Special Wavelength Coupler

350, 397, 405, 433, 488, 532, 560, 633, 780, 830, 805, 980, 1030, 1064nm

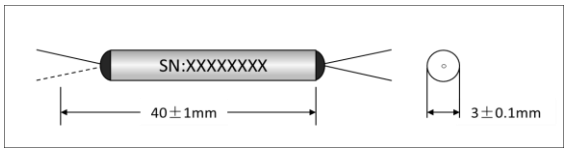
RoHS Reach

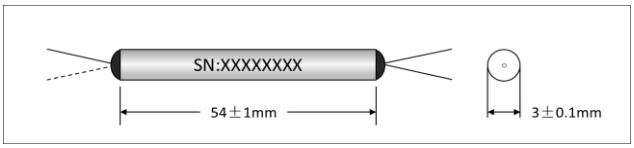
Specifications

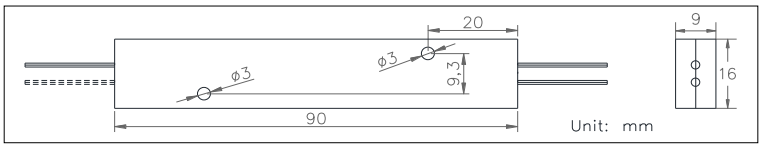
Parameters	Unit	Values					
Center Wavelength	nm	350, 397	405, 433	488, 532, 560	633	780, 830, 805	980, 1030, 1064
Operating Wavelength Bandwidth	nm	±5		±5	±5	±10	±15
Max Excess Loss (EL) [1]	dB	1.5	0.6	0.4	0.4	0.4	0.4
Max Loss for Each Connector	dB	2.0	1.5	1.2	1.0	0.5	0.3
Insertion Loss at λ_C (IL) for 50/50 [2]	dB	4.5	4.2	3.8	3.6	3.4	3.4
Polarization Dependent Loss (PDL)	dB	≤0.5	≤0.5	≤0.3	≤0.3	≤0.15	≤0.15
Fiber Type	dB	SM300	405HP	460HP	630-HP	HI780, HI780C	HI1060, HI1060Flex
Return Loss	dB	≥50					
Directivity (DIR) [3]	dB	≥50					
Power Handling CW	mW	50	50	100	300	500	4000 [4]
Operating Temperature	℃	-40 ~ +85					
Storage Temperature	℃	-40 ~ +85					

Package Information

Port Configuration	1x2 or 2x2		
Fiber Length	1m, others on request		
Pigtail type	250μm Bare Fiber	900μm Loose Tube	2mm/3mm Loose Cable
Dimensions(mm)	φ3x40, φ3x54	φ3x54	90x16x9
Approx Weight (g)	30	45	60







Ordering Information

CP- ①-②-③③③-④④④-⑤⑤⑤⑤-⑥⑥⑥-⑦⑦⑦⑦⑦-⑧-⑨⑨-⑩⑩⑩⑩

①	Type	S=Single Mode Standard coupler;
②	Grade	P=Grade P;
③	Port Type	1x2; 2x2;
④	Wavelength	350; 397; 405; 433; 488; 532; 560; 633; 780; 830; 805; 980; 1030; 1064;
⑤	Coupling Ratio	1/99; 2/98; 5/95; … ; 50/50;
⑥	Pigtail Type	250=250μm Fiber; 900=900μm Loose Tube; 2000=2mm Loose Cable; 3000=3mm Loose Cable;
⑦	Fiber Type	HI780; HI1060; … ; 460HP;
⑧	Length	1=1m; X=Other;
⑨	Connector	NE=None; FA=FC/APC; FC=FC/UPC; SA=SC/APC; SC=SC/UPC; LC=LC/UPC; XX=Others;
⑩	Package	3x40; 3x54; 90x16x9;

[1] EL=10 * $\log_{10}$ (P_{in}÷(P_{out1}+P_{out2})), P=power in mW.

[2] Test at room temperature without connectors. With connectors, IL+0.3dB, RL-5dB. For 488, 532 and 633nm, IL+1.5dB.

[3] DIR=10 * $\log_{10}$ (P_{out2}÷P_{out1}), or DIR=10 * log10 (P_{in2}÷P_{in1}), P=power in mW, test light input from Port1.
When test DIR at output port, coil all input fibers 3-5 turns around a 10-30mm diameter loop, This prevents back reflections into output port2, which would significantly lower DIR.

[4] Higher power up to 20W available on request.

Application Notes

Fiber Core Alignment
Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled polished (APC).
Coupling / split ratio will be very strange comparing to OPNETI's test data if additional connector mating loss is added.

Fiber Bending Loss
A shorter fiber and straightening the fiber or with larger bend radius will be very helpful to get lower Excess Loss, especially for visible wavelength testing.

Fiber Cleanliness
Fibers with smaller core diameters (<5μm) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power
Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed above table specified, if higher power handling is needed, please contact OPNETI techicans.
Standard connector power handling max 1W(CW), Optical connectors can be removed and the device can be spliced into optical path at higher optical powers.

Optical Path
All of our fused fiber couplers are bidirectional, means that all ports can be used as an input.
Coupler split ratio configration refer to:
https://opneti.com/uploads/couplerconfig.mp4