COHERENT

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 µm, multimode fiber bundle array.

FAP 800 Series Features:

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

FAP 800 Series Applications:

- **Solid-state Laser Pumping**
- **Plastic Welding**
- **Soldering**
- **Heating**

Superior Reliability & Performance

www.Coherent.com/FAP800Series

FAP 800 Series

High-Brightness Fiber-Coupled Bars

Device Specifications	FAP800-16W-804.0to 810.0-F<3.0-25C-STD	FAP800-16W-805.0to 811.0-F<3.5-25C	FAP800-30W-792.0to 798.0-F<3.5-25C-STD	FAP800-30W-805.0to 811.0-F<3.5-25C
Part Number	1080859	1057746	1049769	1059281
Optical Specifications[1]				
CW Output Power (W)	16	16	30	30
Center Wavelength[2] (nm)	807	808	795	808
Center Wavelength Tolerance (nm)	±3.0	±3.0	±3.0	±3.0
Spectral Width[2] (nm)	<3.0	<3.5	<3.5	<3.5
Wavelength Temperature Coefficient (nm/°C)	0.28	0.28	0.28	0.28
Beam Divergence[3] (NA)	<0.16	<0.14	<0.16	<0.14
Beam Diameter (µm)	810	810	810	810
Electrical Characteristics (typical)				
Slope Efficiency (W/A)	>0.8	>0.8	>0.8	>0.8
Conversion Efficiency (%)	>35	>35	>35	>35
Threshold Current (A)	8 to 11	8 to 11	8 to 11	8 to 11
Operating Current (A)	<28	<32	<46	<46
Operating Voltage (V)	<2.0	<2.0	<2.1	<2.1
Recommended Hookup Wire (gauge)	8 or heavier	8 or heavier	8 or heavier	8 or heavier
Thermal Specifications				
Thermal Resistance (typical)(°C/W)	0.7	0.7	0.7	0.7
Case Operating Temperature (°C)	-20 to 30	-20 to 30	-20 to 30	-20 to 30
Case Storage Temperature (°C)	-20 to 60	-20 to 60	-20 to 60	-20 to 60
Recommended Heat Sink				
Capacity (W)	100	100	100	100
Thermal Resistance (°C/W)	<0.1	<0.1	<0.1	<0.1
Mechanical Specifications				
Weight	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)
Fiber Connector	SMA 905	SMA 905	SMA 905	SMA 905

[1] All values measured at case temperature (T_C) = 25°C.

[2] Custom center wavelengths and custom spectral widths are available, some from stock. Consult your Coherent representative.

[3] 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.

FAP 800 Series

High-Brightness Fiber-Coupled Bars

Device Specifications	FAP800-30W-920.0to 960.0-F<6.0-25C	FAP800-30W-930.0to 950.0-F<6.0-25C	FAP800-30W-935.0to 945.0-F<4.5-25C-STD	FAP800-30W-970.0to 990.0-F<6.0-25C	FAP800-30W-973.0to 979.0-F<4.5-25C-STD
Part Number	1071370	1049770	1081648	1049758	1079860
Optical Specifications[1]					
CW Output Power (W)	30	30	30	30	30
Center Wavelength[2] (nm)	940	940	940	980	976
Center Wavelength Tolerance (nm)	±2.0	±10.0	±5.0	±10.0	±4.5
Spectral Width[2] (nm)	<6.0	<6.0	<4.5	<6.0	<3.0
Wavelength Temp. Coefficient (nm/°C)	0.35	0.35	0.35	0.35	0.28
Beam Divergence[3] (NA)	<0.16	<0.16	<0.16	<0.16	<0.16
Beam Diameter (µm)	810	810	810	810	810
Electrical Characteristics (typical)					
Slope Efficiency (W/A)	>0.75	>0.75	>0.8	>0.5	>0.7
Conversion Efficiency (%)	>35	>30	>35	>35	>30
Threshold Current (A)	4 to 7	4 to 6	<8	4 to 6	6 to 9
Operating Current (A)	<46	<45	<46	<45	<45
Operating Voltage (V)	<2.2	<2.1	<2.0	<2.1	<2.0
Recommended Hookup Wire (gauge)	8 or heavier	8 or heavier	8 or heavier	8 or heavier	8 or heavier
Thermal Specifications					
Thermal Resistance (typical)(°C/W)	0.7	0.7	0.7	0.7	0.7
Case Operating Temperature (°C)	-20 to 30	-20 to 30	-20 to 30	-20 to 30	-20 to 30
Case Storage Temperature (°C)	-20 to 60	-20 to 60	-20 to 60	-20 to 60	-20 to 60
Recommended Heat Sink					
Capacity (W)	100	100	100	100	100
Thermal Resistance (°C/W)	<0.1	<0.1	<0.1	<0.1	<0.1
Mechanical Specifications					
Weight	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)
Fiber Connector	SMA 905	SMA 905	SMA 905	SMA 905	SMA 905

[1] All values measured at case temperature (T_C) = 25°C.

[2] Custom center wavelengths and custom spectral widths are available, some from stock. Consult your Coherent representative.

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FAP 800 Series

High-Brightness Fiber-Coupled Bars

Device Specifications	FAP800-40W-800.0to 830.0-F<6.0-25C	FAP800-40W-802.0to 808.0-F<3.5-25C	FAP800-40W-805.0to 811.0-F<3.5-25C	FAP800-40W-820.0to 830.0-F<6.0-25C
Part Number	1051229	1072861	1057814	1071698
Optical Specifications[1]				
CW Output Power (W)	40	40	40	40
Center Wavelength[2] (nm)	815	805	808	825
Center Wavelength Tolerance (nm)	±15.0	±3.0	±3.0	±5.0
Spectral Width[2] (nm)	<6.0	<3.5	<3.5	<6.0
Wavelength Temperature Coefficient (nm/°C)	0.28	0.28	0.28	0.28
Beam Divergence[3] (NA)	<0.14	<0.14	<0.14	<0.15
Beam Diameter (µm)	810	810	810	810
Electrical Characteristics (typical)				
Slope Efficiency (W/A)	>0.7	>0.8	>0.8	>0.85
Conversion Efficiency (%)	>35	>35	>35	>35
Threshold Current (A)	9 to 13	9 to 13	9 to 13	8 to 11
Operating Current (A)	<55	<56	<53	<50
Operating Voltage (V)	<2.2	<2.2	<2.2	<2.2
Recommended Hookup Wire (gauge)	8 or heavier	8 or heavier	8 or heavier	8 or heavier
Thermal Specifications				
Thermal Resistance (typical)(°C/W)	0.7	0.7	0.7	0.7
Case Operating Temperature (°C)	-20 to 30	-20 to 30	-20 to 30	-20 to 30
Case Storage Temperature (°C)	-20 to 60	-20 to 60	-20 to 60	-20 to 60
Recommended Heat Sink				
Capacity (W)	100	100	100	100
Thermal Resistance (°C/W)	<0.1	<0.1	<0.1	<0.1
Mechanical Specifications				
Weight	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)
Fiber Connector	SMA 905	SMA 905	SMA 905	SMA 905

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FAP 800 Series

High-Brightness Fiber-Coupled Bars

Device Specifications	FAP800-LA-20W-970.0 to990.0-F<5.0-25C	FAP800-L-30W-803.0 to809.0-F<3.0-25C	FAP800-L-30W-805.0 to811.0-F<3.5-25C	FAP800-L-30W-970.0 to990.0-F<6.0-25C	FAP800-L-40W-805.0 to811.0-F<3.5-25C
Part Number	1056886	1065526	1081648	1049758	1079860
Optical Specifications[1]					
CW Output Power (W)	20	25	30	30	40
Center Wavelength[2] (nm)	980	807.5	808	980	808
Center Wavelength Tolerance (nm)	±10.0	±2.5	±3.0	±10.0	±3.0
Spectral Width[2] (nm)	<5.0	<2.5	<4.5	<6.0	<3.5
Wavelength Temp. Coefficient (nm/°C)	0.28	0.28	0.28	0.28	0.28
Beam Divergence[3] (NA)	<0.14	<0.14	<0.16	<0.16	<0.16
Beam Diameter (µm)	810	810	810	810	810
Electrical Characteristics (typical)					
Slope Efficiency (W/A)	>0.8	>0.8	>0.8	>0.7	>0.8
Conversion Efficiency (%)	>35	>35	>35	>30	>35
Threshold Current (A)	6 to 9	8 to 11	8 to 11	6 to 9	8 to 11
Operating Current (A)	<34	<28	<46	<45	<56
Operating Voltage (V)	<2.0	<2.1	<2.0	<2.0	<2.1
Recommended Hookup Wire (gauge)	8 or heavier	8 or heavier	8 or heavier	8 or heavier	8 or heavier
Thermal Specifications					
Thermal Resistance (typical)(°C/W)	0.7	0.7	0.7	0.7	0.7
Case Operating Temperature (°C)	-20 to 30	-20 to 30	-20 to 30	-20 to 30	-20 to 30
Case Storage Temperature (°C)	-20 to 60	-20 to 60	-20 to 60	-20 to 60	-20 to 60
Recommended Heat Sink					
Capacity (W)	100	100	100	100	100
Thermal Resistance (°C/W)	<0.1	<0.1	<0.1	<0.1	<0.1
Mechanical Specifications					
Weight	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)
Fiber Connector	SMA 905	SMA 905	SMA 905	SMA 905	SMA 905

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[2] Custom center wavelengths and custom spectral widths are available, some from stock. Consult your Coherent representative.

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FAP 800 Series

High-Brightness Fiber-Coupled Bars

Device Specifications	FAP800-LA-16W-800.0 to820.0-F<6.0-25C	FAP800-R-40W-930.0 to950.0-F<6.0-25C	FAP800-R-40W-970.0 to990.0-F<6.0-25C	FAP800-50W-805.0to 811.0-FW90E<4.5-25C	FAP800-70W-800.0to 820.0-FW90E<5.0-25C
Part Number	1071375	1082408	1082412	1124386	1295614
Optical Specifications[1]					
CW Output Power (W)	16	40	40	50	70
Center Wavelength[2] (nm)	810	940	980	808	810
Center Wavelength Tolerance (nm)	±10.0	±10.0	±10.0	±3.0	±10.0
Spectral Width[2] (nm)	<6.0	<6.0	<6.0	<4.5	<8.0
Wavelength Temp. Coefficient (nm/°C)	0.28	0.28	0.28	0.28	0.28
Beam Divergence[3] (NA)	<0.16	<0.11	<0.11	<0.14	<0.16
Beam Diameter (µm)	810	810	810	810	810
Electrical Characteristics (typical)					
Slope Efficiency (W/A)	>0.8	>0.8	>0.8	>0.8	>0.9
Conversion Efficiency (%)	>35	>50	>50	>40	>45
Threshold Current (A)	6 to 10	<8	<7	8 to 11	11
Operating Current (A)	<30	<54	<54	<65	<85
Operating Voltage (V)	<2.0	<1.7	<1.7	<2.2	<2.2
Recommended Hookup Wire (gauge)	8 or heavier	8 or heavier	8 or heavier	8 or heavier	8 or heavier
Thermal Specifications					
Thermal Resistance (typical)(°C/W)	0.7	0.7	0.7	0.7	0.7
Case Operating Temperature (°C)	-20 to 30	-20 to 30	-20 to 30	-20 to 30	-20 to 30
Case Storage Temperature (°C)	-20 to 60	-20 to 60	-20 to 60	-20 to 60	-20 to 60
Recommended Heat Sink					
Capacity (W)	100	100	100	100	100
Thermal Resistance (°C/W)	<0.1	<0.1	<0.1	<0.1	<0.1
Mechanical Specifications					
Weight	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)	300 g (10.3 oz.)
Fiber Connector	SMA 905	SMA 905	SMA 905	SMA 905	SMA 905

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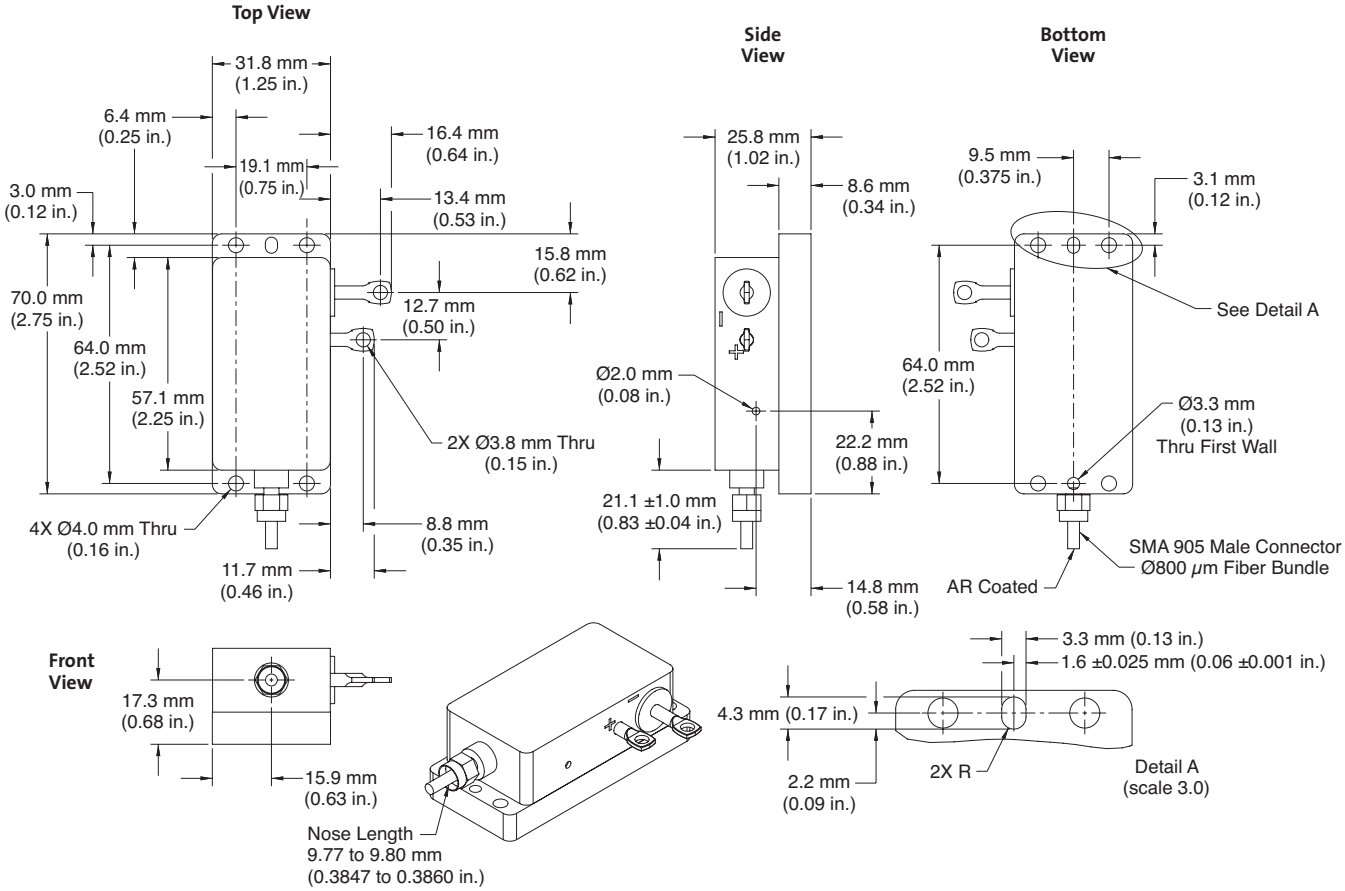
Mechanical Specifications



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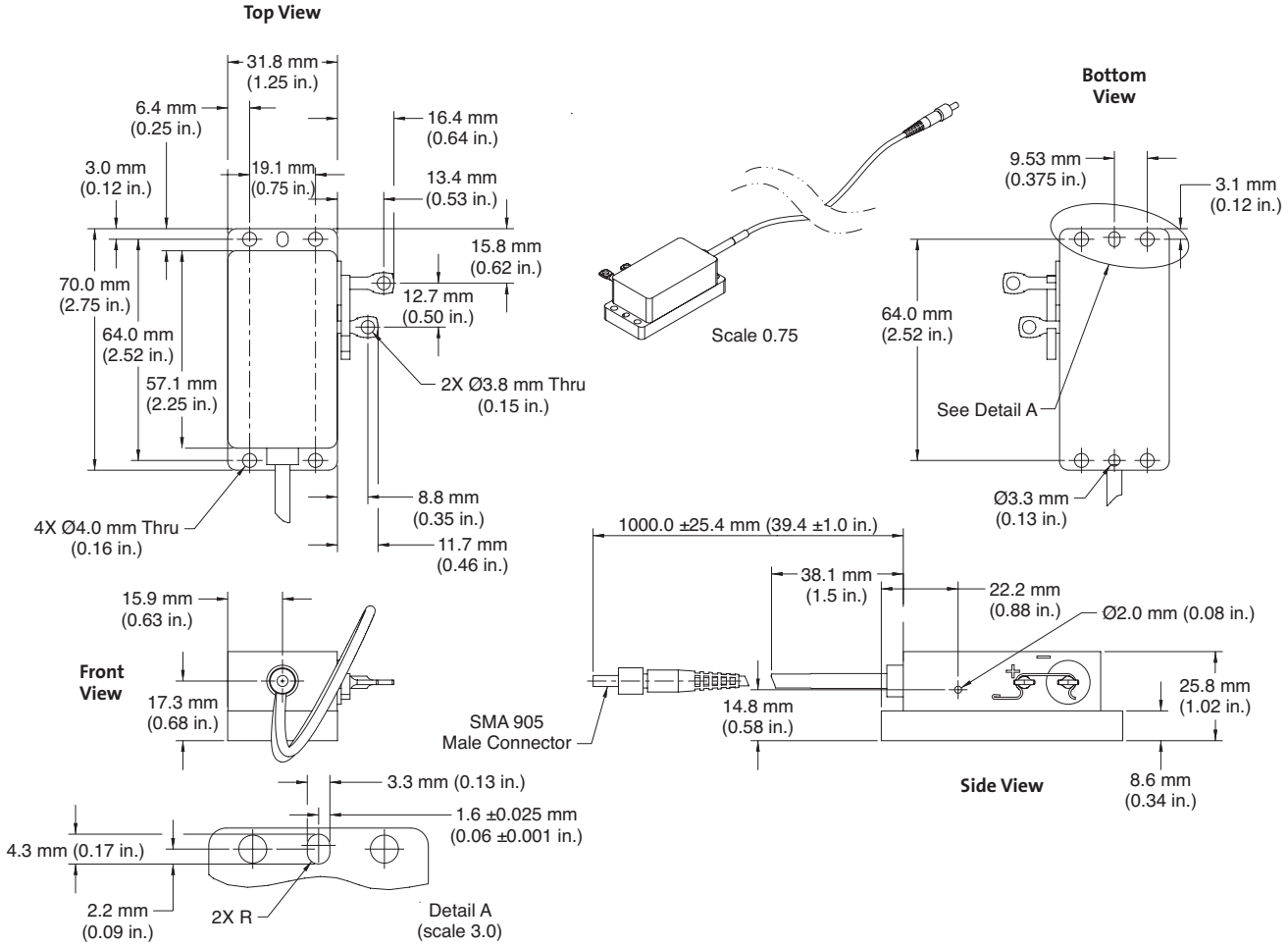
Mechanical Specifications



COHERENT

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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 or contact your local Sales or Service Representative.