

# StaxxBeam

By Oxxius

<b>Gamma</b>	Single Frequency Lasers
<b>Title</b>	StaxxBeam 553 nm (adjustable power)
<b>Reference</b>	L1C-553S (adjustable power)
<b>Description</b>	<p>The StaxxBeam 553 is a compact and powerful 553 nm laser source that delivers a narrow linewidth emission and a spectrum of outstanding purity. Its robust design, complete with readily available safety features makes it well-suited for both laboratory and industrial use.</p> <p>Its proven performance, stability, and versatility make it a trusted solution for laser Doppler anemometry, interferometry, structured illumination microscopy.</p> <p><b>Key features</b></p> <ul style="list-style-type: none"><li>• Single frequency emission, <math>\pm 1</math> MHz linewidth</li><li>• <math>\pm 1</math> pm wavelength stability</li><li>• 0%-100% user-adjustable power</li><li>• TEM<math>00</math> spatial mode</li><li>• <math>\pm 1.0\%</math> long-term power stability; low optical noise</li><li>• Integrated control electronics</li></ul> <p>Fully compatible with Oxxius' AOM option, or with MixxWave combiners, in combination with other laser lines.</p>



## Product Variations

Part Number	Puissance
L1C-553S-50-CSB-MPA	200mW
L1C-553S-100-CSB-MPA	100mW
L1C-553S-200-CSB-MPA	200mW

## Optical Characteristics

Emission wavelength	553 nm
Tolerance	( $\pm 0.4$ nm tolerance)
Control modes	Automated power control, fixed or adjustable power level
Optical noise	$\pm 0.5\%$ rms, 10Hz-20MHz bandwidth
Spectral linewidth	$\pm 1$ nm
Wavelength stability over 8 hours, temperature within $\pm 3^\circ\text{C}$	$\pm 1$ pm

<b>Wavelength drift over consecutive on/off cycles, temperature within <math>\pm 3^\circ\text{C}</math></b>	? 1pm
<b>Coherence length</b>	? 100 m
<b>Side mode suppression ratio, +/-0.5nm from the main peak</b>	? 30 dB
<b>Side mode suppression ratio, +/-5nm from the main peak</b>	? 60 dB typ.
<b>Beam diameter, 1/e<sup>2</sup> level, 50mm from the beam aperture</b>	0.7 $\pm 0.1\text{mm}$ ( $\pm 0.15\text{mm}$ for 200mW)
<b>Beam divergence, 1/e<sup>2</sup> level full beam, far field</b>	? 1mrad
<b>Beam quality factor M<sup>2</sup></b>	1.1
<b>Beam circularity, far field</b>	? 90%
<b>Polarization state</b>	Linear, vertical, extinction ratio ? 20dB

## General Specifications

<b>Power consumption</b>	20 W max.
<b>Supply voltage</b>	7V to 12V
<b>Operating temperature</b>	10°C to 50°C
<b>Storage temperature and humidity</b>	0°C to 60°C
<b>Warm up time</b>	?10 minutes
<b>Interfaces</b>	USB, RS-232, direct modulation inputs
<b>Dimensions (laser head)</b>	120x40x32 mm
<b>Weight (laser head)</b>	?1150 g
<b>Controller dimensions</b>	109x84x30 mm
<b>Compliance</b>	CE (incl. IEC 60825-1) and FDA 21 CFR 1040.10 / 1040.11
<b>Laser class</b>	3B
<b>Warranty</b>	24 months or 10000 hours, whichever occurs first

## Options

<b>Option 1</b>	Single-mode fiber coupling
<b>Option 2</b>	Multimode fiber coupling
<b>Option 3</b>	Heat management
<b>Option 4</b>	High rate modulation
<b>Option 5</b>	Optical Isolator
<b>Option 6</b>	OEM version