

57-CFx-Series



The new 57-CFx-series diode laser systems from Melles Griot provide spatially clean beam quality and superb pointing stability from a compact self-contained package. This industry standard 70 mm x 40 mm x 40 mm package incorporates analog and digital drive electronics to provide a smaller footprint and reduced cost. Fiber delivery offers the capability to deliver laser light right where you need it, simplifying optical alignment. Servicing your system is as easy as disconnecting the output fiber and replacing it with a new fiber coupled laser, minimizing your service requirements while optimizing your capabilities. Standard wavelengths are available from 405 – 642 nm and output powers up to 50 mW, we have the right laser for your application. For those applications that need an end user interface an optional external controller box is available for CDRH compliance requirements.

Key Attributes

- > 50 mW at 405 nm
- > 40 mW at 445 nm
- > 50 mW at 488 nm
- > 25 mW at 515 nm
- > 50 mW at 642 nm
- Power stability less than 2%
- Low optical noise (< 0.2% rms, < 2% peak-to-peak)
- External CDRH controller (optional)
- Analog and digital modulation
- User friendly GUI which can control up to six lasers simultaneously
- USB control
- RS-485

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Specifications

Fiber Characteristics

Type: Single-Mode or
Polarization-Maintaining Fiber ($\geq 100:1$ PER)
Numerical Aperture: < 0.12
Fiber Cable Length: 1 meter
Termination: End Capped FC/APC
Fiber Jacket Diameter: 3 mm
Fiber Jacket Material: PVDF
Minimum Bend Radius: > 50 mm

Stability Characteristics

Power Stability: $\pm 2\%$
Amplitude Noise 20 Hz to 2 MHz:
 $\leq 0.2\%$ rms
 $\leq 2\%$ P-P

Operating Characteristics

Warm-Up Time: < 5 minutes
Heat Dissipation, Laser:
During Warm-Up < 15 W
After Warm-Up < 8 W
Cooling: TEC & Conductive
Cooling (baseplate)

Modulation Characteristics

Laser Drive Modes:
CW, Digital > 200 MHz
Analog > 3 MHz, Mixed
Digital Modulation Voltage Range: LVDS

Environmental Requirements

Operating Temperature: $+10^{\circ}\text{C}$ to $+40^{\circ}\text{C}$
Non-Operating Temp: -20°C to $+60^{\circ}\text{C}$
Operating Humidity: $< 95\%$, non-condensing
Shock, Non-Operating: < 25 g, < 11 msec
Vibration, Non-Operating:
 < 3.0 g, 5 to 500 Hz sinusoidal, 0.25 octave/min
Vibration, Operating:
 < 3.0 g, 5 to 500 Hz sinusoidal, 0.25 octave/min

Electrical Requirements

Input Voltage, Laser Head: 12 VDC
Operating Current: < 2 A
Input Power: < 15 W
Input Voltage, DC Power Supply: 100 to 240 VAC
Input Frequency, DC Power Supply: 50 to 60 Hz

Options

CDRH Controller (includes 12 VDC power supply):
56-RLC-100-xx*
12 VDC Power Supply Kit: L44001-203-xx*
* Power Cords:
xx = 01 for 100Vac, JIS 8303
= 02 for 115Vac, NEMA 5-15P,
= 03 for 230Vac, CEE 7/VII Schuko,
= 04 for 240Vac, BS 1363/A

Safety Regulatory Compliance



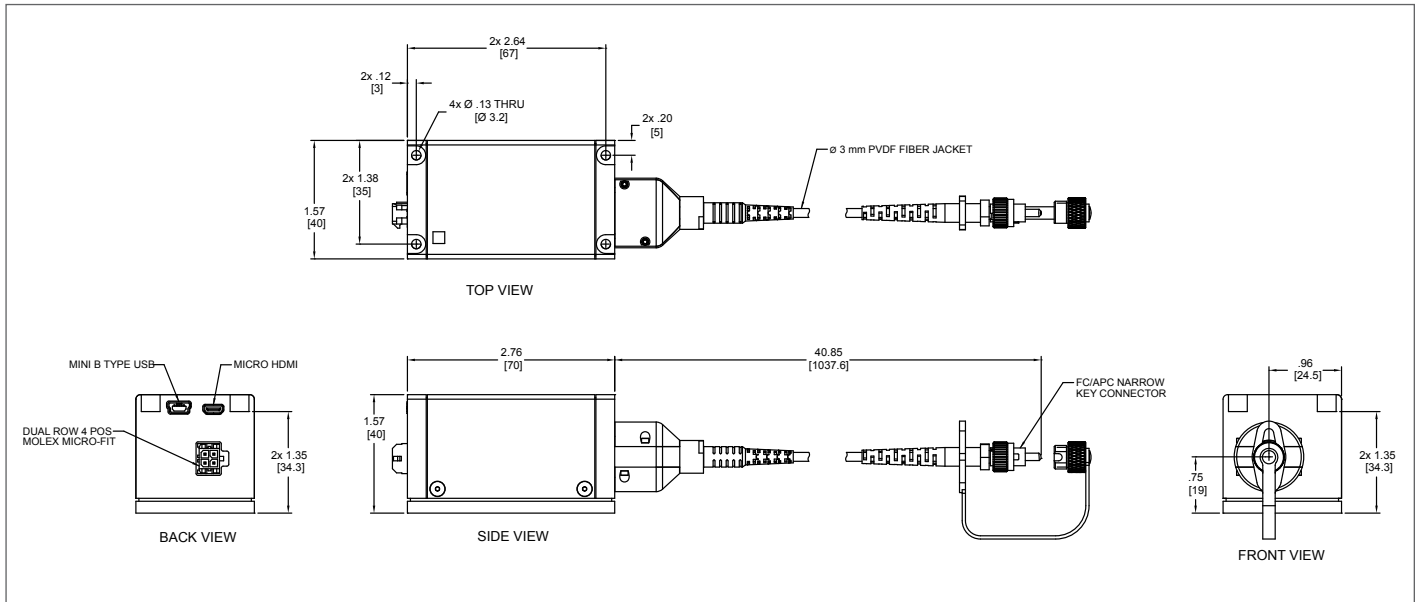
This Melles Griot laser meets the following standards:
IEC 60825-1:1997 (EU Laser Safety)
EN 61326:1997/A3:2003 Class A (EU Emissions and Immunity)
21 CFR 1040.10 (US Laser safety)
FCC Part 18 (US Emissions and Immunity)

Available Wavelengths & Output Powers

Model Number	Typical Wavelength (nm)	SM Fiber Delivered Power (mW)	PM Fiber Delivered Power (mW)
57-CFS-405-025	405	25	
57-CFP-405-025			25
57-CFS-405-050		50	
57-CFP-405-050			50
57-CFS-445-025	445	25	
57-CFP-445-025			25
57-CFS-445-040		40	
57-CFP-445-040			40
57-CFS-488-025	488	25	
57-CFP-488-025			25
57-CFS-488-050		50	
57-CFP-488-050			50
57-CFS-515-025	515	25	
57-CFP-515-025			25
57-CFS-640-025	640	25	
57-CFP-640-025			25
57-CFS-642-050		50	
57-CFP-642-050			50

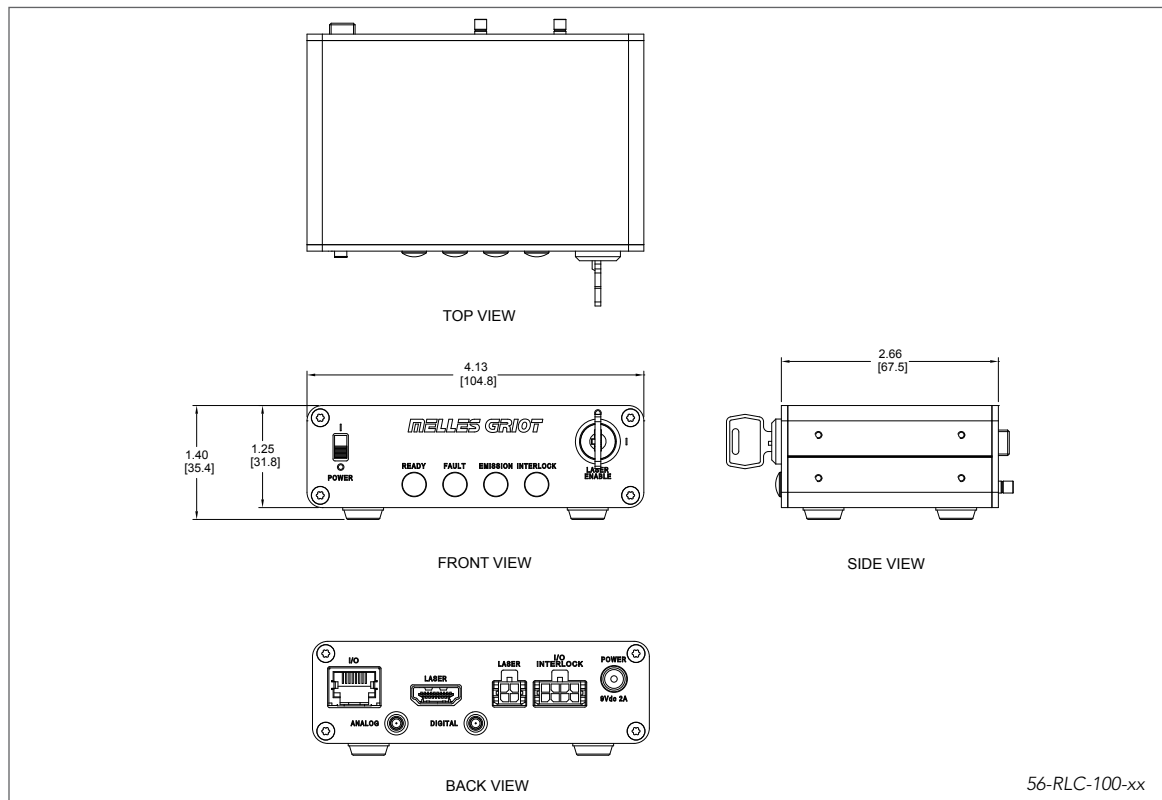
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Laser Dimensions



Dimensions in inches [mm]

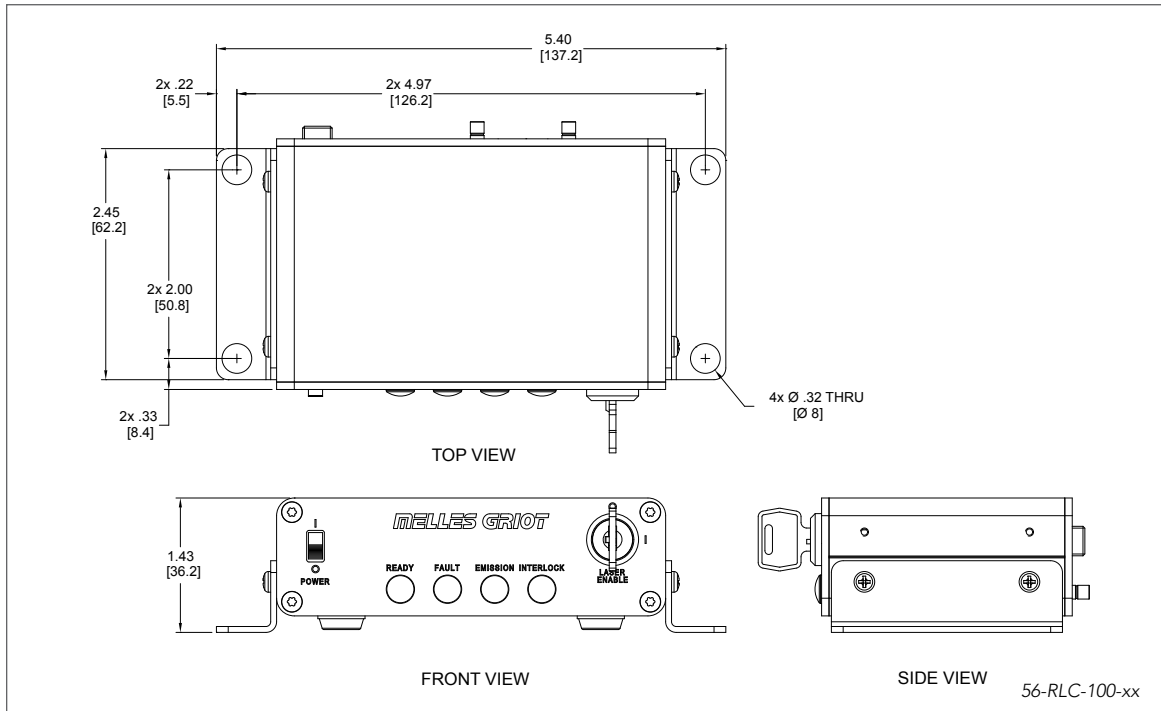
CDRH Controller Dimensions without Mounting Brackets



Dimensions in inches [mm]

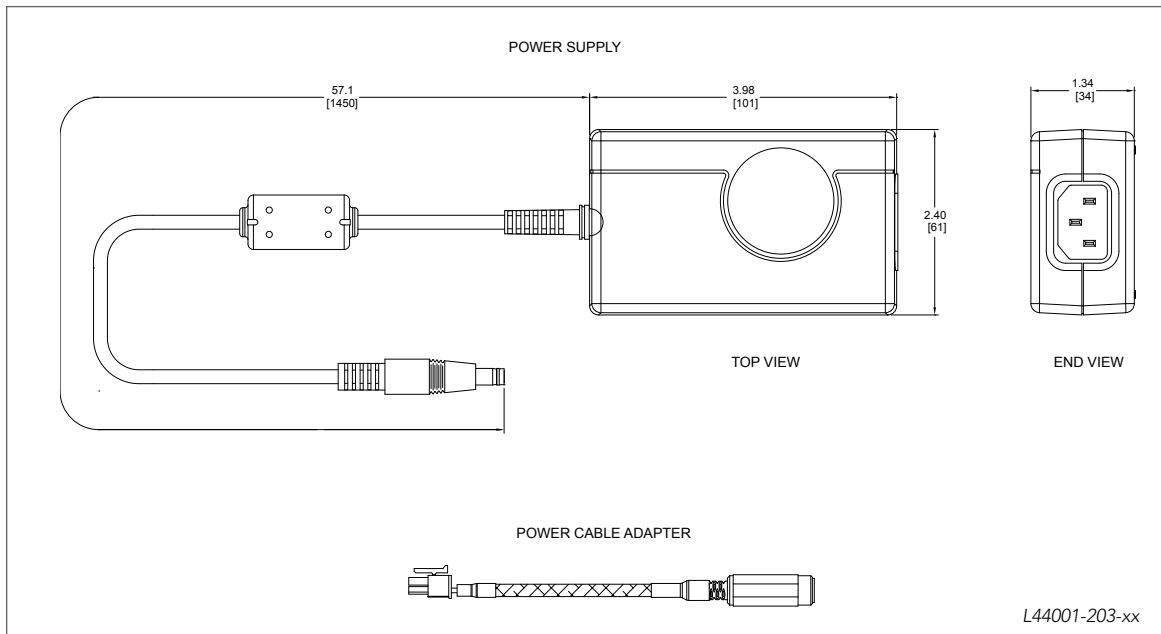
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CDRH Controller Dimensions with Mounting Brackets



Dimensions in inches [mm]

Power Supply Dimensions



Dimensions in inches [mm]

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