StaxxBeam

By Oxxius

Product range	Single Frequency Lasers
Product name	StaxxBeam 553 nm (fixed power)
Reference	LCX-553S (fixed power)
Description	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. Its proven performance, stability, and versatility make it a trusted solution for laser Doppler anemometry, interferometry, structured illumination microscopy. **Key features:** • Single frequency emission, ≤ 1 MHz linewidth • ≤ 1pm wavelength stability • TEM_{00} spatial mode • ±1.0% long-term power stability; low optical noise • Integrated control electronics Fully compatible with Oxxius' AOM option, or with MixxWave combiners, in combination with other laser lines.

Product Variations

Part Number	Power
LCX-553S-100-CSB-PPF	100 mW
LPX-553S-200-CSB-PPF	200 mW

Optical Characteristics

Emission wavelength	553 nm
Tolerance	±0.4 nm
Power stability over 8 hours, temperature within ±3°C	± 1 %
Control modes	Automated power control, fixed or adjustable power level
Optical noise	≤ 0.2 % rms, 10 Hz-20 MHz bandwidth
Spectral linewidth	1 MHz
Wavelength stability over 8 hours, temperature within ±3°C	≤ 1 pm
Wavelength drift over consecutive on/off cycles, temperature within ±3°C	≤ 1 pm
Coherence length	≥ 100 m
Side mode suppression ratio, +/- 0.5nm from the main peak	≥ 30 dB
Side mode suppression ratio, +/- 5nm from the main peak	≥ 60 dB typ.
Beam diameter, 1/e² level, 50mm from the beam aperture	0.7 ±0.1 mm (±0.15 mm for 200 mW)
Beam divergence, 1/e² level full beam, far field	≤ 1 mrad
Beam quality factor M²	≤ 1.1
Beam circularity, far field	≥ 90 %
Polarization state	Linear, vertical, extinction ratio ≥ 20 dB

General Specifications

Power consumption	20 W max.
Supply voltage	5 V to 12 V
Operating temperature	10 °C to 50 °C
Storage temperature and humidity	0 °C to 60 °C
Warm up time	≤ 10 minutes
Interfaces	USB, RS-232, direct modulation inputs
Dimensions (laser head)	100x40x32 mm
Weight (laser head)	≤ 300 g
Controler dimensions	109x84x30 mm
Compliance	CE (incl. IEC 60825-1) and FDA 21 CFR 1040.10 / 1040.11
Laser class	3B
Warranty	24 months or 10000 hours, whichever occurs first

Options

Single-mode fiber coupling
Multimode fiber coupling
Heat management
Electromechanical shutter
Flange
Optical Isolator
OEM version

Oxxius has a policy of continuous product improvement. Specifications may change without notice.