

# CENTURION+

Compact pulsed diode-pumped Nd:YAG laser



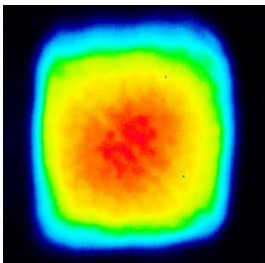
## MAIN FEATURES

- Full energy output from very first shot
- Electronics embedded
- Optional variable attenuator inside housing
- Harmonic generators (532 nm, 355 nm, 266 nm) integrated internally
- 1.57  $\mu\text{m}$  eye-safe operation available
- Very homogenous near field intensity distribution
- Excellent energy stability at all wavelengths
- Low vibration fans
- Fiber coupling available at 1064 nm and 532 nm

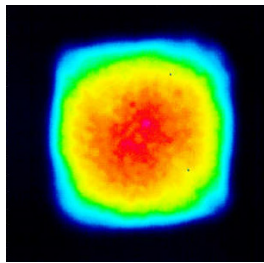
## MAIN APPLICATIONS

- FPD REPAIR
- SEMICONDUCTOR PROCESS
- LiDAR
- LIBS
- OPO AND Ti:SA PUMPING

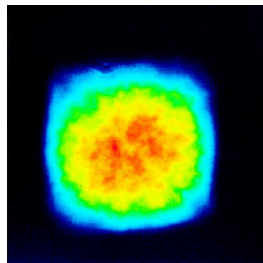
## Typical beam profiles



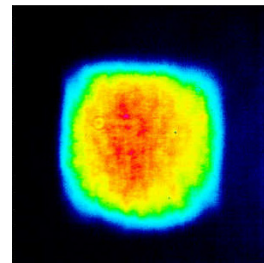
Near field 50 mJ @ 1064 nm,  
100 Hz



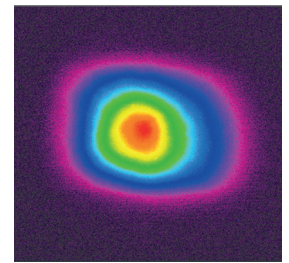
Near field 25 mJ @ 532 nm,  
100 Hz



Near field 8 mJ @ 355 nm,  
100 Hz



Near field 2.5 mJ @ 266 nm,  
100 Hz



Near field 10 mJ @ 1570 nm,  
100 Hz

1.1/22-REV E - Lumibird reserves the right to modify the specifications without prior notice.

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Many options and configurations are available. Please contact Lumibird to find the best match for your needs and compatibility between options.



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## SPECIFICATIONS

CENTURION+				
Repetition rate (Hz)	1-100			
Energy per pulse (mJ)	Main wavelength		Residuals	
			532 nm	1064 nm
	1064 nm	50	-	-
	532 nm	25	-	15
	355 nm	8	6	20
Pulse duration (ns) <sup>(1)</sup>	266 nm	2.5	12	12
	1570 nm	10	-	-
	1064 nm	< 14		
	532 nm	< 13		
Beam diameter (mm) <sup>(2)</sup>	355 nm	< 12		
	266 nm	< 12		
	1570 nm	< 8		
	1064 nm	3.5 ± 0.5		
	532 nm	3.2 ± 0.5		
Beam divergence (mrad) <sup>(3)</sup>	355 nm	3.0 ± 0.5		
	266 nm	3.0 ± 0.5		
	1570 nm	3.0 ± 0.5		
	1064 nm	< 9		
	532 nm	< 8		
Polarization <sup>(4)</sup>	355 nm	< 7		
	266 nm	< 6		
	1570 nm	< 6		
	All wavelengths	Vertical		
Polarization extinction ratio	1064 nm	150 : 1		

- (1) Measured at FWHM with fast photodiode and 1 GHz scope
- (2) D4σ at output window
- (3) D4σ, full angle
- (4) Polarization is given for final wavelength

Pulse to pulse energy stability (%) <sup>(1)</sup>	1064 nm	≤ 2 (0.5)
	532 nm	≤ 2.5 (1)
	355 nm	≤ 4.5 (1.5)
	266 nm	≤ 4.5 (1.5)
	1570 nm	≤ 5 (1.5)
First shot energy stability (%) <sup>(2)</sup>	1064 nm	≤ 2 (0.5)
	532 nm	≤ 2.5 (1)
	355 nm	≤ 3.5 (1.2)
	266 nm	≤ 3.5 (1.2)
	1570 nm	≤ 2 (1)
Energy drift (%) <sup>(3)</sup>	1064 nm	≤ 5
Pointing stability (μrad) <sup>(4)</sup>	1064 nm	≤ 100
Linewidth (cm <sup>-1</sup> )	1064 nm	≤ 1

- (1) Peak-to-peak (RMS), measured on 6000 shots from turn-on at 100 Hz
- (2) Peak-to-peak (RMS), measured on 5 sets of 20 consecutive shots from turn-on at 1 Hz
- (3) Measured over 5 minutes
- (4) Measured at 1064 nm on the first 1000 consecutive shots at 100 Hz

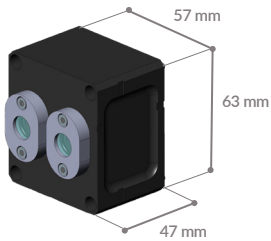
## OTHER INFORMATION

Power requirements	Laser head	48 ± 10 % VDC, 5 A
	Optional control box	100-240 VAC, 50/60Hz, 250 VA
Cooling	Air cooled	
Operating temperature	15 °C to 35 °C	
Storage temperature	5 °C to 60 °C	
Laser head sealing	IP 51 sealed	
Vibration and shock	Complies with MIL-STD-810	
Diode warranty	1 billion shots	

## Laser head & electronics

## OPTIONS

### Wavelength separation module



### 4 colours

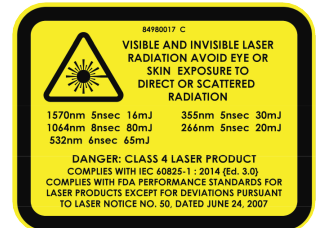
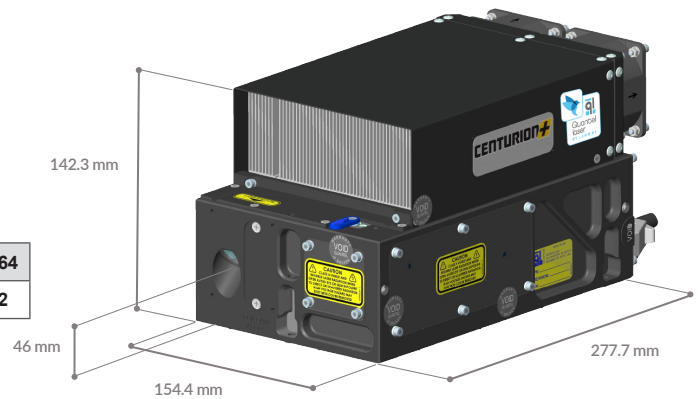
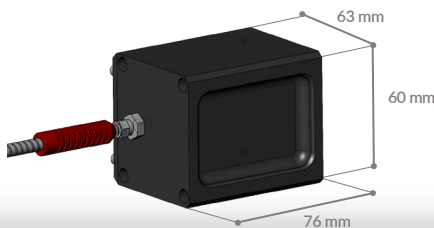
Wavelength (nm)	266	355	532	1064
Energy per pulse (mJ)	2	2.2	12	12

### Remote box



### Fiber optic launch adaptor

Dimensions for 1064 nm version



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