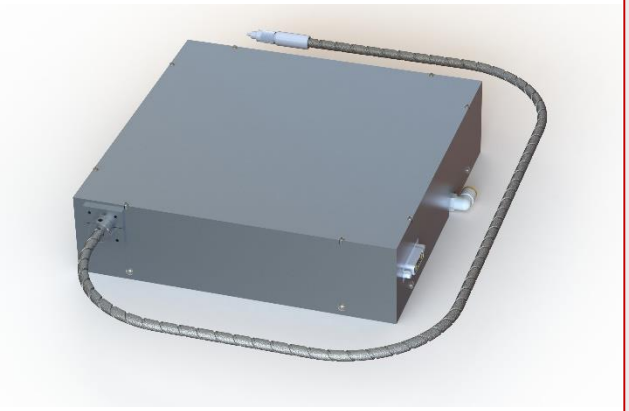
LumIR
lasers

Preliminary product information

2.9 µm CW fiber laser engine

LumIR Lasers' CW mid-IR fiber laser engine is designed as a highly reliable and robust sub-assembly that can be readily integrated into OEM applications.The product includes the pump diode and a fully tested fiber laser cavity designed to provide up to 10 watts of optical power in the 2.8 µm to 2.9 µm wavelength range, delivering a precise beam of diffraction-limited quality through a singlemode optical fiber. With a monolithic cavity design and an all-fiber architecture that inherently require no optical or mechanical re-adjustment, this laser is always ready when you are – without breaking the bank.



Key features and benefits

- Up to 10 W output power
- 2.825 µm operating wavelength (2.8 to 2.9 µm custom wavelengths also available)
- Narrow linewidth: < 1 nm
- Diffraction-limited output beam ($M^2 < 1.4$)
- Robust, highly reliable, and maintenance-free
- Compact form factor

Applications

- Aesthetic laser systems
- Surgical laser systems
- Laser dentistry
- Food marking
- Polymer processing
- Mid-IR laser pump
- And much more!

Detailed specifications

Parameter	Specification
Optical	
Output power	1, 5, or 10 W
Central emission wavelength	2825 nm (nominal) (other wavelengths between 2.8 µm and 2.9 µm also available)
Linewidth	<1 nm
Polarization	Random
Mode of operation	CW or QCW (up to 100 Hz)
Output beam quality (M^2)	<1.4
Output beam delivery	Single mode delivery fiber, diverging output (collimated beam optional)
Electrical	
Operating current	0.9 - 13 A
Maximum operating voltage	12.5 V
Maximum power consumption	163 W
Mechanical and environmental	
Delivery cable length	1.5 m (other lengths available on request)
Module dimensions (L x H x W)	9” X 9” X 2.4” (23 cm X 23 cm X 5 cm)
Estimated weight	8.0 lbs (3.6 kg)
Cooling interface	Conduction base plate with water cooling option
Operating temperature and humidity	15 to 30 °C , 5 to 85% RH (non condensing)

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