

600 Series SM Standard Coupler

Splitters and Couplers

Overview

ARIA's singlemode standard couplers are bi-directional multi-port devices which effectively combine or separate optical signals in singlemode fiber systems.

The singlemode standard couplers are manufactured using the fused biconic taper (FBT) process ensure consistency in quality, reliability and high performance in a wide range of applications.

Splitting ratios can be designed to meet customer specifications.

Various types of pigtail and connector terminals are available.



Features

- Coupling ratio 1%-99%
- Low insertion loss
- Excellent uniformity
- Low PDL
- High directivity
- Bi-directional
- Environmentally stable and reliable

Applications

- Telecommunications
- CATV
- Subscriber loop
- Fiber-to-the-home
- Local Area Network (LAN)
- Test equipment
- Optical fiber sensors

Specifications (50/50 Coupling Ratio)

Parameter	Value (Premium)	Value (High)	Value (Average)
Operation Wavelength (nm)	1310 or 1550 (± 10)	1310 or 1550 (± 10)	1310 or 1550 (± 10)
Insertion Loss (dB) (Max)	3.3	3.6	3.9
Excess Loss (dB) (Typ.)	0.1	0.3	0.5
Uniformity (dB) (Max)	0.6	1.0	1.5
Polarization Dependant Loss (dB) (Max)	0.1	0.15	0.2
Directivity (dB) (Min)	50	50	50
Operating Temperature ($^{\circ}\text{C}$)	- 40 to + 85*	- 40 to + 85*	- 40 to + 85*
Storage Temperature ($^{\circ}\text{C}$)	- 40 to + 85	- 40 to + 85	- 40 to + 85

*-20 to +70 $^{\circ}\text{C}$ for 3mm cable package

Packaging Option

PTB1B 3.0 \varnothing x 54mm (tube)

PKC1A 101 x 12 x 10mm (Case)

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Environmental Reliability Tests

- Complies with Telcordia requirement TR-NWT-001221 & TR-NWT-001209. Tests Optical characteristics, Thermal Cycling, Vibration Test, Salt Spray Erosion, Thermal Aging, and Humidity Resistance.
- High Temperature Storage Test: 85°C for 5000 hours
- Low Temperature Storage Test: -40°C for 5000 hours
- Thermal Cycling Test: -40°C/75°C for 500 cycles
- Fiber Pulling Test: 0.23 Kg
- Water Immersion Test: 43°C, pH=5.5, 340 hours
- Vibration Test: 10~2000 Hz random , 20g, 3 axes
- Impact Test: 8 drops, 1.8 meters high
- Thermal Shock Test: 100°C

Coupling Ratio/Insertion Loss

Split Ratio	Insertion Loss (Premium)	Insertion Loss (High)	Insertion Loss (Average)
50/50	3.3	3.6	3.9
40/60	4.4 / 2.5	4.8 / 2.8	5.3 / 3.1
30/70	5.6 / 1.8	6.1 / 2.0	6.8 / 2.3
20/80	7.4 / 1.1	8.0 / 1.3	8.7 / 1.5
10/90	10.8 / 0.6	12.0 / 0.8	13.3 / 1.0
5/95	14.6 / 0.4	18.4 / 0.5	20.0 / 0.8
1/99	21.5 / 0.2	22.0 / 0.3	23.0 / 0.6

Part Number

600- 1 1 2 2 3 4 5 5 6 6 7 7

1 Wavelength
15 = 1550
13 = 1310
09 = 980
08 = 850
XX = Other

4 Grade
P = Premium
H = High
A = Average

6 Tail Length
05 = .05m
10 = 1.0m
15 = 1.5m
20 = 2.0m

2 Port Number
12 = 1x2
22 = 2x2

5 Ratio
50 = 50/50
40 = 40/60
30 = 30/70
20 = 20/80
10 = 10/90

7 Connectors
LC = LC/UPC
SC = SC/UPC
FA = FC/APC
SA = SC/APC
ST = ST/UPC
0 = None
XX = Other

3 Fiber & Package
01 = 250µm bare fiber, stainless steel tube
02 = 900µm loose tube fiber, stainless steel tube
03 = 3mm cabled fiber, ruggedized case
04 = 250µm bare fiber, ruggedized case
05 = 900µm loose tube fiber, ruggedized case