

1550nm 1X4 Polarization Maintaining Fiber Coupler Module



- **Product Description**

Idealphotonics' low-profile couplers have inherent performance advantages because the waveguide core is not deformed or tapered. These devices have low losses and back reflections. Also, the short interaction length (1-2 mm) allows for small device packaging. The interface is essentially vanishing in optical contact between identical silica surfaces. There is no intermediate material that changes its refractive index or thickness with age or environmental influences. The optical performance of the couplers is as if the fibers were molten and is very stable under temperature variations. The



fibers are side-polished in a glass substrate block to remove the cladding material on one side of the core without distorting the core region. For PM fibers, only one stress member remains. The two polished fibers are brought into optical contact with their polarization axes aligned and coupling between the cores is achieved by the evanescent wave interaction. Precise loading of the substrate block ensures that the fibers remain in low-stress contact over a wide temperature range.

● Product features

Low loss and back reflections、 High isolation、 Low ratio variation with temperature、 Compact packaging、 Standard polarization-maintaining (PM) fiber、 Low ratio taps with PM or SM output、 Bandwidth is a function of coupling ratio、 Operates in both slow and fast axes

● Part Number

MP-FBC-1550-A-14-PA-M

● Application area

Polarization-maintaining multiplexing of signals 、 Polarization management 、 Fiber amplifiers 、 Power monitoring 、 Coherent communications、 Fiber optic gyroscopes



● Core parameters

Structure	Operating Wavelength	Bandwidth
1x4	1550nm	±30nm

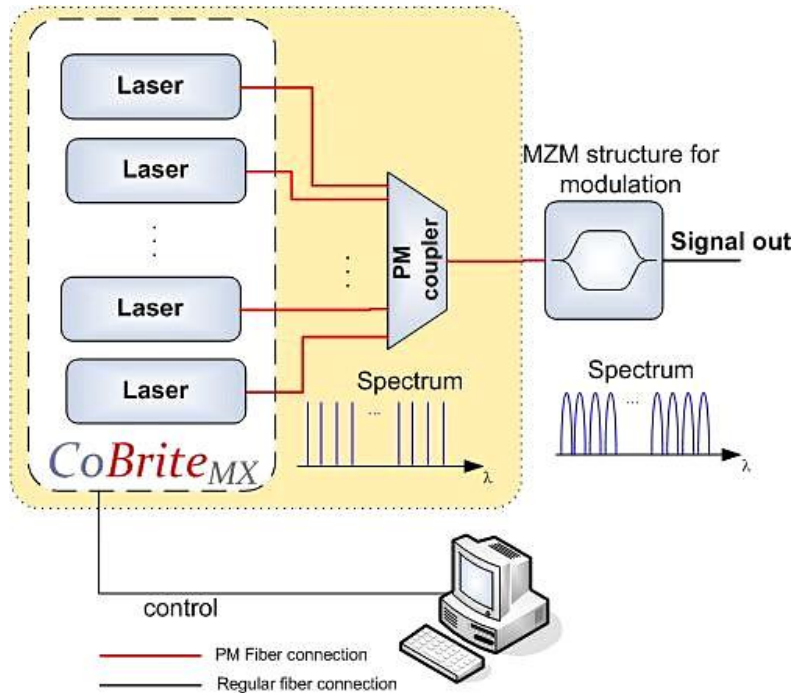
● General Parameters

Parameter

Parameters	Unit	value		
		1x4	1x8	1x16
Structure		1x4	1x8	1x16
Operating wavelength	nm		1310/1550	
Bandwidth	nm		± 30	
Insertion loss	dB	≤ 7.8;Typ. 7.3	≤ 11.3;Typ. 10.8	≤ 14.8;Typ. 14.3
Wavelength-independent loss	dB	≤ 0.5,Typ. 0.3		≤ 0.7
Loss difference of each channel	dB	≤ 0.8	≤ 1.0	
Return loss (PC connector type)	dB		≥ 45	
Directivity	dB	≥ 50	≥ 45	
Extinction ratio	dB	≥ 20		≥ 20
Fiber type			PM Panda Fiber	
Package size	mm	80x20x8	160x 160x 10	160x 160x 10

Note: For devices without connectors, IL will decrease by 0.3dB, RL will increase by 5dB, and ER will increase by 2dB. Connectors are aligned with the slow axis of PM fiber

Typical application structure



Ordering Information

FBC	wavelength	structure	degree	Package	Fiber	Pigtail	Length	Connector
	4=1550nm 7=1310nm	14=1×4 24=2×4 18=1×8 28=2×8	P=Premium A=A Grade	I=M6	E=Panda Fiber L=Large mode area panda fiber	M=900 μm loose tube L=3mm cable	0=0.5m 1=0.75m 2=1.0m S=Specify	0=None 1=FC/PC 2=FC/SPC 3=FC/APC 7=FC/UPC

Note: 1. The seed wavelength can be customized; 2. The parameters can be customized according to the customer