

VGEN-SP Fiber Lasers

High Peak Power and Narrow Linewidth for High Performance in LIDAR and Range-Finding Applications



Incorporating state-of-the-art laser technology, Spectra Physics VGEN-SP lasers provide top performance in technically demanding LIDAR and range-finding applications. The VGEN-SP series of Ytterbium fiber lasers in MOPA configuration offers clients a constant high peak power over a wide range of pulse repetition rate values for stable high performance.

Offering high beam quality, low beam divergence, high peak power, high pulse energy, pulse-on-demand (POD) triggering, and E-Pulse energy control, VGEN-SP lasers are competitively priced yet offer the full range of specifications to meet a wide range of LIDAR applications.

With low weight and small size, the VGEN-SP series is easily deployed. Housed in a robust assembly that meets industrial standards and fitted with a metal armored fiber cable, VGEN-SP lasers deliver a high quality, near diffraction-limited output beam. The lasers' solid construction is maintenance free and reliable, ensuring long-life operation at low operational cost. VGEN-SP LIDAR lasers are rugged and can stand up to the tough conditions and requirements of airborne LIDAR applications for a robust and stable platform.

The VGEN-SP Advantage

- Up to 20 W average output power
- Up to 40 kW peak power
- 35–2000 kHz (tunable) repetition rate
- Pulse-On-Demand (POD) triggering
- E-Pulse energy control function
- Narrow line width down to <100 pm
- Tested at altitude up to 8,000 m (35.6 kpa) with maximum peak power
- High PRF enables higher scanning and data acquisition rates
- Comply with MIL-STD-801F Method 500.4

Applications

- LIDAR and LADAR
- Range finding
- Spectroscopy



VGEN-SP Fiber Lasers Specifications¹

	VGEN-SP-NL-25-10	VGEN-SP-NL-25-20	VGEN-SP-NL-40-20	VGEN-SP-NL-POD-25-20
Operational Mode	Short Pulse			Short Pulse, POD with E-Pulse
Wavelength	1064 nm			
Average Output Power	10 W	20 W		
Repetition Rate	35–1000 kHz		35–700 kHz	35–2000 kHz
Pulse Width, typical	3 ns			
Linewidth	<0.1 nm			
Peak Power, max	25 kW		40 kW	25 kW
Pulse Energy, max	75 μ J		100 μ J	75 μ J

General Parameters

Operational Voltage	12 VDC		
Operating Temperature	0 to 50 °C		-5 to 50 °C
Dimensions	45 x 120 x 275 mm		52 x 120 x 276 mm
Weight	2.3 kg		2.4 kg
Wall-Plug Efficiency	>20%		
Fiber Length	50 cm		
Output Fiber Collimator	6 \pm 1 mm diameter (other options available)		
Output Beam Parameters	$M^2 < 1.3$		

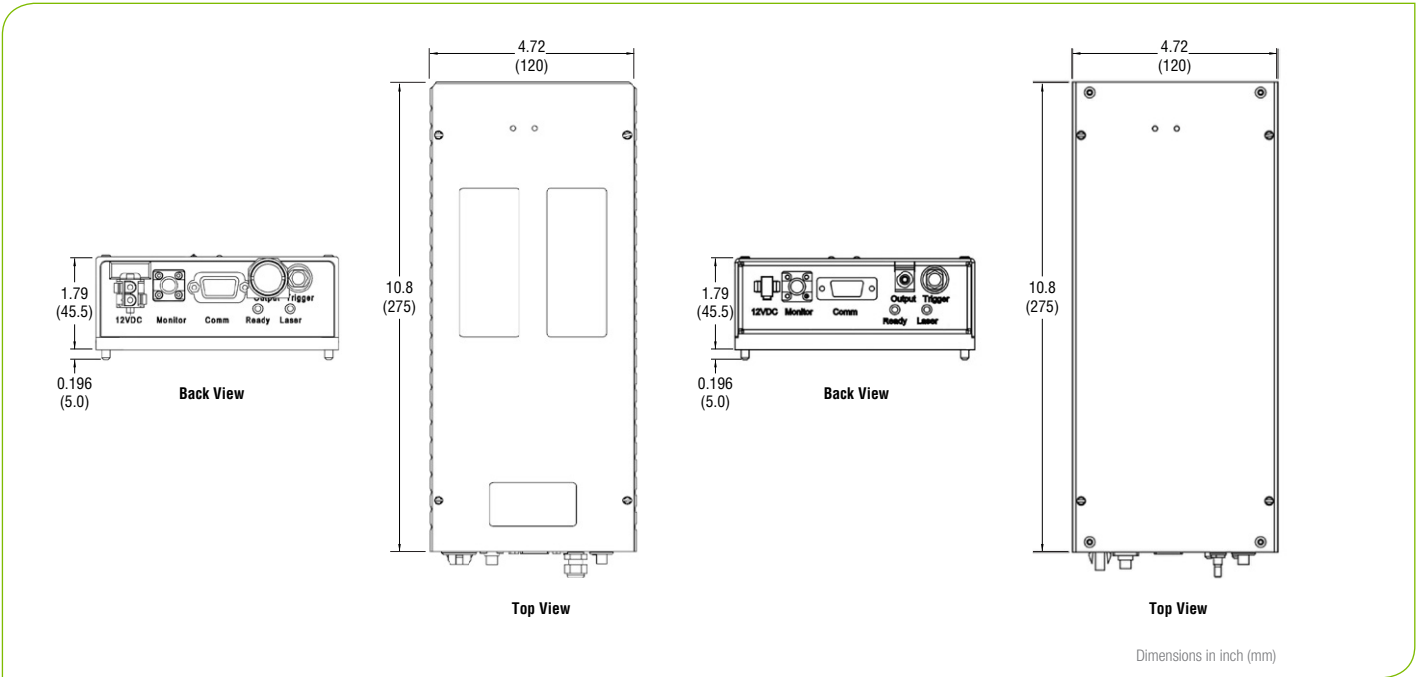
1. Due to our continuous improvement, all specifications are subject to change without notice.

Short Pulse, 3 ns¹



1. Typically measured performance; not a guaranteed or warranted specification.

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VGEN-SP Dimensions