



976nm Pre-Configured Fiber-Coupled Laser Diode Source 30W, Grating Stabilized Pump Laser



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

- o Center Wavelength 976nm \pm 0.5nm
- o 30 Watt Output Power
- o Spectral Width < 0.7 nm
- o Volume Bragg Grating Stabilized
- o Open-Frame Controller, Replaceable Laser
- o 105 μ m Core Fiber-Coupled, NA 0.22, SMA905 Terminated
- o USB-Connected Operation



LASER
DIODE
SOURCES



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

Integrated Laser Diode Specifications

Center wavelength: 976 nm (\pm 0.5 nm)
Spectral width (FWHM) (typical): 0.7 nm
CW Output Power (min): 30 Watts
Slope Efficiency (typical): 2.5 W/A
Wavelength Shift with Temperature (typical): 0.02nm/C

Laser Diode Module Mechanical & Fiber Specifications

Buffer diameter: 245 μ m
Cladding diameter: 125 μ m
Core diameter: 105 μ m
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: < 10 μ s
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 30 Watt, 976nm, CW source system is built around a highly reliable fiber-coupled laser diode featuring a volume 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.

**INTEGRATED
HIGH POWER
LASER DIODE**



Laser diode installed on TEC cooled mounting plate



PRE-CONFIGURED
control electronics
and mount system

EASY TO OPERATE
through USB with GUI
or control software



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-4-0-0 / LASER-DIODE SPECIFICATIONS

| | |
|---------------------------------------|--|
| Optical and Electrical Specifications | <p>Wavelength: 976 nm (\pm 0.5 nm) Emission Bandwidth: \sim 0.7 nm CW Output Power: up to 30 Watts (kink Free) ; Nominal power : 27 W Wavelength Shift w Temperature: 0.02 nm / $^{\circ}$C Feedback Isolation: > 30 dB (1020nm to 1200nm)</p> |
| Electrical Specifications | <p>Threshold Current: 0.9 Amps Forward Bias Drive Current: < 13 Amps * Forward Voltage: 4.8 Volts Slope Efficiency: 2.5 W / A * For operating currents above 6 Amps ~ electrical connections must be soldered Narrow Spectral Emission range: 3 - 13 A Includes Integrated Thermistor</p> |
| Fiber Specifications | <p>Multimode 105 μm Core Fiber, NA=0.22 Fiber Clad Diameter: 125 μm Fiber Buffer/Tube Diameter: 250/900 μm Fiber Termination: SMA905 ** Fiber Bend Radius: 50 mm (min) ** Fiber connector for handling and space- or collimator-coupling: not for SMA-SMA fiber-to-fiber connection</p> |
| Package Specifications | <p>Storage Temperature Range: -40$^{\circ}$C to 70$^{\circ}$C Operating Case Temperature Range: 20$^{\circ}$C to 30$^{\circ}$C Soldering Temperature: 260 $^{\circ}$C (max) Soldering Time: 10 Seconds (max) Form Factor: 43mm x 25 mm x 11 mm</p> |



Offered by
LASER LAB SOURCE



**LASER
DIODE
SOURCES**

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 warranted to be free from defects in material and/or workmanship for a period of one year from the date of shipment.



Laser Lab Source, a division of Research Lab Source, Inc.
670 S. Ferguson St., Suite 3
Bozeman, MT 59718 USA

Phone: 406-219-1472

www.LaserLabSource.com

AeroDIODE

Rue François Mitterrand Institut d'Optique d'Aquitaine
33400 Talence
FRANCE