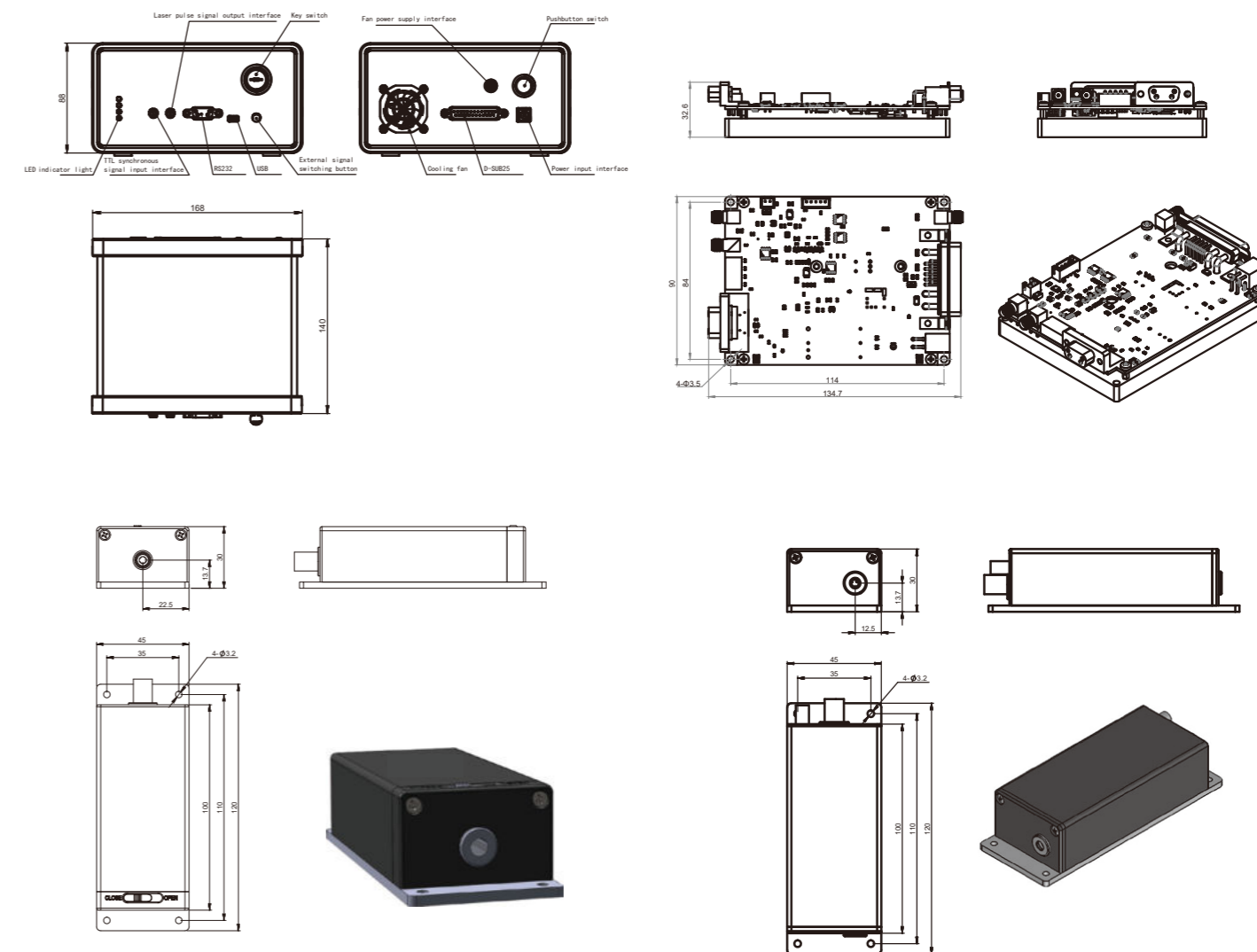


# 532nm Nd:YAG q-switched nanosecond laser MA Microchip laser system



OUTLINE SIZE(mm)



## DESCRIPTION

532nm laser is one of the most common lasers used in most fields. It can emit excellent green light. It is based on Nd:YAG crystal. Frequency doubling technology is used in ULaser's 532nm laser. As a perfect picosecond laser, our 532nm laser has version of 300ps.

Like our all lasers, 532nm laser has very pure pulsed output. Thus, stability and high quality have become synonymous with our 532nm laser. Good penetrability and strong anti-interference of stray light makes our 532nm laser can adapt most situations.

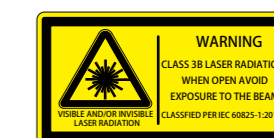
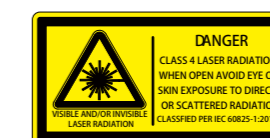
532nm laser is commonly used in industrial field, like laser engraving and etching to print circuit boards, micro-machining, and so on. Medical field is another common field for 532nm laser. Our 532nm laser is suitable for yag laser eye surgery. Laser ultrasound, laser induced fluorescence, solid state lidar, and et al, are also its competent field.

## FEATURES

- Pulse width up to 1ns
- Pulse energy up to 200μJ
- Repetition frequency up to 20kHz
- Beam mode is TEM<sub>00</sub>
- Fully sealed design, high reliability

## APPLICATIONS

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



## PARAMETERS

Model	UL532-1kHz-60μJ-MA009	UL532-1kHz-100μJ-MA010	UL532-2.5kHz-60μJ-MA011	UL532-2.5kHz-100μJ-MA012	UL532-5kHz-30μJ-MA013	UL532-10kHz-15μJ-MA014	UL532-20kHz-10μJ-MA015	
Optical parameter	Wavelength (nm)	532	532	532	532	532	532	
	Repetition frequency (kHz)	1	1*	2.5	2.5*	5	10	20
	Average power (mW)	60	100	150	250	150	150	200
	Output energy (μJ)	60	100	60	100	30	15	10
	Pulse width (ps)	1500	1500	1500	1500	1200	1200	1200
	Power stability (8h)	±3%	±3%	±3%	±3%	±3%	±3%	±3%
	Beam mode	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>
	Full-angle divergence angle Typ. (Mrad) level @1/e <sup>2</sup>	6	≤2.5	≤2.5	≤2.5	6	6	6
	Vertical @1/e <sup>2</sup>	6	≤2.5	≤2.5	≤2.5	6	6	6
Polarization characteristics	> 100:1	> 100:1	> 100:1	> 100:1	> 100:1	> 100:1	> 100:1	
System parameters	System power consumption (W)	≤35	≤20	≤25	≤25	≤35	≤35	≤35
	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
	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 (°C)	15-35	15-35	15-35	15-35	15-35	15-35	15-35
	Storage temperature (°C)	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.MA010, MA011, and MA012 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 1064nm&532nm, 1064nm&355nm, or others.



# 532nm Nd:YAG q-switched picosecond laser MC Microchip laser system



## DESCRIPTION

532nm laser is one of the most common lasers used in most fields. It can emit excellent green light. It is based on Nd:YAG crystal. Frequency doubling technology is used in ULaser's 532nm laser. As a perfect picosecond laser, our 532nm laser has version of 300ps.

Like our all lasers, 532nm laser has very pure pulsed output. Thus, stability and high quality have become synonymous with our 532nm laser. Good penetrability and strong anti-interference of stray light makes our 532nm laser can adapt most situations.

532nm laser is commonly used in industrial field, like laser engraving and etching to print circuit boards, micro-machining, and so on. Medical field is another common field for 532nm laser. Our 532nm laser is suitable for yag laser eye surgery. Laser ultrasound, laser induced fluorescence, solid state lidar, and et al, are also its competent field.

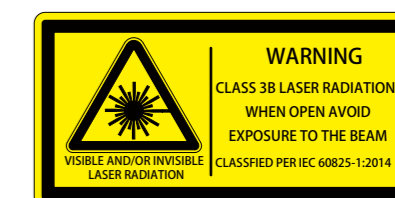
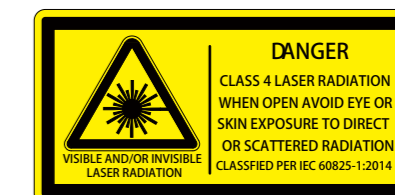
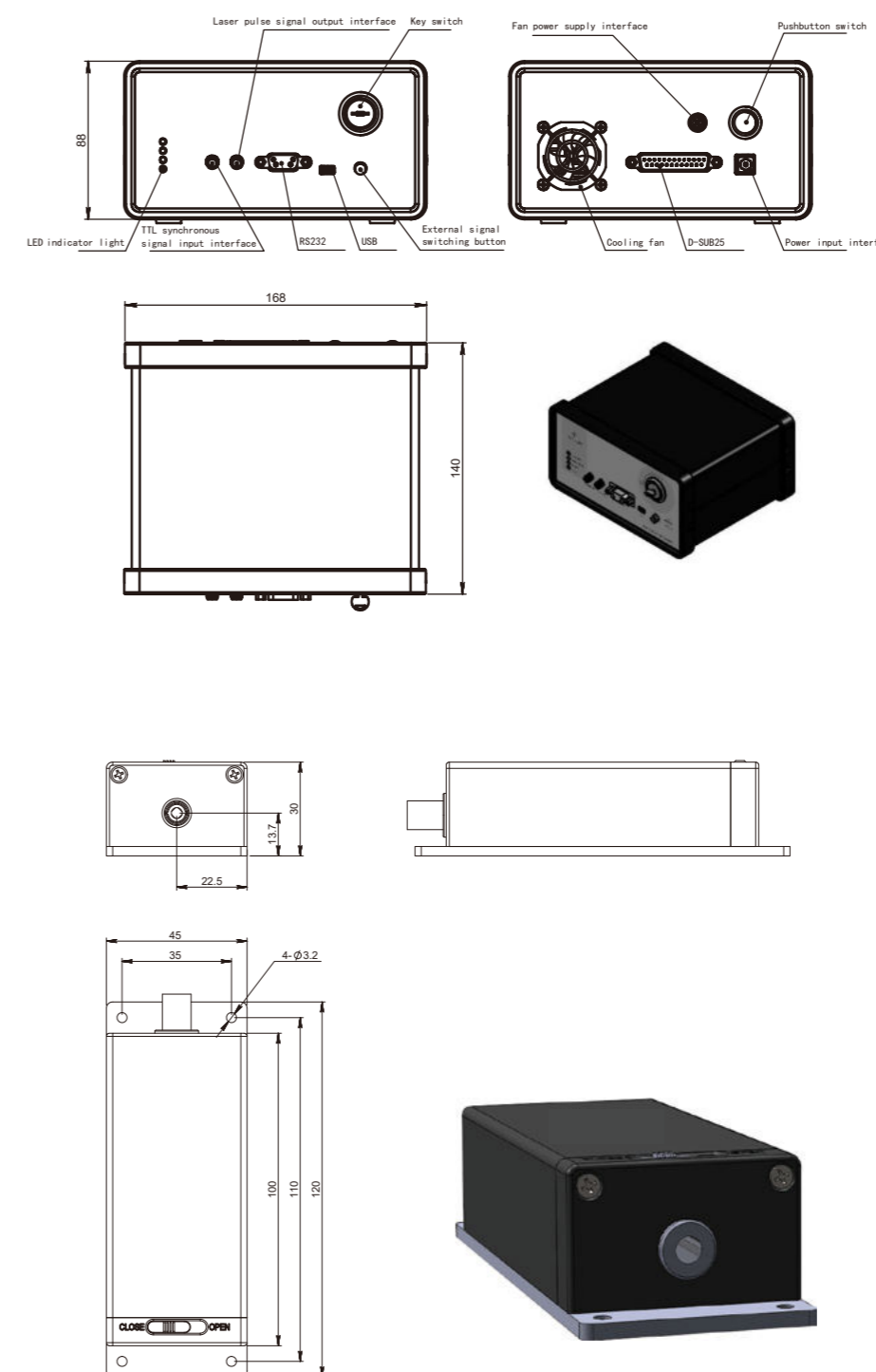
## FEATURES

- Pulse width up to 550ps
- Pulse energy up to 120μJ
- High polarization direction stability
- Maximum repetition rate up to 10kHz
- Beam mode is TEM<sub>00</sub>
- 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)





## PARAMETERS

Model	UL532-1kHz-50μJ-MC008	UL532-5kHz-30μJ-MC009	UL532-10kHz-15μJ-MC010	
Optical parameter	Wavelength (nm)	532	532	532
	Repetition frequency (kHz)	1	5	10
	Average power (mW)	50	150	150
	Output energy (μJ)	50	30	15
	Pulse width (ps)	700	700	700
	Power stability (8h)	±3%	±3%	±3%
	Beam mode	TEM <sub>00</sub>	TEM <sub>00</sub>	TEM <sub>00</sub>
	Full-angle divergence angle Typ. (Mrad) level @1/e <sup>2</sup>	7	10	10
	Vertical @1/e <sup>2</sup>	7	10	10
Polarization characteristics	> 100:1	> 100:1	> 100:1	
System parameters	System power consumption (W)	≤25	≤30	≤35
	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
	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 (°C)	15-35	15-35	15-35
	Storage temperature (°C)	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)



# 532nm Nd:YAG q-switched picosecond laser MD Microchip laser system



## DESCRIPTION

532nm laser is one of the most common lasers used in most fields. It can emit excellent green light. It is based on Nd:YAG crystal. Frequency doubling technology is used in ULaser's 532nm laser. As a perfect picosecond laser, our 532nm laser has version of 300ps.

Like our all lasers, 532nm laser has very pure pulsed output. Thus, stability and high quality have become synonymous with our 532nm laser. Good penetrability and strong anti-interference of stray light makes our 532nm laser can adapt most situations.

532nm laser is commonly used in industrial field, like laser engraving and etching to print circuit boards, micro-machining, and so on. Medical field is another common field for 532nm laser. Our 532nm laser is suitable for yag laser eye surgery. Laser ultrasound, laser induced fluorescence, solid state lidar, and et al, are also its competent field.

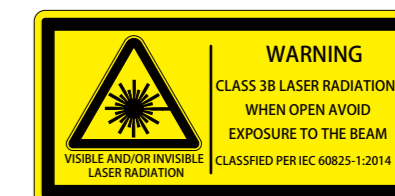
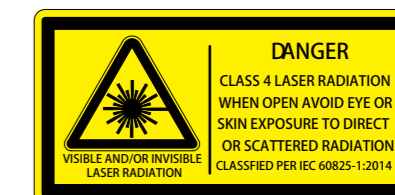
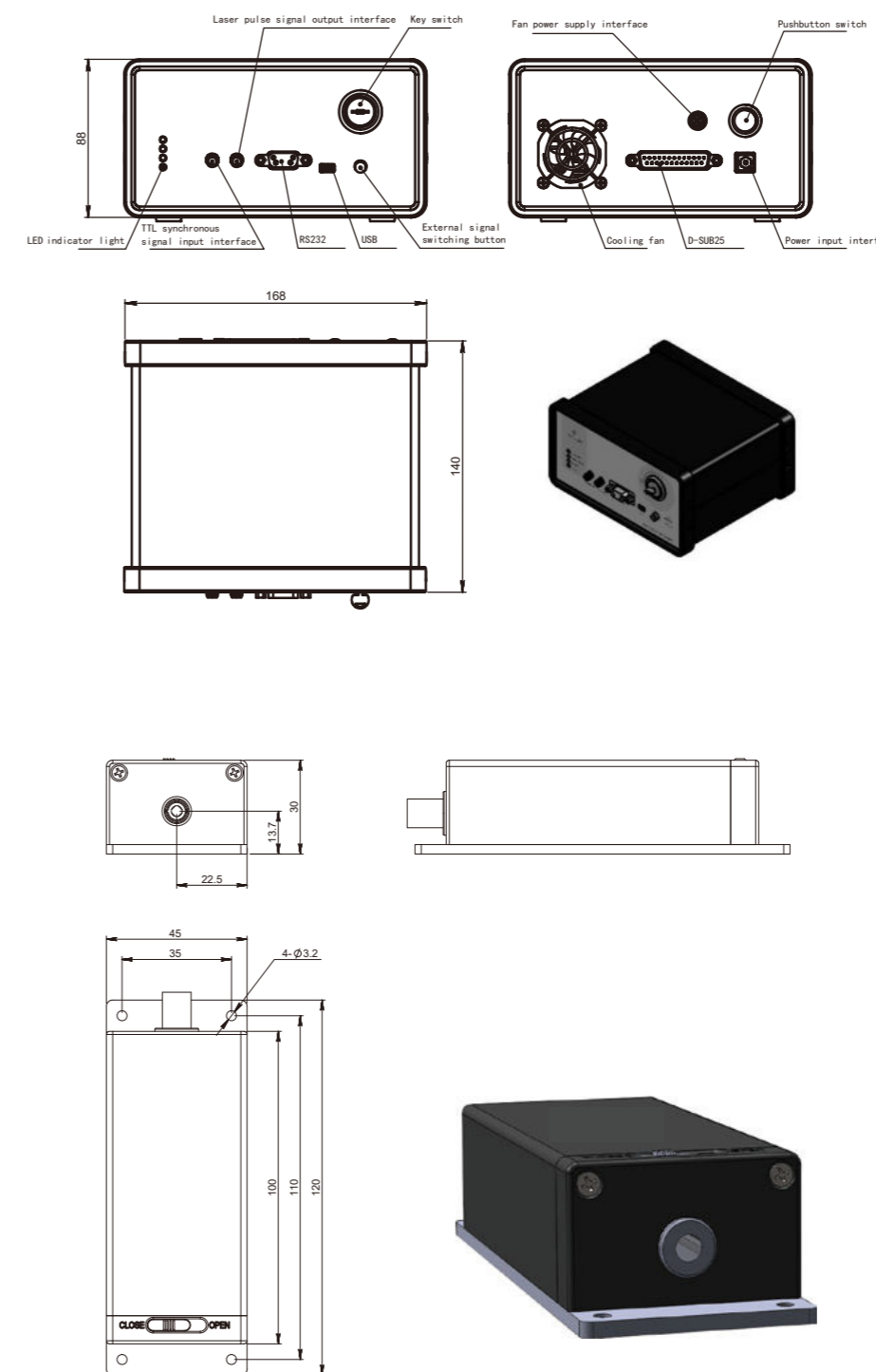
## FEATURES

- Pulse width up to 550ps
- Pulse energy up to 120μJ
- High polarization direction stability
- Maximum repetition rate up to 10kHz
- Beam mode is TEM<sub>00</sub>
- Fully sealed design, high reliability

## APPLICATIONS

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

## OUTLINE SIZE(mm)



## PARAMETERS

Model	UL532-0.1kHz-30μJ-MD003	
Optical parameter	Wavelength (nm)	532
	Repetition frequency (kHz)	0.1
	Average power (mW)	3
	Output energy (μJ)	30
	Pulse width (ps)	300
	Power stability (8h)	±3%
	Beam mode	TEM <sub>00</sub>
	Full-angle divergence angle Typ. (Mrad) level @1/e <sup>2</sup>	10
	Vertical @1/e <sup>2</sup>	10
	Polarization characteristics	> 100:1
System parameters	System power consumption (W)	≤25
	Power input	100-240 VAC,50/60Hz
	Control interface	RS232、USB
	Power supply size (W×H×L, mm)	168×88×140
	Laser head size (W×H×L, mm)	45×30×120
	Working temperature (°C)	15-35
	Storage temperature (°C)	0-60

- \*The light outlet of the laser head is side outlet. See the mechanical dimension drawing for details
- Customized internal beam expansion function to meet the requirements of small divergence angle (less than 2mrad)



# 532nm Nd:YAG q-switched picosecond laser MH Microchip laser system



## DESCRIPTION

532nm laser is one of the most common lasers used in most fields. It can emit excellent green light. It is based on Nd:YAG crystal. Frequency doubling technology is used in ULaser's 532nm laser. As a perfect picosecond laser, our 532nm laser has version of 300ps.

Like our all lasers, 532nm laser has very pure pulsed output. Thus, stability and high quality have become synonymous with our 532nm laser. Good penetrability and strong anti-interference of stray light makes our 532nm laser can adapt most situations.

532nm laser is commonly used in industrial field, like laser engraving and etching to print circuit boards, micro-machining, and so on. Medical field is another common field for 532nm laser. Our 532nm laser is suitable for yag laser eye surgery. Laser ultrasound, laser induced fluorescence, solid state lidar, and et al, are also its competent field.

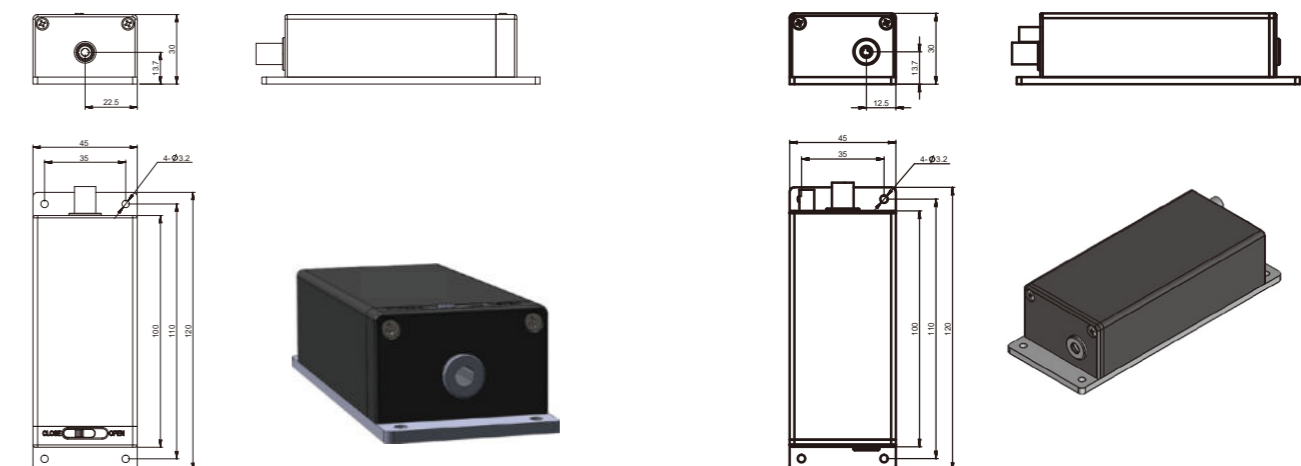
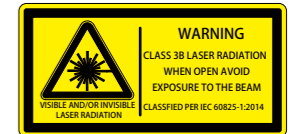
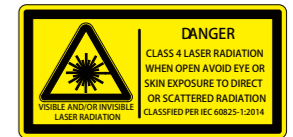
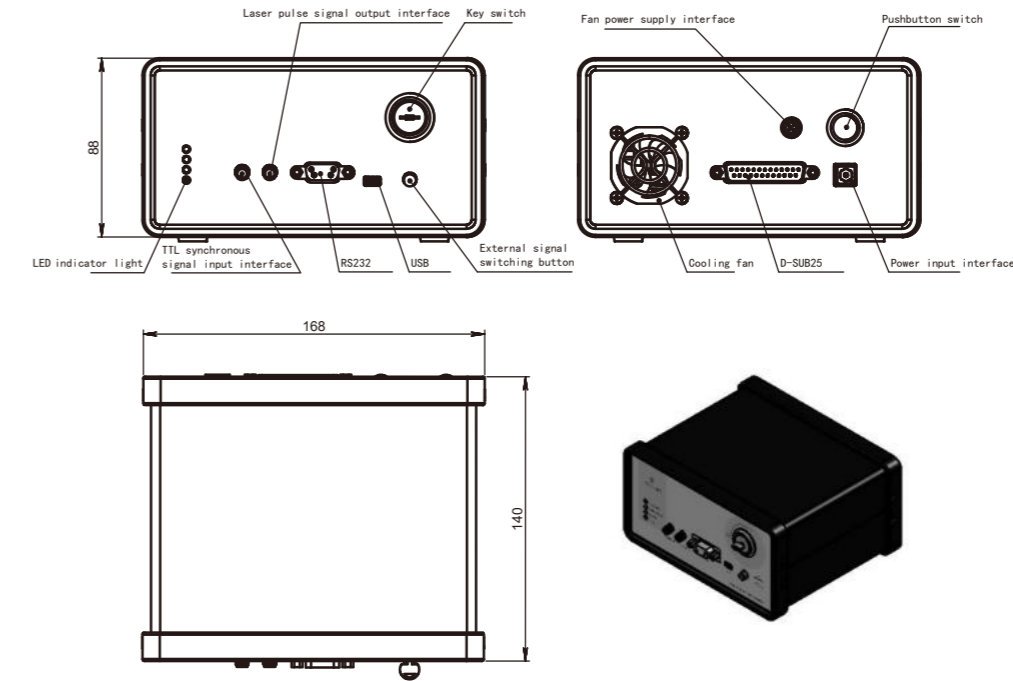
## FEATURES

- Pulse width up to 300ps
- Pulse energy up to 10μJ
- Maximum repetition rate up to 50KHz
- Beam mode is TEM<sub>00</sub>
- High polarization direction stability

## APPLICATIONS

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

## OUTLINE SIZE(mm)





## PARAMETERS

Model	UL532- 20kHz- 1.5μJ- MH001	UL532- 100kHz- 0.5μJ- MH002	
Optical parameter	Wavelength (nm)	532	532
	Repetition frequency (kHz)	20	100
	Average power (mW)	30	50
	Output energy (μJ)	1.5	0.5
	Pulse width (ps)	300	500
	Power stability (8h)	±3%	±3%
	Beam mode	TEM <sub>00</sub>	TEM <sub>00</sub>
	Full-angle divergence angle Typ. (Mrad) level @1/e <sup>2</sup>	16	25
	Vertical @1/e <sup>2</sup>	16	25
System parameters	Polarization characteristics	> 100:1	> 100:1
	System power consumption (W)	≤35	≤40
	Power input	100-240 VAC, 50/60Hz	100-240 VAC, 50/60Hz
	Control interface	RS232, USB	RS232, USB
	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 (°C)	15-35	15-35
	Storage temperature (°C)	0-60	0-60

- \* the light outlet of the laser head is side outlet. Please refer to the mechanical dimension drawing for details.
- \*\* high PRF side light output structure, gated trigger, TTL 5V, SMA interface. Other structures are rising edges





# 532nm Nd:YAG q-switched picosecond laser MO Microchip laser system



## DESCRIPTION

532nm laser is one of the most common lasers used in most fields. It can emit excellent green light. It is based on Nd:YAG crystal. Frequency doubling technology is used in ULaser's 532nm laser. As a perfect picosecond laser, our 532nm laser has version of 300ps.

Like our all lasers, 532nm laser has very pure pulsed output. Thus, stability and high quality have become synonymous with our 532nm laser. Good penetrability and strong anti-interference of stray light makes our 532nm laser can adapt most situations.

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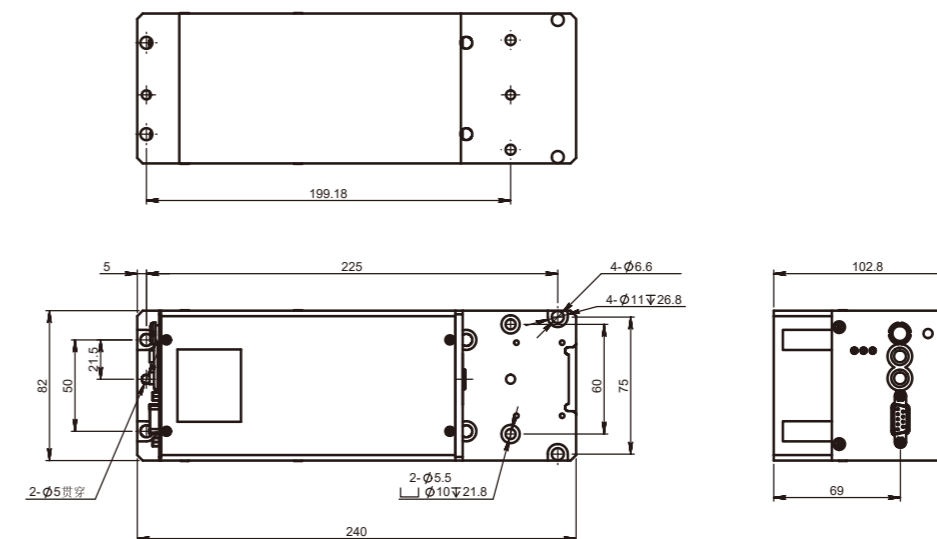
## FEATURES

- 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

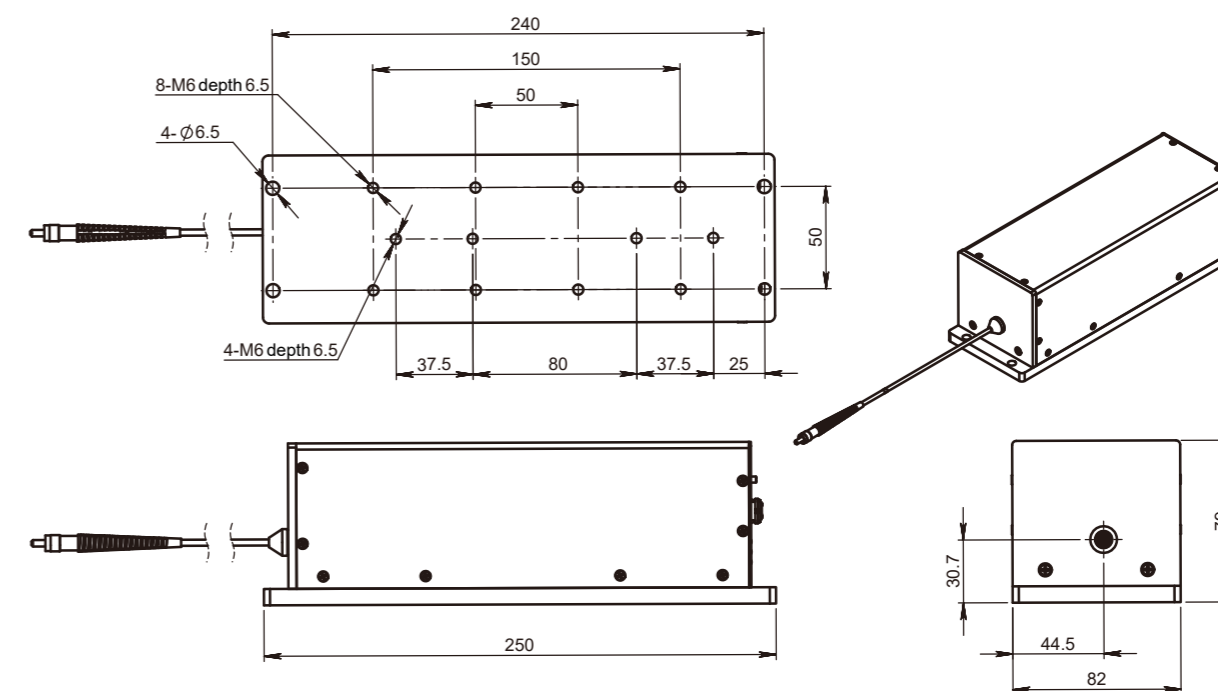
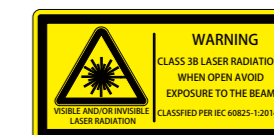
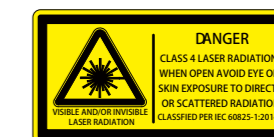
## APPLICATIONS

- 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

## PARAMETERS

Model	UL532-200Hz-30/25μJ-MO003	
Optical parameter	Wavelength(nm)	532
	Repetition frequency (Hz)	1-200
	Maximum output energy of space beam (μJ)	30
	Fiber Coupling Maximum Output Energy (μJ)	25
	Pulse width (ns)	≤1
	Energy Stability(rms)	≤3%
	Energy Regulation Step Accuracy	≤2%
	Beam mode (spatial beam output)	TEM <sub>00</sub>
	Full-angle divergence angle Typ. (Mrad) level @1/e <sup>2</sup>	≤2
	Vertical @1/e <sup>2</sup>	≤2
System parameters	Polarization characteristics	≥100:1
	Fiber parameters (fiber coupled output optional)	200μm/0.22NA
	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 (°C)	10-40
	Storage temperature (°C)	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.

