

Yellow Solid-State Laser System 561 nm, 10 to 75 mW



The 85 YCA-series yellow DPSS lasers from CVI Melles Griot provide up to 75 mW of output at 561 nm, with rock-solid stability over a wide operating temperature range. Their wavelength make them ideally suited for Rhodamine, ROX, and Alexa Fluor dyes and as a highly reliable drop-in replacement for krypton-argon and many green lasers.

The excellent beam quality, narrow linewidth, and low optical noise of 85 YCA-series lasers are ideal for scanning, microscopy, metrology, spectroscopy, medical diagnostics, fluorescence, and interferometric applications. The small size, low power consumption, minimal heat-sinking requirements, and RS-232 control and monitoring interface are particularly suitable for compact, self-contained systems and for OEM applications.

Key attributes

- Up to 75 mW at 561 nm
- <0.5% rms noise (20 Hz to 2 MHz), <3.0% peak-to-peak noise (20 Hz to 2 MHz)
- Stable output from 15°C to 35°C
- All solid-state for reliability
- Power consumption <30 W maximum
- Excellent beam quality ($M^2 < 1.2$)
- 0.67-mm beam diameter for easy, retrofit from krypton ion lasers
- RS-232 computer interface
- Lightweight and compact
- CE and CDRH certified

Specifications

Beam Characteristics:

Output Wavelength: 561 ± 0.5 nm
Wavelength Stability: <0.2 nm
 M^2 : <1.2
Transverse Mode: TEM₀₀
Longitudinal Mode: Single
Beam Diameter ($1/e^2$): 0.67 ± 0.05 mm
Beam Ellipticity: $<1.1:1$
Far-Field Divergence ($1/e^2$): <1.2 mrad
Polarization: Linear (Vertical $\pm 5^\circ$) $>100:1$

Stability Characteristics:

Long-Term Power Drift:
 $\pm 2.5\%$ over 24 hours (ambient $\pm 2^\circ\text{C}$)
Pointing Stability:
 $<40 \mu\text{rad}$ over 2 hours (ambient $\pm 2^\circ\text{C}$)
Amplitude Noise:
Peak-to-Peak: $<3\%$ (20 Hz to 2MHz)
rms: $<0.5\%$ (20 Hz to 2MHz)

Operating Characteristics:

Warm-up Time: <3 min

Environmental Requirements:

Operating Temperature: 15°C to 35°C
Nonoperating Temperature: -10°C to 60°C
Operating Humidity: 0% to 95%, noncondensing
Shock: $<25\text{g}$ (11ms sec)
Vibration: (5 to 500 Hz)
Operating: $<0.3\text{g}$ (sinusoidal)
Nonoperating: $<3.0\text{g}$ (sinusoidal)

Electrical Characteristics:

Input Voltage: 100–240 vac $\pm 10\%$
Input Frequency: 50–60 Hz
Power Consumption:
 <30 W maximum (25 W typical)
Computer Interface: RS-232

Weight:

Laser Head: 0.51 kg (1.2 lb)
Controller: 0.9 kg (1.9 lb)
Mounting Surface Requirements:
Laser Head: flatness <0.003 inches

Safety and Regulatory Compliance:

CDRH Class: IIIb
IEC Class: 3B
CE: Compliant

Options:

- OEM laser and electronics formats
- Mounting and heat-sink options
- Custom beam delivery
- Horizontal polarization

Output Power:

85 YCA 010-XXX: 10 mW
85 YCA 025-XXX: 25 mW
85 YCA 050-XXX: 50 mW
85 YCA 075-XXX: 75 mW

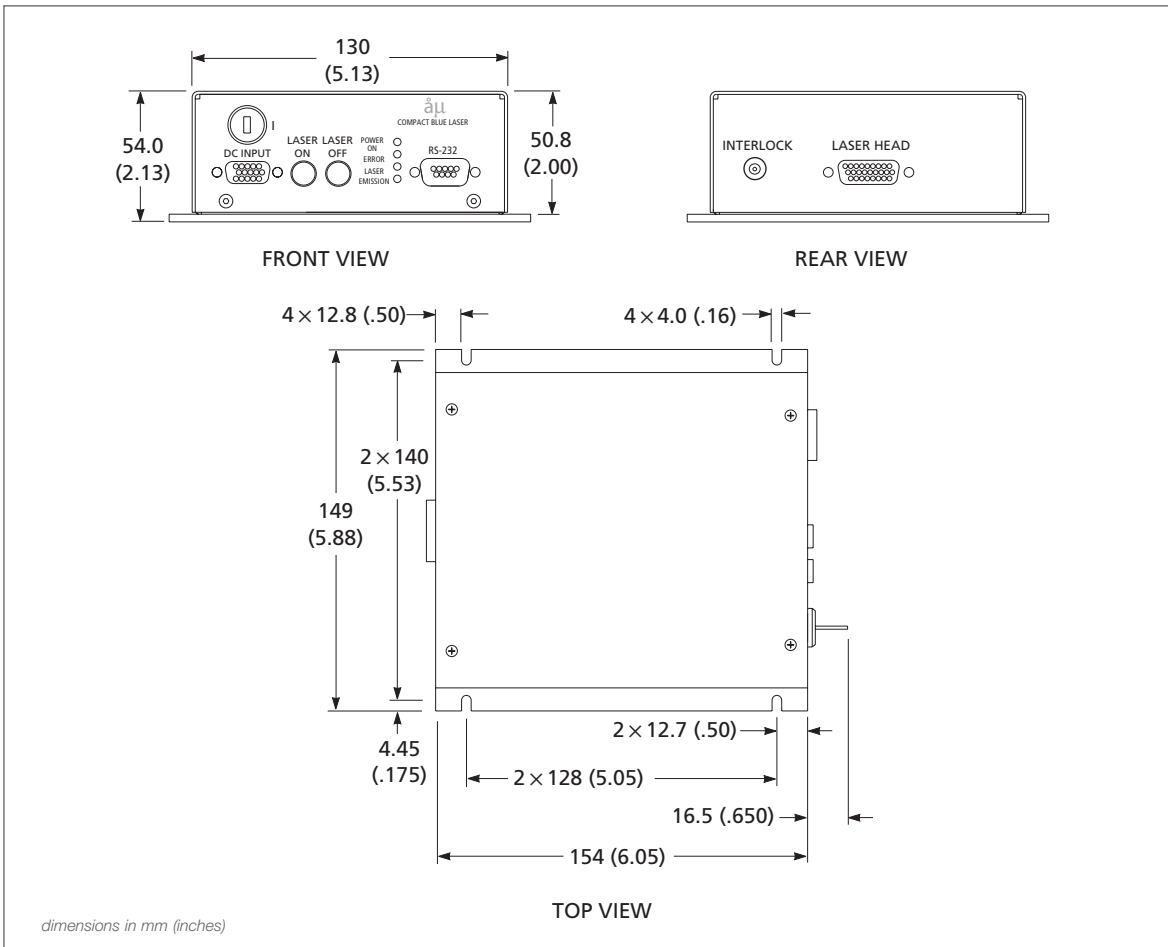
PowerCords*:

XXX = 100 (JIS 8303)
115 (Nema 5-15P)
230 (CEE (7) VII Schuko)
240 (BS 1363/A)

* Add the appropriate suffix to the product number to indicate input voltage: -100 for 100 Vac, -115 for 115 Vac, -230 for 230 Vac, and -240 for 240 Vac.



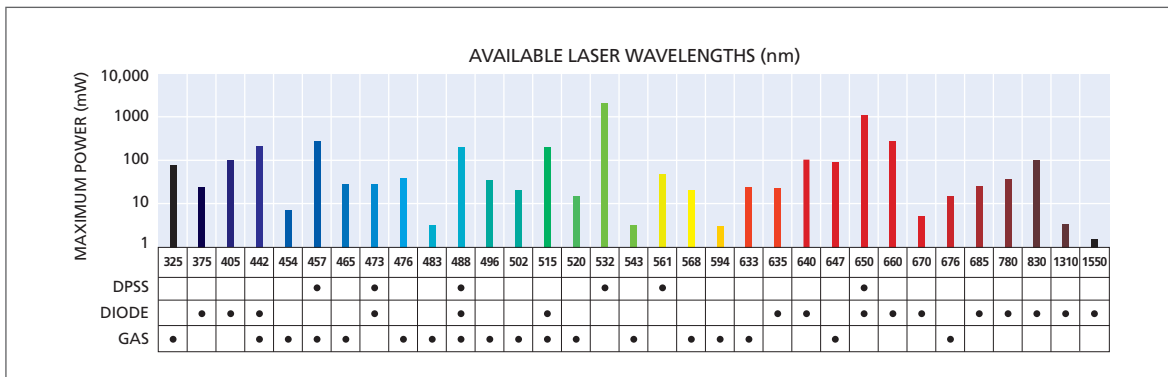
This CVI Melles Griot laser meets the following standards:
IEC 60825-1:1997 (EU Laser Safety)
EN 61326:1997/A3:2003 Class A (EU Emissions and Immunity)
21 CFR 1040.10 (US Laser safety)
FCC Part 18 (US Emissions and Immunity)



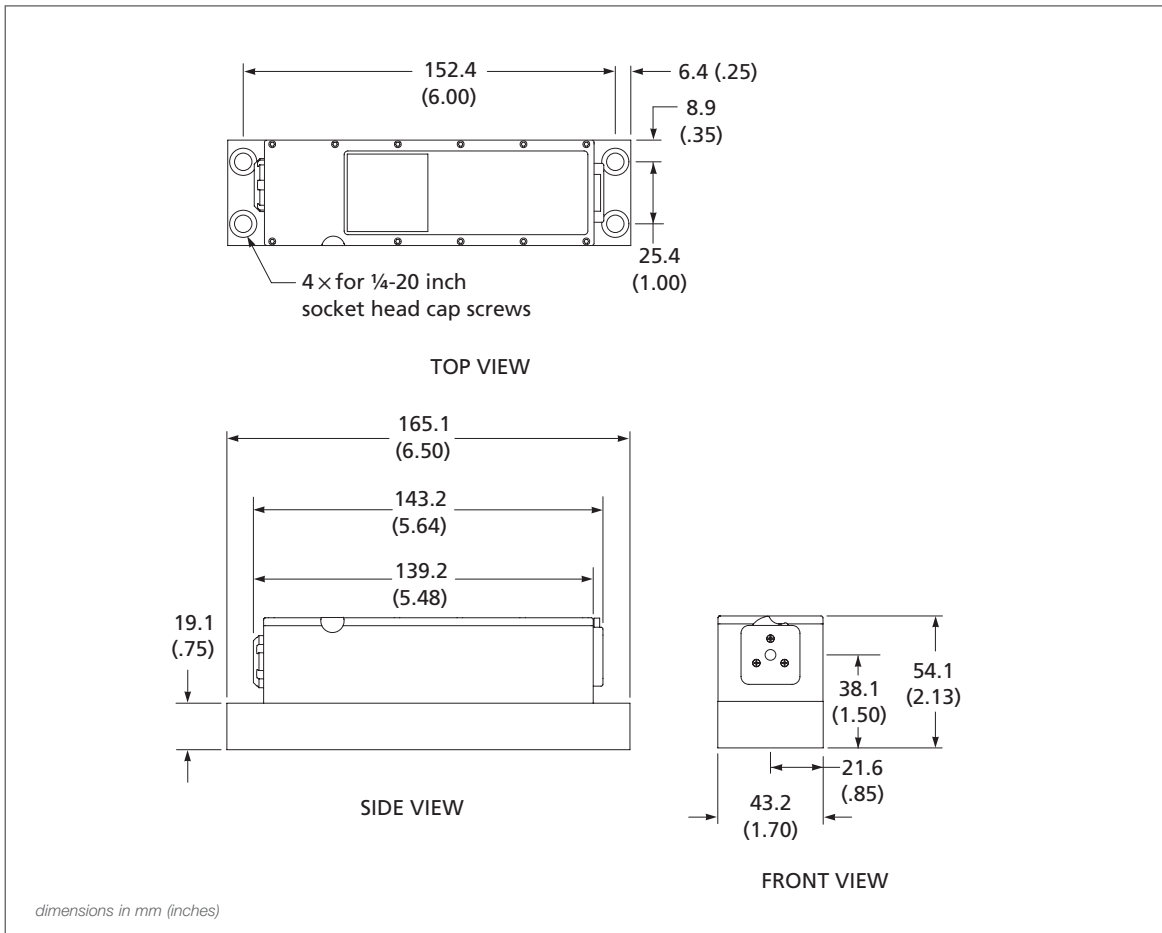
85 YCA-series laser controller

Select from more than 36 wavelengths

CVI Melles Griot manufactures a comprehensive line of lasers and laser systems for laboratory and OEM applications. Standard products include helium neon and helium cadmium lasers, diode-pumped solid-state lasers, argon, krypton, and mixed gas ion lasers, and semiconductor laser assemblies. Available wavelengths range from 325 nm in the ultraviolet to 1.55 μm in the near infrared, with powers ranging from a few milliwatts to several watts, as shown in the chart below.



Spectral output available from CVI Melles Griot lasers



85 YCA-series laser head



Lasers | Lenses | Mirrors | Assemblies | Windows | Shutters | Waveplates | Mounts

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