

Aviation UltraL™ Fiber Connectors/Cables

(0.05dB insertion, SM, PM, MM, up to 5W power handling, shock/vibration resistance)



Features

- Ultra Low Loss
- Vibration Resistance
- High Reliability
- High Repeatability

Applications

- Aerospace
- Outspace
- Harsh Environment



The Aviation UltraL™ Low Loss fiber optic connectors (AVFC) are engineered for exceptional performance in demanding environments, particularly aerospace and outer space applications. It is compatible with Diamond connector with the same low loss and reliability specifications. These connectors desirably feature low coupling loss, resilience to vibrations, and high optical power handling capabilities. Our proprietary active core alignment technology ensures each connector achieves a coupling loss of below 0.05dB, surpassing the industry standard where typical connectors experience losses of around 0.3dB. This innovation guarantees optimal signal transmission efficiency. To withstand harsh conditions, such as shocks and vibrations, we've incorporated a specialized locking mechanism into the design. Additionally, our connectors feature an expanded fiber tip mode size prior to exiting the fiber, enabling them to handle high optical power levels effectively. Constructed from rugged Zirconia, the ferrule eliminates the need for conventional metal covers in active alignments, enhancing repeatability and durability. Moreover, our connectors are fully compatible with AVIM connectors, offering improved reliability and performance. The AVFC connectors deliver unparalleled performance, reliability, and durability, making them the ideal choice for aerospace and space applications.

Specifications

AV UltraL Connector SM28 Fiber	Min	Typical	Max	Unit
Operation Wavelength	1200		2000	nm
Insertion Loss	0.01	0.04	0.15	dB
NA		0.14		
Return Loss			55	dB
Operating Temperature	-40		75	°C
Storage Temperature	-45		85	°C

AV UltraL Connector 50/126 Fiber	Min	Typical	Max	Unit
Operation Wavelength	350		2000	nm
Insertion Loss	0.00	0.005	0.1	dB
Return Loss			40	dB
Operating Temperature	-40		75	°C
Storage Temperature	-45		85	°C

AV UltraL Connector SM600 Fiber	Min	Typical	Max	Unit
Operation Wavelength	1200		2000	nm
Insertion Loss	0.01	0.04	0.07	dB
NA		0.14		
Return Loss			55	dB
Operating Temperature	-40		75	°C
Storage Temperature	-45		85	°C

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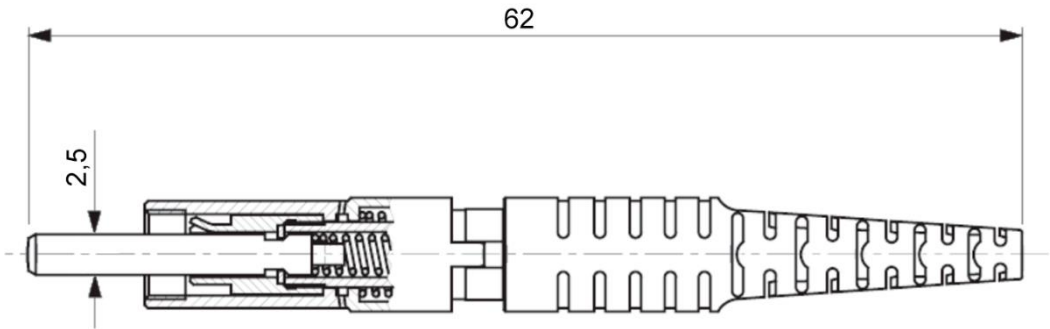
Specifications

AV UltraL Connector SM450 Fiber	Min	Typical	Max	Unit
Operation Wavelength	490		633	nm
Insertion Loss		0.3	0.6	dB
NA		0.13		
Return Loss			55	dB
Operating Temperature	-40		75	°C
Storage Temperature	-45		85	°C

AV UltraL Connector SM400 Fiber	Min	Typical	Max	Unit
Operation Wavelength	405		532	nm
Insertion Loss		0.4	0.6	dB
NA		0.13		
Return Loss			50	dB
Operating Temperature	-40		75	°C
Storage Temperature	-45		85	°C

AV UltraL Connector SM300 Fiber	Min	Typical	Max	Unit
Operation Wavelength	320		430	nm
Insertion Loss		0.5	1.1	dB
NA		0.13		
Return Loss			50	dB
Operating Temperature	-40		75	°C
Storage Temperature	-45		85	°C

Mechanical Dimension (mm)





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Specifications

Ordering Information (Part Number)

Prefix	Fiber Type	Connector 1	Connector 2	Power	Cable Type	Length
AVFC-	SM28 = 1 50/125 = 2 60/125 = 3 PM1550 = 5 PM1310 = 6 PM 980 = 7 SM300 = B Hi1060 = A Bendable XB SM = X	AVFC/PC = 1 AVFC/APC = 2	AVFC/PC = 1 AVFC/APC = 2 FC/PC = 3 FC/APC = 4 LC/PC = 5 LC/APC = 6 Non = N Special = 0	0.5W = 05 5W = 50 10W = 10 15W = 15 20W = 20	0.9mm loose = 2 3mm loose = 3 Special = 0	0.5m = 005 1m = 010 1.5m = 015 10m = 100 15m = 150 20m = 200 25m = 250 Special = 000