



# FAP 800 Series

## High-Brightness Fiber-Coupled Bars

Fiber Array Packages (FAP) from Coherent are the highest quality fiber-coupled diode lasers in the industry, offering you the simplest way of delivering the output from a diode laser bar to your application.

The FAP 800 series consists of a 19-element conduction-cooled diode laser bar, lensed and coupled to an 800  $\mu\text{m}$ , multimode fiber bundle array.

### FEATURES

- High reliability
- High efficiency
- High brightness
- Rugged construction

### APPLICATIONS

- Solid-State Laser Pumping
- Plastic Welding
- Soldering
- Heating



**COHERENT**  
Superior Reliability & Performance

SPECIFICATIONS <sup>1</sup>	FAP800-L-30W-803.0 to809.0-F<3.0-25C	FAP800-30W-805.0 to811.0-F<3.5-25C	FAP800-30W-805.0 to811.0-F<3.5-25C
Part Number	1065526	1059281	1071370
<b>OPTICAL SPECIFICATIONS</b>			
CW Output Power (W)	25	30	30
Center Wavelength <sup>2</sup> (nm)	807.5	808	940
Center Wavelength Tolerance (nm)	±2.5	±3.0	±2.0
Spectral Width <sup>2</sup> (nm)	<2.5	<3.5	<6.0
Wavelength Temperature Coefficient (nm/°C)	0.28	0.28	0.35
Beam Divergence <sup>3</sup> (NA)	<0.14	<0.14	<0.16
Beam Diameter (µm)	810	810	810
<b>ELECTRICAL CHARACTERISTICS (typical)</b>			
Slope Efficiency (W/A)	>0.8	>0.8	>0.75
Conversion Efficiency (%)	>35	>35	>35
Threshold Current (A)	8 to 11	8 to 11	4 to 7
Operating Current (A)	<28	<46	<46
Operating Voltage (V)	<2.1	<2.1	<2.2
Recommended Hookup Wire (gauge)	8 or heavier	8 or heavier	8 or heavier
<b>THERMAL SPECIFICATIONS</b>			
Thermal Resistance (typical) (°C/W)	0.7	0.7	0.7
Case Operating Temperature (°C)	-20 to 30	-20 to 30	-20 to 30
Case Storage Temperature (°C)	-20 to 60	-20 to 60	-20 to 60
<b>RECOMMENDED HEAT SINK</b>			
Capacity (W)	100	100	100
Thermal Resistance (°C/W)	<0.1	<0.1	<0.1
<b>MECHANICAL SPECIFICATIONS</b>			
Weight	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)
Fiber Connector	SMA 905	SMA 905	SMA 905

<sup>1</sup> All values measured at case temperature (TC) = 25°C.

<sup>2</sup> Custom center wavelengths and custom spectral widths are available, some from stock. Consult your Coherent representative.

<sup>3</sup> 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.

SPECIFICATIONS <sup>1</sup>	FAP800-40W-805.0 to811.0-F<3.5-25C	FAP800-R-40W-930.0 to950.0-F<6.0-25C	FAP800-R-40W-970.0 to990.0-F<6.0-25C
Part Number	1057814	1082408	1082412
<b>OPTICAL SPECIFICATIONS</b>			
CW Output Power (W)	40	40	40
Center Wavelength <sup>2</sup> (nm)	808	940	980
Center Wavelength Tolerance (nm)	±3.0	±10.0	±10.0
Spectral Width <sup>2</sup> (nm)	<3.5	<6.0	<6.0
Wavelength Temperature Coefficient (nm/°C)	0.28	0.28	0.28
Beam Divergence <sup>3</sup> (NA)	<0.14	<0.11	<0.11
Beam Diameter (µm)	810	810	810
<b>ELECTRICAL CHARACTERISTICS (typical)</b>			
Slope Efficiency (W/A)	>0.8	>0.8	>0.8
Conversion Efficiency (%)	>35	>50	>50
Threshold Current (A)	9 to 13	<8	<7
Operating Current (A)	<53	<54	<54
Operating Voltage (V)	<2.2	<1.7	<1.7
Recommended Hookup Wire (gauge)	8 or heavier	8 or heavier	8 or heavier
<b>THERMAL SPECIFICATIONS</b>			
Thermal Resistance (typical) (°C/W)	0.7	0.7	0.7
Case Operating Temperature (°C)	-20 to 30	-20 to 30	-20 to 30
Case Storage Temperature (°C)	-20 to 60	-20 to 60	-20 to 60
<b>RECOMMENDED HEAT SINK</b>			
Capacity (W)	100	100	100
Thermal Resistance (°C/W)	<0.1	<0.1	<0.1
<b>MECHANICAL SPECIFICATIONS</b>			
Weight	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)
Fiber Connector	SMA 905	SMA 905	SMA 905

<sup>1</sup> All values measured at case temperature (TC) = 25°C.

<sup>2</sup> Custom center wavelengths and custom spectral widths are available, some from stock. Consult your Coherent representative.

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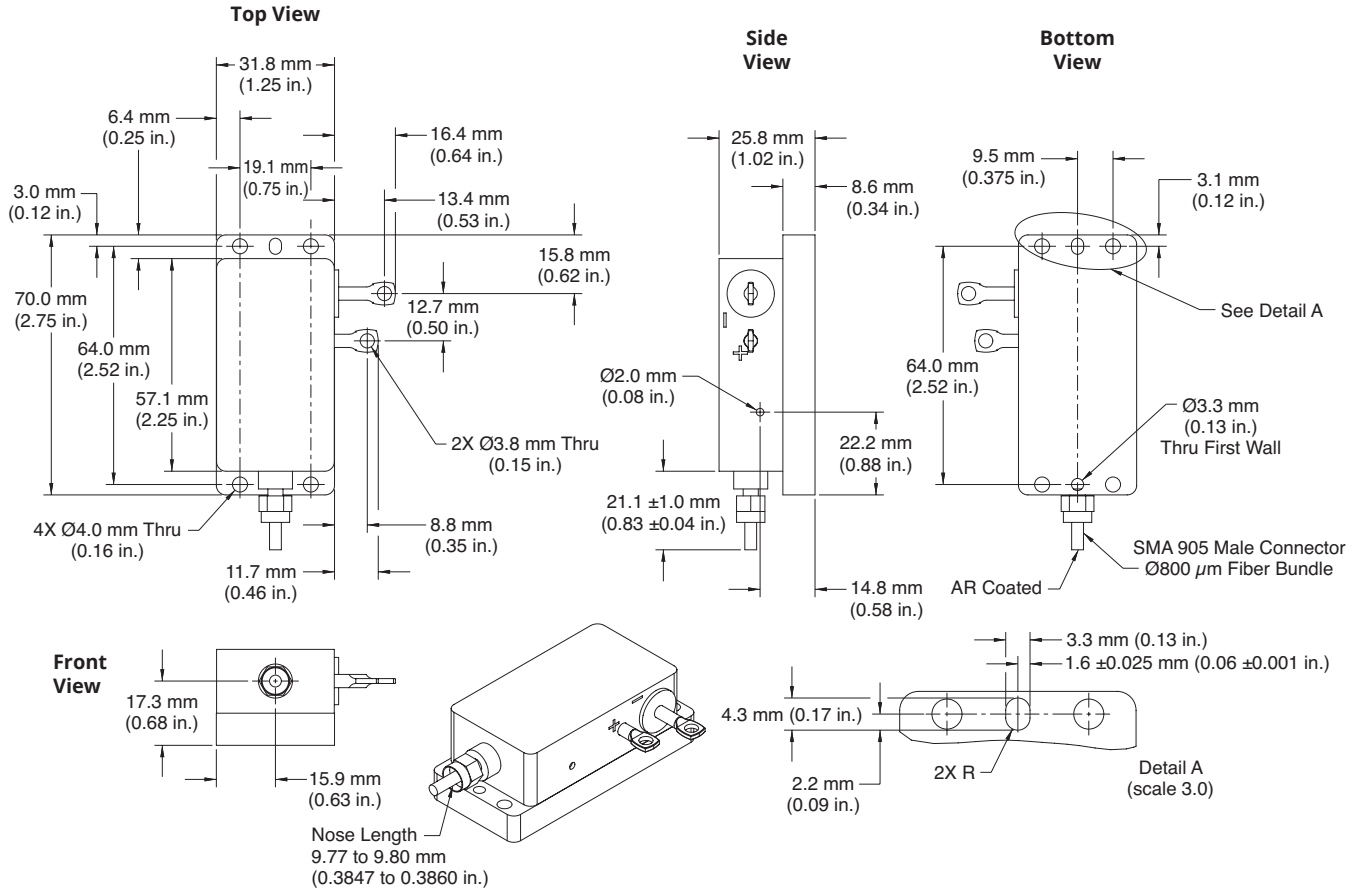
SPECIFICATIONS <sup>1</sup>	FAP800-50W-805.0 to811.0-FW90E<4.5-25C	FAP800-70W-800.0to 820.0-FW90E<5.0-25C
Part Number	1124386	1295614
OPTICAL SPECIFICATIONS		
CW Output Power (W)	50	70
Center Wavelength <sup>2</sup> (nm)	808	810
Center Wavelength Tolerance (nm)	±3.0	±10.0
Spectral Width <sup>2</sup> (nm)	<4.5	<8.0
Wavelength Temperature Coefficient (nm/°C)	0.28	0.28
Beam Divergence <sup>3</sup> (NA)	<0.14	<0.16
Beam Diameter (µm)	810	810
ELECTRICAL CHARACTERISTICS (typical)		
Slope Efficiency (W/A)	>0.8	>0.9
Conversion Efficiency (%)	>40	>45
Threshold Current (A)	8 to 11	11
Operating Current (A)	<65	<85
Operating Voltage (V)	<2.2	<2.2
Recommended Hookup Wire (gauge)	8 or heavier	8 or heavier
THERMAL SPECIFICATIONS		
Thermal Resistance (typical) (°C/W)	0.7	0.7
Case Operating Temperature (°C)	-20 to 30	-20 to 30
Case Storage Temperature (°C)	-20 to 60	-20 to 60
RECOMMENDED HEAT SINK		
Capacity (W)	100	100
Thermal Resistance (°C/W)	<0.1	<0.1
MECHANICAL SPECIFICATIONS		
Weight	300 g (10.3 oz.)	300 g (10.3 oz.)
Fiber Connector	SMA 905	SMA 905

<sup>1</sup> All values measured at case temperature (TC) = 25°C.

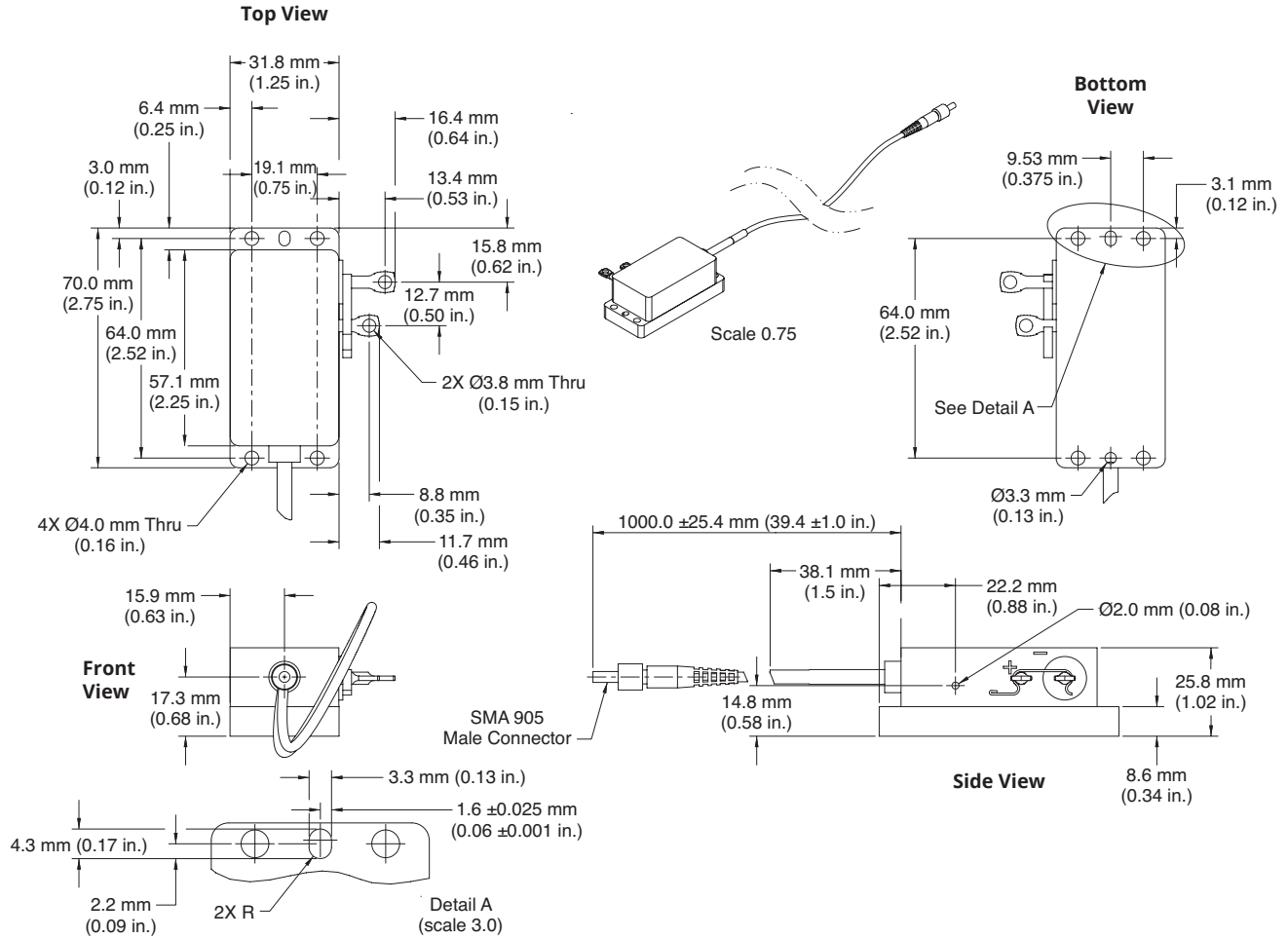
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**MECHANICAL SPECIFICATIONS**



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. 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 offers a limited warranty for all Fiber Array Packages. For full details of this warranty coverage, please refer to the Service section at [www.Coherent.com](http://www.Coherent.com) or contact your local Sales or Service Representative. Printed in the U.S.A. MC-156-04-0M0917Rev.E Copyright ©2017 Coherent, Inc.