

# FUSED COUPLER 980 nm

## Fused Fiber Coupler

### DATASHEET

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The G&H fused coupler, 980 nm enables the accurate splitting and monitoring of pump power in erbium-doped fiber amplifiers.

G&H proprietary manufacturing technology provides uniquely low excess loss, along with low polarization 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 960 nm and 1060 nm 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 nm and 1060 nm 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 <sup>1,2</sup> (dB)		TDL <sup>3</sup> (dB)	Insertion Loss <sup>1,2</sup> (dB)		TDL <sup>3</sup> (dB)
Example <sup>4</sup>		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

<sup>1</sup> Insertion loss over operating wavelength range (not including TDL or connector losses).

<sup>2</sup> In 2x2 couplers, insertion loss is not specified for launch through second input port P4 (coloured blue).

<sup>3</sup> Change in insertion loss from -5 – +75°C.

<sup>4</sup> Any coupling ratio available – contact G&H for specification of coupling ratios not listed.

Parameter	Specification	
Operating wavelength range	960 nm	955-965 nm
	980 nm	975-985 nm
	1060 nm	1055-1065 nm
Return loss/directivity <sup>1</sup>	55 dB	
Pigtail tensile load	5 N	
Optical power handling <sup>3,4</sup>	4 W	
Operating/storage temperature range <sup>2</sup>	-40 – +75°C / -40 – +85°C	
Environmental qualification	Telcordia GR 1221	

<sup>1</sup> 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.

<sup>2</sup> For connectorized component, operating temperature range is -5 – +75°C.

<sup>3</sup> For operation at powers of greater than 4 W 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.

<sup>4</sup> The performance and reliability of optical connectors is not guaranteed for optical powers of greater than 1 W.

## Housing Option

Housing Code	Description	Dimensions (mm)	Pigtail
2	Miniature	3.0 (Ø) x 45 (L)	Primary-coated fiber
3	Regular	3.0 (Ø) x 50 (L)	Primary-coated fiber
4	Semi-ruggedized slim	3.0 (Ø) x 60 (L)	Ø 0.9 mm loose-tube
5	Semi-ruggedized	5.0 (Ø) x 75 (L)	Ø 0.9 mm loose-tube
6	Fully-ruggedized	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 fiber
C	Regular high power	3.0 (Ø) x 50 (L)	Primary-coated fiber

## Configurations



## Order code

Order codes are comprised of a standard device prefix (e.g. FFC) followed by code letters or numbers which correspond to available options.

**Sample:** FFC-5541P513 (Fused fiber coupler, 980 nm wavelength, 5% tap coupling ratio, semi-ruggedized slim housing, 1x2 port configuration, P grade, Corning HI 1060 Flex, 1 m pigtail length, FC/APC connectors).

Order code	①	②	③	④	⑤	⑥	⑦	⑧	⑨
F	F	C	-					N	
① Passband	980 nm			1060 nm			960 nm		
Code	5			8			F		
② Coupling ratio	1%	5%	10%	20%	30%	40%	50%		
Code	1	5	A	C	E	H	K		
③ Housing <sup>4,5</sup>	Miniature	Regular	Semi-ruggedized slim	Semi-ruggedized	Fully-ruggedized	High power	Regular high power		
Code	2	3	4	5	6	7	C		
④ Port configuration <sup>5</sup>	1x2				2x2				
Code	1				2				
⑤ Grade	Grade A				Premium				
Code	A				P				
⑦ Fiber type	Lucent BFO5635-02				Corning HI 1060 Flex				
Code	2				5				
⑧ Pigtail length <sup>2</sup>	0.5 m				1 m				
Code	0				1				
⑨ Connector <sup>3,4</sup>	None	FC/PC	FC/APC	SC/APC	FC/UPC	SC/UPC	LC <sup>1</sup>		
Code	0	1	3	5	9	A	B		


1 Not available for housing option 6.

2 Minimum pigtail length. Further pigtail lengths available on request. Where connectorized, pigtail length is to connector end face.

3 Insertion loss values in specification table do not include connector loss.

4 Connectors may be fitted to housing types 4, 5 and 6. For connectorization of other housing types please contact the sales office.

5 7 and C not available as 1x2 port configuration.

<p><b>Ordering Information:</b></p>  <p>800 Village Walk #316          Guilford, CT 06437          Ph: 203-401-8093          Email orders to: <a href="mailto:sales@xsoptix.com">sales@xsoptix.com</a>          Fax orders to: 800-878-7282</p>
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