

1x3, 1x4 PM Fiber Fused Coupler - Box

430 - 2100nm, PM



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Features

- Low Excess Loss
- High Power Handling
- Available for Slow Only or Fast Axis App
- Telcordia GR-1221 Compliant

Applications

- Power Monitoring
- Coherent Communication
- Fiber Gyroscope
- Fiberoptic Instrumentation

The FC Series PM 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.

Specifications

| Parameter | Min | Typical | Max | Unit |
|--|-----|--|------|------|
| Port | | 1x3 | | |
| Operating Wavelength | 430 | 633 | 2100 | nm |
| Operating Bandwidth | | ± 5 | | nm |
| Splitting Ratio | | 22.3 / 33.3 / 44.4 | | % |
| Axis Alignment (B type) | | Both Axis Working | | |
| Axis Alignment (F type) | | Fast Axis Blocked | | |
| Insertion Loss (B type) | | ≤ 7.4/5.5/4.3 | | dB |
| Insertion Loss (F type) | | ≤ 8.6/6.7/5.5 | | dB |
| Splitting Ratio Tolerance | | ± 3 | | % |
| Excess Loss (B type) | | ≤ 1.2 | | dB |
| Excess Loss (F type) | | ≤ 2.4 | | dB |
| Polarization Extinction Ratio (for B type) | | ≥ 18 | | dB |
| Polarization Extinction Ratio (for F type) | | ≥ 23 | | dB |
| Fiber Type | | PM630-HP | | |
| Pigtail Type | | 250μm Bare Fiber; 900μm Loose Tube; 2mm/3mm Loose Cable | | |
| Dimensions | | 120 x 80 x 18 (AL) | | mm |
| Power Handling | | ≤ 1 | | W |
| Operating Temperature | -40 | | 85 | °C |
| Storage Temperature | -40 | | 85 | °C |

Notes:

* Above data test without connector, for device with connector, IL+0.6dB, PER-2dB, RL-5dB.

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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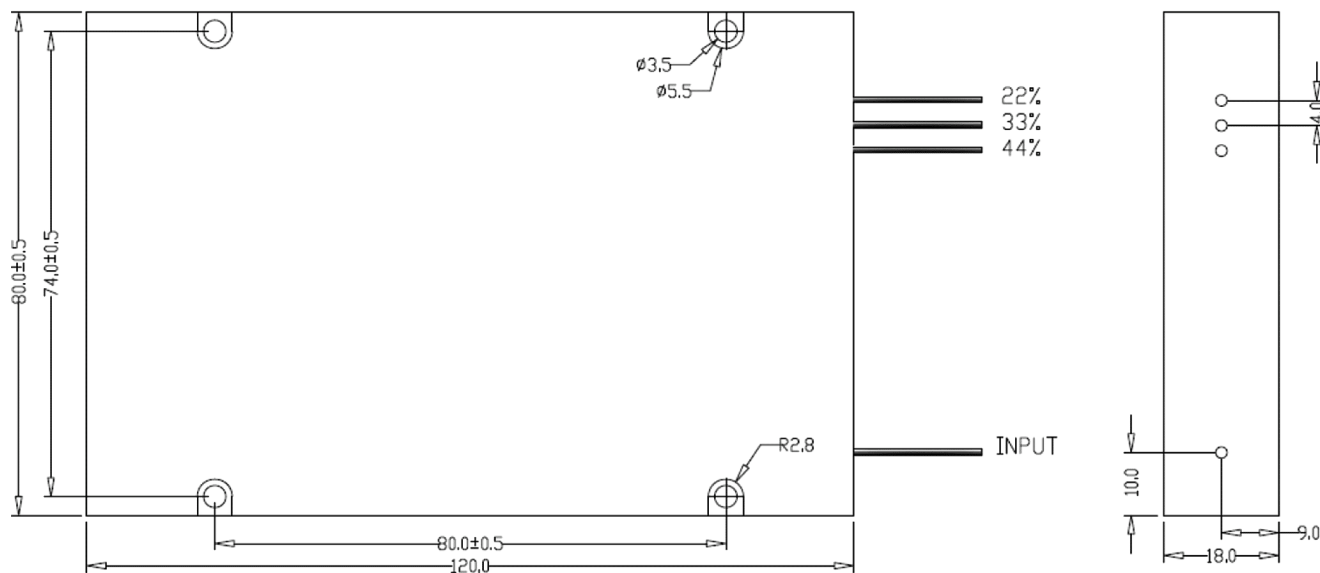
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Package Dimensions (mm)



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

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Ordering Information

| | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--------|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Prefix | Wavelength | Grade | Package | Coupling Ratio | Port | Fiber Type | Fiber Cover | Connector Type |
| FCPM- | 433nm = 04 | P = 1 | box= 1 | 05:90:05 = 1 | 1x3 =3 | Panda = 1 | 250μm = 1 | None = 1 |
| | 589nm = 05 | A = 2 | Special = 0 | 10:80:10 = 2 | | Special = 0 | 2mm = 2 | FC/PC = 2 |
| | 633nm = 06 | | | 15:70:15 = 3 | | | 3mm = 3 | FC/APC = 3 |
| | 780nm = 07 | | | 20:60:20 = 4 | | | 900μm = 4 | SC/PC = 4 |
| | 830nm = 08 | | | 25:50:25 = 5 | | | Special = 0 | SC/APC = 5 |
| | 980nm = 09 | | | 30:40:30 = 6 | | | | ST/PC = 6 |
| | 1064nm = 10 | | | 33:33:33 = 7 | | | | LC/PC = 7 |
| | 1310nm = 13 | | | 35:30:35 = 8 | | | | LC/APC = A |
| | 1480nm = 14 | | 40:20:40 = 9 | 1x4 = 4 | | | LC/UPC = U | |
| | 1550nm = 15 | | 22:33:44 = B | | | | Special = 0 | |
| | 1950nm = 19 | | | | | | | |
| | 2000nm = 20 | | 25:25:25:25 = A | | | | | |
| | 2050nm = 25 | | | | | | | |
| | 2100nm = 21 | | | | | | | |
| | Special = 00 | | | Special = 0 | | | | |

Note:

1m fiber length is default. Other fiber length is available, please add the extension -xxm, such as – 2.0m after 9-digital, for which the lead time may be longer accordingly.

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 μm) 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.