



# Gooch & Housego

## Subminiature Tap Coupler



The Subminiature Tap Coupler provides low loss splitting and monitoring in an ultra-short 32mm length package. Designed for space constrained applications, the product is manufactured using  $\text{\O}80\mu\text{m}$  cladding fibre. This enables low fibre bend radius within modules without compromising mechanical integrity.

G&H proprietary manufacturing technology provides uniquely low excess loss and wavelength dependence along with low polarisation and temperature dependence for both signal and tap ports.

Standard wavelengths of operation are the C, L, C+L or S bands for fibre amplifier applications however many other wavelengths are available for requirements such as sensing, fibre lasers and fibre gyros. Do not hesitate to contact us with your specific requirements.

Reliability is assured through qualification to Telcordia GR-1221.

### Key Features:

- 32mm package length
- $\text{\O}80\mu\text{m}$  cladding fibre
- 1/99 to 50/50 coupling ratio
- Ultra low typical  $<0.05\text{dB}$  excess loss
- High power handling
- Proven reliability

### Applications:

- Miniature Optical Amplifiers
- Miniature Modules
- Fibre Gyros
- Fibre Lasers
- Sensors

### Compliance:

- Telcordia GR-1221

## Optical Specifications

### C or L band

Coupling Ratio	Grade	Signal Path					Tap Path				
		Insertion Loss <sub>1,2</sub> (dB)		WDL <sub>3</sub> (dB)	PDL <sub>4</sub> (dB)	TDL <sub>5</sub> (dB)	Insertion Loss <sub>1,2</sub> (dB)		WDL <sub>3</sub> (dB)	PDL <sub>4</sub> (dB)	TDL <sub>5</sub> (dB)
		Min	Max	Max	Max	Max	Min	Max	Max	Max	Max
Example <sub>6</sub>											
1%	A	0.18	0.05	0.05	0.02	17.6	22.4	0.35	0.25	0.20	
2%	A	0.20	0.05	0.05	0.02	15.8	18.2	0.30	0.20	0.15	
3%	A	0.28	0.05	0.05	0.04	13.8	17.0	0.26	0.20	0.15	
5%	A	0.40	0.05	0.05	0.08	11.9	14.4	0.20	0.20	0.15	
10%	A	0.70	0.06	0.06	0.08	9.2	11.2	0.18	0.15	0.13	
50%	A	2.70	3.40	0.15	0.10	0.10	2.7	3.4	0.15	0.10	0.10

### C+L or S band

Coupling Ratio <sub>6</sub>	Grade	Signal Path					Tap Path				
		Insertion Loss <sub>1,2</sub> (dB)		WDL <sub>3</sub> (dB)	PDL <sub>4</sub> (dB)	TDL <sub>5</sub> (dB)	Insertion Loss <sub>1,2</sub> (dB)		WDL <sub>3</sub> (dB)	PDL <sub>4</sub> (dB)	TDL <sub>5</sub> (dB)
		Min	Max	Max	Max	Max	Min	Max	Max	Max	Max
Example <sub>6</sub>											
1%	A	0.18	0.06	0.05	0.02	17.4	23.0	1.20	0.25	0.20	
2%	A	0.20	0.07	0.05	0.02	15.2	20.0	1.00	0.20	0.15	
3%	A	0.28	0.07	0.05	0.04	13.7	17.4	0.90	0.20	0.15	
5%	A	0.40	0.08	0.05	0.08	11.8	14.8	0.80	0.20	0.15	
10%	A	0.70	0.09	0.06	0.08	9.0	11.4	0.60	0.15	0.13	
50%	A	2.60	3.50	0.40	0.10	0.10	2.6	3.5	0.40	0.10	0.10

1. Insertion loss over operating wavelength range (not including PDL and TDL)
2. In 2x2 couplers insertion loss is not specified for launch through second input port P4 (coloured blue)
3. Change in insertion loss over the operating wavelength range
4. Change in insertion loss over all input polarisation states at band centre wavelength
5. Change in insertion loss from -5 to 75°C
6. Any coupling ratio available – contact G&H for specification of coupling ratios not listed.

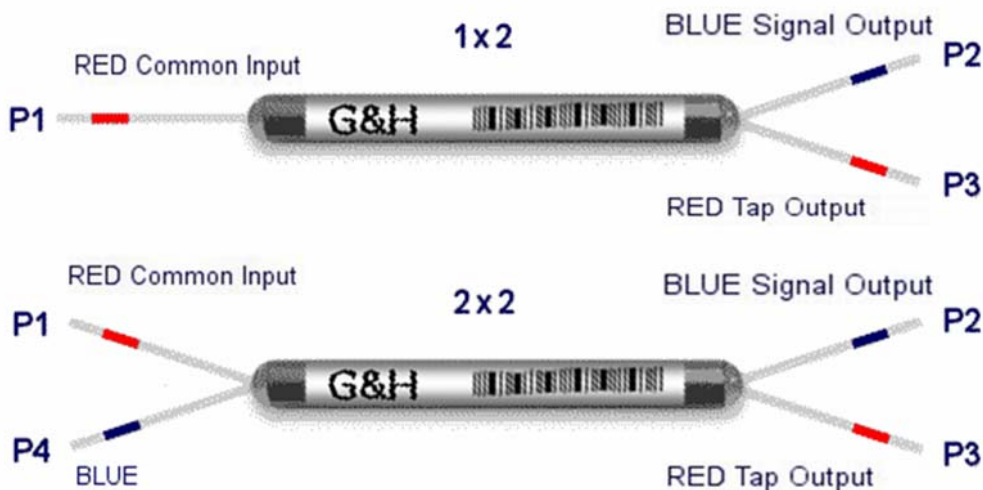
Parameter	Specification	Unit
Operating Wavelength Range	C	1528-1563
	L	1570-1605
	C+L Band	1528-1605
	S Band	1425-1500
Return Loss/Directivity <sub>1</sub>	55	dB
Pigtail Tensile Load	5	N
Optical Power Handling	4	W
Operating / Storage Temperature Range	-40 to +75 / -40 to +85	°C
Environmental Qualification	Telcordia GR 1221	

1. Return loss is the ratio of power launched to power reflected for port P1. Directivity for the 2x2 component is the ratio of power launched to P1 to the power reflected to P4.

## Housing Option

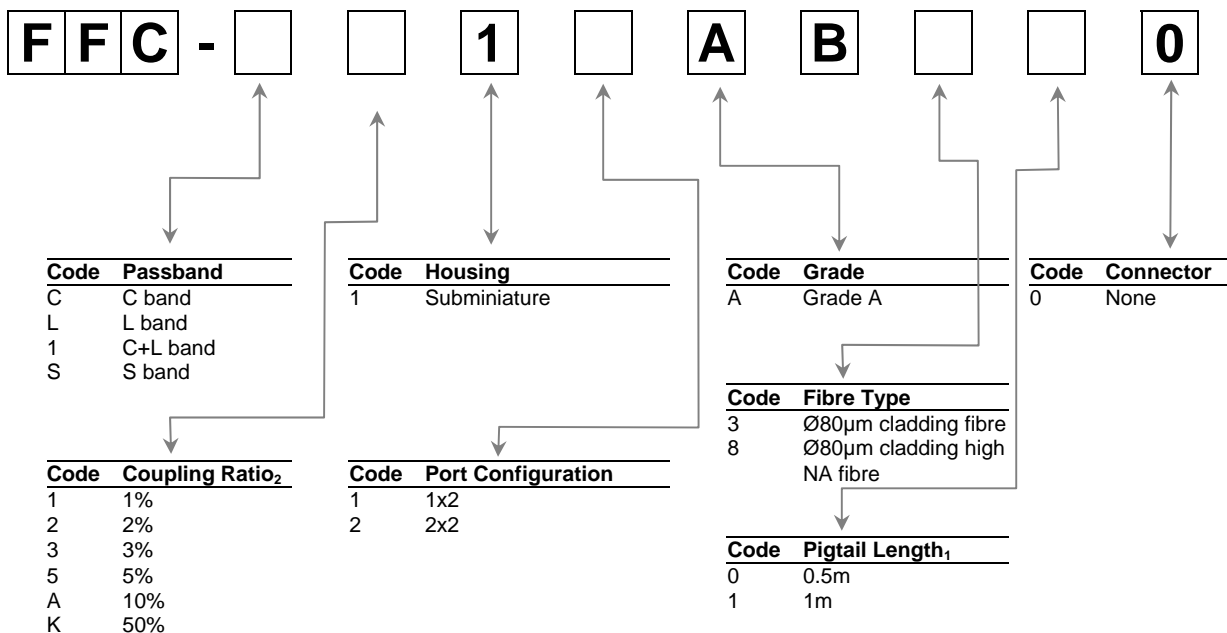
Housing Code	Description	1x2, 2x2 Dimensions (mm)	Pigtail
1	Subminiature	Ø3.0 x 32 (L)	Primary-coated fibre, Ø80µm cladding

## Configuration



## Ordering Code Information

Sample: FFC-C211AB310 (C Band, 2% tap, subminiature housing, A grade, Ø80µm cladding fibre, 1m pigtails, no connector)



1. Minimum pigtail length. Further pigtail lengths available on request  
 2. Any coupling ratio available – contact G&H for specification and ordering codes of coupling ratios not listed