

# SFMx -Vxx-01x02

# SFMx -Vxx-01x04

## Multimode Band Couplers

### Description:

Multimode Band Couplers are ultra reliable devices featuring low backreflection, low insertion loss, and high port isolation over wide ranges of temperature and wavelength. The Multimode Band Couplers are designed to divide and/or combine different optical signals in optical fiber systems. With its innovative Fused Technology process, series SFM Band Couplers have proven to provide exceptional characteristics for all applications demanding critical performance. Splitting ratios can be customer specified in range 1%:99% and 50%:50%. Available in a wide variety of packaging configurations, these SFM series are operable in 850 nm and 1310 nm wavelength range. Various types of pigtailed and connector terminations are available to meet your requirements.

### Features:

- Low insertion loss
- High port isolation
- Custom defined specifications
- Environmentally stable



SFM5-V85-01x02 basic packaging

### Applications:

- Fiber optic sensing
- Testing instruments

### Coupling Ratio vs. Insertion Loss:

| Coupling Ratio (%) | Insertion Loss <sup>1</sup> (dB) |
|--------------------|----------------------------------|
| 50 / 50            | 4.0                              |
| 40 / 60            | 5.0 / 3.0                        |
| 30 / 70            | 6.2 / 2.2                        |
| 20 / 80            | 8.1 / 1.7                        |
| 10 / 90            | 11.5 / 1.3                       |
| 5 / 95             | 16.0 / 0.9                       |
| 1 / 99             | 22.8 / 0.7                       |
| Other ratio        | To be confirmed                  |

Note: 1) Above specifications are for devices without connector. Add an additional IL refer to connector specification

### Performance specifications:

| ITEM                                    | Multimode Band Couplers                              |      |                    |
|---|--|------|--------------------|
| Operating Wavelength, nm                | 850 or 1310  |      |                    |
| Operating Bandwidth, nm                 | ±40  |      |                    |
| Polarization dependent loss, dB         | ≤ 0.15   |      |                    |
| Directivity, dB                         | ≥ 55   |      |                    |
| Coupling Ratio                          | 1:99 to 50:50, (50:50 standard)                      |      |                    |
| Insertion Loss, dB                      | Refer to the Coupling ratio vs. Insertion loss chart |      |                    |
| Operating Temperature <sup>2</sup> , °C | -15 to +75   |      |                    |
| Storage Temperature <sup>2</sup> , °C   | -40 to +85   |      |                    |
| Fiber/cable type, μm                    | 250  | 900  | 900/2000/3000      |
| Package type                            | BFS  | LTS  | CP1/CP4            |
|   | 3x35   | 3x54 | 90x20x10/100x80x10 |

### Ordering Code:

**SFMX - V85 - 01 x XX - XX - XXX - NC-NC**

|             |             |
|-------------|-------------|
| <b>SFM5</b> | MM 50/125   |
| <b>SFM6</b> | MM 62.5/125 |

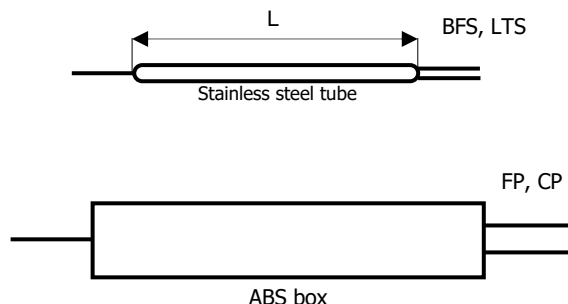
|                            |
|----------------------------|
| <b># port</b>              |
| <b>01 x 02</b>             |
| <b>01 x 04<sup>3</sup></b> |

|                       |
|-----------------------|
| <b>coupling ratio</b> |
| <b>50</b> 50/50       |
| <b>40</b> 40/60       |
| <b>30</b> 30/70       |
| <b>20</b> 20/80       |
| <b>10</b> 10/90       |
| <b>05</b> 5/95        |
| other                 |

|                    |
|--------------------|
| <b>wavelength</b>  |
| <b>V85</b> 850 nm  |
| <b>V13</b> 1310 nm |

no input and output connectors  
connector type:  
-can be defined following CON\_13-01  
(Patchcord Ordering Code)

Note: 3) standard fiber/cable length = 1 m



#### package option I

**BFS** Fiber 250 μm, tube Ø 3 mm, L=35 mm  
**LTS** Fiber 900 μm, tube Ø 3 mm, L=54 mm  
**FP1** Fiber 900 μm, ABS box 90x20x10 mm  
**FP4** Fiber 900 μm, ABS box 100x80x10 mm  
**CP1** Cable 3 mm, ABS box 90x20x10 mm  
**CP4** Cable 3 mm, ABS box 100x80x10 mm

#### package option II

**CAPM** OPTOKON cassette  
**RM** rack mounted unit (MCNP-1U)  
**WM** wall mounted box (MPIC-4)

Note: 2) Conditioned by the cable type  
3) 01x04 in FP4/CP4 package only