High Power Pulsed Single Mode 1550nm Laser Source

(SM or PM output fiber, up to 10W output power)

DATASHEET

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Agiltron high power pulsed 1550nm fiber lasers provide eye-safe single mode nano second pulse with a average output power up to 3W with a near diffraction-limited beam quality. The are all fiber high reliability construction using double cladding fiber pumping technology that efficiently converts multi mode lasers into highly coherent single mode laser. The laser source can be configured as a module or a turn key unit with build-in feedback power stabilization controller and power supply. Agiltron also provide customers design. We provide output beam collimator, as well as wavelength stabilization choices.

Warning: The standard connector is intended for low-power testing below 1W. Operating at higher power levels may cause damage to the connector and the laser core. For high-power applications, cutting off the connector and splicing is recommended. We also offer connectors capable of handling up to 10W, available by special order.

Features

- Low Cost
- High Stability
- High Reliability
- SM Beam Quality
- All-fiber Construction
- High Output Power

Applications

- LIDAR
- Sensing
- Test and measurement
- Instrument

Specifications

Parameter	Min	Typical	Max	Unit
Central Wavelength	1545	1550	1552	nm
Average Output Power [1]	0.5		3	W
Output Power Adjustment Range	10		100	%
Spectral Line Width (FWHM)	0.1	0.2		nm
Pulse Width	5.5	6	6.5	ns
Beam Quality		1.2	1.7	M^2
Option Mode		CW		
Stability of Output Power (15min) [3]		± 0.5	± 1.0	%
Stability of Output Power (8h) [3]		± 1	± 2	%
Output Isolation	30			dB
Polarization Extinction Ratio [4]	17	20		dB
Operating Temperature	-25		50	°C
Storage Temperature	-40		85	°C

Notes:

[1]. Output power is optional, typical output power: 0.5W, 1W, 2W, 5W, 10W.

[2]. For PM version only.

[3] The output power stability is measured under 25℃, 30 minutes after warm-up.

[4] Excluding connector.

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]:

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Mechanical Dimensions (Unit: mm)

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

Ordering Information

	☐	☐	☐	☐	☐	☐	☐	☐	☐
Prefix	**Wavelength**	**Output Power**	**Mode [1]**	**Linewidth**	**Interface**	**Fiber Type**	**Fiber Cover**	**Fiber Connector [2]**	**Back reflection Protector**
HPPL-	1550nm = 5	10W = T 5W = 5 2W = 2 1W = 1 Special = 0	Random = 1 PMER18dB = 2 PMER25dB = 3 PMER30dB = 4	4nm = 1 1nm = 2 Special = 0	USB = 1 RS232 = 2	SM28 = 1 PM1550 = 2	0.9mm tube = 1 3mm tube = 2 Special = 0	Non = 1 High Power FC/PC = 2 Special = 0	Non = 1 Yes = B

[1]. PMER- Polarization Maintaining Extinction Ratio. When select PM fiber, the max output is 5W

[2]. High-power FC/PC connector works in pairs with maximum rating of 5W. The system includes a front panel connector and a matching patch cable, where one end features the high-power FC/PC connector, and the other end is bare fiber for splicing. This product is priced at $950

Application Notes

Fiber Core Alignment

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness

Fibers with smaller core diameters (<5 μm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the how handling by expanding the core side at the fiber ends.

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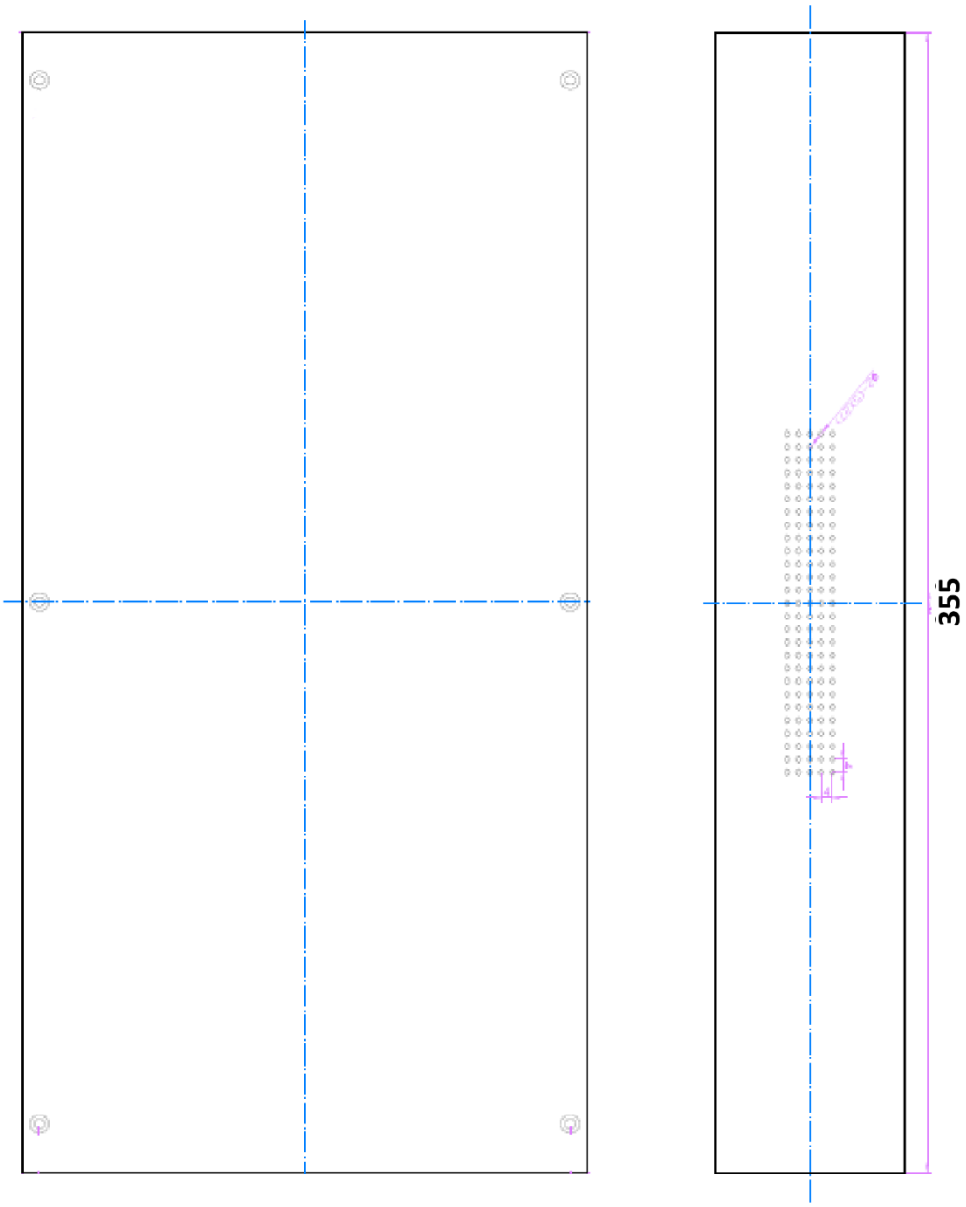

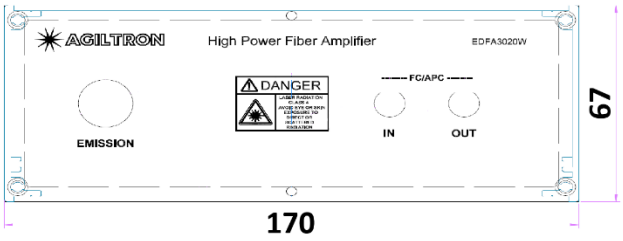

Mid-size Benchtop

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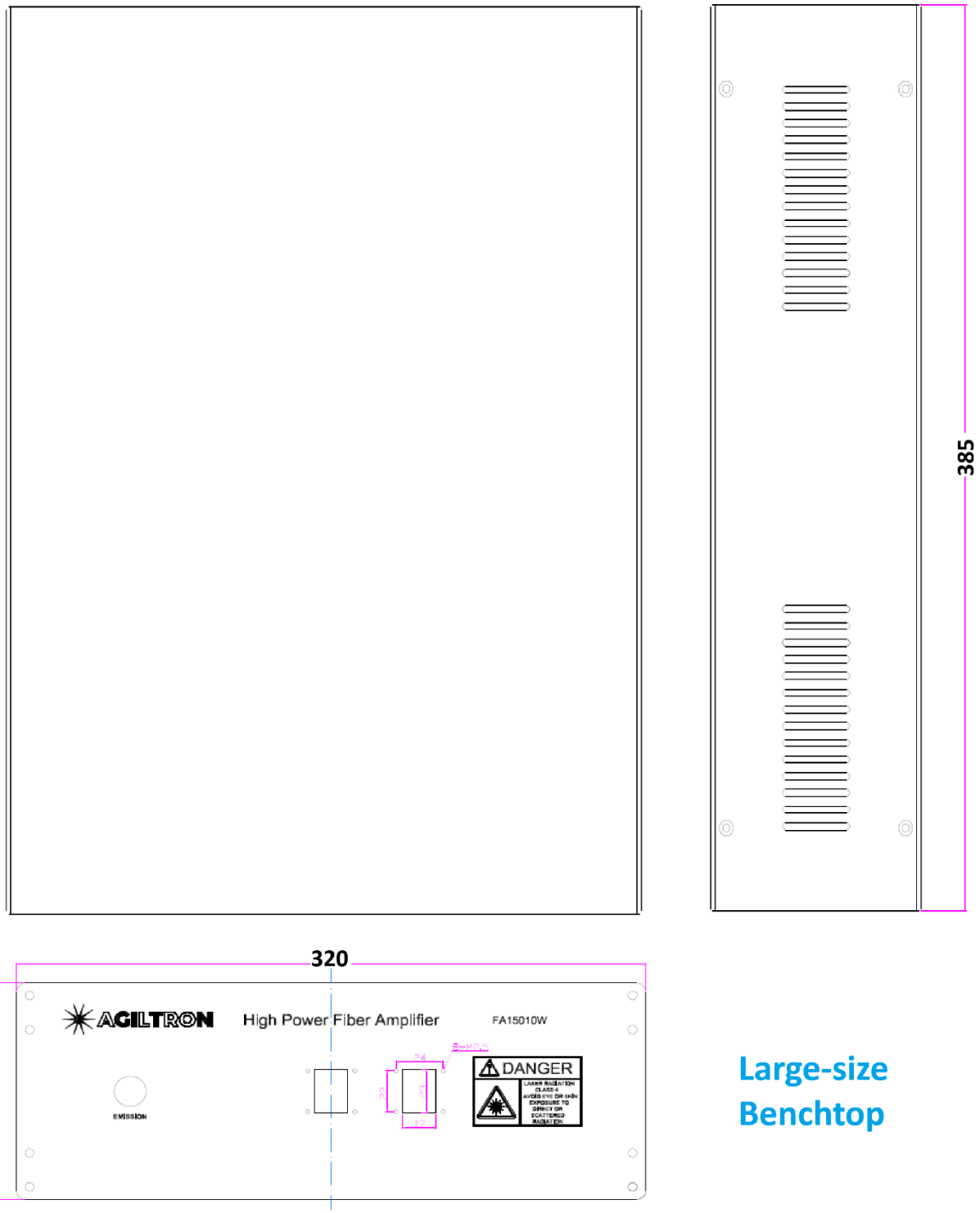
Mechanical Dimensions (mm)



Large-size Benchtop