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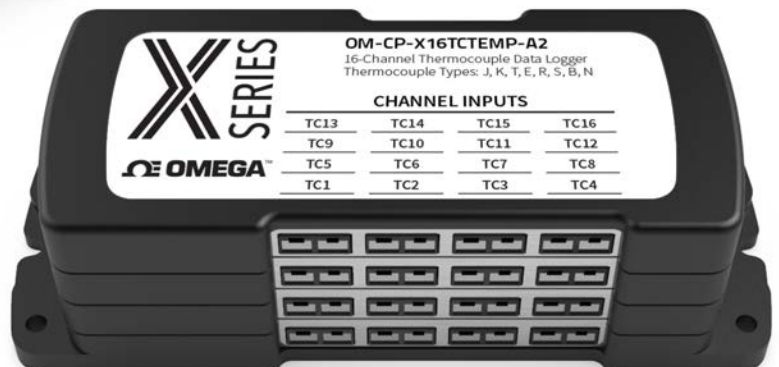
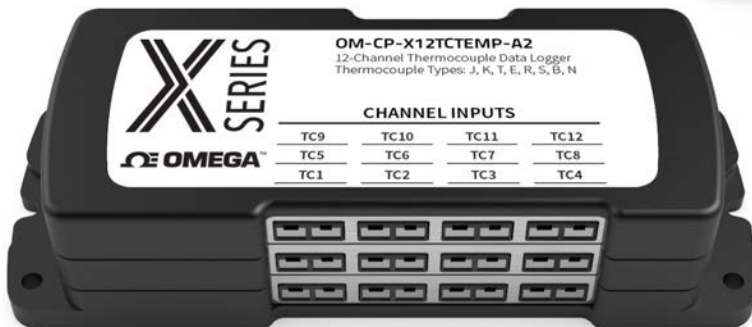
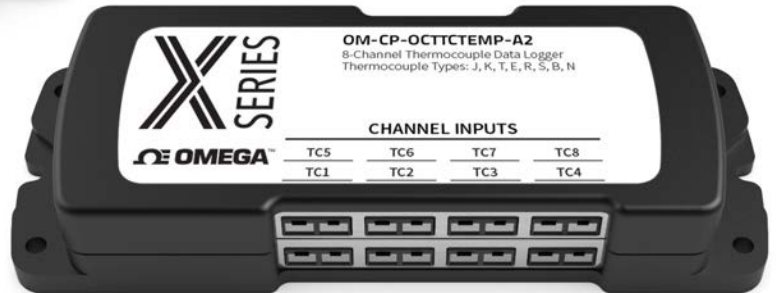
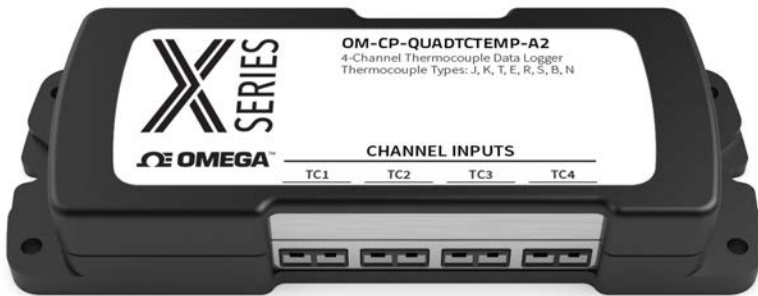
X SERIES

4, 8, 12 and 16-Channel Thermocouple Data Logger

**INSTRUCTION
SHEET**

MQS5089/0320

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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-TCTEMPX 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.

OM-CP-TCTEMPX Series

Product Overview

The OM-CP-TCTEMPX Series consists of a 4, 8, 12 and 16-channel thermocouple temperature data logger with a reading rate of up to 4 Hz. It can measure and record data for up to 524,032 readings (4 channels), 262,016 readings (8 channels), 174,677 readings (12 channels) and 131,008 readings (16 channels). For easy identification, each channel can be named with up to a ten digit title. In addition, the OM-CP-TCTEMPX Series features individual cold junction compensation for each channel providing increased accuracy and response time, and if a probe is removed or severed during logging, the software automatically annotates the data.

The OM-CP-TCTEMPX Series is ideal for a variety of applications, whether it is remote temperature monitoring, or multiple points in a central location. Data from all channels is simultaneously logged. After the monitoring cycle is complete, data can be downloaded for analysis. The OM-CP-TCTEMPX Series comes with a wall mounted universal power adapter.

Wiring Options

The OM-CP-TCTempX Series has 4, 8, 12 or 16 SMP connections. These connections allow the user to insert subminiature thermocouple plugs into the connectors on the device. The diagram below shows how to connect the individual thermocouples for each of the devices.

Warning: Note the polarity instructions. Do not attach wires to the wrong terminals.



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.

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**.

Device Maintenance

Battery Replacement

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

1. Remove the cover from the device by unscrewing the two screws.
2. Remove the battery from its compartment and unsnap it from the connector.
3. Snap the new battery into the terminals and verify it is secure.
4. 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 | | |
| Maximum Thermocouple Resistance | 1000 Ω, <100 Ω recommended | | |
| 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.

| GENERAL | |
|--------------------------------|--|
| Memory (All channels enabled) | 4-channel: 524,032 readings per channel 8-channel: 262,016 readings per channel 12-channel: 174,677 readings per channel 16-channel: 131,008 readings per channel |
| Start Modes | Software programmable immediate start or delay start, up to 6 months in advance |
| Real Time Recording | May be used with PC to monitor and record data in real time |
| 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 | -20 °C to +60 °C (-4 °F to +140 °F), 0 %RH to 95 %RH non-condensing |
| Dimensions | 4-channel: 2.70 in x 7.25 in x 1.22 in (65.6 mm x 184.2 mm x 31.0 mm) 8-channel: 2.70 in x 7.25 in x 1.22 in (65.6 mm x 184.2 mm x 31.0 mm) 12-channel: 2.70 in x 7.25 in x 1.68 in (65.6 mm x 184.2 mm x 42.7 mm) 16-channel: 2.70 in x 7.25 in x 2.14 in (65.6 mm x 184.2 mm x 54.4 mm) |
| Weight | 4-channel: 13 oz (368 g) 8-channel: 13 oz (368 g) 12-channel: 20 oz (580 g) 16-channel: 28 oz (800 g) |
| Enclosure | Black anodized aluminum |
| Approvals | CE, ROHS |

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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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.

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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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