

## AFL Variable Optical Attenuators



### AFL introduces new fine resolution, field installable Variable Optical Attenuator

Our VOA patented technology provides superior optical, mechanical and environmental performance compared to other commercially available products. Where many in-line attenuators introduce a macrobend into the fiber, increasing the risk of fracture and failure over time, AFL Variable Optical Attenuators achieve attenuation variation by controlling longitudinal offset, providing greater precision and maximizing reliability.

The VOA is a standard connector that provides the ability to adjust the level of insertion loss and create the desired level of attenuation. In high-speed systems, it is important to minimize back-reflected energy. By using APC endface finishing, return loss is well within most system requirements at both 1310nm and 1550 nm. The attenuation curves at both wavelengths are smooth and continuous, providing levels from 0dB to (Equal to less than sign) 35 dB.

Relative Comparisons	AFL VOA	Macrobend	Filter
Ease of Use	***	**	*
Environmental Stability (heat, cold, humidity)	***	**	*
Mechanical Stability (vibration, shock, drop)	***	**	*
Wavelength Sensitivity (attenuation vs. wavelength)	***	**	*
Precision (attenuation tolerance)	***	***	*
Reflectance	***	***	*
Polarization Dependence	***	**	*
Power Handling Capacity	***	**	*
Cost	***	**	*

### FEATURES & BENEFITS

- Polarization Stability
- Fine Resolution
- Low back reflection
- Field installable
- Compatible with standard hand and machine polishing equipment
- Compatible with available adapters and connectors
- Pull proof
- Shock and vibration resistant

### PRODUCT APPLICATION

Telecommunications  
Local Area Networks  
CATV  
Test & Measurement  
R&D Laboratory

**Click Here**  
for complete technical specifications, part numbers and ordering information.

For pricing, availability, and additional information about this and other broadband products from Alcoa Fujikura Ltd., please call:

**1-800-AFLFIBER**  
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Innovations to light your way.



## AFL Variable Optical Attenuator - TECHNICAL SPECIFICATIONS

Alcoa Fujikura, Ltd. VOA technology also produces low levels of PDL (polarization dependent loss) over the attenuation curve. In Singlemode fiber, the polarization of light is random. This can lead to pulse dispersion because of slight variation of propagation velocity between orthogonal polarization states. This can be quantified as PDL, or the variation in attenuation between orthogonal polarization states. The following table shows that the AFL VOA technology provides low levels of PDL over the attenuation curve. This is excellent PDL performance for attenuators and well within most system requirements.

Transmitted Power (dBm)	Attenuation (dB)	Measured PDL (dB)
5.29	0.26	0.02
-0.03	5.58	0.03
-9.99	15.54	0.10
-20.09	25.64	0.11
-29.99	35.54	0.11

## DESCRIPTION / PART NUMBER / ORDERING INFORMATION

Connectors A to B		Cable Type		No. of Fibers		Fiber Type		Length in Meters	End A / End B Length		Product Designation
USC - USC	-	RS	-	001	-	Q	-	0002	(0001/0002)	-	AVOA
USC - USC	-	RS	-	001	-	Q	-	0003	(0001/0003)	-	AVOA
USC - USC	-	RS	-	001	-	Q	-	0005	(0001/0005)	-	AVOA
UFC - UFC	-	RS	-	001	-	Q	-	0003	(0001/0003)	-	AVOA
UFC - UFC	-	RS	-	001	-	Q	-	0005	(0001/0005)	-	AVOA
UFC - UFC	-	RS	-	001	-	Q	-	0007	(0001/0007)	-	AVOA
UST - UST	-	RS	-	001	-	Q	-	0002	(0001/0002)	-	AVOA
UST - UST	-	RS	-	001	-	Q	-	0003	(0001/0003)	-	AVOA
UFC - USC	-	RS	-	001	-	Q	-	0003	(0001/0003)	-	AVOA
UFC - USC	-	RS	-	001	-	Q	-	0007	(0001/0007)	-	AVOA
UFC - UST	-	RS	-	001	-	Q	-	0003	(0001/0003)	-	AVOA
USC - USC	-	RS	-	001	-	Q	-	0002	(0001/0002)	-	AVOA
USC - USC	-	RS	-	001	-	Q	-	0003	(0001/0003)	-	AVOA
USC - USC	-	RS	-	001	-	Q	-	0005	(0001/0005)	-	AVOA
UST - UST	-	RS	-	001	-	Q	-	0002	(0001/0002)	-	AVOA
UFC - UFC	-	RS	-	001	-	Q	-	0005	(0001/0005)	-	AVOA
UFC - USC	-	RS	-	001	-	Q	-	0003	(0001/0003)	-	AVOA
AFC - AFC	-	RS	-	001	-	Q	-	0002	(0001/0002)	-	AVOA
ASC - USC	-	RS	-	001	-	Q	-	0003	(0001/0003)	-	AVOA
UFC - USC	-	RS	-	001	-	Q	-	0010	(0001/0010)	-	AVOA

\*Custom lengths and connectorizations are available.