

FS34 Fiber Optic Connectors



Amphenol Fiber Systems International (AFSI) designs and manufactures a complete line of circular fiber optic connectors designed and qualified to MIL-PRF-28876, Rev E.

These connectors are precision machined to stringent tolerances and designed to provide superior optical performance in extreme environmental conditions. FS34 offers rugged military and industrial multichannel fiber optic connectors for deployable, shipboard, outdoor and fixed system requirements.

The backshell features the Quickloc™ captivation system developed by Amphenol Fiber Systems International. Not only is it simple to install, it is also easy to remove the aramid yarn off the cable (KEVLAR®) captivation and recapture without cutting back the cable. The Quickloc™ backshell also allows easy access to maintain or reconfigure termini without altering the captivated aramid fiber.

Features & Benefits:

- Precision machined to MIL-PRF-28876, Rev E specification
- Available in 4 shell sizes:
11 (2 ch), 13 (4 ch), 15 (6, 8 ch), 23 (18, 31 ch)
- Seven keying options including universal keying for both plugs and receptacles; ideal for test cables
- Inserts are interchangeable from plug to receptacle. Either can be operated with pins or socket termini
- Operates with all qualified single mode or multimode M29504/14 and /15 termini
- Complete line of straight, 45° and 90° backshells.
- Backshell design allows simplified, removable KEVLAR® captivation with no mechanical crimp rings.
- Angled backshells operate identically using the same tools as the straight backshell.
- Quickloc™ design enables faster maintenance or repair without complete disassembly of connector backshell assembly
- Commercial Off-The-Shelf (COTS) versions of this product are available in aluminum (various platings) and stainless steel

Applications:

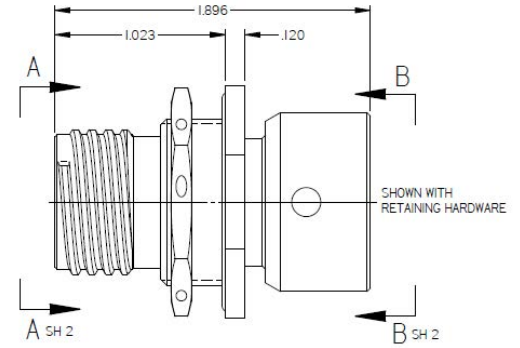
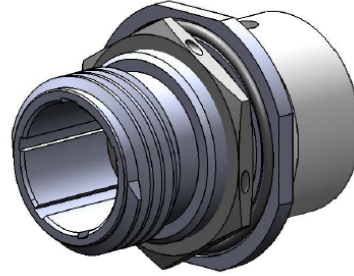
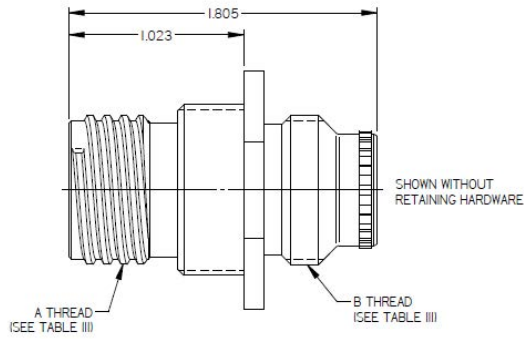
- U.S. Navy shipboard, surface craft and submarines
- Mission critical combat and communications systems
- Mobile tactical shelters electronic battlefield networks
- Mobile Emergency Telecommunications (MET) Stations
- Ideal for Harsh Environment Industrial applications.

Amphenol Fiber Systems International, Inc. | 1300 Central Expressway N, Suite 100 Allen, TX 75013
Phone: (214) 547-2400 | Email: sales@fibersystems.com | Website: www.fibersystems.com

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FS34

FS34HJ - Receptacle, Hybrid Jam Nut:

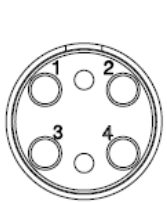


SHELL SIZE	KEYING POSITION DESIGNATOR	A°	B°	C°	D°
11 AND 13	1	95°	141°	208°	236°
	2	113°	156°	182°	292°
	3	90°	145°	195°	252°
	4	53°	156°	220°	255°
	5	119°	146°	176°	298°
	6	51°	141°	184°	242°
15 AND 23	1	80°	142°	196°	293°
	2	135°	170°	200°	310°
	3	49°	169°	200°	244°
	4	66°	140°	200°	257°
	5	62°	145°	180°	280°
	6	79°	153°	197°	272°

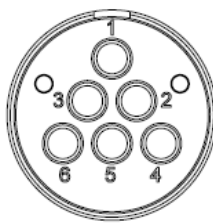
SHELL SIZE	SHELL SIZE DESIGNATOR	NO OF TERMINUS CAVITIES DESIGNATOR	E	ØF
11	A	02	.853 .843	.890 .880
13	B	04	.978 .968	1.015 1.005
15	C	06 OR 08 OR 35	1.165 1.155	1.203 1.193
23	F	18 OR 31 OR 82	1.598 1.588	1.635 1.625

SHELL SIZE	A THREAD 2A-1P-2L-D.S.	B THREAD
11	.750	.750-20 UNEF
13	.875	.875-20 UNEF
15	1.062	1.0000-20 UNEF
23	1.500	1.4375-18 UNEF

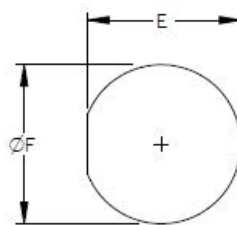
FS34HJ - Receptacle Jam Nut Positions:



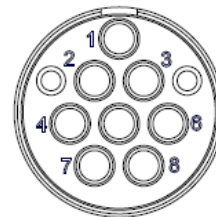
SHELL SIZE 13
4 POSITION



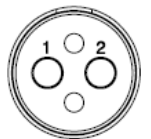
SHELL SIZE 15
6 POSITION



RECOMMENDED
MTG CUT-OUT
SEE TABLE II
SCALE: NONE



SHELL SIZE 15
8 POSITION



SHELL SIZE 11
2 POSITION

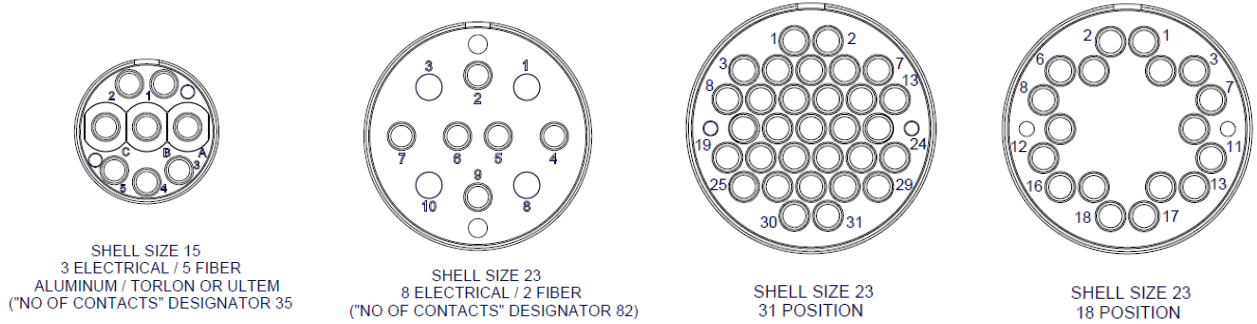
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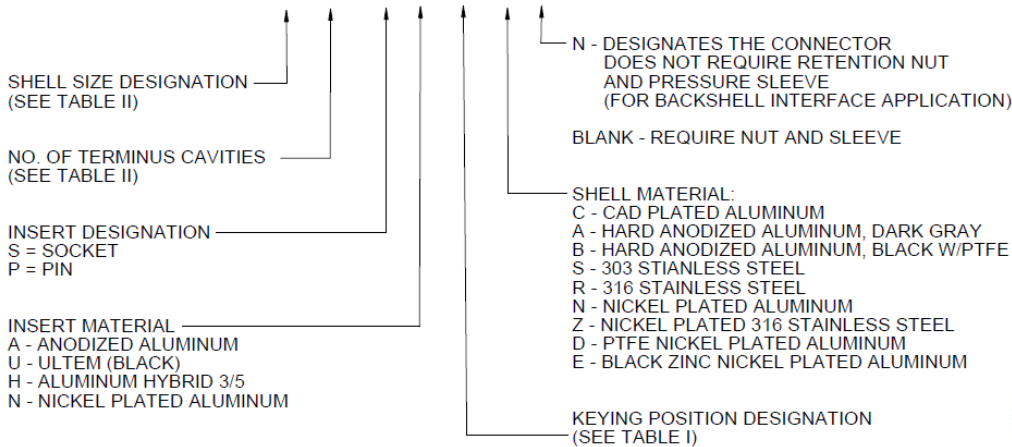
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FS34HJ - Receptacle Jam Nut Positions:

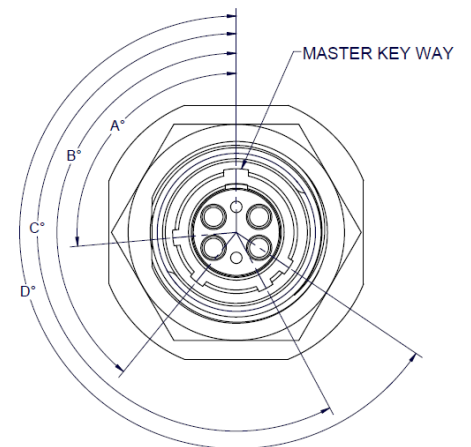


FS34HJ - Part Number Scheme:

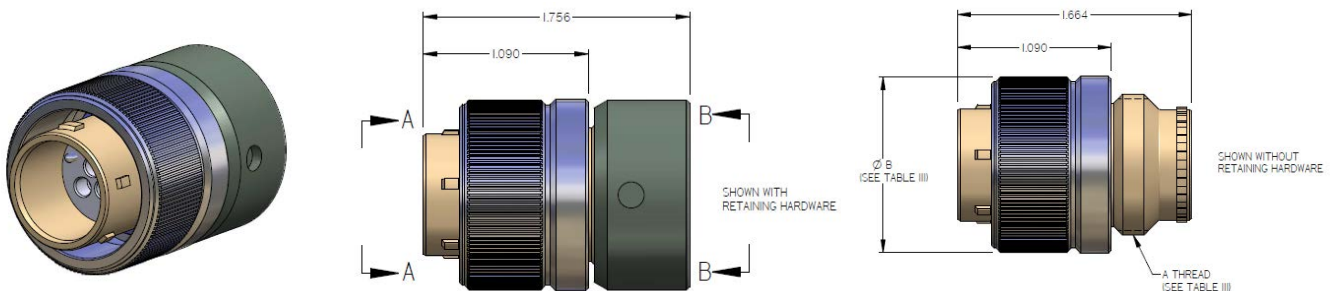
FS34HJ-X XX X X X X N



FS34HJ - Keying Diagram:



FS34HP - Plug, Hybrid:



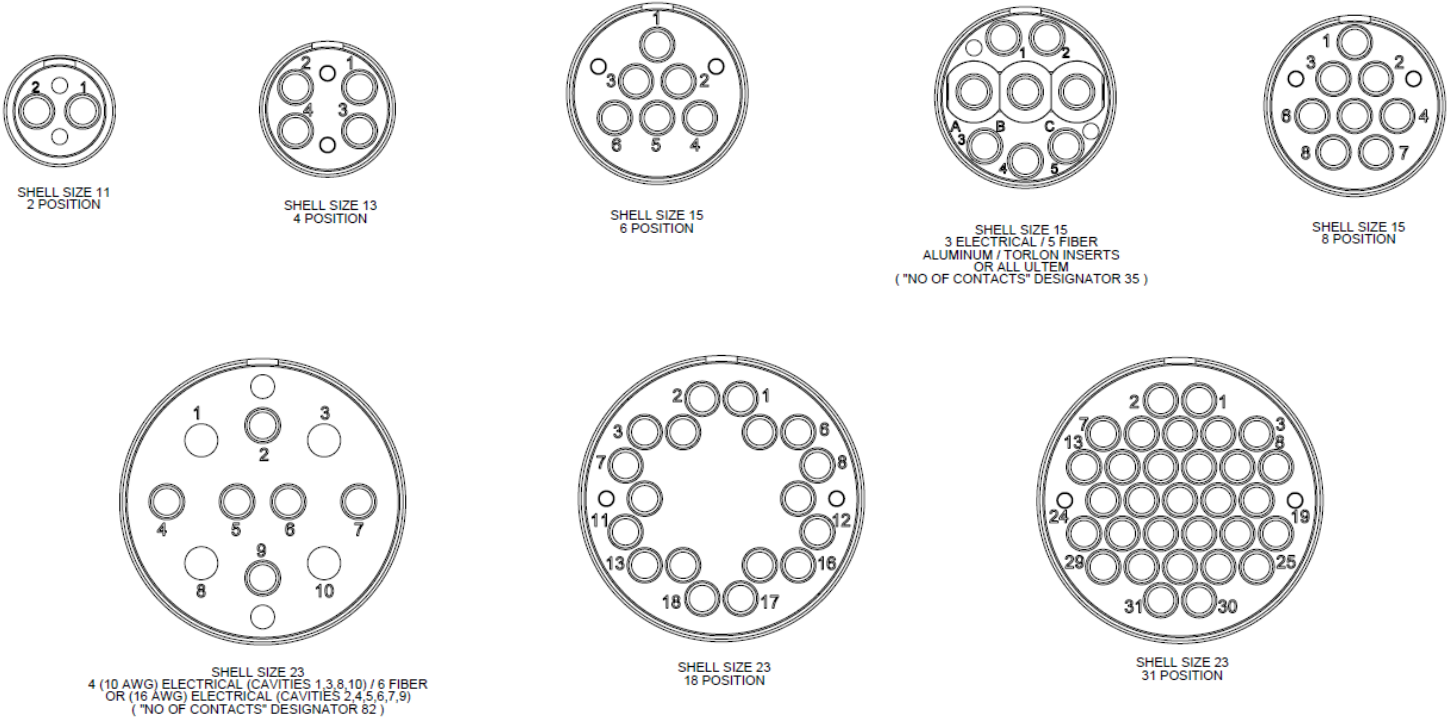
FS34HP - Plug, Hybrid:

SHELL SIZE	KEYING POSITION DESIGNATOR	A°	B°	C°	D°
11 & 13	1	95°	141°	208°	236°
	2	113°	156°	182°	292°
	3	90°	145°	195°	252°
	4	53°	156°	220°	255°
	5	119°	146°	176°	298°
	6	51°	141°	184°	242°
13 NON-STD ONLY	7	30°	225°		
	8	40°	236°		
	9	55°	190°		
	10	73°	185°		
	11	85°	208°		
	12	44°	215°		
15 AND 23	1	80°	142°	196°	293°
	2	135°	170°	200°	310°
	3	49°	169°	200°	244°
	4	66°	140°	200°	257°
	5	62°	145°	180°	280°
	6	79°	153°	197°	272°
15 AND 23 NON-STD	7	°	°		
	8	°	°		
	9	°	°		
	10	°	°		
	11	°	°		
	12	°	°		

SHELL SIZE	SHELL SIZE DESIGNATOR	NO OF TERMINUS CAVITIES DESIGNATOR
11	A	02
13	B	04
15	C	06 OR 08 OR 35
23	F	18 OR 31 OR 82

SHELL SIZE	A THREAD	ØB MAX
11	.750-20UNEF	1.028
13	.875-20UNEF	1.141
15	1.0000-20UNEF	1.263
23	1.4375-18UNEF	1.705

FS34HP - Plug Positions:

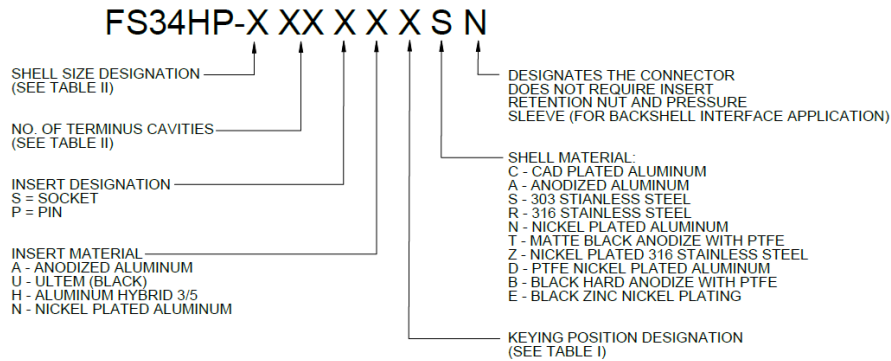


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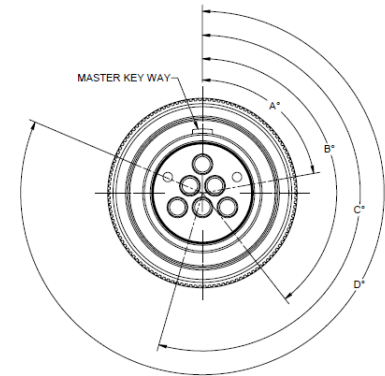
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FS34HP - Part Number Scheme:



FS34HP - Keying Diagram:



FS34HR - Receptacle, Hybrid, Wall Mount:

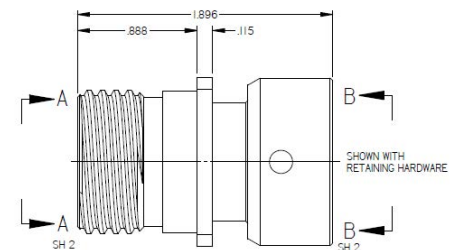
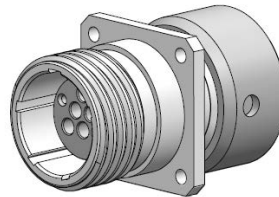
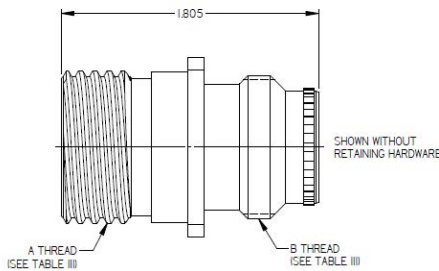


TABLE I

SHELL SIZE	KEYING POSITION DESIGNATOR	A°	B°	C°	D°
11 AND 13	1	95°	141°	208°	236°
	2	113°	156°	182°	292°
	3	90°	145°	195°	252°
	4	53°	156°	220°	255°
	5	119°	146°	176°	298°
	6	51°	141°	184°	242°
15 AND 23	1	80°	142°	196°	293°
	2	135°	170°	200°	310°
	3	49°	169°	200°	244°
	4	66°	140°	200°	257°
	5	62°	145°	180°	280°
	6	79°	153°	197°	272°

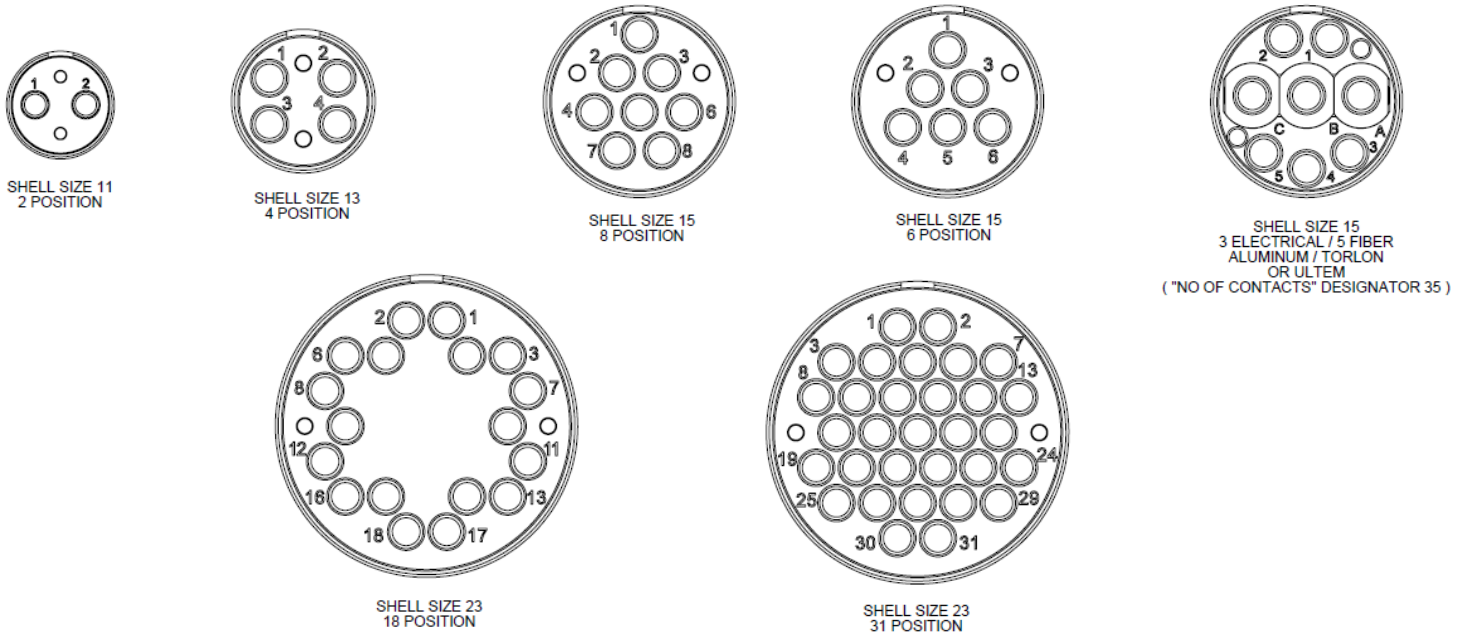
TABLE II

SHELL SIZE	SHELL SIZE DESIGNATOR	NUMBER OF TERMINUS CAVITIES DESIGNATOR	E	F	(ØG)	(ØJ)
11	A	02	1.043	.750	.130 .115	.812
			1.001			
13	B	04	1.158	.843		.937
			1.118			
15	C	06 OR 08 OR 35	1.279	.968		1.124
			1.238			
23	F	18 OR 31	1.738	1.281	1.562	
			1.698			

TABLE III

SHELL SIZE	A THREAD 2A-.1P-.2L-D.S	B THREAD
11	.750	.750-20 UNEF
13	.875	.875-20 UNEF
15	1.062	1.0000-20 UNEF
23	1.500	1.4375-18 UNEF

FS34HR - Receptacle, Wall Mount Positions:



FS34HR - Part Number Scheme:

FS34HR-X XX X X X S N P

SHELL SIZE DESIGNATION
(SEE TABLE II)

NO. OF TERMINUS CAVITIES
(SEE TABLE II)

INSERT DESIGNATION
S = SOCKET
P = PIN

INSERT MATERIAL
A - ANODIZED ALUMINUM
U - ULTEM (BLACK)
H - ALUMINUM HYBRID 3/5
N - NICKEL PLATED
ALUMINUM

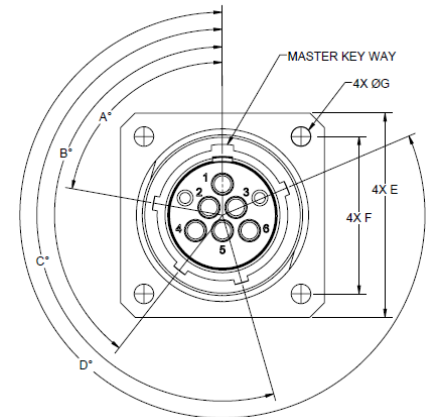
DESIGNATES WITH PEM NUTS

DESIGNATES THE CONNECTOR
DOES NOT REQUIRE INSERT
RETENTION NUT AND PRESSURE
SLEEVE (FOR BACKSHELL INTERFACE
APPLICATION)

SHELL MATERIAL:
C - CAD PLATED ALUMINUM
A - HARD ANODIZED ALUMINUM, DARK GRAY
B - HARD ANODIZED ALUMINUM, BLACK 8
S - 303 STAINLESS STEEL
R - 316 STAINLESS STEEL
N - NICKEL PLATED ALUMINUM
T - MATTE BLACK ANODIZE WITH PTFE
Z - NICKEL PLATED 316 STAINLESS STEEL
D - PTFE NICKEL PLATED ALUMINUM
E - BLACK ZINC NICKEL

KEYING POSITION DESIGNATION
(SEE TABLE I)

FS34HR - Keying Diagram:



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FS34PDC - Dust Cap, Plug:

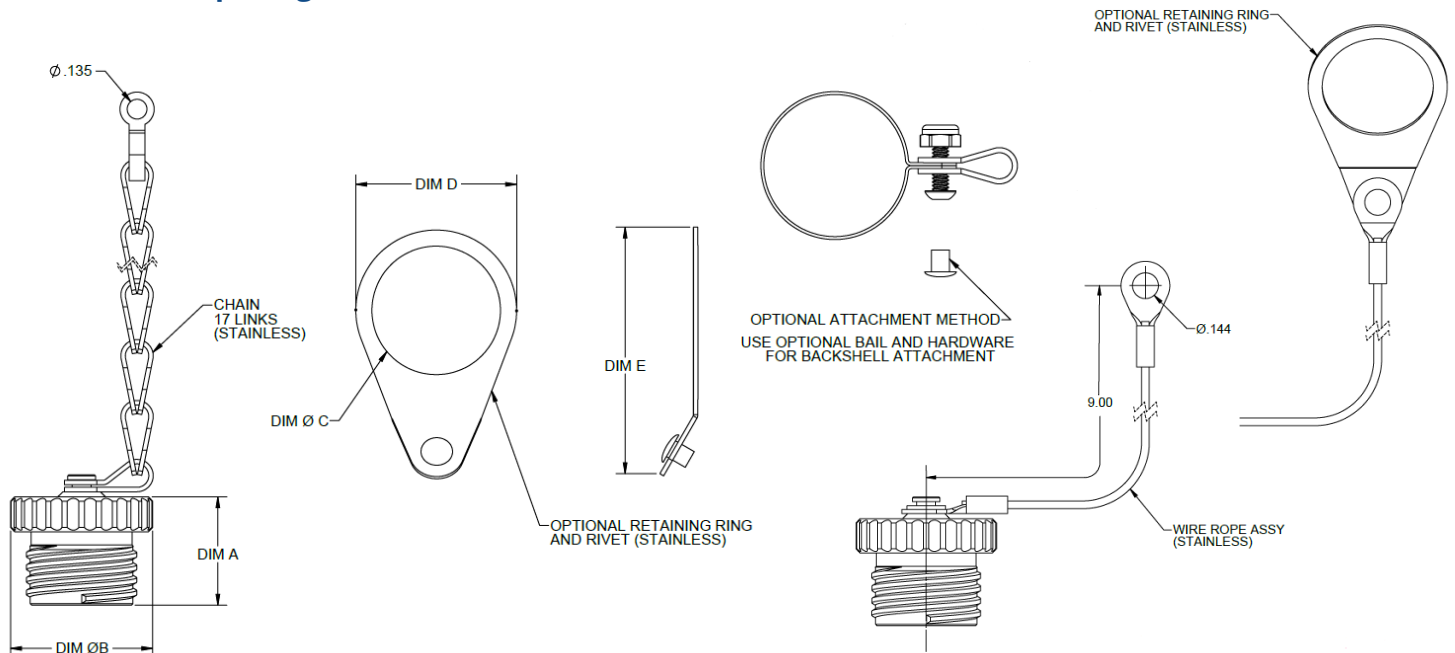
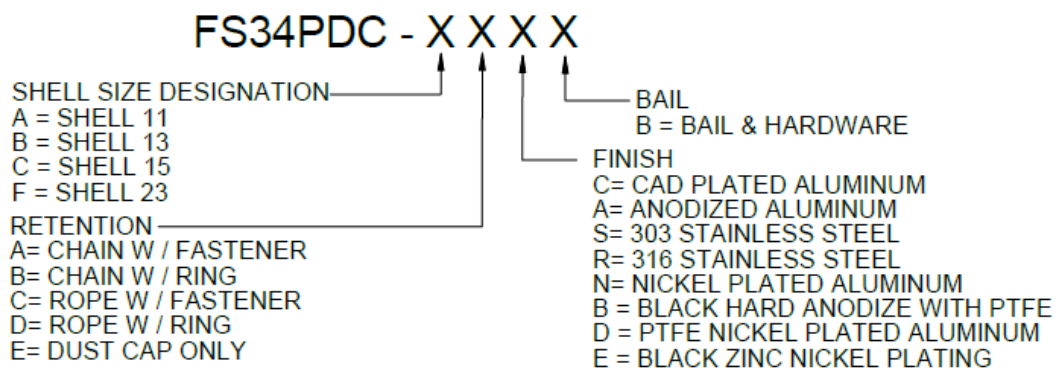


TABLE 1					
SHELL SIZE	DIM A	DIM Ø B	DIM Ø C	DIM D	DIM E
11	.869 MAX	1.028	.765	.996	1.591
13	.869 MAX	1.141	.890	1.120	1.718
15	.869 MAX	1.263	1.015	1.245	1.930
23	.780 MAX	1.695	1.453	1.683	2.182

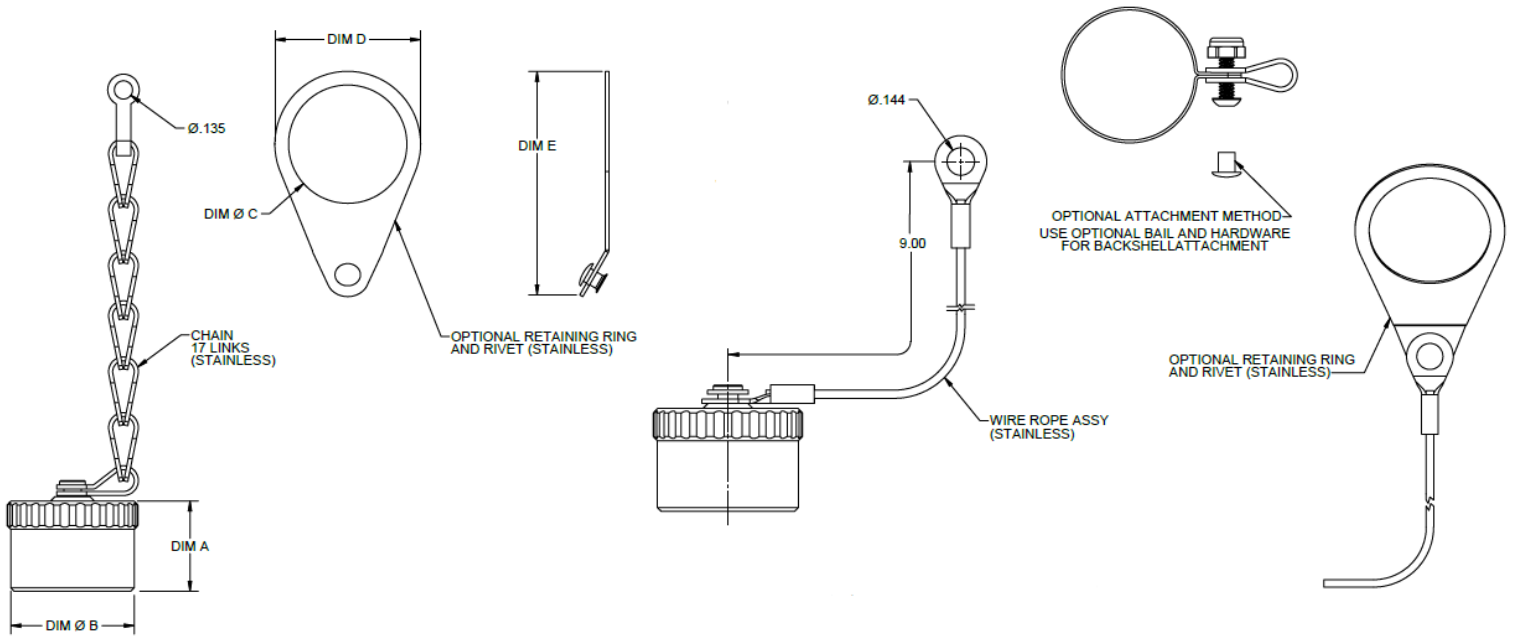
FS34PDC - Part Number Scheme:



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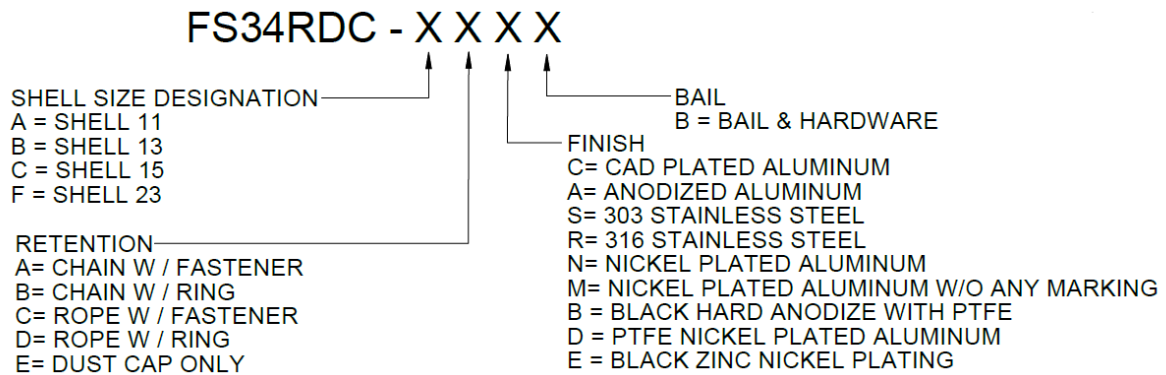
Amphenol FSI

FS34RDC - Dust Cap, Receptacle:



SHELL SIZE	DIM A	DIM Ø B	DIM Ø C	DIM D	DIM E
11	.775	.921	.890	1.120	1.714
13	.775	1.080	1.015	1.250	1.935
15	.775	1.183	1.203	1.434	1.930
23	.770	1.621	1.640	1.870	2.480

FS34RDC - Part Number Scheme:



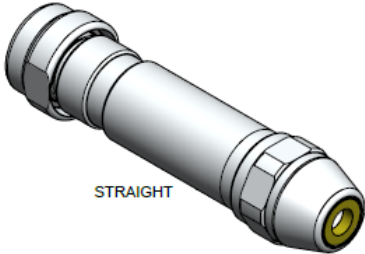
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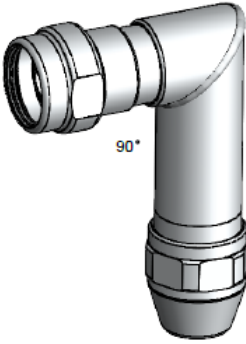
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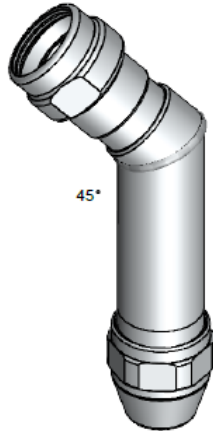
FS34 ATB - Tactical Backshells:



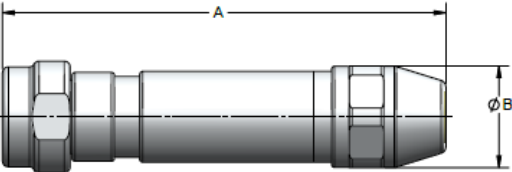
STRAIGHT



90°

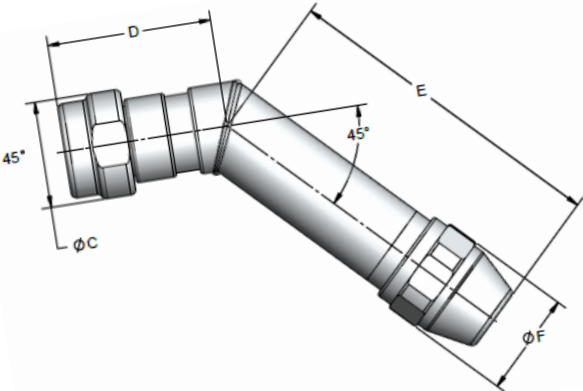


45°



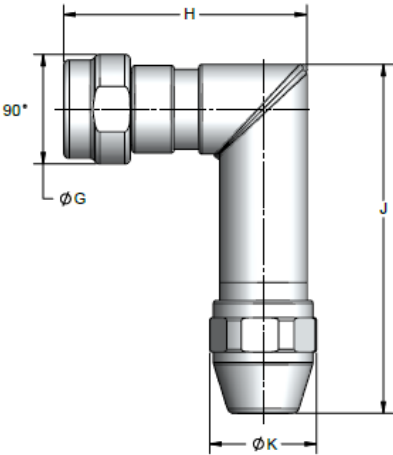
	M28876	THDM	A MAX	ØB MAX
SHELL SIZE	11	11	3.85	.99
	13	13	3.85	1.2
	15	15	4.1	1.4
	23	23	4.3	1.85

	D38999 / ARINC	NGCON	A MAX	ØB MAX
SHELL SIZE	9, 11	11	3.8	.99
	13, 15	13, 15	3.8	1.2
	17, 19	-	3.8	1.4
	21	-	4.05	1.5
	23, 25	23	4.4	1.85



	M28876	THDM	ØC MAX	D MAX	E MAX	ØF MAX
SHELL SIZE	11	11	.99	1.5	3.0	.97
	13	13	1.1	1.5	3.0	1.2
	15	15	1.3	1.8	2.7	1.4
	23	23	1.75	2.0	3.2	1.85

	D38999 / ARINC	NGCON	ØC MAX	D MAX	E MAX	ØF MAX
SHELL SIZE	9	-	.78	1.45	3.0	.97
	11	11	.88	1.45	3.0	.97
	13	13	1.01	1.45	3.0	1.2
	15	15	1.17	1.45	3.0	1.2
	17	-	1.27	1.45	3.0	1.2
	19	-	1.42	1.45	3.0	1.2
	21	-	1.52	1.75	2.7	1.4
	23	23	1.67	2.1	3.2	1.85
	25	-	1.77	2.1	3.2	1.85

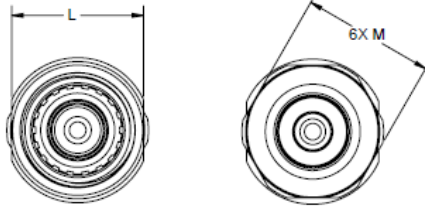


	M28876	THDM	ØG MAX	H MAX	J MAX	ØK MAX
SHELL SIZE	11	11	.99	2.18	3.1	.97
	13	13	1.1	2.22	3.2	1.2
	15	15	1.3	2.8	3.42	1.4
	23	23	1.75	3	3.9	1.85

	D38999 / ARINC	NGCON	ØG MAX	H MAX	J MAX	ØK MAX
SHELL SIZE	9	-	.78	2.1	3.1	.97
	11	11	.88	2.1	3.1	.97
	13	13	1.01	2.13	3.2	1.2
	15	15	1.17	2.13	3.2	1.2
	17	-	1.27	2.13	3.2	1.2
	19	-	1.42	2.13	3.2	1.2
	21	-	1.52	2.7	3.42	1.4
	23	23	1.67	3.11	3.9	1.85
	25	-	1.77	3.11	3.9	1.85

FS34 ATB - Tactical Backshells:

	M28876	THDM	L
SHELL SIZE	11	11	.875
	13	13	1.02
	15	15	1.18
	23	23	1.61



	M28876	D38999 / ARINC	NGCON	THDM	M
SHELL SIZE	11	9, 11	11	11	.88
	13	13, 15, 17, 19	13, 15	13	1.06
	15	21	-	15	1.31
	23	23, 25	23	23	1.75

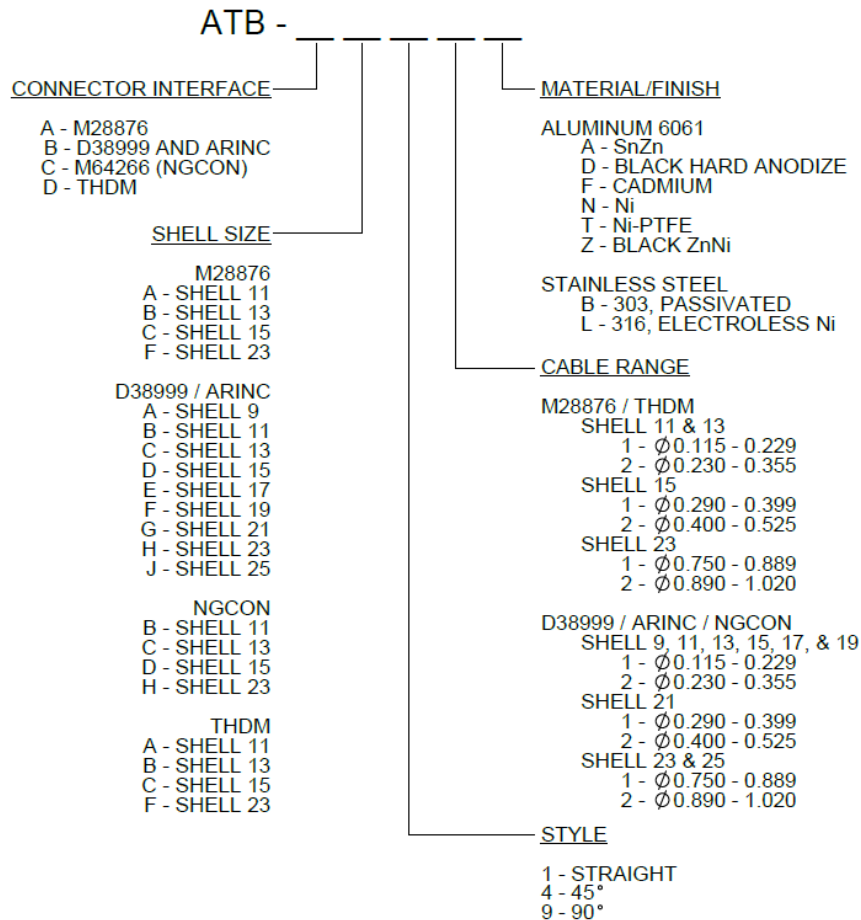


COUPLING NUT W/ WRENCH FLATS
M28876 / THDM
ONLY



KNURLED SPIN COUPLING
D38999 / ARINC / NGCON
ONLY

ATB - Part Number Scheme:



Specifications:

Specification	Measurement/Detail
Mating Durability	500 cycles per EIA-455-21
Vibration	Per TIA/EIA-455-11, test condition II & VII (Letter C)
Mechanical Shock	Per MIL-S-901, Grade A, Class I
Thermal Shock	Per schedule C of TIA/EIA-455-71 for 5 Cycles
Thermal Cycling	Per EIA/TIA-455-3 using Table X of MIL-PRF-28876
Water Pressure	Depth of 32 feet for 48 hours
Ozone Exposure	Per TIA-455-189
Freezing Water Immersion	Per Method A, Procedure 1 of EIA/TIA-455-98
Fluid Immersion	Per EIA/TIA-455-12 for 4 Hours Per Fluid
Crush Resistance	Per TIA-455-26 with a load of 1250 Newtons
Life Aging	Per TIA/EIA-455-4 @ 110°C for 240 hours
Terminus Retention Force	Axial load of 22Lbs for 5 seconds
Sand and Dust	PER EIA/TIA-455-35
Cable Pull Out Force	Per TIA-455-6 to 162 Lbs for 10 minutes
Cable Sealing Strain Relief	Polyolefin, Self Encapsulating
Impact	Eight Drops Per Method B of EIA/TIA-455-2
Flammability	Per EIA-364-81
Operating Temperature	-28°C to +65°C
Storage Temperature	-40°C to +70°C
Typical Insertion Loss	0.4 dB Nominal Multimode, 0.5 dB Nominal Single mode
Fungus	28 Day Exposure per TIA/EIA-455-56
Electromagnetic Effects	Per IEEE-299 @ 100 MHz, 400 MHz, 1GHz and 10GHz
Cable Sealing Strain Relief	Polyolefin, Self Encapsulating

Options Available:

- Following configurations available: M28876/1, /2, /3, /4, /5, /6, /7, /8, /9, /10, /11, /12, /13, /14, /15, /27, /28, /29
- Materials: Aluminum (other materials available on Commercial Off The Shelf basis)
- Finish: Olive drab cadmium over electroless nickel

How to Order:

For more information on how to order or to obtain a price quote on our FS34 products, call toll free (U.S. only) at 800-472-4225, international calls please use 214-547-2400 or e-mail info@fibersystems.com.

Certifications and Qualifications:

- MIL-PRF-28876 Rev. E QPL Listed

Amphenol Fiber Systems International (AFSI):



Amphenol Fiber Systems International (AFSI) designs, manufactures, markets and supports reliable and innovative fiber optic interconnect solutions that withstand the harsh environments of military, oil & gas, mining and broadcast applications. After more than two decades in business, AFSI continues to uphold its position as a global leader in fiber optic interconnect components and systems such as termini, M28876, MIL-ST, TFOCA and the TFOCA-II® connector, which AFSI developed and patented.

AFSI has delivered millions of fiber optic connectors in more than 34 countries. Whenever there is a need for superior, cost-effective fiber optic systems and products that will stand up to demanding 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.