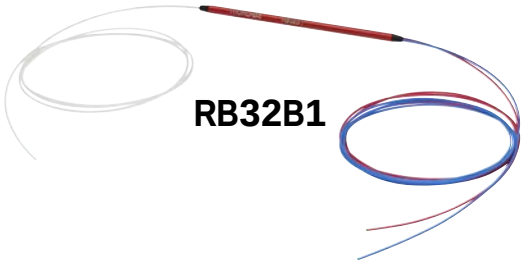
2-Wavelength Combiner



Description

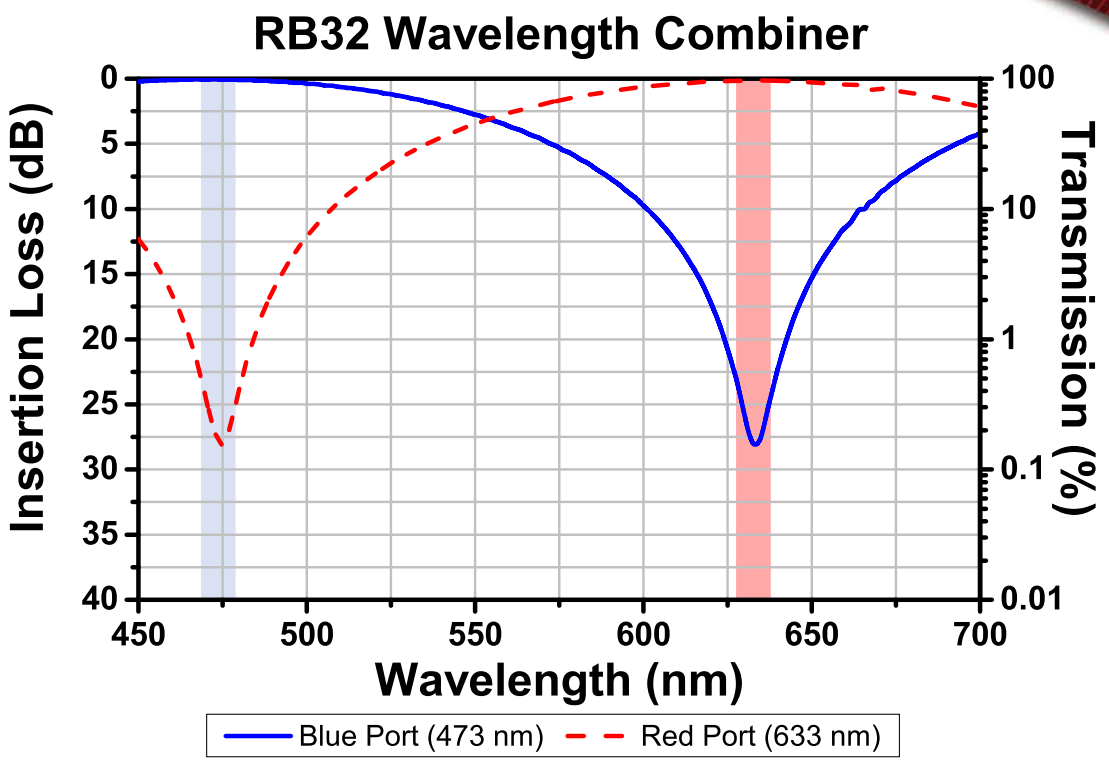
Thorlabs' RB32B1 2-Wavelength Combiner is designed to combine light from two inputs into a single fiber. This combiner is designed for 473 nm (blue) and 633 nm (red) wavelengths. Like all fused fiber devices, it is bidirectional; it can also be used to split two wavelengths from a single input into two outputs.

Specifications

		Blue Port	Red Port
Wavelength		473 nm	633 nm
Bandwidth		±5 nm	±5 nm
Insertion Loss[a]		≤0.3 dB	≤0.3 dB
Transmission[b]		≥93%	≥93%
Isolation[a,c]	473 nm	N/A	≥13 dB
	633 nm	≥13 dB	N/A
Polarization-Dependent Loss (PDL)[a]		≤0.2 dB	
Optical Return Loss/Directivity[a]		≥60 dB	
Port Configuration		1x2	
Fiber Type[d]		460HP	
Max Power Level[e]		50 mW (Bare Fiber) 100 mW (Spliced)	
Connectors		No Connectors, Scissor Cut	
Package Size		Ø0.12" x 2.95" (Ø3.2 mm x 75.0 mm)	
Jacket		Ø900 µm Hytrel® Loose Tube	
Pigtail Tensile Load		10 N	
Operating Temperature Range		-40 to 85 °C	
Storage Temperature Range		-40 to 85 °C	

a. All values are specified over the bandwidth without connectors.
b. Calculated from insertion loss data above.
c. Isolation represents the maximum crosstalk between the channels.
d. Other fiber types are available upon request. Please contact techsupport@thorlabs.com with inquiries.
e. Specifies the total maximum power allowed through the component. Coupler performance and reliability under high-power conditions must be determined within the user's setup. See Usage Tips for safety and handling information.

Typical Performance Plot



This plot shows the spectral performance of a 2-wavelength combiner. The lines represent the spectral response of each channel, while the colored regions denote the bandwidth around the center wavelengths.

Usage Tips

1) Before connecting a component to a system, make sure the light source is turned off. Inspect both the input and output fiber ends; debris or contamination on the end face can lead to fiber damage when operated at high powers.

2) After connecting the component, the system should be tested and aligned using a light source at low power. The system power can be ramped up slowly to the desired output power while periodically verifying all components are properly aligned and that coupling efficiency is not changing with respect to optical launch power.

3) The device can be spliced into a setup for operation at higher optical powers. Fiber ends should always be cleaned and cleaved prior to splicing.