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# Maiman



## Maiman Laser Series Catalog

Tianjin Maiman Laser Technology Co.,Ltd



Superb Technology & Optimum Quality

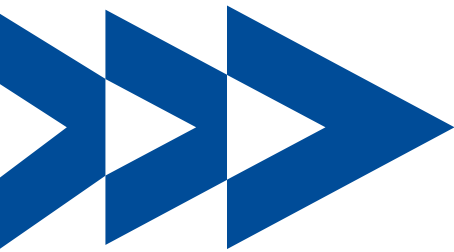
## Corporate values

Self-improvement, Professionalism Integrity

## Company positioning

A leader in laser micromachining industry of China,  
providing a full range of solutions from device-equipment-service  
to the global laser micromachining industry.

# CONTENTS



01. Company Profile
02. Development History
03. Technical Strength
04. Enterprise Qualification
05. Core Competitiveness
06. Products & Applications
07. Marketing & Service
08. Customers & Cases

## Company Profile

Founded in 2010, Tianjin Maiman Laser Technology Co., Ltd. is a leading manufacturer of industrial-grade solid-state lasers and a national high-tech enterprise.

"Superb technology, optimum quality", Maiman Laser has always been committed to the R&D, manufacturing and sales of high-performance and high-stability lasers. We take technological innovation as our core competitiveness, continuously improve our own technical reserves and technological innovation capabilities, and have obtained more than 60 patents by 2021. From infrared to deep ultraviolet, from nanosecond to femtosecond, from narrow linewidth to tunable, Maiman has in-depth theoretical research and productization experience. From theoretical analysis to device selection of lasers, from laser optical design to development of electronic control system, from mechanical structure design to production process optimization, we keep cautious and improving. With the awe of science and the persistence of technology, Maiman is doing a good job in every product in a down-to-earth manner.

Maiman Laser serves the global market, providing high-quality laser source products and solutions for integrated circuits, solar manufacturing, automotive industry, medical industry, consumer electronics, etc. By the end of 2021, Maiman has delivered more than 26,000 laser products in batches and served more than 2,000 customers to push the development of global enterprises.

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# 60<sup>+</sup>

60<sup>+</sup> Patented technology

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# 2000<sup>+</sup>

2,000<sup>+</sup> Global customers

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# 26000<sup>+</sup>

2,600<sup>+</sup> Cumulative sales

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Manufacturer of Industrial Grade Solid State Lasers



# Development History

## 2010

Tianjin Maiman Laser Technology Co., Ltd. was established.

## 2014

- Maiman's first 20W-class 1064nm active Q-switched end-pumped laser entered the market to meet the processing needs of light-transmitting products in the fields of automobiles and consumer electronics.

## 2017

- Won the honorary title of Tianjin Key New Product;
- The cumulative delivery quantity of lasers exceeded 10,000 sets.

## 2013

- Created a commercialized technical solution based on passive Q-switched laser technology internationally, and launched the 1064nm fiber end-pumped laser firstly in China, breaking the pattern that it is difficult for solid-state lasers to compete with fiber lasers. This product has laid a foundation for the rapid development of Maiman;
- More than 160 sets of lasers were sold.

## 2015

- Maiman entered the diamond processing industry and participated in the Munich Optoelectronics Exhibition in India for the first time, showing the 1064nm diamond planning laser;
- Launched the series of high-power 532nm active Q-switched green lasers and fiber type green lasers;
- Started the R&D of UV lasers to create a new technical route and product route;
- The cumulative delivery quantity of lasers exceeded 5000 sets.



## 2019

- Launched the UV laser with completely independent property rights and independent design in October after four and a half years of R&D, which became a milestone event for Maiman, created a new technical route, and solved the key technical problems perfectly such as laser power attenuation and low power;
- Signed a long-term cooperation agreement with Sanquan Foods to become the designated laser supplier;
- UV lasers entered the purchase lists of Master Kong and Mengniu;

## 2021

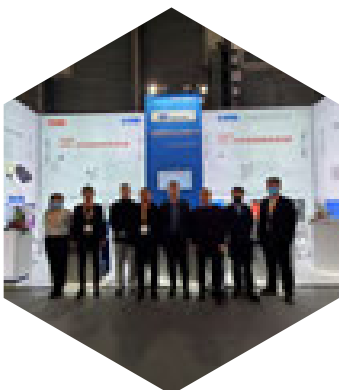
- Completed Series A financing;
- The cumulative quantity of laser products delivered reached 26,000 sets.

## 2018

- Won the title of National High-tech Enterprise and Tianjin High-tech Enterprise.

## 2020

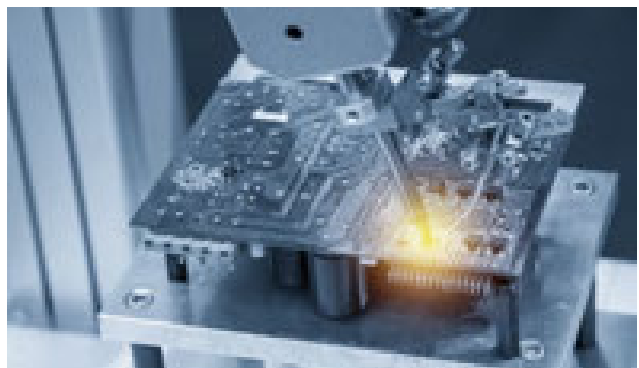
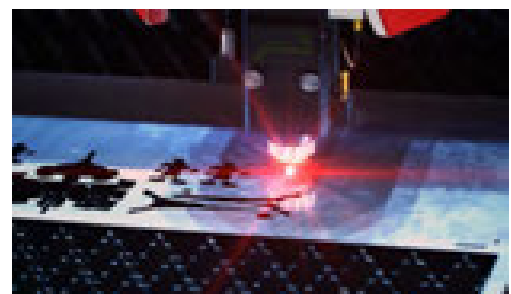
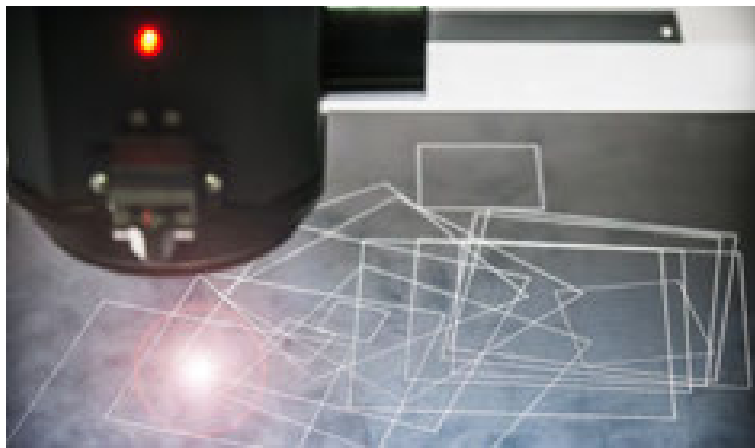
- Launched 27W UV laser products, the highest power level in China;
- Won the title of Tianjin Gazelle Enterprise.



## Technical Strength

Tianjin Maiman Laser Technology Co., Ltd. has always paid attention to talent construction and training. Academician Yao Jianquan of the Chinese Academy of Sciences is specially employed as the chief scientific and technological consultant. The leading members of the technical team are all graduated from Tianjin University with a doctorate degree, and have more than 15 years of practical experience in the field of laser, experienced in both research and practice. In addition, Maiman Laser maintains close cooperation with universities and scientific research institutions such as Tsinghua University, Peking University, Tianjin University, Changchun Institute of Optics and Mechanics, Beijing University of Technology, Changchun University of Technology, Tianjin University of Technology, etc. to provide continuous power for the company in terms of technology reserve, product R&D and technology expansion.

Maiman Laser attaches great importance to product R&D and technological innovation. A complete R&D management system and a high-standard R&D center have been built at the beginning of the company's establishment, which are responsible for the management of scientific research projects and laser product R&D. The company continuously explores and studies the technical issues involved in beam transmission, solid-state lasers, pulse lasers, fiber lasers, ultrafast lasers, optical devices, etc. and increases the scientific research investment year by year to support the independent innovation of the enterprise.





Since its establishment, Maiman has launched a number of high-tech original laser products, covering nanosecond and ultrafast lasers with a variety of wavelengths and pulse widths. With more than 60 patents, it has won the titles of national and Tianjin high-tech enterprises for many times, and has become the backbone of development and innovation in the laser industry of Tianjin and the whole country.



# Superb Technology & Optimum Quality



The patent certificate

Qualification certificate



# Core Competitiveness

Based on the global market, Tianjin Maiman Laser Technology Co., Ltd. takes the lead in introducing internationally advanced concepts of product design, manufacturing processes and quality control systems on the basis of independent R&D and technological innovation, so as to ensure the advancement and reliability of products. The sales and service network all over the country and around the world provides our customers with competitive laser products and professional and efficient overall services. In the fierce competition with international brands, Maiman has continuously innovated and made breakthroughs and enhanced its own R&D strength. In particular, the self-developed 355 nanosecond UV laser product series has gained the unanimous recognition from both domestic and international customers due to its unique patented technology and ultra-high cost performance, which has won Maiman a higher brand awareness and global influence. Thanks to the hard work of all employees and the support of all our customers, Maiman Laser is continuously creating more value for customers in more subdivided industries.

Multiple series of laser products independently developed and designed

Safe and reliable product quality

Overall laser solutions for various application fields

Perfect global service system



Original laser technology innovation and invention patent

Comprehensive development capability of optical, mechanical and electrical systems

High efficiency, environmental protection and batch laser production capacity

## Products & Applications

Tianjin Maiman Laser Technology Co., Ltd. provides multiple series of laser source products for the fields of industrial, medical, scientific research, etc. and also provides customized services. The wavelength ranges from infrared to deep ultraviolet, the pulse width ranges from nanoseconds to ultrafast, and the power ranges from milliwatt to hundred watt. The rich categories maximize to meet the needs of different customers.



### UV series laser

- Diamond series high power UV laser (15-30W)
- Stone series & Stone plus series UV lasers (3-12W)
- Mini UV laser (1-2W)



### Green series laser

- 532nm High power green laser (10-20W)
- 532nm High energy green laser (16-20W)
- 532nm Fiber green laser (5W)



### Infrared series laser

- 1064nm Active Q-switched laser (12-25W)
- 1064nm Cold light laser (5-10W)
- 1064nm High energy infrared laser (16-20W)
- Gem planning laser (1W)



### Customized products

- 266nm Deep UV laser (0.2-15W)
- PS ultrafast laser (1064 / 532 / 355, 10-70W)
- Hundred picosecond high power laser (1064 / 532 / 355, 10-40W)
- Mini high energy laser (1064 / 532 / 355, 0.5-5J)

Maiman Laser has rich industry solutions to help enterprises worry-free production!

Application field	UV series UV laser	Green series green laser	Infrared series infrared laser
FPC&PCB cutting	MMEPU-D-355-15 MMEPU-D-355-20 MMEPU-D-355-25	MMEPG-532-20 MMEPG-532-25	
Solar panel scribing	MMEPU-D-355-15 MMEPU-D-355-20	MMEPG-532-20 MMEPG-532-25	
Carbon material processing		MMEPG-532-16-HE MMEPG-532-20-HE	MMEPA-1064-16-HE MMEPA-1064-20-HE MMD-YAG-1064-1
Medical material Marking & Drilling	MMEPU-355Plus-3 MMEPU-355Plus-5 MMEPU-355Plus-8 MMEPU-355Plus-10 MMEPU-355Plus-12		
Translucent products marking			MMEPA-1064-12 MMEPA-1064-15 MMEPA-1064-20
Jade processing	MMEPU-355-10 MMEPU-355Plus-10 MMEPU-D-355-15 MMEPU-D-355-20		
Packaging material marking	MMEPU-355Plus-5 MMEPU-355-5	MMEPGF-532-5	
Chip scribing	MMEPU-D-355-15 MMEPU-D-355-20	MMEPG-532-20 MMEPG-532-25	
Glass internal engraving	MMEPU-355Plus-5 MMEPU-355-5		

# UV-diamond series high power UV laser



**15-30W**

The laser power

**UV-clean**

Patented technology

**20000hrs<sup>+</sup>**

The service life

## Introduction

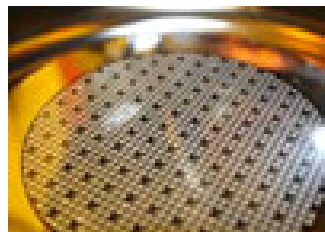
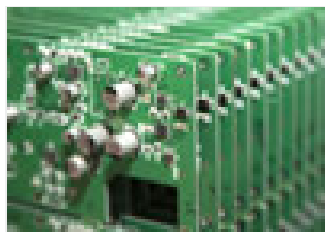
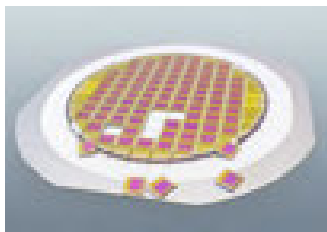
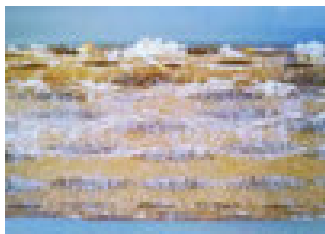
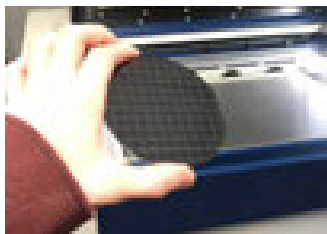
High power UV laser source effectively solves the problem of power attenuation, and has superior beam quality and pulse stability, worry-free used.

## Features

- The laser power 15-30W;
- Adopt UV-clean patented technology to solve power attenuation, worry-free used;
- The service life exceeds 20000 hours, maintenance free and regular commissioning is not required;
- Excellent beam quality  $M^2 < 1.1$ , simple process and higher efficiency;
- 3-layer protection, protection grade IP65, more suitable for harsh working environment;
- Rugged, easy to install and easy to integrate.

## Application

- Solar cell scribing
- PCB&FPC splitting and cutting
- Silicon wafer scribing
- Film cutting

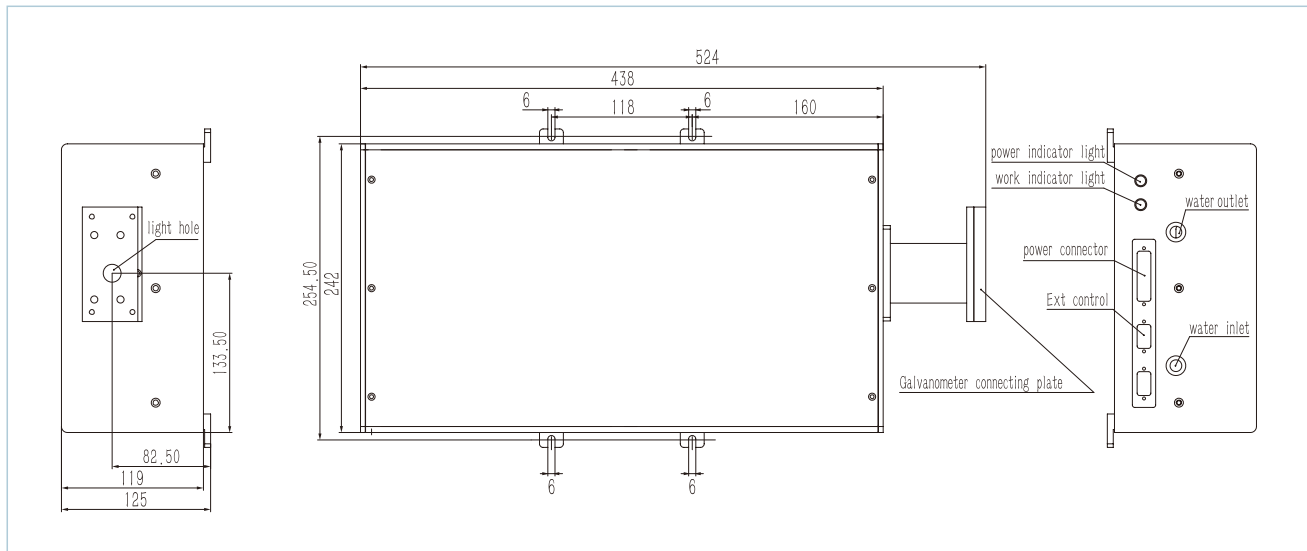




## Specifications

Model No.	MMEPU- D-355-15	MMEPU- D-355-18	MMEPU- D-355-20	MMEPU- D-355-25	MMEPU- D-355-30
<b>Optical Characteristics</b>					
Wavelength (nm)	355nm±1nm				
Average Power (W)	>15W@50kHz	>18W@50kHz	>20W@50kHz	>25W@50kHz	>30W@50kHz
Single Pulse Energy (uJ)	~300uJ@50kHz	~350uJ@50kHz	~400uJ@50kHz	~500uJ@50kHz	~600uJ@50kHz
Pulse Width (ns)	15ns@50kHz	12ns@50kHz	12ns@50kHz	12ns@50kHz	12ns@50kHz
Repetition Rate	50kHz-500kHz				
Pulse Stability	<3% rms				
Long Term Stability	<±3%				
<b>Beam Characteristics</b>					
Polarization Ratio	Horizontal;>100:1				
Beam Diameter	~1mm(at exit)/~6mm(6X beam divergence)				
Beam Circularity	>90%				
Spatial Mode	TEM <sub>00</sub> ,M <sup>2</sup> <1.1				
<b>Operating Specifications</b>					
Warm-up Time	<15 minutes from cold start				
Electrical Requirement	DC24V,500W				
Ambient Temperature	10-35°C, RH<80%				
Storage Conditions	-10-40°C, RH<90%				
<b>Physical Characteristics</b>					
Cooling System	Water-Cooled				
Water Temperature (laser inlet)	25°C				

## Dimensional Drawings



# UV-stone series & stone plus series UV lasers



**3-12W**

The laser power

**7x24<sup>h</sup>**

Meet 7\*24 hours of work

**20000hrs<sup>+</sup>**

The service life

## Introduction

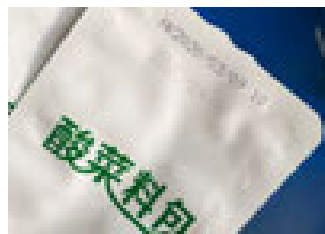
Stone series, with ultra-high cost performance, can meet 7\*24 hours manufacturing; Stone plus series, stronger performance, more adaptable to complex and harsh environments.

## Features

- The laser power 3-12W;
- Solve power attenuation and meet 7\*24 hours of work;
- The service life exceeds 20,000 hours, maintenance-free, no need for regular commissioning;
- All-in-one machine, directly installed with galvanometer, compatible with the rack of fiber laser marking machine;
- 3 layers of protection, protection grade IP65, more suitable for harsh working environment.

## Application

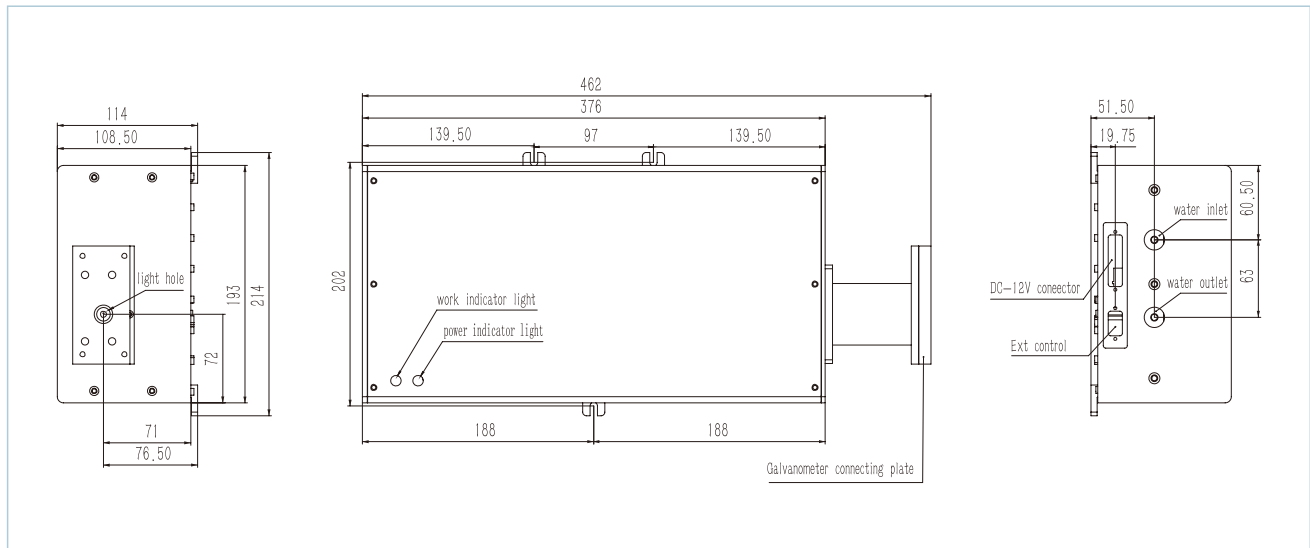
- Material marking - plastic, glass, metal molds, wood, packaging bags, jade, etc.
- Crystal internal engraving
- 3D printing
- Film cutting



## Specifications

Model No. -Stone Series	MMEPU-355-3	MMEPU-355-5	MMEPU-355-8	MMEPU-355-10	MMEPU-355-12
Model No.-Stone Plus Series	MMEPU-355Plus-3	MMEPU-355Plus-5	MMEPU-355Plus-8	MMEPU-355Plus-10	MMEPU-355Plus-12
<b>Optical Characteristics</b>					
Wavelength (nm)	355nm±1nm				
Average Power (W)	>3W@30kHz	>5W@30kHz	>8W@40kHz	>10W@40kHz	>12W@40kHz
Single Pulse Energy (uJ)	~100uJ@30kHz	~160uJ@30kHz	~200uJ@40kHz	~250uJ@40kHz	~300uJ@40kHz
Pulse Width (ns)	~15ns@30kHz		~15ns@40kHz		
Repetition Rate	20-500kHz		40-500kHz		
Pulse Stability	<3% rms				
Long Term Stability	<±3%				
<b>Beam Characteristics</b>					
Polarization Ratio	Horizontal;>100:1				
Beam Diameter	~0.8mm(at exit)/~5mm(6X beam divergence)				
Beam Circularity	>90%				
Spatial Mode	TEM <sub>00</sub> ,M <sup>2</sup> <1.3				
<b>Operating Specifications</b>					
Warm-up Time	<15 minutes from cold start				
Electrical Requirement	DC12V,350W			DC15V,350W	
Ambient Temperature	10-35°C, RH<80%				
Storage Conditions	-10-40°C, RH<90%				
<b>Physical Characteristics</b>					
Cooling System	Water-Cooled				
Water Temperature (laser inlet)	25°C				

## Dimensional Drawings



# UV series mini UV laser



**1-2W**  
The laser power

**7x24<sup>h</sup>**  
Meet 7\*24 hours of work

**20000hrs<sup>+</sup>**  
The service life

## Introduction

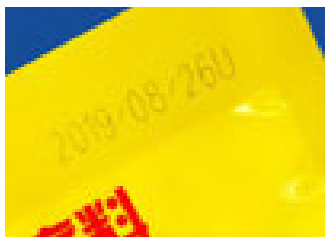
Small size, can be held up with one hand; the pulse width 6-8ns, ultra-high peak power perfectly to realize the appearance marking of electronic products.

## Features

- The laser power 1-2W;
- Solve power attenuation and meet 7\*24 hours of work;
- The service life exceeds 20,000 hours, maintenance-free, no need for regular commissioning;
- Split machine, laser head compatible with optical path of fiber laser;
- Air-cooled and easy to integrate.

## Application

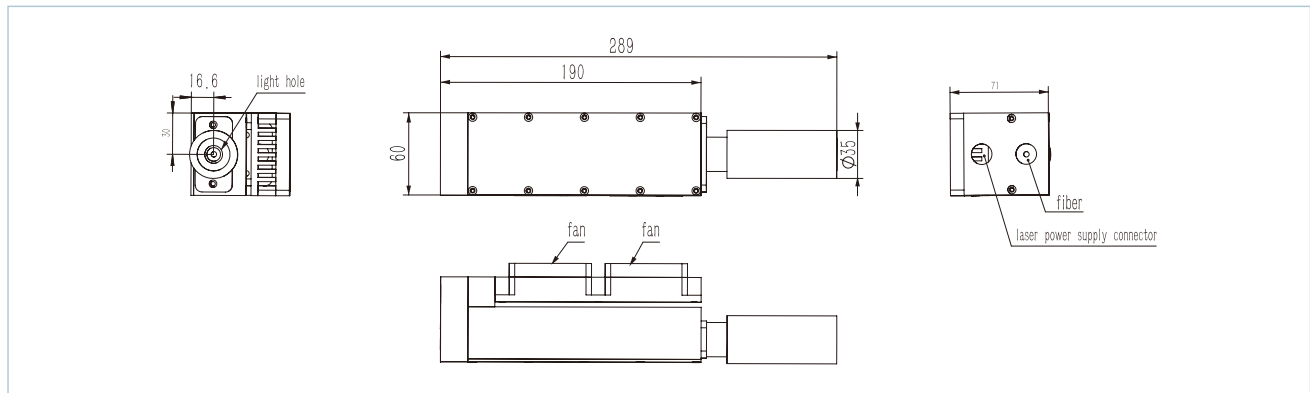
- Material marking - Packaging film, stones, electronic devices, 3C products, medical supplies, etc.



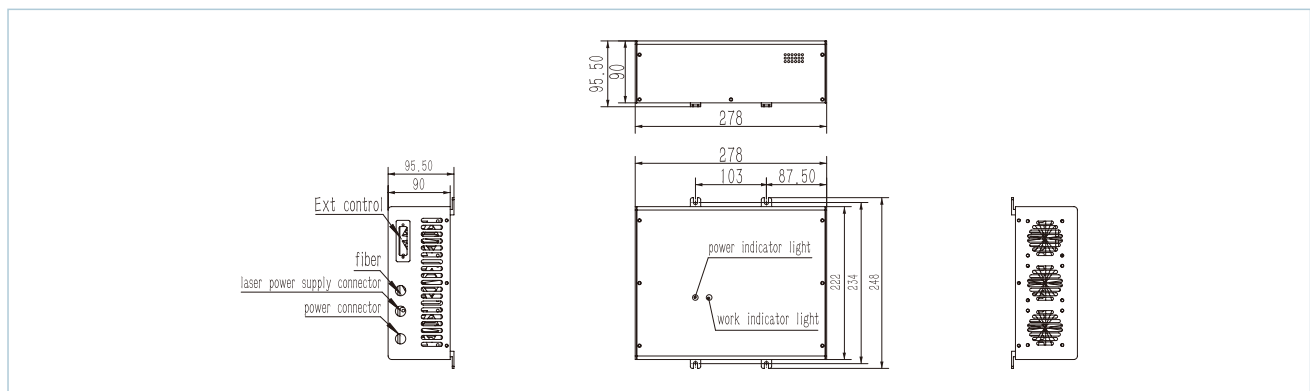
## Specifications

Model No.	MMEPU-D-355-1
<b>Optical Characteristics</b>	
Wavelength (nm)	355nm±1nm
Average Power (W)	>1W@20kHz
Single Pulse Energy (uJ)	~50uJ@20kHz
Pulse Width (ns)	~7ns@20kHz
Repetition Rate	Uncontrollable, range15-20kHz
Pulse Stability	<3% rms
Long Term Stability	<±3%
<b>Beam Characteristics</b>	
Polarization Ratio	Vertical;>100:1
Beam Diameter	7mm
Beam Circularity	>90%
Spatial Mode	TEM <sub>00</sub> , M <sup>2</sup> <1.2
<b>Operating Specifications</b>	
Warm-up Time	<15 minutes from cold start
Electrical Requirement	DC12V, >200W
Ambient Temperature	10-35°C, RH<80%
Storage Conditions	-10-40°C, RH<90%
<b>Physical Characteristics</b>	
Cooling System	Air-Cooled

## Dimensional Drawings



## Driver



# Green series 532nm high power green laser

**10-20W**

The laser power

**IP65**

Protection grade IP65

**20000hrs<sup>+</sup>**

The service life



## Introduction

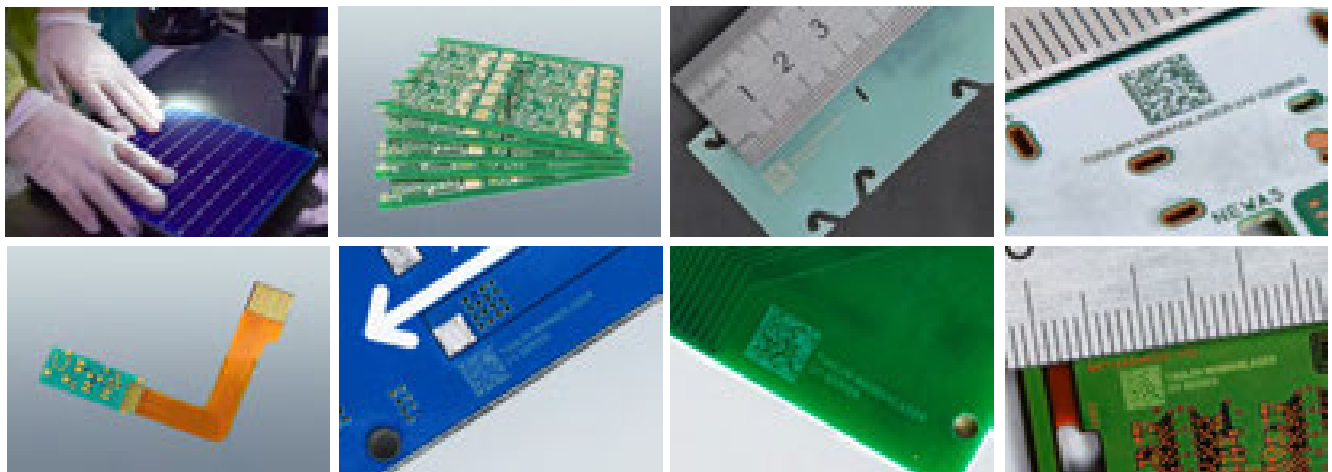
Superior beam quality and high laser power, capable of PCB&FPC cutting and marking easily, with more stable performance.

## Features

- The laser power 10-20W;
- Higher power stability to ensure the consistency of long-term processing;
- Superior beam quality, capable to provide a smaller focusing spot and higher processing efficiency;
- Water-cooled, 3-layer protective shell, protection grade IP65, suitable for harsh working environment;
- All-in-one structure, no need for regular commissioning, maintenance-free and easier to integrate;
- Ultra-high stability to meet 7\*24 hours of work, the service life exceeds 20,000 hours.

## Application

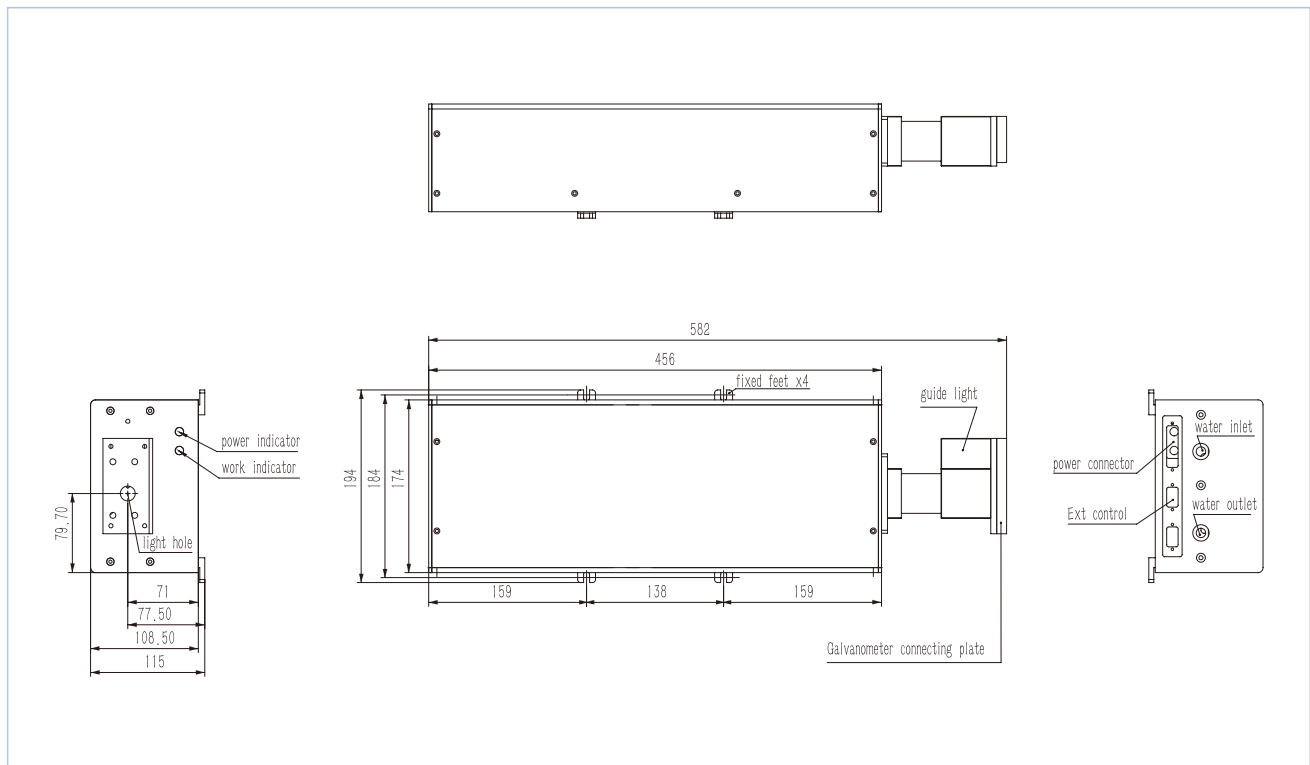
- Solar cell scribing
- Precision cutting
- PCB&FPC marking



## Specifications

Model No.	MMEPG-532-10	MMEPG-532-15	MMEPG-532-20
<b>Optical Characteristics</b>			
Wavelength (nm)		532nm	
Average Power (W)	>10W@40kHz	>15W@40kHz	>20W@40kHz
Single Pulse Energy (uJ)	~250uJ@40kHz	~370uJ@40kHz	~500uJ@40kHz
Pulse Width (ns)		~15ns@40kHz	
Repetition Rate		20kHz-500kHz	
Pulse Stability		<3% rms	
Long Term Stability		<±3%	
<b>Beam Characteristics</b>			
Polarization Ratio		Vertical;>100:1	
Beam Diameter		6mm(Built in beam expander)	
Beam Circularity		>90%	
Spatial Mode		TEM <sub>00</sub> , M <sup>2</sup> <1.2	
<b>Operating Specifications</b>			
Warm-up Time		<15 minutes from cold start	
Electrical Requirement		DC12V, 350W	
Ambient Temperature		10-35°C, RH<80%	
Storage Conditions		-10-40°C, RH<90%	
<b>Physical Characteristics</b>			
Cooling System		Water-Cooled	
Water Temperature (laser inlet)		25°C	

## Dimensional Drawings



# Green series 532nm high energy green laser



**16-20W**

The laser power

**IP65**

Protection grade IP65

**20000hrs<sup>+</sup>**

The service life

## Introduction

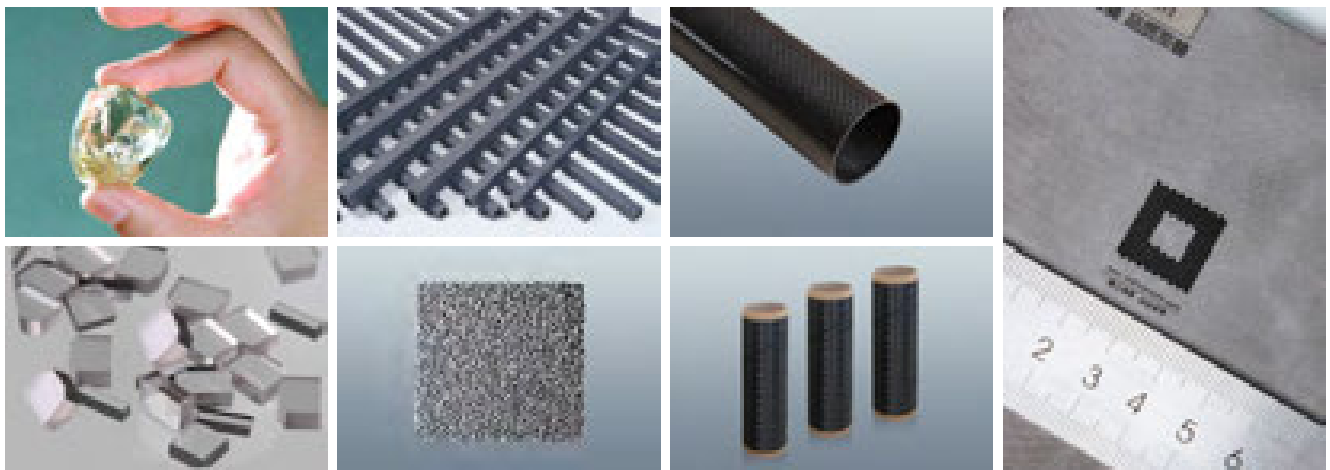
Maintenance-free, no need for regular commissioning, effectively solve power attenuation; long life which is far better than similar products.

## Features

- The laser power 16-20W;
- Patented technology to solve the power attenuation after long-term use;
- Compared with other brands, no need to adjust the optical path regularly, completely maintenance-free, with a service life >20000 hours;
- All-in-one machine, highly integrated, customers don't need to purchase additional accessories;
- Superior beam quality  $M^2 < 1.1$ , deeper cutting and better effect;
- 3 layers of protection, protection grade IP65, more suitable for harsh working environment.

## Application

- Carbon material cutting -  
Diamond, Silicon carbide,  
Carbon fiber, etc.
- Graphite engraving

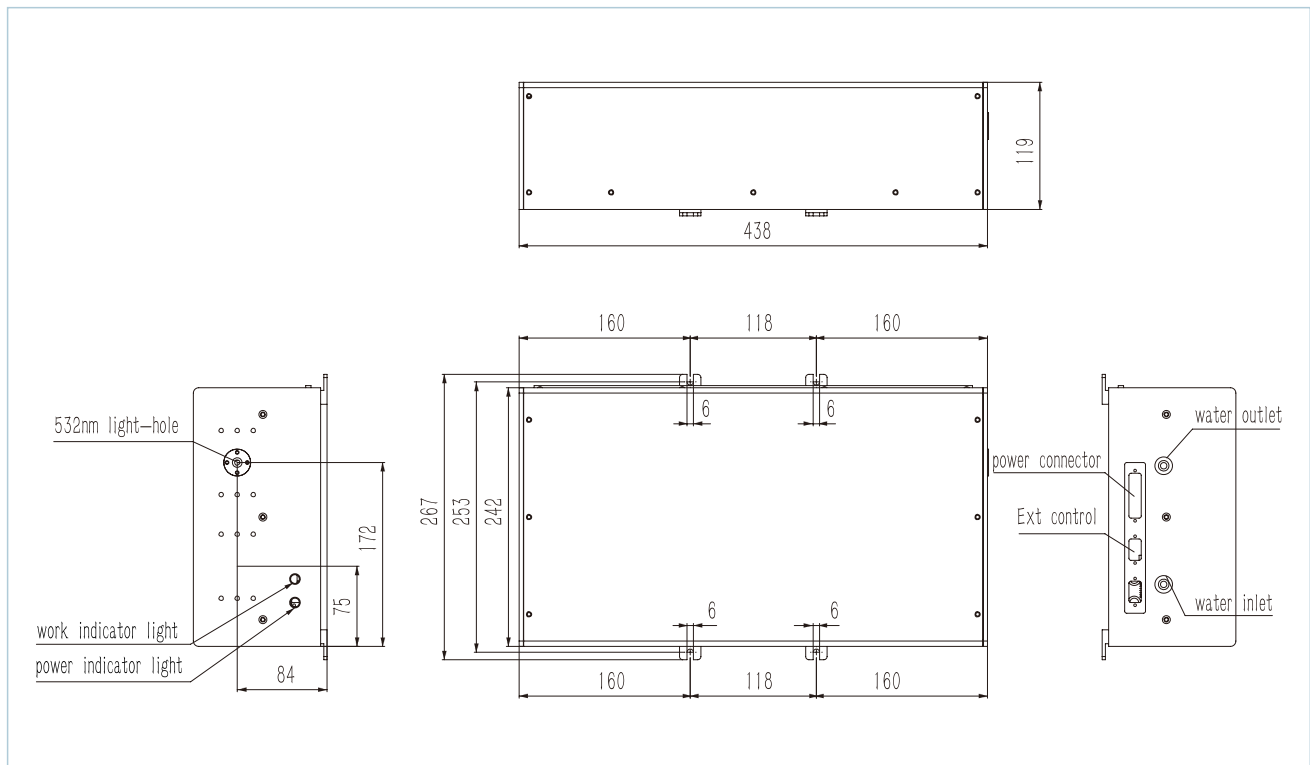




## Specifications

Model No.	MMEPG-532-16-HE	MMEPG-532-20-HE
<b>Optical Characteristics</b>		
Wavelength (nm)	532nm	
Average Power (W)	>16W@10kHz	>20W@10kHz
Single Pulse Energy (uJ)	~1600uJ@10kHz	~2000uJ@10kHz
Pulse Width (ns)	~22ns@10kHz	
Repetition Rate	7kHz-20kHz	
Pulse Stability	<3% rms	
Long Term Stability	<±3%	
<b>Beam Characteristics</b>		
Polarization Ratio	Vertical;>100:1	
Beam Diameter	~1mm(at exit)	
Beam Circularity	>90%	
Spatial Mode	TEM <sub>00</sub> , M <sup>2</sup> <1.1	
<b>Operating Specifications</b>		
Warm-up Time	<15 minutes from cold start	
Electrical Requirement	DC24V, 500W	
Ambient Temperature	10-35°C, RH<80%	
Storage Conditions	-10-40°C, RH<90%	
<b>Physical Characteristics</b>		
Cooling System	Water-Cooled	
Water Temperature (laser inlet)	25°C	

## Dimensional Drawings



# Green series 532nm fiber green laser



**4-5W**  
The laser power

**6-8ns**  
The pulse width maintains

**20000hrs<sup>+</sup>**  
The service life

## Introduction

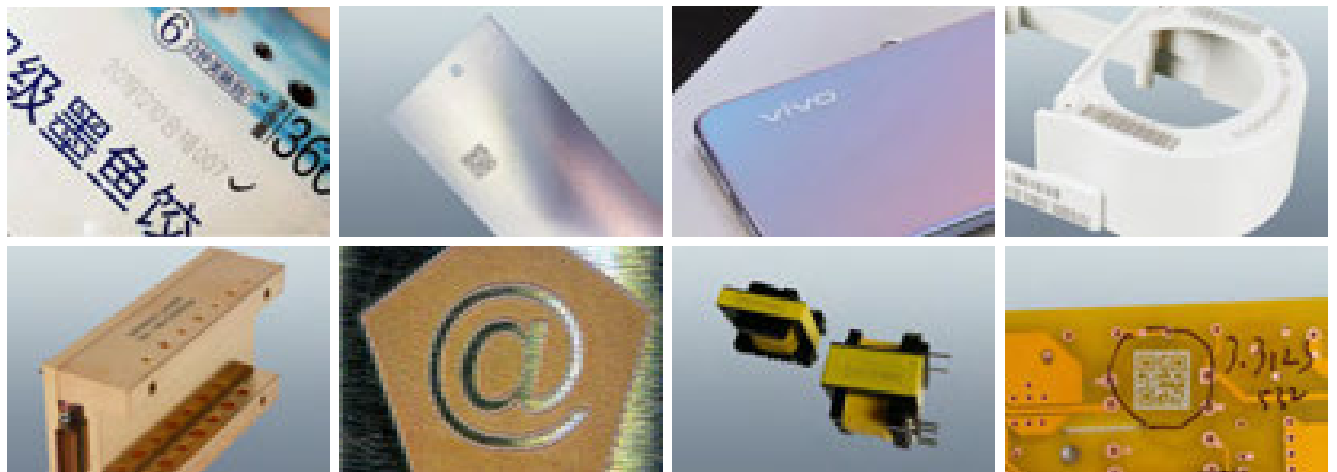
The repetition rate 20-30kHz, the pulse width maintains at 6-8ns, lower processing heat, higher peak power, better processing capacity.

## Features

- The laser power 4-5W;
- Narrow pulse width, low thermal effect of processing, not easy to cause scorch on the plastic surface;
- High peak power, strong processing ability, capable of processing more materials;
- Air-cooled structure, compact laser head, compatible with the optical path of fiber laser;
- Service life > 20000 hours.

## Application

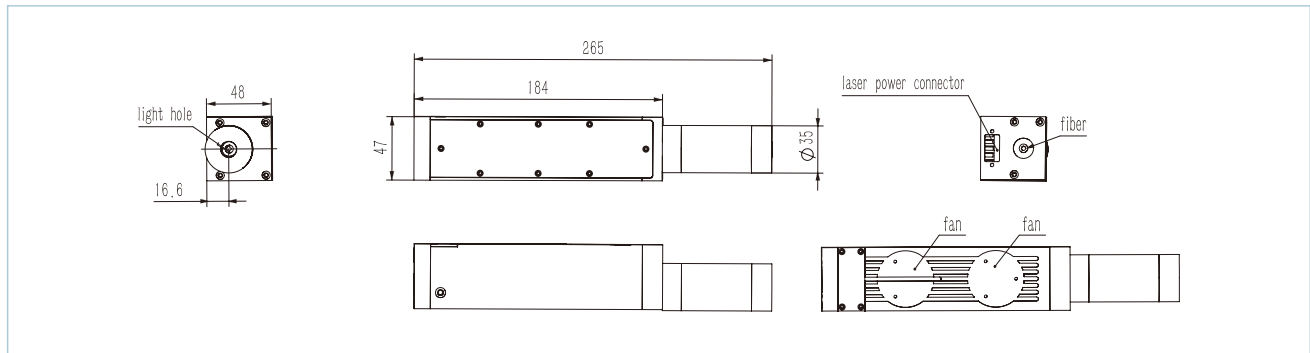
- Packaging films marking
- Gold-plated surface blackening treatment
- Metallic materials marking
- 3C product surface marking



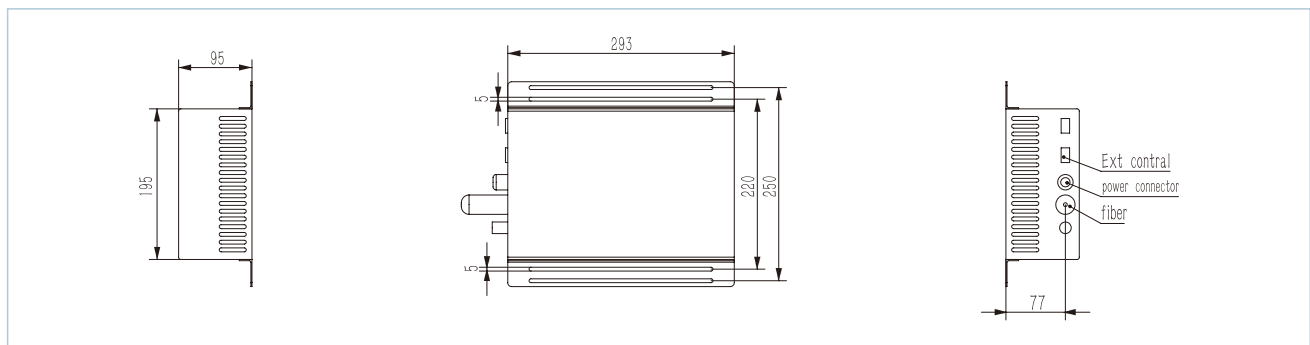
## Specifications

Model No.	MMEPGF-532-5L
<b>Optical Characteristics</b>	
Wavelength (nm)	532nm ± 1nm
Average Power (W)	5 ± 0.5W@20kHz
Single Pulse Energy (uJ)	200-250uJ@20kHz
Pulse Width (ns)	~7ns@20kHz
Repetition Rate	Uncontrollable, range 20-30kHz
Pulse Stability	<3% rms
Long Term Stability	<±3%
<b>Beam Characteristics</b>	
Polarization Ratio	linear;>100:1
Beam Diameter	6mm
Beam Circularity	>90%
Spatial Mode	TEM <sub>00</sub> , M <sup>2</sup> <1.2
<b>Operating Specifications</b>	
Warm-up Time	<15 minutes from cold start
Electrical Requirement	DC12V, >200W
Ambient Temperature	10-35°C, RH<80%
Storage Conditions	-10-40°C, RH<90%
<b>Physical Characteristics</b>	
Cooling System	Air-Cooled

## Dimensional Drawings



## Driver



# Infrared series 1064nm active Q-switched laser



**12-25W**

The laser power

**IP65**

Protection grade IP65

**20000hrs<sup>+</sup>**

The service life

## Introduction

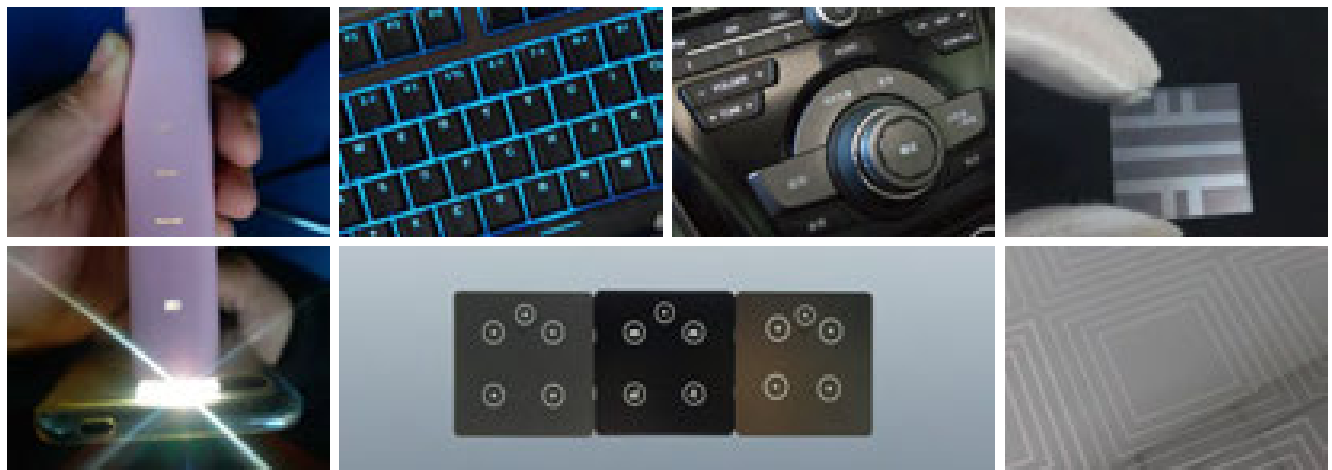
Newly upgraded all-in-one structure, water-cooled, with higher beam quality, power stability and pulse stability, easier to integrate, easy to deal with the marking of transparent products and the etching of ITO films.

## Features

- The laser power 12-25W;
- Water cooling, 3-layer protective shell, protection grade IP65, suitable for harsh working environment;
- Pulse width, power and frequency are all adjustable to meet different process requirements;
- All-in-one structure, easier to integrate and smaller in size;
- Ultra-high stability to meet 7\*24 hours of work, with a service life > 20,000 hours.

## Application

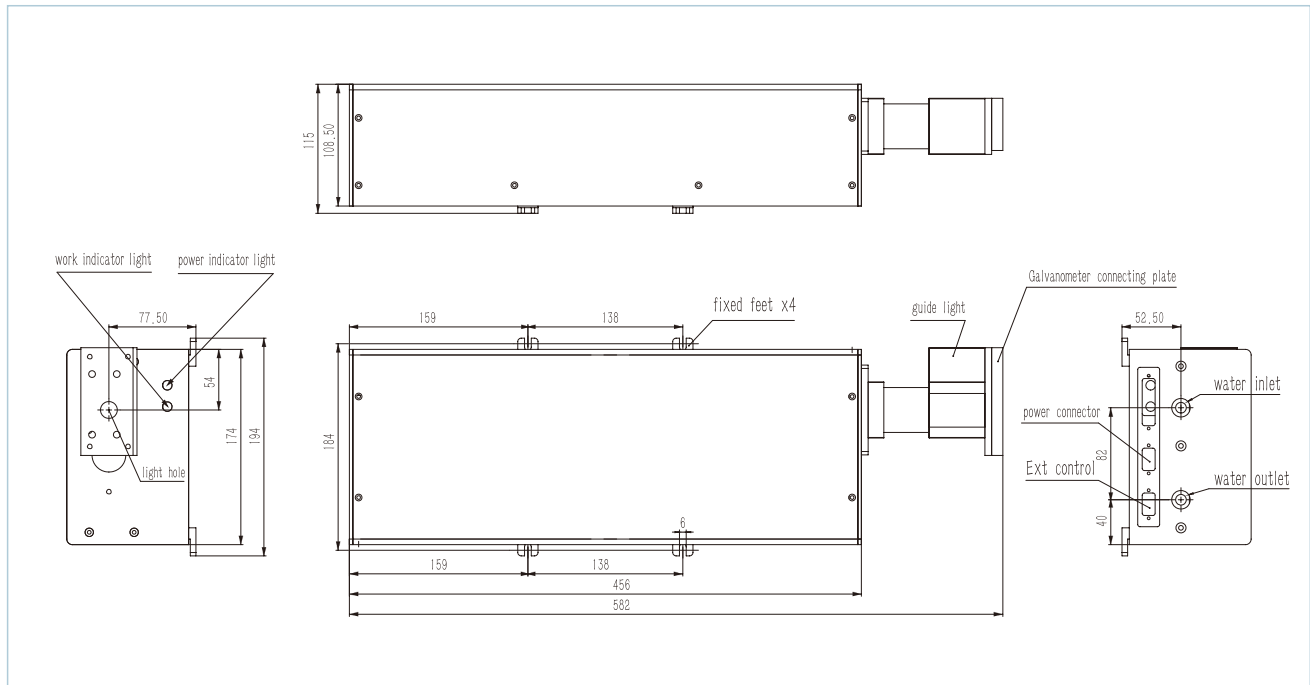
- Transparent key&button marking
- ITO film etching



## Specifications

Model No.	MMEPA-1064-12	MMEPA-1064-15	MMEPA-1064-20	MMEPA-1064-25
<b>Optical Characteristics</b>				
Wavelength (nm)	1064nm			
Average Power (W)	>12W@CW	>15W@CW	>20W@CW	>25W@CW
Single Pulse Energy (uJ)	~270uJ@40kHz	~330uJ@40kHz	~450uJ@40kHz	~550uJ@40kHz
Pulse Width (ns)	~16ns@40kHz			
Repetition Rate	20kHz-500kHz			
Pulse Stability	<3% rms			
Long Term Stability	<±3%			
<b>Beam Characteristics</b>				
Polarization Ratio	Horizontal;>100:1			
Beam Diameter	6mm(Built in beam expander)			
Beam Circularity	>90%			
Spatial Mode	TEM <sub>00</sub> , M <sup>2</sup> <1.2			
<b>Operating Specifications</b>				
Warm-up Time	<15 minutes from cold start			
Electrical Requirement	DC12V, 350W			
Ambient Temperature	10-35°C, RH<80%			
Storage Conditions	-10-40°C, RH<90%			
<b>Physical Characteristics</b>				
Cooling System	Water-Cooled			
Water Temperature (laser inlet)	25°C			

## Dimensional Drawings



# Infrared series 1064nm cold light laser



**5-10W**

The laser power

**>30kW**

The peak power

**20000hrs<sup>+</sup>**

The service life

## Introduction

The frequency 20-30kHz, the pulse width maintains at 6-8ns, lower processing heat and higher peak power can achieve alumina black marking easily, with stronger processing capacity.

## Features

- The laser power 5-10W;
- The pulse width 6-8ns, the processing heat is only 1/10 that of fiber laser, which will not cause plastic scorch;
- The peak power >30kW, which is 10 times that of fiber laser, the processing capacity is stronger;
- Anti-reflection function, easy to deal with high reflective materials such as gold, silver and copper;
- Ultra-high stability, with service life over 20,000 hours.

## Application

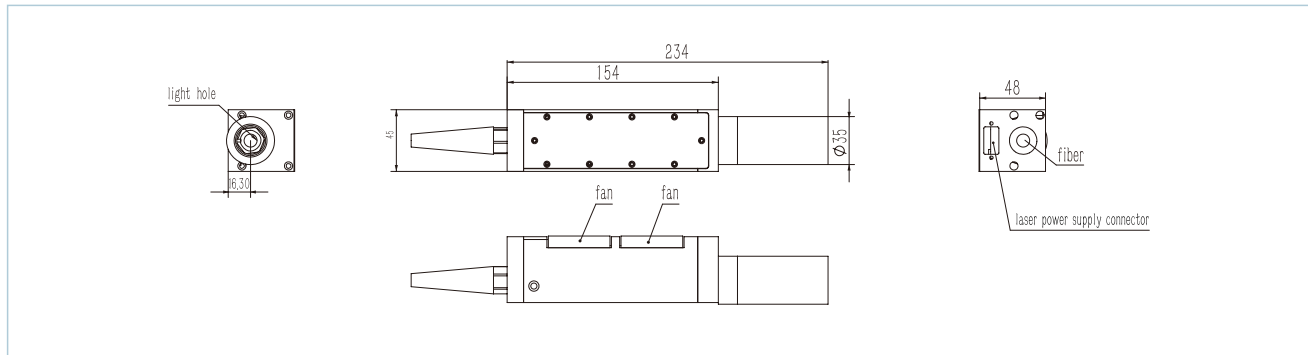
- Material marking - Auto parts, high reflective materials, plastic shell, etc.



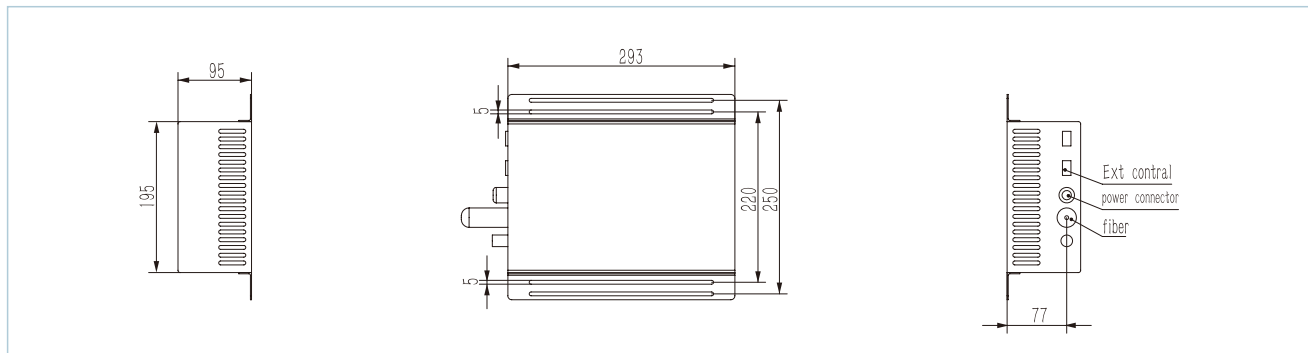
## Specifications

Model No.	MMEPF-1064-5	MMEPF-1064-8L	MMEPF-1064-8	MMEPF-1064-10
<b>Optical Characteristics</b>				
Wavelength (nm)	1064nm±1nm	1064nm±1nm	1064nm±1nm	1064nm±1nm
Average Power (W)	>5W@20kHz	>8±1W@20kHz	>8W@20kHz	>10W@20kHz
Single Pulse Energy (uJ)	~150uJ@20kHz	~400uJ@20kHz	~400uJ@20kHz	~500uJ@20kHz
Pulse Width (ns)	~7ns@20kHz			
Repetition Rate	Uncontrollable, range 20-30kHz			
Pulse Stability	<3% rms			
Long Term Stability	<±3%			
<b>Beam Characteristics</b>				
Polarization Ratio	Random polarization			
Beam Diameter	7mm			
Beam Circularity	>90%			
Spatial Mode	TEM <sub>00</sub> , M <sup>2</sup> <1.2			
<b>Operating Specifications</b>				
Warm-up Time	<15 minutes from cold start			
Electrical Requirement	DC12V, >200W			
Ambient Temperature	10-35°C, RH<80%			
Storage Conditions	-10-40°C, RH<90%			
<b>Physical Characteristics</b>				
Cooling System	Air-Cooled			

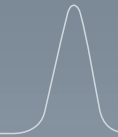
## Dimensional Drawings



## Driver



# Infrared series 1064nm high energy infrared laser



**16-20W**

The laser power

**IP65**

Protection grade IP65

**20000hrs<sup>+</sup>**

The service life

## Introduction

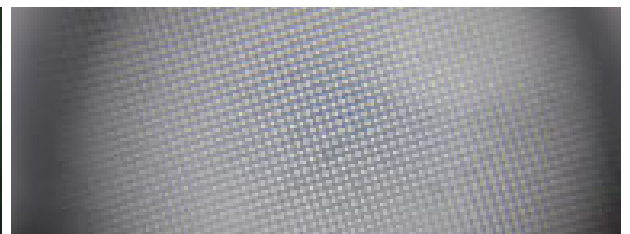
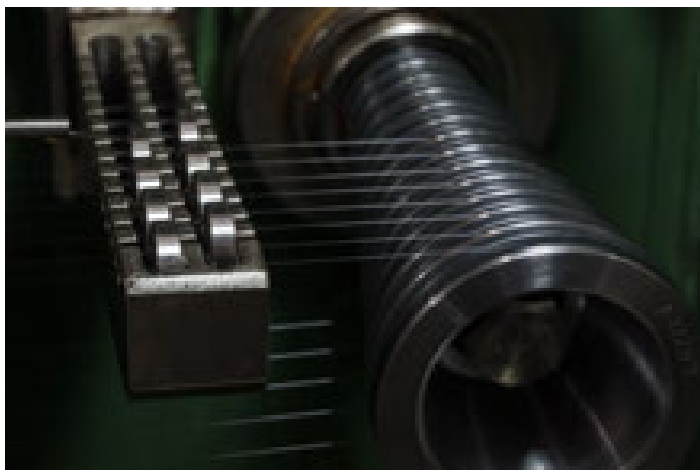
Effectively solve the problem of power attenuation, with a service life of more than 20,000 hours; superior beam quality enables deeper cutting depth and higher processing efficiency.

## Features

- The laser power 16-20W, single pulse energy>1mJ;
- Effectively solve the power attenuation, no need for regular commissioning, maintenance-free;
- Water-cooled, 3-layer protective shell, protection grade IP65, suitable for harsh working environment;
- All-in-one structure, easier to integrate;
- Ultra high stability, meeting 7 \* 24 hours of work, with a service life of more than 20000 hours.

## Application

- Drilling in brittle materials
- Carbon material cutting
- Laser trimming

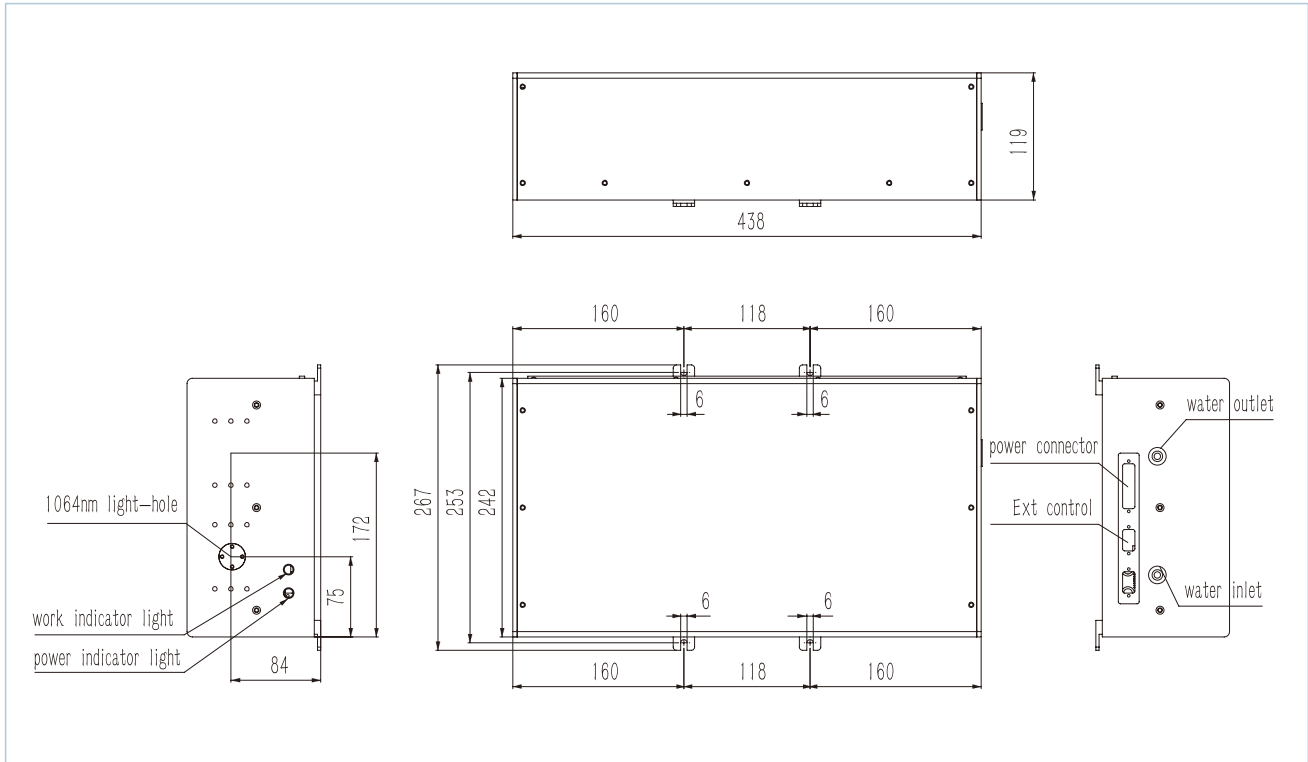




### Specifications

Model No.	MMEPA-1064-16-HE	MMEPA-1064-20-HE
<b>Optical Characteristics</b>		
Wavelength (nm)	1064nm	
Average Power (W)	>16W@10kHz	>20W@10kHz
Single Pulse Energy (uJ)	~1600uJ@10kHz	~2000uJ@10kHz
Pulse Width (ns)	~20ns@10kHz	
Repetition Rate	7kHz-20kHz	
Pulse Stability	<3% rms	
Long Term Stability	<±3%	
<b>Beam Characteristics</b>		
Polarization Ratio	Horizontal, >100:1	
Beam Diameter	~1mm(at exit)	
Beam Circularity	>90%	
Spatial Mode	TEM <sub>00</sub> , M <sup>2</sup> <1.3	
<b>Operating Specifications</b>		
Warm-up Time	<15 minutes from cold start	
Electrical Requirement	DC24V, 500W	
Ambient Temperature	10-35°C, RH<80%	
Storage Conditions	-10-40°C, RH<90%	
<b>Physical Characteristics</b>		
Cooling System	Water-Cooled	
Water Temperature (laser inlet)	25°C	

### Dimensional Drawings



# Infrared series gem planning laser



**1W**

The laser power

**<20um**

Minimum laser spot

**20000hrs<sup>+</sup>**

The service life

## Introduction

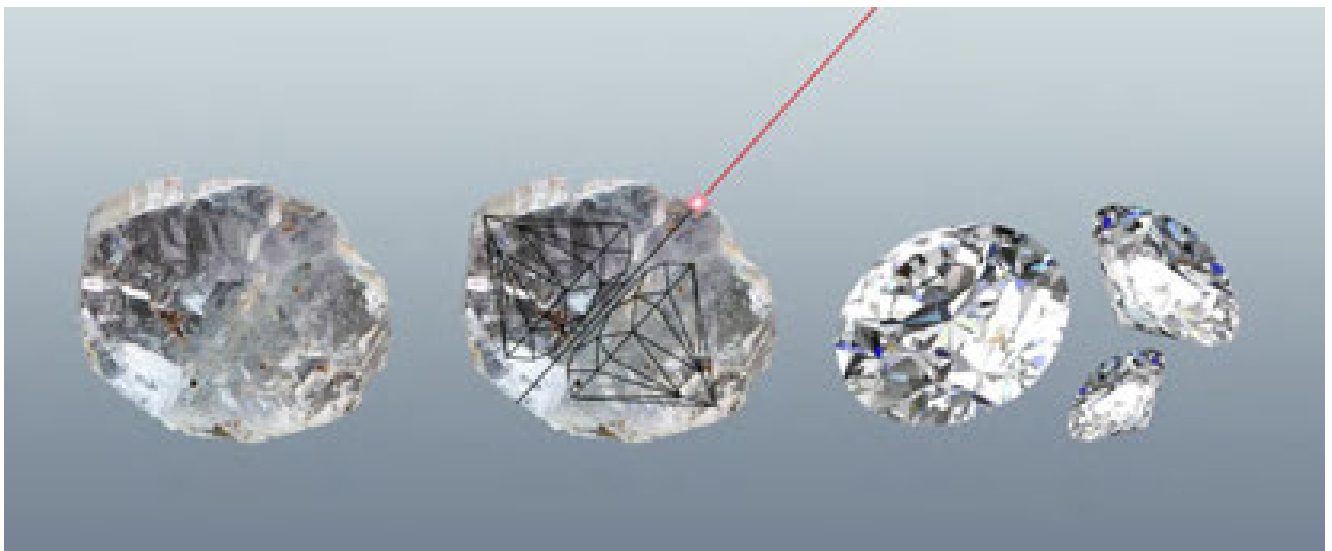
Superior beam quality and peak power ensure to achieve clear and shallow marks on the diamond and minimize the damage to the diamond.

## Features

- The laser power 1W;
- Dual mode laser emission-parallel laser mode and focusing laser mode, to meet the needs of different planning machines;
- Superior beam quality, minimum laser spot <20um;
- High-precision temperature control to ensure long-term stable operation of the laser;
- Service life over 20000 hours.

## Application

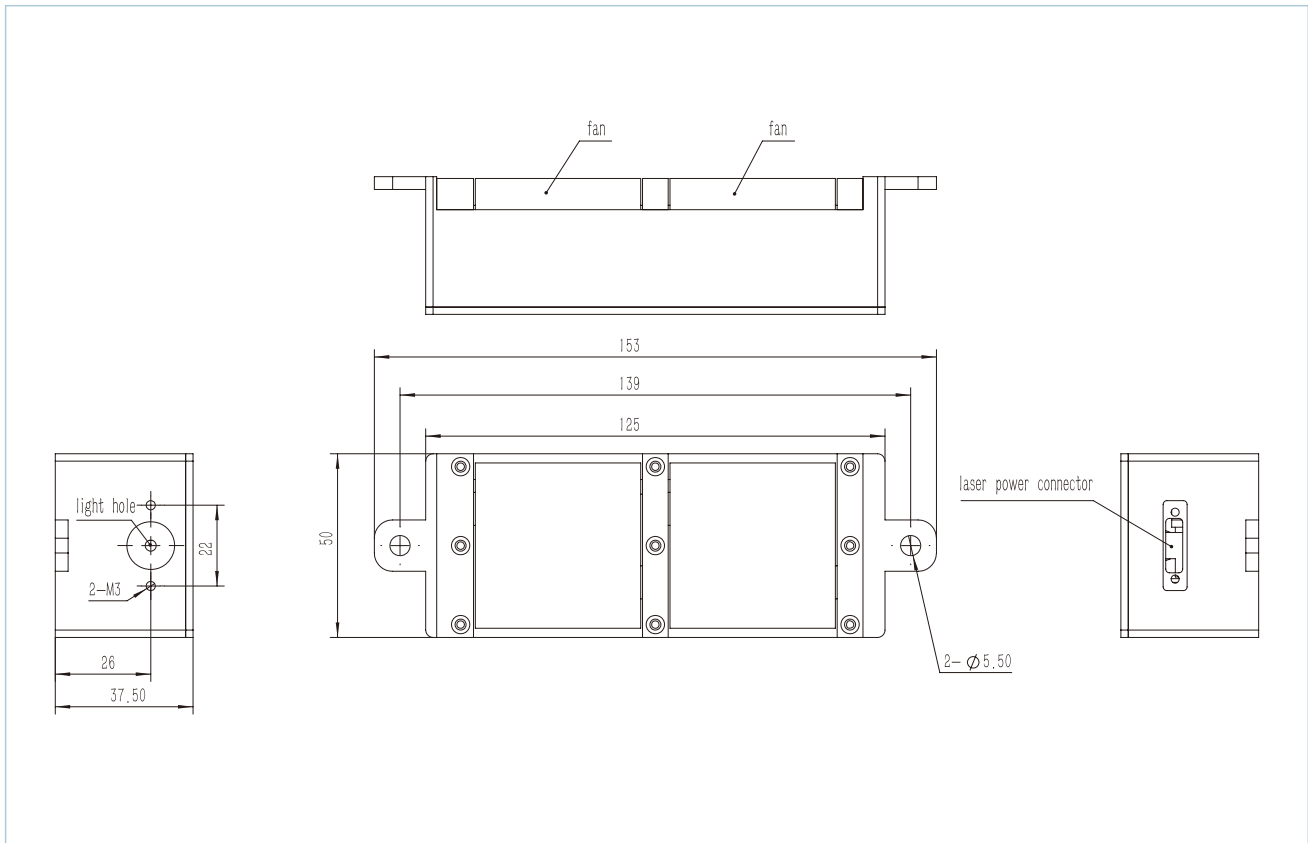
- Gem planning



## Specifications

Model No.	MMD-YAG-1064-1
<b>Optical Characteristics</b>	
Wavelength (nm)	1064nm±1nm
Average Power (W)	>1W@12kHz
Single Pulse Energy (uJ)	~30uJ@12kHz
Pulse Width (ns)	~12ns@12kHz
Repetition Rate	~12kHz
Pulse Stability	<3% rms
Long Term Stability	<±3%
<b>Beam Characteristics</b>	
Polarization Ratio	Random polarization
Beam Diameter	7mm
Beam Circularity	>90%
Spatial Mode	TEM <sub>00</sub> , M <sup>2</sup> <1.2
<b>Operating Specifications</b>	
Warm-up Time	<15 minutes from cold start
Electrical Requirement	AC220V/50Hz
Ambient Temperature	10-35°C, RH<80%
Storage Conditions	-10-40°C, RH<90%
<b>Physical Characteristics</b>	
Cooling System	Air-Cooled

## Dimensional Drawings



## Layout Domestic And International Markets

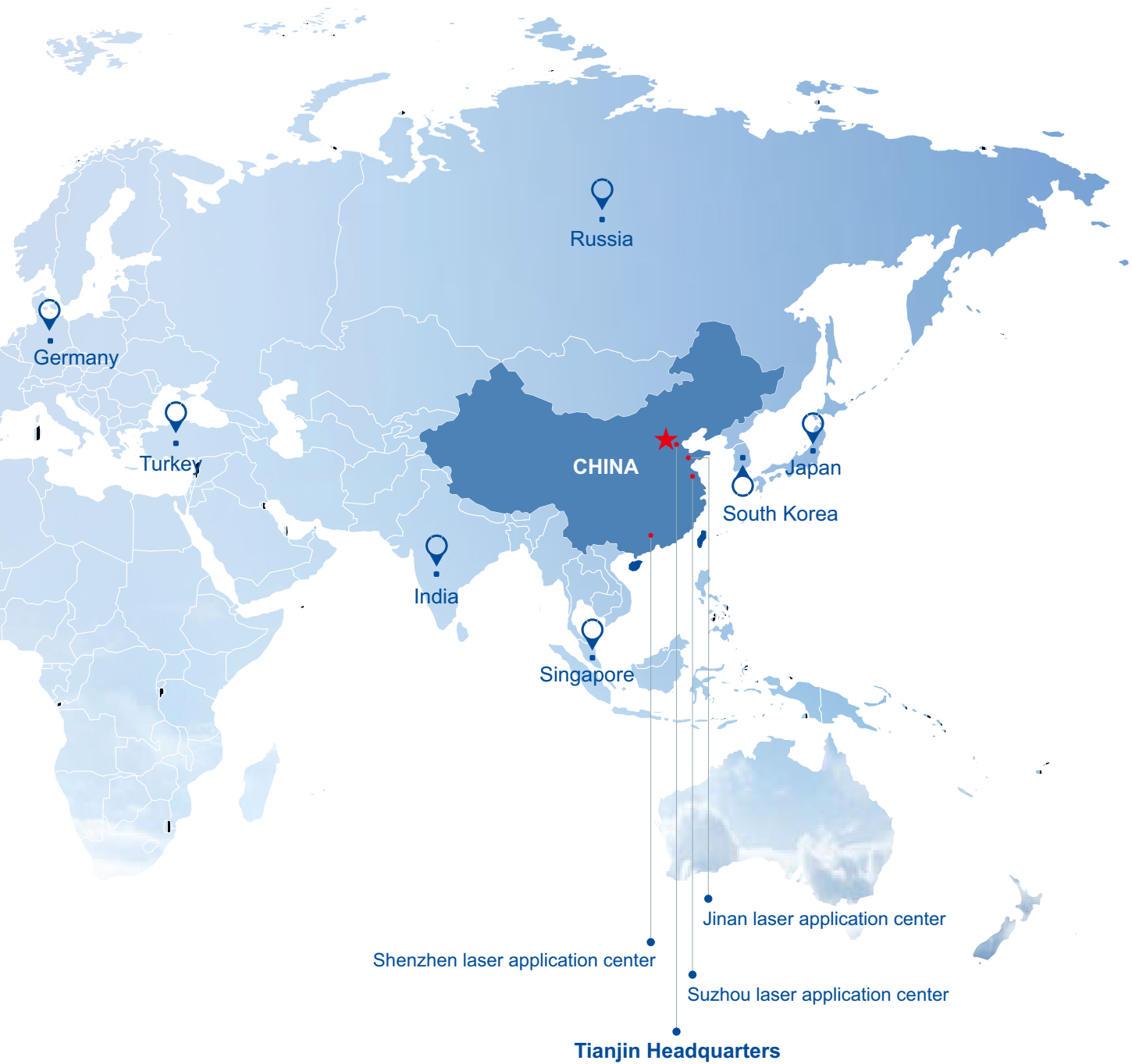


365 day 24-hour full-time guarantee service

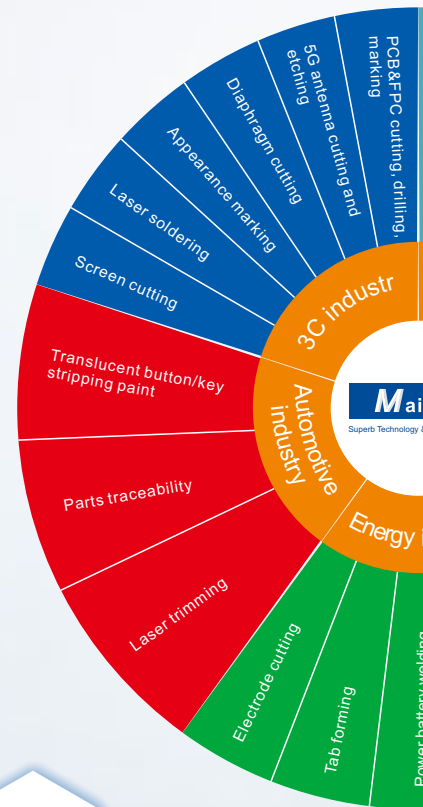
Based on the global market and adhering to the service concept of "professional, timely, efficient and high-quality", Maiman Laser has established a number of professional and efficient service teams in domestic and overseas markets, so as to provide customers with better process testing, sales service, after-sales support and other related services.

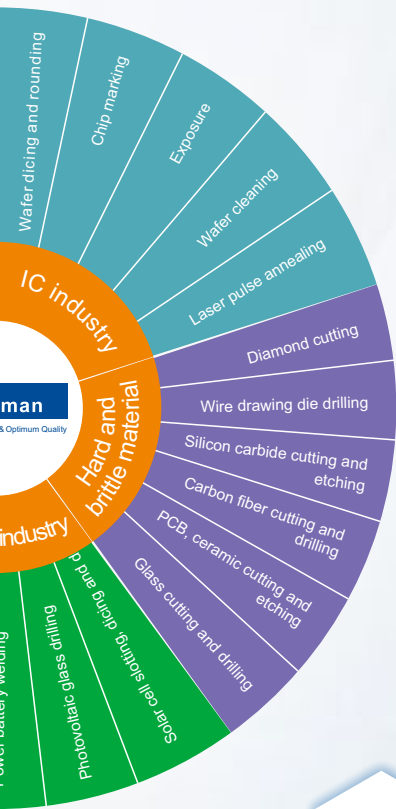
365 day 24-hour full-time guarantee service, to summarize, analyze and solve problems encountered by customers quickly. Through regular theoretical and practical training services, customers can master the ability to troubleshoot and repair basic product failures, and quickly meet the needs of users. At the same time, focus on strengthening overseas service layout, optimize regional layout, improve service capabilities, and build a global service system through cooperation with local distributors and establishment of service sites independently.

## and Build International Influence



2000<sup>+</sup>  
Global customers





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