Laser Components

FIBER-COUPLED QOMO LASER SERIES

Fiber-coupled QOMO series lasers are OEM-type laser sources with an integrated driver and control electronics, delivering excellent and stable optical performance, low noise, and user-friendly control. These lasers are best for fluorescence-based applications such as flow cytometry, confocal microscopy, and other scientific analyses.

FEATURES

- Superior power stability
- Perfect beam quality
- Low noise
- High reliability
- Integrated control electronics
- Compact size

APPLICATIONS

- Flow cytometry
- DNA sequencing
- Medical imaging
- Confocal microscopy
- Laser-induced fluorescence

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Product Specifications(0)

Optical					
Wavelength(1)	Central wavelength	405 ±5 nm	488 ±5 nm	532 ±1nm	638 ±5 nm
Output Power (2)	Output power (mW)	30, 60	30, 60	30, 60	30, 60, 120
	2 hr stability (2 hr, ΔT: ±3°C)	<1%	<1%	<1%	<1%
	8 hr stability (8 hr, ΔT: ±3°C)	<2%	<2%	<2%	<2%
Noise	RMS (20 Hz–10 MHz)	<0.3%	<0.3%	<0.3% (3)	<0.3%
	Peak-to-peak (20 Hz–10 MHz)	<1%	<1%	<2%	<1%
Polarization	Polarization extinction ratio	>100:1	>100:1	>100:1	>100:1
	Direction(3)	<±5°	<±5°	< ±5°	<±5°

Fiber				
Fiber Type	Single-Mode Polarization-Maintaining Fiber			
Fiber Cable Length (m)	>0.8	>0.8	>0.8	>0.8
Fiber Numerical Aperture (NA) ($1/e^2$)	0.08	0.08	0.08	0.08
Mode Field Diameter (typical)	3.3 µm	3.3 µm	3.3 µm	3.3 µm
Spatial Mode	TEM_{00}	TEM_{00}	TEM_{00}	TEM_{00}
M^2 (beam quality)	<1.1	<1.1	<1.1	<1.1
Fiber Jacket	3.0 mm PVC			
Connector Type	FC/APC, 8° angled, narrow key			
Fiber Short-Term Bend Radius	>25 mm			
Fiber Long-Term Bend Radius	>60 mm			

Electrical		
Laser Drive Modes (4)		CW, analog and digital modulation, and PC control
Digital Modulation	Bandwidth (MHz)	10
	Rise time (10% to 90%) (nsec)	<5
	Fall time (10% to 90%) (nsec)	<5
Analog Modulation	Bandwidth (kHz)	500
	Rise time (10% to 90%) (nsec)	<200
	Fall time (10% to 90%) (nsec)	<200
		3b
ESD Protection		Level 4
Power Consumption	Operating voltage	12 V standard
	Power consumption (W)	Typical 5 Watts, Max. 13Watts

Mechanical	
Laser Dimension (LxWxH, excluding shutter)	70 mm × 40 mm × 38 mm

Environmental		
Operating Conditions	Laser head baseplate temperature	10°C~40°C
	Non-operation condition	-20°C~60°C
	Relative humidity	<90% non-condensing
	Warm-up time (from cold start)	<5 min

(0) All specifications above are at rated output power

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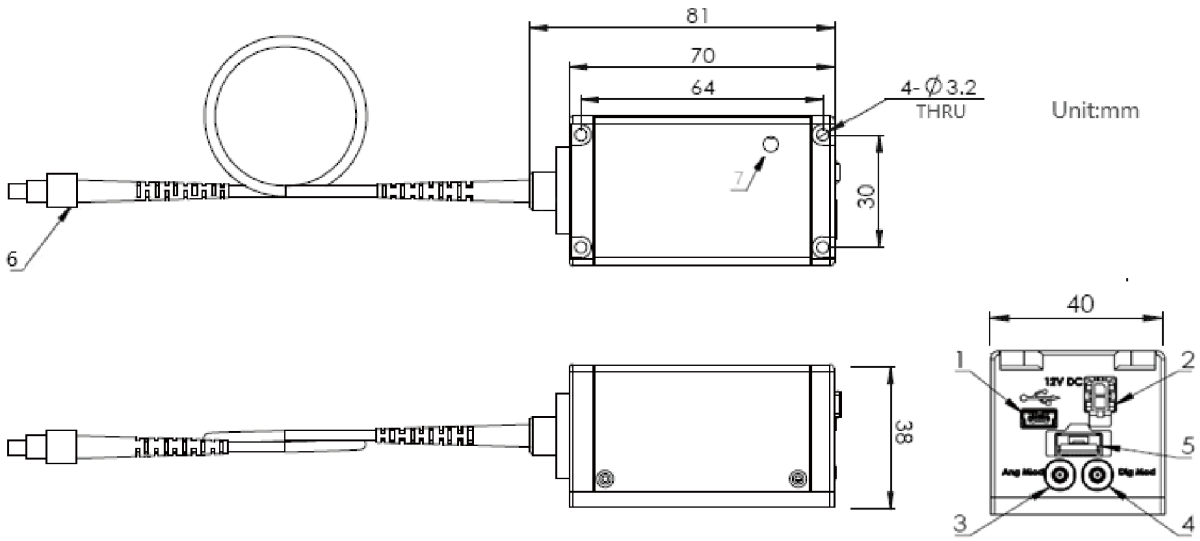
(1) Laser-to-laser wavelength tolerance
(2) Output power is variable in CW mode from 10% to 100% of rated power.
(3) Parallel to key direction,< ±5°
(4) Qomo 532nm laser drive mode is only available for CW and ON/OFF operation
(5) Coherent follows a policy of continuous improvement on all products we provide to customers. Specifications are subject to change without notice.

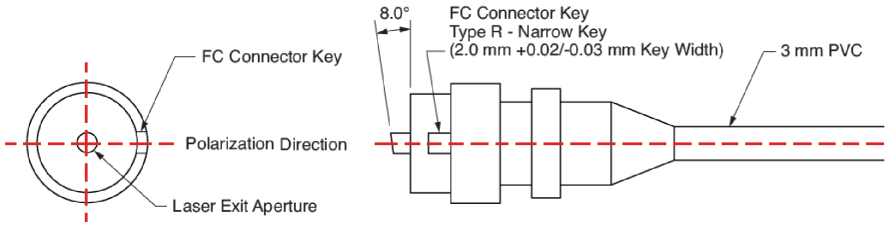
Mechanical Drawing



Item	Name	Functions
1	Mini-USB connector	Mini-USB B type, communication
2	Power connector	12 V DC, power supply
3 *	Analog modulator	SMB, analog signal input
4 *	Digital modulator	SMB, digital signal input
5	Control I/O	8-pin I/O connector, laser status, slow digital modulation
6	Fiber connector	FC/APC 3.0 PVC
7	Status indicator	LED indicator, indicates laser status

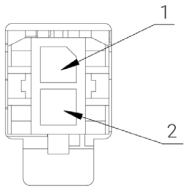
* Qomo 532nm laser doesn't have these high-speed modulation connectors

Polarization Direction Definition



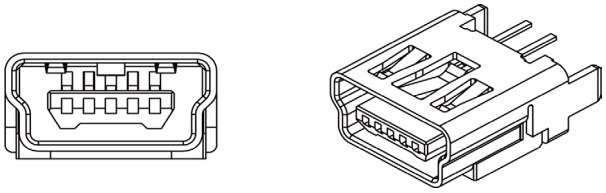
Electrical Interface Definition

1. Power connector refers to Molex 43025-0200

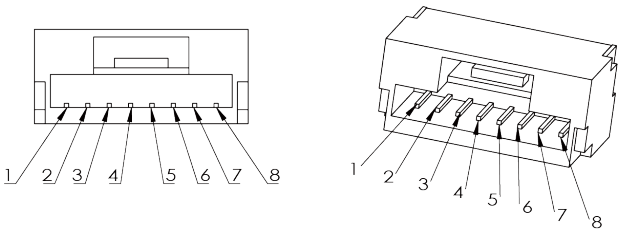


Pin	Signal Name
1	+12 V DC Power
2	GND

2. Mini-USB connector: Molex USB 2.0 mini socket



3. Control I/O: BM08B-NSHSS-TBT connector from JST



Pin#	PN	Type	Directio	Description
1	Error signal	LVTTL*	Out	Indicates laser error status Low: laser OK High: laser error Output impedance is <200 Ohm
2	Enable	LVTTL*	In	Laser enable * Low disable, high enable, default disable
3	Interlock	LVTTL*	In	Low: enable (shut down power supply) High: disable (default)
4	Power Monitor	Analog	Out	0–2 V represents 0–100% of the laser output power
5	Power Adjustment	Analog	In	0-5 V DC range represents 0~100% nominal power level
6		Null		Null
7		GND		GND
8		GND		GND

* High: >2 V; low: <0.8 V

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