

HI REL PM LOW RATIO TAP COUPLER

Fused Fiber PM Tap for use in Undersea and Space applications.

DATASHEET

High Reliability (HI REL) Components are deployed in environments such as undersea and space, where the costs of component replacement are prohibitive.

Gooch & Housego is established as a supplier of these components to major undersea equipment manufacturers.

G&H's HI REL capability is built upon the foundation of a long established manufacturing history of very reliable terrestrial components. Full facilities are available to perform customer-specific HI REL qualification programs, which can consist of accelerated ageing and Weibull analysis.

Manufacturing is carried out on specially-developed workstations. Advanced fiber management, in-process screening and customer-specific validation tests are implemented, to further enhance component reliability.

The G&H 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.

Components are supplied in regular (bare fiber) or custom housings, depending on the installation environment.



Key Features

- Established HI REL supplier
- High performance
- Full qualification facilities available
- Advanced in-process testing
- Low loss fused components
- Manufactured using HI REL methodology
- Fast axis operation Applications

Applications

- Undersea equipment
- Terminal equipment
- Space
- Defense and Avionic
- Fiber Lasers
- Erbium doped fiber amplifiers (EDFAs)
- Raman amplifiers
- Coherent optical communications

Compliance

- Customer specific

Optical Specifications¹

Parameter	Specification				
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
Signal PER ²	>20 dB				
Return loss ⁴	>55 dB				
Operating wavelength ³	Any wavelength from 1450 – 1620 nm				
Optical power handling	4 W				
Fiber type ⁶	Nufern PM14XX C-A				

¹ All specifications are for operation on fast axis at center wavelength, room temperature, SOL (start of life) and no guard banding.

² Tap path not specified for PER

³ Center wavelength selected from within the available wavelength range supplied.

⁴ Return loss is the ratio of power launched to power reflected for port P1. Directivity for the 2x2 component is the ratio of power launched to P1 to the power reflected to P4. Guaranteed by design.

⁵ Fiber and taper proof tested during build to confirm strength.

⁶ Other fiber options available, contact G&H Sales.

Housing Options¹

Housing Code	Description	Dimensions (mm)	Pigtail
3	Regular	3.0 (Ø) x 60 max (L)	Primary-coated fiber

¹ For alternative housing options please contact G&H sales

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: Example: FPU-C50M32H10 (PM coupler, 1550 nm, 0.1% coupling ratio, regular housing, 2x2, grade H, 1 m pigtails, no connectors).

Order code				①	②	③	④	⑤	⑥	⑦	⑧	⑨
F	P	U	-				3			H		0
①	Passband	14XX			15XX			16XX				
	Code	S			C			L				
② ③	Last two digits of center wavelength ²	e.g. XX00 nm			e.g. XX30 nm			e.g. XX50 nm		e.g. XX64 nm		
	Code	00			30			50		64		
④	Coupling Ratio ¹	0.01%		0.1%		1%		5%		10%		
	Code	N		M		1		5		A		
⑤	Housing	Regular ø3x60mm (max)										
	Code	3										
⑥	Port configuration	1x2					2x2					
	Code	1					2					
⑦	Grade	HI-REL										
	Code	H										
⑧	Pigtail length	0.5 m		1 m		2 m		3 m		4 m		
	Code	0		1		2		3		4		
⑨	Connector	None										
	Code	0										

¹ Other coupling ratios available on request.

² Center wavelength selected from within the available wavelength ranges shown in the Optical Specifications table.



For further information

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