

1x2 / 2x2 Single Mode Ultra-Low PDL Broadband Fiber Optic Coupler/Splitter



DATASHEET

BUY NOW



The FC Series fiber optic coupler is based on Agiltron's fused biconical taper technology and compact packaging structure. It features good uniformity, low excess loss and very low polarization sensitivity. The device is ideal for splitting or combining light with exceptional performance over a wide wavelength range.

Couplers are highly efficient in splitting light with little loss, about 0.2dB per joint, but incur significant losses when combining lights; for example, a 50/50 coupler produces a 50% loss to each beam when combined. For beam-combining applications, search Combiner.

Features

- Wavelength Independent
- Low Insertion Loss
- Low PDL
- Highly Stable & Reliable
- Ultra Low Cost

Specifications

Parameter	Premium	Grade A	Unit
Splitting Ratio	10/90 to 50/50		
Bandwidth	± 40		nm
Excess Loss ^[1]	0.07	0.1	dB
Insertion Loss ^[1]	50/50	3.4/3.4	dB
	40/60	4.4/2.5	dB
	30/70	5.6/1.8	dB
	20/80	7.5/1.2	dB
	10/90	10.8/0.6	dB
Polarization Dependent Loss	0.05	0.07	dB
Uniformity	0.6	1.0	dB
Optical Power Handling	5		W
Operating Temperature	-40~85		°C
Storage Temperature	-50~85		°C

Notes:

[1]. Without connector. Each connector adds 0.3dB and 0.5dB for short wavelength

* Other package options available on request

Applications

- Optical communications
- FTTX
- Local Access Network (LAN)
- Fiberoptic Instrumentation

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 [\[click this link\]](#):

Legal notices: All product information is believed to be accurate and is subject to change without notice. Information contained herein shall legally bind Agiltron only if it is specifically incorporated into the terms and conditions of a sales agreement. Some specific combinations of options may not be available. The user assumes all risks and liability whatsoever in connection with the use of a product or its application.

Rev 01/14/25

© Photonwares Corporation

P +1 781-935-1200

E sales@photonwares.com

W www.agiltron.com

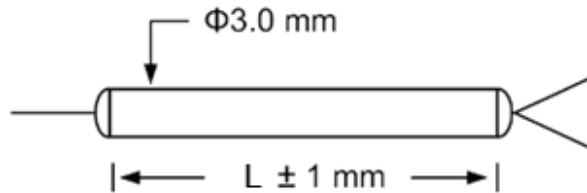
Information contained herein is deemed to be reliable and accurate as of the issue date. Photonwares reserves the right to change the design or specifications at any time without notice. Agiltron is a registered trademark of Photonwares Corporation in the U.S. and other countries.

1x2 / 2x2 Single Mode Ultra-Low PDL Broadband Fiber Optic Coupler/Splitter



DATASHEET

Mechanical Dimensions (mm)



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

Ordering Information

Prefix	Port	Wavelength	Grade	Package	Splitting Ratio	Fiber Type	Fiber Cover	Fiber Length	Connector
FCLB-	1x2 = 1 2x2 = 2	1625nm = 1 1590nm = 2 1570nm = 3 1550nm = 4 1480nm = 5 1475nm = 6 1310nm = 7 2000nm = P Special = 0	P Grade = P A Grade = A	54(L) = 1 70(L) = 2 90(L) = 3 Special = 0	95/5 = 2 97/3 = 3 10/90 = 4 20/80 = 5 30/70 = 6 40/60 = 7 50/50 = 8 Special = 0	G.652 = 1 SM1950 = 2	250 μ m fiber = 1 900 μ m tube = 2 3mm cable = 4 Special = 0	0.5m = 1 0.75m = 2 1.0m = 3 Special = 0	None = 0 FC/PC = 1 FC/SPC = 2 FC/APC = 3 FC/UPC = 4 SC/SPC = 5 SC/APC = 6 SC/UPC = B ST = 8 MU = 9 LC/PC = 7 LC/APC = A LC/UPC = U

Application Notes

Fiber Core Alignment

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness

Fibers with smaller core diameters (<5 μ m) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the handling by expanding the core side at the fiber ends.