

High Power Laser Diode Modules



The LaserBoxx HPE series is a high power laser diode module offering excellent performance and reliability in a compact driver integrated laser head.

It comes in free space multimode elliptical beam or with removable MM fiber coupling.

LaserBoxx HPE series

UV to IR Laser Diode Modules

Microscopy
Medical
Illumination
High-Throughput inspection
Polymer curing
Laser pumping
Sensor

Laser head with integrated drivers
Elliptical Collimated beam
Multimode fiber coupling option
Analog modulation
USB, RS232 and Analog interfaces
Industry standard compact package

375 405 450 473 488 520 638 750 785 830 940 980

Specifications

Technology	LBX-375 HPE	LBX-405 HPE	LBX-450 HPE	LBX-473 HPE	LBX-488 HPE	LBX-520 HPE	LBX-638 HPE	LBX-750 HPE	LBX-785 HPE	LBX-830 HPE	LBX-940 HPE	LBX-980 HPE
Multimode laser diode												
Optical characteristics												
Emission wavelength (typ.)	375 nm	405 nm	450 nm	473 nm	488 nm	520 nm	638 nm	750 nm	785 nm	830 nm	940 nm	980 nm
Wavelength range	± 5 nm	± 5 nm	± 10 nm	± 5 nm	± 5 nm	± 10 nm	± 10 nm	± 5 nm	± 5 nm	± 5 nm	± 10 nm	± 10 nm
Linewidth	≤ 5 nm; 2 nm typical											
Output power, continuous wave	200, 400 mW	900, 1200 mW	650, 1200 mW	1000 mW	1000 mW	800 mW	1100 mW	1200 mW	800 mW	1200 mW	800 mW	1000 mW
Control mode(s)	APC	Automatic power control (APC), Automatic current control (ACC)					APC/ACC		Automatic current control (ACC)			
Power stability over 8 hours and within ±3°K	± 1 %											
Transverse multimode free-space beam (*)												
Beam dimensions (typ.) at 1/e ² , at laser aperture	3.0 x 1.4 mm	2.6 x 1.2 mm	2.6 x 0.7 mm	2.6 x 1.2 mm	2.2 x 1.2 mm	2.0 x 0.5 mm	4.5 x 4.5 mm	1.9 x 3.8 mm	3.8 x 1.9 mm	5.2 x 2.6 mm	3.8 x 1.9 mm	3.5 x 1.5 mm
Beam divergence (typ.) at 1/e ² , full angle, in far field	1.4 x 2.2 mrad	0.2 x 2.6 mrad	0.2 x 4.0 mrad	0.2 x 2.6 mrad	0.2 x 2.6 mrad	0.2 x 2.6 mrad	3 x 0.2 mrad	6 x 0.3 mrad	0.3 x 15 mrad	0.3 x 22 mrad	0.3 x 15 mrad	0.2 x 12 mrad
Modulation functions												
Analog modulation	0-5V input voltage											
Bandwidth	DC-1 MHz											
3dB cut-off frequency, ACC mode	DC-1 MHz											
Rise / fall time 10%-90%, ACC mode	≤ 300 ns	≤ 200 ns					≤ 500 ns	≤ 200 ns				
MM fiber coupling option (*)												
Output power	160, 320 mW	720, 960 mW	950 mW	800 mW	800 mW	600 mW	750 mW	950 mW	640 mW	960 mW	600 mW	800 mW
Fiber core diameter	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 200 μm	≥ 200 μm	≥ 100 μm	≥ 100 μm
Supply Voltage OEM version	5 - 12 VDC	9 - 12 VDC					5 - 12 VDC					

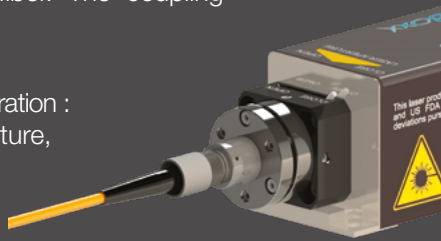
(*) Specifications at nominal power

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%.

Standard patchcord configuration :

- 0.22 numerical aperture,
- SMA connector,
- 2 m fiber length.



Other configurations are available on demand.

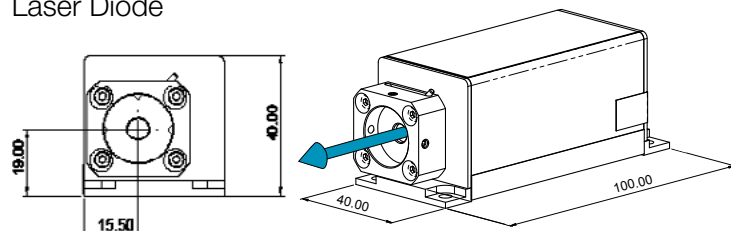
CUSTOM CAPABILITIES:

- L6Cc-HPE wavelength combiner
- Wavelength selection
- Electro-mechanical shutter
- External modulator
- Specific beam shaping

Contact us:

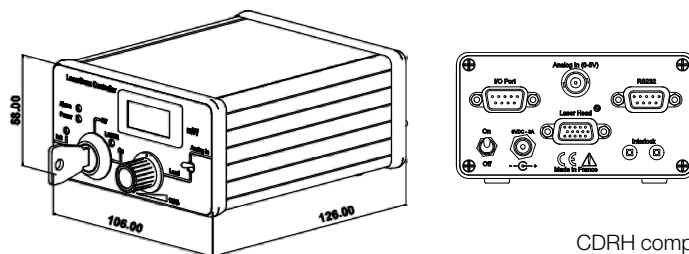
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LBX series, Plug & Play Laser Diode



The heatsink is optional

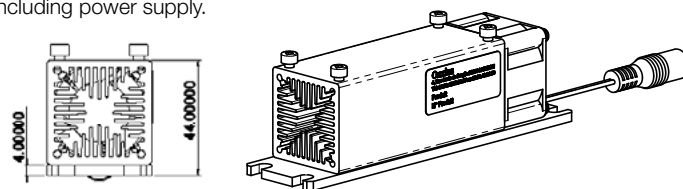
P&P ControlBoxx



CDRH compliant

Optional heatsink for LCX series & LBX series

Optional air-forced heat sink for maximum ambient temperature of 38°C. Including power supply.



VISIBLE AND INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT

VISIBLE AND INVISIBLE LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
Power up to 500 mW