Gooch & Housego
ENABLING PHOTONIC TECHNOLOGIES

PM LOW RATIO TAP COUPLER

Fused Fiber Coupler

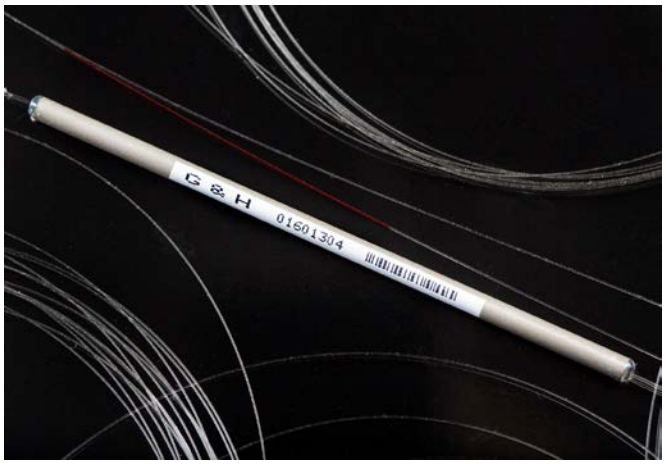
DATASHEET

The Gooch & Housego fused PM low ratio tap, taps off low power from a signal path whilst maintaining polarization through the component.

G&H proprietary PM manufacturing technology provides tap ratios as low as 0.01% with ultra-low loss and high polarization extinction ratio. The all fiber construction and excellent loss characteristics provide exceptional reliability at high powers. PM LRT's also exhibit improved tap ratio stability when input polarization extinction ratio levels are low or fluctuating.

These high performance parts are available at a range of wavelengths with different fiber options. PM LRTs can therefore be readily specified in a wide variety of applications, enabling rapid design cycles and new project builds.

Standard parts are available at wavelengths from 900 – 1600 nm. For other wavelengths or coupling ratios please contact the sales office.



Key Features

- Low loss
- High PER
- High power handling
- PM PANDA fiber on all ports

Applications

- Fiber lasers
- Instrumentation

Optical Specifications

Parameter	Specification[3]				
Coupling ratio	0.01%	0.1%	1%	5%	10%
Tap insertion loss[1]	36 – 44 dB	27 – 33 dB	18.2 – 23 dB	11.9 – 14.9 dB	8.86 – 11.85 dB
Signal insertion loss[1]	0.3 dB(Typ <0.1 dB)	0.3 dB(Typ <0.1 dB)	0.37 dB	0.6 dB	0.9 dB
1300 – 1600 signal PER[2]	>20 dB				
900 – 1100 signal PER[2]	>20 dB				
Return loss	>55 dB				
Operating wavelength[4]	Any wavelength from 900 – 1100 nm and 1300 – 1600 nm				
Optical power handling[5, 6]	4 W				
Fiber type	PM PANDA fiber				

1 Insertion loss at operating wavelength. Not including TDL.

2 Devices manufactured to operate in fast axis as standard. For use in a slow-axis system a 90° PM splice is required.

3 Specifications shown are for operation at room temperature.

4 The center wavelength may be selected from within the available wavelength range supplied.

5 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.

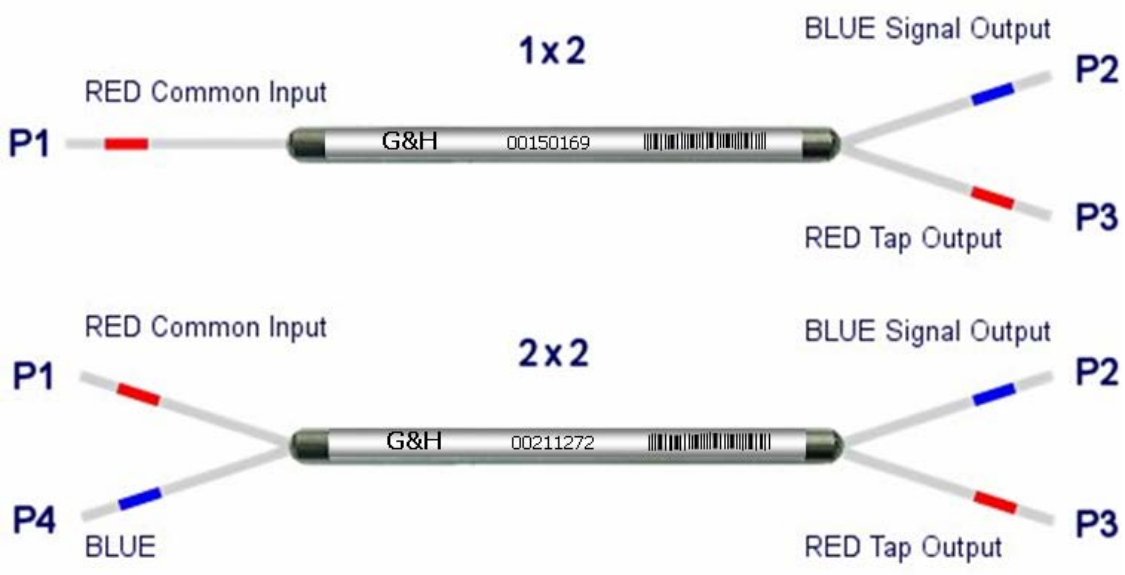
6 The performance and reliability of optical connectors is not guaranteed for optical powers of greater than 1 W.

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

Housing Options

Housing Code	Description	Dimensions (mm)	Pigtail
3	Regular	3.0 (∅) x 60 (L max)	Primary-coated fiber
5	Semi-ruggedized slim	3.0 (∅) x 75 (L max)	∅0.9 mm loose-tube
7	High power	5 (W) x 5 (H) x 85 (L max)	Primary-coated fiber
C	Regular high power	3.0 (∅) x 60 (L max)	Primary-coated fiber

Configuration



Order code

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

Sample: FPU-060N31A10 (PM fused fiber low ratio tap, 1060 nm, 0.01% tap, regular housing, 1x2, grade A, 1 m pigtails lengths, no connectors).

Order code				①	②	③	④	⑤	⑥	⑦	⑧	⑨
F	P	U	-							A		

①	**Passband**	9XX	10XX	11XX	12XX	13XX	14XX	15XX	16XX
	Code	9	0	1	2	3	S	C	L

②③	**Last two digits of center wavelength**	e.g. XX20	e.g. XX50	e.g. XX70	e.g. XX80
	Code	20	50	70	80

④	**Coupling ratio**	0.01%	0.1%	1%	5%	10%
	Code	N	M	1	5	A

⑤	**Housing**[4]	Regular	Semi-ruggedized slim	High power	Regular high power
	Code	3	5	7	C

⑥	**Port configuration**[4]	1x2	2x2
	Code	1	2

⑦	**Grade**	Grade A
	Code	A

⑧	**Pigtail length**[1]	0.5 m	1 m
	Code	0	1

⑨	**Connector**[2,3]	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 Insertion loss values in specification table do not include connector loss.

3 Connectors may be fitted to housing type 5. For connectorization of other housing types please contact the sales office.

4 7 & C not available as 1x2 port configuration.

PM products are manufactured using 250 µm PANDA PM fiber. 400 µm PANDA PM fiber is available at wavelengths higher than 1400 nm.