

STR Series Pulsed Fiber Lasers

STR series pulsed fiber laser is a compact module up to 100W output power with fiber delivery through a near diffraction limited beam. The excellent beam quality and power stability make this series laser a multipurpose tool with cost effective performance and maintenance free operation.

Features:

- >High efficiency
- >Good beam quality
- >Compact rugged package
- >Maintenance free operation

Applications:

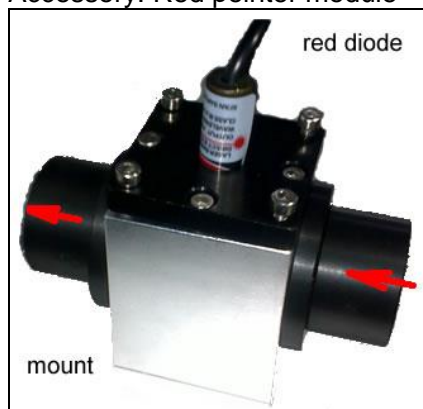
- >Marking
- >Engraving
- >Micromachining
- >Precision drilling
- >Welding
- >Cutting



Technical specifications:

Model	STR-P10	STR-P20	STR-P30	STR-P50	STR-P100
Central Emission wavelength (nm)	1060-1085	1060-1085	1060-1085	1060-1085	1060-1085
Polarization	Random	Random	Random	Random	Random
Nominal average output power (W)	10	20	30	50	100
Pulse energy (mJ)	0.5@20kHz	1.0@20kHz	1.0@20kHz	1.0@20kHz	2.0@20kHz
Pulse repetition rate (kHz)	20-80	20-80	30-80	50-100	50-100
Pulse width (ns)	90@20kHz	120@20kHz	120@30kHz	120@50kHz	200@50kHz
Typical beam quality (M^2)	<1.5	<1.5	<1.5	<1.8	<2.0
Collimated beam diameter (mm)	6-8	6-8	6-8	6-8	6-8
Output power tunability (%)	10-100	10-100	10-100	10-100	10-100
Long term power stability (8hrs)	<3%	<3%	<3%	<3%	<3%
Length of beam delivery fiber (m)	2.0	2.0	2.0	2.0	2.0
Operating voltage	24VDC	24VDC	24VDC	24VDC	220VAC
Typical power consumption (W)	80	150	250	350	500
Cooling	Air	Air	Air	Air	Air
Operating temperature ($^{\circ}\text{C}$)	0-45	0-45	0-45	0-45	0-45
Dimension WxDxH (mm)	260x391x120	260x391x120	260x391x120	484x490x185	484x490x185

Accessory: Red pointer module





STR Series Single Mode CW Fiber Lasers

STR series low power single mode CW fiber laser is a compact module up to 50W output power with fiber delivery through a near diffraction limited beam. The excellent beam quality and power stability make this laser a multipurpose tool with cost effective performance and maintenance free operation.

Features:

- > High efficiency
- > Excellent beam quality
- > Compact air-cooled package
- > Maintenance free operation

Applications:

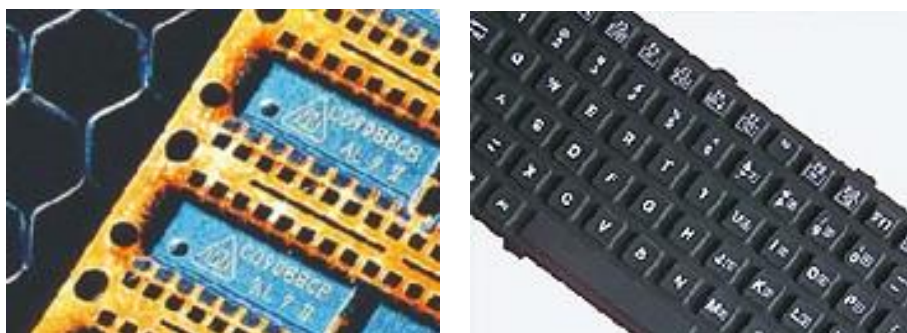
- > Marking
- > Engraving
- > Micromachining



Technical specifications:

Model	STR-C5	STR-C10	STR-C20	STR-C50
Mode of operation	CW	CW	CW	CW/Modulated
Central Emission wavelength (nm)	1060-1085	1060-1085	1060-1085	1060-1085
Polarization	Random	Random	Random	Random
Nominal output power (W)	5	10	20	50
Max. modulation frequency (kHz)	NA	NA	NA	50
Beam quality (M^2)	<1.05	<1.05	<1.05	<1.1
Collimated beam diameter (mm)	3-7	3-7	3-7	3-7
Output power tunability (%)	10-100	10-100	10-100	10-100
Long term power stability (8hrs)	<3%	<3%	<3%	<3%
Length of beam delivery fiber (m)	2	2	2	5
Operating voltage	24VDC	24VDC	220VAC	220VAC
Power consumption (W)	35	55	100	250
Cooling	Air	Air	Air	Air
Operating temperature ($^{\circ}\text{C}$)	0-45	0-45	0-45	0-45
Dimension WxDxH (mm)	146x230x42	146x230x42	215x304x105	450x650x246





STR Series Single Mode CW Fiber Lasers

STR series high power single mode CW fiber laser is up to 500W output power with fiber delivery through a near diffraction limited beam. The excellent beam quality and power stability make this series laser a multipurpose tool with cost effective performance and maintenance free operation.

Features:

- > High efficiency
- > Excellent beam quality
- > Collimated output
- > Maintenance free operation

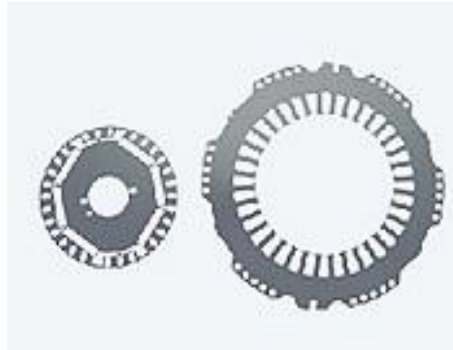
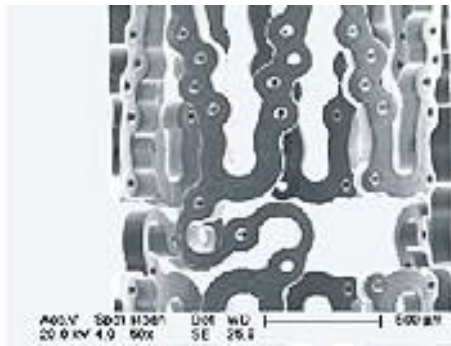
Applications:

- > Micromachining
- > Cutting
- > Welding
- > Drilling
- > Printing



Technical specifications:

Model	STR-C100	STR-C200	STR-C300	STR-C400	STR-C500
Mode of operation	CW/Modulated	CW/Modulated	CW/Modulated	CW/Modulated	CW/Modulated
Central Emission wavelength (nm)	1060-1085	1060-1085	1060-1085	1060-1085	1060-1085
Polarization	Random	Random	Random	Random	Random
Nominal output power (W)	100	200	300	400	500
Max. modulation frequency (kHz)	50	50	50	50	50
Beam quality (M^2)	<1.1	<1.1	<1.1	<1.1	<1.1
Collimated beam diameter (mm)	3-7	3-7	3-7	3-7	3-7
Output power tunability (%)	10-100	10-100	10-100	10-100	10-100
Long term power stability (8hrs)	<2%	<2%	<2%	<2%	<2%
Length of beam delivery fiber (m)	5-10	5-10	5-10	5-10	5-10
Operating voltage (VAC)	220	220	220	220	220
Typical power consumption (W)	500	900	1200	1600	2000
Cooling	Air	Air /Water	Water	Water	Water
Operating temperature (°C)	0-40	10-40	10-40	10-40	10-40
Dimension WxDxH (mm)	450x650x246	450x650x246	450x650x246	450x650x246	450x650x246



Frequent Q&A for STR Series Lasers

1. What are the advantages of Fiber Laser?

We have pulsed and CW fiber lasers. The main features are:

- > High efficiency
- > Excellent beam quality
- > Collimated output
- > Maintenance free operation

2. What are the main applications?

The average power of pulsed lasers is from 10 to 100W, the applications are:

- > Marking
- > Engraving
- > Micromachining

While CW laser with 100W or higher, which are capable of:

- > Micromachining
- > Cutting
- > Welding
- > Drilling
- > Printing

3. What are the specs of fiber laser?

The main specs of STR series pulsed fiber lasers are:

Model	STR-P10	STR-P20	STR-P30	STR-P50	STR-P100
Central Emission wavelength (nm)	1060-1085	1060-1085	1060-1085	1060-1085	1060-1085
Polarization	Random	Random	Random	Random	Random
Nominal average output power (W)	10	20	30	50	100
Pulse energy (mJ)	0.5@20kHz	1.0@20kHz	1.0@20kHz	1.0@20kHz	2.0@20kHz
Pulse repetition rate (kHz)	20-80	20-80	30-80	50-100	50-100
Pulse width (ns)	90@20kHz	120@20kHz	120@30kHz	120@50kHz	200@50kHz
Typical beam quality (M^2)	<1.5	<1.5	<1.5	<1.8	<2.0
Collimated beam diameter (mm)	6-8	6-8	6-8	6-8	6-8
Output power tunability (%)	10-100	10-100	10-100	10-100	10-100
Long term power stability (8hrs)	<3%	<3%	<3%	<3%	<3%
Length of beam delivery fiber (m)	2.0	2.0	2.0	2.0	2.0
Operating voltage	24VDC	24VDC	24VDC	24VDC	220VAC
Typical power consumption (W)	80	150	250	350	500
Cooling	Air	Air	Air	Air	Air
Operating temperature (°C)	0-45	0-45	0-45	0-45	0-45
Dimension WxDxH (mm)	260x391x120	260x391x120	260x391x120	484x490x185	484x490x185

4. How long is the delivery fiber?

The standard fiber length for pulsed and lower power CW fiber laser is 2m, high power CW fiber laser is 5 or 10m. However the delivery fiber length can be customized upon request.

5. Is the laser operating in single mode or multimode?

We have both single mode and multimode fiber, but the output beam is single mode.

6. How does the STR series fiber laser monitor the laser power?

We have an optical power meter inside the laser to monitor the laser output power for CW versions; the measuring result is internal, accurate and stable.

7. Any power loss when the delivery fiber is bent?

The flexible delivery is the most important feature of fiber laser, there is no power loss unless the fiber bending exceeds the max bending radius. The minimum bending radius is 10cm.

8. Does STR Fiber laser have FPS feature (First Pulse Suppression)?

We don't have FPS feature.

9. What is MOPA technology?

Master oscillator power amplifier (MOPA) technology offers improved processing over traditional Q-switched systems because a single laser is used to create pulse widths from 10 to 200ns with a sharp rise and fall, and a repetition rate from 1Hz to 500 KHz. The same laser can also be used in continuous wave mode.

10. Does STR fiber laser have leakage of laser? If so, how much leakage? If not, what is condition?

The leakage power is 30- 50mW. If you don't want the leakage, we can make for you.

11. What diode and fiber is STR fiber laser using?

Our diode is JDSU; the fiber is made in Europe and North America.

12. Does STR fiber laser come with red pointer?

We don't have red pointer. But we can add the red beam outside the laser.

13. What is lead time for delivery and warranty period?

Standard products need 10 work days but we may have stock usually. The warranty period is 1 year, which can be extended upon request.

STM Series Pulsed Fiber Lasers

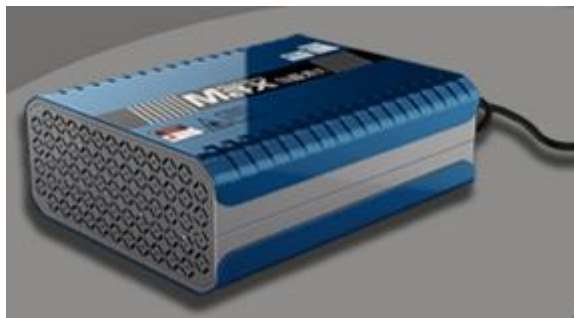
STM series pulsed fiber laser comes in a compact module up to 100W output power with fiber delivery through a near diffraction limited beam. The excellent beam quality and power stability make this series laser a multipurpose tool with cost effective performance and maintenance free operation.

Features:

- >High efficiency
- >Good beam quality
- >Compact rugged package
- >Maintenance free operation
- >Repetition Rate: 20kHz to 80kHz

Applications:

- >Marking
- >Engraving
- >Micromachining
- >Precision drilling
- >Welding
- >Cutting



Parameters	Unit	Date	Date	Date	Date	Date	Date
Type		STM-P5	STM-P10	STM-P20	STM-P30	STM-P50	STM-P100
Central Emission Wavelength	nm	1064±4	1064±4	1064±4	1064±4	1064±4	1064±4
Polarization		Random	Random	Random	Random	Random	Random
Nominal output power	w	5	10	20	30	50	100
Single Pulse Energy	mJ	0.5 ~ 0.6	0.5 ~ 0.6	0.8 ~ 1.0	0.8 ~ 1.0	0.8 ~ 1.0	0.8 ~ 1.0
Beam Quality	m ²	<1.4	<1.4	<1.8	<1.8	<2.0	<2.0
Beam Diameter	mm	6~8	6~8	6~9	6~9	6~9	6~9
Output Power Stability	%	<5	<5	<5	<5	<5	<5
Pulse Width	ns	80 ~ 140	80 ~ 140	80 ~ 140	80 ~ 140	100 ~ 140	100 ~ 160
Output Power Tunability	%	5 ~ 100	5 ~ 100	5 ~ 100	5 ~ 100	5 ~ 100	5 ~ 100
Operation Voltage	VDC	24	24	24	24	24	220VAC
Power Consumption	W(20°C)	80	120	170	190	200	400
Fiber Length	m	1.9/2.5/3	1.9/2.5/3	1.9/2.5/3	1.9/2.5/3	1.9/2.5/3	1.9/2.5/3
Cooling		Air Cooling	Air Cooling	Air Cooling	Air Cooling	Air Cooling	Water Cooling

STM Series MOPA Pulsed Fiber Lasers

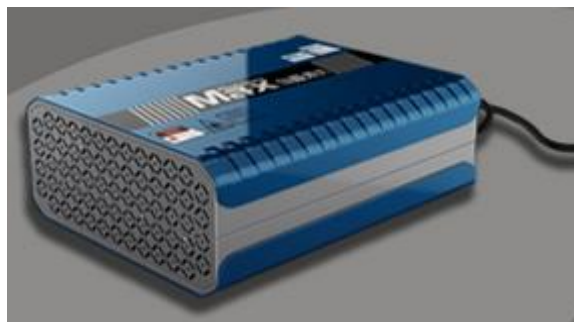
STM series MOPA pulsed fiber laser is based on a MOPA design allowing for higher repetition rates.

Features:

- ◇ Average power/peak power up to : 20W/28KW,30W/33KW,50W/50KW
- ◇ Minimum frequency: 25KHZ~50KHZ
- ◇ Maximum frequency: 500~1000KHZ
- ◇ Operating modes: pulse
- ◇ Adjustable Pulse Width: (5-20ns) ~250ns
- ◇ Maximum peak power covers the entire whole frequency range
- ◇ Laser output reflection isolation
- ◇ Design of High reliability/repetitive/stability
- ◇ Design of Air cooling system
- ◇ Controlling method of DB25 interface

Applications:

- >Marking
- >Engraving
- >Micromachining
- >Precision drilling
- >Welding
- >Cutting



Parameters	Unit	Date	Date	Date	Date	Date	Date	Date	Date
Type		STM-PT5	STM-PT10	STM-PT-20	STM-PT20*	STM-PT30	STM-PT50	STM-PT70	STM-PT100
Central Emission Wavelength	nm	1064±4	1064±4	1064±4	1064±4	1064±4	1064±4	1064±4	1064±4
Polarization		Random	Random	Random	Random	Random	Random	Random	Random
Average Output Power	w	5	10	20	20	30	50	70	100
Single Pulse Energy	mJ	0.5 ~ 0.6	0.5 ~ 0.6	0.5 ~ 0.6	0.67	0.8 ~ 1.0	0.8 ~ 1.0	0.8 ~ 1.0	0.8 ~ 1.0
Beam Quality	m ²	<1.4	<1.4	<1.8	<1.8	<1.4	<2.0	<2.0	<2.0
Beam Diameter	mm	6~9	6~9	6~9	6~9	6~9	6~9	6~9	6~9
Power Reliability	%	<5	<5	<5	<5	<5	<5	<5	<5
Pulse Width	ns	4 ~ 260	4 ~ 260	4 ~ 260	200	4 ~ 260	4 ~ 260	4 ~ 260	4 ~ 260
Output Power Tunability	%	5 ~ 100	5 ~ 100	5 ~ 100	5 ~ 100	5 ~ 100	5 ~ 100	5 ~ 100	5 ~ 100
Working Voltage	VDC	24	24	24	24	24	24	24	220VAC
Power Consumption	W(20°C)	80	100	120	120	140	160	180	250
Fiber Length	m	1.9~3.5	1.9~3.5	1.9~3.5	1.9~3.5	1.9~3.5	1.9~3.5	1.9~3.5	1.9~3.5
Cooling		Air Cooling	Air Cooling	Air Cooling	Air Cooling	Air Cooling	Air Cooling	Air Cooling	Water Cooling

STJ Series Fiber Lasers

STJ series fiber laser adopts MOPA (Master Oscillator Power Amplifier) structure, diode laser as seed light, and fiber based power amplification. This laser integrates independence adjustment of pulse width and frequency, to make sure a constant pulse energy output, which provides a good combining solution to the requirements of high power laser source and high marking speed.

The extremely flexible pulse width and frequency adjustment, which plays a significant impact on colour formation, enables colour or silver shining marking on stainless steel.

Features:

- Flexible & independent control of pulse width & frequency
- Selectable pulse shape
- High repetition frequency
- No laser leakage

Applications:

- Marking / Colour marking
- Ablation
- Cutting
- Drilling
- Scribing
- Soldering
- Trimming
- Engraving

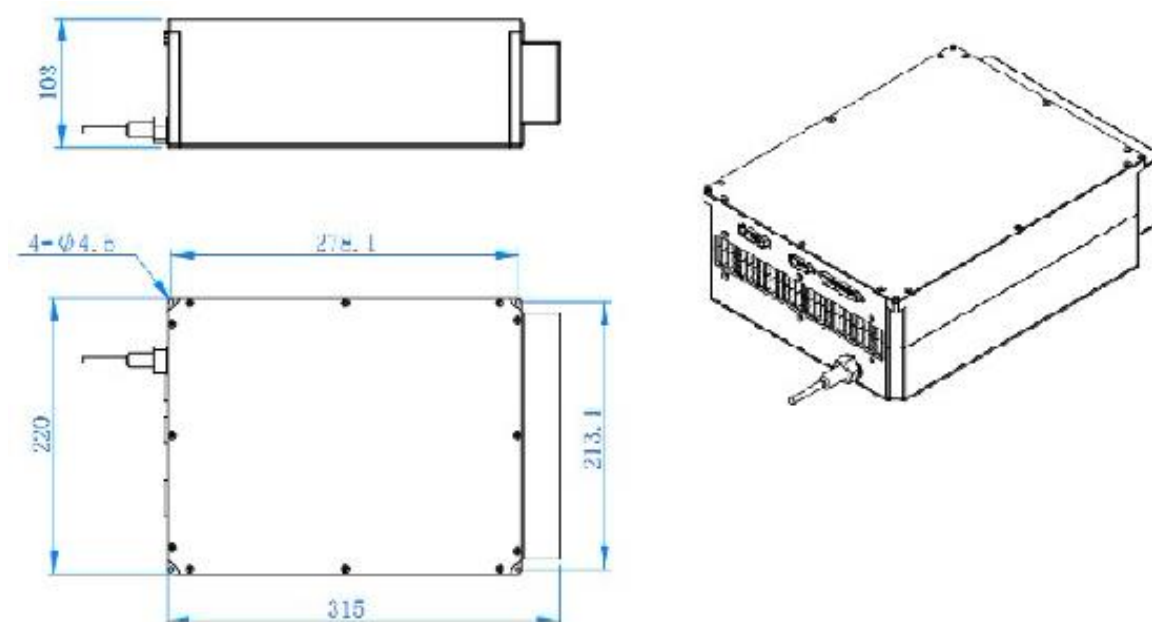


Technical specifications:

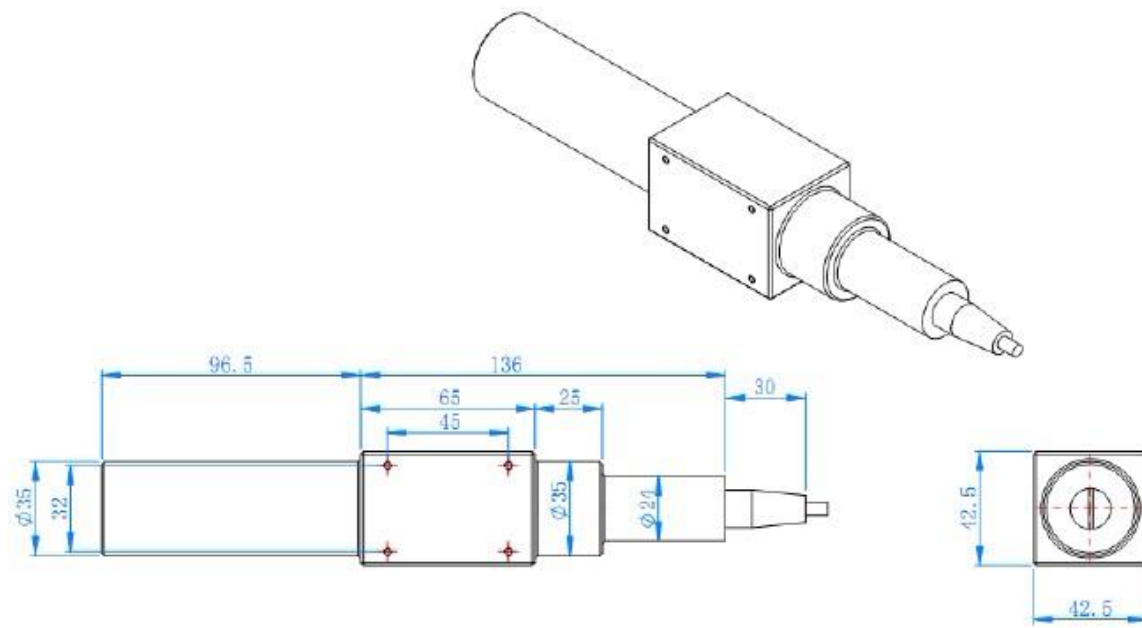
Model	STJ-FLP-10	STJ-FLP-20
Average power (W)	10.5±0.5	20±0.5
Constant power range (kHz)	20-400	25-400
Constant pulse energy (kHz)	5-20	6-25
Centre wavelength (nm)	1064±3	1064±3
Spectral width@3dB (nm)	<5	<5
Polarization	Random	Random
Output isolation	Yes	Yes
Pulse energy @ 20kHz (mJ)	0.5	0.8
Beam quality (M ²)	<1.5	<1.8
Beam diameter (mm)	6-8	6-8
Pulse width (ns)	10-200	10-200
Frequency range (kHz)	5-400	6-400
Power tunable (%)	0-100	0-100
Fiber length (m)	2.0	2.0
Operating voltage (VDC)	24±1	24±1
Power consumption @ 20°C (W)	130	150
Operating temperature (°C)	0-40	0-40
Storage temperature (°C)	-10-60	-10-60
Cooling	Air	Air
Dimension WxDxH(mm)	285x215x112	285x215x112

Max frequency @ different pulse width (kHz)

Pulse width	STJP-FLP-10	STJP-FLP-20
20ns	110	180
30ns	90	130
40ns	60	80
60ns	45	60
80ns	35	50
100ns	30	40
150ns	25	30
200ns	20	25

Dimension:


Laser cabinet



Isolator

Thulium Doped Fiber Amplifier

Features

- ☐ wide gain bandwidth
- ☐ low noise figure
- ☐ diffraction-limited beam
- ☐ Turnkey Systems
- ☐ maintenance-free

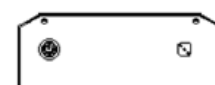
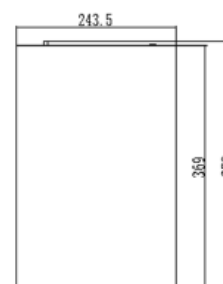
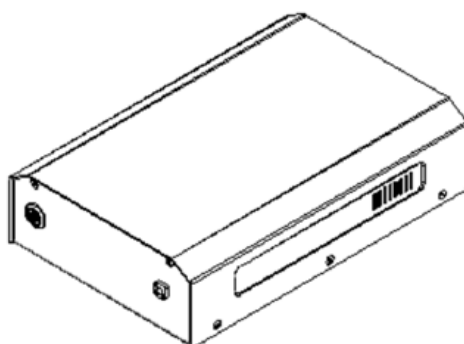
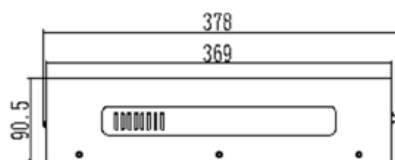
Applications

- ☐ lidar
- ☐ silicon photonics
- ☐ Mid-infrared frequency conversion
- ☐ Analysis of the infrared spectrum
- ☐ Mid-IR common laboratory equipment



Specifications

Model number	AMP-Tm-2000
Wavelength range	1920-2020nm
Center wavelength	1950nm
Small signal gain	19dB
Output power	100mW
Noise	<8dB
Beam quality, M ²	<1.1
Operating temperature	+10 to +40 degree Celcius
Electrical input	AC 100-240V (50Hz/60Hz)
Power consumption	<20W
Dimensions	378mm x 243.5mm x 90.5mm
Weight	4.8kg
Fiber	SM2000 fiber, 1m pigtail, FC/PC or FC/APC connectors



Ultra-wide-bandwidth Fiber Laser

Features

- ☐ ultra-wide-bandwidth
- ☐ compact structure, small size
- ☐ diffraction-limited beam
- ☐ Turnkey Systems
- ☐ maintenance free

Applications

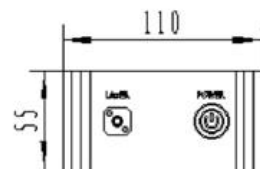
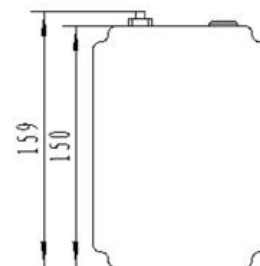
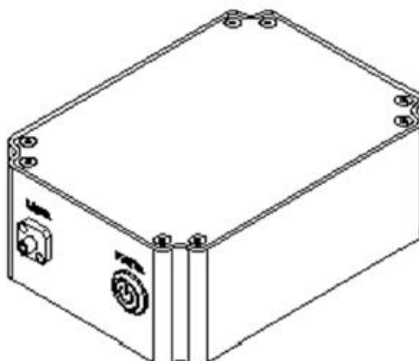
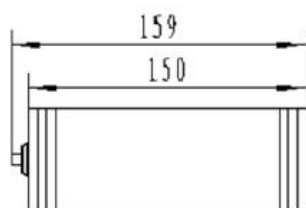
- ☐ gas molecule detection
- ☐ Biomedical Analysis
- ☐ Analysis of the infrared spectrum
- ☐ test and measurement devices
- ☐ optical coherence tomography



Specifications

Model number	ASE-2000
Wavelength range	1950 +- 30nm
Wavelength bandwidth (-20dB)	>150nm
Output power	10mW
Output power stability	+/-1% (25°C)
Beam quality, M ²	<1.1
Operating temperature	+10 to +40 °C
Electrical input	AC 100-240V (50Hz/60Hz)
Dimensions	159mm x 110mm x 55mm
Weight	2.2kg
Fiber	SM2000 fiber, FC/PC or FC/APC connectors

ASE-2000 has ultra-wide bandwidth and excellent power output stability and other technical characteristics. Applications include optics testing, spectral analysis, detection of gas molecules and biomedical analysis.



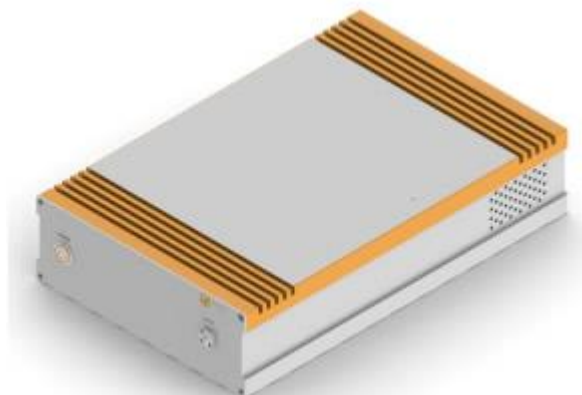
1900-2100nm Fiber Lasers

Features

- ☐ center wavelength can be customized
- ☐ extremely narrow linewidth
- ☐ singlemode fiber output
- ☐ Turnkey Systems
- ☐ maintenance free

Applications

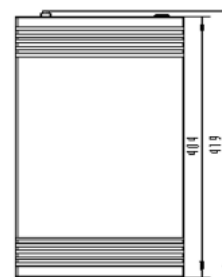
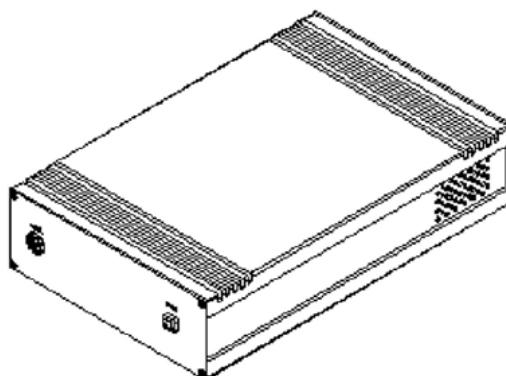
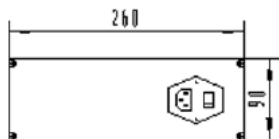
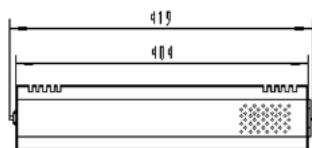
- ☐ lidar
- ☐ Environmental Monitoring
- ☐ Molecular Detection
- ☐ laser frequency conversion
- ☐ mid-infrared-related research and development



Specifications

Wavelength	1950nm 1900-2100nm (can be customised)
Wavelength accuracy	1 nm (typical)
Spectral Linewidth	<100KHz
Output power range	0-20mW
Output power stability	+/- 1%
Beam quality, M ²	<1.1
Operating temperature	0 to +40 °C
Electrical input	AC 100-240V (50Hz/60Hz)
Power consumption	<20W
Dimensions	419mm x 260mm x 90mm
Weight	6kg
Fiber	SM2000 fiber, FC/PC or FC/APC connectors

Narrow linewidth fiber laser NLi-19xx is a high stability and very narrow linewidth laser sources. It is widely used to produce mid-infrared light, spectral analysis, nonlinear optics, and scientific research and development and other aspects. This product can be used with AMP-Tm-2000 used together to produce higher power.



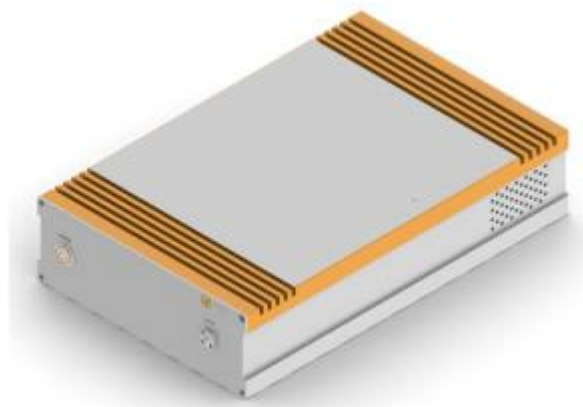
Multi-wavelength Fiber Lasers

Features

- ☐ wavelength can be customized
- ☐ Excellent stability
- ☐ diffraction-limited beam
- ☐ Turnkey Systems
- ☐ maintenance free

Applications

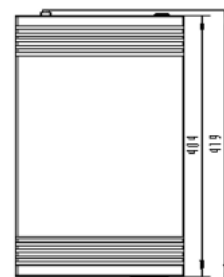
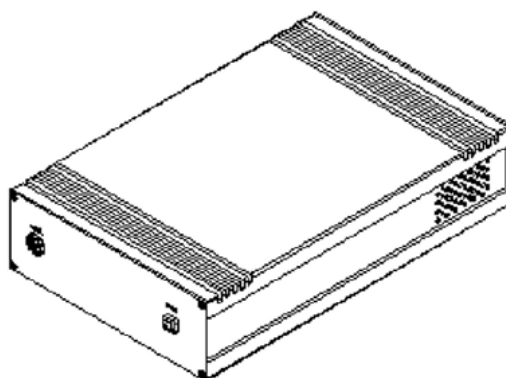
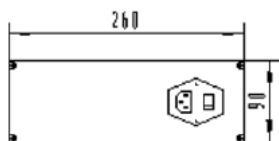
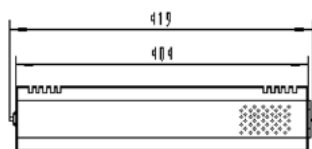
- ☐ gas molecule detection
- ☐ Biomedical Analysis
- ☐ spectroscopy analysis
- ☐ test and measurement devices
- ☐ versatile optical source



Specifications

Wavelength	1900-2100nm (up to 3 outputs)
Bandwidth	0.8nm (typical)
Output power (Average)	2mW(typical) for each output
Output power stability	+/- 2% (at 25 °C)
Beam quality, M ²	<1.1
Output polarisation	Random / Linear
Operating temperature	+10 to +40 °C
Electrical input	AC 100-240V (50Hz/60Hz)
Power consumption	<20W
Dimensions	419mm x 260mm x 90mm
Weight	6kg
Fiber	SM2000 fiber, 1m fiber pigtail, FC/PC or FC/APC connectors

PlusWAVE2000 is a multi-wavelength light source and high stability, compact, easy to use, maintenance free.



Pico-second Pulsed Fiber Laser

STGS series PM Pico-second pulsed fiber laser is a new product recently launched by Sintec Optronics. This ultrafast fiber laser uses self-developed gain-switching technology which results higher long term reliability than the traditional passively mode-locked technique. Combined with all-fiber PM amplifier structure, the system becomes more compact and more reliable. High performance makes this laser suitable for LED wafer scribing and ultrafast material processing.

Features:

- Gain-switching seed laser
- All-fiber system
- 5W @ 1064nm and 500kHz
- Repetition rate: 50-500kHz
- Single pulse energy up to 10uJ
- Beam quality $M^2 < 1.3$
- Cost effective



Technical specifications:

Model	STGS01
Power	Up to 5W (500kHz)
Spatial mode	TEM00($M^2 < 1.3$)
Central wavelength	1060nm
Power stability	$\pm 1\%$ over 8 hrs
Repetition rate	50-500kHz (optional)
Fundamental pulse width	150-200ps
Beam ellipticity	$< 10\%$
Computer interface	RS232
Sync (trigger) output	SMA
Cooling	Integrated air cooling
Power requirements	100-240V, 50/60Hz
Dimensions (L*W*H)	413mm*269mm*142mm & 366mm*132mm*104mm
Weight	$< 20\text{kg}$
Output	Free space

Pico-second Pulsed Fiber Laser

STYL-15-0.5 is a unique product for precisely micro-machining industry. Based on highly reliable seed laser, the system offers long term reliability and performance. With the peak power of more than 30kW,selectable pulse width in 0.5ns~5ns and highly pulse energy(up to 200μ J),STYL-15-0.5 is an ideal light source for Black marking on anodized AI, Ceramic marking, hole drilling, ITO film removal and so on.



Product Features :

- All-fiber system
- Pulse width: 0.5~5ns
- Peak Power Up to 30kW
- Repetition rate: 100 ~ 1000KHz
- Pulse energy: Up to 200μ J
- Beam quality: $M^2 < 1.5$
- Dust-proof design and ideal for OEM integration

Applications :

- Metal marking, color marking
- Black marking on anodized AI
- Ceramic marking, hole drilling
- Poly-compounds marking
- ITO film removal
- Hole drilling
- Mono silicon, poly silicon processing

Total Power	15W
Central Wavelength	106x nm
Fundamental Pulse Width	0.5~5ns
Repetition Rate	100~1000KHz
Pulse Energy	100/200μ J
Peak Power	Up to 30kW
Spatial Mode	$M^2 < 1.5$
Power Stability	$\pm 3\%$ over 8H
Sync (trigger) Output	SMA
Cooling	风冷
Power Requirements	100-240V 50/60Hz
Dimensions (L*W*H)	365mm*265mm*125mm
Weight	< 20kg
Output	Collimated Free Space