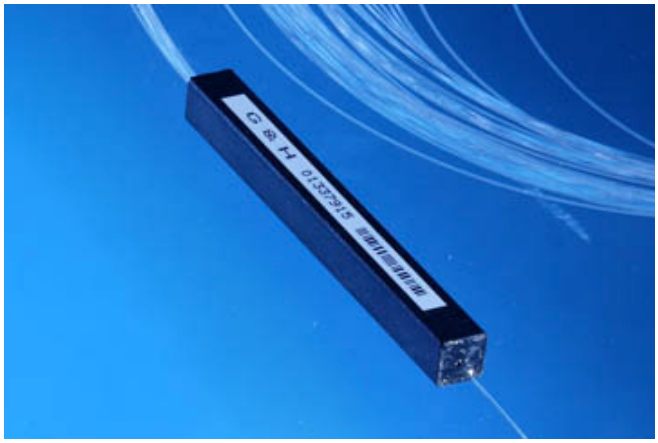
Gooch & Housego



Multimode Power Combiner with PM Signal Feedthrough

G&H's TFB series Power Combiners provide a high efficiency means of combining light from several multimode sources into one fibre.

G&H proprietary manufacturing techniques allow the precise fusion of input fibres around a central PM (polarisation maintaining) signal feedthrough fibre and a PM dual clad output fibre providing high coupling efficiency over a wide pump wavelength range.

Available in a standard (6+1)x1 configuration, the combiner can be fabricated from a range of industry standard fibres for ease of splicing to commercially available laser diodes and fibre applications.

Custom variants using non-standard fibres are available on request.
Please contact the sales team for further information.

Key Features:
- 1.5µm & 1.0µm PM Signal fibres available
- All fibre construction
- High power design
- High Coupling Efficiency
- PM Axis maintained
- Custom configurations available

Applications:
- Cladding pumped fibre lasers
- Cladding pumped fibre amplifiers
- Telecoms
- Medical
- Industrial
- Defence

Contact: sales@goochandhousego.com www.goochandhousego.com

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Optical Specifications[1]

Parameter	Specification		Unit
Pump Input Fibre NA	0.15	0.22	-
Pump Input Wavelength	900 to 1000		nm
Signal Input Wavelength	1550 or 1064		nm
Pump (MM) Transmission Efficiency[2]	≥ 90 (Typ > 95)	≥ 90	%
Signal Transmission Efficiency[3]	≥ 80 (Typ > 85)		%
Signal PER (Polarisation Extinction Ratio)	>20		dB
Return Loss/Directivity	>40		dB
Operating Temperature	0 to +75		°C
Storage Temperature	-40 to +85		°C

1. All specifications are for operation at room temperature.
2. MM Transmission efficiencies based on typical system mode fill conditions and 0.5m pigtails. Reported at 975nm as standard.
3. Signal (feedthrough) transmission efficiency reported at centre wavelength; specification typical for centre wavelength ±15nm (minimum).

Ordering Code Information

Example: TFB-P50611B30 (6+1x1 Tapered Fibre Bundle with PM 1550nm Signal feedthrough, six 105/125um 0.15NA pump inputs, 1550nm core DCF Output in regular housing with 0.5m pigtails).

T	F	B	-	P			6	1				

Code	Signal Wavelength[1]
64	1064nm
50	1550nm

Code	Pump Inputs
6	Six pump inputs

Code	Pump Input Fibre
1	105/125µm

Code	Pump Input Fibre NA
1	0.15
2	0.22

Code	DCF Output Fibre[2]
A	1060nm core, 130µm / 0.45NA
B	1550nm core, 130µm / 0.45NA

Code	Housing[3]
3	Regular ∅3 x 50mm
7	Level 1 High Power 5mm^2 x 60mm^3.
8	Level 2 High Power 5mm^2 x 60mm^3.

Code	Pigtail Length[4]
0	0.5m
1	1.0m
2	2.0m

1. Signal wavelengths of 1064nm or 1550nm assume the use of Nufern PM-980-HP and PM-1550-HP (or equivalent) signal feedthrough fibres respectively.
2. Typical mode field diameters are based on ~7.5um for 1064nm and ~10.5um for 1550nm. Fibres are passive.
3. Maximum housing lengths. Note- Adequate heat-sinking is required for high power operation. See Heat Sinking notes (PEC 0134) on website or consult Sales Dept.
4. Minimum pigtail lengths.