

Av87[™] High Density Circular MT Connectors

AmphenolFSI



The Av87[™] from Amphenol FSI is designed and manufactured to meet the VITA 87 and the SOSA[™] Technical Standards

The Av87 circular MT Connector product line offers a high-density MT based fiber optic interconnect solution in the proven and ubiquitous MIL-DTL-38999 Series III form factor. The Av87 is offered in the 3 shell sizes: 11, 13, and 15 supporting, 1, 2, and 4 MT ferrules respectively. This connector series supports up to 48 fibers per MT ferrule MT, providing a rugged, waterproof, and low-loss connection for up to 192 fibers. These new connectors are available with flat polish, angled polished or lensed MTs. In addition, Amphenol has an extensive selection of backshell and accessories to support a wide variety of fiber optic cables specific to your application.

These products conform to VITA and SOSA[™] standards providing users with multiple sourcing options. The new Av87 product line offers even more choices to the design community in addition to Amphenol's already market-leading harsh environment fiber optic interconnect products.

Features & Benefits:

- Interates with legacy suppliers products
- A high-reliability, high-density, ruggedized, harsh-environment MT connector in MIL-DTL-38999 connector packaging
- 3 levels of alignment provide for precision fiber-to-fiber interface and repeatability:
 - Shell-to-shell with keying to allow for alternate positions and a universal key
 - Insert to insert registration
 - MT contact guide pins
- Supports physical contact MT (PC-MT) and expanded beam MT (EB-MT)
 - Physical contact MT (PC-MT) ferrules available in 12, 16, 24, 32 & 48 for singlemode and multimode applications. PC & APC polish supported.
 - Expanded beam MT (EB-MT) ferrules with AR-coated lenses available in 12, 16, & 32 fiber configurations for multimode applications.
- Rear ferrule insertion and removal with common tools.
- Houses up to 192 fibers within a compact size 15 shell with 4 MTs
- Connectors are compatible with standard MIL-DTL-D39888 Series III accessories

Applications:

- Military Radars
- Airborne EW
- Avionics
- Commercial Airframe
- UAV
- SATCOM Systems
- Ground Vehicles
- Mobile Command Shelters

Amphenol Fiber Systems International, Inc.

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Amphenol Fiber Systems International (AFSI), a division of Amphenol Military & Aerospace Operations (AMAO), is the largest manufacturer of harsh environment fiber optic cable assemblies & connectors in the world. Visit AMAO at amphenolmao.com

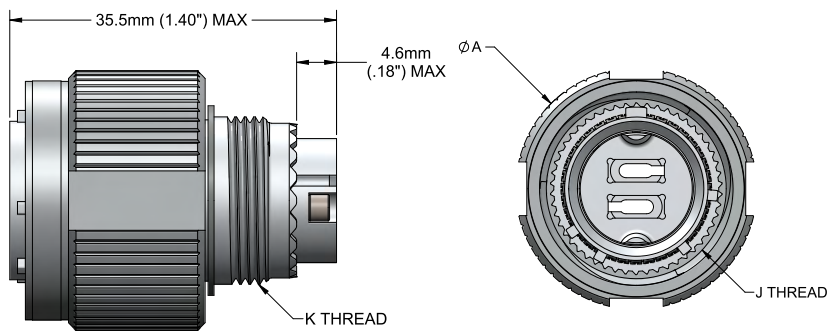
Av87

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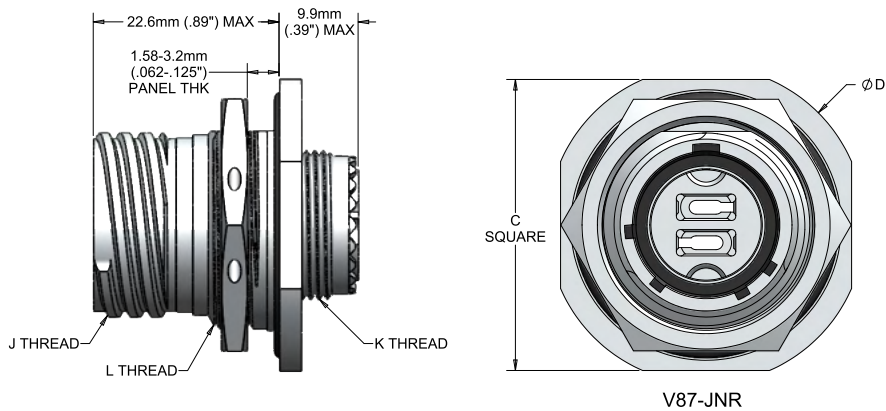
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Av87 Product Drawings

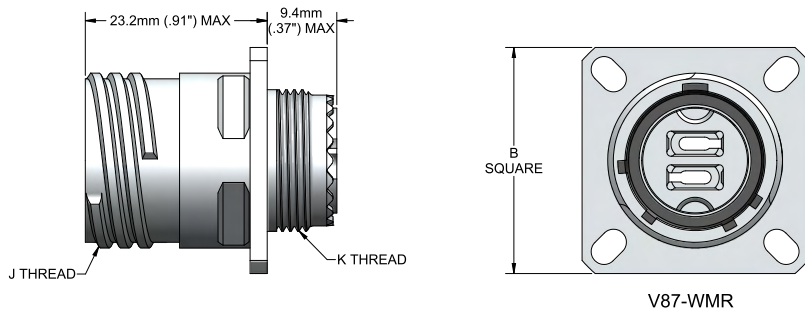
Plug:



Jam Nut Receptacle:



Wall Mount Receptacle:



Performance:

Parameter	Typical	Test Method
Optical Insertion Loss (PC/APC-MT)	< .35dB	TIA/EIA-455-171
Optical Insertion Loss (EB-MT)	< .75dB	TIA/EIA-455-171
Optical Return Loss (PC-MT)	> 25dB	TIA/EIA-455-107
Optical Return Loss (APC-MT)	> 60dB	TIA/EIA-455-107
Optical Return Loss (EB-MT)	> 23dB	TIA/EIA-455-107
Vibration - Random (EB-MT)	49.10 Grms	MIL-STD-1678-3
Vibration - Random (PC-MT)	11.95 Grms	TIA/EIA-455-11
Mechanical Shock (EB-MT)	100G	TIA/EIA-455-14
Mechanical Shock (PC-MT)	50G	TIA/EIA-455-14
Mating Durability (EB-MT)	500 Cycles	TIA/EIA-455-21
Mating Durability (PC-MT)	250 Cycles	TIA/EIA-455-21
Operating Temperature	-46°C to 85°C	TIA/EIA-455-3
Storage Temperature	-60°C to 100°C	

TABLE I

SHELL SIZE	DIM A MAX	DIM B MAX	DIM C MAX	DIM D MAX	DIM E MIN	DIM F MIN	DIM G +0.25/-0	DIM H +0/-0.25	J THREAD	K THREAD	L THREAD
11	25.0mm (.984")	26.47mm (1.042")	32.03mm (1.261")	35.23mm (1.387")	20.22mm (.796")	20.62mm (.812")	20.96mm (.825")	19.59mm (.771")	.750-.1P-.3L-TS	M15 X 1-6g 0.100R	M20 X 1-6g
13	29.4mm (1.157")	28.86mm (1.136")	35.21mm (1.386")	38.41mm (1.512")	23.42mm (.922")	23.01mm (.906")	25.65mm (1.010")	24.26mm (.955")	.875-.1P-.3L-TS	M18 X 1-6g 0.100R	M25 X 1-6g
15	32.5mm (1.280")	28.86mm (1.230")	38.38mm (1.511")	41.58mm (1.637")	26.59mm (1.047")	24.61mm (.969")	28.83mm (1.135")	27.56mm (1.085")	1.000-.1P-.3L-TS	M22 X 1-6g 0.100R	M28 X 1-6g

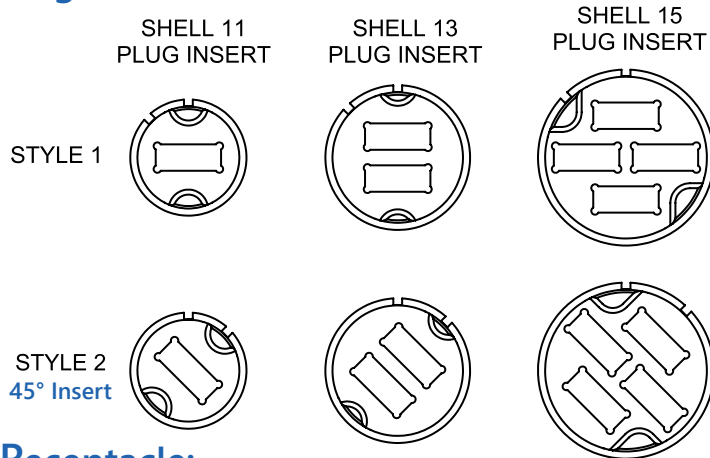
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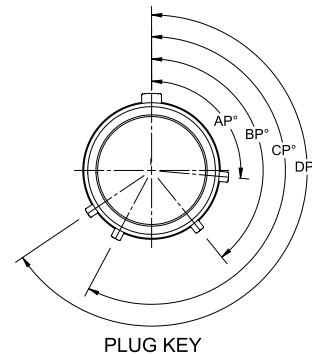
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Av87 Connector Layouts:

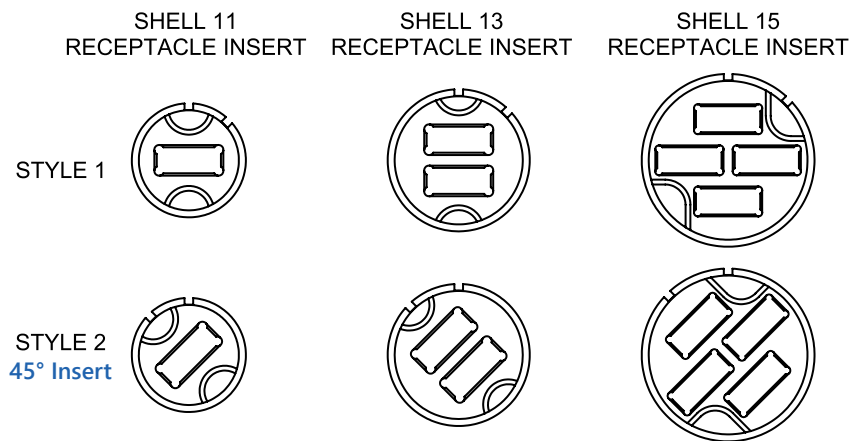
Plug:



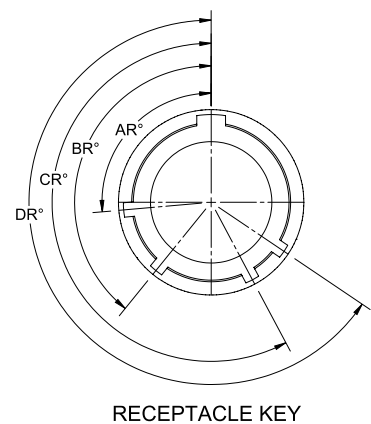
Plug Key Arrangements:



Receptacle:



Receptacle Key Arrangements:



Av87 MT Ferrule Configurations:

Configuration	Interface Type	Fiber Type	Fiber Count
MM8F	PC	Muulti-Mode, 50um	8
MM12F	PC	Muulti-Mode, 50um	12
MM16F	PC	Muulti-Mode, 50um	16
MM24F	PC	Muulti-Mode, 50um	24
MM32F	PC	Muulti-Mode, 50um	32
MM48F*	PC	Muulti-Mode, 50um	48
SM8F	APC	Single-Mode, 8-9um	8
SM12F	APC	Single-Mode, 8-9um	12
SM16F*	APC	Single-Mode, 8-9um	16
SM24F*	APC	Single-Mode, 8-9um	32
SM32F	APC	Single-Mode, 8-9um	24
LMM12F	Lens	Muulti-Mode, 50um	12
LMM16F	Lens	Muulti-Mode, 50um	16
LMM32F	Lens	Muulti-Mode, 50um	32
LMM48F*	Lens	Muulti-Mode, 50um	48

*not guaranteed to meet the loss of the others

- Receptacle connector configures to MT ferrule kit with spring, pin and holders
- Plug connector configures to MT ferrule kit with spring and holder
- Both EB Plug and Receptacle shell configured with PRIZM MT Lensed multi-fiber ferrules
 - Novel, molded-in, hermaphroditic post and hole alignment feature eliminates the need for costly stainless steel guide pins

Contact us for MT Ferrule Cable Assemblies

Part Numbering Schemes

1.	2.	3.	4.	5.	6.	7.
Base Part Num.	Shell Size	Shell Type	Insert Layout	Insert Material	Sell Material and Finish	Key
AV87 -	15	P	4	A	W	N

2. Shell Size	3. Shell Type	4. MT Layout	5. Insert Material
11	P Plug	1 1 Blade	A 6061-T6 Aluminum, Grey Anodized
13	R Wall Mount Receptacle	2 2 Blade	C Composite
15	J Jamnut	4 4 Blade	

6. Shell Material & Shell Finish	7. Key Option
F 6061-T6 Aluminum, Ni	N & F Key Style 1 (N) Key Style 2 (F)
T 6061-T6 Aluminum, Ni PTFE	A & G Key Style 1 (A) Key Style 2 (G)
C 6061-T6 Aluminum, Black Anodized	B & H Key Style 1 (B) Key Style 2 (H)
Z 6061-T6 Aluminum, Black Zn Ni	C & J Key Style 1 (C) Key Style 2 (J)
W 6061-T6 Aluminum, CAD OD	D & K Key Style 1 (D) Key Style 2 (K)
V 6061-T6 Aluminum, Sn Zn	E & L Key Style 1 (E) Key Style 2 (L)
K Stainless Steel Passivated	U Insert 1 & 2 Universal
B Marine Bronze	
M Composite, Ni	
J Composite, CAD OD	

Ex: AV87 - 15P4AWN

About AFSI:

Amphenol Fiber Systems International (AFSI) designs, manufactures, markets and supports the broadest portfolio of reliable and innovative fiber optic interconnect solutions to withstand the harsh environments of military, aerospace, heavy industrial, broadcast and medical applications. Since inception in 1993, AFSI continues to advance its position as a global leader in harsh environment fiber optic interconnect.

AFSI has delivered millions of fiber optic solutions in more than 30 countries. Whenever there is a need for superior, cost-effective fiber optic systems to withstand the harshest of operating environments, you can rely on AFSI for engineering know-how, top-quality products and expert technical support.

Visit www.fibersystems.com for more information.

For more information on how to order or to obtain a price quote on our products, call toll free (U.S. only) at 800.472.4225, international calls please use 1.214.547.2400 or e-mail info@fibersystems.com.