

Cool Red Infrared Light Source Installation and Operation Instructions

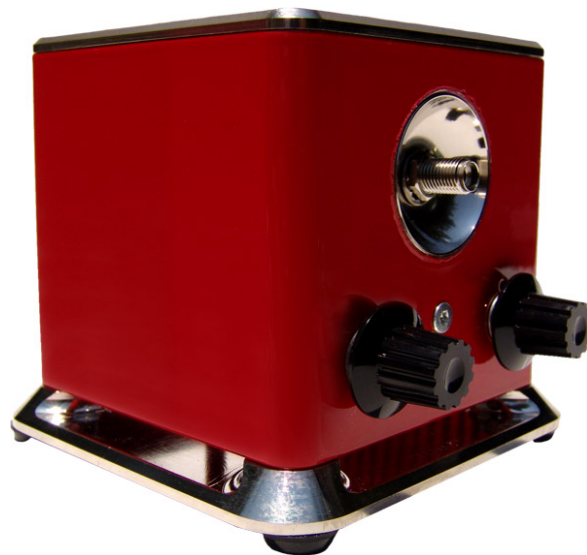
Description

Ocean Optics' Cool Red Infrared light source is a high-powered, 1500 degrees Kelvin, blackbody source. This infrared source is coupled to an SMA fiber optic connector via an elliptical reflector. The light source has integrated optical shutter that can be used to block the light source for taking dark signal references.

The Cool Red works beautifully as a complement to mid-infrared analyzers or in any general application where high-intensity infrared light is required. A power supply is included with the unit.

This light source offers many unique features and an ergonomic design. For systems that require optical modulation, an integrated optical shutter can be modulated at frequencies of up to 2.5 Hz via TTL pulse. The shutter can be driven externally through a 15-pin digital interface.

The silicon nitride emitter can be used continuously for 2000 hours.



Cool Red Light Source

WARNINGS

The silicone nitride light source inside the Cool Red is very HOT. Do not operate the unit unassembled.

Do not leave the unit operating without a fiber in place.

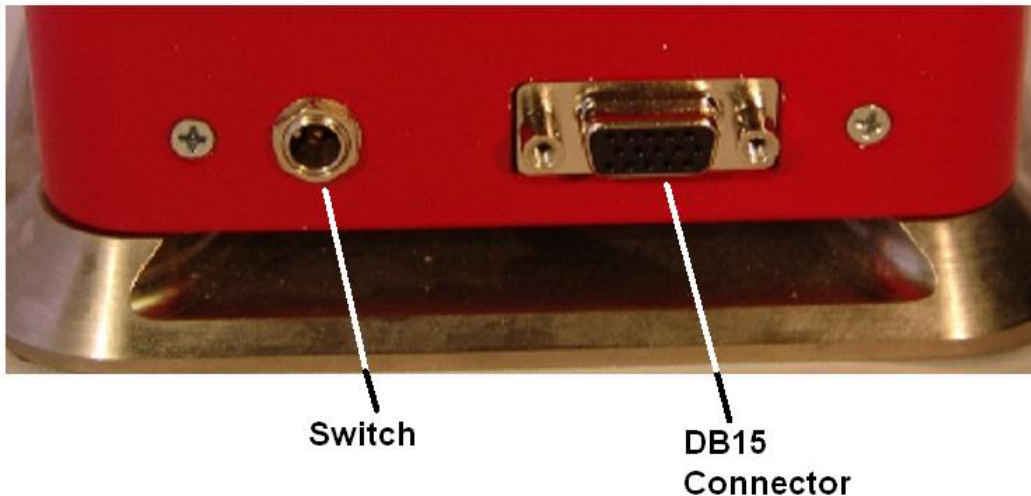
Be careful when removing and replacing fibers, as the light is very intense and could cause burns.

Do not leave the Cool Red light source operating unattended.

Do not use the light source near combustible materials.

Light Source Connection and Operation

The Cool Red's shutter can be continually modulated to provide chopped optical signals. The shutter can be controlled manually through the front control knobs or via a TTL-level signal through the DB15 connector interface on the back of the light source.



Rear View of Cool Red Light Source

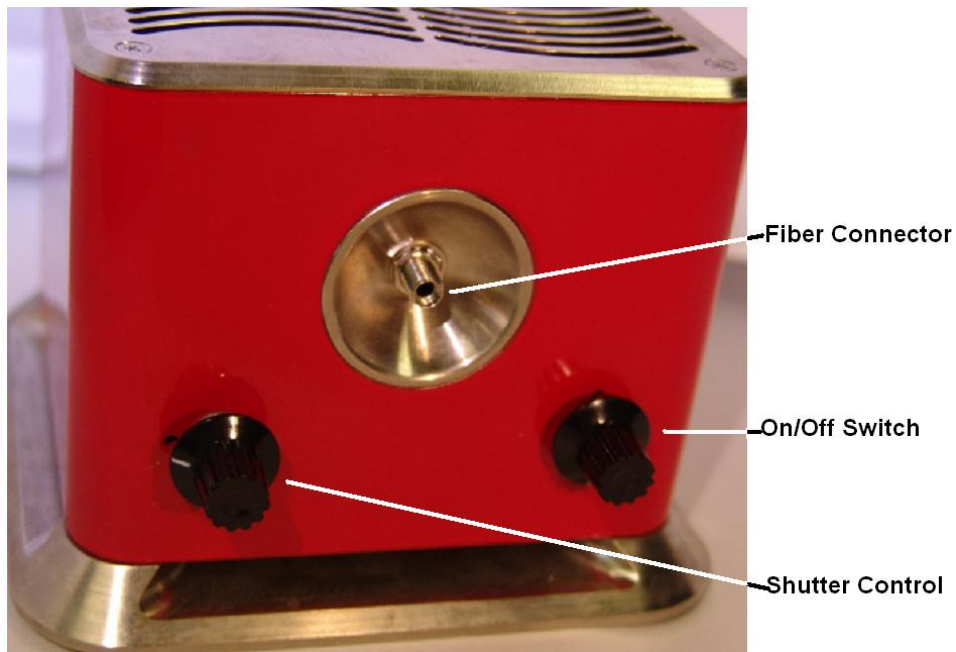
The controls on the front panel of the light source consist of the following:

- An on/off switch located on the right
- A shutter control on the left. This 3-position switch goes from position 1/External TTL Control/Position 2. The switch should be set to the external TTL control (middle position).

DB15 Connector Pinouts

Pin #	Description
1	Shutter input
2	N/A
3	N/A
4	N/A
5	N/A
6	N/A
7	N/A
8	N/A
9	Ground
10	Ground
11	N/A
12	N/A
13	N/A
14	N/A
15	N/A

Pin 1 is used to externally control the shutter. This signal should be referenced to ground via pins 9 and 10. The polarity of this signal should be high for shutter open, and low for shutter off.



Specifications

Specifications	Criteria
Lamp: Material Temperature Lifetime Warm-up Time Power	Silicon Nitride (Si ₃ N ₄) 1500 °K 2000 hours 12 seconds 50 Watts
Shutter frequency	Up to 2.5 Hz
Power supply requirements	5 amps, 24 volts 5.5 mm OD/3 mm ID
Dimensions	127 mm x 127 mm x 114.3 mm

