

780nm 1x2(2x2) PM Fiber Fused Coupler

Key Features

- Low Insertion Loss
- High Extinction Ratio
- Compact In-Line Package
- Operating on both Fast and Slow Axis
- High Stability and Reliability

DK Photonics uses unique fusing technique and polarization maintaining fiber to build the polarization maintaining fused coupler (PMC). The coupling ratio could be selected according to customer's request. It features low excess loss, small size and high polarization extinction ratio. PMC is widely used for optical sensors and optical gyro.

The 1x2(2x2) Polarization Insensitive Fused PM Fiber Standard Coupler can be used to split high power linearly polarized light into two paths without perturbing the line are state of polarization (SOP). It can be operating on both Fast and Slow Axis.

If you do not see a standard PM Fused Coupler that meets your needs, we welcome the opportunity to review your desired specification and quote a custom PM fused Coupler. Requests for custom fiber pigtailed, different wavelengths, tap Ratio and handling power of operation or other specific needs will be readily addressed.

Applications

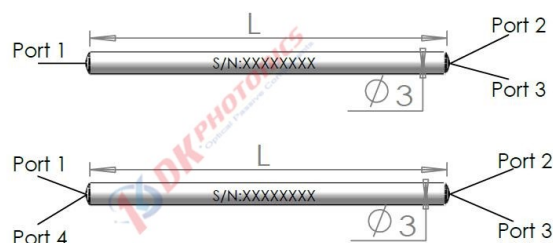
- Fiber Optic Instruments
- Fiber Amplifiers
- Fiber Sensors
- Coherent Detecting
- Research



Max. Coupling Ratio Tolerance(780~2100nm), @λc:

Coupling Ratio	1/99	2/98	5/95	10/90	20/80	30/70	40/60	50/50
Tolerance for P grade (%)	±0.4	±0.6	±0.8	±1.2	±2.0	±2.5	±2.5	±3.5
Tolerance for A grade (%)	±0.6	±0.8	±1.0	±2.0	±2.5	±3.5	±3.5	±5.0

Package Dimension



*Due to ongoing design improvements, the package size is subject to change. Please contact DK Photonics for confirmation if you have special requirements.

For more Info

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Performance Specifications

Parameter	Unit	Values
Configuration	-	1x2 or 2x2
Grade	-	P A
Center Wavelength	nm	780
Wavelength Range	nm	±15
Excess Lose	Typ.	0.4
	Max.	0.6
Mini. PER for Through Port	dB	18 17
Min. Directivity	dB	50 45
Min. Return Loss	dB	50 45
Thermal Stability	dB/°C	≤0.005
Max. Power Handling	W	0.5, 2, 3, 5, 10
Max. Tensile Load	N	5
Fiber Type	-	PM 780-HP
Operating Temperature	°C	-10 ~ +70
Storage Temperature	°C	-40 ~ +85
Dimensions (Φ×L)	mm	Φ3.0×54(bare fiber), or Φ3.0×60(0.9mm loose tube)

- Above specifications are for device without connector, and the PM fused coupler is both axis working, no axis can be blocked; default test extinction ratio is on the slow axis. All parameters are tested at room temperature at central wavelength only.
- ER data listed in the table are for the ports with coupling ratio greater than 10%. It will be 2 dB lower for a tap port with coupling ratio between 5-10%. For <5% tap port, ER is not considered if there is no requirement.
- For devices with connectors, IL will be 0.3dB higher, RL will be 5dB lower and ER will be 2dB lower. Power transmits through the connector less than 2W. The default connector key is aligned to slow axis.
- Regarding the coupler handling power: <2W with connector (FC), <5W when splicing.
- For >10W high power applications, we will use heat sink package, contact DK Photonics for details.
- If there is pulse application, please be sure to inform us of pulse energy and peak power.

Order information P/N: PMFBTC-①-②-③-④-⑤-⑥-⑦-⑧-⑨

When you inquire, please provide the correct P/N number according to our ordering information and attach the appropriate description would be better. If need any connector, we do not recommend choosing a 250μm bare fiber pigtail.

①	②	③	④	⑤	⑥	⑦	⑧	⑨		
Grade	Port	Operating Wavelength	Power Handling	Coupling Ratio	Fiber Type	Fiber Diameter	Fiber Length	Connector		
P: P grade	102:1x2 202:2x2	78:780nm XX: Others	L:<0.5W 2:2W	50:50/50 40:40/60	05:5/95 02:2/98	1: Standard PM fibers	25:250μm bare fiber	08:0.8m 10:1.0m	00: None FP: FC/PC	SA: SC/APC LP: LC/PC
A: A grade			5:5W 10:10W	30:30/70 20:20/80	01:1/99 XX: Others	XX: Others	90:900μm Loose tube XX: Others	XX: Others	FA: FC/APC SP: SC/PC	LA: LC/APC XX: Others

Part Number Example: PMFBTC-P-202-78-1-50-1-90-10-FA

Description: 780nm 2x2 PM Fiber Fused Coupler, P grade, 1W, 50:50 coupling ratio, 1.0m PM780-HP panda fiber with 0.9mm OD loose tube, and FC/APC connectors at all ports.

Ordering Information for Custom Parts

If you need to customize other specifications, please provide detailed description for your requirement.