

“Eye-safe” 1,54 μm ns lasers “KAUKAS 1”



„Eye-safe” 1,54 μm wavelength nanosecond lasers “KAUKAS 1” possess a unique compact design and are available in OEM models for dedicated applications. This specific “eye-safe” 1,54 μm wavelength lasers model “KAUKAS 1” delivers up to 1 mJ energy per pulse with a repetition rate of

up to 5 Hz. The unique laser optical design requires only up to 20 A pump current allowing this laser to be integrated into portable energy – efficient devices.

Main features

- Compact design
- Integration into portable devices
- OEM version available

Application examples

- LIDAR & Laser Ranging
- LIBS
- Metrology and instrumentation
- Automotive

Standard specifications

LASERS “KAUKAS 1” STANDARD SPECIFICATIONS	
Wavelength	1534 nm
Wavelength tolerance	±1 nm
Repetition rate	1-5 Hz
Pulse energy	1 mJ
Energy stability	<2 %
Pulse duration	<10 ns
Polarization contrast	>80:1
Beam diameter at exit window	<1 mm
Beam quality	M ² < 2
Beam profile	TEM ₀₀

Standard products

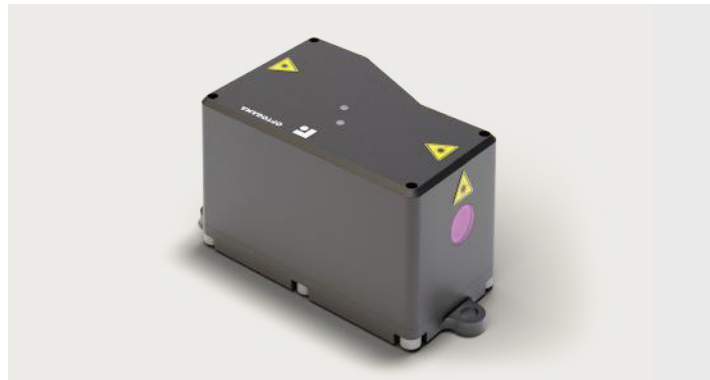
LASER MODEL	WAVELENGTH	REPETITION RATE	PULSE ENERGY	PULSE DURATION	OPERATING TEMPERATURE	WEIGHT
KAUKAS 1	1534 nm	1-5 Hz	1 mJ	<10 ns	15-35 °C	0,4 kg

Utility requirements

LASERS “KAUKAS 1” UTILITY REQUIREMENTS	
Laser module dimensions	85 x 26 x 20 mm (L x W x H)
Laser driver dimensions	128 x 83 x 48 mm (L x W x H)
Pump current	<20 A
Pump duration	>6 ms
Electric	100-240 V AC, 3,6 A, 50/60 Hz
Working temperature	15-35 °C
Cooling	Passive air cooling

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“Eye-safe” 1,54 μm ns lasers “KAUKAS 2”



„Eye-safe“ 1,54 μm wavelength nanosecond lasers series „KAUKAS 2“ possess a unique compact design and are available in OEM models for dedicated applications such as LIDAR or laser ranging.

“Eye-safe” 1,54 μm wavelength lasers model „KAUKAS 2“ delivers up to 2 mJ energy per pulse with a repetition rate of up to 5 Hz.

Main features

- Compact robust design
- Wide operating temperature range
- 2 mJ energy model
- OEM version available

Application examples

- LIDAR & Laser Ranging
- LIBS
- Metrology and instrumentation

Standard specifications

LASERS “KAUKAS 2” STANDARD SPECIFICATIONS	
Wavelength	1534 nm
Wavelength tolerance	±1 nm
Repetition rate	0,5-5 Hz
Pulse energy	>2 mJ
Energy stability	<2 %
Pulse duration	<14 ns
Polarization contrast	>80:1
Beam diameter at exit window	<1 mm
Beam quality	M ² < 2
Beam profile	TEM ₀₀

Standard products

LASER MODEL	WAVELENGTH	REPETITION RATE	PULSE ENERGY	PULSE DURATION	OPERATING TEMPERATURE	WEIGHT
KAUKAS 2	1534 nm	0,5-5 Hz	>2 mJ	<14 ns	From -20 °C to +60 °C	0,25 kg

Utility requirements:

LASERS “KAUKAS 2” UTILITY REQUIREMENTS	
Laser module dimensions	61 x 33 x 29,5 mm (L x W x H)
Laser driver dimensions	128 x 83 x 48 mm (L x W x H)
Pump current	<100 A
Pump duration	4-5 ms
Electric	100-240 V AC, 20 A, 50/60 Hz
Working temperature	From -20 °C to +60 °C
Cooling	Passive air cooling

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“Eye-safe” 1,54 μm ns lasers “KAUKAS 3”



“Eye-safe” 1,54 μm wavelength nanosecond lasers “KAUKAS 3” possess a unique compact design and are available in OEM models for dedicated applications such as LIDAR or laser ranging.

This specific “Eye-safe” 1,54 μm wavelength lasers model “KAUKAS 3” delivers up to 3 mJ energy per pulse with a repetition rate of up to 1 Hz.

Main features

- Compact robust design
- High energy per pulse (>3 mJ)
- Wide operating temperature range
- OEM version available

Application examples

- LIDAR & Laser Ranging
- LIBS
- Metrology and instrumentation
- Research

Standard specifications

LASERS “KAUKAS 3” STANDARD SPECIFICATIONS	
Wavelength	1534 nm
Wavelength tolerance	± 1 nm
Repetition rate	0,5-1 Hz
Pulse energy	>3 mJ
Energy stability	<2 %
Pulse duration	<12 ns
Polarization contrast	>80:1
Beam diameter at exit window	<1 mm
Beam quality	$M^2 < 2$
Beam profile	TEM_{00}

Standard products

LASER MODEL	WAVELENGTH	REPETITION RATE	PULSE ENERGY	PULSE DURATION	OPERATING TEMPERATURE	WEIGHT
KAUKAS 3	1534 nm	0,5-1 Hz	>3 mJ	<12 ns	From - 20 °C to +60 °C	0,25 kg

Utility requirements

LASERS “KAUKAS 3” UTILITY REQUIREMENTS	
Laser module dimensions	61 x 33 x 29,5 mm (L x W x H)
Laser driver dimensions	128 x 83 x 48 mm (L x W x H)
Pump current	<100 A
Pump duration	>6 ms
Electric	100-240 V AC, 20 A, 50/60 Hz
Working temperature	From - 20 °C to +60 °C
Cooling	Passive air cooling

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“Eye-safe” 1,54 μm ns lasers “KAUKAS HR”



“Eye-safe” 1,54 μm wavelength nanosecond high repetition rate (up to 1 kHz) DPSS lasers „KAUKAS HR” possess a unique compact design and are available in OEM models for dedicated applications. „KAUKAS HR” laser models have

adjustable repetition rate feature. They deliver more than 30 μJ energy per pulse with a repetition rate of up to 1 kHz available on request.

Main features

- Compact robust design
- Energy per pulse >35 μJ @ 1 kHz
- Pulse repetition rate control
- OEM version available

Application examples

- LIDAR & Laser Ranging
- LIBS
- Metrology and instrumentation
- Automotive

Standard specifications

LASERS “KAUKAS HR” STANDARD SPECIFICATIONS	
Wavelength	1534 nm
Wavelength tolerance	±1 nm
Repetition rate	100 Hz - 1 kHz
Pulse energy	>30 μJ
Energy stability	<2 %
Pulse duration	<7 ns
Polarization contrast	>80:1
Beam diameter at exit window	<1 mm
Beam quality	M ² < 2
Beam profile	TEM ₀₀

Standard products

LASER MODEL	WAVELENGTH	REPETITION RATE	PULSE ENERGY	PULSE DURATION	OPERATING TEMPERATURE	WEIGHT
KAUKAS HR	1535 nm	100 Hz	>45 μJ	<7 ns	15-35 °C	0,2 kg
		1 kHz	>30 μJ	<7 ns	15-35 °C	0,2 kg

Utility requirements:

LASERS “KAUKAS HR” UTILITY REQUIREMENTS	
Laser module dimensions	111 x 34 x 25,5 mm (L x W x H)
Laser driver dimensions	164 x 105 x 44 mm (L x W x H)
Pump current	<7 A
Electric	100-240 V AC, 50/60 Hz, 1,4 A
Working temperature	15-35 °C
Cooling	Passive air cooling

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“Eye-safe” 1,5 μm lasers “KAUKAS CW”



“KAUKAS CW” series of diode-pumped, solid-state laser models that deliver up to 400 mW of continuous-wave power at several 1,5 μm wavelengths. These erbium-doped gain media based economical, active air-cooled lasers provide a unique combination of high performance, exceptional lifetime,

and outstanding reliability. “KAUKAS CW” “eye-safe” lasers offer a diffraction-limited, TEM₀₀ output beam, excellent power stability, and narrowband spectrum.

Main features

- Up to 400 mW of CW power
- Compact DPSS design
- Various 1,5 μm wavelength models
- High beam quality

Application examples

- Optical instrumentation
- Metrology and spectroscopy
- Life sciences

Standard specifications

“KAUKAS CW” LASERS STANDARD SPECIFICATIONS	
Wavelength	1,5 μm
Wavelength tolerance	±1 nm
Laser operating mode	CW
Average output power	Up to 500 mW
Power stability	<2 %
Polarization contrast	>100:1
Beam diameter at exit window	<1 mm
Beam divergence	<5 mRad
Beam quality	M ² < 1,5
Beam profile	TEM ₀₀

Standard products

LASER MODEL	WAVELENGTH	AVERAGE OUTPUT POWER	POLARIZATION RATIO	BEAM DIVERGENCE	BEAM QUALITY
KAUKAS CW-K	1522 nm	300 mW	>100:1	<5 mRad	M ² < 1,5
KAUKAS CW-P	1531 nm	300 mW	>100:1	<5 mRad	M ² < 1,5
KAUKAS CW-N	1542 nm	300 mW	>100:1	<5 mRad	M ² < 1,5
KAUKAS CW-G	1550 nm	400 mW	>100:1	<5 mRad	M ² < 1,5
KAUKAS CW-Y	1555 nm	300 mW	>100:1	<5 mRad	M ² < 1,5
KAUKAS CW-S	1602 nm	150 mW	>100:1	<5 mRad	M ² < 1,5

Utility requirements:

“KAUKAS CW” LASERS UTILITY REQUIREMENTS	
Laser module dimensions	175 x 78 x 86 mm (L x W x H)
Laser driver dimensions	164 x 105 x 44 mm (L x W x H)
Pump current	5-10 A
Electric	100-240 V AC, 50/60 Hz, 1,4 A
Working temperature	15-25 °C
Cooling	TEC element + active air cooling

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