

# LBX-405

## Laser Diode

### Optical characteristics \*

Emission wavelength	405 nm ( $\pm 5$ nm)	
Linewidth	$\leq 1.5$ nm	
Output power	<b>Free space</b>	<b>Fiber coupled</b>
	50 mW	35 mW
	100 mW	70 mW
	180 mW	125 mW
	300 mW	210 mW
Control mode(s)	Automatic Power Control (APC) Automatic Current Control (ACC)	
Power stability over 8 hours and within $\pm 3k$	$\pm 0.5\%$	
Power adjustment range	0 - 100%	
Optical noise %RMS, 10Hz - 20MHz bandwidth	$\leq 0.2\%$	

### — Transverse singlemode free-space beam

Beam waist diameter (typ) at $1/e^2$ , 50mm from output aperture	0.7 mm
Beam divergence at $1/e^2$ , full angle, in far field	$\leq 1$ mrad
Beam quality factor ( $M^2$ )	$\leq 1.25$
Beam circularity, in far field	$\geq 90\%$
Polarization extinction ratio (typ)	100:1
Polarization state	linear, vertical at $\pm 5^\circ$

### — Modulation functions

#### Digital Modulation

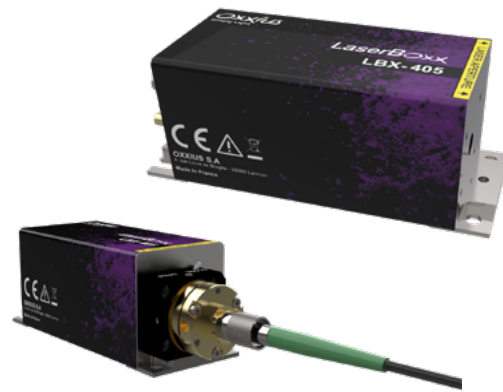
Max modulation frequency	150 MHz
Rise/fall time, 10%-90%	$\leq 2$ ns

#### Analog Modulation

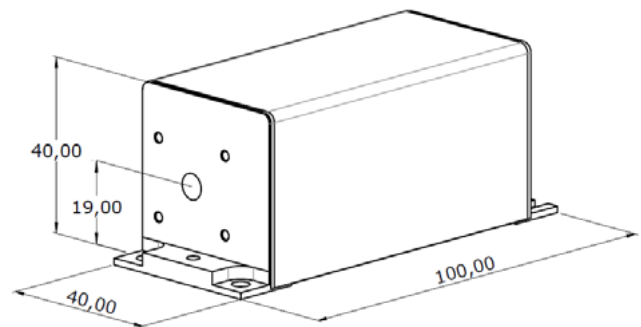
Bandwidth 3dB cut-off frequency, ACC mode	$\geq 3$ MHz
Rise/fall time, 10%-90%	$\leq 150$ ns

### Fiber coupling option

	SM and PM Fiber	MM Fiber (50 $\mu$ m, 0.22 NA)
Coupling Efficiency	$\geq 70\%$	$\geq 80\%$
Polarization Ratio (PMF only)	100 : 1	n/a
Fiber Output Connector	FC-APC FC/PC, FCP8 on demand	FC-APC
Power stability over 8 hours and within $\pm 3k$	$\pm 2\%$	$\pm 2\%$
Fiber length	2.0 m	2.0 m



### Mechanical drawings



### — Plug and Play version provided with :

- ControlBoxx
- Power supply

### Options

- Electro-mechanical shutter
- Heat sink
- Clean-up filter

### General specifications

	Plug and Play version	OEM version
Compliance	CE FDA 21 CFR 1040.10/1040.1	FDA 21 CFR 1040.10 / 1040.11
Operating temperature	10 - 38°C ambient air with optional heat sink	10 - 50°C baseplate
Power consumption	$\leq 25$ W	$\leq 10$ W
Storage temperature	0 to 60°C	
Supply voltage	100 to 240 VAC external power supply	5 to 12 VDC
Warm-up time	$\leq 2$ minutes	
Interfaces	USB, RS-232, dedicated electronic interface	

Warranty : 12 months from shipment date  
\*Specifications at nominal power



### CONTACT US

Oxxius S.A  
4 rue Louis de Broglie  
F-22300 Lannion, France

Phone : +33 296 48 70 28  
sales@oxxius.com  
www.oxxius.com