

NEAR INFRARED COUPLER

Fused Fiber Coupler

DATASHEET

The near infrared coupler splits light at any selected wavelength from 700 nm to 1199 nm.

Designed for applications in fiber laser, sensor and avionics applications, the coupler utilizes the G&H low loss fused fiber technology.

No light leaves the fiber, therefore no alignment is required and there are no unwanted reflections. Furthermore the output fiber pigtails may be directly integrated into beam delivery systems.

For components and modules which combine different wavelengths within the near infrared region please refer to the datasheet near infrared WDM.



Key Benefits

- 700-1199 nm operation
- Any coupling ratio available
- All fiber – no alignment required
- No unwanted reflections
- Low light loss
- High power handling

Applications

- Fiber lasers
- Sensors
- Avionics
- Biomedical equipment
- Research

Optical Specifications

Coupling Ratio (%) ³	Grade	Available Wavelengths (nm)	Signal Path Insertion Loss (dB) ^{1,2}	Tap Path Insertion Loss (dB) ^{1,2}
1	A	700-1199	0.15	24.9
	B		0.20	25.3
5	A	700-1199	0.40	15.9
	B		0.50	16.2
10	A	700-1199	0.9	12.2
	B		1.1	12.4
20	A	700-1199	1.5	8.4
	B		1.7	8.6
30	A	700-1199	2.2	6.4
	B		2.4	6.5
40	A	700-1199	3.0	4.9
	B		3.2	5.1
50	A	700-1199	3.8	3.8
	B		4.0	4.0

¹ In 2x2 couplers insertion loss is not specified for launch through second input port P4 (colored blue).

² Maximum insertion loss at operating wavelength. Not including TDL, PDL or connector losses.

³ Any coupling ratio available. Please contact us for specifications of coupling ratios not listed.

Parameter	Specification
Operating wavelength	Specified wavelength within the range 700 nm-1199 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 fiber 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)	Pigtails
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	10 (W) x 8 (H) x 80 (L)	Ø 3.0 mm fan-out sleeving
7	High power housing	5 (W) x 5 (H) x 85 max (L)	Primary-coated fiber
C	Regular high power	3.0 (Ø) x 50 (L)	Primary-coated fiber

Configuration



Order code

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

Sample: FFS-060A32A13 (1060 nm center channel wavelength, 10% tap coupling ratio, regular housing, 2x2 port configuration, A grade, 1 m pigtail length, FC/APC connectors).

Order code		①	②	③	④	⑤	⑥	⑦	⑧	⑨
F	F	S	-							
①	Passband	7XX		8XX		9XX		10XX		11XX
	Code	7		8		9		0		1
②	Last two digits of center wavelength	e.g. XX20		e.g. XX50		e.g. XX70		e.g. XX80		
③		Code		20		50		70		80
④	Coupling ratio ³	1%	5%	10%	20%	30%	40%	50%		
	Code	1	5	A	C	E	H	K		
⑤	Housing ^{2,4,5}	Regular	Semi-ruggedized slim	Semi-ruggedized	Fully-ruggedized	High power	Regular high power			
		Code	3	4	5	6	7	C		
⑥	Port configuration ⁵	1x2				2x2				
		Code	1				2			
⑦	Grade	Grade A				Grade B				
		Code	A				B			
⑧	Pigtail length ¹	0.5 m				1 m				
		Code	0				1			
⑨	Connector ²	None	FC/PC	FC/APC	SC/APC	FC/UPC	SC/UPC	LC ⁴		
		Code	0	1	3	5	9	A	B	

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

2 Connectors may be fitted to housing types 4, 5 and 6. For connectorization of other housing types contact G&H sales. Note that insertion loss stated does not include connector losses.

3 Any coupling ratio available. Please contact G&H sales for codes of coupling ratios not listed.

4 LC connector not available for housing code 6, fully ruggedized housing.

5 7 and C not available as 1x2 configuration.

Ordering Information:



800 Village Walk #316
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Email orders to: sales@xsoptix.com
 Fax orders to: 800-878-7282

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