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LASER LAB SOURCE

manufactured by AeroDIODE

976nm Pre-Configured Fiber-Coupled Laser Diode Source
10W, Grating Stabilized Pump Laser

976LD-3-4-1 / LASER-DIODE

- Center Wavelength 976nm ±0.5nm
- 10 Watt Output Power
- Spectral Width < 0.7 nm
- Volume Bragg Grating Stabilized
- Open-Frame Controller, Replaceable Laser
- 105µm Core Fiber-Coupled, NA 0.22, SMA905 Terminated
- USB-Connected Operation

LASER DIODE SOURCES

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976LD-3-4-1 / LASER-DIODE / CCM SPECIFICATIONS

Integrated Laser Diode Specifications	Center wavelength: 976 nm (± 0.5 nm) Spectral width (FWHM) (typical): 0.7 nm CW Output Power (min): 10 Watts Slope Efficiency (typical): 0.9 W/A Wavelength Shift with Temperature (typical): 0.02nm/C
Laser Diode Module Mechanical & Fiber Specifications	Buffer diameter: 245 µm Cladding diameter: 125 µm Core diameter: 105 µm Numeric aperture: 0.22 Fiber length: 1 meters Fiber Termination: SMA905
Laser Diode Current & Temperature Controller	Adjustable Current : 0.00 -13.00 Amps Compliance Voltage Range: up to 23 Volts Current Stability < 0.05% full scale Modulation Bandwidth: 500kHz Laser Temperature Control Range (typ): 15 - 40 °C Temperature Control Stability (typ): < 0.05 °C Modulation Rise / Fall Time: < 10µs Modulation Trigger: Internal or External Photodiode Power Monitor: Included Control Modes: ACC (Automatic Current Control) and APC (Automatic Power Control)
System User Interface and Power Requirements	Power Supply Input: 24 V (220/110V power supply not included) USB/UART Interface with GUI ~ DLLs / Hexa / Labview / Python Recommended Power Supply: EA-PS 2042-20B (from Newark)
Control Unit Dimensions	238mm x 119mm x 112mm

CW LASER SOURCE SYSTEM

This 10 Watt, 976nm, CW source system is built around a highly reliable fiber-coupled laser diode featuring a violume Bragg grating for exceptional wavelength stability and narrow line width. The system is preconfigured and pretested, and is delivered ready-to-run.

The CCM laser source system features open-case construction: the laser, heat-sink, and controller electronics are contained in an open case to provide access to the laser diode as application requirements evolve.. The source system is easily operated using the included GUI over USB interface, and multiple systems can be operated by the same computer.

DIODE LASER-BASED SOURCE

The CW laser source system is based on a robust and reliable 976nm laser diode. The laser is designed to provide stable and worry-free output for long operating life times.

The Volume Bragg Grating (VBG) delivers narrow spectral line width, and provides stability against wavelength drift due to temperature or changing drive current levels. Due to the physics of Bragg gratings, narrow spectral line width is delivered over a portion of the output current / output power range; refer to the specifications for details.

976LD-3-0-0 / LASER-DIODE SPECIFICATIONS

Optical Specifications	Wavelength: 976 nm (± 0.5 nm) Emission Bandwidth: ~ 0.7 nm CW Output Power Range: nominal : 9 W ; Kink free : 10 W Wavelength Shift w Temperature: 0.02 nm/°C Feedback Isolation: > 30 dB (1020 nm to 1200 nm) Slope Efficiency: 0.9 W/ A Integrated 1020nm-1200nm Feedback Protection (>30dB feedback isolation)
Electrical Specifications	Threshold Current: 0.9 A Forward Current: 13 A * Forward Voltage: 1.6 V * For operating currents above 6 Amps, the electrical connections must be soldered.
Fiber Pigtail	Fiber Core Diameter: 105 µm NA=0.22 Fiber Clad/Buffer/Tube Diameter µm: 125/245/900 Numerical Aperture NA: 0.22 Fiber Termination: SMA-905 ** ** SMA connector is for collimator coupling or beam handling: DO NOT use for SMA-to-SMA fiber to fiber connection due to possibility of back-reflection damage Fiber Minimum Bend Radius: 50 mm
Package Specifications	Storage Temperature Range: -40°C to 70°C Operating Case Temperature Range: 20 °C (min) to 30 °C (max) Soldering Temperature: 260 °C (max) Soldering Time: 10 Seconds (max) Form Factor: 17 mm x 17 mm x 7.7 mm

PRODUCT SALES AND SERVICE

Unlimited phone and email support is provided for products purchased through Laser Lab Source. Orders for this product are fulfilled by Laser Lab Source in North America and select international regions. It is manufactured by AeroDIODE, Talence, France.

PRODUCT WARRANTY

This product is sold with a full one-year warranty. It is warrantied to be free from defects in material and/or workmanship for a period of one year from the date of shipment.

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