



Evanescent
Optics Inc.

HIGH PERFORMANCE PM COUPLERS

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Fixed Couplers

- [954P Fixed Ratio PM Coupler \(products/?id=16\)](#)
- [954 Fixed Ratio SM Coupler \(products/?id=18\)](#)
- [954P-P WDM PM Coupler \(products/?id=15\)](#)
- [968P Polarization Splitter/Coupler \(products/?id=19\)](#)

Coupler Arrays

- [Spliceless PM Coupler arrays \(products/?id=20\)](#)

Product Data 968P/968PV

POLARIZATION SPLITTERS

Based on the evanescent wave couplers 954P (fixed ratio) and 905P (variable ratio), polished fibers are coated with polarization sensitive layers before assembly. The result is a polarization selective coupler which allows up to 99% coupling of the p-polarized mode while restricting the coupling of the s-polarized mode to approximately 1%. It is the analog of the cube beam splitter.

Model 968P is a true 2x2 port device, and can be used as a polarization separator or a combiner for orthogonal polarizations. p coupling is wavelength dependent, but is nominally flat over 100nm band width. Reduction in p coupling ratio at the edge of the band is observed as reduction in s isolation. s coupling is minimal at all wavelengths such that the polarization isolation in the p output port is constant.

Variable Ratio Couplers

- Model 905/905P/905(P)-M (products/?id=21)

Piezo Fiber Stretchers

- 915B (products/?id=22)
- 916B (products/?id=24)
- Model 914 Controller (products/?id=23)

Non-contact Displacement Sensor

- PD-1001 (products/?id=25)

Evanescent Access Blocks

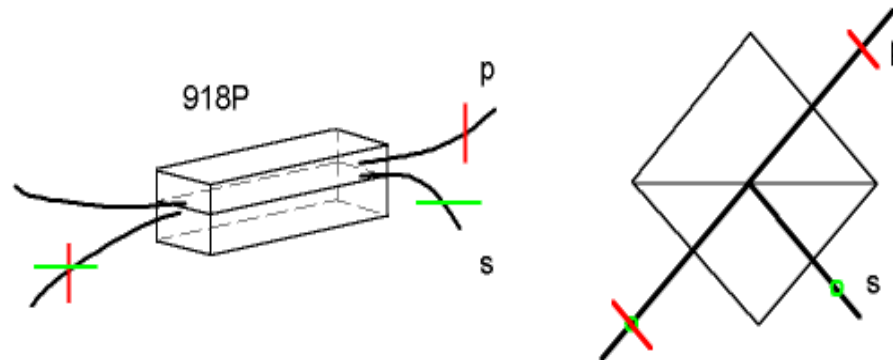
- 953(P)/903(P) (products/?id=27)

Patch Cords

- Fiber-optic patch cords (products/?id=28)

Intermediate p coupling ratios can be set for polarizing couplers, 954PZ. There is also a variable ratio unit 968PV which allows optimization of coupling with wavelength or variation of the TM mode coupling at a given wavelength.

These devices are made only in polarization maintaining fibers. P is the slow (coupled) axis and S the fast axis.



Coupler Bandwidth (/evanescent/technical-info/?id=2)

Wavelength:

All wavelengths >780nm

Operating Temperature:

0 to +50 degrees C

Excess Loss:

p mode typically 0.8 dB, s mode 0.3dB at wavelengths >1um

p mode typically 1 dB, s mode 0.4dB at wavelengths<1um

Packageing:

No sleeving over fiber (coupler unpackaged) dim. 0.59" x 0.1" x 0.1"

Pigtails sleeved in 900 micron HYTREL (coupler in aluminum tubing) dim. Length 1.125" x Dia. 0.19"

Pigtails sleeved with 3mm cable (coupler housed in 2.5" x 2.5" aluminum package)

968PV: 25 mm x 38 mm x 63 mm aluminum case, with micrometer projecting 28 mm

Pigtails:

1 m standard length (longer available)

Terminations:

FC/SPC, FC/APC, LC/APC, SC/APC, SC/PC

968PV Specifications

Coupling Ratio:

Variable p Coupling 0 - 99%, s<1%

Package:

25 mm x 38 mm x 63 mm aluminum case, with micrometer projecting 28 mm

Otherwise identical to model 968P

Options

By assembling the coupler with longitudinal asymmetry, one input can be made to show reduced loss at the expense of increased loss in the other input port. The favored input port can be optimized for low loss of about 0.5 dB in p.

These devices are also available as integral parts of custom designed splice-free arrays and interferometric assemblies.



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