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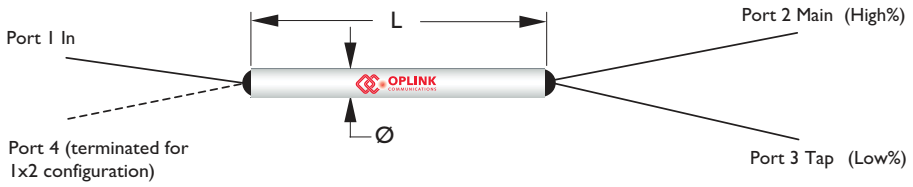
Single Window Single Mode Wideband Fiber Coupler (980, 1310, S, C, L, and C+L band)

SWFC Series

Product Description

The Oplink fused single window wideband fiber 1x2 (2x2) couplers provide accurate optical signal coupling and splitting over wide bandwidth with high performance and high reliability. These couplers have excellent uniformity, low excess loss and very low polarization sensitivity and are available with various tap ratios, wavelength ranges, fiber types, and connector options. All devices are shown to be able to handle high optical power up to 4W and are tested according to industry standard procedures. Reliability is guaranteed through stringent tests to fully meet Telcordia GR-1221 requirements.





Performance Specification

SWFC Series	980 nm	1310 nm	S Band	C Band	L Band	C+L Band	Unit
Wavelength Range	970 ~ 990	1270 ~ 1350	1420 ~ 1500	1530 ~ 1565	1570 ~ 1605	1530 ~ 1610	nm
Fiber Type	Corning HI980 Corning HI1060 OFS BF05635-02	Corning SMF-28					
Insertion Loss [1]	See Insertion Loss Table I, II, III						dB
Return Loss (Min)	55						dB
Directivity (Min)	55						dB
TDL [2] (Max)	Signal Path: <0.1dB, Tap Path: <0.15 dB						dB
Maximum Power Handling	4						W
Operating Temperature Range [3]	- 40 to + 75						°C
Storage Temperature Range	- 40 to + 85						°C
Package Dimensions **	P1: 250 µm bare fiber P2: 900 µm loose tube P3: 3mm cable	(Ø) 3.0 x (L) 47.0 (Ø) 3.0 x (L) 60.0 (L) 96.0 x (W) 12.0 x (H) 6.4					mm

Note:
[1] Values are referenced without connector loss.
[2] Temperature Sensitivity Coefficient ~0.002dB/°C at the range of –5 to 75°C.
[3] Operating temperature range changes to -5 to 75°C in P2, P3 package and all package with connectors
[4] The mechanical tolerance should be +/- 0.2 mm on all package dimensions unless otherwise custom specified.

Features

- Wavelength Independent
- Low Insertion Loss and PDL
- High Power Handling
- Guranteed Reliability

Applications

- Signal monitoring in EDFA
- Network Monitoring
- CATV
- Local Area Networks
- Testing Instruments
- Laboratory R&D

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Insertion Loss Tables

Insertion Loss (IL) I : C or L band coupler

Coupling Ratio	P Grade						A Grade					
	IL[1] (dB)		WDL[2] (dB)		PDL[3] (dB)		IL[1] (dB)		WDL[2] (dB)		PDL[3] (dB)	
	Signal	Tap	Signal	Tap	Signal	Tap	Signal	Tap	Signal	Tap	Signal	Tap
99/1	≤0.20	19.0-21.0	≤0.08	≤0.50	≤0.04	≤0.12	≤0.20	17.7-21.5	≤0.10	≤0.55	≤0.05	≤0.15
98/2	≤0.25	16.4-18.4	≤0.10	≤0.40	≤0.04	≤0.12	≤0.30	16.0-19.4	≤0.10	≤0.45	≤0.05	≤0.15
97/3	≤0.30	14.6-16.2	≤0.10	≤0.30	≤0.04	≤0.12	≤0.35	14.0-16.8	≤0.10	≤0.40	≤0.05	≤0.15
95/5	≤0.35	12.4-13.8	≤0.12	≤0.25	≤0.04	≤0.10	≤0.40	12.0-14.4	≤0.12	≤0.30	≤0.05	≤0.15
90/10	≤0.60	9.60-10.8	≤0.12	≤0.22	≤0.05	≤0.10	≤0.65	9.20-11.2	≤0.13	≤0.26	≤0.06	≤0.14
85/15	≤0.85	7.80-8.80	≤0.15	≤0.20	≤0.05	≤0.10	≤0.90	7.5-9.0	≤0.15	≤0.25	≤0.06	≤0.14
80/20	≤1.15	6.60-7.60	≤0.15	≤0.20	≤0.05	≤0.10	≤1.15	6.4-8.0	≤0.16	≤0.23	≤0.07	≤0.13
75/25	≤1.35	5.75-6.50	≤0.15	≤0.20	≤0.06	≤0.10	≤1.44	5.6-6.7	≤0.16	≤0.22	≤0.07	≤0.13
70/30	≤1.75	5.00-5.50	≤0.15	≤0.20	≤0.06	≤0.10	≤1.82	4.9-5.8	≤0.16	≤0.20	≤0.08	≤0.12
65/35	≤2.10	4.40-4.90	≤0.15	≤0.20	≤0.07	≤0.10	≤2.15	4.3-5.0	≤0.16	≤0.20	≤0.08	≤0.12
60/40	≤2.50	3.95-4.30	≤0.15	≤0.20	≤0.07	≤0.09	≤2.60	3.7-4.6	≤0.17	≤0.20	≤0.08	≤0.10
55/45	≤2.85	3.35-3.80	≤0.15	≤0.20	≤0.07	≤0.09	≤2.90	3.1-4.0	≤0.17	≤0.20	≤0.09	≤0.10
50/50	2.80-3.30		≤0.20		≤0.08		2.70-3.30		≤0.22		≤0.10	

1. Insertion loss over operating wavelength range at ~23°C (excluding PDL and TDL).
2. Insertion loss change over the specified wavelength range.
3. Insertion loss change over the all input polarization states

Insertion Loss (IL) II : 1310nm, S[2] or C+L band coupler

Coupling Ratio	P Grade						A Grade					
	IL[1] (dB)		WDL[2] (dB)		PDL[3] (dB)		IL[1] (dB)		WDL[2] (dB)		PDL[3] (dB)	
	Signal	Tap	Signal	Tap	Signal	Tap	Signal	Tap	Signal	Tap	Signal	Tap
99/1	≤0.20	18.2-21.0	≤0.09	≤0.90	≤0.04	≤0.15	≤0.23	17.4-21.5	≤0.10	≤1.20	≤0.05	≤0.20
98/2	≤0.25	16.0-18.6	≤0.09	≤0.80	≤0.04	≤0.12	≤0.30	15.2-19.8	≤0.11	≤1.00	≤0.05	≤0.15
97/3	≤0.30	14.4-16.4	≤0.10	≤0.70	≤0.04	≤0.12	≤0.34	13.7-17.1	≤0.12	≤0.90	≤0.05	≤0.15
95/5	≤0.40	12.2-14.0	≤0.13	≤0.60	≤0.04	≤0.10	≤0.40	11.8-14.7	≤0.15	≤0.80	≤0.05	≤0.15
90/10	≤0.65	9.40-11.0	≤0.15	≤0.50	≤0.05	≤0.10	≤0.65	9.00-11.3	≤0.16	≤0.60	≤0.06	≤0.15
85/15	≤0.95	7.70-8.85	≤0.15	≤0.45	≤0.05	≤0.10	≤0.85	7.4-9.1	≤0.18	≤0.67	≤0.06	≤0.15
80/20	≤1.20	6.30-7.80	≤0.17	≤0.40	≤0.05	≤0.10	≤1.15	6.0-8.1	≤0.20	≤0.55	≤0.07	≤0.14
75/25	≤1.60	5.45-6.70	≤0.18	≤0.40	≤0.06	≤0.10	≤1.44	5.4-6.8	≤0.20	≤0.53	≤0.07	≤0.14
70/30	≤1.80	4.60-5.75	≤0.22	≤0.40	≤0.06	≤0.10	≤1.82	4.6-5.9	≤0.25	≤0.50	≤0.08	≤0.13
65/35	≤2.10	4.10-5.05	≤0.23	≤0.38	≤0.07	≤0.10	≤2.15	4.2-5.0	≤0.30	≤0.50	≤0.08	≤0.13
60/40	≤2.55	3.85-4.40	≤0.25	≤0.35	≤0.07	≤0.09	≤2.60	3.7-4.6	≤0.35	≤0.48	≤0.09	≤0.11
55/45	≤2.90	3.15-3.85	≤0.30	≤0.35	≤0.07	≤0.09	≤2.81	3.1-4.0	≤0.40	≤0.48	≤0.09	≤0.11
50/50	2.70-3.40		≤0.35		≤0.08		2.60-3.50		≤0.40		≤0.10	

1. Insertion loss over operating wavelength range at ~23°C (excluding PDL and TDL). For S-band product, add 0.1dB due to water absorption peak of fiber.
2. Insertion loss change over the specified wavelength range. For S-band product, add 0.1dB in WDL due to water absorption peak of fiber.
3. Insertion loss change over the all input polarization states.

Insertion Loss (IL) III : 980nm coupler

Coupling Ratio	P Grade						A Grade					
	IL[1] (dB)		WDL[2] (dB)		PDL[3] (dB)		IL[1] (dB)		WDL[2] (dB)		PDL[3] (dB)	
	Signal	Tap	Signal	Tap	Signal	Tap	Signal	Tap	Signal	Tap	Signal	Tap
99/1	≤0.20	18.5-21.0	≤0.10	≤1.00	≤0.05	≤0.12	≤0.25	15.5-21.5	≤0.15	≤1.20	≤0.07	≤0.15
98/2	≤0.27	15.7-18.9	≤0.15	≤1.00	≤0.05	≤0.12	≤0.32	14.8-19.8	≤0.20	≤1.15	≤0.07	≤0.15
97/3	≤0.33	13.9-16.9	≤0.17	≤1.00	≤0.05	≤0.12	≤0.37	13.2-17.7	≤0.22	≤1.15	≤0.07	≤0.15
95/5	≤0.38	11.4-14.8	≤0.20	≤0.90	≤0.05	≤0.12	≤0.50	11.2-15.2	≤0.25	≤1.10	≤0.07	≤0.15
90/10	≤0.60	9.20-11.3	≤0.25	≤0.70	≤0.07	≤0.12	≤0.70	8.70-11.7	≤0.35	≤0.75	≤0.10	≤0.15
85/15	≤1.00	7.40-9.00	≤0.25	≤0.65	≤0.10	≤0.12	≤1.20	7.00-9.60	≤0.35	≤0.75	≤0.10	≤0.15
80/20	≤1.30	5.70-7.90	≤0.25	≤0.60	≤0.10	≤0.12	≤1.50	5.40-8.50	≤0.35	≤0.75	≤0.10	≤0.15
75/25	≤1.65	5.10-6.80	≤0.30	≤0.55	≤0.10	≤0.10	≤1.85	4.80-7.30	≤0.40	≤0.70	≤0.10	≤0.15
70/30	≤1.90	4.30-6.00	≤0.35	≤0.50	≤0.10	≤0.10	≤2.20	4.20-6.40	≤0.45	≤0.65	≤0.10	≤0.15
65/35	≤2.10	3.75-5.35	≤0.35	≤0.45	≤0.10	≤0.10	≤2.40	3.50-5.60	≤0.45	≤0.60	≤0.10	≤0.15
60/40	≤2.60	3.40-4.70	≤0.35	≤0.40	≤0.10	≤0.10	≤2.80	3.20-4.70	≤0.45	≤0.55	≤0.10	≤0.15
55/45	≤2.90	2.85-4.10	≤0.35	≤0.35	≤0.10	≤0.10	≤2.95	3.05-4.25	≤0.45	≤0.50	≤0.10	≤0.15
50/50	2.70-3.40		≤0.30		≤0.10		2.60-3.60		≤0.45		≤0.15	

1. Insertion loss over operating wavelength range at ~23°C (excluding PDL and TDL).
2. Insertion loss change over the specified wavelength range.
3. Insertion loss change over the all input polarization states.

Ordering Information

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Wavelength
980 nm = 9
1310 nm = 3
C band = 5
S band = 4
L band = 6
C+L band = 1

Type
1x2 = 1
2x2 = 2

Tap Ratio
50/50 = 50
45/55 = 45
40/60 = 40
35/65 = 35
30/70 = 30
25/75 = 25
20/80 = 20
15/85 = 15
10/90 = 10
5/95 = 05
3/97 = 03
2/98 = 02
1/99 = 01

Grade
Premium Grade = P
A Grade = A

Package & Fiber Type
P1 + Corning SMF-28 = 11
P2 + SMF-28 in 900 µm loose tube = 22
P3 + SMF-28 in 3 mm cable = 33
P1 + Corning HI1060 = 16
P1 + Corning HI980 = 19
P1 + OFS BF05635-02 = 17
P2 + Corning HI1060 = 26
P2 + Corning HI980 = 29
P2 + OFS BF05635-02 = 27
P3 + Corning HI1060 = 36
P3 + Corning HI980 = 39
P3 + OFS BF05635-02 = 37

Fiber Length**
0.5 Meter = H
1.0 Meter = 1
1.5 Meters = 5
2.0 Meters = 2

Connector Type
None = 1
FC/PC = 2
FC/SPC = 3
FC/APC = 4
SC/PC = 5
SC/SPC = 6
SC/APC = 7
ST = 8
LC/UPC = 9
MU = A
LC/APC = B

Notes :
** For HI1060, HI980 and OFS BF05635-02 fiber type, the Connector Option is None.*
*** The tolerance of fiber length is +/-0.1m. 1 meter is standard. The lead time for special fiber length will be longer.*

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