



Nd:YAG passively q-switched DPSS lasers

WAVEGUARD-D



FEATURES:

Robust and compact design
Internal and external TLL triggering
Laser controller with USB or RS232 interface
OEM version available
Adjustable repetition rate

APPLICATIONS:

Material processing and micromachining
LIBS
Marking
LIDAR and Laser Ranging
Biophotonics



**Laser characteristics:**

Wavelength	1064 nm ¹				
Wavelength tolerance	± 1 nm				
Repetition rate	1 Hz – 1 kHz				
Pulse energy	>135 µJ @1Hz	>130 µJ @10Hz	>125 µJ @100Hz	>120 µJ @500Hz	>120 µJ @1kHz
Average output power	0,135 mW	1,3 mW	12,5 mW	60 mW	120 mW
Energy stability (3 hr), @1 kHz	<1 %				
Pulse duration	< 1 ns				
Polarization contrast	>100:1				
Beam diameter at exit window	<1 mm				
Beam quality	M ² <1.5				
Beam divergence	<5 mRad				
Beam profile	TEM ₀₀				

¹additional harmonics modules for 532 nm, 355 nm or 266 nm wavelengths available on request

Physical dimensions:

Laser module dimensions	170 x 103 x 64 mm
Laser driver dimensions	164 x 105 x 44 mm

Utility requirements:

Pump current	8 A
Electric	100-240 V AC, 50/60 Hz, 1.4 A
Working temperature	20 – 28 °C
Cooling	TEC element + air cooling

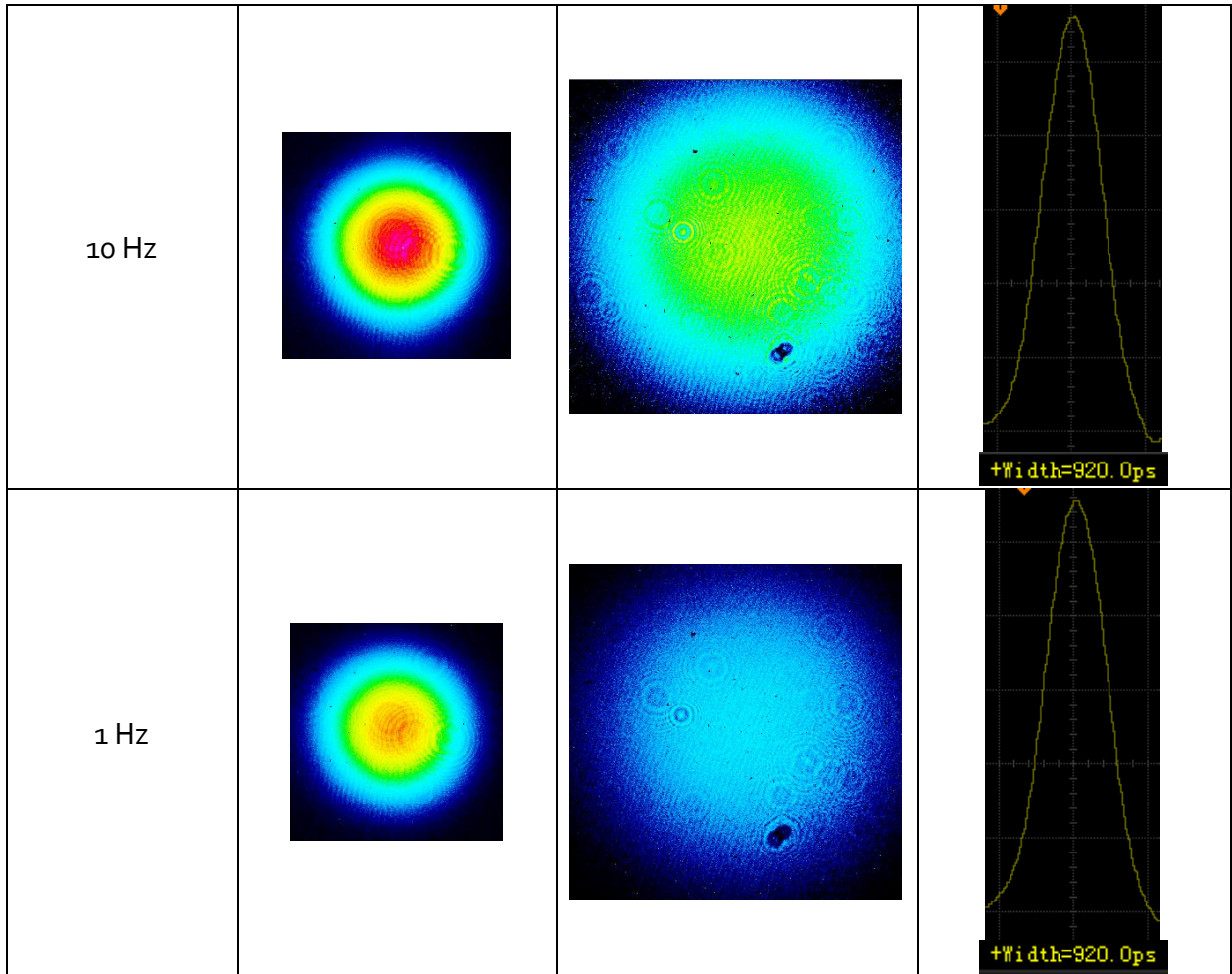




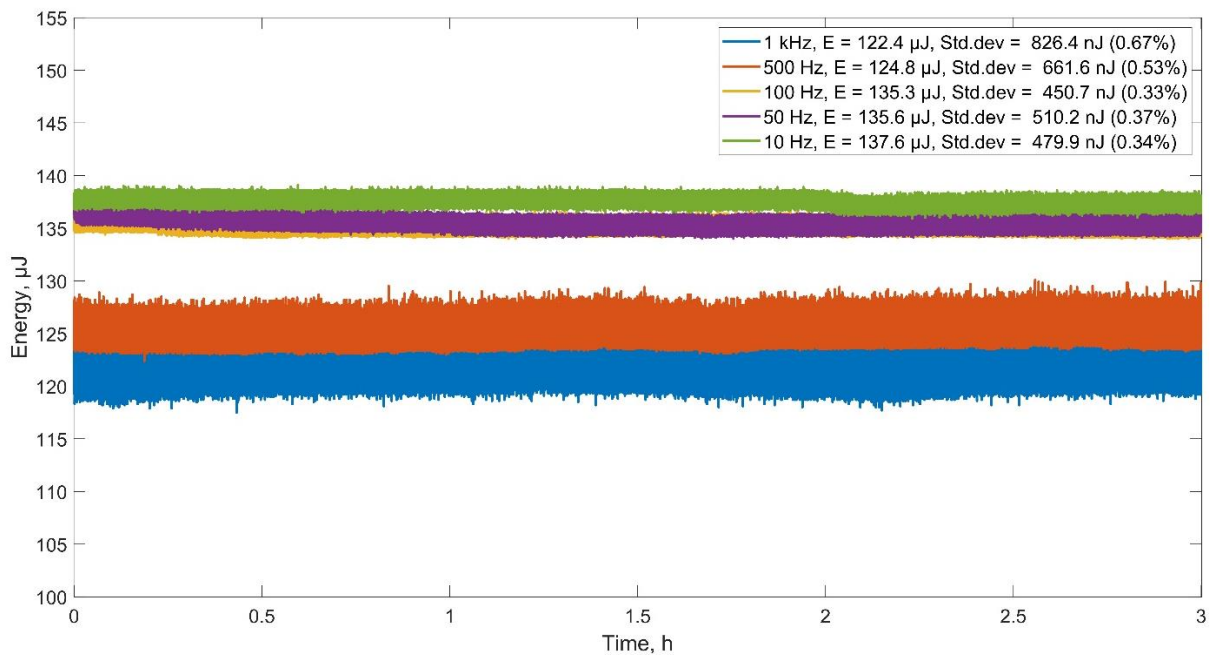
Laser beam profile and laser pulse duration data:

Repetition rate	Near field (15 cm from the laser) beam profile	Far field (50 cm from the laser) beam profile	Pulse duration
1 kHz			
500 Hz			
100 Hz			






Output energy stability:

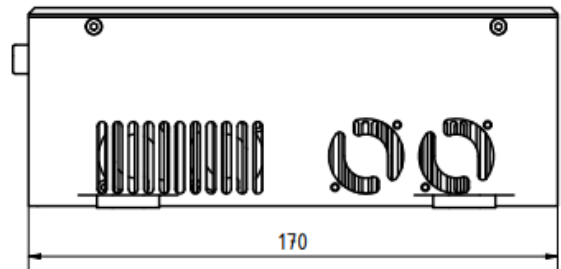
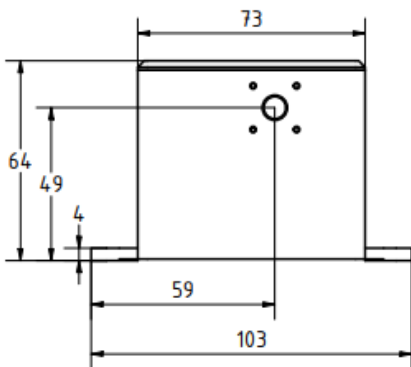


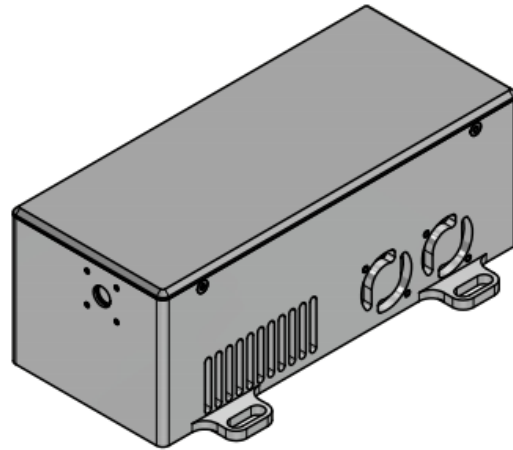
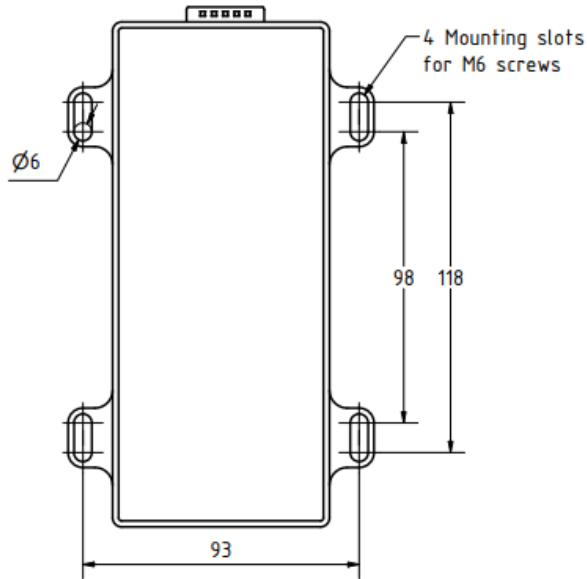


Necessary components to run the laser:

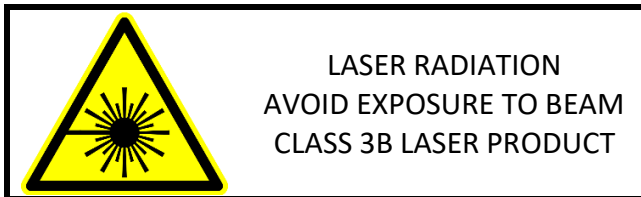
 <p>DPSS laser head</p>	 <p>Laser driver</p>
 <p>Power supply with cables</p>	 <p>USB-RS232 adapter</p>

Laser head schemes:





Laser safety class:





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**Laser characteristics:**

Wavelength	1064 nm ¹
Wavelength tolerance	± 1 nm
Repetition rate	100Hz
Pulse energy	> 400 µJ
Average output power	40 mW
Energy stability (5 hr)	< 1 %
Pulse duration	< 1 ns
Polarization contrast	> 100:1
Beam diameter at exit window	<1 mm
Beam quality	M ² <1,5
Beam divergence	<5 mRad
Beam profile	TEM ₀₀

¹additional harmonics modules for 532 nm, 355 nm or 266 nm wavelengths available on request

Physical dimensions:

Laser module dimensions	170 x 103 x 64 mm
Laser driver dimensions	164 x 105 x 44 mm

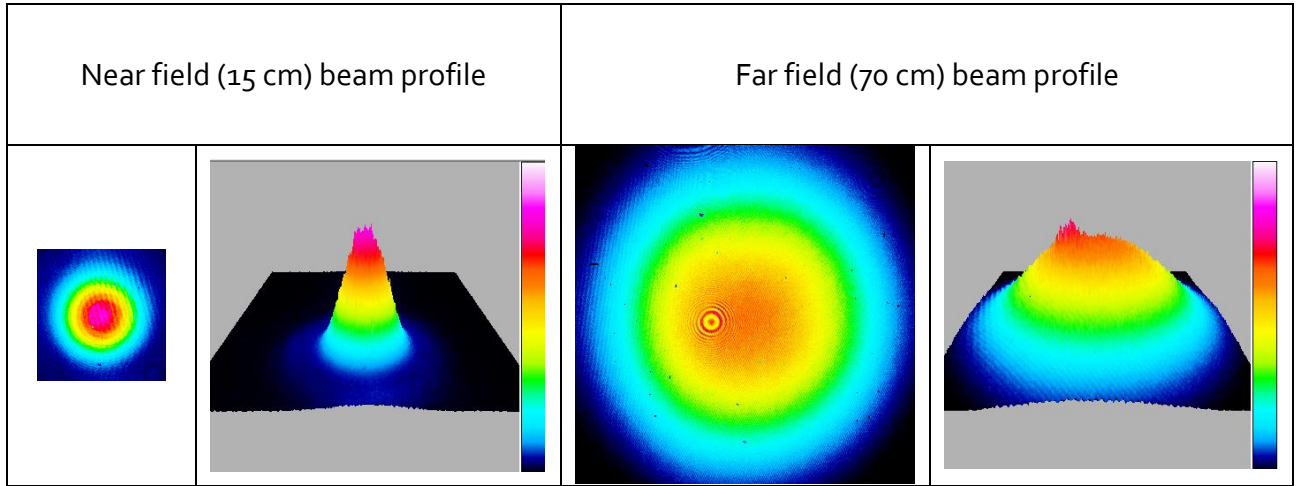
Utility requirements:

Pump current	8 - 10 A
Electric	100-240 V AC, 50/60 Hz, 1.4 A
Working temperature	20 – 28 °C
Cooling	TEC element + air cooling

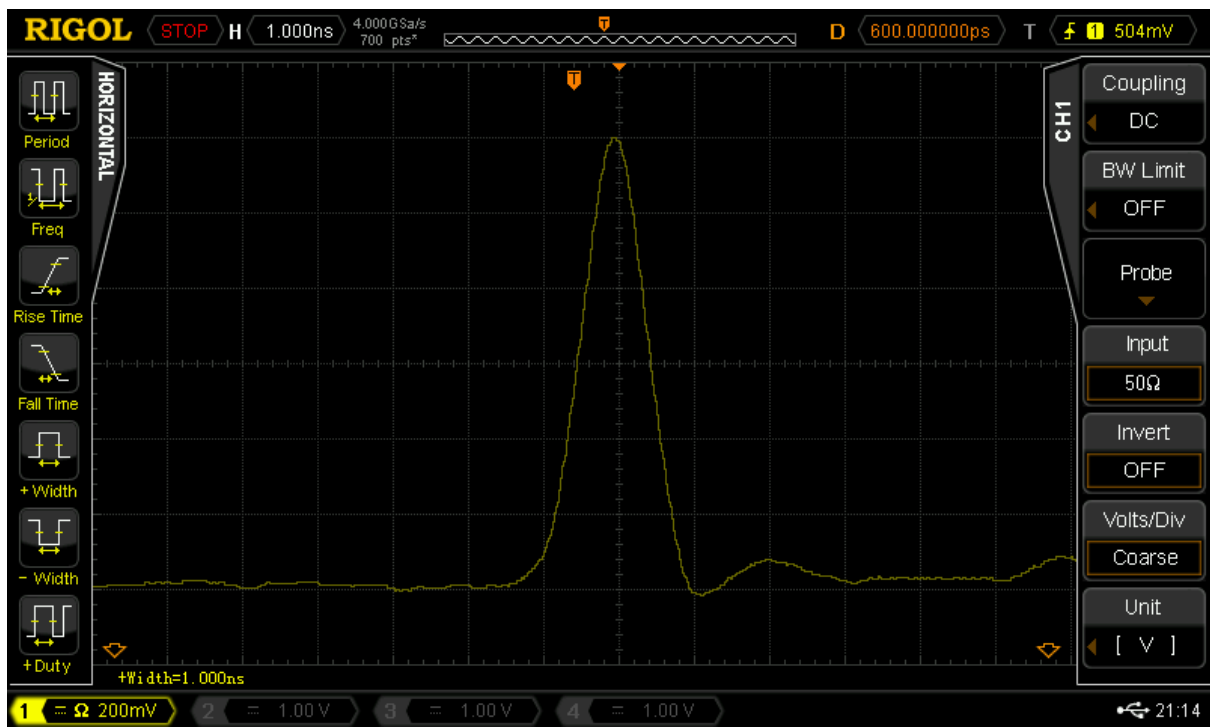




Laser beam profile data:

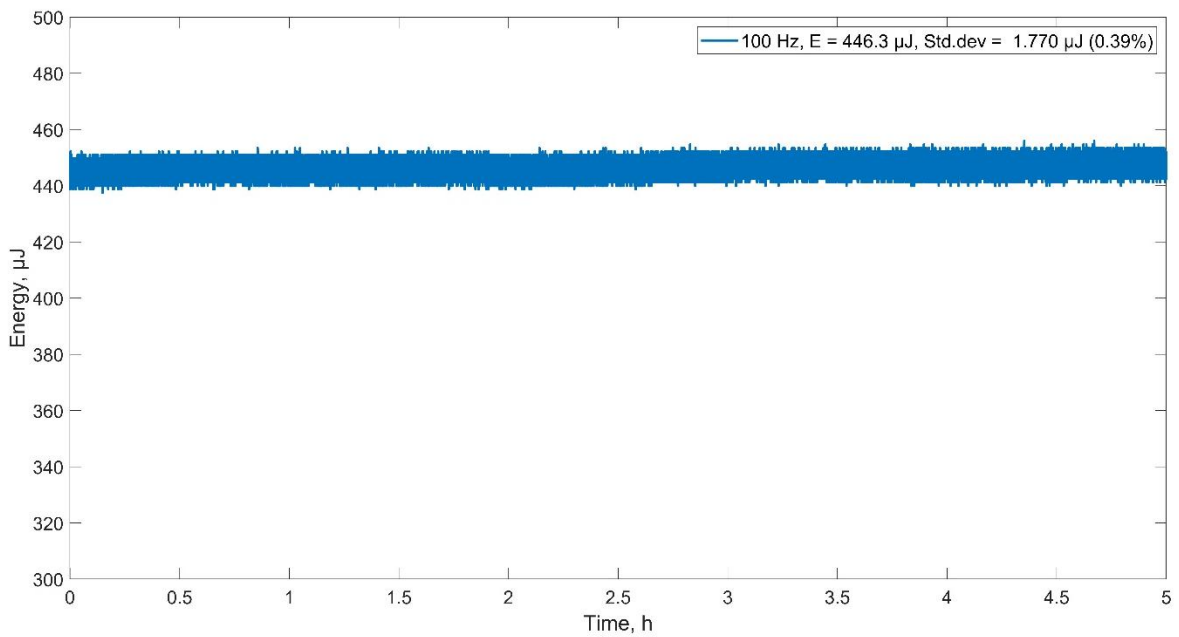


Laser pulse duration data:








Average output energy stability:



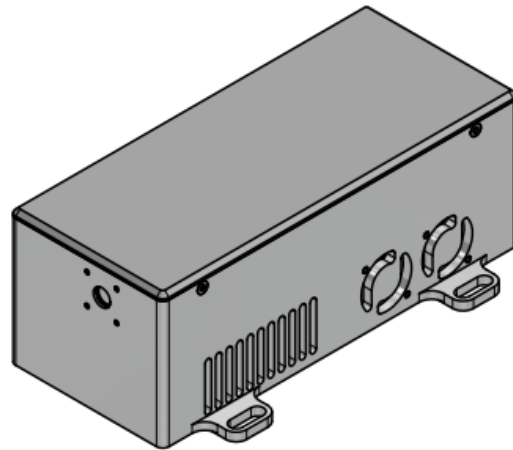
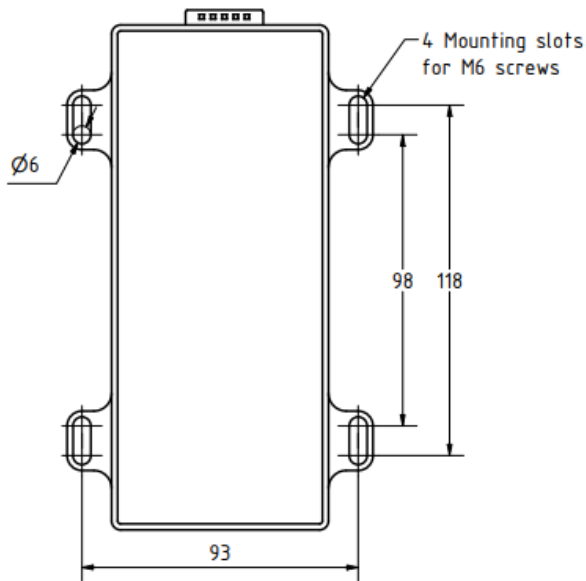
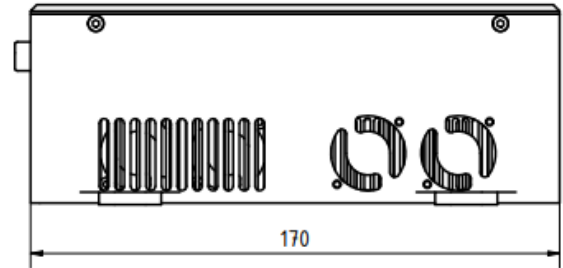
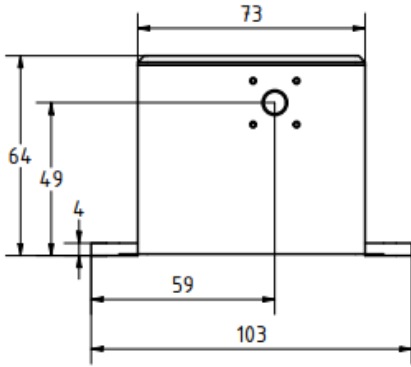
Necessary components to run the laser:

 <p>1064 nm DPSS laser head</p>	 <p>Laser driver</p>
 <p>Power supply with cables</p>	 <p>USB-RS232 adapter</p>





Laser head schemes:



Laser safety class:

