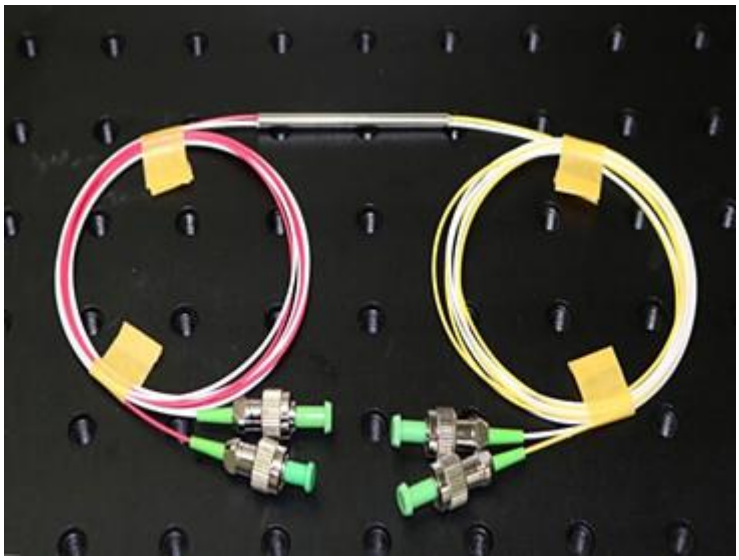
10：90 2x2 1064nm Polarization Maintaining Fiber Coupler FC/APC



Product Description

These 2x2 polarization-maintaining (PM) fiber couplers are designed for the wavelength range of 460-2200 nm, with selectable coupling ratios of 50:50, 75:25, 90:10, or 99:1. The 2x2 couplers are bidirectional and can be used for signal splitting and combining (see the 2x2 coupler example label). The polarization-maintaining couplers are fabricated using panda-type PM fibers, enabling them to maintain high polarization extinction ratios (PER)

when light propagates along the slow axis of the fiber. As shown in the right diagram, stress rods are aligned parallel to the fiber core and apply stress, creating birefringence within the fiber core to achieve polarization-maintaining functionality. Typical applications of polarization-maintaining couplers include optical sensors, optical amplifiers, and fiber optic gyroscopes.

Product features

980/1064/1550/1310nm Polarization Maintaining Fiber Coupler、 Split ratio 50:50, 75:25, 90:10 or 99:1、 Bidirectional coupling (either end can be used as input)、 2.0 mm narrow key FC/PC or FC/APC connectors、 Each coupler includes a separate test report

Part Number

MP-FBC-1064-A-2-10/90-PA

Application area

Polarization- Maintaining Fiber Amplifier、 Fiber optic gyroscope、 Optical sensor

Core parameters

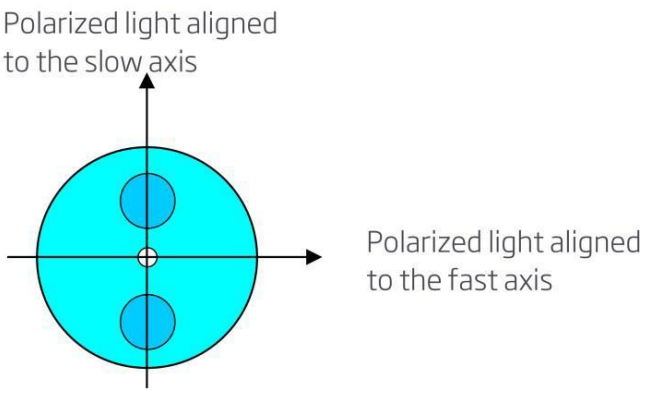
Working Wavelength	Port Structure	Coupling Ratio
1064nm	2x2	10:90

General Parameters

Overview

These 2x2 Polarization Maintaining (PM) Fiber Couplers are designed for use from 460-2200 nm and are available with coupling ratios of 50:50, 75:25, 90:10, or 99:1. The 2x2 couplers are bidirectional and can be used to split or mix signals (see the 2x2 Coupling Examples tab).

Polarization-maintaining couplers are made using Panda-type polarization-maintaining fibers, so they maintain a high polarization extinction ratio (PER) when light is launched along the slow axis of the fiber. As shown in the figure to the right, stress rods are parallel to the fiber core and apply stress to induce birefringence in the fiber core, thereby achieving polarization-maintaining operation. Typical applications of polarization-maintaining couplers include optical sensors, optical amplifiers, and fiber gyroscopes.



The default alignment mode of Idealphotonics' optical polarization-maintaining components is slow-axis alignment.

Idealphotonics' polarization-maintaining couplers have high extinction ratios and operate over a wide temperature range of -40 °C to 85 °C. Note that PER varies with temperature; see the Temperature Cycling Test Section in the Polarization Extinction Ratio Measurement tab for details. They have a max. power of 1 W with connectors or bare fiber and 5 W when spliced (see the Damage Threshold tab for details). These couplers have been extensively tested and PER verified; see the Polarization Extinction Ratio Measurement tab for details of the testing process.

Standard couplers feature 2.0 mm narrow key FC/PC or FC/APC connectors as summarized in the table below. When using the coupler as a beam combiner, it is necessary to terminate the fiber to the unused output, as some of the light

will propagate through this branch. Fiber pigtails have Ø900 µm Hytrel® jackets and are 0.8 m long. Custom coupler configurations with other wavelengths, fiber types, coupling ratios, alignment axes, or port configurations are also available. **Please contact us for inquiries: info@idealphotonics.com.**

General parameters

Structure	Unit	1×2/2×2	
type		Polarization-Maintaining Fiber Optic Coupler (P MFBC)	
Working wavelength	nm	980 or 1064 or 1310 or 1550	
Working bandwidth	nm	±15	
Max. Insertion Loss	50/50	%	3.60/3.60
	30/70	%	5.75/2.10
	10/90	%	11.60/1.00
	5/95	%	14.80/0.80
	2/98	%	18.50/0.45
	1/99	%	22.00/0.40
Extinction ratio		dB	CR>5% ⩾20.00
			5% ⩾ CR > 1% ⩾18.00
Return loss		dB	⩾50.00
Directionality		dB	⩾55.00
Operating temperature		Deg.	-5-75

Storage temperature	Deg.	-40-85		
Fiber length	m	1.00±0.10		
Fiber Type		Panda PM Fiber		
Fiber diameter	um	250	900	900/2000/3000
Package size	mm	2.4x25,3×35,3×54	3×54	90×16×10

Note:

1. All test results do not include connectors. Adding connectors will increase the loss by 0.3dB.

2. We can accept customization for better parameters or other requirements.

3. For custom wavelengths, coupling ratios and connector options, please contact us: info@idealphotonics.com

Single point data test 1X2, 50:50, 1550nm polarization-maintaining fiber coupler (broadband SLD center wave 1550nm, spectrum width: 30nm, 2.5mw polarization-maintaining SLD laser test as an example)

1550nm PM SLD Laser diode

Slow axis alignment

black . port@1550nm

white port@1550nm

Ordering Info

MP-FBC-W□□□□-S○-CR▽-☆-△-XX-□□

W□□□□: Wavelength

1064:1064nm

1310:1310nm

1392:1392nm

1512:1512nm

1532:1532nm

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1550:1550nm

1650:1650nm

1742:1742nm

SO： Port Structure

12:1x2

22: 2x2

CR▽: 0199: 1:99

1090: 10:90

2575:25:75

5050: 50:50

☆: Pigtail Length 05:0.5m

1:1m

10:10m

△: Loose Tube

B: Bare Fiber

9: 900um Loose Tube

20: 2mm Loose Tube

30: 3mm Loose Tube

XX: Fiber and Connector Type

PA=PM Fiber+ FC/APC

PP=PM Fiber+ FC/PC

PN=None No connector