

# LIMO CA CB Series

## HIGH-POWER DIODE LASER

**LIMO**  
Lissotschenko Mikrooptik



- High brightness laser for medical, pump and material processing applications
- Compact dimensions
- Passively cooled
- 2 temperature sensors (NTC/PT100)

Optical data		
CW – nominal output power (W)	35	35
Centre wavelength $\lambda$ (nm)	805-810, 915, 940, 975-980 <sup>1</sup>	
Tolerance of $\lambda$ (nm)	$\pm 10 (\pm 3, \pm 2)$ <sup>2</sup>	
Spectral width (FWHM) (nm)	$< 5 (<4)$ <sup>2</sup>	
Temperature drift of $\lambda$ <sup>3</sup> (nm/K)	~0.3, ~0.35, ~0.4	
Beam data		
Beam size at output plane (FW 1/e <sup>2</sup> ) (mm)	$< 10 \times 5.5$	$< 10 \times 2.5$
Divergence (FW 1/e <sup>2</sup> ) (mrad)	$< 9 \times 7$	$< 9 \times 14$
Electrical data		
Typical operation current (start of lifetime) (A)	42	42
Max. Operation current (start of lifetime) (A)	50	50
Max. Operation current (end of lifetime) (A)	60	60
Typical threshold current (A)	5 - 8	
Typical efficiency (%)	45	45
Typical slope efficiency (W/A)	1.0	
Operation voltage (V)	$< 2$	
Reverse voltage	0	
Thermal conditions		
Diode operation temperature <sup>4</sup> (°C)	+15....30	
Storage temperature (°C)	-20....+60	
Recommended heat sink capacity (W)	$> 80$	
Recommended heat sink thermal resistance (K/W)	$< 0.1$	
Other specifications		
Expected lifetime <sup>5</sup> (hours)	20,000	
RoHS 2002/95/EC and CE compliant	YES	
Dimensions of laser head (connectors not included) (mm)	82x25x18	52x25x18
Weight (g)	180	150

<sup>1</sup>Other wavelength on request, <sup>2</sup>optional, <sup>3</sup>Depending on wavelength, <sup>4</sup>Measured by NTC/PT100 at temperature measurement hole defined in drawing, <sup>5</sup>According to ISO 17526:2003(E);

### Optional accessories

#### Pilot beam (only for 10 x 2.5)

Pilot beam output power (mW)	$> 0.7$
Pilot beam wavelength (nm)	$635 \pm 5$
Pilot beam voltage (V)	3-5
Pilot beam current (mA)	$< 120$

#### Monitor diode

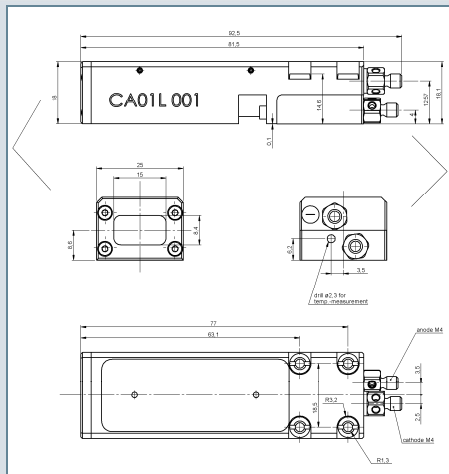
Operation voltage (V <sub>DC</sub> )	5
Monitor diode signal (V)	0-2

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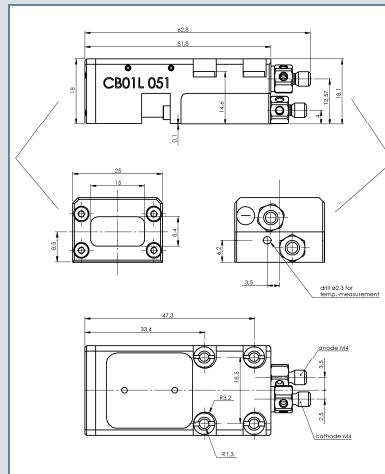
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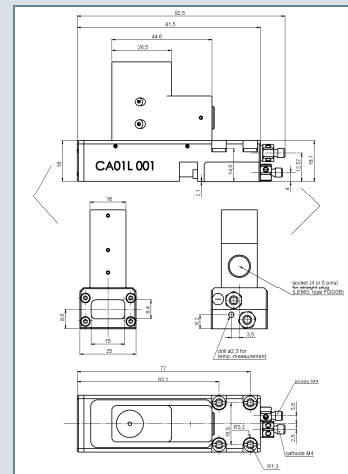
## HIGH-POWER DIODE LASER



HLU35C10x5-xxx



HLU35C10x2-xxx



HLU35C10x5 with monitor diode or HLU35C10x2 with monitor diode and/or pilot laser

### Product name identification:

Power	Beam size	Wavelength	Wavelength Tolerance	Feature monitor diode	Feature Pilot laser
35	10x2	805,806,807, 808,809,810	T0=±10nm	M0= no monitor diode	P0=no Pilot laser
		915	T2=±2nm	M3= monitor diode	P2 = Pilot laser
	940	T3=±3nm			
975,976,977, 978,979,980					

Example: HLU35C10x2-980-T3 M3P0

### Accessories

- LDD100-3 diode driver with TEC-cooler
- Integrated Volume Holographic Grating for wavelength stabilization
- Different beam shaping optics (focussing, collimating) available
- Installation service and personal introduction on request
- Turn-key systems available
- Customized laser modules and fibres on request

### Considerations in Safety and Operation

This is a laser class IV product regarding CDRH regulations and a Laserklasse 4 product regarding DIN:EN60825-1. The laser light emitted from this laser diode is invisible and/or visible and may be harmful to the human eye. Avoid looking directly into the laser diode, into the collimated beam along its optical axis, or directly into the fibre when the device is in operation.

ESD PROTECTION – Electrostatic discharge is the primary cause of unexpected laser diode failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling laser diodes.

All data provided are typically measured with a diode heat sink temperature of 25 °C. Copyright © 2008 LIMO GmbH. All rights reserved. All LIMO products are patent pending. Subject to change without notice. June 2008

Operating the laser diode outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the component must be employed such that the maximum peak optical power cannot be exceeded.

Output powers in excess of specification will accelerate device aging.

Operation at higher temperatures will accelerate device aging.

Do not use thermal contact paste! LIMO provides appropriate carbon foil

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