

Polarization Beam Combiners

PBC Series



Key Features

- Very low insertion loss
- Broadband (± 30 nm)
- Low wavelength dependent loss
- Low temperature dependent loss
- High power handling

Applications

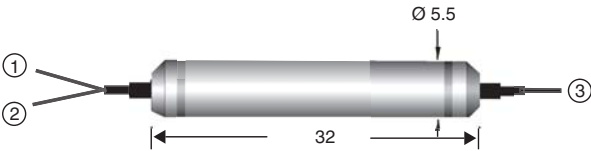
- Raman amplifiers
- High power EDFA
- Optical transmission systems
- Test and measurement

The polarization beam combiner is a compact, high-performance micro-optic based polarization maintaining component. It normally functions as a combiner that combines two orthogonal polarized optical signals into one output fiber. The polarization beam combiner has a high extinction ratio with low excess loss over a wide operating temperature and wavelength range. The polarization beam combiner can also be used as beam splitter.

2

Dimensions Diagram

(Specifications in mm unless otherwise noted.)



Specifications

Parameter	Premium	A Grade
Center wavelength λ_c	1420 nm, 1450 nm, 1480 nm and 1550 nm	
Wavelength range	$\lambda_c \pm 30$ nm	
Insertion loss	Maximum	0.5 dB
Temperature dependent loss	Maximum	0.1 dB
Directivity	Minimum	55 dB
Polarization extinction ratio	Minimum	20 dB
Optical return loss	Minimum	50 dB
Operating temperature	0 to 70 °C	
Storage temperature	-40 to 85 °C	
Input optical power	Maximum	1000 mW
Tensile load	Maximum	5 N
Dimensions (D x L)	5.5 x 32 mm	
Pigtail color code	Port 1: black, Port 2: clear, Port 3: clear	

Note: Parameters are specified for the signal wavelength range and operating temperature range without connector unless otherwise stated. The direction of linear polarization is aligned with slow axis of the PM fiber in ports 1 and 2.

3

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: PBC-CP0711000

PBC-

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Code	Wavelength
C	1550 nm
3	1480 nm
4	1450 nm
6	1420 nm

Code	Grade
P	Premium
A	A Grade

Code	Fiber Type (Ports 1 and 2)
1	SMF-28, 250 μm bare fiber ¹
7	400 μm Fujikura Panda PM fiber

Code	Fiber Type (Port 3)
1	SMF-28, 250 μm bare fiber ¹
3	400 μm Fujikura Panda PM fiber, slow axis 45°
4	400 μm Fujikura Panda PM fiber, slow axis aligned with port 1
5	400 μm Fujikura Panda PM fiber, slow axis aligned with port 2

Code	Fiber Length
1	1 meter
2	2 meters

Code	Connector ² (Port 1)
0	No connector
2	FC/SPC
3	FC/APC
4	SC/SPC
5	SC/APC

Code	Connector ² (Port 2)
0	No connector
2	FC/SPC
3	FC/APC
4	SC/SPC
5	SC/APC

Code	Connector ² (Port 3)
0	No connector
2	FC/SPC
3	FC/APC
4	SC/SPC
5	SC/APC

1. Connectors not available on 250 µm fiber.
2. Insertion loss, extinction ratio, and return loss depend on connector type.

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