# UV-VIS-NIR Large Core Fiber Optic Combiner (Multimode Optical Coupler)

## FEATURES

- ✓ Different Core-diameter Fibers Available
- ✓ Wavelength-insensitive and Mode-insensitive
- ✓ All-fiber Monolithic and Compact Design
- ✓ High Transmission Efficiency

## APPLICATIONS

- ➢ Optical Power/Beam Combination
- ➢ Laser to Fiber Delivery Systems
- ➢ Sensors Technology
- ➢ R&D

## General Specifications of Large Core Fiber Optic Combiner (Multimode Optical Coupler)

| | |
|---|---|
| Configuration | 2x1, 3x1, 4x1, 5x1, 6x1, 7x1, 8x1, 9x1, 10x1 ~ 32x1 |
| Operating Wavelength (nm) | 200-1600 (Optional) |
| Transmission Efficiency | 80% ~ 99.5% |
| Input/Output Fiber Core Diameter (μm) | 50, 100, 105, 200, 300, 400, 600, 800, 900, 1000, 1500; Others On Request |
| Numerical Aperture of Fiber | 0.11, 0.15, 0.22, 0.37, 0.5 |
| Working Temperature (°C) | -20 ~ +60; (or) -40 ~ +150; Others on Request |
| Package Size (mm) | Φ3.0*65, Φ7.0*75 |

## Typical Specifications of Large Core Fiber Optic Combiner (Multimode Coupler) ①

| | | | | | | |
|---|---|---|---|---|---|---|
| Operating Wavelength (nm) | 200-1200 Optional (UV Optical Fibers); 350-1600 Optional (NIR Optical Fibers) | | | | | |
| Input Fiber Core/Cladding | 105/125 | 105/125 | 105/125 | 200/220 | 200/220 | 200/220 |
| NA (Input Fiber) | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 |
| Output Fiber Core/Cladding | 200/220 | 200/220 | 400/440 | 400/440 | 1440/1500 | 1500/1550 |
| NA (Output Fiber) | 0.37 | 0.37 | 0.37 | 0.37 | 0.22 | 0.5 |
| Port Configuration | 3x1 | 7x1 | 19x1 | 3x1 | 24x1 | 32x1 |
| Transmission Efficiency | >90% | >90% | >90% | >90% | >80% | >80% |
| Package Size (mm) | Φ3.0*65 | Φ3.0*65 | Φ3.0*65 | Φ3.0*65 | / | / |
| Package Type, Pigtail | Stainless Steel Tube with Bare Fiber | | | | | |
| Working Temperature (°C) | -20 ~ +60; (or) -40 ~ +150 | | | | | |

| Typical Specifications of Large Core Fiber Optic Combiner (Multimode Coupler) ② | | | | | | |
|---|---|---|---|---|---|---|
| Operating Wavelength (nm) | 200-1200 Optional (UV Optical Fibers); 350-1600 Optional (NIR Optical Fibers) | | | | | |
| Input Fiber Core/Cladding | 400/430 | 400/440 | 400/440 | 400/440 | 400/440 | 600/630 |
| NA (Input Fiber) | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 |
| Output Fiber Core/Cladding | 1500/1550 | 800/830 | 800/830 | 1440/1500 | 1500/1550 | 980/1200 |
| NA (Output Fiber) | 0.22 | 0.22 | 0.37 | 0.22 | 0.5 | 0.22 |
| Port Configuration | 10x1 | 2x1 | 4x1 | 7x1 | 26x1 | 2x1 |
| Transmission Efficiency | >80% | >90% | >90% | >80% | >80% | >90% |
| Package Size (mm) | / | Φ3.0*65 | / | / | / | Φ3.0*65 |
| Package Type, Pigtail | Stainless Steel Tube with Bare Fiber | | | | | |
| Working Temperature (°C) | -20 ~ +60; (or) -40 ~ +150 | | | | | |

**Notes:**

1. Above data are test results without connectors.
2. Lfiber's UV-VIS-NIR large core fiber optic combiner (multimode optical coupler) is wavelength-insensitive and mode-insensitive over a broad wavelength range. Also, it can be designed to have an optimum performance for specific wavelength range according to your applications. So please tell us the accurate operating wavelength range if possible.
3. Different core/cladding diameters and numerical apertures (NA) of the input/output fibers are optional, as a result, the combiners may have different transmission efficiency.
4. Please specify the operating power if the UV-VIS-NIR fiber optic combiner operates on a high-power continuous-wave (CW) laser, it may need a heat sink design for the package.
5. If a high-quality output beam (with fewer speckle hot spots and more uniform energy intensity profile) is needed, the large core fiber combiner can be integrated with LFIBER's In-line Laser Speckle Reducer (Fiber Optical Beam Homogenizer) to make a hybrid component. For more info, visit https://www.lfiber.com/laser-speckle-reducer-beam-homogenizer/
6. The specifications are customizable and subject to change without notice.
7. For product customization or special requirement, please contact our sales representative.

## Ordering Information

| | Port | Wavelength | Operating Power | Input Fiber | Output Fiber | Pigtail | Package | Fiber Length | Connector |
|---|---|---|---|---|---|---|---|---|---|
| **Large Core Fiber Optic Combiner** | 2x1 | UV-VIS | ≤500mW | 50/125 | 105/125 | Bare Fiber | Steel Tube | 0.50 m | None |
| | 3x1 | VIS-NIR | ≤1W | 105/125 | 200/220 | Cable | Box | 1.00 m | SC/PC |
| | 4x1 | Custom | ≤2W | 200/220 | 400/430 | Custom | Custom | Custom | FC/PC |
| | 5x1 | | ≤5W | 400/430 | 400/440 | | | | ST |
| | 6x1 | | ≤10W | 400/440 | 800/830 | | | | SMA905 |
| | 7x1 | | Custom | 600/630 | 900/950 | | | | Custom |
| | 8x1 | | | 800/830 | 980/1200 | | | | |
| | 9x1 | | | 900/950 | 1000/1100 | | | | |
| | … | | | 1000/1100 | 1500/1650 | | | | |
| | 32x1 | | | Custom | 1900/2000 | | | | |