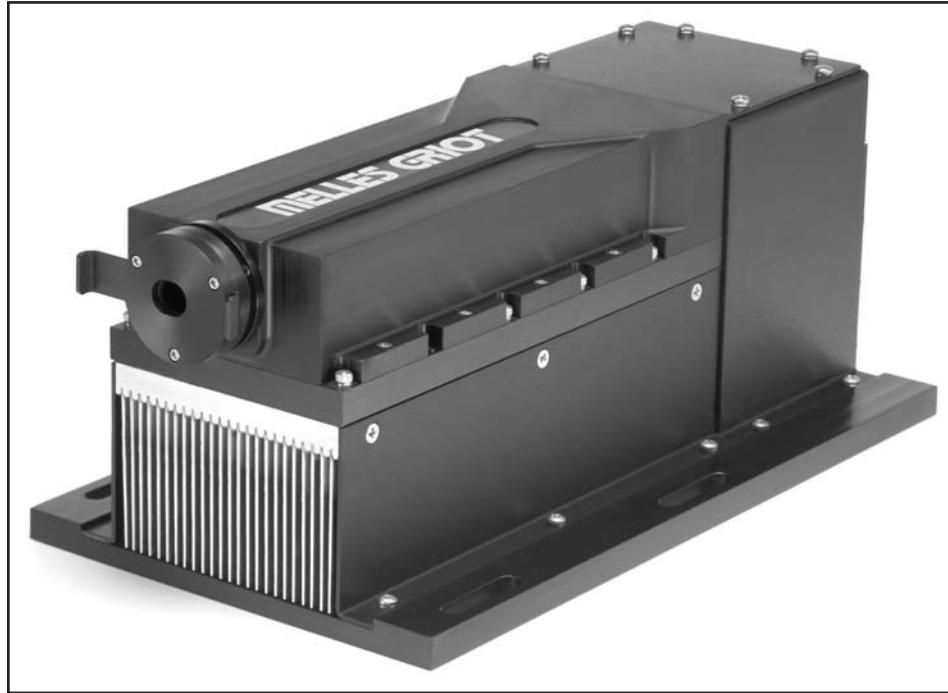


# Solid-State Green Laser Systems

## 532 nm, 1 to 3 Watts



**85 GHS Series**

*Our 85 GHS-series diode-pumped solid-state green lasers are designed for use in display, scanning, and metrology applications requiring both high output and rugged construction. These hermetically sealed lasers provide up to three watts of power from a compact, air-cooled package. Our new clean-sealed construction means truly low-maintenance, hands-off operation, and long-term reliability — even in a harsh or dirty environment.*

*For system manufactures who value portability and economy, eliminating water cooling, reducing input power by two orders of magnitude, and reducing laser size by a factor of ten\* are significant advantages of 85 GHS systems.*

*\*Compared to a typical water-cooled argon-ion laser system*

- ▶ Up to 3.0 W at 532 nm
- ▶ Clean-sealed for reliability
- ▶ Forced-air cooling
- ▶ Lightweight and compact
- ▶ Automatic power control
- ▶ cw or external analog modulation
- ▶ RS-232 interface
- ▶ Low power consumption
- ▶ Universal input power supply
- ▶ OEM modules available

**MELLES GRIOT**

## Specifications

### Output Power:

85 GHS 201: 1.0 W  
85 GHS 301: 2.0 W  
85 GHS 305: 2.5 W  
85 GHS 309: 3.0 W

**Wavelength:**  $532.0 \pm 0.5$  nm

**Transverse Mode:** Multi

**Beam Quality:**  $M^2 < 5.0$

**Polarization:** Vertical  $\pm 5^\circ$

Extinction ratio:  $>100:1$

**Warm-up Time from Cold Start:**

$<3$  minutes to specified output power

**Beam Pointing Stability**

(constant temp.  $\pm 2^\circ$ ):  $<0.040$  mrad

**Beam Pointing Stability with Beam**

**Collimator:**  $<0.010$  mrad

**Power Stability ( $22^\circ\text{C} \pm 2^\circ\text{C}$  over 8 hrs):**

$\pm 3\%$

**Beam Exit Angle:**

Horizontal:  $5.7^\circ \pm 1^\circ$

Vertical:  $0^\circ \pm 1^\circ$

**Beam Diameter ( $1/e^2$  at waist):**

$<400$   $\mu\text{m}$

**Beam Diameter ( $1/e^2$ ) with Beam**

**Collimator:**  $<2$  mm

**Beam Divergence (full angle  $1/e^2$ ):**

$<12$  mrad

**Beam Divergence with Beam Collimator**

(full angle  $1/e^2$ ):  $<2.0$  mrad

## Electrical Specifications

**Electrical Service:**

100 to 240 Vac  $\pm 10\%$ , 50 to 60 Hz

**Power Requirement:** 150 W (typical)

**Current Regulation:** Yes

**Light Regulation:** Yes

**Power Adjustment Range:** 10% to Full Power

**Modulated Operation:**

Analog Input: 0 to 5 Vdc

Compatible with 30 KHz scan rates

**Current Set Resolution:** 0.01 A

**Current Set Accuracy:**  $\pm 0.1$  A

**Power Set Resolution:** 0.01 W

**Power Set Accuracy:**  $\pm 5\%$

## Options

- Collimator 58 ASG 001
- OEM module
- Custom beam delivery
- Custom configurations

## Environmental Specifications

**Cooling:** Forced air-cooled with heat sink

**Operating Temperature:**  $+10^\circ\text{C}$  to  $+35^\circ\text{C}$

**Storage Temperature:**  $-10^\circ\text{C}$  to  $+60^\circ\text{C}$

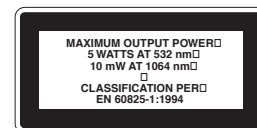
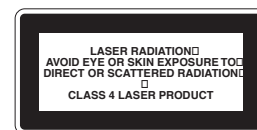
**Relative Humidity, Operating:**

0 to 95% noncondensing

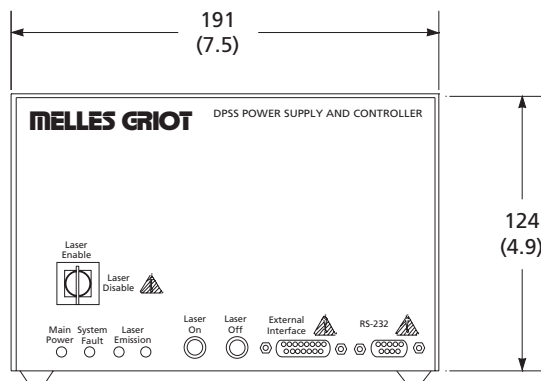
**Cable Length:** 36 inches (914 mm)

**Laser Head Weight:** 3.9 kg (8.6 lb)

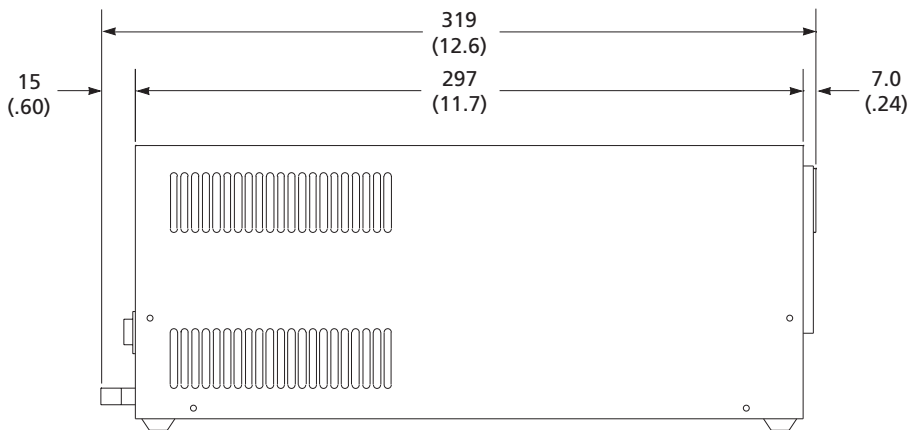
**Power Supply Weight:** 3.7 kg (8.1 lb)



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



FRONT VIEW



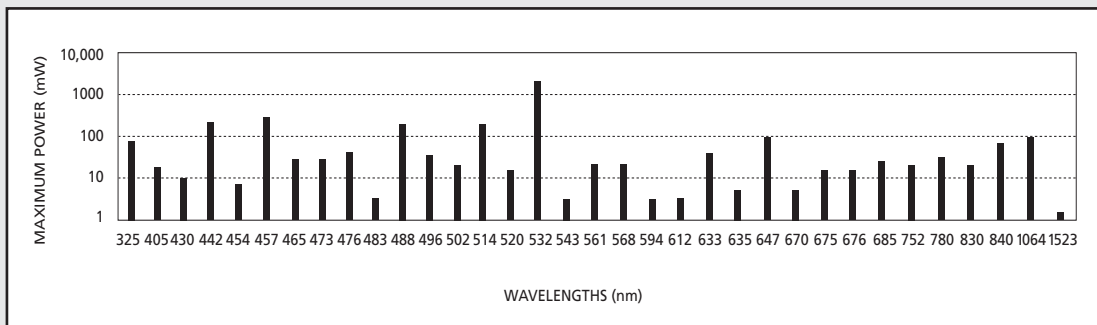
SIDE VIEW

dimensions: millimeters (inches)

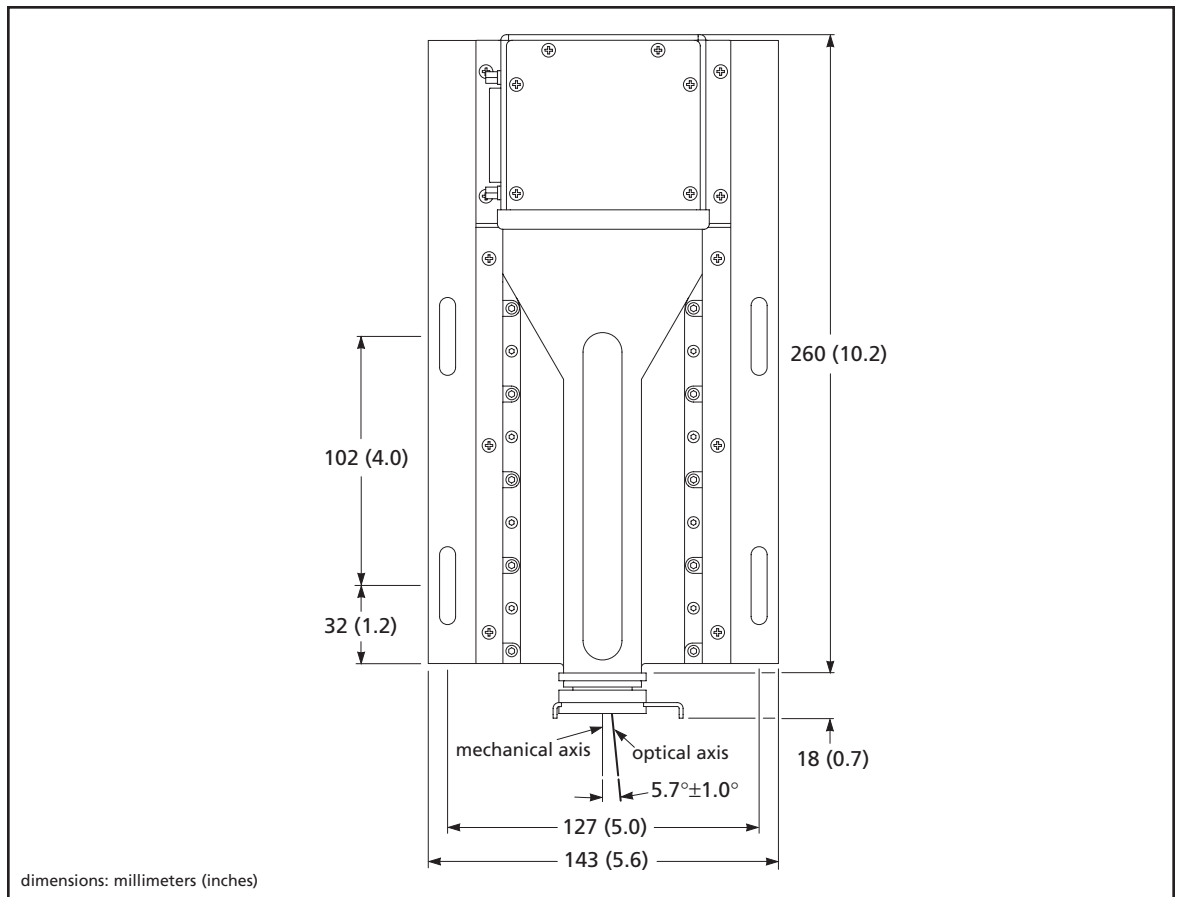
## 85 GHS-series power supply

### Select from more than 34 wavelengths

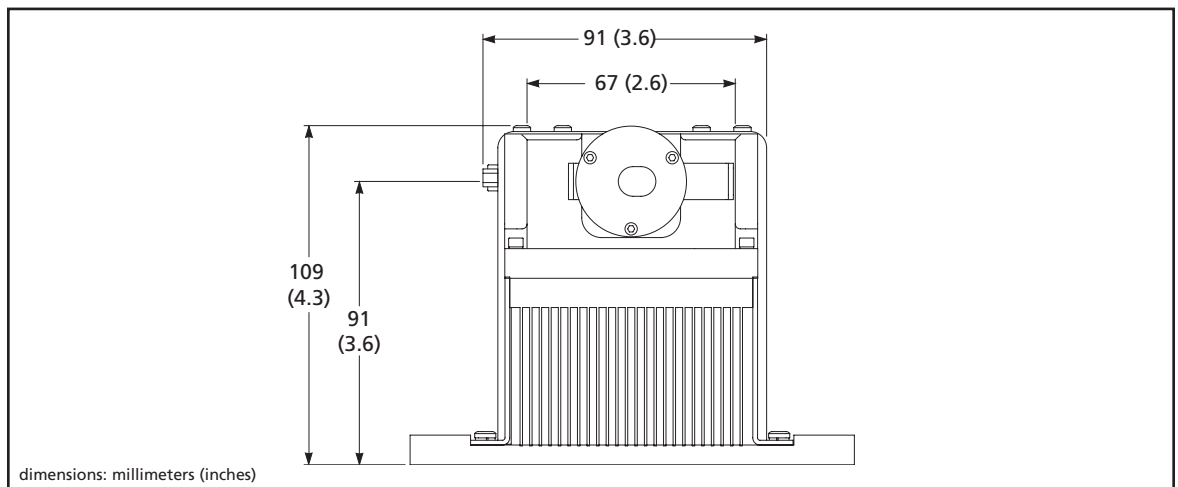
Melles Griot manufactures a comprehensive line of lasers and laser systems for laboratory and OEM applications. Standard products include helium neon and helium cadmium lasers, diode-pumped solid-state lasers, argon, krypton, and mixed gas ion lasers, and semiconductor laser assemblies. Available wavelengths range from 325 nm in the ultraviolet to 1.52  $\mu\text{m}$  in the near infrared, with powers from a few milliwatts to several watts, as shown in the chart below.



Spectral output available from Melles Griot lasers



**85 GHS-series laser head (top view)**



**85 GHS-series laser head (front view)**

**MELLES GRIOT**

[www.mellesgriot.com](http://www.mellesgriot.com)

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*Melles Griot follows a policy of continuous product development. For this reason, specifications are subject to change without notice.*

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