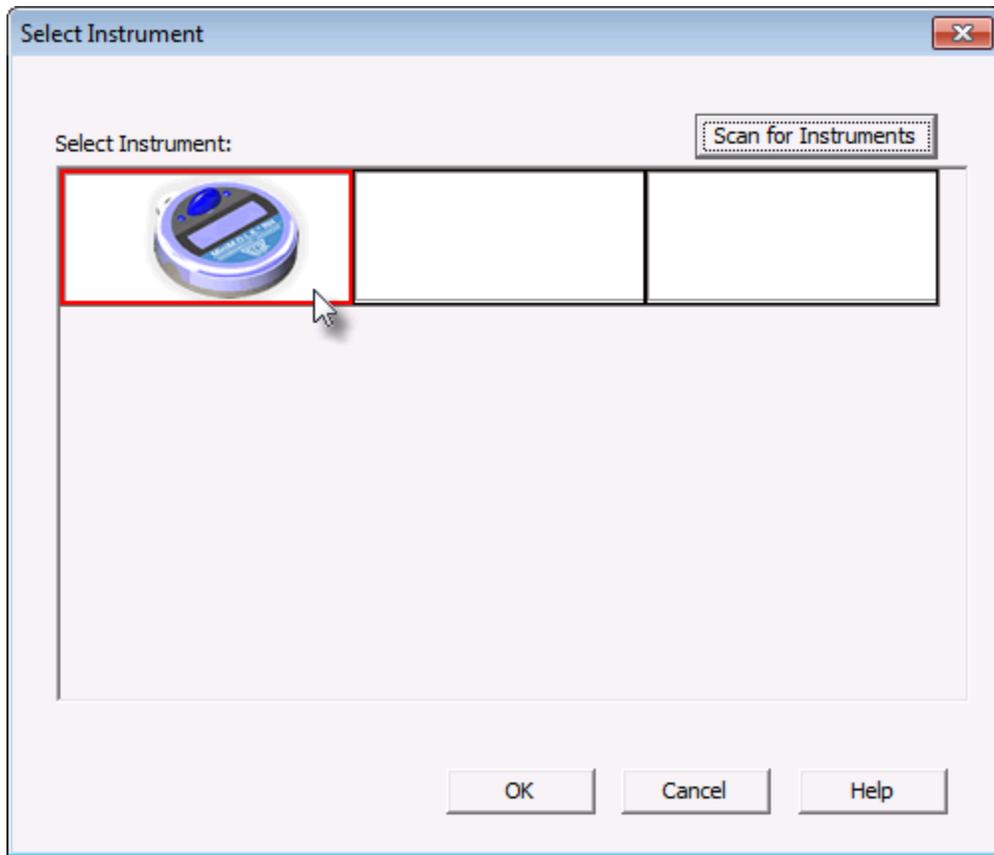
8) When the Installation has completed, select the **Finish** command button.



9) Start the software program by either double-clicking the M.O.L.E.[®] MAP software icon or selecting it from the ECD program sub-menu.



- 10) On the **M.O.L.E.** menu, click the **Select Instrument** command.
- 11) Select the MEGARIDER™ PTP® instrument from the dialog box.



If the software does not detect a M.O.L.E. Profiler, using the communication cable connect it to the computer and click the **Scan for Instruments** command button to search again. M.O.L.E.® MAP software allows multiple instruments to be connected to a computer at one time. Selecting the **Scan for Instruments** command button will detect all instruments and display them in the dialog box. If no instrument is detected the software displays all of the Demonstration thermal profilers to select from.

- 12) Click the **OK** command button to accept or **Cancel** to quit the command without selecting the instrument.
- 13) Turn the PTP® TX power by removing the On/Off Male Plug connector from the Female On/Off Power connector.

Quick Start Guide

This Wizard guides the user through a typical process on how to set a MiniM.O.L.E.® rH up to record data.



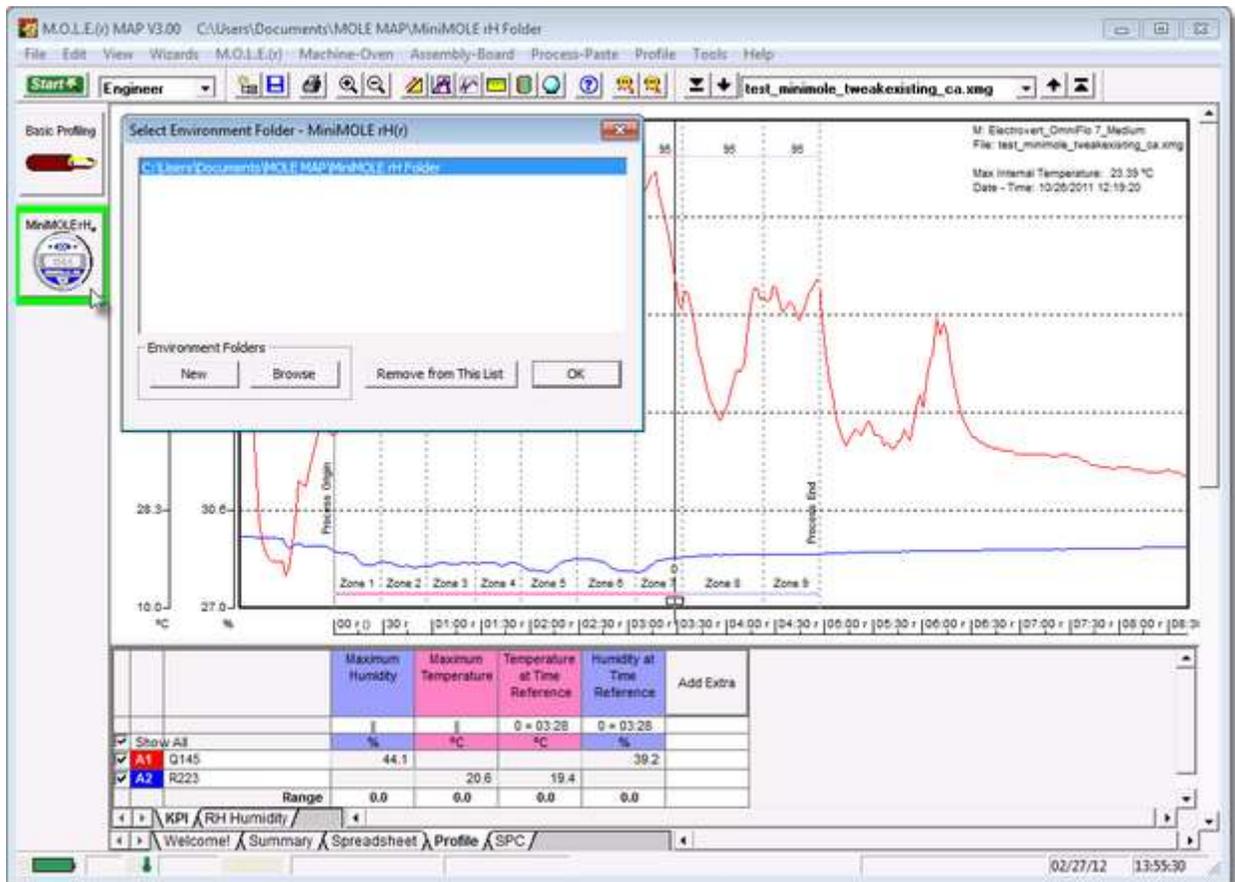
This is available when in Engineer Mode.

To set an instrument up:

- 1) Connect the USB Dock Station to the computer and insert the M.O.L.E. Profiler into the dock cradle. Refer to the **Communications Setup** topic for your specific M.O.L.E. Profiler for more information.
- 2) Set an Environment related for the type of experiment that is being performed. Either open an existing Environment Folder or create a new one.



If the desired Environment is not displayed on the **Environment Sidebar**, the user can use either the **Open Environment Toolbar button** or select the **Open Environment Folder** command from the **File Menu**.



3) On the **M.O.L.E.** menu, click **Setup Instrument** and the workflow wizard appears.



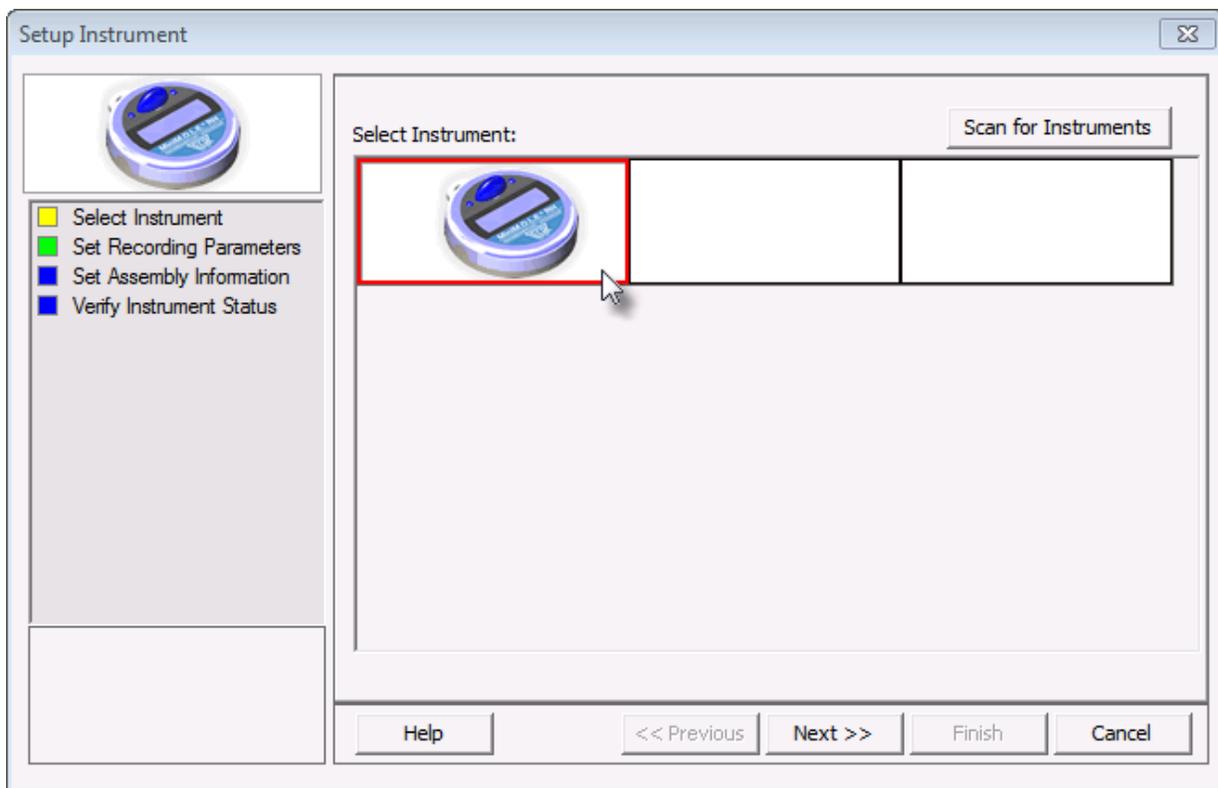
When navigating through the wizard, the step list on the left uses a color key to inform the user of the current step, steps that have been completed and remaining steps.

■ Current ■ Completed ■ Remaining

4) Select the desired instrument from the dialog box. If there is none displayed, select the **Scan for Instruments** command button to detect all connected instruments.

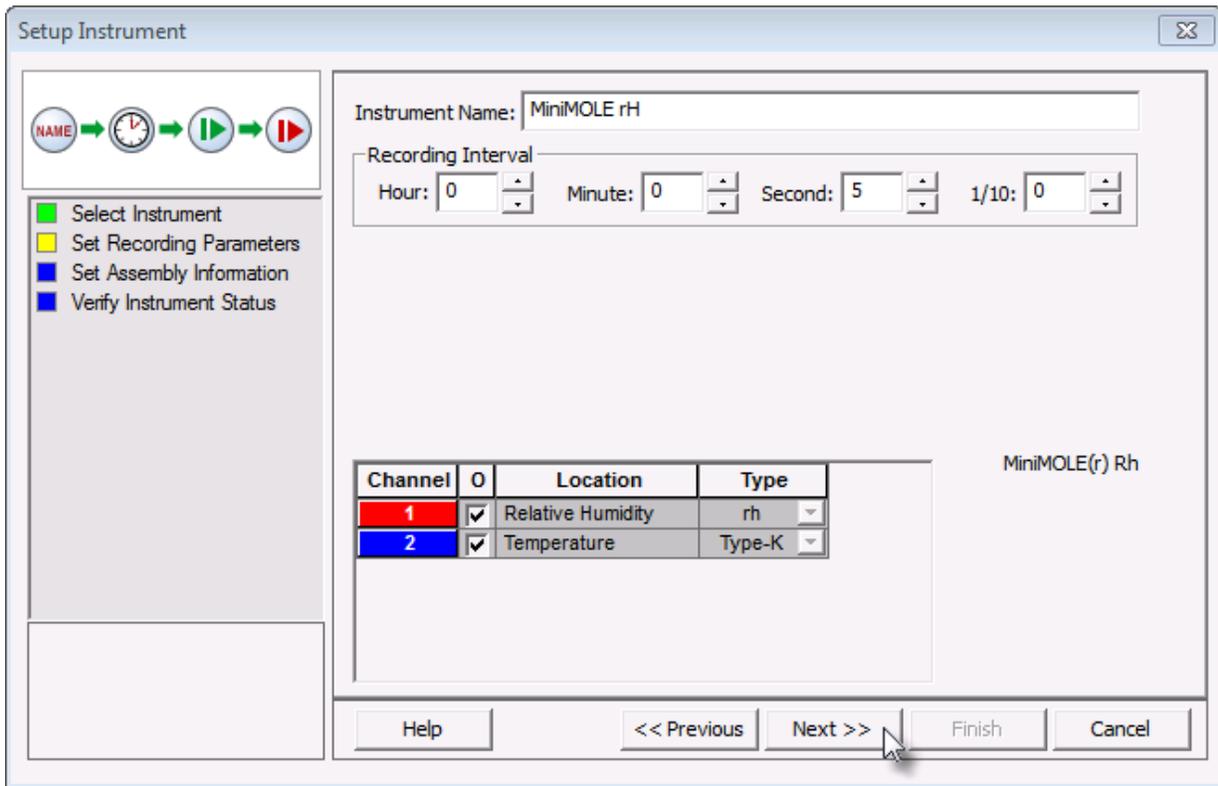


If the software does not detect a M.O.L.E. Profiler, using the communication cable connect it to the computer and click the **Scan for Instruments** command button to search again. M.O.L.E.® MAP software allows multiple instruments to be connected to a computer at one time. Selecting the **Scan for Instruments** command button will detect all instruments and display them in the dialog box. If no instrument is detected the software displays all of the Demonstration thermal profilers to select from.



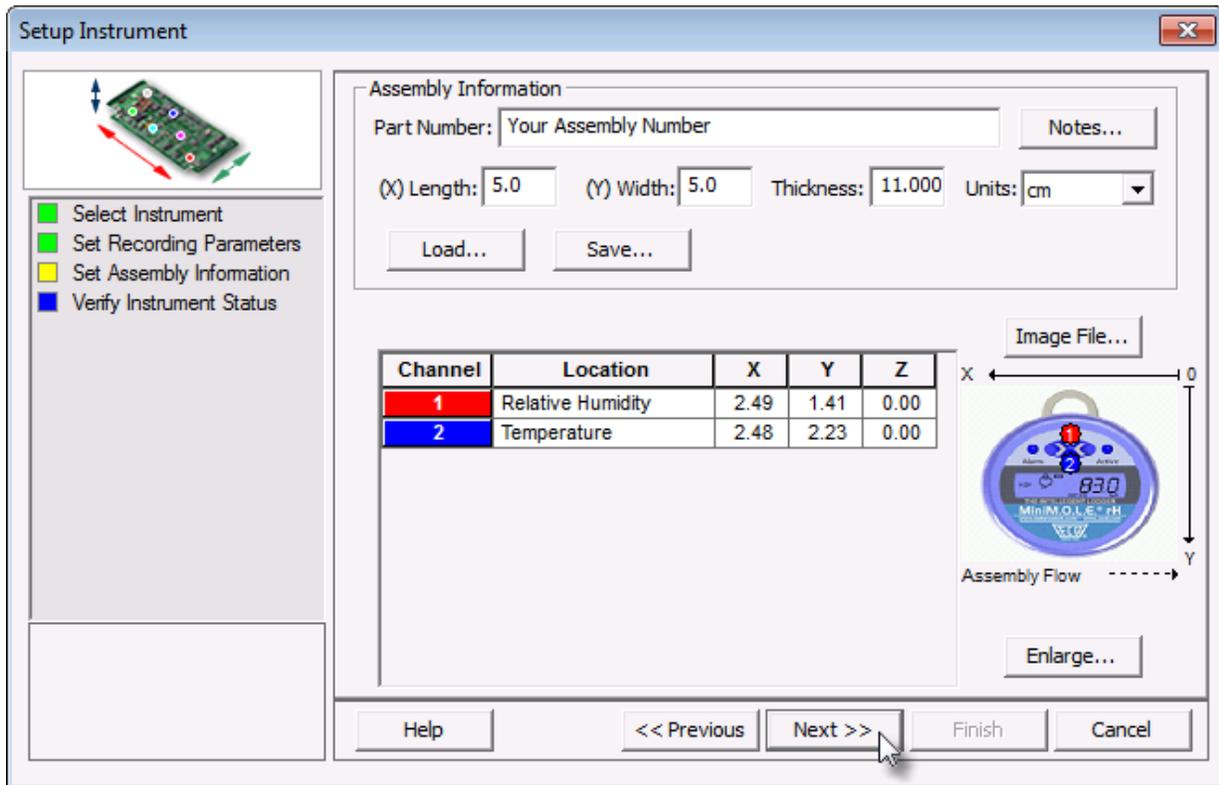
5) Select the **Next** command button.

6) Set instrument name, recording interval and if the sensor is to be **ON** or **OFF**.



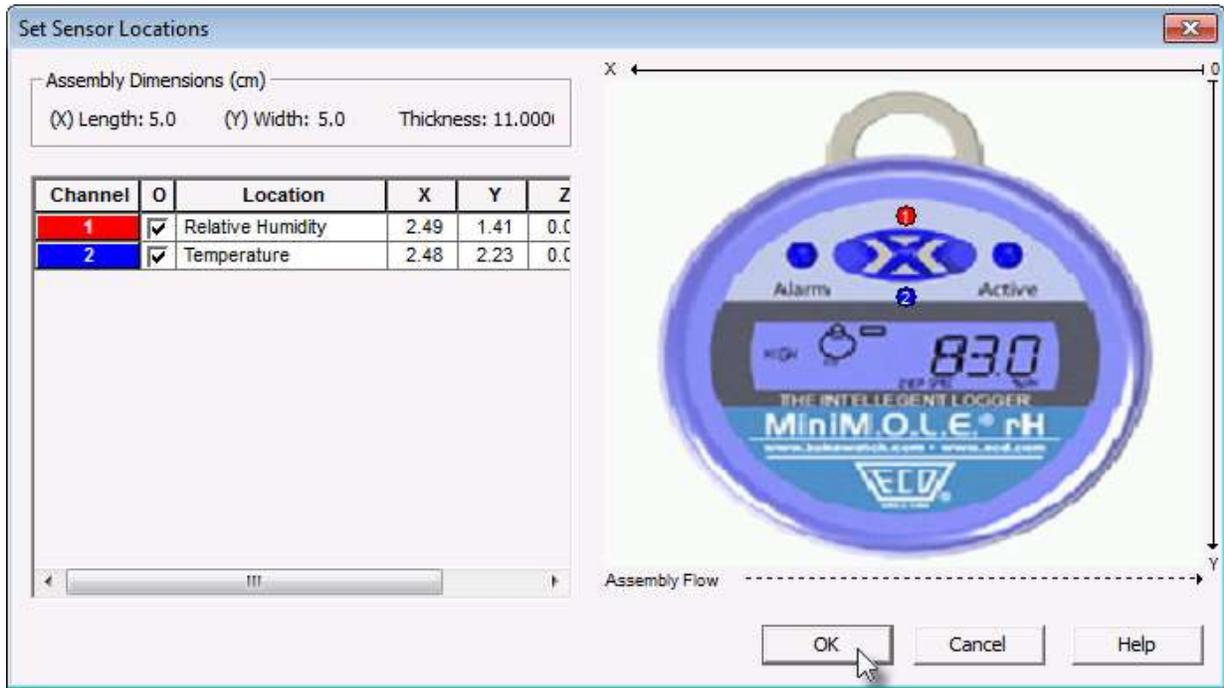
7) Select the **Next** command button to send the data listed in the dialog box to the instrument.

- 8) Set the assembly information such as part number, board size, sensor locations and a product image. This assembly information can then be loaded and saved from/to a an (*.XMA) file.
- **Load:** This command buttons loads an existing assembly (*.XMA).
 - **Save:** This command button saves the current sensor locations and image to an (*.XMA) file that is then available to be loaded for future data runs.



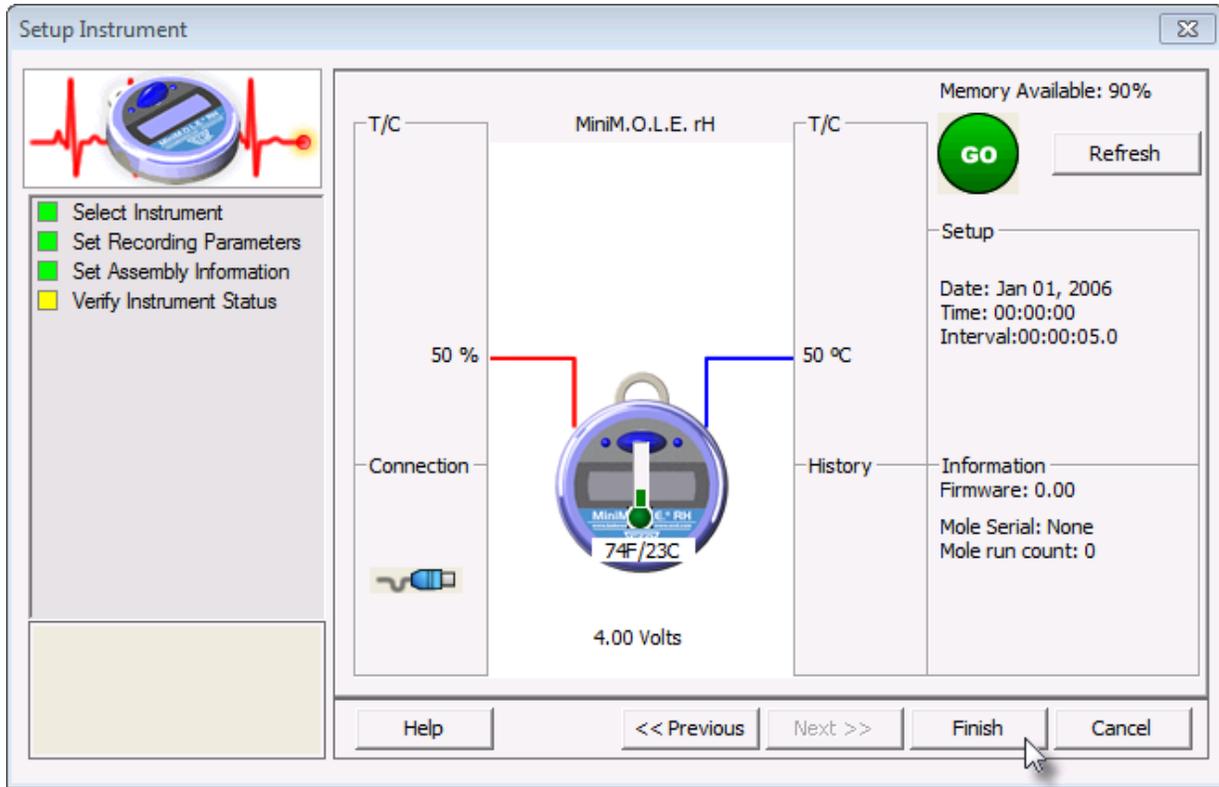


If the user specifies a product image, clicking the **Enlarge** command button displays the Set Sensor Locations dialog box where the user can specify the locations of each sensor. To move sensor locations, drag the sensor markers to the approximate location where the sensors are attached.



9) Click the **Next** command button.

10) Verify the instrument status. This dialog box displays the health of the M.O.L.E. Profiler such as battery charge, internal temperature, thermocouple temperatures. If the user selects the **Show Critical** command button the dialog box will only display items that will prevent the user from completing a successful data run.



11) Select the **Finish** command button to complete the Setup Instrument wizard.

The MiniM.O.L.E.® rH is now ready to collect data.

Service and Troubleshooting

This section covers maintaining and troubleshooting hardware, sensors, M.O.L.E. Profiler Power Pack, Software, Wiring, and other parts of the system.



The following service and calibration instructions are for use by qualified personnel only. Refer to the [Safety>Operators Safety Information](#) prior to performing any service.

Service Troubleshooting:

Decide if the problem is with the Hardware, Communications, or Software.

- If the problem occurs while attempting to log data, the Hardware may be faulty.
- If the problem occurs while attempting to communicate between M.O.L.E. Profiler and the computer, the Communications links may be faulty.
- If the problem occurs while attempting to use a software function, the software may be faulty.

Once it has been determined what item is causing the problem, refer to the appropriate service section. Start at the top of the list and work your way down.

Here is how to contact ECD:

If you still have problems, let us help you. We offer many ways to service your problems. You can call our Service/Test technicians, visit our web site to view our FAQ section (Frequently asked Questions) or send us e-mail explaining your problem in detail.

When calling our Service/Test technicians or sending us e-mail, please include the following information:

- Product Description (i.e. SuperM.O.L.E.® Gold 2, WaveRIDER® NL 2)
- Product Serial Number
- M.O.L.E.® MAP Software Version

Telephone: +(1) 800.323.4548

+(1) 503.659.6100

FAX: +(1) 503.659.4422

Email: ecd@ecd.com

Internet: <http://www.ecd.com>

Power Source

The MiniM.O.L.E.® rH is powered by a 3.6 volt ½ AA lithium battery. If the LCD display is dim or does not illuminate, check the battery to see if it has become discharged. Always replace with SAFT lithium battery (LS 1425) or the equivalent specified.

Specifications

Electrical/Mechanical Spec:

PHYSICAL DIMENSIONS:	0.37 in. x 3.5 in. x 6 in. (9.41 mm x 89 mm x 152.4 mm)
TEMPERATURE MEASUREMENT RANGE:	-40 to 70°C (-40 to 158°F)
RH RANGE:	0 to 100% RH
	<u>*WARNING: Exceeding this temperature may permanently damage the equipment!</u>
ACCURACY:	± 0.35°C (from -40°C to 0°C) or ±0.63°F (from -40°F to +32°F) ±0.25°C (from 0° to +70°C) or ±0.45° (from +32°F to +158°F) Humidity ±3% Resolution: 0.1
PROGRAMMABLE SAMPLING PERIOD:	1 second to 10 days
NUMBER OF SAMPLES PER CHANNEL:	32,000 (16,000 per sensor)
POWER SUPPLY:	3.6V ½ AA Lithium battery