1064nm Nd:YAG q-switched nanosecond laser MA Microchip laser system

DESCRIPTION

1064nm laser is one of the most common laser among ULaser's products of solid state laser. Unlike other lasers, 1064nm laser beam is directly emitted from the Nd:YAG crystal. Q-switched crystal helps our laser to emit pico-second output light beam. Either the one with single longitudinal mode or the one with fundamental mode can be chosen in ULaser.

ULaser provides absolute high quality 1064 nm laser. Our 1064nm laser contains high average power, up to 100mW. And it has high pulse repetition frequency, up to 50kHz. At the same time, our 1064nm laser has smaller size and lower power consumption by microchip laser technology.

Our 1064nm laser can be used in most military, civil and scientific research fields. In industry, it can be used in micromachining. In cosmetology, it can be used in picosecond laser tattoo removal machine. Besides, it can also be used in laser ultrasound, laser induced breakdown spectroscopy, etc.

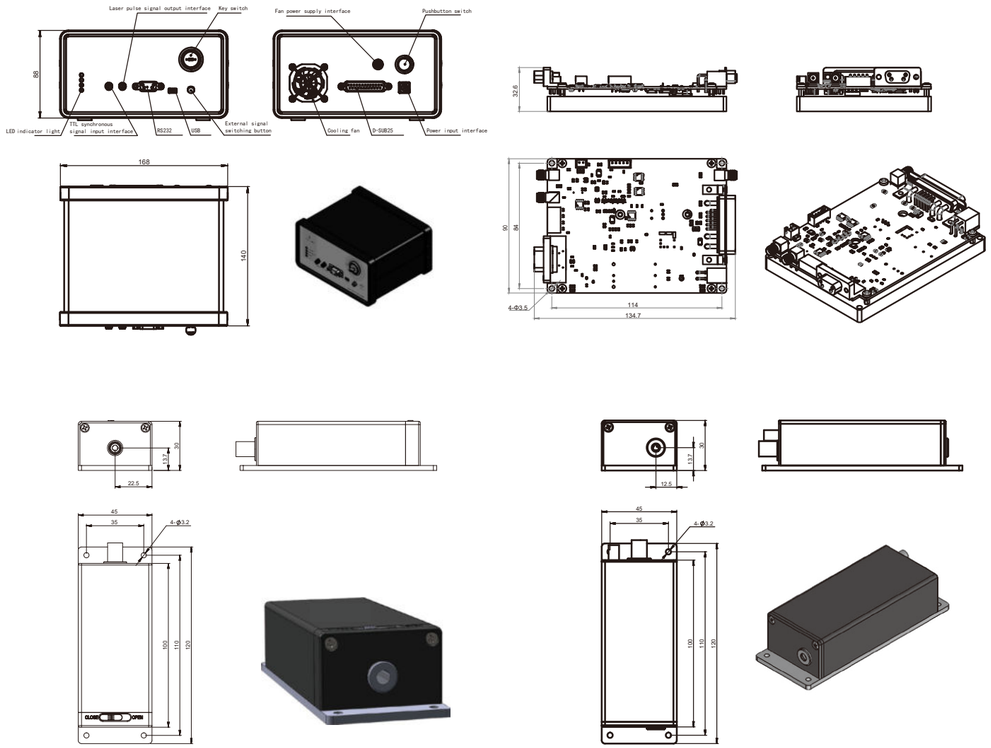
FEATURES

- Pulse width up to 1ns
- Pulse energy up to 200μJ
- Repetition frequency up to 20kHz
- Beam mode is TEM_{00}
- Fully sealed design, high reliability

APPLICATIONS

- Lidar
- Laser ranging
- Atmospheric monitoring
- Laser ultrasonic inspection
- Optical metrology
- Laser-induced fluorescence

OUTLINE SIZE(mm)



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PARAMETERS

Model	UL1064-1kHz-120μJ-MA016	UL1064-1kHz-200μJ-MA017	UL1064-2.5kHz-120μJ-MA018	UL1064-2.5kHz-200μJ-MA019	UL1064-5kHz-60μJ-MA020	UL1064-10kHz-40μJ-MA021	UL1064-20kHz-20μJ-MA022
Wavelength (nm)	1064	1064	1064	1064	1064	1064	1064
Repetition frequency (kHz)	1	1*	2.5	2.5*	5	10	20
Average power (mW)	120	200	300	500	300	400	400
Output energy (μJ)	120	200	120	200	60	40	20
Pulse width (ps)	2000	2000	2000	2000	1500	1500	1500
Power stability (8h)	±3%	±3%	±3%	±3%	±3%	±3%	±3%
Beam mode	TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}
Full-angle divergence angle Typ. (Mrad) level@$1/e^2$	8	≤3	≤3	≤3	8	8	8
Vertical @$1/e^2$	8	≤3	≤3	≤3	8	8	8
Polarization characteristics	＞100:1	＞100:1	＞100:1	＞100:1	＞100:1	＞100:1	＞100:1
Power input	100-240 VAC,50/60Hz	100-240 VAC,50/60Hz	100-240 VAC,50/60Hz	100-240 VAC,50/60Hz	100-240 VAC,50/60Hz	100-240 VAC,50/60Hz	100-240 VAC,50/60Hz
Control interface	RS232, USB	RS232, USB	RS232, USB	RS232, USB	RS232, USB	RS232, USB	RS232, USB
System power consumption (W)	≤35	≤20	≤20	≤25	≤35	≤35	≤35
Power supply size (W × H × L, mm)	168×88×140	90×32.6×120	90×32.6×120	90×32.6×120	168×88×140	168×88×140	168×88×140
Laser head size (W × H × L, mm)	45×30×120	45×30×120	45×30×120	45×30×120	45×30×120	45×30×120	45×30×120
Working temperature (℃)	15-35	15-35	15-35	15-35	15-35	15-35	15-35
Storage temperature (℃)	0-60	0-60	0-60	0-60	0-60	0-60	0-60

1.*The light outlet of the laser head is side outlet. See the mechanical dimension drawing for details

2.Customized internal beam expansion function to meet the requirements of small divergence angle (less than 2mrad)

3. MA017, MA018, and MA019 are specially designed for miniaturized weather radar applications. They are small in size, low in power consumption, and can be used in high altitudes, large temperature differences, and other subserve environments. This series accepts dual wavelength laser customization, such as 1064nm8532nm, 1064nm&355nm, or others.

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1064nm Nd:YAG q-switched picosecond laser MC Microchip laser system

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Our 1064nm laser can be used in most military, civil and scientific research fields. In industry, it can be used in micromachining. In cosmetology, it can be used in picosecond laser tattoo removal machine. Besides, it can also be used in laser ultrasound, laser induced breakdown spectroscopy, etc.

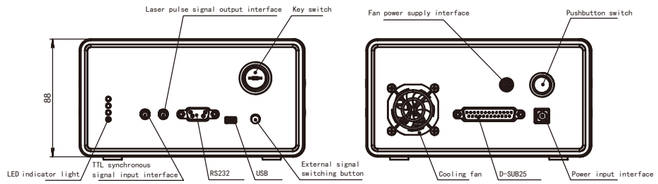
FEATURES

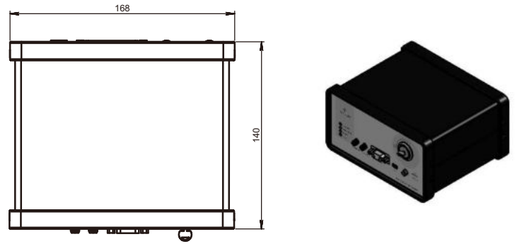
- Pulse width up to 550ps
- Pulse energy up to 120μJ
- High polarization direction stability
- Maximum repetition rate up to 10kHz
- Beam mode is TEM_{00}
- Fully sealed design, high reliability

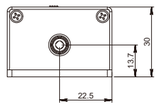
APPLICATIONS

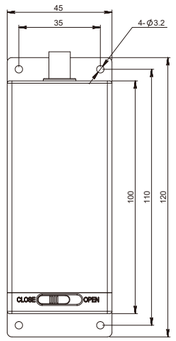
- Seed source
- Micromachining
- Biomedical science
- Laser ultrasonic inspection
- Laser ionization mass spectrometry
- Optical parametric oscillating pump source

OUTLINE SIZE(mm)









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PARAMETERS

Model		UL1064-1kHz-100μJ-MC011	UL1064-5kHz-60μJ-MC012	UL1064-10kHz-30μJ-MC013
Optical parameter	Wavelength (nm)	1064	1064	1064
	Repetition frequency (kHz)	1	5	10
	Average power (mW)	100	300	300
	Output energy (μJ)	100	60	30
	Pulse width (ps)	750	750	750
	Power stability (8h)	±3%	±3%	±3%
	Beam mode	TEM_{00}	TEM_{00}	TEM_{00}
	Full-angle divergence angle Typ. (Mrad) level@1/e^2	8	12	12
	Full-angle divergence angle Typ. (Mrad) Vertical@1/e^2	8	12	12
	Polarization characteristics	＞100:1	＞100:1	＞100:1
System parameters	Power input	100-240 VAC,50/60Hz	100-240 VAC,50/60Hz	100-240 VAC,50/60Hz
	Control interface	RS232, USB	RS232, USB	RS232, USB
	System power consumption (W)	≤25	≤20	≤30
	Power supply size (W × H × L, mm)	168×88×140	168×88×140	168×88×140
	Laser head size (W × H × L, mm)	45×30×120	45×30×120	45×30×120
	Working temperature (℃)	15-35	15-35	15-35
	Storage temperature (℃)	0-60	0-60	0-60

1.*The light outlet of the laser head is side outlet. See the mechanical dimension drawing for details

2.Customized internal beam expansion function to meet the requirements of small divergence angle (less than 2mrad)

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1064nm Nd:YAG q-switched picosecond laser MD Microchip laser system

DESCRIPTION

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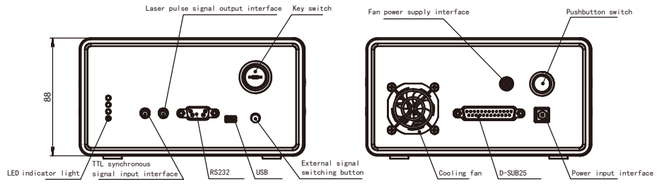
FEATURES

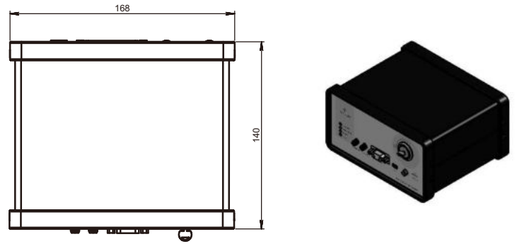
- Pulse width up to 550ps
- Pulse energy up to 120μJ
- High polarization direction stability
- Maximum repetition rate up to 10kHz
- Beam mode is TEM_{00}
- Fully sealed design, high reliability

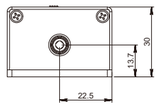
APPLICATIONS

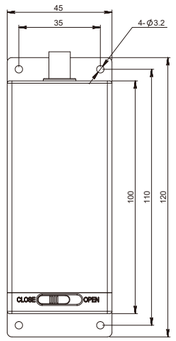
- Seed source
- Micromachining
- Fluorescence lifetime measuremen
- Laser-induced fluorescence
- Laser ionization mass spectrometry
- Non-linear optical measurement

OUTLINE SIZE(mm)









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PARAMETERS

Model		UL1064-0.01kHz-300μJ-MD004	UL1064-0.01kHz-300μJ-MD005	UL1064-0.01kHz-300μJ-MD006	UL1064-0.1kHz-100μJ-MD007
Optical parameter	Wavelength (nm)	1064	1064	1064	1064
	Repetition frequency (kHz)	0.01	0.01	0.01	0.1
	Average power (mW)	3	3	3/3	10
	Output energy (μJ)	300	300	300/300	100
	Pulse width (ps)	350	350	500/2000	350
	Power stability (8h)	±3%	±3%	±3%	±3%
	Beam mode	TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}
	Full-angle divergence angle Typ. (Mrad) level@1/e^2	12	12	6-7	12
	Full-angle divergence angle Typ. (Mrad)Vertical@1/e^2	12	12	6-7	12
	Polarization characteristics	P-polarization, ＞100:1	P-polarization, ＞100:1	500ps P-polarization, >100:1 2ns S-polarization, >100:1	＞100:1
System parameters	System power consumption（W）	≤10	≤10	≤10	≤25
	Power input	12V 5A	12V 5A	12V 5A	100-240 VAC,50/60Hz
	Control interface	SMA	SMA	SMA	RS232、USB
	Power supply size (W × H × L, mm)	68×35×120	68×35×120	68×35×120	168×88×140
	Laser head size (W × H × L, mm)	45×30×120	45×30×120	80×36×124	45×30×120
	Working temperature (℃)	15-35	15-35	15-35	15-35
	Storage temperature (℃)	0-60	0-60	0-60	0-60

1.*The light outlet of the laser head is side outlet. See the mechanical dimension drawing for details

2.Customized internal beam expansion function to meet the requirements of small divergence angle (less than 2mrad)

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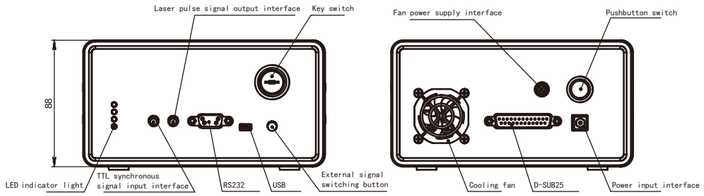
FEATURES

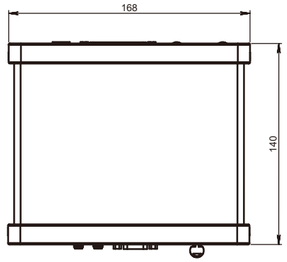
- Pulse width up to 300ps
- Pulse energy up to 10μJ
- Maximum repetition rate up to 50KHz
- Beam mode is TEM_{00}
- High polarization direction stability

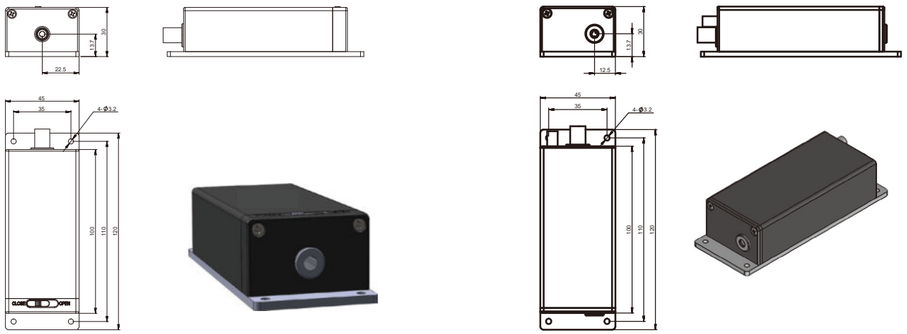
APPLICATIONS

- Laser micromachining
- Seed source
- Ultrasound imaging
- Analytical chemistry
- Time-resolved Raman spectroscopy
- Biophotonics

OUTLINE SIZE(mm)







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PARAMETERS

Model		UL1064-20kHz-3μJ-MH003	UL1064-100kHz-1μJ-MH004
Optical parameter	Wavelength (nm)	1064	1064
	Repetition frequency (kHz)	20	100
	Average power (mW)	60	100
	Output energy (μJ)	3	1
	Pulse width (ps)	350	500
	Power stability (8h)	±3%	±3%
	Beam mode	TEM_{00}	TEM_{00}
	Full-angle divergence angle Typ. (Mrad) level@1/e^2	25	30
	Full-angle divergence angle Typ. (Mrad)Vertical@1/e^2	25	30
	Polarization characteristics	＞100:1	＞100:1
System parameters	power input	100-240 VAC,50/60Hz	100-240 VAC,50/60Hz
	Control interface	RS232、USB	RS232、USB
	System power consumption（W）	≤35	≤40
	Power supply size (W × H × L, mm)	168×88×140	168×88×140
	Laser head size (W × H × L, mm)	45×33×120	45×33×120
	Working temperature (℃)	15-35	15-35
	Storage temperature (℃)	0-60	0-60

1. This series of lasers with wavelength of 355nm and 266nm can be customized
2. Other frequencies can be customized

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1064nm Nd:YAG q-switched picosecond laser MO Microchip laser system

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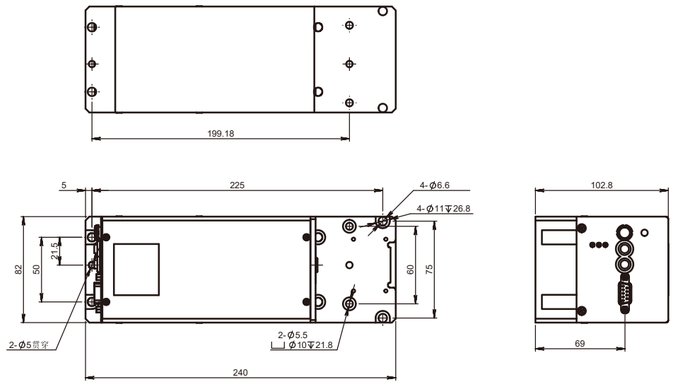
FEATURES

- Pulse width < 1ns
- The repetition frequency is adjustable from 1 to 200Hz
- The laser energy is adjustable on the machine
- Optical trigger output signal jitter < 100ps
- Fully sealed design, high reliability
- Plug and play, including upper computer software

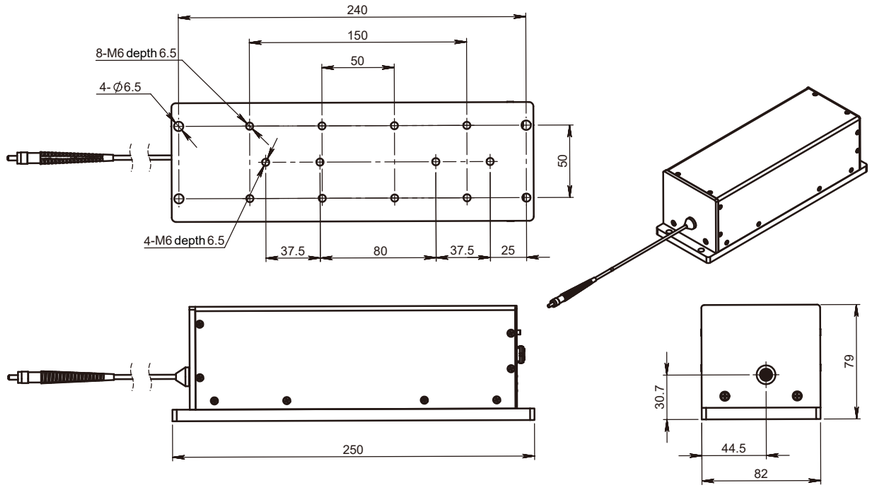
APPLICATIONS

- Laser engraving
- Laser photoluminescence
- Laser capture micro-cutting
- Raman spectroscopy detection
- Laser induced breakdown spectrum
- Laser remote sensing

OUTLINE SIZE(mm)



Space output size diagram



Optical fiber output size diagram

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PARAMETERS

	Model	UL1064-200Hz-60/50μJ-MO004
Optical parameter	Wavelength (nm)	1064
	Repetition frequency (Hz)	1-200
	Maximum output energy of space beam (μJ)	60
	Fiber Coupling Maximum Output Energy (μJ)	50
	Pulse width (ns)	≤1
	Energy Stability(rms)	≤3%
	Energy Regulation Step Accuracy	≤2%
	Beam mode (spatial beam output)	TEM_{00}
	Full-angle divergence angle Typ. (Mrad) level @1/e^2	≤2
	Full-angle divergence angle Typ. (Mrad)Vertical @1/e^2	≤2
	Polarization characteristics	≥100:1
	Fiber parameters (fiber coupled output optional)	200μm/0.22NA
System parameters	Power input	24V DC
	Modulation input	TTL0-5V,SMB connector
	Control interface	RS232
	System Peak Power Consumption (W)	＜20
	System Average Power Consumption (W)	＜10
	Laser size (W × H × L, mm)	82×102.8×240(space)/ 82x79x250(optical fiber)
	Working temperature (℃)	10-40
	Storage temperature (℃)	0-60

1. The supported operating frequency is 16~200Hz in continuous mode and burst mode.
2. Fiber core diameter: 200μm.
3. The power supply adapter is shipped with matching power supply, which can support 90~260VAC power supply input.