



# FUSED COUPLER FOR 2 $\mu\text{m}$ OPERATION

## Fused Fiber Coupler

### DATASHEET

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Gooch & Housego's fused coupler range has been expanded to include the 2  $\mu\text{m}$  operating window.

The G&H fused coupler enables the accurate splitting and monitoring of optical signals in single mode fiber. G&H proprietary manufacturing technology provides uniquely low excess loss and wavelength dependence, along with low polarization and temperature dependence for both signal and tap ports.

The all fiber construction offers excellent reliability and high power handling characteristics.

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



#### Key Features

- Any coupling ratio available
- Low Loss
- Low PDL (by design)
- High power handling
- Custom product key

#### Applications

- Telecoms
- Instrumentation
- IR Imaging
- Biomedical
- Industrial
- Defence
- IR Counter measures

## Typical Optical Specifications<sup>4</sup>

Coupling Ratio (%) <sup>3</sup>	Available Wavelength (nm) <sup>5</sup>	Coupling Ratio Tolerance (%) <sup>1,2</sup>	Excess Loss (dB) <sup>1,2,6</sup>
1	1900 - 2199	±0.5	0.20
5	1900 - 2199	±1.5	0.20
10	1900 - 2199	±3.0	0.20
20	1900 - 2199	±4.0	0.25
30	1900 - 2199	±4.0	0.25
40	1900 - 2199	±5.0	0.30
50	1900 - 2199	±5.0	0.30

1. In 2x2 couplers performance through second input port P4 (coloured blue) not measured.
2. Maximum limit at center wavelength. Not including TDL, PDL or connector losses.
3. Any coupling ratio available. Please contact us for specifications of coupling ratios not listed.
4. Custom specifications, including 1700 nm and 1800 nm windows and wavelength flattened available on request.
5. Performance specified for center wavelength, selected from within the available range.
6. Based on 1 m pigtails at 1900 nm, fiber IR absorption leads to higher losses for longer wavelengths and fiber pigtail lengths. Example: Additional fiber loss ranges from 0.0075 dB/m at 1901 nm to 0.20 dB/m at 2199 nm.

Parameter	Specification
Operating wavelength	Specified wavelength within the range 1900-2199 nm
Operating/storage temperature range <sup>1</sup>	-40 - +75° C / -40 - + 85° C
Optical power handling <sup>2,3</sup>	4 W
Pigtail tensile load	5 N
Fiber type	Speciality single mode fiber

- 1 For connectorized component, operating temperature range is -5 - +75° C.
- 2 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.
- 3 The performance and reliability of optical connectors is not guaranteed for optical powers of greater than 1 W.

## Housing Options

Housing Code	Description	1x2, 2x2 Dimensions (mm)	Pigtail
3	Regular	3.0 (Ø) x 60 (L max)	Primary-coated fiber
7	High power	5 (W) x 5 (H) x 85 (L max)	Primary-coated fiber
C	Regular high power	3.0 (Ø) x 60 (L max)	Primary-coated fiber

## Configuration



## 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-ZK3150200 (Fused fiber coupler, 2050 nm center wavelength, 50/50 coupling ratio, regular housing, 1x2 port configuration, SM1950 fiber, 0.5 m pigtail length, no connectors).

Order code				①	②	③	④	⑤	⑥	⑦	⑧	⑨
<b>F</b>	<b>F</b>	<b>C</b>	<b>-</b>									
①	<b>Passband</b>			17XX nm	18XX nm	19XX nm	20XX nm	21XX nm				
	Code			V	W	Y	Z	T				
②	<b>Coupling ratio</b> <sup>3</sup>			1%	2%	3%	5%	10%	50%			
	Code			1	2	3	5	A	K			
③	<b>Housing</b> <sup>4,5</sup>			Regular	Semi-ruggedized slim	Semi-ruggedized	Fully-ruggedized	High power	Regular high power			
	Code			3	5	5	6	7	C			
④	<b>Port configuration</b> <sup>6</sup>			1x2			2x2					
	Code			1			2					
⑤	<b>Last two digits of center wavelength</b>			e.g. XX20 nm	e.g. XX50 nm	e.g. XX70 nm	e.g. XX80 nm					
⑥	Code			20	50	70	80					
⑦	<b>Fiber type</b> <sup>6</sup>			SM2000		SM1950		10/125 0.15NA				
	Code			1		2		3				
⑧	<b>Pigtail length</b> <sup>1</sup>			0.5 m			1 m					
	Code			0			1					
⑨	<b>Connector</b> <sup>2,4</sup>			None		FC/PC		FC/APC				
	Code			0		1		3				

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

2 Specification table does not include connector losses.

3 Any coupling ratio available – contact G&H for specification and ordering codes of coupling ratios not listed.

4 Connectors may be fitted to housing type 3. For connectorization of other housing types please contact the sales office.

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

6 Other fiber types available on request.

### Ordering Information:



800 Village Walk #316  
 Guilford, CT 06437  
 Ph: 203-401-8093  
 Email orders to: [sales@xsoptix.com](mailto:sales@xsoptix.com)  
 Fax orders to: 800-878-7282

For further information

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2µm Coupler