

StaxxBeam

By Oxxius

| | |
|----------------------|---|
| Product range | Single Frequency Lasers |
| Product name | StaxxBeam 553 nm (fixed power) |
| Reference | LCX-553S (fixed power) |
| Description | <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. Key features:</p> <ul style="list-style-type: none"> • Single frequency emission, ≤ 1 MHz linewidth • ≤ 1 pm wavelength stability • TEM₀₀ spatial mode • $\pm 1.0\%$ 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. |



Caption: LPX-553S

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 $\pm 3^{\circ}\text{C}$ | ± 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 $\pm 3^{\circ}\text{C}$ | ≤ 1 pm |
| Wavelength drift over consecutive on/off cycles, temperature within $\pm 3^{\circ}\text{C}$ | ≤ 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, $1/e^2$ level, 50mm from the beam aperture | 0.7 ± 0.1 mm (± 0.15 mm for 200 mW) |
| Beam divergence, $1/e^2$ level full beam, far field | ≤ 1 mrad |
| Beam quality factor M^2 | ≤ 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.