

Fiber Laser Series

CNI offers fiber lasers with compact OEM modular design which is ideal for systems integration. The 1550 nm and 1064nm fiber laser are in single longitudinal and polarized mode. The pulsed mode up to 1 MHz modulation and pulse duration variation are also available.



APPIICATION

- ❖ Medical cosmetology
- ❖ Optical instrument
- ❖ Communication
- ❖ Lidar
- ❖ Interference
- ❖ Holography
- ❖ Spectrum analysis
- ❖ Pump source
- ❖ Physics experiment



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1. Instruction of laser model

FL-XXX-CW	continuous wave fiber laser
FL-XXX-SF	single frequency mode fiber laser
FL-XXX-AO	Q-switch pulse fiber laser
FL-XXX-S	small size pulse fiber laser
FL-XXX-Nano	nanosecond pulsed fiber laser
FL-XXX-Pico	picosecond pulsed fiber laser (pulse width 100ps-900ps)
FL-XXX-PS	picosecond pulsed fiber laser(pulse width <10ps)

Remark:

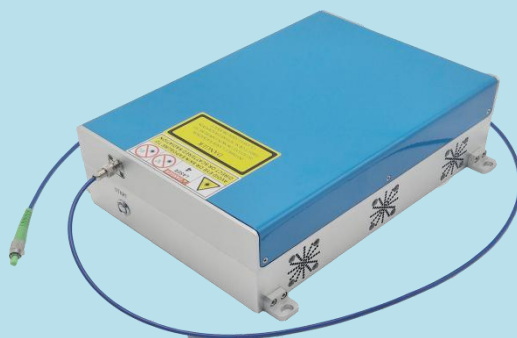
FL-- fiber laser
XXX-- wavelength
CW-- continuous wave
SF-- single frequency
AO-- Acousto-optical modulators
S-- small size
Nano-- nanosecond
Pico-- picosecond (pulse width 100ps-900ps)
PS-- picosecond (pulse width <10ps)

2. Products list

Model	Wavelength	Power	Pulse width	Frequency
FL-266-PS	266nm	1-10mW	<10ps	20-60MHz
FL-343-PS	343nm	1-10mW	<10ps	20-50MHz
FL-355-PS	355nm	1-50mW	<10ps	20-60MHz
FL-515-PS	515nm	1-200mW	<10ps	20-50MHz
FL-532-PS	532nm	1-150mW	<10 ps	20-60 MHz
FL-1030-PS	1030nm	1-2000mW	<10 ps	20-50 MHz
FL-1030-PS-Seed	1030nm	0.5-1mW	<10 ps	20-50 MHz
FL-1064-PS	1064nm	1-2000mW	<10 ps	20-60 MHz
FL-1064-PS-Seed	1064nm	0.5-1mW	<10 ps	20-60 MHz
FL-266-Pico	266nm	1-50mW	100-900 ps	0.1-20 MHz
FL-343-Pico	343nm	1-50mW	100-900 ps	0.1-20 MHz
FL-355-Pico	355nm	1-50mW	100-900 ps	0.1-20 MHz
FL-515-Pico	515nm	1-1000mW	100-900 ps	0.1-20 MHz
FL-532-Pico	532nm	1-1000mW	100-900 ps	0.1-20 MHz
FL-535-Pico	535nm	1-1000mW	100-900 ps	0.1-20 MHz
FL-1030-Pico	1030nm	10-5000mW	100-900 ps	0.1-20 MHz
FL-1064-Pico	1064nm	10-5000mW	100-900 ps	0.1-20 MHz
FL-1070-Pico	1070nm	10-5000mW	100-900 ps	0.1-20 MHz
FL-266-Nano	266nm	1-50mW	0.5-50ns	0.1-1MHz
FL-343-Nano	343nm	10-300mW	0.5-50ns	0.1-1MHz
FL-355-Nano	355nm	1-300mW	0.5-50ns	0.1-1MHz
FL-515-Nano	515nm	1-1000mW	0.5-50ns	0.1-1MHz
FL-532-Nano	532nm	1-1000mW	0.5-50ns	0.1-1MHz
FL-535-Nano	535nm	1-1000mW	0.5-50ns	0.1-1MHz
FL-1030-Nano	1030nm	0.5-10W	0.5-250ns(Variable)	0.1-1MHz
FL-1064-Nano	1064nm	1-5W	0.5-250ns(Variable)	0.1-1MHz
FL-1070-Nano	1070nm	0.5-10W	0.5-250ns(Variable)	0.1-1MHz
FL-1550-Nano	1550nm	50-1000	0.5-50ns(Variable)	50-1000kHz
FL-1064-CW FL-1080-CW FL-1550-CW	1064/1080/1550	1-30 W	N/A	CW/ modulated
FL-1030-S FL-1064-S FL-1550-S	1030/1064/1550	1 uW-500mW (Peak power)	5-100 ns (Adjustable)	1 Hz-10 MHz
FL-1064-AO	1064	1-20 uJ	0.5-50 ns	1-1000 Hz
FL-1550-AO	1550	1-20 uJ	0.5-50 ns	1-200 Hz
FL-1064-SF	1064	1-500	N/A	CW
FL-1550-SF	1550	1-1000	N/A	CW

3. Parameters

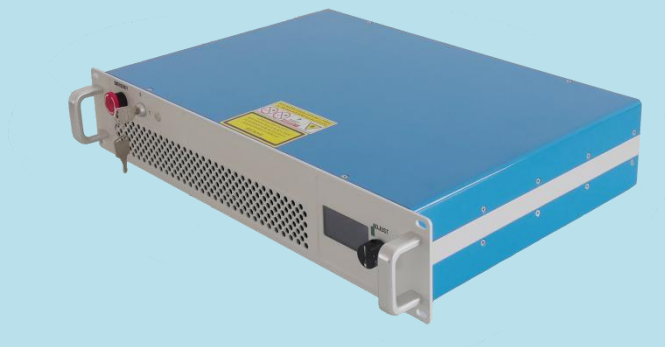
FL-266/343/355/515/532/1030/1064-PS



SPECIFICATIONS	
wavelength(nm)	266/343/355/515/532/532/1030/1064
Operating mode	Passive mode-locked
Output Power(mW)	1-2000
Power stability(rms, over 4 hours)	<0.5, <1%, <2%, <3%
Repetition frequenct(MHz)	One fixed value between (20-60)±1MHz
Pulse width(ps)	<2ps, <10ps
Delivery cable length(m)	variable
M2 factor	<1.2 or <1.5
Polarization state	Random/>15dB
Warm-up time(minutes)	<15
Operating temperature(℃)	15~35
Power supply	220VAC/12VDVC/24VDC
Expectedlifetime(hours)	10000
Warranty	1 year

FL-266/343/355/515/532/535/1030/1064/1070-Pico

SPECIFICATIONS	
wavelength(nm)	266/343/355/515/532/535/1030/1064/1070
Operating mode	Pulsed
Output Power(mW)	10-5000
Power stability(rms, over 4 hours)	<2%, <3%
Repetition frequenct(MHz)	One fixed value between 0.1-20MHz
Pulse width(ns)	One fixed value value between 100-900ps
Delivery cable length(m)	variable
M2 factor	<1.5 or <1.8
Polarization state	Random/>15dB
Warm-up time(minutes)	<15
Operating temperature(℃)	15~35
Power supply	220VAC/12VDVC/24VDC
Expectedlifetime(hours)	10000
Warranty	1 year

FL-266/343/355/515/532/535/1030/1064/1070/1550-Nano

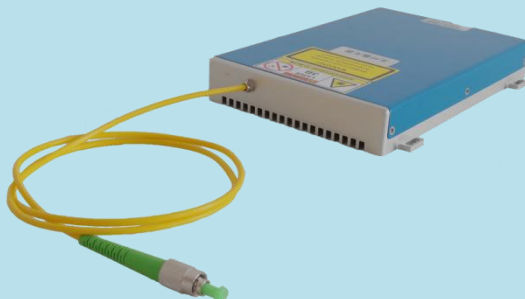
SPECIFICATIONS	
wavelength(nm)	266/343/355/515/532/1030/1064/1550
Operating mode	Pulsed
Output Power(W)	0.5-10(variable)
Power stability(rms, over 4 hours)	<2%, <3%
Repetition frequenct(kHz)	50-1000
Pulse width(ns)	0.5-250
Delivery cable length(m)	variable
M2 factor	<1.5 or <1.8
Polarization state	Random/>15dB
Warm-up time(minutes)	<15
Operating temperature(℃)	15~35
Power supply	220VAC/12VDVC/24VDC
Expectedlifetime(hours)	10000
Warranty	1 year

FL-1064/1080/1550-CW



SPECIFICATIONS			
Wavelength(nm)	1064±2nm	1080±2nm	1550±10nm
Operating mode	CW or modulation(≤20kHz)		CW or modulation(≤2kHz)
Output Power(W)	1-20		1-20
Power stability(rms, over 4 hours)	<1%, <2%, <3%		
Delivery Fiber Length(m)	2-5		
Output fiber termination	Collimator		
Beam Diameter(mm)	4±1		
M2 factor	<1.2		<1.5
Polarization state	Random/>15dB		
Warm-up time(minutes)	<15		
Operating temperature(℃)	15~35		
Power supply	220VAC/12VDVC/24VDC		
Expectedlifetime(hours)	10000		
Warranty	1 year		

FL-1030/1064/1550-S



SPECIFICATIONS	
wavelength(nm)	1030/1064/1550
Operating mode	Pulsed
Output Power(mW)	1uW-500mW
Power stability(rms, over 4 hours)	<1%, <2%, <3%
Repetition frequenct(Hz)	1Hz-100kHz, 1Hz-10MHz(adjustable)
Pulse width(ns)	5ns-100ns(adjustable)
Delivery cable length(m)	variable
M2 factor	<1.2 or <1.5
Polarization state	Random/>15dB
Warm-up time(minutes)	<1
Operating temperature(℃)	15~35
Power supply	220VAC/12VDVC/24VDC
Expectedlifetime(hours)	10000
Warranty	1 year

FL-1064/1550-AO

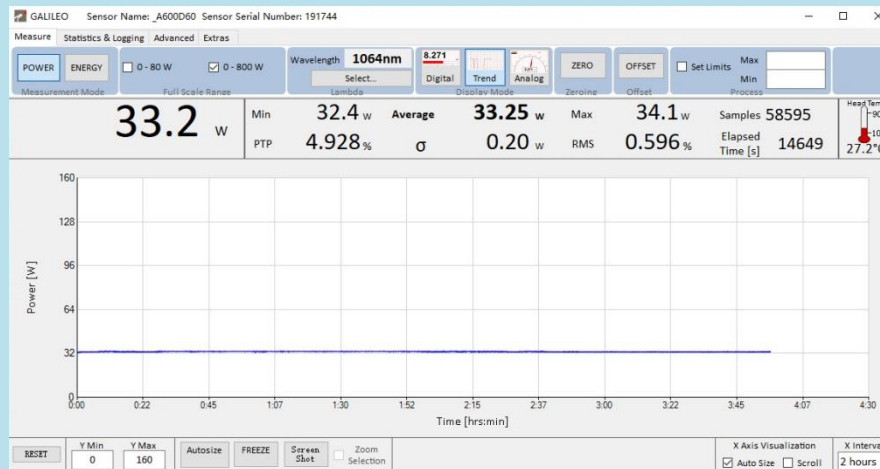


SPECIFICATIONS		
wavelength(nm)	1064/1550	
Operating mode	Pulsed	
Single pulse energy(uJ)	>2 or >20	
Power stability(rms, over 4 hours)	<2%, <3%	
Repetition frequenct(Hz)	1-1000	
Pulse width(ns)	0.5-5	5-50
Transverse mode	TEM00	
Delivery cable length(m)	variable	
M2 factor	<1.1	
Polarization state	Random/>15dB	
Warm-up time(minutes)	<15	
Operating temperature(℃)	15~35	
Power supply(220VAC)	PSU-FL-P-AO	
Expectedlifetime(hours)	10000	
Warranty	1 year	

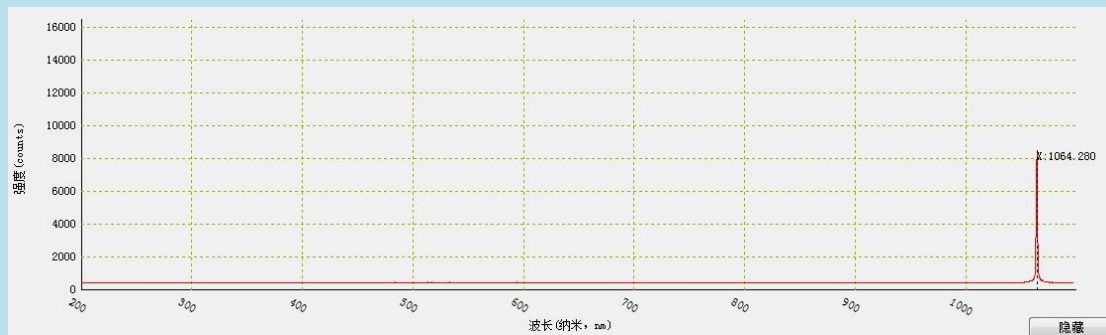
FL-1064/1550-SF

SPECIFICATIONS	
wavelength(nm)	1064/1550
Operating mode	CW
Output power(mW)	1-1000
Power stability(rms, over 4 hours)	<1%, <2%, <3%
Transverse mode	TEM00
Longitudinal mode	Single
Spectral linewidth(kHz)	<100, <1000
Frequency shift(MHz)	<10@1 hour
Beam Delivery Optics	FC/APC
M2 factor	<1.2
Polarization state	>15dB
Warm-up time(minutes)	<30
Operating temperature(℃)	15~35
Power supply	12VDC
Expectedlifetime(hours)	10000
Warranty	1 year

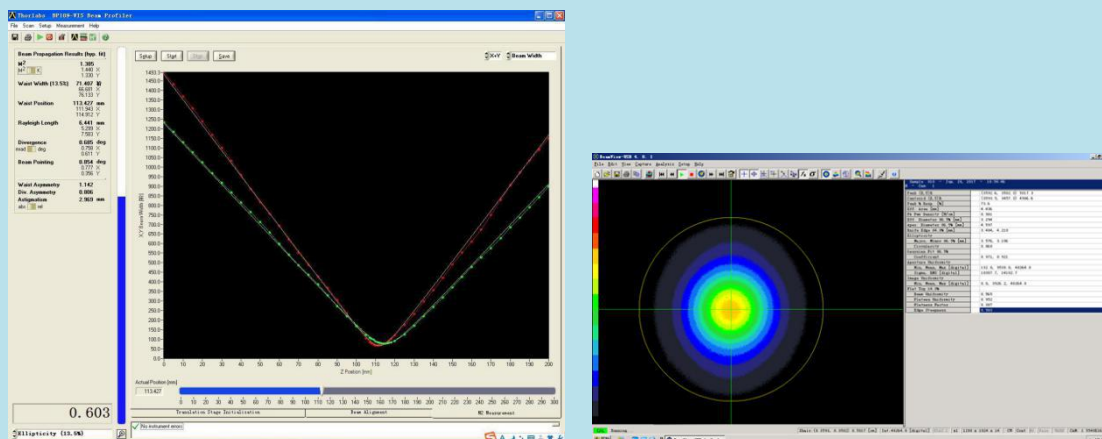
4. Testing report



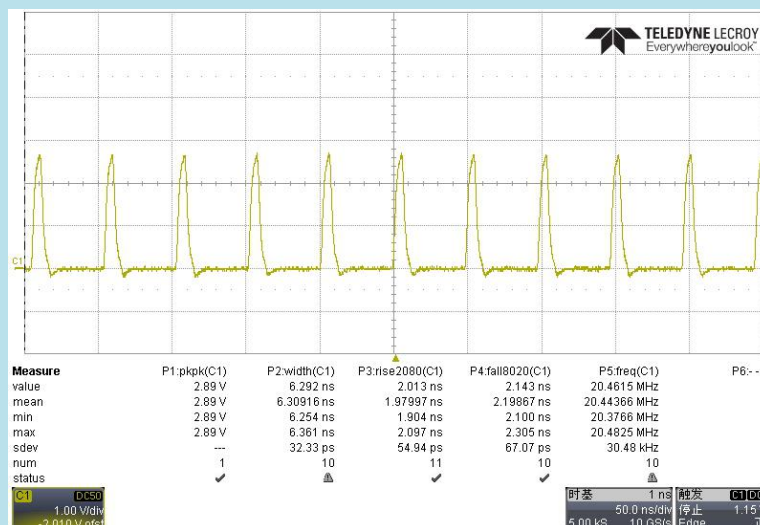
Power by Coherent power meter



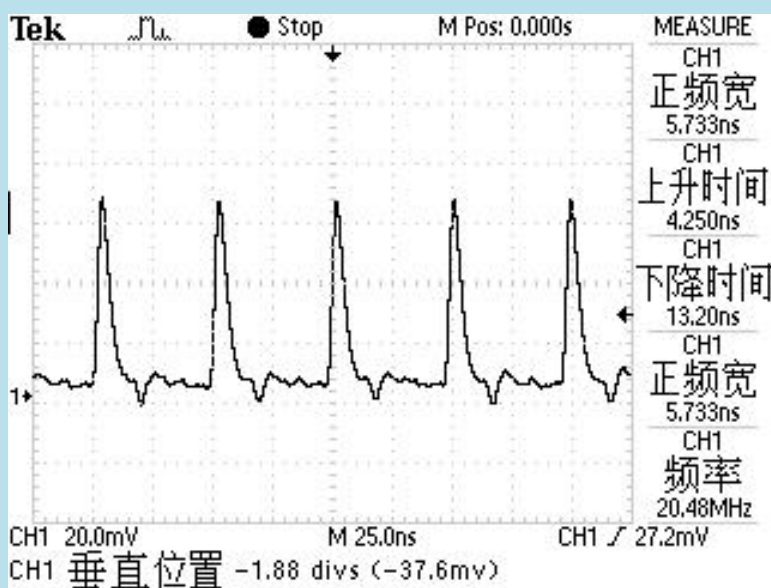
Spectrum by Ocean laser spectrometer



Beam



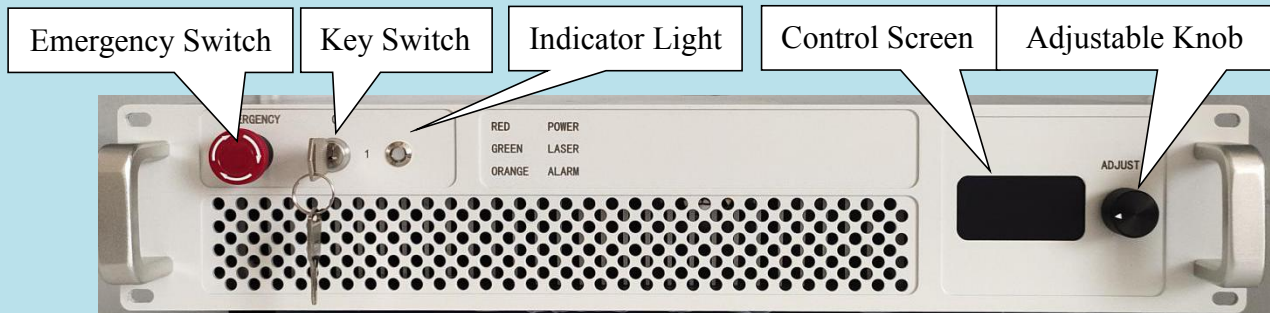
Synchronizing Signal testing



Frequency testing by Tektronix Oscilloscopes

5. Panel instruction

Front panel



(1)	Indicator Light	POWER: the indicator light is turned red; LASER: the indicator light is turned green; ALARM: the indicator light is turned orange and blinked.
(2)	Key Switch	1: start laser output; 0:stop laser output (red laser indicator output
(3)	Control Screen	The control screen is used to control the power supply and show the set state of parameters.
(4)	Emergency Switch	The user should press down the emergency switch when the danger happens. The supply can be turn normal after it being restarted and the emergency switch being bounce.
(5)	Adjustable Knob	Use the knob to set power operating parameters.

Back Panel



(1)	Main switch	ON/OFF: the supply is connected or disconnected to AC 100~110V
(2)	INT/EXT	INT: internal control EXT: external control
(3)	TTL IN	Input TTL5V to external trigger LD
(4)	Laser Output	Fiber is connected with “laser output”, never look into the beam directly
(5)	RS232 Interface	This interface is used to realize the computer control through the communication protocol
(6)	AC 110V	Power supply input
(7)	Interlock	The supply only works normal under the “interlock” being short

6. Accessories

Collimator
RS232
Synchronize signal input and output
Modulation
Isolator
Expand the beam splitter

7. Reference

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- [6] Creeden D, Ketteridge P A, and Budni P, et al. Multi-watt mid-IR fiber-pumped OPO. CLEO/QELS, 2008:1-2.
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