

Ω OMEGA™

**X
SERIES**

OM-CP-THERMOVAULTX SERIES 4 & 8-Channel Thermocouple Data Logger

**INSTRUCTION
SHEET**

MQS5771/0920

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Quick Start Steps

1. Install Omega OM-CP Data Logger Software (see specifications for compatible versions) and USB Drivers onto a Windows PC (Windows XP SP3/7/8/10).
2. Launch the Omega Software.
3. The OM-CP-THERMOVAULTX Series come with a USB cable. Plug one end of the cable into an available USB port on the PC and plug the opposite end of the cable into the communication port on the OM-CP-TCTEMPX Series. The drivers will install automatically.
4. The device will appear in the Connected Devices list, highlight the desired data logger. 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.) The status of the device will change to “**Running**”, “**Waiting to Start**” or “**Waiting to Manual Start**”, depending upon your start method.
5. Disconnect the data logger from the interface cable and place it in the environment to measure.
6. To download data, connect the logger to the interface cable. Highlight the data logger in the Connected Devices list. Click “**Stop**” on the menu bar. Once the data logger is stopped, with the logger highlighted, click “**Download**”. You will be prompted to name your report. Downloading will offload and save all the recorded data to the PC.

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.

Product Overview

The OM-CP-THERMOVAULTX Series is an oven temperature recorder that consists of a OM-CP-QUADTCTEMP or OM-CP-OCTTCTEMP inside a thermal enclosure. The thermal enclosure acts as a buffer and allows the device to be placed in higher operating environments for certain durations of time. The chart outlines the maximum temperature and time duration to which the device can be exposed.

Installation Guide

Installing the Interface Cable

Insert the USB-A to micro USB cable (included) into a USB port. The drivers will install automatically.

Installing the Software

Insert the OM-CP Data Logger Software Flash Drive into an open USB port on a Windows PC. 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

Manual Start

Click the **Custom Start** button on the Device panel, or right-click on the device and hover on the start selection, then chose custom start. Apply the options desired and select **Start**. Once armed through the software, to activate the Manual Start, hold the recessed push button, adjacent to the interface cable plug, down for 10 seconds. To see the change in the status, hit **Refresh Devices** within the software.



Thermocouple Type

To change the thermocouple type:

1. In the **Connected Devices** panel, click the device desired.
2. On the **Device** tab, in the Information Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
3. On the **General** tab, change the **Thermocouple type** in the drop down menu.
4. Apply these changes, there will be a prompt to reset the device, select **Yes**.

Please note that the same thermocouple type must be used on all of the channels.

Device Operation (cont'd)

Channel Naming

Up to a 10-character channel name can be programmed into the data logger for each channel. This ability helps to rename a channel in a report to distinguish it from other similarly named channels.

1. In the **Connected Devices** panel, click the device desired.
2. On the **Device** tab, in the Information Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
3. In the Channels panel, find the channel desired, then select **“Use custom name.”**
4. This will prompt a space to type in a name.
5. Select **OK**, then there will be a prompt to reset the device, select **Yes**.

Downloading Data from a Data Logger

1. Connect the logger to the interface cable.
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.

Set Password

To password protect the device so that others cannot start, stop or reset the device:

1. In the **Connected Devices** panel, click the device desired.
2. On the **Device** tab, in the Information Group, click **Properties**. Or, right-click the device and select **Properties** in the context menu.
3. On the **General** tab, click **Set Password**.
4. Enter and confirm the password in the box that appears, then select **OK**.

LED Functionality

	Primary LED (Green): Solid when communicating with computer. Flashes every 15 seconds when logging. Flashes every 5 seconds when in delay start.
	Secondary LED (Red): Flashes every 5 seconds when battery is low. Flashes every 5 seconds when memory is low.
	Channel LED (Blue): Flashes every 2 seconds when reading rate is 2 seconds or faster. Flashes same as reading rate when reading rate is slower than 2 seconds.

Device Maintenance

Battery Replacement

Materials: 3/32 inch HEX Driver (Allen Key) and a Replacement Battery (OM-CP-BAT103) or any 9 V battery

5. Remove the cover from the device by unscrewing the two screws.
6. Remove the battery from its compartment and unsnap it from the connector.
7. Snap the new battery into the terminals and verify it is secure.
8. Replace the cover taking care not to pinch the wires. Screw the enclosure back together securely.

Note: Be sure not to over tighten the screws or strip the threads.

Recalibration

Recalibration is recommended annually for all Omega data loggers. The Properties window in the OM-CP Data Logger software displays the date of the last calibration and the date that the device is next due for calibration. The OM-CP Data Logger Software can also be configured to send an on screen notification prior to the calibration due date for each device. By default this is set to seven days prior to calibration due date and can be changed by the user by going to the file tab in the OM-CP Data Logger software and clicking on **Options**. Select device and check “**Display popup notification when a device nears its next calibration date**”. The user can then select the number of days before calibration due date to notify.

Specifications

INTERNAL CHANNELS			
Temperature Range	-20 °C to +60 °C (-4 °F to +140 °F)		
Temperature Resolution	0.01 °C (0.018 °F)		
Calibrated Accuracy	±0.5 °C (0 °C to 50 °C)		
REMOTE CHANNELS			
Remote Channel Thermocouple Types	J, K, T, E, R, S, B, N		
Thermocouple Connection	Female subminiature (SMP)		
Cold Junction Compensation	Automatic, based on internal channel		
Thermocouple	Range (°C)	Resolution	Accuracy*
J	-210 to +760	0.1 °C	±0.5 °C
K	-270 to +1370	0.1 °C	±0.5 °C
T	-270 to +400	0.1 °C	±0.5 °C
E	-270 to +980	0.1 °C	±0.5 °C
R	-50 to +1760	0.5 °C	±2.0 °C
S	-50 to +1760	0.5 °C	±2.0 °C
B	+50 to +1820	0.5 °C	±2.0 °C
N	-270 to +1300	0.1 °C	±0.5 °C

*Thermocouple accuracy is specified with a 24 AWG.

MAXIMUM EXPOSURE TIME	
Ambient Temperature	Maximum Duration in Minutes
100 °C (212 °F)	110
150 °C (302 °F)	62
200 °C (392 °F)	45
250 °C (482 °F)	35
260 °C (500 °F)	33
300 °C (572 °F)	30
350 °C (662 °F)	25

GENERAL	
Memory (All channels enabled)	4-channel: 524,032 readings per channel 8-channel: 262,016 readings per channel
Start Modes	Software programmable immediate start or delay start, up to 6 months in advance
LEDs	1 per channel and 2 status LEDs
Reading Rate	4 Hz up to 1 reading every 24 hours
Calibration	Digital calibration through software
Calibration Date	Automatically recorded within device
Battery Type	9 V lithium battery included, user replaceable
Battery Life	18 months typical
Data Format	Date and time stamped °C, °F, K, °R, mV, V
Time Accuracy	±1 minute/month
Computer Interface	USB-A to micro USB cable (included); 460,800 baud
Operating System Compatibility	Windows XP SP3/7/8/10
Software Compatibility	Standard Software version 4.2.17.0 or later Secure Software version 4.2.16.0 or later
Operating Environment	See table for temperature 0 %RH to 95 %RH non-condensing
Internal OM-CP-TCTEMPX	-20 °C to +60 °C 0 %RH to 95 %RH non-condensing
OM-CP-THERMOVAULTX SYSTEM	-20 °C to +350 °C 0 %RH to 95 %RH non-condensing
Dimensions	12.3 in x 6.65 in x 2.45 in (723 mm x 168 mm x 62 mm) <i>[Includes handles, brackets and front enclosure latches]</i> 9.1 in x 5.9 in x 2.45 in (231 mm x 149 mm x 62 mm) <i>[Enclosure case only. Excludes handles, brackets and latches]</i>
Weight	4-channel: 8.85 lb (4.01 kg) 8-channel: 8.98 lb (4.07 kg)

Battery Warning

BATTERY MAY LEAK, FLAME OR EXPLODE IF DISASSEMBLED, SHORTED, CHARGED, CONNECTED TOGETHER, MIXED WITH USED OR OTHER BATTERIES, EXPOSED TO FIRE OR HIGH TEMPERATURE. DISCARD USED BATTERY PROMPTLY. KEEP OUT OF REACH OF CHILDREN.

Specifications subject to change.

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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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