

FCLM Series Fiber Coupled Single Frequency Laser Modules



Single Frequency
Fiber-coupled Module

Features:

- Single frequency, fiber-coupled output (SM or MM fiber)
- Remote analog user controls
- Precision temperature and current stabilization
- Modulation up to 100kHz
- Compact footprint: 80mm x 61mm x 114mm

Applications:

- Raman Spectroscopy
- Metrology
- HeNe Replacement
- Bio-instrumentation
- LIDAR
- Graphic Arts
- Sensing
- Analytical Instrumentation

Ondax's FCLM Series Fiber Coupled Single Frequency Laser Module can incorporate any Ondax SureLock™ VHG-stabilized laser diode into a convenient, fiber-coupled package, delivering single frequency performance with exceptional mode quality. Remotely controlled via an analog control interface, the FCLM includes precision temperature and current controls and TTL modulation for excellent power stability and control. The fiber coupled output provides long coherence length and affords easy integration into Raman or OEM instrumentation applications. Available in wavelengths from 405nm to 808nm.

Specifications:

| Parameter | Symbol | Wavelength | | | | | | | |
|------------------------------------------|-----------------|------------|-----|-----|-----|--------|-----|-----|--|
| Lasing Wavelengths ¹ (vacuum) | Lp | 405 | 640 | 658 | 685 | 780.25 | 785 | 808 | |
| Center Wavelength Tolerance (nm) | Lp | ±0.5 | ±1 | ±1 | ±1 | ±0.2 | ±1 | ±1 | |
| SM/PM Power at Fiber Output (mW) | Po | 6 | 2.7 | 10 | 13 | 25 | 25 | 50 | |
| Multimode Power at Fiber Output (mW) | Po | 12 | 5.4 | 20 | 27 | 48 | 48 | 100 | |
| Linewidth (MHz) | $\Delta\lambda$ | ~160 | 100 | 50 | 100 | 50 | 50 | 50 | |

¹Available in increments of 2nm. Please specify wavelength at time of ordering.

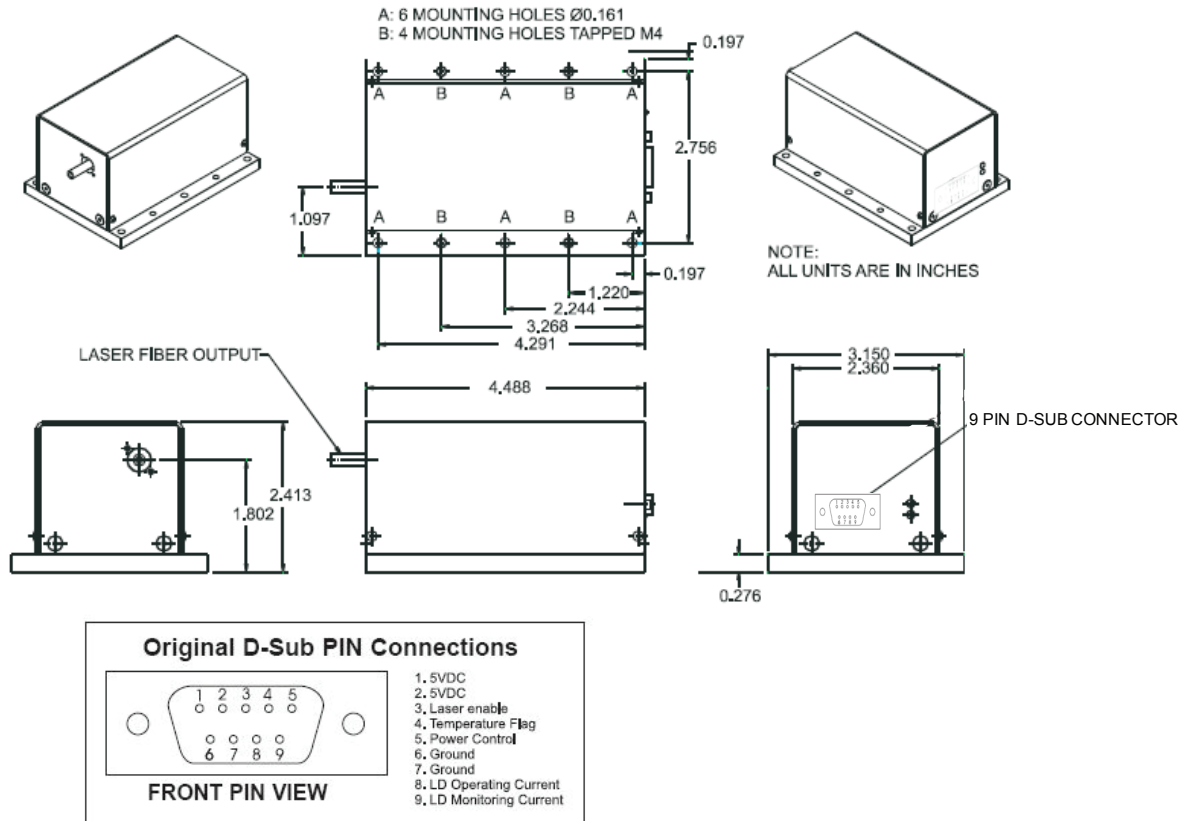
Operating Specifications

| Optical | Min | Typ | Max | Unit |
|---------------------------------------------|--------------------|-------|--------------------|------|
| Spatial Mode | Single Mode | | | |
| Polarization | 100:1 | | | |
| Noise (RMS, 0-20 MHz) | 0.1 | | 0.2 | % |
| Power Stability (1 hr) | 0.25 | | 0.5 | % |
| Fiber Type (SM/PM) | 3/125 ² | 4/125 | 5/125 ⁴ | μm |
| Fiber Type (MM) | 50 | 62.5 | 105 | μm |
| Connector | FC/APC | | | |
| Electrical | Min | Typ | Max | Unit |
| Power Supply Voltage | 5 | | | VDC |
| Power Consumption | 3 | | 6 | W |
| Operating Current | | | 1.2 | A |
| Analog Power Control | 1 | | | % |
| Modulation - TTL (Optional) ³ | 150 | | | MHz |
| Modulation - Analog (Standard) ³ | 100 | | | kHz |
| Environmental | Min | Typ | Max | Unit |
| Storage Temperature | 0 | | | °C |
| Operating Temperature | 10 | | | °C |
| Operation Humidity | Non-condensing | | | |
| Dimensions | 114 x 80 x 61 | | | mm |

²For 405nm diode only ³Via 9 pin Dsub connector, see pin configuration on reverse ⁴For 785nm and 808nm only
Default operation is at maximum output power in CW mode. Power can be manually adjusted via modulation control.

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Mechanical Drawing

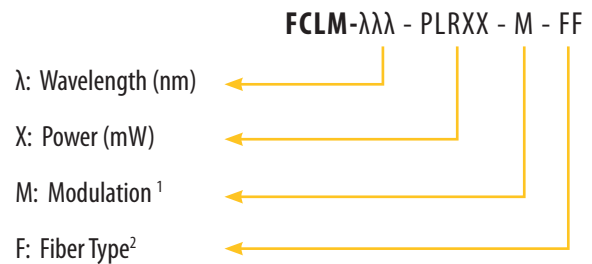


Pinout

| Pin | Description |
|-----|-----------------------|
| 1 | 5 VDC |
| 2 | 5 VDC |
| 3 | Laser Enable |
| 4 | Temperature Flag |
| 5 | Power Control |
| 6 | Ground |
| 7 | Ground |
| 8 | LD Operating Current |
| 9 | LD monitoring Current |

Note: D-Sub 9 mating connector with dangling wires provided with each unit.

Model Numbers



¹ H = High Speed TTL, 0 = No TTL (Default)

² SM = SM Fiber, PM = PM Fiber, MM = MM Fiber

