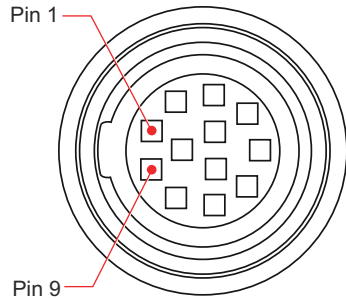


Pinout and Wire Descriptions

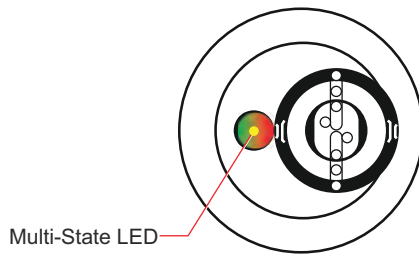
Pin	Assignment	Wire Color
1	V _{in} Gnd	Black
2	V _{mod}	Blue
3	V _{mod} Gnd	Red/Black ^a
4	RS232 Recv	White
5	RS232 Gnd	White/Black
6	RS232 Trans	Orange
9	V _{in}	Red
10	Fault	Green



a. Load must be applied to modulation line for proper operation.

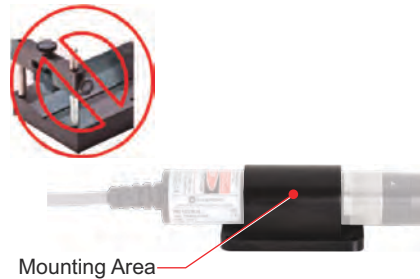
LED Indicator and Analog Output Status

	Red	Green	Analog Fault Output
Fault Condition	5 Hz flashing		5 Hz toggling
Health Monitor	0.5 Hz flashing		0.5 Hz toggling
All other conditions		Steady on	Low



Mounting

Proper mounting of the laser diode for heat dissipation is critical to laser lifetime and performance. Any laser above 20 mW should be mounted to provide proper heatsinking. Proper heatsinking needs to make full radial contact with the clamping area. V-block mounts are not recommended. See the *Coherent BioRay Operator's Manual* (1271697) for details on power dissipation and mounting specifications.



Laser Safety and Installation Quick Start Guide Coherent BioRay



Optical Safety

Laser light, because of its special properties, poses safety hazards not associated with light from conventional sources. The safe use of lasers requires that all laser users, and everyone near the laser system, are aware of the dangers involved. The safe use of the laser depends upon the user being familiar with the instrument and the properties of coherent, intense beams of light.



DANGER!
Direct eye contact with the output beam from the laser will cause serious damage and possible blindness.

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Coherent BioRay Laser Safety and Installation Quick Start Guide

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Laser beams can ignite volatile substances such as alcohol, gasoline, ether, and other solvents, and can damage light-sensitive elements in video cameras, photomultipliers, and photodiodes. Reflected beams may also cause damage. For these reasons, and others, the user is advised to follow the precautions below.

- Observe all safety precautions in the operator's manual.
- Extreme caution should be exercised when using solvents in the area of the laser.
- Limit access to the laser to qualified users who are familiar with laser safety practices and who are aware of the dangers involved.
- Never look directly into the laser light source or at scattered laser light from any reflective surface. Never sight down the beam into the source.
- Maintain experimental setups at low heights to prevent inadvertent beam-eye encounter at eye level.



DANGER!

Laser safety glasses can present a hazard as well as a benefit; while they protect the eye from potentially damaging exposure, they block light at the laser wavelengths, which prevents the operator from seeing the beam. Therefore, use extreme caution even when using safety glasses.

- As a precaution against accidental exposure to the output beam or its reflection, individuals using the system should wear laser safety glasses as required by the wavelength being generated.
- Use the laser in an enclosed room. Laser light remains collimated over long distances and therefore presents a potential hazard if not confined.
- Post warning signs in the area of the laser beam to alert individuals present.
- Advise all individuals using the laser of these precautions. It is good practice to operate the laser in a room with controlled and restricted access.

Electrical Safety

The Coherent BioRay laser does not contain hazardous voltages. Do not disassemble the enclosure. There are no user-serviceable components inside. All units are designed to be operated as assembled. Warranty will be voided if the enclosure is disassembled.

Optional Software Installation

Close all programs. Insert the Coherent BioRay flash drive into a USB port on your computer. Double-click the *Coherent_Connection_Setup.exe* file to start the installation process. Follow the on-screen instructions. For detailed operating instructions, refer to the *Coherent BioRay Operator's Manual* (1271697), available in PDF format on the included flash drive and on the Coherent website: www.Coherent.com.

Laser Installation CDRH-Compliant System

This section describes how to get the laser up and running in CW mode with the laser controller. For more information—including specifics on modulation, interfacing, installation, and heatsinking—refer to the *Coherent BioRay Operator's Manual* (1271697), available in PDF format on the included flash drive and on the Coherent website: www.Coherent.com.

For information about optical safety, refer to the "Optical Safety" topic in this guide, and to the *Coherent BioRay Operator's Manual*.

Note that in this configuration the laser is CDRH compliant for end-use applications. This laser will not start emission until the interlock and key switch are enabled and power applied to the controller. Once these conditions are met, the laser will begin emitting in 5 seconds (safety delay).

Required Material



Laser



Laser Controller



Controller Power Supply

Optional Material




- A **mini-USB cable** is needed to connect the laser controller to a PC.

Coherent Connection Software

This optional software can be used to interface with lasers that have the RS-232 communication option enabled. For complete details on communication protocols, refer to the *Coherent BioRay Operator's Manual* (1271697), available in PDF format on the flash drive that shipped with your laser.



Installation Procedure

- 1 Connect laser to controller. 
- 2 Connect power supply to controller. 
- 3 Ensure interlock is in place. 
- 4 Turn key ON. 