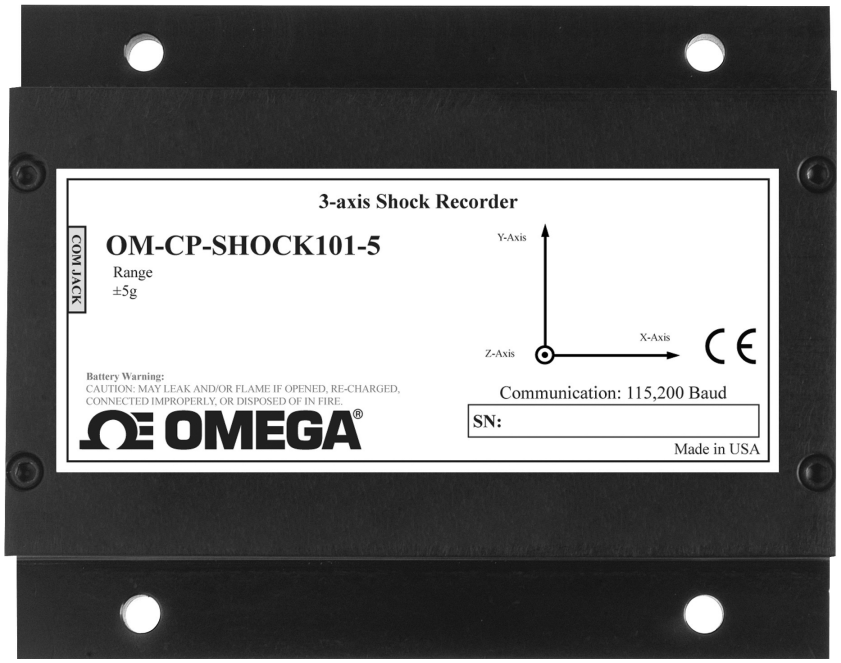
5 YEAR WARRANTY

QUICK START

OMEGA®

User's Guide



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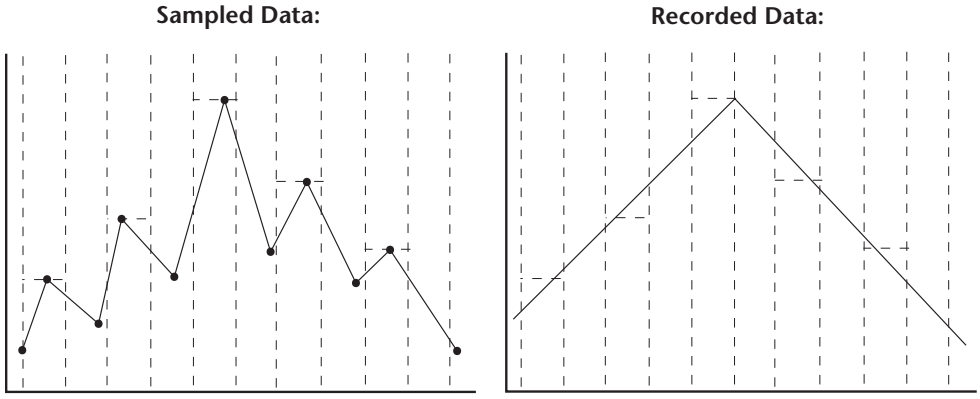
OM-CP-SHOCK101
Tri-Axial Shock Data Logger

Product Overview

The OM-CP-SHOCK101 is a high speed, battery powered, stand alone, tri-axial shock data logger specifically designed for documenting dynamic environments such as moving vehicles, trucks, containers, and ships. The device also characterizes environments such as production and assembly lines of delicate equipment, IC fabrication, communications and computer components. This is an all-in-one, compact, portable, easy to use device that measures and records data up to 349,525 measurements per axis. The storage medium is non-volatile solid state memory, providing maximum data security should the battery become discharged.

Data may be displayed for the three axes, or as calculated vector sums, providing overall acceleration and shock of the equipment or shipment being monitored. OM-CP Data Logger Software provides a summary of statistics for average, minimum and maximum shock values. The device is available in four ranges ±5g, ±50g, ±100g and ±250g.

The OM-CP-SHOCK101 continuously samples at 512Hz and at the user specified reading rate, the device writes the peak values (g-force) to memory. For Example:



Axis Orientation
When the OM-CP-SHOCK101 is laying flat with the label facing up, the x-axis reads left to right on a horizontal plane, and will read ~0g's when still. The y-axis reads top to bottom on a horizontal plane and will read ~0g's when still. The z-axis reads perpendicular to the other two axis's, and will read around ~1g's when still.

Installation Guide

Installing the Interface Cable
OM-CP-IFC200
Insert the device into a USB port. The drivers will install automatically.

Installing the Software
Insert the Software USB Stick 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 Wizard.

Device Operation

Connecting and Starting the data logger
1. Once the software is installed and running, plug the interface cable into the data logger.
2. Connect the USB end of the interface cable into an open USB port on the computer.
3. The device will appear in the Connected Devices list, highlight the desired data logger.
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 interface cable 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. Highlight the data logger in the Connected Devices list. Click "**Stop**" on the menu bar.
2. Once the data logger is stopped, with the logger highlighted, click "**Download**". You will be prompted to name your report.
3. Downloading will offload and save all the recorded data to the PC.

Questions? For more details and instructions, please refer to the rest of this guide, visit us online at www.omega.com or contact us for support at 1 (800) 872-9436.

Troubleshooting Tips

Why are my devices not appearing?
If your OM-CP-SHOCK101 isn't showing up in the Connected devices panel, or you receive an error message while using the OM-CP-SHOCK101, try the following:

- Check that your OM-CP-IFC200 is properly connected. For more information, see Troubleshooting Interface Cable problems *(below).*
- Ensure that the battery is not discharged.
- Ensure that no other OM-CP Software is running in the background
- Ensure that you are using Omega data logger software.
- 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.

Troubleshooting Interface Cable problems
Check that the software recognizes your OM-CP-IFC200.
If your device is not appearing in the Connected Devices list, it may be that the OM-CP-IFC200 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 your OM-CP-IFC200 is listed there, then the software has correctly recognized and is ready to use it.

Check that Windows recognizes your OM-CP-IFC200.
If the software does not recognize your OM-CP-IFC200, there may be a problem with Windows or the USB drivers.
1. In Windows, click Start, right-click Computer and choose Properties or you can 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 Datalogger Interface.
5. If the entry is present, and there are no warning messages or icons, then windows has correctly recognized your OM-CP-IFC200.
6. If the entry is not present, or has an exclamation point icon next to it, you may need to install the USB drivers. These are available on your software flash drive.

Ensure that the USB end of the OM-CP-IFC200 is securely connected to the computer
1. Locate the USB-A plug of your OM-CP-IFC200.
2. If the interface cable is connected to your PC, unplug it.
3. Wait ten seconds, then reinsert it.
4. The older versions of the OM-CP-IFC200 will have a red LED illuminate to signify that it has been connected correctly. (*The LED may also become unlit after flashing red.*)
5. Newer OM-CP-IFC200s has different working LEDs.
   a. The blue LED signifies that it is on and it is plugged into the computer correctly.
   b. The amber LED signifies that it is busy. (*Searching for devices when a device is not plugged in, starting, stopping, downloading ect.*)
   c. The green LED signifies that the device has been successfully found, started, stopped, downloaded ect. (*The LED may also become unlit after flashing green.*)
   d. The red LED means the device has not been successfully found.

Product Maintenance

Battery Replacement
Materials: OM-CP-BAT103 and 3/32" HEX Driver
1. Remove the cover from the device by unscrewing the four 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 screw or strip the threads.

Recalibration
The OM-CP-SHOCK101 standard calibration is performed at 0g on the x-axis, 0g on the y-axis and 1g on the z-axis.

Recalibration is recommended annually for any Omega data logger; a reminder is automatically displayed in the software when the device is due.

OM-CP-SHOCK101 General Specifications

Channels	Shock (3 axes)
Accelerometer Type	MEMS Semiconductor
Acceleration Range	*See Table Below
Acceleration Resolution	
Calibrated Accuracy	
Frequency Response	0Hz to approx. 400Hz
Data Format	Date and time stamped gravities (g and mg)
Sample Rate	512Hz
Reading Rate	64Hz to 5 minutes
Memory	349,525/axis
Real Time Recording	May be used with PC to monitor and record instantaneous acceleration in real time (1 second or slower reading rate)
Required Interface Package	IFC200
Baud Rate	115,200
Battery Type	9V lithium or alkaline battery included; user replaceable
Typical Battery Life	7 days
Operating Environment	-20 °C to +60 °C, 0 to 95%RH (non-condensing)
Material	Anodized aluminum
Dimensions	3.5” x 4.4” x 1.0” (89 mm x 112 mm x 26 mm)
Weight	12 oz (340 g)
Approvals	CE

*OM-CP-SHOCK101 Acceleration Range, Resolution and Accuracy

Range (g)	±5	±50	±100	±250
Accuracy (g)	±0.2	±1	±2	±4
Resolution (g)	0.01	0.05	0.1	0.2

Battery Warning

WARNING: DISCARD USED BATTERY PROMPTLY. KEEP OUT OF REACH OF CHILDREN. DO NOT DISPOSE OF IN FIRE, RECHARGE, PUT IN BACKWARDS, DISASSEMBLE, OR MIX WITH OTHER BATTERY TYPES. MAY EXPLODE, FLAME, OR LEAK AND CAUSE PERSONAL INJURY.

Specifications subject to change.
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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)
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WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of 6**1 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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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.

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