

**Ω OMEGA™**

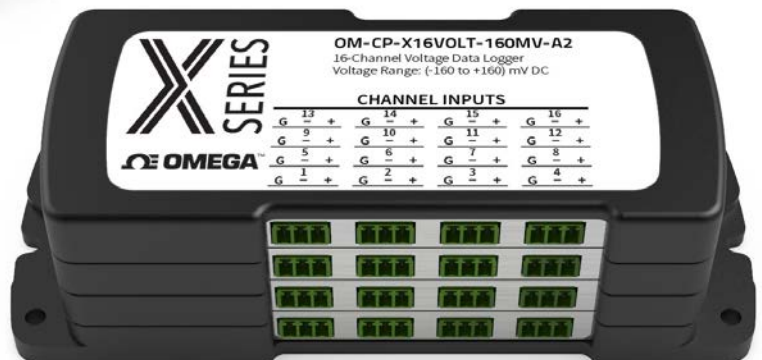
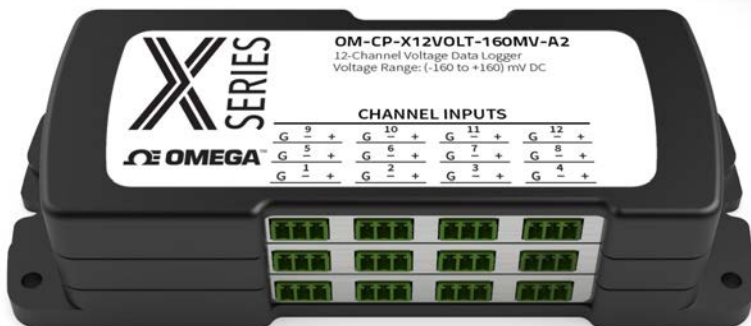
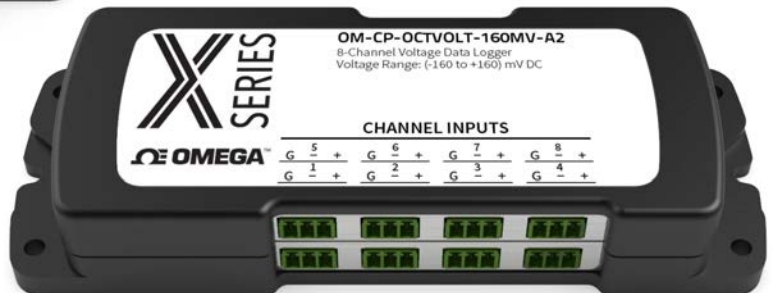
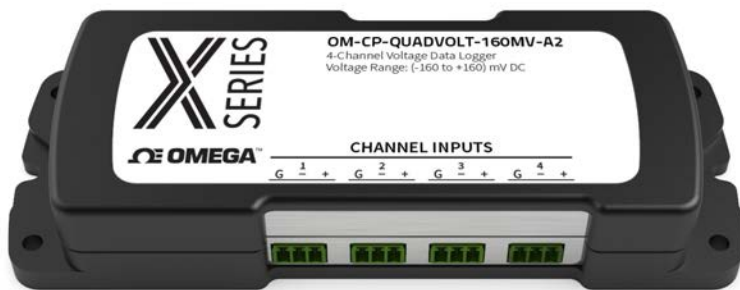
**X SERIES**

# 4, 8, 12 and 16-Channel Voltage Data Logger

**INSTRUCTION SHEET**

**M5780/0420**

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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-VOLTX Series ships 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-VOLTX 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

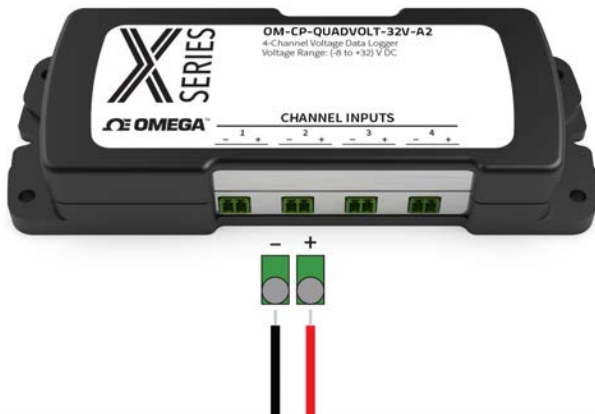
The new OM-CP-VOLTX Series consists of 4, 8, 12 and 16-channel, battery powered, DC voltage data logger with a reading rate of up to 4 Hz. X-Series devices ship with a standard USB-A to Micro USB cable for use with free OM-CP PC based software. The X-series has a high memory capacity and increased download speed compared to previous generations of product. To maximize memory capacity, users can enable or disable channels. For easy identification, each channel can be named with up to a ten digit title.

The OM-CP-VOLTX Series is ideal for a variety of applications, whether it is remote 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-VOLTX Series comes with a wall mounted universal power adapter.

## Wiring Options

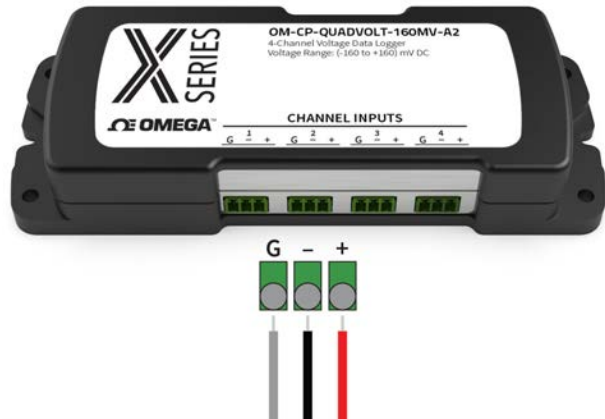
The OM-CP-VOLTX Series 3.2V and 32V data loggers (single ended wiring) have two-position removable screw terminal connections that accept 2-wire configurations.

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



The OM-CP-VOLTX Series  $\pm 160$  mV data loggers (differential wiring) have three-position removable screw terminal connections that accept 3-wire configurations.

*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.



### 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 Operation (cont'd)

### LED Functionality

	<b>Primary LED (Green):</b> Solid when communicating with computer. Flashes every 15 seconds when logging. Flashes every 5 seconds when in delay start.
	<b>Secondary LED (Red):</b> Flashes every 5 seconds when battery is low. Flashes every 5 seconds when memory is low.
	<b>Channel LED (Blue):</b> 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

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

MEASUREMENT			
Input Connection	Removable screw terminals		
Model	160 mV	3.2 V	32 V
Voltage Range	±160 mV	±3.2 V	-8 V to +32 V
Voltage Resolution	0.02 mV	0.0004 mV	0.004 mV
Calibrated Accuracy	±0.032 mV	±0.0032 V	±0.02 V
Input Impedance	1 MΩ	125 kΩ	125 kΩ
Maximum Voltage Between Inputs to Ground	+3 V	+50 V	+50 V
Analog Conversion Time	150 ms		
Frequency Rejection	60+50 Hz		
Temperature Coefficient	25 ppm/°C		
Specified Accuracy Range	Nominal range @ 25 °C		
Engineering Units	Native Measurement units can be scaled to display measurement units of another type. This is useful when monitoring current outputs from different types of sensors such as temperature, CO <sub>2</sub> , flow rate and more.		

GENERAL	
Memory (All channels enabled)	<b>4-channel:</b> 698,709 readings per channel <b>8-channel:</b> 349,354 readings per channel <b>12-channel:</b> 232,903 readings per channel <b>16-channel:</b> 174,677 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 included, user replaceable
Battery Life	18 months typical
Data Format	Date and time stamped V, mV, μV, engineering units specified through software
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 4.2.19.0 or later Secure Software version 4.2.18.0 or later
Operating Environment	-20 °C to +60 °C (-4 °F to +140 °F), 0 %RH to 95 %RH non-condensing
Dimensions	<b>4-channel:</b> 2.70 in x 7.25 in x 1.22 in (65.6 mm x 184.2 mm x 31.0 mm) <b>8-channel:</b> 2.70 in x 7.25 in x 1.22 in (65.6 mm x 184.2 mm x 31.0 mm) <b>12-channel:</b> 2.70 in x 7.25 in x 1.68 in (65.6 mm x 184.2 mm x 42.7 mm) <b>16-channel:</b> 2.70 in x 7.25 in x 2.14 in (65.6 mm x 184.2 mm x 54.4 mm)
Weight	<b>4-channel:</b> 13 oz (368 g) <b>8-channel:</b> 13 oz (368 g) <b>12-channel:</b> 20 oz (580 g) <b>16-channel:</b> 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.*

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





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

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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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