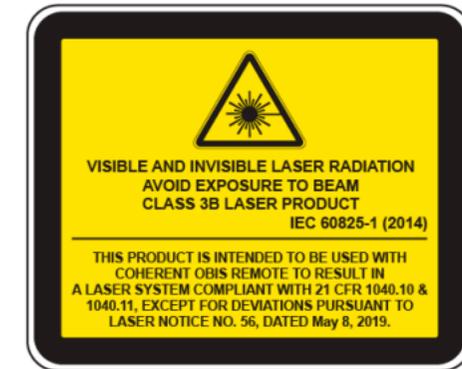
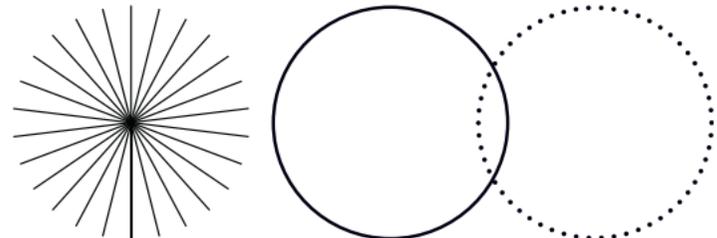


# OBIS™ LX/LS and LX SF Quick Start Guide



## Laser Safety

Laser light, because of its special properties, has safety hazards not associated with light from standard sources. The safe operation of lasers requires that all laser users, and everyone near the laser system, know the dangers involved. The safe use of the laser needs the user to be familiar with the instrument and the properties of coherent, intense beams of light



**DANGER!**

**Direct eye contact with the output beam from the laser causes damage and possible blindness.**

Laser beams can cause ignition of volatile material such as alcohol, gasoline, ether and other solvents, and can cause damage to light-sensitive material in video cameras, photomultipliers and photodiodes.

Reflected beams can also cause damage.

## Laser Safety Precautions

These **safety precautions** are recommended:

- Obey all safety precautions in the operator's manual.
- Caution must be used when solvents are used in the area of the laser.
- Limit access to the laser to approved users who know laser safety procedures and who do not know the risk involved.
- Do not look directly into the laser light source or at scattered laser light from a reflective surface. Do not look down the beam into the source.
- Maintain experimental setups at low heights to prevent accidental beam to eye contact at eye level.
- As a precaution against accidental exposure to the output beam or its reflection, individuals that operate the system must wear laser safety glasses.



**WARNING!**

**While laser safety glasses give protection to eyes from potential damage from exposure, glasses may block light at the laser wavelengths, and that prevents the operator from being able to see the beam. Use strong caution even while safety glasses are worn.**

- Use the laser in a closed room. Laser light stays collimated over long distances and shows a possible hazard if not confined.
- Post warning signs in the area of the laser beam to give caution to individuals in the area.
- Recommend to all individuals that operate the laser of these precautions. It is good procedure to operate the laser in a room with controlled and restricted access.

## Electrical Safety

The OBIS laser does not contain hazardous voltages.

Do not disassemble the enclosure. There are no user-serviceable components. All units are made to be operated as assembled. The warranty will be voided if the enclosure is disassembled.

Electrostatic charges as high as 4000 volts easily collect on the human body and equipment when handling a device during installation or use and can discharge without detection.



**CAUTION!**

**Take correct ESD precautions during installation and operation to prevent damage or performance degradation.**

The laser has input protection. However, permanent damage can occur on devices that receive high-energy electrostatic discharges.

## OBIS Laser Installation

This section shows how to set up the OBIS laser to run in Continuous Wave (CW) mode.

The user is responsible for compliance with all applicable laser safety requirements.

For more information about modulation, interface, installation, heatsink use, packaging, and accessories, see the *OBIS LX/LS Operator's Manual* (P/N 2283534).

The OBIS automatically starts laser emission after DC power is supplied. The user is responsible for compliance with all applicable laser safety requirements.

### Install Coherent Connection Software

Install the software on a Windows (64-bit) host PC or laptop before the laser is set up and powered on.

- Download the *Coherent Connection* software (which also contains all the necessary drivers) from the Coherent website: <https://www.coherent.com/resources>

- Close all programs.
- On the PC, double-click this file to start the installation process:  
`Coherent_Connection_Setup_v6.0.x.xx.exe`
- Follow the on-screen instructions to complete software installation.

For more software installation and operation instructions, refer to the *Coherent OBIS LX/LS Operator's Manual* (P/N 2283534), available in PDF format on the Coherent website: <https://www.coherent.com/resources>

### Required Materials

An optical plate with mount holes at a ~1" distance apart **is not** a correct mount surface without an OBIS Heat Sink. See the *OBIS LX/LS Operator's Manual* (P/N 2283534) for full instructions on heat sink requirements and procedures to install the laser.

A USB cable is also necessary to connect the OBIS laser to a host PC or laptop.



### Attach Laser to Heatsink



**WARNING!**  
DO NOT use thermal grease or thermal compounds. The use of thermal grease or compounds voids the Coherent warranty.

- Use a 2.5 mm hex wrench and tighten the screws in a diagonal pattern onto the heat sink.



- Torque the mounting screws, initially, to 0.25 N·m (35.4 oz·in.) in a 1-2-3-4 sequence. Use the same diagonal pattern for the last torque setting of 1 N·m (141.6 oz·in.).

### Option 1: Connect Laser Without Remote

Attach to Power Supply Direct for use **without** remote:

- Remove the yellow 'OEM Use Only' label from the back of the OBIS laser to access 12V OEM power supply connector. See figure.



**CAUTION!**  
The OBIS automatically starts laser emission after DC power is supplied.

- Attach the USB cable from the host computer to the USB connector on the laser for use **without** remote.



- Insert the 2-pin 12 VDC OEM Power Supply connector into the power connector on the back panel of the laser.



### Option 2: Connect Laser With Remote

Perform remote back panel connections.

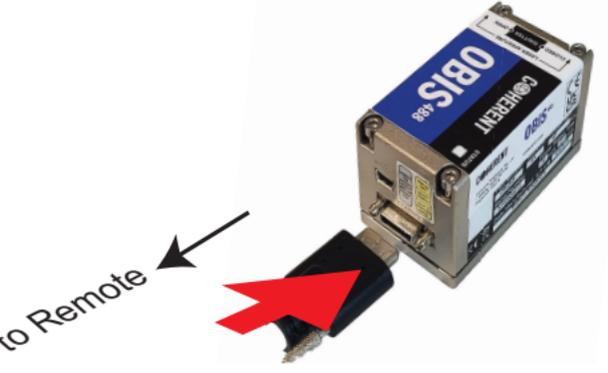
- Connect the power supply to the remote.



- Attach the SDR cable to the remote.



- Attach other end of SDR connector directly into SDR connector on the laser for use **with** remote:



- Tighten all connector thumbscrews.  
(continue to page 14)

部件名称 Part Name	有害物质 Hazardous Substances					20 Recycling symbol
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	
印刷电路板组装 PCB 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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### Perform remote front panel connections:

- Put the interlock connector into the remote.



- Make sure that the key is inserted and set the keyswitch to the ON position.



## Laser Operation

**OBIS:** Slide the lever right (to OPEN position) to open the mechanical front shutter to allow light output.

**OBIS Fiber Pigtail (FP):** Remove the fiber shutter cap.



To automatically start emission:

- Give 12 VDC power to the OBIS.

Auto Start is enabled as a factory default setting and laser emission happens when power is applied to the laser and thermal stability is achieved. Note that when Auto Start is enabled, there is no 5-second delay.

OBIS starts to emit light after it is thermally stabilized. During stabilization, the LED indicator on top of the laser flashes green.



When stabilized, the LED indicator changes to white and laser emission starts. Light emission starts at the last power set point.

If emission does not start within 5 minutes and the LED indicator on top displays in solid blue, the Auto Start feature is likely not in enabled. This means the laser has stabilized thermally but is waiting for a command to start emission.

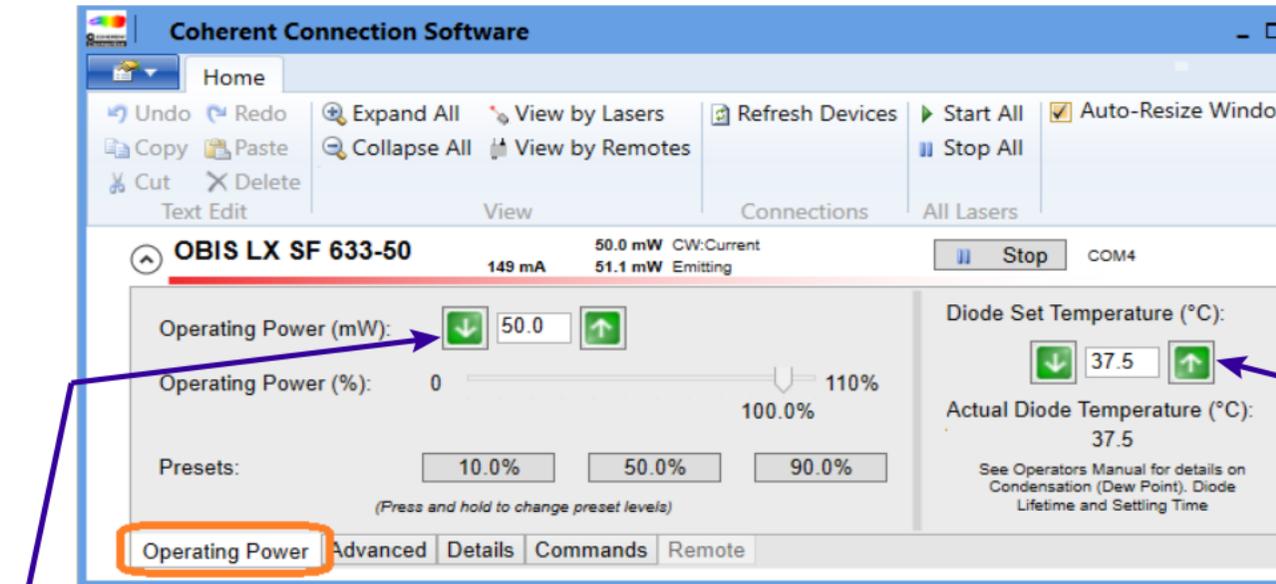
To manually start emission if emission does not autostart:

- 1) Connect the OBIS laser to a PC. Use a USB Type A-to-USB Type Mini B cable.
- 2) Make sure that the OBIS is correctly connected to its 12 VDC power supply.
- 3) Start the Coherent Connection software.
- 4) Press the **Start** button in the Main tab.
- 5) To enable the Laser Auto Start feature, go to the Advanced tab in Coherent Connection and put a check mark in the **Auto Start** box.

### Configure Wavelength Settings (OBIS LX Single Frequency Lasers Only)

Use the Operating Power tab in the software to fine-tune the laser's wavelength:

- Adjust the diode temperature.
  - Adjust the operating power to adjust the diode current.
- or
- A combination of both.



Arrows change power level by 1mW (or) Enter power level manually

Arrows change diode temp by 0.1°C (or) Enter diode temperature manually from 20°C to 40°C

The screen below shows the status of the laser:



**NOTICE**

**For Single Frequency Laser, make sure that the laser operates in 'CW:Current' (constant current) mode.**

The screenshot shows the Coherent Connection Software interface. At the top, there is a menu bar with options like Home, Undo, Redo, Expand All, View by Lasers, Refresh Devices, Start All, Auto-Resize Window, Copy, Paste, Collapse All, View by Remotes, Stop All, Cut, and Delete. Below the menu bar, there are sections for View, Connections, and All Lasers. A device named 'OBIS LX SF 633-50' is listed with a status of '50.0 mW CW:Current Ready' and a 'Start' button. A green circle highlights the status text, and a green arrow points from it to a status window below. A purple arrow points to the 'Start' button. The status window has two tabs: 'Status' and 'Image'. The 'Status' tab shows three rows of data:

Status	Image
Warm Up	OBIS LX SF 633-50 50.0 mW CW:Current Warming up Start COM4
Ready for Emission	OBIS LX SF 633-50 50.0 mW CW:Current Ready Start COM4
Emitting	OBIS LX SF 633-50 149 mA 50.0 mW CW:Current 57.5 mW Emitting Stop COM4

Expand to show status

Start laser emission

### Sécurité Optique

La lumière laser, du fait de ses propriétés particulières, ne présente pas les mêmes risques que les autres sources lumineuses traditionnels. L'utilisation sécurisée de laser requiert que tous les utilisateurs de laser, et que chaque personne proche d'un système laser, connaissent les dangers inhérents à l'utilisation d'une telle source lumineuse. L'utilisation sécurisée de laser dépend de l'habitude qu'a l'utilisateur avec les instruments et les propriétés d'une lumière cohérente et intense.



**DANGER !**

**Le contact direct avec l'œil du faisceau laser peut provoquer des lésions importantes et une possible cécité.**

Les faisceaux lasers peuvent enflammer des substances volatiles comme l'alcool, l'essence, l'éther ou d'autres solvants encore, et peut endommager des éléments sensibles à la lumière comme les caméras vidéos, les photomultiplicateurs et les photodiodes. Les faisceaux

réfléchis peuvent aussi induire des dommages. Pour toutes ces raisons, il est conseillé à l'utilisateur de suivre les précautions suivantes.

Observer toutes les précautions de sécurité du manuel utilisateur.

Une attention particulière doit être prise quand des solvants sont utilisés dans la même salle que le laser.

L'utilisation de laser doit être limitée aux personnes qualifiées et habituées à une utilisation sans risque des laser et qui en sont informées des dangers.

Ne jamais regarder directement le faisceau laser ou la lumière diffusée par une surface réfléchissante. Ne pas renvoyer la lumière laser dans la source laser.

Maintenir le montage expérimental à une faible hauteur pour éviter toute rencontre du faisceau laser avec les yeux.

- Afin d'éviter une exposition accidentelle au faisceau de sortie du laser ou à une de ses réflexions, les utilisateurs du système doivent porter des lunettes de sécurité imposées par la longueur d'onde générée par le laser.



**AVERTISSEMENT !**

**Les lunettes de sécurité laser peuvent présenter un risque aussi bien qu'un avantage ; elles protègent les yeux d'une exposition potentiellement dangereuse, elles bloquent la lumière aux longueurs d'onde du laser, ce qui empêche l'opérateur de voir le faisceau laser. Par conséquent, prendre une attention particulière même avec l'utilisation de lunettes de sécurité.**

- Utiliser le laser dans une pièce fermée. La lumière laser restera collimatée sur une longue distance, et peut ainsi présenter un risque si elle n'est pas confinée.
- Placer des panneaux d'avertissement dans la zone où se trouve le faisceau laser pour avertir les personnes y étant présentes.
- Conseiller tous les utilisateurs de laser de ces précautions. Il est préférable de se servir du laser dans une pièce ayant un accès contrôlé et limité.

### Sécurité Electrique

Le laser OBIS ne présente pas de risques électriques. Ne pas démonter le boîtier. Il n'y a pas de composants utilisables à l'intérieur. Tous les boîtiers sont conçus pour être employés assemblés. La garantie sera annulée si le boîtier est démonté.

### Installation du logiciel

Fermer tous les logiciels en cours d'utilisation:

- Téléchargez le logiciel Coherent Connection (qui contient également tous les pilotes nécessaires) depuis le site Web de Coherent: <https://www.coherent.com/resources>
- Fermez tous les programmes.
- Double-cliquer sur le fichier **Coherent\_Connection\_Setup.exe**
- Suivre les instructions apparaissant à l'écran.

Pour obtenir des instructions détaillées sur l'utilisation, se référer au << Manuel d'utilisation du laser OBIS LX/LS de Coherent >> (2283534), disponible en format PDF sur le site Coherent.



**INNOVATIONS THAT RESONATE**