



Helios

Actively Q-Switched DPSS Laser

Helios - Assembly Type B



Helios - Assembly Type A

Features

- Diode-pumped solid-state laser
- Picosecond actively Q-switched laser
- 2.5W or 5W version at 1064 nm
- 1W 1.5W or 3W version at 532 nm
- Single pulse trigger
- High repetition frequencies
- Superior reliability and ruggedness
- High volume OEM applications
- Low cost of ownership

Applications

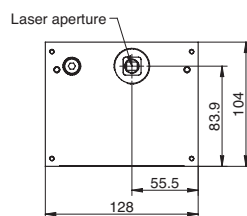
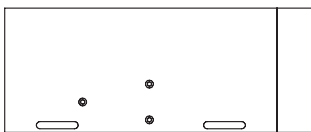
- Micromachining (engraving, quasi-cold ablation)
- Marking
- Thin-film scribing (photovoltaics, electronics)
- Electronics (dicing and repair, displays, OLED)
- Time resolved luminescence and spectroscopy

Mechanical Specifications¹

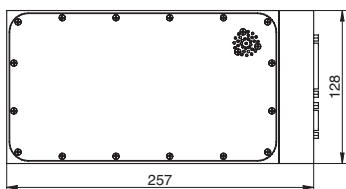
(all dimensions in mm)

Helios - Assembly Type B

Side View



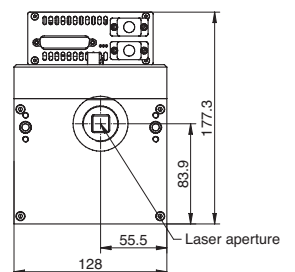
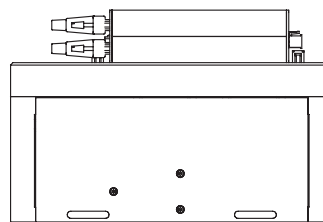
Front View



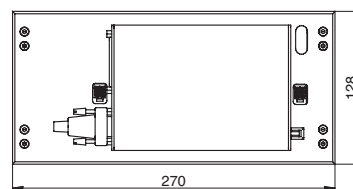
Top View

Helios - Assembly Type A

Side View



Front View



Top View

¹ Additional controller and cable available separately.

Superior Reliability & Performance

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Actively Q-Switched DPSS Laser

Specifications	Helios 1064-2.5-50	Helios 1064-5-50
Wavelength (nm)	1064	
Average Power (W)	2.5	5.0
Pulse Energy (at set point 50 kHz)(μJ)	>50	>100
Laser Control Electronics	Digital, OEM ¹	
Operational Mode	Actively Q-switched	
Pulse Repetition Frequency Range (kHz)	Single-shot to 70 (up to 125 optional)	
Set Point for Guaranteed Specifications (kHz)	50	
Pulse Width (FWHM)(ns)	<0.79	<0.69
Spatial Mode	TEM ₀₀ M ² <1.25	
Beam Diameter (1/e ²)(mm)	3.5	2.5
Polarization	Linear	
Jitter (between sequential pulses)(ns)	<±1	
Laser Assembly Type	Type A	Type B
Laser Head Size (W x H x L)	128 x 177 x 270 mm (5.0 x 7.0 x 10.6 in.)	128 x 104 x 257 mm (5.0 x 4.1 x 10.1 in.)
Laser Electronics Size (W x H x L)	integrated	150 x 45 x 130 mm (5.9 x 1.8 x 5.1 in.)
Laser Head Weight	9.5 kg (20.9 lbs.)	5.6 kg (12.3 lbs.)
Laser Electronics Weight	integrated	1.4 kg (3.0 lbs.)
Base Plate Temperature (°C)	20 to 30	
Storage Condition (°C)	(-10 to +50)	
Relative Humidity ² (%)	<80	
Cable Length Laser Head (m)	none	1
Operating Voltage (V)	24 ±2	
Supply Current ³ (A)	<5	<10

¹ Power supply not included, PC required.

² Related to the base plate temperature.

³ Higher inrush current could occur.

Helios

Actively Q-Switched DPSS Laser

Specifications	Helios 532-1-50	Helios 532-1.5-50	Helios 532-3-50
Wavelength (nm)		532	
Average Power (W)	1.0	1.5	3.0
Pulse Energy (at set point 50 kHz)(μJ)	>20	>30	>60
Laser Control Electronics		Digital, OEM ¹	
Operational Mode		Actively Q-switched	
Pulse Repetition Frequency Range (kHz)		Single-shot to 70 (up to 125 optional)	
Set Point for Guaranteed Specifications (kHz)		50	
Pulse Width (FWHM)(ns)		<0.69	
Spatial Mode		TEM ₀₀ M ² <1.25	
Beam Diameter (1/e ²)(mm)		2.0	
Polarization		Linear	
Jitter (between sequential pulses)(ns)		<±1	
Laser Assembly Type		Type A	Type B
Laser Head Size (W x H x L)		128 x 177 x 270 mm (5.0 x 7.0 x 10.6 in.)	128 x 104 x 257 mm (5.0 x 4.1 x 10.1 in.)
Laser Electronics Size (W x H x L)		integrated	150 x 45 x 130 mm (5.9 x 1.8 x 5.1 in.)
Laser Head Weight		9.5 kg (20.9 lbs.)	5.6 kg (12.3 lbs.)
Laser Electronics Weight		integrated	1.4 kg (3.0 lbs.)
Base Plate Temperature (°C)		20 to 30	
Storage Condition (°C)		(-10 to +50)	
Relative Humidity ² (%)		<80	
Cable Length Laser Head (m)		none	1
Operating Voltage (V)		24 ±2	
Supply Current ³ (A)		<5	<10

¹ Power supply not included, PC required.

² Related to the base plate temperature.

³ Higher inrush current could occur.

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

This laser does not comply with 21 CFR 1040.10 nor IEC 60825-1 + A1 + A2:2001. Use only as an OEM component.

Coherent offers a limited warranty for all Helios Lasers. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.



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