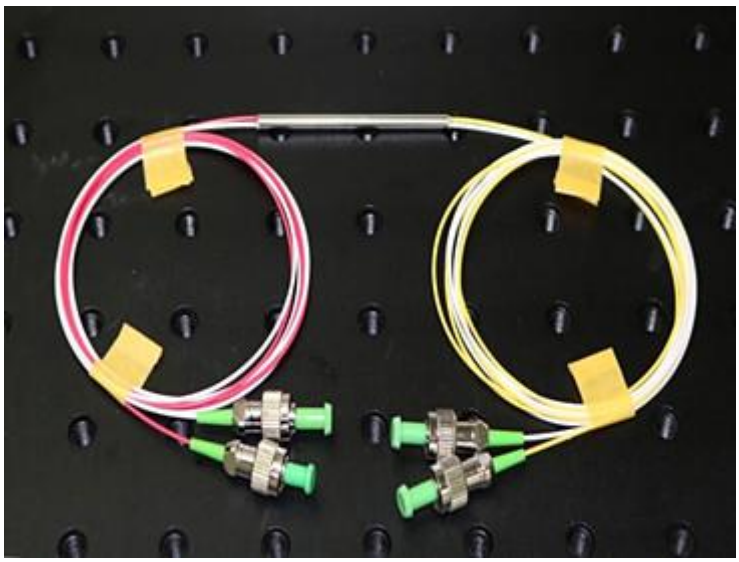
10:90 1X2 1550nm Polarization-mode fiber coupler



Product Description

These 2x2 Polarization Maintaining (PM) Fiber Couplers are designed for use from 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 to split and mix signals (see the 2x2 Coupling Examples tab). PM couplers are manufactured using Panda-type PM fiber, 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, creating birefringence in the fiber core, resulting in PM operation. Typical applications for PM couplers include optical sensors, optical amplifiers, and fiber gyroscopes.

Product features

980/1064/1550/1310nm polarization-maintaining fiber couplers、 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 connector、 Each coupler includes a separate test report

Part Number

MP-FBC-1550-A-1-10/90-PA

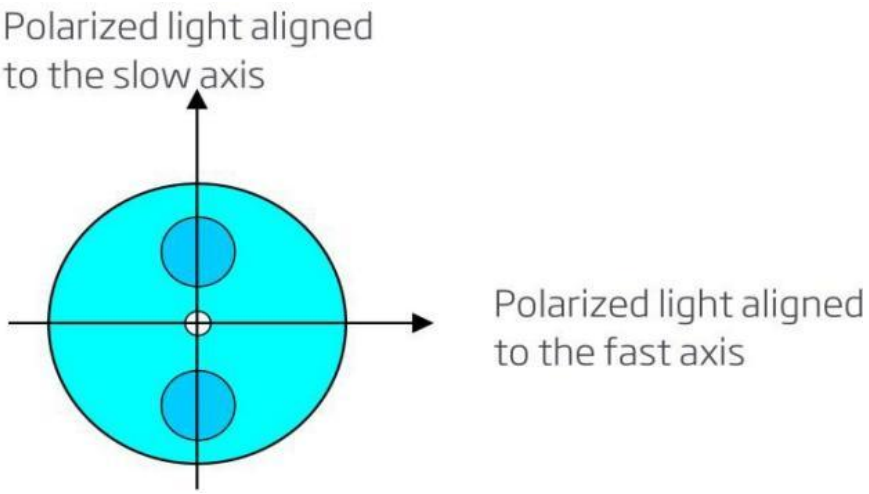
Application area

Polarization-maintaining fiber amplifiers、 Fiber optic gyroscopes、 Optical sensors

Core parameters

Working Wavelength	Port Structure	Coupling Ratio
1550nm	1x2	10:90

- **General Parameters**



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.

parameters

Structure		Unit	1×2/2×2	
Type			Polarization-Maintaining Fiber optic Coupler(PMFBC)	
Operating wavelength		nm	980 or 1064 or 1310 or 1550	
Operating 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
Optical return loss		dB	⩾50.00	
Direction		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

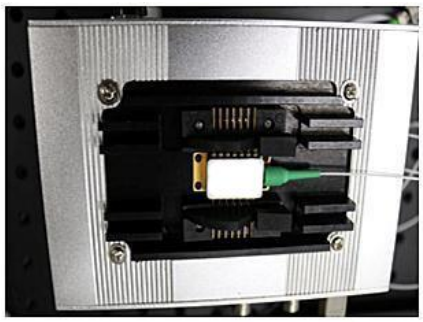
Note:

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. If you need customized wavelength, coupling ratio and connector options.

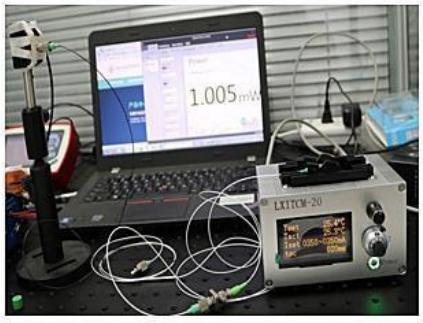
Single point data test 1X2, 50:50, 1550nm PM fiber coupler (broadband SLD center wave 1550nm, spectrum width: 30nm, 2.5mw polarization-maintaining SLD laser test as an example)



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

*****

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