Gooch & Housego

PM Combiner

The G&H PM Combiner enables the efficient combination of two orthogonally polarised sources of light such that they are output through the same, single fibre output.

In optical amplifiers this provides a doubling of pump power whilst ensuring pump redundancy should a pump failure occur.

Applications include high power optical amplifiers and undersea systems. All ports consist of polarisation maintaining fibre.

Key Features:

- Low insertion loss
- High power handling
- 9xx, 10xx, 14xx and 15xx variants

Applications:

- Erbium doped fibre amplifiers (EDFAs)
- Raman amplifiers
- Undersea systems
- Coherent optical communications

Optical Specifications

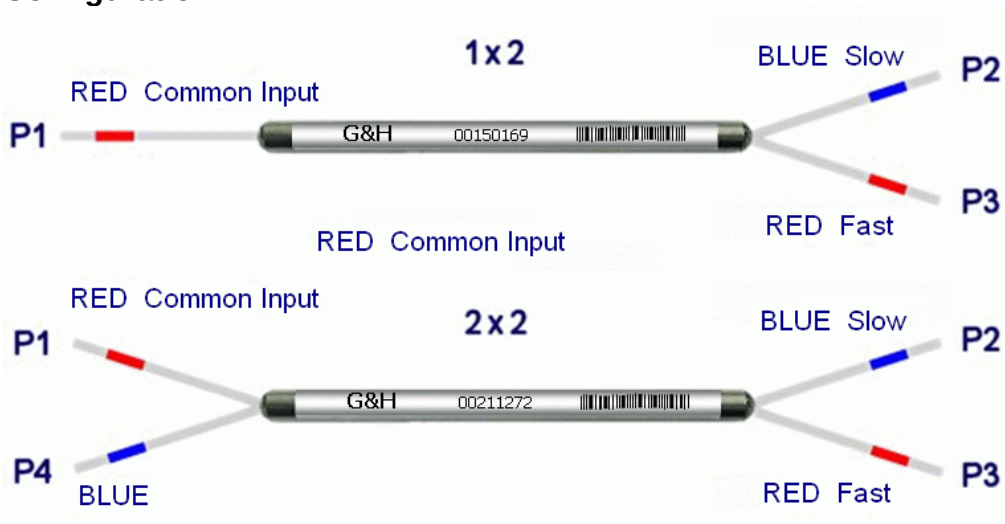
Parameter		9xx	10xx	14xx	15xx	16xx
Range of available centre wavelengths [1,2]		915-999nm	1000-1099nm	1400 – 1499nm	1500-1599nm	1600-1650nm
Insertion Loss (fast axis) [3]						
Grade M	Max	0.40dB	0.40dB	0.40dB	0.50dB	0.50dB
Grade W	Max	0.60dB	0.60dB	0.60dB	0.70dB	0.70dB
Housing Option				3, 5, 7, C		
Insertion Loss (slow axis) [3]						
Grade M	Max			0.35dB		
Grade W	Max			0.40dB		
Return Loss / Directivity	Min			50dB		
TDL	Typ			0.15dB		
Pigtail tensile load	Max			5N		
Optical power handling [4, 5]	Max			4W		
Fibre type				All ports PM fibre		
Pigtail				Primary coated fibre		
Operating temperature range				-5 to 75^{o}C		
Storage temperature range				-40 to 85 ^{o}C		

1. The centre wavelength may be selected from within the operating wavelength ranges supplied.
2. Other wavelengths are available. Please contact the sales office.
3. Insertion loss at centre wavelength (not including TDL or connector losses).
4. For operation at powers of greater than 4W 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.
5. The performance and reliability of optical connectors is not guaranteed for optical powers of greater than 1W.
6. For connectorised component, operating temperature range is –5 to +75^{o}C.

Housing Options

Housing Code	Description	Dimensions (mm)	Pigtail
3	Regular	3.0 (∅) x 71 (L)	Primary-coated fibre
5	Semi-ruggedised slim	3.0 (∅) x 85 (L)	∅ 0.9 mm loose-tube
7	High Power	5 (W) x 5 (H) x 85 (L max)	Primary-coated fibre
C	Regular High Power	3.0 (∅) x 71 (L)	Primary-coated fibre

Configuration



Ordering Code Information

Example: FFP-SM3245F10 (PM Combiner, Grade M, regular housing, 2x2, channel centre = 1445nm, telecoms PM fibre 250µm buffer, 1m pigtail, no connector)

F	F	P	-											

Code	Passband
5	9xx
8	10xx
S	14xx
C	15xx
L	16xx

Code	Housing 4,5
3	Regular ∅3 x 71mm
5	Semi-ruggedised slim
7	High Power
C	Regular High Power

Code	Channel Centre 1
Last 2 digits of centre wavelength, for example:	
45	1445nm
50	1550nm

Code	Pigtail Length 2
0	0.5 metre
1	1 metre

Code	Connectors 3,4
0	NONE
P	FC-APC/PM
R	FC-PC/PM

Code	Device Type
M	PM Combiner Grade M
W	PM Combiner Grade W

Code	Configuration 5
1	1x2
2	2x2

Code	Fibre Type
E	Telecoms PM fibre 400µm buffer
F	Telecoms PM fibre 250µm buffer
G	980nm PM fibre 250µm buffer

1. Channel centre must be within the wavelength ranges shown in the Optical Specifications table.
2. Minimum pigtail length. Other pigtail lengths are available on request. Where connectorised, pigtail length is to connector end face.
3. Insertion loss in specification table does not include connector loss.
4. Connectors may be fitted to housing type 5. For connectorisation of other housing types please contact the Sales Office.
5. 7 & C not available as 1x2 Port Configuration.

PM Products are manufactured using 250µm PANDA PM fibre, 400µm PANDA PM fibre available at wavelengths higher than 1400nm.