

# NEAR INFRARED WDM

## Fused Fiber WDM

### PRODUCT DATASHEET

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The near infrared WDM enables the low loss combining or splitting of a pair of wavelengths within the 700 nm to 1199 nm region.

G&H can rapidly produce such custom WDMs, with typical minimum wavelength separation of 50 nm.

Designed for applications in fiber laser, sensing, biomedical, military and avionics the WDM utilizes G&H's low loss fused fiber technology. No light leaves the fiber and therefore no alignment is required. Furthermore the output fiber pigtails may be directly integrated into beam delivery systems.

Specific applications could include combining two sensor wavelengths onto one fiber, splitting laser harmonics, or combining wavelengths in fiber lasers.

For components which split optical signals of the same wavelength within the near infrared region please refer to the datasheet near infrared coupler.



#### Key Features

- 700–1199 nm operation
- Custom wavelength capability
- 50 nm minimum wavelength spacing (<50 nm channel spacing available on request)
- Low loss
- High power handling
- Custom product

#### Applications

- Fiber lasers
- Sensors
- Biomedical equipment
- Avionics
- Military
- Research

## Optical Specifications

| Channel Spacing | Max Insertion Loss <sup>1,2,3</sup> | Min Isolation <sup>3</sup> |
|-----------------|-------------------------------------|----------------------------|
| 100–50 nm       | 0.5 dB                              | 12 dB                      |
| >100 nm         | 0.4 dB                              | 14 dB                      |

1. In 2x2 components insertion loss is not specified for launch through second input port P4 (coloured blue)
2. Maximum insertion loss at operating wavelength. Not including TDL, PDL or connector losses.
3. Improved specifications may be available- contact sales department.

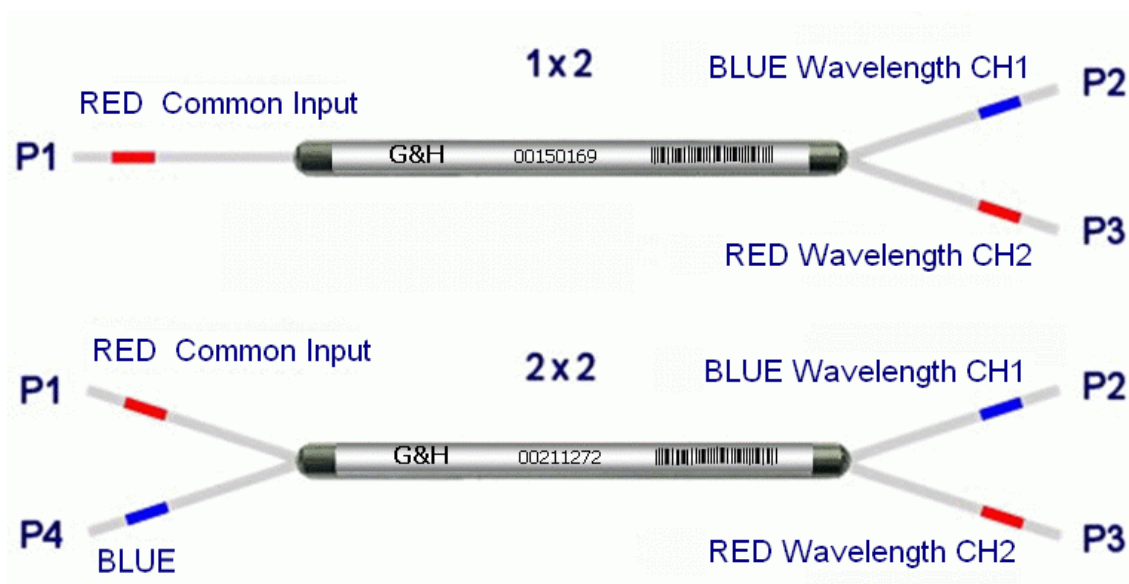
| Parameter  | Specification                                     |
|--|---|
| Operating wavelength                             | Specified wavelength within the range 700-1199 nm |
| Optical power handling <sup>2,3</sup>            | 4 W   |
| Operating/storage temperature range <sup>1</sup> | -40 – +75°C/-40 – +85°C                           |
| Pigtail Tensile Load                             | 5 N   |
| Fiber Type                                       | Speciality single mode fiber                      |

- 1 For connectorized component, operating temperature range is –5 – +75°C.
- 2 For operation at powers of greater than 4 W the component housing and fiber must be adequately heat-sunk (for additional information contact G&H sales). Components intended for high power operation are only available in the 2x2 configuration. Component performance and reliability under high power must be determined within the customer system.
- 3 The performance and reliability of optical connectors is not guaranteed for optical powers of greater than 1 W.

## Housing Option

| Housing Code | Description          | 1x2, 2x2 Dimensions (mm) | Pigtail              |
|--------------|----------------------|--------------------------|----------------------|
| 3            | Regular              | 3.0 (Ø) x 60 (L)         | Primary-coated fiber |
| 4            | Semi-ruggedized slim | 3.0 (Ø) x 70 (L)         | Ø0.9mm loose-tube    |
| 5            | Semi-ruggedized      | 5.0 (Ø) x 85 (L)         | Ø0.9 mm loose-tube   |
| 7            | High power housing   | 5 (W) x 5 (H) x 85 (L)   | Primary-coated fiber |
| C            | Regular high power   | 3.0 (Ø) x 60 (L)         | Primary-coated fiber |

## Configuration



## Order code

Order codes are comprised of a standard device prefix (e.g. FFW) followed by code letters or numbers which correspond to available options.

**Sample:** FFW-780060130 (Fused fiber WDM, 780/1060 nm wavelengths, 1x2 port configuration, regular housing, 1 m pigtailed lengths, no connectors)


| Order code |                                 | ①         | ②                    | ③               | ④          | ⑤                  | ⑥      | ⑦  | ⑧ | ⑨ |
|------------|---------------------------------|-----------|----------------------|-----------------|------------|--------------------|--------|----|---|---|
| F          | F                               | W         | -                    |                 |            |                    |        |    |   |   |
| ①          | Wavelength channel 1            | 7XX       | 8XX                  | 9XX             | 10XX       | 11XX               |        |    |   |   |
|            | Code                            | 7         | 8                    | 9               | 0          | 1                  |        |    |   |   |
| ②          | Last two digits of channel 1    | e.g. XX20 | e.g. XX50            | e.g. XX70       | e.g. XX80  |                    |        |    |   |   |
| ③          | center wavelength               |           |                      |                 |            |                    |        |    |   |   |
|            | Code                            | 20        | 50                   | 70              | 80         |                    |        |    |   |   |
| ④          | Wavelength channel 2            | 7XX       | 8XX                  | 9XX             | 10XX       | 11XX               |        |    |   |   |
|            | Code                            | 7         | 8                    | 9               | 0          | 1                  |        |    |   |   |
| ⑤          | Last two digits of channel 2    | e.g. XX20 | e.g. XX50            | e.g. XX70       | e.g. XX80  |                    |        |    |   |   |
| ⑥          | center wavelength               |           |                      |                 |            |                    |        |    |   |   |
|            | Code                            | 20        | 50                   | 70              | 80         |                    |        |    |   |   |
| ⑦          | Port configuration <sup>3</sup> | 1x2       |                      |                 | 2x2        |                    |        |    |   |   |
|            | Code                            | 1         |                      |                 | 2          |                    |        |    |   |   |
| ⑧          | Housing <sup>2,3</sup>          | Regular   | Semi-ruggedized-slim | Semi-ruggedized | High Power | Regular high power |        |    |   |   |
|            | Code                            | 3         | 4                    | 5               | 7          | C                  |        |    |   |   |
| ⑨          | Connector <sup>1,2</sup>        | None      | FC/PC                | FC/APC          | SC/APC     | FC/UPC             | SC/UPC | LC |   |   |
|            | Code                            | 0         | 1                    | 3               | 5          | 9                  | A      | B  |   |   |

1 1 m pigtail length as standard. Further pigtail lengths available on request from G&H sales. Where connectorized, pigtail length is to connector end face.

2 Connectors may be fitted to housing types 4 & 5. For connectorization of other housings please contact G&H sales. Note that insertion loss stated does not include connector losses.

3 7 and C not available in 1x2 Port Configuration. For more information contact G&H sales.

**Ordering Information:**



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