

# LBX-642

Diode based laser source

## Optical characteristics \*

Emission wavelength 642 nm (-7/+5 nm tolerance)

Linewidth, FWHM  $\leq 1.2$  nm

Part number	Free space output	Fiber-coupled output	
		Single mode	Multi mode fiber
LBX-642-140-CSB-(OE/PPA)	140 mW	98 mW	112 mW

Power stability  $\pm 0.5\%$   
over 8 hour, temperature within +/-3°C

Power adjustment range 0 to 100%

Control modes Automatic Power Control (APC)  
Automatic Current Control (ACC)

Optical noise  $\leq 0.2\%$  rms  
10 Hz-20 MHz bandwidth

## External modulations

### Analog Modulation

Rise / fall time  $\leq 150$  ns

-3dB modulation bandwidth  $\geq 3$  MHz

### Digital Modulation

Rise / fall time  $\leq 2$  ns

-3dB modulation bandwidth  $\geq 150$  MHz

## Transverse singlemode free-space beam

Beam diameter (typ) at  $1/e^2$ ,  
5 cm from the beam aperture 1 mm

Beam divergence at  $1/e^2$   
full beam, in far field 1.3 mrad

Beam quality factor  $M^2 \leq 1.25$

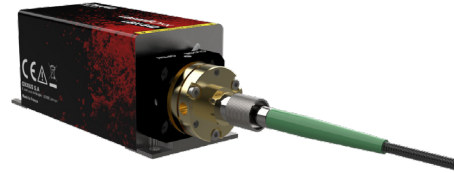
Beam circularity, in far field  $\geq 90\%$

Polarization state Linear, vertical at  $\pm 5^\circ$

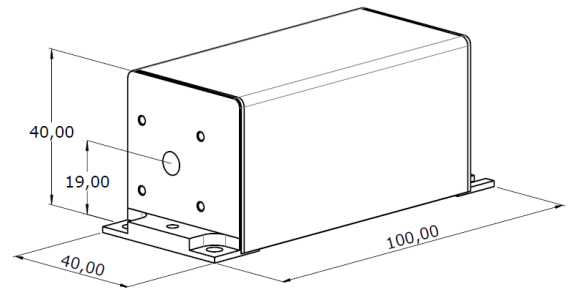
Polarization  $\geq 100:1$

## 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 to 38°C ambient air with optional heat sink	10 to 50°C baseplate
Power consumption	2 W typ. / 10 W max.	
Storage temperature Humidity	0 to 60°C Up to 90%RH, non-condensing	
Supply voltage	100 to 240 VAC external power supply	5 to 12 VDC
Warm-up time	$\leq 2$ minutes	
Interfaces	USB ControlBoxx controller	USB, RS-232, electronic interface



## Mechanical drawings



## Plug and Play version provide with:

- ControlBoxx controller
- Manual shutter
- DC power supply

## Available options

- OPT-SHTE-LCX Electro-mechanical shutter
- ACX-HTSK-1 Heat sink for operation in ambient air up to 38°C
- ACX-EXK Flange for improved stability
- OPT-CLUP-642 Clean-up filter

## Fiber coupling options \*\*

	ACX-FCSMUV or ACX-FCPMUV	ACX-FCMM-R50
Power stability over 8 hours and within $\pm 3k$	$\pm 2.0\%$	$\pm 2.0\%$
Fiber optical characteristics	3.5 $\mu$ m core diameter 0.11 N.A	50 $\mu$ m core diameter 0.22 N.A
Polarization extinction ratio (ACX-FCPM only)	$\geq 100:1$	n/a
Fiber output connector	FC/APC	FC/APC
Fiber length	2 m	2 m

Warranty : 12 months from shipment date

\*Specifications at nominal power

\*\* Variant are available on demand



## 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