

# 0109 Polarization Beam Combiner

PBC2100-P



## 1310 nm Polarization Beam Combiner

This polarization beam combiner offers very low insertion loss, high return loss, high extinction ratio, high stability and high reliability. It can be used for fiber optical current transducers, fiber sensors, optical fiber gyros and coherent telecommunication systems.

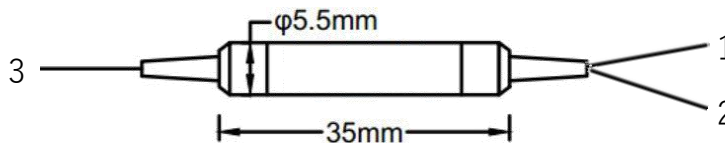
### FEATURES

- Low Insertion Loss
- High Return Loss
- High Extinction Ratio
- High Stability and Reliability

### USE IN

- Fiber Optical Current Transducer
- Fiber Sensor
- Optical Fiber Gyro
- Coherent Telecommunication Systems

### MECHANICAL DRAWING



Routing path is from port 3 to 1,2, Here are three options of polarized state from Port 3 to Port 1 & 2:

#### Option 1, SM to PM,

Port 3, Circularly polarized light in, Port 1: 50%, Linear polarized light out, through slow axis,  
Port 2: 50%, Linear polarized light out, through slow axis

#### Option 2: PM to PM, port 3 is slow axis 0° aligned to port 1

- 1.Port 3, Linearly polarized light in, through slow axis,  
Port 1: 100%, Linear polarized light out, through slow axis, Port 2: 0%
- 2.Port 3, Linearly polarized light in, through fast axis,  
Port 1: 0%, Port 2: 100%, Linear polarized light out, through slow axis

#### Option 3: PM to PM, port 3 is slow axis 45° aligned to port 1

- 1.Port 3, Linearly polarized light in, through slow axis,  
Port 1: 50%, Linear polarized light out, through slow axis,  
Port 2: 50%, Linear polarized light out, through slow axis
- 2.Port 3, Linearly polarized light in, through fast axis,  
Port 1: 50%, Linear polarized light out, through slow axis,  
Port 2: 50%, Linear polarized light out, through slow axis

Center Wavelength	1310 nm
Operating Wavelength Range	±40 nm
Insertion Loss	0.4 dB typ.; 0.6 dB max.
Extinction Loss	22 dB min.
Directivity	50 dB min.
Return Loss	50 dB min.
Power Handling	300 mW max.
Tensile Load	5 N max.
Operating Temperature	-5°C to +70°C
Storage Temperature	-40°C to +85°C
Fiber Type	Port 1&2 Port 3
	PM Fiber SM Fiber, Hi 1060 or PM Fiber

**Order notes to our customers:** The default parameters are as follows. For special needs, please contact sales.

**1) Connector FC/APC, 900 um, 1 m by default for all devices except for high power devices.**

**2) Slow axis working, fast axis blocked, connector key is aligned to slow axis by default for PM devices.**