OPTOGAMA

“Eye-safe” 1,54 µm ns laser

KAUKAS 1

FEATURES:

Compact robust design
OEM version available
Integration into portable devices

APPLICATIONS:

LIDAR and Laser Ranging
LIBS
Metrology and instrumentation
Automotive

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Laser specifications:

Wavelenght	1534 nm
Wavelenght tolerance	± 1 nm
Operating mode	Pulsed
Average output energy (10min), @5 Hz	>1 mJ
Energy stability (10min), @5 Hz	<1 %
Puse duration	10 ns
Pulse repetition rate (best performance)	1 – 5 Hz
Polarization contrast	>1:80
Beam diameter at exit window	<1 mm
Beam divergence	<5 mRad
Beam profile	TEM_{00}

Physical dimensions:

Laser module dimensions	85 x 26 x 20 (L x W x H)
Laser driver dimensions	128 x 83 x 48 (L x W x H)
Power supply dimensions	205 x 92 x 50 (L x W x H)

Utility requirements:

Pump current	< 15 A
Pump duration	< 10 ms
Operating temperature	15-35°C
Cooling	Passive air cooling

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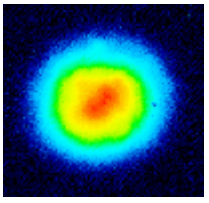
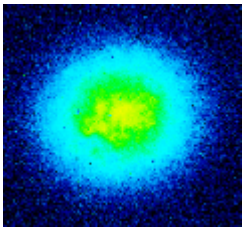
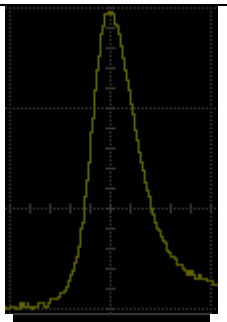
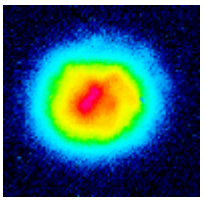
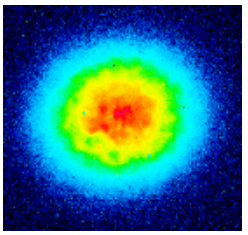
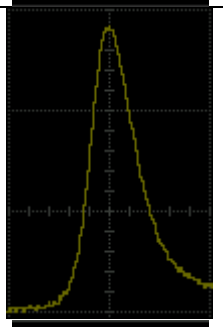
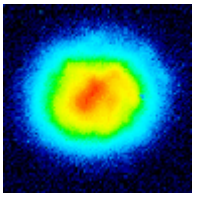
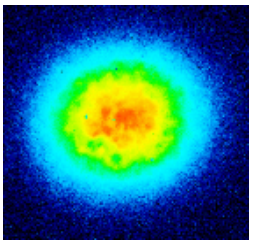
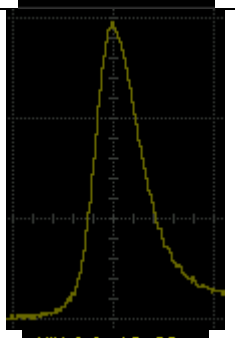
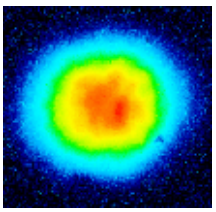
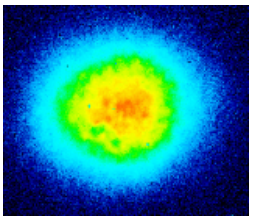
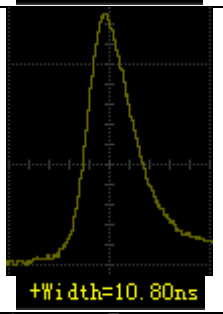
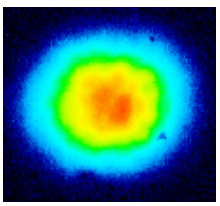
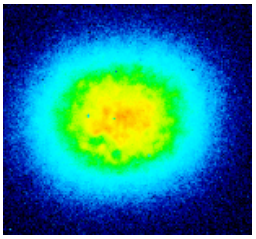
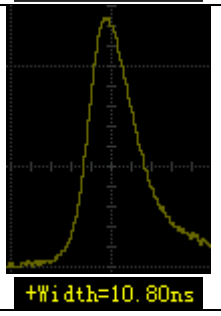
Laser beam profile:

Repetition rate	Near field (30 cm from the laser) beam profile	Far field (75 cm from the laser) beam profile	Pulse duration
1 Hz			
3 Hz			
5 Hz			
8 Hz			
9Hz			

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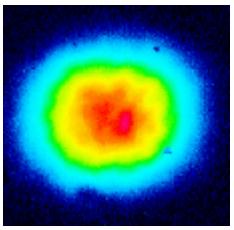
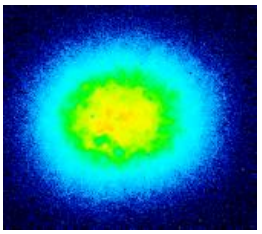
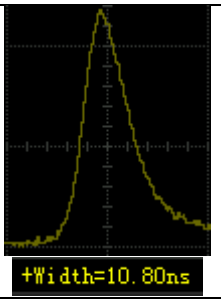
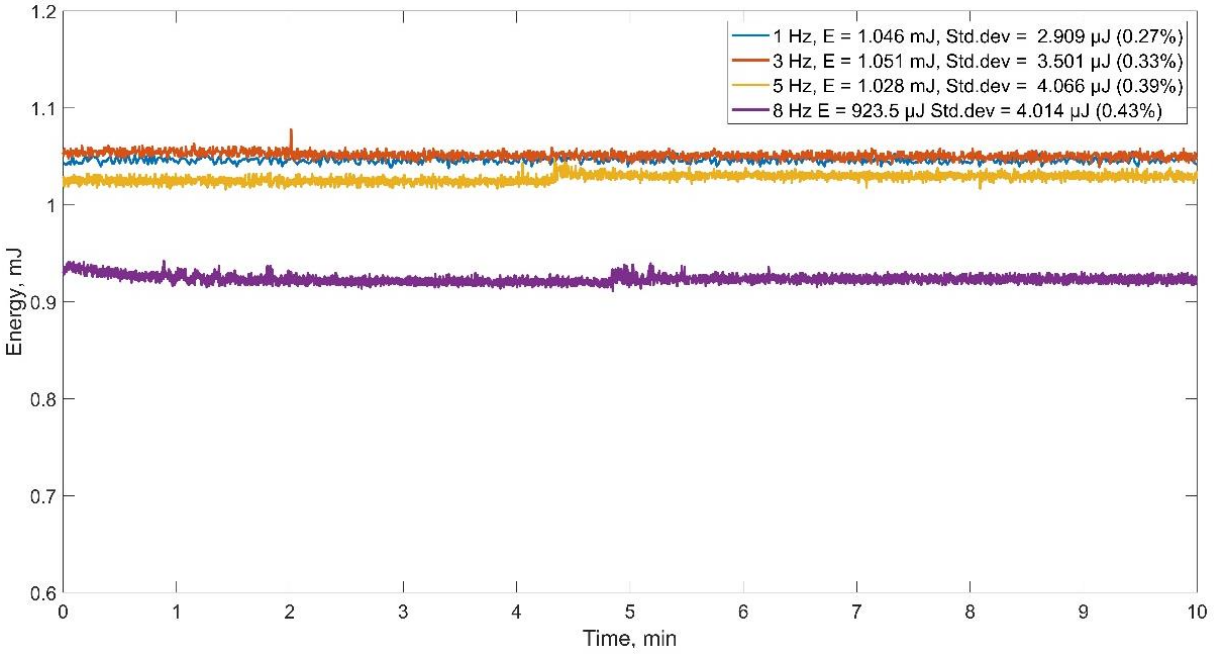
10 Hz			

Output energy stability:



KAUKAS 1 laser average output energy stability for different repetition rate

with 9 and 10 Hz repetition rates laser operating time becomes shorter <30 sec

Laser repetition rates control with pump duration and pump current:

Repetition rates	Pump duration	Pump current
1 Hz	≥7 ms	14,9 A*
3 Hz	≥7,5 ms	
5 Hz	≥7,5 ms	
8 Hz	≥8,5 ms	
9 Hz	≥9 ms	
10 Hz	9.5 ms*	

** NOTE: Do not exceed 10 ms pump duration and 15 A pump current, otherwise you would damage active medium in laser.*

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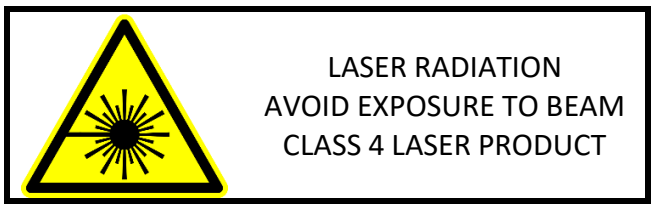
Necessary components to run the laser:

	
KAUKAS 1 laser model	Laser driver
	
Power supply	USB-RS232 adapter

Laser safety class:



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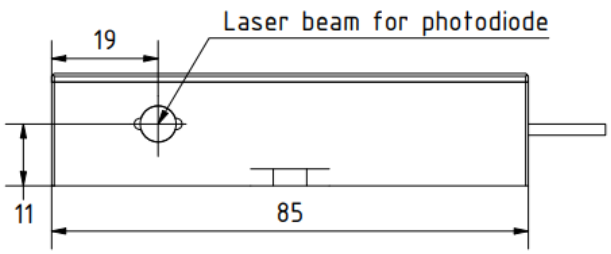
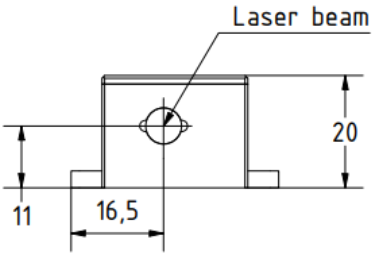
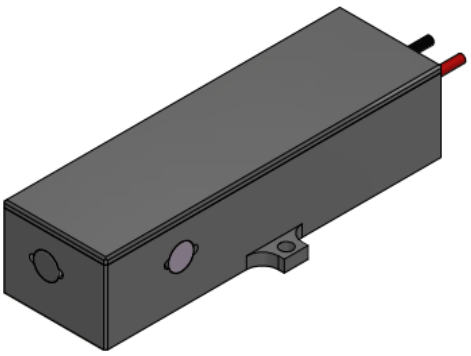
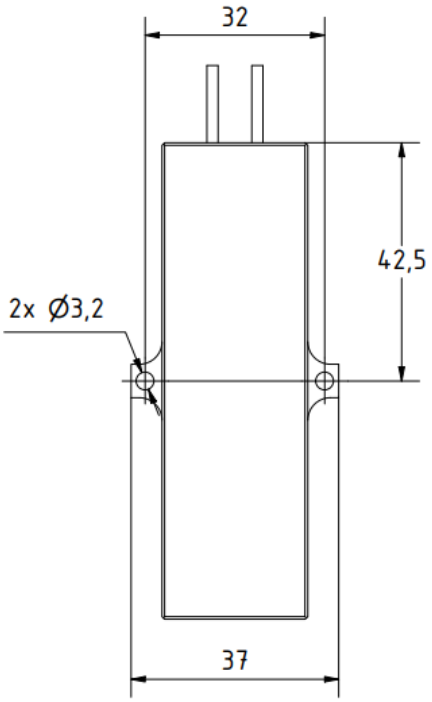
Laser head schemes:









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