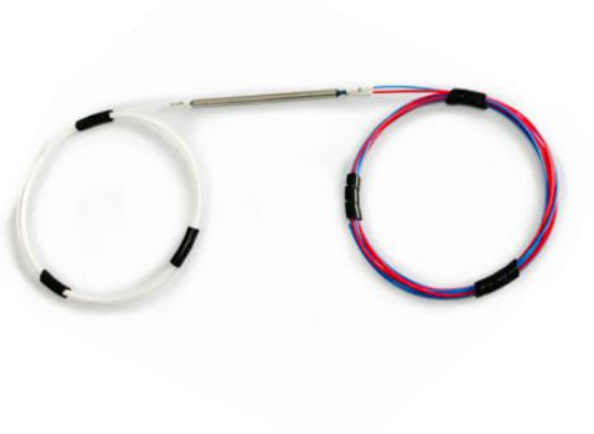
FBT Coupler



1X2 Couplers for Telecom

Tang Pin offers 1x2 SM fused fiber optic couplers that are ideal for telecom applications.These couplers,also known as taps,allow a single fiber input to be split into 2 outputs,We have narrowband and wideband couplers available with centre wavelengths ranging from 850nm to 1650nm.

Features:

- 1x2 Fiber Optic Couplers
- Two Wavelength Ranges Available
  - 1300±100nm Wideband
  - 1310±15nm Narrowband
- 50:50,75:25,90:10,or 99:1 Split Ratios Available
- 2.0mm Narrow Key FC/PC or FC/APC Connectors
- Individual Test Report Included with Each Coupler;
- Contact us for Custom Wavelength,Coupling Ratio,and Connector Options

Tang Pin's Single Mode 1x2 Fiber Optic Coupler ,also known as taps,have a flat spectral across the entire specified range.Featured below are 1300 nm wideband(+100nm bandwidth) and 1310nm narrowband(+15nm bandwidth)1x2 SM coupler,which are available with a coupling rate of 50:50,75:50,90:10 or 99:1.These couplers can handle a max power of 1 W with connectors or bare fiber and 5W when spliced.

1X2 couplers are manufactured using the same process as our 2x2 fiber optic couplers,but have only one input port for simplified use and cable management.These couplers are ideal for applications where light is split from the input port into two output ports at the specified coupling ratio;they are generally not recommended for beam combining applications.The unused port is internally terminated within the coupler housing in a manner that minimizes back reflections.

These couplers are offered from stock with FC/PC or FC/APC and other normal (LC/SC)connectors.Fiber leads are 0.8m long for both our narrowband and wideband couplers.Custom coupler configurations with other wavelengths,fiber types,coupling ratios,connector,or port configurations are also available.

50:50 Fiber Optic Couplers

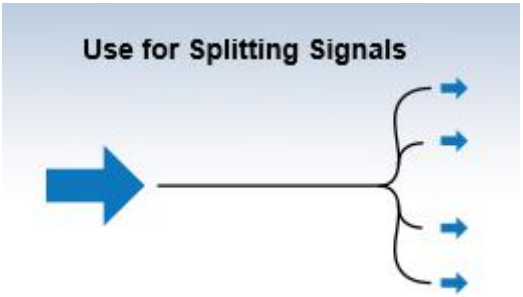
Center Wavelength	Bandwidth[a]	Coupling Ratio[b,c]	Coupling Ratio Tolerance	Insertion Loss[b,c]	Excess Loss[b,c]	Uniformity[b,c,d]	Fiber Type[a,e]	Termination
1300 nm	±100 nm	50:50 (Click for Plot)	±5.0%	≤3.6 dB / ≤3.6 dB	≤0.15 dB	≤0.5 dB (Click for Plot)	SMF-28	FC/PC FC/APC
1310 nm	±15 nm	50:50 (Click for Plot)	±3.0%	≤3.4 dB / ≤3.4 dB	≤0.15 dB	-	SMF-28	FC/PC FC/APC

a. Below the cut-off wavelength, single mode operation is not guaranteed. SMF-28e+ fiber has a cut-off wavelength of ≤1260 nm.
b. All values are specified at room temperature over the bandwidth without connectors and measured through the white input port, as indicated in the diagram above.
c. Please see the *1x2 Coupler Tutorial* tab for more information on these terms.
d. This specification excludes the water absorption region centered around 1383 nm. The water absorption region is indicated in the uniformity plot.
e. Corning SMF-28 fiber type will be specified on the documentation that ships with the coupler. Other fiber types may be available upon request. Please contact Tech Support with inquiries.

FBT Coupler



ABS box coupler



1x4 Fiber Optic Couplers

- Wavelengths from 560nm to 1550 nm Available
- 25:25:25:25 Split Ratio
- 2.0 mm Narrow Key FC/PC or FC/APC Connectors

Features

- Split Input Signal Evenly Into Four Output Ports
- Multiple Wavelength/Bandwidth Combination Available
- 2.0 mm Narrow Key FC/PC or FC/APC Connectors
- Both Narrowband and Wideband Couplers Include Test Reports
- Mount to an Optical Table with the FCQB Mounting Base(Available Below)
- Contact Us for Custom Wavelength,Coupling Ratio,and Connector Options

Tang Pin Single Mode 1x4 Fiber Optic Couples allow a user to split a single input signal evenly into four output signals.Several center wavelength options are available(see the table to the right for details).Narrowband couplers have a +15nm bandwidth,dual-window couplers have a +40nm bandwidth around each center wavelength,and wideband coupler have a +50 nm or +100 nm bandwidth.1x4 couplers are manufactured using three 50:50 fiber couplers to split the signal from the input port;they cannot be used in reverse to combine light from four sources.The unused ports on these internal 50:50 fiber couplers are terminated in a manner that minimizez back reflections.

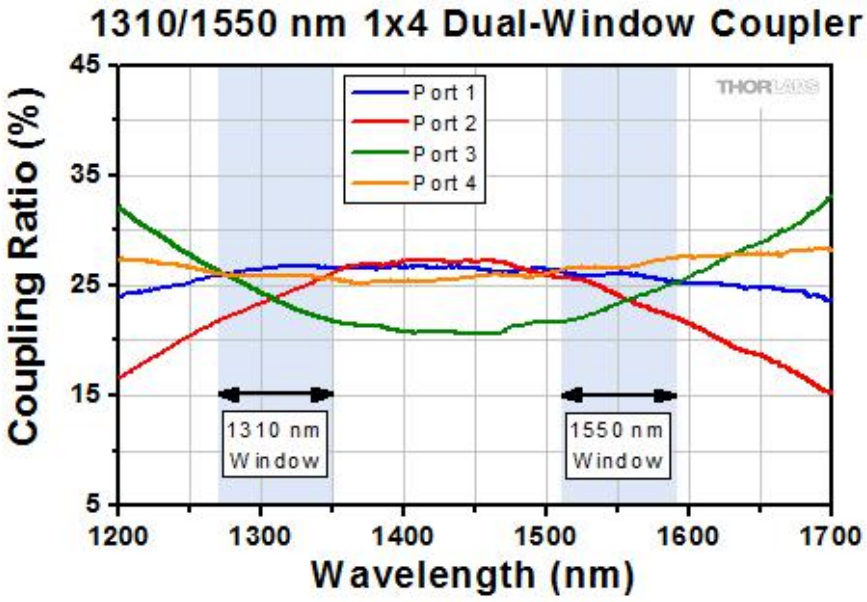
For our wideband 1x4 couplers,Tang Pin provides an individual test data sheet with each coupler that includes coupling data and performance graphs.These graphs,which show data within the design bandwidth and also show measured data outside of the specified bandwidth including the entire wavelength range where the coupling ratio meets the specified tolerance.Sample data sheets for our 1x4 wideband couplers can be viewed below.Please note that the data sheets for the 630nm and 1064nm 1x4 narrowband couplers do not include performance graphs,but a typical performance plot is included in the spec sheets below.Our couplers have undergone extensive testing to ensure they meet or surpass Telcordia requirements.

Each ABS coupler is contained in a compact 100mmx80mmx10mm housing that includes four through holes for mounting the device.Narrowband and wideband couplers use a labeled white housing and 0.8m fiber leads jacketed using Φ3/Φ2 mm yellow furcation tubing.Couplers are offered from stock with 2.0mm narrow key FC/PC or FC/APC connectors.Custom coupler configurations with other wavelengths ,fiber types,coupling ratios,connectors,or port configuration are also available.

Two Window:

Alternative Fiber Coupler & Splitter Options											
Double-Clad Couplers	Single Mode Couplers			Single Mode PLC Splitters		Multimode Couplers		Polarization-Maintaining Couplers			Wavelength Division Multiplexers (WDM)
2x2	1x2	2x2	1x4	1x8	1x16	1x2	2x2	1x2	2x2	1x4	

Center Wavelength	Bandwidth	Coupling Ratio (%)[b] (Click for Plot)	Coupling Ratio Tolerance	Insertion Loss[b]	Excess Loss[b]	Uniformity[b]	Fiber Type[c]	Termination
1310/1550 nm	±40 nm	25:25:25:25	±4.0%	≤7.3 dB (Each Output Port)	≤0.5 dB	-	SMF-28	FC/PC
								FC/APC



Coupler Specifications[a]	
Coupling Ratio	25:25:25:25
Coupling Ratio Tolerance	±4.0%
Center Wavelength	1310 nm / 1550 nm
Minimum Bandwidth	±40 nm (Around Each Center Wavelength)
Insertion Loss	≤7.3 dB (Each Output Port)
Excess Loss	≤0.5 dB
Polarization-Dependent Loss (PDL)	≤0.4 dB
Optical Return Loss (ORL) / Directivity	≥60 dB
Max Power Level[b]	1 W (With Connectors or Bare Fiber) 5 W (Spliced)
Fiber Type[c]	SMF-28e
Fiber Cut-Off Wavelength	≤1260 nm
Port Configuration	1x4
Lead Length and Tolerance	0.8 m +0.075 m / -0.0 m
Connectors	2.0 mm Narrow Key FC/PC
Package Dimensions	3.94" x 3.15" x 0.39" (100.0 mm x 80.0 mm x 10.0 mm)
Mounting	Four Mounting Holes for #2 (M2) Screws
Jacket	Ø900 µm Loose Hytrel® Tube
Pigtail Tensile Load	5 N
Operating Temperature	-40 to 85 °C
Storage Temperature	-40 to 85 °C

a. All values are specified with connectors, at room temperature, over the bandwidth of each center wavelength, and with the white port as the input.
b. Specifies the total maximum power allowed through the component. Coupler performance and reliability under high power conditions must be determined within the user's setup.
c. Corning SMF-28 fiber type will be specified on the documentation that ships with the coupler.