

Three-Window Coupler (TWC)

Key Features

- Low excess loss
- Low PDL
- Three operating windows
- High stability and reliability

Built by asymmetric coupling technique, TWC operating bandwidth is expanding to 1310nm, 1490nm and 1550nm three communication windows. The TWC coupler has the same coupling ratio on 1310, 1490 and 1550nm communication windows, with low excess loss and low PDL. TWC is widely used for communication systems, CATV, FTTH, where multiple optical signals pass through single fiber.

Applications

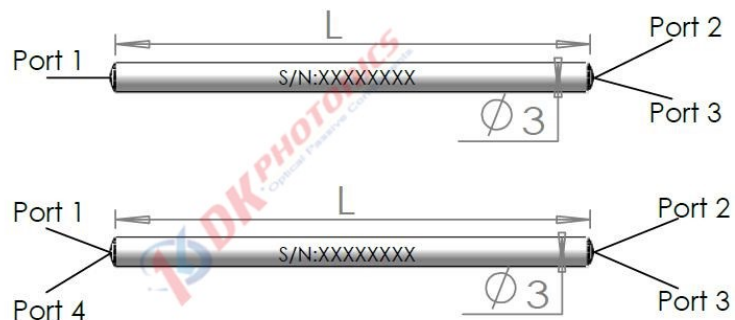
- Optical communication systems
- CATV
- FTTH



Package Dimension

Configuration	1×2 or 2×2		
Fiber lead length	1 meter, others on request		
Fiber type	250μm bare fiber	900μm loose tube	900μm/2mm/3mm loose tube
Dimensions (Φ×L) (mm)	Φ3.0×54	Φ3.0×54	90×20×10mm

*Other package dimensions can be made on customer request.



*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	
Grade	-	P	A
Operating wavelength	nm	1310,1490 and 1550	
Operating bandwidth	nm	1310 ± 40,1490 ± 10 and 1550 ± 40	
Typical excess loss	dB	0.07	0.10
	50/50	≤3.6	≤3.8
	45/55	≤4.2/3.2	≤4.4/3.4
	40/60	≤4.7/2.7	≤4.9/2.9
	35/65	≤5.4/2.4	≤5.7/2.6
	33/67	≤5.7/2.2	≤6.0/2.4
	30/70	≤6.0/1.9	≤6.3/2.1
Insertion loss	25/75	≤7.0/1.7	≤7.3/1.9
	20/80	≤7.9/1.3	≤8.4/1.4
	15/85	≤9.5/1.0	≤10.0/1.2
	10/90	9.20~11.00/≤0.75	8.80~11.40/≤0.8
	5/95	12.05~14.20/≤0.4	11.55~14.65/≤0.5
	3/97	14.10~16.50/≤0.35	13.60~17.05/≤0.45
	2/98	15.60~18.55/≤0.3	15.00~19.20/≤0.4
	1/99	18.45~21.70/≤0.25	17.80~22.40/≤0.35
PDL	dB	≤0.15	≤0.20
Directivity	dB	≥55	
Maximum Power Handling	W	2	
Operating temperature	°C	-40 ~ +85	

1. Above specification are for device without connector, and may change without notice. All parameters are tested at room temperature.
2. Other specifications can be made on customer request.
3. For devices with connectors, IL will be 0.3dB higher, RL will be 5dB lower. The pass optical power is 2 W only for connector added.
4. If there is pulse application, please be sure to inform us of pulse energy and peak power.
5. Insertion Loss around 1383nm (water peak) is counted in the specifications above.

Order information P/N: FBTC-①-②-③-④-⑤-⑥-⑦-⑧-⑨-⑩

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	⑩
Type	Grade	Port	Wavelength	Coupling Ratio (%)	Fiber Type	Pigtails Diameter	Fiber Length	Connector	Package
TWC	P: P Grade	102:1x2	131415:	50:50/50	S28:SMF-28	25:250µm	05:0.5m	00:None	3.0x54
	A:A Grade	202:2x2	1310&1490&1550nm	40:40/60	X:Others	90:900µm	10:1.0m	FP: FC/PC	90x20x10
				30:30/70		20:2.0mm	15:1.5m	FA: FC/APC	
				20:20/80		30:3.0mm	XX: Others	SP: SC/PC	
				10:10/90		XX: Others		SA: SC/APC	
				05:5/95				ST: ST/PC	
				02:2/98				LP: LC/PC	
				01:1/99				LA: LC/APC	
				XX: Others				XX: Others	

Part Number Example: FBTC-TWC-P-202-131415-02-S28-25-10-00-3.0x54

Description: 2x2 three window coupler, P grade, 1310&1490&1550nm, 2/98 coupling ratio, SMF-28e fiber, with bare fiber, 1.0m length fiber pigtails, without connector. 3.0X54mm package.

Ordering Information for Custom Parts

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