

Yellow Solid-State Laser System 561 nm, 10 to 50 mW



The 85 YCA series yellow DPSS lasers from Melles Griot provide up to 50 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 (single longitudinal mode), 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

- Single transverse and longitudinal mode
- Up to 50 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 μrad over 2 hours (ambient $\pm 2^\circ\text{C}$)
Amplitude Noise:
Peak-to-Peak: $< 3\%$ (20 Hz to 2 MHz)
rms: $< 0.5\%$ (20 Hz to 2 MHz)
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% – 95%,
noncondensing
Shock: $< 25\text{g}$ (11m sec)
Vibration: (5 to 500 Hz)
Operating: $< 0.3\text{g}$ (sinusoidal)
Nonoperating: $< 3.0\text{g}$ (sinusoidal)

Electrical Characteristics:

Input Voltage: 100 to 240 Vac $\pm 10\%$
Input Frequency: 50 to 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

Power Cords:

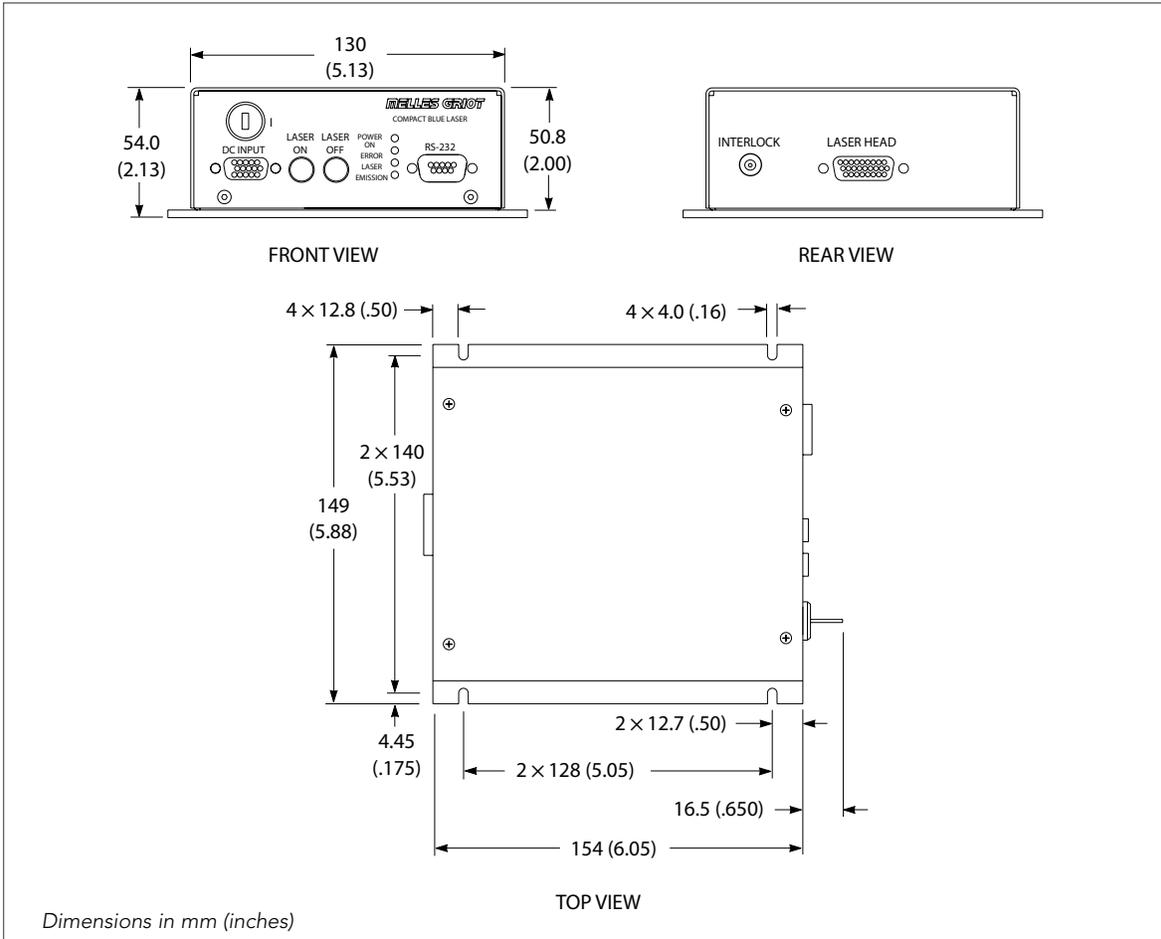
XXX = 100 (100 Vac, JIS 8303, Japan)
115 (115 Vac, NEMA 5-15P, USA)
230 (230 Vac, CEE7/VII Schuko, Europe)
240 (240 Vac, BS1363/A, U.K.)

Specifications are valid at 100% of specified output power.



Melles Griot lasers and instruments are designed, tested and manufactured for compliance with applicable electrical and laser safety standards.

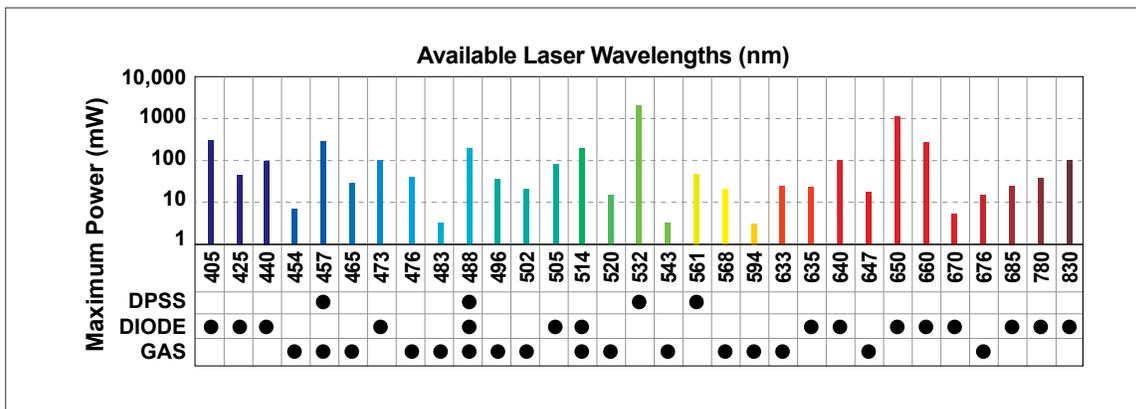
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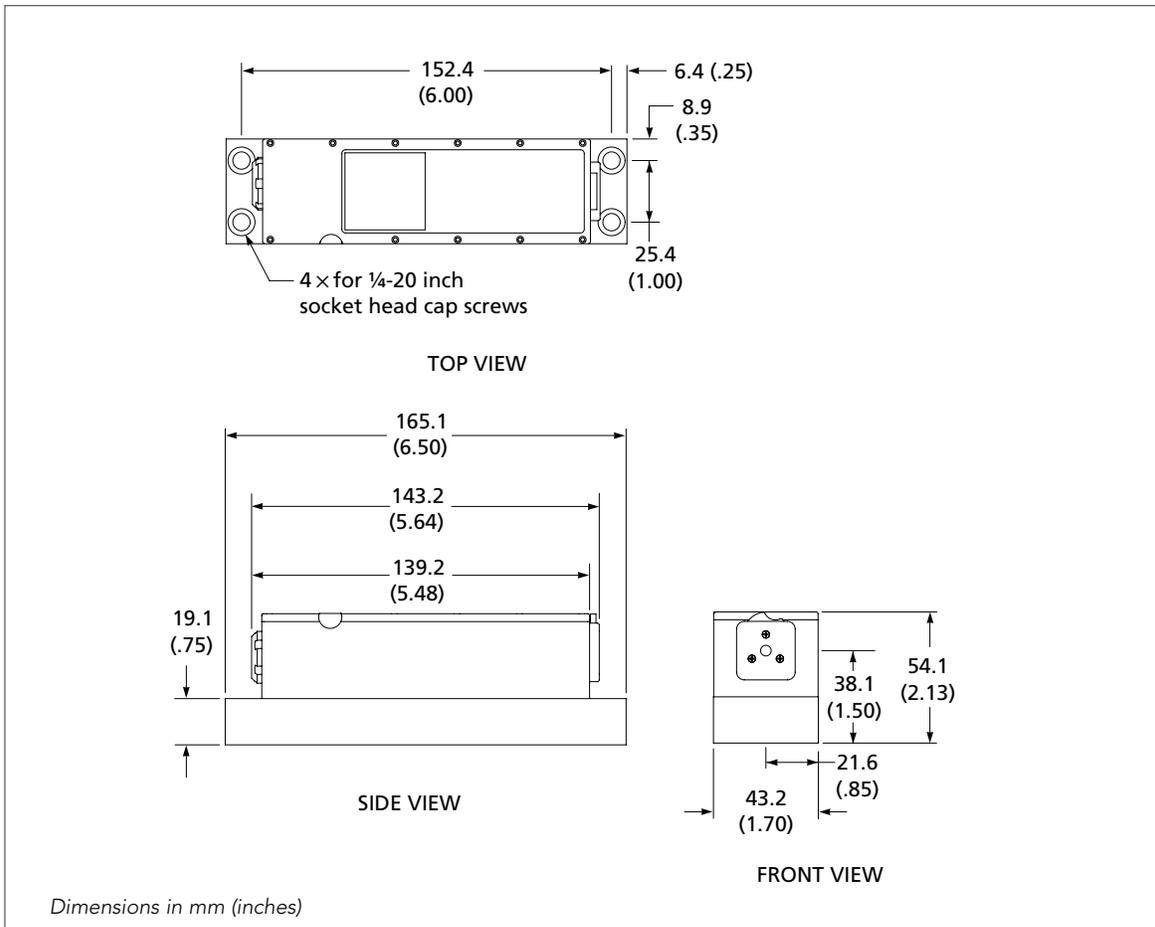
85-YCA series laser controller

Select from more than 27 wavelengths

Melles Griot manufactures a comprehensive line of lasers and laser systems for laboratory and OEM applications. Standard products include helium neon lasers, diode-pumped solid-state lasers, argon, mixed gas ion lasers, and semiconductor laser assemblies. Available wavelengths range from 405 nm in the violet to 830 nm in the near infrared, with powers ranging from a few milliwatts to several watts, as shown in the chart below.



Spectral output available from Melles Griot lasers



85-YCA series laser head

Ready to purchase?

Go to marketplace.idexop.com/store/dpss-lasers

If you have questions call 1-800-MG-LASER , email mglasers@idexcorp.com

or go to mellesgriot.com

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