



*flawless fusion with infinite possibilities*

**SIFAM**  
F I B R E O P T I C S

## High Reliability 1480/1550 WDM



High Reliability (hi-rel) Components are deployed in environments such as undersea and space, where the costs of component replacement are prohibitive. SIFAM is established as a supplier of these components to major undersea equipment manufacturers.

SIFAM's hi-rel capability is built upon the foundation of a long established history of manufacturing very reliable terrestrial components. Full facilities are available to carry out customer-specific hi-rel qualification programmes, which can consist of accelerated ageing and Weibull analysis.

Manufacturing is carried out on specially-developed workstations. Advanced fibre management, in-process screening and customer-specific validation tests are implemented, to further enhance component reliability.

Component types available include fused fibre couplers, tap couplers and wavelength division multiplexers. The ultra-low loss of SIFAM fused fibre components helps to promote low noise figure and improved system margin in undersea transmission systems.

Components are supplied in regular (bare fibre) or custom housings, depending on the installation environment.

Please contact us to discuss your specific requirements.

### Key Features:

- Established hi-rel supplier
- High performance
- Full qualification facilities available
- Advanced in-process testing
- Ultra-low loss fused components
- Choice of housings
- Design standard 0.1FITs (failure in 1 billion field hours)

### Applications:

- Undersea equipment
- Terminal equipment
- Space
- Defence and Avionic

### Compliance:

- Customer specific



SIFAM Fibre Optics Ltd  
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Certificate No. 0962231

As part of our policy of continuous product improvement we reserve the right to change specifications at any time  
PEC 0137 Issue 2

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## Optical Specifications

Wavelength	Grade	Insertion Loss <sub>1,5</sub> (dB)	WDL <sub>2</sub> (dB)	PDL <sub>3</sub> (dB)	TDL <sub>4</sub> (dB)	Signal Isolation <sub>6</sub> (dB)	Pump Isolation <sub>7</sub> (dB)
<b>Pump</b>	<b>Signal</b>	Max	Max	Max	Max	Min	Min
1480nm	C band	0.50	0.20	0.20	0.16	13	10

1. Insertion loss over operating wavelength range (not including PDL, TDL or connector losses)
2. Change in insertion loss over the operating wavelength range
3. Change in insertion loss over all input polarisation states in signal wavelength range.
4. Change in insertion loss on signal path from -5 to 75°C
5. Centre Wavelength tolerance for repeatability in system +/-2nm
6. Insertion loss of signal light in pump path
7. Insertion loss of pump light in signal path

Parameter	Specification	Unit
Operating Wavelength Range	1480nm band	nm
	C band	nm
Return Loss/Directivity <sub>1</sub>	55	dB
Pigtail Tensile Load <sub>2</sub>	5	N
Optical Power Handling	4	W
Operating / Storage Temperature Range	-10 to +70 / -25 to +85	°C
Environmental Qualification	Component design to 0.1FIT	Failures in billion hours

1. Measured reference port P3 input for signal wavelength, P2 input for pump wavelength and P1 input for signal and pump wavelengths. For 2x2 couplers return loss/directivity >60dB
2. Stripped fibre proof tested on rig to confirm strength maintained at virgin fibre level

## Housing Option

Housing Code	Description	Dimensions (mm)	Pigtail
3	Regular	3.0 (∅) x 70 (L)	Primary-coated fibre

## Configuration



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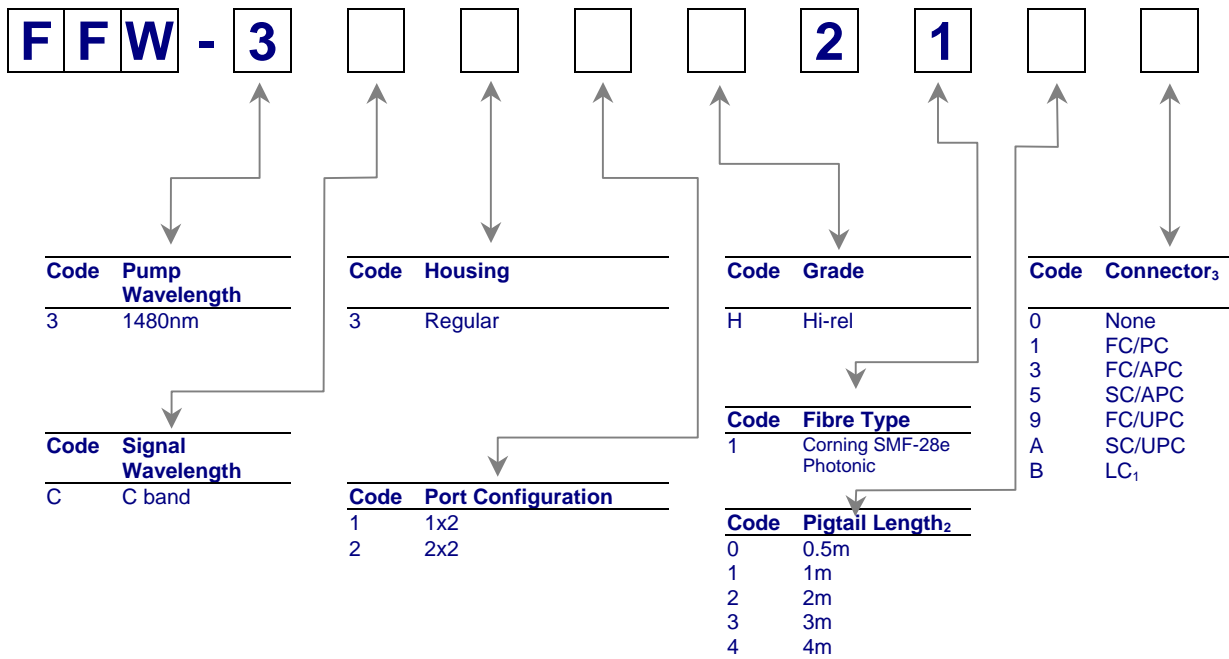


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### Ordering Code Information

**Sample: FFW-3C31P2110** (Fused Fibre WDM, 1480nm pump, C band signal, regular housing, 1x2, Premium grade, Corning SMF-28e fibre, 1m pigtail, no connector)



1. Not available for housing option 6.
2. Minimum pigtail length. Further pigtail lengths available on request. Where connectorised, pigtail length is to connector end face.
3. Insertion loss in specification table does not include connector losses.

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