



PM FUSED COUPLER FOR 2 μ M OPERATION

Fused Fiber Coupler

DATASHEET

Gooch & Housego's PM fused coupler range has been expanded to include the 2 μ m operating window.

The G&H PM 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, with high polarization extinction ratio.

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, wavelength ranges, housing and connector options and can therefore be readily specified in a wide variety of applications, enabling rapid design cycles and new project builds.

In common with all PM components, it is necessary to launch into relevant axis to maintain polarization. For the G&H PM Fused Coupler, specifications are based on slow axis launch, fast axis versions may be available on request.



Key Features

- Any coupling ratio available
- Low loss
- High PER
- PM fiber on all ports
- Slow axis operation as standard
- High power handling
- Custom product

Applications

- Telecoms
- Instrumentation
- IR Imaging
- Biomedical
- Industrial
- Defense
- IR counter measures

Typical Optical Specifications⁴

Coupling Ratio (%) ³	Available Wavelength(s) ⁵	PER ⁷	Coupling Ratio Tolerance ^{1,2}	Excess Loss ^{1,2,6}
1%	1900 - 2199 nm	>15 dB	±0.5%	0.30 dB
5%	1900 - 2199 nm	>15 dB	±1.5%	0.30 dB
10%	1900 - 2199 nm	>15 dB	±3.0%	0.40 dB
20%	1900 - 2199 nm	>15 dB	±4.0%	0.40 dB
30%	1900 - 2199 nm	>15 dB	±4.0%	0.50 dB
40%	1900 - 2199 nm	>15 dB	±5.0%	0.50 dB
50%	1900 - 2199 nm	>15 dB	±5.0%	0.50 dB

1 In 2x2 couplers performance through second input port P4 (colored 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 available on request.

5 Performance specified for center wavelength selected from within available range.

6 Based on 1m pigtailed at 1900nm, 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

7 Signal path (P12) only for tap < 40%

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 PM fiber

1 For connectorized component, operating temperature range is -5 - +75°C.

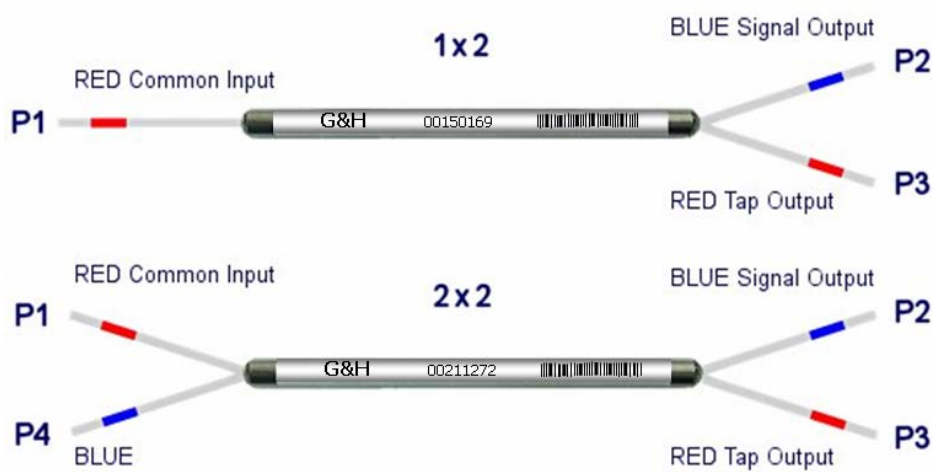
2 For operation at powers of greater than 4 W the component housing and fiber must be adequately heat-sunk (for additional information contact G&H Sales). Components intended for high power operation are only available in the 2x2 configuration. Component performance and reliability under high power must 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.

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. FFP) followed by code letters or numbers which correspond to available options.

Sample: FFP-ZA3100110 (2000 nm, 10% tap coupling ratio, regular housing, 1x2 port configuration, PM1950 fiber, 1 m pigtail lengths, no connectors)

Order code				①	②	③	④	⑤	⑥	⑦	⑧	⑨
F	F	P	-									
①	Passband			17XX	18XX	19XX	20XX	21xx				
	Code			V	W	Y	Z	T				
②	Coupling ratio³			1%	5%	10%	33%	50%				
	Code			1	5	A	F	K				
③	Housing^{4,5}			Regular		High power		Regular high power				
	Code			3		7		C				
④	Port configuration⁶			1x2				2x2				
	Code			1				2				
⑤	Last two digits of center wavelength			e.g. XX20		e.g. XX50		e.g. XX70		e.g. XX80		
⑥				Code			20		50		70	
⑦	Fiber Type⁶			PM1950				PM10/125 0.15NA				
	Code			1				2				
⑧	Pigtail length¹			0.5 m				1 m				
	Code			0				1				
⑨	Connector^{2,4}			None		FC/APC-PM		FC/PC-PM				
	Code			0		P		R				

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
Fax orders to: 800-878-7282

For further information

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