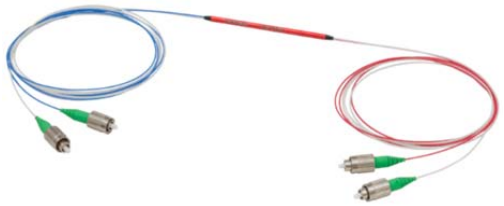
Narrowband Fiber Optic Coupler 1550 nm, 99.9:0.1 Ratio

TN1550R0A2



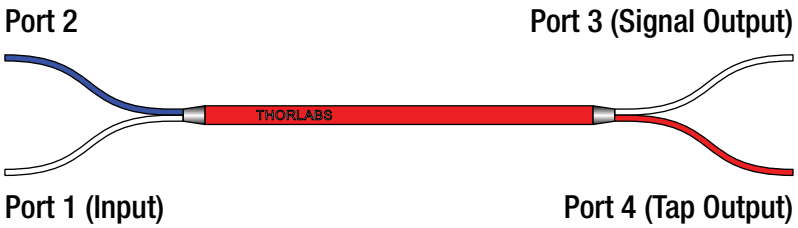
Description

Thorlabs' TN1550R0A2 single mode narrowband fiber coupler is designed for a center wavelength of 1550 nm with ≤0.15 dB of excess loss within the specified bandwidth.

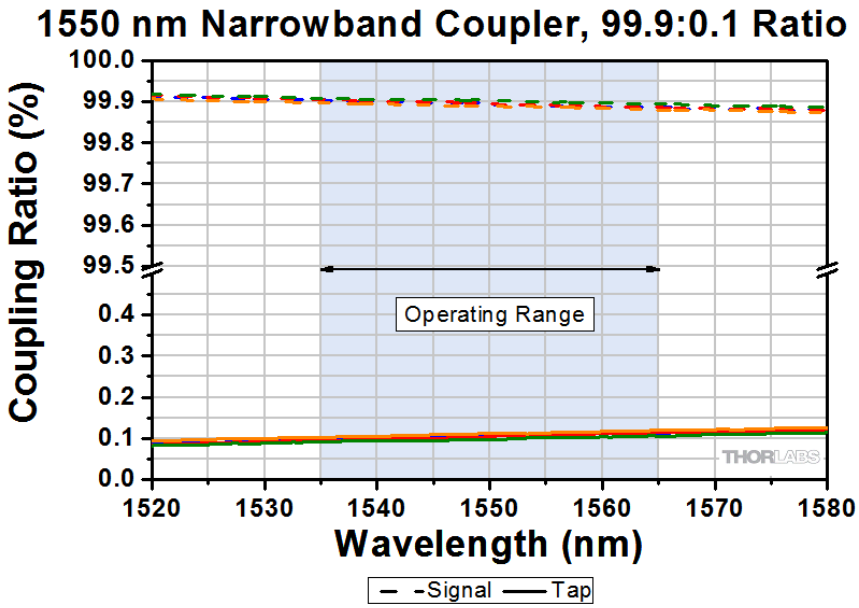
Specifications

TN1550R0A2	
Coupling Ratio[a]	99.9:0.1
Coupling Ratio Tolerance	±0.05%
Center Wavelength	1550 nm
Bandwidth[a]	±15 nm
Excess Loss[a]	≤0.15 dB (Typical)
Insertion Loss[a]	≤0.2 dB / ≤33.2 dB
Polarization-Dependent Loss (PDL)[a]	≤0.2 dB
Optical Return Loss (ORL) / Directivity[a]	≥60 dB
Max Power Level[b]	1 W (With Connectors or Bare Fiber) 5 W (Spliced)
Fiber Type[c]	SMF-28
Port Configuration	2x2
Fiber Lead Length and Tolerance	0.8 m +0.075 m/-0.0 m
Connectors	2.0 mm Narrow Key FC/APC
Package Size	Ø0.12" x 2.76" (Ø3.2 mm x 70.0 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 at room temperature over the bandwidth without connectors and measured through the white input port as indicated below.
b. 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.
c. Corning SMF-28 fiber type will be specified on the documentation that ships with the coupler.



Typical Performance Plots



This plot shows the coupling ratio performance of four TN1550R0A2 couplers (tap and signal outputs from the same coupler are indicated by matching colors on each graph). The blue-shaded region denotes the coupler's full operating wavelength range. All data was measured without connectors.

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) Optical connectors can be removed and 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.