

Fiber Coupled Laser Multimode High Power



976nm, 0.4nm linewidth, 60W, 105/125μm Fiber

DATASHEET

[Return to the Webpage](#)



Features

- 915-976nm Single Emitting laser
- Up to 900W High Output Power
- 200μm 0.22NA Fiber
- RoHS Compliance

Applications

- OCT
- Medical care
- Printing
- Material processing
- Pump source



Warning: The device can be damaged by a spike in applying voltage. Do not touch by hand or use a regular power supply. The device mounted on PCB is a cost-effective OEM module for professional system integration only, not intended for laboratory use, which be a protected turn-key boxed package. Information is believed to be accurate and is subject to change without notice. Some specific combinations of options may not be available. The user assumes all risks and liability in connection with the use of a product or its application.

Rev 02/08/26

The FCMH series diode lasers deliver up to 60 W of power through a 105 μm fiber, offering high brightness with simplified thermal management by distributing the diodes for reliable, consistent performance. A turn-key benchtop unit is available, fully integrated with power supply, fan-based cooling, power control, and built-in safety shut-off features for convenient and safe operation.

Due to their high sensitivity to electrostatic discharge, warranty coverage applies only to fully metal covered modules the benchtops, which include proper protection. Other versions of the lasers and photodetectors are not covered by any warranty. Please use them with great caution.

Specifications

Parameter	Min	Typical	Max	Unit
Operating output power	200		300	W
Range of available wavelength	975	976	977	nm
Spectral width @ FWHM		0.4		nm
Threshold current		0.55		A
Operating current		9.5	10	A
Operating voltage		12.55	12.6	V
Power conversion efficiency		50		%
Wavelength temperature coefficient		0.3		nm/°C
Slope efficiency		6.7		W/A
Fiber bend radius	50			mm
Fiber core diameter		105		μm
Fiber numerical aperture	0.2	0.22	0.24	
Beam numerical aperture (95% power)		0.18		NA
Fiber length		1		m
Loose tube		0.9		mm
Lead soldering temperature			250 (5sec.)	°C
Reverse Humidity	5%		95%	
Operating temperature range	15	25	50	°C
Storage temperature range	-40		80	°C

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link](#):

*The contact resistance between the diode and the heat sink is less than 1cm2 K/W.

P +1 781-935-1200

E sales@agiltron.com

W www.agiltron.com

Information contained herein is deemed to be reliable and accurate as of the issue date. We reserve the right to change the design or specifications at any time without notice. Agiltron is a registered trademark of Optowares Corporation in the U.S. and other countries.

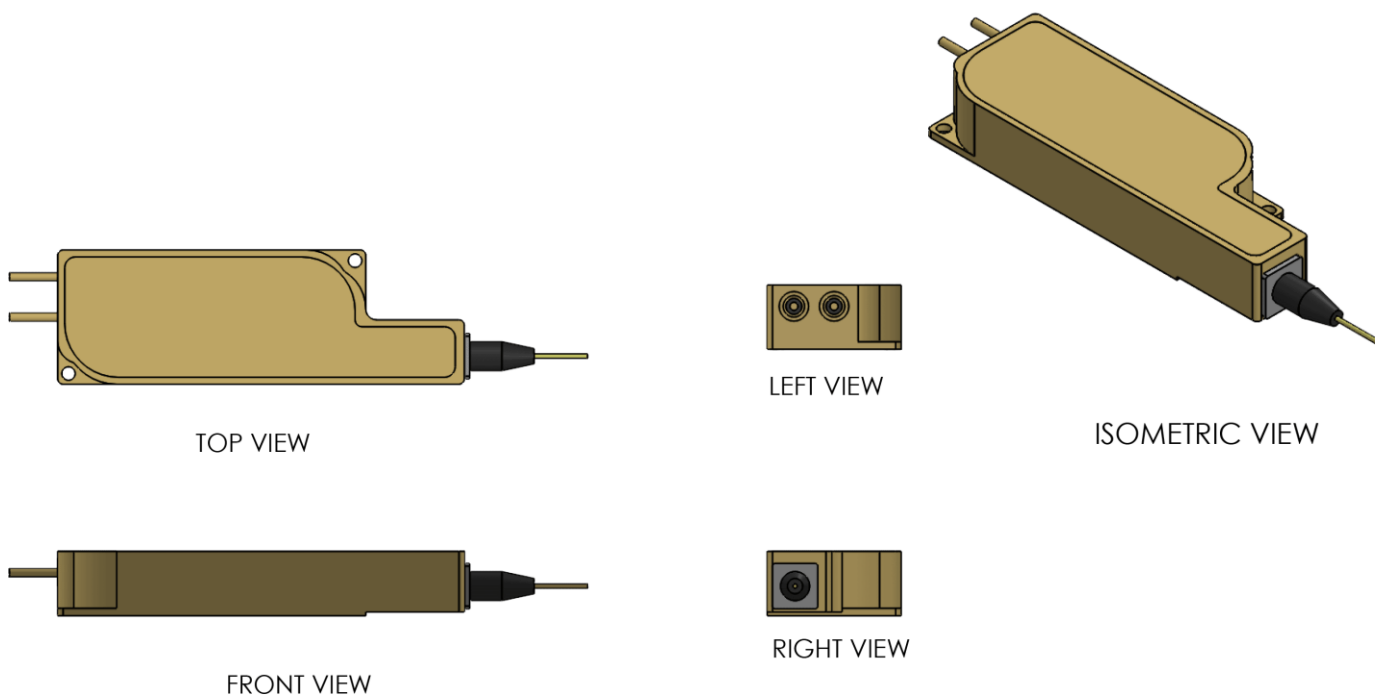
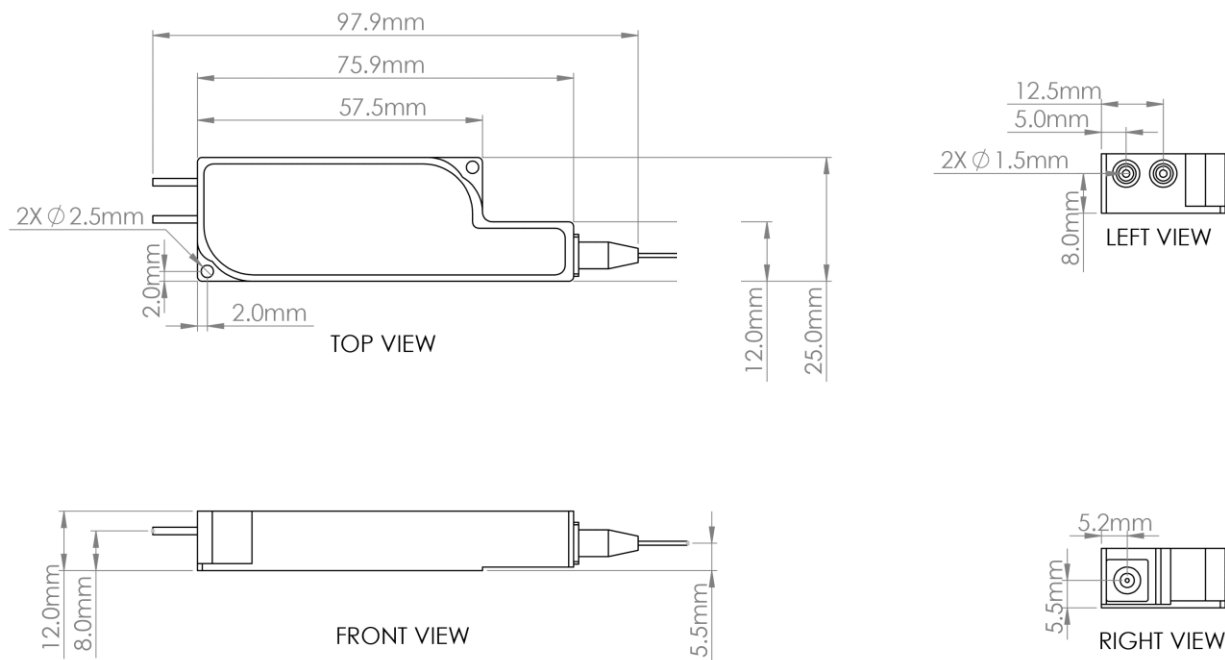
Fiber Coupled Laser Multimode High Power



976nm, 0.4nm linewidth, 60W, 105/125μm Fiber

DATASHEET

Mechanical Dimensions (mm)



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

P +1 781-935-1200

E sales@agiltron.com

W www.agiltron.com

Information contained herein is deemed to be reliable and accurate as of the issue date. We reserve the right to change the design or specifications at any time without notice. Agiltron is a registered trademark of Optowares Corporation in the U.S. and other countries.

Fiber Coupled Laser Multimode High Power



976nm, 0.4nm linewidth, 60W, 105/125μm Fiber

DATASHEET

Ordering Information (Part Number)

	976	05	B	1	1	2	1
Prefix	Wavelength	Output Power	Package	Fiber Type	Fiber Buffer	Fiber Length	Connector ^[1]
FCMH-	976nm = 976	3W = 03 10W = 01 20W = 02 50W = 05 100W = 10 200W = 20 250W = 25 300W = 30 320W = 32 340W = 34 550W = 55 900W = 90		105/125 = 1	0.9mm Tube = 1 3mm Tube = 3 Armor = A	0.5m = 1 1m = 2 1.5m = 3	Non = 1 SMA = 2

[1]. The default connector configuration uses fiber with 0.9 mm buffer protection. The connector cannot be installed directly onto bare fiber because the bare fiber is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer may remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SMF-28 fiber and decreases further for smaller-core fibers.

+1 781-935-1200

sales@agiltron.com

www.agiltron.com

Information contained herein is deemed to be reliable and accurate as of the issue date. We reserve the right to change the design or specifications at any time without notice.
Agiltron is a registered trademark of Optowares Corporation in the U.S. and other countries.

Fiber Coupled Laser Multimode High Power



976nm, 0.4nm linewidth, 60W, 105/125μm Fiber

DATASHEET

Benchtop Turnkey Unit



The HPML series High Power Fiber Coupled Laser Source is a turn-key unit, featuring ease of use and low cost with a manual or USB/GUI control. These all-in-one benchtop lasers integrate a laser, output tap monitor, controller, and heat dissipator, providing a convenient and reliable high-power laser source. The control has three options: low-cost constant current mode, and feedback constant output mode (having an output monitor). The unit can generate pulse output via modulating the laser directly (power and duration are settable via USB interface). Moreover, we offer a red-laser integrated fiber output for visual aid as well as a collimator at the fiber end options. A safety interlock is provided at the back. For power below 50W, the unit is cooled with internal fans. For higher power water cooling is required. We further offer matching chiller.

For details please click: <https://agiltron.com/product/high-power-fiber-coupled-laser-source-multimode/>

Ordering Information (Part Number)

Prefix	Wavelength	Power	Feedback *	Red Laser **	Cooling	Modulation	Fiber Core	Fiber Length	Connector ^[1]	Collimator ***
HPML-	980nm = 9 880nm = 8 808nm = 7 650nm = 6 532nm = 5 455nm = 4 355nm = 3 967nm = B 915nm = A Special = 0	5W = AA5 8W = AA8 10W = A10 22W = A12 ... 100W = 100 ... 200W = 200 280W = 280 500W = 500	No = 1 Yes = 2	No = 1 Yes = 2	Fan = 1 Water = 2	No = 1 Yes = 2	135μm = 1 200μm = 2 105μm = 5 400μm = 4 Special = 0	0.25m = 1 0.5m = 2 1m = 3 1.5m = 4 2m = 5 Special = 0	No = 1 SMA = 2 Special = 0	No = 1 Yes = 2

* Feedback control automatically maintains a constant laser power \$2350

** This option provided visual of the laser spot. \$980

*** Collimator selections go to <https://agiltron.com/product/high-power-fiber-optic-collimator/>

[1]. The default connector configuration uses fiber with 0.9 mm buffer protection. The connector cannot be installed directly onto bare fiber because the bare fiber is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer may remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SMF-28 fiber and decreases further for smaller-core fibers.

+1 781-935-1200

sales@agiltron.com

www.agiltron.com

Information contained herein is deemed to be reliable and accurate as of the issue date. We reserve the right to change the design or specifications at any time without notice.
Agiltron is a registered trademark of Optowares Corporation in the U.S. and other countries.

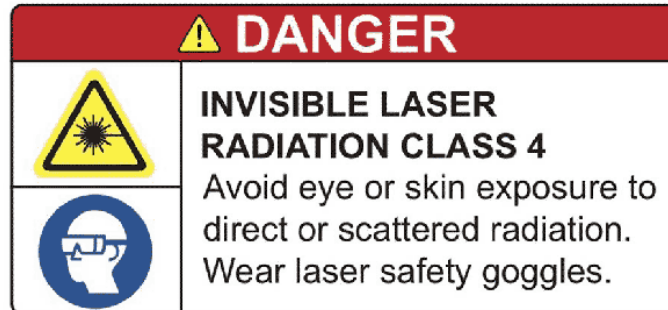
Fiber Coupled Laser Multimode High Power



976nm, 0.4nm linewidth, 60W, 105/125µm Fiber

DATASHEET

Laser Safety



Electrostatic Sensitivity



- Never touch laser diode and the module using hands
- Always use protections when handle a laser diode
- Recommend mounting the laser diode using an ionic gun and ESD finger cots



*Caution - Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
*IEC is a registered trademark of the International Electrotechnical Commission.
*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

P +1 781-935-1200

E sales@agiltron.com

W www.agiltron.com

Information contained herein is deemed to be reliable and accurate as of the issue date. We reserve the right to change the design or specifications at any time without notice.
Agiltron is a registered trademark of Optowares Corporation in the U.S. and other countries.