FieldSmart Fiber Cable Assemblies

Cable Assemblies: VOA & 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 couplers 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

VOA & Patch Cord Splitter

Description

Clearfield's VOA's and patch cord splitters are optical components that are up-jacketed to 3mm and terminated with any industry standard connectors.

Features & Benefits

- Outputs and Inputs available in any industry standard connector type
- Splitter legs can be custom ordered to exact length to avoid excessive cable slack
- Ruggedized splitter case protects optical components from damage
- VOA orderable in up to one meter length on input and 30 meter length on output
- Up to 80db attenuation on VOA
- Splitters orderable in up to one meter on input and 9 meters on output legs
- Each term shipped with testing documentation for I.L./R.L.

Specifications

Environmental Reliability Tests

- Complies with Telcordia requirement TR-NWT-0012 21 & TR-NW T-00 1209
  - Optical characteristics
  - Thermal Cycling
  - Vibration Test
  - Salt Spray Erosion
  - Thermal Aging
  - Humidity Resistance
- High Temperature Storage Test... 85 ˚C for 2500 hours
- Low Temperature Storage Test... -40 ˚C for 2500 hours
- Thermal Cycling Test ..... -40 ˚C/ 75 ˚C for 500 cycles
- Fiber Pulling Test ..... .0.25Kg for 250um fiber and 900um loose tube
- Water Immersion Test ..... 43 ˚C, PH=5.5, 3 40 hours
- Vibration Test ..... 10~2000 Hz random, 20 g, 3 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.

Ordering Guide

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
J = FC UPC
K = FC APC
M = ST UPC

3 Select Output connector # 1
A = SC UPC
B = SC UPC DX
C = SC APC
D = SC APC DX
E = LC UPC
F = LC UPC DX
G = LC APC
H = LC APC DX
J = FC UPC
K = FC APC
M = ST UPC

4 Select Output connector # 2
A = SC UPC
B = SC UPC DX
C = SC APC
D = SC APC DX
E = LC UPC
F = LC UPC DX
G = LC APC
H = LC APC DX
J = FC UPC
K = FC APC
M = ST UPC
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.

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