

High Power Laser Diode Modules



LaserBoxx HPE series

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.

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

UV to IR
Laser Diode Modules

375

405

450

473

525

638

785

Specifications

	LBX-375-HPE	LBX-405-HPE	LBX-450-HPE	LBX-473-HPE*	LBX-525-HPE*	LBX-638-HPE	LBX-785-HPE
Technology	Multimode laser diode						
Optical characteristics							
Emission wavelength (typ.)	375 nm	405 nm	450 nm	473 nm	520 or 525 nm	638 nm	785 nm
Wavelength range	± 5 nm	± 5 nm	± 10 nm	± 5 nm	± 10 nm	± 10 nm	± 5 nm
Linewidth	≤ 5 nm; 2 nm typical						
Output power, continuous wave	200 mW	600, 1000* mW	650, 1200* mW	1000 mW	800 mW	650 mW	800 mW
Control mode(s)	Automatic power control (APC), 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	2.0 x 0.5 mm	1.3 x 4.5 mm	3.8 x 1.9 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	7 x 0.2 mrad	0.3 x 15 mrad
Modulation functions							
Analog modulation	0-5V input voltage						
Bandwidth 3dB cut-off frequency, ACC mode	≥ 1 MHz						≥ 2 MHz
Rise / fall time 10%-90%, ACC mode	≤ 200 ns						≤ 200 ns
MM fiber coupling option (!)							
Output power	160 mW	480, 800 mW	950 mW	800 mW	600 mW	520 mW	640 mW
Fiber core diameter	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 50 μm	≥ 200 μm

(!) Specifications at nominal power
* Preliminary

Other available wavelengths : 830nm/1200mW, 940nm/600mW

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.

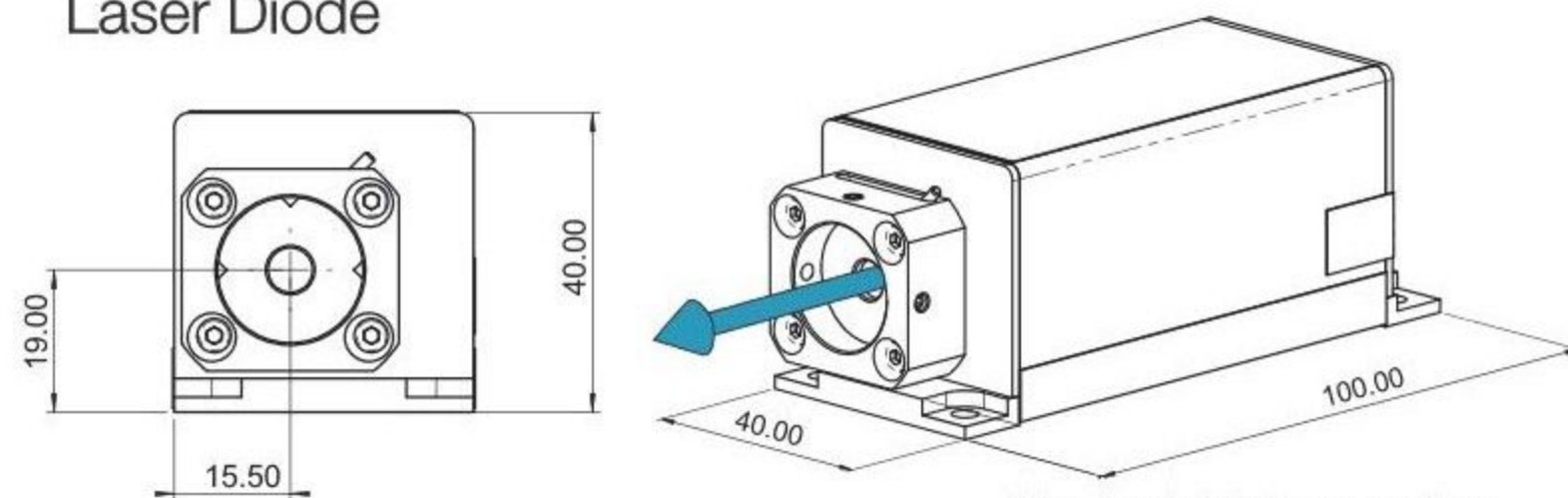
Custom capabilities:

- Wavelength selection
- Electro-mechanical shutter
- Wavelengths combiner
- External modulator
- Specific beam shaping

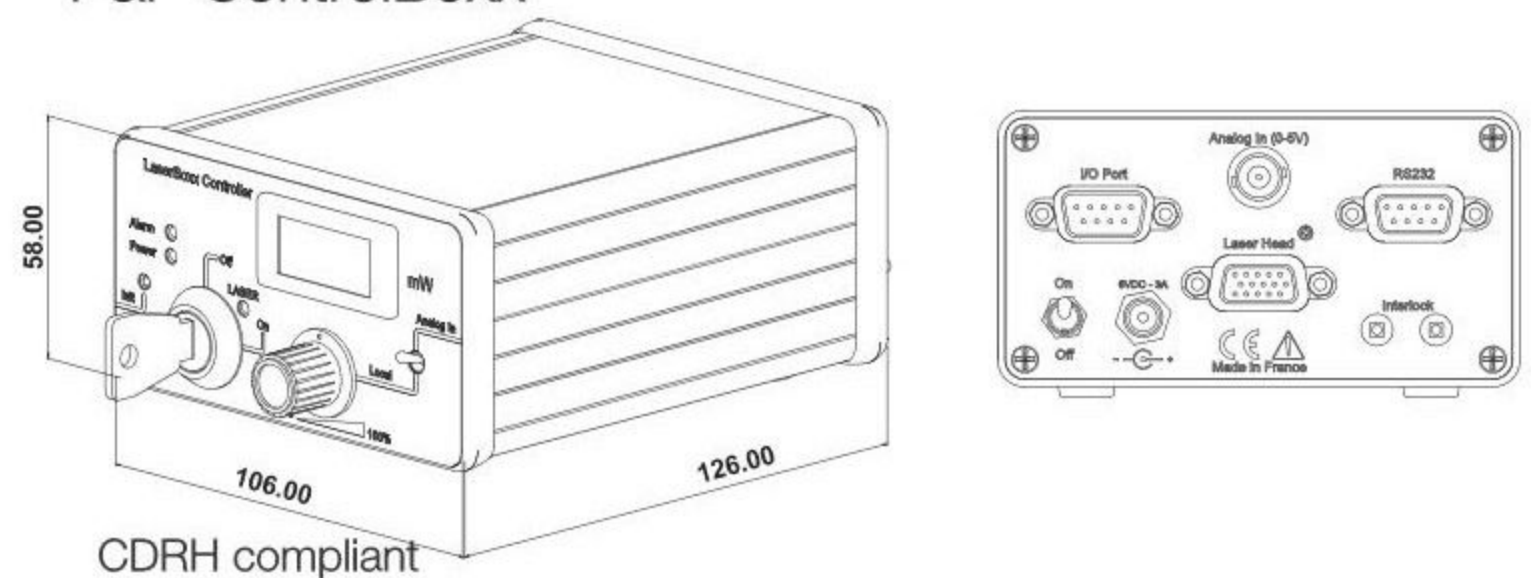
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LBX series, Plug & Play Laser Diode

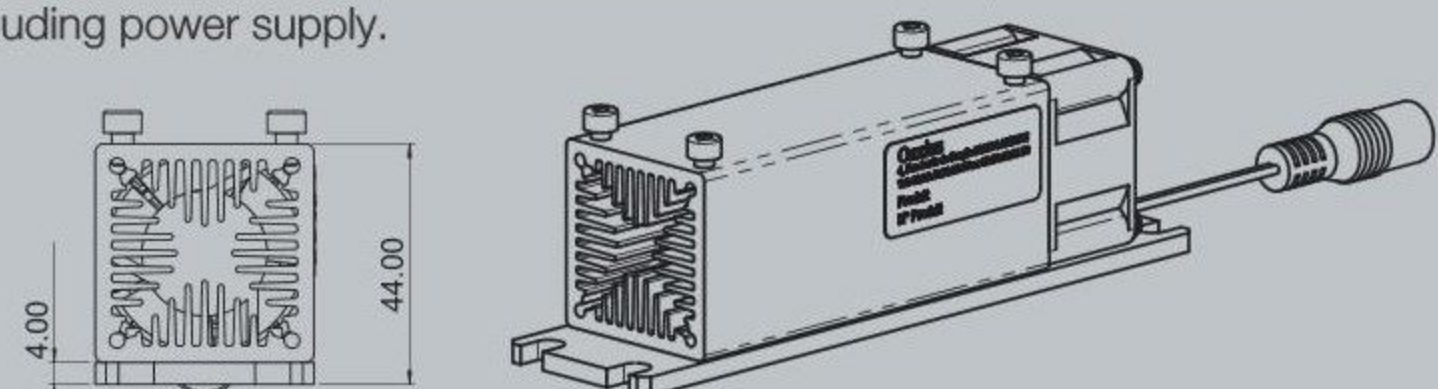


P&P ControlBoxx



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 EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT
Power up to 500 mW

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