

LIMO FO Series

HIGH-POWER DIODE LASER



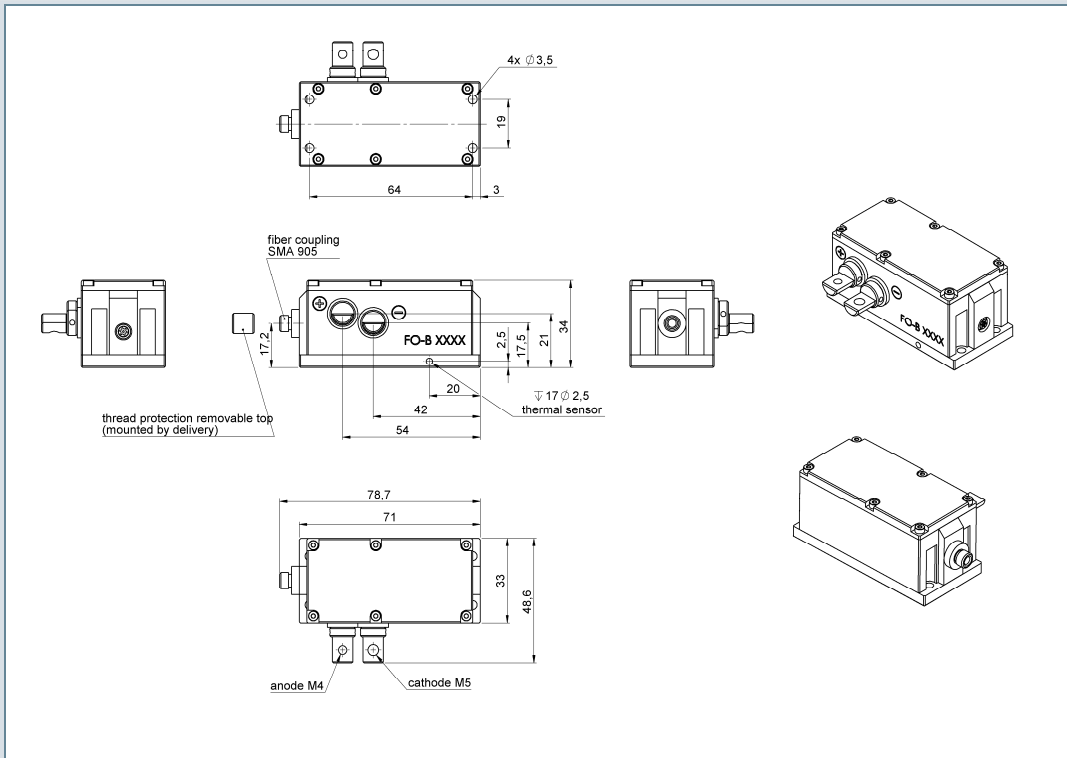
- High brightness laser for pump and material processing applications
- Hermetically sealed laser head in potential-free housing
- SMA905 Plug & Play connector for optical fibres
- Compact dimensions
- 2 temperature sensors (NTC/PT100)

Optical data				
CW – nominal output power (W)	30	35	32	40
Centre wavelength λ (nm)	790-795, 805-810, 915, 940, 975-980 ¹			
Tolerance of λ (nm)	$\pm 10 (\pm 3, \pm 2)$ ²			
Spectral width (FWHM) (nm)	$< 5 (<4)$ ²			
Temperature drift of λ ³ (nm/K)	~0.3, ~0.35, ~0.35, ~0.4			
Fibre data				
Fibre core diameter (μm)	200		400	
Numerical aperture	0.22			
Fibre-optic connector	SMA905			
Electrical data				
Typical operation current (start of lifetime) (A)	42	52	40	55
Max. Operation current (start of lifetime) (A)	50	60	50	60
Max. Operation current (end of lifetime) (A)	60	72	60	72
Typical threshold current (A)	6 - 10			
Typical efficiency (%)	38	36	43	39
Typical slope efficiency (W/A)	0.8 - 1.0			
Operation voltage (V)	< 2			
Reverse voltage	0			
Thermal conditions				
Diode base plate temperature ⁴ (°C)	+15...+25			
Storage temperature (°C)	-20...+60			
Recommended heat sink capacity (W)	> 120			
Recommended heat sink thermal resistance (K/W)	< 0.1			
Other specifications				
Expected lifetime ⁵ (hours)	20,000			
RoHS 2002/95/EC and CE compliant	YES			
Dimensions of laser head (connectors not included) (mm)	71x33x34			
Weight (g)	400			

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

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Product name identification:

LIMO -F -DL -

Power	Fiber core diameter	Wavelength	Wavelength Tolerance
30	200	790,791,792, 793,794,795	T0=±10nm
32	400	805,806,807, 808,809,810	T2=±2nm
35		915,940	T3=±3nm
40		975,976,977, 978,979,980	

Example: LIMO40-F400-DL940-T3

Accessories

- Fibre LIMO-SMA905-F, 1.5m or 3m
- LDD100-3 diode driver with TEC-cooler
- Integrated Volume Holographic Grating for wavelength stabilization
- Different beam shaping optics (focussing, collimating, fibre-fibre) 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 base plate temperature of 20 °C. All measurements are made with a LIMO reference fibre 200/280 µm or 400/480 µm, length 1.5 m, and non AR coated. 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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