DK PHOTONICS Optical Passive Components

920nm 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

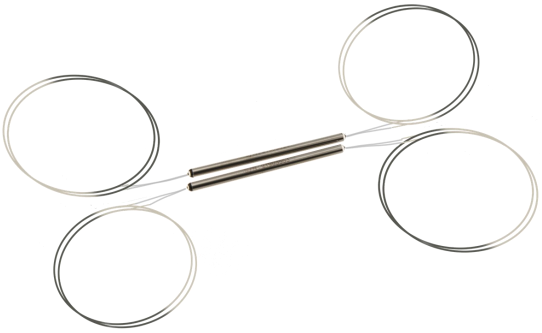
Applications

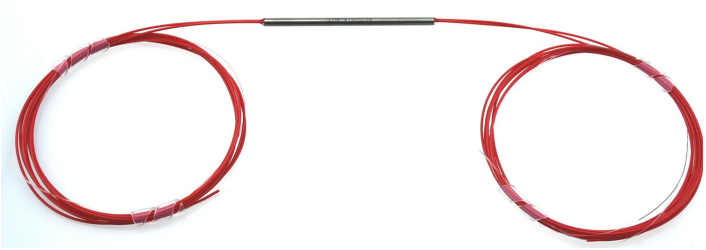
- Fiber Optic Instruments
- Fiber Amplifiers
- Fiber Sensors
- Coherent Detecting
- Research

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 pigtails, different wavelengths, tap Ratio and handling power of operation or other specific needs will be readily addressed.

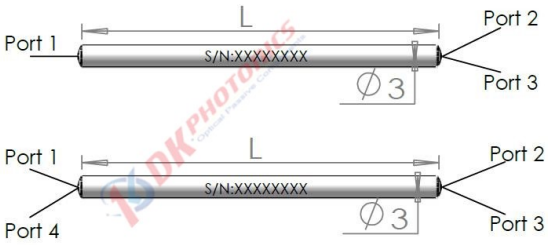




Max. Coupling Ratio Tolerance(780~2100nm), @λc:

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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920nm 1x2(2x2) PM Fiber Fused Coupler

Performance Specifications

Parameter		Unit	Values	
Configuration		-	1x2 or 2x2	
Grade		-	P	A
Center Wavelength		nm	920	
Wavelength Range		nm	±15	
Excess Lose	Typ.	dB	0.4	0.6
	Max.	dB	0.6	0.8
Mini. PER for Through Port		dB	18	17
Min. Directivity		dB	50	45
Min. Return Loss		dB	50	45
Thermal Stability		dB/℃	≤0.005	
Max. Power Handling		W	0.5, 2, 3, 5, 10	
Max. Tensile Load		N	5	
Fiber Type		-	PM780-HP	
Operating Temperature		℃	-10 ~ +70	
Storage Temperature		℃	-40 ~ +85	
Dimensions (Φ×L)		mm	Φ3.0×54(bare fiber), or Φ3.0×60(0.9mm loose tube)	

1. 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.
2. 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. ER will be 2 dB lower for Nufern PM1950 fiber.
3. 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.
4. Regarding the coupler handling power: <2W with connector (FC), <5W when splicing.
5. For >10W high power applications, we will use heat sink package, contact DK Photonics for details.
6. 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 A: A grade	102:1x2 202:2x2	92:920nm XX: Others	L:<0.5W 2:2W 5:5W 10:10W	50:50/50 40:40/60 30:30/70 20:20/80 10:10/90	05:5/95 02:2/98 01:1/99 XX: Others	1: Standard PM fibers XX: Others	25:250μm bare fiber 90:900μm Loose tube XX: Others	08:0.8m 10:1.0m XX: Others	00:None FP: FC/PC FA: FC/APC SP: SC/PC	SA: SC/APC LP: LC/PC LA: LC/APC XX: Others

Part Number Example: PMFBTC-P-202-92-1-50-1-90-10-FA

Description: 920nm 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.