

FUSED COUPLER FOR 2 µm OPERATION

Fused Fiber Coupler

DATASHEET

Gooch & Housego's fused coupler range has been expanded to include the 2 µm 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



Coupling Ratio (%) ³	Available Wavelength (nm) ⁵	Coupling Ratio Tolerance (%) ^{1,2}	Excess Loss (dB) ^{1,2,6}
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

Typical Optical Specifications⁴

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 ¹	-40 - +75° C / -40 - + 85° C
Optical power handling ^{2, 3}	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.

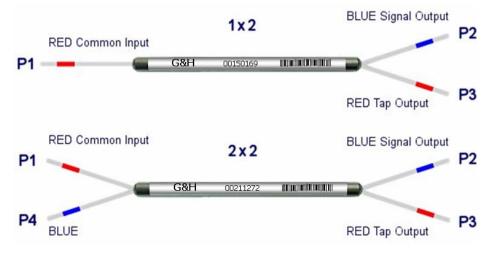
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Housing Options

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

Configuration



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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	
FFC-																
1	Passband			17XX nm 18X		18XX n	nm 19XX		19XX r	Knm 2		0XX nm		21XX nm		
	Code			V W				Y			Z		Т			
2	Coupling ratio ³			1%	1%		2%	3%			5%		10%		50%	
	Code			1		2		3		5		А		K		
3	Housing ^{4,5}		Regula	ar	Semi- ruggedized slim			Semi- uggedized ru			Fully- ggedized Higl		High power		Regular high power	
	Code			З			5	5			6		7		С	
4	Port	t config	1x2						2x2							
	Code	Code				1 2										
5 6	Last two digits of center wavelength			e.g. XX20 nm e.g			j. XX50 nm			e.g.	XX70	nm e.g. XX80 nm			30 nm	
	Code	e			20				50	50 70			80			
7	Fiber type ⁶			SM2000			SM1			.950		10/125 0.15NA				
	Code	e			1				2				З			
8	Pigt	tail leng	th ¹		0.5 m								1 m			
	Code	e			0								1			
9	Connector ^{2,4}			None			FC/PC			FC/APC						
	Code	e			0				1			З				

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.



For further information

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As part of our policy of continuous product improvement, we reserve the right to change specifications at any time.