



Gooch & Housego

Visible Wavelength Coupler



The Visible Wavelength Coupler splits or combines light in the visible region. Versions optimised for any wavelength within the range 450nm to 700nm may be selected.

Designed for applications in display systems, sensors and biomedical equipment, the coupler utilises G&H's low loss fused fibre technology.

No light leaves the fibre and therefore no alignment is required; and there are no unwanted reflections. Furthermore the output fibre pigtails may be directly integrated into beam delivery systems.

For components and modules which combine different wavelengths within the visible region please refer to the datasheet 'Visible Wavelength Combiners'.

Key Features:

- Visible wavelength operation
- Any coupling ratio available
- All fibre – no lens alignment
- No unwanted reflections
- Low light loss
- High power handling

Applications:

- Visible and display systems
- Sensors
- Biomedical equipment
- Research

Optical Specifications

Coupling Ratio (%) ₃	Available Housing Option	Grade ₁	Available Wavelength(s)	Coupling Ratio Tolerance (%)	Excess Loss (dB) ₂
10	3,4,5,6	A	500 to 700nm	±2	0.3
		B	450 to 700nm	±3	0.5
20	3,4,5,6	A	500 to 700nm	±3	0.3
		B	450 to 700nm	±4	0.5
30	3,4,5,6	A	500 to 700nm	±3	0.3
		B	450 to 700nm	±4	0.5
40	3,4,5,6	A	500 to 700nm	±4	0.3
		B	450 to 700nm	±5	0.5
50	3,4,5,6	A	500 to 700nm	±5	0.3
		B	450 to 700nm	±6	0.5

1. In 2x2 couplers performance is not specified for launch through second input port P4 (coloured blue)
2. Includes fibre losses for up to 1m pigtail length. Does not include connector losses.
3. Any coupling ratio available. Please contact us for specifications of coupling ratios not listed.

Parameter	Specification	Unit
Operating Wavelength	Specified wavelength within the range 450-700nm	nm
Operating / Storage Temperature Range ₁	-40 to +75 / -40 to + 85	°C
Pigtail Tensile Load	5	N
Fibre Type	Short wavelength speciality fibre	

1. For connectorised component, operating temperature range is -5 to +75°C.

Housing Option

Housing Code	Description	Dimensions (mm)	Pigtail
3	Regular	3.0 (Ø) x 55 (L) max.	Primary-coated fibre
4	Ø 0.9 mm slim	3.0 (Ø) x 76 (L) max	Ø 0.9 mm loose-tube
5	Ø 0.9 mm semi-ruggedised	5.0 (Ø) x 85 (L) max	Ø 0.9 mm loose-tube
6	Ø 3.0mm fully-ruggedised	80 (L) x 10 (W) x 8 (H)	Ø 3.0 mm fan-out sleeving

Configuration₁

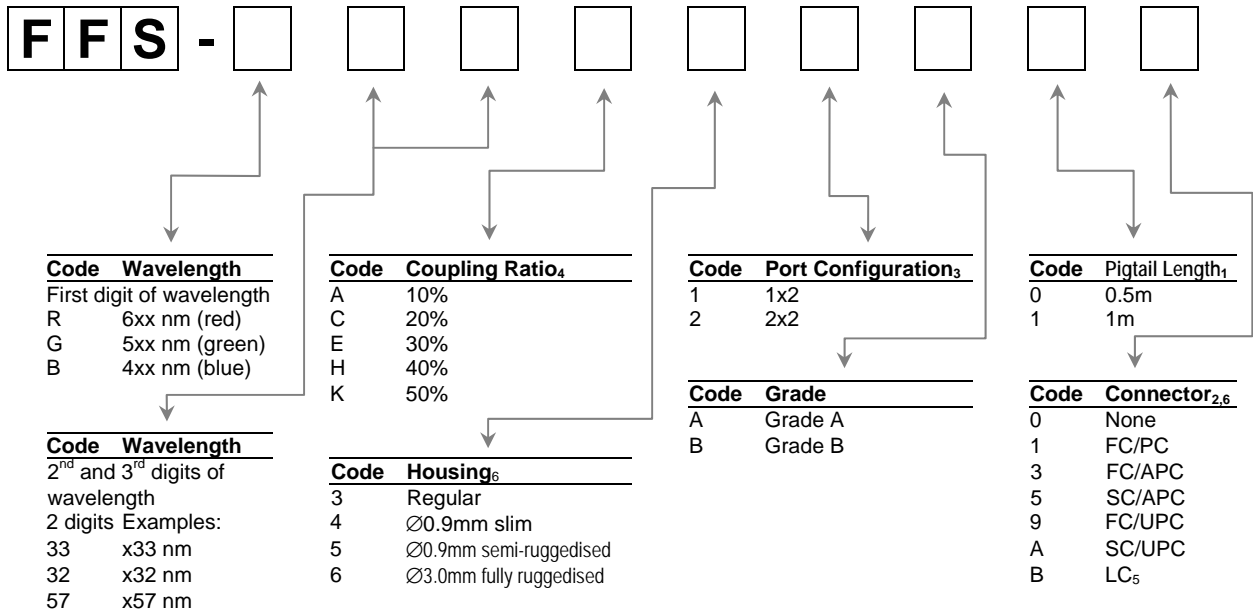


1. 1x2 couplers for blue wavelengths i.e. <500nm are supplied as a 2x2 with an external termination on port P4.

Ordering Code Information

Example:

FFS-G32K31A10 (Fused Fibre Speciality Coupler, 532nm, 50/50 coupling ratio, regular housing, 1x2, A grade, 1m pigtailed, no connectors)



1. Minimum pigtail length. Further pigtail lengths available on request. Where connectorised, pigtail length is to connector end face.
2. Excess Loss in specification table does not include connector losses.
3. 1x2 couplers for blue wavelengths i.e. <500nm are supplied as a 2x2 with an external termination on port P4.
4. Any coupling ratio available. Please contact G&H for ordering codes of coupling ratios not listed.
5. LC connector not available for housing types 4, 5 and 6. Fully ruggedised housing.
6. Connectors may be fitted to housing types 4, 5 and 6. For connectorisation of housing type 3 please contact the sales office.