LIMO FB Series (pump)

HIGH-POWER DIODE LASER

- **High brightness laser for, pump applications**
- **SMA905 Plug & Play connector for optical fibres**
- **Compact dimensions**
- **Passively cooled**
- **Dual temperature sensor (NTC/PT100)**
- **Optional monitor diode**
- **External radiation filter**

Optical data[1]				
CW – nominal output power (W)	30	35	32	40
Centre wavelength λ (nm)	805-810, 880, 888, 915, 940, 975-981[2]			
Tolerance of λ (nm)	± 3 (± 2)[3]			
Spectral width (FWHM) (nm)	< 4			
Temperature drift of λ[4] (nm/K)	~0.3, ~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)	40	45	40	50
Max. Operation current (start of lifetime) (A)	43	48	43	53
Max. Operation current (end of lifetime) (A)	52	58	52	64
Typical threshold current (A)	5 - 8			
Typical efficiency (%)	42	43	44	44
Typical slope efficiency (W/A)	0.7 - 1.0			
Operation voltage (V)	< 2			
Reverse voltage	0			
Thermal conditions				
Diode heat sink temperature[5] (°C)	+15….30			
Storage temperature (°C)	-20….+60			
Recommended heat sink capacity (W)	> 64	> 70	> 62	> 76
Recommended heat sink thermal resistance (K/W)	< 0.1			
Other specifications				
Expected lifetime[6] (hours)	20,000			
RoHS 2002/95/EC and CE compliant	YES			
Dimensions of laser head (connectors not included) (mm)	75x25x18			
Weight (g)	300			
External radiation filter	Filter 1600.014, HR @ 1050-1130nm >99.0% (s+p pol.) or Filter 1600.036, HR @ 1025-1080nm >99.0% (s+p pol.) Other filters on request			

[1]Optical data @ 25°C diode heat sink temperature, [2]Other wavelength on request, [3]optional, [4]Depending on wavelength, [5]Measured by NTC/PT100 at temperature measurement hole in the diode heat sink (defined in drawing), [6]According ISO 17526:2003(E);

Optional

Monitor diode	
Operation voltage (V_{DC})	5
Monitor diode signal (V)	0-2

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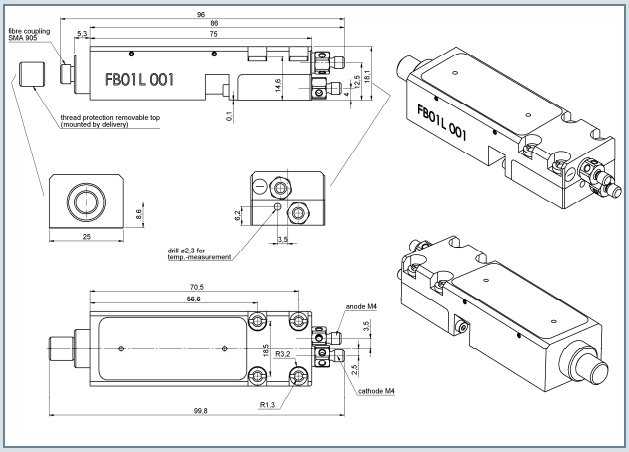
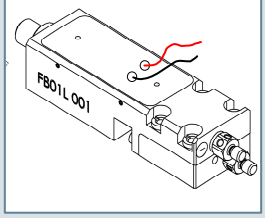
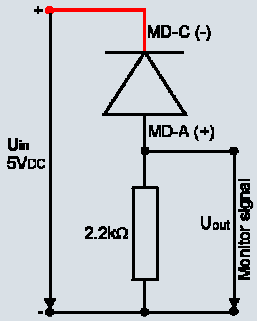


Lid with monitor diode





Monitor diode connection (bias mode):
Red wire = cathode photo diode (-)
Black wire = anode photo diode (+)
Resistor is not included.
The wires come out of the lid.

Product name identification:

HLU__F_____- _____-_____(pump)

Power	Fibre core diameter	Wavelength	Wavelength tolerance	Feature monitor diode	Feature filter
30	200	805,806,807, 808,809,810	T2=±2nm	M0= no monitor diode	F0 = no filter
32	400	880,888	T3=±3nm	M3= monitor diode	F14 = filter 1600.014
35		915,940			F36 = filter 1600.036
40		975,976,977, 978,979,980, 981			

Example: HLU30F200-980-T3M3F14 (pump)

Accessories

- Fibre LIMO-SMA905-F, 1.5m or 3m
- LDD100-3 diode driver with TE-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.

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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