



# Gooch & Housego



## Fused Coupler 980nm

The G&H Fused Coupler, 980nm enables the accurate splitting and monitoring of pump power in erbium doped fibre amplifiers. G&H proprietary manufacturing technology provides uniquely low excess loss, along with low polarisation and temperature dependence for all ports.

These high performance parts are available in a wide variety of tap ratios, housing and connector options and can therefore be readily specified in a wide variety of applications, enabling rapid design cycles and new project builds. Standard variants for 960nm and 1060nm may also be selected.

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 contact the sales office.

### Key Features:

- Ultra low pump loss
- Minimum wastage of pump power
- High EDFA output power
- 960 and 1060nm also available
- < 1 FITs

### Applications:

- EDFA pump redundancy and sharing
- EDFA pump monitoring
- Sensors

### Compliance:

- Telcordia GR-1221

## Optical Specifications

Coupling Ratio	Grade	Signal Path			Tap Path		
		Insertion Loss <sub>1,2</sub> (dB)	TDL <sub>3</sub> (dB)	Insertion Loss <sub>1,2</sub> (dB)	TDL <sub>3</sub> (dB)		
Example <sub>4</sub>		Min	Max	Max	Min	Max	Max
1%	P		0.15	0.02	18.4	21.5	0.20
1%	A		0.20	0.02	15.0	22.0	0.20
5%	P		0.40	0.08	11.3	14.8	0.15
5%	A		0.50	0.08	11.0	15.2	0.15
10%	P		0.65	0.08	9.0	11.5	0.13
10%	A		0.75	0.08	8.5	11.8	0.13
20%	P		1.40	0.10	5.6	8.4	0.10
20%	A		1.50	0.10	5.4	8.6	0.10
30%	P		2.00	0.10	4.1	6.4	0.10
30%	A		2.20	0.10	4.0	6.5	0.10
40%	P		2.60	0.10	3.2	4.7	0.10
40%	A		2.80	0.10	3.1	4.8	0.10
50%	P	2.60	3.40	0.10	2.6	3.4	0.10
50%	A	2.50	3.60	0.10	2.5	3.6	0.10

1. Insertion loss over operating wavelength range (not including TDL or 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 from -5 to 75°C
4. Any coupling ratio available – contact G&H for specification of coupling ratios not listed.

Parameter	Specification	Unit	
Operating Wavelength Range	960nm	955-965	nm
	980nm	975-985	nm
	1060nm	1055-1065	nm
Return Loss/Directivity <sub>1</sub>	55	dB	
Pigtail Tensile Load	5	N	
Optical power handling <sub>3,4</sub>	4	W	
Operating / Storage Temperature Range <sub>2</sub>	-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.
2. For connectorised component, operating temperature range is -5 to +75°C.
3. 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.
4. The performance and reliability of optical connectors is not guaranteed for optical powers of greater than 1W.

## Housing Option

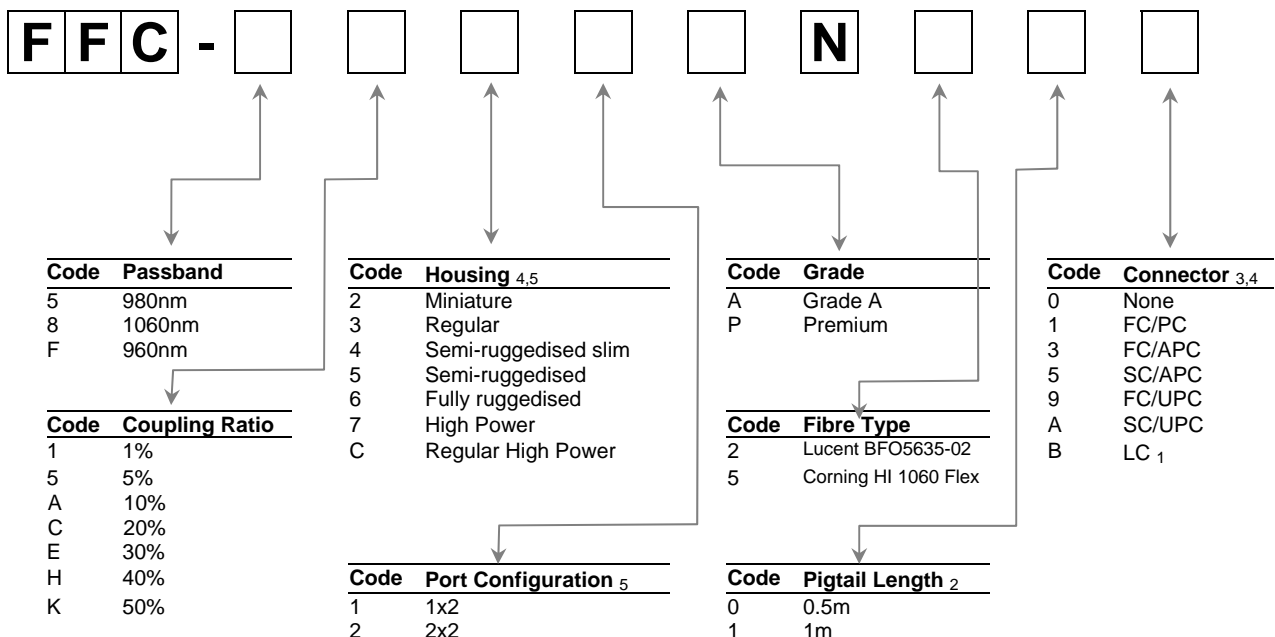
Housing Code	Description	Dimensions (mm)	Pigtail
2	Miniature	3.0 (∅) x 45 (L)	Primary-coated fibre
3	Regular	3.0 (∅) x 50 (L)	Primary-coated fibre
4	Semi-ruggedised slim	3.0 (∅) x 60 (L)	∅ 0.9 mm loose-tube
5	Semi-ruggedised	5.0 (∅) x 75 (L)	∅ 0.9 mm loose-tube
6	Fully-ruggedised	80 (L) x 10 (W) x 8 (H)	∅ 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 (∅) x 50 (L)	Primary-coated fibre

## Configurations



## Ordering Code Information

Sample: **FFC-5K31PN210** (980nm, 50/50 coupling ratio, regular housing, 1x2, premium grade, Lucent BFO5635-02 fibre, 1m pigtail, no connector)



- Not available for housing option 6.
- Minimum pigtail length. Further pigtail lengths available on request. Where connectorised, pigtail length is to connector end face.
- Insertion loss values in specification table do not include connector loss.
- Connectors may be fitted to housing types 4, 5 and 6. For connectorisation of other housing types please contact the Sales Office.
- 7 & C not available as 1x2 Port Configuration.