



Gooch & Housego



Fused Coupler C or L band

The Fused Coupler, C or L band enables the accurate splitting and monitoring of optical signals in singlemode fibre. 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.

These high performance parts are available in a wide variety of tap ratios, wavelength ranges, housing and connector options and can therefore be readily specified in a wide variety of applications, enabling rapid design cycles and new project builds.

Reliability is assured through qualification to Telcordia GR-1221, with a field proven FIT rate of < 1.

For the subminiature version of this product please refer to the datasheet 'Subminiature Tap Coupler'.

Key Features:

- Ultra low typical <0.05dB excess loss
- Low wavelength dependence
- Any coupling ratio available
- High power handling
- Proven reliability
- < 1 FITs

Applications:

- Signal monitoring in C or L band EDFA
- Also available at 1310 and 1480nm
- Network monitoring
- Network expansion
- Fixed attenuation

Compliance:

- Telcordia GR-1221



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Optical Specifications

Coupling Ratio	Grade	Signal Path					Tap Path				
		Insertion Loss _{1,2} (dB)		WDL ₃ (dB)	PDL ₄ (dB)	TDL ₅ (dB)	Insertion Loss _{1,2} (dB)		WDL ₃ (dB)	PDL ₄ (dB)	TDL ₅ (dB)
Example ₇		Min	Max	Max	Max	Max	Min	Max	Max	Max	Max
1%	P		0.15	0.03	0.03	0.02	18.4	21.2	0.25	0.20	0.20
1%	A		0.18	0.05	0.05	0.02	17.6	22.4	0.35	0.25	0.20
2%	P		0.18	0.03	0.03	0.02	16.0	17.8	0.22	0.15	0.15
2%	A		0.20	0.05	0.05	0.02	15.2	18.2	0.30	0.20	0.15
3%	P		0.23	0.03	0.03	0.04	14.3	16.0	0.18	0.14	0.15
3%	A		0.28	0.05	0.05	0.04	13.8	17.0	0.26	0.20	0.15
5%	P		0.32	0.03	0.03	0.08	12.2	13.9	0.15	0.12	0.15
5%	A		0.40	0.05	0.05	0.08	11.9	14.4	0.20	0.20	0.15
10%	P		0.60	0.05	0.04	0.08	9.6	10.8	0.13	0.10	0.13
10%	A		0.70	0.06	0.06	0.08	9.2	11.2	0.18	0.15	0.13
50%	P	2.80	3.20 ₆	0.10	0.08	0.10	2.8	3.2	0.10	0.08	0.10
50%	A	2.70	3.40	0.15	0.10	0.10	2.7	3.4	0.15	0.10	0.10

1. Insertion loss over operating wavelength range (not including PDL, TDL or any connector losses),
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. Housing option 2 (miniature) insertion loss 2.8/3.30dB
7. Any coupling ratio available – contact G&H for specification of coupling ratios not listed.

Parameter	Specification	Unit
Operating Wavelength Range ₁ C Band	1528-1563	nm
	L Band	1570-1605
	1310 Band	1295-1325
	1480 Band	1465-1495
Return Loss/Directivity ₂	55	dB
Pigtail Tensile Load	5	N
Optical power handling _{4,5}	4	W
Operating / Storage Temperature Range ₃	-40 to +75 / -40 to +85	°C
Environmental Qualification	Telcordia GR 1221	

1. For wavelengths within +/-5nm of the specified range performance will be maintained for signal path insertion loss, PDL, TDL, directivity and return loss. The only parameters to increase will be tap insertion loss and WDL. Maximum values of increase for both parameters are 0.1dB for 1% tap, 0.07dB for 2-9%, 0.05dB for 10-50%.
2. 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.
3. For connectorised component, operating temperature range is -5 to +75°C.
4. For operation at powers of greater than 4W the component housing and fibre must be adequately heat-sunk (for additional information contact G&H Sales). Components intended for high power operation are only available in the 2x2 configuration. Component performance and reliability under high power must be determined within the customer system.
5. The performance and reliability of optical connectors is not guaranteed for optical powers of greater than 1W.

Housing Option

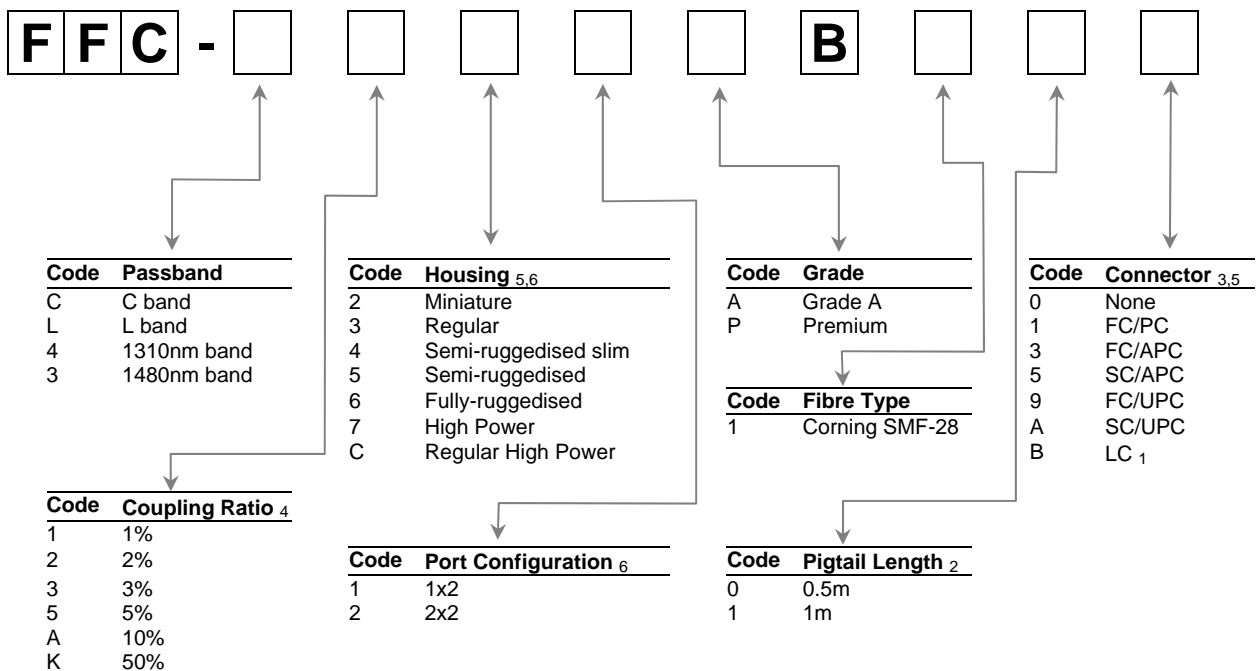
Housing Code	Description	Dimensions (mm)	Pigtail
2	Miniature	3.0 (Ø) x 45 (L)	Primary-coated fibre
3	Regular	3.0 (Ø) x 50 (L)	Primary-coated fibre
4	Semi-ruggedised slim	3.0 (Ø) x 60 (L)	Ø 0.9 mm loose-tube
5	Semi-ruggedised	5.0 (Ø) x 75 (L)	Ø 0.9 mm loose-tube
6	Fully-ruggedised	80 (L) x 10 (W) x 8 (H)	Ø 3.0 mm fan-out sleeving
7	High Power	5 (W) x 5 (H) x 85 (L max)	Primary-coated fibre
C	Regular High Power	3.0 (Ø) x 50 (L)	Primary-coated fibre

Configuration



Ordering Code Information

Sample: FFC-C231PB110 (C Band, 2% tap, regular housing, premium grade, SMF-28 fibre, 1m pigtail, no connector)



1. Not available for housing option 6.
2. Minimum pigtail length. Further pigtail lengths available on request. Where connectorised, pigtail length is to connector end face.
3. Insertion loss in specification table does not include connector losses.
4. Any coupling ratio available – contact G&H for specification and ordering codes of coupling ratios not listed.
5. Connectors may be fitted to housing types 4, 5 and 6. For connectorisation of other housing types please contact the Sales Office.
6. 7 & C not available as 1x2 Port Configuration.