AdValue Photonics
Innovative & Reliable

AdValue Photonics, Inc.
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2 Micron High Power Q-Switched Fiber Laser

AP-QS1

This world's first 2μm Q-switched fiber laser offers nanosecond pulses and high beam intensity, providing a new state-of-the-art tool to research and industry applications.

AdValue Photonics' 2μm fiber lasers provide many advantages over traditional bulk Ho and Tm solid state lasers with their compact size, high efficiency, low maintenance, and ease of operation.

Applications:

- Mid-IR generation
- Nonlinear optics studies
- Spectroscopy
- Research & development

Features:

- Customizable operating wavelength
- Nanosecond pulses
- High peak power
- Near diffraction limited beam quality
- Turn-key system with no maintenance

Output Collimator

Optical Characteristics:

Parameter	Specification	
	180-ns Pulse Option	**20-ns Pulse Option**
Operation mode	Pulsed	
Operating wavelength	1.95 μm (Option: 1.92-2.0 μm)	1.95 μm (Option: 1.92-2.0 μm)
Max. average power	5W	2W
Pulse repetition rate	20 kHz	10 to 30 kHz variable
Pulse width	160-200 ns (power dependent)	20 to 50 ns (rep. rate dependent)
Max. pulse energy	250 μJ	200 μJ
Beam quality, M^2	< 1.3	
Output polarization	Within ±5%	
Output polarization	Random (Option: Linearly Polarized)	
Output isolator	Included	
Output beam	Collimated beam, diameter ~ 5 mm	
Output fiber	Single mode fiber, 5 mm armored cable, 0.8 m cable length (For linearly polarized output: polarization maintaining single mode fiber)	
Fiber termination	Collimator, housing dimensions Φ35 x 97 mm	

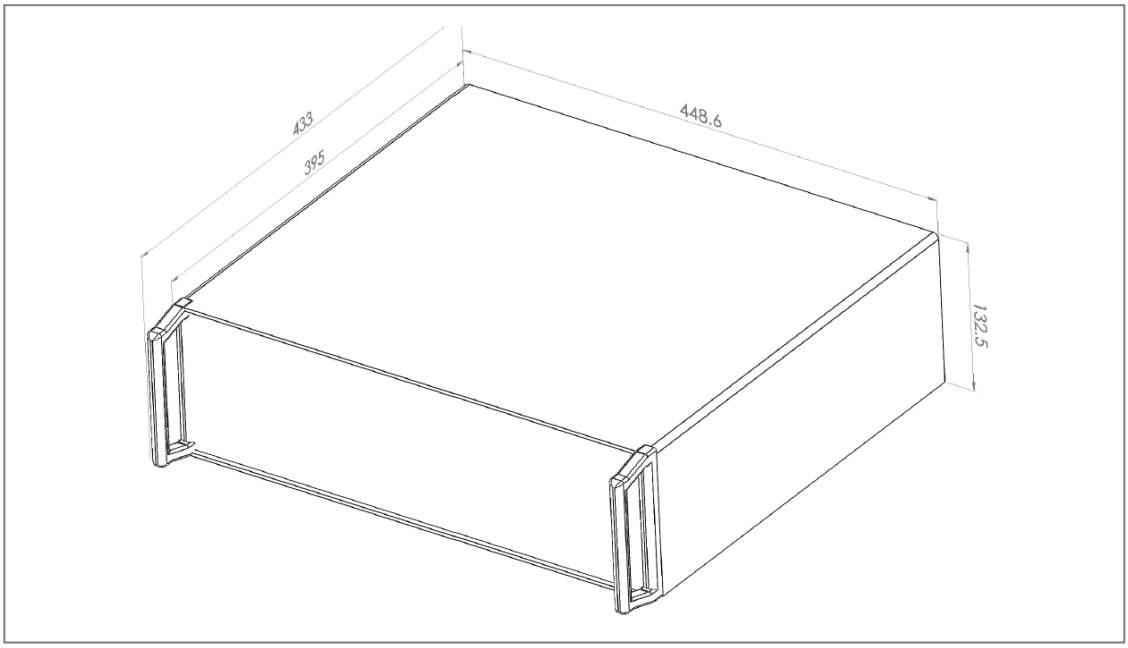
(Customization options available.)

Specifications subject to change without notice

General Characteristics:

Parameter	Specification
Operating temperature	0 to +30 ℃
Storage temperature	-10 to +70 ℃
Cooling	Forced air
Power requirement	AC 100~240 V (50/60Hz)
Warm-up time	20 minutes
Package dimensions	448.6(W) x 433(D) x 132.5(H) mm

Mechanical Outline:



Ordering Information:

Part Number:	AP-QS1	-	xxxx	-	xx	-	xx		xxx or xx
			Standard Wavelength: 1950 = 1950 nm Custom Wavelength: xxxx = xxxx nm		Output Power: 02 = 2 W 05 = 5 W		Polarization: RP = random polarization LP = linear polarization		Pulse Option: 180 = 180 ns Option 20 = 20 ns Option

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Applications:

- Mid-IR generation
- Nonlinear optics studies
- Spectroscopy
- Research & development

Features:

- Customizable operating wavelength
- Nanosecond pulses
- Diffraction limited beam quality
- Turn-key system with no maintenance

Optical Characteristics:

Parameter	Specification	
	100 ns Pulse Option	**20 ns Pulse Option**
Operation mode	Pulsed	
Operating wavelength	1950 nm (Option: customized wavelength 1920 to 2000 nm)	
Wavelength accuracy	±5 nm (Option: customized higher accuracy)	
Average power (nominal)	100 mW (not for all options)	100 mW (not for all options)
Pulse width (nominal)	100 ns	20 to 50 ns (rep. rate dependent)
Pulse repetition rate	20 kHz	10 to 30 kHz adjustable on keypad
Beam quality, M^2	< 1.1	
Output power stability	< 5%	
Output polarization	Random (Option: linearly polarized)	
Output fiber	SMF-28 single mode fiber, 3 mm jacket, 1 m length, no connector (For linearly polarized output: Panda PM1550 fiber)	

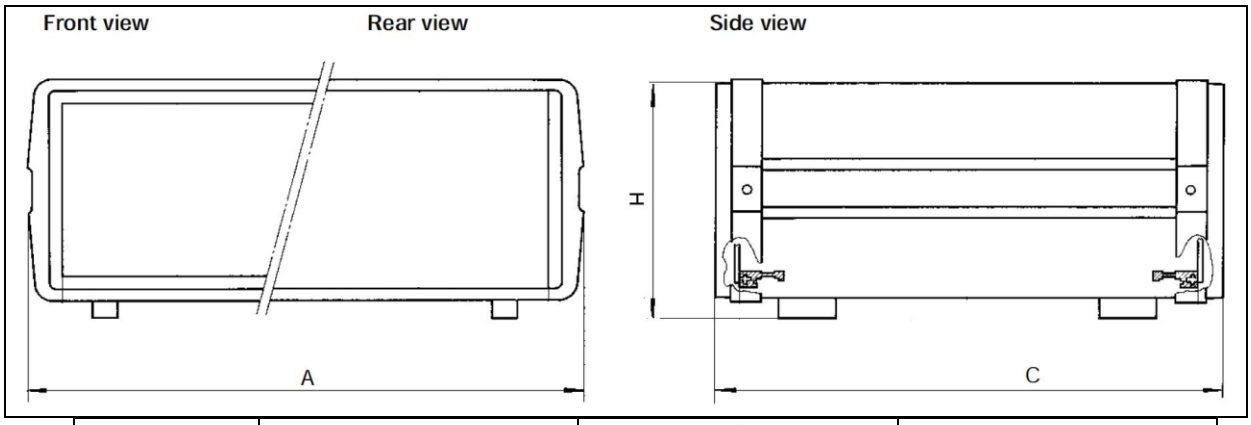
(Customization options available.)

Specifications subject to change without notice

General Characteristics:

Parameter	Specification
Operating temperature	0 to +40 °C
Storage temperature	-10 to +70 °C
Cooling	Forced air
Power requirement	AC 100~240 V (50/60Hz)
Power consumption	< 30 W
Warm-up time	20 minutes
Package dimensions	260(W) x 340(D) x 105(H) mm

Mechanical Outline:



	A	C	H
mm	260	340	105
Inch	10.24	13.39	4.13

Ordering Information:

Part Number:	AP-QS	-	xxxx	-	mxxx	-	xx		xxx or xx
			Standard Wavelength: 1950 = 1950 nm Custom Wavelength: xxxx = xxxx nm		Output Power: m100 = 100 mW		Polarization: RP = random polarization LP = linear polarization		Pulse Option: 100 = 100 ns Option 20 = 20 ns Option

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2 Micron Pulsed Fiber Laser Module

AP-QS1-MOD

Features:

- Laser emission in the 2 μm wavelength region
- Up to 10 kW peak power & 10W average power
- Nanosecond pulses
- Output modulation capability
- Near diffraction limited beam quality
- Turn-key control box available
- Custom options available

Applications:

- Plastic material processing
- Metal material processing
- Laser surgery
- Aesthetic medicine
- Pump source

Optical Characteristics:

Parameter	Specification	
	180-ns Option	**20-ns Option**
Operation mode	Pulsed	
Operating wavelength	1.95±0.05 μm	1.95 μm (Option: 1.92-2.0 μm)
Max. average power	10W	4W
Pulse repetition rate	20 kHz	10 to 30 kHz variable
Pulse width	160-200 ns (power dependent)	20 to 50 ns (rep. rate dependent)
Max. pulse energy	500 μJ	200 μJ
Beam quality, M^2	< 1.3	
Output power stability	Within ±5%	
Output polarization	Random (Option: Linearly Polarized)	
Output modulation	Optional, 1 kHz max. frequency	
Output isolator	Optional	
Output delivery	Option 1: Collimator output – single mode fiber cable with collimator termination, collimated output beam 10 mm diameter (nominal) Option 2: Fiber output – single mode or multimode fiber, armored cable or 3 mm fiber jacket, no connector	
Output fiber length	Standard length 2 meters	Standard length 1 meter

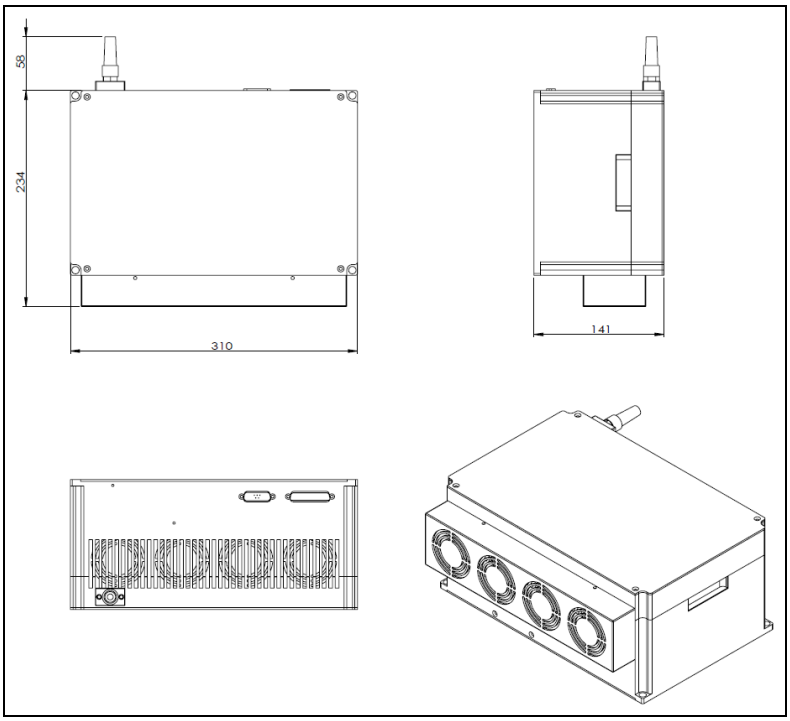
(Customization options available.)

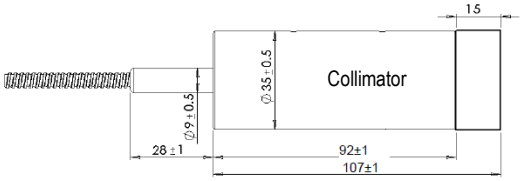
Specifications subject to change without notice

General Characteristics:

Parameter	Specification
Operating temperature	10-35 °C
Storage temperature	-10 to +70 °C
Cooling	Forced air
Power supply requirement	24V/13.5A, 15V/2A
Warm-up time	10 minutes
Package dimensions	310(W) x 235(D) x 120(H) mm (not including the collimator)

Mechanical Outline:





Ordering Information:

Part Number:	AP-QS1-MOD	-	xxxx	-	xx	-	(Polarization)	-	(Pulse Option)
			Standard Wavelength: 1950 = 1950 nm Custom Wavelength: xxxx = xxxx nm		Output Power: 02 = 2W 10 = 10W xx = xxW		Polarization: RP = random polarization LP = linearly polarized		Pulse Width: 180 = 180 ns version 20 = 20 ns version

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