

## 1xN (NxN) Monolithic Single Mode Coupler

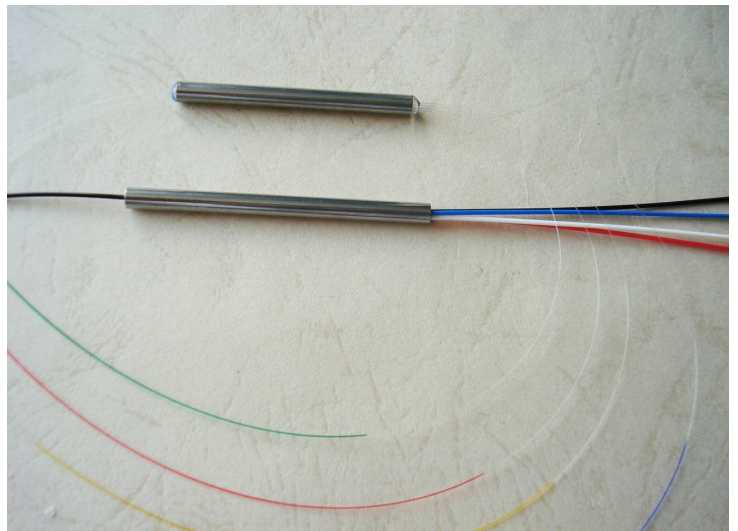
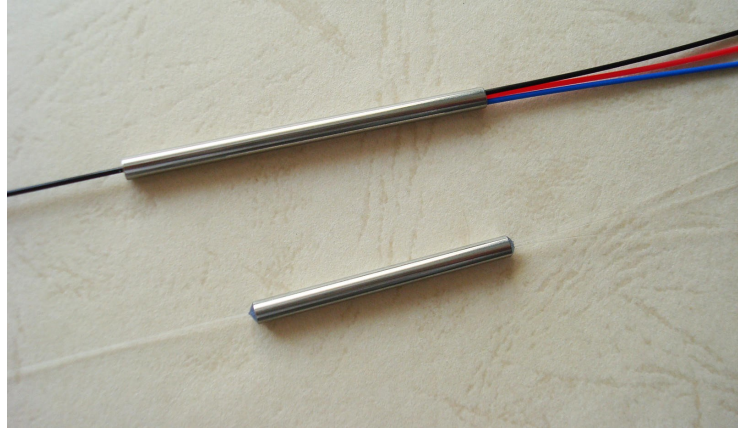
1x3, 3x3, 1x4 monolithic couplers have the compact package size, low insertion loss, and high reliability performance. These couplers were designed for optical modules, the fiber sensors and fiber testing instruments.

### Key Features

- Small Dimension
- Low Insertion Loss
- Low PDL

### Applications

- Optical Communication System
- Optical Sensor
- Instrument Testing



## For more Info

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### Packaging Information

	Configuration	1×3 or 3×3	1×4
Dimensions(Φ×L) (mm)	250μm bare fiber	Φ3.0×54	
	900μm loose tube	Φ4.0×60	Φ4.0×65

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

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### Performance Specifications

Parameter	Unit	1×3 SSC		3×3 SSC		1×3 WBC		3×3 WBC		1×3 DWC	
Operating wavelength	nm	1310 or 1550				1310 or 1550				1310 or 1550	
Operating bandwidth	nm	±15				±40				±40	
Grade	-	P	A	P	A	P	A	P	A	P	A
Insertion loss	dB	≤5.4	≤5.7	≤5.6	≤5.8	≤5.6	≤6.0	≤5.8	≤6.2	≤5.8	≤6.2
Typical excess loss	dB	0.1	0.15	0.1	0.15	0.1	0.15	0.1	0.15	0.1	0.15
PDL	dB	≤0.2	≤0.25	≤0.25	≤0.3	≤0.2	≤0.25	≤0.25	≤0.3	≤0.25	≤0.3
Uniformity	dB	≤0.8	≤1.2	≤1.0	≤1.4	≤1.0	≤1.4	≤1.3	≤1.6	≤1.2	≤1.5
Directivity	dB	≥55									
Maximum Power Handling	W	2									
Operating temperature	°C	-40~+85									

Parameter	Unit	1×4 SSC				1×4 WBC			
		Normal Size		Mini Size		Normal Size		Mini Size	
Operating wavelength	nm	1310 or 1550, others on request							
Operating bandwidth	nm	±15				±40			
Grade	-	P	A	P	A	P	A	P	A
Insertion loss	dB	≤7.0	≤7.4	≤7.2	≤7.5	≤7.1	≤7.4	≤7.2	≤7.5
Typical excess loss	dB	0.15	0.25	0.15	0.25	0.2	0.3	0.2	0.3
PDL	dB	≤0.20	≤0.25	≤0.25	≤0.35	≤0.20	≤0.25	≤0.25	≤0.35
Uniformity	dB	≤1.0	≤1.4	≤1.2	≤1.5	≤1.2	≤1.6	≤1.4	≤1.8
Directivity	dB	≥55							
Maximum Power Handling	W	2							
Operating temperature	°C	-40 ~ +85							

Parameter	Unit	1×4 DWC				1×4 TWC			
		Normal Size		Mini Size		Normal Size		Mini Size	
Operating wavelength	nm	1310 and 1550				1310,1490 and 1550			
Operating bandwidth	nm	±40				1310±40,1490±10 and 1550±40			
Grade	-	P	A	P	A	P	A	P	A
Insertion loss	dB	≤7.2	≤7.5	≤7.3	≤7.7	≤7.2	≤7.5	≤7.3	≤7.7
Typical excess loss	dB	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4
PDL	dB	≤0.25	≤0.30	≤0.25	≤0.35	≤0.25	≤0.30	≤0.25	≤0.35
Uniformity	dB	≤1.4	≤1.8	≤1.5	≤2.0	≤1.4	≤1.8	≤1.5	≤2.0
Directivity	dB	≥55							
Maximum Power Handling	W	2							
Operating temperature	°C	-40 ~ +85							

- Above specification are for device without connector, and may change without notice. All parameters are tested at room temperature.
- Other specifications can be made on customer request.
- For devices with connectors, IL will be 0.3dB higher, RL will be 5dB lower.
- If there is pulse application, please be sure to inform us of pulse energy and peak power.

### Order information P/N: FBTC-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	
Type	Grade	Wavelength	Coupling Ratio	Port	Fiber Type	Pigtails Diameter	Fiber Length	Connector	
SSC	P: P Grade	13:1310nm	AV: even	103:1x3	S28: SMF-28	25:250µm	05:0.5m	00:None	ST: ST/PC
WBC	A:A Grade	14:1490nm	XX: others	303:3x3	X: Others	90:900µm	10:1.0m	FP: FC/PC	LP: LC/PC
DWC		15:1550nm		104:1x4			15:1.5m	FA: FC/APC	LA: LC/APC
TWC		1315:1310&1550nm					XX: Others	SP: SC/PC	XX: Others
								SA: SC/APC	

**Part Number Example #1:** FBTC-SSC-P-15-AV-103-S28-90-10-FA-3.0x54

**Description:** 1x3 Monolithic Single Mode Coupler, SSC type, P grade, even coupling ratio, SMF-28e fiber, with 0.9mm OD loose tube, 1.0m length fiber pigtails, FC/APC connectors at all ports.3.0X54mm package.

**Part Number Example #2:** FBTC-WBC-P-15-AV-104-S28-90-10-FA-3.0x54

**Description:** 1x4 Monolithic Single Mode Coupler, WBC type, P grade, even coupling ratio, SMF-28e fiber, with 0.9mm OD loose tube, 1.0m length fiber pigtails, FC/APC connectors at all ports.3.0X54mm package.

### Ordering Information for Custom Parts

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