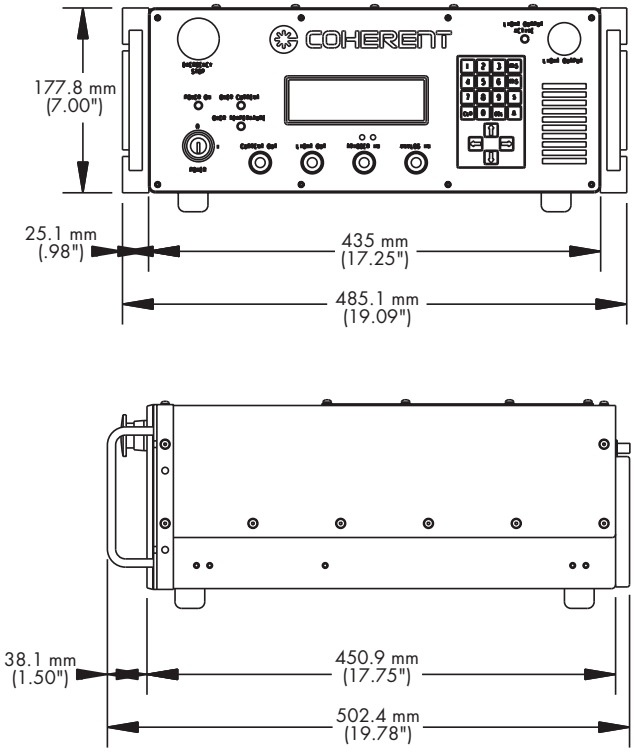
The FAP™-System is a complete, turn-key diode system suitable for material processing, medical therapeutics and pumping solid-state laser media. Delivering up to 30W of diode light into an armored 800 µm core fiber, the FAP-System makes it easy to develop new applications.

With control over the operating temperature of the laser diode, as well as current and pulse width, the FAP-System offers flexibility and an easy to use interface. The system is rack-mountable and can be controlled either by the front panel user interface, or by a computer-controlled RS-232 interface. Ruggedly built for industrial applications, the system has a user-replaceable FAP-I diode module. This module can also be replaced with different wavelengths allowing complete flexibility for the user. The FAP-System is designed to seamlessly integrate future Fiber Array Packaged bars that are under development at Coherent.

The FAP-System has a series of optical accessories to make the system easy to use right out of the box. The imaging and collimating modules offer different spot sizes and focal distances for various material processing or pumping applications. A proprietary aiming module can be integrated with any of the imaging modules, to show the path and focus of the laser beam.

DIMENSIONS



APPLICATIONS

- **Material Processing**
- **Heating**
- **Marking**
- **Medical Therapeutics**
- **Laser Pumping**

FEATURES

- **Turn-Key System**
- **Laser Diode Temperature Control**
- **Air-Cooled**
- **Easy Diode Replacement**

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FAP – System

SPECIFICATIONS

Optical

Output power, from 12 – 30W, in the wavelength range of 780 nm to 840 nm are available. Laser output wavelength and power specifications are based on the FAP-B devices. Please consult the appropriate FAP-B datasheet for details.

Beam Divergence[1]	<0.20 N.A.
Beam Diameter	800 µm
Power Stability[2]	± 5%
Noise[3]	1% rms
Fiber Optic Cable	5m, armored cable
Fiber Optic Cable Termination	SMA 905

Laser Diode Control

Operating Temperature[4]	0°C to 35°C
Temperature Stability	±0.5°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	10 kHz
Maximum Slew Rate	1 A/µS

System Specifications

Input Devices	Front Panel Keyboard
	RS-232
	Analog Voltage
	External Trigger
	Foot Pedal (optional device)
Operating Temperature	0°C to 40°C
Cooling Requirements	Internal Fan (10 cm clearance required)
Operating Humidity	5 to 95%, non-condensing
Storage Temperature	-20°C to 65°C

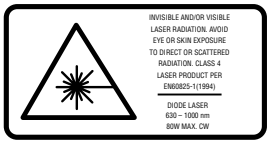
Electrical Specifications

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

Mechanical Specifications

Weight	27 kg (60 lb)

[1]The 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.
[2]Measured over 8 hours over the specified operating temperature range.
[3]Measured from 10 Hz to 1 GHz in cw operation, at power well above threshold.
[4]0°C is lowest minimum value, actual minimum laser diode temperature may be higher depending on operating conditions.



CE

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

WARRANTY

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

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