

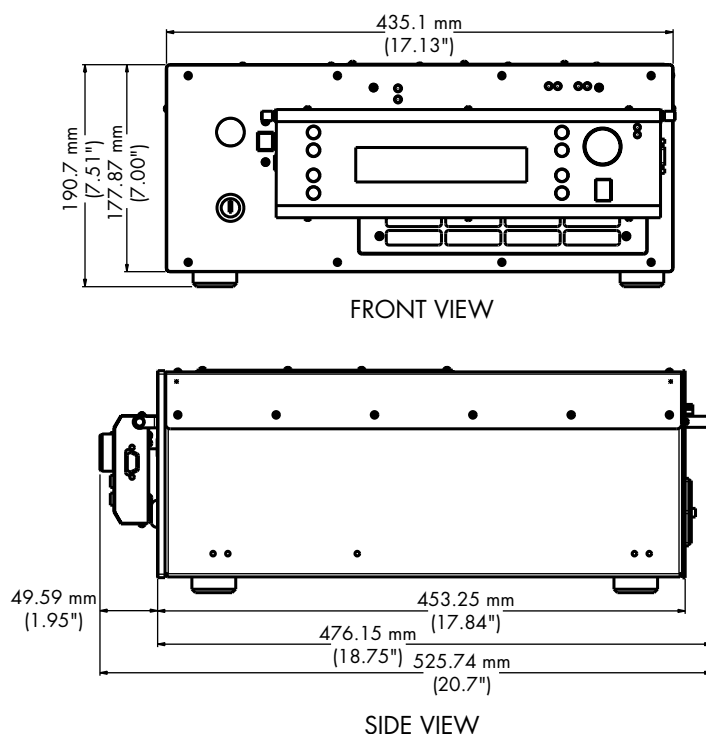
Duo FAP - System

Diode Lasers Duo FAP - System

The Duo FAP™-System is a user-friendly full-feature microprocessor-controlled diode laser system. It is primarily designed for the enhanced-MRI industry to serve not only as the work-horse for Rubidium Vapor Pumping, but also as a reliable high spectral-density laser source for novel Potassium pumping applications. The Duo FAP-System is also a complete stand-alone pump source for state-of-the-art high power solid-state laser pumping. The Duo offers independent diode laser current and temperature control of both fiber-coupled diode laser modules. It is capable of delivering up to 60W of wavelength-matched laser light from either two 800-micron diameter optical fibers or one 1.7 mm diameter fiber bundle.

The Duo is rack-mountable, and can be controlled either by the removable front panel user interface or remotely controlled via RS-232 interface. Ruggedly built, the Duo platform has two independently controlled FAP-I modules, which are user-replaceable, allowing wavelength flexibility and selection.

DIMENSIONS



APPLICATIONS

- High Power Solid-State Laser Pumping
- Rubidium Vapor Optical Pumping for Enhanced-MRI
- Potassium Vapor Optical Pumping for NMR Spectroscopy
- Medical and Scientific Research

FEATURES

- Full-Feature Microprocessor Control
- Two Field Replaceable FAP-I Modules
- Independent Diode Laser Current Control
- Independent Diode Laser Temperature Control
- Modular Diode Laser Packaging

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SPECIFICATIONS

Optical

CW Output power	60 Watts (44 Watts @ 940 nm and 980 nm)
Center Wavelength ⁵	785 to 820 nm, (940 nm, and 980 nm)
Spectral Width	<3 nm
Beam Divergence ²	<0.20 N.A.
Beam Diameter	2x800 µm or 1x1700 µm fiber bundle
Noise ³	1% rms
Power Stability ¹	±5%
Optical Fiber Delivery Type	5-meter long, armored jacketed
Optical Fiber Delivery Termination	SMA 905

Diode Laser Control

Operating Temperature ⁴	10°C to 35°C
Operating Modes	cw Single Shot Repetitively Pulsed External Analog Input
Operating Current	<60 A
Pulse Rise/Fall Time	<60 µs
Minimum/Maximum Pulse Width	100 µs/3600 Second
Pulse Frequency	0.3 mHz to 10 kHz
External Analog Input	
Input	0 to 6V
Transfer Function	10 A/V
Bandwidth	1 kHz
Maximum Slew Rate	0.1 A/µs

System Specifications

Input Devices	Front Panel Keypad RS-232 Analog Voltage External Trigger Foot Pedal (optional)
Operating Temperature ⁴	0°C to 40°C
Cooling Requirements ⁶	Internal Fan
Operating Humidity	5 to 95%, non-condensing
Storage Temperature	-20°C to 65°C

Electrical Specifications

Operating Voltage	100/115/220 VAC ±10%
	50/60 Hz
Power Consumption	<1200W (500W typical)

Mechanical Specifications

Weight	27 kg (66 lb)
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¹Measured over 8 hours over the specified operating temperature range.

²The numerical aperture of the output beam is defined as the sine of the half-angle of the divergence cone that encircles 90% of the energy.

³Measured from 10 Hz to 1 GHz in cw operation, at power well above threshold.

⁴At ambient temperatures above 30°C the system will automatically shut off.

⁵Other wavelengths are available upon request. Consult your Coherent representative for other available options.

⁶10 cm clearance required.

WARRANTY

Coherent offers a limited warranty for its diode laser systems. Please refer to the latest version of the Coherent, Inc., Semiconductor Division Price List, for full details of this warranty coverage.

Coherent, Inc.

Semiconductor Division

5100 Patrick Henry Drive

Santa Clara, CA 95054

Phone: 1-877-4DIODES (434-6337)

Fax: 1-408-764-4009

E-mail: csd.sales@CoherentInc.com

Web: www.CoherentInc.com

International Offices

Phone:

Japan +81 (3) 5635 8700

China +86 (10) 6493 9675

All other

Pacific Rim 1 (408) 764-4342

Benelux +31 (30) 280 6060

France +33 (1) 6985 5145

Germany +49 (6071) 968 216

Italy +39 (02) 34 530 214

UK +44 (1353) 658 800

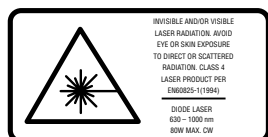
All other

Europe and

Middle East +49 (6071) 968 216

Latin America

and Australia 1 (408) 764-4221



Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.



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