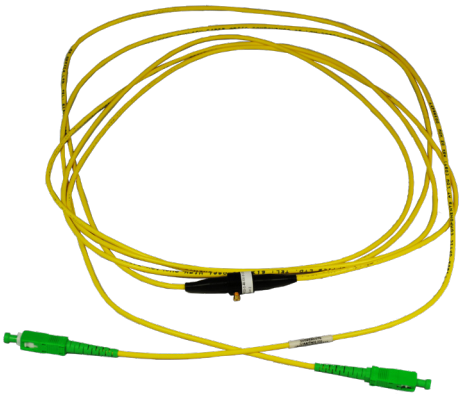
WaveSmart®
VOA and Patch Cord Splitter

Application

A variable optical attenuator (VOA) is a device designed to attenuate an intensity or power level of an input optical beam in a controlled manner to produce an output optical beam with different attenuated intensities. Variable optical attenuators play an important role in the implementation of modern information networks having optical interconnects. In fiber optic communication systems, variable optical attenuators are broadly employed to regulate the optical power levels to prevent damages to the optical receivers caused by irregular optical power variations.

Fiber optic patch cord splitters are optical devices that connect three or more fiber ends, dividing one input between two or more outputs or combining two or more inputs into one output



Description

Clearfield® VOA and Patch Cord Splitters are optical components that are up-jacketed to 3 mm and terminated with any industry standard connectors.

Features and Benefits

Integrity

- Compliant to Telcordia GR-1221 and GR-1209
- Supports Industry standard Singlemode and Multimode fibers and connectors
- Outside plant hardened components

Protection

- Ruggedized fiber up-jacket and packages available for superior protection
- Multi-component custom packages available

Access

- Compact tube style and discrete components offered for direct splice in options
- VOA input available with up to one meter and output leg up to 30 meters
- Up to 80 dB attenuation on VOA
- Patch Cord Splitters available with up to one meter for input and nine meters on the outputs

Investment

- WaveSmart VOA and Patch Cord Splitters offer an economical, dense and user-friendly solution for deploying fiber in any optical network
- Environmentally stable, high-isolation, low-insertion loss
- All components tested 100% and include test documentation

Technical Specifications

WaveSmart VOA and Patch Cord Splitter	
VOA	12 mm round x 15 mm L
Patch Cord Splitter	90 mm L x 20 mm D x 10 mm H

Environmental Reliability Tests

- Complies with Telcordia requirement TR-NWT-0012 21 and TR-NW T-00 1209
  - Optical characteristics
  - Thermal Cycling
  - Vibration Test
  - Salt Spray Erosion
  - Thermal Aging
  - Humidity Resistance

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VOA and Patch Cord Splitter - Environmental Reliability Tests	
High Temperature Storage Test	85°C for 2,500 hours
Low Temperature Storage Test	-40°C for 2,500 hours
Thermal Cycling Test	-40°C/ 75°C for 500 cycles
Fiber Pulling Test	0.25 Kg for 250 µm fiber and 900 µm loose tube
Water Immersion Test	43°C, PH=5.5, for 340 hours
Vibration Test	10~2,000 Hz Random, 20 g, three axes
Impact Test	8 Drops, 1.8 meters high
Thermal Shock Test	100°C

Variable Optical Attenuator Specifications

These attenuators are designed to meet Telcordia standards. These attenuators can be used for 1300nm and 1550nm, as well as for C (1520-1570nm), L (1570-1620nm) and S (1470-1520nm) bands, with minimal changes in the insertion loss. Mounting holes provide easy attachment to PC boards and patch panels.

The attenuators consist of two base plates. Each base plate contains a fiber followed by a collimating lens. The attenuator is pre-aligned for optimum coupling efficiency using a patented tilt alignment technique. A threaded radial screw is used to block the collimated beam between the two lenses. Because the attenuator works by directly blocking the beam, it is polarization insensitive. A seal cap is used to seal the junction against temperature and humidity effects. The attenuator can even withstand immersion in water for extended periods of time. Attenuators are offered with singlemode, multimode or polarization maintaining fibers.

Configured Part Numbers

U ___ Z - ___ ___ ___ - ___ ___ ___ ___ - ___ ___ ___ ___ - ___ ___ ___ ___

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

1 Select Attenuator Type

A = Splitter (50/50 split)
B = Variable optical attenuator

2 Select Input Connector

A = SC/UPC
C = SC/APC
E = LC/UPC
G = LC/APC

3 Select Output Connector # 1

A = SC/UPC
C = SC/APC
E = LC/UPC
G = LC/APC

4 Select Output Connector # 2

A = SC/UPC
C = SC/APC
E = LC/UPC
G = LC/APC
Z = N/A

5 Select Length of Input Leg *

XXX = Length required from end of input connector to the attenuator / splitter

6 8 10 Select Unit of Measure for Length Specified in Options # 5, # 7 and # 9

I = Inches
F = Feet
M = Meters

7 Select Length of Output Leg # 1 **

XXX = Length required from end of output connector # 1 to the attenuator / splitter

9 Select Length of Output Leg # 2 **

XXX = Length required from end of output connector # 2 to the attenuator / splitter

VOA
* The maximum length from the input connector to the VOA cannot exceed 1 meter.
** The maximum length from the output connectors to the VOA cannot exceed 29 meters. Overall length of a VOA patchcord cannot exceed 30 meters.

Splitter
* The maximum length from the input connector to the splitter cannot exceed 1 meter.
** The maximum length from the output connectors to the splitter cannot exceed 9 meters. Overall length of a splitter patchcord cannot exceed 10 meters.