450nm Fiber Coupled FP Laser Source

Single mode, up to 30mW, 2nm, Benchtop or Module

DATASHEET

Return to the Webpage

Agiltron provides cost-effective fiber-coupled laser sources with a wide range emitting spectrum from 370nm to 2000nm and line width from 10kHz to broadband to select. Each benchtop laser source features a pigtailed laser and high-precision, low-noise auto-feedback drive electronics to ensure constant output power or a constant driving current, and an integrated temperature control unit maintains optimal operating conditions. Each unit features a front fiber output connector and a universal power supply compatible with 100 to 240 VAC. We offer two packages: benchtop for ease of use and compact module for system integration. The user interface benchtop includes an intuitive LCD display for independent control of output power and temperature via two front rotating knobs. The module has two front output power and temperature settings. All units have a built-in isolator option to prevent reflection-induced laser emissions instability. We produce fiber-coupled isolators from 370nm to 2000nm. An isolator is essential to obtain stable laser output.

Features

- Turnkey Laser Source
- High Stability
- Advanced Feedback Control

Applications

- Medical Laser Treatment
- Biotechnology
- Others

Specifications

Parameter		Min	Typical	Max	Unit
Threshold Current	SM		20	60	mA
	PM		25	60	
Operating Current	SM		120	140	mA
	PM		140	160	
Operating Voltage			6	7	V
Optical Output Power			30		mW
Center Wavelength@25℃		440	450	460	nm
Spectral Width				2	nm
Polarization Extinction Ratio (PM)		14	16	20	dB
Reverse Voltage				2.0	V
Recommend Operating Temperature			25		°C
Operating Case Temperature		-10		70	°C
Storage Temperature		-40		85	°C
Relative Humidity (noncondensing)				85	%

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]:

Rev 09/20/25

© Photonwares Corporation

P +1 781-935-1200 E sales@photonwares.com W www.agiltron.com

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

450nm Fiber Coupled FP Laser Source

Single mode, up to 30mW, 2nm, Benchtop or Module

DATASHEET

Benchtop Laser Source Operation Manual

- Plug in power cable
- Turn on Power Switch
- Setting the Output Power by rotating the knob
- Setting the laser diode Temperature by rotating the knob
- Connect a fiber path cable with matching connector (FC/APC is the default)
- Push the Emission switch to turn on the laser
- Measure the output power to verify

Module Laser Source Operation Manual

- Plug in power cable
- Turn on Power Switch
- Setting the Output Power by rotating the screw
- Setting the laser diode Temperature by rotating the screw
- Connect a fiber path cable with matching connector (FC/APC is the default)
- Push the Emission switch to turn on the laser
- Measure the output power to verify

© Photonwares Corporation
P +1 781-935-1200 E sales@photonwares.com W www.agiltron.com

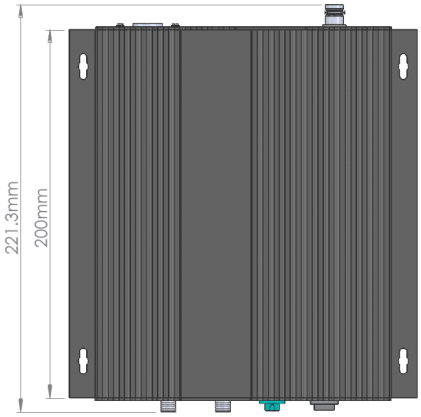
Information contained herein is deemed to be reliable and accurate as of the issue date. Photonwares reserves the right to change the design or specifications at any time without notice.
Agiltron is a registered trademark of Photonwares Corporation in the U.S. and other countries.

450nm Fiber Coupled FP Laser Source

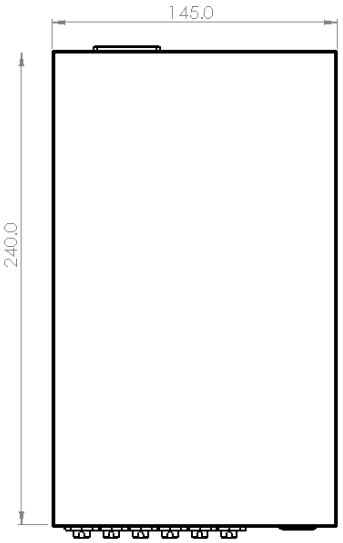
Single mode, up to 30mW, 2nm, Benchtop or Module

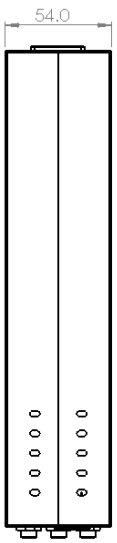
DATASHEET

Module (mm): Plug-Play (Power Supply Included)



Benchtop (mm): Plug-Play 100-240VAC, USB





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

© Photonwares Corporation
P +1 781-935-1200 E sales@photonwares.com W www.agiltron.com

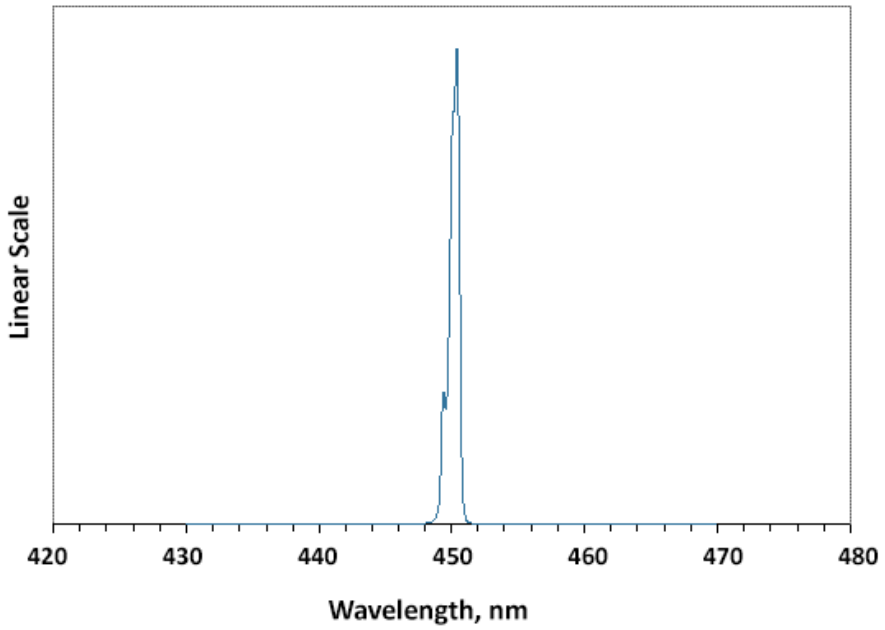
Information contained herein is deemed to be reliable and accurate as of the issue date. Photonwares reserves the right to change the design or specifications at any time without notice.
Agiltron is a registered trademark of Photonwares Corporation in the U.S. and other countries.

450nm Fiber Coupled FP Laser Source

Single mode, up to 30mW, 2nm, Benchtop or Module

DATASHEET

Typical Spectrum



Ordering Information (Part Number)

	☐☐☐☐	☐	☐	☐	☐	☐	☐	☐	☐
Prefix	**Wavelength**	**Power**	**Linewidth**	**Package**	**Isolator**	**Control Mode**	**TEC Cooling**	**Fiber Type**	**Connector** [1]
FCLS-	450nm = 0450	30mW = B	2nm = 1	Benchtop = 1 Module = 2	None = 1 Yes = 2	Constant Current = 2 Constant Power = 1	No = 1 Yes = 2	SM400 = 4 PM400 = A Special = 0	FC/APC = 3 FC/PC = 2 Non = 1 SC/PC = 4 SC/APC = 5 LC/PC = 7 LC/UPC = U Special = 0

[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.

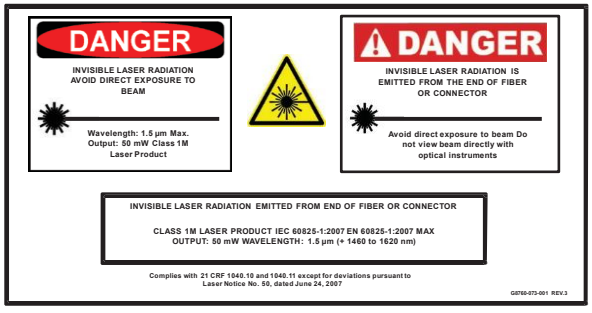
Information contained herein is deemed to be reliable and accurate as of the issue date. Photonwares reserves the right to change the design or specifications at any time without notice.
Agiltron is a registered trademark of Photonwares Corporation in the U.S. and other countries.

Laser Safety

This product meets the appropriate standard in Title 21 of the Code of Federal Regulations (CFR). FDA/CDRH Class 1M laser product. This device has been classified with the FDA/CDRH under accession number 0220191. All versions of this laser are Class 1M laser products, tested according to IEC 60825-1:2007 / EN 60825-1:2007. An additional warning for Class 1M laser products. For diverging beams, this warning shall state that viewing the laser output with certain optical instruments (for example eye loupes, magnifiers, and microscopes) within a distance of 100 mm may pose an eye hazard. For collimated beams, this warning shall state that viewing the laser output with certain instruments designed for use at a distance (for example telescopes and binoculars) may pose an eye hazard.

Wavelength = 1.3/1.5 µm.

Maximum power = 30 mW.



* 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.

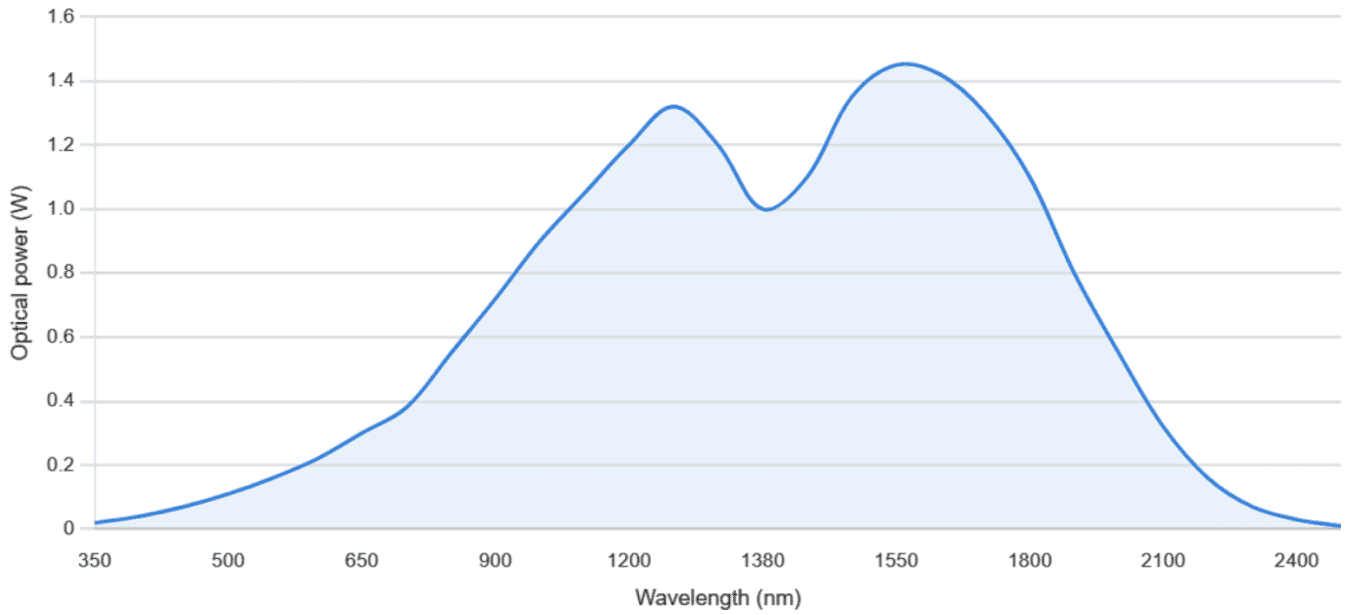
Information contained herein is deemed to be reliable and accurate as of the issue date. Photonwares reserves the right to change the design or specifications at any time without notice.
Agiltron is a registered trademark of Photonwares Corporation in the U.S. and other countries.

450nm Fiber Coupled FP Laser Source

Single mode, up to 30mW, 2nm, Benchtop or Module

DATASHEET

Regular Single Mode / Polarization Maintaining Fiber Optical Power Handing vs Wavelength



Single mode fiber optical power is limited by nonlinear effects in addition to absorption that increase loss and generate heat. The curve shows the approximate safe CW power envelope for standard single-mode fiber. Actual limits depend on fiber design, core size, length, and laser characteristics. Specialty fibers can significantly increase the power limit.

© Photonwares Corporation
P +1 781-935-1200 E sales@photonwares.com W www.agiltron.com

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