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.
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.
OM-CP-HITEMP140X2 Series

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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reading Rate</strong></td>
<td>1 reading every second up to 1 reading every 24 hours</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>32,767 readings</td>
</tr>
<tr>
<td><strong>Memory Wrap Around</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Start Modes</strong></td>
<td>• Software programmable immediate start</td>
</tr>
<tr>
<td></td>
<td>• Delay start up to 18 months in advance</td>
</tr>
<tr>
<td><strong>Stop Modes</strong></td>
<td>Manual or Timed (Specific data and time)</td>
</tr>
<tr>
<td><strong>Real Time Recording</strong></td>
<td>May be used with PC to monitor and record data in real time</td>
</tr>
<tr>
<td><strong>Password Protection</strong></td>
<td>An optional password may be programmed into the device to restrict access to configuration options. Data may be read out without the password.</td>
</tr>
<tr>
<td><strong>Readings in Trigger Settings Mode</strong></td>
<td>16,383 readings</td>
</tr>
<tr>
<td><strong>Trigger Settings</strong></td>
<td>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. <em>(Triggering on channel #1 only)</em></td>
</tr>
<tr>
<td><strong>Battery Type</strong></td>
<td>3.6V high-temperature lithium battery included user replaceable</td>
</tr>
<tr>
<td><strong>Battery Life</strong></td>
<td>1 year typical (1 minute reading rate at 25 °C/77 °F)</td>
</tr>
<tr>
<td><strong>Calibration</strong></td>
<td>Digital calibration through software</td>
</tr>
<tr>
<td><strong>Calibration Date</strong></td>
<td>Automatically recorded within device</td>
</tr>
<tr>
<td><strong>Data Format</strong></td>
<td>Date and time stamped °C, °F, °R, K,</td>
</tr>
<tr>
<td><strong>Time Accuracy</strong></td>
<td>• 1 minute/month at 25°C (77°F)</td>
</tr>
<tr>
<td></td>
<td>• Extended Operation: ±20 minutes/month at 140°C (±450ppm)</td>
</tr>
<tr>
<td><strong>Computer Interface</strong></td>
<td>OM-CP-IFC400 or OM-CP-IFC406 USB docking station required; 125,000 baud</td>
</tr>
<tr>
<td><strong>Operating System Compatibility</strong></td>
<td>XP SP3/Vista/Windows 7/Windows 8</td>
</tr>
<tr>
<td><strong>OM-CP Software Compatibility</strong></td>
<td>• OM-CP Standard Software version 4.2.1.0 or later</td>
</tr>
<tr>
<td></td>
<td>• OM-CP Secure Software version 4.2.0.0 or later</td>
</tr>
<tr>
<td><strong>Operating Environment</strong></td>
<td>-40°C to +140°C (-40°F to +284°F) 0%RH to 100%RH, 0.002PSIA to 100PSIA</td>
</tr>
<tr>
<td><strong>IP Rating</strong></td>
<td>IP68</td>
</tr>
<tr>
<td><strong>Dimensions (body)</strong></td>
<td>1.89” x 0.97” x 0.97” (48mm x 24.6mm x 24.6mm)</td>
</tr>
<tr>
<td><strong>Enclosure Material</strong></td>
<td>316 Stainless Steel</td>
</tr>
<tr>
<td><strong>Approvals</strong></td>
<td>CE</td>
</tr>
</tbody>
</table>

**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
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 Series

## OM-CP-HITEMP140X2-FP Specifications

| Temperature Sensor | • OM-CP-HITEMP140X2-FP: Flexible RTD Probe  
|                     | • OM-CP-HITEMP140X2-FP-PT: Flexible RTD Probe & Bendable RTD Probe  
| Probe Measurement Range | • Flexible Probe: -60°C to +260°C (-76°F to +500°F)  
|                     | • Bendable Probe: -200°C to +350°C (-328°F to +662°F)  
| Temperature Resolution | 0.01°C (0.02°F)  
| Calibrated Accuracy | ±0.1°C (±0.18°F)  
| Dimensions (probe) | • OM-CP-HITEMP140X2-FP: Flexible Probe: 72” x 0.10” (1829mm x 2.5mm)  
|                     | • OM-CP-HITEMP140X2-FP-PT 1” Bendable Probe:  
|                     | Probe tip: 1.7” x 0.125” dia. (42mm x 3.2mm dia.)  
|                     | Bendable portion: 22” x 0.062” dia. (55 mm x 1.6mm dia.)  
|                     | • OM-CP-HITEMP140X2-FP-PT 5” Bendable Probe:  
|                     | Probe tip: 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)  
|                     | Bendable portion: 22” x 0.062” dia. (559mm x 1.6mm dia.)  
| Materials | • Bendable Probe: 316 Stainless Steel  
|                     | • Flexible Probe: PFA Insulated Cable  
| Weight | • OM-CP-HITEMP140X2-FP: 4.1oz (115g)  
|                     | • OM-CP-HITEMP140X2-FP-PT: 3.9oz (110g)  

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 | • OM-CP-HITEMP140X2-TD-PT: Rigid RTD Probe with a Bendable RTD Probe  
| Probe Measurement Range | • OM-CP-HITEMP140X2-TD-FP: Rigid RTD Probe with a Flexible RTD Probe  
| Probe Measurement Range | • Rigid Probe: -200°C to +260°C (-328°F to +500°F)  
| | • Bendable Probe: -200°C to +350°C (-328°F to +662°F)  
| | • Flexible Probe: -60°C to +260°C (-76°F to +500°F)  
| Temperature Resolution | 0.01°C (0.02°F)  
| Calibrated Accuracy | ±0.1°C (±0.18°F)  
| Dimensions (probe) | • OM-CP-HITEMP140X2-TD-PT Rigid Probe:  
| | 2.0” x 0.125” dia. (0.188” transitional dia.)  
| | 51mm x 3.2mm dia. (4.8mm transitional dia.)  
| | • OM-CP-HITEMP140X2-TD-PT 1” Bendable Probe:  
| | Probe tip: 1.7” x 0.125” dia. (42mm x 3.2mm dia.)  
| | Bendable portion: 22” x 0.062” dia. (559mm x 1.6mm dia.)  
| | • OM-CP-HITEMP140X2-TD-PT 5” Bendable Probe:  
| | Probe tip: 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)  
| | Bendable portion: 22” x 0.062” dia. (559mm x 1.6mm dia.)  
| | • OM-CP-HITEMP140X2-TD-FP Flexible Probe:  
| | 72” x 0.10” (1829mm x 2.5mm)  
| Materials | • Rigid/Bendable Probe: 316 Stainless Steel  
| | • Flexible Probe: PFA Insulated Cable  
| Weight | • OM-CP-HITEMP140X2-TD-PT: 3.0oz (85g)  
| | • OM-CP-HITEMP140X2-TD-FP: 3.5oz (100g)
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.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a “Basic Component” under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS / INQUIRIES

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.

OMEGA’s policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering. OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

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