Plastic Fiber Coupler/Splitter

1×2, 1×4, 1x8, 4×4, 8×8, 1×16, 16×16

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Agiltron PLAC plastic fiber couplers/splitters distribute incoming optical signals across multiple output fibers. These couplers utilize high-performance plastic optical fibers with a diameter of 1.0 mm with a 0.98mm core and 2.2 mm outer diameter, featuring a core made from polymethyl-methacrylate (PMMA) resin and fluorinated polymer cladding. The 1x2 coupler efficiently splits light 50:50 over a broad wavelength range in the visible spectrum. Larger 1xN and NxN configurations are created by cascading 1x2 couplers, resulting in approximately 3 dB loss at each junction.

Couplers are efficient in splitting light, but incur significant losses when combining lights.

Features

- Low Insertion Loss
- Good Uniformity
- High Reliability
- Compact Size

Specifications

Parameter		Min	Typical	Max	Unit
Transmission Wavelength		370	650	800	nm
Insertion Loss @650nm	1x2	3.7	4	6	dB
	1x4	6	7	12	
	1x8	11	12	17	
Fiber Attenuation @650nm		0.14		0.16	dB/m
Core Reflective Index			1.492		
Cladding Refractive Index			1.402		
Operating Temperature		-55		85	° C
Splitting Ratio (1x2)			50:50		

Applications

- Data Communication Systems
- LANs
- Optical Sensors
- Optical Entertainment Systems

Note: The specifications provided are for general applications with a cost-effective approach. If you need to narrow or expand the tolerance, coverage, limit, or qualifications, please [click this link]:

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Mechanical Dimensions (mm)

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information (Part Number)

	☐	☐☐☐	☐	☐	R	☐	☐
Prefix	**Test Wavelength**	**Configuration**	**Grade**	**Package [2]**	**Fiber Cover**	**Fiber Length**	**Connector [3][4]**
PLFC-	650nm =1 Special =0	1x2 = A12 1x4 = A14 1x8 = A18 2x2= B22 4x4 = B22 8x8 = B88 1x12=112	Premium = P A Grade = A Aerospace [1] = A	Component = 1 Box = 2	2.2mm Cable = R	0.5m = 0 0.75m = 1 1.0m = 2 Special =0	None = 0 Simplex= S

[1]. Aerospace-grade package featuring an aluminum metal casing filled with a specially formulated RTV compound that is both vibration-resistant and thermally conductive, specifically designed to endure repeated thermal shock cycles from -45°C to 90°C.

[2]. 1x2 is only available in component package, other configurations are packaged inside a box with fiber fan out from two sides

[3]. Simplex Fiber Connector, Grey. HFBR-4501

[4]. The default connector configuration uses fiber with 0.9 mm buffer protection. The connector cannot be installed directly onto bare fiber because the bare fiber is prone to damage during shipping. However, the connector can be assembled on bare fiber if a 3 cm protective loose tube is added for reinforcement. The customer may remove this protective tube after testing. The optical power handling of a standard connector is less than 0.5 W for SMF-28 fiber and decreases further for smaller-core fibers.

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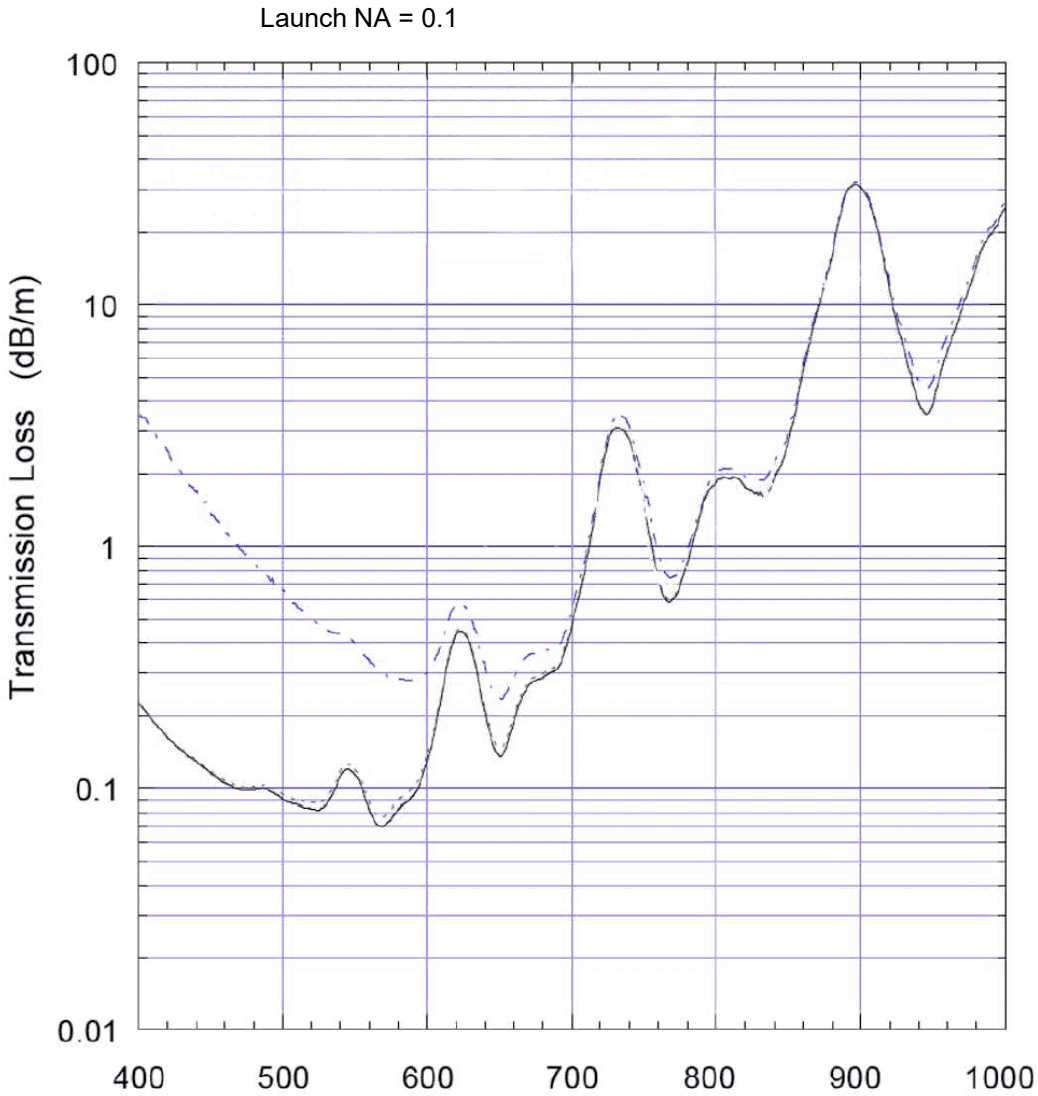
Typical Transmission Loss Spectra



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