

1x2, 2x2 PM Fiber Optic Coupler

(0.3dB loss, 18 – 25 ER, 480nm-2000 nm)



DATASHEET

[Return to the Webpage](#)



Features

- Low Loss
- High Reliability
- High ER

Applications

- Instrumentation
- Sensor

The FC Series PM fiber optic coupler is based on our fused biconical taper technology and compact packaging structure. It features good uniformity, low excess loss and very low polarization sensitivity. The device is ideal for splitting or combining light with exceptional performance over a wide wavelength range. The cost is related to the polarization extinction ratio grade level.

The FC Series PM fiber optic couplers can handle optical power up to 1W at 1550nm. The power handling threshold reduces for shorter wavelengths. We produce a HPFC Series fiber optic high-power couplers.

Couplers are highly efficient in splitting light with little loss, about 0.2dB per joint, but incur significant losses when combining lights; for example, a 50/50 coupler produces a 50% loss to each beam when combined. For beam-combining applications, search Combiner.

Specifications (table 1)

Parameter	Min	Typical	Max	Unit
Coupling Ratio		1/99 to 50/50		%
Wavelength ^[1]	480		2300	nm
Wavelength Bandwidth		± 15		nm
Return Loss ^[5]		> 55		dB
Fiber Tensile Load		< 10		N
Default Connector Key		Slow axis		
Operating Temperature	-40		85	°C
Storage Temperature	-40		85	°C

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link](#):

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Specifications (table 2)

Parameter	Grade U	Grade S	Grade P	Grade A	Unit	
Center-Wavelength Max Optical Power ^[2] Excess Loss ^[3]	480nm (0.1W)			≤0.7	dB	
	530nm (0.2W)			≤0.7	dB	
	540nm (0.2W)			≤0.7	dB	
	560nm (0.2W)			≤0.5	dB	
	635nm (0.3W)			≤0.4	dB	
	670nm (0.5W)			≤0.4	dB	
	780nm (0.6W)			≤0.4	dB	
	850nm (1W)			≤0.4	dB	
	980nm (1.5W)		≤0.3	≤0.3	≤0.3	dB
	1060nm (1.5W)		≤0.3	≤0.3	≤0.3	dB
	1310nm (1.5W)		≤0.3	≤0.3	≤0.4	dB
	1480nm (1.5W)		≤0.3	≤0.3	≤0.4	dB
	1550nm (1.5W)	≤0.7	≤0.3	≤0.3	≤0.4	dB
	1600nm (1.5W)		≤0.3	≤0.3	≤0.4	dB
	2000nm (6W)			≤0.3	≤0.4	dB
	Polarization Extinction Ratio ^[4]	≥25	≥20	≥18	≥16	dB
Coupling Ratio Tolerance						
Split Ratio: 50/50	±1.5	±2	±4	±6	%	
Split Ratio: 40/60	±1.5	±2	±3	±5	%	
Split Ratio: 30/70	±1.5	±1.5	±1.5	±2	%	
Split Ratio: 20/80	±1.0	±1.0	±1.0	±1.0	%	
Split Ratio: 10/90	±0.5	±0.5	±0.5	±0.5	%	
Split Ratio: 5/95	±0.3	±0.3	±0.3	±0.3	%	
Split Ratio: 1/99	±0.25	±0.25	±0.25	±0.25	%	

Notes:

- [1]. Customer wavelength is available on request
- [2]. Without connector, connector reduces the optical power handling
- [3]. Without connector. Each connector adds 0.3dB and 0.5dB for short wavelength
- [4]. Without connector. Each connector adds 2dB
- [5]. Without connector. Each connector adds 5dB

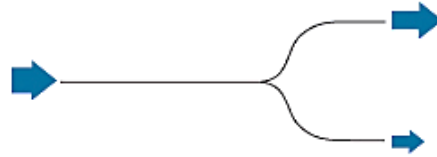
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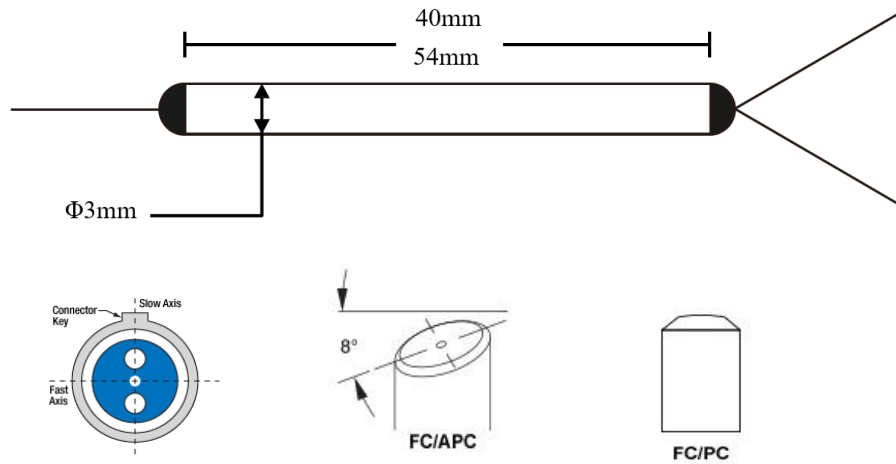


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Function Diagram



Mechanical Dimension



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information

Prefix	Wavelength	Grade	Package	Ratio	Port	Fiber Cover	Fiber Type	Connector Type
FC-	480 = A 530 = B 540 = C 560 = D 630 = E 670 = F 1480 = G 1060 = 1 1310 = 3 1550 = 5 780 = 7 850 = 8 980 = 9 1600 = 2 2000 = 4 2039 = H Special = 0	A = 5 P = 1 S = 2 U = 3 Special = 0	40(L) = 1 54(L) = 2 90(L) = 3 70 = 5 35 = 6 34 = 7 56 = 8 Special = 0	01/99 = 1 02/98 = 2 05/95 = 3 10/90 = 4 15/85 = 5 20/80 = 6 30/70 = 7 40/60 = 8 50/50 = 9 0.5/99.5 = A Special = 0	1x2 = 1 2x2 = 2	250um = 1 900um tube = 3 Special = 0	Panda = 1 Special = 0	None = 1 FC/PC = 2 FC/APC = 3 SC/PC = 4 SC/APC = 5 ST/PC = 6 LC/PC = 7 LC/UPC = U Special = 0

Note: 1m fiber length is default. Other fiber length is available, please add the extension -xxm, such as – 2.0m after 9-digital. The customized fiber length may cause the long lead time and higher price.