

BeamView.NET Quick Start Guide

for LaserCam-HR Camera Systems





**27650 SW 95th Avenue
Wilsonville, OR 97070**

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BEFORE YOU BEGIN

Coherent product information is now available in one easily accessible location on the Coherent website. Filter your search by product type, document category, or both.

Downloads

Go to the Resources section on the Coherent website:

<https://www.coherent.com/resources>

- Software
- Drawing Files
- Quick Start Guides
- User Manuals
- Datasheets
- Application Notes

Products Supported

BeamView.NET supports the following cameras:

- LaserCam-HR, LaserCam-HR-II-1/2", LaserCam-HR-II-2/3"
- LaserCam-HR-UV, LaserCam-HR-II-2/3"-UV

For information about sensor products, go to:

<https://www.coherent.com/laser-power-energy-measurement>

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INSTALLATION AND SET-UP

This *Quick Start Guide* provides an introduction to the BeamView.NET beam-analysis software and includes the following sections:

- Features of the software
 - Products supported
 - System requirements
- Installation instructions
- Instructions to connect system components (camera and PC)



BEFORE YOU CALL SUPPORT:
When installing the software, check whether your organization's IT department has security policies or controls in place that may cause the software installation to be incomplete.

Features

BeamView.NET software offers the following features:

- Adjustable trigger delay assures a valid laser pulse is captured
- Additional calculations for flat-top beam analysis
- Remote mode interface and new commands
- Plug-and-play for camera set-up; support for multiple cameras
- Set variable aspect ratios for each camera
- Increase in the number of samples that can be captured; save images using industry-standard file format

- Camera information embedded into image files. Software is backwards compatible, to directly import images (.bin, .img, or .png), configuration files (.atc), and test files (.ats) generated by old BeamView software into the BeamView.NET

Products Supported

BeamView.NET supports the following cameras:

- LaserCam-HR, LaserCam-HR-II-1/2", LaserCam-HR-II-2/3"
- LaserCam-HR-UV, LaserCam-HR-II-2/3"-UV



NOTE

The LaserCam-HR-InGaAs camera is currently not supported in BeamView.NET and should continue to use the BeamView v4.8.3 software.

For information about sensor products, go to:

<https://www.coherent.com/laser-power-energy-measurement>

Complete installation of the software **before** you connect any hardware.



IMPORTANT!

When a Low-Distortion Face Plate (LDFP) is installed in the camera unit, special safety precautions must be taken to avoid damage to the sensor. See "Safety Precautions for Cameras" on page 27 for more information.

Software System Requirement

This section describes system requirements:

- Windows 10 (32- or 64-bit)
- 2.5 GHz processor or faster
- 2 GB of RAM or higher
- 5 GB of available hard disk space
- USB 2.0 or RS-232 port

Install the Software

1. To download the software and drivers necessary to install and operate the BeamView.NET software, go to the Coherent website.

<https://www.coherent.com/resources>



IMPORTANT

To avoid instability of the application, it is strongly recommended that you first disable computer hibernation or suspend mode before installing the software.

2. Save the installation files to your computer.



IMPORTANT

It is recommended that you use Administrator privileges to install and run software.

3. Double-click to run the file, where x” is the latest version:

BeamView_5.0.1.x.exe

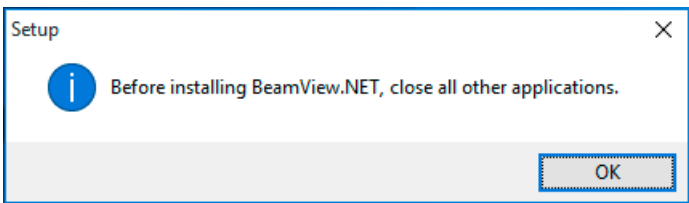
- If **AutoRun** is enabled on your laptop or computer, installation starts automatically.
If it does not start automatically, select **Run** from the Start menu and enter the location of the installation file on your computer.

4. Follow the on-screen instructions to complete installation, described in the steps that follow.

For any issues with software installation, see troubleshooting tips in the *BeamView.NET User Manual*. You can download that document from the Coherent website at:

<https://www.coherent.com/resources>

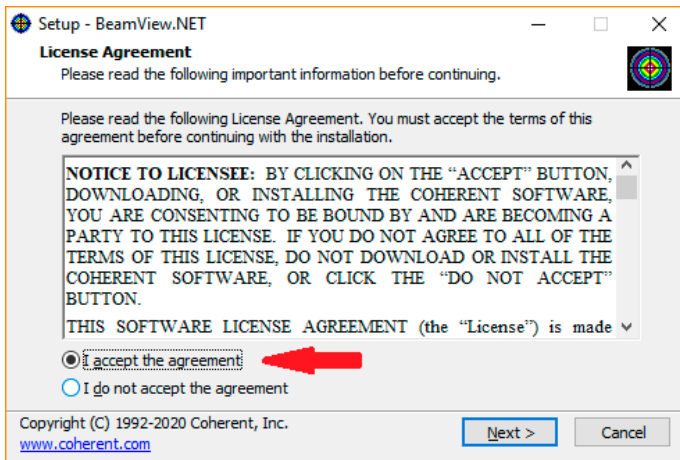
As the installation process begins, the first message that is displayed reminds you to first close all other applications.



If other programs are running, stop the installation process now and close them.

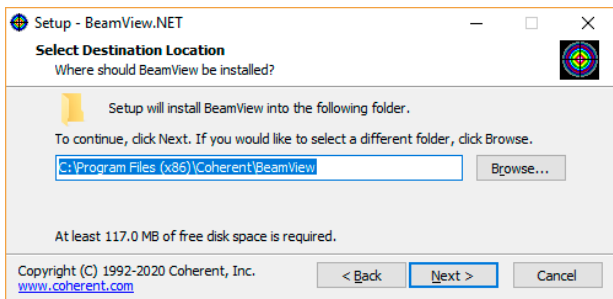
Accept License Agreement

The License Agreement for BeamView.NET is displayed. Select the radio button to Accept the agreement, then click [Next](#) to proceed with the software installation. Otherwise, click [Cancel](#) to stop installation of the software.



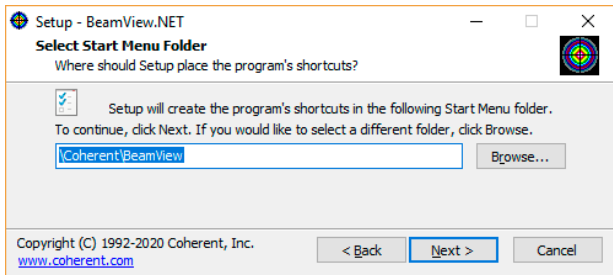
Select Destination Location

Review the directory listed in the "Browse" line. If acceptable, click [Next](#). Otherwise, browse to select a different location, then click [Next](#).



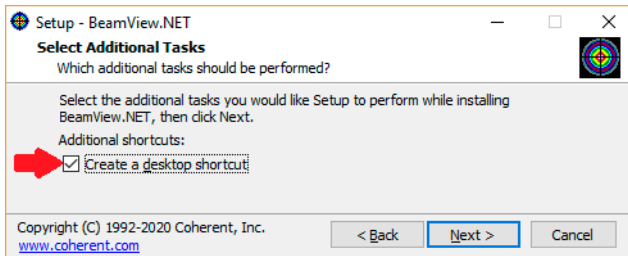
Select Start Menu Folder

Review the directory that is displayed. If acceptable, click [Next](#), or browse to select a different location, then click [Next](#).



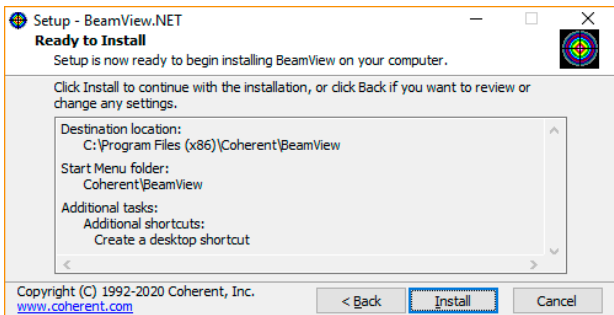
Set Desktop Shortcut

This option allows you to create a desktop shortcut. Click the checkbox then click [Next](#) when done.

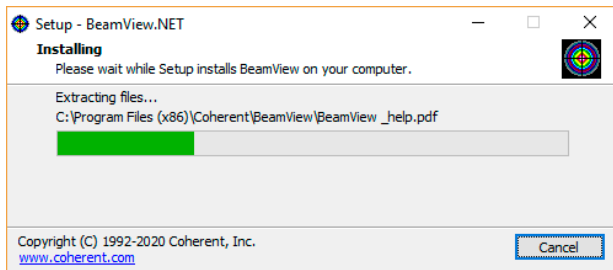


Preview Set-Up

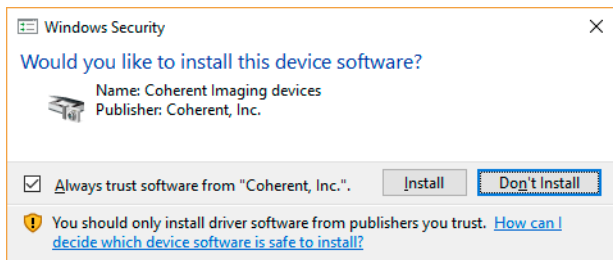
This screen lists the selections that you have made. If you want to change any settings, click [Back](#). Otherwise, click [Install](#).



A progress bar is displayed as installation proceeds.



Because the software installation includes device drivers, another screen is displayed for explicit permission:



Select whether to install or not, and complete installation.

Complete Set-Up

When installation is complete, the final set-up screen is displayed. Select **Yes** or **No** to restart the computer, then click [Finish](#).



Launch BeamView.NET Software

Launch the BeamView.NET software. To do so, double-click the desktop shortcut icon that was placed on the desktop during installation.



The splash screen is briefly displayed:



For more information, go to the Coherent website and download the *BeamView.NET User Manual*: <https://www.coherent.com/resources>

Connect Hardware

For detailed instructions about setting up hardware, see the *User Manual* for the appropriate camera, or check the HELP files or the *BeamView.NET User Manual*.



IMPORTANT!

Complete installation of the software before you connect any hardware. Also read special safety precautions when using a camera that has a Low-Distortion Face Plate (LDFP) installed in the camera unit.

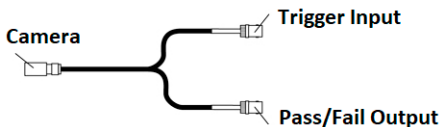
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After the BeamView.NET software is installed, connect the following:

1. To establish a connection with a PC, plug the USB cable into the camera and into the USB port on the PC. The LaserCam-HR cameras require only a standard USB cable (shipped with the camera) and a computer with a USB 2.0- compliant port.



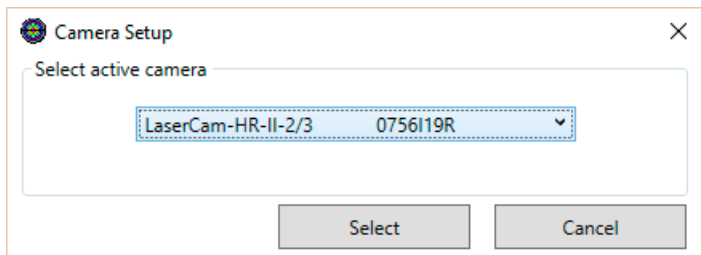
When the camera is to be used with an external trigger, connect a “Y” cable. Connect the camera end by rotating the cable until the orientation matches, and then pushing the connector securely onto the mating connector.



This allows connection of an external trigger source through a BNC receptacle (plug-style connector). The other end connects a TTL-level Pass/Fail output signal generated by BeamView from user-configured calculation settings.

See the HELP files or the *BeamView.NET User Manual* for information about configuring software for an external trigger.

2. After you plug in the camera, wait a few seconds for the computer to recognize that hardware.
3. In the BeamView.NET software, click the Setup tab.
4. Click the Camera icon in the toolbar. A pop-up dialog box displays the model of camera connected:



If you later connect multiple cameras, the dialog box displays a drop-down menu that lists all cameras connected.

5. Click [Select](#) to choose the camera you want to use. A User-Defined ID Number is displayed. Click [OK](#).



IMPORTANT!

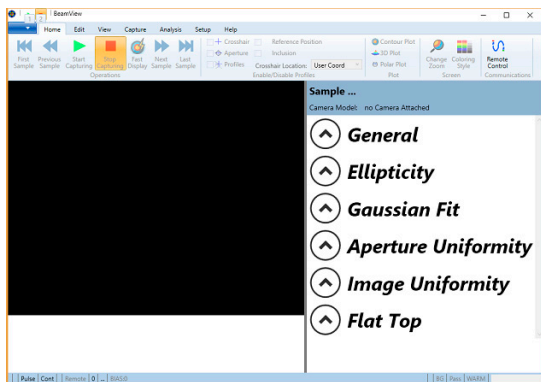
When a Low-Distortion Face Plate (LDFP) is installed in the camera unit, you must take special precautions to avoid damage to the sensor. See “Safety Precautions for Cameras” on page 27 for more information.

BeamView.NET Interface

The set of tabs across the top of the BeamView.NET software application include the following windows.

- Home
- Edit
- View
- Capture
- Analysis
- Setup
- Help

The first screen that is displayed for the software is shown here.

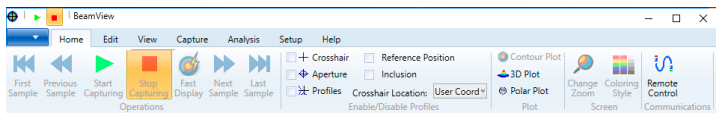


For details about the functions and operations of commands in each window, see detail in the HELP files or the *BeamView.NET User Manual*. To download software or the *User Manual*, go to:

<https://www.coherent.com/resources>

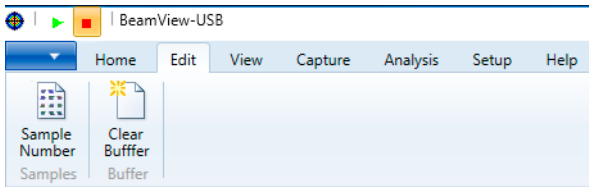
Home Tab

The Home Tab lets you select the sample, start and stop capture, as well as whether to include crosshair, aperture, profiles or reference positions for the sample. You can also select the level of zoom and coloring style.



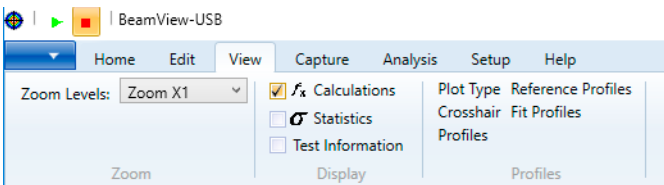
Edit Tab

The Edit Tab lets you select the current sample displayed, copy the view plot or selected results to the clipboard, and clear the image data buffer.



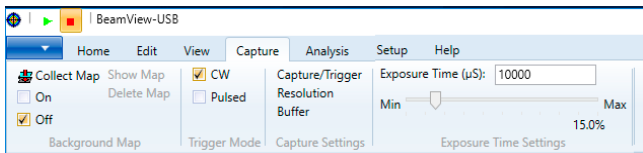
View Tab

On the View Tab, you can select the level of zoom, display calculations, statistical results, and/or test results. Also, you can configure crosshair and various profile settings.



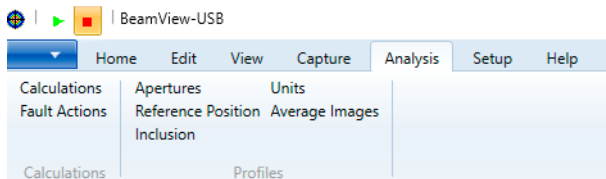
Capture Tab

On the Capture tab, you can choose to show or delete the Collection Map, enable Continuous Wave (CW) or Pulsed capture operations, select trigger operations, the resolution and depth, as well as configure the storage buffer for samples. You can also specify the exposure time.



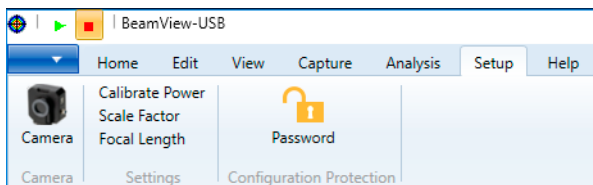
Analysis Tab

The Analysis tab provides commands to select analysis calculations, configure pass/fail options, configure overlay apertures, define reference coordinate positions, define inclusions areas, select system display units, and select averages.



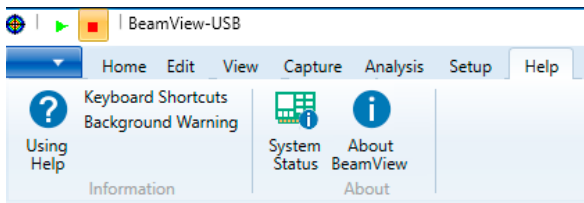
Setup Tab

The Setup Tab lets you adjust properties for the selected camera, define input power/energy for calibrations, set the input optical magnification scale, input far-field optical focal length, and set password protection for configuration settings.

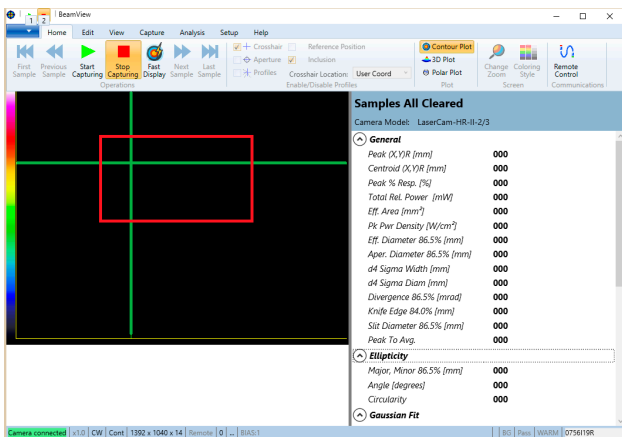


Help Tab

The Help tab displays contents of the Help file, lists shortcuts, displays status for both system and background warning status, and license and copyright information for the software.



After you connect a camera, notice that the Home tab now expands the content on the right side of the screen, shown next.



For more information ...

For details about the functions and operations of commands in each window, see detail in the HELP files or the *BeamView.NET User Manual*. To download the *User Manual*, go to:

<https://www.coherent.com/resources>

Safety Information

This section provides an introduction to safety information, including signal words and symbols that you need to know before you begin taking measurements.

Signal Words and Symbols

This documentation may contain sections in which particular hazards are defined or special attention is drawn to particular conditions. These sections are indicated with signal words in accordance with ANSI Z-535.6 and safety symbols (pictorial hazard alerts) in accordance with ANSI Z-535.3 and ISO 7010.




Signal Words

The following signal words are used in this documentation:

SIGNAL WORD	DESCRIPTION
WARNING	Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates information considered important, but not hazard-related. "NOTICE" may also be used when there is the risk of property damage.

Symbols

The following signal words are always emphasized with a safety symbol that indicates a special hazard, regardless of the hazard level. The icons are intended to alert the operator as described here:

ICON	TELLS THE OPERATOR ABOUT ...
	Important information or instructions for operation and maintenance.
	Danger of exposure to hazardous visible and invisible laser radiation.
	Susceptible to Electro-Static Discharge (ESD).

Laser Safety

Laser light that is emitted may be in the infrared area of the electromagnetic spectrum and may not be visible to the human eye. Safety precautions listed here are to be read and followed by anyone working with or near a laser.

At all times, ensure that all personnel are protected from accidental or unnecessary exposure to laser radiation.



WARNING!

Direct eye contact with the output beam from a laser causes serious eye injury and possible blindness. Always avoid exposure to eye or skin from both DIRECT and SCATTERED radiation.

General Laser Safety Precautions

Because of its optical qualities, laser light poses safety hazards not associated with light from conventional light sources.

Avoid direct exposure to the laser light, and follow these control measures:

- Always wear appropriate laser safety eye wear for protection against the specific wavelengths and laser energy being generated.
- Never look directly into the laser light source or at scattered laser light from any reflective surface, even when wearing laser safety eye wear.
- Laser beams can easily cause flesh burns or ignite clothing.
- Avoid wearing watches, jewelry, or other objects that may reflect or scatter the laser beam.
- Terminate the laser beam with a light-absorbing material, and use energy-absorbing targets for beam blocking.

Safety Precautions for Cameras

For LaserCams equipped with a Low-Distortion Face Plate (LDFP), additional precautions must be taken.

Some models of cameras have been modified by Coherent to remove the protective window attached to the sensor array and replace it with a Low-Distortion Face Plate (LDFP).

- LaserCam HR II - 1/2" USB Camera System (P/N 1282868)
- LaserCam HR II - 2/3" USB Camera System (P/N 1282870)
- LaserCam-HR II UV Camera System (P/N 1360550)

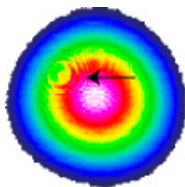
The LDFP filter glass offers protection for the sensor, eliminates unwanted background light, and provides attenuation of the laser beam. This modification allows for proper imaging of the laser beam, but leaves the sensor susceptible to damage. If the LDFP is removed from the camera, special precautions (described next) must be taken to avoid sensor damage.



IMPORTANT!
If the Low-Distortion Face Plate (LDFP) is removed, the Warranty is void.

Dust

If low-intensity spots or small circles are noticed in the camera video, as shown in this example, then dust may be present.



Dust can cause distortion in the form of small circles if present on the LDFP filter glass, or can cause low-intensity spots if present on the sensor array.

Observe the defects with a flashlight illuminating the camera. If the defect moves when the flashlight angle is changed, then the dust is on the LDFP; otherwise, it is caused by dust on the array.

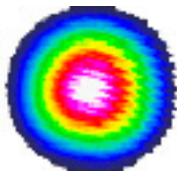
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To correct this situation, use clean air at low-pressure (or methanol and lens tissue) to clean the LDFP filter glass. Use only low-pressure micro-filtered clean air to blow dust off the sensor.

Take all necessary precautions to insure that nothing makes any contact with the sensor surface.

Fringes

If the LDFP filter glass is installed in the camera, then fringes may appear in the video as shown here:



The fringe pattern is due to a second reflection off the sensor and the LDFP superimposing back onto the original beam image.

To correct this situation, rotate the LDFP housing until the fringes are no longer present. Slightly turning the camera with respect to the laser beam may also reduce this effect.



CAUTION!



Use small, careful movements when rotating any devices to avoid laser back reflection!

Laser Power Input

Depending on the LaserCam HR camera model, saturation occurs at various power levels and wavelengths. See the *User Manual* for the specific camera to read information about saturation levels and damage thresholds at various wavelengths.

China RoHS Label

The China RoHS label is as follows for LaserCam-HR systems:

部件名称 Part Name	有害物质 Hazardous Substances						
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	
电缆装配 Cable Assembly	X	O	O	O	O	O	
本表格依据SJ/T 11364的规定编制							
O: 表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。							
X: 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。							

SERVICE AND SUPPORT

This section provides information about:

- How to contact Product Support
- How to obtain service
- Product shipping instructions

Contact Product Support

Coherent provides telephone and web-based technical assistance as a service to its customers and assumes no liability thereby for any injury or damage that may occur contemporaneous with such services.

For general Technical Support, contact your local Coherent Service Representative as described on the following page, or contact Coherent as follows:

- By phone: 1-(408)-764-4557 or 1-(800)-367-7890
- By e-mail: Customer.Support@Coherent.com
- To view a list of contact names, telephone numbers, and addresses worldwide, visit our website: www.Coherent.com



IMPORTANT!

Under no circumstances do these support services affect the terms of any warranty agreement between Coherent and the buyer. Operation of any Coherent laser with any of its interlocks (or safety features) defeated is always at the operator's own risk.

For information about sensor products, go to:

<https://www.coherent.com/laser-power-energy-measurement>

Please be prepared to provide the following information:

- Model or part number of your unit
- Serial number of your unit
- A description of the problem
- Any corrective steps you may have attempted

For answers to **frequently asked questions**, go to this link, scroll down and click FAQ, then select “Ask a Question or Read the Answers”:

<https://www.coherent.com/laser-power-energy-measurement/laser-measurement-help-center>

LSM Support in the USA and North America

If you are shipping products from within the United States or North America, contact LMC Technical Support directly, as follows:

- By phone: North America (800) 343-4912 or (408) 767-4042
- By e-mail: LSM.service@coherent.com

Telephone coverage is available Monday through Friday (except during U.S. holidays). Inquiries received outside normal office hours are tracked by our automatic answering system and promptly returned the next business day.

International LMC Support

If you are located in Europe, contact LMC Technical Support directly, as follows:

- Germany: +49-6071-968-0
- Japan: +813-5635-8680

Obtaining Service

To obtain service under this warranty, Customer must notify the Company of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service.

The Company shall, in its sole discretion, determine whether to perform warranty service at the Customer's facility, at the Company's facility, or at an authorized repair station.

If Customer is directed by the Company to ship the product to the Company or a repair station,

Customer shall:

- Package the product (to protect from damage during shipping) as instructed in "Product Shipping Instructions" next.
- Ship it to the address specified by the Company, with shipping prepaid. back to Coherent in conjunction with recalibration and recertification.
- Coherent shall pay the cost of shipping the Product back to the Customer in conjunction with product failures within the first twelve (12) months of time of sale or during an extended 12-month warranty period.

Product Shipping Instructions

You must include a Returned Material Authorization number (RMA) assigned by the Company on the outside of all shipping packages and containers. Items returned without an RMA number are subject to return to the sender.

To prepare a product for shipping to Coherent:

1. Contact Coherent Customer Service (see “Contact Product Support” in the next section) for a Return Material Authorization number.
2. Attach a tag to the product that includes the name and address of the owner, the person to contact, the serial number, and the RMA number you received from Coherent Customer Service. Pack this tag inside the box.
3. Wrap the product with polyethylene sheeting or equivalent material.
4. Using the original shipping and packaging materials, pack the product.
5. Seal the shipping carton with shipping tape or an industrial stapler.
6. Add the RMA number you received from Coherent Customer Service to the shipping label on the outside of the box.
Ship the product to the following address:

Coherent, Inc.



Laser Measurement and Control, Attn: RMA # _____

27650 SW 95th Avenue

Wilsonville, OR 97070

USA



部件名称 Part Name	有害物质 Hazardous Substances						
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)	
电缆装配 Cable Assembly	X	O	O	O	O	O	
本表格依据SJ/T 11364的规定编制							
O: 表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。							
X: 表示该有害物质至少在该部件的某一均质材料中的含量超出GB/T 26572规定的限量要求。							

Download software and manuals at <https://www.coherent.com/resources>:



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