

**5 YEAR**  
WARRANTY



# **Ω OMEGA<sup>®</sup>** **User's Guide**



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**OM-CP-HITEMP140X2**  
**High Temperature Dual Probe**  
**Data Logger Series**

## Product Overview

The OM-CP-HITEMP140X2 series of dual probe high temperature data loggers are comprised of a stainless steel data logger body and feature either two remote temperature probes one ambient and one remote temperature probe combination. This data logger series offers extreme flexibility for high temperature monitoring applications.

The dual probes of the OM-CP-HITEMP140X2 series allow for simultaneous temperature monitoring and are ideal for applications such as oven mapping, surface temperature monitoring, autoclave validation, food processing, sterilization processes and much more.

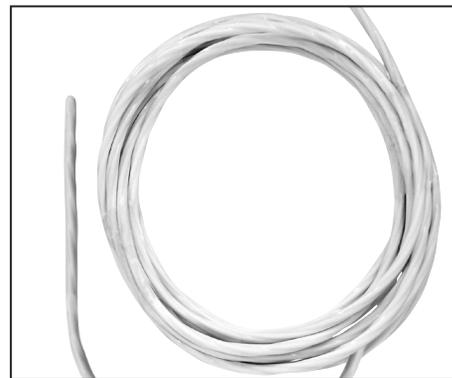
The OM-CP-HITEMP140X2-TD data logger models feature a 2" rigid, fast response, transitional diameter probe to measure ambient temperature, combined with a second stainless steel bendable or flexible RTD probe option.

The OM-CP-HITEMP140X2-FP data logger models feature a 72", lightweight flexible RTD probe, combined with a second stainless steel bendable probe or a second flexible RTD probe.

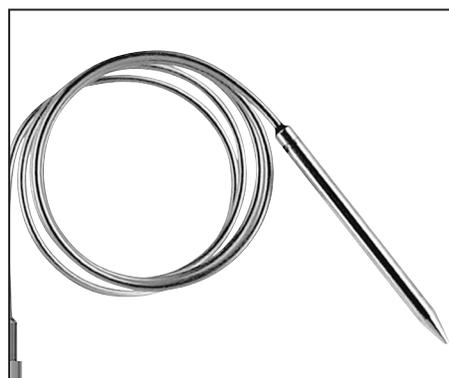
The OM-CP-HITEMP140X2 data logger series is compatible with the latest version of the OM-CP Software. This allows for simple starting, stopping and downloading of collected data. Once the readings have been downloaded to the software, it can be viewed in graphic, tabular, and summary form for easy analysis, as well as the potential to be exported into Excel for further calculations.



Rigid Transitional Diameter Probe (TD)



Flexible RTD Probe (FP)



Stainless Steel Bendable RTD Probe (PT)

## Additional Features

### Submergibility

The OM-CP-HITEMP140X2 series is rated IP68 and is fully submersible. They can be placed in environments up to 230' (70m) of water.

### Bend Radius

- The bendable probe can be bent to a 1/4 inch bend radius. The probe should not be bent within 1 inch of either weld joint.
- The flexible probe should not be bent within 1 inch where the probe meets the logger or less than 1 inch from the probe tip.

### O-Rings

O-ring maintenance is a key factor when properly caring for the OM-CP-HITEMP140X2 data loggers. The O-rings ensure a tight seal and prevent liquid from entering the inside of the device.

### Trigger Settings

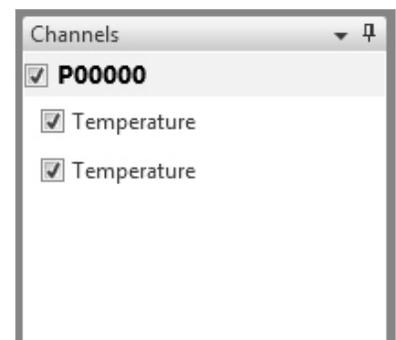
The device can be programmed to only record based off user configured trigger settings.

1. In the **Connected devices** panel, select the intended device to change the settings.
2. On the **Device** tab, in the Information group, click **Properties**. Users can also right-click on the device and select **Properties** in the context menu.
3. Click **Trigger** and configure the **Trigger settings**. Trigger formats are available in Window and Two Point (*bi-level*) mode. Window mode allows for one range of temperature monitoring and two point mode allows for two ranges.

*Note: This product is rated for use up to 140°C. Please heed the battery warning. The product will explode if exposed to temperatures above 140°C.*

### Temperature Channels

All OM-CP-HITEMP140X2 data loggers feature 2 temperature channels. The channel number for each probe is identified on the top of the logger as shown below. The OM-CP Software will list the temperature channels in sequence, listing channel 1 first and channel 2 second, under the data logger device ID as shown to the right.



### Troubleshooting Tips

#### Why is the wireless data logger not appearing in the software?

If the OM-CP-HITEMP140X2 doesn't appear in the Connected Devices panel, or an error message is received while using the OM-CP-HITEMP140X2, try the following:

- Check that the OM-CP-IFC400 is properly connected. For more information, see Troubleshooting Interface Cable problems (below).
- Ensure that the battery is not discharged. For best voltage accuracy, use a voltage meter connected to the battery of the device. If possible, try switching the battery with a new OM-CP-BAT110.
- Ensure that no other Omega software is running in the background.
- Ensure that **Omega Software** is being used.
- Ensure that the **Connected Devices** panel is large enough to display devices. This can be verified by positioning the cursor on the edge of the Connected Devices panel until the resize cursor appears, then dragging the edge of the panel to resize it. The screen layout may also be reset in the options menu by selecting **File, Options**, and scrolling to the bottom.

#### Troubleshooting Interface Cable problems

##### Check that the software properly recognizes the connected OM-CP-IFC400 wireless transceiver.

If the wireless data logger is not appearing in the **Connected Devices** list, it may be that the OM-CP-IFC400 is not properly connected.

1. In the software, click the **File** button, then click **Options**.
2. In the **Options** window, click **Communications**.
3. The **Detected Interfaces** box will list all of the available communication interfaces. If the OM-CP-IFC400 is listed here, then the software has correctly recognized and is ready to use it.

##### Check that Windows recognizes the connected OM-CP-IFC400 wireless transceiver.

If the software does not recognize the OM-CP-IFC400, there may be a problem with Windows or the USB drivers.

1. In Windows, click **Start**, right-click **Computer** and choose **Properties** or press **Windows+Break** as a keyboard shortcut.
2. Click **Device Manager** in the left hand column.
3. Double click **Universal Serial Bus Controllers**.
4. Look for an entry for **Data logger Interface**.
5. If the entry is present, and there are no warning messages or icons, then windows has correctly recognized the connected OM-CP-IFC400.
6. If the entry is not present, or has an exclamation point icon next to it, the USB drivers may need to be installed. These are available on the software flash drive included with the OM-CP-IFC400.

##### Ensure that the USB end of the OM-CP-IFC400 is securely connected to the computer.

1. Locate the USB-A plug of the OM-CP-IFC400.
2. If the interface cable is connected to the PC, unplug it. Wait ten seconds.
3. Reconnect the cable to the PC.
4. Check to make sure that the red LED is lit, indicating a successful connection.

## Installation Guide

### Installing the Interface cable

- OM-CP-IFC400 or OM-CP-IFC406

Refer to the "Quick Start Guide" included in the package.

### Installing the software

Insert the Omega Software Flash Drive in an open USB port. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Installation Wizard.

## Device Operation

### Connecting and Starting the data logger

1. Once the software is installed and running, plug the interface cable into the docking station.
2. Connect the USB end of the interface cable into an open USB port on the computer. Place the data logger into the docking station.
3. The data logger will automatically appear under **Connected Devices** within the software.
4. For most applications, select "**Custom Start**" from the menu bar and choose the desired start method, reading rate and other parameters appropriate for the data logging application and click "Start". ("**Quick Start**" applies the most recent custom start options, "**Batch Start**" is used for managing multiple loggers at once, "**Real Time Start**" stores the dataset as it records while connected to the logger.)
5. The status of the device will change to "**Running**", "**Waiting to Start**" or "**Waiting to Manual Start**", depending upon your start method.
6. Disconnect the data logger from the docking station and place it in the environment to measure.  
*Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.*

### Downloading data from a data logger

1. Connect the logger to the docking station.
2. Highlight the data logger in the **Connected Devices** list. Click "**Stop**" on the menu bar.
3. Once the data logger is stopped, with the logger highlighted, click "**Download**". You will be prompted to name your report.
4. Downloading will offload and save all the recorded data to the PC.

## Product Maintenance

### Battery Replacement

**Materials:** OM-CP-BAT110

1. Unscrew the bottom of the logger and remove the battery.
2. Place the new battery into the logger. Note the polarity of the battery.
3. Screw the cover back onto the logger.

### Recalibration

The OM-CP-HITEMP140X2 standard calibrations points are 30°C and 140°C.

Recalibration is recommended annually for any Omega data logger; a reminder is automatically displayed in the software when the device is due. *Call for custom calibration options to accommodate specific application needs.*

## OM-CP-HITEMP140X2 General Specifications

Reading Rate	1 reading every second up to 1 reading every 24 hours
Memory	32,767 readings
Memory Wrap Around	Yes
Start Modes	<ul style="list-style-type: none"> <li>• Software programmable immediate start</li> <li>• Delay start up to 18 months in advance</li> </ul>
Stop Modes	Manual or Timed (Specific data and time)
Real Time Recording	May be used with PC to monitor and record data in real time
Password Protection	An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password.
Readings in Trigger Settings Mode	16,383 readings
Trigger Settings	High and Low limits may be set. Once data meets or exceed sets limits, the device will record to memory. Bi-level start and stop triggers can also be programmed. Users can specify the number of readings to take after the device triggers. <i>(Triggering on channel #1 only)</i>
Battery Type	3.6V high-temperature lithium battery included user replaceable
Battery Life	1 year typical (1 minute reading rate at 25 °C/77 °F)
Calibration	Digital calibration through software
Calibration Date	Automatically recorded within device
Data Format	Date and time stamped °C, °F, °R, K,
Time Accuracy	<ul style="list-style-type: none"> <li>• 1 minute/month at 25°C (77°F)</li> <li>• Extended Operation: ±20 minutes/month at 140°C (±450ppm)</li> </ul>
Computer Interface	OM-CP-IFC400 or OM-CP-IFC406 USB docking station required; 125,000 baud
Operating System Compatibility	XP SP3/Vista/Windows 7/Windows 8
OM-CP Software Compatibility	<ul style="list-style-type: none"> <li>• OM-CP Standard Software version 4.2.1.0 or later</li> <li>• OM-CP Secure Software version 4.2.0.0 or later</li> </ul>
Operating Environment	-40°C to +140°C (-40°F to +284°F) 0%RH to 100%RH, 0.002PSIA to 100PSIA
IP Rating	IP68
Dimensions (body)	1.89" x 0.97" x 0.97" (48mm x 24.6mm x 24.6mm)
Enclosure Material	316 Stainless Steel
Approvals	CE

### Battery Warning

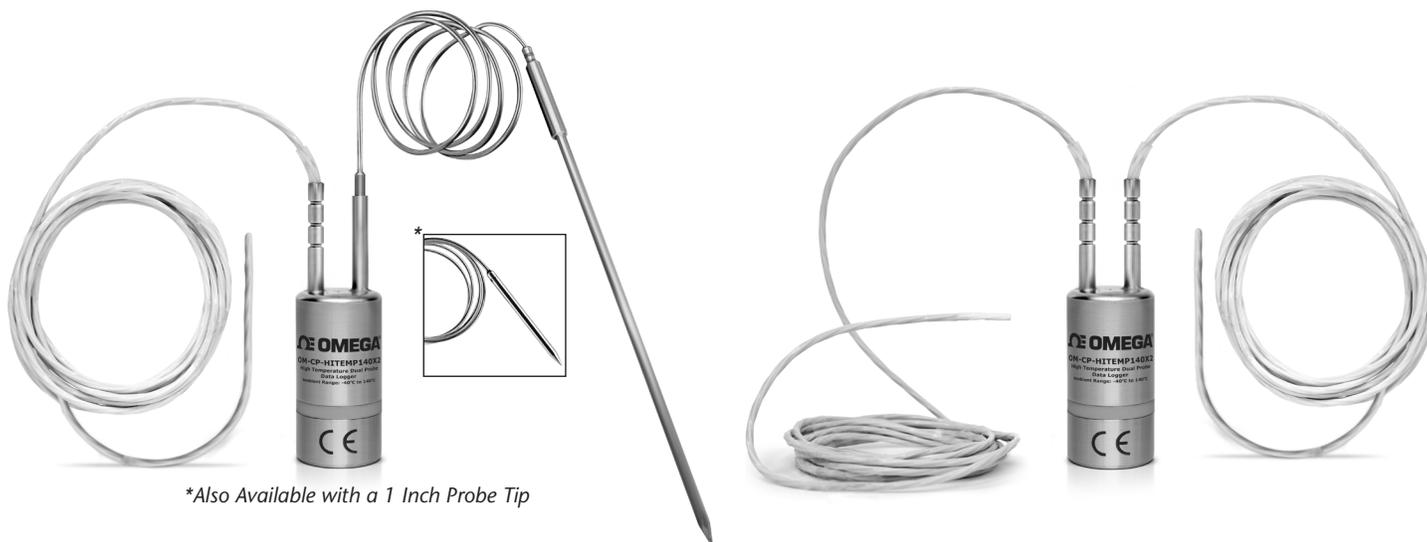
**WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 150°C (302°F).**

*Specifications subject to change.*

*See Omega's terms and conditions at [www.omega.com](http://www.omega.com)*

### OM-CP-HITEMP140X2-FP

High Temperature Dual Probe Data Loggers with two Remote Temperature Probes



The OM-CP-HITEMP140X2-FP series of dual probe high temperature data loggers are comprised of a stainless steel data logger body and feature two 72" flexible FP probes or are available with one flexible probe and a stainless steel bendable PT probe combination.

The dual probes of this OM-CP-HITEMP140X2 series allow for simultaneous temperature monitoring and provide flexibility in applications such as oven mapping, surface temperature monitoring, autoclave validation and sterilization processes.

The OM-CP-HITEMP140X2-FP model offers two 72" long, lightweight, flexible RTD probes coated with PFA insulation. The FP probe design allows the probe to be easily maneuvered and is ideal for temperature monitoring inside test tubes, small vials, and other delicate applications. The narrow thermistor probe tip is compatible for use with the OM-CP-MICRODISC probe attachment allowing for precise surface temperature monitoring of shelving and more.

The OM-CP-HITEMP140X2-FP-PT-1 and OM-CP-HITEMP140X2-FP-PT-5 models feature a 24" stainless steel bendable probe with the option of either a 1" or 5" probe tip (*sheath*). The stainless steel probe can be bent, angled, and coiled in any direction and formed into position as needed. The sharp probe tip allows for easy insertion and has an extended measurement range of -200°C to +350°C.

## OM-CP-HITEMP140X2-FP Specifications

Temperature Sensor	<ul style="list-style-type: none"> <li>● <b>OM-CP-HITEMP140X2-FP:</b> Flexible RTD Probe</li> <li>● <b>OM-CP-HITEMP140X2-FP-PT:</b> Flexible RTD Probe &amp; Bendable RTD Probe</li> </ul>
Probe Measurement Range	<ul style="list-style-type: none"> <li>● <b>Flexible Probe:</b> -60°C to +260°C (-76°F to +500°F)</li> <li>● <b>Bendable Probe:</b> -200°C to +350°C (-328°F to +662°F)</li> </ul>
Temperature Resolution	0.01°C (0.02°F)
Calibrated Accuracy	±0.1°C (±0.18°F)
Dimensions ( <i>probe</i> )	<ul style="list-style-type: none"> <li>● <b>OM-CP-HITEMP140X2-FP:</b> Flexible Probe: 72" x 0.10" (1829mm x 2.5mm)</li> <li>● <b>OM-CP-HITEMP140X2-FP-PT 1" Bendable Probe:</b> <b>Probe tip:</b> 1.7" x 0.125" dia. (42mm x 3.2mm dia.) <b>Bendable portion:</b> 22" x 0.062" dia. (55 mm x 1.6mm dia.)</li> <li>● <b>OM-CP-HITEMP140X2-FP-PT 5" Bendable Probe:</b> <b>Probe tip:</b> 4.8" x 0.125" dia. with 1" x 0.188" dia. handle (121mm x 3.2mm dia. with 25mm x 4.8mm dia. handle) <b>Bendable portion:</b> 22" x 0.062" dia. (559mm x 1.6mm dia.)</li> </ul>
Materials	<ul style="list-style-type: none"> <li>● <b>Bendable Probe:</b> 316 Stainless Steel</li> <li>● <b>Flexible Probe:</b> PFA Insulated Cable</li> </ul>
Weight	<ul style="list-style-type: none"> <li>● <b>OM-CP-HITEMP140X2-FP:</b> 4.1oz (115g)</li> <li>● <b>OM-CP-HITEMP140X2-FP-PT:</b> 3.9oz (110g)</li> </ul>

### OM-CP-HITEMP140X2-TD

High Temperature Dual Probe Data Loggers with Ambient & Remote Temperature Probes



The OM-CP-HITEMP140X2-TD data logger models feature a 2" rigid transitional diameter probe to measure ambient temperature, combined with a second bendable or flexible probe option. The rigid 2" TD probe is made of stainless steel, offers an ultra-fast response time and is suitable for measuring ambient temperatures in the harshest environments.

The OM-CP-HITEMP140X2-TD-PT-1 and the OM-CP-HITEMP140X2-TD-PT-5 models include a 24" bendable probe made of stainless steel with either a 1" or 5" probe sheath at the tip. The stainless steel PT probe options provide the ability to retain shape when bent into position and the sharp probe tip allows for easy insertion. The stainless steel PT probes also offer an extended measurement range to accommodate extremely high temperatures.

The OM-CP-HITEMP140X2-TD-FP combines the 2" rigid probe with the 72" RTD lightweight flexible RTD probe. The flexible FP probe option is a lightweight, pliable probe coated with PFA insulation making it ideal for use inside small vials and test tubes. This probe style has a narrow diameter, high accuracy and is ideal for steam sterilization and lyophilization. The FP probe is also compatible with the OM-CP-MICRODISC probe attachment, used for the surface temperature monitoring of shelving and more.

## OM-CP-HITEMP140X2-FP Specifications

Temperature Sensor	<ul style="list-style-type: none"> <li>● <b>OM-CP-HITEMP140X2-TD-PT:</b> Rigid RTD Probe with a Bendable RTD Probe</li> <li>● <b>OM-CP-HITEMP140X2-TD-FP:</b> Rigid RTD Probe with a Flexible RTD Probe</li> </ul>
Probe Measurement Range	<ul style="list-style-type: none"> <li>● <b>Rigid Probe:</b> -200°C to +260°C (-328°F to +500°F)</li> <li>● <b>Bendable Probe:</b> -200°C to +350°C (-328°F to +662°F)</li> <li>● <b>Flexible Probe:</b> -60°C to +260°C (-76°F to +500°F)</li> </ul>
Temperature Resolution	0.01°C (0.02°F)
Calibrated Accuracy	±0.1°C (±0.18°F)
Dimensions ( <i>probe</i> )	<ul style="list-style-type: none"> <li>● <b>OM-CP-HITEMP140X2-TD-PT Rigid Probe:</b> 2.0" x 0.125" dia. (0.188" transitional dia.) 51mm x 3.2mm dia. (4.8mm transitional dia.)</li> <li>● <b>OM-CP-HITEMP140X2-TD-PT 1" Bendable Probe:</b> <b>Probe tip:</b> 1.7" x 0.125" dia. (42mm x 3.2mm dia.) <b>Bendable portion:</b> 22" x 0.062" dia. (559mm x 1.6mm dia.)</li> <li>● <b>OM-CP-HITEMP140X2-TD-PT 5" Bendable Probe:</b> <b>Probe tip:</b> 4.8" x 0.125" dia. with 1" x 0.188" dia. handle (121mm x 3.2mm dia. with 25mm x 4.8mm dia. handle) <b>Bendable portion:</b> 22" x 0.062" dia. (559mm x 1.6mm dia.)</li> <li>● <b>OM-CP-HITEMP140X2-TD-FP Flexible Probe:</b> 72" x 0.10" (1829mm x 2.5mm)</li> </ul>
Materials	<ul style="list-style-type: none"> <li>● <b>Rigid/Bendable Probe:</b> 316 Stainless Steel</li> <li>● <b>Flexible Probe:</b> PFA Insulated Cable</li> </ul>
Weight	<ul style="list-style-type: none"> <li>● <b>OM-CP-HITEMP140X2-TD-PT:</b> 3.0oz (85g)</li> <li>● <b>OM-CP-HITEMP140X2-TD-FP:</b> 3.5oz (100g)</li> </ul>



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### Servicing North America:

U.S.A.: Omega Engineering, Inc., One Omega Drive, P.O. Box 4047  
Stamford, CT 06907-0047 USA  
Toll-Free: 1-800-826-6342 (USA & Canada only)  
Customer Service: 1-800-622-2378 (USA & Canada only)  
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**WARNING:** These products are not designed for use in, and should not be used for, human applications.



### WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **61 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **five (5) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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