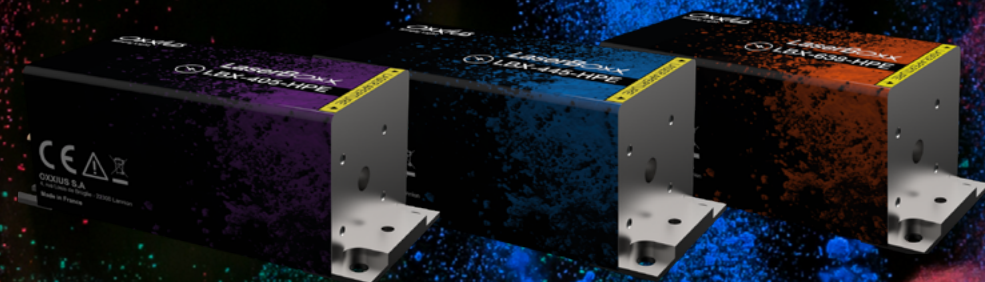


High Power Lasers



2022

Microscopy
Optogenetics
Illumination
High-throughput inspection

Polymer curing
Laser pumping
Lithography
Additive manufacturing

Description

The LaserBoxx HPE series are high power laser sources offering excellent performance and reliability in a compact, driver-integrated laser head.

The optical output is a multimode elliptical beam, either propagating in free space, or injected into an optical fiber.

Key features

- Laser head with integrated driver
- Elliptical collimated beam
- Multimode fiber coupling option
- Analog modulation function
- USB, RS232 and analog interfaces
- Industry standard compact package

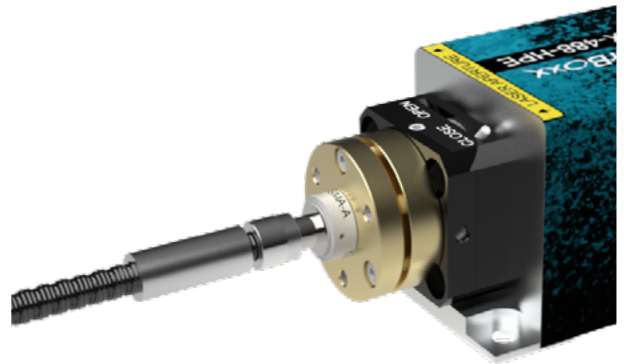
Multimode fiber coupling option

The ACX-FCMM option offers a cost-effective and compact way to couple the LaserBoxx beam into a multimode fiber. The coupling efficiency exceeds 80%.

The standard option features :

- round-core 50,100 or 200 μm core diameter
- SMA delivery connector
- 0.22 numerical aperture
- 2 meter fiber length
- liquid light guides with mm core diameter

Other configurations are available on request.



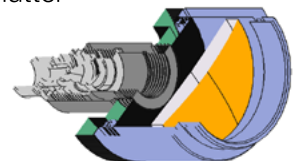
LBX-488 with multimode fiber output



L6Cc-HPE combiner with fiber delivery

Custom capabilities

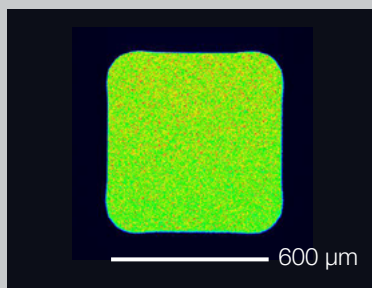
- LaserBoxx HPE sources combined into a L4Cc or L6Cc wavelength combiner
- Speckle reducer option
- Square or hexagonal-shaped delivery fiber core
- Electro-mechanical shutter
- Beam-shaping optics



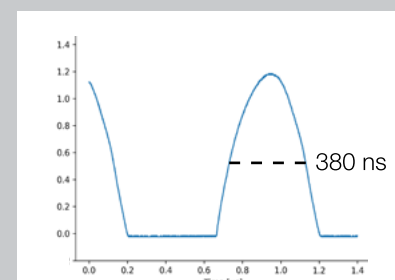
Example of collimator

Performances

Power distribution out of a square-core fiber (LBX-488-1000-HPE)



LBX-520-800-HPE modulated output: 380ns FWHM pulses, 1MHz repetition rate

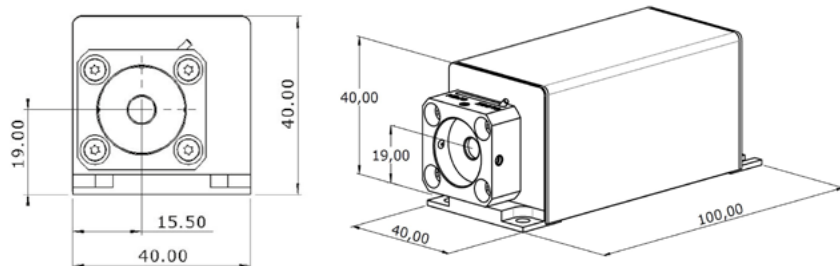


Specifications

	Emission wavelength (typ.)	Linewidth	Power stability over 8h and ±3K	Output power continuous wave	Beam dimensions (typ.) at 1/e², at laser aperture	Analog modulation function 0-5V input voltage		Multimode fiber coupling option		Supply voltage
						Bandwidth 3dB cut-off frequency, ACC	Rise / Fall time 10 -90%, ACC	Delivered power	Fiber core diameter	
LBX-375	375 nm (±5 nm)	≤ 5 nm 2 nm typical	± 1% APC	200, 400 mW	3.0 x 1.4 mm	DC-1 MHz	≤ 300 ns	160, 320 mW	50 μm or larger	5 - 12 VDC
LBX-405	405 nm (±5 nm)		± 1% Automatic power control (APC) and Automatic current control (ACC)	900, 1200 mW	2.6 x 1.2 mm		≤ 200 ns	720, 960 mW		9 - 12 VDC
LBX-450	450 nm (±10 nm)			650, 1200 mW	2.6 x 0.7 mm			500, 950 mW		
LBX-473	473 nm (±5 nm)			1000 mW	2.6 x 1.2 mm			800 mW		
LBX-488	488 nm (±5 nm)			1000 mW	2.2 x 1.2 mm			800 mW		
LBX-520	520 nm (±10 nm)			800 mW	2.0 x 0.5 mm			600 mW		
LBX-638	638 nm (±10 nm)			1100 mW	1.3 x 4.5 mm			≤ 500 ns	750 mW	200 μm or larger
LBX-750	750 nm (±5 nm)		± 1% ACC	1200 mW	3.8 x 1.9 mm		950 mW			
LBX-785	785 nm (±5 nm)			800 mW	3.8 x 1.9 mm		640 mW			
LBX-830	830 nm (±5 nm)			1200 mW	5.2 x 2.6 mm		960 mW			
LBX-940	940 nm (±10 nm)			600 mW	3.8 x 1.9 mm		450 mW			
LBX-980	980 nm (±10 nm)			1000 mW	3.5 x 1.5 mm		800 mW			

Plug and Play, CDRH-compliant versions

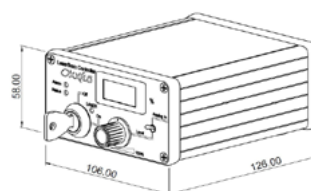
Laser head



	Plug and Play version	OEM version
Compliance	CE FDA 21 CFR 10s40.10/1040.1	FDA 21 CFR 1040.10 / 1040.11
Operating temperature	10 - 38°C ambient air with optional heat sink	10 - 50°C baseplate
Power consumption	≤ 25 W	
Storage temperature	0 to 60°C	
Supply voltage	100 to 240 VAC external power supply included	see table hereabove
Warm-up time	≤ 2 minutes	
Interfaces	USB, RS-232, dedicated electronic interface	

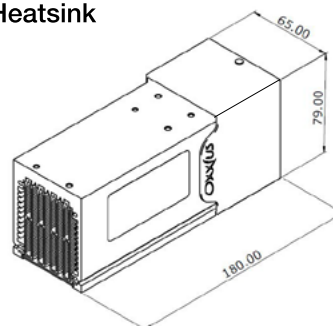
Power-adjustable versions (PPA)

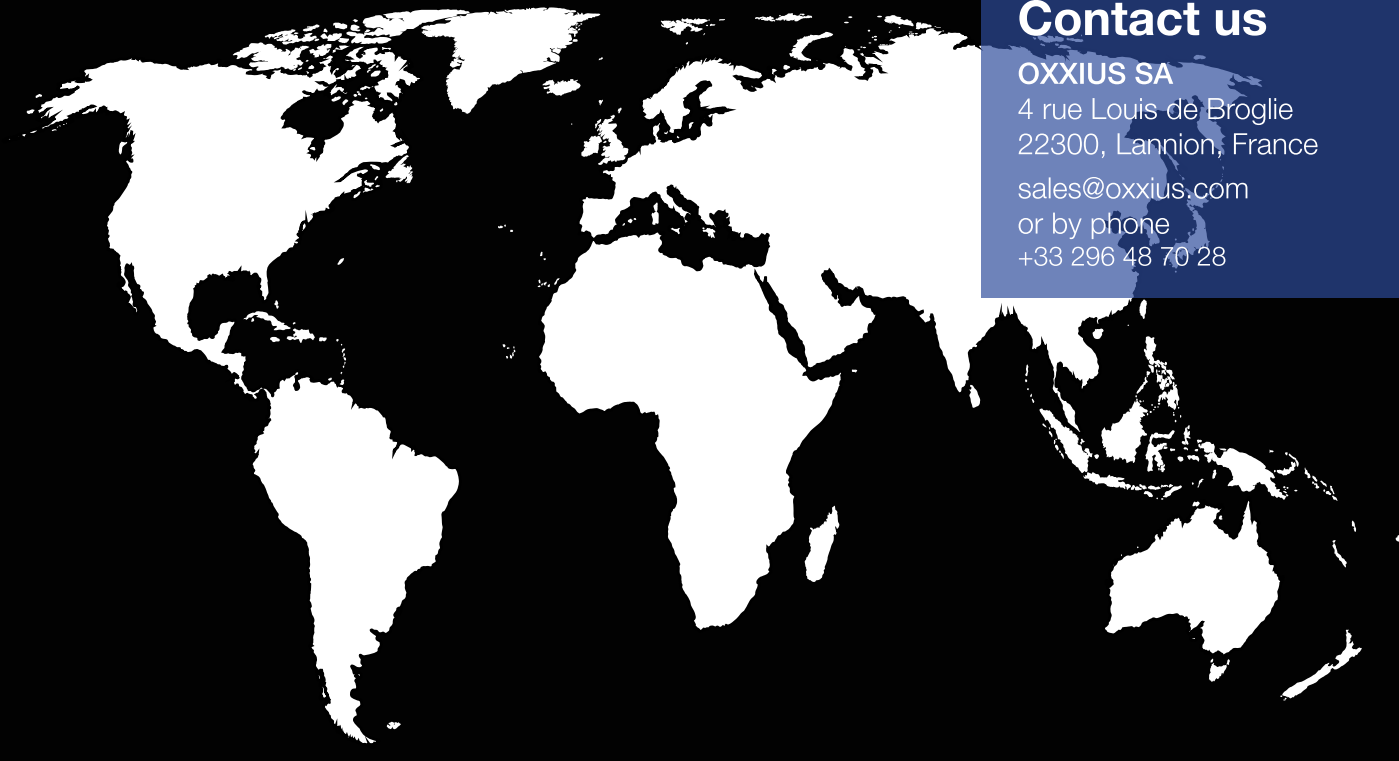
ControlBoxx controller



For improved stabilization (ACX-HTSK)

Heatsink





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