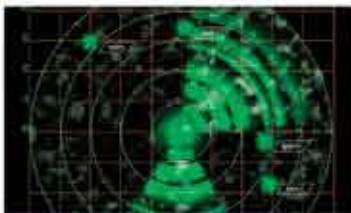


Amphenol®

Micro-Miniature Interconnects



Micro-Miniature Connectors for Harsh Environments



HD 38999
High Density



MICRO-D



TERRAPIN



Amphenol®
NEXUS
Technologies



HD SIM



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ABOUT AMPHENOL AEROSPACE:

Amphenol Aerospace, a Division of Amphenol Corporation, is one of the largest manufacturers of interconnect products in the world for the Military, Commercial Aerospace and Industrial markets. Amphenol designs, manufactures and markets circular and rectangular, electronic, fiber optic, EMI/EMP filter, and a variety of special applications connectors and interconnect systems.

Our 675,000 square foot facility is nestled at the foothills of the Catskill Mountains in Sidney, NY. The Amphenol complex houses state-of-the-art manufacturing technologies including CNC machining, die-casting, molding, impact and extruding, plating, screw machining and process controls. Our fully equipped material evaluation lab and engineering organization utilize the latest in computer aided design software and analysis tools, allowing us to design, test, and qualify advanced interconnect systems.

Amphenol's interconnect products are supplied to thousands of OEMs worldwide and are supported by our worldwide sales and engineering force, including the largest global network of electronic distributors.



Amphenol Aerospace, Amphenol Commercial Air and Amphenol Industrial Operations Main Facility in Sidney, NY USA



Amphenol Canada Corp. (ACC) in Toronto, ON

Offers a comprehensive range of filtered and rectangular connector products for commercial, military and aerospace applications.



Amphenol Printed Circuit Board Technology (APCBT) in Nashua, NH

Houses the manufacturing, design and engineering of backplane systems.



Amphenol Printed Circuit Board Technology (APCBT) in Nashua, NH

Manufactures, designs and engineers flex circuit products and printed circuit boards.



Amphenol facilities in Nogales, Mexico

Houses the manufacture of several industrial and aerospace product lines.



Amphenol Nexus Technologies in Stamford, CT

Designs and manufactures audio connectors for military, aviation, medical, telecommunications, auto racing, power boats & farm equipment.



Amphenol Borisch in Grand Rapids, MI

A full service electronics manufacturer specializing in defense contractors with wiring harnesses, circuit boards and other electrical hardware.

AMPHENOL AEROSPACE'S PHILOSOPHY

As a basic business philosophy, Amphenol Aerospace is dedicated to concentrating on those advanced and challenging market segments that demand an extraordinary level of supplier support and reaction. Our approach to implement this strategy is based on the following key principles:

FOCUS: Concentrate all resources on serving a limited number of tightly defined markets, and understanding the needs of those markets.

INNOVATION: Provide these markets new, creative solutions in both products and services.

RESPONSIVENESS: Identify and respond to the market and product needs more rapidly than any other supplier.

Performance is the sum of these principles. It is the measure of how well we continually and consistently implement our basic strategy and key principles.

QUALITY ASSURANCE:

Amphenol Aerospace has been awarded both AS9100 - Revision C and ISO9001:2008 Quality Assurance Certifications.

2M Micro-Minature Connectors

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- 71% in weight savings compared to MIL-DTL-38999
- 52% smaller than MIL-DTL-38999
- Broad family with many styles and options
- Designed for high-reliability aerospace/defense/C4I applications
- For use in harshest environments



HD38999 High Density Connectors

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- 30% to 50% more contact density than the highest density Mil-Spec 38999 connector of its size.
- Designed to utilize Mil-Spec 38999 components with the exception of contacts and insert arrangements
- Available in Metal, composite, sealed & filtered versions, hermetic and custom versions



Micro-D Micro Miniature Rectangular

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- Small rectangular interconnect with reduced space requirement and reduced weight compared to other rectangulars
- Exceed the requirements of the US military standard M83513



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- Miniature Circular interconnects with push-pull termination
- Designed for harsh environments; used extensively in soldier communication applications



Nexus Connectors

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- Designed and manufactured to the exact specifications of MIL-DTL-55116
- Half the size of standard 38999 connectors



HD SIM Rectangular Connectors

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- Modular interconnects that are lightweight, compact, with easy push-pull termination
- Available in shielded or non-shielded versions
- 7 keying positions
- Filtered with EN4165/SIM Modules



Micro-Miniature Comparison Chart

Circular Interconnects

ZM801					ZM803					ZM804					ZM805					Terrapin					TAC			HD38999			
Jam Nut Max O.D.	Coupling			Max No. of Contacts	Shell Size	Jam Nut Max O.D.	Coupling Nut Max O.D.	Max No. of Contacts	Rear Mount Jam Nut Max O.D.	Front Mount Jam Nut Max O.D.	Max No. of Contacts	Shell Size	Jam Nut Max O.D.	Coupling Nut Max O.D.	Max No. of Contacts	Shell Size	Jam Nut Max O.D.	Coupling Nut Max O.D.	Max No. of Contacts	Panel Mount Max O.D.	In-Line O.D.	Max No. of Contacts	Shell Size	Jam Nut Max O.D.	Coupling Nut Max O.D.	Max No. of Contacts					
	Nut O.D.	Nut O.D.	Max (-26)																												
5	0.510	0.550	0.666	3	5	0.508	0.473	3												0.565	0.440	6, 7 (Spring-loaded)									
																				0.632	0.534	10 (Spring-loaded)									
6	0.575	0.613	0.713	7	6	0.568	0.538	7																							
7	0.698	0.700	0.798	10	7	0.698	0.618	10												0.680	0.440	6, 7 (Rigid)									
8	0.698	0.758	0.863	13	8	0.758	0.673	13									6	0.750	0.550	7	0.750	0.534	10 (Rigid)								
9	0.760	0.813	0.923	19	9	0.758	0.743	19	6	0.635	0.698	7	8	0.698	0.699	7															
													9	0.826	0.798	10															
													10	0.826	0.838	13															
10	0.826	0.893	0.989	26	10	0.878	0.810	26									7	0.895	0.630	14											
									7	0.760	0.826	10												9	.915	0.859	9				
																	8	0.930	0.705	19											
									8	0.760	0.826	13	11	0.885	0.933	19															
									9	0.826	0.885	19																			
																	9	1.005	0.780	26											
																								11	1.042	0.969	19				
													12	.948	0.990	26															
13	1.010	1.063	1.168	37	12	1.010	0.892	37																							
																	10	1.080	0.855	37											
									10	0.885	0.948	26																			
									12	1.010	1.136	37	15	1.136	1.113	37															
16	1.200	1.257	1.350	55	14	1.200	1.058	55																13	1.240	1.141	32				
17	1.260	1.313	1.403	85																											
									14	1.136	1.200	55																			
									15	1.200	1.260	85	18	1.335	1.285	55															
													19	1.385	1.318	85															
21	1.510	1.563	1.663	130																											
													23	1.635	1.572	130								17	1.630	1.391	73				
																								19	1.816	1.500	88				
																								21	1.942	1.625	121				
																								23	2.007	1.750	151				
																								25	2.190	1.875	187				

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Contacts
& Tools

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2M801

2M803

2M804

2M805

2M Filter &
Accessories

HD38999

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2M Series Selection Table

2M801, 2M803, 2M804 and 2M805

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

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Micro-D

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SERIES	2M801	2M803	2M804	2M805
PAGES	Page 36-53	Pages 54-66	Pages 67-89	Pages 90-105
TYPE	Dual-Start ACME Thread	Bayonet	Push-Pull	Tri-Start ACME Thread
DESCRIPTION	More rugged keys and threads. Faster mating.	Quick-mating, light duty, general purpose. Not rated for immersion, 50 milliohms shell-to-shell resistance.	Breakaway connector for headsets and tactical equipment. Gold-plated spring for long mating life and superior EMI shielding.	"Anti-Decoupling" ratchet mechanism and ground spring for military airframes and avionics boxes. Fast mating.
CONTACTS	1 to 130	1 to 55	1 to 85	1 to 130
COUPLING	Threaded Coupling with 1 1/2 Turns to Full Mate	1/4 turn lock Bayonet	Push, Pull Quick-Disconnect	Tri-Start Thread
WATER IMMERSION, MATED	MIL-STD-810 Method 512 1 Meter for 1 Hour	Splashproof	MIL-STD-810 Method 512 1 Meter for 1 Hour	MIL-STD-810 Method 512 1 Meter for 1 Hour
EMI SHIELDING	Very Good	Fair	Excellent	Excellent
VIBRATION AND SHOCK	43.9 g's Random Vibration, Sine Vibration 60 g; 300 g's Shock	37 g's Random Vibration; 300 g's Shock	37 g's Random Vibration; 300 g's Shock	43.9 g's Random Vibration, Sine Vibration 60 g; 300 g's Shock
MATING CYCLES	2000 Cycles (-16 Plugs) 500 Cycles (-26 Plugs)	1000 Cycles Aluminum 2000 Cycles Stainless Steel	2000 Cycles	500 Cycles
ELECTRICAL PERFORMANCE	#12: 23 AMP, 1800 VAC #16: 13 AMP, 1800 VAC #20: 7.5 AMP, 750 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 1800 VAC #16: 13 AMP, 1800 VAC #20: 7.5 AMP, 750 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 1800 VAC #16: 13 AMP, 1800 VAC #20: 7.5 AMP, 750 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 1800 VAC #16: 13 AMP, 1800 VAC #20: 7.5 AMP, 750 VAC #23: 5 AMP, 500 VAC
FILTERED	See pages 109-118	See pages 109-118	See pages 109-118	See pages 109-118

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

HD38999

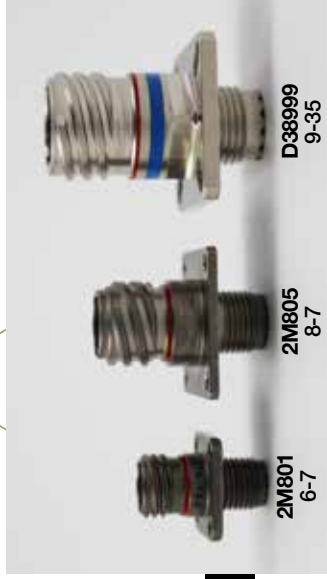
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Size & Weight Comparison Charts

2M801 & 2M805 VS. D38999 Series III



2M801 Series

Weight Comparison: 2M801 VS. D38999 Series III

2M801 Layout	Number of Contacts	D38999 Layout	Number of Contacts	2M801 Weight	D38999 Aluminum	% Weight Savings	D38999 Composite	% Weight Savings	Cable Plug Diameter				Jam Nut Receptacle Diameter			
									2M801		D38999		2M801		D38999	
									In.	mm.	In.	mm.	In.	mm.	In.	mm.
5-3	3	9-98	3	7.9	25.3	69%	19.9	60%	.540	13.72	.859	21.82	.575	14.61	1.204	30.58
6-7	7	9-35	6	9.8	26.3	63%	19.9	51%	.600	15.24	.859	21.82	.635	16.13	1.204	30.58
9-19	19	13-35	22	18.8	50.7	63%	38.5	51%	.810	20.57	1.156	29.36	.830	21.08	1.516	38.51
13-37	37	15-35	37	36.0	72.1	50%	57.4	37%	1.050	26.67	1.281	32.54	1.078	27.38	1.641	41.68
16-55	55	17-35	55	49.8	81.6	39%	65.6	24%	1.240	31.50	1.406	35.71	1.264	32.11	1.766	44.86
17-85	85	21-35	79	54.3	119.7	55%	99.1	45%	1.300	33.02	1.641	41.68	1.325	33.66	2.078	52.78
21-130	130	25-35	128	68.7	159.3	57%	136.6	50%	1.550	39.37	1.890	48.01	1.625	41.28	2.323	59.00

Note: Weights shown include contacts and represent a mated pair of plug and jam nut receptacle. Weights are in grams.

2M805 Series

Weight Comparison: 2M805 VS. D38999 Series III

2M805 Layout	Number of Contacts	D38999 Layout	Number of Contacts	2M805 Weight	D38999 Aluminum	% Weight Savings	D38999 Composite	% Weight Savings	Maximum Plug Diameter				Maximum Jam Nut Receptacle Diameter			
									2M805		D38999		2M805		D38999	
									In.	mm.	In.	mm.	In.	mm.	In.	mm.
8-7	7 #23	9-35	6 #20	13.4	26.3	49%	19.9	33%	.707	17.96	.859	21.81	.775	19.69	1.201	30.51
10-13	13 #23	11-35	13 #22D	23.0	35.7	36%	26.8	14%	.804	20.42	.969	24.61	.895	22.73	1.386	30.50
11-19	19 #23	13-35	19 #22D	26.4	50.7	48%	38.5	31%	.933	23.70	1.141	28.98	.960	24.38	1.512	38.40
12-26	26 #23	17-26	26 #20	29.4	58.5	50%	62.6	53%	.999	25.37	1.391	35.33	1.075	27.31	1.764	44.81
15-37	37 #23	15-35	37 #22D	42.7	72.1	41%	57.4	26%	1.113	28.27	1.266	32.16	1.218	30.86	1.638	41.61
18-55	55 #23	17-35	55 #22D	59.6	81.6	27%	65.6	9%	1.308	33.02	1.391	35.33	1.404	35.66	1.764	44.81
19-85	85 #23	21-35	85 #22D	59.8	119.7	50%	99.1	40%	1.328	33.73	1.625	41.27	1.465	37.21	2.075	52.71
23-130	130 #23	25-35	128 #22D	85.5	159.3	46%	136.6	37%	1.577	40.06	1.875	47.63	1.720	43.69	2.323	59.00

Note: Weights shown include contacts and represent a mated pair of plug and jam nut receptacle. Weights are in grams.

Size Comparison: 2M801 VS. D38999 Series III

Size Comparison: 2M805 VS. D38999 Series III

Crimp Contacts

Contact Size	Type	AMPS	Wire Size AWG	Part Number	Color Band		
					1st	2nd	3rd
#23	Pin	5	#22-#28	2M809-001	N/A	N/A	N/A
	Pin		#26-#30	2M809-042*	Blue	N/A	N/A
	Socket		#22-#28	2M809-002	N/A	N/A	N/A
	Socket		#26-#30	2M809-043*	Blue	N/A	N/A
#20HD	Pin	7.5	#20-#24	2M809-204	N/A	N/A	N/A
	Socket		#20-#24	2M809-205	N/A	N/A	N/A
#20	Pin	7.5	#20-#24	M39029/58-363	Orange	Blue	Orange
	Socket		#20-#24	M39029/57-357	Orange	Green	Violet
#16	Pin	13	#16-#20	M39029/58-364	Orange	Blue	Orange
	Socket		#16-#20	M39029/57-358	Orange	Green	Gray
#12	Pin	23	#12-#14	M39029/58-365	Orange	Blue	Green
	Socket		#12-#14	M39029/57-359	Orange	Green	White



*Special order please consult Amphenol-Aerospace for information.

Contact Tools

Contact Size	Tooling Part Numbers		
	Crimper	Positioner	Insertion/ Removal Number
#23	M22520/2-01	K1461-1* (Daniels)	DAK225-22* (Daniels Insertion Only)
			2M809-23R (Removal only)
#20HD	M22520/2-01	2M809-206	2M809-20HDR (Removal only)
#20	M22520/1-01	M22520/1-04	M81969/14-10
#16	M22520/1-01	M22520/1-04	M81969/14-03
#12	M22520/1-01	M22520/1-04	M81969/14-04

*Daniels Manufacturing Co. part number

Crimp Tensile Strength

Contact Size	Wire Gage	Silver or Tin Coated Copper Wire	Nickel Coated Copper Wire
#23, #20HD	#22	12	8
#23, #20HD	#24	8	6
#23	#26	5	3
#23	#28	3	2
#23	#30	1.5	1.5

Tensile Strength for size #23 and #20HD only

Values represent minimums and are in pounds

Series 2M Torque Values

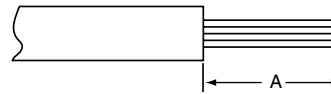
SERIES 2M801, 2M803, 2M805 RECOMMENDED TORQUE VALUES

Shell Size Series 2M801, 2M803	Shell Size Series 2M805	Coupling Torque				Jam Nut Tightening				Backshell Tightening			
		In-LBs.		N-m		In-LBs.		N-m		In-LBs.		N-m	
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
5	-	25	35	2.8	4.0	20	25	2.2	2.8	13	17	1.5	1.9
6	8	35	40	4.0	4.5	20	25	2.2	2.8	18	22	2.0	2.5
7	9	35	40	4.0	4.5	20	25	2.2	2.8	30	40	3.4	4.5
8	10	40	50	4.5	5.7	20	25	2.2	2.8	30	40	3.4	4.5
9	11	40	50	4.5	5.7	20	25	2.2	2.8	35	45	4.0	5.1
10	12	50	60	5.7	6.8	25	30	2.8	3.3	35	45	4.0	5.1
12, 13	15	50	60	5.7	6.8	25	30	2.8	3.3	35	45	4.0	5.1
14, 16	18	55	65	6.2	7.3	25	30	2.8	3.3	35	45	4.0	5.1
15, 17	19	55	65	6.2	7.3	25	30	2.8	3.3	35	45	4.0	5.1
21	23	55	65	6.2	7.3	25	30	2.8	3.3	35	45	4.0	5.1

Wire Stripping

1. Strip wire to required length. (See Figure at right). When using hot wire stripping, do not wipe melted insulation material on wire strands; with mechanical strippers do not cut or nick strands.
2. See Table 1 for proper finished outside wire dimensions.
3. Twist strands together to form a firm bundle.
4. Insert stripped wire into contact applying slight pressure until wire insulation butts against wire well. Check inspection hole to see that wire strands are visible. If there are strayed wire strands, entire wire end should be re-twisted. When wire is stripped and properly installed into contact, the next step is to crimp the wire inside the contact by using the proper crimping tool.

Stripping Dimensions



Wire Size	A
23	.115 (2.92)
20/20HD	.188 (4.77)
16	.188 (4.77)
12	.188 (4.77)

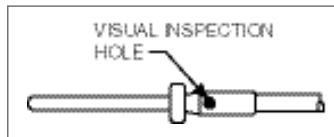
Table 1

Contact Size	Wire Dimension (inches)**	
	Min.	Max.
10	.135	.162
12	.097	.142
16	.065	.109
20/20HD	.040	.077
23	.025	.048

** Min. diameters to insure moisture proof assembly; max. diameters to permit use of metal removal tools.

Crimping

See table on preceding page for more information on crimp contacts, contact tools, and crimp tensile strength



1. Insert stripped wire into contact crimp pot. Wire must be visible through inspection hole.
2. Using correct crimp tool and locator, cycle the tool once to be sure the indentors are open, insert contact and wire into locator. Squeeze tool handles firmly and completely to insure a proper crimp. The tool will not release unless the crimp indentors in the tool head have been fully actuated.
3. Release crimped contact and wire from tool. Be certain the wire is visible through inspection hole in contact.



Examples of M22520 Series Crimping Tools:
Shown top: tool used for small size 23 contacts.

Shown bottom: tool used for size 20, 16 or 12 contacts and has a positioner that can be dialed for each contact size.

Contact Insertion

1. First remove hardware from the plug and receptacle and slide the hardware over wires in proper sequence.
2. Use proper plastic or metal insertion tool for corresponding contact. (Consult Insertion Tool table on preceding page). Slide correct tool (with plastic tool use colored end) over wire insulation and slide forward until tool bottoms against rear contact shoulder.
3. Next align the tool and contact up to the properly identified cavity at rear of connector plug. Use firm, even pressure; do not use excessive pressure. It is recommended to start at the center cavity. Contact must be aligned with grommet hole and not inserted at an angle. Push forward until contact is felt to snap into position within insert.



Plastic tool with contact in proper position.



Metal tool with contact.



Continued on next page.

Note: All plastic tools are double-ended. The colored side is the insertion tool and the white side is the removal tool.

Assembly Instructions

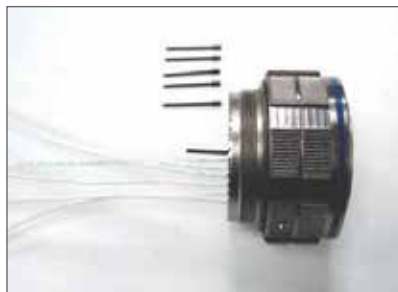
Contact Insertion, cont.

- Remove tool and pull back lightly on wire, making sure contact stays properly seated and isn't dragged back with the tool. Repeat operation with remainder of contacts to be inserted, beginning with the center cavity and working outward in alternating rows.



CAUTION: when inserting or removing contacts, do not spread or rotate tool tips.

- After all contacts are inserted, fill any empty cavities with wire sealing plugs.



- Reassemble plug or receptacle hardware - slide forward and tighten using connector pliers. Connector holding tools are recommended while tightening back accessories. When using strain relief, center wires at bar clamp. Slide clamp grommet into position and tighten clamp bar screws. When tightening screws, pressure should be applied in the same direction that clamp is threaded to rear threads of connector. When not using clamp grommet, build up wire bundle with vinyl tape so clamp bar will maintain pressure on wires.



Contact Removal

- Remove hardware from plug or receptacle and slide hardware back along wire bundle.



- Use proper plastic or metal removal tool for corresponding contact. Slide correct size tool over wire insulation.



Use white end of plastic tool for removal of contacts.

- Insert plastic or metal removal tool into contact cavity until tool tips enter rear grommet and come to a positive stop. Hold tool tip firmly against positive stop on contact shoulder. Grip wire and simultaneously remove tool and contact. (On occasion, it may be necessary to remove tool, rotate 90° and reinsert.)



Removal of contacts with metal tool.

Grommet Sealing Plugs

Size	Color	Part Number	Military Part Number
#23	Black	2M809-155	(None)
#20	Red	2M859-012	MS27488-20-2
#16	Green	2M859-013	MS27488-16-2
#12	Orange	2M859-014	MS27488-12-2

Spanner Tool for Tightening Series 2M Jam Nuts

Shell Size	Holding Tool Part Number (Add P or R)				
	Series 2M801	Series 2M803	Series 2M804 Style 07	Series 2M804 Style 00	Series 2M805
5	2M600-146-02	2M600-137-05	2M600-146-03	2M600-147-05	
6	2M600-146-03	2M600-137-06	2M600-146-04	2M600-147-06	
7	2M600-146-05	2M600-137-07	2M600-146-06	2M600-147-07	
8	2M600-146-05	2M600-137-08	2M600-146-06	2M600-147-07	2M600-154-08
9	2M600-146-06	2M600-137-09	2M600-146-07	2M600-147-09	2M600-154-09
10	2M600-146-07	2M600-137-10	2M600-146-08	2M600-147-10	2M600-154-09
11					2M600-154-11
12		2M600-137-12	2M600-141-10	2M600-147-12	2M600-154-12
13	2M600-146-10				
14		2M600-137-14	2M600-141-12	2M600-147-14	
15		2M600-137-15	2M600-141-13	2M600-147-15	2M600-154-15
16	2M600-146-13				
17	2M600-146-14				
18					2M600-154-18
19					2M600-154-19
21	2M600-146-17				
23					2M600-154-23

Connector Holding Tool for Tightening Backshells Accessories

Shell Size	Holding Tool Part Number (Add P or R)					
	Series 2M801		Series 2M803		Series 2M804	Series 2M805
5	2M600MM005-05	•	2M600-140-5	*	2M600-141-5	x
6	2M600MM005-06	•	2M600-140-6	*	2M600-141-6	x
7	2M600MM005-07	•	2M600-140-7	*	2M600-141-7	x
8	2M600MM005-08	•	2M600-140-8	*	2M600-141-8	x
9	2M600MM005-06	•	2M600-140-9	*	2M600-141-9	x
10	2M600MM005-10		2M600-140-10		2M600-141-10	x
11						2M600-155-11
12			2M600-140-12	*	2M600-141-12	x
13	2M600MM005-13	•				2M600-155-12
14			2M600-140-14	*	2M600-141-14	x
15			2M600-140-15	*	2M600-141-15	x
16	2M600MM005-16	•				
17	2M600MM005-17	•				
18						2M600-155-18
19						2M600-155-19
21	2M600MM005-21	•				
23						2M600-155-23



• Add P for Plug holder or R for receptacle holder, followed by polarizing position (N, X, Y, Z)

* Add P for Plug holder or R for Receptacle holder, followed by polarizing position (A, B, C, D).

x Add P for Plug holder or R for Receptacle holder.

Micro Band Shield Termination System:

Micro Band Termination: For assembling cables to overmolded style 2M connectors or backshells, the Micro Band System offers quick termination of cable shields and flexibility to be utilized on a wide range of parts with just one band size. These rugged straps have passed numerous hazardous environmental testing, including shock and vibration. Approved for use in military and aerospace applications.

MATERIALS:

Micro Band Installation Tool. Use with .120" (3.05 mm) wide bands. 6.75 inches (172 mm.) length, 1.2 pounds (0.6 Kg.)

Micro Band, .120" (3.05 mm) wide. Available in two lengths, flat or pre-coiled. Stainless steel.

Description	Part Number
Micro Band Installation Tool	2M600-061

Length		Part Number	Accommodates Diameter	
inch	mm		inch	mm
8.125	206.38	2M600-057	.88	22.35
14.250	361.95	2M600-083	1.88	47.75



Micro Band Shield Termination Instructions:

1. Prepare cable braid for termination process (Figure 1).
2. Push braid forward over adapter retention lip to the adapter incline point (or .4" [10.2mm] minimum braid length). Milk braid as required to remove slack and winsure a snug fit around the shield termination area (Figure 2).
3. Prepare the band in the following manner: **IMPORTANT:** Due to connector/adapter circumference, it may be necessary to prepare the band around the cable or retention area.
 - A. Roll band through the buckle slot twice. (Band must be double-coiled!)
 - B. Pull on band until mark (▷) is within approximately .250 inch (6.4mm) of buckle slot (Figure 3). The band may be tightened further if desired.

NOTE: Prepared band should have this (▷) mark visible approximately where shown in Figure 3.
5. Aligning the band and tool with the shield termination area, squeeze blue pull-up handle repeatedly in full strokes until it locks against tool body. (This indicates the band is compressed to the tool precalibrated tension.)
NOTE: To loosen or remove band before locking and cut-off, squeeze gray gripper release lever on tool and pull band out. To loosen or remove band after blue pull-up handle locks against tool body, squeeze pull-up handle and push tension release lever on top of tool forward. Let tension handle return to original position and use the gripper release lever to remove band.
6. Complete the clamping process by squeezing the black cut-off handle to form lock and trim excess band.
7. To remove excess band from tool, squeeze gray gripper release handle, pull out and dispose.
8. Inspect shield termination.

Shield Termination Clamping Process (Figures 4 thru 8)

NOTE: To free tool handles, squeeze handles together and move holding clips to center of tool.

4. Squeeze gray gripper release lever and insert band into the front end opening of the tool. (Circular portion of looped band must always face downward.)

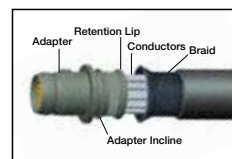


Fig. 1



Fig. 2

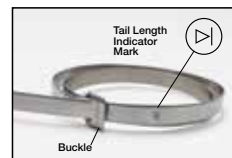


Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7

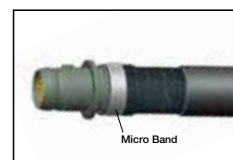


Fig. 8

SERIES 2M INSERT ARRANGEMENTS

Contact Size	Contact Quantity					Insert Arrangement			
	#23	#20	#20HD	#16	#12	2M801	2M803	2M804	2M805
Size #23 Contacts 5 Amp Max. Current 500 VAC #22-#28 AWG	3					5-3	5-3	5-3	NA
	4					6-4	6-4	6-4	8-4
	6					6-6	6-6	6-6	8-6
	7					6-7	6-7	6-7	8-7
	10					7-10	7-10	7-10	9-10
	13					8-13	8-13	8-13	10-13
	19					9-19	9-19	9-19	11-19
	26					10-26	10-26	10-26	12-26
	37					13-37	12-37	12-37	15-37
	55					16-55	14-55	14-55	18-55
	85					17-85	15-35	15-85	19-85
	130					21-130	NA	NA	23-130
Size #20HD Contacts 7.5 Amp Max. Current 750 VAC #20-#24 AWG.			3			6-23	6-23	6-23	8-23
			5			7-25	7-25	7-25	9-25
			8			8-28	8-28	8-28	10-28
			10			9-210	9-210	9-210	11-210
			20			13-220	12-220	12-220	15-220
			35			16-235	14-235	14-235	18-235
			41			17-241	NA	NA	19-241
			69			21-269	NA	NA	23-269
Size #16 Contacts 13 Amp Max. Current 1800 VAC #16-#20 AWG				1		6-1	6-1	6-1	8-1
				2		8-2	8-2	8-2	10-2
				4		9-4	9-4	9-4	11-4
				5		10-5	10-5	10-5	12-5
				7		13-7	12-7	12-7	15-7
				12		16-12	14-12	14-12	18-12
				14		17-14	15-14	15-14	19-14
				22		21-22	NA	NA	23-22
Size #12 Contacts 23 Amp Max. Current 1800 VAC #12-14 AWG					1	7-1	7-1	7-1	9-1
					2	10-2	10-2	10-2	12-2
					2	13-2	12-2	12-2	15-2
					3	13-3	12-3	12-3	15-3
					5	16-5	14-5	14-5	18-5
					7	17-7	15-7	15-7	19-7
					12	21-12	NA	NA	23-12
Insert Arrangements with Mixed Size (Combo) Layouts	4	2				8-200	8-200	8-200	10-200
	8	2				9-201	9-201	9-201	11-201
	4			2		9-200	9-200	9-200	11-200
	8			2		10-202	10-202	10-202	12-202
	4				2	10-201	10-201	10-201	12-201
	6				2	13-200	12-200	12-200	15-200
	10				2	13-201	12-201	12-201	15-201
	12				1	10-200	10-200	10-200	12-200

Insert Arrangements

Front face of pin inserts illustrated (Socket Reversed)

CONTACT LEGEND 12 16 20 20HD 20 23

2M801, 2M803, 2M804	5-3	6-1	6-4	6-6	6-7	6-23	7-1	7-10
2M805	NA	8-1	8-4	8-6	8-7	8-23	9-1	9-10
No. of Contacts	3	1	4	6	7	3	1	10
Contact Size	#23	#16	#23	#23	#23	#20HD	#12	#23
DWV Voltage (VAC)	500	1800	500	500	500	750	1800	500
Current Rating (Amps)	5	13	5	5	5	7.5	23	5

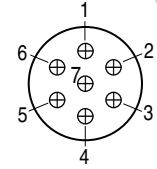
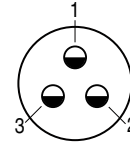
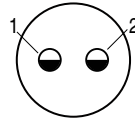
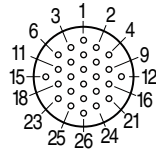
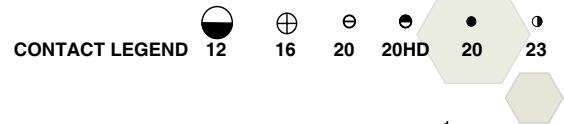
2M801, 2M803, 2M804	7-25	8-2	8-13	8-28	8-200	9-4	
2M805	9-25	10-2	10-13	10-28	10-200	11-4	
No. of Contacts	5	2	13	8	2	4	4
Contact Size	#20HD	#16	#23	#20HD	#20	#23	#16
DWV Voltage (VAC)	750	1800	500	750	1000	500	1800
Current Rating (Amps)	7.5	13	5	7.5	7	5	13

2M801, 2M803, 2M804	9-19	9-200		9-201	9-210	10-2	
2M805	11-19	11-200		11-201	11-210	12-2	
No. of Contacts	19	2	4	2	8	10	2
Contact Size	#23	#16	#23	#20	#23	#20HD	#12
DWV Voltage (VAC)	500	1800	500	1000	500	750	1800
Current Rating (Amps)	5	13	5	7.5	5	7.5	23

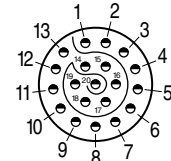
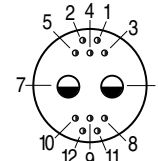
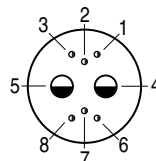
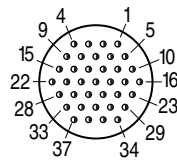
2M801, 2M803, 2M804	10-5	10-201		10-202	10-200		
2M805	12-5	12-201		12-202	12-200		
No. of Contacts	5	2	4	2	8	1	12
Contact Size	#16	#12	#23	#16	#23	#12	#23
DWV Voltage (VAC)	1800	1800	500	1800	500	1800	500
Current Rating (Amps)	13	23	5	13	5	23	5

Insert Arrangements

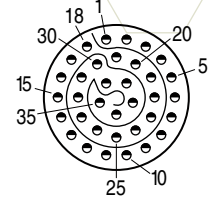
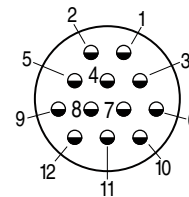
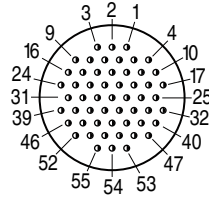
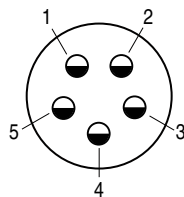
Front face of pin inserts illustrated (Socket Reversed)



2M801	10-26	13-2	13-3	13-7
2M803, 2M804	10-26	12-2	12-3	12-7
2M805	12-26	15-2	15-3	15-7
No. of Contacts	26	2	3	7
Contact Size	#23	#12	#12	#16
DWV Voltage (VAC)	500	1800	1800	1800
Current Rating (Amps)	5	23	23	13



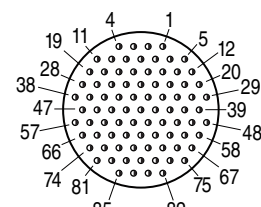
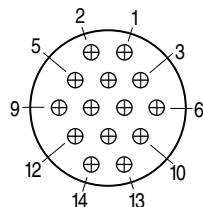
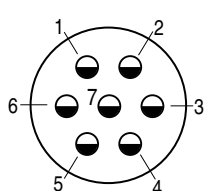
2M801	13-37	13-200	13-201	13-220
2M803, 2M804	12-37	12-200	12-201	12-220
2M805	15-37	15-200	15-201	15-220
No. of Contacts	37	2 6	2 10	20
Contact Size	#23	#12 #23	#12 #23	#20HD
DWV Voltage (VAC)	500	1800 500	1800 500	750
Current Rating (Amps)	5	23 5	23 5	7.5



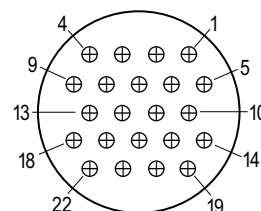
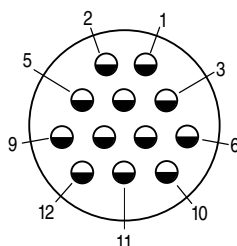
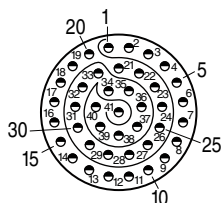
2M801	16-5	16-55	16-12	16-235
2M803, 2M804	14-5	14-55	14-12	14-235
2M805	18-5	18-55	18-12	18-235
No. of Contacts	5	55	12	35
Contact Size	#12	#23	#16	#20HD
DWV Voltage (VAC)	1800	500	1800	750
Current Rating (Amps)	23	5	13	7.5

Insert Arrangements

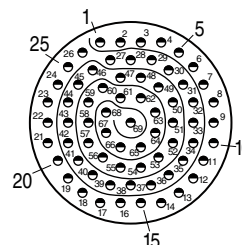
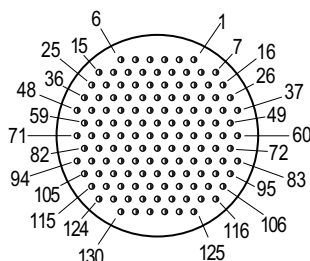
Front face of pin inserts illustrated (Socket Reversed)



2M801	17-7	17-14	17-85
2M803/804	15-7	15-14	15-85
2M805	19-7	19-14	19-85
No. of Contacts	7	14	85
Contact Size	#12	#16	#23
DWV Voltage (VAC)	1800	1800	500
Current Rating (Amps)	23	13	5



2M801	17-241	21-12	21-22
2M805	19-241	23-12	23-22
No. of Contacts	41	12	22
Contact Size	#20HD	#12	#16
DWV Voltage (VAC)	750	1800	1800
Current Rating (Amps)	7.5	23	13



2M801	21-130	21-269
2M805	23-130	23-269
No. of Contacts	130	69
Contact Size	#23	#20HD
DWV Voltage (VAC)	500	750
Current Rating (Amps)	5	7.5

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

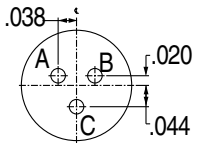
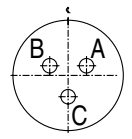
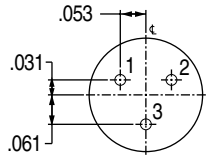
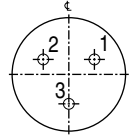
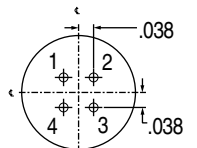
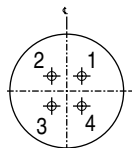
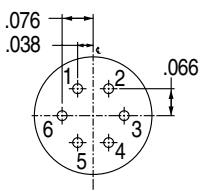
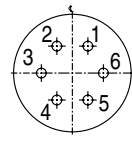
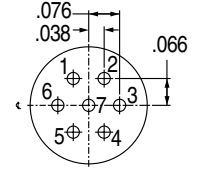
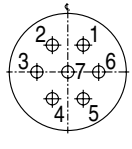
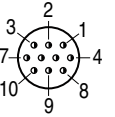
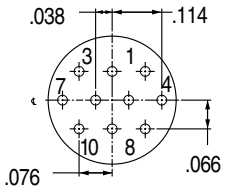
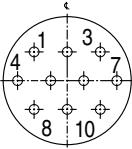
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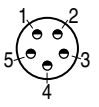
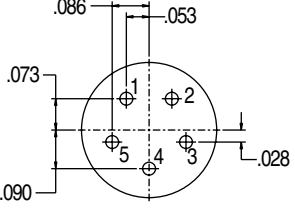
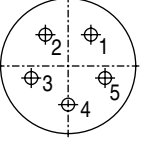
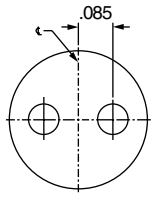
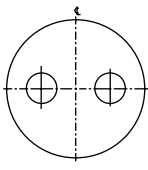
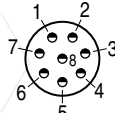
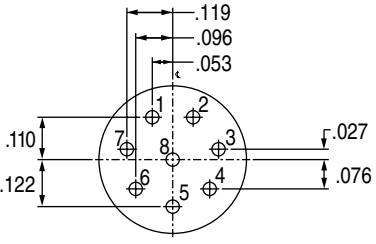
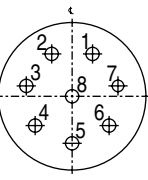
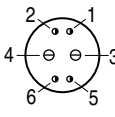
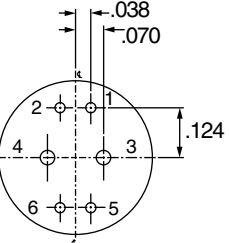
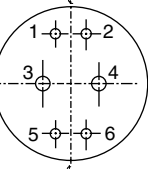
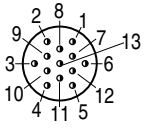
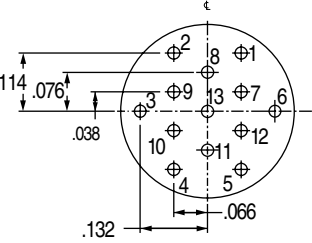
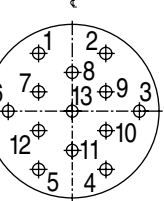
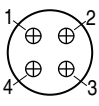
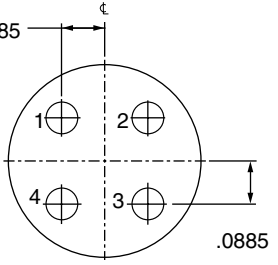
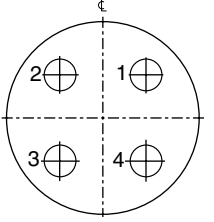
Micro-D

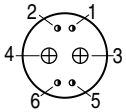
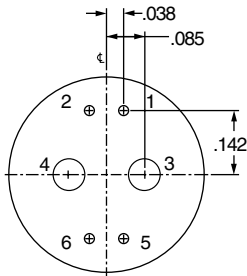
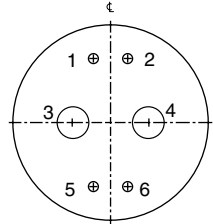
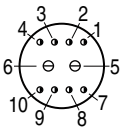
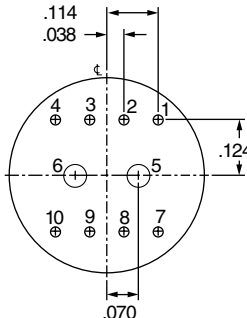
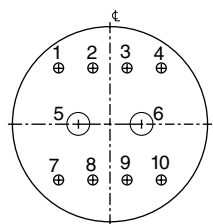
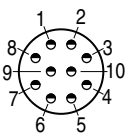
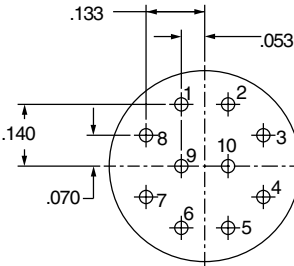
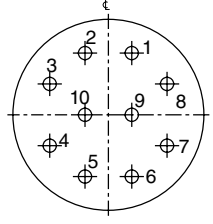
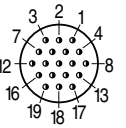
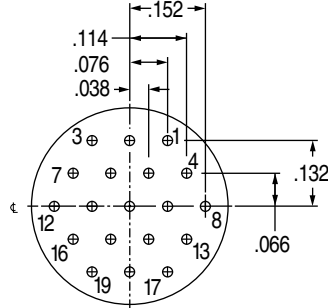
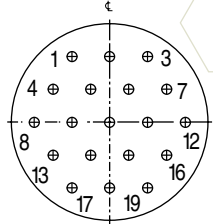
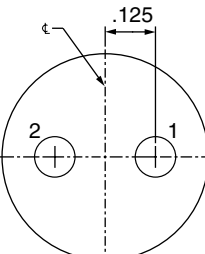
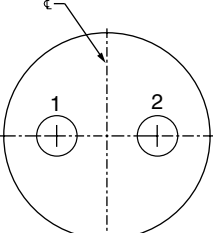
Terrapin

Nexus

Socket inserts are a mirror image of pin side. Socket side shown for cavity locations only, reference pin side for dimensions.

Insert Arrangement	Pin Connector	Socket Connector
 5-3 (3) #23 Contacts .022 Max. Dia Tail		
 6-23, 8-23 (3) #20HD Contacts .023 Max. Dia. Tail		
 6-4, 8-4 (4) #23 Contacts .022 Max. Dia Tail		
 6-6, 8-6 (6) #23 Contacts .022 Max. Dia. Tail		
 6-7, 8-7 (7) #23 Contacts .022 Max. Dia. Tail		
 7-10, 9-10 10 #23 Contacts .022 Max. Dia. Tail		

Insert Arrangement	Pin Connector	Socket Connector
 7-25, 9-25 (5) #20HD Contacts .028 Max. Dia Tail		
 8-2, 10-2 (2) #16 Contacts		
 8-28, 10-28 (8) #20HD Contacts		
 8-200, 10-200 (2) #20 Contacts (4) #23 Contacts		
 8-13, 10-13 (13) #23 Contacts .022 Max. Dia. Tail		
 9-4, 11-4 (4) #16 Contacts		

Insert Arrangement	Pin Connector	Socket Connector
 9-200, 11-200 (4) #23 Contacts (2) #16 Contacts		
 9-201, 11-201 (2) #20 Contacts (8) #23 Contacts		
 9-210, 11-210 (10) #20HD Contacts		
 9-19, 11-19 (19) #23 Contacts .022 Max. Dia Tail		
 10-2, 12-2 (2) #12 Contacts		

Straight PCB Footprints

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

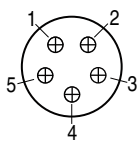
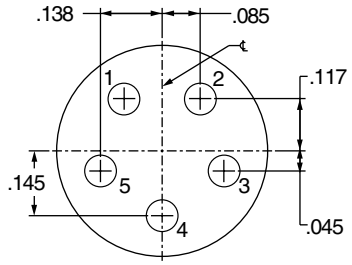
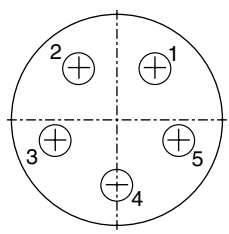
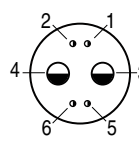
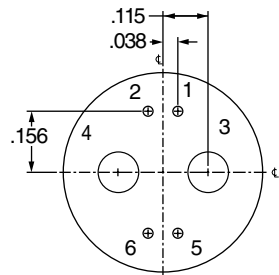
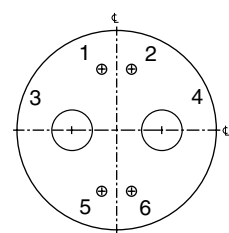
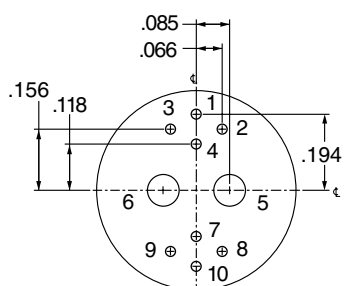
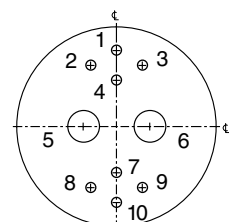
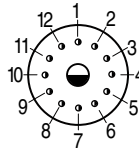
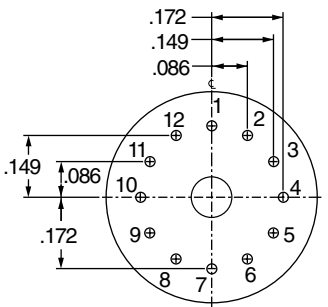
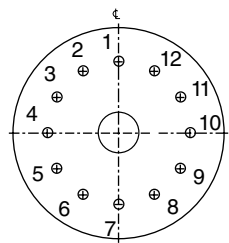
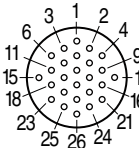
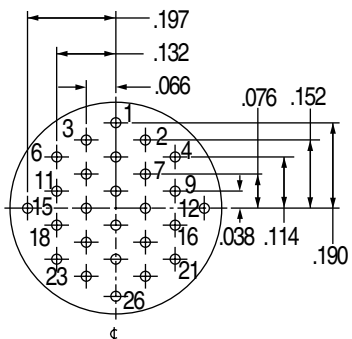
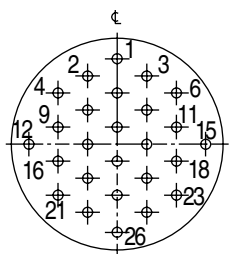
2M Filter &
Accessories

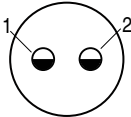
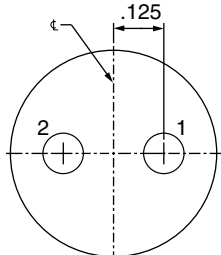
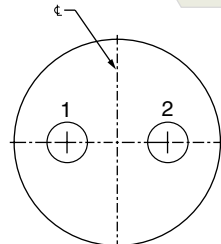
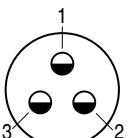
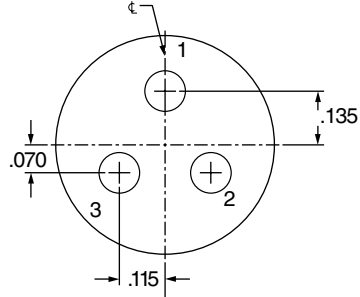
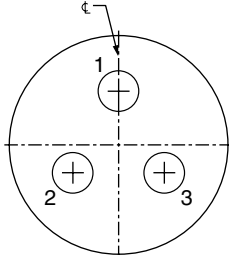
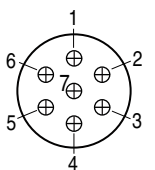
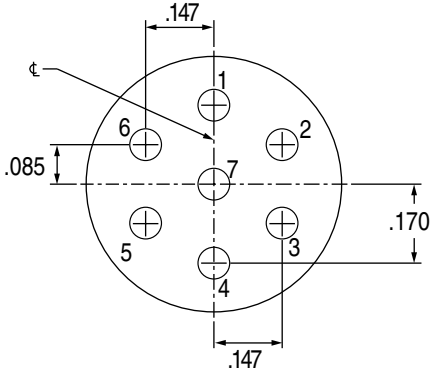
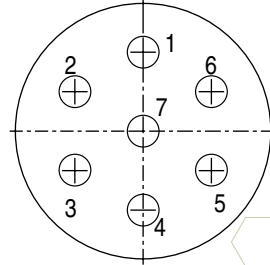
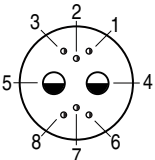
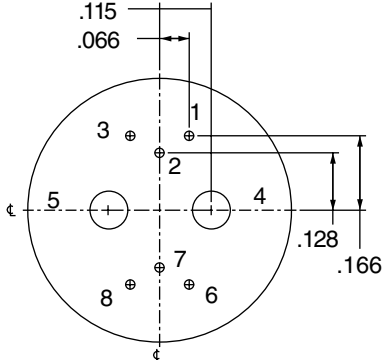
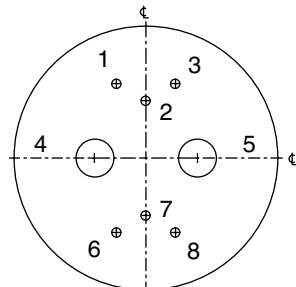
HD38999

Micro-D

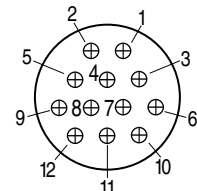
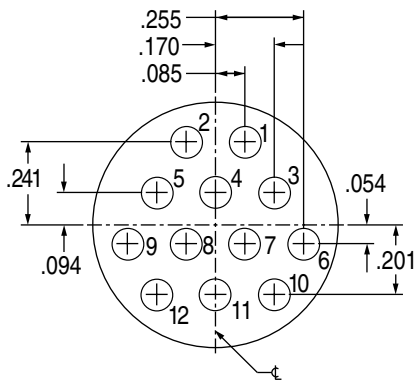
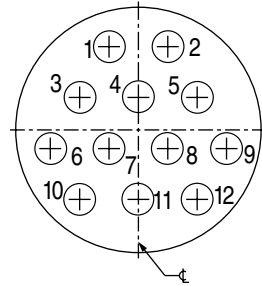
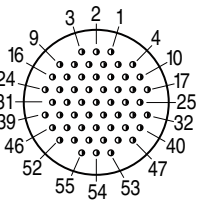
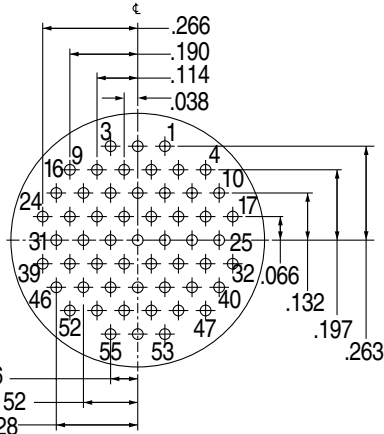
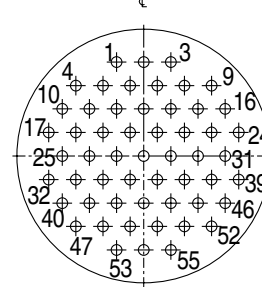
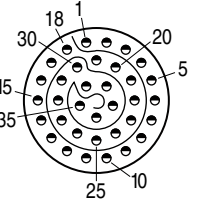
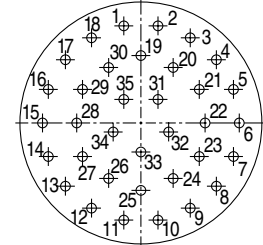
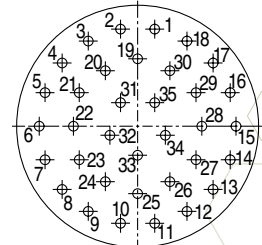
Terrapin

Nexus

Insert Arrangement	Pin Connector	Socket Connector
 10-5, 12-5 (5) #16 Contacts		
 10-201, 12-201 (2) #12 Contacts (4) #23 Contacts		
 10-202, 12-202 (2) #16 Contacts (8) #23 Contacts		
 10-200, 10-200 (1) #12 Contact (12) #23 Contacts		
 10-26, 12-26 (26) #23 Contacts .022 Max. Dia. Tail		

Insert Arrangement	Pin Connector	Socket Connector
 12-2, 13-2, 15-2 (2) #12 Contacts		
 12-3, 13-3, 15-3 (3) #12 Contacts		
 12-7, 13-7, 15-7 (7) #16 Contacts		
 12-200, 13-200, 15-200 (2) #12 Contacts (6) #23 Contacts		

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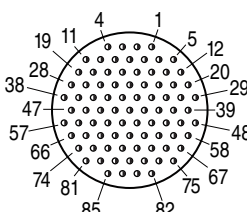
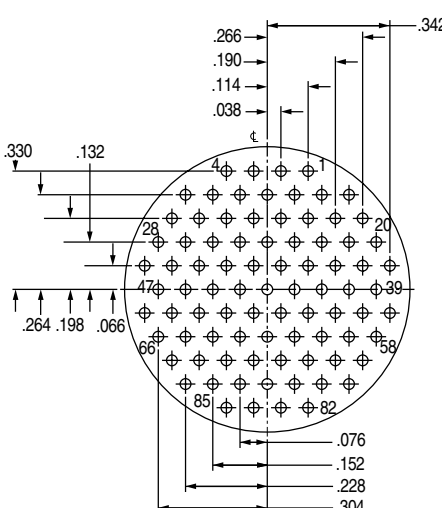
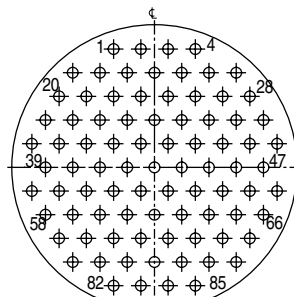
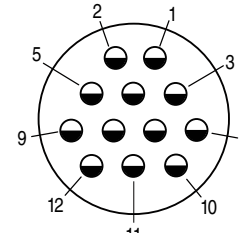
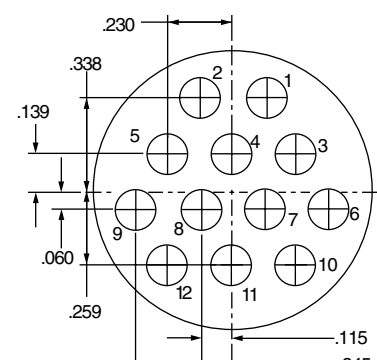
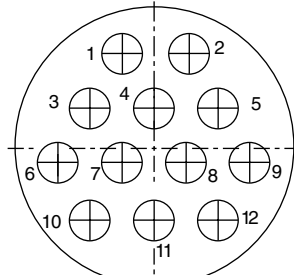
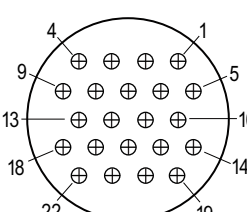
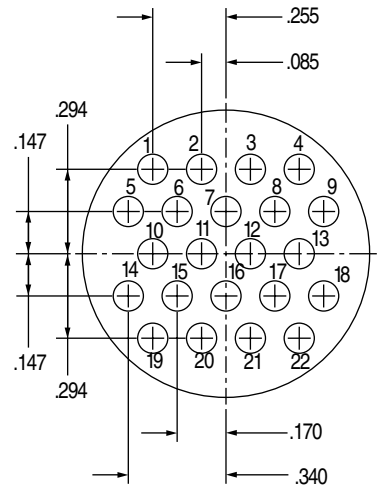
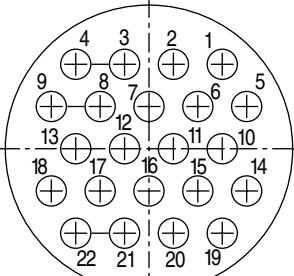
Insert Arrangement	Pin Connector	Socket Connector
 14-12, 16-12, 18-12 (12) #16 Contacts		
 14-55, 16-55, 18-55 (55) #23 Contacts .022 Max. Dia. Tail		
 14-235, 16-235, 18-235 (35) #20HD Contacts .023 Max. Dia. Tail		

Pin. No.	X		Y		Pin. No.	X		Y		Pin. No.	X		Y	
	in.	mm.	in.	mm.		in.	mm.	in.	mm.		in.	mm.	in.	mm.
1	-.053	-1.35	.301	7.65	13	-.234	-5.94	-.196	-4.98	25	.000	0.00	-.209	-5.31
2	.053	1.35	.301	7.65	14	-.287	-7.29	-.104	-2.64	26	-.100	-2.54	-.172	-4.37
3	.153	3.89	.264	6.71	15	-.305	-7.75	.000	0.00	27	-.181	-4.60	-.104	-2.64
4	.234	5.94	.196	4.98	16	-.287	7.29	.104	2.64	28	-.199	-5.05	.000	0.00
5	.287	7.29	.104	2.64	17	-.234	-5.94	.196	4.98	29	-.181	-4.60	.104	2.64
6	.305	7.75	.000	0.00	18	-.153	-3.89	.264	6.71	30	-.100	-2.54	.172	4.37
7	.287	7.29	-.104	-2.64	19	.000	0.00	.209	5.31	31	-.053	-1.35	.073	1.85
8	.234	5.94	-.196	-4.98	20	.100	2.54	.172	4.37	32	.053	1.35	.073	1.85
9	.153	3.89	-.264	-6.71	21	.181	4.60	.104	2.64	33	.086	2.18	-.028	-0.71
10	.053	1.35	-.301	-7.65	22	.199	5.05	.000	0.00	34	.000	0.00	-.090	-2.29
11	-.053	-1.35	-.301	-7.65	23	.181	4.60	-.104	-2.64	35	-.086	-2.18	-.028	-0.71
12	-.153	-3.89	-.264	-6.71	24	.100	2.54	-.172	-4.37					

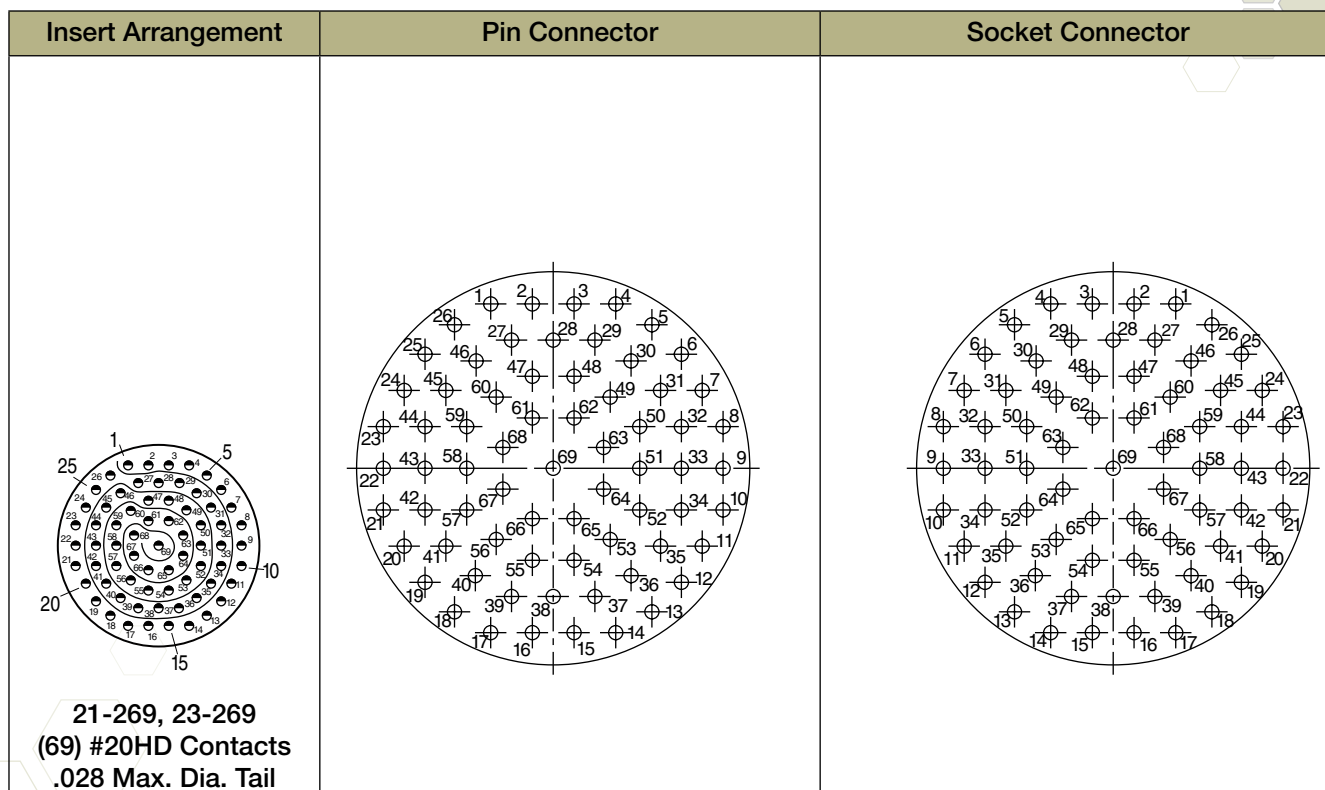
Straight PCB Footprints

Insert Arrangement	Pin Connector	Socket Connector
15-7, 17-7, 19-7 (7) #12 Contacts		
15-14, 17-14, 19-14 (14) #16 Contacts		
15-241, 16-241, 18-241 (41) #20HD Contacts .028 Max. Dia. Tail		

Pin. No.	X		Y		Pin. No.	X		Y		Pin. No.	X		Y	
	in.	mm.	in.	mm.		in.	mm.	in.	mm.		in.	mm.	in.	mm.
1	-.053	-1.35	.335	8.51	15	-.302	-7.67	-.154	-3.91	29	-.151	-3.84	-.171	-4.34
2	.053	1.35	.335	8.51	16	-.335	-8.51	-.053	-1.35	30	-.213	-5.41	-.081	-2.06
3	.154	3.91	.302	7.67	17	-.335	-8.51	.053	1.35	31	-.226	-5.74	.028	0.71
4	.240	6.10	.240	6.10	18	-.302	-7.67	.154	3.91	32	-.188	-4.78	.130	3.30
5	.302	7.67	.154	3.91	19	-.240	-6.10	.240	6.10	33	-.106	-2.69	.202	5.13
6	.335	8.51	.053	1.35	20	-.154	-3.91	.302	7.67	34	-.053	-1.35	.110	2.79
7	.335	8.51	-.053	-1.35	21	.000	0.00	.228	5.79	35	.053	1.35	.110	2.79
8	.302	7.67	-.154	-3.91	22	.106	2.69	.202	5.13	36	.119	3.02	.027	0.69
9	.240	6.10	-.240	-6.10	23	.188	4.78	.130	3.30	37	.096	2.44	-.076	-1.93
10	.154	3.91	-.302	-7.67	24	.226	5.74	.028	0.71	38	.000	0.00	-.122	-3.10
11	+.053	+1.35	-.335	-8.51	25	.213	5.41	-.081	-2.06	39	-.096	-2.44	-.076	-1.93
12	-.053	-1.35	-.335	-8.51	26	.151	3.84	-.171	-4.34	40	-.119	-3.02	.027	0.69
13	-.154	-3.91	-.302	-7.67	27	.055	1.40	-.222	-5.64	41	.000	0.00	.000	0.00
14	-.240	-6.10	-.240	-6.10	28	-.055	-1.40	-.222	-5.64					

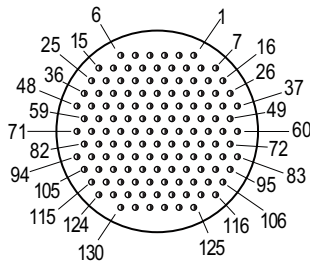
Insert Arrangement	Pin Connector	Socket Connector
 17-85, 19-85 (85) #23 Contacts .022 Max. Dia. Tail		
 21-12, 23-12 (12) #12 Contacts		
 21-22, 23-22 (22) #16 Contacts		

Straight PCB Footprints



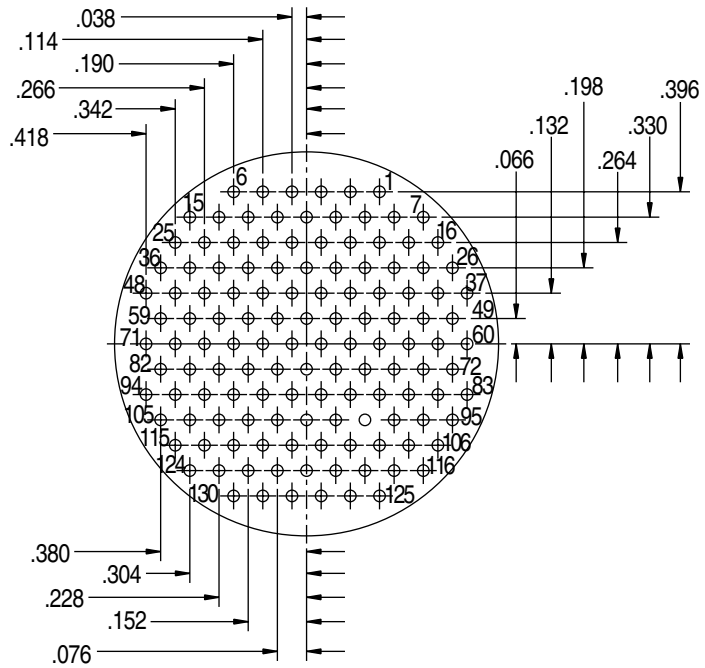
Pin. No.	X		Y		Pin. No.	X		Y		Pin. No.	X		Y	
	in.	mm.	in.	mm.		in.	mm.	in.	mm.		in.	mm.	in.	mm.
1	-.159	-4.04	.418	10.62	24	-.379	-9.63	.198	5.03	47	-.053	-1.35	.234	5.94
2	-.053	-1.35	.418	10.62	25	-.326	-8.28	.290	7.37	48	.053	1.35	.234	5.94
3	.053	1.35	.418	10.62	26	-.251	-6.38	.365	9.27	49	.145	3.68	.181	4.60
4	.159	4.04	.418	10.62	27	-.106	-2.69	.326	8.28	50	.220	5.59	.106	2.69
5	.251	6.38	.365	9.27	28	.000	0.00	.326	8.28	51	.220	5.59	.000	0.00
6	.326	8.28	.290	7.37	29	.106	-2.69	.326	8.28	52	.220	5.59	-.106	-2.69
7	.379	9.63	.198	5.03	30	.198	5.03	.273	6.93	53	.145	3.68	-.181	-4.60
8	.432	10.97	.106	2.69	31	.273	6.93	.198	5.03	54	.053	1.35	-.234	-5.94
9	.432	10.97	.000	0.00	32	.326	8.28	.106	2.69	55	-.053	-1.35	-.234	-5.94
10	.432	10.97	-.106	-2.69	33	.326	8.28	.000	0.00	56	-.145	-3.68	-.181	-4.60
11	.379	9.63	-.198	-5.03	34	.326	8.28	-.106	-2.69	57	-.220	-5.59	-.106	-2.69
12	.326	8.28	-.290	-7.37	35	.273	6.93	-.198	-5.03	58	-.220	-5.59	.000	0.00
13	.251	6.38	-.365	-9.27	36	.198	5.03	-.273	-6.93	59	-.220	-5.59	.106	2.69
14	.159	4.04	-.418	-10.62	37	.106	2.69	-.326	-8.28	60	-.145	-3.68	.181	4.60
15	.053	1.35	-.418	-10.62	38	.000	0.00	-.326	-8.28	61	-.053	-1.35	.128	3.25
16	-.053	-1.35	-.418	-10.62	39	-.106	-2.69	-.326	-8.28	62	.053	1.35	.128	3.25
17	-.159	-4.04	-.418	-10.62	40	-.198	-5.03	-.273	-6.93	63	.128	3.25	.053	1.35
18	-.251	-6.38	-.365	-9.27	41	-.273	-6.93	-.198	-5.03	64	.128	3.25	-.053	-1.35
19	-.326	-8.28	-.290	-7.37	42	-.326	-8.28	-.106	-2.69	65	.053	1.35	-.128	-3.25
20	-.379	-9.63	-.198	-5.03	43	-.326	-8.28	.000	0.00	66	-.053	-1.35	-.128	-3.25
21	-.432	-10.97	-.106	-2.69	44	-.326	-8.28	.106	2.69	67	-.128	-3.25	-.053	-1.35
22	.432	-10.97	.000	0.00	45	-.273	-6.93	.198	5.03	68	-.128	-3.25	.053	1.35
23	-.432	-10.97	.106	2.69	46	-.198	-5.03	.273	6.93	69	.000	0.00	.000	0.00

Insert Arrangement

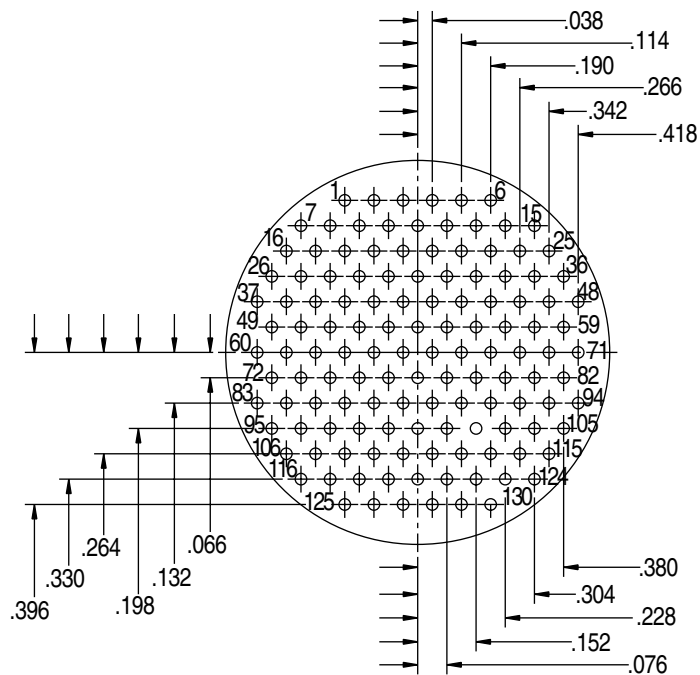


21-130, 23-130
(130) #23 Contacts
.022 Max. Dia Tail

Pin Connector



Socket Connector



PERFORMANCE SPECIFICATIONS

Current Rating (Maximum)	Size #23 Contact: 5 AMPS. Size #20 contact: 7.5 AMPS. Size #16 contact: 13 AMPS. Size #12 contact: 23 AMPS.
Test Voltage (Dielectric Withstanding Voltage) Mated Connectors	Size #23 contacts: 500 VAC RMS sea level, 100 VAC RMS 40,000 feet Size #20 contacts: 1800 VAC RMS sea level, 325 VAC RMS 40,000 feet Size #20HD contacts: 750 VAC RMS sea level, 150 VAC RMS 40,000 feet Size #16 contacts: 1800 VAC RMS sea level, 1000 VAC RMS 40,000 feet Size #12 contacts: 1800 VAC RMS sea level, 1000 VAC RMS 40,000 feet
Insulation Resistance	5000 megohms minimum
Contact Resistance	Size #23 Contact: 73 millivolt drop at 5 AMPS. test current Size #20 contact: 55 millivolt drop at 7.5 AMPS. test current Size #16 contact: 49 millivolt drop at 13 AMPS. test current Size #12 contact: 42 millivolt drop at 23 AMPS. test current
Operating Temperature	-65° C. to +150° C.
Immersion, Mated	1 meter water immersion for 1 hour (2M803 Series splash proof only)
Magnetic Permeability	2.0 μ maximum
Please refer to the comprehensive 2M Series Product Specification for additional parameters and test methods. Filter and Hermetic designs have different specifications. (Please refer to individual sections)	

MATERIALS AND FINISHES

Aluminum Shell, Barrel, and Coupling Nut	Aluminum alloy 6061 T6
Stainless Steel Shell, Barrel Coupling Nut	Passivated Stainless Steel, 200° C
Front and Rear Inserts	Polyphenylene Sulfide (PPS)
Contact Retention Clip	Beryllium copper, heat-treated
Grommet, Peripheral Seal and Interfacial Seal	Fluorosilicone Rubber
Contacts	Gold Plated Copper alloy
Socket Contact Hood	Passivated Stainless steel
Adhesives	Various Epoxies & RTV's
Potting Compound, PCB and Solder Cup Versions	High Strength Epoxy

DESCRIPTION	REQUIREMENT	PROCEDURE
ELECTRICAL		
Contact resistance	SAE AS39029 Table V	EIA-364-06 Test current in amperes. Voltage drop in millivolts. Silver-coated copper wire, +25°C.
	Wire Size Test Current Max Voltage Drop	
	12 23 42	
	14 17 40	
	16 13 49	
	20 7.5 55	
	22 5 73	
	24 3 45	
Low level contact resistance	26 2 52	EIA-364-23 100 milliamperes maximum and 20 millivolts maximum open circuit voltage
	28 1.5 54	
	Wire Size Max. Milliohms	
	16 5	
	20 9	
	22 15	
Insulation resistance	24 20	EIA-364-21 500 volts DC ± 50 volts. Test between adjacent contacts and contacts to shell.
	26 31	
	28 50	
	5000 megohms minimum	
Dielectric withstanding voltage, sea level	No breakdown or flashover	EIA-364-20 AC rms 60 Hz. One minute dwell. Unmated or mated
	#23 contacts 500 volts	
	#20HD contacts 750 volts	
	#16 contacts 1800 volts	
Dielectric withstanding voltage, 40,000 feet altitude	#12 contacts 1800 volts	EIA-364-20 AC rms 60 Hz. One minute dwell. mated condition
	No breakdown or flashover	
	#23 contacts 100 volts	
	#20HD contacts 150 volts	
Current carrying capacity	#16 contacts 1000 volts	EIA-364-70 Method 1
	#12 contacts 1000 volts	
	Contact Size Max Current	
	12 23	
	16 13	
	20 7.5	
	23 5	

DESCRIPTION	REQUIREMENT	PROCEDURE																																
Shell-to-shell conductivity, Initial	The maximum voltage drop across a mated pair shall not exceed the values shown. <table><tr><th>Series</th><th>Voltage Drop</th></tr><tr><td>2M801</td><td>2.5</td></tr><tr><td>2M803</td><td>100</td></tr><tr><td>2M804</td><td>2</td></tr><tr><td>2M805</td><td>2</td></tr></table>	Series	Voltage Drop	2M801	2.5	2M803	100	2M804	2	2M805	2	EIA-364-83 Electroless Nickel Plated Connectors																						
Series	Voltage Drop																																	
2M801	2.5																																	
2M803	100																																	
2M804	2																																	
2M805	2																																	
Shell-to-shell conductivity, after conditioning (48 hours salt spray)	The maximum voltage drop across a mated pair shall not exceed the values shown. <table><tr><th>Series</th><th>Voltage Drop</th></tr><tr><td>2M801</td><td>2.5</td></tr><tr><td>2M803</td><td>200</td></tr><tr><td>2M804</td><td>4</td></tr><tr><td>2M805</td><td>2</td></tr></table>	Series	Voltage Drop	2M801	2.5	2M803	200	2M804	4	2M805	2	EIA-364-83 Electroless Nickel Plated Connectors																						
Series	Voltage Drop																																	
2M801	2.5																																	
2M803	200																																	
2M804	4																																	
2M805	2																																	
Shielding effectiveness, low frequency (100MHz-1000 MHz)	<table><tr><td></td><td colspan="3">dB Min. Attenuation</td></tr><tr><td>Frequency</td><td>Series 2M801</td><td>Series 2M803</td><td>Series 2M804, 2M805</td></tr><tr><td>100 MHz</td><td>75</td><td>60</td><td>90</td></tr><tr><td>200 MHz</td><td>70</td><td>55</td><td>88</td></tr><tr><td>300 MHz</td><td>65</td><td>55</td><td>88</td></tr><tr><td>400 MHz</td><td>63</td><td>50</td><td>87</td></tr><tr><td>800 MHz</td><td>58</td><td>45</td><td>85</td></tr><tr><td>1000 MHz</td><td>55</td><td>40</td><td>85</td></tr></table>		dB Min. Attenuation			Frequency	Series 2M801	Series 2M803	Series 2M804, 2M805	100 MHz	75	60	90	200 MHz	70	55	88	300 MHz	65	55	88	400 MHz	63	50	87	800 MHz	58	45	85	1000 MHz	55	40	85	EIA-364-21 Electroless Nickel Plated Connectors
	dB Min. Attenuation																																	
Frequency	Series 2M801	Series 2M803	Series 2M804, 2M805																															
100 MHz	75	60	90																															
200 MHz	70	55	88																															
300 MHz	65	55	88																															
400 MHz	63	50	87																															
800 MHz	58	45	85																															
1000 MHz	55	40	85																															
Shielding effectiveness, high frequency (1Ghz-10GHz)	<table><tr><td></td><td colspan="2">dB Min. Attenuation</td></tr><tr><td>Frequency</td><td>Series 2M801, 2M804</td><td>Series 2M805</td></tr><tr><td>1 GHz</td><td>55</td><td>85</td></tr><tr><td>3 GHz</td><td>50</td><td>69</td></tr><tr><td>5 GHz</td><td>45</td><td>66</td></tr><tr><td>19 GHz</td><td>40</td><td>65</td></tr></table>		dB Min. Attenuation		Frequency	Series 2M801, 2M804	Series 2M805	1 GHz	55	85	3 GHz	50	69	5 GHz	45	66	19 GHz	40	65	EIA-364-66 Electroless Nickel Plated Connectors														
	dB Min. Attenuation																																	
Frequency	Series 2M801, 2M804	Series 2M805																																
1 GHz	55	85																																
3 GHz	50	69																																
5 GHz	45	66																																
19 GHz	40	65																																

DESCRIPTION	REQUIREMENT	PROCEDURE
MECHANICAL		
Vibration, Sine	No discontinuity of greater than 1 microsecond, no cracking, breaking or loosening of parts, plug shall not become disengaged from receptacle. Connectors shall meet electrical requirements after vibration test.	MIL-STD-202 Method 204, test Condition G 12 sweep cycles per axes, 20 min. per 10-2000-10Hz @ temp. 2M801/2M805 - 60 g 2M803/2M804 - 30 g
Vibration, Random	No discontinuity of greater than 1 microsecond, no cracking, breaking or loosening of parts, plug shall not become disengaged from receptacle. Connectors shall meet electrical requirements after vibration test.	EIA-364-28 Test Condition V Letter I 100 milliamp test current 50- 2,000 Hz @ temp. 2M801/2M805 - 43.9 g rms 2M803/2M804 - 37.80 g rms
Gunfire Vibration	No discontinuity of greater than 1 microsecond, no cracking, breaking or loosening of parts, plug shall not become disengaged from receptacle. Connectors shall meet electrical requirements after vibration test.	MIL-STD-810F Method 519.5
Mechanical Shock	No discontinuity of greater than 1 microsecond, no cracking, breaking or loosening of parts, plug shall not become disengaged from receptacle. Connectors shall meet electrical requirements after shock test.	EIA-364-27 Condition D 300 G, halfsine, 3ms, 3 axes
Mechanical durability, at ambient temperature	No deterioration which will adversely affect the connector after 2000 cycles (where applicable) of mating and unmating. Connectors shall meet contact resistance, insulation resistance, shell-to-shell resistance, DWV, and mating and unmating force.	EIA-364-09
Solderability, PC tail contacts	95% solder coverage. Smooth, bright and even finish.	EIA-364-52 Category 3 8 hours steam aging prior to test 245° C, 4-5 sec. dwell 10X magnification
Resistance To Soldering Heat	No damage to connector. Connectors shall meet insulation resistance and waterproof sealing requirements.	EIA-364-56 260° C, 10 seconds (PC tail)

DESCRIPTION	REQUIREMENT	PROCEDURE																														
Impact	No impairment of function. Connector shall meet contact resistance, insulation resistance and waterproof sealing.	EIA-364-42 1 meter 8 drops																														
Contact retention	<table><tr><td>Contact Size</td><td>Min. Pounds</td><td>Min. Newtons</td></tr><tr><td>23</td><td>10</td><td>45</td></tr><tr><td>20</td><td>15</td><td>67</td></tr><tr><td>20HD</td><td>10</td><td>45</td></tr><tr><td>16</td><td>25</td><td>111</td></tr><tr><td>12</td><td>25</td><td>111</td></tr></table>	Contact Size	Min. Pounds	Min. Newtons	23	10	45	20	15	67	20HD	10	45	16	25	111	12	25	111	EIA-364-29												
Contact Size	Min. Pounds	Min. Newtons																														
23	10	45																														
20	15	67																														
20HD	10	45																														
16	25	111																														
12	25	111																														
Contact separation force	<table><tr><td>Contact Size</td><td>Min. Ounces</td><td>Min. Newtons</td></tr><tr><td>23</td><td>0.5</td><td>0.14</td></tr><tr><td>20</td><td>0.7</td><td>0.19</td></tr><tr><td>16</td><td>2.0</td><td>0.56</td></tr><tr><td>12</td><td>3.0</td><td>0.83</td></tr></table>	Contact Size	Min. Ounces	Min. Newtons	23	0.5	0.14	20	0.7	0.19	16	2.0	0.56	12	3.0	0.83	SAE AS39029															
Contact Size	Min. Ounces	Min. Newtons																														
23	0.5	0.14																														
20	0.7	0.19																														
16	2.0	0.56																														
12	3.0	0.83																														
Coupling torque	Threaded coupling connector coupling torque shall not exceed the following requirements. <table><tr><th colspan="2">Shell Size</th><th></th></tr><tr><th>Series 2M801</th><th>Series 2M805</th><th>Inch Pounds</th></tr><tr><td>5, 6, 7</td><td>8, 9</td><td>8</td></tr><tr><td>8,9</td><td>10, 11</td><td>9</td></tr><tr><td>10</td><td>12</td><td>12</td></tr><tr><td>12, 13</td><td>15</td><td>16</td></tr><tr><td>14, 15</td><td>18</td><td>28</td></tr><tr><td>16, 17</td><td>19</td><td>24</td></tr><tr><td>21</td><td></td><td>32</td></tr><tr><td></td><td>23</td><td>36</td></tr></table>	Shell Size			Series 2M801	Series 2M805	Inch Pounds	5, 6, 7	8, 9	8	8,9	10, 11	9	10	12	12	12, 13	15	16	14, 15	18	28	16, 17	19	24	21		32		23	36	
Shell Size																																
Series 2M801	Series 2M805	Inch Pounds																														
5, 6, 7	8, 9	8																														
8,9	10, 11	9																														
10	12	12																														
12, 13	15	16																														
14, 15	18	28																														
16, 17	19	24																														
21		32																														
	23	36																														
Unmating force (Series 2M804)	Series 2M804 push/pull connectors <table><tr><th>Contact Arrangement</th><th>Pounds</th></tr><tr><td>5-3</td><td>10.6</td></tr><tr><td>6-4</td><td>10.8</td></tr><tr><td>6-7</td><td>11.4</td></tr><tr><td>7-10</td><td>12.0</td></tr><tr><td>8-13</td><td>12.6</td></tr><tr><td>9-19</td><td>13.8</td></tr><tr><td>10-26</td><td>15.2</td></tr><tr><td>12-37</td><td>17.4</td></tr><tr><td>14-55</td><td>21.0</td></tr></table>	Contact Arrangement	Pounds	5-3	10.6	6-4	10.8	6-7	11.4	7-10	12.0	8-13	12.6	9-19	13.8	10-26	15.2	12-37	17.4	14-55	21.0											
Contact Arrangement	Pounds																															
5-3	10.6																															
6-4	10.8																															
6-7	11.4																															
7-10	12.0																															
8-13	12.6																															
9-19	13.8																															
10-26	15.2																															
12-37	17.4																															
14-55	21.0																															

DESCRIPTION	REQUIREMENT	PROCEDURE		
Insert retention	No impairment of function. Connector shall meet contact resistance, insulation resistance and waterproof sealing.	EIA-365-35		
Magnetic Permeability	2 μ maximum.	EIA-364-54		

ENVIRONMENTAL

Operating temperature	-65° to +150°C	
Water immersion, mated	No evidence of water penetration into mated connectors. $\geq 100\Omega$ insulation resistance.	MIL-STD-810F Method 512.4 1 meter immersion 1 hour
Water immersion, open face panel mount receptacles with non-removable printed circuit board or solder cup contacts	Connectors with waterblock potting process. 1 X 10 ⁻⁴ cc/second maximum helium leak rate at 1 atmosphere pressure differential following thermal shock conditioning.	EIA-365-02 3 cycles thermal shock -57°C to +71°C 75 min. dwell 5 minute transfer rate
Humidity, cyclic (damp heat, cyclic) (moisture resistance)	No deterioration which will adversely affect the connector. 100 megohms minimum insulation resistance during the final cycle. Following the recovery period, connectors shall meet contact resistance, shell-to-shell resistance and DWV requirements.	EIA-364-31 Condition B Method III 80-98% RH 10 cycles (10 days) +25° C to +65° C Step 7b vibration deleted. 24 hour recovery period.

DESCRIPTION	REQUIREMENT	PROCEDURE
21 day humidity (damp heat, long term)	No deterioration which will adversely affect the connector. Following the drying period, connectors shall meet 100 megohms minimum, contact resistance, shell-to-shell resistance, DWV, mating and unmating requirements.	EIA-364-31 Condition C Method II 90-95% RH 40° C Apply 100 volts DC during test. 4 hours drying time at ambient temperature prior to final measurements.
Thermal shock	No mechanical damage or loosening of parts. Following thermal shock, connector shall meet contact resistance, DWV, insulation resistance and shell-to-shell resistance requirements.	EIA-364-32 Test Condition IV 5 cycles consisting of -65° C 30 minutes, +25° C 5 minutes max., +150° C 30 minutes, +25° C 5 minutes max.
Corrosion (salt mist)	No exposure of base metal. Connectors shall meet DWV and contact resistance requirements following the test.	EIA-364-26 5% salt solution 35° C Unmated connectors Code C: 48 hours Code M: 48 hours Code MT: 500 hours Code NF: 500 hours Code ZN: 500 hours Code ZNU: 500 hours
Sand and dust	Mated connectors shall withstand the effects of blowing sand and dust	MIL-STD-810F, Method 510.4
Fungus	Connector materials shall be fungus inert.	MIL-STD-810F, Method 508.5
Fluid immersion	No visible damage from immersion in various fuels and oils. Connector shall meet coupling torque and dielectric withstanding voltage requirements.	EIA-364-10 Unmated connectors
Altitude immersion	No evidence of moisture on connector interface or contacts. Connector shall meet dielectric withstanding voltage.	EIA-364-03

Dualok

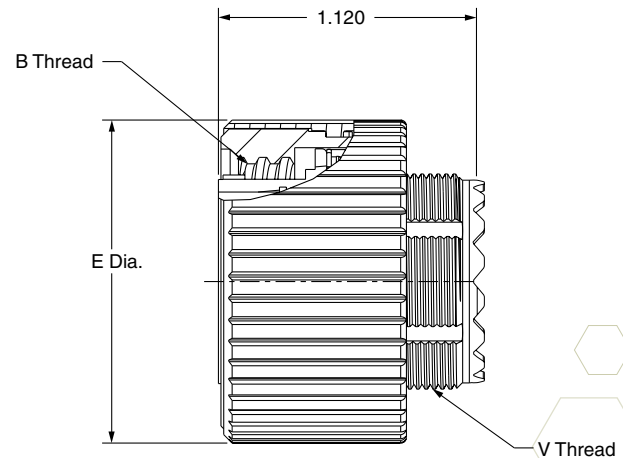
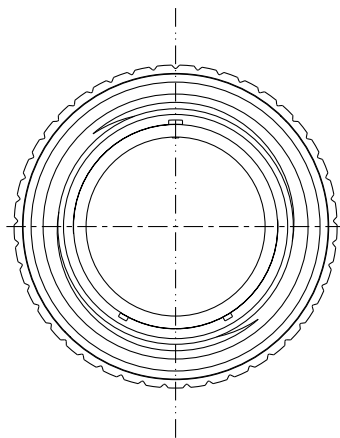
Amphenol now offers a **Dualok Plug** for High Vibration Applications!

Meets or Exceeds MIL-DTL-38999 Series III Vibration Levels

Amphenol's 2M801 DUALOK line is now available for extreme vibration applications. The NEW! 2M DUALOK plug features a newly developed locking mechanism which ensures solid coupling and metal-to-metal bottoming in the most severe vibration environments. Patent pending.

Consult Amphenol Aerospace for ordering information.

NEW!



Shell Size	E DIA.		B Thread	V Thread
	In.	mm.		
5	.653	16.59	.3125-.05P-1L-2B	.2500-32 UNEF-2A
6	.715	18.16	.3750-.05P-1L-2B	.3125-32 UNEF-2A
7	.868	22.05	.4375-.05P-1L-2B	.4375-28 UNEF-2A
8	.930	23.62	.5000-.05P-.1L-2B	.5000-28 UNEF-2A
9	.993	25.22	.5625-.05P-.1L-2B	.5625-24 UNEF-2A
10	1.060	26.92	.6250-.05P-1L-2B	.6250-24 UNEF-2A
13	1.153	29.29	.8125-.1P-.2L-2B	.6875-24 UNEF-2A
16	1.340	34.04	1.0000-.1P-.2L-2B	.9375-20 UNEF-2A
17	1.402	35.61	1.0625-.1P-.2L-2B	.9375-20 UNEF-2A
21	1.653	41.99	1.3125-.1p-.2L-2B	1.1875-18 UNEF-2A

2M801 Series Micro-Miniature Connector:

Amphenol's 2M801 Series of connectors is ideal for applications where space is limited or a high density interconnect is needed. The series features Plugs with or without anti-decoupling mechanisms and a Dual- Start ACME thread that provides full mating in 1 ½ turns. Plugs and Receptacles are provided in two different styles to accommodate the attachment of backshell with rear accessory threads or with integral backshell. The integral backshell allows for use of EMI shielding attachments and/or overmolding. Contact termination styles include Crimp, PC Tail, and Solder Cup with others available upon request. Custom and Filter configurations are available, please consult Amphenol Aerospace for ordering information.

2M801 FEATURES INCLUDE:

- Anti-Vibration Self Locking Plugs (-26)
- Dual-Start ACME Thread for 1 ½ Turn Full mating
- Sealed Receptacles:
 - Hermetic (1×10^{-8} cc/second)
 - Epoxy Backfilled (1×10^{-4} cc/second)
- ROHS Compliant Platings available
- Insert Arrangements up to 130 contacts



2M801 SPECIFICATIONS

Current Rating	See Insert Arrangements (pg. 14-17)	
DWV	See Insert Arrangements (pg. 14-17)	
Insulation Resistance	5000 megohms min.	
Operating Temperature	-65°C to +150°C	
Shock	300 g's	
Vibration	Random:	Sine:
	37.8 g (-16) Plug 43.9 g (-26) Plug	30 g (-16) Plug 60 g (-26) Plug
Shielding Effectiveness	55 dB min. from 100MHz to 1000MHz	
Durability	2000 mating cycles (-16) Plug	
	500 mating cycles (-26) Plug	

2M801 MATERIALS AND FINISHES

Shells	Aluminum Alloy or Stainless Steel
Contacts	Copper Alloy, gold plated
Insulators	Polyphenylene Sulfide (PPS)
Contact Retention	Beryllium Copper Alloy
Grommet, Interfacial Seal, O-Ring	Fluorosilicone Rubber

SERIES 2M801 MAXIMUM CONNECTOR WEIGHT IN GRAMS

Insert Arrg.	Plug	Jam Nut Recept. Crimp	Jam Nut Recept. PCB	Sq. Flange Recept. Crimp	Sq. Flange Recept. PCB	Insert Arrg.	Plug	Jam Nut Recept. Crimp	Jam Nut Recept. PCB	Sq. Flange Recept. Crimp	Sq. Flange Recept. PCB
5-3P	4.4	3.4	3.6	2.0	2.2	10-201S	16.7	13.5	14.4	15.0	11.7
5-3S	4.5	3.5	3.7	2.0	2.4	10-202P	14.9	11.7	12.6	13.2	9.9
6-1P	5.6	4.3	4.6	2.7	2.9	10-202S	16.3	13.1	14.0	14.6	11.3
6-1S	5.9	4.6	4.9	3.0	3.2	13-2P	18.9	17.2	17.2	17.2	15.1
6-4P	5.6	4.3	4.6	2.7	2.9	13-2S	20.4	18.7	18.7	18.7	16.6
6-4S	5.8	4.5	4.7	2.8	3.0	13-3P	19.8	18.1	18.1	18.1	16.0
6-7P	5.4	4.1	4.6	2.9	3.4	13-3S	21.4	19.7	19.7	19.7	17.6
6-7S	5.6	4.4	4.7	3.2	3.5	13-7P	20.0	18.3	18.3	18.3	16.2
7-1P	7.8	6.5	7.2	4.5	5.2	13-7S	22.4	20.7	20.7	20.7	18.6
7-1S	8.3	7.0	7.7	5.0	5.7	13-37P	18.4	16.7	16.7	16.7	14.6
7-10P	7.6	6.3	7.7	4.3	5.0	13-37S	19.9	17.6	17.6	17.6	15.5
7-10S	8.0	6.7	7.0	4.7	5.2	13-200P	19.0	17.3	17.3	17.3	15.2
8-2P	8.9	7.7	7.2	5.6	6.8	13-200S	21.1	19.4	19.4	19.4	17.3
8-2S	9.6	8.4	8.7	6.3	7.5	13-201P	19.1	17.4	17.4	17.4	15.3
8-13P	8.3	7.1	9.4	5.0	6.2	13-201S	21.3	19.6	19.6	19.6	17.5
8-13S	8.9	7.6	8.1	5.6	6.5	16-5P	28.5	22.6	24.4	25.4	23.0
8-200P	9.2	8.0	8.5	5.9	7.1	16-5S	31.2	25.3	28.1	28.1	25.7
8-200S	9.8	8.6	9.0	6.5	7.7	16-12P	29.2	23.3	26.1	26.1	23.7
9-4P	10.9	8.7	10.7	7.6	8.6	16-12S	32.5	26.6	29.4	29.4	27.0
9-4S	11.8	10.6	11.6	8.5	9.5	16-55P	26.5	20.6	24.3	24.3	21.9
9-19P	10.1	7.9	9.2	5.8	7.1	16-55S	29.2	23.3	26.1	26.1	23.7
9-19S	10.9	8.7	9.7	6.6	7.6	17-7P	29.8	27.0	29.4	29.4	25.2
9-200P	10.4	9.2	10.2	7.1	8.1	17-7S	33.0	30.2	32.6	32.6	28.4
9-200S	11.4	10.2	11.2	8.1	9.1	17-14P	32.6	29.8	32.2	32.2	28.0
9-201P	9.6	8.4	9.4	6.6	7.6	17-14S	32.3	29.5	31.9	31.9	27.7
9-201S	11.5	10.3	11.3	8.2	9.2	17-85P	28.1	23.2	29.0	29.0	25.3
10-5P	15.8	12.6	13.5	14.1	12.8	17-85S	31.0	26.2	30.6	30.6	26.4
10-5S	17.1	13.9	14.8	15.4	14.1	21-12P	35.0	31.4	34.4	26.4	31.4
10-26P	14.2	11.0	11.9	12.5	8.7	21-12S	39.6	36.0	39.0	31.0	36.0
10-26S	15.3	12.1	12.5	16.7	9.2	21-22P	37.3	33.7	36.7	28.7	33.7
10-200P	15.0	11.8	12.7	13.3	10.0	21-22S	43.6	40.0	43.0	35.0	40.0
10-200S	16.3	13.1	14.0	14.6	11.3	21-130P	32.9	29.3	32.3	24.3	29.3
10-201P	15.3	12.1	13.3	13.6	10.3	21-130S	39.4	35.8	38.8	30.8	35.8

2M801 Dual-Start ACME Threads



Ordering Guide for 2M801

Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M801-0XX	-16	NF	6-7	P	A

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spinner Nut.

SERIES	
2M801-007	Plugs with Integral Backshell
2M801-008	Plugs with Rear Accessory Thread
2M801-009	Receptacle with Integral Back-shell
2M801-010	Receptacle with Accessory Thread

SHELL STYLE	
2M801-007 2M801-008	
-16	Plug with Anti-Decoupling Spring
-26	Self-Locking Plug with Ratchet Mechanism
SHELL STYLE	
2M801-009 2M801-010	
-01	In-Line
-02	Square Flange
-07	Jam Nut*

SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/ Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

SHELL SIZE - INSERT ARRANGEMENTS	
See Insert Arrangements on Pages 13-15	

CONTACTS	
P	Pin
S	Socket
A	Pin, less contacts
B	Socket, less contacts



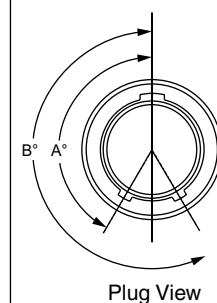
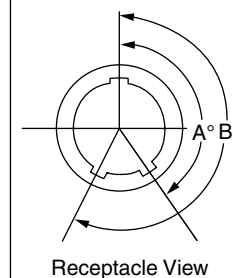
KEYING		
	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

INSERT ARRANGEMENTS

Insert Arrg.	No. of Contacts				
	#23	#20	#20HD	#16	#12
5-3	3				
6-1				1	
6-4	4				
6-6	6				
6-7	7				
6-23			3		
7-1					1
7-10	10				
7-25			5		
8-2				2	
8-13	13				
8-28			8		
8-200	4	2			
9-4				4	
9-19	19				
9-200	4			2	
9-201	8	2			
9-210			10		
10-2					2
10-5				5	
10-26	26				

INSERT ARRANGEMENTS

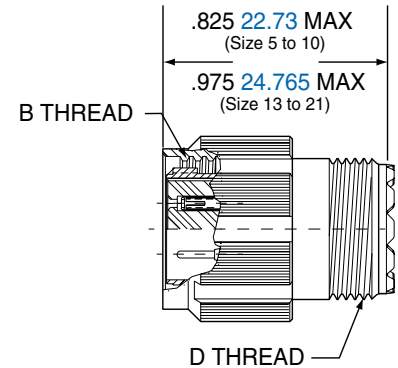
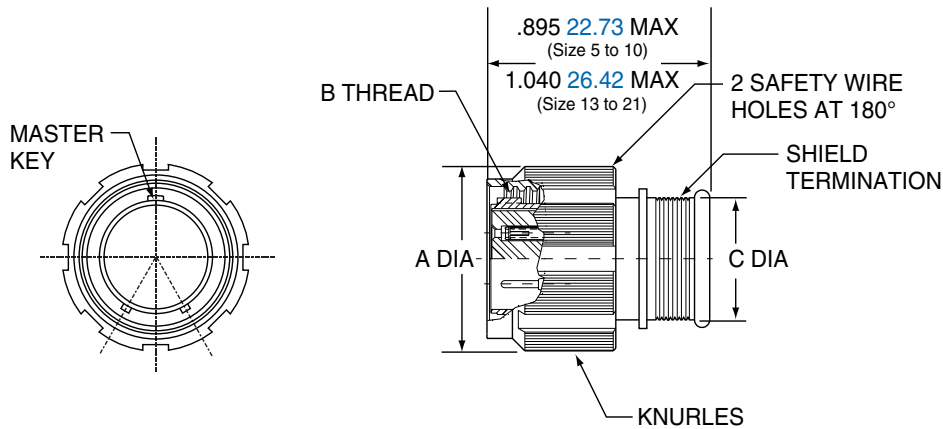
Insert Arrg.	No. of Contacts				
	#23	#20	#20HD	#16	#12
10-200	12				1
10-201	4				2
10-202	8			2	
13-2					2
13-3					3
13-7				7	
13-37	37				
13-200	6				2
13-201	10				2
13-220			20		
16-5					5
16-12				12	
16-55	55				
16-235			35		
17-7					7
17-14				14	
17-85	85				
17-241			41		
21-12					12
21-22				22	
21-130	130				
21-269			69		



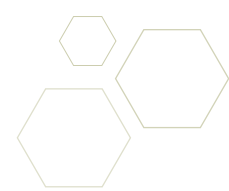


**2M801-007-16
2M801-007-26**

**2M801-008-16
2M801-008-26**



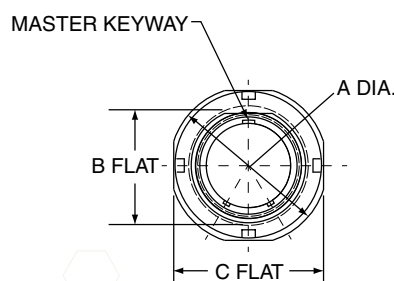
Shell Size	Style 16		Style 26		B Thread	C Dia.		D Thread UNEF-2A
	A Dia.		A Dia.			in.	mm.	
	in.	mm.	in.	mm.				
5	.545	13.84	.660	16.76	.3125-.05P-.1L-2B	.245	6.22	.2500-32
6	.610	15.49	.710	18.03	.3750-.05P-.1L-2B	.290	7.37	.3125-32
7	.695	17.65	.790	20.07	.4375-.05P-.1L-2B	.390	9.91	.4375-28
8	.750	19.05	.860	21.84	.5000-.05P-.1L-2B	.445	11.30	.5000-28
9	.810	20.57	.920	23.37	.5625-.05P-.1L-2B	.500	12.70	.5625-24
10	.890	22.61	.985	25.02	.6250-.05P-.1L-2B	.560	14.22	.6250-24
13	1.060	26.92	1.150	29.21	.8125-.1P-.2L-2B	.650	16.51	.6875-24
16	1.250	31.75	1.345	34.16	1.0000-.1P-.2L-2B	.805	20.45	.9375-20
17	1.310	33.27	1.400	35.56	1.0625-.1P-.2L-2B	.850	21.59	.9375-20
21	1.560	39.62	1.660	42.16	1.3125-.1P-.2L-2B	1.135	28.83	1.1875-18



2M801 Dual-Start ACME Threads Jam Nut

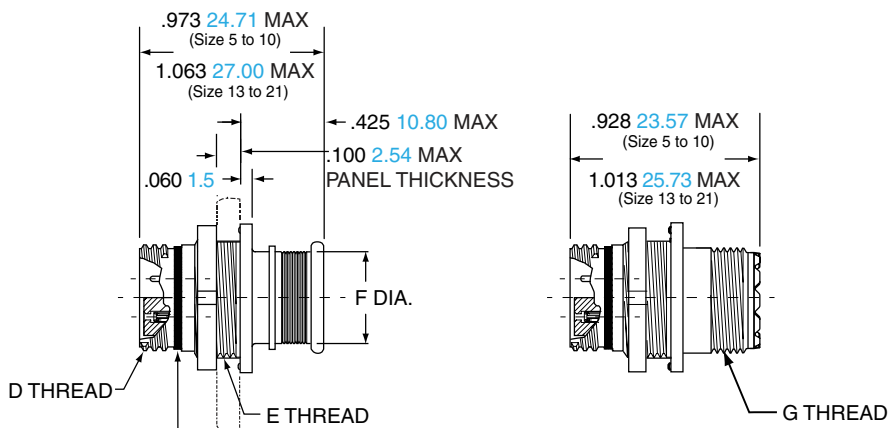


2M801-009-07 and 2M801-010-07



2M801-009-07

2M801-010-07

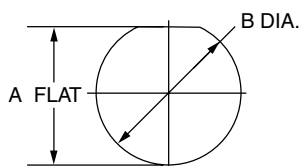


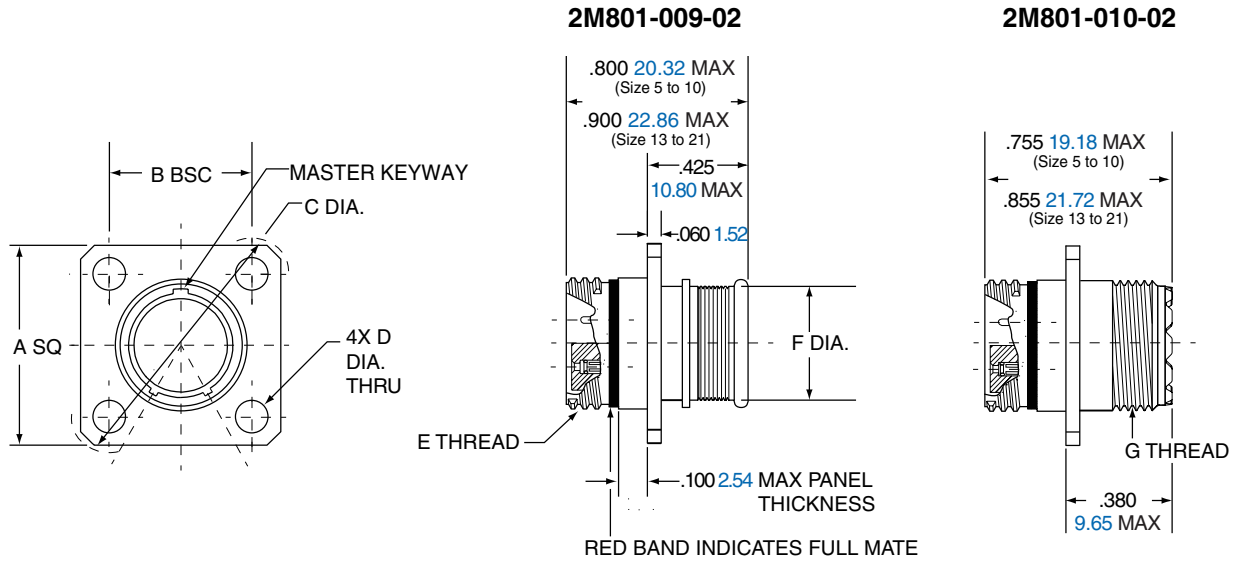
RED BAND INDICATES FULL MATE

Shell Size	A Dia.		B Flat		C Flat		D Thread	E Thread	F Dia.		G Thread UNEF-2A
	in.	mm.	in.	mm.	in.	mm.			in.	mm.	
5	.575	14.61	.350	8.89	.545	13.84	.3125-.05P-.1L-2A	.3750-28 UN-2A	.245	6.22	.2500-32
6	.635	16.13	.410	10.41	.595	15.11	.3750-.05P-.1L-2A	.4375-28 UNEF-2A	.290	7.37	.3125-32
7	.755	19.18	.536	13.61	.723	18.36	.4375-.05P-.1L-2A	.5625-32 UN-2A	.390	9.91	.4375-28
8	.755	19.18	.536	13.61	.723	18.36	.5000-.05P-.1L-2A	.5625-32 UN-2A	.445	11.30	.5000-28
9	.830	21.08	.596	15.14	.790	20.07	.5625-.05P-.1L-2A	.6250-28 UN-2A	.500	12.70	.5625-24
10	.890	22.61	.658	16.71	.855	21.72	.6250-.05P-.1L-2A	.6875-28 UN-2A	.560	14.22	.6250-24
13	1.078	27.38	.845	21.46	1.044	26.52	.8125-.1P-.2L-2A	.8750-28 UN-2A	.650	16.51	.6875-24
16	1.264	32.11	1.022	25.96	1.230	31.24	1.0000-.1P-.2L-2A	1.0625-20 UN-2A	.805	20.45	.9375-20
17	1.325	33.66	1.096	27.84	1.290	32.77	1.0625-.1P-.2L-2A	1.125-28 UN-2A	.850	21.59	.9375-20
21	1.625	41.28	1.347	34.16	1.577	40.06	1.3125-.1P-.2L-2A	1.375-28 UN-2A	1.135	28.83	1.1875-18

JAM NUT PANEL CUTOUT

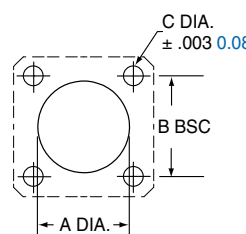
Shell Size	A Flat		B Dia.	
	in. ± .002	mm. ± 0.05	in. ± .002	mm. ± 0.05
5	.356	9.04	.385	9.78
6	.416	10.57	.447	11.35
7	.542	13.77	.572	14.53
8	.542	13.77	.572	14.53
9	.602	15.29	.635	16.13
10	.666	16.62	.697	17.70
13	.851	21.62	.885	22.48
16	1.028	26.11	1.075	27.31
17	1.102	27.99	1.135	28.83
21	1.354	34.39	1.385	35.18





Shell Size	A		B BSC		C Dia.		D Dia.		E Thread	F Dia.		G Thread UNEF-2A
	in.	mm.	in.	mm.	in.	mm.	in. ± .003	mm. ± .08		in.	mm.	
5	.530	13.46	.363	9.22	.680	17.27	.093	2.36	.3125-.05P-.1L-2A	.245	6.22	.2500-32
6	.590	14.99	.423	10.74	.750	19.05	.093	2.36	.3750-.05P-.1L-2A	.290	7.37	.3125-32
7	.650	16.51	.483	12.27	.850	21.59	.093	2.36	.4375-.05P-.1L-2A	.390	9.91	.4375-28
8	.712	18.08	.545	13.84	.940	23.88	.093	2.36	.5000-.05P-.1L-2A	.445	11.30	.5000-28
9	.850	21.59	.607	15.42	1.125	28.58	.128	3.25	.5625-.05P-.1L-2A	.500	12.70	.5625-24
10	.890	22.61	.670	17.02	1.190	30.23	.128	3.25	.6250-.05P-.1L-2A	.560	14.22	.6250-24
13	1.030	26.16	.812	20.62	1.375	34.93	.128	3.25	.8125-.1P-.2L-2A	.650	16.51	.6875-24
16	1.219	30.96	.981	24.92	1.625	41.28	.128	3.25	1.0000-.1P-.2L-2A	.805	20.45	.9375-20
17	1.280	32.51	1.060	26.92	1.700	43.18	.128	3.25	1.0625-.1P-.2L-2A	.850	21.59	.9375-20
21	1.430	36.32	1.205	30.61	1.940	49.28	.128	3.25	1.3125-.1P-.2L-2A	1.135	28.83	1.1875-18

PANEL CUTOUT

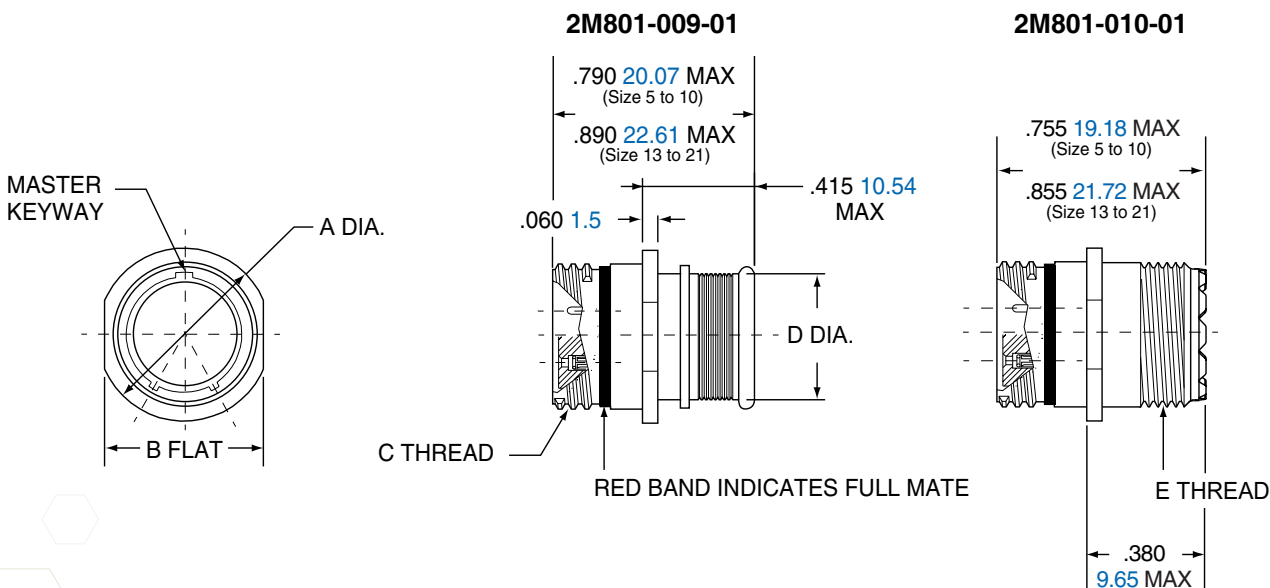


Shell Size	A Dia.		B Dia.		C Dia.	
	in.	mm.	in.	mm.	in.	mm.
5	.330	8.38	.363	9.22	.093	2.36
6	.390	9.91	.423	10.74	.093	2.36
7	.450	11.43	.483	12.27	.093	2.36
8	.510	12.95	.545	13.84	.093	2.36
9	.575	14.61	.607	15.42	.128	3.25
10	.640	16.26	.670	17.02	.128	3.25
13	.825	20.96	.812	20.65	.128	3.25
16	1.015	25.78	.981	24.92	.128	3.25
17	1.075	27.31	1.060	26.92	.128	3.25
21	1.325	33.66	1.205	30.61	.128	3.25

2M801 Dual-Start ACME Threads In-Line



2M801-009-01 and 2M801-010-01



Shell Size	A Dia.		B Flat		C Thread	D Dia.		E Thread UNEF-2A
	in.	mm.	in.	mm.		in.	mm.	
5	.355	9.02	.325	8.13	.3125-.05P-.1L-2A	.245	6.22	.2500-32
6	.415	10.54	.385	9.78	.3750-.05P-.1L-2A	.290	7.37	.3125-32
7	.480	12.19	.445	11.30	.4375-.05P-.1L-2A	.390	9.91	.4375-28
8	.540	13.72	.510	12.95	.5000-.05P-.1L-2A	.445	11.30	.5000-28
9	.605	15.37	.575	14.61	.5625-.05P-.1L-2A	.500	12.70	.5625-24
10	.665	16.89	.635	16.13	.6250-.05P-.1L-2A	.560	14.22	.6250-24
13	.855	21.72	.825	20.96	.8125-.1P-.2L-2A	.650	16.51	.6875-24
16	1.040	26.42	1.010	25.65	1.0000-.1P-.2L-2A	.805	20.44	.9375-20
17	1.110	28.19	1.070	27.18	1.0625-.1P-.2L-2A	.850	21.59	.9375-20
21	1.405	35.69	1.385	35.18	1.3125-.1P-.2L-2A	1.135	28.83	1.1875-18

Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M801-0XX	-16	NF	6-7	P	A

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M801-036	Plugs with Integral Backshell
2M801-039	Plugs with Rear Accessory Thread
2M801-037	Receptacle with Integral Back-shell
2M801-040	Receptacle with Accessory Thread

SHELL STYLE	
2M801-007 2M801-008	
-16	Plug with Anti-Decoupling Spring
-26	Self-Locking Plug with Ratchet Mechanism
SHELL STYLE	
2M801-009 2M801-010	
-01	In-Line
-02	Square Flange
-07	Jam Nut*

SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/ Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

SHELL SIZE - INSERT ARRANGEMENTS	
See Insert Arrangements Below	

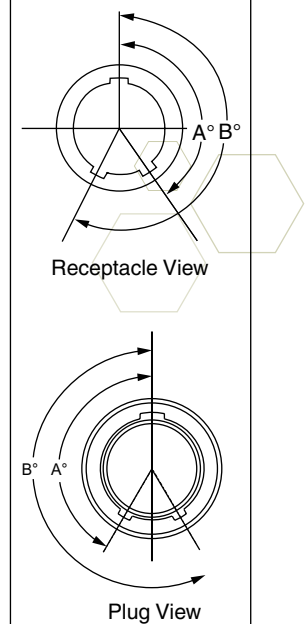
CONTACTS	
P	Pin
S	Socket
A	Pin, less contacts
B	Socket, less contacts



KEYING		
	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

INSERT ARRANGEMENTS

 6-4 (4) #23 Contacts	 6-7 (7) #23 Contacts	 7-10 (10) #23 Contacts	 9-19 (19) #23 Contacts	 10-26 (26) #23 Contacts
---	---	---	---	--



2M801 High Speed Dual-Start ACME Threads Plug



2M801-036 and 2M801-039

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

HD38999

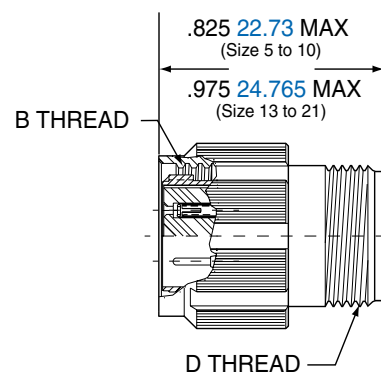
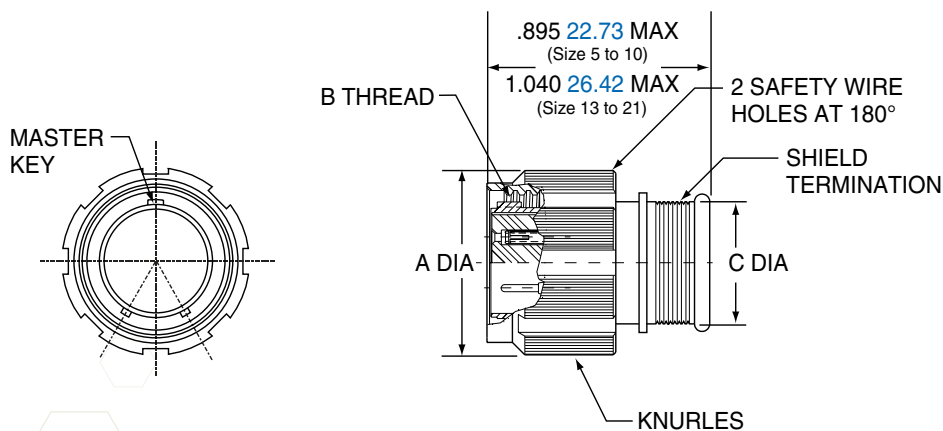
Micro-D

Terrapin

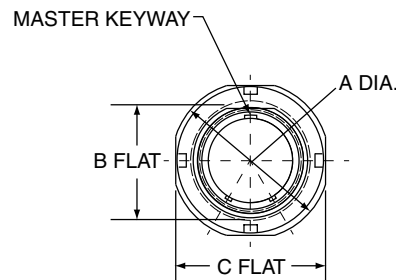
Nexus

2M801-036-16
2M801-036-26

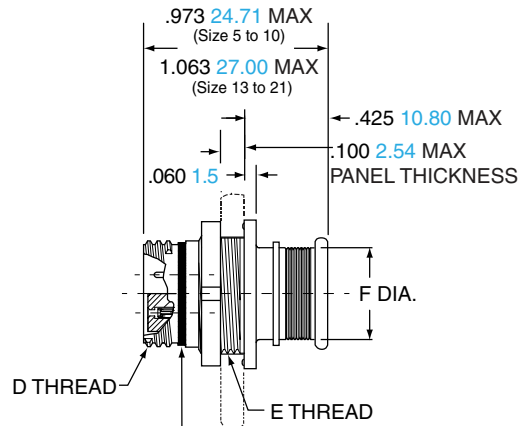
2M801-039-16
2M801-039-26



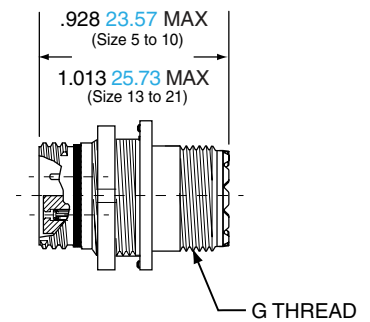
Shell Size	Style 16		Style 26		B Thread	C Dia.		D Thread UNEF-2A
	A Dia.		A Dia.			in.	mm.	
	in.	mm.	in.	mm.				
6	.610	15.49	.710	18.03	.3750-.05P-.1L-2B	.290	7.37	.3125-32
7	.695	17.65	.790	20.07	.4375-.05P-.1L-2B	.390	9.91	.4375-28
9	.810	20.57	.920	23.37	.5625-.05P-.1L-2B	.500	12.70	.5625-24
10	.890	22.61	.985	25.02	.6250-.05P-.1L-2B	.560	14.22	.6250-24



2M801-037-07



2M801-040-07



RED BAND INDICATES FULL MATE

Shell Size	A Dia.		B Flat		C Flat		D Thread	E Thread	F Dia.		G Thread UNEF-2A
	in.	mm.	in.	mm.	in.	mm.			in.	mm.	
6	.635	16.13	.410	10.41	.595	15.11	.3750-.05P-.1L-2A	.4375-28 UNEF-2A	.290	7.37	.3125-32
7	.755	19.18	.536	13.61	.723	18.36	.4375-.05P-.1L-2A	.5625-32 UN-2A	.390	9.91	.4375-28
9	.830	21.08	.596	15.14	.790	20.07	.5625-.05P-.1L-2A	.6250-28 UN-2A	.500	12.70	.5625-24
10	.890	22.61	.658	16.71	.855	21.72	.6250-.05P-.1L-2A	.6875-28 UN-2A	.560	14.22	.6250-24

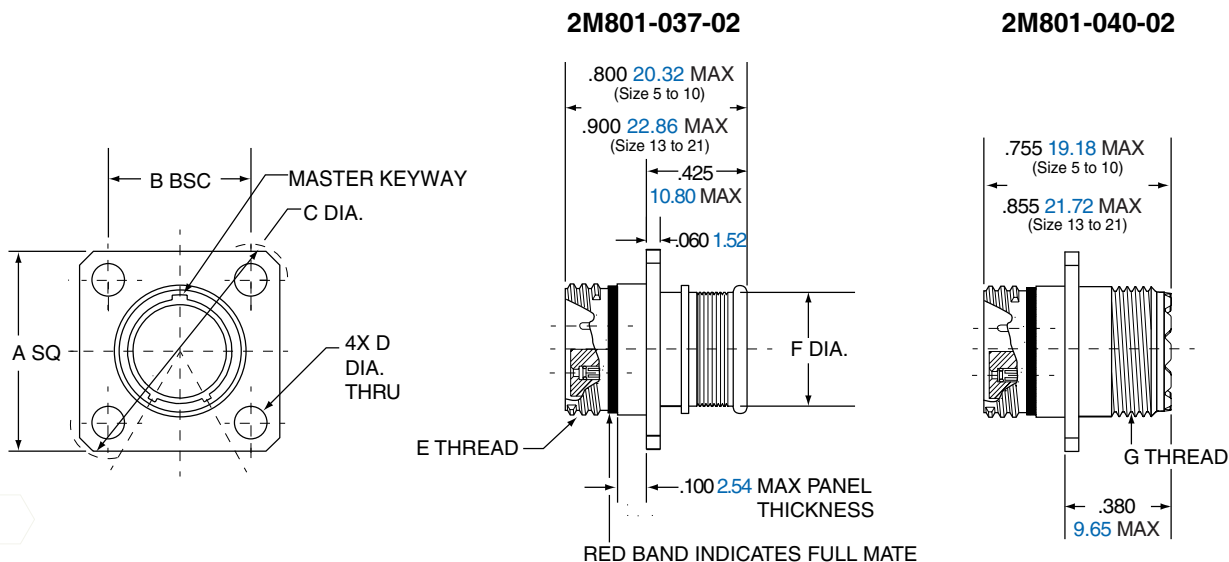
JAM NUT PANEL CUTOUT

Shell Size	A Flat		B Dia.	
	in. ± .002	mm. ± 0.05	in. ± .002	mm. ± 0.05
6	.416	10.57	.447	11.35
7	.542	13.77	.572	14.53
9	.602	15.29	.635	16.13
10	.666	16.62	.697	17.70

2M801 High Speed Dual-Start ACME Threads Square Flange



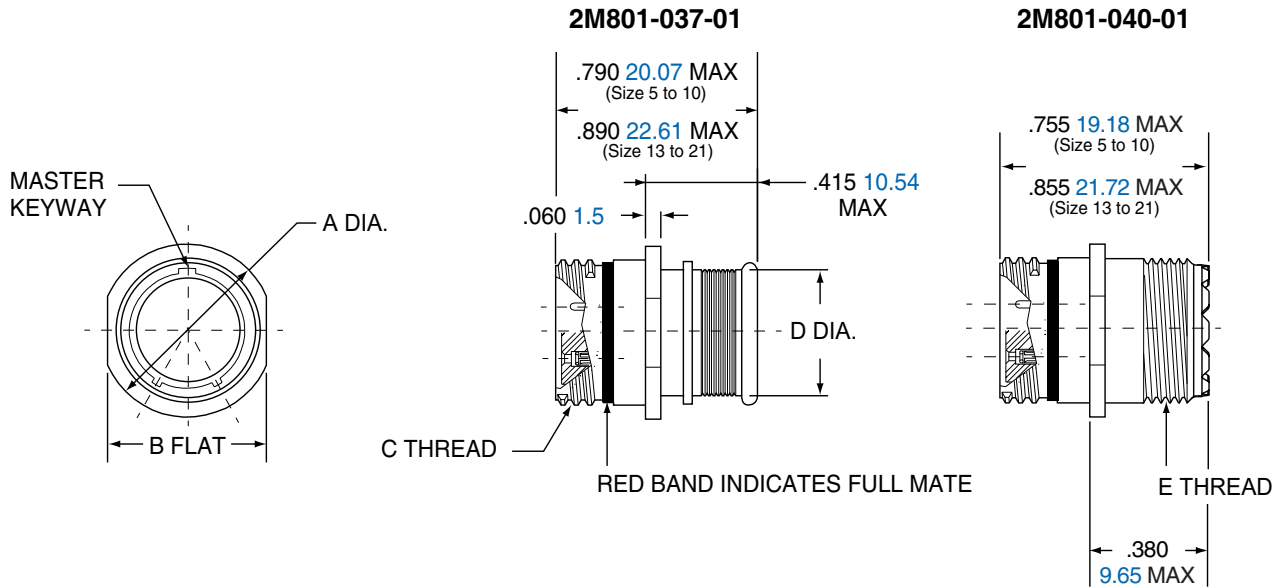
Receptacle 2M801-037-02 & 2M801-040-02



Shell Size	A		B BSC		C Dia.		D Dia.		E Thread	F Dia.		G Thread UNEF-2A
	in.	mm.	in.	mm.	in.	mm.	in. ± .003	mm. ± .08		in.	mm.	
6	.590	14.99	.423	10.74	.750	19.05	.093	2.36	.3750-.05P-.1L-2A	.290	7.37	.3125-32
7	.650	16.51	.483	12.27	.850	21.59	.093	2.36	.4375-.05P-.1L-2A	.390	9.91	.4375-28
9	.850	21.59	.607	15.42	1.125	28.58	.128	3.25	.5625-.05P-.1L-2A	.500	12.70	.5625-24
10	.890	22.61	.670	17.02	1.190	30.23	.128	3.25	.6250-.05P-.1L-2A	.560	14.22	.6250-24

PANEL CUTOUT

Shell Size	A Dia.		B Dia.		C Dia.	
	in.	mm.	in.	mm.	in.	mm.
6	.390	9.91	.423	10.74	.093	2.36
7	.450	11.43	.483	12.27	.093	2.36
9	.575	14.61	.607	15.42	.128	3.25
10	.640	16.26	.670	17.02	.128	3.25



Shell Size	A Dia.		B Flat		C Thread	D Dia.		E Thread UNEF-2A
	in.	mm.	in.	mm.		in.	mm.	
6	.415	10.54	.385	9.78	.3750-.05P-.1L-2A	.290	7.37	.3125-32
7	.480	12.19	.445	11.30	.4375-.05P-.1L-2A	.390	9.91	.4375-28
9	.605	15.37	.575	14.61	.5625-.05P-.1L-2A	.500	12.70	.5625-24
10	.665	16.89	.635	16.13	.6250-.05P-.1L-2A	.560	14.22	.6250-24

2M801 Series of PC Board Receptacles:

2M801 Series of PC Board Receptacles are intended for use of terminating the connector directly to a Circuit Board or Flex assembly. These connectors can also be supplied with Solder cup termination for direct wire attachment.

2M801 FEATURES INCLUDE:

- Low Profile Shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Environmental Sealing



Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M801-0XX	-02	NF	6-7	P	A

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M801-011	Receptacle for Solder Cup or PCB Termination with Epoxy Potting
2M801-033	Receptacle with Solder Cup or PCB Termination with Special Sealing for Open Face (unmated) Water Immersion Requirements. 100% Leak Tested. To maintain a helium leak rate of 1-10 ⁻⁴ cc/sec. pressure differential from -55°C to 150° C.

SHELL STYLE	
-02	Square Flange
-07	Jam Nut*

SHELL SIZE - INSERT ARRANGEMENTS

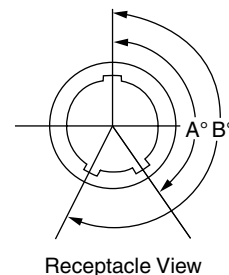
See Insert Arrangements on Pages 13-15

SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate



KEYING

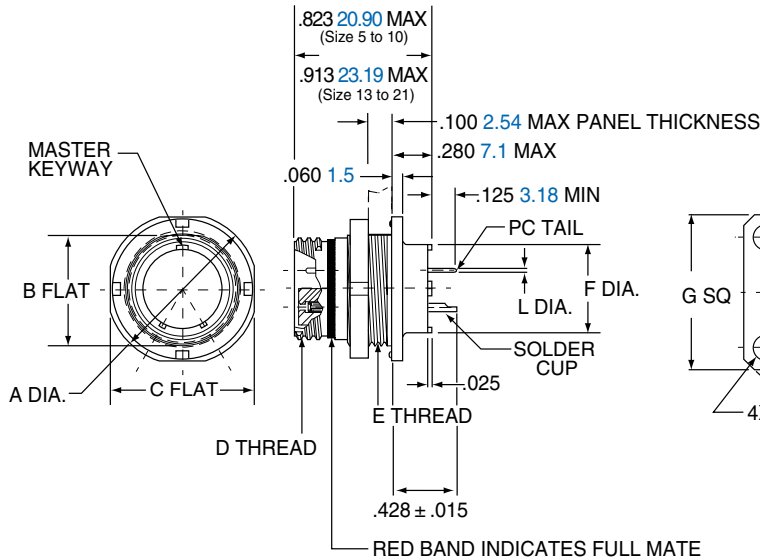
	A°	B°
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



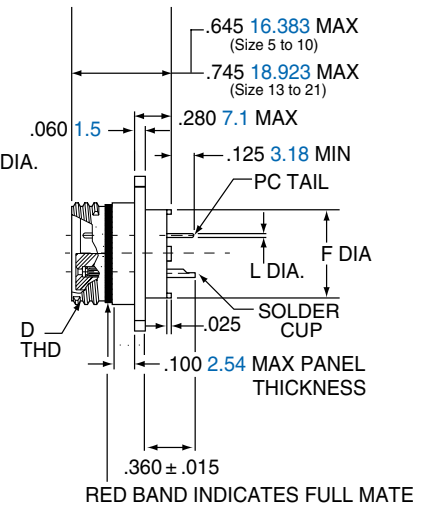
CONTACTS

P	Pin - PCB
S	Socket - PCB
E	Pin - Solder Cup
F	Socket - Solder Cup

2M801-011-07
2M801-033-07



2M801-011-02
2M801-033-02



Shell Size	A Dia.		B Flat		C Flat		D Thread	E Thread	F Dia.		G Sq.		H BSC		J Dia.		K Dia.		L Dia. Tail Dia.
	in.	mm.	in.	mm.	in.	mm.			in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	
5	.575	14.61	.350	8.89	.545	13.84	.3125-.05P-.1L-2A	.3750-28	.244	6.20	.530	13.46	.363	9.22	.680	17.27	.093	2.36	#23
6	.635	16.13	.410	10.41	.595	15.11	.3750-.05P-.1L-2A	.4375-28	.330	8.38	.590	14.99	.423	10.74	.750	19.05	.093	2.36	.018/.022
7	.755	19.18	.536	13.61	.723	18.36	.4375-.05P-.1L-2A	.5625-32	.432	10.97	.650	16.51	.483	12.27	.850	21.59	.093	2.36	0.46/0.56
8	.755	19.18	.536	13.61	.723	18.36	.5000-.05P-.1L-2A	.5625-32	.493	12.52	.712	18.08	.545	13.84	.938	23.88	.093	2.36	#20/20HD
9	.830	21.08	.596	15.14	.790	20.07	.5625-.05P-.1L-2A	.6250-28	.551	14.00	.850	21.56	.607	15.42	1.125	28.58	.128	3.25	.025/.027
10	.890	22.61	.658	16.71	.855	21.72	.6250-.05P-.1L-2A	.6875-28	.620	15.75	.890	22.61	.670	17.02	1.188	30.23	.128	3.25	0.64/0.69
13	1.078	27.38	.845	21.46	1.044	26.52	.8125-.1P-.2L-2A	.8750-28	.703	17.86	1.030	26.16	.812	20.62	1.375	34.93	.128	3.25	#16
16	1.264	32.11	1.022	25.96	1.230	31.24	1.0000-.1P-.2L-2A	1.0625-20	.863	21.92	1.219	30.96	.981	24.92	1.625	41.28	.128	3.25	.060/.064
17	1.325	33.66	1.096	27.84	1.290	32.77	1.0625-.1P-.2L-2A	1.1250-28	.912	23.16	1.280	32.51	1.060	26.92	1.700	43.18	.128	3.25	1.52/1.63
21	1.625	41.28	1.345	34.16	1.577	40.06	1.3125-.1P-.2L-2A	1.3750-28	1.170	29.72	1.565	36.32	1.322	33.58	2.100	49.28	.128	3.25	#12
																			0.092/.096
																			2.34/2.44

PANEL CUTOUT

Shell Size	A Dia.		B Dia.		C Dia.		D Flat		E Dia.	
	in.	mm.	in.	mm.	in.	mm.	in. ±.002	mm. ± 0.05	in. ±.002	mm. ± 0.05
5	.330	8.38	.363	9.22	.093	2.36	.356	9.04	.385	9.78
6	.390	9.91	.423	10.74	.093	2.36	.416	10.57	.447	11.35
7	.450	11.43	.483	12.27	.093	2.36	.542	13.77	.572	14.53
8	.510	12.95	.545	13.84	.093	2.36	.542	13.77	.572	14.53
9	.575	14.61	.607	15.42	.128	3.25	.602	15.29	.635	16.13
10	.640	16.26	.670	17.02	.128	3.25	.666	16.92	.697	17.70
13	.825	20.96	.812	20.65	.128	3.25	.851	21.62	.885	22.48
16	1.015	25.78	.981	24.92	.128	3.25	1.028	26.11	1.075	27.31
17	1.075	27.31	1.060	26.92	.128	3.25	1.102	27.99	1.135	28.83
21	1.330	33.78	1.322	33.58	.128	3.25	1.354	34.39	1.385	35.18

2M801 High Speed Dual-Start ACME Threads



Ordering Guide for High Speed PCB Receptacles 2M801-038 and 2M801-041

2M801 High Speed Series of PC Board Receptacles:

2M801 High Speed Series of PC Board Receptacles are intended for use of terminating the connector directly to a Circuit Board or Flex assembly. These connectors can also be supplied with Solder cup termination for direct wire attachment.

2M801 HIGH SPEED SERIES FEATURES INCLUDE:

- Low Profile Shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Teflon Inserts
- Environmental Sealing



Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M801-0XX	-02	NF	6-7	P	A

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M801-038	Receptacle for Solder Cup or PCB Termination with Epoxy Potting
2M801-041	Receptacle with Solder Cup or PCB Termination with Special Sealing for Open Face (unmated) Water Immersion Requirements. 100% Leak Tested. To maintain a helium leak rate of $1 \cdot 10^{-4}$ cc/sec. pressure differential from -55°C to 150° C.

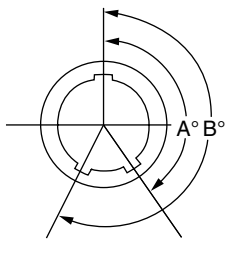
SHELL STYLE	
-02	Square Flange
-07	Jam Nut*

SHELL SIZE - INSERT ARRANGEMENTS

See Insert Arrangements Below

SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

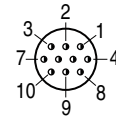
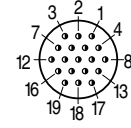
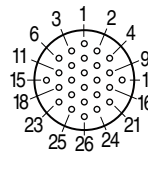
KEYING		
	A°	B°
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



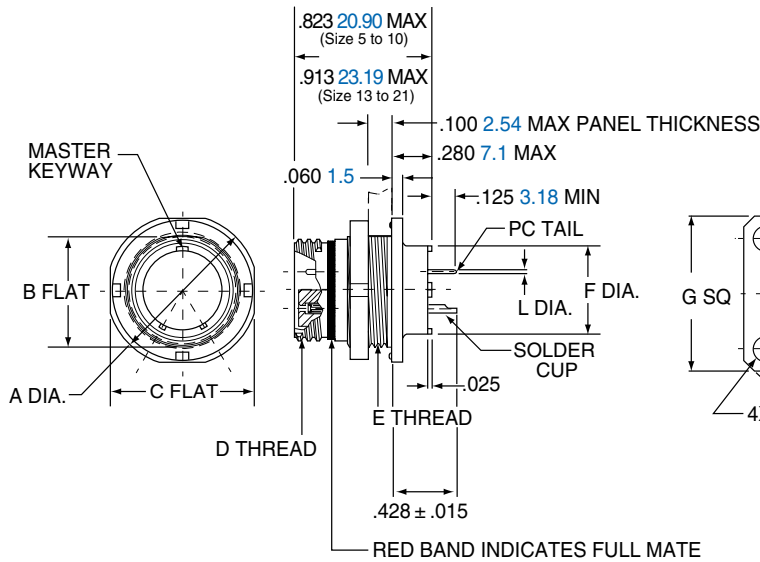
Receptacle View

CONTACTS	
P	Pin - PCB
S	Socket - PCB
E	Pin - Solder Cup
F	Socket - Solder Cup

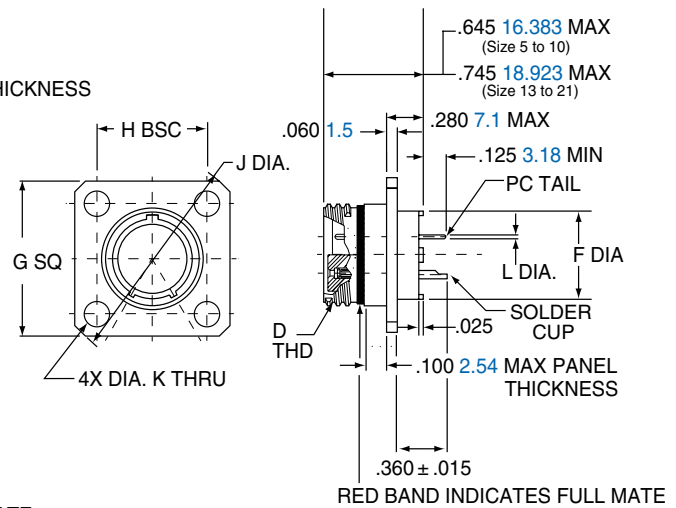
INSERT ARRANGEMENTS

 6-4 (4) #23 Contacts	 6-7 (7) #23 Contacts	 7-10 (10) #23 Contacts	 9-19 (19) #23 Contacts	 10-26 (26) #23 Contacts
--	--	--	--	--

2M801-038-07
2M801-041-07



2M801-038-02
2M801-041-02



Shell Size	A Dia.		B Flat		C Flat		D Thread	E Thread	F Dia.		G Sq.		H BSC		J Dia.		K Dia.		L Dia. Tail Dia.
	in.	mm.	in.	mm.	in.	mm.			in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	
6	.635	16.13	.410	10.41	.595	15.11	.3750-.05P-.1L-2A	.4375-28	.330	8.38	.590	14.99	.423	10.74	.750	19.05	.093	2.36	#23
7	.755	19.18	.536	13.61	.723	18.36	.4375-.05P-.1L-2A	.5625-32	.432	10.97	.650	16.51	.483	12.27	.850	21.59	.093	2.36	.018/.022
9	.830	21.08	.596	15.14	.790	20.07	.5625-.05P-.1L-2A	.6250-28	.551	14.00	.850	21.56	.607	15.42	1.125	28.58	.128	3.25	0.46/0.56
10	.890	22.61	.658	16.71	.855	21.72	.6250-.05P-.1L-2A	.6875-28	.620	15.75	.890	22.61	.670	17.02	1.188	30.23	.128	3.25	

Square Flange 02

Jam Nut 07

PANEL CUTOUT

Shell Size	A Dia.		B Dia.		C Dia.		D Flat		E Dia.	
	in.	mm.	in.	mm.	in.	mm.	in. ±.002	mm. ± 0.05	in. ±.002	mm. ± 0.05
6	.390	9.91	.423	10.74	.093	2.36	.416	10.57	.447	11.35
7	.450	11.43	.483	12.27	.093	2.36	.542	13.77	.572	14.53
9	.575	14.61	.607	15.42	.128	3.25	.602	15.29	.635	16.13
10	.640	16.26	.670	17.02	.128	3.25	.666	16.92	.697	17.70

2M801 Series of Hermetic Receptacles:

2M801 Series of Hermetic Receptacles provide superior sealing of 1×10^{-8} cc/second helium leak rate and are 100% tested prior to shipping. This superior sealing is accomplished through the use of glass insulator fused to stainless steel shells and iron alloy contacts.

2M801 FEATURES INCLUDE:

- Low profile shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Hermetic Sealing



Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M801-012	-02	Z1	6-7	P	A

SERIES	
2M801-012	Hermetic Receptacles with Printed Circuit Board Contacts or Solder cup contacts

SHELL STYLE	
-02	Square Flange
-03	Weld Mount (only available is Z1 finish)
-07	Jam Nut

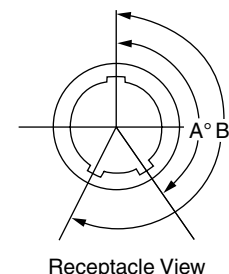
SHELL SIZE - INSERT ARRANGEMENTS
See Insert Arrangements Below

CONTACTS	
P	Pin - Solder Cup
C	Pin - PC Tail
H	Pin, Solder Cup - Without Interfacial Seal
Y	Pin, PC Tail - Without Interfacial Seal

SERVICE CLASS	
	Finish
Z1	Stainless Steel/Passivated
ZB	Stainless Steel with Olive Drab Cadmium Finish
ZL	Stainless Steel/Nickel Plated

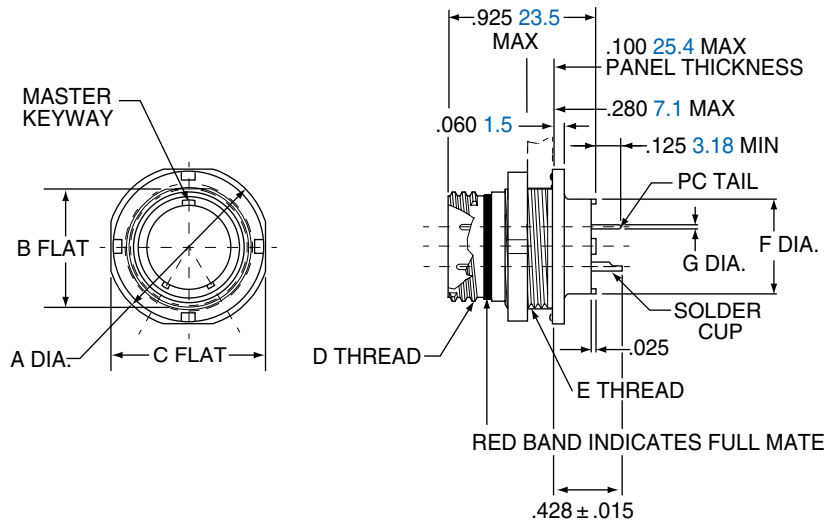


KEYING		
	A°	B°
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



Note: Please contact the factory directly for a listing of tooled interfacial seals for the hermetically sealed connectors.

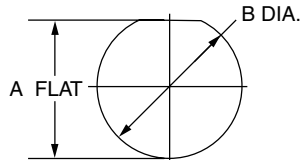
2M801-012-07



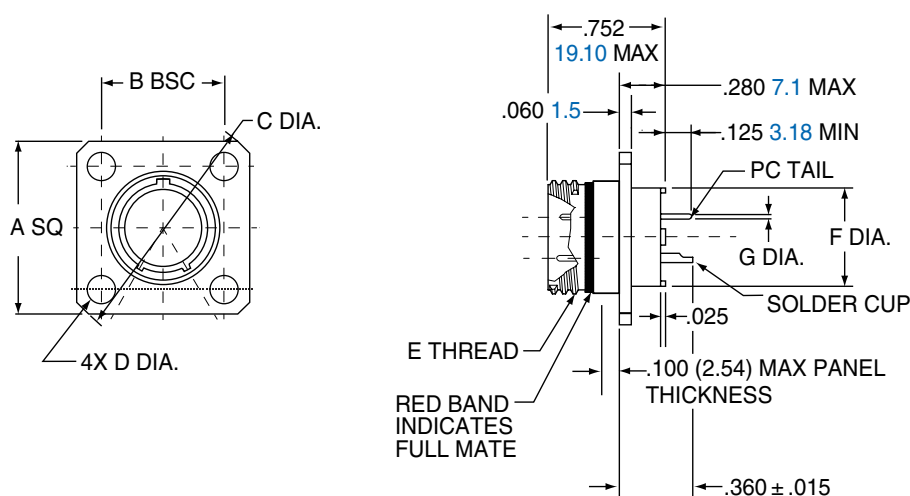
Shell Size	A Dia.		B Flat		C Flat		D Thread	E Thread	F Dia.		G Dia. Tail Dia.
	in.	mm.	in.	mm.	in.	mm.			in.	mm.	
5	.575	14.61	.350	8.89	.545	13.84	.3125-.05P-.1L-2A	.3750-28	.244	6.20	#23
6	.635	16.13	.410	10.41	.595	15.11	.3750-.05P-.1L-2A	.4375-28 UNEF-2A	.330	8.38	.018/.022 0.46/0.56
7	.755	19.18	.536	13.61	.723	18.36	.4375-.05P-.1L-2A	.5625-32	.432	10.97	#20/20HD .025/.027 0.64/0.69
8	.755	19.18	.536	13.61	.723	18.36	.5000-.05P-.1L-2A	.5625-32	.493	12.52	#16
9	.830	21.08	.596	15.14	.790	20.07	.5625-.05P-.1L-2A	.6250-28	.551	14.00	.060/.064 1.52/1.63
10	.890	22.61	.658	16.71	.855	21.72	.6250-.05P-.1L-2A	.6875-28	.620	15.75	#12
13	1.078	27.38	.845	21.46	1.044	26.52	.8125-.1P-.2L-2A	.8750-28	.703	17.86	.092/.096 2.34/2.44
16	1.264	32.11	1.022	25.96	1.230	31.24	1.0000-.1P-.2L-2A	1.0625-20	.863	21.92	
17	1.325	33.66	1.096	27.84	1.290	32.77	1.0625-.1P-.2L-2A	1.125-28	.912	23.16	
21	1.625	41.28	1.345	34.16	1.577	40.06	1.3125-.1P-.2L-2A	1.375-28	1.170	29.72	

PANEL CUTOUT

Shell Size	A Flat		B Dia.	
	in. ±.002	mm. ± 0.05	in. ±.002	mm. ± 0.05
5	.356	9.04	.385	9.78
6	.416	10.57	.447	11.35
7	.542	13.77	.572	14.53
8	.542	13.77	.572	14.53
9	.602	15.29	.635	16.13
10	.666	16.92	.697	17.70
13	.851	21.62	.885	22.48
16	1.028	26.11	1.075	27.31
17	1.102	27.99	1.135	28.83
21	1.354	34.39	1.385	35.18



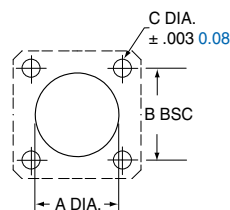
2M801-012-02



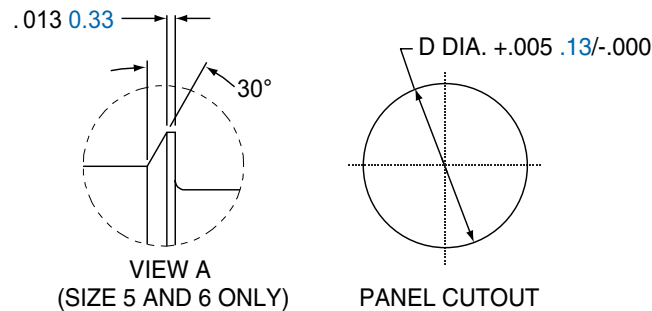
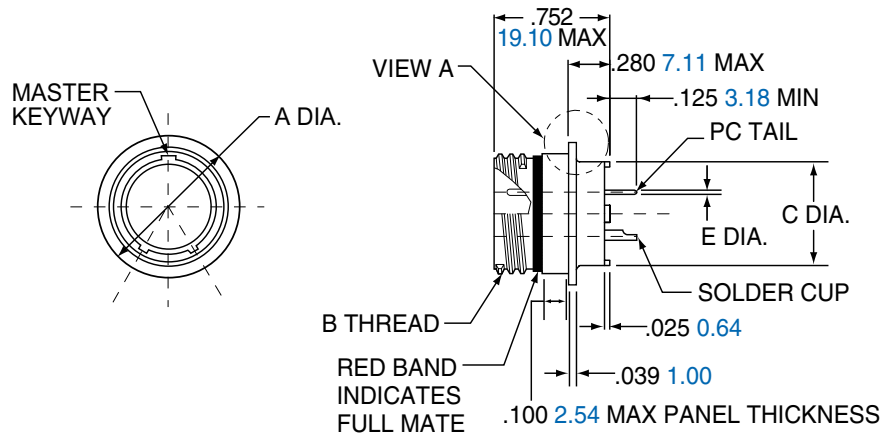
Shell Size	A SQ.		B BSC		C Dia.		D Dia.		E Thread	F Dia.		G Dia. Tail Dia.
	in.	mm.	in.	mm.	in.	mm.	in.	mm. ± .003		in.	mm.	
5	.530	13.46	.363	9.22	.680	17.27	.093	2.36	.3125-.05P-.1L-2A	.244	6.20	#23
6	.590	14.99	.423	10.74	.750	19.05	.093	2.36	.3750-.05P-.1L-2A	.330	8.38	.018/.022
7	.650	16.51	.483	12.27	.850	21.59	.093	2.36	.4375-.05P-.1L-2A	.432	10.97	0.46/0.56
8	.712	18.08	.545	13.84	.938	23.83	.093	2.36	.5000-.05P-.1L-2A	.493	12.52	#20/20HD
9	.850	21.56	.607	15.42	1.125	28.58	.128	3.25	.5625-.05P-.1L-2A	.551	14.00	.025/.027
10	.890	22.61	.670	17.02	1.188	30.18	.128	3.25	.6250-.05P-.1L-2A	.620	15.75	0.64/0.69
13	1.030	26.16	.812	20.62	1.375	34.93	.128	3.25	.8125-.1P-.2L-2A	.703	17.86	#16
16	1.219	31.96	.981	24.92	1.625	41.28	.128	3.25	1.0000-.1P-.2L-2A	.863	21.92	.060/.064
17	1.280	32.51	1.060	26.92	1.700	43.18	.128	3.25	1.0625-.1P-.2L-2A	.912	23.16	1.52/1.63
21	1.430	36.32	1.205	30.61	1.940	49.28	.128	3.25	1.3125-.1P-.2L-2A	1.170	29.72	#12
												.092/.096
												2.34/2.44

PANEL CUTOUT

Shell Size	A Dia.		B BSC		C Dia.	
	in.	mm.	in.	mm.	in.	mm.
5	.330	8.38	.363	9.22	.093	2.36
6	.390	9.91	.423	10.74	.093	2.36
7	.450	11.43	.483	12.27	.093	2.36
8	.510	12.95	.545	13.84	.093	2.36
9	.575	14.61	.607	15.42	.128	3.25
10	.640	16.26	.670	17.02	.128	3.25
13	.825	20.96	.812	20.65	.128	3.25
16	1.015	25.78	.981	24.92	.128	3.25
17	1.075	27.31	1.060	26.92	.128	3.25
21	1.325	33.66	1.205	30.61	.128	3.25



2M801-012-03



Shell Size	A Dia		B Thread	C Dia.		D Dia. Panel Cutout		G. PC Tail Dia.
	in.	mm.		in.	mm.	in.	mm.	
5	.395	10.03	.3125-.05P-.1L-2A	.244	6.20	.319	8.10	#23
6	.455	11.56	.3750-.05P-.1L-2A	.330	8.38	.379	9.55	.018/.022 0.46/0.56
7	.520	13.21	.4375-.05P-.1L-2A	.432	11.97	.438	11.13	#20/20HD .025/.027 0.64/0.69
8	.580	14.73	.5000-.05P-.1L-2A	.493	12.52	.502	11.13	#16 .060/.064 1.52/1.63
9	.645	16.38	.5625-.05P-.1L-2A	.551	14.00	.563	14.30	#12 .092/.096 2.34/2.44
10	.705	18.01	.6250-.05P-.1L-2A	.620	15.75	.627	11.13	
13	.895	22.73	.8125-.1P-.2L-2A	.703	17.86	.814	20.68	
16	1.080	27.43	1.0000-.1P-.2L-2A	.863	21.92	1.007	25.58	
17	1.145	29.08	1.0625-.1P-.2L-2A	.912	23.16	1.067	27.10	
21	1.395	35.43	1.3125-.1P-.2L-2A	1.170	29.72	1.320	33.53	

2M801 Series Right Angle PCB Receptacle:

2M801 Right Angle PCB Receptacles are ideal for applications where space and weight are at a premium. This receptacle design can withstand high temperature environments while maintaining an environmental seal.

2M801 FEATURES INCLUDE:

- Dual-Start ACME Thread
- Right Angle Contacts
- High Temperature Housing
- Threaded Inserts
- Environmentally Sealed



Series	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position
2M801-023	-07	Z1	6-7	P	A

SERIES	
2M801-023	PCB Receptacle for Right Angle PC Board

SHELL STYLE	
-07	Jam Nut

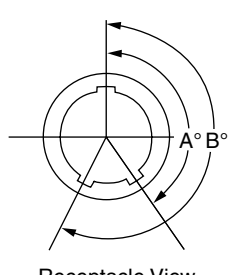
SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

SHELL SIZE - INSERT ARRANGEMENTS	
Arrangement	No. of Contacts
5-3	3
6-4	4
6-7	7
7-10	10
8-2	2
8-13	13
9-19	19

Note: Consult factory for available arrangements.

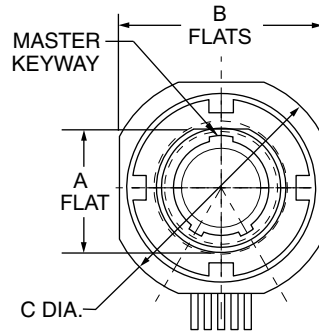
CONTACTS	
P	Pin
S	Socket

KEYING		
	A°	B°
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

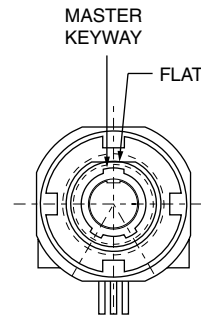


Receptacle View

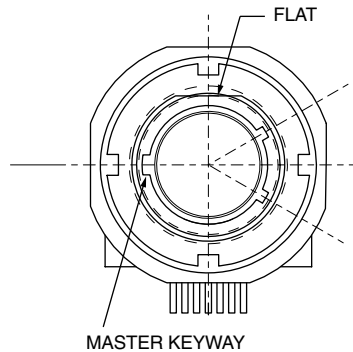




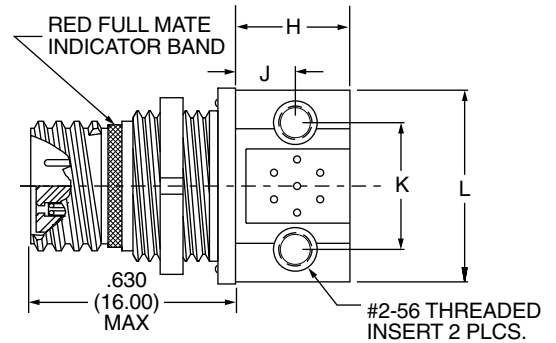
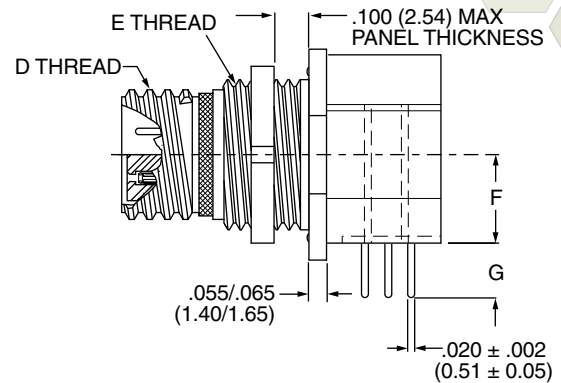
MASTER KEYWAY IS LOCATED AT TOP DEAD CENTER FOR ALL ARRANGEMENTS EXCEPT FOR THE 8-13.



5-3, 6-4, 6-7, 7-10, AND 9-19
MASTER KEYWAY LOCATION



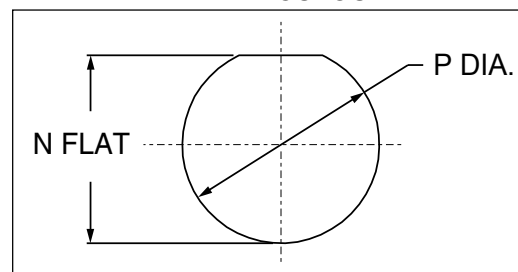
8-13
MASTER KEYWAY LOCATION



Shell Size	A		B		C Dia.		D Thread	E Thread	F		G		H		J		K	
	in. ±.005	mm. ±0.13	in.	mm.	in.	mm.			in.	mm.	in. ±.035	mm. ±0.89	in.	mm.	in.	mm.	in.	mm.
5-3	.350	8.89	.548	13.92	.575	14.61	.3125-.05P-.1L-2A	.3750-28 UN-2A	.225	5.72	.275	6.99	.260	6.60	.165	4.19	.310	7.87
6-4	.410	10.41	.598	15.19	.635	16.13	.3750-.05P-.1L-2A	.4375-28 UNEF-2A	.225	5.72	.265	6.73	.345	8.76	.187	4.75	.408	10.36
6-7	.410	10.41	.598	15.19	.635	16.13	.3750-.05P-.1L-2A	.4375-28 UNEF-2A	.225	5.72	.265	6.73	.345	8.76	.187	4.75	.408	10.36
7-10	.536	13.61	.726	18.44	.755	19.18	.4375-.05P-.1L-2A	.5625-32 UN-2A	.296	7.52	.273	6.93	.345	8.76	.170	4.32	.452	11.48
8-2	.538	13.67	.728	18.49	.758	19.25	.5000-.05P-.1L-2A	.5625-32 UN-2A	.319	8.10	.316	.803	.490	12.45	.230	5.84	.490	4.31
8-13	.538	13.67	.728	18.49	.758	19.25	.5000-.05P-.1L-2A	.5625-32 UN-2A	.319	8.10	.316	8.03	.490	12.45	.230	5.84	.490	12.45
9-19	.596	15.14	.793	20.14	.833	21.16	.5625-.05P-.1L-2A	.6250-28 UN-2A	.360	9.14	.275	6.99	.490	12.45	.342	8.69	.600	15.24

Shell Size	L		N		P	
	in.	mm.	in. ±.002	mm. ±0.05	in. ±.005 ±0.13	mm.
5-3	.490	14.45	.357	9.07	.385	9.78
6-4	.589	15.19	.418	10.62	.448	11.37
6-7	.589	15.19	.418	10.62	.448	11.37
7-10	.710	18.03	.544	13.82	.573	14.55
8-2	.710	18.03	.544	13.82	.573	14.55
8-13	.710	18.03	.544	13.82	.573	14.55
9-19	.800	20.32	.603	15.32	.635	16.13

PANEL CUTOUT



Protection Caps:

2M801 Double Start Protective Caps are available in plug and receptacle versions. Protective caps keep the connector interface dry and clean while not in use. Caps come in a variety of materials, lanyard styles and lengths to accommodate specific design requirements.

2M801 FEATURES INCLUDE:

- Aluminum or Stainless Steel Bodies
- Rubber Gaskets for Environmental Sealing
- Stainless Steel Fittings
- Variety of attachments



Series	Service Class	Attachment Type	Shell Size	Attachment Code	Attachment Length in Inches
2M667-21X	-NF	-S	5	04	-5

Omit for attachment Type N (No Attachment)
Example "-5" equals 5 inch length

SERIES	
2M667-217	Protection Cap for 2M801 Plugs
2M667-218	Protection Cap for 2M801 Receptacles

ATTACHMENT TYPE	
-G	Nylon Rope
-H	Stainless Steel Wire Rope, Teflon® Jacket
-N	No Attachment
-S	Stainless Steel Sash Chain
-SK	Nylon Rope With Slip Knot
-T	Stainless Steel Wire Rope, No Jacket
-U	Stainless Steel Wire Rope, Polyurethane Jacket

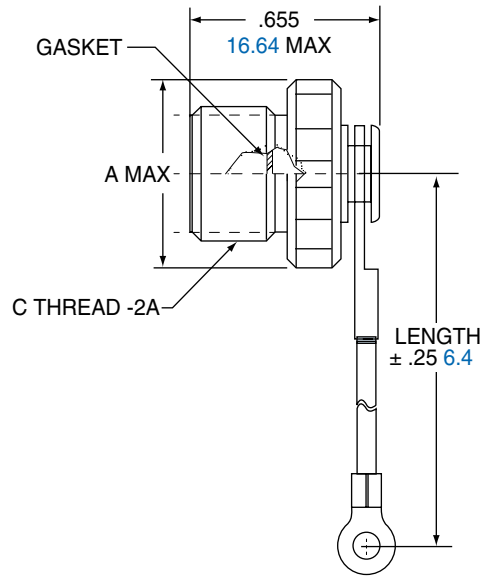
SHELL SIZE
5
6
7
8
9
10
13
16
17
21

ATTACHMENT CODE	
Omit for attachment Type N (No Attachment) and Slip Knot	
Small Ring	01 -.126 (3.20) I.D.
	02 -.145 (3.68) I.D.
	04 -.188 (4.78) I.D.
	06 -.197 (5.00) I.D.
Large Ring	14 -.385 (9.78) I.D.
	15 -.445 (11.30) I.D.
	16 -.570 (14.48) I.D.
	17 -.635 (16.13) I.D.
	18 -.695 (17.65) I.D.
	19 -.885 (22.48) I.D.
	20 -1.070 (27.17) I.D.
	21 -1.135 (28.83) I.D.
	22 -1.210 (30.73) I.D.
	23 -1.275 (32.39) I.D.
Split Ring	24 -1.375 (34.94) I.D.
	50 -.420 (10.67) I.D.
	52 -.480 (12.19) I.D.
	54 -.635 (16.13) I.D.
	56 -.745 (18.92) I.D.
	58 -.885 (22.48) I.D.
	60 -1.010 (25.65) I.D.
	64 -1.125 (28.58) I.D.
	68 -1.345 (34.16) I.D.

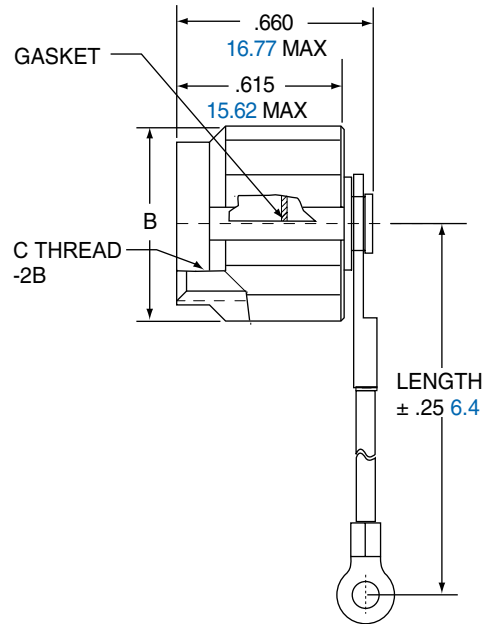
SERVICE CLASS	
	Finish
-C	Aluminum/Black Anodize (Non-Conductive)
-M	Aluminum/Electroless Nickel
-NF	Aluminum/Cadmium with Olive Drab Chromate
-MT	Aluminum/Nickel-PTFE (Duralon)
-Z1	Stainless Steel/Passivated
-ZM	Stainless Steel/Electroless Nickel
-ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
-ZNU	Aluminum/Zinc-Nickel with Black Chromate



2M667-217 (Plug)



2M667-218 (Receptacle)

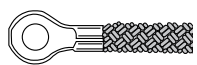
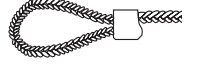


Shell Size	A Max.		B Max.		C
	in.	mm.	in.	mm.	
5	.463	11.76	.550	13.97	.3125-.05P-1L
6	.523	13.28	.613	15.57	.3750-.05P-1L
7	.588	14.94	.700	17.78	.4375-.05P-1L
8	.648	16.46	.758	19.25	.5000-.05-.1L
9	.713	18.11	.813	20.65	.5625-.05P-.1L
10	.773	19.63	.893	22.68	.6250-.05P-1L
13	.963	24.46	1.063	27.00	.8125-.1P-.2L
16	1.148	29.16	1.257	31.93	1.0000-.1P-.2L
17	1.213	30.81	1.313	33.35	1.0625-.1P-.2L
21	1.473	37.41	1.563	39.70	1.3125-.1P-.2L

MATERIALS

Cover	Aluminum alloy or stainless steel
Gasket	Silicone rubber
Wire, Hardware	Stainless steel, passivated

LANYARD OPTIONS

	Nylon Rope	-55° to +100°C., black, flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter
	Sash Chain	Stainless steel, #8 Chain
	Slip Knot (SK) for attaching Covers to Cables	55° to +100°C., black, flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter. Length includes .5" 13mm diameter loop.

2M803 Series Micro-Miniature Connectors:

Amphenol's 2M803 Series of connectors are ideal for applications where space is limited or a high density interconnect is needed. The series features bayonet connectors with 1/4 turn full mate coupling. Plugs and Receptacles are provided in two different styles to accommodate the attachment of backshell with rear accessory threads or with integral backshell. The integral backshell allows for use of EMI shielding attachments and/or overmolding. Contact termination styles include Crimp, PC Tail, and Solder Cup with others available upon request. Custom and Filter configurations are available, please consult factory for ordering information.

2M803 FEATURES INCLUDES:

- Bayonet Coupling for 1/4 Full mating
- Sealed Receptacles:
 - Hermetic (1×10^{-8} cc/second)
 - Epoxy Backfilled (1×10^{-4} cc/second)
- ROHS Compliant Platings available
- Insert Arrangements up to 85 contacts



2M803 SPECIFICATIONS

Current Rating	See Insert Arrangements (pg. 13-15)
DWV	See Insert Arrangements (pg. 13-15)
Insulation Resistance	5000 megohms min.
Operating Temperature	-65°C to +150°C
Shock	300 g's
Vibration	Random: 37 g Sine: 30 g
Shielding Effectiveness	40 dB min. from 100MHz to 1000MHz
Durability	Aluminum: 1000 mating cycles Stainless Steel: 2000 mating cycles

2M803 MATERIALS AND FINISHES

Shells	Aluminum Alloy or Stainless Steel
Contacts	Copper Alloy, gold plated
Insulators	Polyphenylene Sulfide (PPS)
Contact Retention	Beryllium Copper Alloy
Grommet, Interfacial Seal, O'Ring	Fluorosilicone Rubber

SERIES 2M803 MAXIMUM CONNECTOR WEIGHT IN GRAMS

Insert Arrangements	Cable Plug	Jam Nut Receptacle Crimp	Jam Nut Receptacle PCB	Flange Receptacle Crimp	Flange Receptacle PCB
5-3P	3.6	3.6	3.9	2.9	3.3
5-3S	3.7	3.7	4.0	3.1	3.4
6-1P	4.4	4.4	4.6	3.1	3.5
6-1S	4.5	4.5	4.7	3.2	3.6
6-4P	4.7	3.7	4.1	3.1	3.6
6-4S	4.7	4.0	4.2	3.2	3.7
6-7P	5.1	4.8	5.3	3.3	4.4
6-7S	5.1	5.1	5.5	3.6	4.4
7-1P	5.7	5.9	5.8	4.4	4.7
7-1S	5.9	6.2	5.9	4.7	5.1
7-10P	6.9	7.4	8.1	5.0	6.5
7-10S	7.4	7.8	8.4	5.4	6.6
8-2P	8.6	8.9	9.9	6.6	8.6
8-2S	9.4	9.7	10.7	7.4	9.4
8-13P	7.9	8.3	9.2	5.9	7.9
8-13S	8.7	8.9	9.7	6.6	8.1
8-200P	8.9	9.2	10.2	6.9	8.9
8-200S	9.6	9.9	10.9	6.9	9.6
9-4P	9.2	9.6	10.6	6.6	9.2
9-4S	9.6	9.9	10.9	6.9	9.6
9-19P	9.2	9.1	10.6	7.0	9.9
9-19S	10.2	10.1	11.2	8.1	10.2
9-200P	9.1	9.5	10.5	7.2	9.1
9-200S	10.2	10.6	11.6	8.3	10.2
9-201P	9.2	9.6	10.6	7.3	10.3
9-201S	9.8	10.1	11.7	8.4	10.3
10-5P	13.4	14.1	15.0	10.6	13.9
10-5S	14.9	15.5	17.5	12.0	15.3
10-26P	11.7	12.3	14.3	8.8	12.8
10-26S	13.4	13.6	15.1	10.1	13.1
10-200P	12.5	13.2	15.2	9.7	13.0
10-200S	14.0	14.6	16.6	11.1	14.4
10-201P	12.9	13.5	15.5	10.0	13.3
10-201S	14.4	15.1	17.1	11.6	14.9
10-202P	12.4	13.1	15.1	9.6	11.8
10-202S	14.0	14.6	16.6	11.1	14.4
12-2P	15.5	16.4	19.1	11.4	16.9
12-2S	17.2	18.0	20.8	13.1	18.6
12-3P	16.5	17.4	20.1	12.4	17.9
12-3S	18.3	19.1	21.9	14.2	19.7
12-7P	16.7	17.6	20.4	12.7	18.2
12-7S	19.4	20.2	23.0	15.3	20.8
12-37P	15.0	15.8	18.6	10.9	16.4
12-37S	16.6	17.5	19.6	12.4	16.7
12-200P	15.6	16.5	19.3	11.6	17.1
12-200S	17.9	18.8	21.6	13.9	19.4
12-201P	15.7	16.6	19.4	11.7	17.2
12-201S	18.2	19.0	21.8	14.1	19.6
14-5P	22.2	23.5	27.7	17.3	25.5
14-5S	24.8	26.1	29.3	19.8	25.1
14-55P	19.6	20.9	25.1	14.6	22.9
14-55S	22.6	23.9	27.1	14.6	23.9

2M803 1/4 Turn Bayonet Coupling



Ordering Guide for 2M803 Crimp Receptacles & Plugs



Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

HD38999

Micro-D

Terrapin

Nexus

Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M803-00X	-06	NF	6-7	P	N

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M803-001	Plug, Integral Backshell
2M803-002	Plug with Rear Accessory Thread
2M803-003	Receptacle with Integral Backshell
2M803-004	Receptacle with Rear Accessory Thread

SHELL SIZE - INSERT ARRANGEMENTS

See Insert Arrangements on Pages 13-15



CONTACTS

P	Pin
S	Socket
A	Pin, less contacts
B	Socket, less contacts

SHELL STYLE	
2M803-001, 2M803-002	
-06	Plug
SHELL STYLE	
2M803-003, 2M803-004	
-07	Jam Nut*
-02	Flange Mount
-01	In-Line

SERVICE CLASS

	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

KEYING

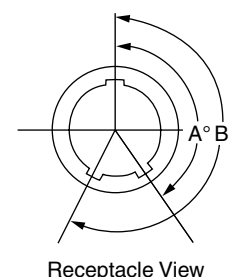
Key Position	Key Rotation	
	A	B
N	150°	210°
X	75°	210°
Y	95°	230°
Z	140°	275°

INSERT ARRANGEMENTS

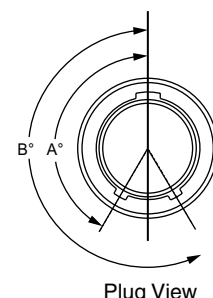
Insert Arrg.	No. of Contacts				
	#23	#20	#20HD	#16	#12
5-3	3				
6-1				1	
6-4	4				
6-6	6				
6-7	7				
6-23			3		
7-1					1
7-10	10				
7-25			5		
8-2				2	
8-28			8		
8-13	13				
8-200	4	2			
9-4				4	
9-19	19				
9-200	4			2	
9-201	8	2			
9-210			10		
10-2					2
10-5				5	
10-26	26				
10-200	12				1

INSERT ARRANGEMENTS

Insert Arrg.	No. of Contacts				
	#23	#20	#20HD	#16	#12
10-201	4				2
10-202	8			2	
12-2					2
12-3					3
12-7				7	
12-37	37				
12-200	6				2
12-201	10				2
12-220			20		
14-5					5
14-12				12	
14-55	55				
14-235			35		
15-7					7
15-14				14	
15-85	85				



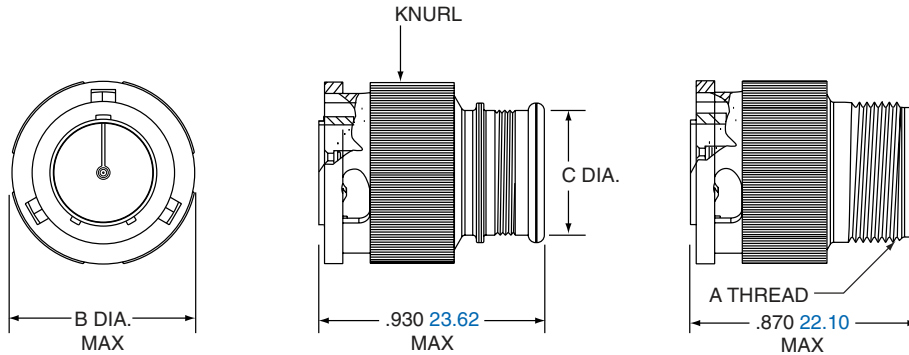
Receptacle View



Plug View

2M803-001-06

2M803-002-06

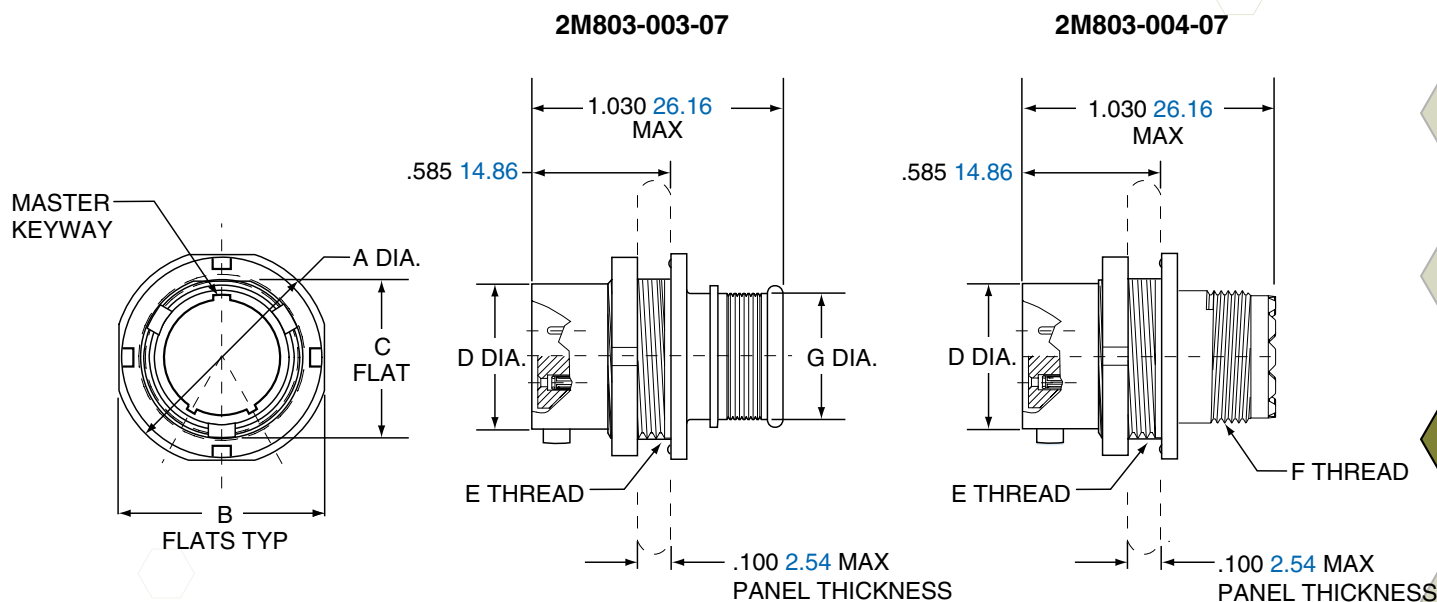


Shell Size	A Thread UNEF-2A	B Dia. Max		C Dia.	
		in.	mm.	in.	mm.
5	.2500-32	.475	12.07	.245	6.22
6	.3125-32	.540	13.72	.290	7.37
7	.4375-28	.620	15.75	.390	9.91
8	.5000-28	.675	17.15	.450	11.43
9	.5625-24	.745	18.92	.500	12.70
10	.6250-24	.812	20.63	.562	14.28
12	.6875-24	.894	22.71	.650	16.51
14	.9375-20	1.060	26.92	.800	20.32
15	.9375-20	1.120	28.45	1.035	26.29

2M803 1/4 Turn Bayonet Coupling Jam Nut



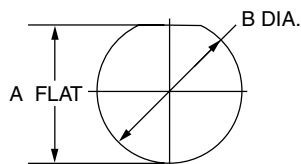
2M803-003-07 and 2M803-004-07



Shell Size	A Dia.		B Flat		C Flat		D Dia.		E Thread	F Thread	G Dia.	
	in.	mm.	in.	mm.	in.	mm.	in.	mm.			in.	mm.
5	.575	14.61	.545	13.84	.350	8.89	.300	7.62	.3750-32 UNEF-2A	.2500-32 UNEF-2A	.245	6.30
6	.635	16.13	.595	15.11	.410	10.41	.362	9.19	.4375-28 UNEF-2A	.3125-32 UNEF-2A	.290	7.44
7	.755	19.18	.723	18.36	.536	13.61	.436	11.07	.5625-32 UN-2A	.4375-28 UNEF-2A	.390	9.86
8	.830	21.08	.790	20.11	.593	15.10	.498	12.65	.6250-28 UN-2A	.5000-28 UNEF-2A	.450	11.38
9	.830	21.08	.790	20.07	.596	15.14	.561	14.25	.6250-28 UN-2A	.5625-24 UNEF-2A	.500	12.78
10	.955	24.26	.925	23.51	.721	18.31	.635	16.13	.7500-28 UN-2A	.6250-24 UNEF-2A	.562	14.30
12	1.078	27.38	1.044	26.52	.845	21.46	.714	18.14	.8750-28 UN-2A	.6875-24 UNEF-2A	.650	16.71
14	1.264	32.11	1.230	31.24	1.022	25.96	.865	21.97	1.0625-20 UN-2A	.9375-20 UNEF-2A	.805	20.40
15	1.322	33.58	1.287	32.69	1.093	27.76	.924	23.47	1.1250-28 UN-2A	.9375-20 UNEF-2A	.850	21.67

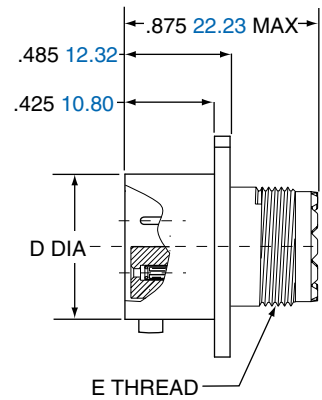
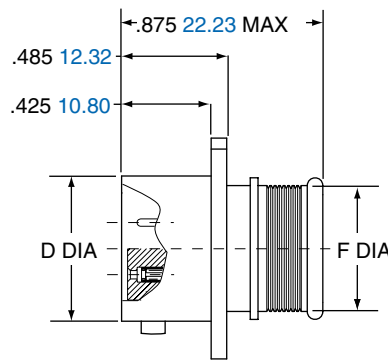
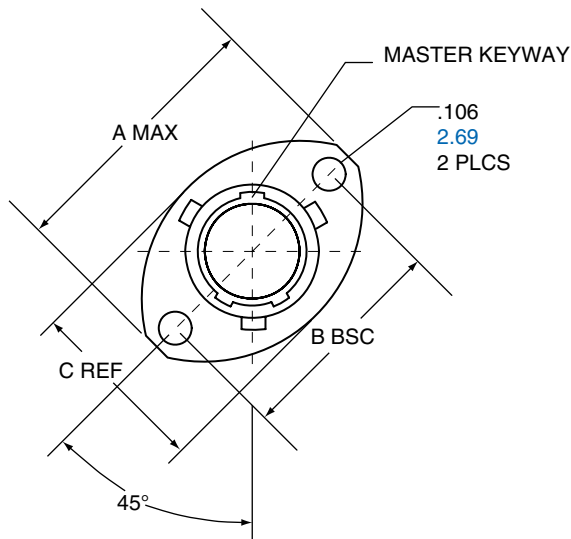
PANEL CUTOUT FOR JAM NUT RECEPTACLE

Shell Size	A Flat		B Dia.	
	in. ±.002	mm. ± 0.05	in.	mm.
5	.355	9.02	.382	9.70
6	.415	10.54	.445	11.30
7	.541	13.74	.572	14.53
8	.601	15.27	.635	16.13
9	.601	15.27	.643	16.33
10	.729	18.52	.760	18.29
12	.850	21.59	.885	22.48
14	1.031	23.19	1.072	27.23



2M803-003-02

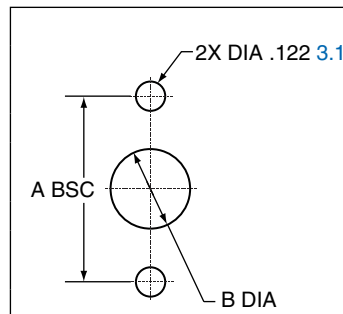
2M803-004-02



Shell Size	A Max.		B BSC.		C Ref.		D Dia.		E Thread UNEF-2A	F Dia.	
	in.	mm.	in.	mm.	in.	mm.	in.	mm.		in.	mm.
5	.710	18.03	.513	13.03	.460	11.68	.300	7.62	.2500-32	.245	6.30
6	.788	20.02	.598	15.19	.522	13.26	.362	9.19	.3125-32	.290	7.44
7	.895	22.73	.708	17.98	.590	14.99	.436	11.07	.4375-28	.390	9.86
8	1.154	29.31	.964	24.49	.668	16.97	.500	12.70	.5000-28	.450	11.38
9	1.210	30.73	1.017	25.83	.721	18.31	.561	14.25	.5625-24	.500	12.78
10	1.291	32.79	1.101	27.97	.795	20.19	.635	16.13	.6250-24	.562	14.30
12	1.395	35.43	1.204	30.58	.874	22.20	.714	18.14	.6875-24	.650	16.71
14	1.550	39.37	1.280	32.51	1.050	26.67	.865	21.97	.9375-20	.805	20.40

FLANGE MOUNT PANEL CUTOUTS

Shell Size	A BSC		B Dia	
	in.	mm.	in.	mm.
5	.513	13.03	.365	9.25
6	.598	15.19	.430	10.92
7	.708	17.98	.520	13.21
8	.964	17.98	.592	15.04
9	1.017	25.83	.645	16.38
10	1.101	27.97	.726	18.44
12	1.204	30.58	.832	21.13
14	1.280	32.51	.945	24.00

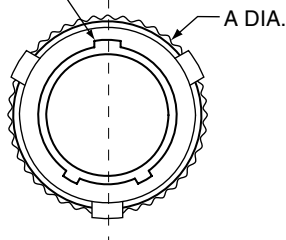


2M803 1/4 Turn Bayonet Coupling In-Line

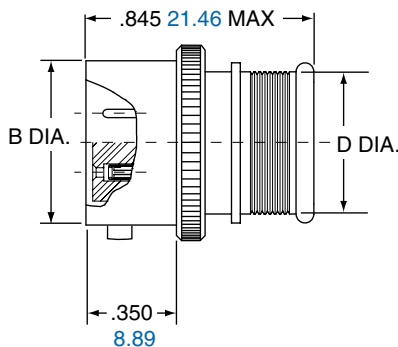


2M803-003-01 and 2M803-004-01

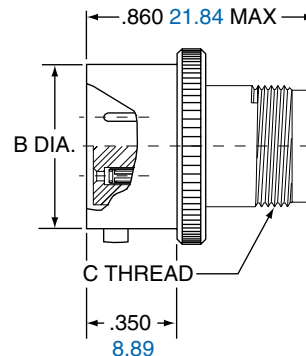
MASTER
KEYWAY



2M803-003-01



2M803-004-01



Shell Size	A Max.		B Dia.		C Thread UNEF-2A	D Dia.	
	in.	mm.	in.	mm.		in.	mm.
5	.385	9.78	.300	7.62	.2500-32	.245	6.30
6	.465	11.81	.362	9.19	.3125-32	.290	7.44
7	.485	12.32	.438	11.13	.4375-28	.390	9.86
8	.566	14.38	.498	12.65	.5000-28	.450	11.38
9	.658	16.71	.564	14.33	.5625-24	.500	12.78
10	.720	18.29	.636	16.15	.6250-24	.562	14.30
12	.810	20.57	.713	18.11	.6875-24	.650	16.71
14	1.027	26.09	.865	21.97	.9375-20	.805	20.40
15	1.027	26.09	.924	23.47	.9375-20	.850	21.67

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

HD38999

Micro-D

Terrapin

Nexus

2M803 Series of PC Board Receptacles

2M803 Series of PC Board Receptacles are intended for use of terminating the connector directly to a Circuit Board or Flex assembly. These connectors can also be supplied with solder cup termination for direct wire attachment.

2M803 FEATURES INCLUDE:

- Low profile shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Environmental Sealing



Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M803-0XX	-07	ZNU	9-19	P	N

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M803-005	Receptacle for Solder Cup or PCB Termination, with Standard Epoxy Potting
2M803-015	Receptacle with Solder Cup or PCB Termination with Special Sealing for Open Face (unmated) Water Immersion Requirements. 100% Leak Tested. To maintain a helium leak rate of 1×10^{-4} cc/sec. pressure differential from -65°C to 150°C.

SHELL STYLE	
-02	Flange Mount
-07	Jam Nut*

SHELL SIZE - INSERT ARRANGEMENTS

See Insert Arrangements on Pages 13-15

CONTACTS

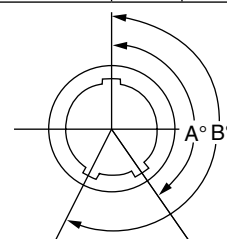
P	Pin - PC Tail
S	Socket - PC Tail
E	Pin - Solder Cup
F	Socket - Solder Cup

SERVICE CLASS

	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

KEYING

Key Position	Key Rotation	
	A	B
N (Normal)	150°	210°
X	75°	210°
Y	95°	230°
Z	140°	275°



Receptacle View

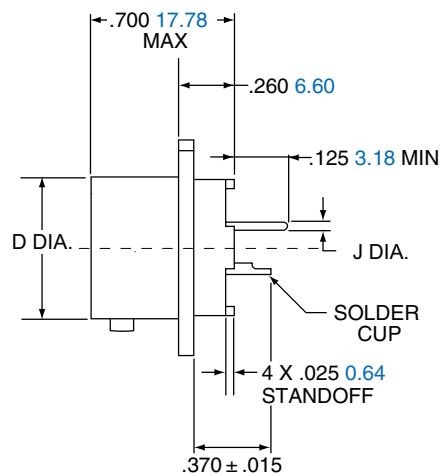
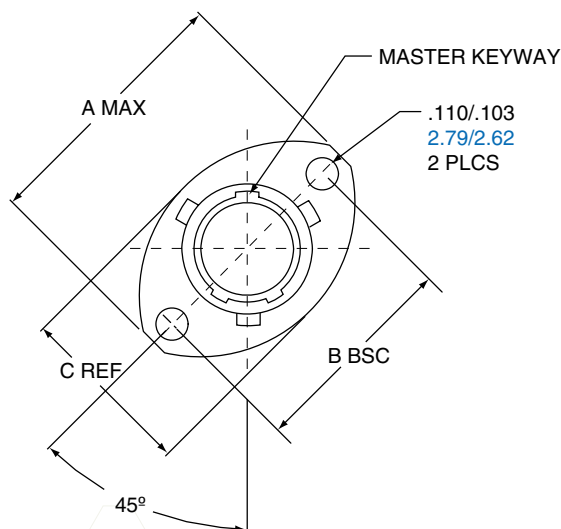


2M803 1/4 Turn Bayonet Coupling

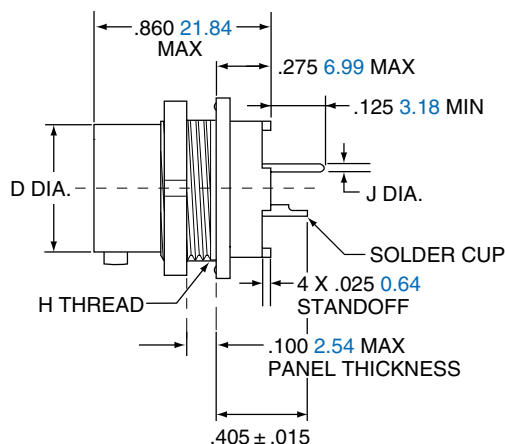
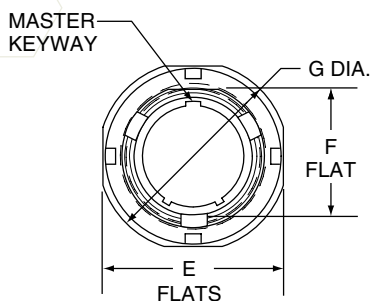


Flange Mount & Jam Nut Receptacle 2M803-005-02 & 07

2M803-005-02



2M803-005-07



Shell Size	A Max.		B BSC.		C Ref.		D Dia.		E Flats		F Flats		G Dia.		H Thread	J Dia. Tail Dia.
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
5	.710	18.03	.513	13.03	.460	11.68	.300	7.62	.545	13.84	.350	8.89	.575	14.61	.3750-32 UNEF-2A	#23
6	.788	20.02	.598	15.19	.522	13.26	.362	9.19	.595	15.11	.410	10.42	.635	16.13	.4375-28 UNEF-2A	.018/.022 0.46/0.56
7	.895	22.73	.708	17.98	.590	14.99	.436	11.07	.723	18.36	.536	13.61	.755	19.18	.5625-32 UN-2A	#20/20HD .025/.027 0.64/0.69
8	1.154	29.31	.964	24.49	.665	16.97	.500	12.70	.790	20.07	.593	15.10	.830	21.08	.6250-28 UN-2A	#16 .060/.064 1.52/1.63
9	1.210	30.73	1.017	25.83	.721	18.31	.561	14.25	.790	20.07	.596	15.14	.830	21.08	.6250-28 UN-2A	#12 .092/.096 2.34/2.44
10	1.291	32.79	1.101	27.97	.795	20.19	.635	16.13	.925	23.51	.721	23.49	.955	24.26	.7500-28 UN-2A	
12	1.395	35.43	1.204	30.58	.874	22.20	.714	18.14	1.044	26.52	.845	21.46	1.078	27.38	.8750-28 UN-2A	
14	1.550	39.37	1.280	32.51	1.050	26.67	.865	21.97	1.230	31.24	1.022	25.96	1.264	32.11	1.0625-20 UN-2A	
15	N/A	N/A	N/A	N/A	N/A	N/A	.924	23.47	1.287	32.69	1.093	27.76	1.322	33.58	1.1250-28 UN-2A	

2M803 Series of Hermetic Receptacles:

2M803 Series of Hermetic Receptacles provide superior sealing of 1×10^{-8} cc/second helium leak rate and are 100% tested prior to shipping. This superior sealing is accomplished through the use of glass insulator fused to stainless steel shells and iron alloy contacts.

2M803 FEATURES INCLUDE:

- Low profile shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Hermetic Sealing

Series	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position
2M803-006	-07	Z1	6-7	P	N

SERIES	
2M803-006	Hermetic Receptacles with PCB Contacts or Solder Cup Contacts

SHELL STYLE	
-02	Flange Mount
-07	Jam Nut

SHELL SIZE - INSERT ARRANGEMENTS

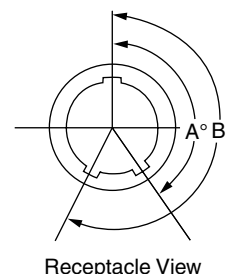
See Insert Arrangements on Pages 13-15

CONTACTS	
P	Pin - Solder Cup
C	Pin - PC Tail
H	Pin, Solder Cup - Without Interfacial Seal
Y	Pin, PC Tail - Without Interfacial Seal

SERVICE CLASS		
		Finish
Z1		Stainless Steel/Passivated
ZL		Stainless Steel/Nickel Plated



KEYING		
Key Position	Key Rotation	
	A	B
N (Normal)	150°	210°
X	75°	210°
Y	95°	230°
Z	140°	275°



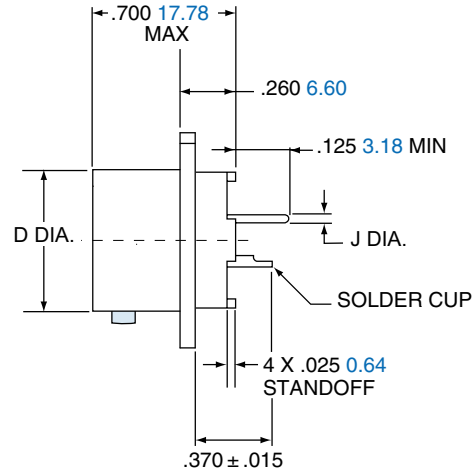
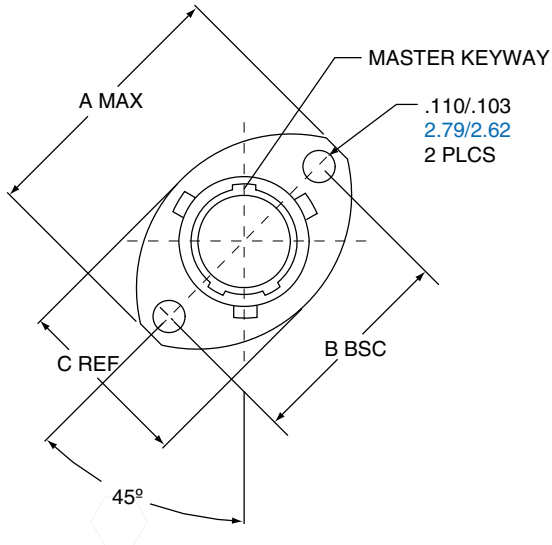
Note: Please contact the factory directly for a listing of tooled interfacial seals for the hermetically sealed connectors.

2M803 1/4 Turn Bayonet Coupling

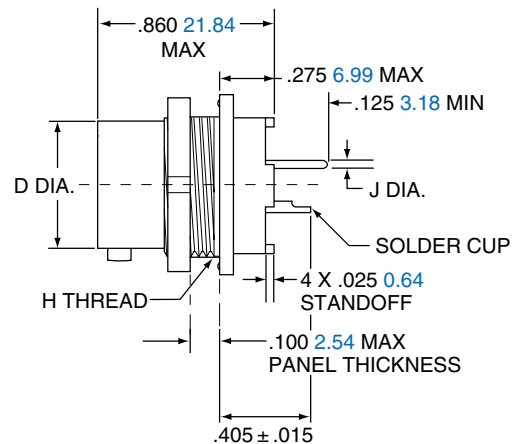
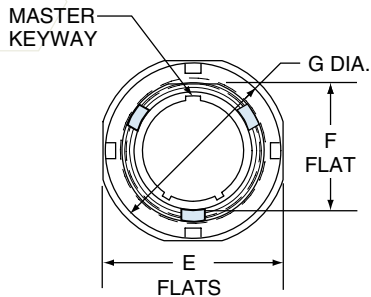


Flange Mount and Jam Nut 2M803-006-02 & -07

2M803-006-02



2M803-006-07



Shell Size	A Max.		B BSC.		C Ref.		D Dia.		E Flats		F Flat		G Dia.		H Thread	J PC Tail Dia.
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
5	.710	18.03	.513	13.03	.460	11.68	.300	7.62	.545	13.84	.350	8.89	.575	14.61	.3750-32 UNEF-2A	#23
6	.788	20.02	.598	15.19	.522	13.26	.362	9.19	.595	15.11	.410	10.42	.635	16.13	.4375-28 UNEF-2A	.018/.022
7	.895	22.73	.708	17.98	.590	14.99	.436	11.07	.723	18.36	.536	13.61	.755	19.18	.5625-32 UN-2A	0.46/0.56
8	1.154	29.31	.964	24.49	.665	16.98	.500	12.70	.790	20.07	.593	15.10	.830	21.08	.6250-28 UN-2A	#20/20HD
9	1.210	30.73	1.017	25.83	.721	18.31	.561	14.25	.790	20.07	.596	15.14	.830	21.08	.6250-28 UN-2A	.025/.027
10	1.291	32.79	1.101	27.97	.795	20.19	.635	16.13	.925	23.51	.721	.721	.955	24.26	.7500-28 UN-2A	0.64/0.69
12	1.395	35.43	1.204	30.58	.874	22.20	.714	18.14	1.044	26.52	.845	21.46	1.078	27.38	.8750-28 UN-2A	#16
14	1.550	39.37	1.280	32.51	1.050	26.67	.865	21.97	1.230	31.24	1.022	25.96	1.264	32.11	1.0625-20 UN-2A	.060/.064
15	N/A	N/A	N/A	N/A	N/A	N/A	.924	23.47	1.287	32.69	1.093	27.76	1.322	33.58	1.1250-28 UN-2A	1.52/1.63
																.092/.096
																2.34/2.44

Protection Caps:

2M803 1/4 Turn Bayonet Protective Caps are available in plug and receptacle versions. Protective caps keep the connector interface dry and clean while not in use. Caps come in a variety of materials, lanyard styles and lengths to accommodate specific design requirements.

2M803 FEATURES INCLUDE:

- Aluminum or Stainless Steel Bodies
- Rubber Gaskets for Environmental Sealing
- Stainless Steel Fittings
- Variety of attachments



Series	Service Class	Attachment Type	Shell Size	Attachment Code	Attachment Length in Inches
2M660-08X	-M	-G	6	04	-5

SERIES	
2M660-082	Protection Cap for Bayonet Plug Connectors
2M660-083	Protection Cap for Bayonet Receptacle Connectors

ATTACHMENT TYPE		SHELL SIZE
-G	Nylon Rope	5
-H	Stainless Steel Wire Rope, Teflon® Jacket	6
-N	No Attachment	7
-S	Stainless Steel Sash Chain	8
-SK	Nylon Rope With Slip Knot	9
-T	Stainless Steel Wire Rope, No Jacket	10
-U	Stainless Steel Wire Rope, Polyurethane Jacket	12
		14
		15

Omit for attachment Type N (No Attachment)
Example "-5" equals five inch length

SERVICE CLASS		
		Finish
-C		Aluminum/Black Anodize (Non-Conductive)
-M		Aluminum/Electroless Nickel
-NF		Aluminum/Cadmium with Olive Drab Chromate
-MT		Aluminum/Nickel-PTFE (Duralon)
-Z1		Stainless Steel/Passivated
-ZM		Stainless Steel/Electroless Nickel
-ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
-ZNU		Aluminum/Zinc-Nickel with Black Chromate

ATTACHMENT CODE	
Omit for attachment Types N (No Attachment) and SK (Slip Knot)	
Small Ring	01 -.126 (3.20) I.D. 02 -.145 (3.68) I.D. 04 -.188 (4.78) I.D. 06 -.197 (5.00) I.D.
Large Ring	14 -.385 (9.78) I.D. 15 -.445 (11.30) I.D. 16 -.570 (14.48) I.D. 17 -.635 (16.13) I.D. 18 -.695 (17.65) I.D. 19 -.885 (22.48) I.D. 20 -1.070 (27.17) I.D.
Split Ring	50 -.420 (10.67) I.D. 52 -.480 (12.19) I.D. 54 -.635 (16.13) I.D. 56 -.745 (18.92) I.D. 58 -.885 (22.48) I.D. 60 -1.010 (25.65) I.D. 64 -1.125 (28.58) I.D. 68 -1.345 (34.16) I.D.

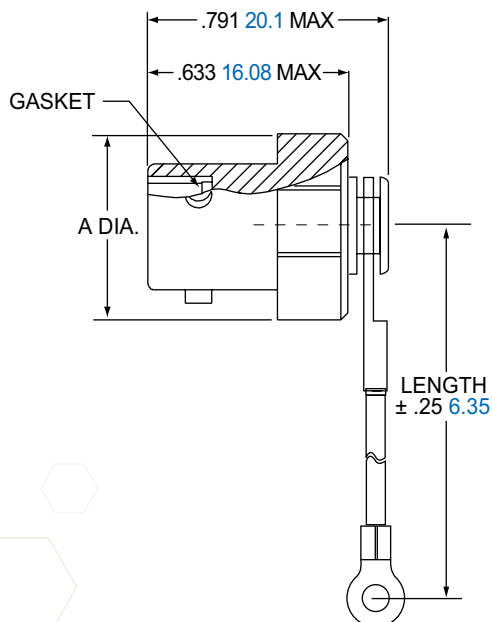


2M803 1/4 Turn Bayonet Coupling

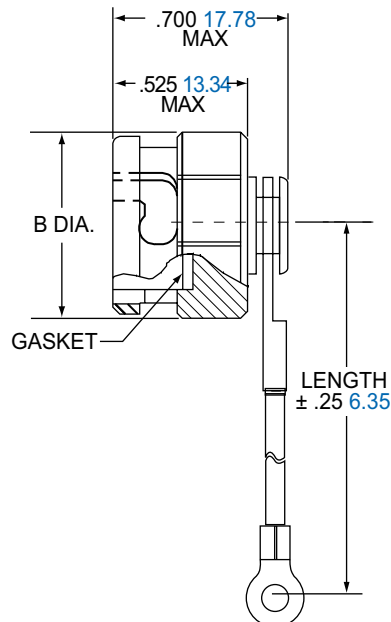


Protective Cap 2M660-082 & 2M660-083

2M660-082



2M660-083



Shell Size	A Max.	
	in.	mm.
5	.620	15.75
6	.620	15.75
7	.620	15.75
8	.690	17.53
9	.760	19.30
10	.850	21.59
12	.940	23.88
14	1.170	29.72
15	1.230	31.24

Shell Size	B Max.	
	in.	mm.
6	.541	13.74
7	.618	15.70
9	.743	18.87
12	.892	22.66

MATERIALS

Cover	Aluminum alloy or stainless steel
Gasket	Fluorosilicone rubber
Wire, Hardware	Stainless steel, passivated

LANYARD OPTIONS

	Nylon Rope	-55° to +100°C, black, flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter
	Sash Chain	Stainless steel
	Slip Knot (SK) for attaching Covers to Cables	55° to +100°C, black, flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter. Length includes .5" 13mm diameter loop.

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

HD38999

Micro-D

Terrapin

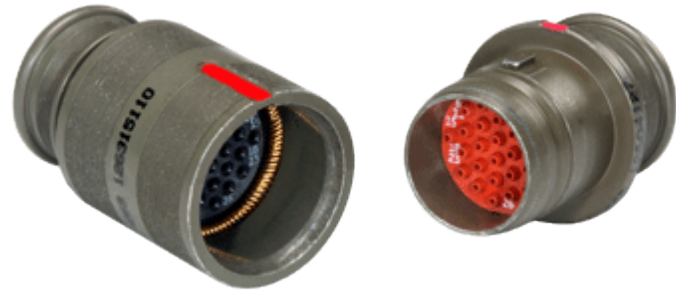
Nexus

2M804 Series Micro-Miniature Connectors:

Amphenol's 2M804 Series of connectors are ideal for applications where space is limited and a quick disconnect connector is needed. The series features a push to mate, pull to unmate connector with EMI spring installed in the receptacle for improved EMI performance. Plugs and receptacles are provided in two different styles to accommodate the attachment of backshell with rear accessory threads or with integral backshell. The integral backshell allows for use of EMI shielding attachments and/or overmolding. Contact termination styles include: Crimp, PC Tail, and Solder cup with others available upon request. Custom and Filter configurations are available, please consult factory for ordering information.

2M804 FEATURES INCLUDE:

- Push to mate, Pull to unmate coupling
- Flush mounting Receptacle on outside of panel
- Sealed Receptacles:
 - Hermetic (1×10^{-8} cc/second)
 - Epoxy Backfilled (1×10^{-4} cc/second)
- ROHS Compliant Platings available
- Insert Arrangements up to 85 contacts



2M804 SPECIFICATIONS

Current Rating	See Insert Arrangements (pg. 13-15)
DWV	See Insert Arrangements (pg. 13-15)
Insulation Resistance	5000 megohms min.
Operating Temperature	-65° C to +150° C
Shock	300 g's
Vibration	Random: 37 g Sine: 30 g
Shielding Effectiveness	85 dB min. from 100MHz to 1000MHz
Durability	2000 mating cycles

2M804 MATERIALS AND FINISHES

Shells	Aluminum Alloy or Stainless Steel
Contacts	Copper Alloy, gold plated
Insulators	Polyphenylene Sulfide (PPS)
Contact Retention	Beryllium Copper Alloy
Grommet, Interfacial Seal, O'Ring	Fluorosilicone Rubber
Canted Coil Spring	Stainless Steel, Gold plated

Connector Weights

SERIES 2M804 WEIGHTS IN GRAMS

Insert Arrg.	Plug	Jam Nut Receptacle		In-Line Receptacle
		Rear Mount	Front Mount	
5-3P	2.2	8.0	9.7	4.0
5-3S	2.4	8.3	9.8	4.1
6-1P	3.1	7.2	11.8	5.2
6-1S	3.4	7.5	12.1	5.5
6-4P	2.8	8.8	11.4	4.8
6-4S	3.0	9.0	11.6	5.1
6-7P	3.0	9.1	11.7	5.3
6-7S	3.2	9.5	12.0	5.5
7-1P	3.7	11.1	16.4	10.1
7-1S	4.3	11.7	16.9	10.7
7-10P	3.7	10.9	16.2	10.0
7-10S	4.2	11.3	16.5	10.3
8-2P	5.0	10.9	13.5	8.0
8-2S	5.7	5.7	11.7	9.0
8-13P	4.3	10.6	12.4	7.4
8-13S	4.8	11.0	13.0	8.1
8-200P	5.3	11.2	13.9	8.4
8-200S	6.1	12.0	14.6	9.1
9-4P	5.7	15.2	21.1	11.0
9-4S	6.7	16.2	22.1	12.0
9-19P	4.6	14.1	20.0	9.9
9-19S	4.8	14.9	21.1	9.8
9-200P	5.2	14.6	20.6	10.5
9-200S	6.3	15.7	21.7	11.6
9-201P	5.8	15.3	21.2	11.1
9-201S	6.9	16.4	22.3	12.2
10-5P	7.3	15.5	23.3	11.9
10-5S	8.7	16.9	24.8	13.3
10-26P	5.4	13.6	20.5	10.1
10-26S	6.2	13.9	21.1	10.5
10-200P	6.2	14.4	22.2	10.8
10-200S	7.6	15.8	23.7	12.2
10-201P	6.3	14.5	22.3	10.9
10-201S	7.7	16.0	23.8	12.3
10-202P	6.3	14.5	22.3	10.9
10-202S	7.8	16.1	23.9	12.4
12-2P	10.7	21.5	26.1	20.8
12-2S	12.3	23.1	27.7	22.4
12-3P	11.7	22.4	27.1	21.8
12-3S	13.4	24.2	28.8	23.4
12-7P	11.9	22.7	27.3	22.0

SERIES 2M804 WEIGHTS IN GRAMS

Insert Arrg.	Plug	Jam Nut Receptacle		In-Line Receptacle
		Rear Mount	Front Mount	
12-7S	14.5	25.3	29.9	24.6
12-37P	10.1	21.5	25.5	22.4
12-37S	11.8	23.1	27.2	22.1
12-200P	10.3	21.1	25.7	20.5
12-200S	12.5	23.3	27.9	22.7
12-201P	10.7	21.5	26.1	22.8
12-201S	13.0	23.8	28.4	23.1
14-5P	15.4	28.3	33.6	26.3
14-5S	18.4	31.2	36.5	29.3
14-12P	16.2	29.0	34.3	27.1
14-12S	19.8	32.7	38.0	30.7
14-55P	12.8	25.6	30.9	23.7
14-55S	15.6	28.3	33.8	26.5

**SERIES 2M804
UNMATE FORCE**

Layout	Average Force	
	Pounds	Newtons
5-3	10.6	47.1
6-4	10.8	48.0
6-7	11.4	50.7
7-10	12.0	53.4
8-13	12.6	56.0
9-19	13.8	61.4
10-26	15.2	67.6
12-37	17.4	77.4
14-55	21.0	93.4

Note: Contact Amphenol if modified force values are needed.

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

HD38999

Micro-D

Terrapin

Nexus



1. Series	2. Shell Style	3. Service Class	4. Shell Size- Insert Arrg.	5. Contact Type	6. Alternate Position
2M804-00X	-06	ZNU	6-7	P	

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M804-001	Plug with Integral Backshell
2M804-002	Plug with Accessory Thread
2M804-003	Receptacle with Integral Backshell
2M804-004	Receptacle with Accessory Thread

SHELL STYLE	
2M804-001 2M804-002	
-06	Plug
SHELL STYLE	
2M804-003 2M804-004	
-00	Jam Nut* for Front Panel Mounting
-01	In-Line for Free-Hanging Cable
-07	Jam Nut* for Rear Panel Mounting

SHELL SIZE - INSERT ARRANGEMENTS

See Insert Arrangements on Pages 13-15



CONTACTS	
P	Pin
S	Socket
A	Pin, less contacts
B	Socket, less contacts

SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

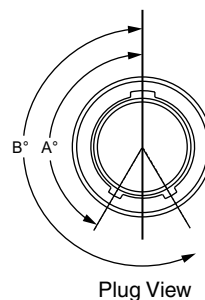
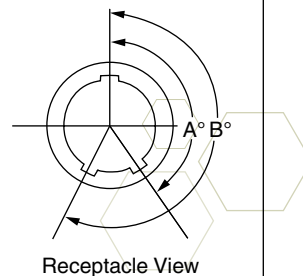
KEYING		
Key Position	Key Rotation	
	A	B
Omit	Single Master Key	
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°

INSERT ARRANGEMENTS

Insert Arrg.	No. of Contacts				
	#23	#20	#20HD	#16	#12
5-3	3				
6-1				1	
6-4	4				
6-6	6				
6-7	7				
6-23			3		
7-1					1
7-10	10				
7-25			5		
8-2				2	
8-28			8		
8-13	13				
8-200	4	2			
9-4				4	
9-19	19				
9-200	4			2	
9-201	8	2			
9-210			10		
10-2					2
10-5				5	
10-26	26				
10-200	12				1

INSERT ARRANGEMENTS

Insert Arrg.	No. of Contacts				
	#23	#20	#20HD	#16	#12
10-201	4				2
10-202	8			2	
12-2					2
12-3					3
12-7				7	
12-37	37				
12-200	6				2
12-201	10				2
12-220			20		
14-5					5
14-12				12	
14-55	55				
14-235			35		
15-7					7
15-14				14	
15-85	85				



For single master key omit (leave blank)

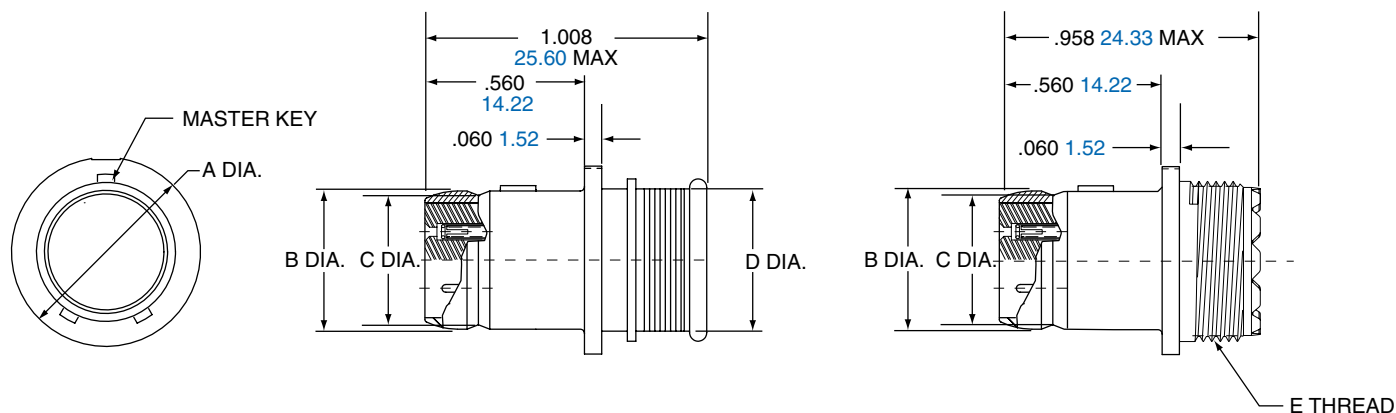
2M804 Push-Pull Plug Connector



2M804-001-06 and 2M804-002-06

2M804-001-06

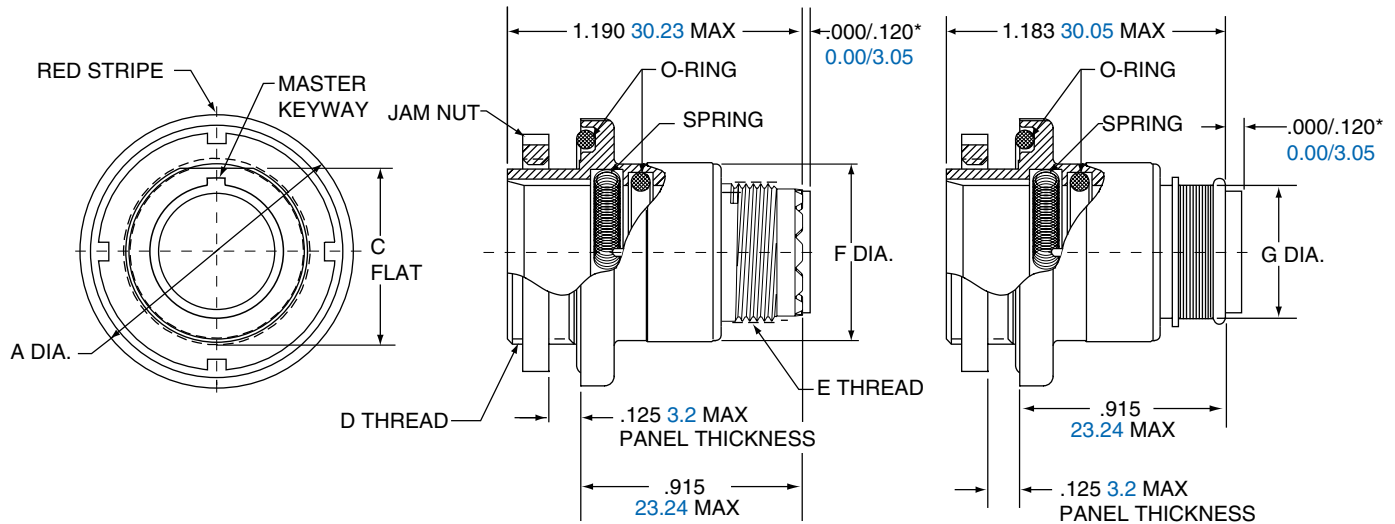
2M804-002-06



Shell Size	A Dia.		B Dia.		C Dia.		D Dia.		E Thread UNEF-2A
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	
5	.418	10.62	.245	6.22	.218	5.54	.248	6.30	.2500-32
6	.488	12.40	.310	7.87	.275	6.99	.293	7.44	.3125-32
7	.561	14.25	.378	9.60	.350	8.89	.388	9.86	.4375-28
8	.603	15.32	.426	10.82	.395	10.03	.448	11.38	.5000-28
9	.663	16.84	.482	12.24	.450	11.43	.503	12.78	.5625-24
10	.743	18.87	.555	14.10	.525	13.34	.563	14.30	.6250-24
12	.851	21.62	.672	17.07	.642	16.31	.653	16.59	.6875-24
14	.978	24.84	.795	20.19	.761	19.33	.803	20.40	.9375-20
15	1.038	26.37	.863	21.92	.837	21.26	.853	21.67	.9375-20

2M804-004-07

2M804-003-07

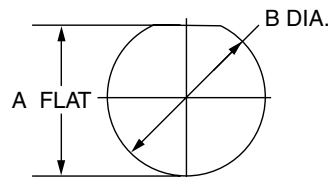


*Grommet protrudes for power/combo arrangements

Shell Size	A Dia.		C Flat		D Thread UN-2A	E Thread UNEF-2A	F Dia.		G Dia.	
	in.	mm.	in.	mm.			in.	mm.	in.	mm.
5	.773	19.63	.414	10.52	.4375-32	.2500-32	.448	11.38	.248	6.30
6	.833	21.16	.468	11.89	.5000-32	.3125-32	.513	13.03	.293	7.44
7	.903	22.94	.593	15.06	.6250-28	.4375-28	.573	14.55	.388	9.86
8	.958	24.33	.593	15.06	.6250-28	.5000-28	.596	15.14	.448	11.38
9	.998	25.35	.653	16.59	.6875-28	.5625-24	.691	17.55	.503	12.78
10	1.083	27.51	.721	18.31	.7500-28	.6250-24	.728	18.49	.563	14.30
12	1.183	30.05	.843	21.41	.8750-28	.6875-24	.883	22.43	.653	16.59
14	1.323	33.60	.968	24.59	1.0000-28	.9375-20	1.003	25.48	.803	20.40
15	1.373	34.87	1.036	26.31	1.0625-20	.9375-20	1.063	27.00	.853	21.67

JAM NUT PANEL CUTOUT

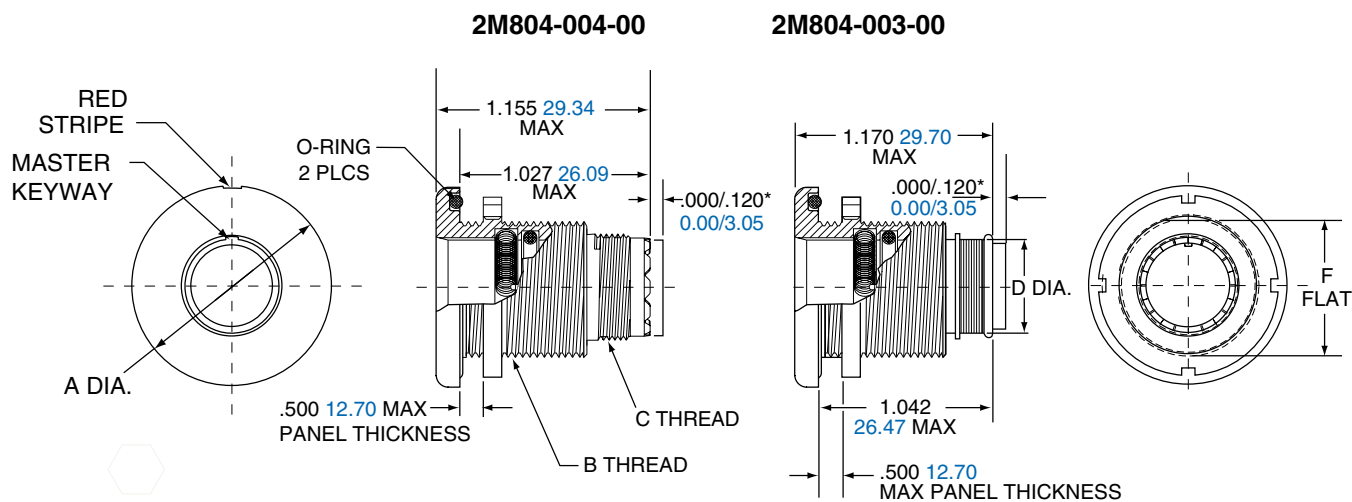
Shell Size	A Flat		B Dia.	
	in. ±.002	mm. ± 0.05	in. ±.005	mm. ± 0.13
5	.423	10.74	.448	11.38
6	.475	12.07	.510	12.95
7	.602	15.29	.635	16.13
8	.602	15.29	.635	16.13
9	.663	16.84	.698	17.73
10	.729	18.82	.760	19.30
12	.851	21.62	.885	22.48
14	.976	24.79	1.010	25.65
15	1.043	26.49	1.073	27.25



2M804 Push-Pull Jam Nut Front Panel Receptacle



2M804-004-00 and 2M804-003-00



*Grommet protrudes for power/combo arrangements

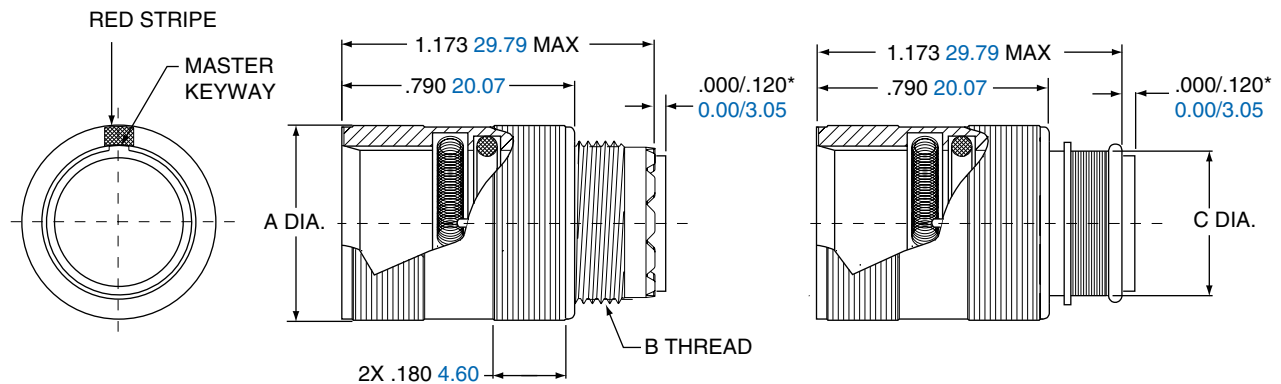
Shell Size	A Dia.		B Thread UN-2A	C Thread UNEF-2A	D Dia.		F Flat.	
	in.	mm			in.	mm.	in.	mm.
5	.830	21.08	.5000-32	.2500-32	.248	6.30	.470	11.94
6	.884	22.45	.5625-32	.3125-32	.293	7.44	.529	13.44
7	.994	25.25	.6875-28	.4375-28	.388	9.86	.663	16.84
8	.994	25.25	.6875-28	.5000-28	.448	11.38	.663	16.84
9	1.073	27.25	.7500-28	.5625-24	.503	12.78	.719	18.26
10	1.138	28.91	.8125-28	.6250-24	.563	14.30	.778	19.76
12	1.338	33.96	1.0000-28	.6875-24	.653	16.59	.969	24.61
14	1.388	35.26	1.0625-20	.9375-20	.803	20.40	1.019	25.88
15	1.453	36.91	1.1250-28	.9375-20	.853	21.67	1.113	28.27

PANEL CUTOUT

Shell Size	A Flat		B Dia.	
	in. ± .002	mm. ± 0.05	in. ± .005	mm. ± 0.13
5	.477	12.12	.510	12.95
6	.537	13.64	.573	14.55
7	.670	17.02	.698	17.73
8	.670	17.02	.698	17.73
9	.727	18.47	.760	19.30
10	.787	20.19	.823	20.90
12	.977	24.82	1.010	25.65
14	1.027	26.09	1.073	27.25
15	1.121	28.47	1.135	28.83

2M804-004-01

2M804-003-01



*Grommet protrudes for power/combo arrangements

Shell Size	A Dia.		B Thread UNEF-2A	C Dia.	
	in.	mm		in.	mm.
5	.453	11.51	.2500-32	.248	6.30
6	.523	13.28	.3125-32	.293	7.44
7	.583	14.81	.4375-28	.388	9.86
8	.606	15.39	.5000-28	.448	11.38
9	.698	17.73	.5625-24	.503	12.78
10	.738	18.75	.6250-24	.563	14.30
12	.883	22.43	.6875-24	.653	16.59
14	1.013	25.73	.9375-20	.803	20.40
15	1.061	26.95	.9375-20	.853	21.67

2M804 Push-Pull PCB or Solder Cup Receptacle



Ordering Guide 2M804-005 and 2M804-020

2M804 Series of PC Board Receptacles:

2M804 Series of PC Board Receptacles are intended for use of terminating the connector directly to a Circuit Board or Flex assembly. These connectors can also be supplied with Solder cup termination for direct wire attachment.

2M804 FEATURES INCLUDE:

- Flush mounting Receptacle on outside of panel
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Environmental Sealing



Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M804-0XX	-07	ZNU	9-19	P	

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M804-005	Receptacle with Solder cup or PCB Termination with Standard Epoxy Potting
2M804-020	Receptacle with Solder Cup or PCB Termination with Special Sealing for Open Face (unmated) Water Immersion Requirements. 100% Leak Tested. To maintain a helium leak rate of 1×10^{-4} cc/sec. pressure differential from -65°C to 150°C.

SHELL STYLE	
-00	Jam Nut* for Front Panel Mounting
-07	Jam Nut* for Rear Panel Mounting

SHELL SIZE - INSERT ARRANGEMENTS

See Insert Arrangements on Pages 13-15

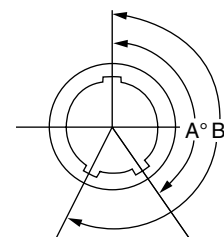
CONTACTS

P	Pin - PC Tail
S	Socket - PC Tail
E	Pin - Solder Cup
F	Socket - Solder Cup

SERVICE CLASS		
		Finish
C		Aluminum/Black Anodize (Non-Conductive)
M		Aluminum/Electroless Nickel
NF		Aluminum/Cadmium with Olive Drab Chromate
MT		Aluminum/Nickel-PTFE (Duralon)
Z1		Stainless Steel/Passivated
ZM		Stainless Steel/Electroless Nickel
ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU		Aluminum/Zinc-Nickel with Black Chromate

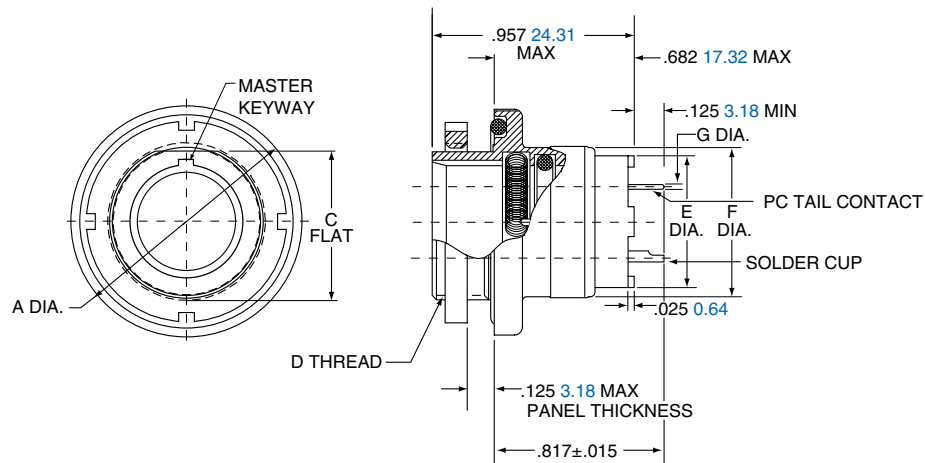


KEYING		
Key Position	Key Rotation	
	A	B
Omit	Single Master Key-way	
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°



Receptacle View
For single master key omit (leave blank)

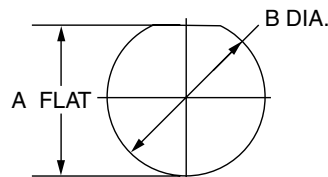
2M804-005-07 2M804-020-07



Shell Size	A Dia.		C Flat		D Thread UN-2A	E Dia.		F Dia.		G PC Tail Dia.
	in.	mm.	in.	mm.		in.	mm.	in.	mm.	
5	.773	19.63	.414	10.52	.4375-32	.274	6.96	.448	11.38	#23 .018/.022 0.46/0.56
6	.833	21.16	.468	11.89	.5000-32	.329	8.36	.513	13.03	
7	.903	22.94	.593	15.06	.6250-28	.431	10.95	.573	14.55	
8	.958	24.33	.593	15.06	.6250-28	.493	12.52	.596	15.14	#20/20HD .025/.027 0.64/0.69
9	.998	25.35	.653	16.59	.6875-28	.551	14.00	.691	17.55	
10	1.083	27.51	.721	18.31	.7500-28	.619	15.72	.728	18.49	#16 .060/.064 1.52/1.63
12	1.183	30.05	.843	21.41	.8750-28	.703	17.86	.883	22.43	
14	1.323	33.60	.968	24.59	1.0000-28	.863	21.92	1.003	25.48	
15	1.373	34.87	1.036	26.31	1.0625-20	.913	23.19	1.063	27.00	

JAM NUT PANEL CUTOUT

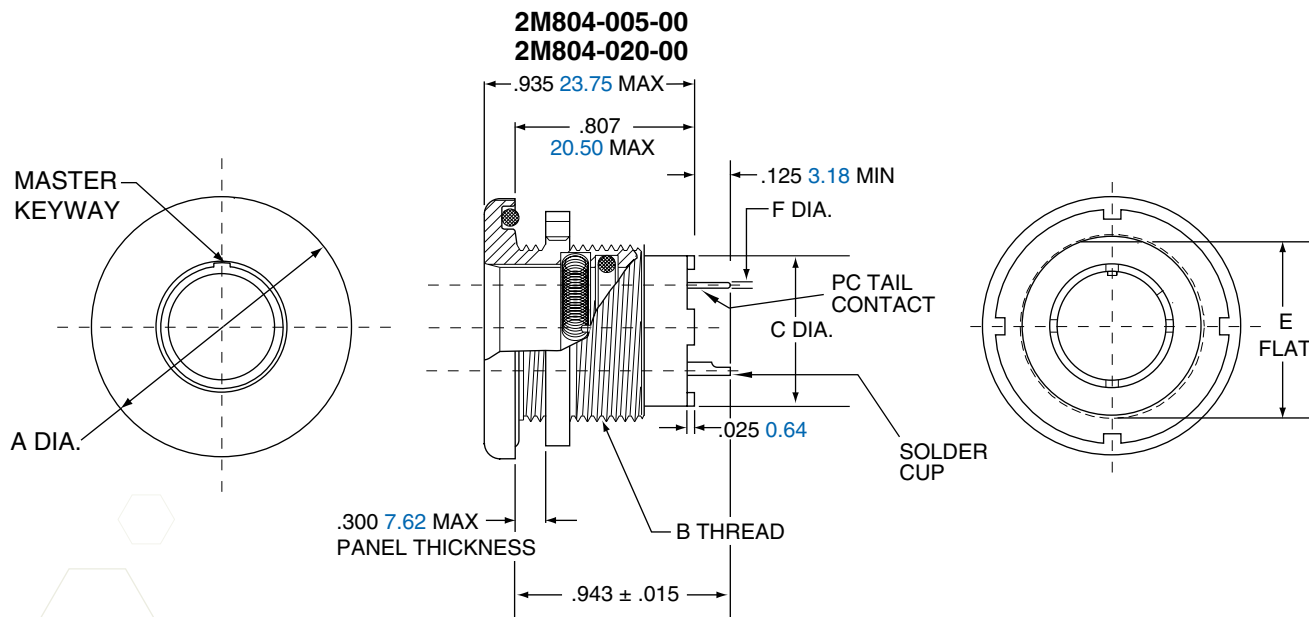
Shell Size	A Flat		B Dia.	
	in. ± .002	mm. ± 0.05	in. ± .005	mm. ± 0.13
5	.423	10.74	.448	11.38
6	.475	12.07	.510	12.95
7	.602	15.29	.635	16.13
8	.602	15.29	.635	16.13
9	.663	16.84	.698	17.73
10	.729	18.82	.760	19.30
12	.851	21.62	.885	22.48
14	.976	24.79	1.010	25.65
15	1.043	26.49	1.073	27.25



2M804 Push-Pull PCB or Solder Cup Receptacles



2M804-005-00 and 2M804-020-00



Shell Size	A Dia.		B Thread UN-2A	C Dia.		E Flat.		F Dia. Tail Dia.
	in.	mm.		in.	mm.	in.	mm.	
5	.830	21.08	.5000-32	.274	6.96	.470	11.94	#23 .018/.022 0.46/0.56
6	.884	22.45	.5625-28	.329	8.36	.529	13.44	
7	.994	25.25	.6875-28	.431	10.95	.663	16.84	#20/20HD .025/.027 0.64/0.69
8	.994	25.25	.6875-28	.493	12.52	.663	16.84	
9	1.073	27.25	.7500-28	.551	14.00	.719	18.26	#16 .060/.064 1.52/1.63
10	1.138	28.91	.8125-28	.619	15.72	.778	19.76	
12	1.338	33.99	1.0000-28	.703	17.86	.969	24.61	#12 .092/.096 2.34/2.44
14	1.388	35.26	1.0625-20	.863	21.92	1.019	25.88	
15	1.453	36.91	1.1250-28	.913	23.19	1.113	28.27	

JAM NUT PANEL CUTOUT

Shell Size	A Flat		B Dia.	
	in. ± .002	mm. ± 0.05	in. ± .005	mm. ± 0.13
5	.477	12.12	.510	12.95
6	.537	13.64	.573	14.55
7	.670	17.02	.698	17.73
8	.670	17.02	.698	17.73
9	.727	18.47	.760	19.30
10	.787	20.00	.823	20.90
12	.977	24.82	1.010	25.65
14	1.027	26.10	1.073	27.75
15	1.121	28.47	1.135	28.83

2M804 Panel Mount Plugs:

2M804 Series of Panel Mount Plugs are intended for use of terminating the connector directly to a Circuit Board or Flex assembly. These connectors can also be supplied with solder cup termination for direct wire attachment.

2M804 FEATURES INCLUDE:

- Low profile shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Environmental Sealing



Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M804-0XX	-06	ZNU	9-19	P	

For single master key
omit (leave blank)

SERIES	
2M804-009	Plugs with Solder Cup or PCB Termination with Standard Epoxy Potting
2M804-021	Plugs with Solder Cup or PCB Termination with Special Sealing for Open Face (unmated) Water Immersion Requirements. 100% Leak Tested. To maintain a helium leak rate of 1×10^{-4} cc/sec. pressure differential from -65°C to 150°C.

SHELL STYLE	
-00	Jam Nut for Front Panel Mounting
-07	Jam Nut for Rear Panel Mounting
-02	Flange Mount, Rear Panel

SHELL SIZE - INSERT ARRANGEMENTS

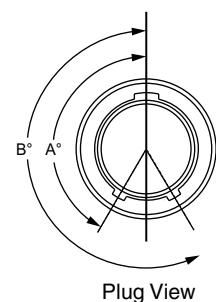
See Insert Arrangements on Pages 13-15

CONTACTS

P	Pin - PC Tail
S	Socket - PC Tail
E	Pin - Solder Cup
F	Socket - Solder Cup

SERVICE CLASS		
		Finish
C		Aluminum/Black Anodize (Non-Conductive)
M		Aluminum/Electroless Nickel
NF		Aluminum/Cadmium with Olive Drab Chromate
MT		Aluminum/Nickel-PTFE (Duralon)
Z1		Stainless Steel/Passivated
ZM		Stainless Steel/Electroless Nickel
ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU		Aluminum/Zinc-Nickel with Black Chromate

KEYING		
Key Position	Key Rotation	
	A	B
Omit	Single Master Key	
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°

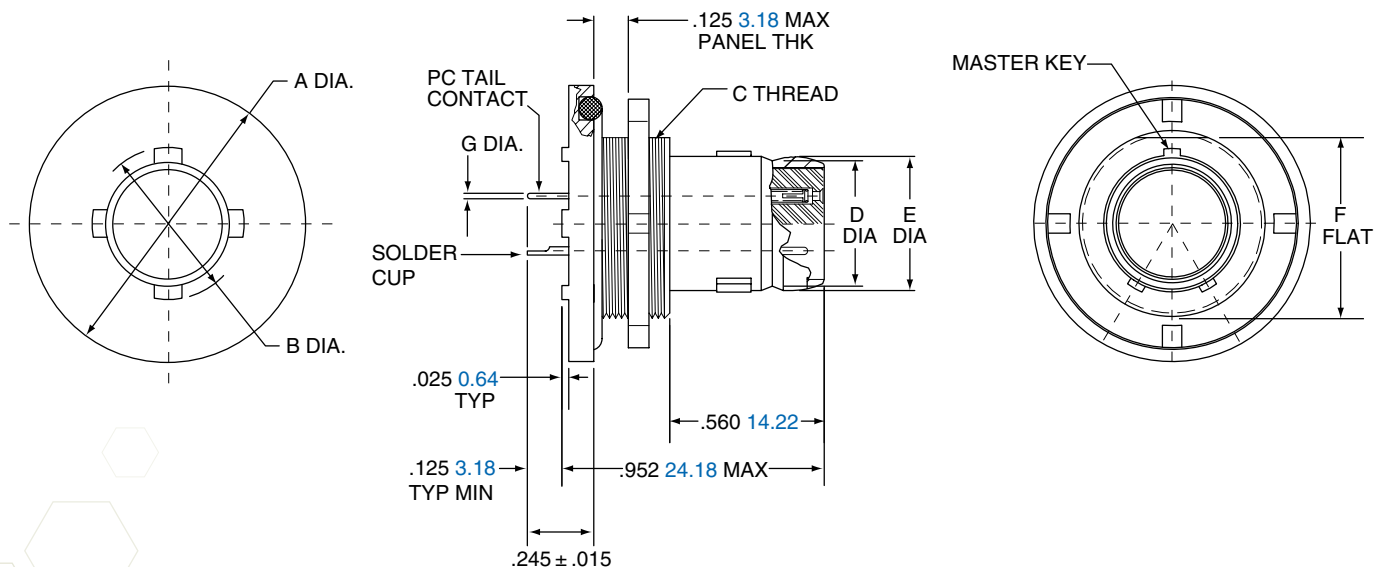


2M804 Push-Pull Jam Nut Panel Mount Plug



2M804-009-07 and 2M804-021-07

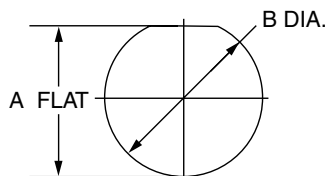
2M804-009-07
2M804-021-07



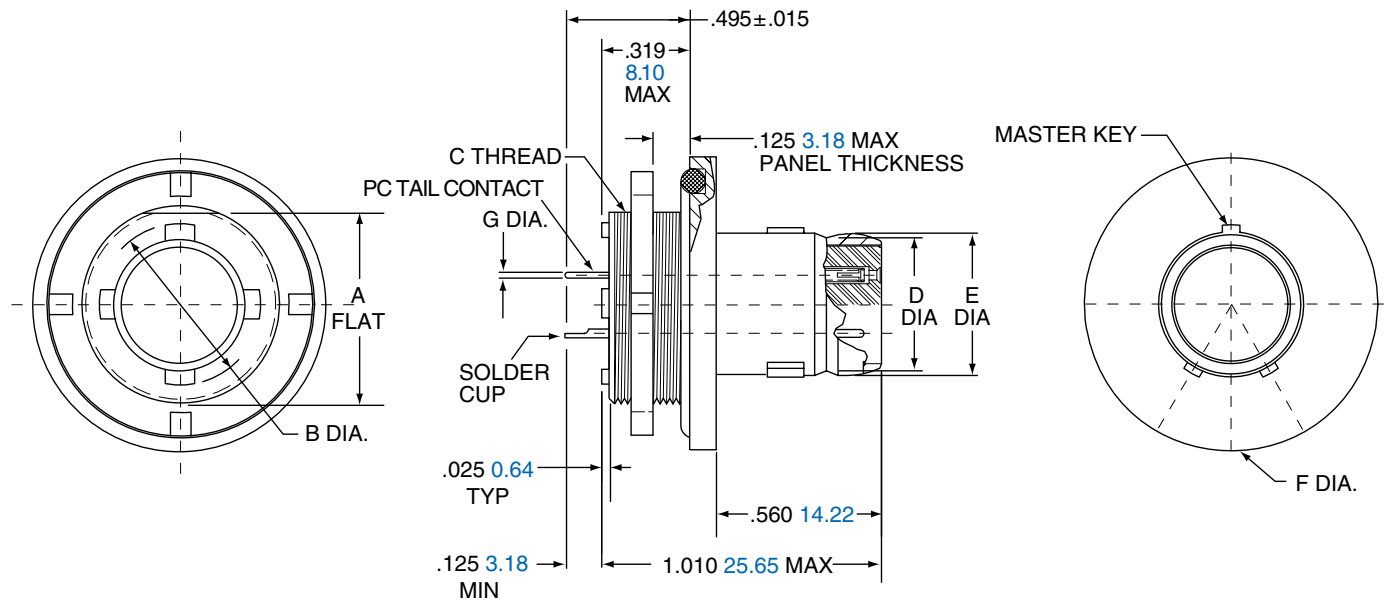
Shell Size	A Dia.		B Dia.		C Thread UN-2A	D Dia.		E Dia.		F Flat.		G PC Tail Dia.
	in.	mm.	in.	mm.		in.	mm.	in.	mm.	in.	mm.	
5	.773	19.63	.244	6.20	.4375-32	.218	5.54	.245	6.22	.414	10.52	#23 .018/.022 0.46/0.56
6	.833	21.16	.330	8.38	.5000-32	.275	6.99	.310	7.87	.468	11.89	#20/20HD .025/.027 0.64/0.69
7	.903	22.94	.432	10.97	.6250-28	.350	8.89	.378	9.60	.593	15.06	#16 .060/.064 1.52/1.63
8	.958	24.33	.493	12.52	.6250-28	.395	10.03	.426	10.82	.593	15.06	#12 .092/.096 2.34/2.44
9	.998	25.35	.551	14.00	.6875-28	.450	11.43	.482	12.24	.653	16.59	
10	1.083	27.51	.620	15.75	.7500-28	.525	13.34	.555	14.10	.721	18.31	
12	1.183	30.05	.703	17.86	.8750-28	.642	16.31	.672	17.07	.843	21.41	
14	1.323	33.60	.863	21.92	1.0000-28	.761	19.33	.795	20.19	.968	24.59	

JAM NUT PANEL CUTOUT

Shell Size	A Flat		B Dia.	
	in. ±.002	mm. ± 0.05	in. ±.005	mm. ± 0.13
5	.423	10.74	.448	11.38
6	.475	12.07	.510	12.95
7	.602	15.29	.635	16.13
8	.602	15.29	.635	16.13
9	.663	16.84	.698	17.73
10	.729	18.82	.760	19.30
12	.851	21.62	.885	22.48
14	.976	24.79	1.010	25.65



2M804-009-00
2M804-021-00



Shell Size	A Flat.		B Dia.		C Thread UN-2A	D Dia.		E Dia.		F Dia.		G PC Tail Dia.
	in.	mm.	in.	mm.		in.	mm.	in.	mm.	in.	mm.	
5	.414	10.52	.244	6.20	.4375-32	.218	5.54	.245	6.22	.773	19.63	#23 .018/.022 0.46/0.56
6	.468	11.89	.330	8.38	.5000-32	.275	6.99	.310	7.87	.833	21.16	#20/20HD .025/.027 0.64/0.69
7	.593	15.06	.432	10.97	.6250-28	.350	8.89	.378	9.60	.903	22.94	
8	.593	15.06	.493	12.52	.6250-28	.395	10.03	.426	10.82	.958	24.33	#16 .060/.064 1.52/1.63
9	.653	16.59	.551	14.00	.6875-28	.450	11.43	.482	12.24	.998	25.35	#12 .092/.096 2.34/2.44
10	.721	18.31	.620	15.75	.7500-28	.525	13.34	.555	14.10	1.083	27.51	
12	.843	21.41	.703	17.86	.8750-28	.642	16.31	.672	17.07	1.183	30.05	
14	.968	24.59	.863	21.92	1.0000-28	.761	19.33	.795	20.19	1.323	33.60	

JAM NUT PANEL CUTOUT

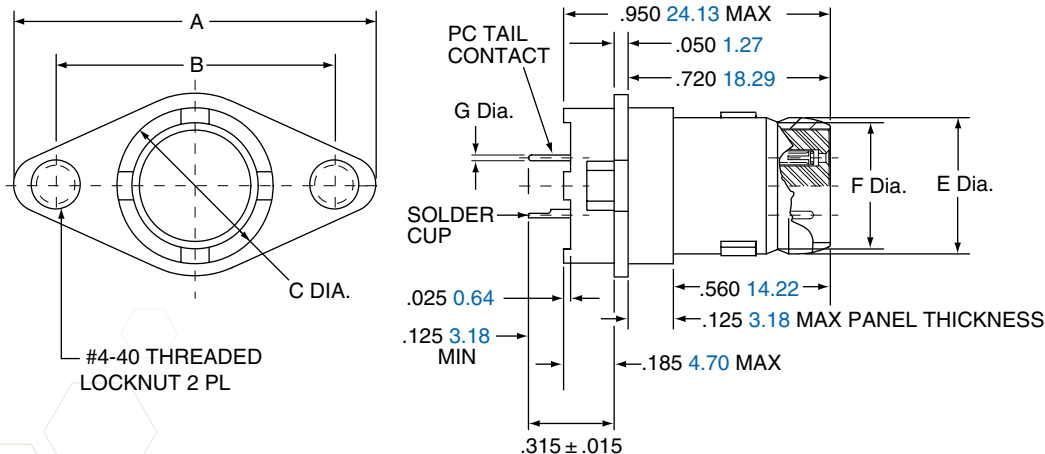
Shell Size	A Flat		B Dia.	
	in. ± .002	mm. ± 0.05	in. ± .005	mm. ± 0.13
5	.423	10.74	.448	11.38
6	.475	12.07	.510	12.95
7	.602	15.29	.635	16.13
8	.602	15.29	.635	16.13
9	.663	16.84	.698	17.73
10	.729	18.82	.760	19.30
12	.851	21.62	.885	22.48
14	.976	24.79	1.010	25.65

2M804 Push-Pull Plug Flange Panel Mount



2M804-009-02 and 2M804-021-02

2M804-009-02
2M804-021-02



Shell Size	A		B		C Dia.		E Dia.		F Dia.		G PC Tail Dia.
	in.	mm.	in. ± .005	mm. ± 0.13	in.	mm.	in.	mm.	in.	mm.	
5	1.055	26.80	.755	19.18	.323	8.20	.245	6.22	.218	5.54	#23 .018/.022 0.46/0.56
6	1.120	28.45	.820	20.83	.388	9.86	.310	7.87	.275	6.99	#20/20HD .025/.027 0.64/0.69
7	1.185	30.10	.885	22.48	.453	11.51	.378	9.60	.350	8.89	#16 .060/.064 1.52/1.63
8	1.230	31.24	.930	23.62	.498	12.65	.425	10.80	.395	10.03	#12 .092/.096 2.34/2.44
9	1.290	32.77	.990	25.15	.558	14.17	.482	12.24	.450	11.43	
10	1.360	34.54	1.060	26.92	.628	15.95	.555	14.10	.525	13.34	
12	1.485	37.72	1.185	30.10	.753	19.13	.672	17.07	.642	16.31	
14	1.600	40.64	1.300	33.02	.868	22.05	.795	20.19	.761	19.33	

2M804 Series of Hermetic Receptacles:

2M804 Series of Hermetic Receptacles provide superior sealing of 1×10^{-8} cc/second helium leak rate and are 100% tested prior to shipping. This superior sealing is accomplished through the use of glass insulator fused to stainless steel shells and iron alloy contacts.

2M804 FEATURES INCLUDE:

- Low profile shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Hermetic Sealing

Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position	For single master key omit (leave blank)
2M804-006	-07	Z1	9-19	P	A	

SERIES

2M804-006	Hermetic Receptacle with Printed Circuit Board Contacts or Solder Cup Contacts.
-----------	---

SHELL STYLE

-00	Jam Nut for Front Panel Mounting
-07	Jam Nut for Rear Panel Mounting

SHELL SIZE - INSERT ARRANGEMENTS

See Insert Arrangements on Pages 13-15

CONTACTS

P	Pin - Solder Cup
C	Pin - PC Tail
H	Pin, Solder Cup - Without Interfacial Seal
Y	Pin, PC Tail - Without Interfacial Seal

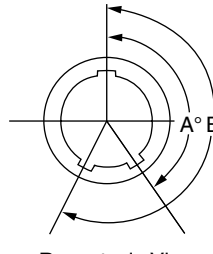
SERVICE CLASS

	Finish
ZL	Stainless Steel/Nickel Plated
Z1	Stainless Steel/Passivated

KEYING

Key Position	Key Rotation	
	A	B
Omit	Single Master Key-way	
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°





Receptacle View

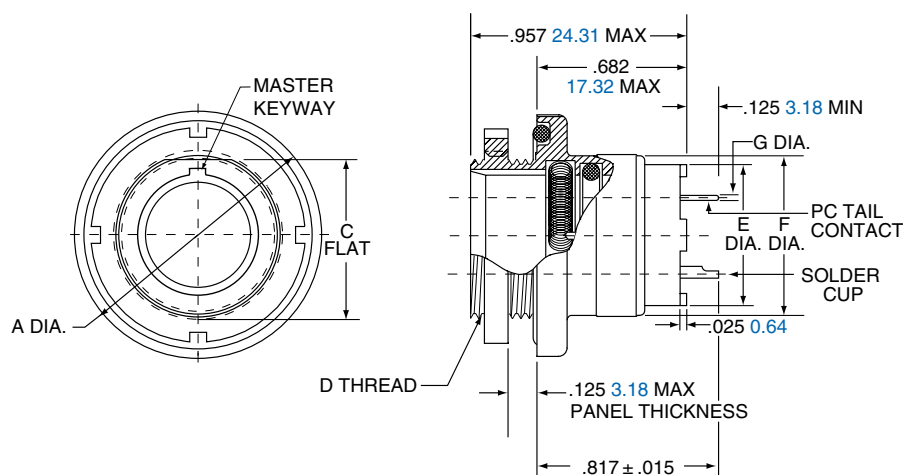
Note: Please contact the factory directly for a listing of tooled interfacial seals for the hermetically sealed connectors.

2M804 Push-Pull Rear Panel Jam Nut Hermetic



2M804-006-07

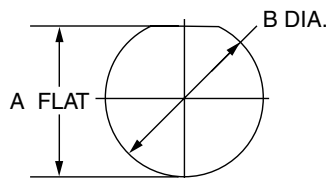
2M804-006-07



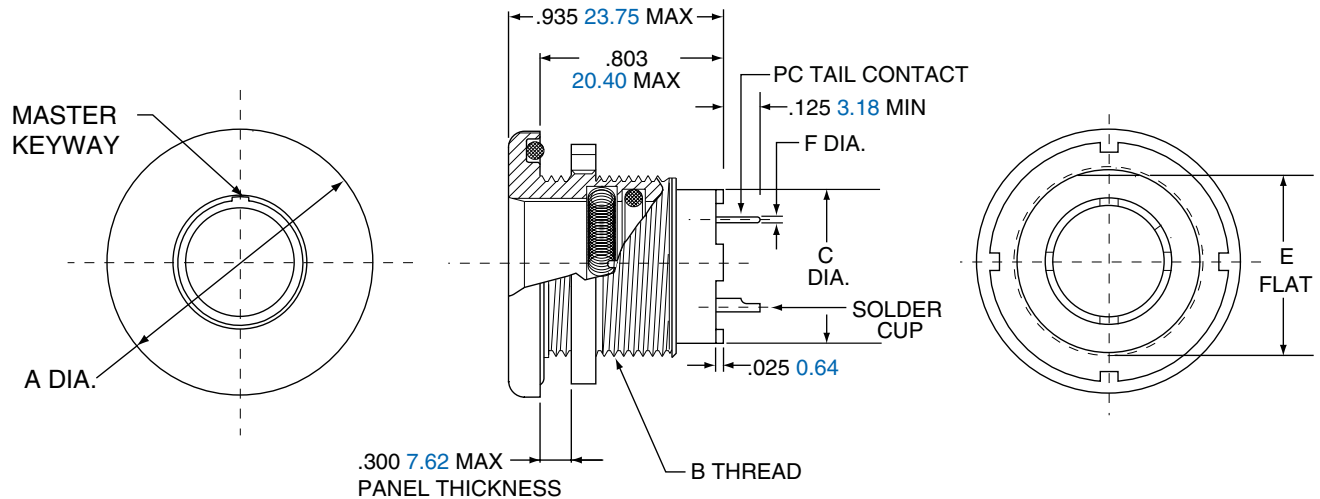
Shell Size	A Dia.		C Flat		D Thread UN-2A	E Dia.		F Dia.		G PC Tail Dia.
	in.	mm.	in.	mm.		in.	mm.	in.	mm.	
5	.773	19.63	.414	10.52	.4375-32	.274	6.96	.448	11.38	#23 .018/.022 0.46/0.56
6	.833	21.16	.468	11.89	.5000-32	.329	8.36	.513	13.03	#20/20HD .025/.027 0.64/0.69
7	.903	22.94	.593	15.06	.6250-28	.431	10.95	.573	14.55	
8	.958	24.33	.593	15.06	.6250-28	.493	12.52	.596	15.14	#16 .060/.064 1.52/1.63
9	.998	25.35	.653	16.59	.6875-28	.551	14.00	.691	17.55	
10	1.083	27.51	.721	18.31	.7500-28	.619	15.72	.728	18.49	#12 .092/.096 2.34/2.44
12	1.183	30.05	.843	21.41	.8750-28	.703	17.86	.883	22.43	
14	1.323	33.60	.968	24.59	1.0000-28	.863	21.92	1.003	25.48	
15	1.373	34.87	1.036	26.31	1.0625-20	.913	23.19	1.063	27.00	

JAM NUT PANEL CUTOUT

Shell Size	A Flat		B Dia.	
	in. ± .002	mm. ± 0.05	in. ± .005	mm. ± 0.13
5	.423	10.74	.448	11.38
6	.475	12.07	.510	12.95
7	.602	15.29	.635	16.13
8	.602	15.29	.635	16.13
9	.663	16.84	.698	17.73
10	.729	18.82	.760	19.30
12	.851	21.62	.885	22.48
14	.976	24.79	1.010	25.65



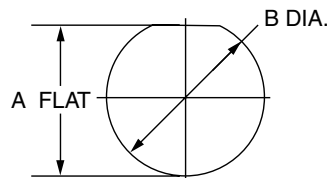
2M804-006-00



Shell Size	A Dia.		B Thread UN-2A	C Dia.		E Flat.		F PC Tail Dia.
	in.	mm.		in.	mm.	in.	mm.	
5	.830	21.08	.5000-32	.274	6.96	.470	11.94	#23 .018/.022 0.46/0.56
6	.884	22.45	.5625-32	.329	8.36	.529	13.44	
7	.994	25.25	.6875-28	.431	10.95	.663	16.84	#20/20HD .025/.027 0.64/0.69
8	.994	25.25	.6875-28	.493	12.52	.663	16.84	
9	1.073	27.25	.7500-28	.551	14.00	.719	18.26	#16 .060/.064 1.52/1.63
10	1.138	28.91	.8125-28	.619	15.72	.778	19.76	
12	1.338	33.99	1.0000-28	.703	17.86	.969	24.61	#12 .092/.096 2.34/2.44
14	1.388	35.26	1.0625-20	.863	21.92	1.019	25.88	
15	1.453	36.91	1.1250-28	.913	23.19	1.113	28.27	

JAM NUT PANEL CUTOUT

Shell Size	A Flat		B Dia.	
	in. ±.002	mm. ± 0.05	in. ±.005	mm. ± 0.13
5	.477	12.12	.510	12.95
6	.537	13.64	.635	16.13
7	.670	17.02	.635	16.13
8	.670	17.02	.698	17.73
9	.727	18.47	.760	19.30
10	.787	19.81	.885	22.48
12	.977	24.82	1.010	25.65
14	1.027	26.09	1.073	27.25
15	1.120	28.45	1.135	28.83



2M804 Push-Pull Receptacles Protection Caps



Ordering Guide for 2M667-202

Protection Caps:

2M804 Push-Pull Protective Caps are available in plug and receptacle versions. Protective caps keep the connector interface dry and clean while not in use. Caps come in a variety of materials, lanyard styles and lengths to accommodate specific design requirements.



Series	Service Class	Shell Size	Attachment Type	Attachment Code	Attachment Length in Inches	Pull Ring Option
2M667-202	-M	9	-G	04	-5	R

SERIES	
2M667-202	Protection Caps 2M804 Receptacles

SHELL SIZE		ATTACHMENT TYPE	
5		-G	Nylon Rope
6			
7		-H	Stainless Steel Wire Rope, Teflon® Jacket
8		-N	No Attachment
9		-S	Stainless Steel Sash Chain
10		-SK	Nylon Rope With Slip Knot
12			
14		-T	Stainless Steel Wire Rope, No Jacket
		-U	Stainless Steel Wire Rope, Polyurethane Jacket

Omit for attachment Type N (No Attachment)
Example "-5" equals five inch length

PULL RING OPTIONS	
R	Supplied with Pull Ring
	Omit for None

ATTACHMENT CODE	
Omit for attachment Types N (No Attachment) and SK (Slip Knot)	
Small Ring	01 -.126 (3.20) I.D. 02 -.145 (3.68) I.D. 04 -.188 (4.78) I.D. 06 -.197 (5.00) I.D.
Large Ring	14 -.385 (9.78) I.D. 15 -.445 (11.30) I.D. 16 -.570 (14.48) I.D. 17 -.635 (16.13) I.D. 18 -.695 (17.65) I.D. 19 -.885 (22.48) I.D. 20 -1.070 (27.17) I.D. 21 -1.135 (28.83) I.D. 25 -0.820 (20.8) I.D.
Split Ring	50 -.420 (10.67) I.D. 52 -.480 (12.19) I.D. 54 -.635 (16.13) I.D. 56 -.745 (18.92) I.D. 58 -.885 (22.48) I.D. 60 -1.010 (25.65) I.D. 64 -1.125 (28.58) I.D. 68 -1.345 (34.16) I.D.

SERVICE CLASS		
		Finish
-C		Aluminum/Black Anodize (Non-Conductive)
-M		Aluminum/Electroless Nickel
-NF		Aluminum/Cadmium with Olive Drab Chromate
-MT		Aluminum/Nickel-PTFE (Duralon)
-Z1		Stainless Steel/Passivated
-ZM		Stainless Steel/Electroless Nickel
-ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
-ZNU		Aluminum/Zinc-Nickel with Black Chromate



Series	Service Class	Shell Size	Attachment Type	Attachment Code	Attachment Length in Inches
2M809-198	-M	6	-G	04	-5

SERIES	
2M809-198	Protection Cap for 2M804 Plug

SHELL SIZE
5
6
7
8
9
10
12
14

ATTACHMENT TYPE	
-G	Nylon Rope
-H	Stainless Steel Wire Rope, Teflon® Jacket
-N	No Attachment
-S	Stainless Steel Sash Chain
-SK	Nylon Rope With Slip Knot
-T	Stainless Steel Wire Rope, No Jacket
-U	Stainless Steel Wire Rope, Polyurethane Jacket

Omit for attachment Type N (No Attachment)
Example "-5" equals five inch length

ATTACHMENT CODE	
Omit for attachment Types N (No Attachment) and SK (Slip Knot)	
Small Ring	01 -.126 (3.20) I.D. 02 -.145 (3.68) I.D. 04 -.188 (4.78) I.D. 06 -.197 (5.00) I.D.
Large Ring	14 -.385 (9.78) I.D. 15 -.445 (11.30) I.D. 16 -.570 (14.48) I.D. 17 -.635 (16.13) I.D. 18 -.695 (17.65) I.D. 19 -.885 (22.48) I.D. 20 -1.070 (27.17) I.D. 21 -1.135 (28.83) I.D. 22 -1.210 (30.73) I.D. 23 -1.275 (32.39) I.D. 24 -1.375 (34.94) I.D. 24 -0.820 (20.8) I.D.
Split Ring	50 -.420 (10.67) I.D. 52 -.480 (12.19) I.D. 54 -.635 (16.13) I.D. 56 -.745 (18.92) I.D. 58 -.885 (22.48) I.D. 60 -1.010 (25.65) I.D. 64 -1.125 (28.58) I.D. 68 -1.345 (34.16) I.D.

SERVICE CLASS		
		Finish
-C		Aluminum/Black Anodize (Non-Conductive)
-M		Aluminum/Electroless Nickel
-NF		Aluminum/Cadmium with Olive Drab Chromate
-MT		Aluminum/Nickel-PTFE (Duralon)
-Z1		Stainless Steel/Passivated
-ZM		Stainless Steel/Electroless Nickel
-ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
-ZNU		Aluminum/Zinc-Nickel with Black Chromate

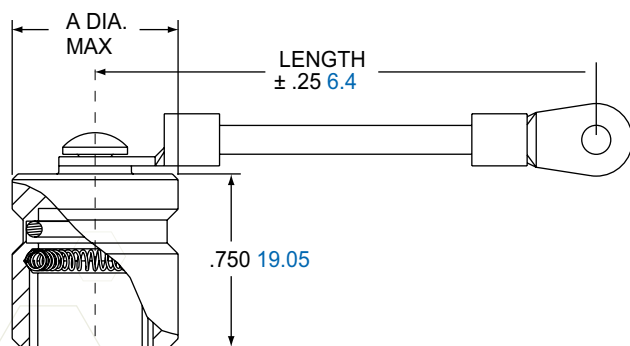


2M804 Push-Pull Protection Cap

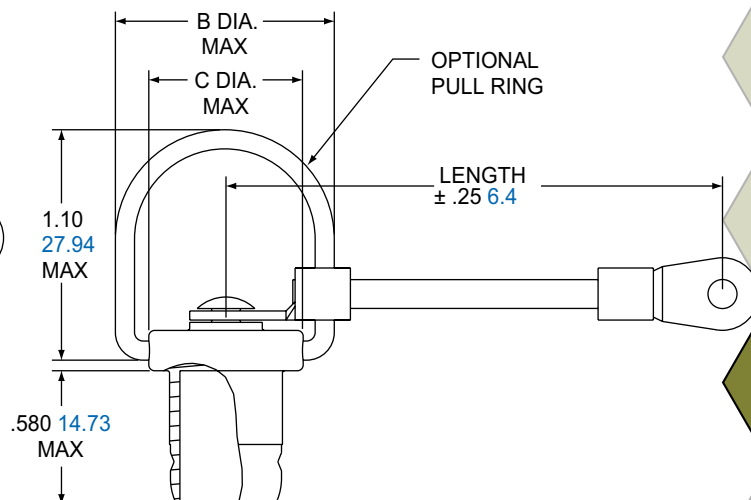


Metal Protection Cap 2M809-198 and 2M667-202

2M809-198



2M667-202



Shell Size	A Max.		B Max.		C Max.	
	in.	mm.	in.	mm.	in.	mm.
5	.483	12.27	.720	18.29	.498	12.65
6	.533	13.54	.720	18.29	.503	12.78
7	.633	16.08	.800	20.32	.578	14.68
8	.658	16.71	.850	21.59	.627	15.93
9	.708	17.98	.900	22.86	.678	17.22
10	.783	19.89	1.010	25.65	.791	20.09
12	.908	23.06	1.090	27.69	.868	22.05
14	1.033	26.24	1.210	30.73	.988	25.10
15	1.083	27.51	1.260	32.00	1.038	26.37

MATERIALS AND FINISHES

Cover	Aluminum alloy or stainless steel
O-Ring	Fluorosilicone rubber
Wire, Hardware	Stainless steel, passivated

LANYARD OPTIONS

	Nylon Rope	-55° to +100°C., black, flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter
	Sash Chain	Stainless steel
	Slip Knot (SK) for attaching Covers to Cables	55° to +100°C., black, flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter. Length includes .5" 13mm diameter loop.

Protection Caps:

Push-Pull Rubber Protective Caps can be used on the 2M804 push-pull plugs and receptacles. These molded rubber covers are ideal for a protective splash-proof option.



Series	Shell Size	Attachment Type	Lanyard Length	Attachment Code	Conductive Rubber
2M809-083	-6	G	5	-04	C

Example "-5"
equals five inch
length

SERIES	
2M809-083	Protection Cap for 2M804 Plugs
2M809-087	Protection Cap for 2M804 Receptacles

ATTACHMENT TYPE	
G	Nylon Rope
N	No Attachment

SHELL SIZE
-5
-6
-7
-8
-9
-10
-12
-14

ATTACHMENT CODE	
-WS	Nylon Cable tie, 1.77 Inch (45mm) Maximum Wire Bundle Diameter
-SK	Slip Knot
-00	Lanyard with no attachment (fused End)
-01	-.147 (3.73) I.D.
-02	-.147 (3.73) I.D.
-04	-.173 (3.94) I.D.
-06	N/A
-07	-.385 (9.78) I.D.
-08	-.510 (13.11) I.D.
-09	-.583 (14.81) I.D.
-10	-.766 (19.4) I.D.
-11	-.896 (25.76) I.D.
-12	-1.015 (25.78) I.D.
-15	-.445 (11.30) I.D.
-16	-.570 (14.48) I.D.
-17	-.635 (16.13) I.D.
-18	-.695 (17.65) I.D.
-19	-.885 (22.48) I.D.
-20	-1.070 (27.18) I.D.
-21	-1.135 (28.83) I.D.
-25	- 0.820 (20.8) I.D.

Small Ring

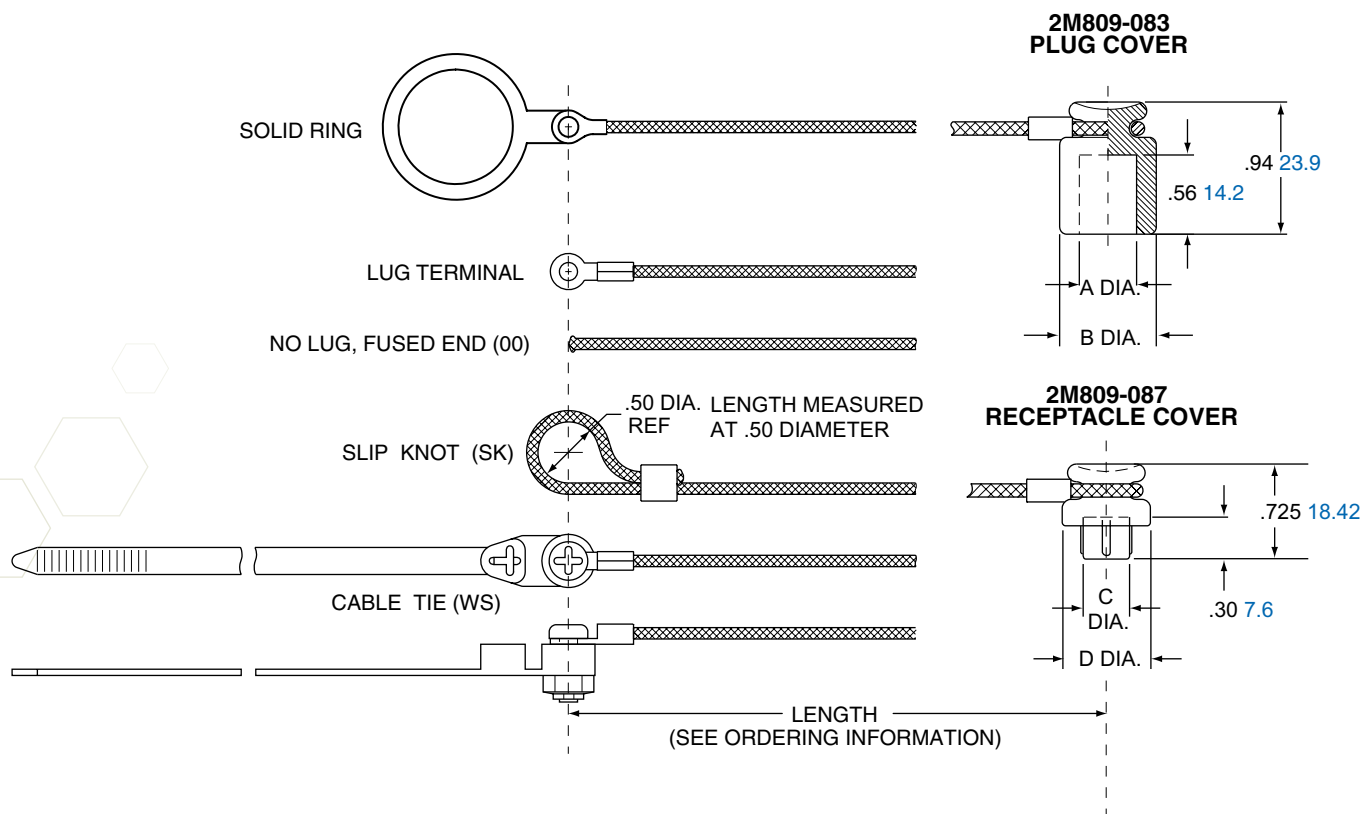
Large Ring

CONDUCTIVE RUBBER	
Omit for Standard Neoprene	
C	Conductive Rubber

2M804 Push-Pull Plug Rubber Caps



Rubber Caps 2M809-083 and 2M809-087



Shell Size	A Dia.		B Dia.		C Dia.		D Dia.	
	in.	mm.	in. ± .005	mm. ± 0.13	in.	mm.	in.	mm.
5	.230	5.84	.560	14.22	.293	7.44	.638	16.21
6	.290	7.37	.560	14.22	.358	9.09	.700	17.78
7	.360	9.14	.560	14.22	.418	10.62	.825	20.96
8	.410	10.41	.680	17.27	.473	12.01	.825	20.96
9	.460	11.68	.680	17.27	.526	13.36	.888	22.56
10	.540	13.72	.790	20.07	.603	15.32	.950	24.13
12	.650	16.51	.790	20.07	.724	18.39	1.075	27.31
14	.780	19.81	1.110	28.19	.845	21.46	1.200	30.48
15	.845	21.46	1.110	28.19	.900	22.86	1.325	33.66

MATERIALS

Cover	Neoprene rubber blend, black
Lanyard	.062" (1.57) diameter nylon cord, black
Cable Tie	6/6 nylon, black SST locking tab
Ring	Stainless steel

Protection Covers:

Protection Covers are used on 2M804 Jam Nut Receptacles. The spring loaded cover stays closed when cable is disconnected. A silicone gasket is used to provide a seal when closed. Cover is available in Aluminum alloy or stainless steel.

Shell Size	Part Number				
	Aluminum				Stainless Steel
	Nickel	Olive Drab	Nickel-PTFE	Black Zinc-Nickel	Passivated
5	2M667-282M05	2M667-282NF05	2M667-282MT05	2M667-282ZNU05	2M667-282Z105
6	2M667-282M06	2M667-282NF06	2M667-282MT06	2M667-282ZNU06	2M667-282Z106
7	2M667-282M07	2M667-282NF07	2M667-282MT07	2M667-282ZNU07	2M667-282Z107
8	2M667-282M08	2M667-282NF08	2M667-282MT08	2M667-282ZNU08	2M667-282Z108
9	2M667-282M08	2M667-282NF09	2M667-282MT09	2M667-282ZNU09	2M667-282Z109
10	2M667-282M10	2M667-282NF10	2M667-282MT10	2M667-282ZNU10	2M667-282Z110
12	2M667-282M12	2M667-282NF12	2M667-282MT12	2M667-282ZNU12	2M667-282Z112
14	2M667-282M14	2M667-282NF14	2M667-282MT14	2M667-282ZNU14	2M667-282Z114

Shell Size	Dimensions			
	A		B	
	in.	mm.	in.	mm.
5	.63	16.0	.93	23.6
6	.69	17.5	.99	25.1
7	.82	20.8	1.11	28.2
8	.82	20.8	1.11	28.2
9	.88	22.4	1.18	30.0
10	.94	23.9	1.24	31.5
12	1.07	27.2	1.36	34.5
14	1.19	30.2	1.49	37.8

Materials	
Cover, Housing	Aluminum Alloy or Stainless Steel
Gasket	Silicone Rubber
Sleeve	Delrin
Spring, Shaft	Stainless Steel



General Information

2M805 Series Micro-Miniature Connectors:

Amphenol's 2M805 Series of connectors offers the best EMI and Vibration performance among all the 2M connector series. The series features a Tri-Start thread with 1 turn full mate coupling. An EMI ground strap and shell-to-shell bottoming provide superior EMI shielding. Plugs and Receptacles are provided in two different styles to accommodate the attachment of backshell with rear accessory threads or with integral backshell. The integral backshell allows for use of EMI shielding attachments and/or overmolding. Contact termination styles include Crimp, PC Tail, and Solder Cup with others available upon request. Custom and Filter configurations are available, please consult factory for ordering information.

2M805 FEATURES INCLUDE:

- Anti-Vibration Self locking Plugs
- Tri-Start thread for 1 turn full mating
- Superior EMI shielding
- Sealed Receptacles:
 - Hermetic (1×10^{-6} cc/second)
 - Epoxy Backfilled (1×10^{-4} cc/second)
- ROHS Compliant Plating
- Insert Arrangements up to 130 contacts



2M805 SPECIFICATIONS

Current Rating	See Insert Arrangements (pg. 14-17)
DWV	See Insert Arrangements (pg. 14-17)
Insulation Resistance	5000 megohms min.
Operating Temperature	-65° C to +150° C
Shock	300 g's
Vibration	Random: 43.9 g Sine: 60 g
Shielding Effectiveness	85 dB min. from 100MHz to 1000MHz
Durability	500 mating cycles

2M805 MATERIALS AND FINISHES

Shells	Aluminum Alloy or Stainless Steel
Contacts	Copper Alloy, gold plated
Insulators	Polyphenylene Sulfide (PPS)
Contact Retention	Beryllium Copper Alloy
Grommet, Interfacial Seal, O'Ring	Fluorosilicone Rubber

SERIES 2M805 CONNECTOR WEIGHT IN GRAMS

Insert Arrange	Cable Plug	J/N Recept. Crimp	J/N Recept. PCB	Sq. Flange Recept. Crimp	Sq. Flange Recept. PCB
8-1P	7.5	5.8	5.7	5.8	4.6
8-1S	7.9	6.3	6.2	6.3	5.1
8-4P	8.3	6.6	6.5	6.6	5.4
8-4S	8.8	7.2	7.0	7.2	5.9
8-7P	7.3	5.6	5.5	5.6	4.4
8-7S	7.7	6.1	5.9	6.1	4.8
9-1P	10.9	9.0	9.0	6.8	7.7
9-1S	11.4	9.6	9.6	7.4	8.3
9-10P	10.7	8.8	8.8	6.6	7.5
9-10S	11.6	9.7	9.7	7.5	8.4
10-2P	13.3	10.2	10.3	8.9	9.4
10-2S	14.1	11.0	11.1	9.7	10.1
10-13P	12.7	9.6	9.7	8.3	8.7
10-13S	13.4	10.3	10.5	9.0	9.5
10-200P	13.9	10.8	10.9	9.5	9.9
10-200S	14.7	11.7	11.8	10.3	10.8
11-4P	15.4	12.1	13.1	10.3	11.3
11-4S	16.4	13.1	14.1	11.3	12.3
11-19P	14.3	11.0	12.0	9.2	10.2
11-19S	15.4	12.1	13.1	10.3	11.3
11-200P	14.9	11.6	12.5	9.8	10.8
11-200S	16.0	12.7	13.6	10.9	11.9
11-201P	15.4	12.1	13.1	10.3	11.3
11-201S	16.6	13.3	14.3	11.6	12.5
12-5P	17.6	13.9	16.3	12.2	13.1
12-5S	19.0	15.3	17.7	13.6	14.5
12-26P	15.8	12.1	14.5	10.5	11.3
12-26S	17.4	13.6	16.1	12.0	12.9
12-200P	16.5	12.8	15.2	11.1	12.0
12-200S	17.9	14.2	16.6	12.5	13.4
12-201P	16.6	12.9	15.3	11.2	12.1
12-201S	18.0	14.3	16.7	12.7	13.5

SERIES 2M805 CONNECTOR WEIGHT IN GRAMS

Insert Arrange	Cable Plug	J/N Recept. Crimp	J/N Recept. PCB	Sq. Flange Recept. Crimp	Sq. Flange Recept. PCB
12-202P	16.6	12.9	15.3	11.2	12.1
12-202S	18.2	14.4	16.8	12.8	13.6
15-2P	20.7	20.2	21.8	17.1	19.5
15-2S	22.3	21.9	23.4	18.7	21.1
15-3P	21.7	21.2	22.8	18.0	20.5
15-3S	23.4	23.0	24.5	19.8	22.2
15-7P	21.9	21.5	23.0	18.3	20.7
15-7S	24.5	24.1	25.6	20.9	23.3
15-37P	20.1	19.7	21.2	16.5	18.9
15-37S	23.0	22.6	24.1	19.4	21.8
15-200P	20.4	19.9	21.5	16.7	19.1
15-200S	22.6	22.1	23.7	18.9	21.3
15-201P	20.7	20.2	21.8	17.1	19.5
15-201S	23.0	22.6	24.1	19.4	21.8
18-5P	29.9	31.6	30.1	26.1	29.0
18-5S	32.9	34.5	33.1	29.0	32.0
18-12P	30.7	32.3	30.9	26.8	29.8
18-12S	34.3	36.0	34.5	30.5	33.4
18-55P	27.3	28.9	27.5	23.4	26.4
18-55S	30.7	32.3	30.9	26.8	29.8
19-7P	27.9	30.0	33.1	25.1	33.0
19-7S	31.0	33.1	36.2	28.2	36.1
19-14P	32.9	35.0	38.1	30.0	38.0
19-14S	32.6	34.7	37.7	29.7	37.6
19-85P	26.6	28.7	31.8	23.8	31.7
19-85S	31.1	33.2	36.3	28.3	36.2
23-17P	40.2	42.9	44.4	36.7	43.9
23-12S	45.2	48.0	49.5	41.8	49.0
23-22P	42.7	45.4	47.0	39.3	46.4
23-22S	49.6	52.4	53.9	46.2	53.4
23-130P	37.8	40.6	42.1	34.4	41.6
23-130S	44.9	47.7	49.3	41.6	48.7

2M805 Tri-Start Threaded Coupling



Ordering Guide for 2M805 Plug & Receptacle

2M805 Series Connector



Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M805-00X	-16	C	15-37	S	A

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M805-001	Plug with Integral Backshell
2M805-002	Plug with Accessory Thread
2M805-003	Receptacle with Integral Backshell
2M805-004	Receptacle with Accessory Thread

SHELL STYLE	
2M805-001, 2M805-002	
-16	Plug Connector with Ratcheting Anti-Decoupling Mechanism
SHELL STYLE	
2M805-003, 2M805-004	
-01	In-Line Receptacle
-02	Square Flange Receptacle
-07	Jam Nut* for Rear Panel Mounting Receptacle

SHELL SIZE - INSERT ARRANGEMENTS

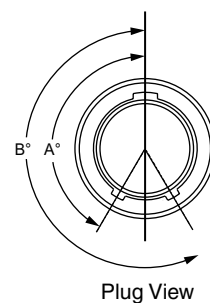
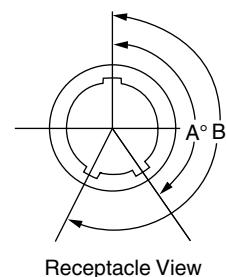
See Insert Arrangements on Pages 13-15



CONTACTS	
P	Pin
S	Socket
A	Pin, less contacts
B	Socket, less contacts

SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

KEYING		
Key Position	Key Rotation	
	A	B
Normal A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°



INSERT ARRANGEMENTS

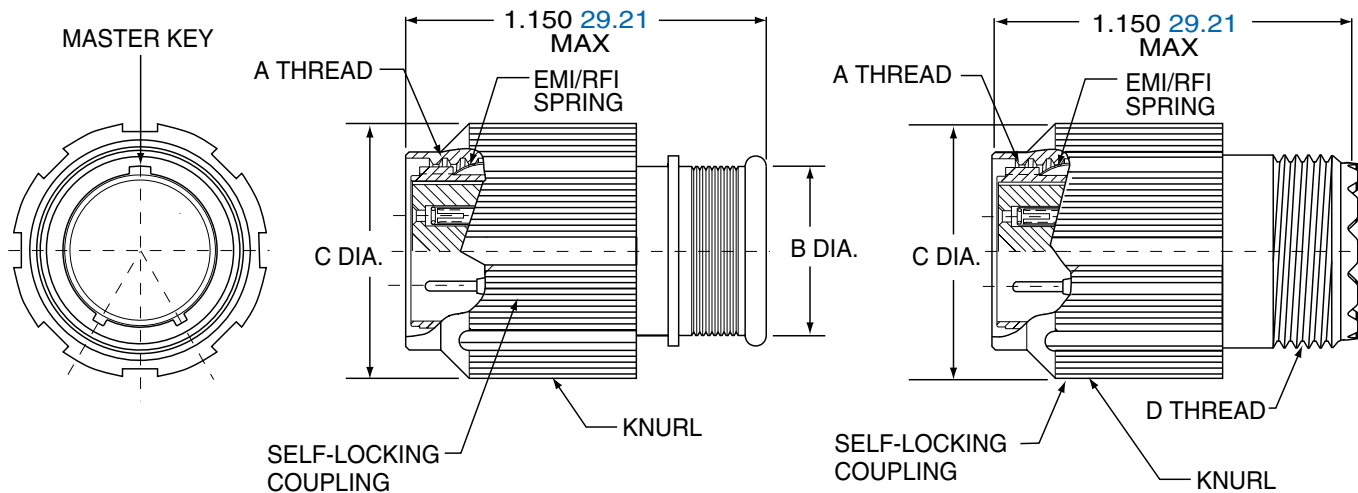
Insert Arrg.	No. of Contacts				
	#23	#20	#20HD	#16	#12
8-1				1	
8-4	4				
8-6	6				
8-7	7				
8-23			3		
9-1					1
9-10	10				
9-25			5		
10-2				2	
10-13	13				
10-28			8		
10-200	4	2			
11-4				4	
11-19	19				
11-200	4			2	
11-201	8	2			
11-210			10		
12-2					2
12-5				5	
12-26	26				
12-200	12				1

INSERT ARRANGEMENTS

Insert Arrg.	No. of Contacts				
	#23	#20	#20HD	#16	#12
12-201	4				2
12-202	8			2	
15-2					2
15-3					3
15-7				7	
15-37	37				
15-200	6				2
15-201	10				2
15-220			20		
18-5					5
18-12				12	
18-55	55				
18-235			35		
19-7					7
19-14				14	
19-85	85				
19-241			41		
23-12					12
23-22				22	
23-130	130				
23-269			69		

2M805-001

2M805-002



Shell Size	A Threads	B Dia.		C Dia.		D Threads Accessory
		in.	mm.	in.	mm.	
8	.5000-.1P-.3L-TS-2B	.317	8.05	.691	17.55	.3750-32 UNEF-2A
9	.5625-.1P-.3L-TS-2B	.397	10.08	.787	19.99	.4375-28 UNEF-2A
10	.6250-.1P-.3L-TS-2B	.473	12.01	.826	20.98	.5000-28 UNEF-2A
11	.6875-.1P-.3L-TS-2B	.519	13.18	.925	23.50	.5625-24 UNEF-2A
12	.7500-.1P-.3L-TS-2B	.585	14.86	.982	24.94	.6250-24 UNEF-2A
15	.9375-.1P-.3L-TS-2B	.687	17.45	1.105	28.07	.7500-20 UNEF-2A
18	1.1250-.1P-.3L-TS-2B	.884	22.45	1.275	32.39	.9375-20 UNEF-2A
19	1.1875-.1P-.3L-TS-2B	.884	22.45	1.310	33.27	.9375-20 UNEF-2A
23	1.4375-.1P-.3L-TS-2B	1.135	28.83	1.562	39.67	1.1875-18 UNEF-2A

2M805 Tri-Start In-Line Receptacle



2M805-003-01 and 2M805-004-01

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

HD38999

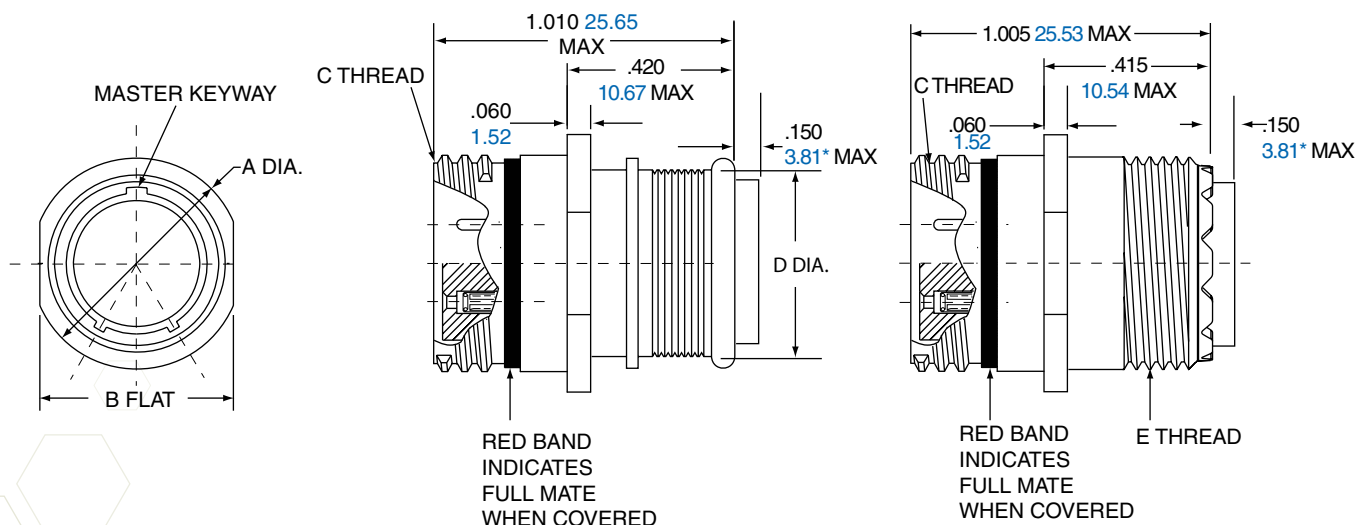
Micro-D

Terrapin

Nexus

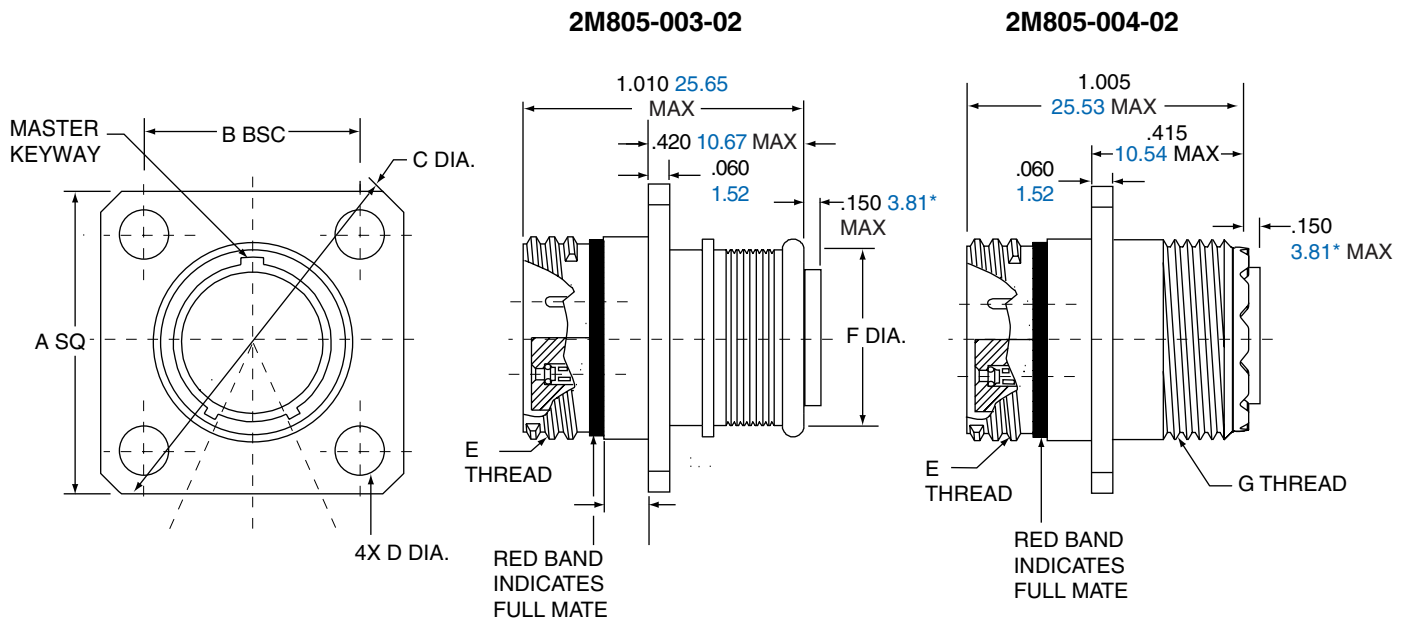
2M805-003-01

2M805-004-01



* Grommet protrudes for power/combo arrangement

Shell Size	A Dia.		B Flat		C Threads	D Dia.		E Threads Accessory
	in.	mm.	in.	mm.		in.	mm.	
8	.543	13.79	.513	13.03	.5000-.1P-.3L-TS-2A	.317	8.05	.3750-32 UNEF-2A
9	.608	15.44	.578	14.68	.5625-.1P-.3L-TS-2A	.397	10.08	.4375-28 UNEF-2A
10	.671	17.04	.641	16.28	.6250-.1P-.3L-TS-2A	.473	12.01	.5000-28 UNEF-2A
11	.733	18.62	.703	17.86	.6875-.1P-.3L-TS-2A	.519	13.18	.5625-24 UNEF-2A
12	.796	20.22	.766	19.46	.7500-.1P-.3L-TS-2A	.585	14.86	.6250-24 UNEF-2A
15	.983	24.97	.953	24.21	.9375-.1P-.3L-TS-2A	.687	17.45	.7500-20 UNEF-2A
18	1.168	29.67	1.138	28.91	1.1250-.1P-.3L-TS-2A	.884	22.45	.9375-20 UNEF-2A
19	1.238	31.45	1.208	30.68	1.1875-.1P-.3L-TS-2A	.884	22.45	.9375-20 UNEF-2A
23	1.485	37.72	1.455	39.96	1.4375-.1P-.3L-TS-2A	1.135	28.83	1.1875-18 UNEF-2A



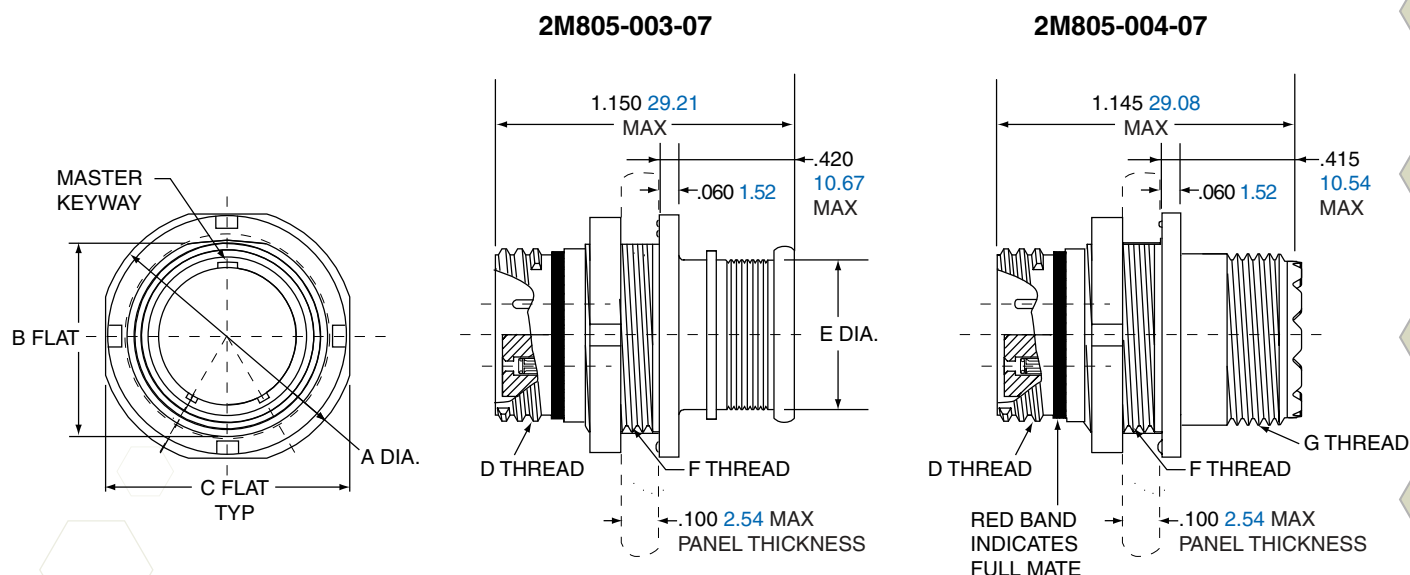
* Grommet protrudes for power/combo arrangement

Shell Size	A Sq.		B BSC.		C Dia.		D Dia.		E Threads	F Dia.		G Threads Accessory
	in.	mm.	in.	mm.	in.	mm.	in. ±.003	mm. ±.08		in.	mm.	
8	.853	21.67	.660	16.76	1.153	29.29	.091	2.31	.5000-.1P-.3L-TS-2A	.317	8.05	.3750-32 UNEF-2A
9	.916	23.27	.723	18.36	1.233	31.32	.091	2.31	.5625-.1P-.3L-TS-2A	.397	10.08	.4375-28 UNEF-2A
10	.978	24.84	.785	19.94	1.333	33.86	.091	2.31	.6250-.1P-.3L-TS-2A	.473	12.01	.5000-28 UNEF-2A
11	1.042	26.47	.848	21.54	1.413	35.89	.091	2.31	.6875-.1P-.3L-TS-2A	.519	13.18	.5625-24 UNEF-2A
12	1.102	27.99	.909	23.09	1.503	38.18	.091	2.31	.7500-.1P-.3L-TS-2A	.585	14.86	.6250-24 UNEF-2A
15	1.291	32.79	1.058	26.87	1.753	44.53	.125	3.18	.9375-.1P-.3L-TS-2A	.687	17.45	.7500-20 UNEF-2A
18	1.478	37.54	1.255	31.88	2.003	50.88	.125	3.18	1.1250-.1P-.3L-TS-2A	.884	22.45	.9375-20 UNEF-2A
19	1.540	39.12	1.327	33.71	2.097	53.26	.125	3.18	1.1875-.1P-.3L-TS-2A	.884	22.45	.9375-20 UNEF-2A
23	1.790	45.47	1.570	39.88	2.443	62.05	.125	3.18	1.4375-.1P-.3L-TS-2A	1.135	28.83	1.1875-18 UNEF-2A

2M805 Tri-Start Jam Nut Receptacle



2M805-003-07 and 2M805-004-07



Shell Size	A Dia.		B Flat		C Flat		D Threads	E Dia.		F Threads	G Threads Accessory
	in.	mm.	in.	mm.	in.	mm.		in.	mm.		
8	.760	19.30	.535	13.59	.730	18.54	.5000-.1P-.3L-TS-2A	.317	8.05	.5625-28 UN-2A	.3750-32 UNEF-2A
9	.880	22.35	.661	16.79	.850	21.59	.5625-.1P-.3L-TS-2A	.397	10.08	.6875-28 UN-2A	.4375-28 UNEF-2A
10	.880	22.35	.661	16.79	.850	21.59	.6250-.1P-.3L-TS-2A	.473	12.01	.6875-28 UN-2A	.5000-28 UNEF-2A
11	.955	24.26	.721	18.31	.925	23.50	.6875-.1P-.3L-TS-2A	.519	13.18	.7500-28 UN-2A	.5625-24 UNEF-2A
12	1.065	27.05	.784	19.91	1.039	26.39	.7500-.1P-.3L-TS-2A	.585	14.86	.8125-28 UN-2A	.6250-24 UNEF-2A
15	1.203	30.56	.970	24.64	1.173	29.79	.9375-.1P-.3L-TS-2A	.687	17.45	1.0000-28 UN-2A	.7500-20 UNEF-2A
18	1.395	35.43	1.150	29.21	1.359	34.52	1.1250-.1P-.3L-TS-2A	.884	22.45	1.1875-28 UN-2A	.9375-20 UNEF-2A
19	1.450	36.83	1.221	31.01	1.420	36.07	1.1875-.1P-.3L-TS-2A	.884	22.45	1.2500-28 UN-2A	.9375-20 UNEF-2A
23	1.705	43.31	1.470	37.34	1.678	42.62	1.4375-.1P-.3L-TS-2A	1.135	28.83	1.5000-28 UN-2A	1.1875-18 UNEF-2A

PANEL CUTOUT FOR JAM NUT

Shell Size	A Flat		B Dia	
	in. ±.002	mm. ± 0.05	in. ±.005	mm. ± 0.13
8	.543	13.79	.572	14.53
9	.669	16.99	.698	17.73
10	.669	16.99	.698	17.73
11	.729	18.51	.760	19.30
12	.792	20.17	.822	20.88
15	.978	24.84	1.010	25.65
18	1.155	29.34	1.198	30.43
19	1.231	31.27	1.260	32.00
23	1.480	37.59	1.510	38.35

2M805 High Speed Series Connector



Series	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position
2M805-00X	-16	C	7-10	S	A

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M805-020	Plug with Integral Backshell
2M805-021	Plug with Accessory Thread
2M805-022	Receptacle with Integral Backshell
2M805-023	Receptacle with Accessory Thread

SHELL STYLE 2M805-001, 2M805-002	
-16	Plug Connector with Ratcheting Anti-Decoupling Mechanism
SHELL STYLE 2M805-003, 2M805-004	
-01	In-Line Receptacle
-02	Square Flange Receptacle
-07	Jam Nut* for Rear Panel Mounting Receptacle

SHELL SIZE - INSERT ARRANGEMENTS

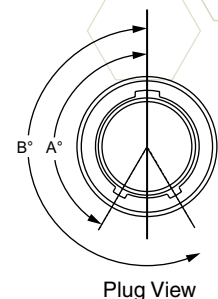
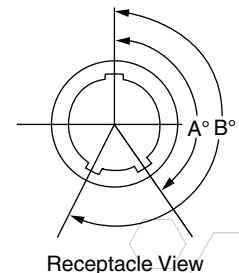
See Insert Arrangements Below



CONTACTS	
P	Pin
S	Socket
A	Pin, less contacts
B	Socket, less contacts

SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

KEYING		
Key Position	Key Rotation	
	A	B
Normal A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°



INSERT ARRANGEMENTS

 8-4 (4) #23 Contacts	 8-7 (7) #23 Contacts	 9-10 (10) #23 Contacts	 11-19 (19) #23 Contacts	 12-26 (26) #23 Contacts
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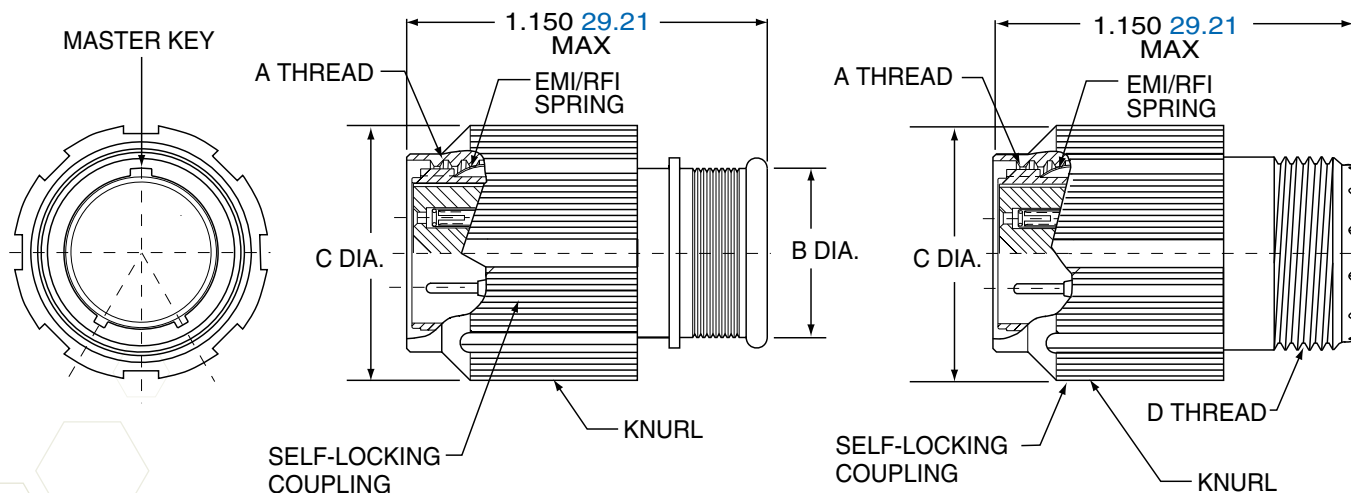
2M805 High Speed Tri-Start Plug



2M805-020 and 2M805-021

2M805-020

2M805-021



Shell Size	A Threads	B Dia.		C Dia.		D Threads Accessory
		in.	mm.	in.	mm.	
8	.5000-.1P-.3L-TS-2B	.317	8.05	.691	17.55	.3750-32 UNEF-2A
9	.5625-.1P-.3L-TS-2B	.397	10.08	.787	19.99	.4375-28 UNEF-2A
11	.6875-.1P-.3L-TS-2B	.519	13.18	.925	23.50	.5625-24 UNEF-2A
12	.7500-.1P-.3L-TS-2B	.585	14.86	.982	24.94	.6250-24 UNEF-2A

Contacts & Tools

2M Specs

2M801

2M803

2M804

2M805

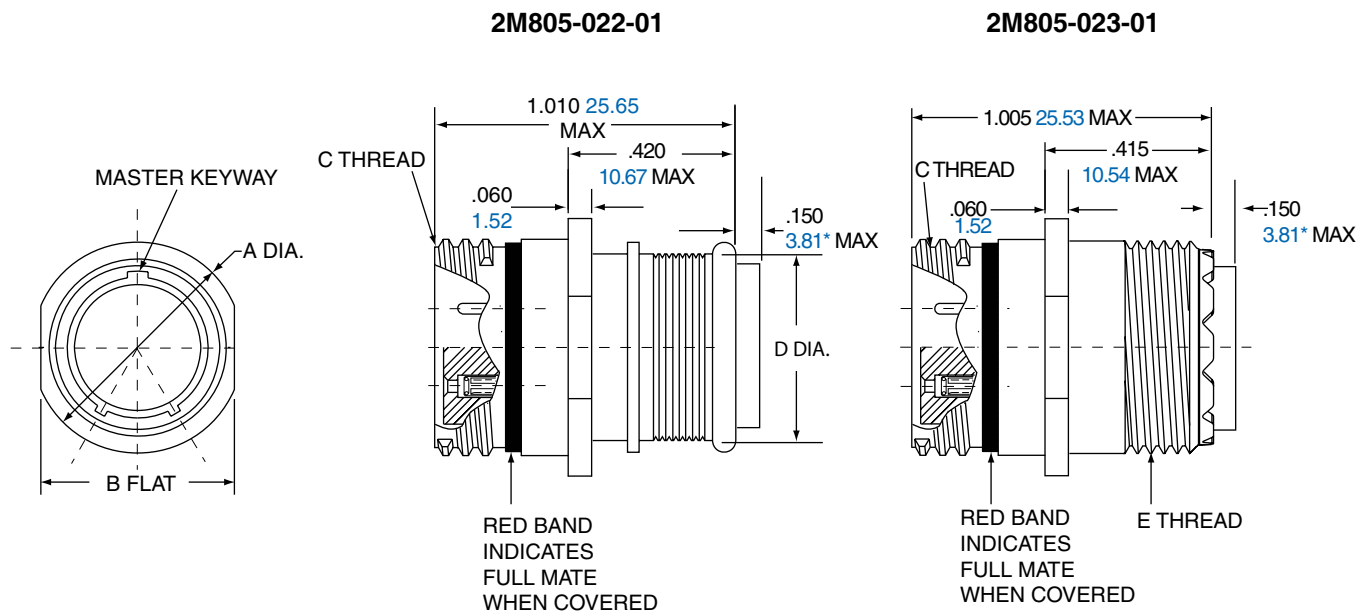
2M Filter & Accessories

HD38999

Micro-D

Terrapin

Nexus



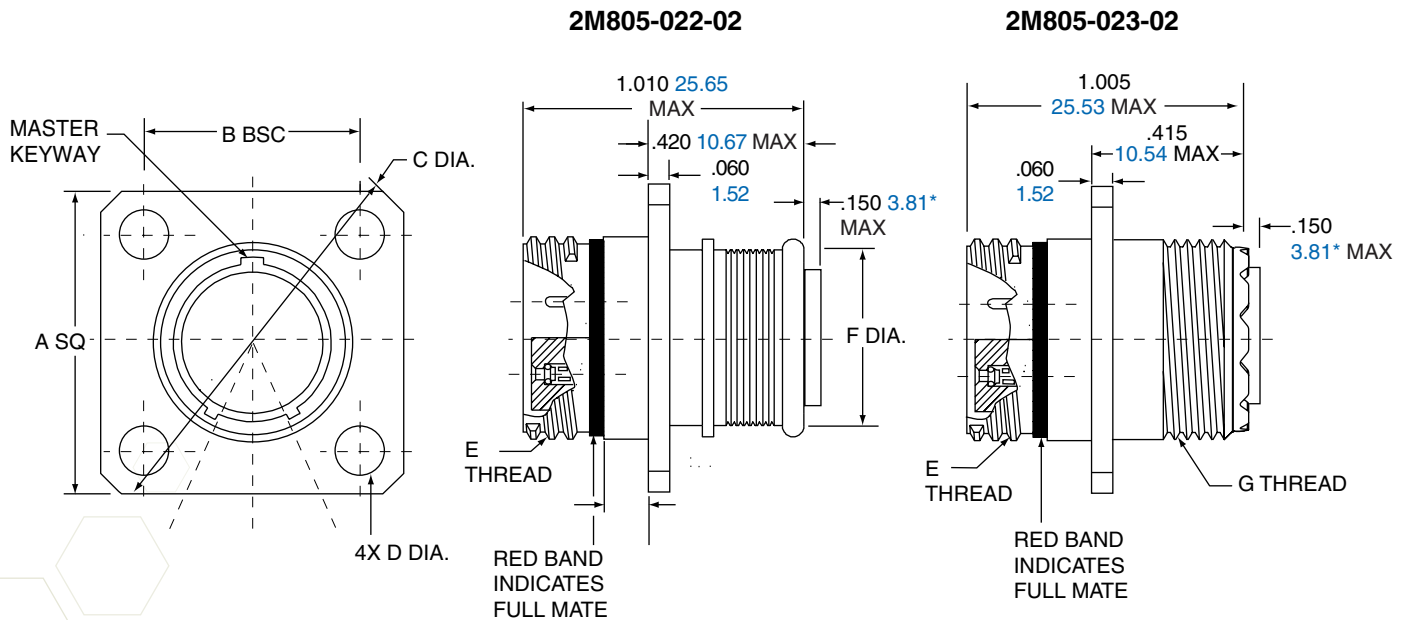
* Grommet protrudes for power/combo arrangement

Shell Size	A Dia.		B Flat		C Threads	D Dia.		E Threads Accessory
	in.	mm.	in.	mm.		in.	mm.	
8	.543	13.79	.513	13.03	.5000-.1P-.3L-TS-2A	.317	8.05	.3750-32 UNEF-2A
9	.608	15.44	.578	14.68	.5625-.1P-.3L-TS-2A	.397	10.08	.4375-28 UNEF-2A
11	.733	18.62	.703	17.86	.6875-.1P-.3L-TS-2A	.519	13.18	.5625-24 UNEF-2A
12	.796	20.22	.766	19.46	.7500-.1P-.3L-TS-2A	.585	14.86	.6250-24 UNEF-2A

2M805 High Speed Tri-Start Square Flange Receptacle

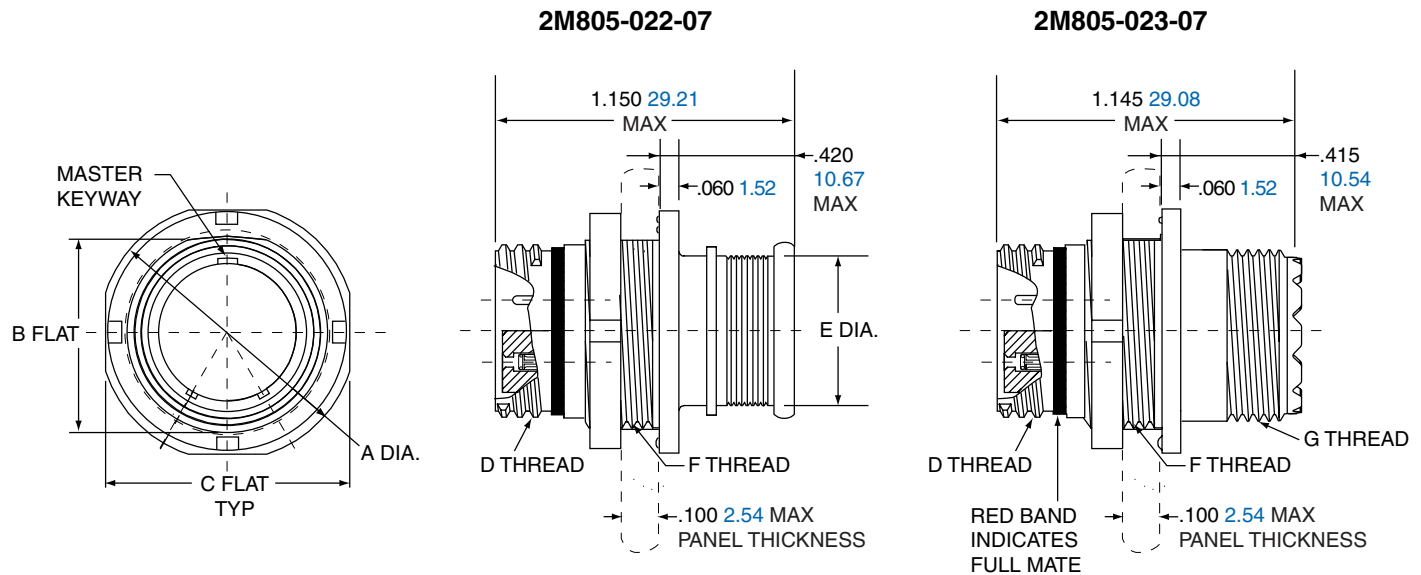


2M805-022-02 and 2M805-023-02



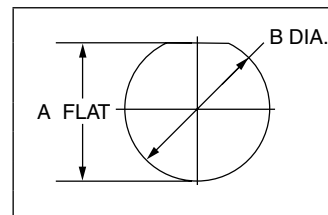
* Grommet protrudes for power/combo arrangement

Shell Size	A Sq.		B BSC.		C Dia.		D Dia.		E Threads	F Dia.		G Threads Accessory
	in.	mm.	in.	mm.	in.	mm.	in. ±.003	mm. ±.08		in.	mm.	
8	.853	21.67	.660	16.76	1.153	29.29	.091	2.31	.5000-.1P-.3L-TS-2A	.317	8.05	.3750-32 UNEF-2A
9	.916	23.27	.723	18.36	1.233	31.32	.091	2.31	.5625-.1P-.3L-TS-2A	.397	10.08	.4375-28 UNEF-2A
11	1.042	26.47	.848	21.54	1.413	35.89	.091	2.31	.6875-.1P-.3L-TS-2A	.519	13.18	.5625-24 UNEF-2A
12	1.102	27.99	.909	23.09	1.503	38.18	.091	2.31	.7500-.1P-.3L-TS-2A	.585	14.86	.6250-24 UNEF-2A



Shell Size	A Dia.		B Flat		C Flat		D Threads	E Dia.		F Threads	G Threads Accessory
	in.	mm.	in.	mm.	in.	mm.		in.	mm.		
8	.760	19.30	.535	13.59	.730	18.54	.5000-.1P-.3L-TS-2A	.317	8.05	.5625-28 UN-2A	.3750-32 UNEF-2A
9	.880	22.35	.661	16.79	.850	21.59	.5625-.1P-.3L-TS-2A	.397	10.08	.6875-28 UN-2A	.4375-28 UNEF-2A
11	.955	24.26	.721	18.31	.925	23.50	.6875-.1P-.3L-TS-2A	.519	13.18	.7500-28 UN-2A	.5625-24 UNEF-2A
12	1.065	27.05	.784	19.91	1.039	26.39	.7500-.1P-.3L-TS-2A	.585	14.86	.8125-28 UN-2A	.6250-24 UNEF-2A

PANEL CUTOUT FOR JAM NUT



Shell Size	A Flat		B Dia	
	in. ±.002	mm. ± 0.05	in. ±.005	mm. ± 0.13
8	.543	13.79	.572	14.53
9	.669	16.99	.698	17.73
11	.729	18.51	.760	19.30
12	.792	20.17	.822	20.88

2M805 Tri-Start PCB or Solder Cup Recept.



Ordering Guide for 2M805-005 and 2M805-017

PC Board Receptacles:

2M805 Series of PC Board Receptacles are intended for use of terminating the connector directly to a Circuit Board or Flex assembly. These connectors can also be supplied with solder cup termination for direct wire attachment.

2M805 FEATURES INCLUDE:

- Low profile shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Environmental Sealing



Series	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position
2M805-0XX	-02	C	15-37	S	A

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M805-005	Receptacle for Solder Cup or PCB Termination, with Standard Epoxy Potting
2M805-017	Receptacle for Solder Cup or PCB Termination with Special Sealing for open face (unmated) Water Immersion Requirements. 100% leak tested to maintain a helium leak rate of 1×10^{-4} cc/sec. at 1 atmosphere pressure differential from -65°C to 150°C

SHELL STYLE	
-02	Square Flange Receptacle
-07	Jam Nut* for Rear Panel Mounting Receptacle

SHELL SIZE - INSERT ARRANGEMENTS

See Insert Arrangements on Pages 13-15

CONTACTS

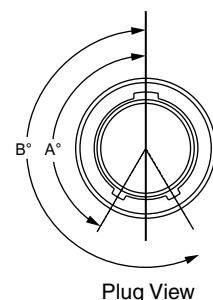
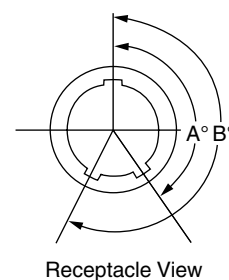
P	Pin - PC Tail
S	Socket - PC Tail
E	Pin - Solder Cup
F	Socket - Solder Cup

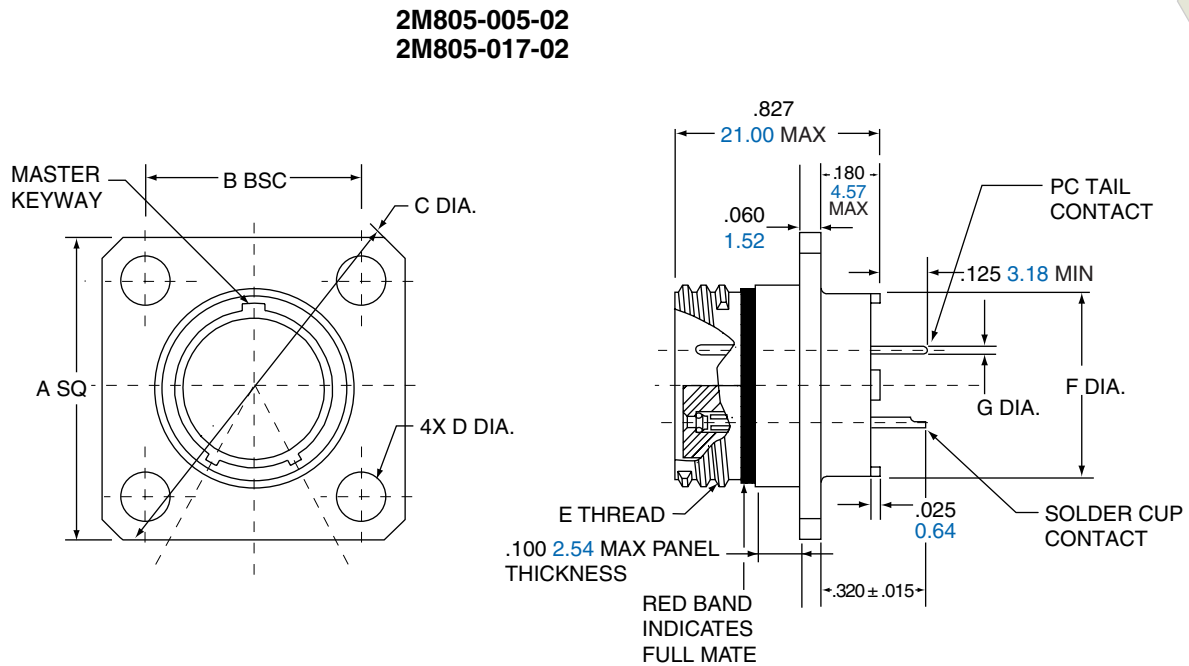
SERVICE CLASS

	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Durmalon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

KEYING

Key Position	Key Rotation	
	A	B
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°



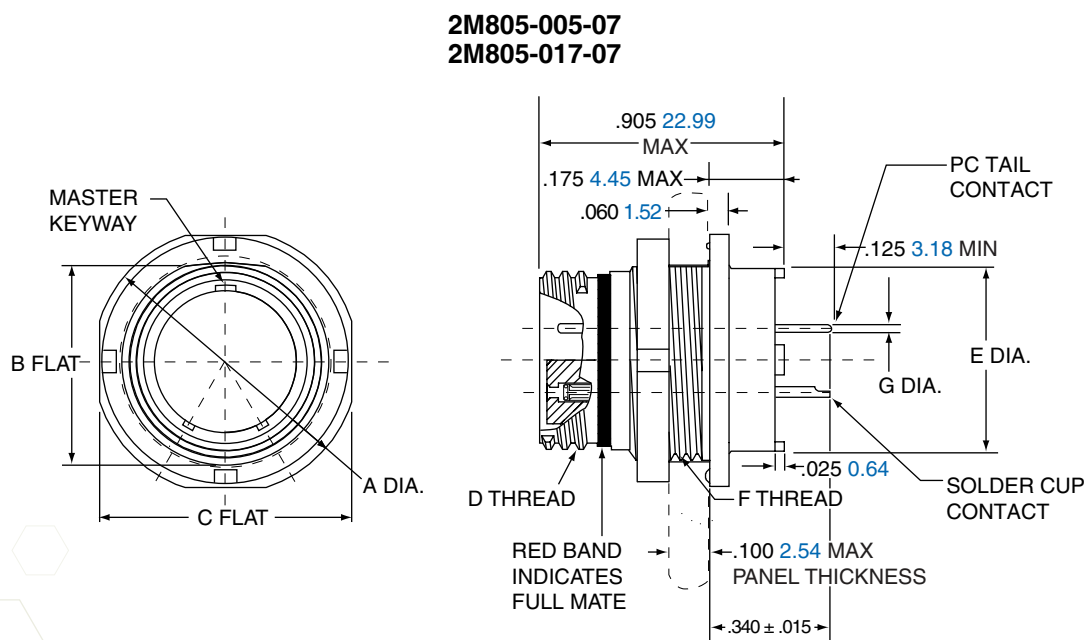


Shell Size	A Sq.		B BSC.		C Dia.		D Dia.		E Threads	F Dia.		G PC Tail Dia.
	in.	mm.	in.	mm.	in.	mm.	in. ±.003	mm. ±.08		in.	mm.	
8	.853	21.67	.660	16.76	1.153	29.29	.091	2.31	.5000-.1P-.3L-TS-2A	.330	8.38	#23 .018/.022 0.46/0.56
9	.916	23.27	.723	18.36	1.233	31.32	.091	2.31	.5625-.1P-.3L-TS-2A	.432	10.97	#20/20HD .025/.027 0.64/0.69
10	.978	24.84	.785	19.94	1.333	33.86	.091	2.31	.6250-.1P-.3L-TS-2A	.493	12.52	#16 .060/.064 1.521/1.63
11	1.042	26.47	.848	21.54	1.413	35.89	.091	2.31	.6875-.1P-.3L-TS-2A	.551	14.00	#12 .092/.096 2.34/2.44
12	1.102	27.99	.909	23.09	1.503	38.18	.091	2.31	.7500-.1P-.3L-TS-2A	.620	15.78	
15	1.291	32.79	1.058	26.87	1.753	44.53	.125	3.18	.9375-.1P-.3L-TS-2A	.703	17.86	
18	1.478	37.54	1.255	31.88	2.003	50.88	.125	3.18	1.1250-.1P-.3L-TS-2A	.863	21.92	
19	1.540	39.12	1.327	33.71	2.097	53.26	.125	3.18	1.1875-.1P-.3L-TS-2A	.912	23.16	
23	1.790	45.47	1.570	39.88	2.443	62.05	.125	3.18	1.4375-.1P-.3L-TS-2A	1.162	29.51	

2M805 Tri-Start PC Tail/Solder Cup Jam Nut



2M805-005-07 and 2M805-017-07



Shell Size	A Dia.		B Flat		C Flat		D Threads	E Dia.		F Threads	G PC Tail Dia.
	in.	mm.	in.	mm.	in.	mm.		in.	mm.		
8	.760	19.30	.535	13.59	.730	18.54	.5000-1P-.3L-TS-2A	.330	8.38	.5625-28 UN-2A	#23
9	.880	22.35	.661	16.79	.850	21.59	.5625-1P-.3L-TS-2A	.432	10.97	.6875-28 UN-2A	.018/.022 0.46/0.56
10	.880	22.35	.661	16.79	.850	21.59	.6250-1P-.3L-TS-2A	.493	12.52	.6875-28 UN-2A	#20/20HD
11	.955	24.26	.721	18.31	.925	23.50	.6875-1P-.3L-TS-2A	.551	14.00	.7500-28 UN-2A	.025/.027 0.64/0.69
12	1.060	26.92	.784	19.91	1.035	26.29	.7500-1P-.3L-TS-2A	.620	15.78	.8125-28 UN-2A	#16
15	1.203	30.56	.970	24.64	1.173	29.79	.9375-1P-.3L-TS-2A	.703	17.86	1.0000-28 UN-2A	.060/.064 1.521/1.63
18	1.395	35.43	1.150	29.21	1.359	34.52	1.1250-1P-.3L-TS-2A	.863	21.92	1.1875-28 UN-2A	#12
19	1.450	36.83	1.221	31.01	1.420	36.07	1.1875-1P-.3L-TS-2A	.912	23.16	1.2500-28 UN-2A	.092/.096 2.34/2.44
23	1.705	43.31	1.470	37.34	1.675	42.55	1.4375-1P-.3L-TS-2A	1.162	29.51	1.5000-28 UN-2A	

PANEL CUTOUT FOR JAM NUT

Shell Size	A Flat		B Dia	
	in. ±.002	mm. ± 0.05	in. ±.005	mm. ± 0.13
8	.543	13.79	.572	14.53
9	.669	16.99	.698	17.73
10	.669	16.99	.698	17.73
11	.729	18.51	.760	19.30
12	.792	20.17	.822	20.88
15	.978	24.84	1.010	25.65
18	1.155	29.34	1.198	30.43
19	1.231	31.27	1.260	32.00
23	1.480	37.59	1.510	38.35

High Speed PC Board Receptacles:

2M805 High Speed Series of PC Board Receptacles are intended for use of terminating the connector directly to a Circuit Board or Flex assembly. These connectors can also be supplied with solder cup termination for direct wire attachment.

2M805 HIGH SPEED FEATURES INCLUDE:

- Low profile shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Teflon Inserts
- Environmental Sealing



Series	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Alternate Position
2M805-0XX	-02	C	7-10	S	A

*add "-501" to the suffix of Jam Nut version to include a Hex Nut instead of a Spanner Nut.

SERIES	
2M805-024	Receptacle for Solder Cup or PCB Termination, with Standard Epoxy Potting

SHELL SIZE - INSERT ARRANGEMENTS

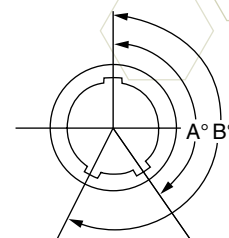
See Insert Arrangements Below

CONTACTS	
P	Pin - PC Tail
S	Socket - PC Tail
E	Pin - Solder Cup
F	Socket - Solder Cup

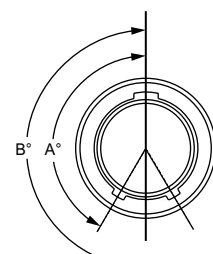
SHELL STYLE	
-02	Square Flange Receptacle
-07	Jam Nut* for Rear Panel Mounting Receptacle

SERVICE CLASS		
		Finish
C		Aluminum/Black Anodize (Non-Conductive)
M		Aluminum/Electroless Nickel
NF		Aluminum/Cadmium with Olive Drab Chromate
MT		Aluminum/Nickel-PTFE (Duralon)
Z1		Stainless Steel/Passivated
ZM		Stainless Steel/Electroless Nickel
ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU		Aluminum/Zinc-Nickel with Black Chromate

KEYING		
Key Position	Key Rotation	
	A	B
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°

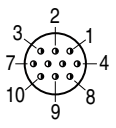
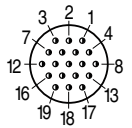
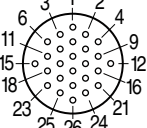


Receptacle View

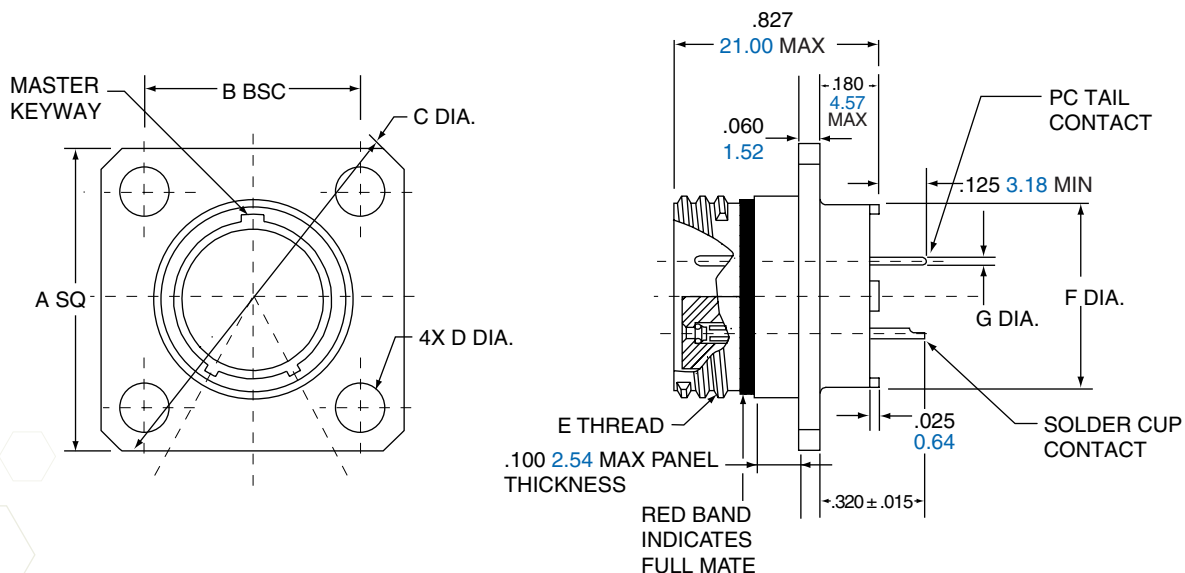


Plug View

INSERT ARRANGEMENTS

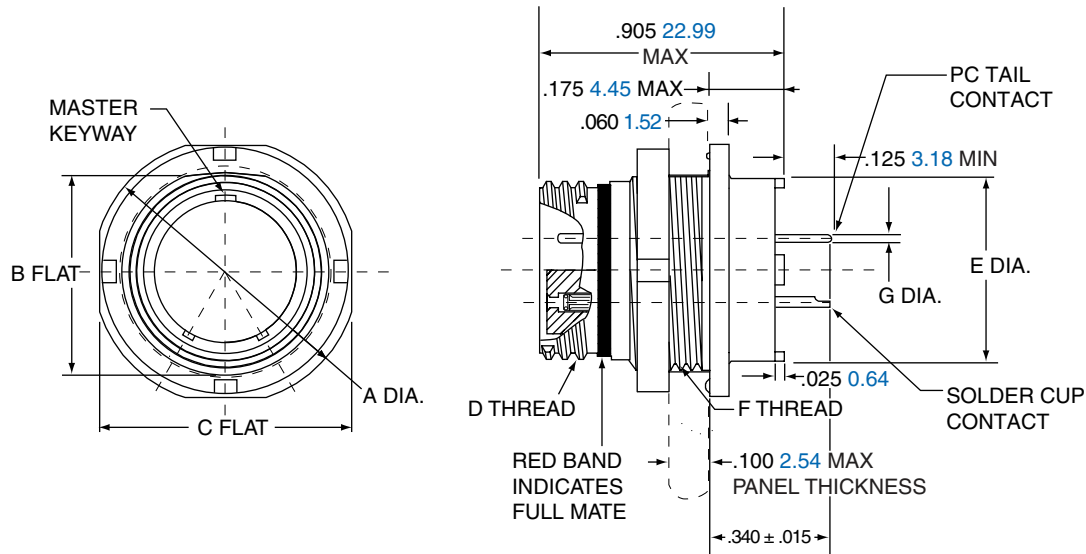
				
8-4 (4) #23 Contacts	8-7 (7) #23 Contacts	9-10 (10) #23 Contacts	11-19 (19) #23 Contacts	12-26 (26) #23 Contacts

2M805-024-02



Shell Size	A Sq.		B BSC.		C Dia.		D Dia.		E Threads	F Dia.		G PC Tail Dia.
	in.	mm.	in.	mm.	in.	mm.	in. ±.003	mm. ±.08		in.	mm.	
8	.853	21.67	.660	16.76	1.153	29.29	.091	2.31	.5000-.1P-.3L-TS-2A	.330	8.38	#23 .018/.022 0.46/0.56
9	.916	23.27	.723	18.36	1.233	31.32	.091	2.31	.5625-.1P-.3L-TS-2A	.432	10.97	
11	1.042	26.47	.848	21.54	1.413	35.89	.091	2.31	.6875-.1P-.3L-TS-2A	.551	14.00	
12	1.102	27.99	.909	23.09	1.503	38.18	.091	2.31	.7500-.1P-.3L-TS-2A	.620	15.78	

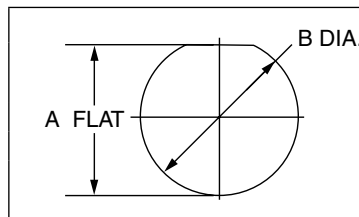
2M805-024-07



Shell Size	A Dia.		B Flat		C Flat		D Threads	E Dia.		F Threads	G PC Tail Dia.
	in.	mm.	in.	mm.	in.	mm.		in.	mm.		
8	.760	19.30	.535	13.59	.730	18.54	.5000-.1P-.3L-TS-2A	.330	8.38	.5625-28 UN-2A	#23 .018/.022 0.46/0.56
9	.880	22.35	.661	16.79	.850	21.59	.5625-.1P-.3L-TS-2A	.432	10.97	.6875-28 UN-2A	
11	.955	24.26	.721	18.31	.925	23.50	.6875-.1P-.3L-TS-2A	.551	14.00	.7500-28 UN-2A	
12	1.060	26.92	.784	19.91	1.035	26.29	.7500-.1P-.3L-TS-2A	.620	15.78	.8125-28 UN-2A	

PANEL CUTOUT FOR JAM NUT

Shell Size	A Flat		B Dia.	
	in. ±.002	mm. ± 0.05	in. ±.005	mm. ± 0.13
8	.543	13.79	.572	14.53
9	.669	16.99	.698	17.73
11	.729	18.51	.760	19.30
12	.792	20.17	.822	20.88



2M805 Tri-Start Hermetic Receptacle



Ordering Guide for 2M805-006

2M805 Series of Hermetic Receptacles:

2M805 Series of Hermetic Receptacles provide superior sealing of 1×10^{-8} cc/second helium leak rate and are 100% tested prior to shipping. This superior sealing is accomplished through the use of glass insulator fused to stainless steel shells and iron alloy contacts.

2M805 FEATURES INCLUDE:

- Low profile shells for minimum box protrusion
- Shell Standoffs for PC Board washout
- Non-removable PC and/or Solder cup contacts
- Hermetic Sealing



Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M805-006	-07	Z1	12-26	C	A

SERIES	
2M805-006	Hermetic Receptacle

SHELL STYLE	
-02	Square Flange Receptacle
-03	Weld Mount (only available in Z1 Finish)
-07	Jam Nut for Rear Panel Mounting Receptacle

SHELL SIZE - INSERT ARRANGEMENTS

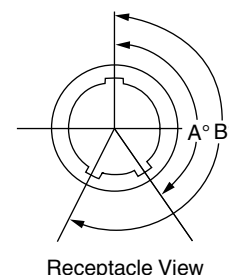
See Insert Arrangements on Pages 13-15

CONTACTS	
P	Pin - Solder Cup
C	Pin - PC Tail
H	Pin, Solder Cup - Without Interfacial Seal
Y	Pin, PC Tail - Without Interfacial Seal

SERVICE CLASS		
		Finish
ZL		Stainless Steel/Nickel Plated
Z1		Stainless Steel/Passivated



KEYING		
Key Position	Key Rotation	
	A	B
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°



Note: Please contact the factory directly for a listing of tooled interfacial seals for the hermetically sealed connectors.

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

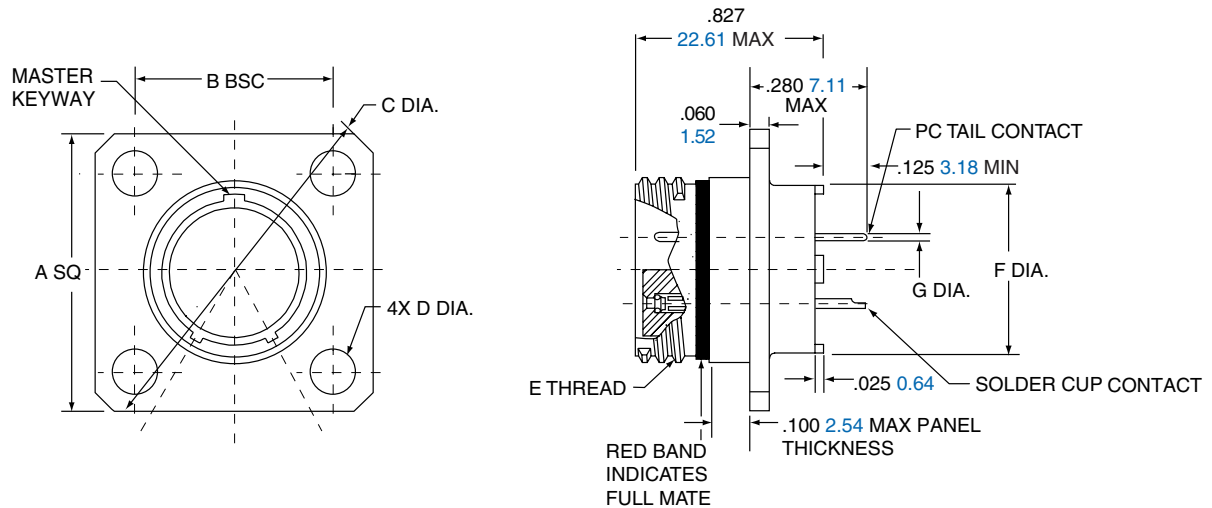
HD38999

Micro-D

Terrapin

Nexus

2M805-006-02



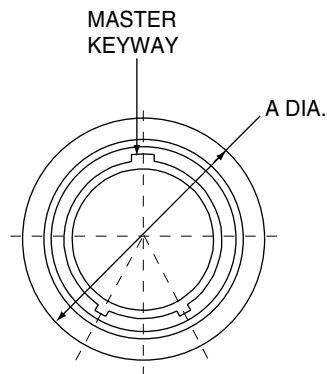
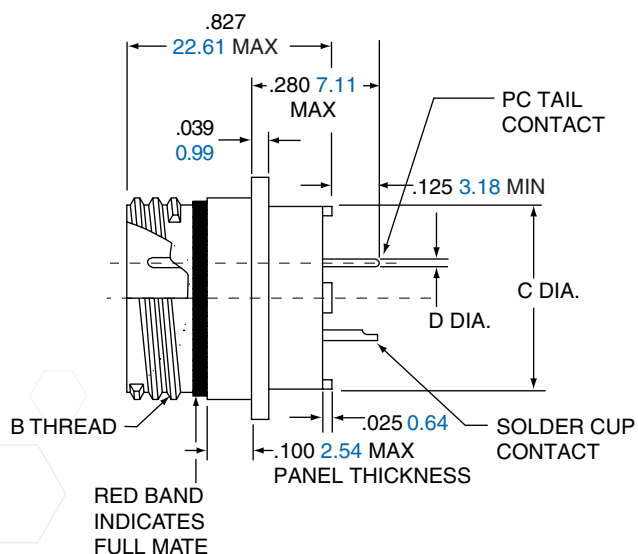
Shell Size	A Sq.		B BSC.		C Dia.		D Dia.		E Threads	F Dia.		G PC Tail Dia.
	in.	mm.	in.	mm.	in.	mm.	in. ±.003	mm. ±.08		in.	mm.	
8	.853	21.67	.660	16.76	1.153	29.29	.091	2.31	.5000-.1P-.3L-TS-2A	.330	8.38	#23 .018/.022 0.46/0.56
9	.916	23.27	.723	18.36	1.233	31.32	.091	2.31	.5625-.1P-.3L-TS-2A	.432	10.97	
10	.978	24.84	.785	19.94	1.333	33.86	.091	2.31	.6250-.1P-.3L-TS-2A	.493	12.52	#20/20HD .025/.027 0.64/0.69
11	1.042	26.47	.848	21.54	1.413	35.89	.091	2.31	.6875-.1P-.3L-TS-2A	.551	14.00	
12	1.102	27.99	.909	23.09	1.503	38.18	.091	2.31	.7500-.1P-.3L-TS-2A	.622	15.80	#16 .060/.064 1.521/1.63
15	1.291	32.79	1.058	26.87	1.753	44.53	.125	3.18	.9375-.1P-.3L-TS-2A	.703	17.86	
18	1.478	37.54	1.255	31.88	2.003	50.88	.125	3.18	1.1250-.1P-.3L-TS-2A	.863	21.92	#12 .092/.096 2.34/2.44
19	1.540	39.12	1.327	33.71	2.097	53.26	.125	3.18	1.1875-.1P-.3L-TS-2A	.912	23.16	
23	1.790	45.47	1.570	39.88	2.443	62.05	.125	3.18	1.4375-.1P-.3L-TS-2A	1.163	29.54	

2M805 Tri-Start Solder Mount Hermetic



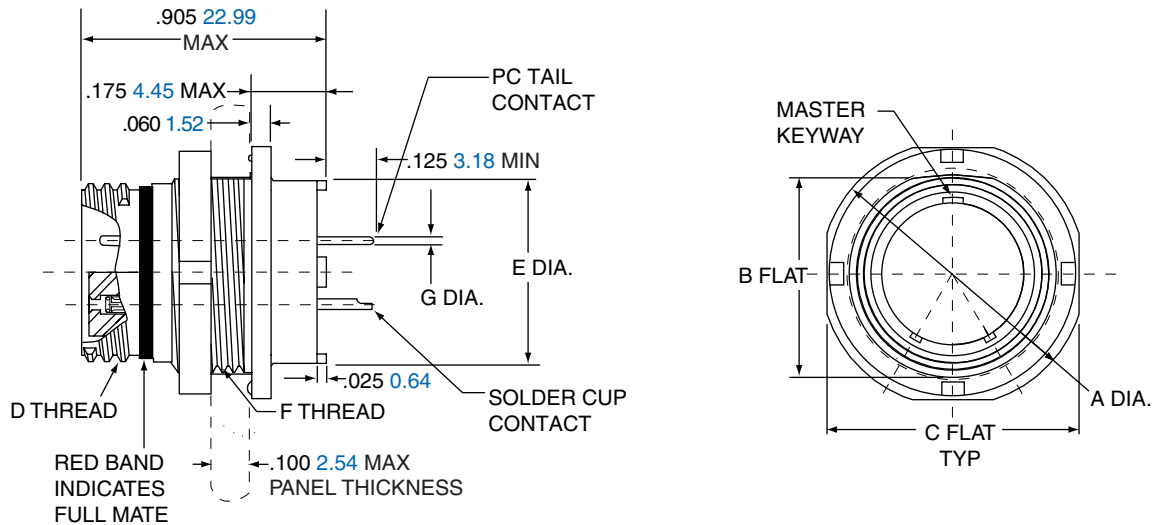
2M805-006-03

2M805-006-03



Shell Size	A Dia.		B Threads	C Dia.		D PC Tail Dia.
	in.	mm.		in.	mm.	
8	.625	15.88	.5000-.1P-.3L-TS-2A	.330	8.38	#23 .018/.022 0.46/0.56
9	.688	17.48	.5625-.1P-.3L-TS-2A	.432	10.97	
10	.750	19.75	.6250-.1P-.3L-TS-2A	.493	12.52	#20/20HD .025/.027 0.64/0.69
11	.812	20.62	.6875-.1P-.3L-TS-2A	.551	14.00	
12	.875	22.23	.7500-.1P-.3L-TS-2A	.620	15.78	#16 .060/.064 1.521/1.63
15	1.062	26.97	.9375-.1P-.3L-TS-2A	.703	17.86	
18	1.250	31.75	1.1250-.1P-.3L-TS-2A	.863	21.92	#12 .092/.096 2.34/2.44
19	1.312	33.32	1.1875-.1P-.3L-TS-2A	.912	23.16	
23	1.563	39.70	1.4375-.1P-.3L-TS-2A	1.162	29.51	

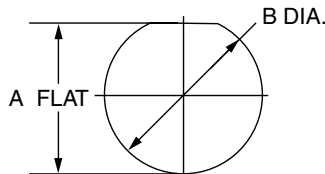
2M805-006-07



Shell Size	A Dia.		B Flat		C Flat		D Threads	E Dia.		F Threads	G PC Tail Dia.
	in.	mm.	in.	mm.	in.	mm.		in.	mm.		
8	.760	19.30	.535	13.59	.730	18.54	.5000-.1P-.3L-TS-2A	.330	8.38	.5625-28 UN-2A	#23
9	.880	22.35	.661	16.79	.850	21.59	.5625-.1P-.3L-TS-2A	.432	10.97	.6875-28 UN-2A	.018/.022 0.46/0.56
10	.880	22.35	.661	16.79	.850	21.59	.6250-.1P-.3L-TS-2A	.493	12.52	.6875-28 UN-2A	#20/20HD
11	.955	24.26	.721	18.31	.925	23.50	.6875-.1P-.3L-TS-2A	.551	14.00	.7500-28 UN-2A	.025/.027 0.64/0.69
12	1.060	26.92	.784	19.91	1.035	26.29	.7500-.1P-.3L-TS-2A	.620	15.78	.8125-28 UN-2A	#16
15	1.203	30.56	.970	24.64	1.173	29.79	.9375-.1P-.3L-TS-2A	.703	17.86	1.0000-28 UN-2A	.060/.064 1.521/1.63
18	1.389	35.28	1.147	29.13	1.359	34.52	1.1250-.1P-.3L-TS-2A	.863	21.92	1.1875-28 UN-2A	#12
19	1.450	36.83	1.221	31.01	1.420	36.07	1.1875-.1P-.3L-TS-2A	.912	23.16	1.2500-28 UN-2A	.092/.096 2.34/2.44
23	1.705	43.31	1.470	37.34	1.675	42.55	1.4375-.1P-.3L-TS-2A	1.162	29.51	1.5000-28 UN-2A	

PANEL CUTOUT FOR JAM NUT

Shell Size	A Flat		B Dia.	
	in. ±.002	mm. ± 0.05	in. ±.005	mm. ± 0.13
8	.543	13.79	.572	14.53
9	.669	16.99	.698	17.73
10	.669	16.99	.698	17.73
11	.729	18.51	.760	19.30
12	.792	20.17	.822	20.88
15	.978	24.84	1.010	25.65
18	1.155	29.34	1.198	30.43
19	1.231	31.27	1.260	32.00
23	1.480	37.59	1.510	38.35



2M805 Tri-Start Right Angle PCB Receptacle



Ordering Guide for Right Angle PCB Receptacle 2M805-011

2M805 Series Right Angle PCB Receptacle:

2M805 Right Angle PCB Receptacles are ideal for applications where space and weight are at a premium. This receptacle design can withstand high temperature environments while maintaining an environmental seal.

2M805 FEATURES INCLUDE:

- Tri-Start thread for 1 turn full mating
- Right Angle Contacts
- High Temperature Housing
- Threaded Inserts
- Environmentally Sealed



Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Alternate Position
2M805-011	-07	Z1	8-7	P	A

SERIES	
2M805-011	PCB Receptacle for Right Angle PC Board

SHELL STYLE	
-07	Jam Nut

SERVICE CLASS		
		Finish
C		Aluminum/Black Anodize (Non-Conductive)
M		Aluminum/Electroless Nickel
NF		Aluminum/Cadmium with Olive Drab Chromate
MT		Aluminum/Nickel-PTFE (Durmolon)
Z1		Stainless Steel/Passivated
ZM		Stainless Steel/Electroless Nickel
ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU		Aluminum/Zinc-Nickel with Black Chromate

SHELL SIZE - INSERT ARRANGEMENTS	
Arrangement	No. of Contacts
8-4	4
8-7	7
9-10	10
10-2	2
10-13	13
11-19	19

Note: Consult factory for all available arrangements.

CONTACTS	
P	Pin
S	Socket

KEYING		
Key Position	Key Rotation	
	A	B
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°

Receptacle View



Protection Caps:

2M805 Tri-Start Protection Caps are available in plug and receptacle versions. Protective caps keep the connector interface dry and clean while not in use. Caps come in a variety of materials, lanyard styles and lengths to accommodate specific design requirements.



Series	Service Class	Attachment Type	Shell Size	Attachment Code	Attachment Length in Inches
2M667-26X	-NF	-H	9	04	-5

SERIES	
2M667-261	Protection Caps for 2M805 Plugs
2M667-262	Protection Caps for 2M805 Receptacles

ATTACHMENT TYPE		SHELL SIZE
-G	Nylon Rope	8
-H	Stainless Steel Wire Rope, Teflon® Jacket	9
-N	No Attachment	10
-S	Stainless Steel Sash Chain	11
-SK	Nylon Rope With Slip Knot	12
-T	Stainless Steel Wire Rope, No Jacket	15
-U	Stainless Steel Wire Rope, Polyurethane Jacket	18
		19
		23

Omit for attachment Type N (No Attachment)
Example "-5" equals five inch length

SERVICE CLASS		
	Finish	
-C		Aluminum/Black Anodize (Non-Conductive)
-M		Aluminum/Electroless Nickel
-NF		Aluminum/Cadmium with Olive Drab Chromate
-MT		Aluminum/Nickel-PTFE (Duralon)
-Z1		Stainless Steel/Passivated
-ZM		Stainless Steel/Electroless Nickel
-ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
-ZNU		Aluminum/Zinc-Nickel with Black Chromate



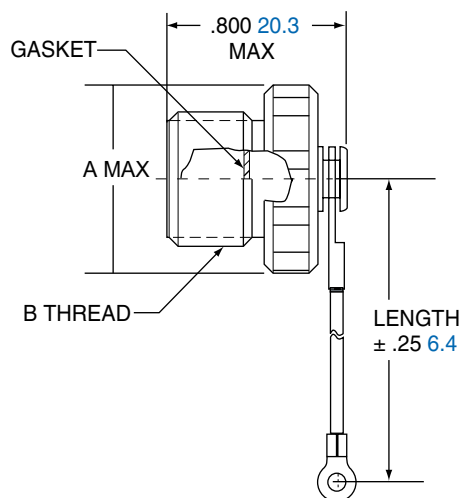
ATTACHMENT CODE	
Omit for attachment Types N (No Attachment) and Slip Knot	
Small Ring	01 -.126 (3.20) I.D. 02 -.145 (3.68) I.D. 04 -.188 (4.78) I.D. 06 -.197 (5.00) I.D.
Large Ring	14 -.385 (9.78) I.D. 16 -.570 (14.48) I.D. 17 -.635 (16.13) I.D. 18 -.695 (17.65) I.D. 19 -.885 (22.48) I.D. 20 -1.070 (27.17) I.D. 22 -1.210 (30.73) I.D. 23 -1.275 (32.39) I.D. 25 -1.530 (38.86) I.D.
Split Ring	50 -.420 (10.67) I.D. 52 -.480 (12.19) I.D. 54 -.635 (16.13) I.D. 56 -.745 (18.92) I.D. 58 -.885 (22.48) I.D. 60 -1.010 (25.65) I.D. 64 -1.125 (28.58) I.D. 68 -1.345 (34.16) I.D.

2M805 Tri-Start Protection Cap

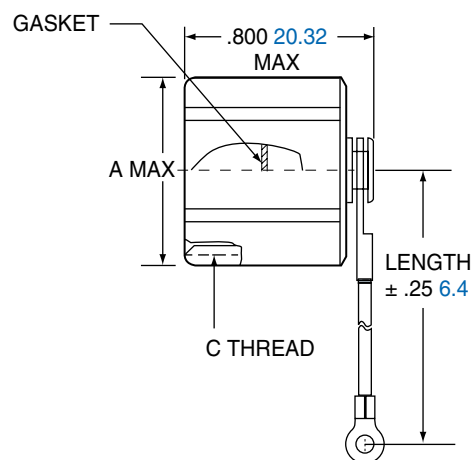


Metal Protective Caps 2M667-261 and 2M667-262

2M667-261



2M667-262



Shell Size	A Max.		B Thread	C Thread
	in.	mm.		
8	.656	16.66	.5000-.1P-.3L-TS-2A	.5000-.1P-.3L-TS-2B
9	.718	18.24	.5625-.1P-.3L-TS-2A	.5625-.1P-.3L-TS-2B
10	.781	19.84	.6250-.1P-.3L-TS-2A	.6250-.1P-.3L-TS-2B
11	.844	21.44	.6875-.1P-.3L-TS-2A	.6875-.1P-.3L-TS-2B
12	.906	23.01	.7500-.1P-.3L-TS-2A	.7500-.1P-.3L-TS-2B
15	1.094	27.79	.9375-.1P-.3L-TS-2A	.9375-.1P-.3L-TS-2B
18	1.281	32.54	1.1250-.1P-.3L-TS-2A	1.1250-.1P-.3L-TS-2B
19	1.343	34.11	1.1875-.1P-.3L-TS-2A	1.1875-.1P-.3L-TS-2B
23	1.603	40.72	1.4375-.1P-.3L-TS-2A	1.4375-.1P-.3L-TS-2B

MATERIALS AND FINISHES

Cover	Aluminum alloy or stainless steel
Gasket	Fluorosilicone rubber
Wire, Hardware	Stainless steel, passivated

LANYARD OPTIONS

	Nylon Rope	-55° to +100°C., black, flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter
	Sash Chain	Stainless steel
	Slip Knot (SK) for attaching Covers to Cables	55° to +100°C., black, flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter. Length includes .5" 13mm diameter loop.

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

HD38999

Micro-D

Terrapin

Nexus

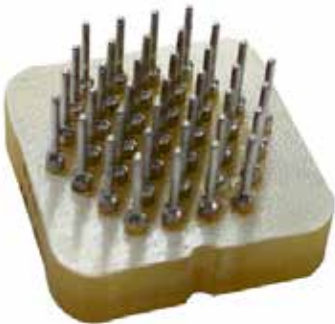
2M Micro-Miniature Double Flange Standoff

Double Flange: Amphenol offers customized 2M receptacles with double flange standoffs. This enhancement allows the user to mount to PC board applications. Shells are available in aluminum and stainless steel. Consult Amphenol Aerospace for ordering information.



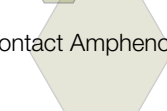
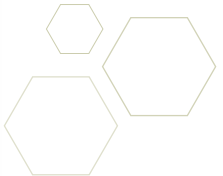
2M Micro-Miniature PCB Header Assemblies

2M PCB Header Assemblies: Header assemblies can be utilized in all 2M series. They can be attached to connectors with standard flange placement or directly to the circuit board. Utilizing a header assembly in your application allows for easy separation of the connector from the board. Pin or Socket arrangements are available. Consult Amphenol Aerospace for ordering information.



2M Micro-Miniature High Speed

Amphenol's 2M line is available in high speed variations when your application requires superior electrical performance and shielding. A variety of contacts can provide high speed transmission and operate in high frequency conditions. For a complete list of size 12 and 16 coax/twinax contacts refer to the high speed section of catalog 12-C Combined Circular Catalog.



Advantages

For 2M Filtered High Density Connectors, Look to the leader...

Amphenol® EMI Protection Connectors have been designed and manufactured for over 45 years. Our EMI protection connectors offer the versatility of our standard 2M connectors with EMI protection to suit the demands of your application.

ADVANTAGES OF FILTER CONNECTORS

- Reduction in overall weight and space with the elimination of external filtering
- Reduction in solder joints
- Fewer components equals a cost effective solution with increased reliability
- Eliminates radiated and conducted EMI from entering the box
- Perfect for retrofits or late design-in
- Can utilize standard connector packaging

QUALITY

All filter connectors undergo extensive mechanical and electrical testing to ensure consistent, quality hardware.

STANDARD ELECTRICAL TESTS

- 100% Insulation Resistance testing
- 100% Dielectric Withstanding Voltage testing
- 100% Capacitance testing at 1KHz

SPECIAL TESTS/PROCESSES AVAILABLE

- Attenuation testing (through 100 MHz)
- Leakage inspection
- Thermal cycling/shock
- Burn-in
- De-gassing



Amphenol will work to provide the best solution in standard 2M packaging for the most cost effective solutions available

RESOURCES

Amphenol Aerospace Factory Direct: 607.563.5011
Filter Technical Support: FilterApps@Amphenol-aao.com

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

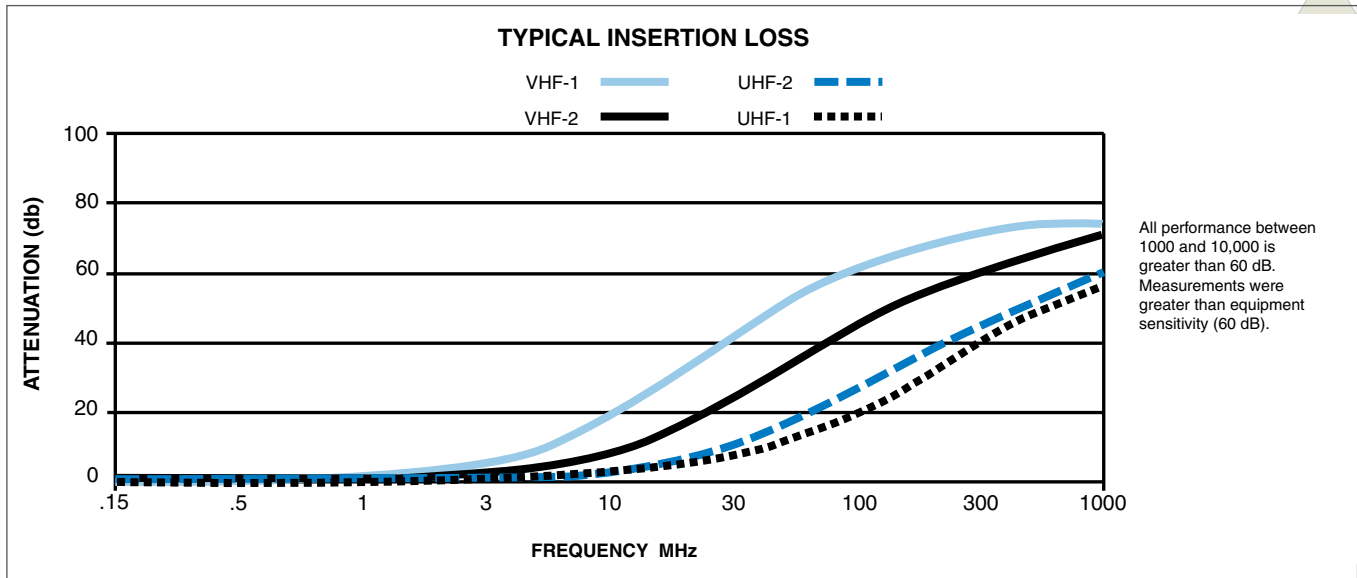
HD38999

Micro-D

Terrapin

Nexus

Note: Below are typical capacitance values. Other capacitance values are available. Please consult Amphenol Aerospace for availability.



**TYPICAL INSERTION LOSS (dB)
PER MIL-STD-220, 5 ADC, 25°C**

Capacitance	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
375 pf UHF ₁	0	0	1	8	16	–	–
750 pf UHF ₂	0	0	3	10	19	–	–
2500 pf VHF ₂	0	2	8	20	28	–	–
7000 pf VHF ₁	5	9	17	23	40	–	–

Most filter attenuation curves and capacitance values are expressed at 25°C. However, temperature can affect the capacitance of a barium titanate filter element, affecting the insertion loss that the element will cause. In order to assist the user in anticipating the effect of various temperatures, the following charts applicable to Amphenol filter connectors utilizing VHF-1, VHF-2, UHF-1 and UHF-2 filters are provided. Please note that all insertion loss (attenuation) values given were measured with no load applied. The band designations refer to MIL-STD-2120.

VHF-1

Typical Capacitance = 7,000 pf Min. 4,900 pf Max. 12,000 pf
Band G, Type Pi

Temp.	F _{co}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	–	1	2	8	21	44	61	65
Room	1.27M	1	6	18	42	62	72	75
+125°C	–	0	2	9	24	45	62	64

Note: F_{co} = Cut-off Frequency

VHF-2

Typical Capacitance = 2,500 pf Min. 1,900 pf Max. 4,000 pf
Band E, Type Pi

Temp.	F _{co}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	–	0	2	7	17	40	58	71
Room	3.3M	0	2	8	24	46	61	71
+125°C	–	0	3	10	26	46	63	69

UHF-1

Typical Capacitance = 375 pf Min. 290 pf Max. 450 pf
Band B, Type Pi

Temp.	F _{co}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	–	0	0	1	6	21	43	58
Room	21.9M	0	0	1	8	18	42	56
+125°C	–	0	0	1	8	17	38	50

UHF-2

Typical Capacitance = 750 pf Min. 500 pf Max. 1,100 pf
Band C, Type Pi

Temp.	F _{co}	1MHz	3MHz	10MHz	30MHz	100MHz	300MHz	1000MHz
-55°C	–	0	0	3	9	25	46	61
Room	12.7M	0	0	3	10	28	46	61
+125°C	–	0	0	3	10	24	42	60

Please consult the Amphenol Circular Interconnects catalog 12-C Edition 4 for full Amphenol EMI/EMP Filter Protection information.

SERIES 2M INSERT ARRANGEMENTS

Contact Size	Contact Quantity					Insert Arrangement			
	#23	#20	#20HD	#16	#12	2M801	2M803	2M804	2M805
Size #23 Contacts 5 Amp Max. Current #23-#28 AWG	3					5-3	5-3	5-3	NA
	4					6-4	6-4	6-4	8-4
	6					6-6	6-6	6-6	8-6
	7					6-7	6-7	6-7	8-7
	10					7-10	7-10	7-10	9-10
	13					8-13	8-13	8-13	10-13
	19					9-19	9-19	9-19	11-19
	26					10-26	10-26	10-26	12-26
	37					13-37	12-37	12-37	15-37
	55					16-55	14-55	14-55	18-55
	85					17-85	NA	15-85	19-85
	130					21-130	NA	NA	23-130
Size #20HD Contacts 7.5 Amp Max. Current #20-#24 AWG.			3			6-23	6-23	6-23	8-23
			5			7-25	7-25	7-25	9-25
			8			8-28	8-28	8-28	10-28
			10			9-210	9-210	9-210	11-210
			20			13-220	12-220	12-220	15-220
			35			16-235	14-235	14-235	18-235
			41			17-241	NA	NA	19-241
Size #16 Contacts 13 Amp Max. Current #16-#20 AWG			69			21-269	NA	NA	23-269
				1		6-1	6-1	6-1	8-1
				2		8-2	8-2	8-2	10-2
				4		9-4	9-4	9-4	11-4
				5		10-5	10-5	10-5	12-5
				7		13-7	12-7	12-7	15-7
				12		16-12	14-12	14-12	18-12
				14		17-14	NA	NA	19-14
Size #12 Contacts 23 Amp Max. Current #12-14 AWG				22		21-22	NA	NA	23-22
					1	7-1	7-1	7-1	9-1
					2	10-2	10-2	10-2	12-2
					2	13-2	12-2	12-2	15-2
					3	13-3	12-3	12-3	15-3
					5	16-5	14-5	14-5	18-5
					7	17-7	NA	NA	19-7
Insert Arrangements with Mixed Size (Combo) Layouts					12	21-12	NA	NA	23-12
	4	2				8-200	8-200	8-200	10-200
	8	2				9-201	9-201	9-201	11-201
	4			2		9-200	9-200	9-200	11-200
	8			2		10-202	10-202	10-202	12-202
	4				2	10-201	10-201	10-201	12-201
	6				2	13-200	12-200	12-200	15-200
	10				2	13-201	12-201	12-201	15-201
	12				1	10-200	10-200	10-200	12-200

Contacts & Tools

2M Specs

2M801

2M803

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2M Filter & Accessories

HD38999

Micro-D

Terrapin

Nexus

2M801 Series EMI/EMP Filtered Connectors

2M801 Filtered Connectors feature double-start ACME coupling threads. Available in Jam Nut and Square Flange versions, these environmentally sealed connectors offer aerospace filter performance in a small package. These connectors mate to standard 2M801 Series plugs. Please consult Amphenol Aerospace for additional Filter Types, TVS Diodes, and other Custom Filter Connector Configurations.

2M801 FEATURES INCLUDE:

- Environmentally Sealed
- Jam Nut and Square Flange versions
- Non-removable PC and/or Solder cup contacts

Series	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Filter Type	Capacitance Code (See table below)	Alternate Position
2MF-801	-02	NF	6-7	P	C	A	A

SERIES	
2MF-801	Filter Receptacle with Printed Circuit Board Contacts or Solder Cup Contacts

SHELL STYLE	
-01	Square Flange Receptacle with Solder Cup Contacts & Band Platform
-02	Square Flange Receptacle with Printed Circuit Board Contacts
-07	Jam Nut Receptacle with Solder Cup Contacts & Band Platform
-08	Jam Nut Receptacle with Printed Circuit Board Contacts

CONTACTS	
P	Pin - Solder Cup
C	Pin - PC Tail

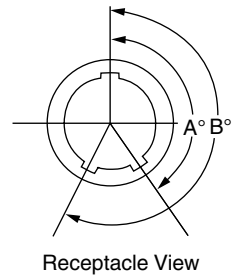
FILTER TYPE	
P	Pi
C	C

SHELL SIZE - INSERT ARRANGEMENTS	
See Insert Arrangements on Pages 13-15	

SERVICE CLASS		
		Finish
M		Aluminum/Electroless Nickel
NF		Aluminum/Cadmium with Olive Drab Chromate
MT		Aluminum/Nickel-PTFE (Duralon)
ZM		Stainless Steel/Electroless Nickel
ZN		Aluminum/Zinc-Nickel w/ Olive Drab Chromate

KEYING		
Key Position	Key Rotation	
	A	B
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

CAPACITANCE CODE		
Code	PI - SECTION (pF)	C - SECTION (pF)
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300



Receptacle View

2MF-801-01

2MF-801-02

Shell Size	A Sq.		B BSC		C Dia.		D Dia.		E Threads	F Dia.		G Dia.
	in.	mm.	in.	mm.	in.	mm.	in. ±.003	mm. ±.08		in.	mm.	
5	.530	13.46	.363	9.22	.680	17.27	.093	2.36	.3125-.05P-.1L-2A	.245	6.22	#23 .018/.022 0.46/0.56
6	.590	14.99	.423	10.74	.750	19.05	.093	2.36	.375-.05P-.1L-2A	.290	7.37	
7	.650	16.51	.483	12.27	.850	21.59	.093	2.36	.4375-.05P-.1L-2A	.390	9.91	
8	.712	18.08	.545	13.84	.938	23.83	.093	2.36	.5000-.05P-.1L-2A	.445	11.30	#20/20HD .025/.027 0.64/0.69
9	.850	21.59	.607	15.42	1.125	28.58	.128	3.25	.5625-.05P-.1L-2A	.500	12.70	
10	.890	22.61	.670	17.02	1.188	30.18	.128	3.25	.6250-.05P-.1L-2A	.560	14.22	
13	1.030	26.16	.812	20.62	1.375	34.93	.128	3.25	.8125-.1P.2L-2A	.650	16.51	#16 .060/.064 1.52/1.63
16	1.219	30.96	.981	24.92	1.625	41.28	.128	3.25	1.000-.1P-.2L-2A	.805	20.45	
17	1.280	32.51	1.060	26.92	1.700	43.18	.128	3.25	1.062-.1P-.2L-2A	.850	21.59	#12 .092/.096 2.34/2.44
21	1.430	36.32	1.205	30.61	1.938	49.23	.128	3.25	1.3125-.1P-.2L-2A	1.110	28.19	

PANEL CUTOUT

Shell Size	A Flat		B Dia		C Dia.	
	in.	mm.	in.	mm.	in.	mm.
5	.330	8.38	.363	9.22	.093	2.36
6	.390	9.91	.423	10.74	.093	2.36
7	.450	11.43	.483	12.27	.093	2.36
8	.510	12.95	.545	13.84	.093	2.36
9	.575	14.61	.607	15.42	.128	3.25
10	.640	16.26	.670	17.02	.128	3.25
13	.825	20.96	.812	20.65	.128	3.25
16	1.015	25.78	.981	24.92	.128	3.25
17	1.075	27.31	1.060	26.92	.128	3.25
21	1.325	33.66	1.205	30.61	.128	3.25

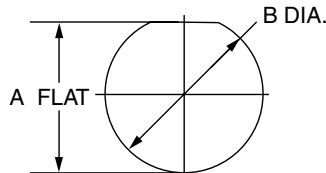
2MF-801-07

2MF-801-08

Shell Size	A Dia.		B Flat		C Flat		D Thread	E Thread UN-2A	F Dia.		G Dia.
	in.	mm.	in.	mm.	in.	mm.			in.	mm.	
5	.575	14.61	.350	8.89	.545	13.84	.3125-.05P-.1L-2A	.375-28	.245	6.22	#23 .018/.022 0.46/0.56
6	.635	16.13	.410	10.41	.595	15.11	.375-.05P-.1L-2A	.4375-28	.290	7.37	#20/20HD .025/.027 0.64/0.69
7	.755	19.18	.536	13.61	.723	18.36	.4375-.05P-.1L-2A	.5625-32	.390	9.91	
8	.755	19.77	.536	13.61	.723	18.36	.5000-.05P-.1L-2A	.5625-32	.445	11.30	#16 .060/.064 1.52/1.63
9	.830	21.08	.596	15.14	.790	20.07	.5625-.05P-.1L-2A	.625-28	.500	12.70	
10	.890	22.61	.658	16.71	.855	21.72	.6250-.05P-.1L-2A	.6875-28	.560	14.22	#12 .092/.096 2.34/2.44
13	1.078	27.38	.845	21.46	1.044	26.52	.8125-.1P.2L-2A	.875-28	.650	16.51	
16	1.264	32.11	1.022	25.96	1.230	31.24	1.000-.1P-.2L-2A	1.0625-20	.805	20.45	#12 .092/.096 2.34/2.44
17	1.325	33.66	1.096	27.84	1.290	32.77	1.062-.1P-.2L-2A	1.125-28	.850	21.59	
21	1.625	41.28	1.345	34.16	1.577	40.06	1.3125-.1P-.2L-2A	1.375-28	1.110	28.19	

PANEL CUTOUT

Shell Size	A Flat		B Dia	
	in. ±.002	mm. ±0.05	in. ±.002	mm. ± 0.05
5	.356	9.04	.385	9.78
6	.416	10.57	.447	11.35
7	.542	13.77	.572	14.53
8	.542	13.77	.572	14.53
9	.602	15.29	.635	16.13
10	.666	16.92	.697	17.70
13	.851	21.62	.885	22.48
16	1.028	26.11	1.075	27.31
17	1.102	27.99	1.135	28.83
21	1.354	34.39	1.385	35.18



2M804 Series EMI/EMP Filtered Connectors

2M801 Filtered Connectors feature push-pull coupling. These environmentally sealed connectors offer aerospace filter performance in a small package. A gold-plated spring provides excellent shell-to-shell conductivity. Please consult Amphenol Aerospace for additional Filter Types, TVS Diodes, and other Custom Filter Connector Configurations.

2M804 FEATURES INCLUDE:

- Environmentally Sealed
- Push-pull coupling
- RoHS Compliant Platings Available

Series	Shell Style	Service Class	Shell Size-Insert Arrg.	Contact Type	Filter Type	Capacitance Code (See table below)	Alternate Position	Omit for Single Keyway
2MF-804	-07	NF	6-7	P	C	A	A	

SERIES	
2MF-804	Filter Receptacle with Printed Circuit Board Contacts or Solder Cup Contacts

SHELL STYLE	
-07	Jam Nut Receptacle, Rear Mount
-08	Jam Nut Receptacle, Front Mount

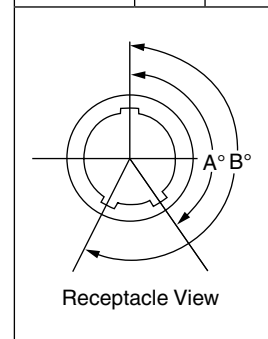
CONTACTS	
P	Pin - Solder Cup
C	Pin - PC Tail

FILTER TYPE	
P	Pi
C	C

SHELL SIZE - INSERT ARRANGEMENTS	
See Insert Arrangements on Pages 13-15	

SERVICE CLASS		
		Finish
M		Aluminum/Electroless Nickel
NF		Aluminum/Cadmium with Olive Drab Chromate
MT		Aluminum/Nickel-PTFE (Duralon)
ZM		Stainless Steel/Electroless Nickel
ZN		Aluminum/Zinc-Nickel w/ Olive Drab Chromate

KEYING		
Key Position	Key Rotation	
	A	B
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°



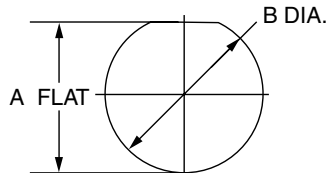
CAPACITANCE CODE		
Code	PI - SECTION (pF)	C - SECTION (pF)
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300

2MF-804-07

Shell Size	A Dia.		B Dia.		C Flat		D Threads	E Dia.		F Dia.		G Dia.
	in.	mm.	in.	mm.	in.	mm.		in.	mm.	in.	mm.	
5	.730	18.54	.562	14.27	.415	10.54	.4375-32 UN-2A	.244	6.20	.435	11.05	#23 .018/.022 0.46/0.56
6	.730	18.54	.625	15.87	.467	14.40	.5000-32 UN-2A	.330	8.38	.483	12.27	#20/20HD .025/.027 0.64/0.69
7	.910	23.11	.750	19.05	.594	15.09	.6250-28 UN-2A	.432	10.97	.570	14.48	#16 .060/.064 1.52/1.63
8	.955	24.26	.750	19.05	.594	15.09	.6250-28 UN-2A	.493	12.52	.593	15.06	#12 .092/.096 2.34/2.44
9	1.000	25.40	.812	20.62	.655	16.64	.6875-28 UN-2A	.551	14.00	.685	17.40	
10	1.085	27.48	.875	22.22	.721	18.31	.7500-28 UN-2A	.620	15.75	.725	18.42	
12	1.190	30.23	1.000	25.40	.843	21.41	.8750-28 UN-2A	.703	17.86	.850	21.59	
14	1.325	33.66	1.125	28.57	.968	24.59	1.0000-28 UN-2A	.863	21.92	.973	24.71	
15	1.375	34.93	1.188	30.17	1.029	26.14	1.0625-20 UN-2A	.912	23.16	1.028	26.11	

PANEL CUTOUT

Shell Size	A Flat		B Dia.	
	in. ±.002	mm. ±0.05	in. ±.005	mm. ± 0.13
5	.423	10.74	.448	11.38
6	.475	12.07	.510	12.95
7	.588	14.94	.635	16.13
8	.602	15.29	.635	16.13
9	.663	16.84	.698	17.73
10	.729	18.82	.760	19.30
12	.851	21.62	.885	22.48
14	.976	24.79	1.010	25.65
15	1.039	26.39	1.070	27.18

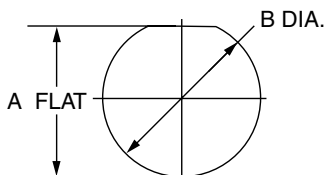


2MF-804-08

Shell Size	A Dia.		B Threads	C Dia.		D Dia.		E Flat		F Dia.
	in.	mm.		in.	mm.	in.	mm.	in.	mm.	
5	.830	21.08	.5000-32 UN-2A	.244	6.20	.625	15.87	.470	11.94	#23 .018/.022 0.46/0.56
6	.885	22.48	.5625-28 UN-2A	.330	8.38	.688	17.47	.530	13.46	#20/20HD .025/.027 0.64/0.69
7	.995	25.27	.6875-28 UN-2A	.432	10.97	.812	20.62	.663	16.84	#16 .060/.064 1.52/1.63
8	.995	25.27	.6875-28 UN-2A	.493	12.52	.812	20.62	.663	16.84	#12 .092/.096 2.34/2.44
9	1.075	27.31	.7500-28 UN-2A	.551	14.00	.875	22.22	.720	18.29	
10	1.140	28.95	.8125-28 UN-2A	.620	15.75	.938	23.82	.788	20.02	
12	1.340	34.04	1.0000-28 UN-2A	.703	17.86	1.125	28.57	.970	24.64	
14	1.390	35.31	1.0625-20 UN-2A	.863	21.92	1.188	30.18	1.020	25.91	
15	1.450	36.83	1.1250-28 UN-2A	.912	23.16	1.250	31.75	1.093	27.76	

PANEL CUTOUT

Shell Size	A Flat		B Dia.	
	in. ±.002	mm. ±0.05	in. ±.005	mm. ± 0.13
5	.480	12.19	.510	12.95
6	.540	13.72	.575	14.61
7	.674	17.12	.698	17.73
8	.674	17.12	.698	17.73
9	.730	18.54	.760	19.30
10	.799	20.29	.822	20.88
12	.980	24.89	1.010	25.65
14	1.030	26.16	1.075	27.31
15	1.103	28.02	1.135	28.83



2M805 Series EMI/EMP Filtered Connectors

2M805 Filtered Connectors feature triple-start ACME coupling threads. Available in Jam Nut and Square Flange versions, these environmentally sealed connectors offer aerospace filter performance in a small package. These connectors mate to standard 2M805 Series plugs. Please consult Amphenol Aerospace for additional Filter Types, TVS Diodes, and other Custom Filter Connector Configurations.

2M805 FEATURES INCLUDE:

- Environmentally Sealed
- Jam Nut and Square Flange versions
- Non-removable PC and/or Solder cup contacts

Series	Shell Style	Service Class	Shell Size- Insert Arrg.	Contact Type	Filter Type	Capacitance Code (See table below)	Alternate Position
2MF-805	-02	NF	8-7	P	C	A	A

SERIES	
2MF-805	Filter Receptacle with Printed Circuit Board Contacts or Solder Cup Contacts

SHELL STYLE	
-01	Square Flange Receptacle with Solder Cup Contacts & Band Platform
-02	Square Flange Receptacle with Printed Circuit Board Contacts
-07	Jam Nut Receptacle with Solder Cup Contacts & Band Platform
-08	Jam Nut Receptacle with Printed Circuit Board Contacts

CONTACTS	
P	Pin - Solder Cup
C	Pin - PC Tail

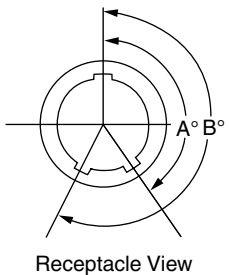
FILTER TYPE	
P	Pi
C	C

SHELL SIZE - INSERT ARRANGEMENTS	
See Insert Arrangements on Pages 13-15	

SERVICE CLASS		
		Finish
M		Aluminum/Electroless Nickel
NF		Aluminum/Cadmium with Olive Drab Chromate
MT		Aluminum/Nickel-PTFE (Duralon)
ZM		Stainless Steel/Electroless Nickel
ZN		Aluminum/Zinc-Nickel w/ Olive Drab Chromate

KEYING		
Key Position	Key Rotation	
	A	B
(Normal) A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°

CAPACITANCE CODE		
Code	PI - SECTION (pF)	C - SECTION (pF)
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300



2MF-805-01

2MF-805-02

Shell Size	A		B		C Dia.		D Dia.		E Threads	F Dia.		G Dia.
	in.	mm.	in.	mm.	in.	mm.	in. ±.003	mm. ±.08		in.	mm.	
8	.850	21.59	.660	16.76	1.150	29.21	.094	2.39	.5000-.1P-.3L-TS-2A	.316	8.05	#23
9	.913	23.19	.723	18.36	1.230	31.24	.094	2.39	.5625-.1P-.3L-TS-2A	.397	10.08	.018/.022 0.46/0.56
10	.975	24.77	.785	19.94	1.330	33.78	.094	2.39	.6250-.1P-.3L-TS-2A	.472	12.01	#20/20HD
11	1.039	26.39	.848	21.54	1.410	35.81	.094	2.39	.6875-.1P-.3L-TS-2A	.519	13.18	.025/.027 0.64/0.69
12	1.099	27.91	.909	23.09	1.500	38.10	.094	2.39	.7500-.1P-.3L-TS-2A	.585	14.86	#16
15	1.288	32.74	1.058	26.87	1.750	44.45	.128	3.25	.9375-.1P-.3L-TS-2A	.687	17.45	.060/.064 1.52/1.63
18	1.475	37.47	1.255	31.88	2.000	50.80	.128	3.25	1.1250-.1P-.3L-TS-2A	.884	22.45	#12
19	1.537	71.06	1.327	33.71	2.094	53.19	.128	3.25	1.1875-.1P-.3L-TS-2A	.884	22.45	.092/.096 2.34/2.44
23	1.787	45.39	1.570	39.88	2.440	61.98	.128	3.25	1.4375-.1P-.3L-TS-2A	1.134	28.80	

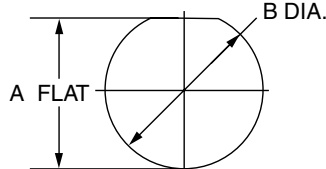
2MF-805-07

2MF-805-08

Shell Size	A Dia.		B		C		D Threads	E Dia.		F Threads	G Dia.
	in.	mm.	in.	mm.	in.	mm.		in.	mm.		
8	.760	19.30	.535	13.59	.730	18.54	.5000-1P.3L-TS-2A	.317	8.05	.5625-28 UNEF-2A	#23
9	.880	22.35	.661	16.79	.850	21.59	.5625-1P.3L-TS-2A	.397	10.08	.6875-28 UN-2A	.018/.022 0.46/0.56
10	.880	22.35	.661	16.79	.850	21.59	.6250-1P.3L-TS-2A	.473	12.01	.6875-28 UN-2A	#20/20HD .025/.027 0.64/0.69
11	.955	24.26	.721	18.31	.925	23.50	.6875-1P.3L-TS-2A	.519	13.18	.7500-28 UN-2A	#16
12	1.060	26.92	.784	19.91	1.035	26.29	.7500-1P.3L-TS-2A	.585	14.86	.8125-28 UN-2A	.060/.064 1.52/1.63
15	1.203	30.56	.970	24.64	1.173	29.79	.9375-1P.3L-TS-2A	.687	17.45	1.0000-28 UN-2A	#12
18	1.389	35.28	1.147	29.13	1.359	34.52	1.1250-1P.3L-TS-2A	.884	22.45	1.1875-28 UN-2A	.092/.096 2.34/2.44
19	1.450	36.83	1.221	31.01	1.420	36.07	1.1875-1P.3L-TS-2A	.884	22.45	1.2500-28 UN-2A	
23	1.705	43.31	1.470	37.34	1.675	42.55	1.4375-1P.3L-TS-2A	1.134	28.80	1.500-25 UN-2A	

PANEL CUTOUT

Shell Size	A Flat		B Dia	
	in. ±.002	mm. ±0.05	in. ±.002	mm. ± 0.05
8	.543	13.79	.572	14.53
9	.669	16.99	.698	17.73
10	.669	16.99	.698	17.73
11	.729	18.51	.760	19.30
12	.792	20.17	.822	20.88
15	.978	24.84	1.010	25.65
18	1.155	29.34	1.198	30.43
19	1.229	31.22	1.260	32.00
23	1.480	37.59	1.510	38.35



2M809S060, 2M809A060, Shrink Boots

The 2M Series of Shrink Boots is intended for use with the 2M series of connectors supplied with Integral Backshells. All shrink boots are supplied pre-coated with Hi-Temperature, Hot-Melt adhesive that will seal the boot to both the cable and connector. The boots also contains a lip that will lock on to a groove on the connector for improved strain relief.

High Performance Elastomer - Lipped Shrink Boot

- Pre-coated with Adhesive
- Operating Temperature:
-70°C to +150°C
- Rated for 3000 hrs.
continuous operation
at +150°C
- Excellent resistance to fuels,
oils, and solvents

Material	Spec
Fluid Resistant Polymer	VG 95343 Part 6

Boot Size	Shell Size		Straight Shrink Boots Part Number	Right Angle Boots Part Number
	Series 2M801, 2M803, 2M804	Series 2M805	Pre-Coated with Hi-Temp Hot-Melt Adhesive	Pre-Coated with Hi-Temp Hot-Melt Adhesive
1	5	N/A	2M809S060-1	2M809A060-1
2	6, 7	8,9	2M809S060-2	2M809A060-2
3	8, 9	10,11	2M809S060-3	2M809A060-3
4	10, 12, 13	12, 15	2M809S060-4	2M809A060-4
5	14, 15, 16, 17	18, 19	2M809S060-5	2M809A060-5
6	21	23	2M809S060-6	2M809A060-6

Zero Halogen - Lipped Shrink Boots

- Low Smoke, Zero Halogen
- Toxicity Requirements:
Meets U.S. and EU standards
- Pre-coated with Adhesive
- Operating Temperature:
-30°C to +125°C
- Good resistance to fuels,
oils, and solvents

Material	Spec
Low Smoke Halogen Free	NAVSEA 5617649

Boot Size	Shell Size		Straight Shrink Boot Part Number	Right Angle Shrink Boots Part Number
	Series 2M801, 2M803, 2M804	Series 2M805	Pre-Coated with Hi-Temp Hot-Melt Adhesive	Pre-Coated with Hi-Temp Hot-Melt Adhesive
1	5	N/A	2M809S060-1H	2M809A060-1H
2	6, 7	8,9	2M809S060-2H	2M809A060-2H
3	8, 9	10,11	2M809S060-3H	2M809A060-3H
4	10, 12, 13	12, 15	2M809S060-4H	2M809A060-4H
5	14, 15, 16, 17	18, 19	2M809S060-5H	2M809A060-5H
6	21	23	2M809S060-6H	2M809A060-6H

Size 1 right angle supplied less lip see page 108

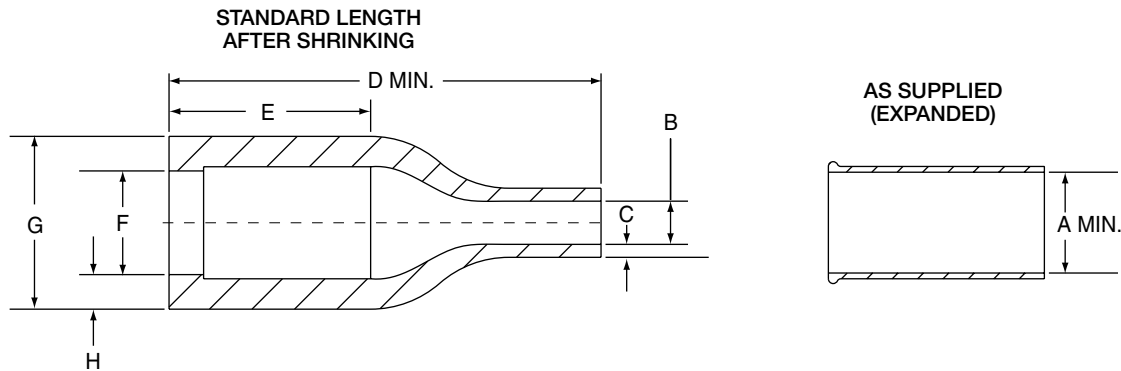
Series 2M Torque Values

SERIES 2M801, 2M803, 2M804, 2M805
RECOMMENDED TORQUE VALUES

Shell Size Series 2M801, 2M803, 2M804	Shell Size Series 2M805	Backshell Tightening			
		In-LBs.		N-m	
		Min.	Max.	Min.	Max.
5	-	13	17	1.5	1.9
6	8	18	22	2.0	2.5
7	9	30	40	3.4	4.5
8	10	30	40	3.4	4.5
9	11	35	45	4.0	5.1
10	12	35	45	4.0	5.1
12, 13	15	35	45	4.0	5.1
14, 16	18	35	45	4.0	5.1
15, 17	19	35	45	4.0	5.1
21	23	35	45	4.0	5.1

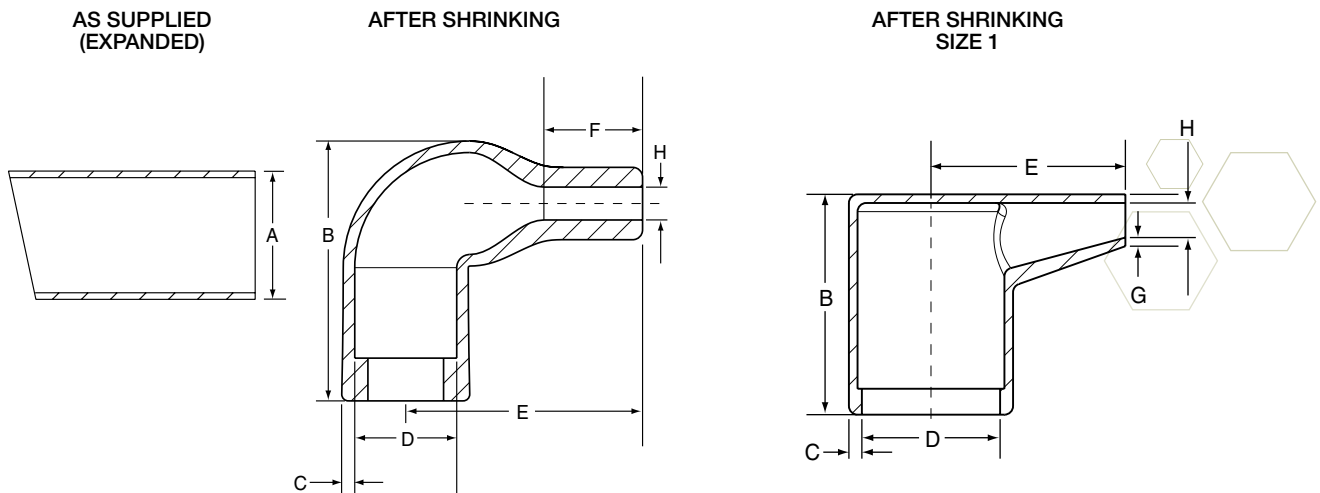


Lipped Straight Shrink Boots



Boot Size	A Min.		B Max.		C $\pm$ 20%		D $\pm$ 10%		E Ref.		F Max.		G Ref.		H $\pm$ 30%	
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.
1	.350	9.0	.075	1.91	.023	.584	.750	19.0	.350	9.0	.182	4.62	.300	7.6	.060	1.52
2	.650	16.5	.150	3.8	.050	1.27	1.000	25.4	.560	14.2	.238	6.05	.410	10.5	.090	2.29
3	.920	23.4	.220	5.6	.060	1.52	1.500	38.1	0.830	21.1	.338	8.59	.530	13.46	.100	2.54
4	1.120	28.4	.260	6.6	.070	1.78	2.160	54.9	1.090	27.7	.488	12.40	.700	17.8	.110	2.79
5	1.220	31.0	.280	7.1	.080	2.03	2.640	67.0	1.380	35.0	.628	15.95	.860	21.8	.120	3.05
6	1.680	42.7	.390	9.9	.080	2.03	4.080	103.6	2.220	56.4	.984	25.00	1.270	32.2	.143	3.63

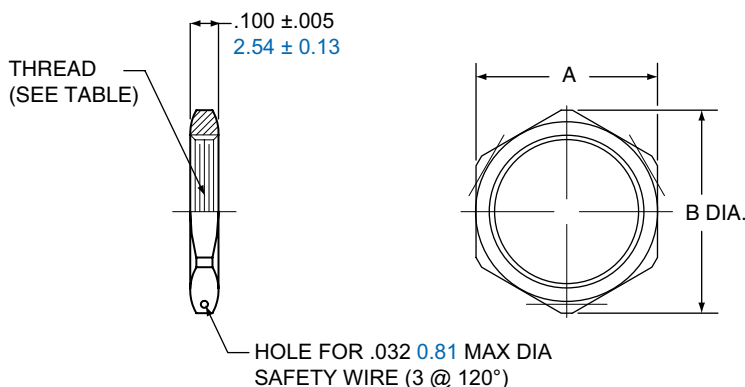
Lipped Right Angle Shrink Boots



Boot Size	A Min.		B Ref.		C $\pm$ 30%		D Max.		E $\pm$ 20%		F Ref.		G $\pm$ 20%		H Max	
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.
1	.240	6.0	.510	13.0	.040	1.0	.322	8.18	.410	10.5	N/A	N/A	.020	0.5	.080	2.0
2	.650	16.5	.790	20.1	.040	1.0	.310	7.9	.720	18.3	.300	7.62	.060	1.6	.100	2.5
3	.920	23.3	.900	22.9	.050	1.3	.410	10.4	.800	20.3	.230	5.8	.050	1.3	.220	5.6
4	1.120	28.5	1.120	28.5	.060	1.5	.560	14.2	1.170	29.8	.280	7.1	.060	1.5	.250	6.3
5	1.220	30.9	1.200	30.5	.070	1.8	.700	17.8	1.400	35.6	.340	8.6	.070	1.8	.280	7.1
6	1.680	42.6	1.700	43.2	.080	2.0	1.100	27.9	2.100	53.3	.620	15.7	.080	2.0	.380	9.7

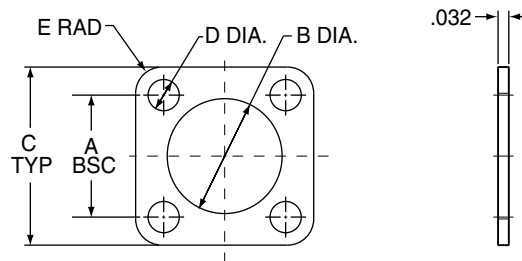
Hex Nuts 2M809-035

Hex Jam Nuts for 2M Receptacles



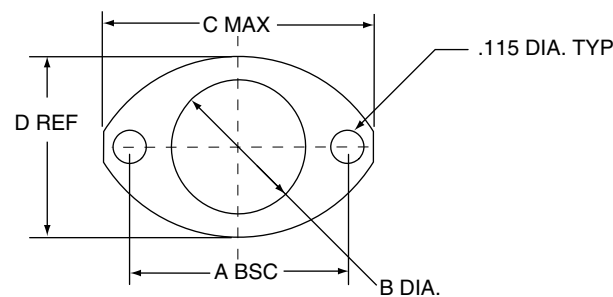
Thread Size Class 2B	Part Number						Dimensions			
	Aluminum				Stainless Steel					
	Electroless Nickel	Olive Drab Cadmium	Black Zinc Nickel	Nickel-PTFE	Passivated	Black Zinc-Cobalt	A Hex.		B Dia.	
							In.	mm.	In.	mm.
.2500-32 UNEF	2M809-035M01W	2M809-035NF01W	2M809-035ZNU01W	2M809-035MT01W	2M809-035Z101W	2M809-035ZC01W	.375	9.53	.403	10.24
.3125-28 UN	2M809-035M02W	2M809-035NF02W	2M809-035ZNU02W	2M809-035MT02W	2M809-035Z102W	2M809-035ZC02W	.4375	11.11	.475	12.07
.3125-32 UNEF	2M809-035M03W	2M809-035NF03W	2M809-035ZNU03W	2M809-035MT03W	2M809-035Z103W	2M809-035ZC03W	.4375	11.11	.475	12.07
.3750-28 UN	2M809-035M04W	2M809-035NF04W	2M809-035ZNU04W	2M809-035MT04W	2M809-035Z104W	2M809-035ZC04W	.500	12.70	.547	13.89
.4375-28 UNEF	2M809-035M05W	2M809-035NF05W	2M809-035ZNU05W	2M809-035MT05W	2M809-035Z105W	2M809-035ZC05W	.5625	14.29	.620	15.75
.5625-24 UNEF	2M809-035M06W	2M809-035NF06W	2M809-035ZNU06W	2M809-035MT06W	2M809-035Z106W	2M809-035ZC06W	.6875	17.46	.755	19.18
.5625-28 UN	2M809-035M16W	2M809-035NF16W	2M809-035ZNU16W	2M809-035MT16W	2M809-035Z116W	2M809-035ZC16W	.6875	17.46	.755	19.18
.5625-32 UN	2M809-035M07W	2M809-035NF07W	2M809-035ZNU07W	2M809-035MT07W	2M809-035Z107W	2M809-035ZC07W	.6875	17.46	.755	19.18
.6250-28 UN	2M809-035M08W	2M809-035NF08W	2M809-035ZNU08W	2M809-035MT08W	2M809-035Z108W	2M809-035ZC08W	.750	19.05	.830	21.08
.6875-28 UN	2M809-035M09W	2M809-035NF09W	2M809-035ZNU09W	2M809-035MT09W	2M809-035Z109W	2M809-035ZC09W	.8125	20.64	.898	22.81
.7500-28 UN	2M809-035M10W	2M809-035NF10W	2M809-035ZNU10W	2M809-035MT10W	2M809-035Z110W	2M809-035ZC10W	.875	22.23	.970	24.64
.8125-28 UN	2M809-035M17W	2M809-035NF17W	2M809-035ZNU17W	2M809-035MT17W	2M809-035Z117W	2M809-035ZC17W	.9375	23.81	1.030	26.16
.8750-28 UN	2M809-035M11W	2M809-035NF11W	2M809-035ZNU11W	2M809-035MT11W	2M809-035Z111W	2M809-035ZC11W	1.000	25.40	1.078	27.38
.9375-20 UNEF	2M809-035M12W	2M809-035NF12W	2M809-035ZNU12W	2M809-035MT12W	2M809-035Z112W	2M809-035ZC12W	1.0625	26.99	1.187	30.15
.9375-28 UN	2M809-035M13W	2M809-035NF13W	2M809-035ZNU13W	2M809-035MT13W	2M809-035Z113W	2M809-035ZC13W	1.0625	26.99	1.187	30.15
1.0000-28 UN	2M809-035M18W	2M809-035NF18W	2M809-035ZNU18W	2M809-035MT18W	2M809-035Z118W	2M809-035ZC18W	1.125	28.58	1.200	30.48
1.0625-20 UN	2M809-035M14W	2M809-035NF14W	2M809-035ZNU14W	2M809-035MT14W	2M809-035Z114W	2M809-035ZC14W	1.1875	30.16	1.264	32.11
1.1250-28 UN	2M809-035M15W	2M809-035NF15W	2M809-035ZNU15W	2M809-035MT15W	2M809-035Z115W	2M809-035ZC15W	1.250	31.75	1.325	33.66
1.1875-28 UN	2M809-035M19W	2M809-035NF19W	2M809-035ZNU19W	2M809-035MT19W	2M809-035Z119W	2M809-035ZC19W	1.3125	33.34	1.415	35.94
1.2500-28 UN	2M809-035M20W	2M809-035NF20W	2M809-035ZNU20W	2M809-035MT20W	2M809-035Z120W	2M809-035ZC20W	1.375	34.93	1.490	37.85
1.5000-28 UN	2M809-035M21W	2M809-035NF21W	2M809-035ZNU21W	2M809-035MT21W	2M809-035Z121W	2M809-035ZC21W	1.625	41.28	1.750	44.45

Flange Gaskets for Series 2M801 Receptacles



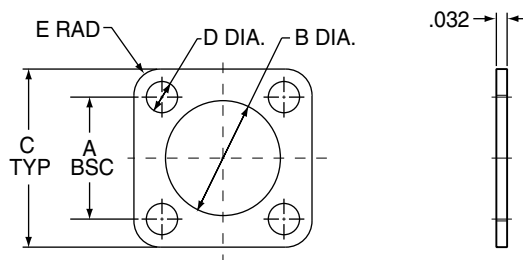
Shell Size	Part Number			A Bsc.		B Dia.		C Typ.		D Dia.		E Rad.	
	Fluorosilicone	Viton®	Conductive Fluorosilicone	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.
5	2M809-108F11	2M809-108V11	2M809-108X11	.363	9.22	.342	8.69	.530	13.46	.093	2.36	.078	1.98
6	2M809-108F12	2M809-108V12	2M809-108X12	.423	10.74	.405	10.29	.590	14.99	.093	2.36	.078	1.98
7	2M809-108F13	2M809-108V13	2M809-108X13	.483	12.27	.467	11.86	.650	16.51	.093	2.36	.078	1.98
8	2M809-108F14	2M809-108V14	2M809-108X14	.545	13.84	.530	13.46	.712	18.08	.093	2.36	.078	1.98
9	2M809-108F16	2M809-108V16	2M809-108X16	.607	15.42	.560	14.22	.850	21.59	.125	3.18	.105	2.67
10	2M809-108F15	2M809-108V15	2M809-108X15	.670	17.02	.655	16.64	.890	22.61	.125	3.18	.105	2.67
13	2M809-108F17	2M809-108V17	2M809-108X17	.812	20.62	.842	21.39	1.030	26.16	.125	3.18	.105	2.67
16	2M809-108F18	2M809-108V18	2M809-108X18	.981	24.92	1.030	26.16	1.219	30.96	.125	3.18	.105	2.67
17	2M809-108F19	2M809-108V19	2M809-108X19	1.060	26.92	1.092	27.74	1.280	32.51	.125	3.18	.105	2.67
21	2M809-108F43	2M809-108V43	2M809-108X43	1.205	30.61	1.332	33.83	1.427	36.25	.125	3.18	.105	2.67

Flange Gaskets for Series 2M803 Receptacles



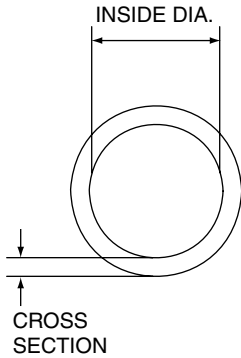
Shell Size	Part Number			A Bsc.		B Dia.		C Max.		D Ref.	
	Fluorosilicone	Viton®	Conductive Fluorosilicone	in.	mm.	in.	mm.	in.	mm.	in.	mm.
5	2M809-108F31	2M809-108V31	2M809-108X31	.513	13.03	.345	8.00	.710	18.03	.460	11.68
6	2M809-108F32	2M809-108V32	2M809-108X32	.598	15.19	.405	10.29	.795	20.19	.522	13.26
7	2M809-108F33	2M809-108V33	2M809-108X33	.708	17.98	.475	12.07	.900	22.86	.590	14.99
8	2M809-108F34	2M809-108V34	2M809-108X34	.964	24.51	.545	13.84	1.160	29.46	.670	17.02
9	2M809-108F35	2M809-108V35	2M809-108X35	1.017	25.83	.605	15.37	1.215	30.86	.721	18.31
10	2M809-108F36	2M809-108V36	2M809-108X36	1.101	37.97	.682	17.32	1.295	32.89	.795	20.19
12	2M809-108F37	2M809-108V37	2M809-108X37	1.204	30.58	.757	19.23	1.400	35.56	.874	22.20
14	2M809-108F38	2M809-108V38	2M809-108X38	1.280	32.51	.910	23.11	1.555	39.50	1.050	26.67
15	2M809-108F39	2M809-108V39	2M809-108X39	1.370	34.80	.970	24.64	1.640	41.66	1.150	29.21

Flange Gaskets for Series 2M805 Receptacles



Shell Size	Part Number			A Bsc.		B Dia.		C Typ.		D Dia.		E Rad.	
	Fluorosilicone	Viton®	Conductive Fluorosilicone	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.
8	2M809-108F20	2M809-108V20	2M809-108X20	.660	16.76	.530	13.46	.850	21.46	.093	2.36	.078	1.98
9	2M809-108F21	2M809-108V21	2M809-108X21	.723	18.36	.590	14.99	.913	23.19	.093	2.36	.078	1.98
10	2M809-108F22	2M809-108V22	2M809-108X22	.785	19.94	.660	16.76	.975	24.77	.093	2.36	.078	1.98
11	2M809-108F23	2M809-108V23	2M809-108X23	.848	21.54	.720	18.29	1.039	26.39	.093	2.36	.078	1.98
12	2M809-108F24	2M809-108V24	2M809-108X24	.909	23.09	.780	19.81	1.099	27.91	.093	2.36	.078	1.98
15	2M809-108F25	2M809-108V25	2M809-108X25	1.058	26.87	.970	24.64	1.288	32.72	.125	3.18	.105	2.67
18	2M809-108F26	2M809-108V26	2M809-108X26	1.255	31.88	1.160	29.46	1.475	37.47	.125	3.18	.105	2.67
19	2M809-108F27	2M809-108V27	2M809-108X27	1.327	33.71	1.220	30.99	1.537	39.04	.125	3.18	.105	2.67
23	2M809-108F28	2M809-108V28	2M809-108X28	1.570	39.88	1.458	37.03	1.797	45.64	.125	3.18	.105	2.67

O-Rings for Series 2M801 Jam Nut Receptacles



Shell Size	Part Number				Inside Dia.		Cross-Section	
	Fluorosilicone	EPDM	Conductive Silicone Cho-Seal 1285	Conductive Fluoro-Silicone Cho-Seal 1298	in.	mm.	in.	mm.
5	2M809-054-05F	2M809-054-05E	249-003-2M801-05B	249-003-2M801-05C	.395	10.03	.048	1.22
6	2M809-054-06F	2M809-054-06E	249-003-2M801-06B	249-003-2M801-06C	.458	11.63	.048	1.22
7	2M809-054-07F	2M809-054-07E	249-003-2M801-07B	249-003-2M801-07C	.595	15.11	.048	1.22
8	2M809-054-08F	2M809-054-08E	249-003-2M801-08B	249-003-2M801-08C	.595	15.11	.048	1.22
9	2M809-054-09F	2M809-054-09E	249-003-2M801-09B	249-003-2M801-09C	.660	16.76	.048	1.22
10	2M809-054-10F	2M809-054-10E	249-003-2M801-10B	249-003-2M801-10C	.710	18.03	.048	1.22
13	2M809-054-13F	2M809-054-13E	249-003-2M801-13B	249-003-2M801-13C	.900	22.86	.048	1.22
16	2M809-054-16F	2M809-054-16E	249-003-2M801-16B	249-003-2M801-16C	1.090	27.69	.048	1.22
17	2M809-054-17F	2M809-054-17E	249-003-2M801-17B	249-003-2M801-17C	1.135	28.83	.048	1.22
21	2M809-054-21F	2M809-054-21E	249-003-2M801-21B	249-003-2M801-21C	1.535	38.99	.048	1.22

O-Rings for Series 2M804 Rear Mount Jam Nut Receptacles

Shell Size	Part Number				Inside Diameter		Cross Section	
	Fluorosilicone	EPDM	Conductive Silicone Cho-Seal 1285	Conductive Fluorosilicone Cho-Seal 1298	in.	mm.	in.	mm.
5	2M809-055-05F	2M809-055-05E	249-003-2M804-05B	249-003-2M804-05C	.489	12.42	.070	1.78
6	2M809-055-06F	2M809-055-06E	249-003-2M804-06B	249-003-2M804-06C	.525	13.34	.070	1.78
7	2M809-055-07F	2M809-055-07E	249-003-2M804-07B	249-003-2M804-07C	.630	16.00	.070	1.78
8	2M809-055-08F	2M809-055-08E	249-003-2M804-08B	249-003-2M804-08C	.676	17.17	.070	1.78
9	2M809-055-09F	2M809-055-09E	249-003-2M804-09B	249-003-2M804-09C	.739	18.77	.070	1.78
10	2M809-055-10F	2M809-055-10E	249-003-2M804-10B	249-003-2M804-10C	.801	20.35	.070	1.78
12	2M809-055-12F	2M809-055-12E	249-003-2M804-12B	249-003-2M804-12C	.926	23.52	.070	1.78
14	2M809-055-14F	2M809-055-14E	249-003-2M804-14B	249-003-2M804-14C	1.051	26.70	.070	1.78
15	2M809-055-15F	2M809-055-15E	249-003-2M804-15B	249-003-2M804-15C	1.114	28.30	.070	1.78

O-Rings for Series 2M805 Jam Nut Receptacles

Shell Size	Part Number				Inside Diameter		Cross Section	
	Fluorosilicone	EPDM	Conductive Silicone Cho-Seal 1285	Conductive Fluorosilicone Cho-Seal 1298	in.	mm.	in.	mm.
8	2M809-150-08F	2M809-150-08E	249-003-2M805-08B	249-003-2M805-08C	.595	15.11	.048	1.22
9	2M809-150-09F	2M809-150-09E	249-003-2M805-09B	249-003-2M805-09C	.710	18.03	.048	1.22
10	2M809-150-10F	2M809-150-10E	249-003-2M805-10B	249-003-2M805-10C	.710	18.03	.048	1.22
11	2M809-150-11F	2M809-150-11E	249-003-2M805-11B	249-003-2M805-11C	.785	19.94	.048	1.22
12	2M809-150-12F	2M809-150-12E	249-003-2M805-12B	249-003-2M805-12C	.900	22.86	.048	1.22
15	2M809-150-15F	2M809-150-15E	249-003-2M805-15B	249-003-2M805-15C	1.030	26.16	.048	1.22
18	2M809-150-18F	2M809-150-18E	249-003-2M805-18B	249-003-2M805-18C	1.200	30.48	.048	1.22
19	2M809-150-19F	2M809-150-19E	249-003-2M805-19B	249-003-2M805-19C	1.250	31.75	.048	1.22
23	2M809-150-23F	2M809-150-23E	249-003-2M805-23B	249-003-2M805-23C	1.535	38.99	.048	1.22

2M Strain Relief Clamp Ordering Information



2M620MS064 and 2M620MS065



Part Number	Service Class	Size Code
2M620MS064	-M	07

PART NUMBER	
2M620MS065	Rotatable Coupling
2M620MS064	Direct Coupling

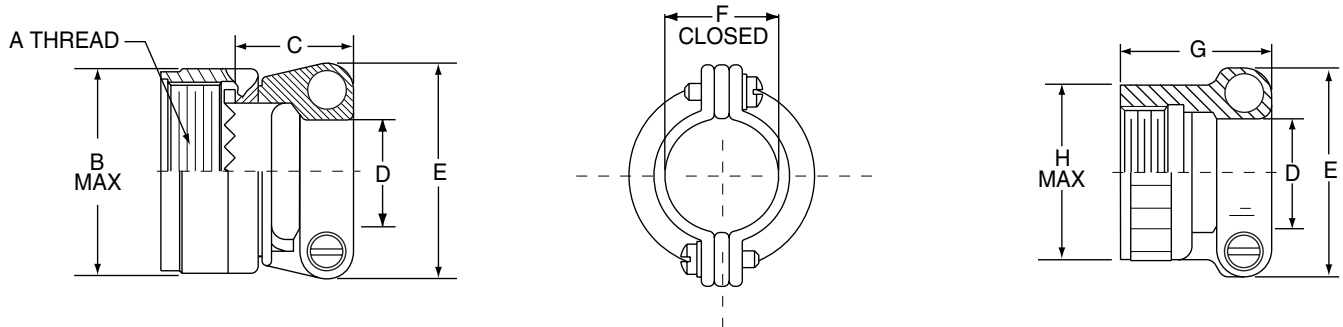
SIZE CODE				
Size Code	UNEF-2B Thread Size	Cable Entry Diameter	Shell Size	
			Series 2M801, 2M803, 2M804	Series 2M805
05	.2500-32 UNEF	.11	5	
06	.3125-32 UNEF	.17	6	
11	.3750-32 UNEF	.17		8
07	.4375-28 UNEF	.23	7	9
08	.5000-28 UNEF	.30	8	10
09	.5625-24 UNEF	.30	9	11
10	.6250-24 UNEF	.36	10	12
12	.6875-24 UNEF	.42	12, 13	
13	.7500-20 UNEF	.42		15
14	.9375-20 UNEF	.48	14, 15, 16, 17	18, 19
15	.9375-20 UNEF	.61	14, 15, 16, 17	18, 19
17	1.1875-18 UNEF	.86	21	23



SERVICE CLASS		
	Finish	
-C		Aluminum/Black Anodize (Non-Conductive)
-M		Aluminum/Electroless Nickel
-NF		Aluminum/Cadmium with Olive Drab Chromate
-MT		Aluminum/Nickel-PTFE (Duralon)
-Z1		Stainless Steel/Passivated
-ZM		Stainless Steel/Electroless Nickel
-ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
-ZNU		Aluminum/Zinc-Nickel with Black Chromate

MATERIALS

Nut, Clamp, and Saddles	Aluminum Alloy 6061-T6 or 300 Series SST
Hardware	300 Series Stainless Steel



Size Code	A Threads UNEF-2B	B Max.		C Max.		D DIA.		E		F		G Max		H Max.	
		in.	mm.	in.	mm.	in. ± .015	mm. ± 0.38	in. ± .015	mm. ± 0.38	in. ± .030	mm. ± 0.76	in.	mm.	in.	mm.
05	.2500-32	.470	11.94	.688	17.48	.119	3.02	.496	12.60	.110	2.79	.625	15.88	.350	8.89
06	.3125-32	.530	13.46	.688	17.48	.182	4.62	.582	14.78	.170	4.32	.625	15.88	.415	10.54
11	.3750-32	.570	14.48	.688	17.48	.182	4.62	.582	14.78	.170	4.32	.625	15.88	.465	11.81
07	.4375-28	.637	16.18	.688	17.48	.244	6.20	.656	16.66	.230	5.08	.688	17.48	.530	13.46
08	.5000-28	.700	17.78	.688	17.48	.307	7.80	.726	18.44	.300	7.62	.688	17.48	.595	15.11
09	.5625-24	.758	19.25	.750	19.05	.307	7.80	.726	18.44	.300	7.62	.750	19.05	.650	16.51
10	.6250-24	.819	20.80	.750	19.05	.369	9.37	.885	22.48	.360	9.14	.875	22.23	.715	18.16
12	.6875-24	.896	22.76	.750	19.05	.432	10.97	.952	24.18	.420	10.67	.875	22.23	.785	19.94
13	.7500-20	.930	23.62	.750	19.05	.432	10.97	.952	24.18	.420	10.67	.875	22.23	.830	21.08
14	.9375-20	1.137	28.88	.750	19.05	.494	12.55	1.018	25.86	.480	12.19	1.000	25.40	1.020	25.91
15	.9375-20	1.137	28.88	.750	19.05	.619	15.72	1.148	29.16	.610	15.49	1.000	25.40	1.020	25.91
17	1.1875-18	1.397	35.48	.750	19.05	.869	22.07	1.400	35.56	.860	21.84	1.125	28.58	1.280	32.51

2M Thread-On Micro Band Adapter



Ordering Information 2M440MS135, /MK135 and /ML135

Part Number	Service Class	Size Code	Cable Entry Size	Length	Band Option
2M440M 135	M	07	05	-6	K

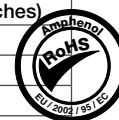
Omit for no band supplied
K adapter is supplied with
Micro Band shield
termination band, pre-coiled

PART NUMBER	
2M440MS135	Straight Entry
2M440MK135	45° Entry
2M440ML135	90° Entry

SIZE CODE	
05	.2500-32
06	.3125-32
11	.3750-32
07	.4375-28
08	.5000-28
09	.5625-24
10	.6250-24
12	.6875-24
13	.7500-20
14	.9375-20
17	1.1875-18

CABLE ENTRY SIZE		
02	.125	05-17
03	.188	05-17
04	.250	06-17
05	.312	07-17
06	.375	07-17
07	.438	08-17
08	.500	09-17
09	.562	10-17
10	.625	12-17
11	.688	14-17
12	.750	14-17
13	.812	14-17
14	.875	14-17

LENGTH	
Straight Entry 2M440MS135 Only	
Length Code	Length (inches)
-6	.750
-7	.875
-8	1.000
-9	1.125
-10	1.250
-11	1.375
-12	1.500
-13	1.625
-14	1.750
-15	1.875
-16	2.000
-17	2.125
-18	2.250
-19	2.375
-20	2.500
Specify Length in increments of .125 inches (3.18 mm.)	



SERVICE CLASS		
		Finish
C		Aluminum/Black Anodize (Non-Conductive)
M		Aluminum/Electroless Nickel
NF		Aluminum/Cadmium with Olive Drab Chromate
MT		Aluminum/Nickel-PTFE (Duralon)
Z1		Stainless Steel/Passivated
ZM		Stainless Steel/Electroless Nickel
ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU		Aluminum/Zinc-Nickel with Black Chromate

MATERIALS

Nut, Adapter	Aluminum Alloy or 300 Series SST
Band	300 Series SST
O-Ring	Silicone Elastomer

Shell Size

Accessory Thread	Size Code	Series 2M801	Series 2M803	Series 2M804	Series 2M805
.2500-32 UNEF-2B	05	5	5	5	
.3125-32 UNEF-2B	06	6	6	6	
.3750-32 UNEF-2B	11				8
.4375-28 UNEF-2B	07	7	7	7	9
.5000-28 UNEF-2B	08	8	8	8	10
.5625-24 UNEF-2B	09	9	9	9	11
.6250-24 UNEF-2B	10	10	10	10	12
.6875-24 UNEF-2B	12	13	12	12	
.7500-20 UNEF-2B	13				15
.9375-20 UNEF-2B	14	16,17	14, 15	14, 15	18, 19
1.1875-18 UNEF-2B	17	21			23

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter &
Accessories

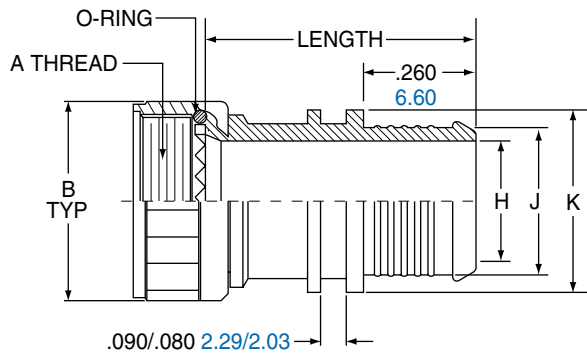
HD38999

Micro-D

Terrapin

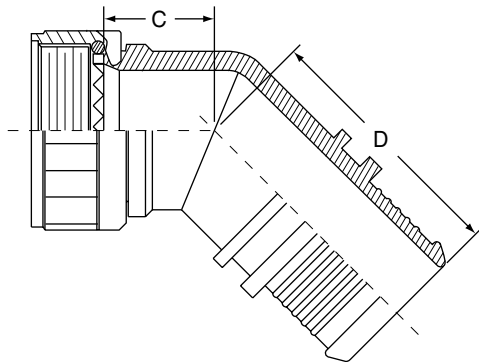
Nexus

STRAIGHT ENTRY ROTATABLE COUPLING 2M440MS135

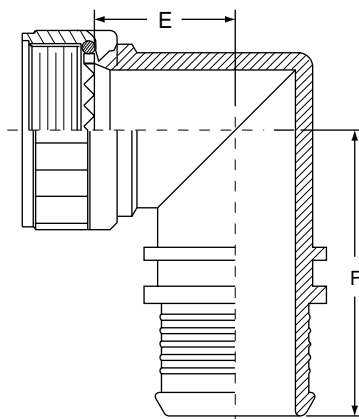


Size Code	A Threads UNEF-2B	B Max		C Max.		D Max.		E Max.		F Max.	
		in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.
05	.2500-32	.470	11.94	.530	13.46	.660	16.76	.630	16.00	.780	19.81
06	.3125-32	.530	13.46	.550	13.97	.670	17.02	.660	16.76	.790	20.27
11	.3750-32	.570	14.48	.560	14.22	.680	17.27	.680	17.27	.810	20.57
07	.4375-28	.637	16.18	.570	14.48	.690	17.53	.700	17.48	.830	21.08
08	.5000-28	.700	17.78	.580	14.73	.700	17.78	.740	18.80	.860	21.84
09	.5625-24	.758	19.25	.590	14.99	.710	18.03	.770	19.56	.890	22.61
10	.6250-24	.819	20.80	.610	15.49	.730	18.54	.800	20.32	.920	23.37
12	.6875-24	.896	22.76	.640	16.26	.750	19.05	.840	21.34	.970	24.64
13	.7500-20	.930	23.62	.660	16.76	.770	19.56	.880	22.35	1.020	25.91
14	.9375-20	1.137	28.88	.690	17.53	.800	20.32	.950	24.13	1.090	27.69
17	1.1875-18	1.387	35.23	.720	18.29	.830	21.08	1.010	25.65	1.160	29.46

45° ENTRY ROTATABLE COUPLING 2M440MK135



90° ENTRY ROTATABLE COUPLING 2M440ML135



CABLE ENTRY							
Cable Entry Code	H Dia.		J Dia.		K Dia.		Use With Size Codes
	in. ± .015	mm. ± 0.38	in. ± .015	mm. ± 0.38	in. ± .015	mm. ± 0.38	
02	.125	3.18	.164	4.17	.266	6.76	05-14
03	.188	4.78	.227	5.77	.329	8.36	05-14
04	.250	6.35	.289	7.34	.391	9.93	06-14
05	.312	7.92	.351	8.92	.453	11.51	07-14
06	.375	9.53	.414	10.52	.516	13.11	07-14
07	.438	11.13	.477	12.12	.579	14.71	08-14
08	.500	12.70	.539	13.69	.641	16.28	09-14
09	.562	14.27	.601	15.27	.703	17.86	10-14
10	.625	15.88	.664	16.87	.766	19.46	12-14
11	.688	17.48	.727	18.47	.829	21.06	14
12	.750	19.05	.789	20.04	.891	22.63	14
13	.812	20.62	.851	21.62	.953	24.21	14
14	.875	22.23	.914	23.22	1.016	25.81	14

CONNECTOR SHELL SIZE			
Size Code	A Threads	Shell Size	
		Series 2M801, 2M803, 2M804	Series 2M805
05	.2500-32 UNEF-2B	5	
06	.3125-32 UNEF-2B	6	
11	.3750-32 UNEF-2B		8
07	.4375-28 UNEF-2B		9
08	.5000-28 UNEF-2B		10
09	.5625-24 UNEF-2B		11
10	.6250-24 UNEF-2B		12
12	.6875-24 UNEF-2B	12, 13	
13	.7500-20 UNEF-2B		15
14	.9375-20 UNEF-2B	14, 15, 16, 17	18, 19
17	1.1875-18 UNEF-2B	21	23

2M Low-Profile Micro Band Adapter Order Info



2M440MS134

Part Number	Service Class	Size Code	Cable Entry Size	Length	Band Option
2M440MS134	M	07	05	-6	K

Omit for no band supplied
K adapter is supplied with
Micro Band shield
termination band, pre-coiled

PART NUMBER	
2M440MS134	Straight Entry

SIZE CODE	
05	.2500-32
06	.3125-32
11	.3750-32
07	.4375-28
08	.5000-28
09	.5625-24
10	.6250-24
12	.6875-24
13	.7500-20
14	.9375-20
17	1.1875-18

CABLE ENTRY SIZE		
01	.094	05-06, 11
02	.125	05-07, 11
03	.175	05-08, 11
04	.234	06-08
05	.272	07-09
06	.312	07-10
07	.375	08-13
08	.438	09-13
09	.500	10-13
10	.562	12-14, 17
11	.625	14, 17
12	.688	14, 17
13	.750	14, 17
14	.812	14, 17

LENGTH	
Straight Entry 2M440MS135 Only	
Length Code	Length (inches)
-6	.750
-7	.875
-8	1.000
-9	1.125
-10	1.250
-11	1.375
-12	1.500
-13	1.625
-14	1.750
-15	1.875
-16	2.000
-17	2.125
-18	2.250
-19	2.375
-20	2.500
Specify Length in increments of .125 inches (3.18 mm.)	



SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

MATERIALS

Nut, Adapter	Aluminum Alloy or 300 Series SST
Band	300 Series SST
O-Ring	Silicone Elastomer

Shell Size

Accessory Thread	Size Code	Series 2M801	Series 2M803	Series 2M804	Series 2M805
.2500-32 UNEF-2B	05	5	5	5	
.3125-32 UNEF-2B	06	6	6	6	
.3750-32 UNEF-2B	11				8
.4375-28 UNEF-2B	07	7	7	7	9
.5000-28 UNEF-2B	08	8	8	8	10
.5625-24 UNEF-2B	09	9	9	9	11
.6250-24 UNEF-2B	10	10	10	10	12
.6875-24 UNEF-2B	12	13	12	12	
.7500-20 UNEF-2B	13				15
.9375-20 UNEF-2B	14	16,17	14, 15	14, 15	18, 19
1.1875-18 UNEF-2B	17	21			23

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

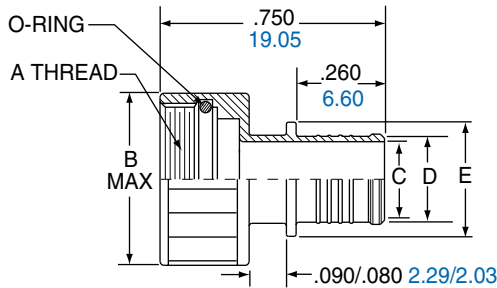
2M Filter &
Accessories

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Micro-D

Terrapin

Nexus



CONNECTOR SHELL SIZE			
Size Code	A Threads	B Max.	
		in.	mm.
05	.2500-32 UNEF-2B	.350	8.89
06	.3125-32 UNEF-2B	.415	10.54
11	.3750-32 UNEF-2B	.465	11.81
07	.4375-28 UNEF-2B	.530	13.46
08	.5000-28 UNEF-2B	.595	15.11
09	.5625-24 UNEF-2B	.650	16.51
10	.6250-24 UNEF-2B	.715	18.16
12	.6875-24 UNEF-2B	.785	19.94
13	.7500-20 UNEF-2B	.830	21.08
14	.9375-20 UNEF-2B	1.020	25.91
17	1.1875-18 UNEF-2B	1.280	32.51

CABLE ENTRY							
Cable Entry Code	C Dia.		D Dia.		E Dia.		Use With Size Codes
	in. ± .015	mm. ± 0.38	in. ± .015	mm. ± 0.38	in. ± .015	mm. ± 0.38	
01	.094	2.39	.133	3.38	.235	5.97	05-06
02	.125	3.18	.164	4.17	.266	6.76	05-07
03	.172	4.37	.211	5.36	.313	7.95	05-08
04	.234	5.94	.273	6.93	.375	9.53	06-08
05	.272	6.91	.311	7.90	.413	10.49	07-09
06	.312	7.92	.351	8.92	.453	11.51	07-10
07	.375	9.53	.414	10.52	.516	13.11	08-12
08	.438	11.13	.477	12.12	.579	14.71	09-12
09	.500	12.70	.539	13.69	.641	16.28	10-12
10	.562	14.27	.601	15.27	.703	17.88	12-14
11	.625	15.88	.664	16.87	.766	19.46	14
12	.688	17.48	.727	18.47	.829	21.06	14
13	.750	19.05	.789	20.04	.891	22.63	14
14	.812	20.62	.851	21.62	.953	24.21	14

CONNECTOR SHELL SIZE			
Size Code	A Threads	Shell Size	
		Series 2M801, 2M803, 2M804	Series 2M805
05	.2500-32 UNEF-2B	5	
06	.3125-32 UNEF-2B	6	
11	.3750-32 UNEF-2B		8
07	.4375-28 UNEF-2B	7	9
08	.5000-28 UNEF-2B	8	10
09	.5625-24 UNEF-2B	9	11
10	.6250-24 UNEF-2B	10	12
12	.6875-24 UNEF-2B	12, 13	
13	.7500-20 UNEF-2B		15
14	.9375-20 UNEF-2B	14, 15, 16, 17	18, 19
17	1.1875-18 UNEF-2B	21	23

2M Environmental Backshell Ordering Info



2M370MS37, MS038, 2M370MB038, 2M370MA038



Part Number	Service Class	Size Code	Cable Entry Size	Length	Options
2M370M038	M	07	05	-6	N

Omit for screw clamp with saddle bars
N Optional Compression Nut, Low Profile

PART NUMBER	
2M370MS038	Straight Entry Rotatable Coupling
2M370MS037	Straight Entry, Direct Coupling
2M370MB038	45° Entry
2M370MA038	90° Entry

SIZE CODE	
05	.2500-32
06	.3125-32
11	.3750-32
07	.4375-28
08	.5000-28
09	.5625-24
10	.6250-24
12	.6875-24
13	.7500-20
14	.9375-20
17	1.1875-18

CABLE ENTRY SIZE		
Code	Max.	Min.
01	.109	.031
02	.172	.078
03	.234	.140
04	.297	.203
05	.359	.265
06	.422	.328
07	.484	.390
08	.547	.463
09	.609	.515

LENGTH	
Straight Entry 2M440MS. Only	
Length Code	Length (inches)
-5	.625
-6	.750
-7	.875
-8	1.000
-9	1.125
-10	1.250
-11	1.375
-12	1.500
-13	1.625
-14	1.750
-15	1.875
-16	2.000
-17	2.125
-18	2.250
-19	2.375
-20	2.500
Specify Length in increments of .125 inches (3.18 mm.)	

SERVICE CLASS		
		Finish
C		Aluminum/Black Anodize (Non-Conductive)
M		Aluminum/Electroless Nickel
NF		Aluminum/Cadmium with Olive Drab Chromate
MT		Aluminum/Nickel-PTFE (Duralon)
Z1		Stainless Steel/Passivated
ZM		Stainless Steel/Electroless Nickel
ZN		Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU		Aluminum/Zinc-Nickel with Black Chromate



Shell Size

Accessory Thread	Size Code	Series 2M801	Series 2M803	Series 2M804	Series 2M805
.2500-32 UNEF-2B	05	5	5	5	
.3125-32 UNEF-2B	06	6	6	6	
.3750-32 UNEF-2B	11				8
.4375-28 UNEF-2B	07	7	7	7	9
.5000-28 UNEF-2B	08	8	8	8	10
.5625-24 UNEF-2B	09	9	9	9	11
.6250-24 UNEF-2B	10	10	10	10	12
.6875-24 UNEF-2B	12	13	12	12	
.7500-20 UNEF-2B	13				15
.9375-20 UNEF-2B	14	16,17	14, 15	14, 15	18, 19
1.1875-18 UNEF-2B	17	21			23

MATERIALS

Adapter, Clamp, Nut and Saddles	Aluminum Alloy 6061-T6 or 300 Series Stainless Steel
O-Rings	Silicone Rubber
Hardware	300 Series Stainless Steel

Contacts & Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter & Accessories

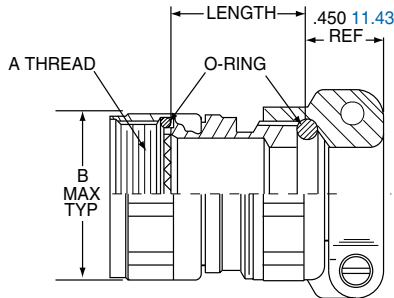
HD38999

Micro-D

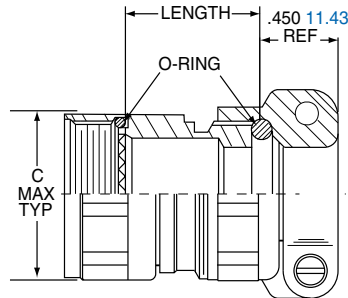
Terrapin

Nexus

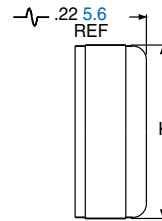
STRAIGHT ENTRY
ROTATABLE COUPLING
2M370MS038



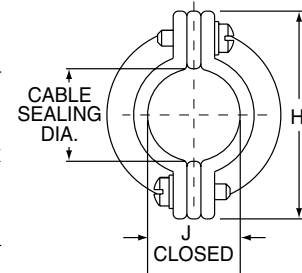
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DIRECT COUPLING
2M370MS037



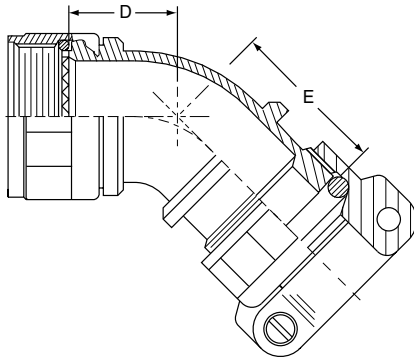
CLAMP STYLE N
COMPRESSION NUT



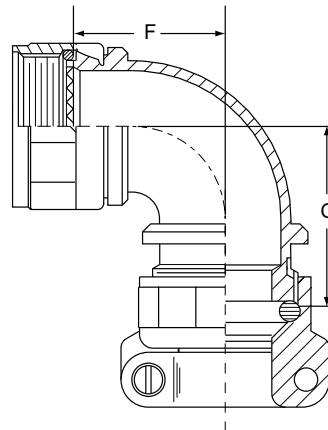
SADDLE CLAMP



45° ENTRY
ROTATABLE COUPLING
2M370MB038



90° ENTRY
ROTATABLE COUPLING
2M370MA038



Size Code	A Threads UNEF-2B	B Max.		C Max.	
		in.	mm.	in.	mm.
05	.2500-32	.470	11.94	.350	8.89
06	.3125-32	.530	13.46	.415	10.54
11	.3750-32	.570	14.48	.465	11.68
07	.4375-28	.637	16.18	.530	13.46
08	.5000-28	.700	17.78	.595	15.11
09	.5625-24	.758	19.25	.650	16.51
10	.6250-24	.819	20.80	.715	18.16
12	.6875-24	.896	22.76	.785	19.94
13	.7500-20	.930	23.62	.830	21.08
14	.9375-20	1.137	28.88	1.020	25.91
17	1.1875-18	1.280	32.51	1.280	32.51

CABLE ENTRY																
Cable Entry Code	Cable Sealing Dia.		D Max.		E Max.		F Max.		G Max.		H Dia.		J Dia.		K Dia.	
	Max.	Min.	In.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in.	mm.
											± .015	± 0.38	± .030	± 0.76	± .015	± 0.38
01	.109	.031	.603	15.32	.581	14.67	.724	18.39	.702	17.83	.496	12.60	.110	2.79	.398	10.11
02	.172	.078	.603	15.32	.581	14.67	.724	18.39	.702	17.83	.582	14.78	.170	4.32	.460	11.68
03	.234	.140	.603	15.32	.581	14.67	.724	18.39	.702	17.83	.656	16.66	.230	5.84	.523	13.28
04	.297	.203	.629	15.98	.607	15.42	.786	19.96	.764	19.41	.726	18.44	.300	7.62	.585	14.86
05	.359	.265	.629	15.98	.607	15.42	.786	19.96	.764	19.41	.885	22.48	.360	9.14	.647	16.43
06	.422	.328	.655	16.64	.633	16.00	.848	21.54	.826	20.98	.952	24.18	.420	10.67	.710	18.03
07	.484	.390	.655	16.64	.633	16.00	.848	21.54	.826	20.98	1.018	25.86	.480	12.19	.773	19.63
08	.547	.453	.707	17.96	.685	17.40	.911	23.14	.889	22.68	1.084	27.53	.550	13.97	.835	21.21
09	.609	.515	.707	17.96	.685	17.40	.911	23.14	.889	22.58	1.148	29.16	.610	15.49	.897	22.76

2M EMI Backshell Ordering Information



2M380MS137, MS135, 2M380MB137, 2M380MA137



Part Number	Service Class	Size Code	Cable Entry Size	Length	Options
2M380M 03X	M	07	05	-6	N

Omit for screw clamp with saddle bars
N Optional Compression Nut, Low Profile

PART NUMBER	
2M380MS137	Straight Entry Rotatable Coupling
2M380MS135	Straight Entry, Direct Coupling
2M380MB137	45° Entry
2M380MA137	90° Entry

SIZE CODE	
05	.2500-32
06	.3125-32
11	.3750-32
07	.4375-28
08	.5000-28
09	.5625-24
10	.6250-24
12	.6875-24
13	.7500-20
14	.9375-20
17	1.1875-18

CABLE ENTRY SIZE	
Code	Saddle Clamp Dia. Fully Closed
01	.109
02	.172
03	.234
04	.297
05	.359
06	.422
07	.484
08	.547
09	.609

LENGTH	
Straight Entry 2M380MS Only	
Length Code	Length (inches)
-5	.625
-6	.750
-7	.875
-8	1.000
-9	1.125
-10	1.250
-11	1.375
-12	1.500
-13	1.625
-14	1.750
-15	1.875
-16	2.000
-17	2.125
-18	2.250
-19	2.375
-20	2.500
Specify Length in increments of .125 inches (3.18 mm.)	

SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate



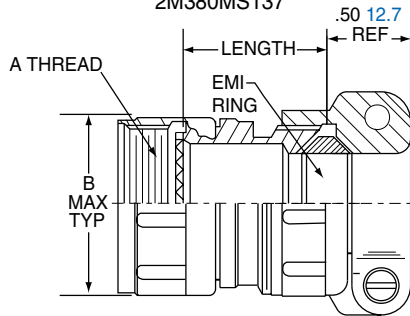
Shell Size

Accessory Thread	Size Code	Series 2M801	Series 2M803	Series 2M804	Series 2M805
.2500-32 UNEF-2B	05	5	5	5	
.3125-32 UNEF-2B	06	6	6	6	
.3750-32 UNEF-2B	11				8
.4375-28 UNEF-2B	07	7	7	7	9
.5000-28 UNEF-2B	08	8	8	8	10
.5625-24 UNEF-2B	09	9	9	9	11
.6250-24 UNEF-2B	10	10	10	10	12
.6875-24 UNEF-2B	12	13	12	12	
.7500-20 UNEF-2B	13				15
.9375-20 UNEF-2B	14	16,17	14, 15	14, 15	18, 19
1.1875-18 UNEF-2B	17	21			23

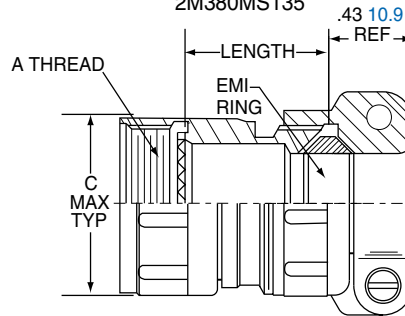
MATERIALS

Adapter, Clamp, Nut and Saddles	Aluminum Alloy 6061-T6 or 300 Series Stainless Steel
O-Rings	Silicone Rubber
Hardware	300 Series Stainless Steel

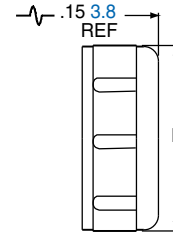
STRAIGHT ENTRY
ROTATABLE COUPLING
2M380MS137



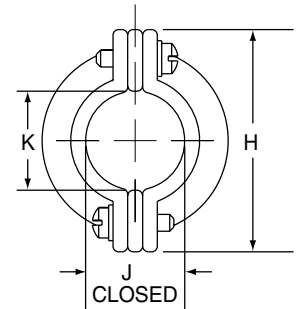
STRAIGHT ENTRY
DIRECT COUPLING
2M380MS135



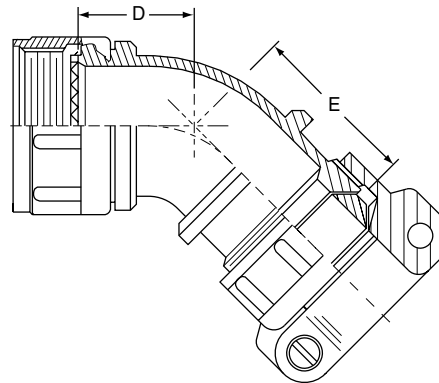
CLAMP STYLE N
COMPRESSION NUT



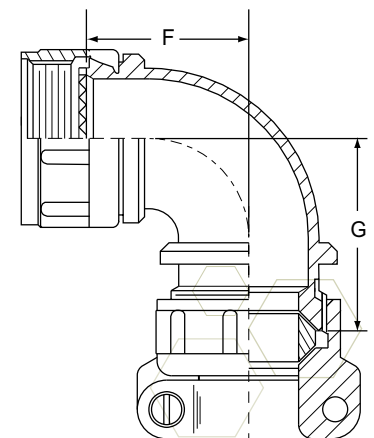
SADDLE CLAMP



45° ENTRY
ROTATABLE COUPLING
2M380MB137



90° ENTRY
ROTATABLE COUPLING
2M380MA137



Size Code	A Threads	B Max.		C Max.	
		in.	mm.	in.	mm.
05	.2500-32 UNEF-2B	.470	11.94	.350	8.89
06	.3125-32 UNEF-2B	.530	13.46	.415	10.54
11	.3750-32 UNEF-2B	.570	14.48	.465	11.68
07	.4375-28 UNEF-2B	.637	16.18	.530	13.46
08	.5000-28 UNEF-2B	.700	17.78	.595	15.11
09	.5625-24 UNEF-2B	.758	19.25	.650	16.51
10	.6250-24 UNEF-2B	.819	20.80	.715	18.16
12	.6875-24 UNEF-2B	.896	22.76	.785	19.94
13	.7500-20 UNEF-2B	.930	23.62	.830	21.08
14	.9375-20 UNEF-2B	1.137	28.88	1.020	25.91
17	1.1875-18 UNEF-2B	1.387	35.23	1.280	32.51

CABLE ENTRY

Cable Entry Code	D Max.		E Max.		F Max.		G Max.		H		J Dia. Closed		K Dia.		L Dia.	
	in.	mm.	in.	mm.	in.	mm.	in.	mm.	in. ± .015	mm. ± 0.38	in. ± .030	mm. ± 0.76	in. ± .015	mm. ± 0.38	in. ± .015	mm. ± 0.38
01	.603	15.32	.581	14.67	.724	18.39	.702	17.83	.496	12.60	.110	2.79	.119	3.02	.398	10.11
02	.603	15.32	.581	14.67	.724	18.39	.702	17.83	.582	14.78	.170	4.32	.182	4.62	.460	11.68
03	.603	15.32	.581	14.67	.724	18.39	.702	17.83	.656	16.66	.230	5.84	.244	6.20	.523	13.28
04	.629	15.98	.607	15.42	.786	19.96	.764	19.41	.726	18.44	.300	7.62	.307	7.80	.585	14.86
05	.629	15.98	.607	15.42	.786	19.96	.764	19.41	.885	22.48	.360	9.14	.369	9.37	.647	16.43
06	.655	16.64	.633	16.00	.848	21.54	.826	20.98	.952	24.18	.420	10.67	.432	10.97	.710	18.03
07	.655	16.64	.633	16.00	.848	21.54	.826	20.98	1.018	25.86	.480	12.19	.494	12.55	.773	19.63
08	.707	17.96	.685	17.40	.911	23.14	.889	22.68	1.084	27.53	.550	13.97	.557	14.15	.835	21.21
09	.707	17.96	.685	17.40	.911	23.14	.889	22.58	1.148	29.16	.610	15.49	.619	15.72	.897	22.76

2M Environmental EMI Backshell Ordering Info



2M390MS077, MS076, 2M390MB077, 2M390MA077



Part Number	Service Class	Size Code	Cable Entry Size	Length	Options
2M390M 07X	M	07	05	-6	N

Omit for screw clamp with saddle bars
N Optional Compression Nut, Low Profile

PART NUMBER	
2M390MS077	Straight Entry Rotatable Coupling
2M390MS076	Straight Entry, Direct Coupling
2M390MB077	45° Entry Rotatable Coupling
2M390MA077	90° Entry Rotatable Coupling

SIZE CODE	
05	.2500-32
06	.3125-32
11	.3750-32
07	.4375-28
08	.5000-28
09	.5625-24
10	.6250-24
12	.6875-24
13	.7500-20
14	.9375-20
17	1.1875-18

CABLE ENTRY SIZE		
Code	Max.	Min.
01	.109	.031
02	.172	.078
03	.234	.140
04	.297	.203
05	.359	.265
06	.422	.328
07	.484	.390
08	.547	.463
09	.609	.515
10	.672	.578
11	.734	.640

LENGTH	
Straight Entry 2M390MS Only	
Length Code	Length (inches)
-5	.625
-6	.750
-7	.875
-8	1.000
-9	1.125
-10	1.250
-11	1.375
-12	1.500
-13	1.625
-14	1.750
-15	1.875
-16	2.000
-17	2.125
-18	2.250
-19	2.375
-20	2.500
Specify Length in increments of .125 inches (3.18 mm.)	

SERVICE CLASS	
	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate



SERIES	
Adapter, Clamp, Nut and Saddles	Aluminum Alloy 6061-T6 or 300 Series Stainless Steel
O-Rings	Silicone Rubber
Hardware	300 Series Stainless Steel

Shell Size

Accessory Thread	Size Code	Series 2M801	Series 2M803	Series 2M804	Series 2M805
.2500-32 UNEF-2B	05	5	5	5	
.3125-32 UNEF-2B	06	6	6	6	
.3750-32 UNEF-2B	11				8
.4375-28 UNEF-2B	07	7	7	7	9
.5000-28 UNEF-2B	08	8	8	8	10
.5625-24 UNEF-2B	09	9	9	9	11
.6250-24 UNEF-2B	10	10	10	10	12
.6875-24 UNEF-2B	12	13	12	12	
.7500-20 UNEF-2B	13				15
.9375-20 UNEF-2B	14	16,17	14, 15	14, 15	18, 19
1.1875-18 UNEF-2B	17	21			23

Contacts & Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter & Accessories

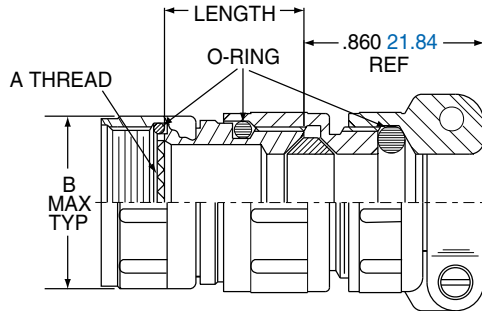
HD38999

Micro-D

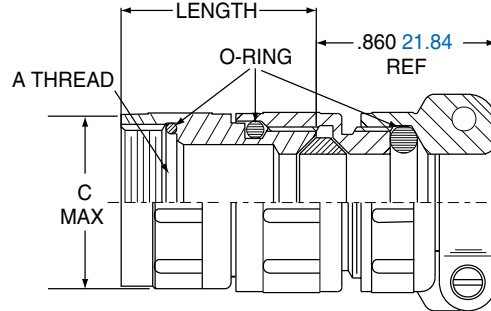
Terrapin

Nexus

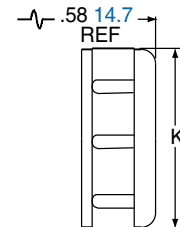
STRAIGHT ENTRY
ROTATABLE COUPLING
2M390MS077



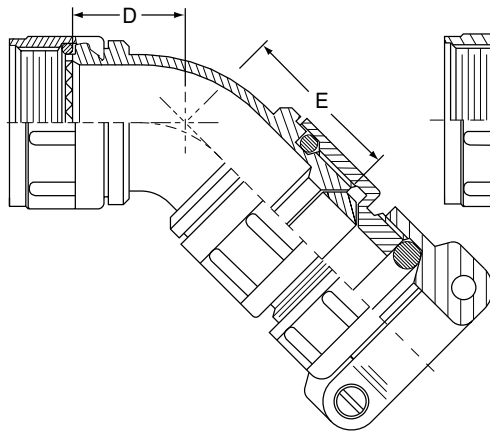
STRAIGHT ENTRY
DIRECT COUPLING
2M390MS076



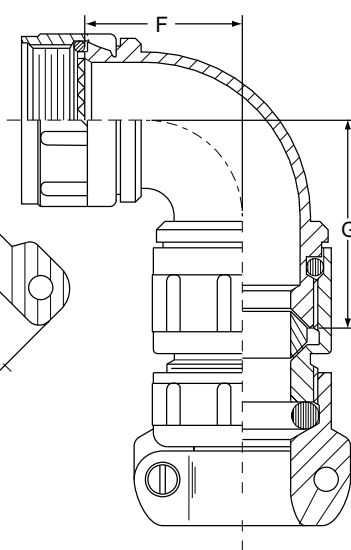
CLAMP STYLE N
COMPRESSION NUT



45° ENTRY
ROTATABLE COUPLING
2M390MB077

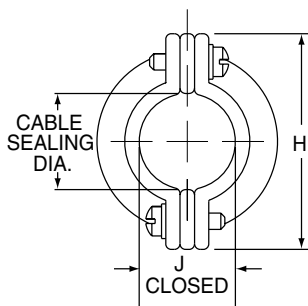


90° ENTRY
ROTATABLE COUPLING
2M390MA077



Size Code	A Threads UNEF-2B	B Max.		C Max.	
		in.	mm.	in.	mm.
05	.2500-32	.470	11.94	.350	8.89
06	.3125-32	.530	13.46	.415	10.54
11	.3750-32	.570	14.48	.570	14.48
07	.4375-28	.637	16.18	.530	13.46
08	.5000-28	.700	17.78	.595	15.11
09	.5625-24	.758	19.25	.650	16.51
10	.6250-24	.819	20.80	.715	18.16
12	.6875-24	.896	22.76	.785	19.94
13	.7500-20	.930	23.62	.830	21.08
14	.9375-20	1.137	28.88	1.020	25.91
17	1.1875-18	1.387	35.23	1.280	32.51

SADDLE CLAMP



CABLE ENTRY

Cable Entry Code	Cable Sealing Dia.		D Max.		E Max.		F Max.		G Max.		H		J Dia. Closed		K Dia.	
	Max.	Min.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	in. ± .010	mm. ± 0.25	in. ± .030	mm. ± 0.76	in. ± .010	mm. ± 0.25
01	.109	.031	.603	15.32	.681	14.67	.724	18.39	.802	20.37	.496	12.60	.110	2.79	.398	10.11
02	.172	.078	.603	15.32	.681	14.67	.724	18.39	.802	20.37	.582	14.78	.170	4.32	.460	11.68
03	.234	.140	.603	15.32	.681	14.67	.724	18.39	.802	20.37	.656	16.66	.230	5.84	.523	13.28
04	.297	.203	.629	15.98	.707	15.42	.786	19.96	.864	21.95	.726	18.44	.300	7.62	.585	14.86
05	.359	.265	.629	15.98	.707	15.42	.786	19.96	.864	21.95	.885	22.48	.360	9.14	.647	16.43
06	.422	.328	.655	16.64	.733	16.00	.848	21.54	.926	23.52	.952	24.18	.420	10.67	.710	18.03
07	.484	.390	.655	16.64	.733	16.00	.848	21.54	.926	23.52	1.018	25.86	.480	12.19	.773	19.63
08	.547	.453	.707	17.96	.785	17.40	.911	23.14	.989	25.12	1.084	27.53	.550	13.97	.835	21.21
09	.609	.515	.707	17.96	.785	17.40	.911	23.14	.989	25.12	1.148	29.16	.610	15.49	.897	22.78

2M Shorting Cap Backshell Ordering Info



2M340MS026

Part Number	Service Class	Attachment Type	Size Code	Length	Attachment Code	Attachment Length
2M340M 02X	M	G	07	-4	02	-5

PART NUMBER

2M340MS026	Shorting Cap Backshell
------------	------------------------

ATTACHMENT TYPE

-G	Nylon Rope
-H	Stainless Steel Wire Rope, Teflon® Jacket
-N	No Attachment
-S	Stainless Steel Sash Chain
-SK	Nylon Rope With Slip Knot
-U	Stainless Steel Wire Rope, Polyurethane Jacket

LENGTH

Overall Length in Inches	
Length Code	Length (inches)
-4	.50
-5	.75
-6	1.00
-7	1.25
-8	1.50
-9	1.75
-10	2.00
-11	2.25
-12	2.50
-13	2.75
-14	3.00

Omit for attachment Type N (No Attachment) Ex. "-5" equals five inch length

ATTACHMENT CODE

Omit for attachment Types N (No Attachment) and SK (Slip Knot)	
Small Ring	01 -.126 (3.20) I.D.
	02 -.145 (3.68) I.D.
	04 -.188 (4.78) I.D.
	06 -.197 (5.00) I.D.
Large Ring	14 -.385 (9.78) I.D.
	15 -.445 (11.30) I.D.
	16 -.570 (14.48) I.D.
	17 -.635 (16.13) I.D.
	18 -.695 (17.65) I.D.
	19 -.885 (22.48) I.D.
Split Ring	20 -1.070 (27.17) I.D.
	50 -.420 (10.67) I.D.
	52 -.480 (12.19) I.D.
	54 -.635 (16.13) I.D.
	56 -.745 (18.92) I.D.
	58 -.885 (22.48) I.D.
	60 -1.010 (25.65) I.D.
	64 -1.125 (28.58) I.D.
	68 -1.345 (34.16) I.D.



SERVICE CLASS

	Finish
C	Aluminum/Black Anodize (Non-Conductive)
M	Aluminum/Electroless Nickel
NF	Aluminum/Cadmium with Olive Drab Chromate
MT	Aluminum/Nickel-PTFE (Duralon)
Z1	Stainless Steel/Passivated
ZM	Stainless Steel/Electroless Nickel
ZN	Aluminum/Zinc-Nickel w/Olive Drab Chromate
ZNU	Aluminum/Zinc-Nickel with Black Chromate

SIZE CODE

05	.2500-32
06	.3125-32
11	.3750-32
07	.4375-28
08	.5000-28
09	.5625-24
10	.6250-24
12	.6875-24
13	.7500-20
14	.9375-20
17	1.1875-18

MATERIALS

Adapter, Clamp, Nut and Saddles	Aluminum Alloy 6061-T6 or 300 Series Stainless Steel
O-Rings	Silicone Rubber
Hardware	300 Series Stainless Steel

Contacts & Tools

2M Specs

2M801

2M803

2M804

2M805

2M Filter & Accessories

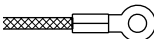
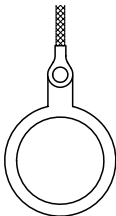
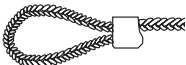
HD38999

Micro-D

Terrapin

Nexus

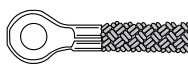
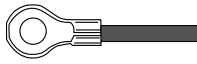
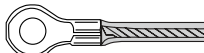
ATTACHMENT OPTIONS

 Small Ring for Attaching to a Panel with a Screw	Dia. Code	Ring I.D.		Ring O. D.		
		in.	mm.	in.	mm.	
		± .005	± .13	Max	Max	
	01	.126	8.89	.31	7.9	
	02	.145	10.54	.31	7.9	
	04	.188	11.81	.31	7.9	
	06	.197	13.46	.31	7.9	
	Dia. Code	Ring I.D.		Ring O. D.		
		in.	mm.	in.	mm.	
	 Large Solid Ring for Attaching to a Jam Nut Receptacle		± .010	± .25	± .015	± .38
14		.385	9.78	.510	12.95	
15		.445	11.30	.565	14.35	
16		.570	14.48	.685	17.40	
17		.635	16.13	.760	19.30	
18		.695	17.65	.820	20.82	
19		.885	22.48	1.010	25.65	
20		1.070	27.17	1.195	30.35	
21		1.135	28.83	1.250	31.75	
22		1.210	30.73	1.312	33.32	
 Nylon Rope Slip Knot (SK) for attaching Covers to Cables		55° to +100°C., black, flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter. Length includes .5" 13mm diameter loop.				

DIMENSIONS

Size Code	A Max Dia.		B Threads
	in.	mm.	
05	.350	8.89	.2500-32 UNEF-2B
06	.415	10.54	.3125-32 UNEF-2B
11	.465	11.81	.3750-32 UNEF-2B
07	.530	13.46	.4375-28 UNEF-2B
08	.595	14.35	.5000-28 UNEF-2B
09	.650	16.51	.5625-24 UNEF-2B
10	.715	18.16	.6250-24 UNEF-2B
12	.785	19.94	.6875-24 UNEF-2B
13	.830	21.08	.7500-20 UNEF-2B
14	1.020	25.91	.9375-20 UNEF-2B
17	1.270	32.26	1.1875-18 UNEF-2B

LANYARD OPTIONS

 Nylon Rope	-55° to +100°C., black, very flexible, good abrasion resistance, good resistance to fuels, .120" 3mm diameter
 Polyurethane Coated Wire Rope	Black polyurethane over stainless steel rope, very flexible, excellent abrasion resistance, excellent resistance to fuels, .080" 2mm diameter
 Teflon® Jacketed Wire Rope	Translucent FEP jacket over stainless steel, -55° to +200°C., fair flexibility, good abrasion resistance, .100" diameter
 Sash Chain	Stainless steel, #8 chain, .240" 6mm diameter

Contents

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	Line Receptacle	160
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	Jam Nut Receptacle	161
	Reduced Flange Jam Nut Receptacle	161
	Double Flange Receptacle	162
Plugs	Straight Plug with Integral Backshell	162
	Straight Plug	163
	CLUTCH-LOK Plug	163
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High Density Interconnects

The HD38999 family of connectors has 30% to 50% more contact density than the highest density Mil Spec 38999 connectors of its size. This series of connectors was designed to utilize mil-specified 38999 components with the exception of the contacts and insert arrangements. Utilizing existing mil-qualified 39029 size 23 contacts and 38999 insert materials, these connectors are essentially a drop-in replacement for the standard 38999 connector. This connector design benefits users in a couple of different ways. For those users who need to increase the amount of contacts in their application, the HD38999 series allows them to do so without increasing the size of their connector. For users who are looking to decrease the overall size of their system, they can do so by using smaller shell sizes without decreasing the number of contacts.

Amphenol has qualified this series of connectors to the requirements of MIL-DTL-38999. Amphenol also manufactures this high density series in Filter, Hermetic and customized versions to fit our customer's needs. Please contact us if additional information is required.



HD38999 Connectors available styles:

- Aluminum
- Composite
- Stainless Steel
- Sealed (IP67)
- Filtered

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M
Accessories

HD38999

Micro-D

Terrapin

Nexus

A connector that has the
connections...

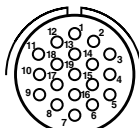
Goes from 9 to 187 contacts!

High Density Shell Sizes (Front of Pin Insert Shown)
(all contacts are size 23)

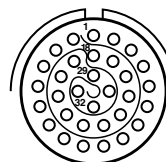
Increased number of contacts in HD38999 insert pattern
compared to Standard 38999* contact density of same shell size.



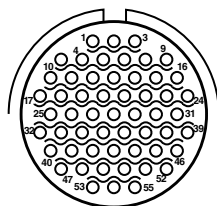
9-9
3



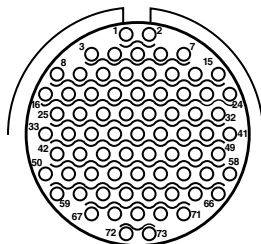
11-19
6



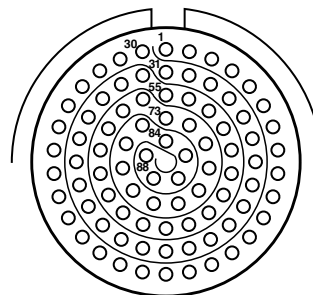
13-32
19



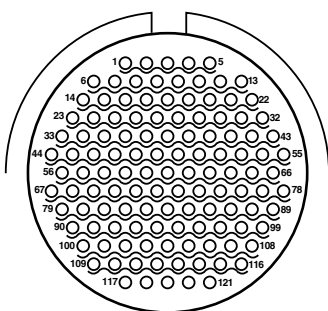
15-55
18



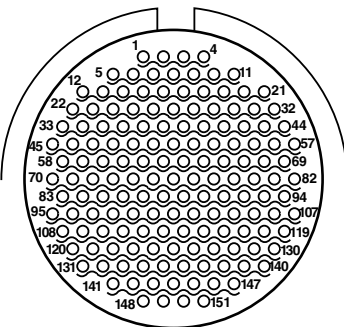
17-73
18



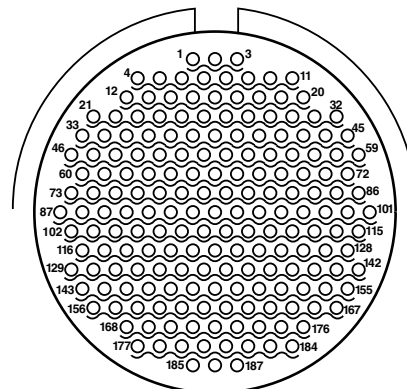
19-88
22



21-121
42



23-151
51



25-187
59

* Standard inserts for 38999 series are shown in
Amphenol's Combined Circular Catalog, 12-C3

Ordering Guide for HD38999

Easy Steps to build a part number... HD38999

1.	2.	3.	4.	5.	6.	7.
Connector Type	Shell Styles	Service Class	Shell Size – Insert Arrangement	Contact Type	Alternate Positions	PCB Options
TV or PTV (Potted version)	06	RW	23-151	P	B	(P25)



Step 1. Select a Connector Type

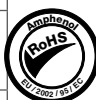
	Designates
P (prefix for Potted)	TV Tri-Start Series Connector
	TVP Back panel mounted receptacle
	MTV CLUTCH-LOK high vibration plug connector (Note: remove dashes in how to order part number when ordering CLUTCH-LOK)
	CTV Tri-Start Composite Series connector
	CTVP Panel mounted composite receptacle

Step 2. Select a Shell Style

	Designates
00	Wall mount receptacle
40	Wall mount double flange receptacle
01	Line receptacle
02	Box mount receptacle- contact Amphenol for availability.
06	Straight plug
07	Jam nut receptacle
47	Jam nut double flange receptacle
26	Proprietary CLUTCH-LOK high vibration straight plug (service Class RK only)
97	Reduced flange jam nut receptacle (not available in composite)
96	Straight plug with integral backshell (not available in composite)

Step 3. Select a Service Class

	Designates
RF	Electroless nickel plated aluminum, optimum EMI shielding effectiveness -65dB @ 10GHz specification min., 48 hour salt spray, 175°C
RW	Corrosion resistant olive drab cadmium plate aluminum, 500 hour extended salt spray, EMI -50dB @ 10GHz specification min., 175°C
RL	Corrosion resistant stainless steel, electro-deposited nickel, 48 hours salt spray, 175°C, non-firewall
RK	Corrosion resistant stainless steel, firewall capability, plus 500 hour salt spray resistance, EMI -45 dB @ 10 GHz specification min., 175°C
DT	Durmalon plated, alternative to cadmium. Corrosion resistant, 500 hour extended salt spray EMI -50dB @ 10GHz specification min. without CR ⁶
DZ	Zinc-Nickel alternative to cadmium. Corrosion resistant, 500 hour salt spray, conductive, -65°C to +175°C



Step 4. Select a Shell Size – Insert Arrangement

Shell Sizes are MIL-DTL-38999, Series III, with the newer High Density insert arrangements shown on page 1.

Shell Size	Insert Arrangement Number
9-	9
11-	19
13-	32
15-	55
17-	73
19-	88
21-	121
23-	151
25-	187

Step 5. Select a Contact Type

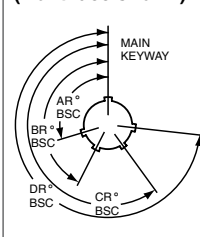
	Designates
P	Pin contacts
S	Socket contacts

Step 6. Select an Alternate Position

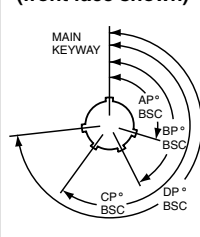
A, B, C, D, E or blank for normal.

Shell Size	Key & keyway arrangement identification letter	AR° or AP° BSC	BR° or BP° BSC	CR° or CP° BSC	DR° or DP° BSC
9	N	105	140	215	265
	A	102	132	248	320
	B	80	118	230	312
	C	35	140	205	275
	D	64	155	234	304
11, 13, and 15	E	91	131	197	240
	N	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
17 and 19	D	119	146	176	298
	E	51	141	184	242
	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
21, 23, and 25	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
	N	80	142	196	293
	A	135	170	200	310

RECEPTACLE (front face shown)



PLUG (front face shown)



A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The angles for a given connector are the same whether it contains pins or sockets. Inserts are not rotated in conjunction with the master key/keyway.

Step 7. Select a PCB Contact Option

Pin Contacts	Pin Contacts with Alignment Disc*	Socket Contacts	Socket Contacts with Alignment Disc**	PCB tail stickout +/- .040 inch
P1*	P1AD	S1	S1AD	.100" nominal
P15*	P15AD	S15	S15AD	.150" nominal
P2	P2AD	S2	S2AD	.200" nominal
P25*	P25AD	S25	S25AD	.250" nominal
P3*	P3AD	S3	S3AD	.300" nominal
P35	P35AD	S35	S35AD	.350" nominal

* Not available in TV40 wall mount double flange receptacle or TV47 jam nut double flange receptacle styles.

** See page 164 for more information on alignment discs for HD38999 connectors.

Note: Standard tail diameter is 0.019 ±.001

Stick out is measured from the end of the connector shell to end of the contact

Contacts & Tools

Contact Part Numbers:

Size 23 Sockets 10-597330-735 (M39029/17-172)
 Size 23 Pins 10-597331-735 (M39029/18-177)
 Sealing Plugs 10-405996-222 (MS27488-22-2)

Crimp Barrel Dia.:
 (Inches) .034-.036

Crimp Barrel Depth:
 (Inches) .151-.155

Tools:

Crimp Tool: Daniels M22520/2-01
 Positioner: Daniels M22520/2-16 Socket
 Daniels M22520/2-13 Pin
 Insertion Tool: Daniels DAK225-22
 Removal Tool: Daniels DRK225-22
 Insertion/Removal Tool: M81969/16-04 (Plastic)

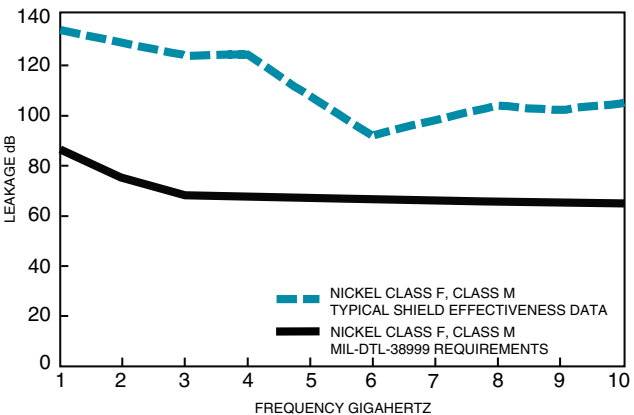
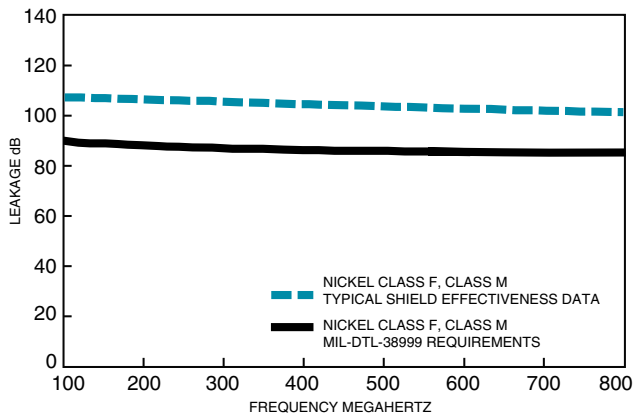
Note: Wire insulation diameter greater than 0.045 is too large for the extraction tool to work properly. Connector damage is possible.

Technical Data

HD38999 series was designed to meet and/or exceed the specifications of MIL-DTL-38999. The connector series has been tested to all the requirements of 38999 with the use of AS39029 size 23 contacts. Test reports are available upon request. The following is a summary of some of the performance requirements.

EMI Shielding Effectiveness:

Solid metal to metal coupling, EMI grounding fingers and conductive finishes have proven to be the ultimate in EMI/EMP shielding effectiveness. The following chart illustrated shielding effectiveness data which is typical in HD38999 connectors.



Electrical:

22 AWG: 5.0 AMPS
 24 AWG: 3.0 AMPS
 26 AWG: 2.0 AMPS
 28 AWG: 1.5 AMPS

Insulation Resistance: 5000 megohms min. @500 VDC 25C

Dielectric Withstanding Voltage: 1000 VRMS@sea level

Mechanical:

Metallic Shells: Material: Aluminum alloy, Stainless Steel
 Protection: Electroless Nickel, O.D. Cadmium, Durmalon (Nickel PTFE), Zinc Nickel

Composite Shells: Material: Thermoplastic
 Protection: Electroless Nickel, O.D. Cadmium, Durmalon (Nickel PTFE), Zinc Nickel

Contacts: Material: Copper Alloy
 Protection: Gold over Nickel

Insert Retention to Shell: 100 psi in axial load

Durability: 500 full mating and unmating cycles

Vibration: 60G sine per MIL-DTL-38999L Para 4.5.23.2.1
 5G2 Random per EIA-364-28E, Test condition A
 1G2 Random per EIA-364-28E, Test condition I

Shock: Per EIA-364-27B, 300g

Environmental:

Operating Temperature: -65°C to +175°C

Salt Spray:
Metallized: Electroless Nickel: 48 hours
 Anodic Coating, O. D. Cadmium, Durmalon, Zinc Nickel: 500 hours

Salt Spray Composite: Electroless Nickel: 1000 hours
 O. D. Cadmium, Durmalon, Zinc Nickel: 500 hours

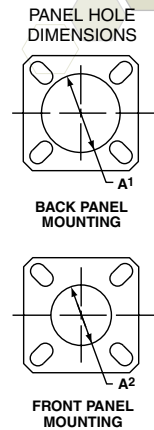
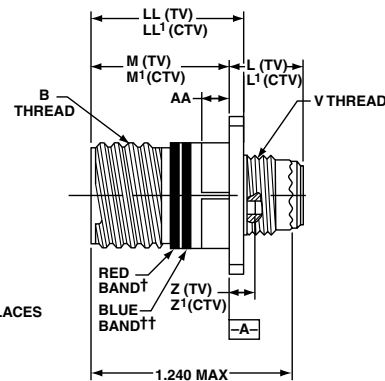
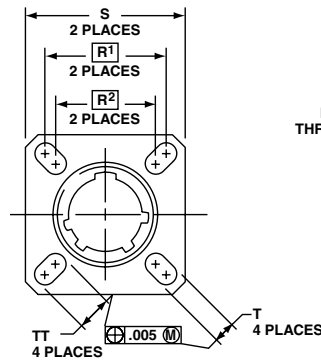
Wall Mount & Double Flange Receptacle

Shell Styles

Wall Mounting Receptacle

TVP00() - Crimp, Metal

CTVP00() - Crimp, Composite



See how to build a part number on pages 157

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

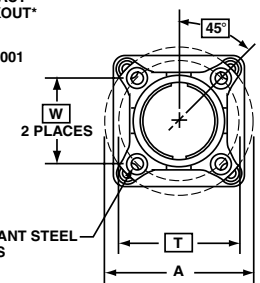
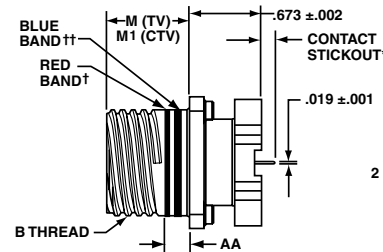
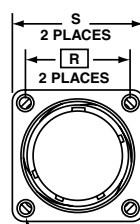
Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	L Max. (TV)	L1 Max. (CTV)	M +.000 - .005 (TV)	M1 +.000 - .005 (CTV)	R1	R2	S Max.	T ±.008	Z Max. (TV)	Z1 Max. (CTV)	A1 Back Panel Mount	A2 Front Panel Mount	AA Max. Panel Thickness	LL +.006 - .000 (TV)	LL1 ±.005 (CTV)	TT ±.008
9	A	.6250	.469	.514	.820	.773	.719	.594	.948	.128	.153	.198	.650	.510	.234	.905	.908	.216
11	B	.7500	.469	.514	.820	.773	.812	.719	1.043	.128	.153	.198	.800	.620	.234	.905	.908	.194
13	C	.8750	.469	.514	.820	.773	.906	.812	1.137	.128	.153	.198	.910	.740	.234	.905	.908	.194
15	D	1.0000	.469	.514	.820	.773	.969	.906	1.232	.128	.153	.198	1.040	.900	.234	.905	.908	.173
17	E	1.1875	.469	.514	.820	.773	1.062	.969	1.323	.128	.153	.198	1.210	1.010	.234	.905	.908	.194
19	F	1.2500	.469	.514	.820	.773	1.156	1.062	1.449	.128	.153	.198	1.280	1.130	.234	.905	.908	.194
21	G	1.3750	.500	.545	.790	.741	1.250	1.156	1.575	.128	.183	.228	1.410	1.250	.204	.905	.904	.194
23	H	1.5000	.500	.545	.790	.741	1.375	1.250	1.701	.154	.183	.228	1.530	1.360	.204	.905	.904	.242
25	J	1.6250	.500	.545	.790	.741	1.500	1.375	1.823	.154	.183	.228	1.660	1.470	.204	.905	.904	.242

All dimensions for reference only

Wall Mounting Double Flange Receptacle (Printed Circuit Board Mount)

TVP40() - Crimp, Metal

CTVP40() - Crimp, Composite



See how to build a part number on page 157

* Contact stickout dimension: see Step 7 of how to order on page 157.

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

Shell Size	MS Shell Size Code	A Dia. ±.005 (TV)	A Dia. ±.005 (CTV)	B Thread Class 2A 0.1P-0.3L-TS (Plated)	M +.000 - .005 (TV)	M1 ±.003 (CTV)	R (Panel Mount) (CTV)	R (Panel Mount) (TV)	S Max. (TV)	S Max. (CTV)	AA Max. Panel Thickness	PCB Mounting Dimensions	
												T Dia. (TV) TP	W (CTV) TP
9	A	1.016	1.016	.6250	.820	.770	.719	NA	1.094	.949	.234	.752	.532
11	B	1.062	1.148	.7500	.820	.770	.812	.766	1.187	1.042	.234	.850	.601
13	C	1.250	1.250	.8750	.820	.770	.906	.859	1.281	1.136	.234	.994	.703
15	D	1.375	1.375	1.0000	.820	.770	.969	.938	1.344	1.230	.234	1.119	.791
17	E	1.500	1.500	1.1875	.820	.770	1.062	1.016	1.437	1.323	.234	1.237	.875
19	F	1.625	1.625	1.2500	.820	.770	1.156	1.110	1.531	1.449	.234	1.379	.975
21	G	1.750	1.750	1.3750	.820	.738	1.250	1.206	1.625	1.573	.204	1.489	1.053
23	H	1.875	1.875	1.5000	.820	.738	1.375	1.312	1.750	1.699	.204	1.619	1.195
25	J	2.000	2.000	1.6250	.820	.738	1.500	1.438	1.875	1.823	.204	1.744	1.233

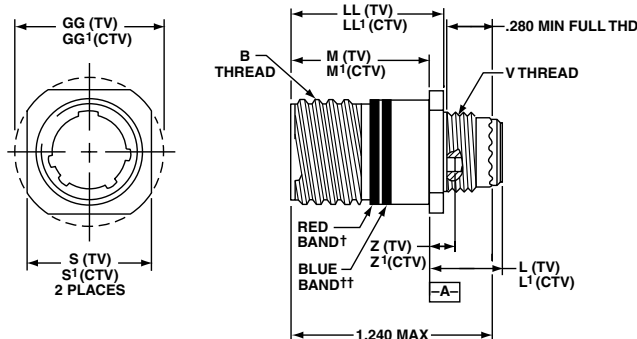
All dimensions for reference only

Shell Styles

Line Receptacle

TV01() - Crimp, Metal

CTV01() - Crimp, Composite



See how to build a part number on pages 157

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

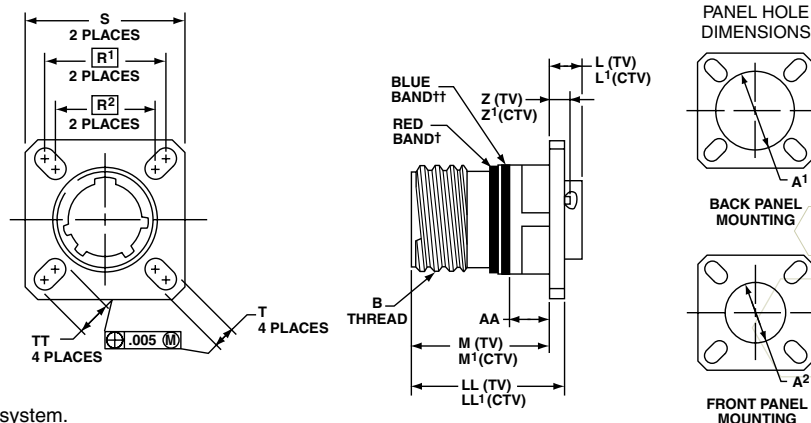
Shell Size	MS Shell Size Code	B Thread 0.1P-0.3L-TS-2A (Plated)	M +.000 - .005 (TV)	M' +.000 - .005 (CTV)	L Max. (TV)	L' Max. (CTV)	S ±.010 (TV)	S' ±.010 (CTV)	Z Max (TV)	Z' Max (CTV)	GG ±.010 (TV)	GG' ±.010 (CTV)	LL +.006 - .000 (TV)	LL' ±.005 (CTV)
9	A	.6250	.820	.773	.469	.514	.675	.635	.153	.198	.812	.699	.905	.908
11	B	.7500	.820	.773	.469	.514	.800	.765	.153	.198	.905	.875	.905	.908
13	C	.8750	.820	.773	.469	.514	.925	.885	.153	.198	1.093	1.007	.905	.908
15	D	1.0000	.820	.773	.469	.514	1.050	1.100	.153	.198	1.219	1.140	.905	.908
17	E	1.1875	.820	.773	.469	.514	1.238	1.197	.153	.198	1.375	1.229	.905	.908
19	F	1.2500	.820	.773	.469	.514	1.300	1.260	.153	.198	1.469	1.380	.905	.908
21	G	1.3750	.790	.741	.500	.545	1.425	1.385	.183	.228	1.625	1.493	.905	.904
23	H	1.5000	.790	.741	.500	.545	1.550	1.510	.183	.228	1.750	1.626	.905	.904
25	J	1.6250	.790	.741	.500	.545	1.675	1.635	.183	.228	1.875	1.777	.905	.904

All dimensions for reference only

Box Mount Receptacle

TVP02() - Crimp, Metal

CTVP02() - Crimp, Composite



See how to build a part number on pages 157

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

Consult Amphenol Aerospace for availability for composite box mount receptacles.

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	L Max. (TV)	L' Max. (CTV)	M +.000 - .005 (TV)	M' +.000 - .005 (CTV)	R1	R2	S Max.	T ±.008	Z Max. (TV)	Z' Max. (CTV)	A1 Back Panel Mount	A2 Front Panel Mount	AA Max. Panel Thickness	LL +.006 - .000 (TV)	LL1 ±.005 (CTV)	TT ±.008
9	A	.6250	.205	.250	.820	.773	.719	.594	.948	.128	.153	.198	.650	.510	.234	.905	.908	.216
11	B	.7500	.205	.250	.820	.773	.812	.719	1.043	.128	.153	.198	.800	.620	.234	.905	.908	.194
13	C	.8750	.205	.250	.820	.773	.906	.812	1.137	.128	.153	.198	.910	.740	.234	.905	.908	.194
15	D	1.0000	.205	.250	.820	.773	.969	.906	1.232	.128	.153	.198	1.040	.900	.234	.905	.908	.173
17	E	1.1875	.205	.250	.820	.773	1.062	.969	1.323	.128	.153	.198	1.210	1.010	.234	.905	.908	.194
19	F	1.2500	.205	.250	.820	.773	1.156	1.062	1.449	.128	.153	.198	1.280	1.130	.234	.905	.908	.194
21	G	1.3750	.235	.280	.790	.741	1.250	1.156	1.575	.128	.183	.228	1.410	1.250	.204	.905	.904	.194
23	H	1.5000	.235	.280	.790	.741	1.375	1.250	1.701	.154	.183	.228	1.530	1.360	.204	.905	.904	.242
25	J	1.6250	.235	.280	.790	.741	1.500	1.375	1.823	.154	.183	.228	1.660	1.470	.204	.905	.904	.242

All dimensions for reference only

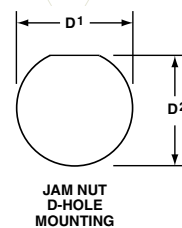
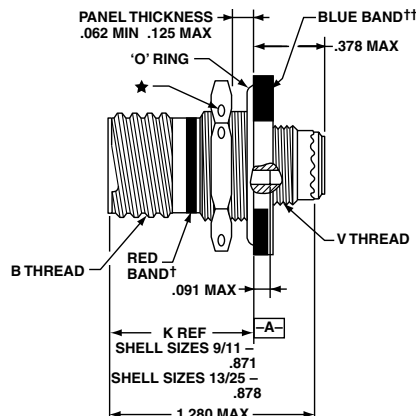
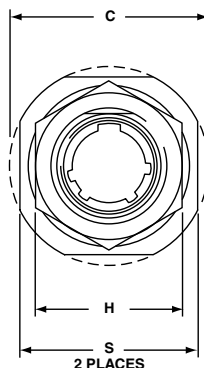
Jam Nut & Reduced Flange Jam Nut Receptacle

Shell Styles

Jam Nut Receptacle

TV07() - Crimp, Metal

CTV07() - Crimp, Composite



See how to build a part number on pages 157

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

★.059 dia. min., 3 lockwire holes. Formed lockwire hole design (6 holes) is optional

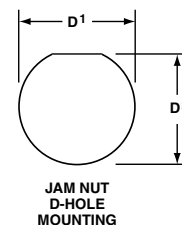
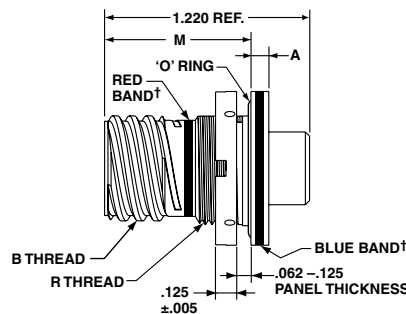
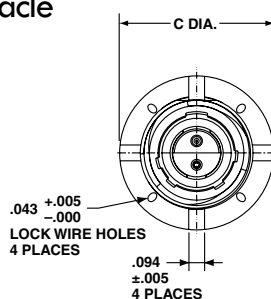
Inches

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	C Max.	D ¹ +.010 -.000	D ² +.000 -.010	H Hex +.017 -.016	S ±.010	V Thread Metric	R Thread (Plated) 9-7543
9	A	.6250	1.199	.693	.657	.875	1.062	M12X1-6g	M17X1-6g
11	B	.7500	1.386	.825	.770	1.000	1.250	M15X1-6g	M20X1-6g
13	C	.8750	1.511	1.010	.955	1.188	1.375	M18X1-6g	M25X1-6g
15	D	1.0000	1.636	1.135	1.085	1.312	1.500	M22X1-6g	M28X1-6g
17	E	1.1875	1.761	1.260	1.210	1.438	1.625	M25X1-6g	M32X1-6g
19	F	1.2500	1.949	1.385	1.335	1.562	1.812	M28X1-6g	M35X1-6g
21	G	1.3750	2.073	1.510	1.460	1.688	1.938	M31X1-6g	M38X1-6g
23	H	1.5000	2.199	1.635	1.585	1.812	2.062	M34X1-6g	M41X1-6g
25	J	1.6250	2.323	1.760	1.710	2.000	2.188	M37X1-6g	M44X1-6g

All dimensions for reference only

Reduced Flange Jam Nut Receptacle

TV97() - Crimp, Metal



See how to build a part number on pages 157

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

Inches

Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	A +.010 -.005	C Dia. Max.	D ¹ +.010 -.000	D ² +.000 -.010	M	R Thread (Plated) 9-7543
9	A	.6250	.104	.915	.693	.657	.871	M17X1-6g
11	B	.7500	.104	1.042	.825	.770	.871	M20X1-6g
13	C	.8750	.104	1.240	1.010	.955	.878	M25X1-6g
15	D	1.0000	.104	1.357	1.135	1.085	.878	M28X1-6g
17	E	1.1875	.104	1.630	1.260	1.210	.878	M32X1-6g
19	F	1.2500	.135	1.816	1.385	1.335	.878	M35X1-6g
21	G	1.3750	.135	1.942	1.510	1.460	.878	M38X1-6g
23	H	1.5000	.135	2.067	1.635	1.585	.878	M41X1-6g
25	J	1.6250	.135	2.190	1.760	1.710	.878	M44X1-6g

All dimensions for reference only

Jam Nut Double Flange & Straight Plug/Integral Backshell

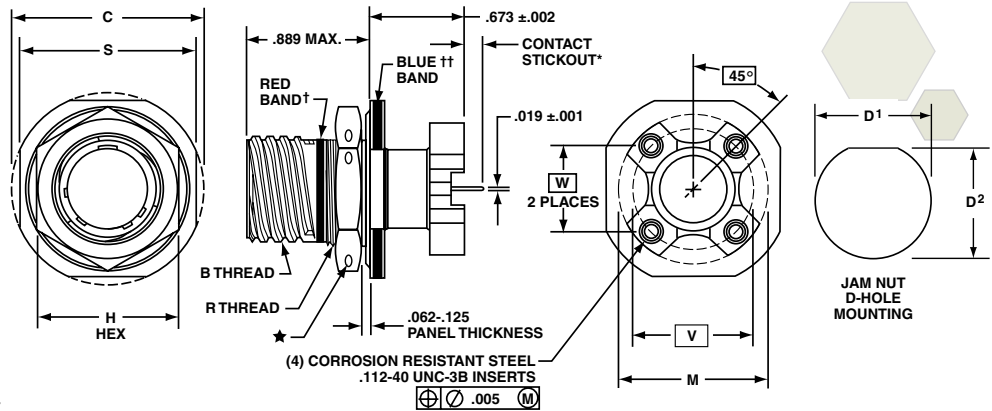
Shell Styles

Jam Nut

Double Flange Receptacle (Printed Circuit Board Mount)

TV47() - Crimp, Metal

CTV47() - Crimp, Composite



See how to build a part number on page 157

* Contact stickout dimension: see Step 7 of how to order on page 157.

† Red band indicates fully mated

†† Blue band indicates rear release contact retention system.

*.059 dia. min., 3 lockwire holes. Formed lockwire hole design (6 holes) is optional

Inches

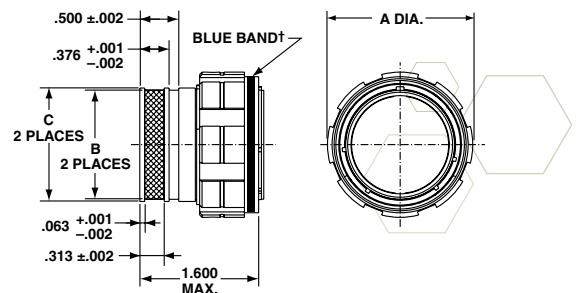
Shell Size	MS Shell Size Code	B Thread Class 2A 0.1P-0.3L-TS (Plated)	C ±.005 (Jam Nut Flange Dia.)	D1 +.010 -.000	D2 +.000 -.010	H Hex +.017 -.016	M Dia. ±.005	R Thread Metric (Plated)	S +.011 -.010	PCB Mounting Dimensions	
										V Dia. (TV) TP	W (CTV) TP
9	A	.6250	1.188	.700	.670	.875	1.016	M17X1-6g0.100R	1.062	.753	.532
11	B	.7500	1.375	.825	.770	1.000	1.148	M20X1-6g0.100R	1.250	.850	.601
13	C	.8750	1.500	1.010	.955	1.188	1.250	M25X1-6g0.100R	1.375	.994	.703
15	D	1.0000	1.625	1.135	1.085	1.312	1.375	M28X1-6g0.100R	1.500	1.119	.791
17	E	1.1875	1.750	1.260	1.210	1.438	1.500	M32X1-6g0.100R	1.625	1.237	.875
19	F	1.2500	1.937	1.385	1.335	1.562	1.625	M35X1-6g0.100R	1.812	1.379	.975
21	G	1.3750	2.062	1.510	1.460	1.688	1.750	M38X1-6g0.100R	1.937	1.489	1.053
23	H	1.5000	2.188	1.635	1.585	1.812	1.875	M41X1-6g0.100R	2.062	1.644	1.145
25	J	1.6250	2.312	1.760	1.710	2.000	2.000	M44X1-6g0.100R	2.188	1.744	1.233

All dimensions for reference only

Straight Plug with Integral Backshell

TV96() (TV Type) - Crimp, Metal

This MIL-DTL-38999 Series III style connector features an integral backshell design that eliminates the need for costly backshell accessories. The backshell feature is incorporated into the rear of the connector shell, allowing the user to attach the shield of their cable directly to the connector. This provides superior EMI shielding and ease for overmold applications. The straight plug with integral backshell is available in aluminum shells with OD Cad or Electroless Nickel plating.



See how to build a part number on pages 157

† Blue band indicates rear release contact retention system.

Inches

Shell Size	MS Shell Size Code	A Max.	B +.005 -.000	C +.003 -.002
9	A	.859	.416	.472
11	B	.969	.524	.580
13	C	1.141	.652	.708
15	D	1.266	.810	.866
17	E	1.391	.928	.984
19	F	1.500	1.046	1.102
21	G	1.625	1.164	1.220
23	H	1.750	1.282	1.338
25	J	1.875	1.400	1.456

All dimensions for reference only



Straight Plug & CLUTCH-LOK Plug

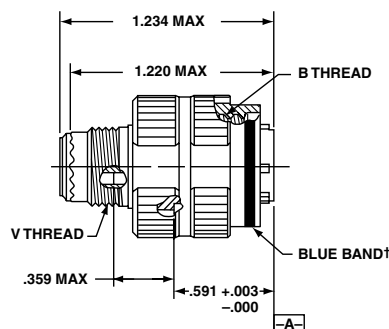
Shell Styles

Straight Plug

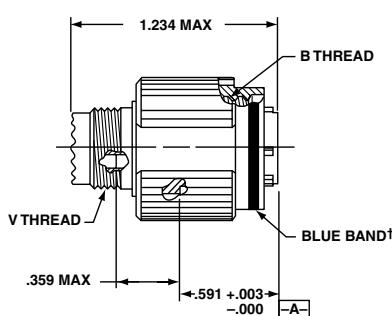
TV06() - Crimp, Metal

CTV06() - Crimp, Composite

METAL



COMPOSITE



CLUTCH-LOK™ Plug

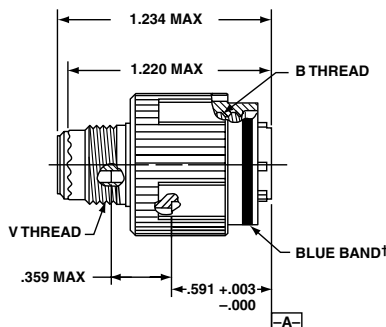
TV26() - Crimp, Metal, Proprietary

Designed for high vibration and harsh environments such as aircraft gas turbine engines, the CLUTCH-LOK is also an ideal choice for demanding applications such as aircraft, space and military ground vehicles. The unique clutch design of the Amphenol CLUTCH-LOK means that you don't have to compromise the need for quick, smooth mating of plugs and receptacles in order to get increased uncoupling torque.

The CLUTCH-LOK has proven to not only remain mated and pass all the Series III specification requirements, it also has proven to actually tighten itself under vibration. This is a powerful advantage over the traditionally high vibration application connectors. The CLUTCH-LOK is also a tremendous advantage in inaccessible, hard to reach areas where mating torque is difficult to apply and complete coupling is not verifiable by inspection.

CLUTCH-LOK features and benefits:

- High degree of differential torque
- Infinite free coupling and positive metal-to-metal bottoming with each mating
- Only available with stainless steel shells
- All the advantages of MIL-DTL-38999 Series III including EMI/RFI shielding, electrolytic erosion resistance and contact protection with recessed pins
- Enhanced connector performance at affordable prices
- Completely intermateable with all existing MIL-DTL-38999 Series III connectors



See how to build a part number on pages 125
† Blue band indicates rear release contact retention system

Inches

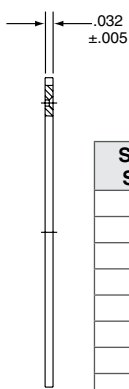
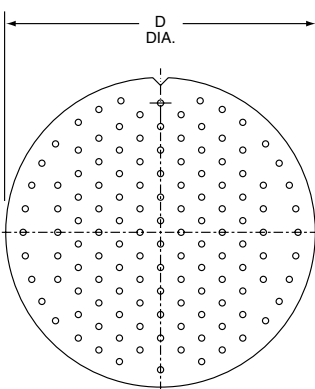
Shell Size	B Thread 0.1P-0.3L-TS-2B (Plated)	Q Dia. Max.
9	.6250	.858
11	.7500	.984
13	.8750	1.157
15	1.0000	1.280
17	1.1875	1.406
19	1.2500	1.516
21	1.3750	1.642
23	1.5000	1.768
25	1.6250	1.890

All dimensions for reference only

Provide More Interconnect Solutions:

Alignment Disks

Alignment disks keep contacts aligned for easier insertion into circuit boards. These are typically ordered with the connector - see step 7 of How to Order on page 157.



Shell Size	D Dia. ±.010
9	.234
11	.350
13	.500
15	.725
17	.750
19	.850
21	.953
23	1.147
25	1.250

HD38999 Double Flange Receptacles for PC Board Applications

Amphenol also offers PC tail connectors in high density. A custom designed HD38999 with double flanges is available in box mount and jam nut panel mounting which allows the user to mount to PC boards. Shells are available in composite, aluminum and stainless steel.

Consult Amphenol Aerospace for ordering information.



Filtered HD38999 Connectors - for EMI/EMP Protection

High density patterns are available in filter 38999 connectors - consult Amphenol Aerospace for ordering.



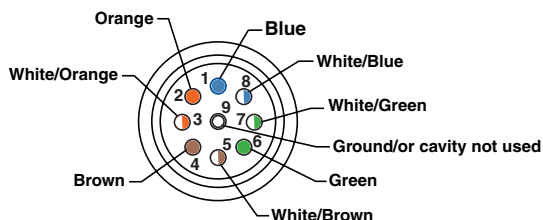
HD38999 for Gigabit Ethernet Applications

The HD38999 is available for high speed (Gigabit Ethernet) data transmission in the size 9-9 insert pattern.

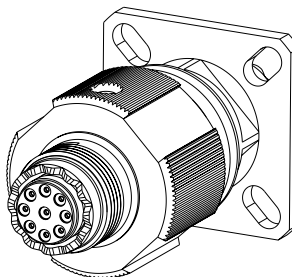
Data transmission performance of this connector insert:

- 10 Base T, 100 Base TX, and 1000 Base T networks using Cat 5e per TIA/EIA568B and Class D per ISO/IEC 11801.
- (Test report available - consult Amphenol Aerospace for more information)

Signal-Ground Pin Configuration Wiring Recommendations



View Rear of Connector



HD38999 Connector with 9-9 Insert Pattern (Rear View)

Contents

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PCB	MICRO-D PRINTED CIRCUIT BOARD (PCB) SERIES 100, 102, 104 How To Order Series 100, 102 & 104	179
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Plastic	SERIES 101: MICRO-D PLASTIC CONNECTORS (NARROW WIDTH PROFILE): How to Order, Solder Cup or Crimp Termination (QPL to M83513/06 & /07)	192-193
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	MICRO-D HARDWARE AND ACCESSORIES: "MDCE" Dust Caps Suitable for M83513 Connectors	199
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	"MBS" EMI Backshell Straight/Right Angle Exit Suitable for M83513 Connectors	203-205
	MICRO-D CONNECTOR SAVER/ADAPTER FOR SERIES 100, 101, 102, 104: "P/S" 2-in-1 Connector Intermates with M83513	206-207



ENGINEERED SOLUTIONS. DESIGNED TO FIT.

Amphenol Micro-D provide small interconnect solutions, which will exceed the requirements of the US military standard M83513. What differentiates Amphenol from the competition is our overall connector design. Custom solutions can easily be engineered to ensure exact performance in any application.

Amphenol is not limited to the traditional M83513 rectangular connectors but has also developed and produced circular connectors, strip line connectors, PC board connectors, and hybrid connectors utilizing power, signal, coaxial and fiber optics contacts.

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M
Accessories

HD38999

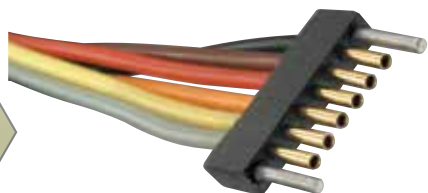
Micro-D

Terrapin

Nexus

Contents

Section	Description	Pages
Strip	SERIES 105: STRIP CONNECTORS Plastic Connector, Solder Cup or Wire Termination	208-209
Hi-Density	SERIES 106: HI-DENSITY CARD CONNECTORS Metal connector, stranded wire termination compact size, M83513 performance Metal Connector, Vertical PCB mount compact size, M83513 performance	210-211 212-211
Filter	SERIES M13 FILTER MICRO-D CONNECTORS PI OR C MATES WITH M83513 How To Order Specifications "BS" Termination Type 1 Vertical PCB (Filter) "CBR" Termination type 2 Vertical PCB (Filter) Solder Cup Termination Type 3 (Filter) "CBR" Termination Type 4 Right Angle PCB (Filter) Solid Wire Termination Type 5 Straight (Filter)	21 213 214, 180 215 216 217 218
Specialty	SPECIALTY CONNECTORS (SIZE 9 THRU 100) Combo/Hybrid Micro-D Signal with Power/Coaxial Contacts Surface Mount or Straddle Mount (Edge Card) Mates only with "Series 101" Panel Mount with O-ring Seal Minimum IP-67 High Temperature (200C)	219 219 219 219
Custom	CUSTOM HARNESSSED ASSEMBLIES: APPLICATION SPECIFIC Multiple cable Terminations Micro-D to PCB and Other Products CUSTOM CONNECTORS: APPLICATION SPECIFIC Double Bay (Vertical/Horizontal) Power/Coaxial Contacts Only Strip Connector with Hardware Shell /Backshell	220 221
References	Wire Gauge and MIL-STD-681 (Sys 1) Color Code Part Number Cross Reference: MIL-SPEC/ Amphenol	222 223-232



Keyed and Composite Plated Micro-D

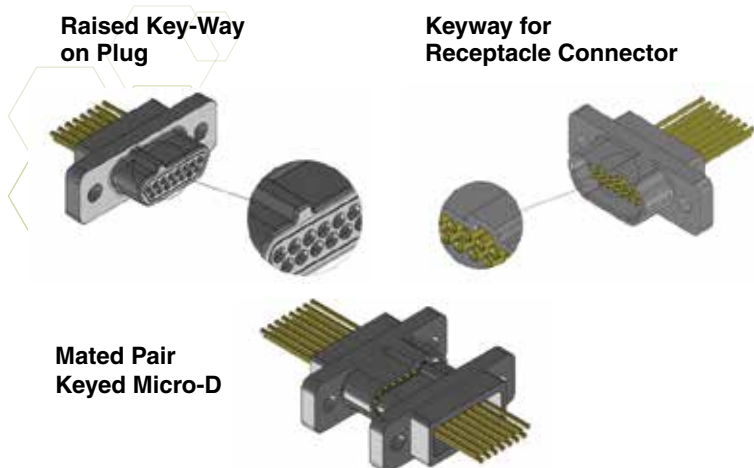
Amphenol micro connectors provide small interconnect solutions which will exceed the requirements of the US military standard M83513. What differentiates Amphenol from our competition is our ability to evolve and innovate. Shown here and on the next page are new Micro-D solutions.

Amphenol is not limited to the traditional M83513 rectangular connectors and continues to offer new variations to support key programs and markets such as C4I, Medical, Space and Military Aerospace Defense.

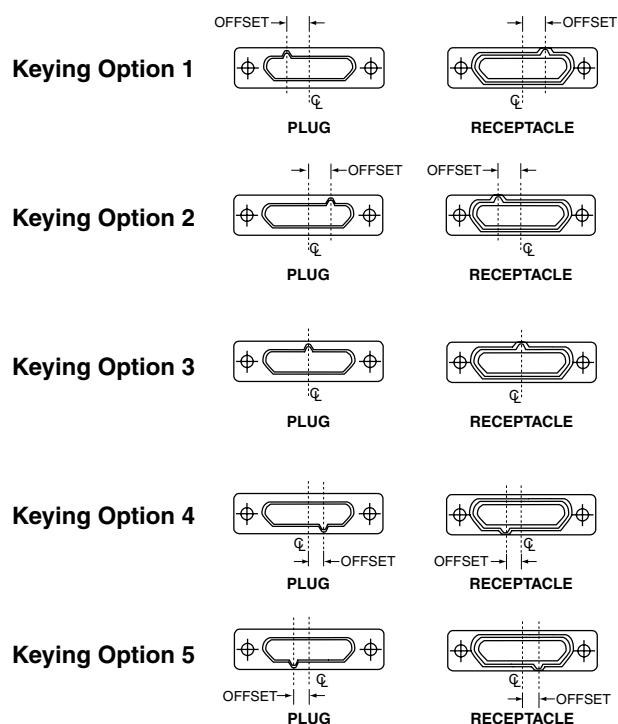


Keyed Micro-D

The Keyed Micro-D was designed to allow multiple connectors of the same or similar wire counts to be mounted side by side without the fear of cross-mating. Amphenol's Keyed Micro-D connectors also provide a fear-free environment when dealing with blind mate applications.



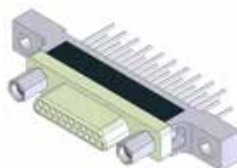
- Five Keying Options for connector sizes 15, 21, 25, 31, 37, 51, 69, 100
- One Keying Option for connector size 9 (Option 3 only)



Composite Plated Micro-D

Amphenol's new composite plated Micro-D provides both shell-to-shell conductivity and weight savings that are required by many of today's applications. Still meeting the Mil-Standard requirements of the M83513, this series will out-perform your expectations and be available in all Mil-Standard arrangements.

**Straight Micro-D,
Composite**



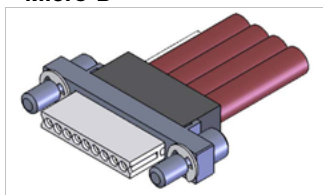
**Right Angle 90 Degree PCB
Micro-D, Composite**



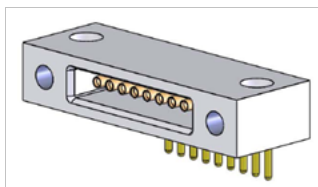
Single Row Metal Micro-D

The Single Row Micro-D series will give those who need the extra support of an aluminum shell while still offering a low profile single row solution; similar to Amphenol Strip Connector series, yet ruggedized to meet today's evolving demands. The Single Row Micro-D design can be optimized for size and ruggedness, and additional features can be added which minimize potential "scooping" damage during the engagement of the connectors. This series will be available in pin counts of 1 to 30 contacts.

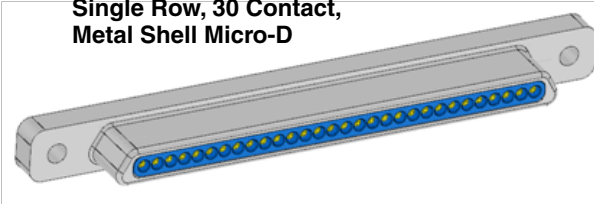
Single Row, Metal Micro-D



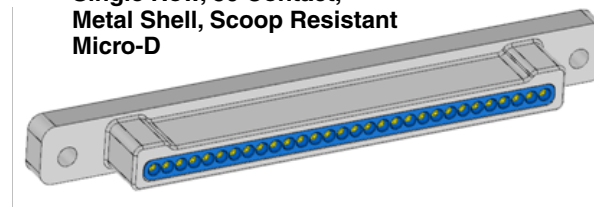
Single Row, Metal Micro-D with Right Angle PCB Mount



Single Row, 30 Contact, Metal Shell Micro-D



Single Row, 30 Contact, Metal Shell, Scoop Resistant Micro-D



Durmalon® Plated Micro-D

A RoHs compliant alternative to cadmium, Amphenol's Durmalon plating is a Mil-Qualified Nickel-PTFE that is proven to meet today's rugged environmental demand. Qualified to meet MIL-DTL-38999 requirements, Amphenol's Durmalon plating offers salt spray protection of up to 1,500 hours. Durmalon plating is a natural fit for the Micro-D product line as more applications expose our products to the elements.

Pre-Salt Spray Sample of Durmalon Plated Micro-D Shell



After 1560 Hours Salt Spray of Durmalon Plated Micro-D Shell



Mated Pair Micro-D with Durmalon Plating

Experience

With over 40 years experience and multiple locations in North America and Asia, Amphenol Aerospace has diverse capabilities to design and manufacture harsh environment cable assemblies. Our engineers can design cables and harnesses to fit a wide variety of requirements.

From simple point-point assemblies to ruggedized overmolded harnesses, Amphenol has the capabilities to meet a diverse range of cable needs.

Production

Production Capabilities Include:

- Automated Twisters, strippers, cutters, crimpers, braider
- Primary wire extrusion/jacketing
- Custom overmold presses with in-house production tooling
- High Speed twisted shielded pair RF capabilities
- Full testing capabilities for DWV, IR, Continuity, etc.



Braider



Amphenol's Cable Production



Nano-Circular & Nano-Rectangular

Amphenol's Nano-Circular and Nano-Rectangular Series of connectors offer a contact spacing of 0.025 in pitch. This means you get even a greater density of connections in a smaller package. It will allow you to fit up to 4 times the connectors when in comparison to the standard Micro-D (0.050 in pitch) with the same amount of contacts. Amphenol's Nano Series also offers up to 70% weight savings over the standard Micro-D, making a clear choice for those tight-fitting applications.

- 1A per contact
- .025 in spacing
- Rugged and Lightweight



Circular Micro-D

Amphenol's New Circular Micro-D Series allows the same contact pitch of .050 in spacing while utilizing a push /pull coupling mechanism that has less than a 2 lb. mate and unmate force. Designed for tight-fitting rugged environments, the Circular Micro-D features an aluminum shell and insert sizes down to a size 5.

- 3A per contact
- .050 in spacing
- Shell Size's 5 and up!



Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

Accessories
2M

HD38999

Micro-D

Terrapin

Nexus

Why use Amphenol precision stamped & formed contacts

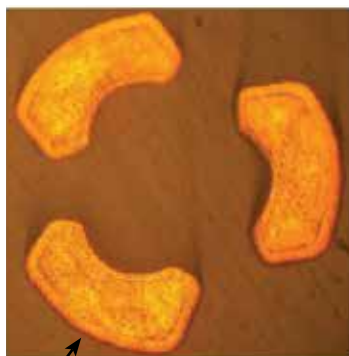
- AMPHENOL DESIGN not like other stamped and formed designs
- FULLY QUALIFIED per MIL-DTL-83513 requirements
- ONE PIECE CONTACT with EQUALLY SPACED compliant tines
- GOLD OVER NICKEL versus gold over copper flash barrier
- TIGHTER CONTROL over plating process
- UNIFORM PLATING thickness
- AUTOMATED STAMPING versus twist process variations
- Integrated closed engaging end ENSURES UNIFORM INSERTION FORCES
- LOW MATING/UNMATING FORCE
- PREFERRED CONTACT for SPACE and SATELLITE applications
- CONTINUOUS CONNECTION along the length of the contact beam (line contact) versus multi-point connection (point contact)



Amphenol

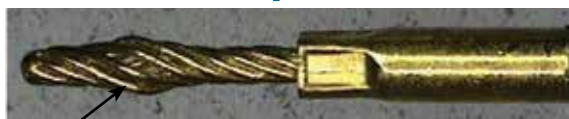


3-Tyne compression

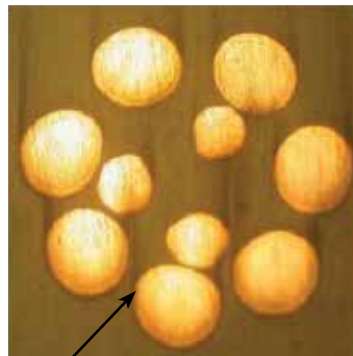


Au/Ni Barrier
(Uniform plating thickness)

Competitor



2 bundles of wires twisted, tip welded, squashed, crimped then plated

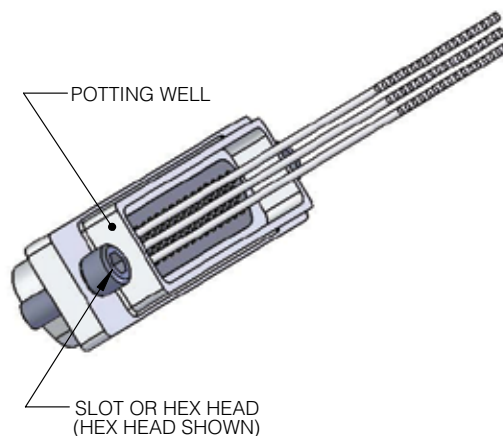
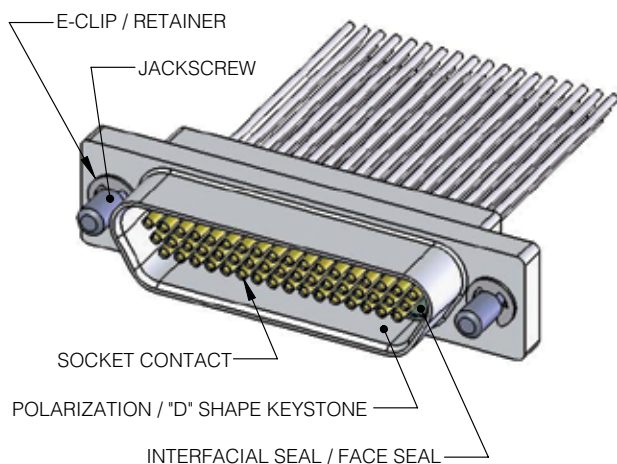


Au/Cu Flash Barrier
(Inconsistent plating thickness)

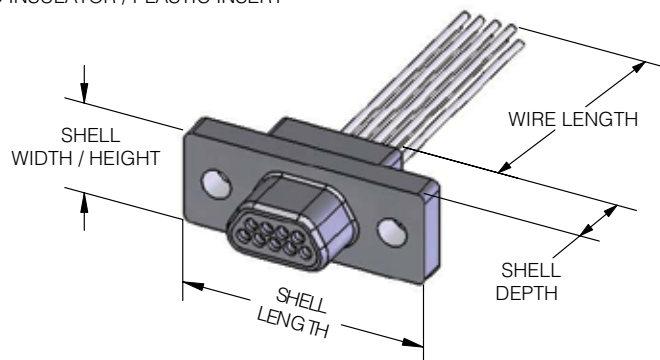
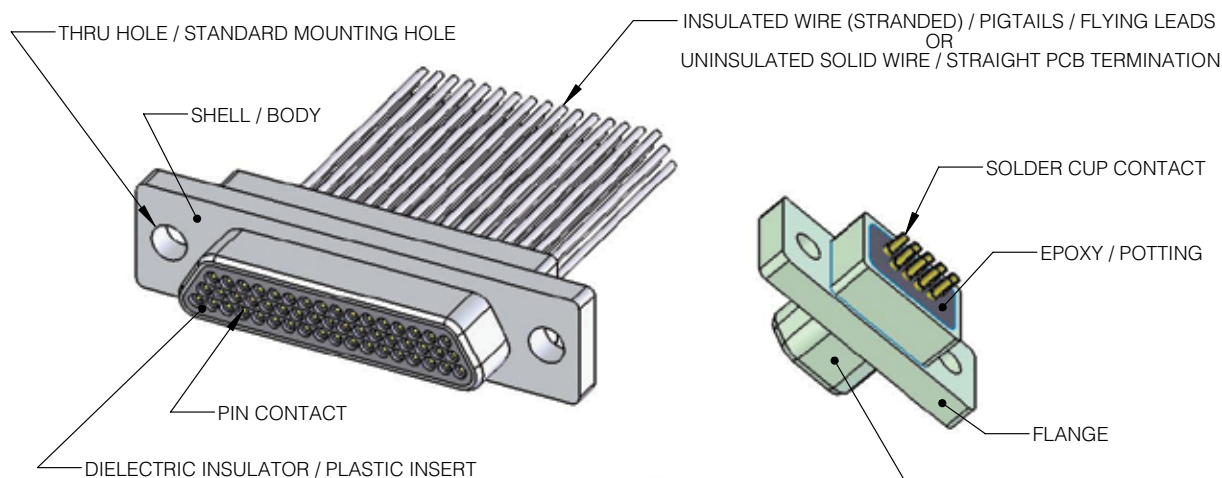
Micro-miniature contact system employs a precision stamped and formed pin contact recessed within the plug insulator. The contact system has proven reliability, exceeding the performance specifications of MIL-DTL-83513.

How to describe what you really need?

RECEPTACLE / FEMALE / SOCKET CONNECTOR



PLUG / MALE / PIN CONNECTOR



The Amphenol Micro-D microminiature connector series offers proven military spec performance and reliability in rectangular and strip line micro connectors.

Microminiature connectors are available in the following styles:

- Rectangular D Style
- Strip line Style
- Filtered Connectors
- High Density Card
- Strip and custom card edge configurations
- New single row metal style (see pg 168)
- New keyed Micro-D Style (see pg 167)

Micro-D Contacts:

- Contacts on .050 (1.27) center.
- Inserts in Micro-D miniature connectors are available with signal and coax/power contacts.

The Amphenol microminiature contact system employs a precision stamped and formed pin contact recessed within the plug insulator. The socket contact is a precision fabricated tube.

Microminiature Connector

The following data applies to standard Amphenol Micro-D connectors with wires or PCB termination. Variations from standard products may cause performance to vary from that mentioned below. Consult Amphenol Aerospace for special applications and requirements.

Pin and socket contacts are epoxy retained in high grade thermoplastic insulators. The contact system has proven reliability, exceeding the performance specifications of MIL-DTL-83513.

Terminations are available in a broad range including:

- Solder cup
- Terminated to wire harness
- Vertical and right angle PCB

Micro-D Shell materials:

- Plastic
- Metal
- New Composite (see pg 167)
- New Durmalon® (see pg 168) and a variety of finishes

A broad range of mounting hardware is available (jackscrews, posts, guide pins) as well as straight and angled backshells.



Specifications

Shell Material	Std. Metal (100, 106, 110 & M13 Series): 104 Series: Std. Plastic (101, 102 & 105 Series): High Temp Plastic:	Aluminum alloy 6061-T6 per QQ-A-200/8 Stainless steel Polyphenylene sulfide (Ryton) High performance thermoplastic (PEEK or equivalent)
----------------	--	--

Shell Finish (Metal Shell Only)	Anodize ** Cadmium Gold Iridite/Alodine ** Electroless Nickel Tin
------------------------------------	--

Insulator / PCB Backshell	Polyphenylene sulfide (Ryton) per MIL-M-24519, type GST-40F; color: black
---------------------------	---

Contacts	Copper alloy, 50 micro-inches gold plate over nickel
----------	--

Hardware	Stainless steel, passivated
----------	-----------------------------

Potting Material	Std. Epoxy: High Temp Epoxy:	EP1730-1 or equivalent; color: black EP173859 or equivalent
------------------	---------------------------------	--

Wire	Insulated Wire: Solid Uninsulated Wire:	MIL-W-16878/4 or /6 (available 7 or 19 strands) MIL-W-22759/11 or /33 Copper per A-A-59551 (QQ-W-343)
------	--	---

Coupling	Friction or Jackscrews into jackposts/threaded Inserts
----------	--

Contact Spacing	.050 (1.27) centers
-----------------	---------------------

Shell Styles (Gender)	Plug (pin contacts) and receptacle (socket contacts)
-----------------------	--

Number of Contacts	Standard Micro-D: Combo (Hybrid) Micro-D: High Density Connector (106 Series): Strip Connector (105 Series):	9, 15, 21, 25, 31, 37, 51, 69, 100 7W2 or 7C2 (5 signal, 2 power/coax) 24W4 or 24C4 (20 signal, 4 power/coax) 50, 54, 58, 62, 66, 70, 74, 104, 112, 120, 128, 136, 144, 152 1 thru 30 (no guide pins) 1 thru 29 (guide pin on one end) 1 thru 28 (guide pin on both ends)
--------------------	---	---

Coaxial Cable	RG-178/U
---------------	----------

Wire Size	#24 thru #32 AWG (largest to smallest diameter)
-----------	---

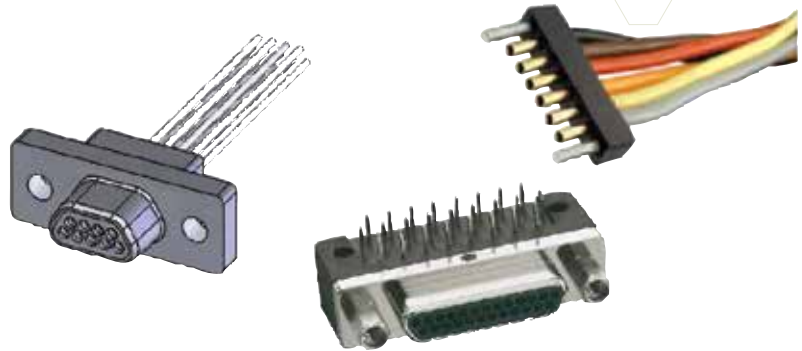
Contact Termination	Multiple indent crimp
---------------------	-----------------------

** Does not apply for die-cast parts (consult Amphenol Aerospace before ordering)

Contact Amphenol Aerospace for more information at 800-678-0141 • www.amphenol-aerospace.com

Microminiature Connector Performance Data

The following data applies to standard Amphenol Micro-D connectors that are in accordance with M83513 spec. Variations from standard products may cause performance to vary from that mentioned below. Consult Amphenol Aerospace for special applications and requirements.



Test Description	Specification/ Method *	Limits
Contact Rating	---	3 amps max.
Magnetic Permeability	ASTM-A342/A342M	2.0 μ max.
D.W.V. (Test voltage rms 60 Hz ac volts)	EIA-364-20	at sea level: 600 vac for solder pot and standard wire at 70,000 ft altitude (reduced barometric pressure): 150 vac for solder pot and standard wire
Insulation Resistance	EIA-364-21	5000 megohms min.
Contact Resistance EIA-364-23	8 milliohms at 3 amps	
Contact Engagement Force	MIL-DTL-83513	6.0 oz. max.
Contact Separation Force	MIL-DTL-83513	0.5 oz. min.
Connector Mating Force	MIL-DTL-83513	(10 oz. times no. of contacts) max.
Connector Unmating Force	MIL-DTL-83513	(0.5 oz. times no. of contacts) min.
Thermal Shock (Temperature Cycling)	EIA-364-32, condition I, 5 cycles	No physical damage -55°C to +125°C (-67°F to +257°F)
Mechanical Shock (Specified Pulse)	EIA-364-27, condition E	No physical damage and no loosening of parts No loss of continuity > 1 microsec.
Vibration	EIA-364-28, condition IV	No physical damage and no loosening of parts No loss of continuity > 1 microsec.
Durability MIL-DTL-83513	500 mating cycles at a rate of 200 $\pm$ 100 CPH	
Salt Spray (Corrosion)	EIA-364-26, condition B	Meets mateability and contact resistance requirements
Fluid Immersion	MIL-DTL-83513	Meets mateability requirements
Humidity	EIA-364-31	Meets D.W.V. and insulation resistance requirements 1 megohm min. after step 6, 1000 megohms min. after 24 hrs of conditioning
Insert Retention (class M)	MIL-DTL-83513	50 lbs psi (axial load)
Solderability	MIL-STD-202, method 208	Withstand test condition
Contact Retention EIA-364-29	5 lbs min. (axial load)	
Thermal Vacuum Outgassing (Space Classes)	SP-R-0022 or ASTM E595	Exceeds MIL-DTL-83513 requirements; standard is 1.0% max TML and 0.1% max VCM of original mass

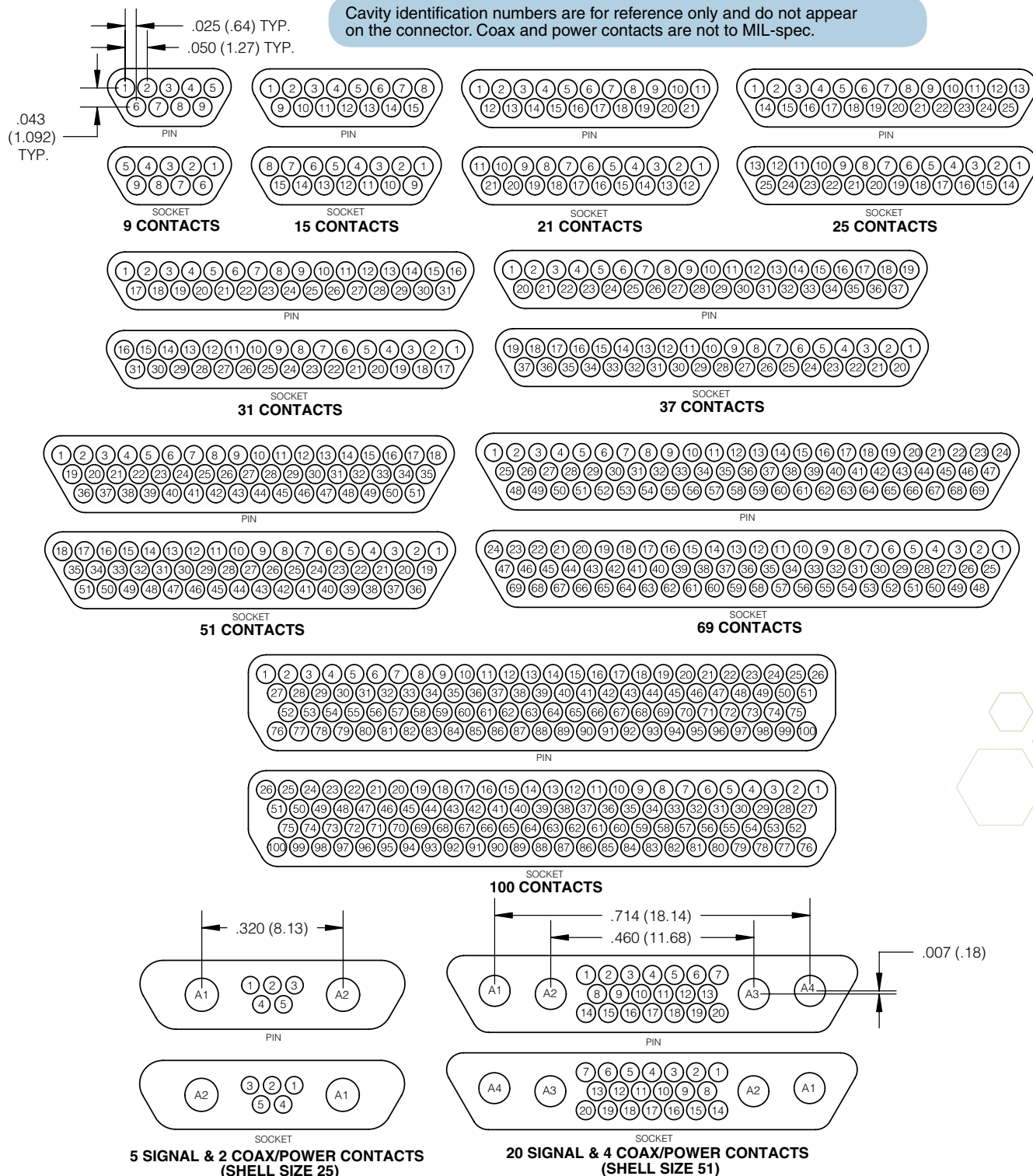
* Standards References
MIL = Department of Defense
ASTM = ASTM International
EIA = Electronic Industries Association
SP = NASA

** Does not apply for die-cast parts (consult Amphenol Aerospace before ordering)

Series 100 to 104 & Combo Micro-D

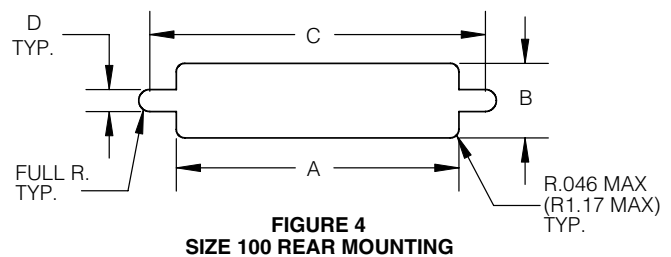
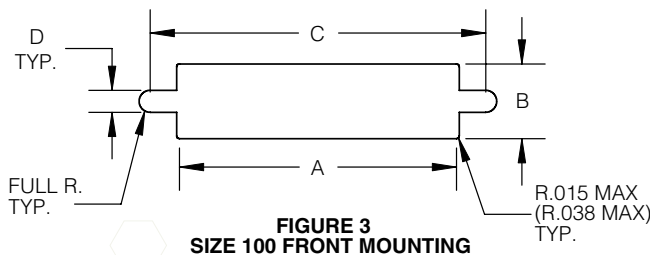
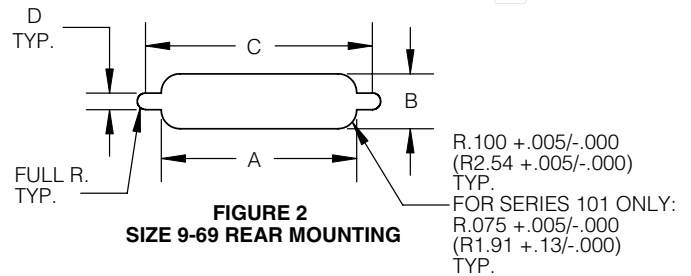
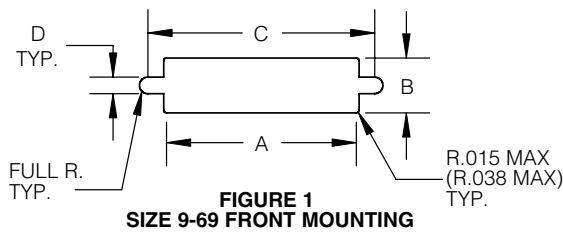
Shell sizes 9 thru 100

Cavity identification numbers are for reference only and do not appear on the connector. Coax and power contacts are not to MIL-spec.



Inches (mm)
All dimensions for reference only

Series 100 to 104 & Combo Micro-D



Series 100, 102, 104 & Combo Micro-D

SIZE	FIGURE	A +.004 (0.10) -.000 (0.00)	B +.004 (0.10) -.000 (0.00)	C +.005 (0.13) -.000 (0.00)	D +.005 (0.13) -.000 (0.00)
9	1	.408 (10.36)	.271 (6.88)	.570 (14.48)	.089 (2.26)
	2	.401 (10.19)	.252 (6.40)	.570 (14.48)	.089 (2.26)
15	1	.558 (14.17)	.271 (6.88)	.720 (18.29)	.089 (2.26)
	2	.551 (14.00)	.252 (6.40)	.720 (18.29)	.089 (2.26)
21	1	.708 (17.98)	.271 (6.88)	.870 (22.10)	.089 (2.26)
	2	.701 (17.81)	.252 (6.40)	.870 (22.10)	.089 (2.26)
25	1	.808 (20.52)	.271 (6.88)	.970 (26.64)	.089 (2.26)
	2	.801 (20.34)	.252 (6.40)	.970 (26.64)	.089 (2.26)
31	1	.958 (24.33)	.271 (6.88)	1.120 (28.45)	.089 (2.26)
	2	.951 (24.13)	.252 (6.40)	1.120 (28.45)	.089 (2.26)
37	1	1.108 (28.14)	.271 (6.88)	1.270 (32.26)	.089 (2.26)
	2	1.101 (27.97)	.252 (6.40)	1.270 (32.26)	.089 (2.26)
51	1	1.058 (26.87)	.315 (8.00)	1.220 (30.99)	.089 (2.26)
	2	1.051 (26.70)	.295 (7.49)	1.220 (30.99)	.089 (2.26)
69	1	1.358 (34.49)	.315 (8.00)	1.525 (38.74)	.089 (2.26)
	2	1.351 (34.32)	.295 (7.49)	1.525 (38.74)	.089 (2.26)
100	3	1.456 (36.98)	.361 (9.17)	1.805 (45.85)	.118 (3.00)
	4	1.520 (38.61)	.401 (10.18)	1.805 (45.85)	.118 (3.00)

Notes:

- Shell sizes 9-69 front mounting (Figure 1) and rear mounting (Figure 2) cutouts accommodate #2-56 screws.
- Shell size 100 front mounting (Figure 3) and rear mounting (Figure 4) cutouts accommodate #4-40 screws.

Series 101 only

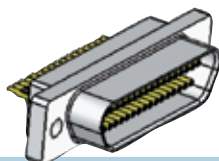
SIZE	FIGURE	A +.004 (0.10) -.000 (0.00)	B +.004 (0.10) -.000 (0.00)	C +.005 (0.13) -.000 (0.00)	D +.005 (0.13) -.000 (0.00)
9	1	.408 (10.36)	.172 (4.37)	.570 (14.48)	.089 (2.26)
	2	.378 (9.60)	.217 (5.51)	.570 (14.48)	.089 (2.26)
15	1	.588 (14.94)	.172 (4.37)	.720 (18.29)	.089 (2.26)
	2	.528 (13.41)	.217 (5.51)	.720 (18.29)	.089 (2.26)
21	1	.708 (17.98)	.172 (4.37)	.870 (22.10)	.089 (2.26)
	2	.678 (17.22)	.217 (5.51)	.870 (22.10)	.089 (2.26)
25	1	.808 (20.52)	.172 (4.37)	.970 (26.64)	.089 (2.26)
	2	.778 (19.76)	.217 (5.51)	.970 (26.64)	.089 (2.26)
31	1	.958 (24.33)	.172 (4.37)	1.120 (28.45)	.089 (2.26)
	2	.928 (23.57)	.217 (5.51)	1.120 (28.45)	.089 (2.26)
37	1	1.108 (28.14)	.172 (4.37)	1.270 (32.26)	.089 (2.26)
	2	1.078 (27.38)	.217 (5.51)	1.270 (32.26)	.089 (2.26)
51	1	1.058 (26.87)	.215 (5.46)	1.220 (30.99)	.089 (2.26)
	2	1.028 (26.11)	.261 (6.63)	1.220 (30.99)	.089 (2.26)

Notes:

- Sizes 69 & 100 are not applicable for 101 series plastic connectors.

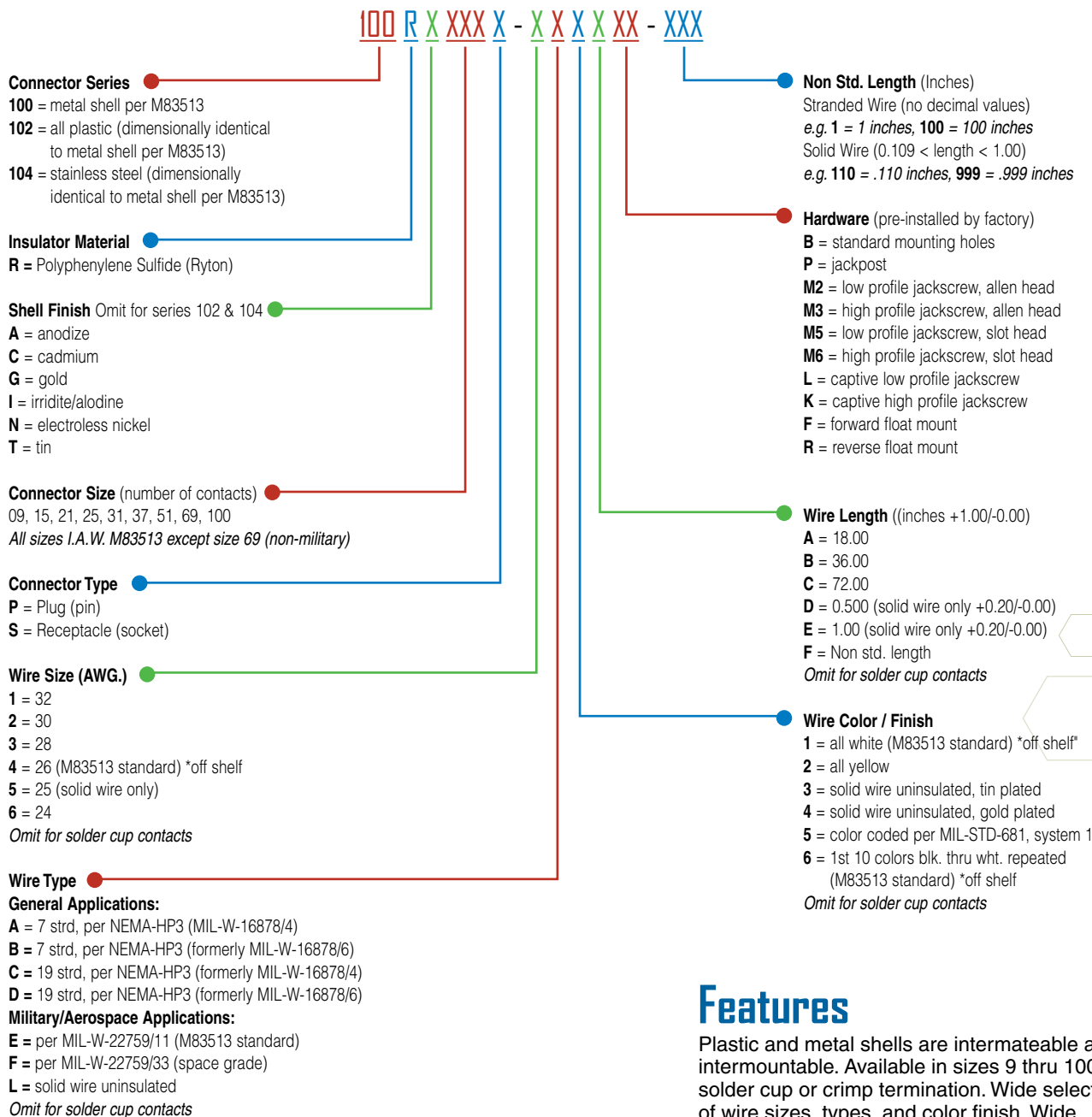
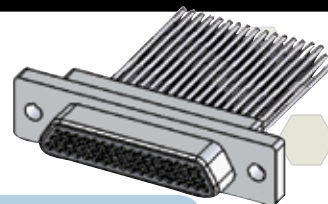
Qualified to M83513 (slash sheets 01 thru 04)

Series 100, 102 & 104



Example:
100RN09S- 4A5FM2-20

Description: metal shell size 9 rcpt, nickel finish, 26 AWG wire type "A", non-std wire length 20 inches with M2 low profile jackscrews.



Features

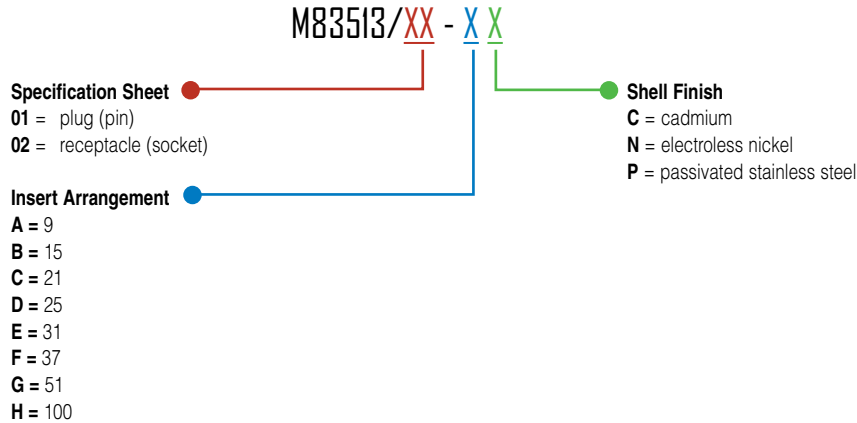
Plastic and metal shells are intermateable and intermountable. Available in sizes 9 thru 100, solder cup or crimp termination. Wide selection of wire sizes, types, and color finish. Wide selection of hardware options.

Inches (mm)
All dimensions for reference only

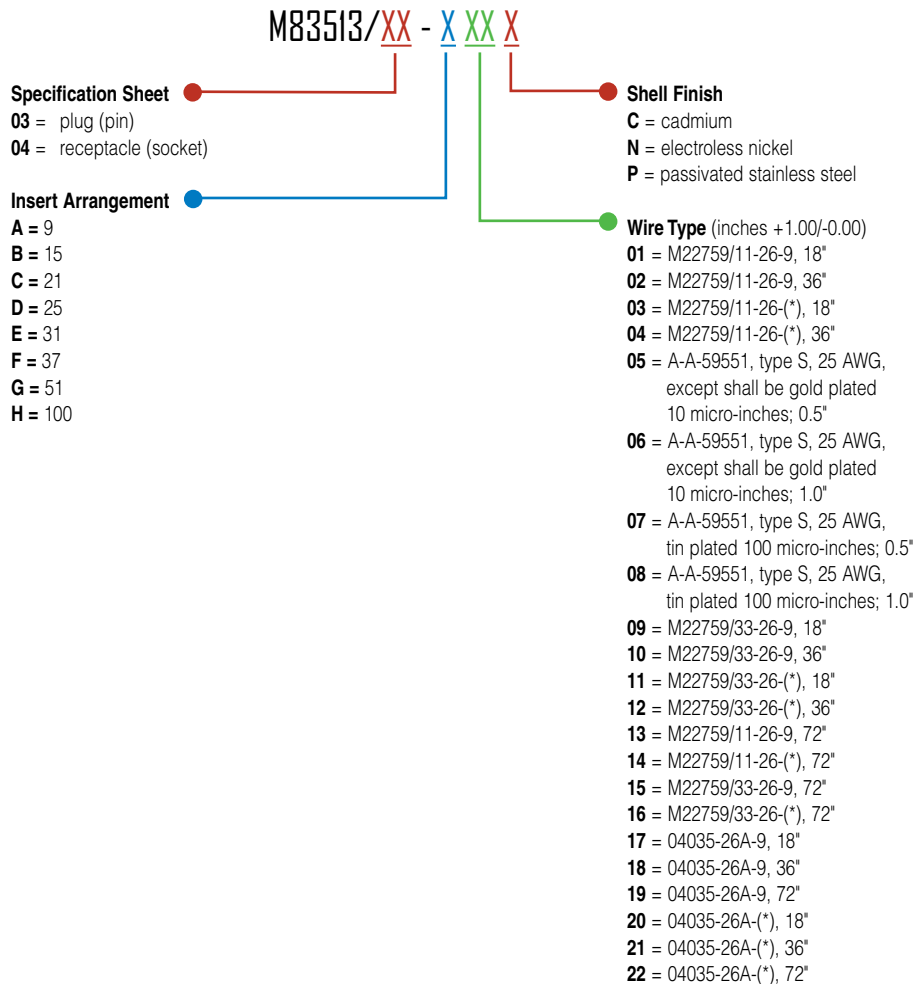
M83513 Solder Cup and Crimp Termination - How to Order

Qualified to M83513 (slash sheets 01 thru 04)

Solder Cup Termination:



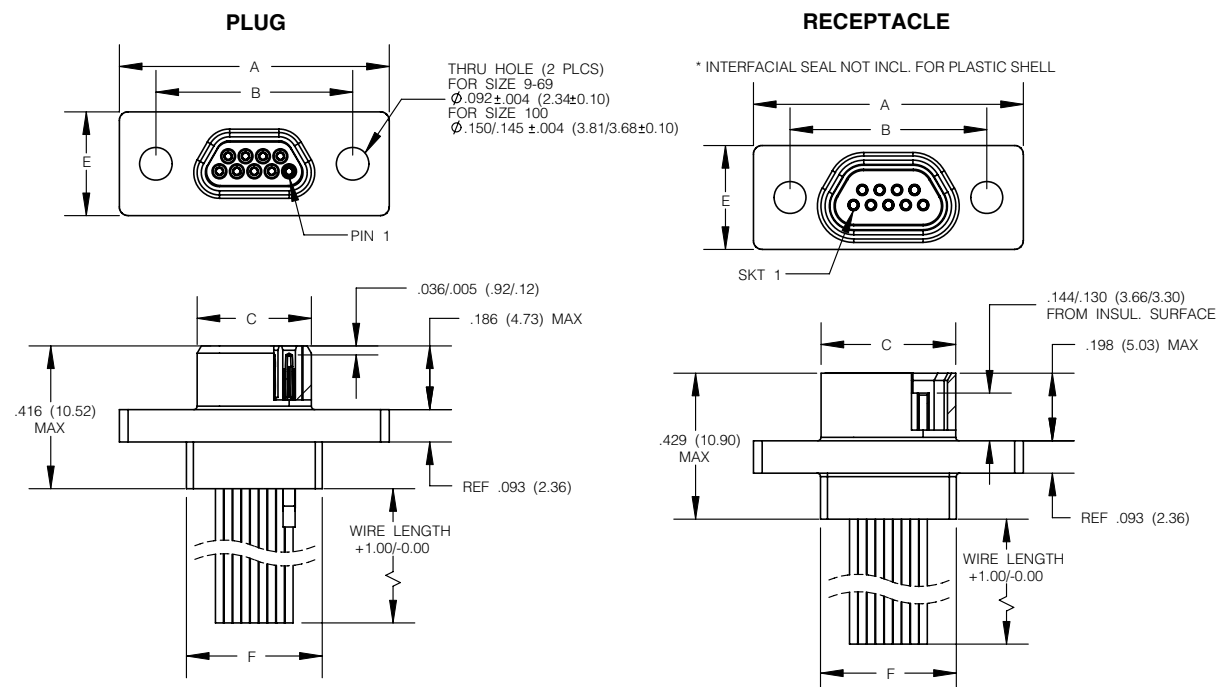
Crimp Termination:



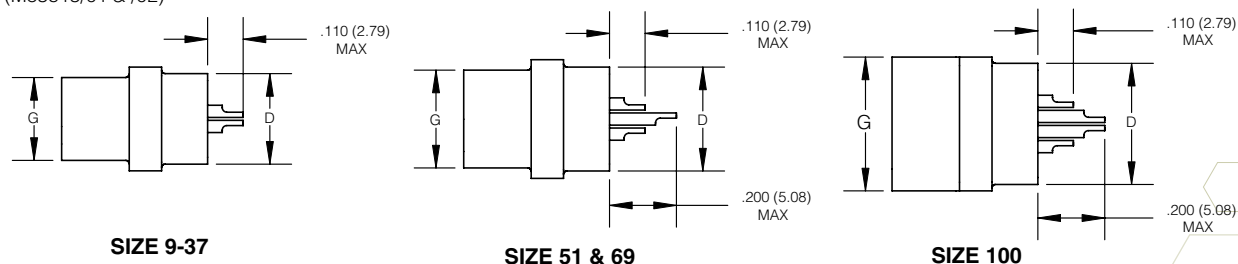
Inches (mm)
All dimensions for reference only

Qualified to M83513 (slash sheets 01 thru 04)

WIRE TERMINATION (M83513/03 & /04)



SOLDER CUP TERMINATION PLUG / RECEPTACLE (M83513/01 & /02)

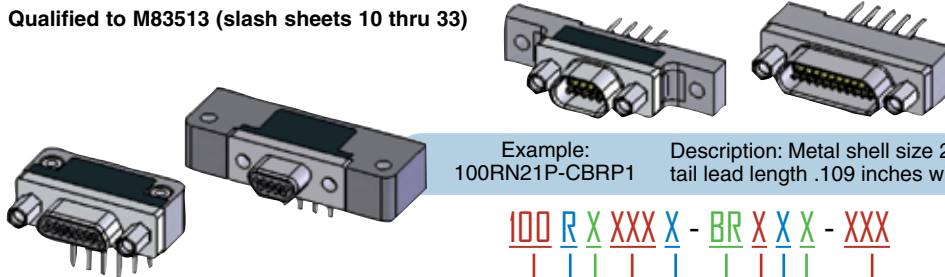


SIZE	A MAX	B $\pm .005$ (0.13)	C MAX		D MAX	E MAX	F MAX	G MAX	
			PLUG	RCPT				PLUG	RCPT
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)	.270 (6.86)	.308 (7.82)	.400 (10.16)	.185 (4.70)	.253 (6.43)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)	.270 (6.86)	.308 (7.82)	.550 (13.97)	.185 (4.70)	.253 (6.43)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)	.270 (6.86)	.308 (7.82)	.700 (17.78)	.185 (4.70)	.253 (6.43)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)	.270 (6.86)	.308 (7.82)	.800 (20.32)	.185 (4.70)	.253 (6.43)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)	.270 (6.86)	.308 (7.82)	.950 (24.13)	.185 (4.70)	.253 (6.43)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)	.270 (6.86)	.308 (7.82)	1.100 (27.94)	.185 (4.70)	.253 (6.43)
51	1.435 (36.45)	1.215 (30.86)	.984 (24.99)	1.052 (26.72)	.310 (7.87)	.351 (8.92)	1.050 (26.67)	.229 (5.82)	.296 (7.52)
69	1.735 (44.07)	1.515 (38.48)	1.289 (32.74)	1.357 (34.47)	.310 (7.87)	.351 (8.92)	1.350 (34.29)	.229 (5.82)	.296 (7.52)
100	2.170 (55.12)	1.800 (45.72)	1.384 (35.13)	1.508 (38.10)	.360 (9.14)	.394 (10.01)	1.442 (36.63)	.271 (6.88)	.394 (10.01)

Inches (mm)
All dimensions for reference only

Series 100, 102 & 104 - How to Order

Qualified to M83513 (slash sheets 10 thru 33)



Example:
100RN21P-CBRP1

Description: Metal shell size 21 plug, nickel finish, CBR termination, PCB tail lead length .109 inches with jackposts included

Connector Series

- 100** = metal shell per M83513
- 102** = all plastic (dimensionally identical to metal shell per M83513)
- 104** = stainless steel (dimensionally identical to metal shell per M83513)

Insulator Material

R = Polyphenylene Sulfide (Ryton)

Shell Finish

- Omit for series 102 & 104
- A** = anodize
- C** = cadmium
- G** = gold
- I** = irridite/alodine
- N** = electroless nickel
- T** = tin

Connector Size (number of contacts)

09, 15, 21, 25, 31, 37, 51, 69, 100
All sizes I.A.W. M83513 except size 69 (non-military)

Connector Type

- P** = Plug (pin)
- S** = Receptacle (socket)

Non Std. Wire Length (Inches)

(0.109 < length < 1.00)
e.g. **125** = .125 inches

Lead Length (inches)

- 1** = .109 ± .015
- 2** = .140 ± .015
- 3** = .172 ± .015
- 4** = .250 ± .015
- F** = non std. length

Threaded Insert (pre-installed)

T = threaded insert (PCB mounting option)
Omit for no threaded insert

Hardware for BS, BR, CBR & C6: (pre-installed)

- P** = jackpost
Omit for no jackpost
- Hardware for C16: (pre-installed)**
- B** = standard mounting holes
- M2** = low profile jackscrew, allen head
- M3** = high profile jackscrew, allen head
- M5** = low profile jackscrew, slot head
- M6** = high profile jackscrew, slot head
- L** = captive low profile jackscrew
- K** = captive high profile jackscrew
- F** = forward float mount
- R** = reverse float mount

Termination Type

- BS** = straight PCB per M83513/22 thru /27
- BR** = 90° PCB per M83513/16 thru /21
- CBR** = narrow 90° PCB per M83513/10 thru /15
- C6** = straight PCB per M83513/28 thru /33
- C16** = straight PCB with flange (C6 PC configuration)

M83513 Ordering Information Printed Circuit Board Termination:

M83513/XX - X XX X X

Specification Sheet

- 10** = plug (pin), CBR type, sizes 9-37
- 11** = plug (pin), CBR type, size 51
- 12** = plug (pin), CBR type, size 100
- 13** = receptacle (socket), CBR type, sizes 9-37
- 14** = receptacle (socket), CBR type, size 51
- 15** = receptacle (socket), CBR type, size 100
- 16** = plug (pin), BR type, sizes 9-37
- 17** = plug (pin), BR type, size 51
- 18** = plug (pin), BR type, size 100
- 19** = receptacle (socket), BR type, sizes 9-37
- 20** = receptacle (socket), BR type, size 51
- 21** = receptacle (socket), BR type, size 100
- 22** = plug (pin), BS type, sizes 9-37
- 23** = plug (pin), BS type, size 51
- 24** = plug (pin), BS type, size 100
- 25** = receptacle (socket), BS type, sizes 9-37
- 26** = receptacle (socket), BS type, size 51
- 27** = receptacle (socket), BS type, size 100
- 28** = plug (pin), C6 type, sizes 9-37
- 29** = plug (pin), C6 type, size 51
- 30** = plug (pin), C6 type, size 100
- 31** = receptacle (socket), C6 type, sizes 9-37
- 32** = receptacle (socket), C6 type, size 51
- 33** = receptacle (socket), C6 type, size 100

Hardware

- N** = no jackpost or threaded insert
- P** = jackpost
- T** = threaded insert
- W** = jackpost and threaded insert

Shell Finish

- C** = cadmium
- N** = electroless nickel
- P** = passivated stainless steel

Lead Length (inches)

- 01** = .109 ± .015
- 02** = .140 ± .015
- 03** = .172 ± .015

Insert Arrangement

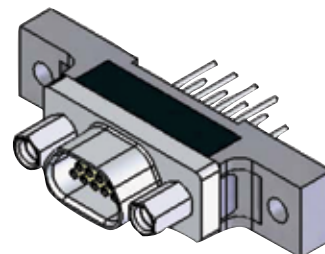
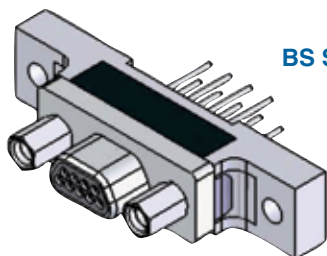
- A** = 9
- B** = 15
- C** = 21
- D** = 25
- E** = 31
- F** = 37
- G** = 51 (applicable for spec sheet 11, 14, 17, 20, 23, 26, 29 & 32)
- H** = 100 (applicable for spec sheet 12, 15, 18, 21, 24, 27, 30 & 33)

Features

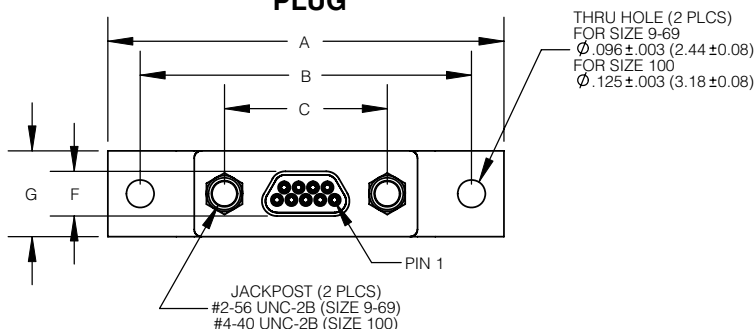
- Available in sizes 9 thru 100, straight and right angle PCB termination.
- Solid copper 24 AWG PCB leads, tin plated, and solder dipped.
- Wide selection of hardware options.
- Consult Amphenol Aerospace for other wire size termination.

Qualified to M83513 (slash sheets 22 thru 27)

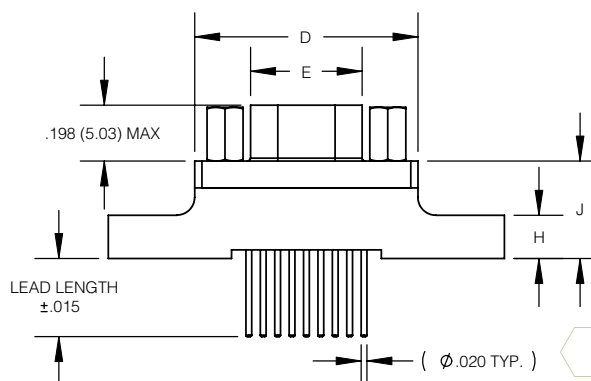
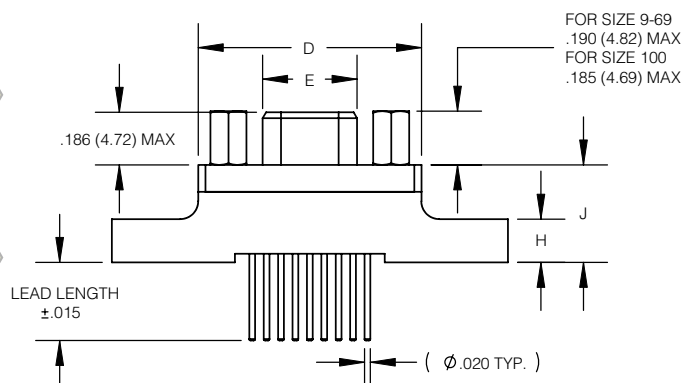
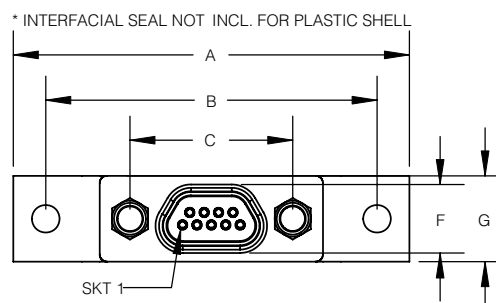
BS STRAIGHT PCB CONFIGURATIONS



PLUG



RECEPTACLE



SIZE	A MAX	B $\pm .005$ (0.13)	C $\pm .005$ (0.13)	D MAX	E MAX		F MAX		G MAX	H MAX	J MAX
					PLUG	RCPT	PLUG	RCPT			
09	1.390 (35.31)	1.150 (29.21)	.565 (14.35)	.785 (19.84)	.334 (8.48)	.402 (10.21)	.185 (4.70)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)
15	1.390 (35.31)	1.150 (29.21)	.715 (18.16)	.935 (23.75)	.484 (12.29)	.552 (13.97)	.185 (4.70)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)
21	1.690 (43.93)	1.450 (36.83)	.865 (21.97)	1.085 (27.56)	.634 (16.10)	.702 (17.83)	.185 (4.70)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)
25	1.740 (44.20)	1.500 (38.10)	.965 (24.51)	1.185 (30.10)	.734 (18.64)	.802 (20.37)	.185 (4.70)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)
31	2.040 (51.82)	1.800 (45.72)	1.115 (28.32)	1.335 (33.91)	.884 (22.45)	.952 (24.18)	.185 (4.70)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)
37	2.340 (59.44)	2.100 (53.34)	1.265 (32.13)	1.485 (37.72)	1.034 (26.26)	1.102 (27.99)	.185 (4.70)	.253 (6.43)	.308 (7.82)	.165 (4.19)	.355 (9.02)
51	2.270 (67.66)	2.000 (50.80)	1.215 (30.86)	1.435 (36.45)	.984 (24.99)	1.052 (26.72)	.228 (5.79)	.296 (7.52)	.351 (8.92)	.165 (4.19)	.355 (9.02)
69	2.870 (72.90)	2.600 (66.04)	1.515 (38.48)	1.735 (44.07)	1.289 (32.74)	1.357 (34.47)	.228 (5.79)	.296 (7.52)	.351 (8.92)	.165 (4.19)	.355 (9.02)
100	3.070 (77.98)	2.800 (71.12)	1.800 (45.72)	2.170 (55.12)	1.384 (35.13)	1.508 (38.10)	.271 (6.88)	.394 (10.01)	.460 (11.68)	.303 (7.70)	.550 (12.70)

Inches (mm)
All dimensions for reference only

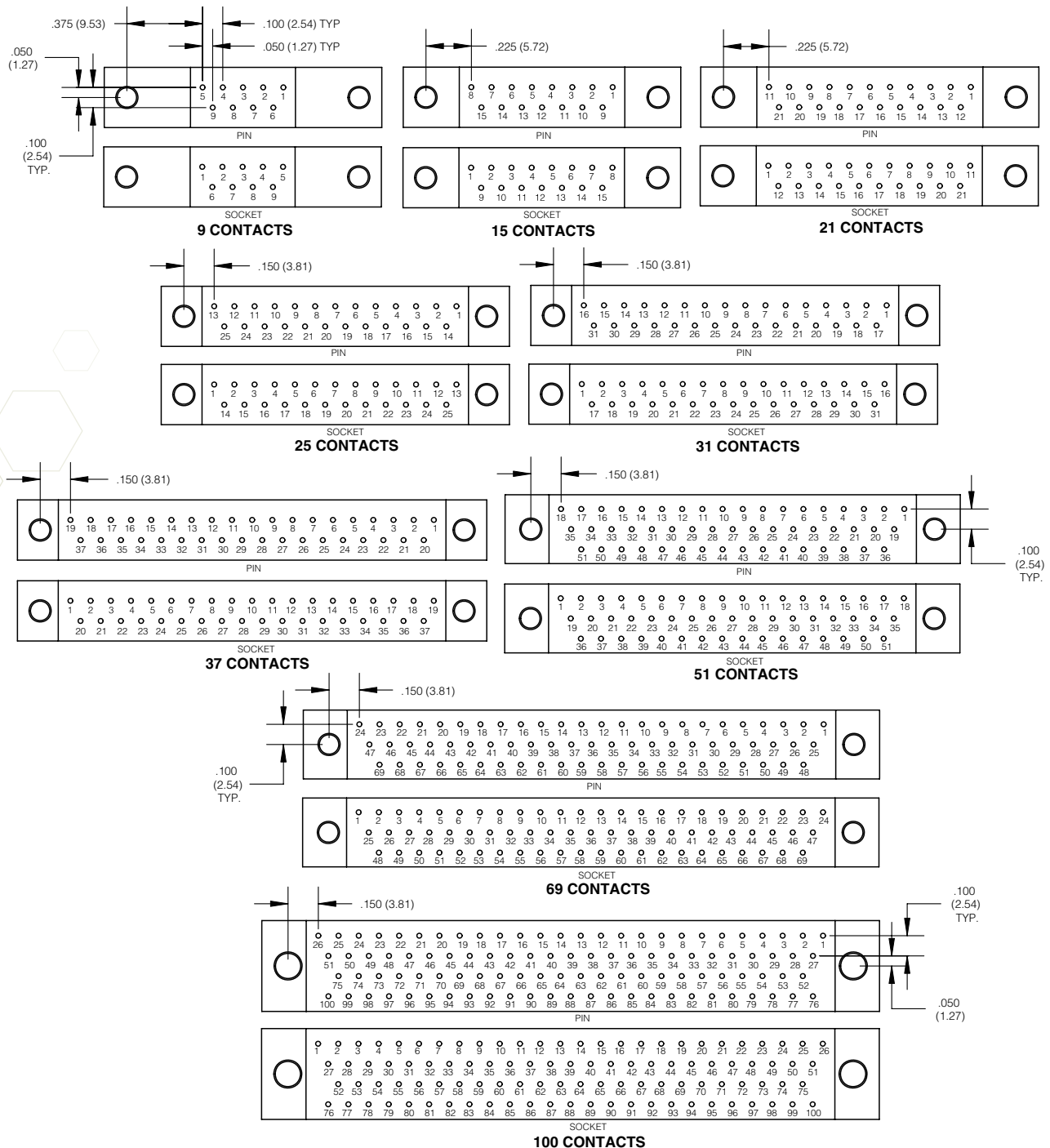
Series 100, 101, 102 & 104

Qualified to M83513 (slash sheets 22 thru 27)
Series 101, 102 & 104 are non QPL

BS STRAIGHT PCB CONFIGURATIONS (REAR VIEW)

.100 (2.54) x .100 (2.54) grid pattern, offset .050 (1.27)

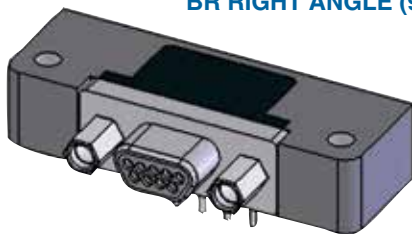
Cavity identification numbers are for reference only and do not appear on the connector.



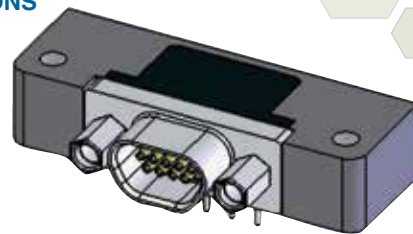
Inches (mm)
All dimensions for reference only

Qualified to M83513 (slash sheets 16 thru 21)

BR RIGHT ANGLE (90 DEG) PCB CONFIGURATIONS

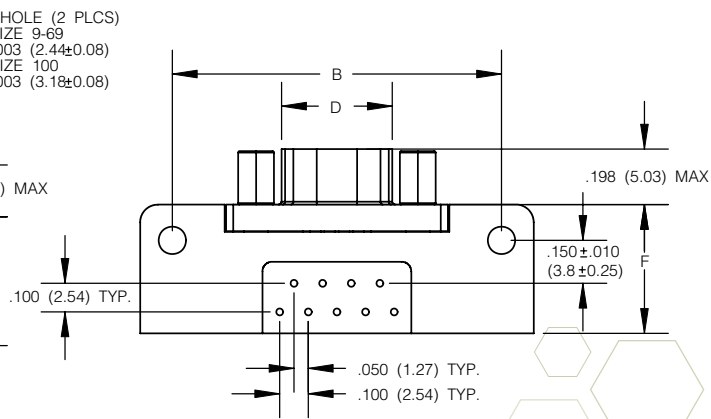
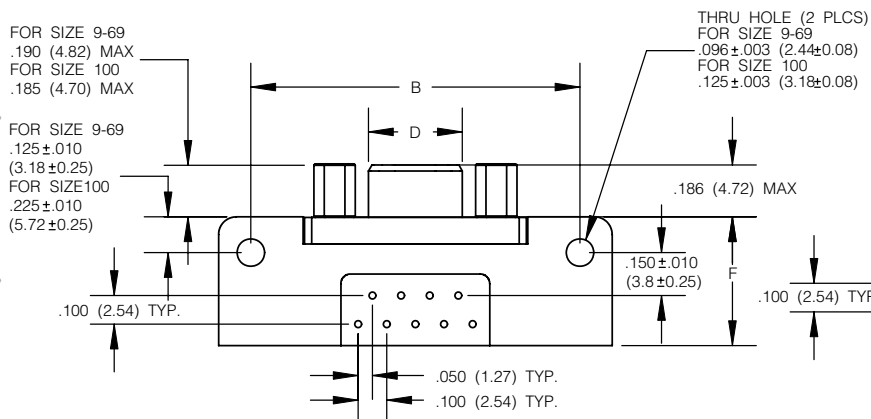
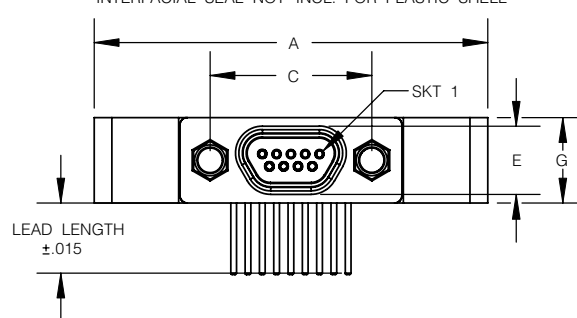
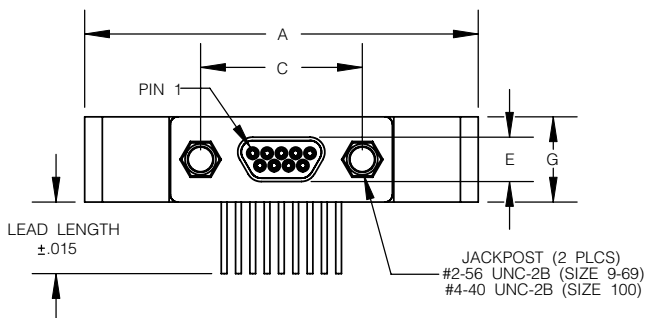


PLUG



RECEPTACLE

* INTERFACIAL SEAL NOT INCL. FOR PLASTIC SHELL



SIZE	A MAX	B ±.007 (0.18)	C ±.005 (0.13)	D MAX		E MAX		F MAX	G MAX
				PLUG	RCPT	PLUG	RCPT		
09	1.390 (35.31)	1.150 (29.21)	.565 (14.35)	.334 (8.48)	.402 (10.21)	.185 (4.70)	.253 (6.43)	.455 (11.56)	.308 (7.82)
15	1.540 (39.12)	1.300 (33.02)	.715 (18.16)	.484 (12.29)	.552 (13.97)	.185 (4.70)	.253 (6.43)	.455 (11.56)	.308 (7.82)
21	1.690 (42.93)	1.450 (36.83)	.865 (21.97)	.634 (16.10)	.702 (17.83)	.185 (4.70)	.253 (6.43)	.455 (11.56)	.308 (7.82)
25	1.790 (45.47)	1.550 (39.37)	.965 (24.51)	.734 (18.64)	.802 (20.37)	.185 (4.70)	.253 (6.43)	.455 (11.56)	.308 (7.82)
31	2.040 (51.82)	1.800 (45.72)	1.115 (28.32)	.884 (22.45)	.952 (24.18)	.185 (4.70)	.253 (6.43)	.455 (11.56)	.308 (7.82)
37	2.340 (59.44)	2.100 (53.34)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)	.185 (4.70)	.253 (6.43)	.455 (11.56)	.308 (7.82)
51	1.875 (47.63)	1.600 (40.64)	1.215 (30.86)	.984 (24.99)	1.052 (26.72)	.228 (5.79)	.296 (7.52)	.565 (14.35)	.351 (8.92)
69	2.500 (63.50)	2.200 (55.88)	1.515 (38.48)	1.289 (32.74)	1.357 (34.47)	.228 (5.79)	.296 (7.52)	.565 (14.35)	.351 (8.92)
100	2.780 (70.61)	2.500 (63.50)	1.800 (45.72)	1.386 (35.15)	1.508 (38.10)	.271 (6.88)	.394 (10.01)	.765 (19.43)	.394 (10.01)

Inches (mm)
All dimensions for reference only

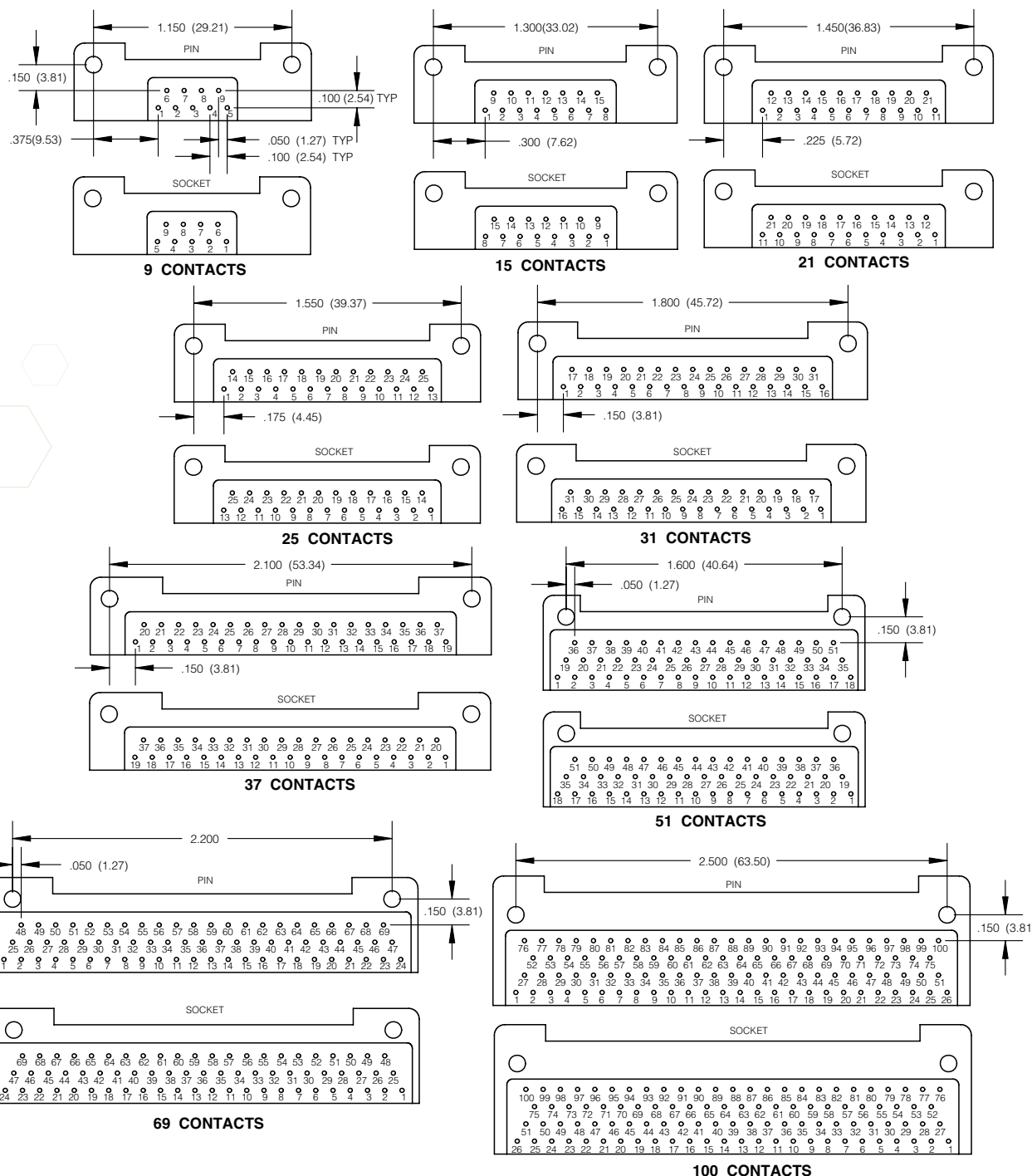
Series 100, 101, 102 & 104

Qualified to M83513 (slash sheets 16 thru 21)
Series 101, 102 & 104 are non QPL

BR RIGHT ANGLE (90 DEG) PCB CONFIGURATIONS

.100 (2.54) x .100 (2.54) grid pattern, offset .050 (1.27)

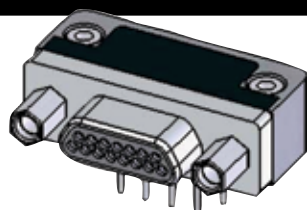
Cavity identification numbers are for reference only and do not appear on the connector.



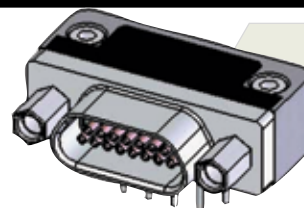
Inches (mm)
All dimensions for reference only

Qualified to M83513 (slash sheets 10 thru 15)

CBR RIGHT ANGLE (90 DEG) NARROW PROFILE PCB CONFIGURATIONS

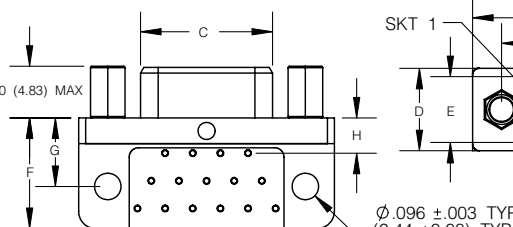
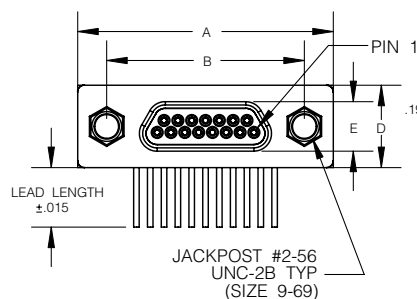


PLUG

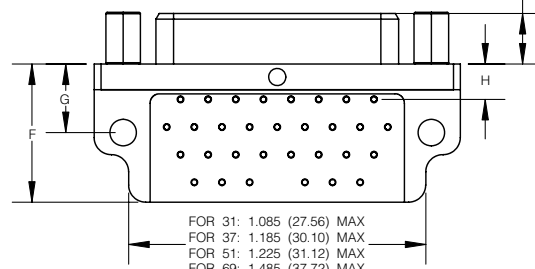


RECEPTACLE

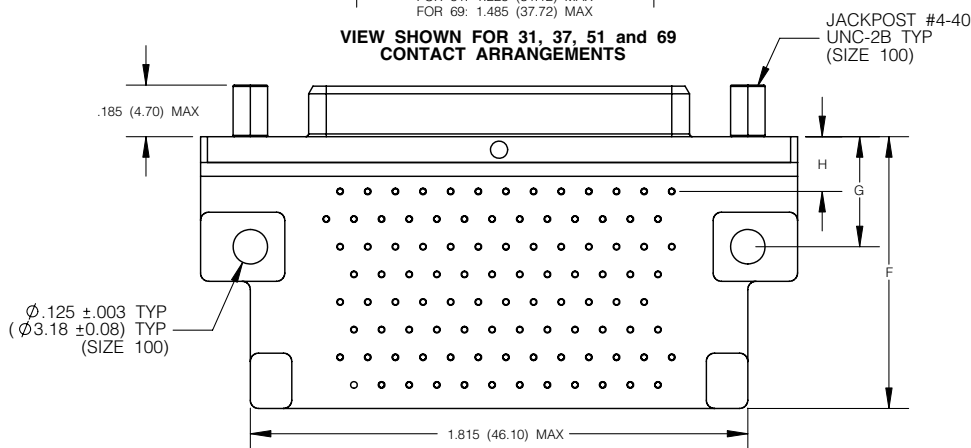
*INTERFACIAL SEAL NOT INCL. FOR PLASTIC SHELL



**VIEW SHOWN FOR 9, 15, 21, AND 25
CONTACT ARRANGEMENTS**



**VIEW SHOWN FOR 31, 37, 51 and 69
CONTACT ARRANGEMENTS**



VIEW SHOWN FOR 100 CONTACT ARRANGEMENTS

SIZE	A MAX	B ±.005 (0.13)	C MAX		D MAX	E MAX		F MAX	G ±.010 (0.25)	H ±.010 (0.25)
			PLUG	RCPT		PLUG	RCPT			
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.420 (10.67)	.250 (6.35)	.230 (5.81)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.420 (10.67)	.250 (6.35)	.130 (3.30)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.420 (10.67)	.250 (6.35)	.130 (3.30)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.420 (10.67)	.250 (6.35)	.130 (3.30)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.520 (13.21)	.250 (6.35)	.130 (3.30)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.520 (13.21)	.250 (6.35)	.130 (3.30)
51	1.435 (36.45)	1.215 (30.86)	.984 (24.99)	1.052 (26.72)	.351 (8.92)	.228 (5.79)	.296 (7.52)	.650 (16.15)	.300 (7.62)	.150 (3.81)
69	1.735 (44.07)	1.515 (38.48)	1.289 (32.74)	1.357 (34.47)	.351 (8.92)	.228 (5.79)	.296 (7.52)	.755 (19.18)	.300 (7.62)	.150 (3.81)
100	2.170 (55.12)	1.800 (45.72)	1.386 (35.15)	1.508 (38.10)	.394 (10.01)	.271 (6.88)	.394 (10.01)	1.000 (25.40)	.400 (10.16)	.200 (5.08)

Inches (mm)
All dimensions for reference only

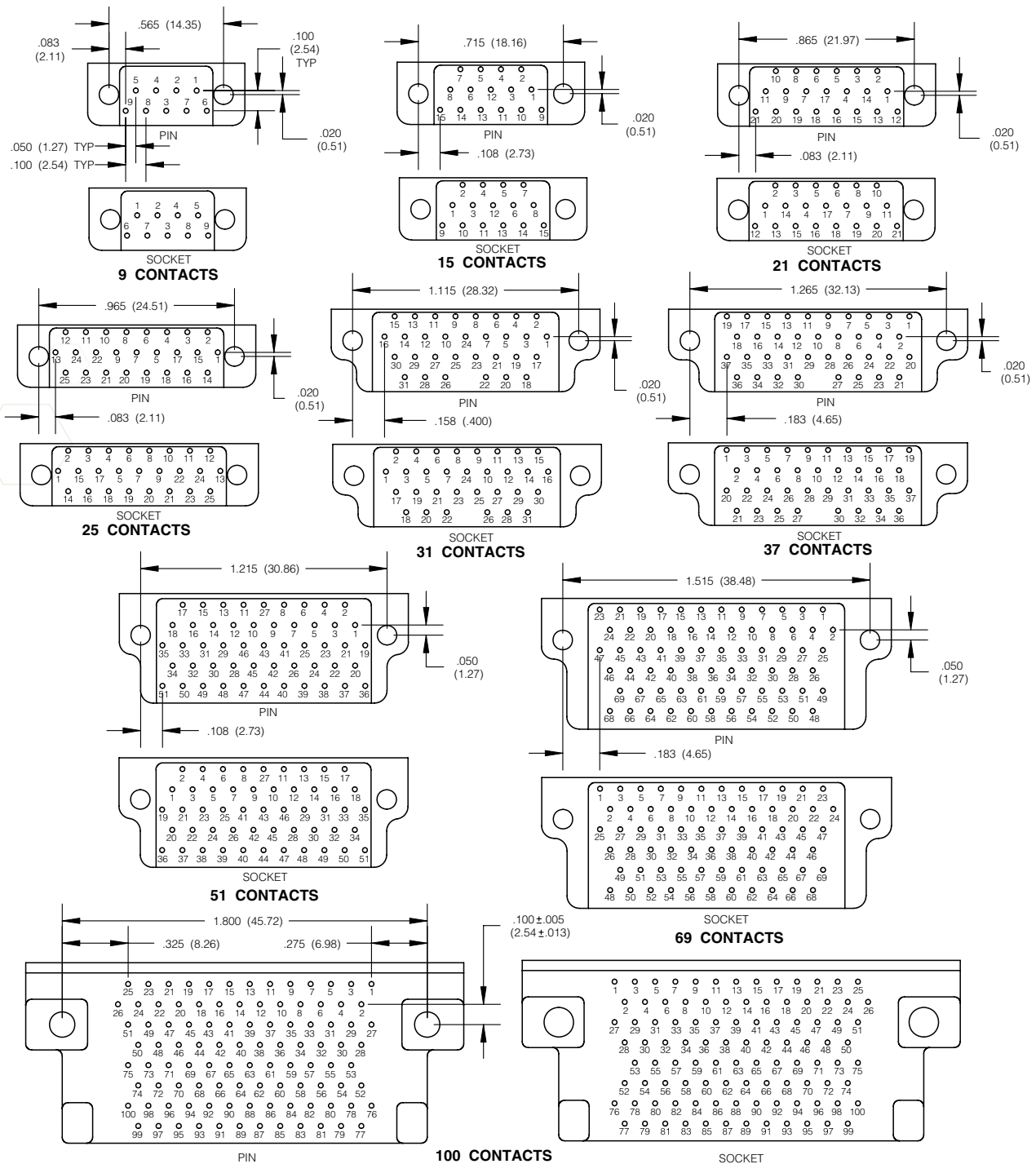
Series 100, 101, 102 & 104

Qualified to M83513 (slash sheets 10 thru 15) Series 101, 102 & 104 are non QPL

CBR RIGHT ANGLE (90 DEG) NARROW PROFILE PCB CONFIGURATIONS

.100 (2.54) x .100 (2.54) grid pattern, offset .050 (1.27)

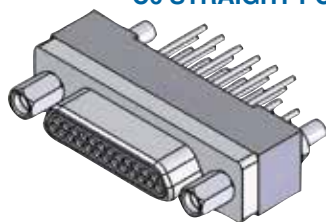
Cavity identification numbers are for reference only and do not appear on the connector.



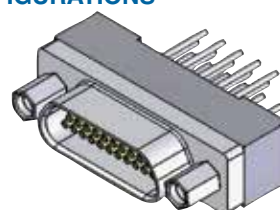
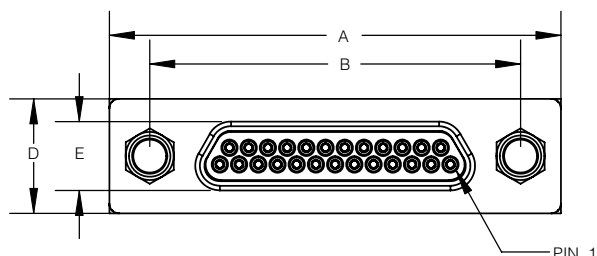
Inches (mm)
All dimensions for reference only

Qualified to M83513 (slash sheets 28 thru 33)

C6 STRAIGHT PCB TERMINATION TYPE CONFIGURATIONS

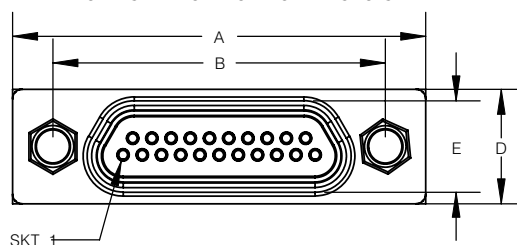


PLUG

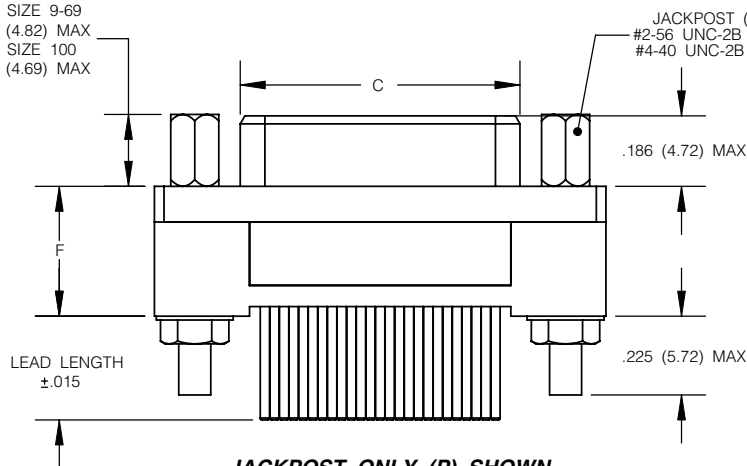


RECEPTACLE

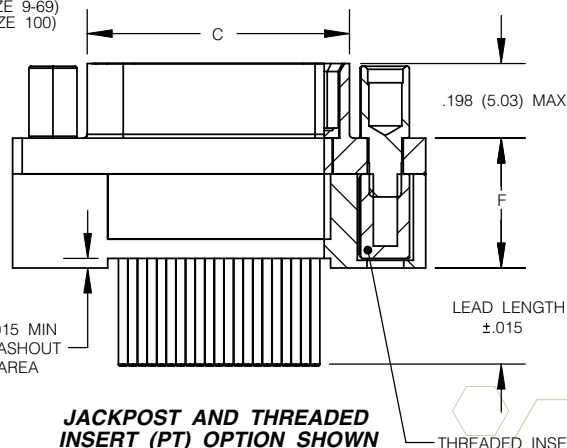
* INTERFACIAL SEAL NOT INCL. FOR PLASTIC SHELL



FOR SIZE 9-69
.190 (4.82) MAX
FOR SIZE 100
.185 (4.69) MAX



JACKPOST ONLY (P) SHOWN

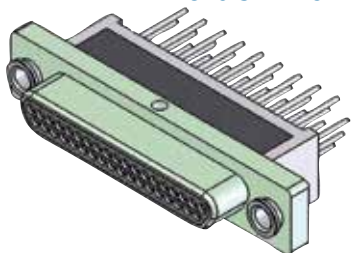


JACKPOST AND THREADED INSERT (PT) OPTION SHOWN

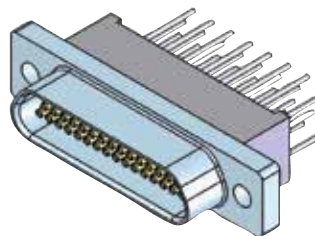
SIZE	A MAX	B ±.005 (0.13)	C MAX		D MAX	E MAX		F MAX
			PLUG	RCPT		PLUG	RCPT	
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)
51	1.435 (36.45)	1.215 (30.86)	.984 (24.99)	1.052 (26.72)	.400 (10.16)	.228 (5.79)	.296 (7.52)	.335 (8.51)
69	1.735 (44.07)	1.515 (38.48)	1.289 (32.74)	1.357 (34.47)	.400 (10.16)	.228 (5.79)	.296 (7.52)	.335 (8.51)
100	2.160 (54.86)	1.800 (45.72)	1.384 (35.13)	1.508 (38.10)	.510 (12.95)	.271 (6.88)	.394 (10.01)	.430 (10.92)

Inches (mm)
All dimensions for reference only

C16 STRAIGHT PCB WITH FLANGE TERMINATION TYPE

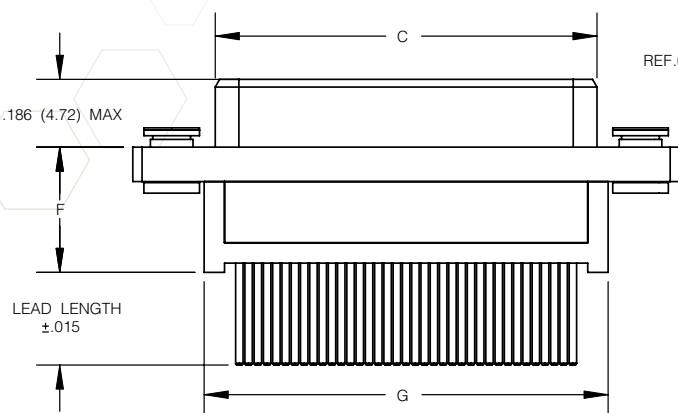
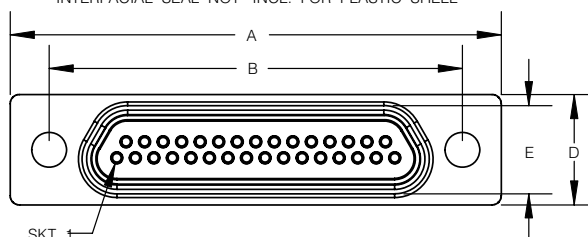
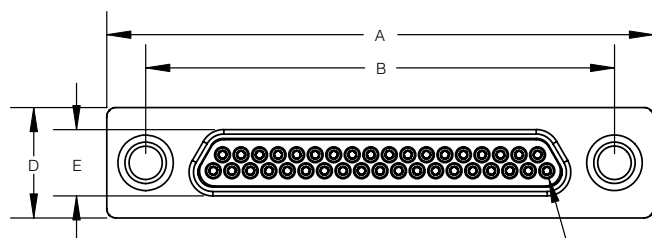


PLUG

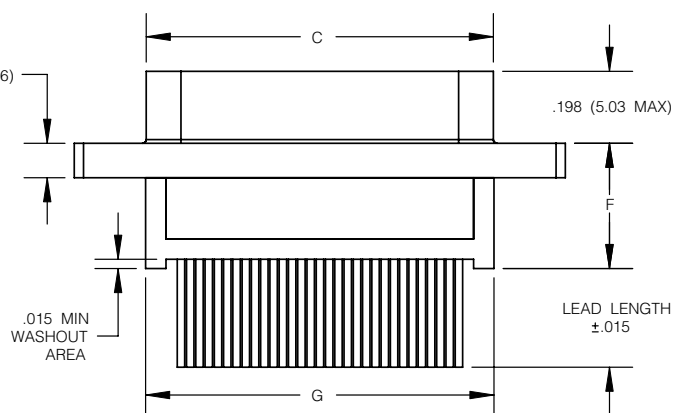


RECEPTACLE

* INTERFACIAL SEAL NOT INCL. FOR PLASTIC SHELL



FORWARD FLOAT MOUNT (F) SHOWN



STANDARD MOUNTING HOLE (B) SHOWN

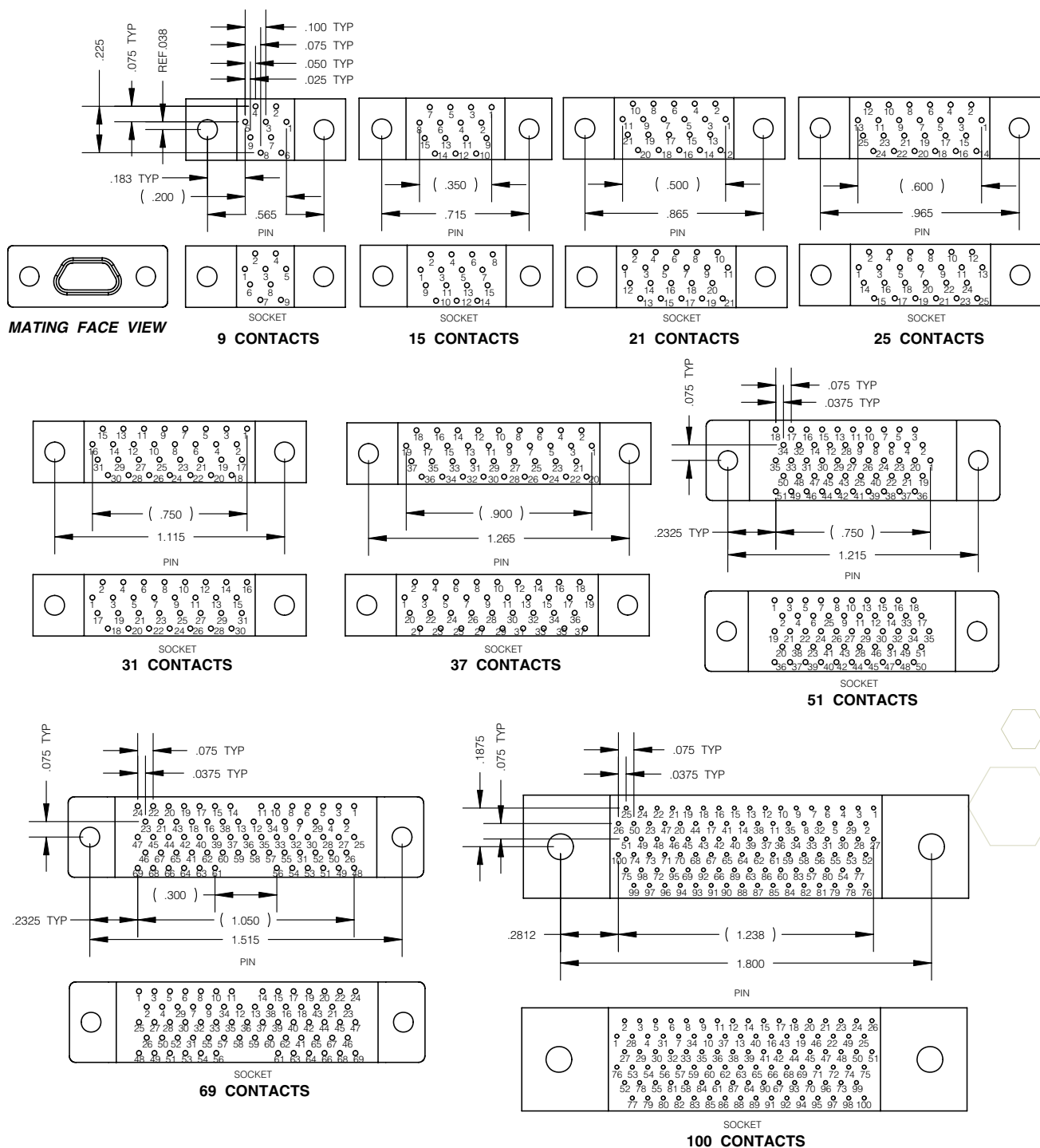
SIZE	A MAX	B ±.005 (0.13)	C MAX		D MAX	E MAX		F MAX	G MAX
			PLUG	RCPT		PLUG	RCPT		
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)	.395 (10.03)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)	.545 (13.84)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)	.695 (17.65)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)	.795 (20.19)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)	.945 (24.00)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)	.310 (7.87)	.185 (4.70)	.253 (6.43)	.335 (8.51)	1.095 (27.81)
51	1.435 (36.45)	1.215 (30.86)	.984 (24.99)	1.052 (26.72)	.400 (10.16)	.228 (5.79)	.296 (7.52)	.335 (8.51)	1.050 (26.67)
69	1.735 (44.07)	1.515 (38.48)	1.289 (32.74)	1.357 (34.47)	.400 (10.16)	.228 (5.79)	.296 (7.52)	.335 (8.51)	1.350 (34.29)
100	2.160 (54.86)	1.800 (45.72)	1.384 (35.13)	1.508 (38.10)	.510 (12.95)	.271 (6.88)	.394 (10.01)	.430 (10.92)	1.450 (36.83)

Inches (mm)
All dimensions for reference only

Qualified to M83513 (slash sheets 28 thru 33) Series 101, 102 & 104 are non QPL

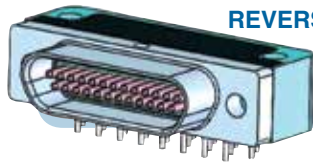
C6 & C16 VERTICAL MOUNT (TERMINATION VIEW)

Cavity identification numbers are for reference only and do not appear on the connector.



Inches (mm)
All dimensions for reference only

Series 110 - How to Order



REVERSED POLARIZATION CBR TERMINATION TYPE NARROW (90 DEGREE) PCB

Example:
110RN21P-CBRP1

Description: metal shell size 21 plug, reversed polarization, nickel finish, CBR termination, PCB tail lead length .109 inches with jackposts included.

Connector Series

110 = reversed CBR type
metal shell per M83513

Insulator Material

R = Polyphenylene Sulfide (Ryton)

Shell Finish

A = anodize
C = cadmium
G = gold
I = irridite/alodine
N = electroless nickel
T = tin

Connector Size (number of contacts)

09, 15, 21, 25, 31, 37, 51, 69, 100

All sizes I.A.W. M83513 except size 69 (non-military)

Connector Type

P = Plug (pin)
S = Receptacle (socket)

110 R X XXX X - CBR X X X - XXX

Non Std. Wire Length

(0.109 < length < 1.00)
e.g. 125 = .125 inches

Lead Length (inches)

1 = .109 ± .015
2 = .140 ± .015
3 = .172 ± .015
4 = .250 ± .015
F = non std. length (add to end of part no.)

Threaded Insert (pre-installed)

T = threaded insert (PCB mounting option)
Omit for no threaded insert

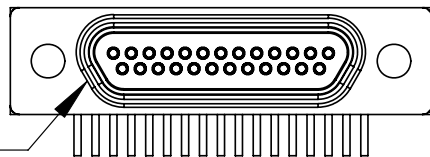
Hardware (pre-installed)

P = jackpost
Omit for no jackpost

Termination Type

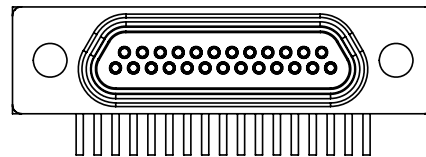
CBR = narrow 90° PCB (dimensionally same as M83513/10 thru /15)

REVERSED POLARIZATION CBR CONNECTOR



POLARIZATION /
"D" SHAPE KEYSTONE

STANDARD CBR CONNECTOR

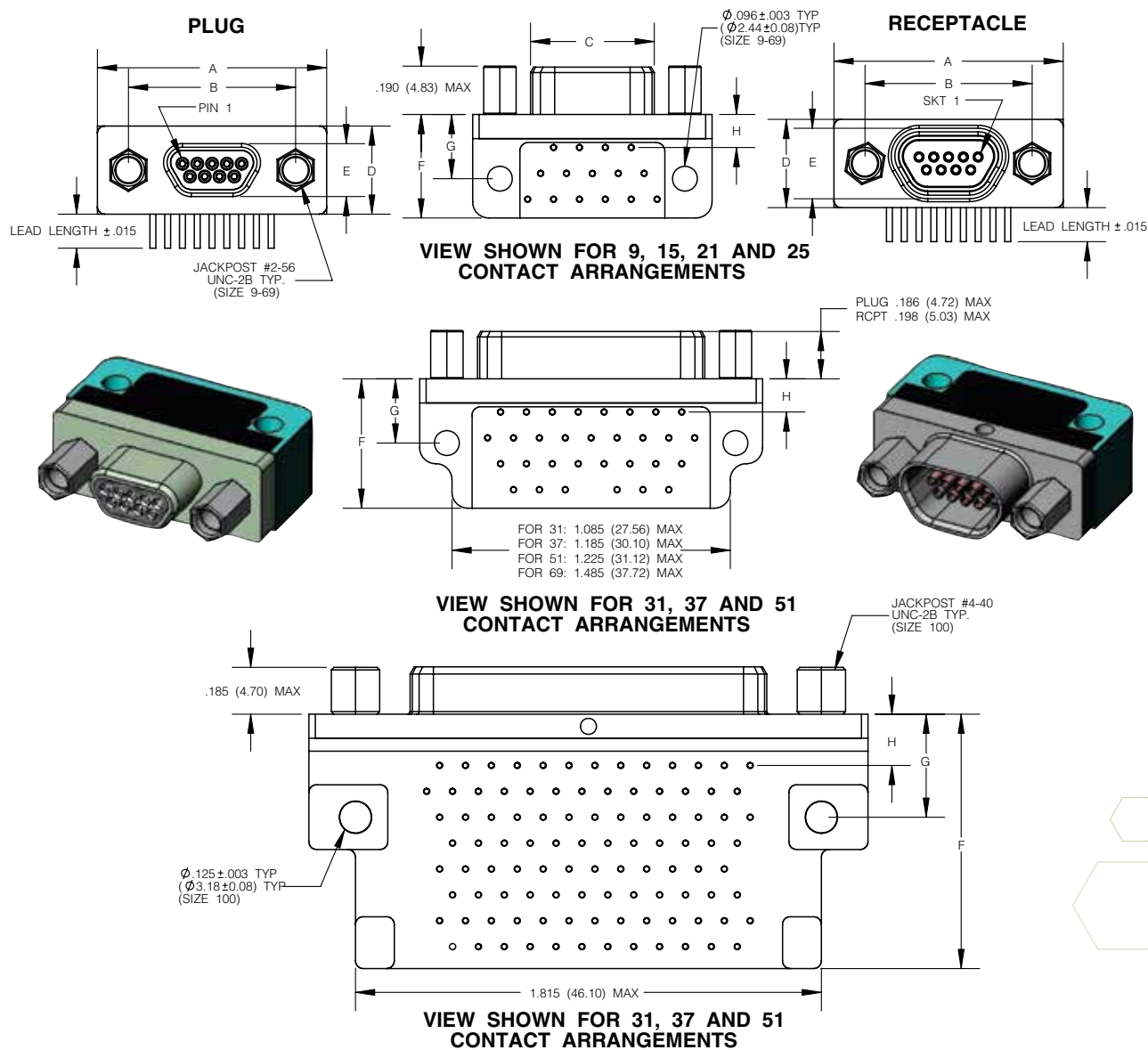


Features

- Polarization is reversed from a standard series 100 CBR type connector.
- Available in sizes 9 thru 100, right angle PCB termination.
- Solid copper 24 AWG PCB leads, tin plated, and solder dipped.
- Wide selection of hardware options.

Inches (mm)
All dimensions for reference only

REVERSE POLARIZATION CBR RIGHT ANGLE (90 DEG) NARROW PROFILE PCB CONFIGURATIONS



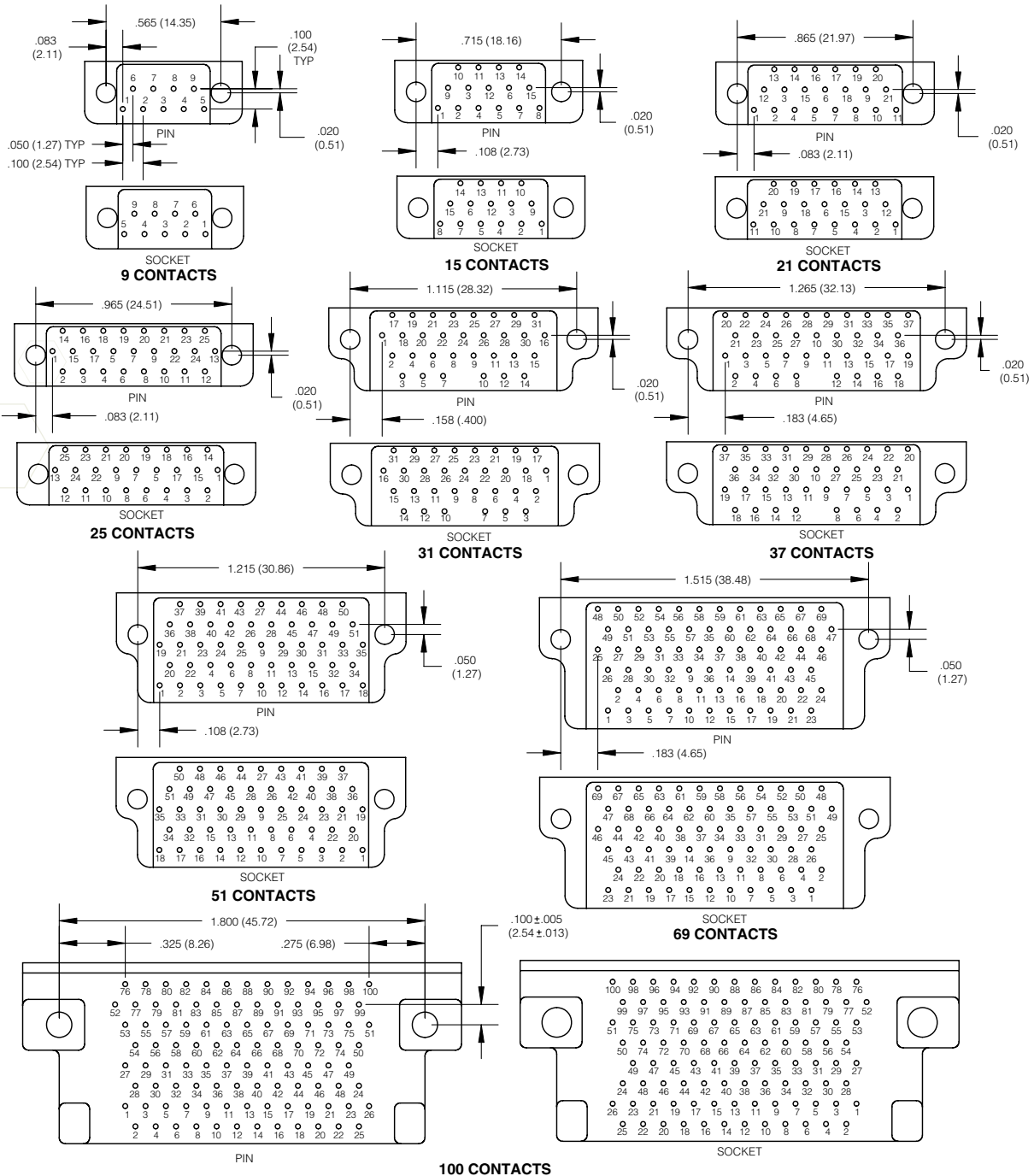
SIZE	A MAX	B ±.005 (0.13)	C MAX		D MAX	E MAX		F MAX	G ±.010 (0.25)	H ±.010 (0.25)
			PLUG	RCPT		PLUG	RCPT			
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.420 (10.67)	.250 (6.35)	.230 (5.81)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.420 (10.67)	.250 (6.35)	.130 (3.30)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.420 (10.67)	.250 (6.35)	.130 (3.30)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.420 (10.67)	.250 (6.35)	.130 (3.30)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.520 (13.21)	.250 (6.35)	.130 (3.30)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)	.308 (7.82)	.185 (4.70)	.253 (6.43)	.520 (13.21)	.250 (6.35)	.130 (3.30)
51	1.435 (36.45)	1.215 (30.86)	.984 (24.99)	1.052 (26.72)	.351 (8.92)	.228 (5.79)	.296 (7.52)	.650 (16.15)	.300 (7.62)	.150 (3.81)
69	1.735 (44.07)	1.515 (38.48)	1.289 (32.74)	1.357 (34.47)	.351 (8.92)	.228 (5.79)	.296 (7.52)	.755 (19.18)	.300 (7.62)	.150 (3.81)
100	2.170 (55.12)	1.800 (45.72)	1.386 (35.15)	1.508 (38.10)	.394 (10.01)	.271 (6.88)	.394 (10.01)	1.000 (25.40)	.400 (10.16)	.200 (5.08)

Inches (mm)
All dimensions for reference only

REVERSE POLARIZATION CBR RIGHT ANGLE (90 DEG) NARROW PROFILE PCB CONFIGURATIONS

.100 (2.54) x .100 (2.54) grid pattern, offset .050 (1.27)

Cavity identification numbers are for reference only and do not appear on the connector.



Inches (mm)
All dimensions for reference only

Qualified to M83513 (slash sheets 06 thru 09)

Example:
101R09P-4A5FM2-20

Description: Plastic shell size 9 plug, 26 AWG wire type "A",
non-std wire length 20 inches with M2 low profile jackscrews.

101 R XXX X - X X X X X - XXX

Connector Series

101 = all plastic shell

Insulator Material

R = Polyphenylene Sulfide (Ryton)

Connector Size (number of contacts)

09, 15, 21, 25, 31, 37, 51

Connector Type

P = plug (pin)

S = receptacle (socket)

Wire Size (AWG.)

1 = 32

2 = 30

3 = 28

4 = 26 (M83513 standard) *off shelf

5 = 25 (solid wire only)

6 = 24

Omit for solder cup contacts

Wire Type

General Applications:

A = 7 strd, per NEMA-HP3 (MIL-W-16878/4)

B = 7 strd, per NEMA-HP3 (MIL-W-16878/6)

C = 19 strd, per NEMA-HP3 (MIL-W-16878/4)

D = 19 strd, per NEMA-HP3 (MIL-W-16878/6)

Military/Aerospace Applications:

E = per MIL-W-22759/11 (M83513 standard)

F = per MIL-W-22759/33 (space grade)

L = solid wire uninsulated

Omit for solder cup contacts

Non Std. Length (Inches)

Stranded Wire (no decimal values)

e.g. 1 = 1 inches, 100 = 100 inches

Solid Wire (0.109 < length < 1.00)

e.g. 110 = .110 inches, 999 = .999 inches

Hardware (pre-installed by factory)

B = standard mounting holes

P = jackpost

M2 = low profile jackscrew, allen head

M3 = high profile jackscrew, allen head

M5 = low profile jackscrew, slot head

M6 = high profile jackscrew, slot head

L = captive low profile jackscrew

K = captive high profile jackscrew

F = forward float mount

R = reverse float mount

Wire Length ((inches +1.00/-0.00))

A = 18.00

B = 36.00

C = 72.00

D = 0.500 (solid wire only +0.20/-0.00)

E = 1.00 (solid wire only +0.20/-0.00)

F = Non std. length (add to end of part no.)

Omit for solder cup contacts

Wire Color / Finish

1 = all white (M83513 standard) *off shelf

2 = all yellow

3 = solid wire uninsulated, tin plated

4 = solid wire uninsulated, gold plated

5 = color coded per mil-std-681, system 1

6 = 1st 10 colors blk. thru wht. repeated

(M83513 standard) *off shelf

Omit for solder cup contacts

Inches (mm)

All dimensions for reference only

M83513 Solder Cup or Crimp Termination - How to Order

Qualified to M83513 (slash sheets 06 thru 09)

Solder Cup Termination:

M83513/XX - X

Specification Sheet
06 = plug (pin)
07 = receptacle (socket)

Insert Arrangement

A = 9
B = 15
C = 21
D = 25
E = 31
F = 37
G = 51

Sizes 69 & 100 not available per M83513

Note: Mounting and mating hardware to be ordered separately per M83513.

Crimp Termination:

M83513/XX - X XX

Specification Sheet
08 = plug (pin)
09 = receptacle (socket)

Insert Arrangement

A = 9
B = 15
C = 21
D = 25
E = 31
F = 37
G = 51

Sizes 69 & 100 not available per M83513

Wire Type (inches +1.00/-0.00)

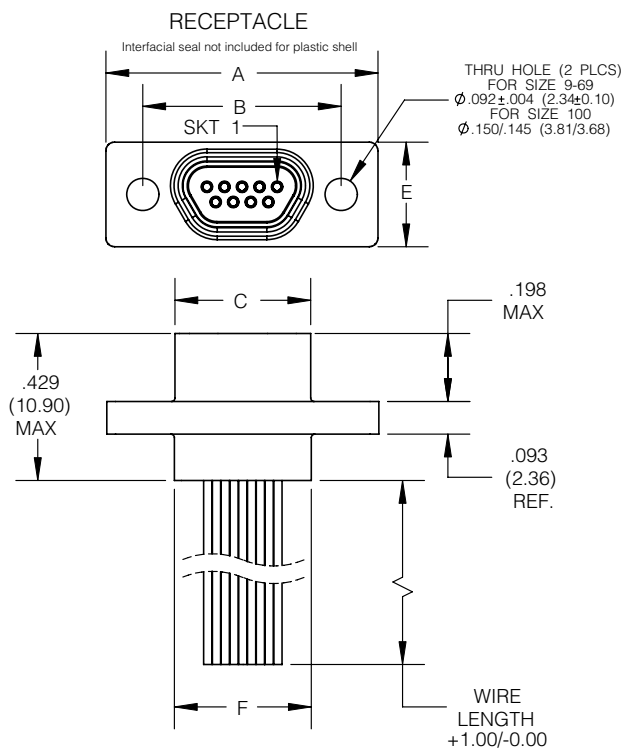
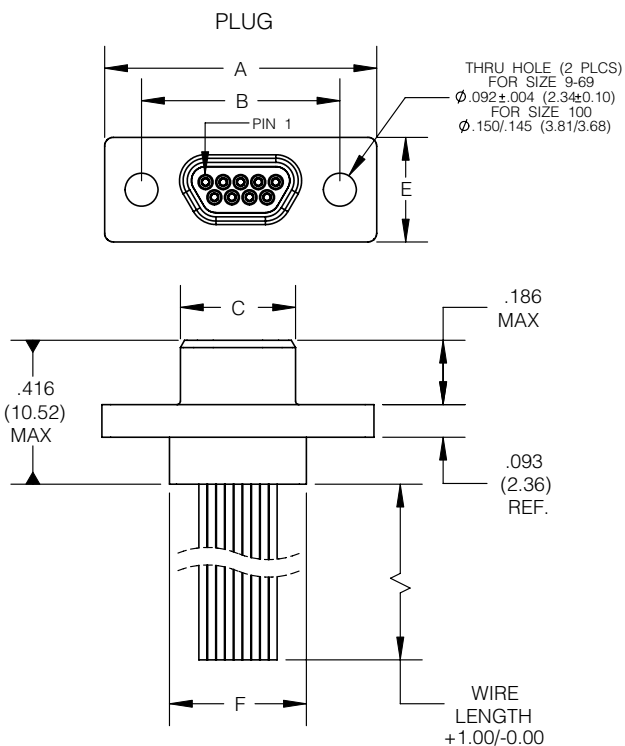
01 = M22759/11-26-9, 18"
02 = M22759/11-26-9, 36"
03 = M22759/11-26-(*), 18"
04 = M22759/11-26-(*), 36"
05 = A-A-59551, type S, 25 AWG, except shall be gold plated 10 micro-inches; 0.5"
06 = A-A-59551, type S, 25 AWG, except shall be gold plated 10 micro-inches; 1.0"
07 = A-A-59551, type S, 25 AWG, tin plated 100 micro-inches; 0.5"
08 = A-A-59551, type S, 25 AWG, tin plated 100 micro-inches; 1.0"
09 = M22759/33-26-9, 18"
10 = M22759/33-26-9, 36"
11 = M22759/33-26-(*), 18"
12 = M22759/33-26-(*), 36"
13 = M22759/11-26-9, 72"
14 = M22759/11-26-(*), 72"
15 = M22759/33-26-9, 72"
16 = M22759/33-26-(*), 72"
17 = 04035-26A-9, 18"
18 = 04035-26A-9, 36"
19 = 04035-26A-9, 72"
20 = 04035-26A-(*), 18"
21 = 04035-26A-(*), 36"
22 = 04035-26A-(*), 72"

Inches (mm)
All dimensions for reference only

Qualified to M83513 (slash sheets 06 thru 09)

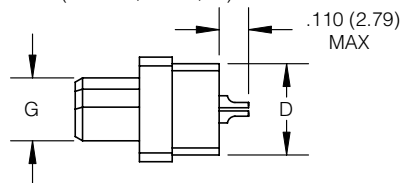
WIRE TERMINATION

(M83513/08 & /09)

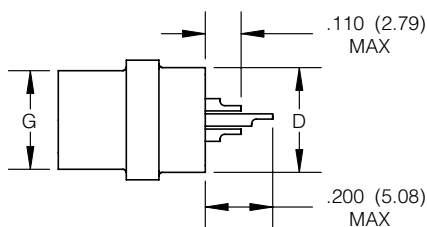


SOLDER CUP TERMINATION PLUG / RECEPTACLE

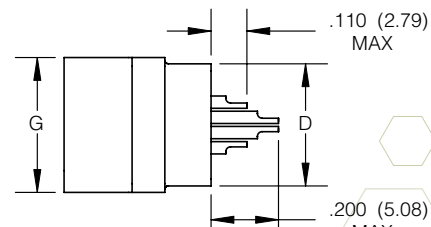
(M83513/06 & /07)



SIZE 9 - 37



SIZE 51 & 69

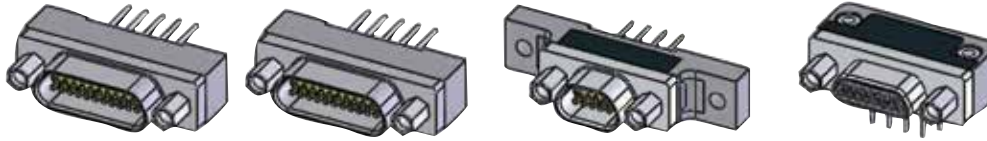


SIZE 100

SIZE	A MAX	B $\pm .005$ (0.13)	C MAX		D MAX	E MAX	F MAX	G MAX	
			PLUG	RCPT				PLUG	RCPT
09	.788 (20.02)	.565 (14.35)	.292 (7.42)	.380 (9.65)	.173 (4.39)	.218 (5.54)	.408 (10.36)	.134 (3.40)	.218 (5.54)
15	.938 (23.82)	.715 (18.16)	.442 (11.23)	.530 (13.46)	.173 (4.39)	.218 (5.54)	.588 (14.17)	.134 (3.40)	.218 (5.54)
21	1.088 (27.64)	.865 (21.97)	.592 (15.04)	.680 (17.27)	.173 (4.39)	.218 (5.54)	.708 (17.98)	.134 (3.40)	.218 (5.54)
25	1.188 (30.18)	.965 (24.51)	.692 (17.58)	.780 (19.81)	.173 (4.39)	.218 (5.54)	.808 (20.56)	.134 (3.40)	.218 (5.54)
31	1.338 (33.98)	1.115 (28.32)	.842 (21.39)	.930 (23.62)	.173 (4.39)	.218 (5.54)	.958 (24.33)	.134 (3.40)	.218 (5.54)
37	1.488 (37.80)	1.265 (32.13)	.992 (25.20)	1.080 (27.43)	.173 (4.39)	.218 (5.54)	1.108 (28.14)	.134 (3.40)	.218 (5.54)
51	1.438 (36.52)	1.215 (30.86)	.942 (23.93)	1.030 (26.16)	.220 (5.59)	.260 (6.60)	1.058 (26.87)	.177 (4.49)	.260 (6.60)

Inches (mm)
All dimensions for reference only

Series 101- How to Order



Example:
101R21P-CBRP1

Description: plastic shell size 21 plug, CBR termination,
PCB tail lead length .109 inches with jackposts included.

100 R XX X - BR X X X - XXX

Connector Series
101 = all plastic shell

Insulator Material
R = Polyphenylene Sulfide (Ryton)

Connector Size (number of contacts)
09, 15, 21, 25, 31, 37, 51

Connector Type
P = plug (pin)
S = receptacle (socket)

Non Std. Wire Length (Inches)
(0.109 < length < 1.00)
e.g. 125 = .125 inches

Lead Length (inches)
1 = .109 ± .015
2 = .140 ± .015
3 = .172 ± .015
4 = .250 ± .015
F = non std. length (add to end of part no.)

Threaded Insert (pre-installed)
T = threaded insert (PCB mounting option)
Omit for no threaded insert

Hardware for BS, BR, CBR: (pre-installed)
P = jackpost
Omit for no jackpost

Termination Type
BS = straight PCB per M83513/22 thru /27
BR = 90° PCB per M83513/16 thru /21
CBR = narrow 90° PCB per M83513/10 thru /15

Features

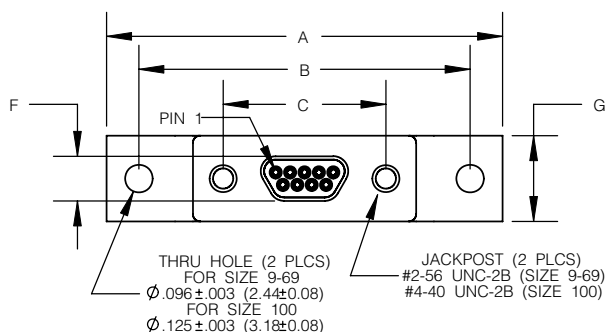
- Available in sizes 9 thru 51, straight and right angle PCB termination.
- Solid copper 24 AWG PCB leads, tin plated, and solder dipped.
- Wide selection of hardware options.
- Consult Amphenol Aerospace for other wire size termination.

Inches (mm)
All dimensions for reference only

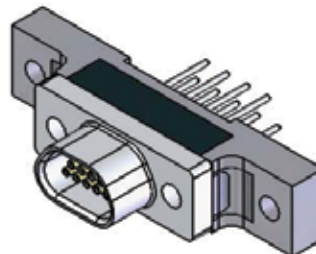
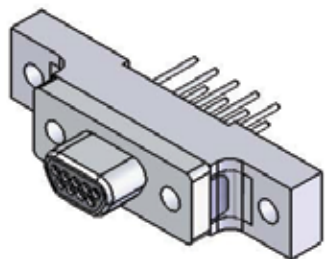
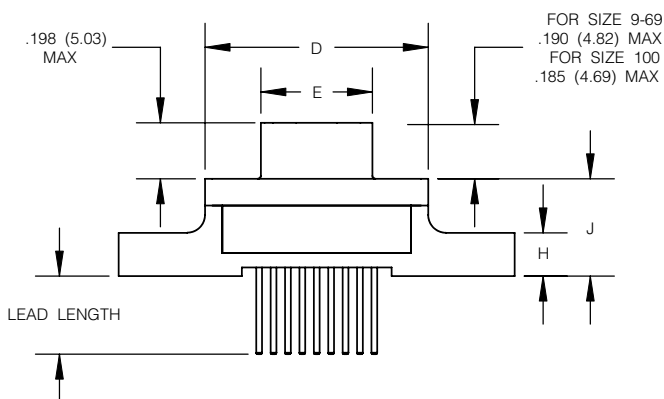
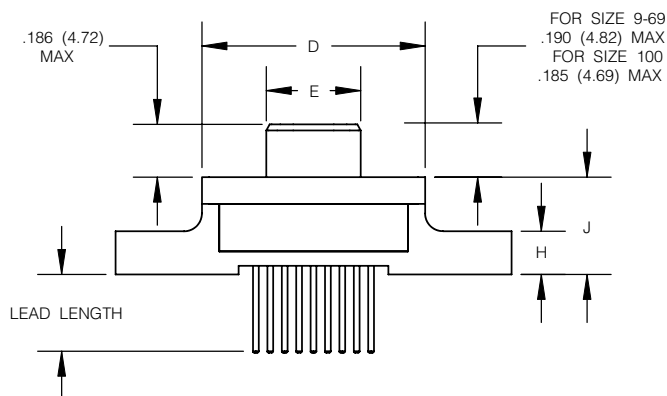
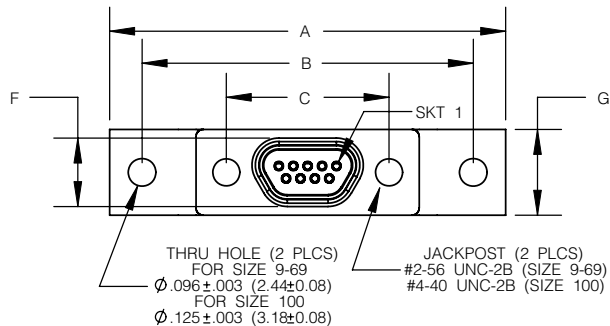
BS STRAIGHT PCB TERMINATION TYPE (MATES ONLY WITH SERIES 101)

Refer to page 179 for straight PC configurations.

PLUG



RECEPTACLE

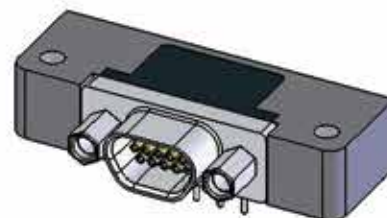
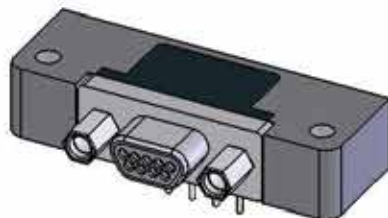
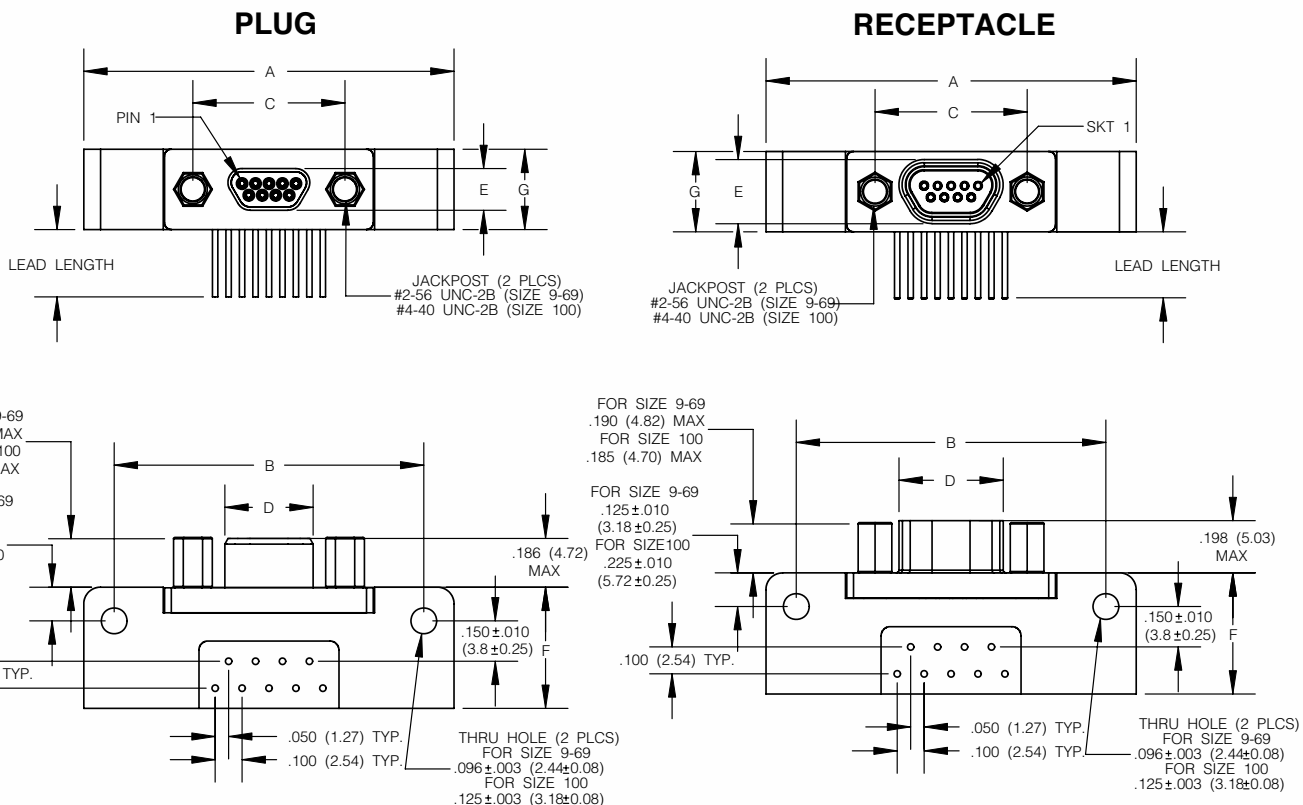


SIZE	A MAX	B $\pm .007$ (0.18)	C $\pm .005$ (0.13)	D MAX	E MAX		F MAX	
					PLUG	RCPT	PLUG	RCPT
09	1.390 (35.31)	1.150 (29.21)	.565 (14.35)	.788 (20.02)	.292 (7.42)	.380 (9.65)	.134 (3.40)	.218 (5.54)
15	1.390 (35.31)	1.150 (29.21)	.715 (18.16)	.938 (23.82)	.442 (11.23)	.530 (13.46)	.134 (3.40)	.218 (5.54)
21	1.690 (43.93)	1.450 (36.83)	.865 (21.97)	1.088 (27.64)	.592 (15.04)	.680 (17.27)	.134 (3.40)	.218 (5.54)
25	1.740 (44.20)	1.500 (38.10)	.965 (24.51)	1.188 (30.18)	.692 (17.58)	.780 (19.81)	.134 (3.40)	.218 (5.54)
31	2.040 (51.82)	1.800 (45.72)	1.115 (28.32)	1.338 (33.98)	.842 (21.39)	.930 (23.62)	.134 (3.40)	.218 (5.54)
37	2.340 (59.44)	2.100 (53.34)	1.265 (32.13)	1.488 (37.80)	.992 (25.20)	1.080 (27.43)	.134 (3.40)	.218 (5.54)
51	2.270 (67.66)	2.000 (50.80)	1.215 (30.86)	1.438 (36.53)	.942 (23.93)	1.030 (26.16)	.177 (4.49)	.260 (6.60)

Inches (mm)
All dimensions for reference only

BR 90 DEGREE PCB TERMINATION TYPE (MATES ONLY WITH SERIES 101)

Refer to page 181 for right angle (90 DEG) PC configurations.

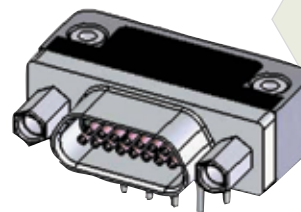
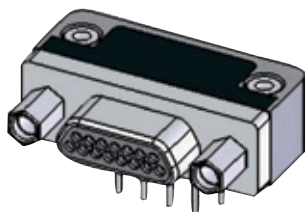


SIZE	A MAX	B ±.007 (0.18)	C ±.005 (0.13)	D MAX		E MAX		F MAX	G MAX
				PLUG	RCPT	PLUG	RCPT		
09	1.390 (35.31)	1.150 (29.21)	.565 (14.35)	.292 (7.42)	.380 (9.65)	.134 (3.40)	.218 (5.54)	.455 (11.56)	.218 (5.54)
15	1.540 (39.12)	1.300 (33.02)	.715 (18.16)	.442 (11.23)	.530 (13.46)	.134 (3.40)	.218 (5.54)	.455 (11.56)	.218 (5.54)
21	1.690 (42.93)	1.450 (36.83)	.865 (21.97)	.592 (15.04)	.680 (17.27)	.134 (3.40)	.218 (5.54)	.455 (11.56)	.218 (5.54)
25	1.790 (45.47)	1.550 (39.37)	.965 (24.51)	.692 (17.58)	.780 (19.81)	.134 (3.40)	.218 (5.54)	.455 (11.56)	.218 (5.54)
31	2.040 (51.82)	1.800 (45.72)	1.115 (28.32)	.842 (21.39)	.930 (23.62)	.134 (3.40)	.218 (5.54)	.455 (11.56)	.218 (5.54)
37	2.340 (59.44)	2.100 (53.34)	1.265 (32.13)	.992 (25.20)	1.080 (27.43)	.134 (3.40)	.218 (5.54)	.455 (11.56)	.218 (5.54)
51	1.875 (47.63)	1.600 (40.64)	1.215 (30.86)	.942 (23.93)	1.030 (26.16)	.177 (4.49)	.260 (6.60)	.565 (14.35)	.260 (6.60)

Inches (mm)
All dimensions for reference only

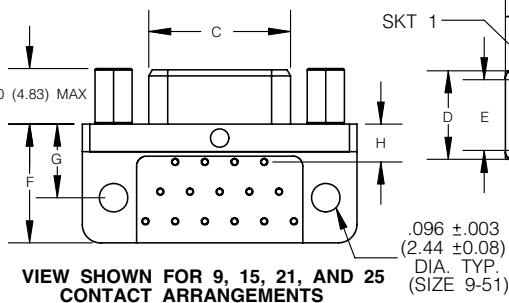
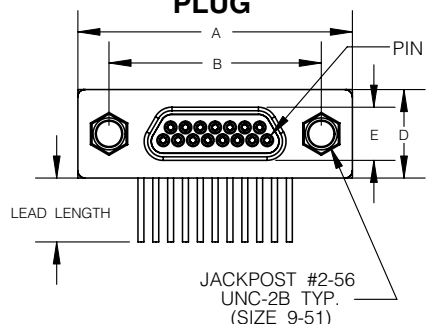
CBR 90 DEGREE PCB TERMINATION TYPE

Refer to page 188 for right angle (90 DEG)
narrow profile PCB configurations.

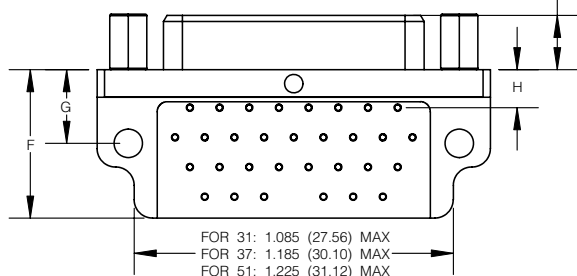


PLUG

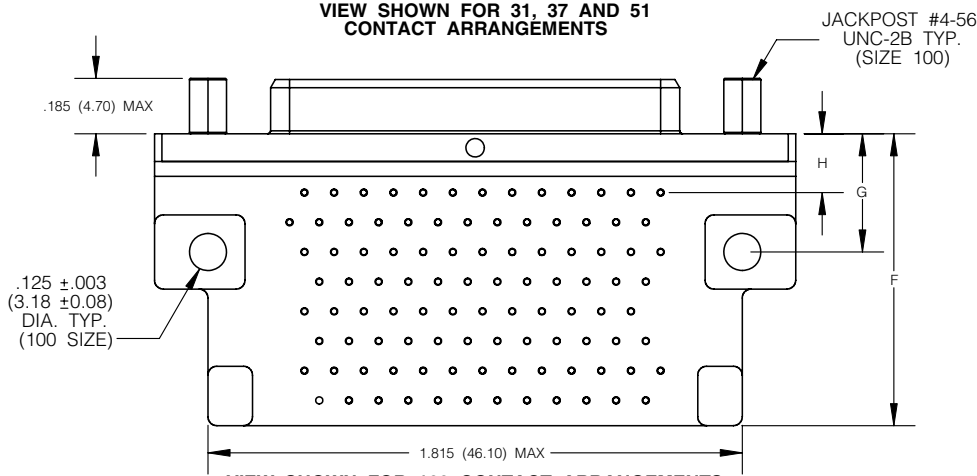
RECEPTACLE



**VIEW SHOWN FOR 9, 15, 21, AND 25
CONTACT ARRANGEMENTS**



**VIEW SHOWN FOR 31, 37 AND 51
CONTACT ARRANGEMENTS**



VIEW SHOWN FOR 100 CONTACT ARRANGEMENTS

SIZE	A MAX	B ±.005 (0.13)	C MAX		D MAX	E MAX		F MAX	G ±.010 (0.25)	H ±.010 (0.25)
			PLUG	RCPT		PLUG	RCPT			
09	.788 (20.02)	.565 (14.35)	.292 (7.42)	.380 (9.65)	.218 (5.54)	.134 (3.40)	.218 (5.54)	.420 (10.67)	.250 (6.35)	.230 (5.81)
15	.938 (23.82)	.715 (18.16)	.442 (11.23)	.530 (13.46)	.218 (5.54)	.134 (3.40)	.218 (5.54)	.420 (10.67)	.250 (6.35)	.130 (3.30)
21	1.088 (27.64)	.865 (21.97)	.592 (15.04)	.680 (17.27)	.218 (5.54)	.134 (3.40)	.218 (5.54)	.420 (10.67)	.250 (6.35)	.130 (3.30)
25	1.188 (30.18)	.965 (24.51)	.692 (17.58)	.780 (19.81)	.218 (5.54)	.134 (3.40)	.218 (5.54)	.420 (10.67)	.250 (6.35)	.130 (3.30)
31	1.338 (33.98)	1.115 (28.32)	.842 (21.39)	.930 (23.62)	.218 (5.54)	.134 (3.40)	.218 (5.54)	.520 (13.21)	.250 (6.35)	.130 (3.30)
37	1.488 (37.80)	1.265 (32.13)	.992 (25.20)	1.080 (27.43)	.218 (5.54)	.134 (3.40)	.218 (5.54)	.520 (13.21)	.250 (6.35)	.130 (3.30)
51	1.438 (36.52)	1.215 (30.86)	.942 (23.93)	1.030 (26.16)	.260 (6.60)	.177 (4.49)	.260 (6.60)	.650 (16.15)	.300 (7.62)	.150 (3.81)

Inches (mm)
All dimensions for reference only

Series MDCE- How to Order

Suitable for M83513 connectors

MDCE-XXX - X

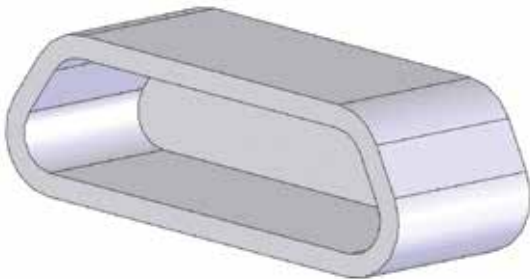
Connector Size
(number of contacts)

- 09
- 15
- 21
- 25
- 31
- 37
- 51
- 69
- 100

Connector Type

- P = plug (pin)
- S = receptacle (socket)

P/N
MDCE-09P
MDCE-15P
MDCE-21P
MDCE-25P
MDCE-31P
MDCE-37P
MDCE-51P
MDCE-69P
MDCE-100P
MDCE-09S
MDCE-15S
MDCE-21S
MDCE-25S
MDCE-31S
MDCE-37S
MDCE-51S
MDCE-69S
MDCE-100S

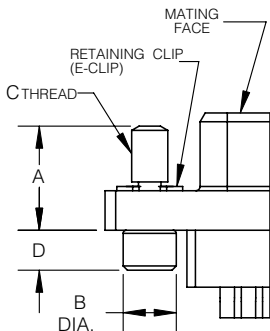
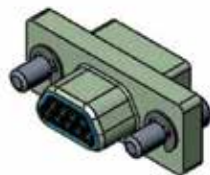


MATERIAL: Statically dissipative
Color: pink / black

Inches (mm)
All dimensions for reference only

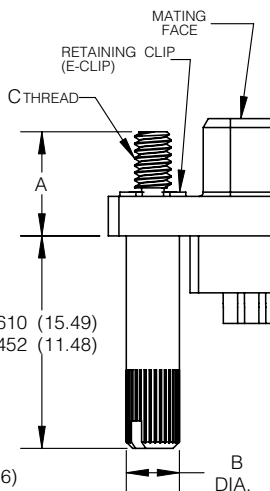
Qualified to M83513/05

LOW PROFILE JACKSCREW ASSEMBLY



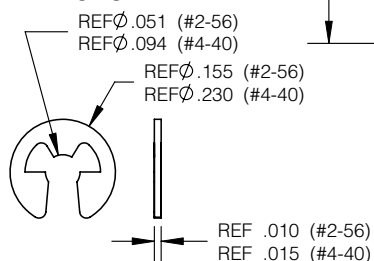
SHELL SIZE	9-69		100	
AMPHENOL P/N	HM05-05	HM05-02	HM05-15	HM05-12
P/N CODE	M5	M2	M5	M2
MIL-SPEC P/N	M83513/05-05 (SLOT)	M83513/05-02 (ALLEN)	M83513/05-15 (SLOT)	M83513/05-12 (ALLEN)
Dim. A	.258/ .235 (6.55/5.97)		.287±.005 (7.29±0.13)	
Dim. B	.125 (3.18)		.187 (4.75)	
Dim. C (THREAD)	#2-56 UNC-2A		#4-40 UNC-2A	
Dim. D	.103/.070 (2.62/1.78)		.098 (2.49)	
Dim. E (HEX)	N/A			

HIGH PROFILE JACKSCREW ASSEMBLY

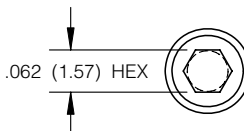


SHELL SIZE	9-69		100	
AMPHENOL P/N	HM05-06	HM05-03	HM05-16	HM05-13
P/N CODE	M6	M3	M6	M3
MIL-SPEC P/N	M83513/05-06 (SLOT)	M83513/05-03 (ALLEN)	M83513/05-16 (SLOT)	M83513/05-13 (ALLEN)
Dim. A	.258/ .235 (6.55/5.97)		.287±.005 (7.29±0.13)	
Dim. B	.125 (3.18)		.187 (4.75)	
Dim. C (THREAD)	#2-56 UNC-2A		#4-40 UNC-2A	
Dim. D	N/A			
Dim. E (HEX)				

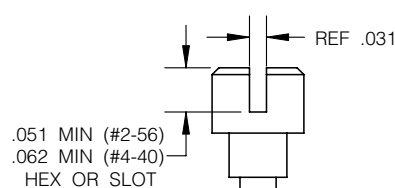
RETAINING CLIP DETAIL



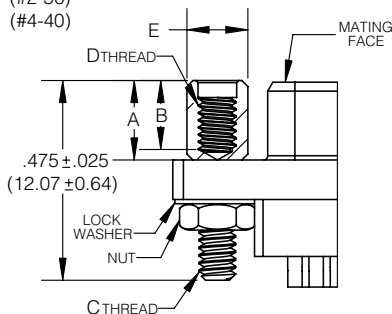
ALLEN HEAD DETAIL



SLOT HEAD DETAIL

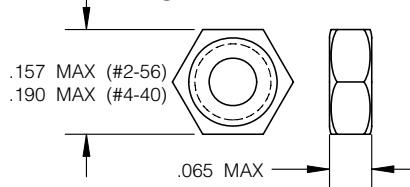


JACKPOST ASSEMBLY

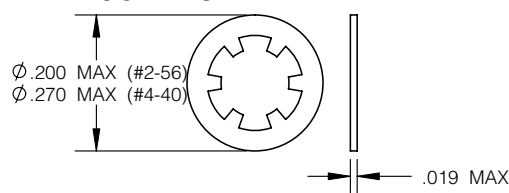


SHELL SIZE	9-69	100
AMPHENOL P/N	HM05-07	HM05-17
P/N CODE	P	
MIL-SPEC P/N	M83513/05-07	M83513/05-17
Dim. A	.190/.185 (4.83/4.70)	.185/.180 (4.70/4.58)
Dim. B	.155 (3.94)	.170 (4.32)
Dim. C (THREAD)	#2-56 UNC-2A	#4-40 UNC-2A
Dim. D	#2-56 UNC-2B	#4-40 UNC-2B
Dim. E (HEX)	.125 (3.18)	.187 (4.75)

NUT DETAIL



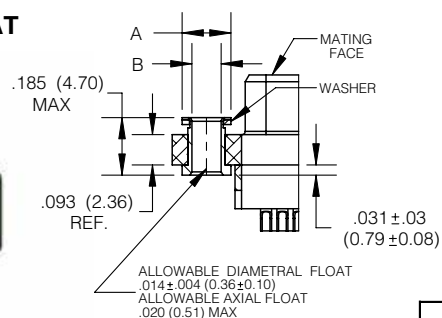
LOCKWASHER DETAIL



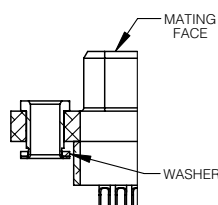
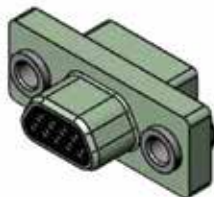
Inches (mm)
All dimensions for reference only

- * Custom hardware pre-installed
- * Captive hardware provides secure mounting
- * For special design hardware, consult Amphenol sales for more options

FORWARD FLOAT

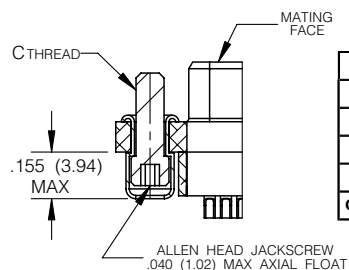
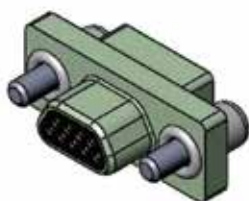


REVERSE FLOAT (SAME DIMENSIONS AS FORWARD FLOAT)



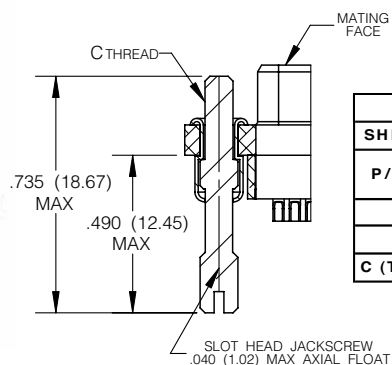
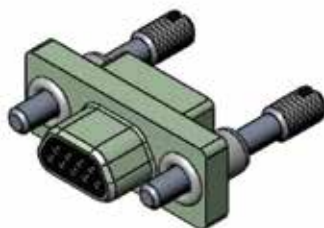
	FLOAT MOUNT	
SHELL SIZE	9-69	100
P/N CODE	F = FORWARD FLOAT R = REVERSE FLOAT	
A	.150 ± .003 (3.81 ± .076)	.174 ± .005 (4.40 ± 0.13)
B	.090 ± .0015 (2.99 ± .0038)	.116 ± .002 (2.95 ± .051)
C (THREAD)	N/A	

LOW PROFILE CAPTIVE JACKSCREW



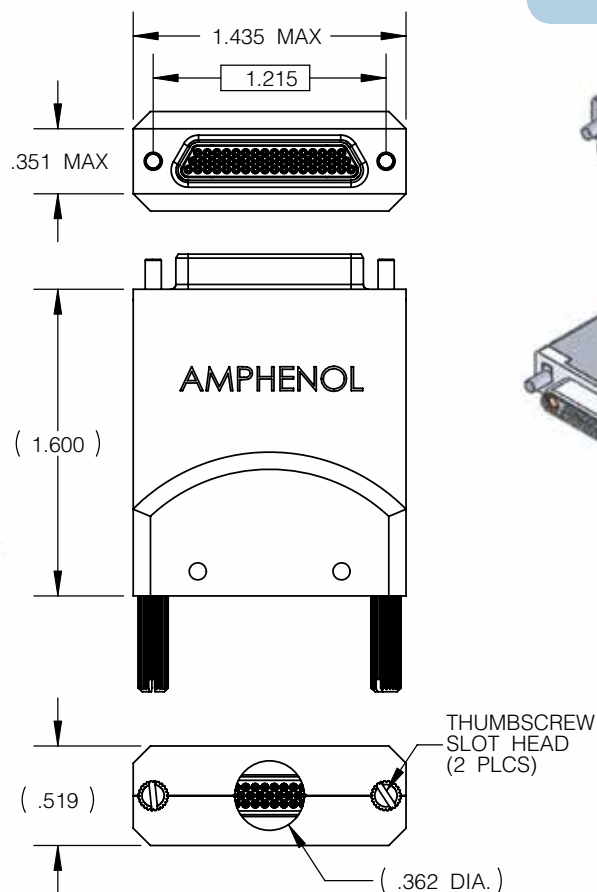
	LOW PROFILE CAPTIVE	
SHELL SIZE	9-69	100
P/N CODE	L	
A	N/A	
B	N/A	
C (THREAD)	#2-56 UNC-2A	#4-40 UNC-2A

HIGH PROFILE CAPTIVE JACKSCREW



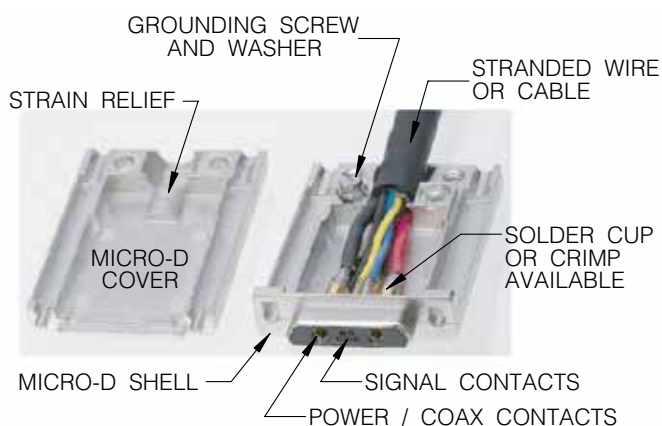
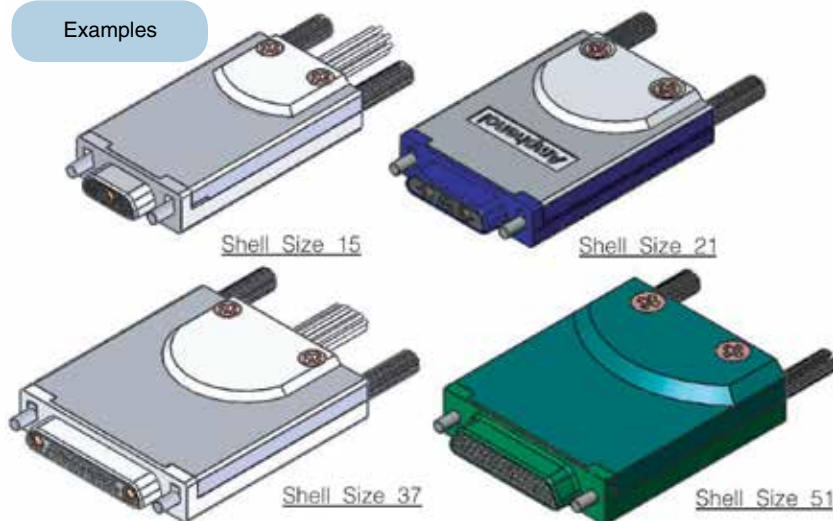
	HIGH PROFILE CAPTIVE	
SHELL SIZE	9-69	100
P/N CODE	K	
A	N/A	
B	N/A	
C (THREAD)	#2-56 UNC-2A	#4-40 UNC-2A

Inches (mm)
All dimensions for reference only



SHELL SIZE 51 SHOWN
(CONSULT AMPHENOL AEROSPACE FOR OTHER SIZES OR INSERT PATTERNS)

Examples



Features

- Easy assembly
- All-in-one Micro-D connector and EMI backshell
- Eliminate the use of retaining clip (E-clip) hardware
- Built in strain relief
- Grounding screw and washer included
- Solder cup and wire termination available
- Sizes 9 thru 100 available
- Standard MIL-DTL-83513 insert pattern or custom insert pattern available
- Signal / Power / Coaxial contacts available
- Consult Amphenol Aerospace for angled cable exit or specific cable diameter requirement

Material & Finishes

Material: Aluminum alloy
(consult Amphenol Aerospace for zinc alloy)

Finish: Electroless nickel

Hardware: Stainless steel

Performance Information

- D.W.V. 600 VAC (at sea level)
- Insulation resistance: 5000 megaohms min.
- Temperature rating: -55 deg C to +125 deg C (+85 deg C for zinc alloy)
- Designed to meet MIL-DTL-83513 performance standards

Inches (mm)
All dimensions for reference only

Series MBS - How to Order

Suitable for M83513 Connectors

Example:
MBS-09N-EA00-M5

Description: Metal backshell size 9, nickel finish,
cable exit "A" straight with "M5" hardware

MBS - XXX X - E X XX XX

MBS = EMI Backshell
(aluminum alloy material)

Connector Size (number of contacts)
09, 15, 21, 25, 31, 37, 51, 100

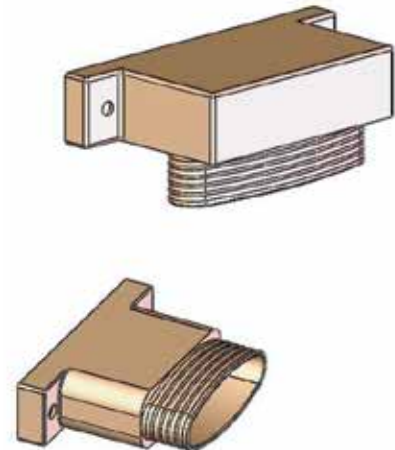
Shell Finish
C = cadmium
N = electroless nickel
G = gold
Z = customer specified plating
(e.g. olive drab camium)

Exit Shape
E = elliptical

Cable Exit Size
A, B, C, D, E, F, G, H
See page 172 for straight exit
See page 173 for right angle exit

Exit Angle
00 = straight
90 = right angle

Hardware
M5 = low profile jackscrew (slot head)
M6 = high profile jackscrew (slot head)
P = jackpost
Omit for no hardware



Features

- The Amphenol Micro-D EMI backshell series MBS is designed for use with M83513 connectors.
- It is a reliable means of providing EMI and strain relief for harnessed connectors.
- Available for sizes 9 thru 100.
- Available in straight or 90 deg exit angle (consult Amphenol Aerospace for 45 deg or alternate exit angle).
- Backshells are machined from aluminum alloy and are offered with various plating options.

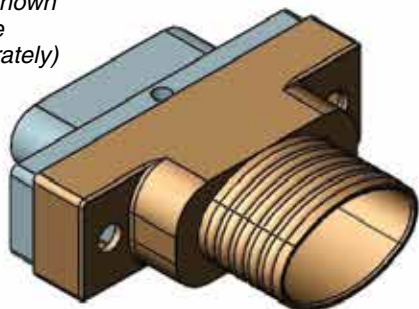
Performance Information

- Magnetic permeability (MIL-I-17214): less than 2 μ
- Shielding efficiency: to 1 GHz, 60 db to > 100 db
- Vibration (per MIL-STD-1344 Method 2004, condition C): No damage or discontinuity between shell and shield

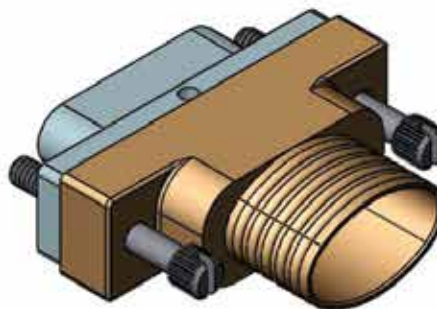
Inches (mm)
All dimensions for reference only

Suitable for M83513 Connectors

Connector shown
for reference
(order separately)

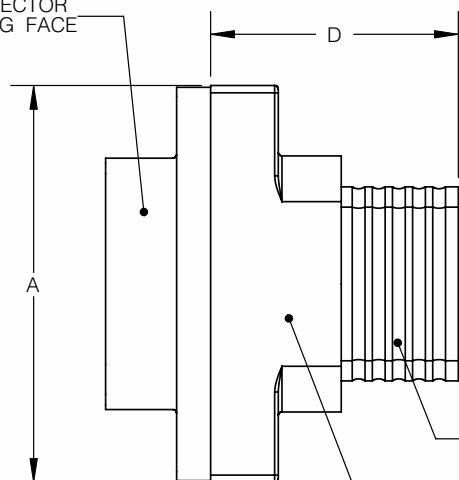


NO HARDWARE SHOWN



WITH HARDWARE SHOWN

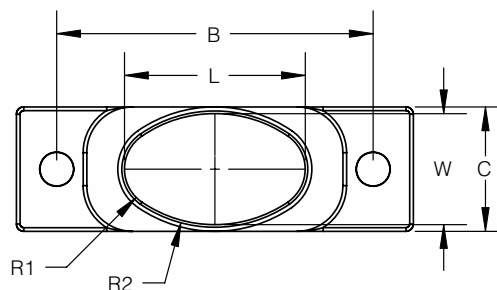
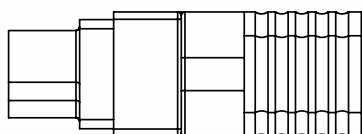
CONNECTOR
MATING FACE



SIZE	A MAX	B ±.005 (0.13)	C ±.005 (0.13)	D ±.020 (0.51)
09	.785 (19.94)	.565 (14.35)	.340 (8.64)	.762 (19.35)
15	.935 (23.75)	.715 (18.16)	.340 (8.64)	.812 (20.62)
21	1.085 (27.56)	.865 (21.97)	.340 (8.64)	.862 (21.89)
25	1.185 (30.10)	.965 (24.51)	.340 (8.64)	.912 (23.16)
31	1.335 (33.91)	1.115 (28.32)	.340 (8.64)	.952 (24.18)
37	1.485 (37.72)	1.265 (32.13)	.340 (8.64)	.992 (25.20)
51	1.435 (36.45)	1.215 (30.86)	.400 (10.16)	1.072 (27.32)
100	2.175 (55.25)	1.800 (45.72)	.450 (11.43)	1.137 (28.88)

RIBBED FOR TIE WRAP FEATURE

MBS BACKSHELL

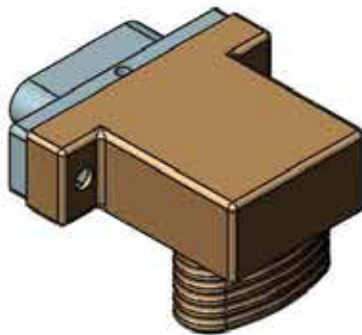


SIZE	W ±.010 (0.25)	L ±.010 (0.25)	R1 ±.010 (0.25)	R2 ±.020 (0.51)	AVAILABLE ON SIZE
A	.290 (7.37)	.344 (8.74)	.109 (2.77)	.182 (4.62)	09 THRU 100
B	.290 (7.37)	.494 (12.55)	.109 (2.77)	.353 (8.97)	15 THRU 100
C	.290 (7.37)	.644 (16.36)	.109 (2.77)	.757 (19.23)	21 THRU 100
D	.304 (7.72)	.744 (18.90)	.109 (2.77)	.940 (23.88)	25 THRU 100
E	.304 (7.72)	.894 (22.71)	.109 (2.77)	1.488 (37.80)	31 THRU 100
F	.304 (7.72)	.994 (25.25)	.109 (2.77)	1.893 (48.08)	37 THRU 100
G	.304 (7.72)	1.044 (26.52)	.109 (2.77)	2.128 (54.05)	37 AND 100
H	.384 (9.75)	1.524 (38.71)	.125 (3.18)	3.187 (80.95)	100 ONLY

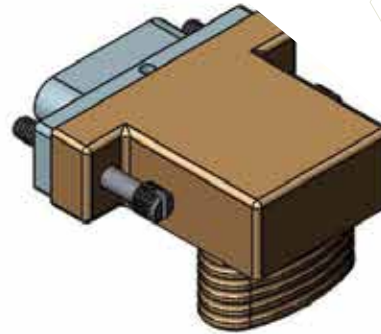
Inches (mm)
All dimensions for reference only

Suitable for M83513 Connectors

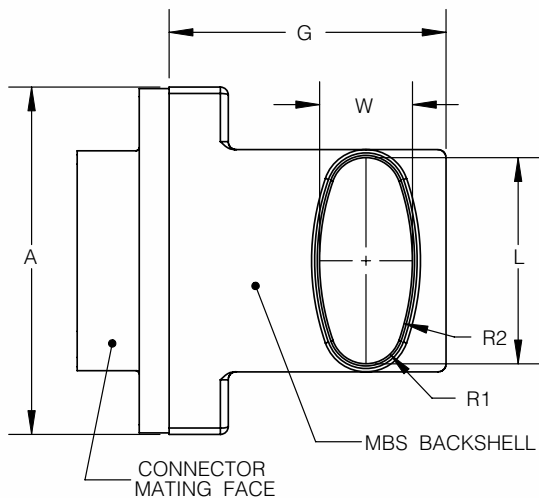
Connector shown
for reference
(order separately)



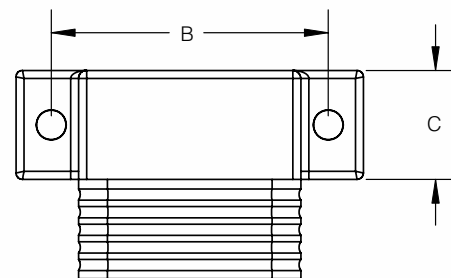
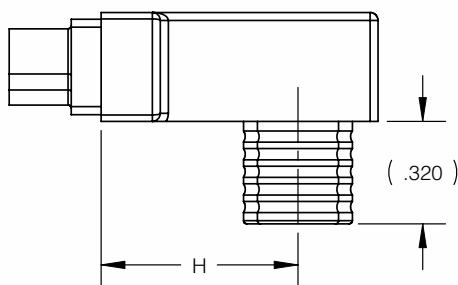
NO HARDWARE SHOWN



WITH HARDWARE SHOWN



SIZE	A MAX	B ±.005 (0.13)	C ±.005 (0.13)	G MAX	H ±.010 (0.25)
09	.785 (19.94)	.565 (14.35)	.340 (8.64)	.865 (21.97)	.615 (15.62)
15	.935 (23.75)	.715 (18.16)	.340 (8.64)	.865 (21.97)	.615 (15.62)
21	1.085 (27.56)	.865 (21.97)	.340 (8.64)	.865 (21.97)	.615 (15.62)
25	1.185 (30.10)	.965 (24.51)	.340 (8.64)	.885 (22.48)	.625 (15.88)
31	1.335 (33.91)	1.115 (28.32)	.340 (8.64)	.885 (22.48)	.625 (15.88)
37	1.485 (37.72)	1.265 (32.13)	.340 (8.64)	.885 (22.48)	.625 (15.88)
51	1.435 (36.45)	1.215 (30.86)	.400 (10.16)	.925 (23.50)	.645 (16.38)
100	2.175 (55.25)	1.800 (45.72)	.450 (11.43)	.980 (24.89)	.657 (16.69)



SIZE	W ±.010 (0.25)	L ±.010 (0.25)	R1 ±.010 (0.25)	R2 ±.020 (0.51)	AVAILABLE ON SIZE
A	.290 (7.37)	.344 (8.74)	.109 (2.77)	.182 (4.62)	09 THRU 100
B	.290 (7.37)	.494 (12.55)	.109 (2.77)	.353 (8.97)	15 THRU 100
C	.290 (7.37)	.644 (16.36)	.109 (2.77)	.757 (19.23)	21 THRU 100
D	.304 (7.72)	.744 (18.90)	.109 (2.77)	.940 (23.88)	25 THRU 100
E	.304 (7.72)	.894 (22.71)	.109 (2.77)	1.488 (37.80)	31 THRU 100
F	.304 (7.72)	.994 (25.25)	.109 (2.77)	1.893 (48.08)	37 THRU 100
G	.304 (7.72)	1.044 (26.52)	.109 (2.77)	2.128 (54.05)	37 AND 100
H	.384 (9.75)	1.524 (38.71)	.125 (3.18)	3.187 (80.95)	100 ONLY

Inches (mm)
All dimensions for reference only

Example:
100RN09P/S-B

Description: metal shell size 9 plug and receptacle, nickel finish, with standard mounting holes.

Connector Series

100 = metal shell per M83513
101 = all plastic per M83513/06 thru /09
102 = all plastic (dimensionally identical to metal shell per M83513)
104 = stainless steel per M83513

Insulator Material

R = Polyphenylene Sulfide (Ryton)

Shell Finish (omit for series 101, 102 & 104)

A = anodize
C = cadmium
G = gold
I = irridite/alodine
N = electroless nickel
T = tin

Connector Size (number of contacts)

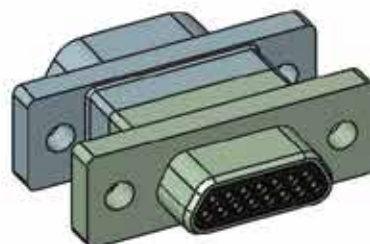
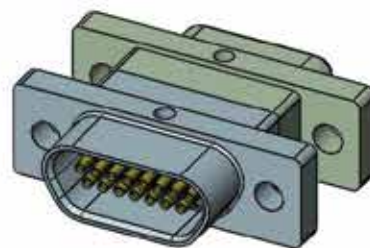
09, 15, 21, 25, 31, 37, 51, 69, 100
All sizes I.A.W. M83513 except size 69 (non-military)

Connector Type

P/S = connector saver (plug and receptacle)

Hardware (pre-installed by Amphenol Aerospace)

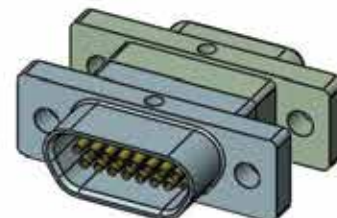
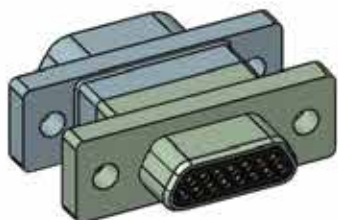
B = standard mounting holes
F = standard float mount
R = reverse float mount
P = jackpost



Features

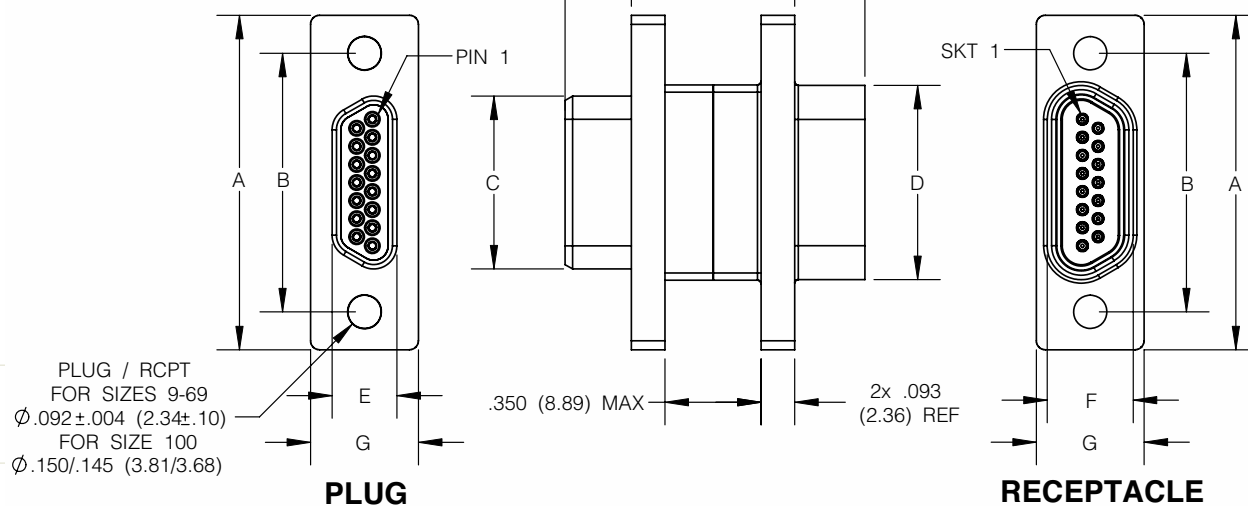
- Space reduction (2-in-1 connector)
- Opposite mating genders
- No termination required; ready for use

Inches (mm)
 All dimensions for reference only



.183±.003 (4.65±.08) FOR METAL PER M83513
.199±.005 (5.05±.13) FOR PLASTIC PER M83513

.195±.003 (4.95±.08) FOR METAL PER M83513
.180±.005 (4.57±.13) FOR PLASTIC PER M83513



PLUG / RCPT
FOR SIZES 9-69
Ø.092±.004 (2.34±.10)
FOR SIZE 100
Ø.150/.145 (3.81/3.68)

100, 102 & 104 SERIES

SIZE	A MAX	B ±.005 (0.13)	C MAX	D MAX	E MAX	F MAX	G MAX
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)	.185 (4.70)	.253 (6.43)	.308 (7.82)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)	.185 (4.70)	.253 (6.43)	.308 (7.82)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)	.185 (4.70)	.253 (6.43)	.308 (7.82)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)	.185 (4.70)	.253 (6.43)	.308 (7.82)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)	.185 (4.70)	.253 (6.43)	.308 (7.82)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)	.185 (4.70)	.253 (6.43)	.308 (7.82)
51	1.435 (36.45)	1.215 (30.86)	.984 (24.99)	1.052 (26.72)	.228 (5.79)	.296 (7.52)	.351 (8.92)
69	1.735 (44.07)	1.515 (38.48)	1.289 (32.74)	1.357 (34.47)	.228 (5.79)	.296 (7.52)	.351 (8.92)
100	2.160 (54.86)	1.800 (45.72)	1.384 (35.13)	1.508 (38.10)	.271 (6.88)	.394 (10.01)	.394 (10.01)

101 SERIES ONLY (Sizes 69 & 100 are not applicable)

SIZE	A MAX	B ±.005 (0.13)	C MAX	D MAX	E MAX	F MAX	G MAX
09	.788 (20.02)	.565 (14.35)	.292 (7.42)	.380 (9.65)	.134 (3.40)	.218 (5.54)	.218 (5.54)
15	.938 (23.82)	.715 (18.16)	.442 (11.23)	.530 (13.46)	.134 (3.40)	.218 (5.54)	.218 (5.54)
21	1.088 (27.64)	.865 (21.97)	.592 (15.04)	.680 (17.27)	.134 (3.40)	.218 (5.54)	.218 (5.54)
25	1.188 (30.18)	.965 (24.51)	.692 (17.58)	.780 (19.81)	.134 (3.40)	.218 (5.54)	.218 (5.54)
31	1.338 (33.98)	1.115 (28.32)	.842 (21.39)	.930 (23.62)	.134 (3.40)	.218 (5.54)	.218 (5.54)
37	1.488 (37.80)	1.265 (32.13)	.992 (25.20)	1.080 (27.43)	.134 (3.40)	.218 (5.54)	.218 (5.54)
51	1.438 (36.52)	1.215 (30.86)	.942 (23.93)	1.030 (26.16)	.177 (4.49)	.260 (6.60)	.260 (6.60)

Inches (mm)
All dimensions for reference only

Example: 105R21P-4A5A1 **Description:** Ryton material strip connector, size 21 plug, wire termination, 26 AWG, 7-strd per NEMA-HP3, color coded per MIL-STD-681 (sys 1), 18" long with one guide pin on one end of the connector.

105 R XXX X - X X X - X X XXX

Connector Series
105 = Strip Connector

Insulator Material
R = Polyphenylene Sulfide (Ryton)

Number of Contacts
1 to 30 (no guide pins)
1 to 29 (guide pin on one end)
1 to 28 (guide pin on both ends)

Connector Type
P = plug (pin)
S = Receptacle (socket)

Wire Size (Awg.)
1 = 32
2 = 30
3 = 28
4 = 26 (stranded)
5 = 25 (solid uninsulated)
6 = 24
Omit for solder cup contacts

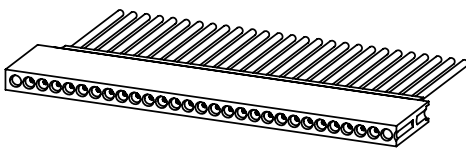
Wire Type
Naval Applications:
A = 7 strd, per NEMA-HP3 (MIL-W-16878/4)
B = 7 strd, per NEMA-HP3 (MIL-W-16878/6)
C = 19 strd, per NEMA-HP3 (MIL-W-16878/4)
D = 19 strd, per NEMA-HP3 (MIL-W-16878/6)
Military/Aerospace Applications:
E = per MIL-W-22759/11 (M83513 standard)
F = per MIL-W-22759/33 (space grade)
L = solid wire uninsulated
Omit for solder cup contacts

Non Std. Length (Inches)
Stranded Wire (no decimal values)
e.g. 1 = 1 inches, 100 = 100 inches
Solid Wire (0.109 < length < 1.00)
e.g. 110 = .110 inches, 999 = .999 inches

Guide pin
Guide pin for receptacle; guide pin hole for plug
1 = one end
2 = both end
Omit for no guide pins

Wire Length (inches +1.00/-0.00)
A = 18.00
B = 36.00
C = 72.00
D = 0.500 (solid wire only +0.20/-0.00)
E = 1.00 (solid wire only +0.20/-0.00)
F = non std. length (add to end of part no.)
Omit for solder cup contacts

Wire Color / Finish
1 = all white (M83513 standard) *off shelf
2 = all yellow
3 = solid wire uninsulated, tin plated
4 = solid wire uninsulated, gold plated
5 = color coded per mil-std-681, system 1
6 = 1st 10 colors blk. thru wht. repeated (M83513 standard) *off shelf
Omit for solder cup contacts



Features

- One piece insulator: Polyphenylene sulfide (Ryton)
- Contacts (1-30 positions): Copper alloy, gold plate
- Guide pin (optional, one or both ends): 300 series stainless steel
- Wide selection of wire sizes, types, and color finish.
- Coupling feature: Friction
- Contact spacing: .050" (1.27) center

Inches (mm)
All dimensions for reference only

Series 105 - Plastic

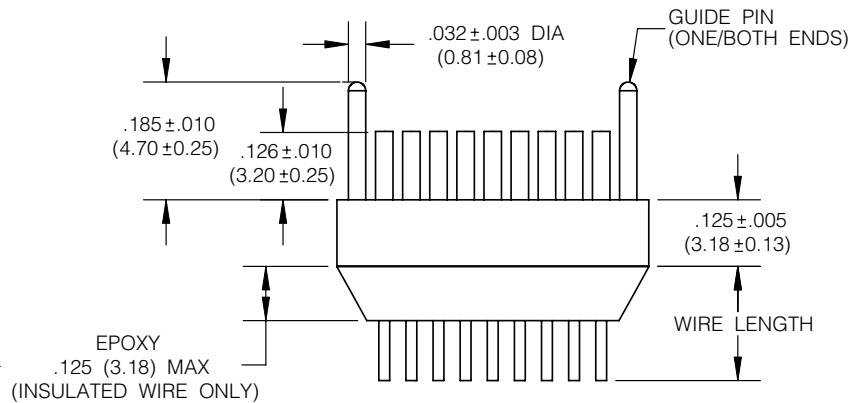
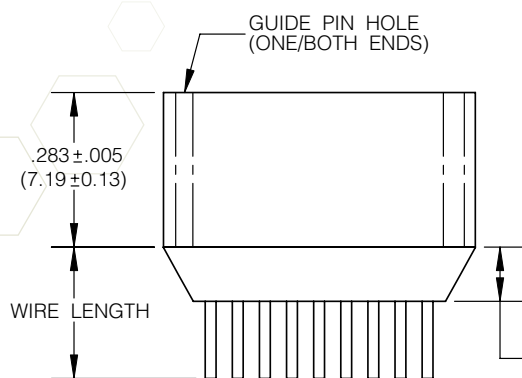
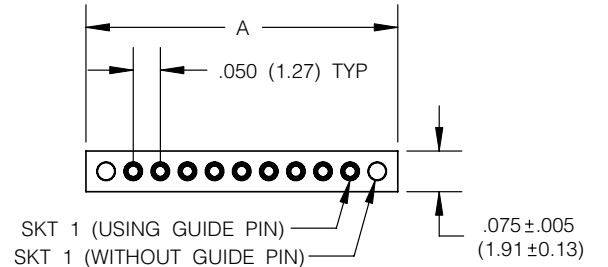
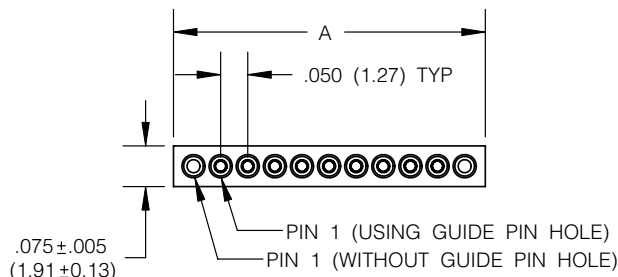
.050" contact spacing



PLUG



RECEPTACLE

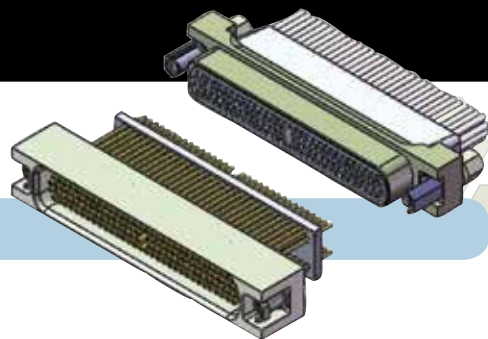


SIZE	A ±.005 (0.13)
01	.075 (1.91)
02	.125 (3.18)
03	.175 (4.45)
04	.225 (5.72)
05	.275 (6.99)
06	.325 (8.25)
07	.375 (9.52)
08	.425 (10.80)
09	.475 (12.07)
10	.525 (13.34)
11	.575 (14.61)
12	.625 (15.88)
13	.675 (17.15)
14	.725 (18.42)
15	.775 (19.69)

SIZE	A ±.005 (0.13)
16	.825 (20.96)
17	.875 (22.23)
18	.925 (23.50)
19	.975 (24.77)
20	1.025 (26.04)
21	1.075 (27.31)
22	1.125 (28.58)
23	1.175 (29.85)
24	1.225 (31.12)
25	1.275 (32.39)
26	1.325 (33.66)
27	1.375 (34.93)
28	1.425 (36.20)
29	1.475 (37.47)
30	1.525 (38.74)

Inches (mm)
All dimensions for reference only

.050" contact spacing



Example:
106RN120P-BS

Description: metal shell size 120 plug, nickel finish,
vertical PCB mount, with polarizing hardware.

106 R X XXX X - X X X - XX

Connector Series

106 = Hi-density card connector

Insulator Material

R = Polyphenylene Sulfide (Ryton)

Shell Finish

A = anodize
C = cadmium
G = gold
I = irridite/alodine
N = electroless nickel
T = tin

Connector Size

50, 54, 58, 62, 66, 70, 74, 104, 112, 120, 128, 136, 144, 152

Connector Type

P = Plug (pin)
S = Receptacle (socket)

Wire Length (inches +1.00/-0.00)

e.g. 1 = 1 inches, 100 = 100 inches
Omit for PCB termination

Wire Color / Finish

1 = all white (M83513 standard) *off shelf
2 = all yellow
6 = 1st 10 colors blk. thru wht. repeated
(M83513 standard) *off shelf
Omit for PCB termination

Wire Type

General Applications:

A = 7 strd, per NEMA-HP3 (formerly MIL-W-16878/4)
B = 7 strd, per NEMA-HP3 (formerly MIL-W-16878/6)
C = 19 strd, per NEMA-HP3 (formerly MIL-W-16878/4)
D = 19 strd, per NEMA-HP3 (formerly MIL-W-16878/6)

Termination Type

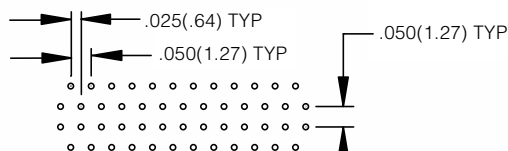
Wire Harness (Wire Size AWG):

2 = 30
3 = 28
4 = 26 (M83513 standard) *off shelf
6 = 24

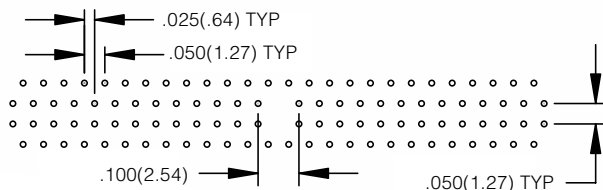
Vertical PCB Mount:

BS = Straight PCB Termination

CONTACT ARRANGEMENTS



SIZES 50-74



SIZES 104-152

SIZE	A ±.005 (0.13)	B ±.005 (0.13)	C MAX	
			PLUG	RCPT
50	1.150 (29.21)	.990 (24.15)	.741 (18.82)	.747 (18.97)
54	1.200 (30.48)	1.040 (26.62)	.791 (20.09)	.797 (20.24)
58	1.250 (31.75)	1.090 (27.69)	.841 (21.36)	.847 (21.51)
62	1.300 (33.02)	1.140 (28.96)	.891 (22.63)	.897 (22.78)
66	1.350 (34.29)	1.190 (30.23)	.941 (23.90)	.947 (24.05)
70	1.400 (35.56)	1.240 (31.50)	.991 (25.17)	.997 (25.32)
74	1.450 (36.83)	1.290 (32.77)	1.041 (26.44)	1.047 (26.59)
104	1.850 (46.99)	1.690 (42.93)	1.441 (36.60)	1.447 (36.75)
112	1.950 (49.53)	1.790 (45.47)	1.541 (39.14)	1.547 (39.29)
120	2.050 (52.07)	1.890 (48.01)	1.641 (41.68)	1.647 (41.83)
128	2.150 (54.61)	1.990 (50.55)	1.741 (44.22)	1.747 (44.37)
136	2.250 (57.15)	2.090 (53.09)	1.841 (46.76)	1.847 (46.91)
144	2.350 (59.69)	2.190 (55.63)	1.941 (49.30)	1.947 (49.45)
152	2.450 (62.23)	2.290 (58.17)	2.041 (51.84)	2.047 (51.99)

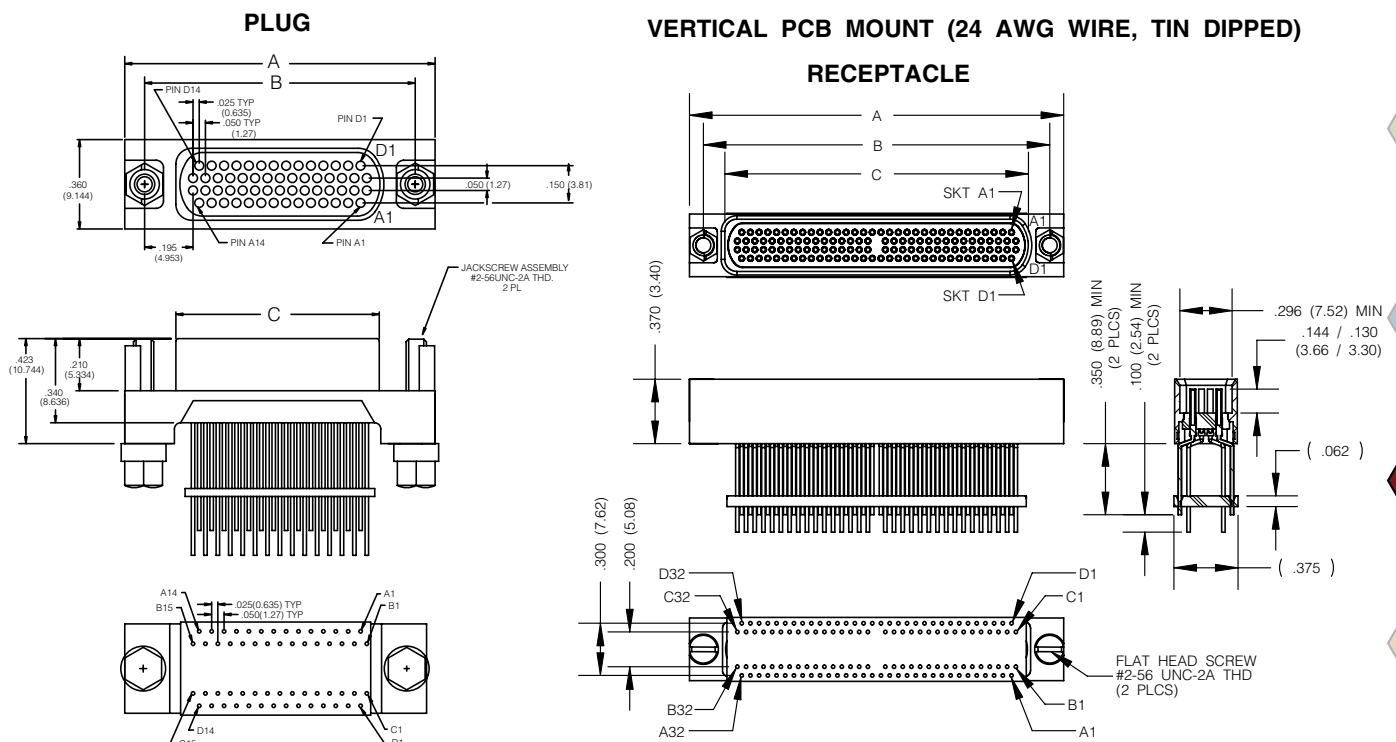
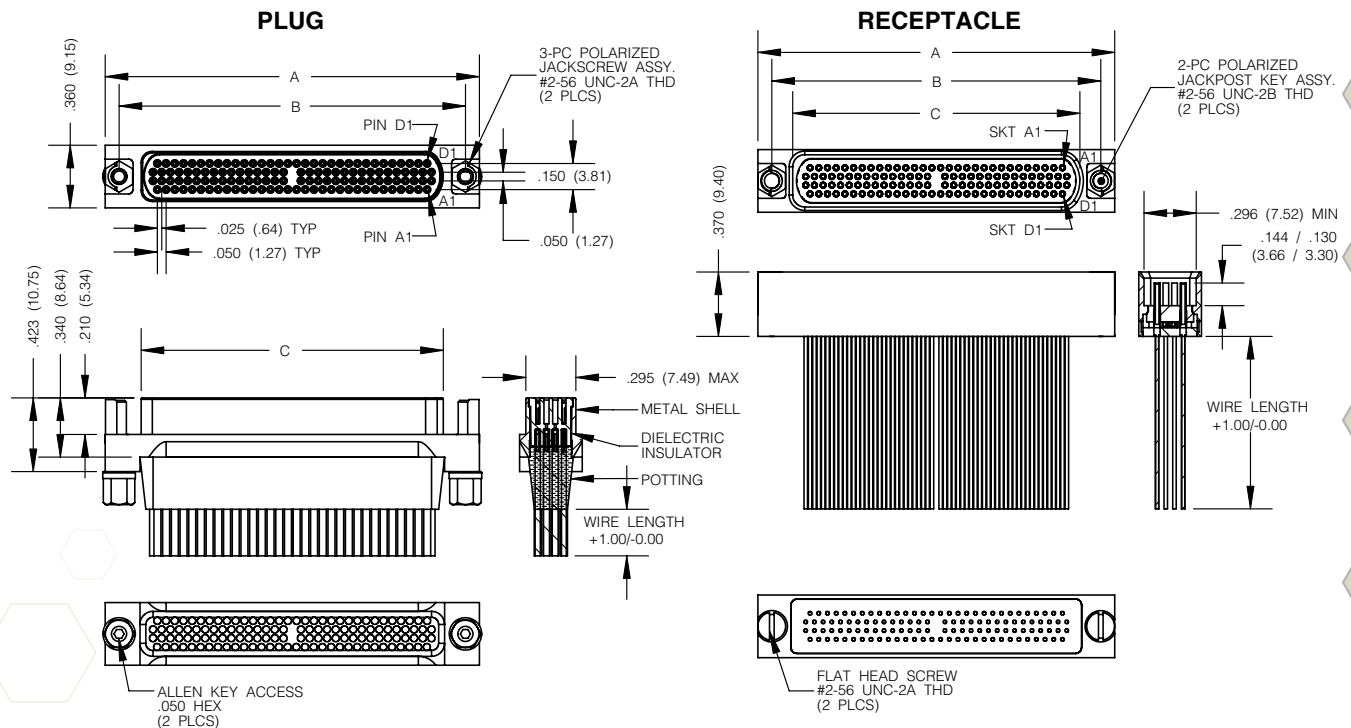
Features

Designed for a space conscious industry. Provides an extremely dense and reliable interconnection for card-to-card and card-to-cable applications. Connector performance per M83513 specifications. Available in vertical mount for thru-hole applications and wire harness termination styles for both plug and receptacle. Wide selection of wire sizes (24 thru 30). Shell employs a polarizing "D" shape for correct mating.

Inches (mm)
All dimensions for reference only

Series 106

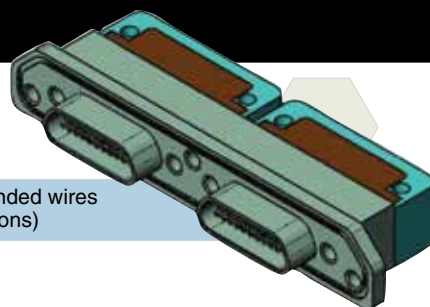
Wire harness (stranded wire termination)



CONSULT AMPHENOL AEROSPACE FOR SPECIFIC PCB CONFIGURATIONS

Inches (mm)
All dimensions for reference only

.050" contact spacing



Example:
M13-21S6APC11-000

Description: metal shell size 21 receptacle, nickel finish, 18" stranded wires per M22759/11, jackposts only, C-filter value 1000 pF (no deviations)

M13 21 P 1 2 P T C 1 1 - 000

Connector Series

M13 = Filtered Micro-D

Connector Size (number of contacts)

09, 15, 21, 25, 31 and 37

Connector Type

P = Plug (pin)

S = Receptacle (socket)

Termination Type

1 = vertical PCB "BS"

2 = vertical PCB "C6"

4 = right angle PCB "CBR"

5 = solid wire straight

6 = stranded wire

Wire / Lead Length (inches)

1 = .109 +/- .015

2 = .140 +/- .015

3 = .172 +/- .015

4 = .250 +/- .015

For Termination Type 6 (inches +1.00/-0.00):

A = 18.00 per M22759/11-26 (mil-std-681, system 1)

B = 36.00 per M22759/11-26 (mil-std-681, system 1)

C = 72.00 per M22759/11-26 (mil-std-681, system 1)

Deviation

XXX (000 is standard part)

Plating

1 = Electroless Nickel

2 = Tin

3 = Cadmium (Clear Chromate)

4 = Gold

5 = Zn Ni

Filter Value (pF +100%/-0%)

A = 200

B = 400

C = 800

1 = 1000

2 = 2000

4 = 4000

8 = 8000

T = 10,000

H = 16,000

0 = MIXED CAP

Filter Type

P = Pi-Filter

C = C-Filter

0 = non-filtered equivalent part

Insert Option

T = Threaded Insert (PCB terminations only)

Omit if not used

Mounting Hardware

A = .093" diameter mounting hole

B = .125" diameter mounting hole

L = Jackpost (loose)

P = Jackpost (fixed)

Material & Finishes

Connector Shell:

Aluminum Alloy

Insulator:

Polyphenyl Sulfide (PPS)

Seals:

Silicone Rubber or Equivalent

Pin Contact:

Beryllium Copper with 50 micro inches gold over nickel plating

Socket Contact:

Copper alloy with 50 micro inches gold over nickel plating

Hardware:

300 series stainless steel

PCB Terminals:

Gold plated copper alloy, solder dipped

Capacitors:

Planar ceramic array

Inductors:

Ferrite

EMI Ground Spring:

Beryllium Copper

Encapsulant:

Thermally conductive epoxy

Quality Conformance Inspection

Series M13 connectors have been extensively qualified per the requirements of MIL-DTL-83513. All products shipped have the following inspection tests:

- 100% visual and mechanical inspections
 - 100% capacitance, DWV, insulation resistance and dissipation factor testing
 - Sample insertion loss testing (AQL 1.0%)
- For high reliability applications, the following inspection tests or certifications are also available:
- Thermal shock • Elevated temperature voltage conditioning
 - Elevated temperature insulation resistance and capacitance
 - Outgassing per JSC-SPR-0022 for space-borne applications
 - Baseline and single lot date code manufacturing
 - Other tests as required (consult the Amphenol Aerospace)

Features

Amphenol M13 connector series is a range of filtered MIL-DTL-83513 Micro-D products for military and aerospace applications. These extremely small filter connectors employ monolithic planar capacitors in a rugged, high density package ideally suited for applications where space and weight is restricted. Available in a variety of filter types and mechanical configurations including wired harnesses and PCB terminations. The M13 series are fully intermateable with all standard MIL-DTL-83513 connectors and meet the applicable performance and environmental requirements.

Inches (mm)
All dimensions for reference only

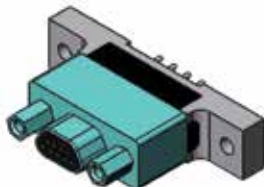
.050" contact spacing

C-Filter Specifications

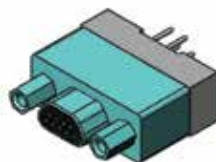
Filter Circuits		C, CLR, LRC					
Capacitance (pF) (@ 25 C, 1 kHz and 1.0 VRMS)		150-300	300-500	600-1200	1200 -3200	4000-8000	8000-16000
Insertion Loss (dB min.)	.1 MHz	-	-	-	-	-	-
(per MIL-STD-220)	1 MHz	-	-	-	-	-	-
(@ 25C and no load)	10 MHz	-	-	2	5	13	18
	100 MHz	6	12	17	24	33	40
	1000 MHz	25	31	38	43	54	60
Working Voltage (VDC) (@ 25 C and sea level)		100					
Dielectric Withstanding Voltage (VDC) (@25 C and 50 mA max. charging current)		300					
Insulation Resistance (Gohms)							
(@25 C and working voltage)		5					
Contact Current Rating (continuous max. DC amperes)		3					
Filter RF Current Rating (amperes) (max. @ any frequency)		0.3					

Pi-Filter Specifications

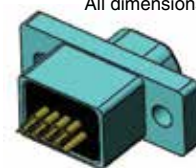
Filter Circuits		Pi					
Capacitance (pF) (@ 25 C, 1 kHz and 1.0 VRMS)		150-300	300-500	600-1200	1200-3200	4000-8000	8000-16000
Insertion Loss (dB min.)	.1 MHz	-	-	-	-	-	-
(per MIL-STD-220)	1 MHz	-	-	-	-	-	3
(@ 25 C and no load)	10 MHz	-	-	2	5	13	18
	100 MHz	7	12	18	26	45	57
	1000 MHz	30	42	53	60	60	60
Working Voltage (VDC) (@25 C and sea level)		100					
Dielectric Withstanding Voltage (VDC) (@25 C and 50 mA max. charging current)		300					
Insulation Resistance (Gohms)							
(@25 C and working voltage)		5					
Contact Current Rating (Continuous max. DC amperes)		3					
Filter RF Current Rating (amperes) (max. @ any frequency)		0.3					



Termination Type 1 Vertical PCB "BS"



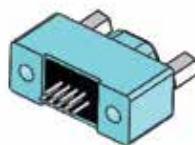
Termination Type 2 Vertical PCB "C6"



Termination Type 3 Solder Cup



Termination Type 4 Right Angle PCB "CBR"



Termination Type 5 Solid Wire Straight

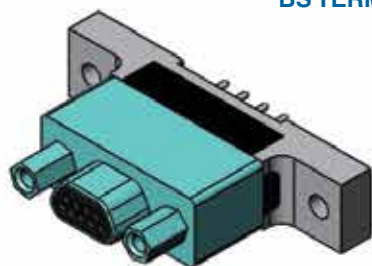


Termination Type 6 Stranded Wire

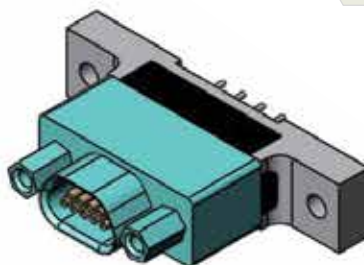
Inches (mm)
All dimensions for reference only

.050" contact spacing

BS TERMINATION TYPE 1 VERTICAL PCB

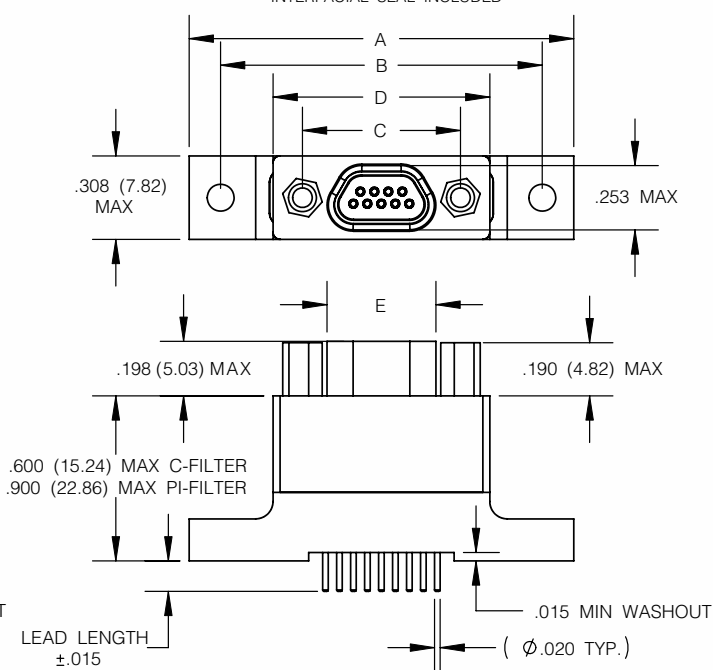
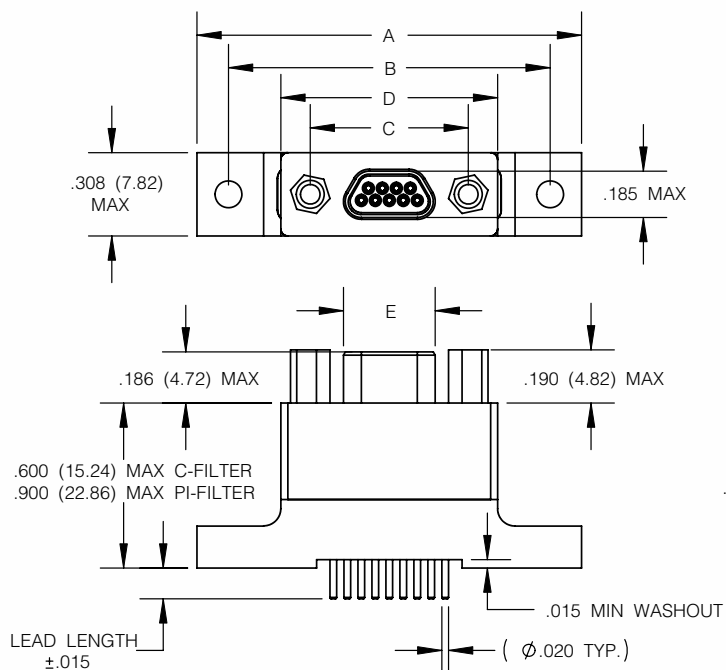


PLUG



RECEPTACLE

* INTERFACIAL SEAL INCLUDED



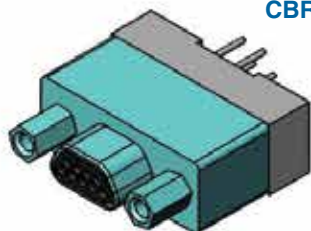
SIZE	A MAX.	B ±.005 (0.13)	C ±.005 (0.13)	D MAX.	C MAX.	
					PLUG	RCPT
09	1.390 (35.31)	1.150 (29.21)	.565 (14.35)	.785 (19.84)	.334 (8.48)	.402 (10.21)
15	1.390 (35.31)	1.150 (29.21)	.715 (18.16)	.935 (23.75)	.484 (12.29)	.552 (13.97)
21	1.690 (43.93)	1.450 (36.83)	.865 (21.97)	1.085 (27.56)	.634 (16.10)	.702 (17.83)
25	1.740 (44.20)	1.500 (38.10)	.965 (24.51)	1.185 (30.10)	.734 (18.64)	.802 (20.37)
31	2.040 (51.82)	1.800 (45.72)	1.115 (28.32)	1.335 (33.91)	.884 (22.45)	.952 (24.18)
37	2.340 (59.44)	2.100 (53.34)	1.265 (32.13)	1.485 (37.72)	1.034 (26.26)	1.102 (27.99)

Refer to page 180 for Vertical Mount PC Configurations (Rear View)

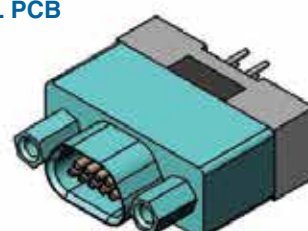
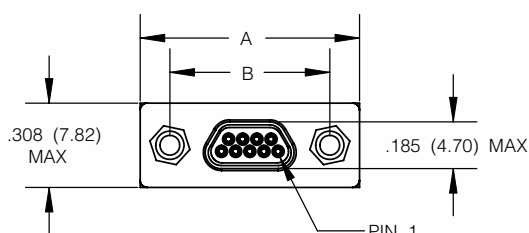
Inches (mm)
All dimensions for reference only

.050" contact spacing

CBR TERMINATION TYPE 2 VERTICAL PCB

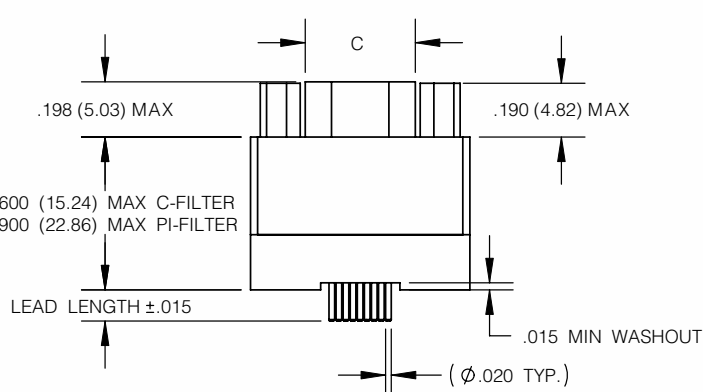
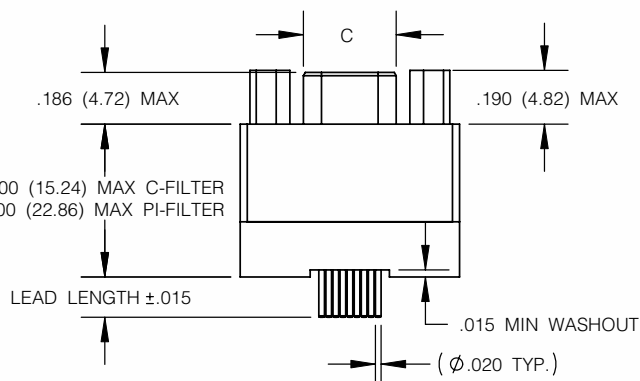
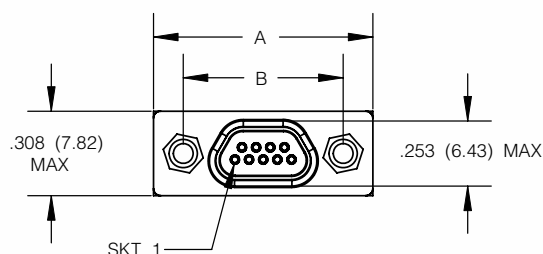


PLUG



RECEPTACLE

* INTERFACIAL SEAL INCLUDED



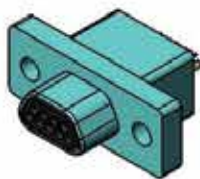
SIZE	A MAX.	B $\pm .005$ (0.13)	C MAX.	
			PLUG	RCPT
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)

Refer to page 188 for vertical mount PC Configurations (Rear View)

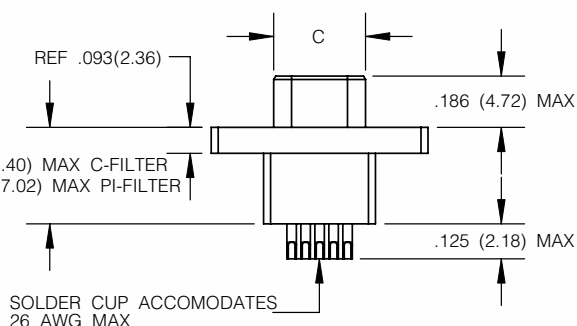
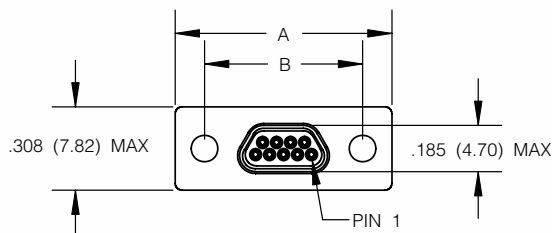
Inches (mm)
All dimensions for reference only

.050" contact spacing

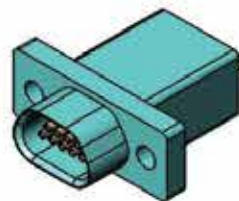
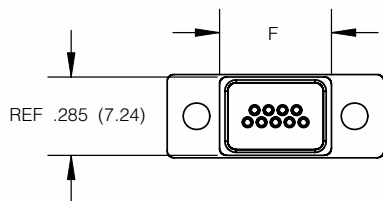
SOLDER CUP TERMINATION TYPE 3



PLUG

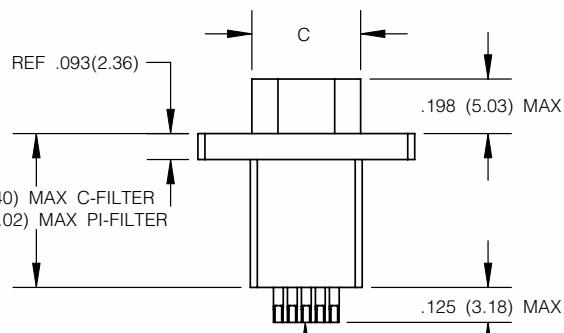
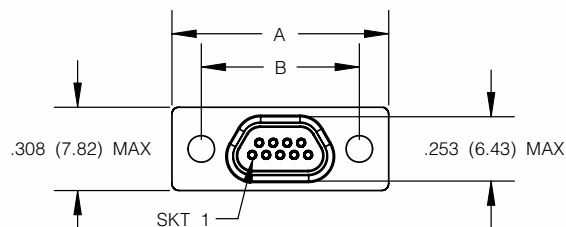


SOLDER CUP ACCOMODATES 26 AWG MAX

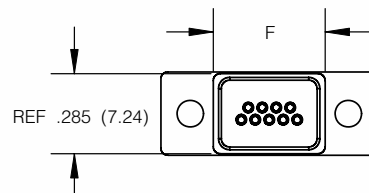


RECEPTACLE

* INTERFACIAL SEAL INCLUDED



SOLDER CUP ACCOMODATES 26 AWG MAX

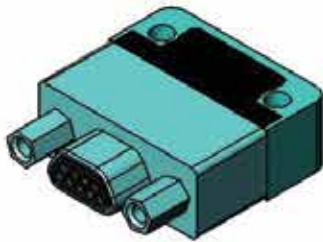


SIZE	A MAX	B ±.005 (0.13)	C MAX		F MAX
			PLUG	RCPT	
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)	.400 (10.16)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)	.550 (13.97)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)	.700 (17.78)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)	.800 (20.32)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)	.950 (24.13)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)	1.100 (27.94)

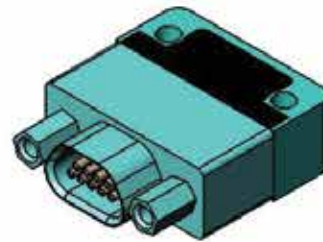
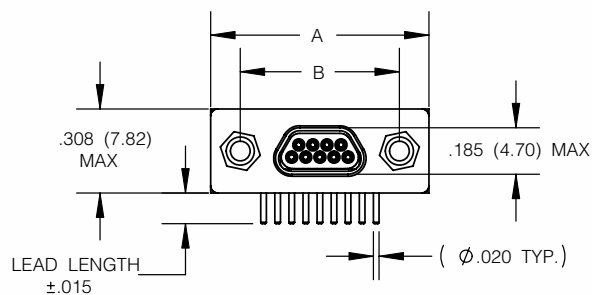
Inches (mm)
All dimensions for reference only

.050" contact spacing

CBR TERMINATION TYPE 4 RIGHT ANGLE PCB

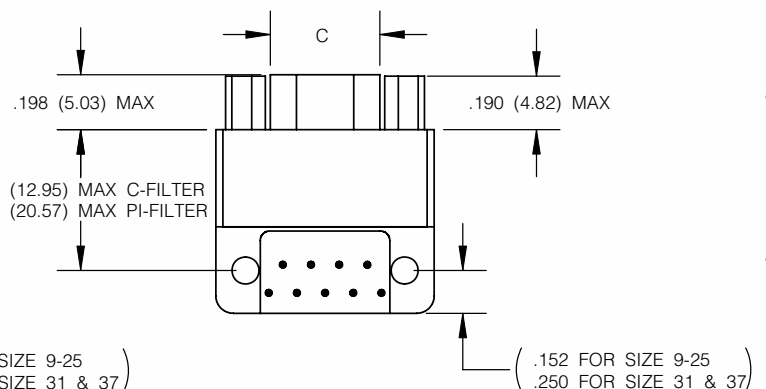
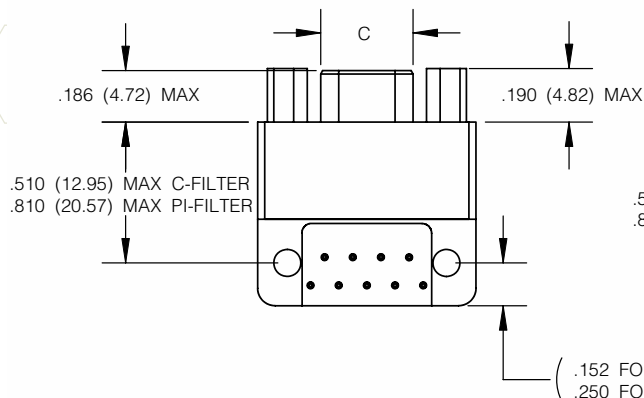
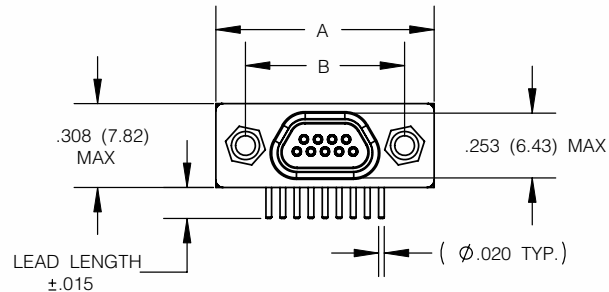


PLUG



RECEPTACLE

* INTERFACIAL SEAL INCLUDED



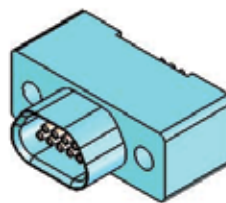
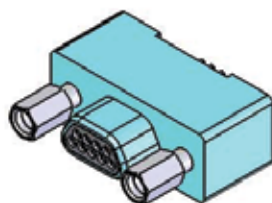
SIZE	A MAX	B $\pm.005$ (0.13)	C MAX	
			PLUG	RCPT
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)

Refer to page 185 for Right Angle (90 Deg) Narrow Profile PC Configurations

Inches (mm)
All dimensions for reference only

.050" contact spacing

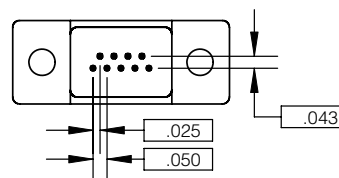
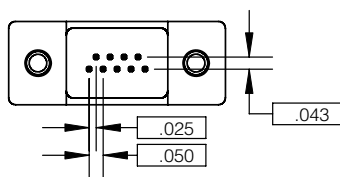
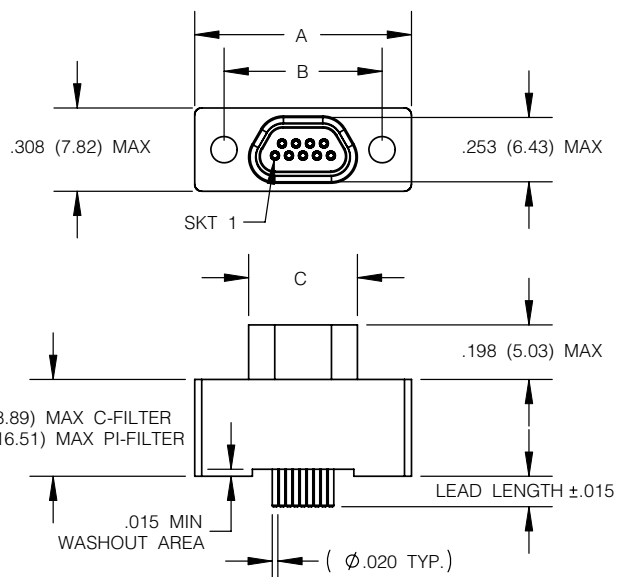
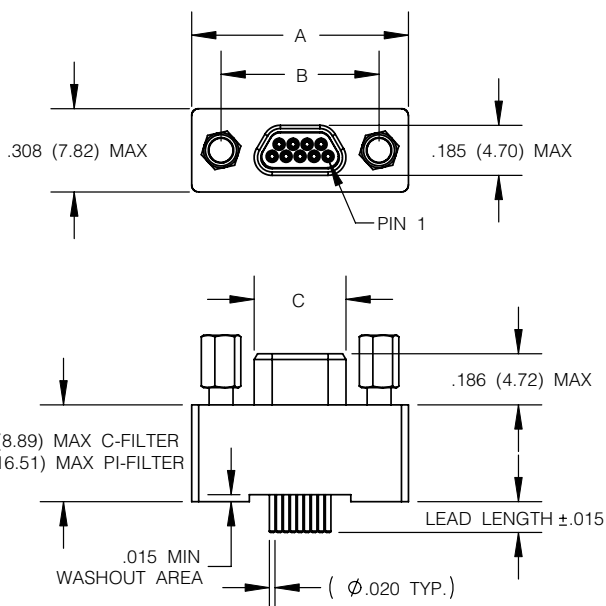
SOLID WIRE TERMINATION TYPE 5 STRAIGHT



PLUG

RECEPTACLE

* INTERFACIAL SEAL INCLUDED



SIZE	A MAX	B $\pm .005$ (0.13)	C MAX	
			PLUG	RCPT
09	.785 (19.94)	.565 (14.35)	.334 (8.48)	.402 (10.21)
15	.935 (23.75)	.715 (18.16)	.484 (12.29)	.552 (13.97)
21	1.085 (27.56)	.865 (21.97)	.634 (16.10)	.702 (17.83)
25	1.185 (30.10)	.965 (24.51)	.734 (18.64)	.802 (20.37)
31	1.335 (33.91)	1.115 (28.32)	.884 (22.45)	.952 (24.18)
37	1.485 (37.72)	1.265 (32.13)	1.034 (26.26)	1.102 (27.99)

Inches (mm)
All dimensions for reference only

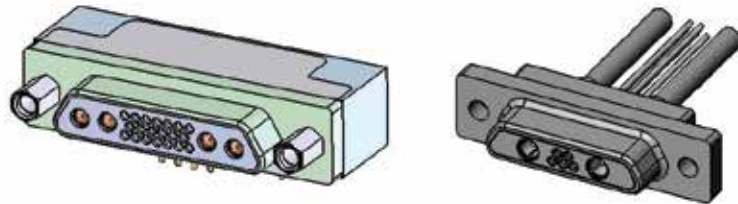
Panel mount w/o-ring seal, Surface mount/straddle mount high temperature

Need A Special Connector?

Amphenol has designed a range of specialty connectors to meet your specific requirements. Our connectors are designed to be compact, robust, and multi-functional. Please contact Amphenol Aerospace for more information.

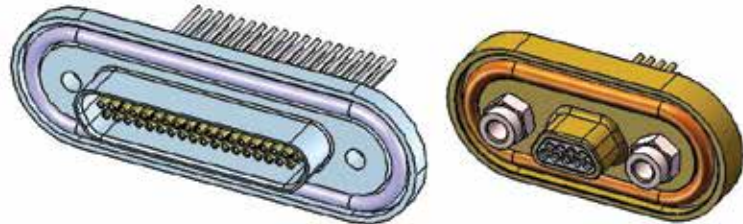
Combo/Hybrid Micro-D

- Suitable for compact designs
- Coax / Power / Signal contacts
- Metal or plastic shell
- Available sizes 9 thru 100
- Available in various shell finishes
- Wire or PCB termination
- Standard to custom hardware available



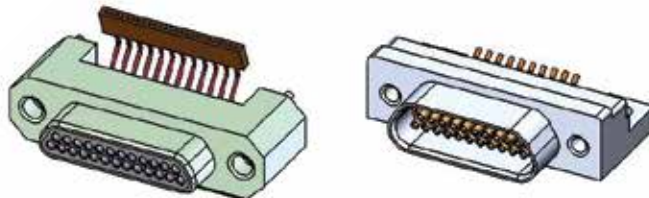
Panel Mount W/O-Ring Seal

- Suitable for external panel applications
- Meets IP-67 sealing requirement
- Metal or plastic shell
- Available sizes 9 thru 100
- Available in various shell finishes
- Wire or PCB termination
- Standard to custom hardware available
- Blind mounting holes



Surface Mount/Straddle Mount

- Suitable for limited board space
- Vertical or horizontal mount
- .050" pad spacing
- Metal or plastic shell
- Available sizes 9 thru 27
- Standard to custom hardware available



High Temperature Micro-D (200°C)

- Suitable for oil and gas applications
- Metal or plastic shell
- Special high temp dielectric insulator
- High temp solder
- Available sizes 9 thru 100
- Available in various shell finishes
- Wire gauge range 32 AWG to 24 AWG
- Multiple wire lengths (+1.00 / -0.00)
- Standard to custom hardware available



Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M
Accessories

HD38999

Micro-D

Terrapin

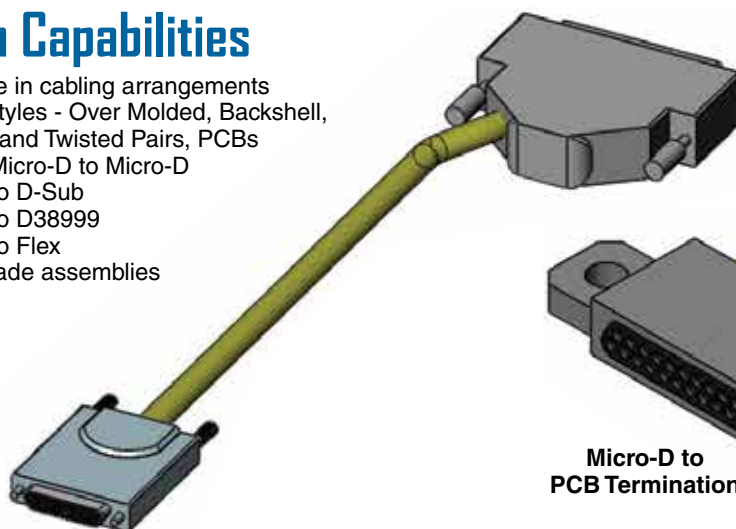
Nexus

Amphenol designs and manufactures the Right Solution for your needs!

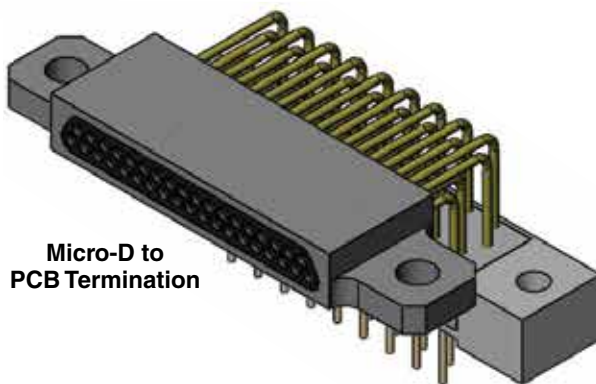
Premium service, fast response time...
imagine the possibilities!

Design Capabilities

- Specialize in cabling arrangements
- Cabling styles - Over Molded, Backshell, Shielded and Twisted Pairs, PCBs
- Multiple Micro-D to Micro-D
- Micro-D to D-Sub
- Micro-D to D38999
- Micro-D to Flex
- Space grade assemblies



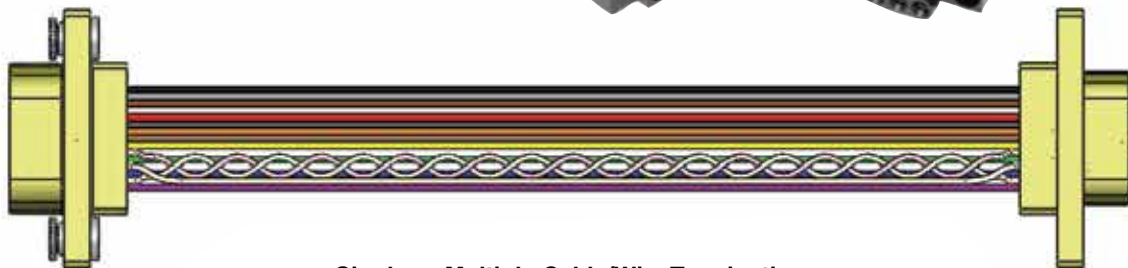
**Single or Multiple
Cable/Wire Terminations
(Micro-D to D-SUB,
Shielded Teflon Cable)**



**Micro-D to
PCB Termination**



**Micro-D to header
or other products
termination**



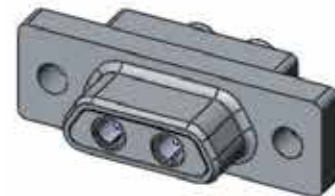
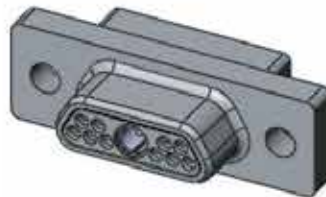
**Single or Multiple Cable/Wire Terminations
(Micro-D to Micro-D, Twisted Pairs Available)**

Design Capabilities

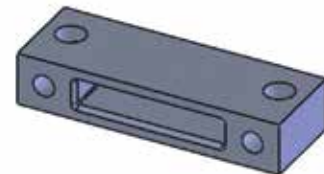
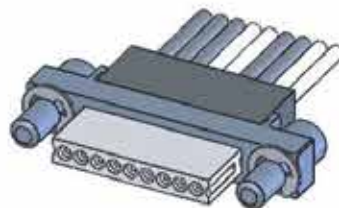
- Contact arrangements up to 372 positions
- Contact styles - Fiber Optic, Power, Signal, RF
- Mounting styles - SMT, Through Hole, Press Fit, Solder Cup, Blind Mate
- Custom contact lengths for multiple PCB thickness
- Custom connector shell designs available
- Standard to custom hardware available



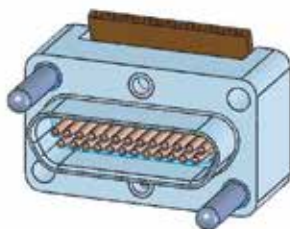
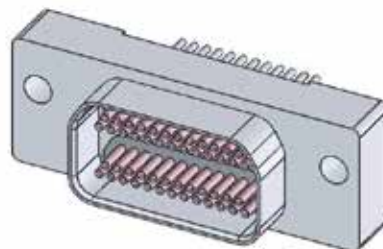
**Custom Insert Pattern
(Signal & Power or
coax Contacts)**



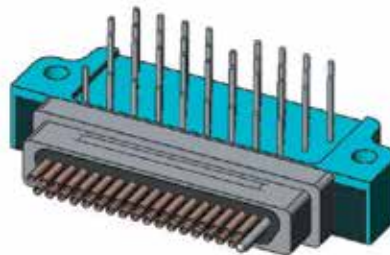
**Custom Strip Line Connector
with Mounting Features**



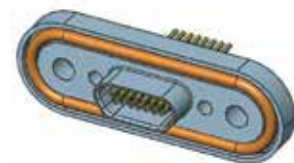
**Double or Multiple Bay
(Vertical/Horizontal
Orientation)**



**Custom Surface Mount
with Guide Pins and Threaded
Mounting Features**



**Custom Shell, PCB Connector
(CBR Termination Shown)**



IP-67 O-Ring Panel Mount

AWG	DIAMETER	
	(INCH)	(MM)
0000 (4/0)	0.46	11.684
000 (3/0)	0.4096	10.404
00 (2/0)	0.3648	9.266
0 (1/0)	0.3249	8.252
1	0.2893	7.348
2	0.2576	6.544
3	0.2294	5.827
4	0.2043	5.189
5	0.1819	4.621
6	0.162	4.115
7	0.1443	3.665
8	0.1285	3.264
9	0.1144	2.906
10	0.1019	2.588
11	0.0907	2.305
12	0.0808	2.053
13	0.072	1.828
14	0.0641	1.628
15	0.0571	1.45
16	0.0508	1.291
17	0.0453	1.15
18	0.0403	1.024
19	0.0359	0.912
20	0.032	0.812
21	0.0285	0.723
22	0.0253	0.644
23	0.0226	0.573
24	0.0201	0.511
25	0.0179	0.455
26	0.0159	0.405
27	0.0142	0.361
28	0.0126	0.321
29	0.0113	0.286
30	0.01	0.255
31	0.00893	0.227
32	0.00795	0.202
33	0.00708	0.18
34	0.0063	0.16
35	0.00561	0.143
36	0.005	0.127
37	0.00445	0.113
38	0.00397	0.101
39	0.00353	0.0897
40	0.00314	0.0799

PIN	BASE COLOR	1st STRIPE	2nd STRIPE	3rd STRIPE
1	BLACK	-	-	-
2	BROWN	-	-	-
3	RED	-	-	-
4	ORANGE	-	-	-
5	YELLOW	-	-	-
6	GREEN	-	-	-
7	BLUE	-	-	-
8	VIOLET	-	-	-
9	GREY	-	-	-
10	WHITE	-	-	-
11	WHITE	BLACK	-	-
12	WHITE	BROWN	-	-
13	WHITE	RED	-	-
14	WHITE	ORANGE	-	-
15	WHITE	YELLOW	-	-
16	WHITE	GREEN	-	-
17	WHITE	BLUE	-	-
18	WHITE	VIOLET	-	-
19	WHITE	GREY	-	-
20	WHITE	BLACK	BROWN	-
21	WHITE	BLACK	RED	-
22	WHITE	BLACK	ORANGE	-
23	WHITE	BLACK	YELLOW	-
24	WHITE	BLACK	GREEN	-
25	WHITE	BLACK	BLUE	-
26	WHITE	BLACK	VIOLET	-
27	WHITE	BLACK	GREY	-
28	WHITE	BROWN	RED	-
29	WHITE	BROWN	ORANGE	-
30	WHITE	BROWN	YELLOW	-
31	WHITE	BROWN	GREEN	-
32	WHITE	BROWN	BLUE	-
33	WHITE	BROWN	VIOLET	-
34	WHITE	BROWN	GREY	-
35	WHITE	RED	ORANGE	-
36	WHITE	RED	YELLOW	-
37	WHITE	RED	GREEN	-
38	WHITE	RED	BLUE	-
39	WHITE	RED	VIOLET	-
40	WHITE	RED	GREY	-
41	WHITE	ORANGE	YELLOW	-
42	WHITE	ORANGE	GREEN	-
43	WHITE	ORANGE	BLUE	-
44	WHITE	ORANGE	VIOLET	-
45	WHITE	ORANGE	GREY	-
46	WHITE	YELLOW	GREEN	-
47	WHITE	YELLOW	BLUE	-
48	WHITE	YELLOW	VIOLET	-
49	WHITE	YELLOW	GREY	-
50	WHITE	GREEN	BLUE	-

PIN	BASE COLOR	1st STRIPE	2nd STRIPE	3rd STRIPE
51	WHITE	GREEN	VIOLET	-
52	WHITE	GREEN	GREY	-
53	WHITE	BLUE	VIOLET	-
54	WHITE	BLUE	GREY	-
55	WHITE	VIOLET	GREY	-
56	WHITE	BLACK	BROWN	RED
57	WHITE	BLACK	BROWN	ORANGE
58	WHITE	BLACK	BROWN	YELLOW
59	WHITE	BLACK	BROWN	GREEN
60	WHITE	BLACK	BROWN	BLUE
61	WHITE	BLACK	BROWN	VIOLET
62	WHITE	BLACK	BROWN	GREY
63	WHITE	BLACK	RED	ORANGE
64	WHITE	BLACK	RED	YELLOW
65	WHITE	BLACK	RED	GREEN
66	WHITE	BLACK	RED	BLUE
67	WHITE	BLACK	RED	VIOLET
68	WHITE	BLACK	RED	GREY
69	WHITE	BLACK	ORANGE	YELLOW
70	WHITE	BLACK	ORANGE	GREEN
71	WHITE	BLACK	ORANGE	BLUE
72	WHITE	BLACK	ORANGE	VIOLET
73	WHITE	BLACK	ORANGE	GREY
74	WHITE	BLACK	YELLOW	GREEN
75	WHITE	BLACK	YELLOW	BLUE
76	WHITE	BLACK	YELLOW	VIOLET
77	WHITE	BLACK	YELLOW	GREY
78	WHITE	BLACK	GREEN	BLUE
79	WHITE	BLACK	GREEN	VIOLET
80	WHITE	BLACK	GREEN	GREY
81	WHITE	BLACK	BLUE	VIOLET
82	WHITE	BLACK	BLUE	GREY
83	WHITE	BLACK	VIOLET	GREY
84	WHITE	BROWN	RED	ORANGE
85	WHITE	BROWN	RED	YELLOW
86	WHITE	BROWN	RED	GREEN
87	WHITE	BROWN	RED	BLUE
88	WHITE	BROWN	RED	VIOLET
89	WHITE	BROWN	RED	GREY
90	WHITE	BROWN	ORANGE	YELLOW
91	WHITE	BROWN	ORANGE	GREEN
92	WHITE	BROWN	ORANGE	BLUE
93	WHITE	BROWN	ORANGE	VIOLET
94	WHITE	BROWN	ORANGE	GREY
95	WHITE	BROWN	YELLOW	GREEN
96	WHITE	BROWN	YELLOW	BLUE
97	WHITE	BROWN	YELLOW	VIOLET
98	WHITE	BROWN	YELLOW	GREY
99	WHITE	BROWN	GREEN	BLUE
100	WHITE	BROWN	GREEN	VIOLET

Mil-Spec	Amphenol	Mil-Spec	Amphenol	Mil-Spec	Amphenol
M83513/01-AC	100RC09P-B	M83513/03-A15C	100RN09P-4F1CB	M83513/03-C12N	100RC21P-4F6BB
M83513/01-AN	100RN09P-B	M83513/03-A15N	100RN09P-4F1CB	M83513/03-C13C	100RC21P-4E1CB
M83513/01-BC	100RC15P-B	M83513/03-A16C	100RC09P-4F6CB	M83513/03-C13N	100RN21P-4E1CB
M83513/01-BN	100RN15P-B	M83513/03-A16N	100RN09P-4F6CB	M83513/03-C14C	100RC21P-4E6CB
M83513/01-CC	100RC21P-B	M83513/03-B01C	100RC15P-4E1AB	M83513/03-C14N	100RN21P-4E6CB
M83513/01-CN	100RN21P-B	M83513/03-B01N	100RN15P-4E1AB	M83513/03-C15C	100RC21P-4F1CB
M83513/01-DC	100RC25P-B	M83513/03-B02C	100RC15P-4E1BB	M83513/03-C15N	100RN21P-4F1CB
M83513/01-DN	100RN25P-B	M83513/03-B02N	100RN15P-4E1BB	M83513/03-C16C	100RC21P-4F6CB
M83513/01-EC	100RC31P-B	M83513/03-B03C	100RC15P-4E6AB	M83513/03-C16N	100RN21P-4F6CB
M83513/01-EN	100RN31P-B	M83513/03-B03N	100RN15P-4E6AB	M83513/03-D01C	100RC25P-4E1AB
M83513/01-FC	100RC37P-B	M83513/03-B04C	100RC15P-4E6BB	M83513/03-D01N	100RN25P-4E1AB
M83513/01-FN	100RN37P-B	M83513/03-B04N	100RN15P-4E6BB	M83513/03-D02C	100RC25P-4E1BB
M83513/01-GC	100RC51P-B	M83513/03-B05C	100RC15P-5L4DB	M83513/03-D02N	100RN25P-4E1BB
M83513/01-GN	100RN51P-B	M83513/03-B05N	100RN15P-5L4DB	M83513/03-D03C	100RC25P-4E6AB
M83513/01-HC	100RC100P-B	M83513/03-B06C	100RC15P-5L4EB	M83513/03-D03N	100RN25P-4E6AB
M83513/01-HN	100RN100P-B	M83513/03-B06N	100RN15P-5L4EB	M83513/03-D04C	100RC25P-4E6BB
M83513/02-AC	100RC09S-B	M83513/03-B07C	100RC15P-5L3DB	M83513/03-D04N	100RN25P-4E6BB
M83513/02-AN	100RN09S-B	M83513/03-B07N	100RN15P-5L3DB	M83513/03-D05C	100RC25P-5L4DB
M83513/02-BC	100RC15S-B	M83513/03-B08C	100RC15P-5L3EB	M83513/03-D05N	100RN25P-5L4DB
M83513/02-BN	100RN15S-B	M83513/03-B08N	100RN15P-5L3EB	M83513/03-D06C	100RC25P-5L4EB
M83513/02-CC	100RC21S-B	M83513/03-B09C	100RC15P-4F1AB	M83513/03-D06N	100RN25P-5L4EB
M83513/02-CN	100RN21S-B	M83513/03-B09N	100RN15P-4F1AB	M83513/03-D07C	100RC25P-5L3DB
M83513/02-DC	100RC25S-B	M83513/03-B10C	100RC15P-4F1BB	M83513/03-D07N	100RN25P-5L3DB
M83513/02-DN	100RN25S-B	M83513/03-B10N	100RN15P-4F1BB	M83513/03-D08C	100RC25P-5L3EB
M83513/02-EC	100RC31S-B	M83513/03-B11C	100RC15P-4F6AB	M83513/03-D08N	100RN25P-5L3EB
M83513/02-EN	100RN31S-B	M83513/03-B11N	100RN15P-4F6AB	M83513/03-D09C	100RC25P-4F1AB
M83513/02-FC	100RC37S-B	M83513/03-B12C	100RC15P-4F6BB	M83513/03-D09N	100RN25P-4F1AB
M83513/02-FN	100RN37S-B	M83513/03-B12N	100RC15P-4F6BB	M83513/03-D10C	100RC25P-4F1BB
M83513/02-GC	100RC51S-B	M83513/03-B13C	100RC15P-4E1CB	M83513/03-D10N	100RN25P-4F1BB
M83513/02-GN	100RN51S-B	M83513/03-B13N	100RN15P-4E1CB	M83513/03-D11C	100RC25P-4F6AB
M83513/02-HC	100RC100S-B	M83513/03-B14C	100RC15P-4E6CB	M83513/03-D11N	100RN25P-4F6AB
M83513/02-HN	100RN100S-B	M83513/03-B14N	100RN15P-4E6CB	M83513/03-D12C	100RC25P-4F6BB
M83513/03-A01C	100RC09P-4E1AB	M83513/03-B15C	100RC15P-4F1CB	M83513/03-D12N	100RN25P-4F6BB
M83513/03-A01N	100RN09P-4E1AB	M83513/03-B15N	100RN15P-4F1CB	M83513/03-D13C	100RC25P-4E1CB
M83513/03-A02C	100RC09P-4E1BB	M83513/03-B16C	100RC15P-4F6CB	M83513/03-D13N	100RN25P-4E1CB
M83513/03-A02N	100RN09P-4E1BB	M83513/03-B16N	100RN15P-4F6CB	M83513/03-D14C	100RC25P-4E6CB
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M83513/03-A03N	100RN09P-4E6AB	M83513/03-C01N	100RN21P-4E1AB	M83513/03-D15C	100RC25P-4F1CB
M83513/03-A04C	100RC09P-4E6BB	M83513/03-C02C	100RC21P-4E1BB	M83513/03-D15N	100RN25P-4F1CB
M83513/03-A04N	100RN09P-4E6BB	M83513/03-C02N	100RN21P-4E1BB	M83513/03-D16C	100RC25P-4F6CB
M83513/03-A05C	100RC09P-5L4DB	M83513/03-C03C	100RC21P-4E6AB	M83513/03-D16N	100RN25P-4F6CB
M83513/03-A05N	100RN09P-5L4DB	M83513/03-C03N	100RN21P-4E6AB	M83513/03-E01C	100RC31P-4E1AB
M83513/03-A06C	100RC09P-5L4EB	M83513/03-C04C	100RC21P-4E6BB	M83513/03-E01N	100RN31P-4E1AB
M83513/03-A06N	100RN09P-5L4EB	M83513/03-C04N	100RN21P-4E6BB	M83513/03-E02C	100RC31P-4E1BB
M83513/03-A07C	100RC09P-5L3DB	M83513/03-C05C	100RC21P-5L4DB	M83513/03-E02N	100RN31P-4E1BB
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M83513/03-A08C	100RC09P-5L3EB	M83513/03-C06C	100RC21P-5L4EB	M83513/03-E03N	100RN31P-4E6AB
M83513/03-A08N	100RN09P-5L3EB	M83513/03-C06N	100RN21P-5L4EB	M83513/03-E04C	100RC31P-4E6BB
M83513/03-A09C	100RC09P-4F1AB	M83513/03-C07C	100RC21P-5L3DB	M83513/03-E04N	100RN31P-4E6BB
M83513/03-A09N	100RN09P-4F1AB	M83513/03-C07N	100RN21P-5L3DB	M83513/03-E05C	100RC31P-5L4DB
M83513/03-A10C	100RC09P-4F1BB	M83513/03-C08C	100RC21P-5L3EB	M83513/03-E05N	100RN31P-5L4DB
M83513/03-A10N	100RN09P-4F1BB	M83513/03-C08N	100RN21P-5L3EB	M83513/03-E06C	100RC31P-5L4EB
M83513/03-A11C	100RC09P-4F6AB	M83513/03-C09C	100RC21P-4F1AB	M83513/03-E06N	100RN31P-5L4EB
M83513/03-A11N	100RN09P-4F6AB	M83513/03-C09N	100RN21P-4F1AB	M83513/03-E07C	100RC31P-5L3DB
M83513/03-A12C	100RC09P-4F6BB	M83513/03-C10C	100RC21P-4F1BB	M83513/03-E07N	100RN31P-5L3DB
M83513/03-A12N	100RN09P-4F6BB	M83513/03-C10N	100RN21P-4F1BB	M83513/03-E08C	100RC31P-5L3EB
M83513/03-A13C	100RC09P-4E1CB	M83513/03-C11C	100RC21P-4F6AB	M83513/03-E08N	100RN31P-5L3EB
M83513/03-A13N	100RN09P-4E1CB	M83513/03-C11N	100RN21P-4F6AB	M83513/03-E09C	100RC31P-4F1AB
M83513/03-A14C	100RC09P-4E6CB	M83513/03-C12C	100RC21P-4F6BB	M83513/03-E09N	100RN31P-4F1AB

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M
Accessories

HD38999

Micro-D

Terrapin

Nexus

Contacts & Tools

2M Specs

2M801

2M803

2M804

2M805

2M Accessories

HD38999

Micro-D

Terrapin

Nexus

Mil-Spec

Amphenol

Mil-Spec

Amphenol

Mil-Spec

Amphenol

M83513/03-E10C	100RC31P-4F1BB	M83513/03-G07N	100RN51P-5L3DB	M83513/04-A05C	100RC09S-5L4DB
M83513/03-E10N	100RN31P-4F1BB	M83513/03-G08C	100RC51P-5L3EB	M83513/04-A05N	100RN09S-5L4DB
M83513/03-E11C	100RC31P-4F6AB	M83513/03-G08N	100RN51P-5L3EB	M83513/04-A06C	100RC09S-5L4EB
M83513/03-E11N	100RN31P-4F6AB	M83513/03-G09C	100RC51P-4F1AB	M83513/04-A06N	100RN09S-5L4EB
M83513/03-E12C	100RC31P-4F6BB	M83513/03-G09N	100RN51P-4F1AB	M83513/04-A07C	100RC09S-5L3DB
M83513/03-E12N	100RC31P-4F6BB	M83513/03-G10C	100RC51P-4F1BB	M83513/04-A07N	100RN09S-5L3DB
M83513/03-E13C	100RC31P-4E1CB	M83513/03-G10N	100RN51P-4F1BB	M83513/04-A08C	100RC09S-5L3EB
M83513/03-E13N	100RN31P-4E1CB	M83513/03-G11C	100RC51P-4F6AB	M83513/04-A08N	100RN09S-5L3EB
M83513/03-E14C	100RC31P-4E6CB	M83513/03-G11N	100RN51P-4F6AB	M83513/04-A09C	100RC09S-4F1AB
M83513/03-E14N	100RN31P-4E6CB	M83513/03-G12C	100RC51P-4F6BB	M83513/04-A09N	100RN09S-4F1AB
M83513/03-E15C	100RC31P-4F1CB	M83513/03-G12N	100RC51P-4F6BB	M83513/04-A10C	100RC09S-4F1BB
M83513/03-E15N	100RN31P-4F1CB	M83513/03-G13C	100RC51P-4E1CB	M83513/04-A10N	100RN09S-4F1BB
M83513/03-E16C	100RC31P-4F6CB	M83513/03-G13N	100RN51P-4E1CB	M83513/04-A11C	100RC09S-4F6AB
M83513/03-E16N	100RN31P-4F6CB	M83513/03-G14C	100RC51P-4E6CB	M83513/04-A11N	100RN09S-4F6AB
M83513/03-F01C	100RC37P-4E1AB	M83513/03-G14N	100RN51P-4E6CB	M83513/04-A12C	100RC09S-4F6BB
M83513/03-F01N	100RN37P-4E1AB	M83513/03-G15C	100RC51P-4F1CB	M83513/04-A12N	100RC09S-4F6BB
M83513/03-F02C	100RC37P-4E1BB	M83513/03-G15N	100RN51P-4F1CB	M83513/04-A13C	100RC09S-4E1CB
M83513/03-F02N	100RN37P-4E1BB	M83513/03-G16C	100RC51P-4F6CB	M83513/04-A13N	100RN09S-4E1CB
M83513/03-F03C	100RC37P-4E6AB	M83513/03-G16N	100RN51P-4F6CB	M83513/04-A14C	100RC09S-4E6CB
M83513/03-F03N	100RN37P-4E6AB	M83513/03-H01C	100RC100P-4E1AB	M83513/04-A14N	100RN09S-4E6CB
M83513/03-F04C	100RC37P-4E6BB	M83513/03-H01N	100RN100P-4E1AB	M83513/04-A15C	100RC09S-4F1CB
M83513/03-F04N	100RN37P-4E6BB	M83513/03-H02C	100RC100P-4E1BB	M83513/04-A15N	100RN09S-4F1CB
M83513/03-F05C	100RC37P-5L4DB	M83513/03-H02N	100RN100P-4E1BB	M83513/04-A16C	100RC09S-4F6CB
M83513/03-F05N	100RN37P-5L4DB	M83513/03-H03C	100RC100P-4E6AB	M83513/04-A16N	100RN09S-4F6CB
M83513/03-F06C	100RC37P-5L4EB	M83513/03-H03N	100RN100P-4E6AB	M83513/04-B01C	100RC15S-4E1AB
M83513/03-F06N	100RN37P-5L4EB	M83513/03-H04C	100RC100P-4E6BB	M83513/04-B01N	100RN15S-4E1AB
M83513/03-F07C	100RC37P-5L3DB	M83513/03-H04N	100RN100P-4E6BB	M83513/04-B02C	100RC15S-4E1BB
M83513/03-F07N	100RN37P-5L3DB	M83513/03-H05C	100RC100P-5L4DB	M83513/04-B02N	100RN15S-4E1BB
M83513/03-F08C	100RC37P-5L3EB	M83513/03-H05N	100RN100P-5L4DB	M83513/04-B03C	100RC15S-4E6AB
M83513/03-F08N	100RN37P-5L3EB	M83513/03-H06C	100RC100P-5L4EB	M83513/04-B03N	100RN15S-4E6AB
M83513/03-F09C	100RC37P-4F1AB	M83513/03-H06N	100RN100P-5L4EB	M83513/04-B04C	100RC15S-4E6BB
M83513/03-F09N	100RN37P-4F1AB	M83513/03-H07C	100RC100P-5L3DB	M83513/04-B04N	100RN15S-4E6BB
M83513/03-F10C	100RC37P-4F1BB	M83513/03-H07N	100RN100P-5L3DB	M83513/04-B05C	100RC15S-5L4DB
M83513/03-F10N	100RN37P-4F1BB	M83513/03-H08C	100RC100P-5L3EB	M83513/04-B05N	100RN15S-5L4DB
M83513/03-F11C	100RC37P-4F6AB	M83513/03-H08N	100RN100P-5L3EB	M83513/04-B06C	100RC15S-5L4EB
M83513/03-F11N	100RN37P-4F6AB	M83513/03-H09C	100RC100P-4F1AB	M83513/04-B06N	100RN15S-5L4EB
M83513/03-F12C	100RC37P-4F6BB	M83513/03-H09N	100RN100P-4F1AB	M83513/04-B07C	100RC15S-5L3DB
M83513/03-F12N	100RC37P-4F6BB	M83513/03-H10C	100RC100P-4F1BB	M83513/04-B07N	100RN15S-5L3DB
M83513/03-F13C	100RC37P-4E1CB	M83513/03-H10N	100RN100P-4F1BB	M83513/04-B08C	100RC15S-5L3EB
M83513/03-F13N	100RN37P-4E1CB	M83513/03-H11C	100RC100P-4F6AB	M83513/04-B08N	100RN15S-5L3EB
M83513/03-F14C	100RC37P-4E6CB	M83513/03-H11N	100RN100P-4F6AB	M83513/04-B09C	100RC15S-4F1AB
M83513/03-F14N	100RN37P-4E6CB	M83513/03-H12C	100RC100P-4F6BB	M83513/04-B09N	100RN15S-4F1AB
M83513/03-F15C	100RC37P-4F1CB	M83513/03-H12N	100RC100P-4F6BB	M83513/04-B10C	100RC15S-4F1BB
M83513/03-F15N	100RN37P-4F1CB	M83513/03-H13C	100RC100P-4E1CB	M83513/04-B10N	100RN15S-4F1BB
M83513/03-F16C	100RC37P-4F6CB	M83513/03-H13N	100RN100P-4E1CB	M83513/04-B11C	100RC15S-4F6AB
M83513/03-F16N	100RN37P-4F6CB	M83513/03-H14C	100RC100P-4E6CB	M83513/04-B11N	100RN15S-4F6AB
M83513/03-G01C	100RC51P-4E1AB	M83513/03-H14N	100RN100P-4E6CB	M83513/04-B12C	100RC15S-4F6BB
M83513/03-G01N	100RN51P-4E1AB	M83513/03-H15C	100RC100P-4F1CB	M83513/04-B12N	100RC15S-4F6BB
M83513/03-G02C	100RC51P-4E1BB	M83513/03-H15N	100RN100P-4F1CB	M83513/04-B13C	100RC15S-4E1CB
M83513/03-G02N	100RN51P-4E1BB	M83513/03-H16C	100RC100P-4F6CB	M83513/04-B13N	100RN15S-4E1CB
M83513/03-G03C	100RC51P-4E6AB	M83513/03-H16N	100RN100P-4F6CB	M83513/04-B14C	100RC15S-4E6CB
M83513/03-G03N	100RN51P-4E6AB	M83513/04-A01C	100RC09S-4E1AB	M83513/04-B14N	100RN15S-4E6CB
M83513/03-G04C	100RC51P-4E6BB	M83513/04-A01N	100RN09S-4E1AB	M83513/04-B15C	100RC15S-4F1CB
M83513/03-G04N	100RN51P-4E6BB	M83513/04-A02C	100RC09S-4E1BB	M83513/04-B15N	100RN15S-4F1CB
M83513/03-G05C	100RC51P-5L4DB	M83513/04-A02N	100RN09S-4E1BB	M83513/04-B16C	100RC15S-4F6CB
M83513/03-G05N	100RN51P-5L4DB	M83513/04-A03C	100RC09S-4E6AB	M83513/04-B16N	100RN15S-4F6CB
M83513/03-G06C	100RC51P-5L4EB	M83513/04-A03N	100RN09S-4E6AB	M83513/04-C01C	100RC21S-4E1AB
M83513/03-G06N	100RN51P-5L4EB	M83513/04-A04C	100RC09S-4E6BB	M83513/04-C01N	100RN21S-4E1AB
M83513/03-G07C	100RC51P-5L3DB	M83513/04-A04N	100RN09S-4E6BB	M83513/04-C02C	100RC21S-4E1BB

Mil-Spec	Amphenol	Mil-Spec	Amphenol	Mil-Spec	Amphenol
M83513/04-C02N	100RN21S-4E1BB	M83513/04-D16C	100RC25S-4F6CB	M83513/04-F13N	100RN37S-4E1CB
M83513/04-C03C	100RC21S-4E6AB	M83513/04-D16N	100RN25S-4F6CB	M83513/04-F14C	100RC37S-4E6CB
M83513/04-C03N	100RN21S-4E6AB	M83513/04-E01C	100RC31S-4E1AB	M83513/04-F14N	100RN37S-4E6CB
M83513/04-C04C	100RC21S-4E6BB	M83513/04-E01N	100RN31S-4E1AB	M83513/04-F15C	100RC37S-4F1CB
M83513/04-C04N	100RN21S-4E6BB	M83513/04-E02C	100RC31S-4E1BB	M83513/04-F15N	100RN37S-4F1CB
M83513/04-C05C	100RC21S-5L4DB	M83513/04-E02N	100RN31S-4E1BB	M83513/04-F16C	100RC37S-4F6CB
M83513/04-C05N	100RN21S-5L4DB	M83513/04-E03C	100RC31S-4E6AB	M83513/04-F16N	100RN37S-4F6CB
M83513/04-C06C	100RC21S-5L4EB	M83513/04-E03N	100RN31S-4E6AB	M83513/04-G01C	100RC51S-4E1AB
M83513/04-C06N	100RN21S-5L4EB	M83513/04-E04C	100RC31S-4E6BB	M83513/04-G01N	100RN51S-4E1AB
M83513/04-C07C	100RC21S-5L3DB	M83513/04-E04N	100RN31S-4E6BB	M83513/04-G02C	100RC51S-4E1BB
M83513/04-C07N	100RN21S-5L3DB	M83513/04-E05C	100RC31S-5L4DB	M83513/04-G02N	100RN51S-4E1BB
M83513/04-C08C	100RC21S-5L3EB	M83513/04-E05N	100RN31S-5L4DB	M83513/04-G03C	100RC51S-4E6AB
M83513/04-C08N	100RN21S-5L3EB	M83513/04-E06C	100RC31S-5L4EB	M83513/04-G03N	100RN51S-4E6AB
M83513/04-C09C	100RC21S-4F1AB	M83513/04-E06N	100RN31S-5L4EB	M83513/04-G04C	100RC51S-4E6BB
M83513/04-C09N	100RN21S-4F1AB	M83513/04-E07C	100RC31S-5L3DB	M83513/04-G04N	100RN51S-4E6BB
M83513/04-C10C	100RC21S-4F1BB	M83513/04-E07N	100RN31S-5L3DB	M83513/04-G05C	100RC51S-5L4DB
M83513/04-C10N	100RN21S-4F1BB	M83513/04-E08C	100RC31S-5L3EB	M83513/04-G05N	100RN51S-5L4DB
M83513/04-C11C	100RC21S-4F6AB	M83513/04-E08N	100RN31S-5L3EB	M83513/04-G06C	100RC51S-5L4EB
M83513/04-C11N	100RN21S-4F6AB	M83513/04-E09C	100RC31S-4F1AB	M83513/04-G06N	100RN51S-5L4EB
M83513/04-C12C	100RC21S-4F6BB	M83513/04-E09N	100RN31S-4F1AB	M83513/04-G07C	100RC51S-5L3DB
M83513/04-C12N	100RC21S-4F6BB	M83513/04-E10C	100RC31S-4F1BB	M83513/04-G07N	100RN51S-5L3DB
M83513/04-C13C	100RC21S-4E1CB	M83513/04-E10N	100RN31S-4F1BB	M83513/04-G08C	100RC51S-5L3EB
M83513/04-C13N	100RN21S-4E1CB	M83513/04-E11C	100RC31S-4F6AB	M83513/04-G08N	100RN51S-5L3EB
M83513/04-C14C	100RC21S-4E6CB	M83513/04-E11N	100RN31S-4F6AB	M83513/04-G09C	100RC51S-4F1AB
M83513/04-C14N	100RN21S-4E6CB	M83513/04-E12C	100RC31S-4F6BB	M83513/04-G09N	100RN51S-4F1AB
M83513/04-C15C	100RC21S-4F1CB	M83513/04-E12N	100RC31S-4F6BB	M83513/04-G10C	100RC51S-4F1BB
M83513/04-C15N	100RN21S-4F1CB	M83513/04-E13C	100RC31S-4E1CB	M83513/04-G10N	100RN51S-4F1BB
M83513/04-C16C	100RC21S-4F6CB	M83513/04-E13N	100RN31S-4E1CB	M83513/04-G11C	100RC51S-4F6AB
M83513/04-C16N	100RN21S-4F6CB	M83513/04-E14C	100RC31S-4E6CB	M83513/04-G11N	100RN51S-4F6AB
M83513/04-D01C	100RC25S-4E1AB	M83513/04-E14N	100RN31S-4E6CB	M83513/04-G12C	100RC51S-4F6BB
M83513/04-D01N	100RN25S-4E1AB	M83513/04-E15C	100RC31S-4F1CB	M83513/04-G12N	100RC51S-4F6BB
M83513/04-D02C	100RC25S-4E1BB	M83513/04-E15N	100RN31S-4F1CB	M83513/04-G13C	100RC51S-4E1CB
M83513/04-D02N	100RN25S-4E1BB	M83513/04-E16C	100RC31S-4F6CB	M83513/04-G13N	100RN51S-4E1CB
M83513/04-D03C	100RC25S-4E6AB	M83513/04-E16N	100RN31S-4F6CB	M83513/04-G14C	100RC51S-4E6CB
M83513/04-D03N	100RN25S-4E6AB	M83513/04-F01C	100RC37S-4E1AB	M83513/04-G14N	100RN51S-4E6CB
M83513/04-D04C	100RC25S-4E6BB	M83513/04-F01N	100RN37S-4E1AB	M83513/04-G15C	100RC51S-4F1CB
M83513/04-D04N	100RN25S-4E6BB	M83513/04-F02C	100RC37S-4E1BB	M83513/04-G15N	100RN51S-4F1CB
M83513/04-D05C	100RC25S-5L4DB	M83513/04-F02N	100RN37S-4E1BB	M83513/04-G16C	100RC51S-4F6CB
M83513/04-D05N	100RN25S-5L4DB	M83513/04-F03C	100RC37S-4E6AB	M83513/04-G16N	100RN51S-4F6CB
M83513/04-D06C	100RC25S-5L4EB	M83513/04-F03N	100RN37S-4E6AB	M83513/04-H01C	100RC100S-4E1AB
M83513/04-D06N	100RN25S-5L4EB	M83513/04-F04C	100RC37S-4E6BB	M83513/04-H01N	100RN100S-4E1AB
M83513/04-D07C	100RC25S-5L3DB	M83513/04-F04N	100RN37S-4E6BB	M83513/04-H02C	100RC100S-4E1BB
M83513/04-D07N	100RN25S-5L3DB	M83513/04-F05C	100RC37S-5L4DB	M83513/04-H02N	100RN100S-4E1BB
M83513/04-D08C	100RC25S-5L3EB	M83513/04-F05N	100RN37S-5L4DB	M83513/04-H03C	100RC100S-4E6AB
M83513/04-D08N	100RN25S-5L3EB	M83513/04-F06C	100RC37S-5L4EB	M83513/04-H03N	100RN100S-4E6AB
M83513/04-D09C	100RC25S-4F1AB	M83513/04-F06N	100RN37S-5L4EB	M83513/04-H04C	100RC100S-4E6BB
M83513/04-D09N	100RN25S-4F1AB	M83513/04-F07C	100RC37S-5L3DB	M83513/04-H04N	100RN100S-4E6BB
M83513/04-D10C	100RC25S-4F1BB	M83513/04-F07N	100RN37S-5L3DB	M83513/04-H05C	100RC100S-5L4DB
M83513/04-D10N	100RN25S-4F1BB	M83513/04-F08C	100RC37S-5L3EB	M83513/04-H05N	100RN100S-5L4DB
M83513/04-D11C	100RC25S-4F6AB	M83513/04-F08N	100RN37S-5L3EB	M83513/04-H06C	100RC100S-5L4EB
M83513/04-D11N	100RN25S-4F6AB	M83513/04-F09C	100RC37S-4F1AB	M83513/04-H06N	100RN100S-5L4EB
M83513/04-D12C	100RC25S-4F6BB	M83513/04-F09N	100RN37S-4F1AB	M83513/04-H07C	100RC100S-5L3DB
M83513/04-D12N	100RC25S-4F6BB	M83513/04-F10C	100RC37S-4F1BB	M83513/04-H07N	100RN100S-5L3DB
M83513/04-D13C	100RC25S-4E1CB	M83513/04-F10N	100RN37S-4F1BB	M83513/04-H08C	100RC100S-5L3EB
M83513/04-D13N	100RN25S-4E1CB	M83513/04-F11C	100RC37S-4F6AB	M83513/04-H08N	100RN100S-5L3EB
M83513/04-D14C	100RC25S-4E6CB	M83513/04-F11N	100RN37S-4F6AB	M83513/04-H09C	100RC100S-4F1AB
M83513/04-D14N	100RN25S-4E6CB	M83513/04-F12C	100RC37S-4F6BB	M83513/04-H09N	100RN100S-4F1AB
M83513/04-D15C	100RC25S-4F1CB	M83513/04-F12N	100RC37S-4F6BB	M83513/04-H10C	100RC100S-4F1BB
M83513/04-D15N	100RN25S-4F1CB	M83513/04-F13C	100RC37S-4E1CB	M83513/04-H10N	100RN100S-4F1BB

Contacts
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2M803

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Accessories
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HD38999

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Contacts & Tools

2M Specs

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Amphenol

Mil-Spec

Amphenol

Mil-Spec

Amphenol

M83513/04-H11C	100RC100S-4F6AB	M83513/08-B08	101R15P-5L3EB	M83513/08-F03	101R37P-4E6AB
M83513/04-H11N	100RN100S-4F6AB	M83513/08-B09	101R15P-4F1AB	M83513/08-F04	101R37P-4E6BB
M83513/04-H12C	100RC100S-4F6BB	M83513/08-B10	101R15P-4F1BB	M83513/08-F05	101R37P-5L4DB
M83513/04-H12N	100RC100S-4F6BB	M83513/08-B11	101R15P-4F6AB	M83513/08-F06	101R37P-5L4EB
M83513/04-H13C	100RC100S-4E1CB	M83513/08-B12	101R15P-4F6BB	M83513/08-F07	101R37P-5L3DB
M83513/04-H13N	100RN100S-4E1CB	M83513/08-B13	101R15P-4E1CB	M83513/08-F08	101R37P-5L3EB
M83513/04-H14C	100RC100S-4E6CB	M83513/08-B14	101R15P-4E6CB	M83513/08-F09	101R37P-4F1AB
M83513/04-H14N	100RN100S-4E6CB	M83513/08-B15	101R15P-4F1CB	M83513/08-F10	101R37P-4F1BB
M83513/04-H15C	100RC100S-4F1CB	M83513/08-B16	101R15P-4F6CB	M83513/08-F11	101R37P-4F6AB
M83513/04-H15N	100RN100S-4F1CB	M83513/08-C01	101R21P-4E1AB	M83513/08-F12	101R37P-4F6BB
M83513/04-H16C	100RC100S-4F6CB	M83513/08-C02	101R21P-4E1BB	M83513/08-F13	101R37P-4E1CB
M83513/04-H16N	100RN100S-4F6CB	M83513/08-C03	101R21P-4E6AB	M83513/08-F14	101R37P-4E6CB
M83513/05-02	HM05-02	M83513/08-C04	101R21P-4E6BB	M83513/08-F15	101R37P-4F1CB
M83513/05-03	HM05-03	M83513/08-C05	101R21P-5L4DB	M83513/08-F16	101R37P-4F6CB
M83513/05-05	HM05-05	M83513/08-C06	101R21P-5L4EB	M83513/08-G01	101R51P-4E1AB
M83513/05-06	HM05-06	M83513/08-C07	101R21P-5L3DB	M83513/08-G02	101R51P-4E1BB
M83513/05-07	HM05-07	M83513/08-C08	101R21P-5L3EB	M83513/08-G03	101R51P-4E6AB
M83513/05-12	HM05-12	M83513/08-C09	101R21P-4F1AB	M83513/08-G04	101R51P-4E6BB
M83513/05-13	HM05-13	M83513/08-C10	101R21P-4F1BB	M83513/08-G05	101R51P-5L4DB
M83513/05-15	HM05-15	M83513/08-C11	101R21P-4F6AB	M83513/08-G06	101R51P-5L4EB
M83513/05-16	HM05-16	M83513/08-C12	101R21P-4F6BB	M83513/08-G07	101R51P-5L3DB
M83513/05-17	HM05-17	M83513/08-C13	101R21P-4E1CB	M83513/08-G08	101R51P-5L3EB
M83513/06-A	101R09P-B	M83513/08-C14	101R21P-4E6CB	M83513/08-G09	101R51P-4F1AB
M83513/06-B	101R15P-B	M83513/08-C15	101R21P-4F1CB	M83513/08-G10	101R51P-4F1BB
M83513/06-C	101R21P-B	M83513/08-C16	101R21P-4F6CB	M83513/08-G11	101R51P-4F6AB
M83513/06-D	101R25P-B	M83513/08-D01	101R25P-4E1AB	M83513/08-G12	101R51P-4F6BB
M83513/06-E	101R31P-B	M83513/08-D02	101R25P-4E1BB	M83513/08-G13	101R51P-4E1CB
M83513/06-F	101R37P-B	M83513/08-D03	101R25P-4E6AB	M83513/08-G14	101R51P-4E6CB
M83513/06-G	101R51P-B	M83513/08-D04	101R25P-4E6BB	M83513/08-G15	101R51P-4F1CB
M83513/07-A	101R09S-B	M83513/08-D05	101R25P-5L4DB	M83513/08-G16	101R51P-4F6CB
M83513/07-B	101R15S-B	M83513/08-D06	101R25P-5L4EB	M83513/09-A01	101R09S-4E1AB
M83513/07-C	101R21S-B	M83513/08-D07	101R25P-5L3DB	M83513/09-A02	101R09S-4E1BB
M83513/07-D	101R25S-B	M83513/08-D08	101R25P-5L3EB	M83513/09-A03	101R09S-4E6AB
M83513/07-E	101R31S-B	M83513/08-D09	101R25P-4F1AB	M83513/09-A04	101R09S-4E6BB
M83513/07-F	101R37S-B	M83513/08-D10	101R25P-4F1BB	M83513/09-A05	101R09S-5L4DB
M83513/07-G	101R51S-B	M83513/08-D11	101R25P-4F6AB	M83513/09-A06	101R09S-5L4EB
M83513/08-A01	101R09P-4E1AB	M83513/08-D12	101R25P-4F6BB	M83513/09-A07	101R09S-5L3DB
M83513/08-A02	101R09P-4E1BB	M83513/08-D13	101R25P-4E1CB	M83513/09-A08	101R09S-5L3EB
M83513/08-A03	101R09P-4E6AB	M83513/08-D14	101R25P-4E6CB	M83513/09-A09	101R09S-4F1AB
M83513/08-A04	101R09P-4E6BB	M83513/08-D15	101R25P-4F1CB	M83513/09-A10	101R09S-4F1BB
M83513/08-A05	101R09P-5L4DB	M83513/08-D16	101R25P-4F6CB	M83513/09-A11	101R09S-4E6AB
M83513/08-A06	101R09P-5L4EB	M83513/08-E01	101R31P-4E1AB	M83513/09-A12	101R09S-4F6BB
M83513/08-A07	101R09P-5L3DB	M83513/08-E02	101R31P-4E1BB	M83513/09-A13	101R09S-4E1CB
M83513/08-A08	101R09P-5L3EB	M83513/08-E03	101R31P-4E6AB	M83513/09-A14	101R09S-4E6CB
M83513/08-A09	101R09P-4F1AB	M83513/08-E04	101R31P-4E6BB	M83513/09-A15	101R09S-4F1CB
M83513/08-A10	101R09P-4F1BB	M83513/08-E05	101R31P-5L4DB	M83513/09-B01	101R15S-4E1AB
M83513/08-A11	101R09P-4F6AB	M83513/08-E06	101R31P-5L4EB	M83513/09-B02	101R15S-4E1BB
M83513/08-A12	101R09P-4F6BB	M83513/08-E07	101R31P-5L3DB	M83513/09-B03	101R15S-4E6AB
M83513/08-A13	101R09P-4E1CB	M83513/08-E08	101R31P-5L3EB	M83513/09-B04	101R15S-4E6BB
M83513/08-A14	101R09P-4E6CB	M83513/08-E09	101R31P-4F1AB	M83513/09-B05	101R15S-5L4DB
M83513/08-A15	101R09P-4F1CB	M83513/08-E10	101R31P-4F1BB	M83513/09-B06	101R15S-5L4EB
M83513/08-A16	101R09P-4F6CB	M83513/08-E11	101R31P-4F6AB	M83513/09-B07	101R15S-5L3DB
M83513/08-B01	101R15P-4E1AB	M83513/08-E12	101R31P-4F6BB	M83513/09-B08	101R15S-5L3EB
M83513/08-B02	101R15P-4E1BB	M83513/08-E13	101R31P-4E1CB	M83513/09-B09	101R15S-4F1AB
M83513/08-B03	101R15P-4E6AB	M83513/08-E14	101R31P-4E6CB	M83513/09-B10	101R15S-4F1BB
M83513/08-B04	101R15P-4E6BB	M83513/08-E15	101R31P-4F1CB	M83513/09-B11	101R15S-4E6AB
M83513/08-B05	101R15P-5L4DB	M83513/08-E16	101R31P-4F6CB	M83513/09-B12	101R15S-4F6BB
M83513/08-B06	101R15P-5L4EB	M83513/08-F01	101R37P-4E1AB	M83513/09-B13	101R15S-4E1CB
M83513/08-B07	101R15P-5L3DB	M83513/08-F02	101R37P-4E1BB	M83513/09-B14	101R15S-4E6CB

Mil-Spec	Amphenol	Mil-Spec	Amphenol	Mil-Spec	Amphenol
M83513/09-B15	101R15S-4F1CB	M83513/09-F14	101R37S-4E6CB	M83513/10-D02CP	100RC25P-CBRP2
M83513/09-C01	101R21S-4E1AB	M83513/09-F15	101R37S-4F1CB	M83513/10-D02NN	100RN25P-CBR2
M83513/09-C02	101R21S-4E1BB	M83513/09-G01	101R51S-4E1AB	M83513/10-D02NP	100RN25P-CBRP2
M83513/09-C03	101R21S-4E6AB	M83513/09-G02	101R51S-4E1BB	M83513/10-D03CN	100RC25P-CBR3
M83513/09-C04	101R21S-4E6BB	M83513/09-G03	101R51S-4E6AB	M83513/10-D03CP	100RC25P-CBRP3
M83513/09-C05	101R21S-5L4DB	M83513/09-G04	101R51S-4E6BB	M83513/10-D03NN	100RN25P-CBR3
M83513/09-C06	101R21S-5L4EB	M83513/09-G05	101R51S-5L4DB	M83513/10-D03NP	100RN25P-CBRP3
M83513/09-C07	101R21S-5L3DB	M83513/09-G06	101R51S-5L4EB	M83513/10-E01CN	100RC31P-CBR1
M83513/09-C08	101R21S-5L3EB	M83513/09-G07	101R51S-5L3DB	M83513/10-E01CP	100RC31P-CBRP1
M83513/09-C09	101R21S-4F1AB	M83513/09-G08	101R51S-5L3EB	M83513/10-E01NN	100RN31P-CBR1
M83513/09-C10	101R21S-4F1BB	M83513/09-G09	101R51S-4F1AB	M83513/10-E01NP	100RN31P-CBRP1
M83513/09-C11	101R21S-4E6AB	M83513/09-G10	101R51S-4F1BB	M83513/10-E02CN	100RC31P-CBR2
M83513/09-C12	101R21S-4F6BB	M83513/09-G11	101R51S-4E6AB	M83513/10-E02CP	100RC31P-CBRP2
M83513/09-C13	101R21S-4E1CB	M83513/09-G12	101R51S-4F6BB	M83513/10-E02NN	100RN31P-CBR2
M83513/09-C14	101R21S-4E6CB	M83513/09-G13	101R51S-4E1CB	M83513/10-E02NP	100RN31P-CBRP2
M83513/09-C15	101R21S-4F1CB	M83513/09-G14	101R51S-4E6CB	M83513/10-E03CN	100RC31P-CBR3
M83513/09-D01	101R25S-4E1AB	M83513/09-G15	101R51S-4F1CB	M83513/10-E03CP	100RC31P-CBRP3
M83513/09-D02	101R25S-4E1BB	M83513/10-A01CN	100RC09P-CBR1	M83513/10-E03NN	100RN31P-CBR3
M83513/09-D03	101R25S-4E6AB	M83513/10-A01CP	100RC09P-CBRP1	M83513/10-E03NP	100RN31P-CBRP3
M83513/09-D04	101R25S-4E6BB	M83513/10-A01NN	100RN09P-CBR1	M83513/10-F01CN	100RC37P-CBR1
M83513/09-D05	101R25S-5L4DB	M83513/10-A01NP	100RN09P-CBRP1	M83513/10-F01CP	100RC37P-CBRP1
M83513/09-D06	101R25S-5L4EB	M83513/10-A02CN	100RC09P-CBR2	M83513/10-F01NN	100RN37P-CBR1
M83513/09-D07	101R25S-5L3DB	M83513/10-A02CP	100RC09P-CBRP2	M83513/10-F01NP	100RN37P-CBRP1
M83513/09-D08	101R25S-5L3EB	M83513/10-A02NN	100RN09P-CBR2	M83513/10-F02CN	100RC37P-CBR2
M83513/09-D09	101R25S-4F1AB	M83513/10-A02NP	100RN09P-CBRP2	M83513/10-F02CP	100RC37P-CBRP2
M83513/09-D10	101R25S-4F1BB	M83513/10-A03CN	100RC09P-CBR3	M83513/10-F02NN	100RN37P-CBR2
M83513/09-D11	101R25S-4E6AB	M83513/10-A03CP	100RC09P-CBRP3	M83513/10-F02NP	100RN37P-CBRP2
M83513/09-D12	101R25S-4F6BB	M83513/10-A03NN	100RN09P-CBR3	M83513/10-F03CN	100RC37P-CBR3
M83513/09-D13	101R25S-4E1CB	M83513/10-A03NP	100RN09P-CBRP3	M83513/10-F03CP	100RC37P-CBRP3
M83513/09-D14	101R25S-4E6CB	M83513/10-B01CN	100RC15P-CBR1	M83513/10-F03NN	100RN37P-CBR3
M83513/09-D15	101R25S-4F1CB	M83513/10-B01CP	100RC15P-CBRP1	M83513/10-F03NP	100RN37P-CBRP3
M83513/09-E01	101R31S-4E1AB	M83513/10-B01NN	100RN15P-CBR1	M83513/11-G01CN	100RC51P-CBR1
M83513/09-E02	101R31S-4E1BB	M83513/10-B01NP	100RN15P-CBRP1	M83513/11-G01CP	100RC51P-CBRP1
M83513/09-E03	101R31S-4E6AB	M83513/10-B02CN	100RC15P-CBR2	M83513/11-G01NN	100RN51P-CBR1
M83513/09-E04	101R31S-4E6BB	M83513/10-B02CT	100RC15P-CBR2	M83513/11-G01NP	100RN51P-CBRP1
M83513/09-E05	101R31S-5L4DB	M83513/10-B02CP	100RC15P-CBRP2	M83513/11-G02CN	100RC51P-CBR2
M83513/09-E06	101R31S-5L4EB	M83513/10-B02NN	100RN15P-CBR2	M83513/11-G02CP	100RC51P-CBRP2
M83513/09-E07	101R31S-5L3DB	M83513/10-B02NP	100RN15P-CBRP2	M83513/11-G02NN	100RN51P-CBR2
M83513/09-E08	101R31S-5L3EB	M83513/10-B03CN	100RC15P-CBR3	M83513/11-G02NP	100RN51P-CBRP2
M83513/09-E09	101R31S-4F1AB	M83513/10-B03CP	100RC15P-CBRP3	M83513/11-G03CN	100RC51P-CBR3
M83513/09-E10	101R31S-4F1BB	M83513/10-B03NN	100RN15P-CBR3	M83513/11-G03CP	100RC51P-CBRP3
M83513/09-E11	101R31S-4E6AB	M83513/10-B03NP	100RN15P-CBRP3	M83513/11-G03NN	100RN51P-CBR3
M83513/09-E12	101R31S-4F6BB	M83513/10-C01CN	100RC21P-CBR1	M83513/11-G03NP	100RN51P-CBRP3
M83513/09-E13	101R31S-4E1CB	M83513/10-C01CP	100RC21P-CBRP1	M83513/12-H01CN	100RC100P-CBR1
M83513/09-E14	101R31S-4E6CB	M83513/10-C01NN	100RN21P-CBR1	M83513/12-H01CP	100RC100P-CBRP1
M83513/09-E15	101R31S-4F1CB	M83513/10-C01NP	100RN21P-CBRP1	M83513/12-H01NN	100RN100P-CBR1
M83513/09-F01	101R37S-4E1AB	M83513/10-C02CN	100RC21P-CBR2	M83513/12-H01NP	100RN100P-CBRP1
M83513/09-F02	101R37S-4E1BB	M83513/10-C02CP	100RC21P-CBRP2	M83513/12-H02CN	100RC100P-CBR2
M83513/09-F03	101R37S-4E6AB	M83513/10-C02NN	100RN21P-CBR2	M83513/12-H02CP	100RC100P-CBRP2
M83513/09-F04	101R37S-4E6BB	M83513/10-C02NP	100RN21P-CBRP2	M83513/12-H02NN	100RN100P-CBR2
M83513/09-F05	101R37S-5L4DB	M83513/10-C03CN	100RC21P-CBR3	M83513/12-H02NP	100RN100P-CBRP2
M83513/09-F06	101R37S-5L4EB	M83513/10-C03CP	100RC21P-CBRP3	M83513/12-H03CN	100RC100P-CBR3
M83513/09-F07	101R37S-5L3DB	M83513/10-C03NN	100RN21P-CBR3	M83513/12-H03CP	100RC100P-CBRP3
M83513/09-F08	101R37S-5L3EB	M83513/10-C03NP	100RN21P-CBRP3	M83513/12-H03NN	100RN100P-CBR3
M83513/09-F09	101R37S-4F1AB	M83513/10-D01CN	100RC25P-CBR1	M83513/12-H03NP	100RN100P-CBRP3
M83513/09-F10	101R37S-4F1BB	M83513/10-D01CP	100RC25P-CBRP1	M83513/13-A01CN	100RC09S-CBR1
M83513/09-F11	101R37S-4E6AB	M83513/10-D01NN	100RN25P-CBR1	M83513/13-A01CP	100RC09S-CBRP1
M83513/09-F12	101R37S-4F6BB	M83513/10-D01NP	100RN25P-CBRP1	M83513/13-A01NN	100RN09S-CBR1
M83513/09-F13	101R37S-4E1CB	M83513/10-D02CN	100RC25P-CBR2	M83513/13-A01NP	100RN09S-CBRP1

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M83513/13-A02CN	100RC09S-CBR2	M83513/13-F01NN	100RN37SCBR1	M83513/16-C01CP	100RC21PBRP1
M83513/13-A02CP	100RC09S-CBRP2	M83513/13-F01NP	100RN37SCBRP1	M83513/16-C01NN	100RN21PCBR1
M83513/13-A02NN	100RN09S-CBR2	M83513/13-F02CN	100RC37SCBR2	M83513/16-C01NP	100RN21PBRP1
M83513/13-A02NP	100RN09S-CBRP2	M83513/13-F02CP	100RC37SCBRP2	M83513/16-C02CN	100RC21PBR2
M83513/13-A03CN	100RC09S-CBR3	M83513/13-F02NN	100RN37SCBR2	M83513/16-C02CP	100RC21PBRP2
M83513/13-A03CP	100RC09S-CBRP3	M83513/13-F02NP	100RN37SCBRP2	M83513/16-C02NN	100RN21PBR2
M83513/13-A03NN	100RN09S-CBR3	M83513/13-F03CN	100RC37SCBR3	M83513/16-C02NP	100RN21PBRP2
M83513/13-A03NP	100RN09S-CBRP3	M83513/13-F03CP	100RC37SCBRP3	M83513/16-C03CN	100RC21PBR3
M83513/13-B01CN	100RC15S-CBR1	M83513/13-F03NN	100RN37SCBR3	M83513/16-C03CP	100RC21PBRP3
M83513/13-B01CP	100RC15S-CBRP1	M83513/13-F03NP	100RN37SCBRP3	M83513/16-C03NN	100RN21PBR3
M83513/13-B01NN	100RN15S-CBR1	M83513/14-G01CN	100RC51SCBR1	M83513/16-C03NP	100RN21PBRP3
M83513/13-B01NP	100RN15S-CBRP1	M83513/14-G01CP	100RC51SCBRP1	M83513/16-D01CN	100RC25PBR1
M83513/13-B02CN	100RC15S-CBR2	M83513/14-G01NN	100RN51SCBR1	M83513/16-D01CP	100RC25PBRP1
M83513/13-B02CP	100RC15S-CBRP2	M83513/14-G01NP	100RN51SCBRP1	M83513/16-D01NN	100RN25PBR1
M83513/13-B02CT	100RC15S-CBRT2	M83513/14-G02CN	100RC51SCBR2	M83513/16-D01NP	100RN25PBRP1
M83513/13-B02NN	100RN15S-CBR2	M83513/14-G02CP	100RC51SCBRP2	M83513/16-D02CN	100RC25PBR2
M83513/13-B02NP	100RN15S-CBRP2	M83513/14-G02NN	100RN51SCBR2	M83513/16-D02CP	100RC25PBRP2
M83513/13-B03CN	100RC15S-CBR3	M83513/14-G02NP	100RN51SCBRP2	M83513/16-D02NN	100RN25PBR2
M83513/13-B03CP	100RC15S-CBRP3	M83513/14-G03CN	100RC51SCBR3	M83513/16-D02NP	100RN25PBRP2
M83513/13-B03NN	100RN15S-CBR3	M83513/14-G03CP	100RC51SCBRP3	M83513/16-D03CN	100RC25PBR3
M83513/13-B03NP	100RN15S-CBRP3	M83513/14-G03NN	100RN51SCBR3	M83513/16-D03CP	100RC25PBRP3
M83513/13-C01CN	100RC21S-CBR1	M83513/14-G03NP	100RN51SCBRP3	M83513/16-D03NN	100RN25PBR3
M83513/13-C01CP	100RC21S-CBRP1	M83513/15-H01CN	100RC100SCBR1	M83513/16-D03NP	100RN25PBRP31
M83513/13-C01NN	100RN21S-CBR1	M83513/15-H01CP	100RC100SCBRP1	M83513/16-E01CN	100RC31PBR1
M83513/13-C01NP	100RN21S-CBRP1	M83513/15-H01NN	100RN100SCBR1	M83513/16-E01CP	100RC31PBRP1
M83513/13-C02CN	100RC21S-CBR2	M83513/15-H01NP	100RN100SCBRP1	M83513/16-E01NN	100RN31PBR1
M83513/13-C02CP	100RC21S-CBRP2	M83513/15-H02CN	100RC100SCBR2	M83513/16-E01NP	100RN31PBRP1
M83513/13-C02NN	100RN21S-CBR2	M83513/15-H02CP	100RC100SCBRP2	M83513/16-E02CN	100RC31PBR2
M83513/13-C02NP	100RN21S-CBRP2	M83513/15-H02NN	100RN100SCBR2	M83513/16-E02CP	100RC31PBRP2
M83513/13-C03CN	100RC21S-CBR3	M83513/15-H02NP	100RN100SCBRP2	M83513/16-E02NN	100RN31PBR2
M83513/13-C03CP	100RC21S-CBRP3	M83513/15-H03CN	100RC100SCBR3	M83513/16-E02NP	100RN31PBRP2
M83513/13-C03NN	100RN21S-CBR3	M83513/15-H03CP	100RC100SCBRP3	M83513/16-E03CN	100RC31PBR3
M83513/13-C03NP	100RN21S-CBRP3	M83513/15-H03NN	100RN100SCBR3	M83513/16-E03CP	100RC31PBRP3
M83513/13-D01CN	100RC25SCBR1	M83513/15-H03NP	100RN100SCBRP3	M83513/16-E03NN	100RN31PBR3
M83513/13-D01CP	100RC25SCBRP1	M83513/16-A01CN	100RC09SBR1	M83513/16-E03NP	100RN31PBRP3
M83513/13-D01NN	100RN25SCBR1	M83513/16-A01CP	100RC09PBRP1	M83513/16-F01CN	100RC37PBR1
M83513/13-D01NP	100RN25SCBRP1	M83513/16-A01NN	100RN09PBR1	M83513/16-F01CP	100RC37PBRP1
M83513/13-D02CN	100RC25SCBR2	M83513/16-A01NP	100RN09PBRP1	M83513/16-F01NN	100RN37PBR1
M83513/13-D02CP	100RC25SCBRP2	M83513/16-A02CN	100RC09PBR2	M83513/16-F01NP	100RN37PBRP1
M83513/13-D02NN	100RN25SCBR2	M83513/16-A02CP	100RC09PBRP2	M83513/16-F02CN	100RC37PBR2
M83513/13-D02NP	100RN25SCBRP2	M83513/16-A02NN	100RN09PBR2	M83513/16-F02CP	100RC37PBRP2
M83513/13-D03CN	100RC25SCBR3	M83513/16-A02NP	100RN09PBRP2	M83513/16-F02NN	100RN37PBR2
M83513/13-D03CP	100RC25SCBRP3	M83513/16-A03CN	100RC09PBR3	M83513/16-F02NP	100RN37PBRP2
M83513/13-D03NN	100RN25SCBR3	M83513/16-A03CP	100RC09PBRP3	M83513/16-F03CN	100RC37PBR3
M83513/13-D03NP	100RN25SCBRP3	M83513/16-A03NN	100RN09PBR3	M83513/16-F03CP	100RC37PBRP3
M83513/13-E01CN	100RC31SCBR1	M83513/16-A03NP	100RN09PBRP3	M83513/16-F03NN	100RN37PBR3
M83513/13-E01CP	100RC31SCBRP1	M83513/16-B01CN	100RC15PBR1	M83513/16-F03NP	100RN37PBRP3
M83513/13-E01NN	100RN31SCBR1	M83513/16-B01CP	100RC15PBRP1	M83513/17-G01CN	100RC51PBR1
M83513/13-E01NP	100RN31SCBRP1	M83513/16-B01NN	100RN15PBR1	M83513/17-G01CP	100RC51PBRP1
M83513/13-E02CN	100RC31SCBR2	M83513/16-B01NP	100RN15PBRP1	M83513/17-G01NN	100RN51PBR1
M83513/13-E02CP	100RC31SCBRP2	M83513/16-B02CN	100RC15PBR2	M83513/17-G01NP	100RN51PBRP1
M83513/13-E02NN	100RN31SCBR2	M83513/16-B02CP	100RC15PBRP2	M83513/17-G02CN	100RC51PBR2
M83513/13-E02NP	100RN31SCBRP2	M83513/16-B02NN	100RN15PBR2	M83513/17-G02CP	100RC51PBRP2
M83513/13-E03CN	100RC31SCBR3	M83513/16-B02NP	100RN15PBRP2	M83513/17-G02NN	100RN51PBR2
M83513/13-E03CP	100RC31SCBRP3	M83513/16-B03CN	100RC15PBR3	M83513/17-G02NP	100RN51PBRP2
M83513/13-E03NN	100RN31SCBR3	M83513/16-B03CP	100RC15PBRP3	M83513/17-G03CN	100RC51PBR3
M83513/13-E03NP	100RN31SCBRP3	M83513/16-B03NN	100RN15PBR3	M83513/17-G03CP	100RC51PBRP3
M83513/13-F01CN	100RC37SCBR1	M83513/16-B03NP	100RN15PBRP3	M83513/17-G03NN	100RN51PBR3
M83513/13-F01CP	100RC37SCBRP1	M83513/16-C01CN	100RC21PBR1	M83513/17-G03NP	100RN51PBRP3

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M83513/18-H01CN	100RC100PBR1	M83513/19-D03NP	100RN25SBRP3	M83513/22-A03NN	100RN09PBS3
M83513/18-H01CP	100RC100PBRP1	M83513/19-E01CN	100RC31SBR1	M83513/22-A03NP	100RN09PBSP3
M83513/18-H01NN	100RN100PBR1	M83513/19-E01CP	100RC31SBRP1	M83513/22-B01CN	100RC15PBS1
M83513/18-H01NP	100RN100PBRP1	M83513/19-E01NN	100RN31SBR1	M83513/22-B01CP	100RC15PBSP1
M83513/18-H02CN	100RC100PBR2	M83513/19-E01NP	100RN31SBRP1	M83513/22-B01NN	100RN15PBS1
M83513/18-H02CP	100RC100PBRP2	M83513/19-E02CN	100RC31SBR2	M83513/22-B01NP	100RN15PBSP1
M83513/18-H02NN	100RN100PBR2	M83513/19-E02CP	100RC31SBRP2	M83513/22-B02CN	100RC15PBS2
M83513/18-H02NP	100RN100PBRP2	M83513/19-E02NN	100RN31SBR2	M83513/22-B02CP	100RC15PBSP2
M83513/18-H03CN	100RC100PBR3	M83513/19-E02NP	100RN31SBRP2	M83513/22-B02NN	100RN15PBS2
M83513/18-H03CP	100RC100PBRP3	M83513/19-E03CN	100RC31SBR3	M83513/22-B02NP	100RN15PBSP2
M83513/18-H03NN	100RN100PBR3	M83513/19-E03CP	100RC31SBRP3	M83513/22-B01CT	100RC15P-BST1
M83513/18-H03NP	100RN100PBRP3	M83513/19-E03NN	100RN31SBR3	M83513/22-B03CN	100RC15PBS3
M83513/19-A01CN	100RN09SBRP1	M83513/19-E03NP	100RN31SBRP3	M83513/22-B03CP	100RC15PBSP3
M83513/19-A01CP	100RC09SBRP1	M83513/19-F01CN	100RC37SBR1	M83513/22-B03NN	100RN15PBS3
M83513/19-A01NN	100RN09SBR1	M83513/19-F01CP	100RC37SBRP1	M83513/22-B03NP	100RN15PBSP3
M83513/19-A01NP	100RN09SBRP1	M83513/19-F01NN	100RN37SBR1	M83513/22-C01CN	100RC21PBS1
M83513/19-A02CN	100RC09SBR2	M83513/19-F01NP	100RN37SBRP1	M83513/22-C01CP	100RC21PBSP1
M83513/19-A02CP	100RC09SBRP2	M83513/19-F02CN	100RC37SBR2	M83513/22-C01NN	100RN21PBS1
M83513/19-A02NN	100RN09SBR2	M83513/19-F02CP	100RC37SBRP2	M83513/22-C01NP	100RN21PBSP1
M83513/19-A02NP	100RN09SBRP2	M83513/19-F02NN	100RN37SBR2	M83513/22-C02CN	100RC21PBS2
M83513/19-A03CN	100RC09SBR3	M83513/19-F02NP	100RN37SBRP2	M83513/22-C02CP	100RC21PBSP2
M83513/19-A03CP	100RC09SBRP3	M83513/19-F03CN	100RC37SBR3	M83513/22-C02NN	100RN21PBS2
M83513/19-A03NN	100RN09SBR3	M83513/19-F03CP	100RC37SBRP3	M83513/22-C02NP	100RN21PBSP2
M83513/19-A03NP	100RN09SBRP3	M83513/19-F03NN	100RN37SBR3	M83513/22-C03CN	100RC21PBS3
M83513/19-B01CN	100RC15SBR1	M83513/19-F03NP	100RN37SBRP3	M83513/22-C03CP	100RC21PBSP3
M83513/19-B01CP	100RC15SBRP1	M83513/20-G01CN	100RC51SBR1	M83513/22-C03NN	100RN21PBS3
M83513/19-B01NN	100RN15SBR1	M83513/20-G01CP	100RC51SBRP1	M83513/22-C03NP	100RN21PBSP3
M83513/19-B01NP	100RN15SBRP1	M83513/20-G01NN	100RN51SBR1	M83513/22-D01CN	100RC25PBS1
M83513/19-B02CN	100RC15SBR2	M83513/20-G01NP	100RN51SBRP1	M83513/22-D01CP	100RC25PBSP1
M83513/19-B02CP	100RC15SBRP2	M83513/20-G02CN	100RC51SBR2	M83513/22-D01NN	100RN25PBS1
M83513/19-B02NN	100RN15SBR2	M83513/20-G02CP	100RC51SBRP2	M83513/22-D01NP	100RN25PBSP1
M83513/19-B02NP	100RN15SBRP2	M83513/20-G02NN	100RN51SBR2	M83513/22-D02CN	100RC25PBS2
M83513/19-B03CN	100RC15SBR3	M83513/20-G02NP	100RN51SBRP2	M83513/22-D02CP	100RC25PBSP2
M83513/19-B03CP	100RC15SBRP3	M83513/20-G03CN	100RC51SBR3	M83513/22-D02NN	100RN25PBS2
M83513/19-B03NN	100RN15SBR3	M83513/20-G03CP	100RC51SBRP3	M83513/22-D02NP	100RN25PBSP2
M83513/19-B03NP	100RN15SBRP3	M83513/20-G03NN	100RN51SBR3	M83513/22-D03CN	100RC25PBS3
M83513/19-C01CN	100RC21SBR1	M83513/20-G03NP	100RN51SBRP3	M83513/22-D03CP	100RC25PBSP3
M83513/19-C01CP	100RC21SBRP1	M83513/21-H01CN	100RC100SBR1	M83513/22-D03NN	100RN25PBS3
M83513/19-C01NN	100RN21SBR1	M83513/21-H01CP	100RC100SBRP1	M83513/22-D03NP	100RN25PBSP3
M83513/19-C01NP	100RN21SBRP1	M83513/21-H01NN	100RN100SBR1	M83513/22-E01CN	100RC31PBS1
M83513/19-C02CN	100RC21SBR2	M83513/21-H01NP	100RN100SBRP1	M83513/22-E01CP	100RC31PBSP1
M83513/19-C02CP	100RC21SBRP2	M83513/21-H02CN	100RC100SBR2	M83513/22-E01NN	100RN31PBS1
M83513/19-C02NN	100RN21SBR2	M83513/21-H02CP	100RC100SBRP2	M83513/22-E01NP	100RN31PBSP1
M83513/19-C02NP	100RN21SBRP2	M83513/21-H02NN	100RN100SBR2	M83513/22-E02CN	100RC31PBS2
M83513/19-C03CN	100RC21SBR3	M83513/21-H02NP	100RN100SBRP2	M83513/22-E02CP	100RC31PBSP2
M83513/19-C03CP	100RC21SBRP3	M83513/21-H03CN	100RC100SBR3	M83513/22-E02NN	100RN31PBS2
M83513/19-C03NN	100RN21SBR3	M83513/21-H03CP	100RC100SBRP3	M83513/22-E02NP	100RN31PBSP2
M83513/19-C03NP	100RN21SBRP3	M83513/21-H03NN	100RN100SBR3	M83513/22-E03CN	100RC31PBS3
M83513/19-D01CN	100RC25SBR1	M83513/21-H03NP	100RN100SBRP3	M83513/22-E03CP	100RC31PBSP3
M83513/19-D01CP	100RC25SBRP1	M83513/22-A01CN	100RC09PBS1	M83513/22-E03NN	100RN31PBS3
M83513/19-D01NN	100RN25SBR1	M83513/22-A01CP	100RC09PBSP1	M83513/22-E03NP	100RN31PBSP3
M83513/19-D01NP	100RN25SBRP1	M83513/22-A01NN	100RN09PBS1	M83513/22-F01CN	100RC37PBS1
M83513/19-D02CN	100RC25SBR2	M83513/22-A01NP	100RN09PBSP1	M83513/22-F01CP	100RC37PBSP1
M83513/19-D02CP	100RC25SBRP2	M83513/22-A02CN	100RC09PBS2	M83513/22-F01NN	100RN37PBS1
M83513/19-D02NN	100RN25SBR2	M83513/22-A02CP	100RC09PBSP2	M83513/22-F01NP	100RN37PBSP1
M83513/19-D02NP	100RN25SBRP2	M83513/22-A02NN	100RN09PBS2	M83513/22-F02CN	100RC37PBS2
M83513/19-D03CN	100RC25SBR3	M83513/22-A02NP	100RN09PBSP2	M83513/22-F02CP	100RC37PBSP2
M83513/19-D03CP	100RC25SBRP3	M83513/22-A03CN	100RC09PBS3	M83513/22-F02NN	100RN37PBS2
M83513/19-D03NN	100RN25SBR3	M83513/22-A03CP	100RC09PBSP3	M83513/22-F02NP	100RN37PBSP2

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M83513/22-F03CN	100RC37PBS3	M83513/25-C02NN	100RN21SBS2	M83513/27-H02CP	100RC100SBSP2
M83513/22-F03CP	100RC37PBSP3	M83513/25-C02NP	100RN21SBSP2	M83513/27-H02NN	100RN100SBS2
M83513/22-F03NN	100RN37PBS3	M83513/25-C03CN	100RC21SBS3	M83513/27-H02NP	100RN100SBSP2
M83513/22-F03NP	100RN37PBSP3	M83513/25-C03CP	100RC21SBSP3	M83513/27-H03CN	100RC100SBS3
M83513/23-G01CN	100RC51PBS1	M83513/25-C03NN	100RN21SBS3	M83513/27-H03CP	100RC100SBSP3
M83513/23-G01CP	100RC51PBSP1	M83513/25-C03NP	100RN21SBSP3	M83513/27-H03NN	100RN100SBS3
M83513/23-G01NN	100RN51PBS1	M83513/25-D01CN	100RC25SBS1	M83513/27-H03NP	100RN100SBSP3
M83513/23-G01NP	100RN51PBSP1	M83513/25-D01CP	100RC25SBSP1	M83513/28-A01CN	100RC09P-C61
M83513/23-G02CN	100RC51PBS2	M83513/25-D01NN	100RN25SBS1	M83513/28-A01CP	100RC09P-C6P1
M83513/23-G02CP	100RC51PBSP2	M83513/25-D01NP	100RN25SBSP1	M83513/28-A01CT	100RC09P-C6T1
M83513/23-G02NN	100RN51PBS2	M83513/25-D02CN	100RC25SBS2	M83513/28-A01CW	100RC09P-C6PT1
M83513/23-G02NP	100RN51PBSP2	M83513/25-D02CP	100RC25SBSP2	M83513/28-A01NN	100RN09P-C61
M83513/23-G03CN	100RC51PBS3	M83513/25-D02NN	100RN25SBS2	M83513/28-A01NP	100RN09P-C6P1
M83513/23-G03CP	100RC51PBSP3	M83513/25-D02NP	100RN25SBSP2	M83513/28-A01NT	100RN09P-C6T1
M83513/23-G03NN	100RN51PBS3	M83513/25-D03CN	100RC25SBS3	M83513/28-A01NW	100RN09P-C6PT1
M83513/23-G03NP	100RN51PBSP3	M83513/25-D03CP	100RC25SBSP3	M83513/28-A02CN	100RC09P-C62
M83513/24-H01CN	100RC100PBS1	M83513/25-D03NN	100RN25SBS3	M83513/28-A02CP	100RC09P-C6P2
M83513/24-H01CP	100RC100PBSP1	M83513/25-D03NP	100RN25SBSP3	M83513/28-A02CT	100RC09P-C6T2
M83513/24-H01NN	100RN100PBS1	M83513/25-E01CN	100RC31PBS1	M83513/28-A02CW	100RC09P-C6PT2
M83513/24-H01NP	100RN100PBSP1	M83513/25-E01CP	100RC31SBSP1	M83513/28-A02NN	100RN09P-C62
M83513/24-H02CN	100RC100PBS2	M83513/25-E01NN	100RN31PBS1	M83513/28-A02NP	100RN09P-C6P2
M83513/24-H02CP	100RC100PBSP2	M83513/25-E01NP	100RN31PBSP1	M83513/28-A02NT	100RN09P-C6T2
M83513/24-H02NN	100RN100PBS2	M83513/25-E02CN	100RC31PBS2	M83513/28-A02NW	100RN09P-C6PT2
M83513/24-H02NP	100RN100PBSP2	M83513/25-E02CP	100RC31SBSP2	M83513/28-A03CN	100RC09P-C63
M83513/24-H03CN	100RC100PBS3	M83513/25-E02NN	100RN31PBS2	M83513/28-A03CP	100RC09P-C6P3
M83513/24-H03CP	100RC100PBSP3	M83513/25-E02NP	100RN31PBSP2	M83513/28-A03CT	100RC09P-C6T3
M83513/24-H03NN	100RN100PBS3	M83513/25-E03CN	100RC31PBS3	M83513/28-A03CW	100RC09P-C6PT3
M83513/24-H03NP	100RN100PBSP3	M83513/25-E03CP	100RC31PBSP3	M83513/28-A03NN	100RN09P-C63
M83513/25-A01CN	100RC09SBS1	M83513/25-E03NN	100RN31PBS3	M83513/28-A03NP	100RN09P-C6P3
M83513/25-A01CP	100RC09SBSP1	M83513/25-E03NP	100RN31PBSP3	M83513/28-A03NT	100RN09P-C6T3
M83513/25-A01NN	100RN09SBS1	M83513/25-F01CN	100RC37PBS1	M83513/28-A03NW	100RN09P-C6PT3
M83513/25-A01NP	100RN09SBSP1	M83513/25-F01CP	100RC37SBSP1	M83513/28-B01CN	100RC15P-C61
M83513/25-A02CN	100RC09SBS2	M83513/25-F01NN	100RN37PBS1	M83513/28-B01CP	100RC15P-C6P1
M83513/25-A02CP	100RC09SBSP2	M83513/25-F01NP	100RN37PBSP1	M83513/28-B01CT	100RC15P-C6T1
M83513/25-A02NN	100RN09SBS2	M83513/25-F02CN	100RC37PBS2	M83513/28-B01CW	100RC15P-C6PT1
M83513/25-A02NP	100RN09SBSP2	M83513/25-F02CP	100RC37SBSP2	M83513/28-B01NN	100RN15P-C61
M83513/25-A03CN	100RC09SBS3	M83513/25-F02NN	100RN37PBS2	M83513/28-B01NP	100RN15P-C6P1
M83513/25-A03CP	100RC09SBSP3	M83513/25-F02NP	100RN37PBSP2	M83513/28-B01NT	100RN15P-C6T1
M83513/25-A03NN	100RN09SBS3	M83513/25-F03CN	100RC37PBS3	M83513/28-B01NW	100RN15P-C6PT1
M83513/25-A03NP	100RN09SBSP3	M83513/25-F03CP	100RC37PBSP3	M83513/28-B02CN	100RC15P-C62
M83513/25-B01CN	100RC15SBS1	M83513/25-F03NN	100RN37PBS3	M83513/28-B02CP	100RC15P-C6P2
M83513/25-B01CP	100RC15SBSP1	M83513/25-F03NP	100RN37PBSP3	M83513/28-B02CT	100RC15P-C6T2
M83513/25-B01NN	100RN15SBS1	M83513/26-G01CN	100RC51SBS1	M83513/28-B02CW	100RC15P-C6PT2
M83513/25-B01NP	100RN15SBSP1	M83513/26-G01CP	100RC51SBSP1	M83513/28-B02NN	100RN15P-C62
M83513/25-B01CT	100RC15S-BST1	M83513/26-G01NN	100RN51SBS1	M83513/28-B02NP	100RN15P-C6P2
M83513/25-B02CN	100RC15SBS2	M83513/26-G01NP	100RN51SBSP1	M83513/28-B02NT	100RN15P-C6T2
M83513/25-B02CP	100RC15SBSP2	M83513/26-G02CN	100RC51SBS2	M83513/28-B02NW	100RN15P-C6PT2
M83513/25-B02NN	100RN15SBS2	M83513/26-G02CP	100RC51SBSP2	M83513/28-B03CN	100RC15P-C63
M83513/25-B02NP	100RN15SBSP2	M83513/26-G02NN	100RN51SBS2	M83513/28-B03CP	100RC15P-C6P3
M83513/25-B03CN	100RC15SBS3	M83513/26-G02NP	100RN51SBSP2	M83513/28-B03CT	100RC15P-C6T3
M83513/25-B03CP	100RC15SBSP3	M83513/26-G03CN	100RC51SBS3	M83513/28-B03CW	100RC15P-C6PT3
M83513/25-B03NN	100RN15SBS3	M83513/26-G03CP	100RC51SBSP3	M83513/28-B03NN	100RN15P-C63
M83513/25-B03NP	100RN15SBSP3	M83513/26-G03NN	100RN51SBS3	M83513/28-B03NP	100RN15P-C6P3
M83513/25-C01CN	100RC21SBS1	M83513/26-G03NP	100RN51SBSP3	M83513/28-B03NT	100RN15P-C6T3
M83513/25-C01CP	100RC21SBSP1	M83513/27-H01CN	100RC100SBS1	M83513/28-B03NW	100RN15P-C6PT3
M83513/25-C01NN	100RN21SBS1	M83513/27-H01CP	100RC100SBSP1	M83513/28-C01CN	100RC21P-C61
M83513/25-C01NP	100RN21SBSP1	M83513/27-H01NN	100RN100SBS1	M83513/28-C01CP	100RC21P-C6P1
M83513/25-C02CN	100RC21SBS2	M83513/27-H01NP	100RN100SBSP1	M83513/28-C01CT	100RC21P-C6T1
M83513/25-C02CP	100RC21SBSP2	M83513/27-H02CN	100RC100SBS2	M83513/28-C01CW	100RC21P-C6PT1

Mil-Spec	Amphenol	Mil-Spec	Amphenol	Mil-Spec	Amphenol
M83513/28-C01NN	100RN21P-C61	M83513/28-E02NW	100RN31P-C6PT2	M83513/30-G01CT	100RC100P-C6T1
M83513/28-C01NP	100RN21P-C6P1	M83513/28-E03CN	100RC31P-C63	M83513/30-G01CW	100RC100P-C6PT1
M83513/28-C01NT	100RN21P-C6T1	M83513/28-E03CP	100RC31P-C6P3	M83513/30-G01NN	100RN100P-C61
M83513/28-C01NW	100RN21P-C6PT1	M83513/28-E03CT	100RC31P-C6T3	M83513/30-G01NP	100RN100P-C6P1
M83513/28-C02CN	100RC21P-C62	M83513/28-E03CW	100RC31P-C6PT3	M83513/30-G01NT	100RN100P-C6T1
M83513/28-C02CP	100RC21P-C6P2	M83513/28-E03NN	100RN31P-C63	M83513/30-G01NW	100RN100P-C6PT1
M83513/28-C02CT	100RC21P-C6T2	M83513/28-E03NP	100RN31P-C6P3	M83513/29-G02CN	100RC100P-C62
M83513/28-C02CW	100RC21P-C6PT2	M83513/28-E03NT	100RN31P-C6T3	M83513/30-G02CP	100RC100P-C6P2
M83513/28-C02NN	100RN21P-C62	M83513/28-E03NW	100RN31P-C6PT3	M83513/30-G02CT	100RC100P-C6T2
M83513/28-C02NP	100RN21P-C6P2	M83513/28-F01CN	100RC37P-C61	M83513/30-G02CW	100RC100P-C6PT2
M83513/28-C02NT	100RN21P-C6T2	M83513/28-F01CP	100RC37P-C6P1	M83513/30-G02NN	100RN100P-C62
M83513/28-C02NW	100RN21P-C6PT2	M83513/28-F01CT	100RC37P-C6T1	M83513/30-G02NP	100RN100P-C6P2
M83513/28-C03CN	100RC21P-C63	M83513/28-F01CW	100RC37P-C6PT1	M83513/30-G02NT	100RN100P-C6T2
M83513/28-C03CP	100RC21P-C6P3	M83513/28-F01NN	100RN37P-C61	M83513/30-G02NW	100RN100P-C6PT2
M83513/28-C03CT	100RC21P-C6T3	M83513/28-F01NP	100RN37P-C6P1	M83513/30-G03CN	100RC100P-C63
M83513/28-C03CW	100RC21P-C6PT3	M83513/28-F01NT	100RN37P-C6T1	M83513/30-G03CP	100RC100P-C6P3
M83513/28-C03NN	100RN21P-C63	M83513/28-F01NW	100RN37P-C6PT1	M83513/30-G03CT	100RC100P-C6T3
M83513/28-C03NP	100RN21P-C6P3	M83513/28-F02CN	100RC37P-C62	M83513/30-G03CW	100RC100P-C6PT3
M83513/28-C03NT	100RN21P-C6T3	M83513/28-F02CP	100RC37P-C6P2	M83513/30-G03NN	100RN100P-C63
M83513/28-C03NW	100RN21P-C6PT3	M83513/28-F02CT	100RC37P-C6T2	M83513/30-G03NP	100RN100P-C6P3
M83513/28-D01CN	100RC25P-C61	M83513/28-F02CW	100RC37P-C6PT2	M83513/30-G03NT	100RN100P-C6T3
M83513/28-D01CP	100RC25P-C6P1	M83513/28-F02NN	100RN37P-C62	M83513/30-G03NW	100RN100P-C6PT3
M83513/28-D01CT	100RC25P-C6T1	M83513/28-F02NP	100RN37P-C6P2	M83513/31-A01CN	100RC09S-C61
M83513/28-D01CW	100RC25P-C6PT1	M83513/28-F02NT	100RN37P-C6T2	M83513/31-A01CP	100RC09S-C6P1
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M83513/28-D01NP	100RN25P-C6P1	M83513/28-F03CN	100RC37P-C63	M83513/31-A01CW	100RC09S-C6PT1
M83513/28-D01NT	100RN25P-C6T1	M83513/28-F03CP	100RC37P-C6P3	M83513/31-A01NN	100RN09S-C61
M83513/28-D01NW	100RN25P-C6PT1	M83513/28-F03CT	100RC37P-C6T3	M83513/31-A01NP	100RN09S-C6P1
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M83513/28-D02CP	100RC25P-C6P2	M83513/28-F03NN	100RN37P-C63	M83513/31-A01NW	100RN09S-C6PT1
M83513/28-D02CT	100RC25P-C6T2	M83513/28-F03NP	100RN37P-C6P3	M83513/31-A02CN	100RC09S-C62
M83513/28-D02CW	100RC25P-C6PT2	M83513/28-F03NT	100RN37P-C6T3	M83513/31-A02CP	100RC09S-C6P2
M83513/28-D02NN	100RN25P-C62	M83513/28-F03NW	100RN37P-C6PT3	M83513/31-A02CT	100RC09S-C6T2
M83513/28-D02NP	100RN25P-C6P2	M83513/29-G01CN	100RC51P-C61	M83513/31-A02CW	100RC09S-C6PT2
M83513/28-D02NT	100RN25P-C6T2	M83513/29-G01CP	100RC51P-C6P1	M83513/31-A02NN	100RN09S-C62
M83513/28-D02NW	100RN25P-C6PT2	M83513/29-G01CT	100RC51P-C6T1	M83513/31-A02NP	100RN09S-C6P2
M83513/28-D03CN	100RC25P-C63	M83513/29-G01CW	100RC51P-C6PT1	M83513/31-A02NT	100RN09S-C6T2
M83513/28-D03CP	100RC25P-C6P3	M83513/29-G01NN	100RN51P-C61	M83513/31-A02NW	100RN09S-C6PT2
M83513/28-D03CT	100RC25P-C6T3	M83513/29-G01NP	100RN51P-C6P1	M83513/31-A03CN	100RC09S-C63
M83513/28-D03CW	100RC25P-C6PT3	M83513/29-G01NT	100RN51P-C6T1	M83513/31-A03CP	100RC09S-C6P3
M83513/28-D03NN	100RN25P-C63	M83513/29-G01NW	100RN51P-C6PT1	M83513/31-A03CT	100RC09S-C6T3
M83513/28-D03NP	100RN25P-C6P3	M83513/29-G02CN	100RC51P-C62	M83513/31-A03CW	100RC09S-C6PT3
M83513/28-D03NT	100RN25P-C6T3	M83513/29-G02CP	100RC51P-C6P2	M83513/31-A03NN	100RN09S-C63
M83513/28-D03NW	100RN25P-C6PT3	M83513/29-G02CT	100RC51P-C6T2	M83513/31-A03NP	100RN09S-C6P3
M83513/28-E01CN	100RC31P-C61	M83513/29-G02CW	100RC51P-C6PT2	M83513/31-A03NT	100RN09S-C6T3
M83513/28-E01CP	100RC31P-C6P1	M83513/29-G02NN	100RN51P-C62	M83513/31-A03NW	100RN09S-C6PT3
M83513/28-E01CT	100RC31P-C6T1	M83513/29-G02NP	100RN51P-C6P2	M83513/31-B01CN	100RC15S-C61
M83513/28-E01CW	100RC31P-C6PT1	M83513/29-G02NT	100RN51P-C6T2	M83513/31-B01CP	100RC15S-C6P1
M83513/28-E01NN	100RN31P-C61	M83513/29-G02NW	100RN51P-C6PT2	M83513/31-B01CT	100RC15S-C6T1
M83513/28-E01NP	100RN31P-C6P1	M83513/29-G03CN	100RC51P-C63	M83513/31-B01CW	100RC15S-C6PT1
M83513/28-E01NT	100RN31P-C6T1	M83513/29-G03CP	100RC51P-C6P3	M83513/31-B01NN	100RN15S-C61
M83513/28-E01NW	100RN31P-C6PT1	M83513/29-G03CT	100RC51P-C6T3	M83513/31-B01NP	100RN15S-C6P1
M83513/28-E02CN	100RC31P-C62	M83513/29-G03CW	100RC51P-C6PT3	M83513/31-B01NT	100RN15S-C6T1
M83513/28-E02CP	100RC31P-C6P2	M83513/29-G03NN	100RN51P-C63	M83513/31-B01NW	100RN15S-C6PT1
M83513/28-E02CT	100RC31P-C6T2	M83513/29-G03NP	100RN51P-C6P3	M83513/31-B02CN	100RC15S-C62
M83513/28-E02CW	100RC31P-C6PT2	M83513/29-G03NT	100RN51P-C6T3	M83513/31-B02CP	100RC15S-C6P2
M83513/28-E02NN	100RN31P-C62	M83513/29-G03NW	100RN51P-C6PT3	M83513/31-B02CT	100RC15S-C6T2
M83513/28-E02NP	100RN31P-C6P2	M83513/30-G01CN	100RC100P-C61	M83513/31-B02CW	100RC15S-C6PT2
M83513/28-E02NT	100RN31P-C6T2	M83513/30-G01CP	100RC100P-C6P1	M83513/31-B02NN	100RN15S-C62

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2M804

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M83513/31-B02NP	100RN15S-C6P2	M83513/31-E01CN	100RC31S-C61	M83513/32-G02CW	100RC51S-C6PT2
M83513/31-B02NT	100RN15R-C6T2	M83513/31-E01CP	100RC31S-C6P1	M83513/32-G02NN	100RN51S-C62
M83513/31-B02NW	100RN15S-C6PT2	M83513/31-E01CT	100RC31S-C6T1	M83513/32-G02NP	100RN51S-C6P2
M83513/31-B03CN	100RC15S-C63	M83513/31-E01CW	100RC31S-C6PT1	M83513/32-G02NT	100RN51S-C6T2
M83513/31-B03CP	100RC15S-C6P3	M83513/31-E01NN	100RN31S-C61	M83513/32-G02NW	100RN51S-C6PT2
M83513/31-B03CT	100RC15S-C6T3	M83513/31-E01NP	100RN31S-C6P1	M83513/32-G03CN	100RC51S-C63
M83513/31-B03CW	100RC15S-C6PT3	M83513/31-E01NT	100RN31S-C6T1	M83513/32-G03CP	100RC51S-C6P3
M83513/31-B03NN	100RN15S-C63	M83513/31-E01NW	100RN31S-C6PT1	M83513/32-G03CT	100RC51S-C6T3
M83513/31-B03NP	100RN15S-C6P3	M83513/31-E02CN	100RC31S-C62	M83513/32-G03CW	100RC51S-C6PT3
M83513/31-B03NT	100RN15S-C6T3	M83513/31-E02CP	100RC31S-C6P2	M83513/32-G03NN	100RN51S-C63
M83513/31-B03NW	100RN15S-C6PT3	M83513/31-E02CT	100RC31S-C6T2	M83513/32-G03NP	100RN51S-C6P3
M83513/31-C01CN	100RC21S-C61	M83513/31-E02CW	100RC31S-C6PT2	M83513/32-G03NT	100RN51S-C6T3
M83513/31-C01CP	100RC21S-C6P1	M83513/31-E02NN	100RN31S-C62	M83513/32-G03NW	100RN51S-C6PT3
M83513/31-C01CT	100RC21S-C6T1	M83513/31-E02NP	100RN31S-C6P2	M83513/33-H01CN	100RC100S-C61
M83513/31-C01CW	100RC21S-C6PT1	M83513/31-E02NT	100RN31S-C6T2	M83513/33-H01CP	100RC100S-C6P1
M83513/31-C01NN	100RN21S-C61	M83513/31-E02NW	100RN31S-C6PT2	M83513/33-H01CT	100RC100S-C6T1
M83513/31-C01NP	100RN21S-C6P1	M83513/31-E03CN	100RC31S-C63	M83513/33-H01CW	100RC100S-C6PT1
M83513/31-C01NT	100RN21S-C6T1	M83513/31-E03CP	100RC31S-C6P3	M83513/33-H01NN	100RN100S-C61
M83513/31-C01NW	100RN21S-C6PT1	M83513/31-E03CT	100RC31S-C6T3	M83513/33-H01NP	100RN100S-C6P1
M83513/31-C02CN	100RC21S-C62	M83513/31-E03CW	100RC31S-C6PT3	M83513/33-H01NT	100RN100S-C6T1
M83513/31-C02CP	100RC21S-C6P2	M83513/31-E03NN	100RN31S-C63	M83513/33-H01NW	100RN100S-C6PT1
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M83513/31-C02CW	100RC21S-C6PT2	M83513/31-E03NT	100RN31S-C6T3	M83513/33-H02CP	100RC100S-C6P2
M83513/31-C02NN	100RN21S-C62	M83513/31-E03NW	100RN31S-C6PT3	M83513/33-H02CT	100RC100S-C6T2
M83513/31-C02NP	100RN21S-C6P2	M83513/31-F01CN	100RC37S-C61	M83513/33-H02CW	100RC100S-C6PT2
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M83513/31-C02NW	100RN21S-C6PT2	M83513/31-F01CT	100RC37S-C6T1	M83513/33-H02NP	100RN100S-C6P2
M83513/31-C03CN	100RC21S-C63	M83513/31-F01CW	100RC37S-C6PT1	M83513/33-H02NT	100RN100S-C6T2
M83513/31-C03CP	100RC21S-C6P3	M83513/31-F01NN	100RN37S-C61	M83513/33-H02NW	100RN100S-C6PT2
M83513/31-C03CT	100RC21S-C6T3	M83513/31-F01NP	100RN37S-C6P1	M83513/33-H03CN	100RC100S-C63
M83513/31-C03CW	100RC21S-C6PT3	M83513/31-F01NT	100RN37S-C6T1	M83513/33-H03CP	100RC100S-C6P3
M83513/31-C03NN	100RN21S-C63	M83513/31-F01NW	100RN37S-C6PT1	M83513/33-H03CT	100RC100S-C6T3
M83513/31-C03NP	100RN21S-C6P3	M83513/31-F02CN	100RC37S-C62	M83513/33-H03CW	100RC100S-C6PT3
M83513/31-C03NT	100RN21S-C6T3	M83513/31-F02CP	100RC37S-C6P2	M83513/33-H03NN	100RN100S-C63
M83513/31-C03NW	100RN21S-C6PT3	M83513/31-F02CT	100RC37S-C6T2	M83513/33-H03NP	100RN100S-C6P3
M83513/31-D01CN	100RC25S-C61	M83513/31-F02CW	100RC37S-C6PT2	M83513/33-H03NT	100RN100S-C6T3
M83513/31-D01CP	100RC25S-C6P1	M83513/31-F02NN	100RN37S-C62	M83513/33-H03NW	100RN100S-C6PT3
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M83513/31-D01NT	100RN25S-C6T1	M83513/31-F03CP	100RC37S-C6P3		
M83513/31-D01NW	100RN25S-C6PT1	M83513/31-F03CT	100RC37S-C6T3		
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M83513/31-D03CW	100RC25S-C6PT3	M83513/32-G01NT	100RN51S-C6T1		
M83513/31-D03NN	100RN25S-C63	M83513/32-G01NW	100RN51S-C6PT1		
M83513/31-D03NP	100RN25S-C6P3	M83513/32-G02CN	100RC51S-C62		
M83513/31-D03NT	100RN25S-C6T3	M83513/32-G02CP	100RC51S-C6P2		
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TERRAPIN

Miniature Rugged Connector Series

Terrapin shells are machined from brass giving an increased number of mating cycles and higher degree of robustness over traditional aluminium connectors. Five different keying options are available to prevent mis-mating; N, A, B, C and D. Standard plating is non-reflective black-silver, alternative plating finishes are available upon request.

Terrapin is available in two different styles of mating; either push-pull, being a break-away connector with no moving parts, or latch, which has an additional coupling ring allowing connections to be locked together. The same plug can be mated to either push-pull or latch receptacles. Both styles of product are waterproof to IP68 in both their mated and unmated conditions.

Amphenol offers a full range of cable harness solutions with standard or customized overmolding. Alternatively, for field termination, both integral and threaded backshell connectors can be terminated with screen retention straps and heat shrink boots giving.

The customized design specification of Terrapin lends itself to a variety of applications. Originally designed for soldier mounted applications such as Radios, Headsets and GPS units, Terrapin is also suitable for Gigabit Ethernet and USB 2.0 and therefore widely used on Computer Systems, LAN Switches and Routers. The high degree of sealing offered by Terrapin makes it perfect for Unmanned Ground Sensors and Surveillance equipment. Whatever the application, Terrapin offers space savings and improved durability over traditional interconnect products.



Terrapin Range Extension – Current Developments:

The below technical solutions are either new or currently under development. Please consult factory for the latest availability update and to obtain technical drawings and performance specification for these items.

• SCEP

An enhanced version of Terrapin connectors with improved blind-mate scoop proofing along with visual mating indicators. In part numbering, replace “SCE2” with “SCEP” and construct the rest of the part number as usual.



• MicroB USB

A standard MicroB USB interface packaged in the sealed Terrapin connector style.

• Additional Grounding Post

A customized version of the standard jam-nut connector to facilitate grounding of the shell.



• Co-ax Contacts

The integration of co-ax contacts to enable RF termination in the Terrapin connector style.

• Power Contacts

Standard Terrapin style connectors with contact arrangements to suit wire gauge greater than 20AWG.

• Fiber Optic

A fiber optic connection housed in the latched Terrapin connector style.

White dot on push pull connector indicates main key.

White line on latch connector indicates main key and open/closed situation.

White line on plug connector indicates main key.



Terrapin Terminology

L1T



Body

Backshell

Crimp ferrule

L1K



Coupling ring

Integral backshell

01K



Integral backshell for
direct screen termination

Terrapin Mating Options

Chassis Mount Plug SCE2-B-76A

The same chassis mount plug will mate with both push-pull and latch receptacles



Push-pull Inline Receptacle SCE2-B-01K



Latch Inline Receptacle SCE2-B-L1K



Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M
Accessories

HD38999

Micro-D

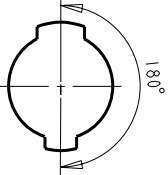
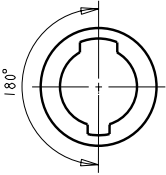
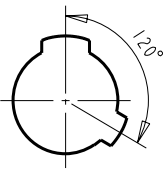
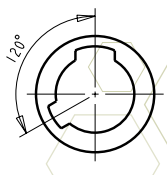
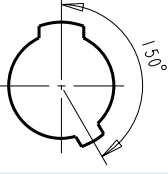
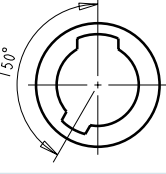
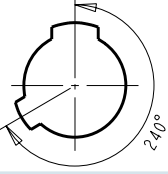
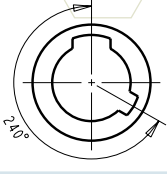
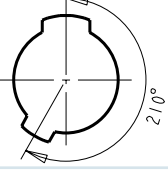
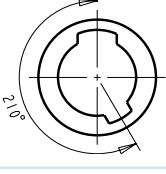
Terrapin

Nexus

Example: SCE2-B-76A06-07SN-002 | (985) for optional grounding spring in L1K and L1T | (981) castellated panel nut

SCE2-	B-	XXX	XX-	XX	-X	X-	XXX
Series identifier	Plating finish B = Black Silver (RoHS)	Style Plugs 76A 67A 06K 06T 76T Receptacles 01K L1K 01T L1T 07A 71A	Shell size and Insert Arrangement	number of contacts 06-07 07-10A 07-12 07-14 08-19 09-26 10-37 (See page 206)	Contact style P = Pins S = Sockets	Key orientation N = Normal A B C D (See diagrams below)	Variant code 001 PC Tails 002 Solder Cups 003 Backshell

Terrapin Plug and Receptacle Keyway Orientation

Keyway orientation letter	PLUG keyway orientation	RECEPTACLE keyway orientation	Keyway orientation letter	PLUG keyway orientation	RECEPTACLE keyway orientation
N			C		
A			D		
B					

Series identifier SCEP denotes additional color indicators for main key and enhanced blind mate, scoop proofing.



Test/parameter	Description
Electrical	
Current Rating	23 AWG contacts: 3A d.c. 20 AWG contacts: 7.5A d.c.
Shell to Shell Continuity	10mΩ max (screened) 200mΩ max (unscreened)
Contact Resistance	Size 20 and 23 contacts: 5mΩ initial 10mΩ maximum
Insulation Resistance	5000MΩ minimum
Working Voltage	AC (RMS) 400V
Dielectric Withstanding Voltage	2mA maximum leakage
Technical	
Mating Durability	2000+ cycles
Backshell Overtorque	25 lb.f.in.
Panel Nut Overtorque	30 lb.f.in.
Non-magnetic	Yes
Environmental	
Operating Temperature Range	-55°C to +125°C
Temperature Endurance	250 hours +125°C
Sealing (mated and unmated)	IP68, 1 hour at 2 metres*
Air Leakage	Less than 1cc per hour
Salt Spray	1000 hours
Altitude Immersion	70,000 Feet
RoHS Compliant	Yes
Suitable for RoHS compliant Soldering	Yes

*Contact the factory if greater depth/duration of sealing is required

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

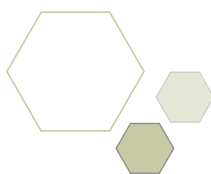
2M
Accessories

HD38999

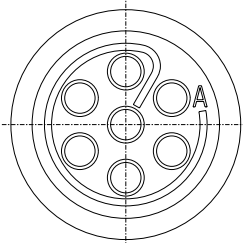
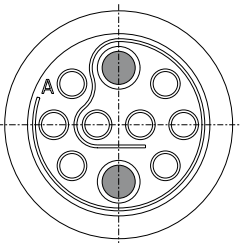
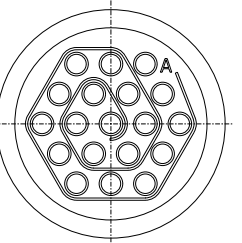
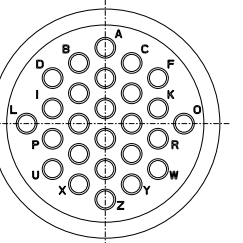
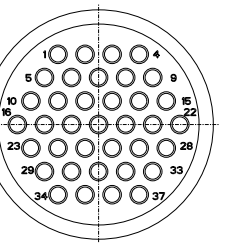
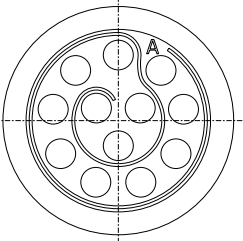
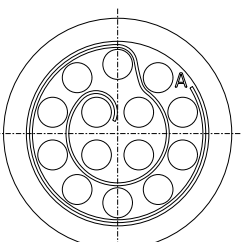
Micro-D

Terrapin

Nexus



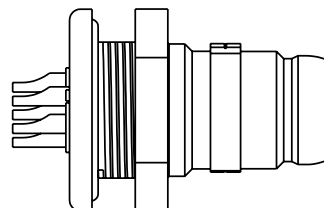
View shown for reference / View from rear of plug*

Shell size				
06	07	08	09	10
06-07	07-10A	08-19	09-26	10-37
				
	07-12			
				
	07-14			
				
23AWG contacts 20AWG contacts				

*View from rear of receptacle is mirror image of above.

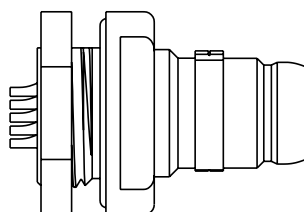
SCE2-X-76A

Page 240



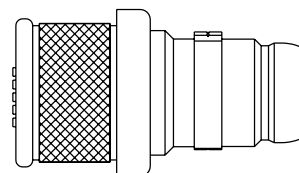
SCE2-X-67A

Page 241



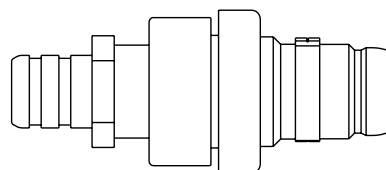
SCE2-X-06K

Page 242



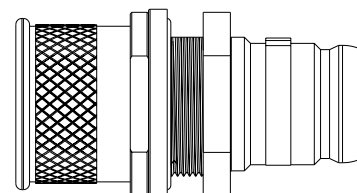
SCE2-X-06T

Page 243



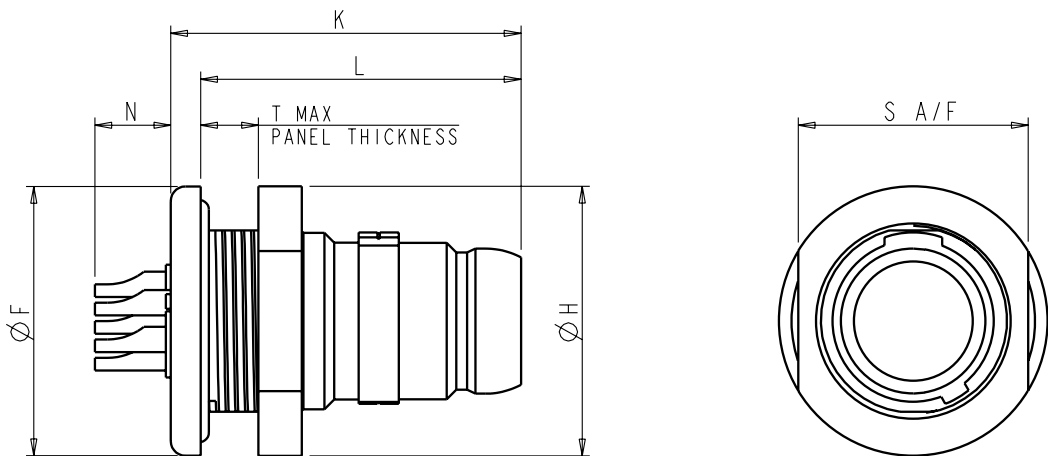
SCE2-X-76T

Page 244

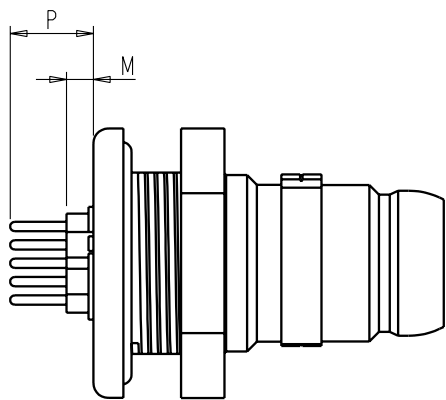


SCE2-X-76AXX-XXSX-XXX

- Rear Mount Jam Nut Plug



SOLDER CUP TYPE (-002)



PC TAIL TYPE (-001)

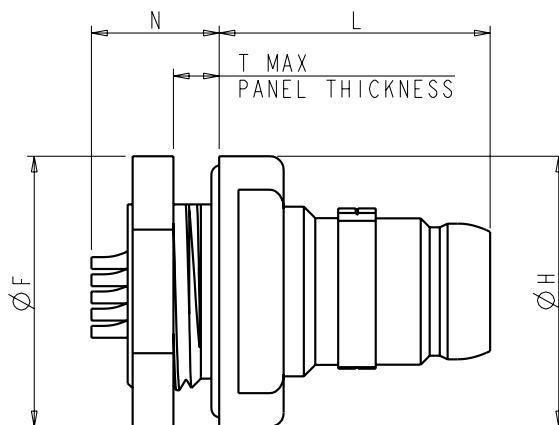
Shell Size	$\varnothing F$	$\varnothing H$	K	L	M	N	P	S A/F	T Max
Size 06	.550 (13.97)	.550 (13.97)	.716 (18.19)	.655 (16.64)	.055 (1.40)	.155 (3.94)	.170 (4.32)	.470 (11.94)	.118 (3.00)
Size 07	.620 (15.75)	.600 (15.24)	.716 (18.19)	.655 (16.64)	.055 (1.40)	.155 (3.94)	.170 (4.32)	.510 (12.95)	.118 (3.00)
Size 08	.760 (19.30)	.760 (19.30)	.716 (18.19)	.655 (16.64)	.055 (1.40)	.155 (3.94)	.170 (4.32)	.706 (17.93)	.118 (3.00)
Size 09	.890 (22.61)	.830 (21.08)	.802 (20.37)	.725 (18.42)	N/A	.085 (2.16)	.100 (2.54)	.745 (18.92)	.118 (3.00)
Size 10	.930 (20.62)	.900 (22.86)	.802 (20.37)	.725 (18.42)	N/A	.085 (2.16)	.100 (2.54)	.808 (20.52)	.125 (3.18)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

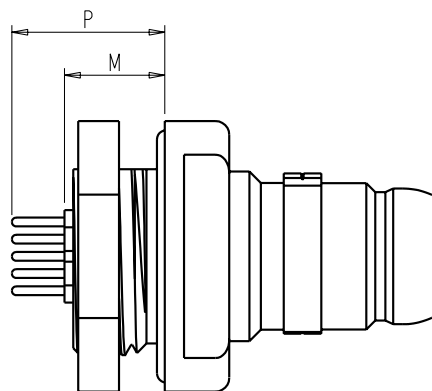
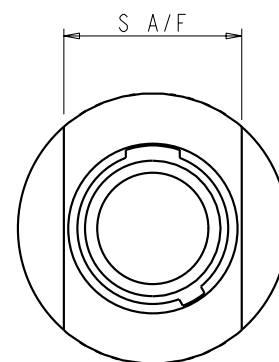
Front Mount Jam Nut Plug

SCE2-X-67AXX-XXSX-XXX

- Front Mount Jam Nut Plug



SOLDER CUP TYPE (-002)



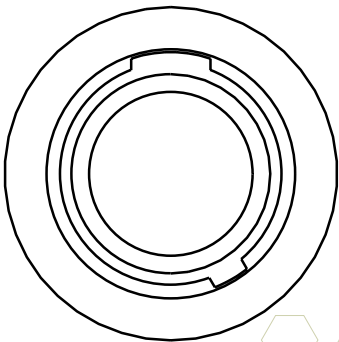
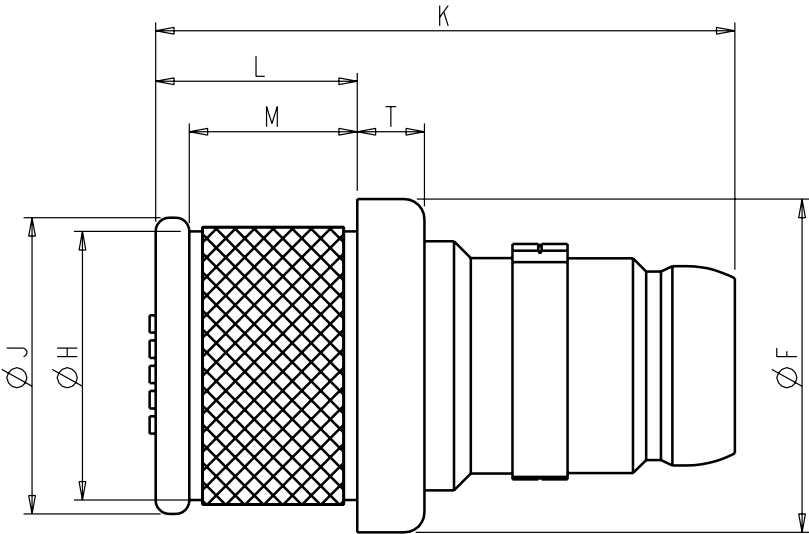
PC TAIL TYPE (-001)

Shell Size	ØF	ØH	L	M	N	P	S A/F	T Max
Size 06	.590 (14.99)	.590 (14.99)	.592 (13.04)	.324 (8.23)	.279 (7.09)	.424 (10.78)	.525 (13.34)	.100 (2.54)
Size 07	.620 (15.75)	.620 (15.75)	.592 (13.04)	.324 (8.23)	.279 (7.09)	.424 (10.78)	.685 (17.40)	.100 (2.54)
Size 08	.760 (19.30)	.760 (19.30)	.592 (13.04)	.324 (8.23)	.279 (7.09)	.424 (10.78)	.825 (20.96)	.100 (2.54)
Size 09	.890 (22.61)	.890 (22.61)	.662 (16.82)	.254 (6.45)	.209 (5.31)	.354 (8.99)	.955 (24.26)	.100 (2.54)
Size 10	.930 (23.62)	.930 (23.62)	.662 (16.82)	.254 (6.45)	.209 (5.31)	.354 (8.99)	.995 (25.27)	.100 (2.54)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

SCE2-X-06KXX-XXSX

- Inline Plug Integral Backshell



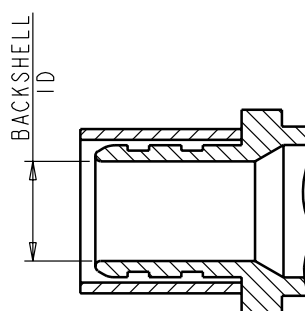
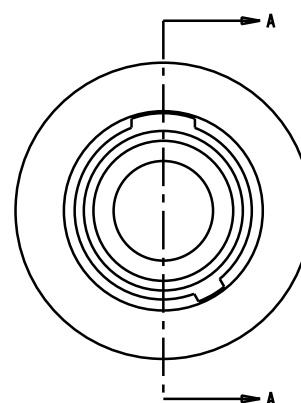
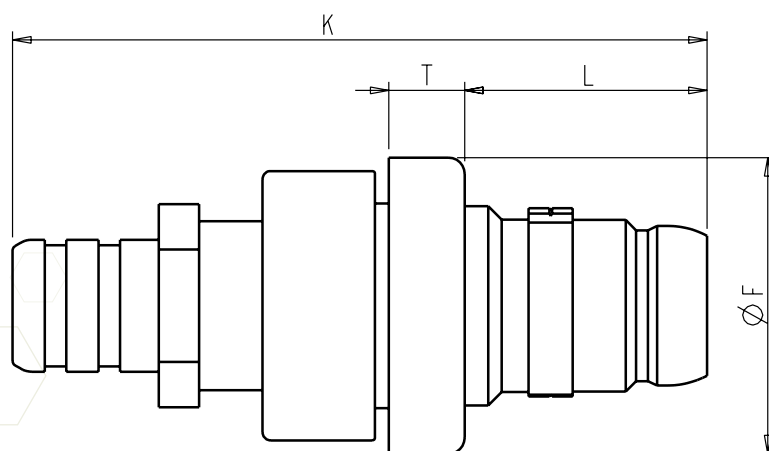
Shell Size	ØF	ØH	ØJ	K	L	M	T
Size 06	.495 (12.57)	.412 (10.46)	.440 (11.18)	.862 (21.89)	.300 (7.62)	.250 (6.35)	.100 (2.54)
Size 07	.575 (14.61)	.460 (11.68)	.505 (12.83)	.862 (21.89)	.300 (7.62)	.250 (6.35)	.100 (2.54)
Size 08	.650 (16.51)	.593 (15.06)	.620 (15.75)	.862 (21.89)	.300 (7.62)	.250 (6.35)	.100 (2.54)
Size 09	.725 (18.42)	.651 (16.54)	.690 (17.53)	.932 (23.67)	.300 (7.62)	.250 (6.35)	.100 (2.54)
Size 10	.800 (20.32)	.721 (18.31)	.760 (19.30)	.932 (23.67)	.300 (7.62)	.250 (6.35)	.100 (2.54)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Inline Plug Threaded Backshell

SCE2-X-06TXX-XXSX-003

- Inline Plug Threaded Backshell



SECTION A-A
-003 ACCESSORY

Shell Size	ØF	K	L	T	Backshell ID
					-003
Size 06	.550 (13.97)	1.292 (32.82)	.451 (11.46)	.141 (3.58)	.185 (4.70)
Size 07	.630 (16.00)	1.292 (32.82)	.451 (11.46)	.141 (3.58)	.265 (6.73)
Size 08	.705 (17.91)	1.292 (32.82)	.451 (11.46)	.141 (3.58)	.345 (8.76)
Size 09	.780 (19.81)	1.362 (34.60)	.521 (13.23)	.141 (3.58)	.425 (10.80)
Size 10	.855 (21.72)	1.362 (34.60)	.521 (13.23)	.141 (3.58)	.505 (12.83)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M
Accessories

HD38999

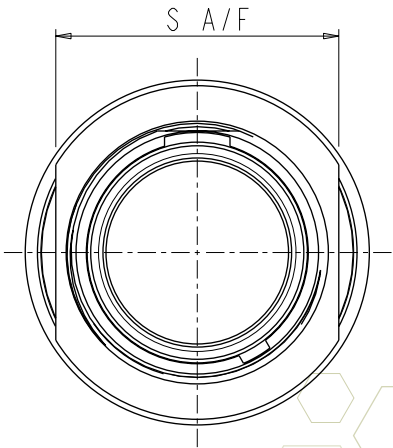
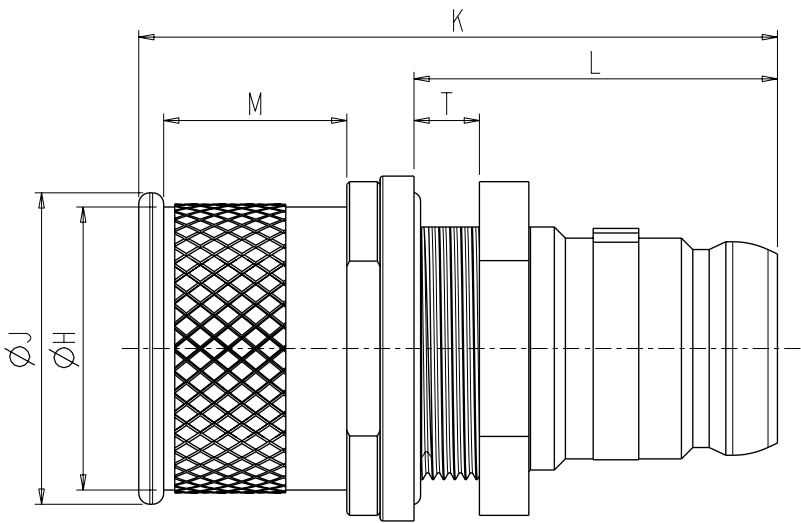
Micro-D

Terrapin

Nexus

SCE2-X-76TXX-XXSX-XXX

- Rear Mount Jam Nut Plug (Screw On Backshell)

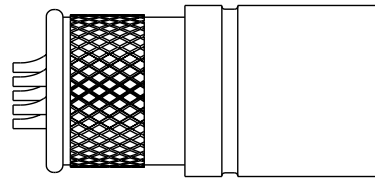


Shell Size	ØH	ØJ	K	L	M	S A/F	T Max
Size 06	.460 (11.68)	.490 (12.45)	1.150 (29.21)	.655 (16.64)	.330 (8.38)	.470 (11.94)	.125 (3.18)
Size 07	.600 (15.24)	.645 (16.83)	1.150 (29.21)	.655 (16.64)	.330 (8.38)	.510 (12.95)	.125 (3.18)
Size 08	.730 (18.54)	.770 (19.56)	1.150 (29.21)	.655 (16.64)	.330 (8.38)	.706 (17.93)	.125 (3.18)
Size 09	.790 (20.07)	.830 (21.08)	1.220 (30.99)	.725 (18.42)	.330 (8.38)	.745 (18.92)	.125 (3.18)
Size 10	.860 (21.84)	.900 (22.86)	1.220 (30.99)	.725 (18.42)	.330 (8.38)	.808 (20.52)	.125 (3.18)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

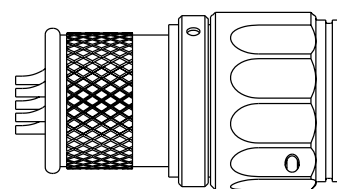
SCE2-X-01K

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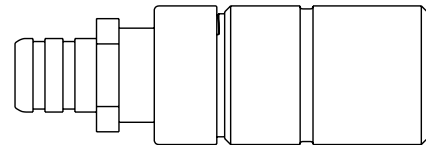
SCE2-X-L1K

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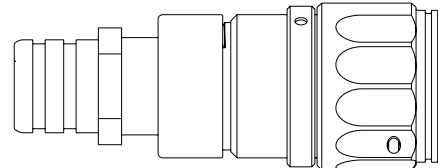
SCE2-X-01T

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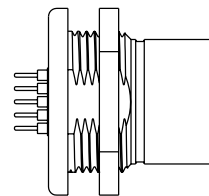
SCE2-X-L1T

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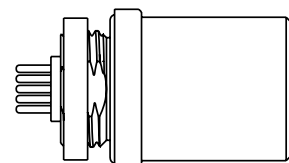
SCE2-X-07A

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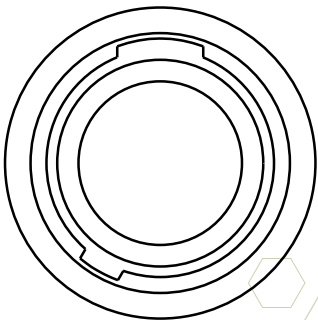
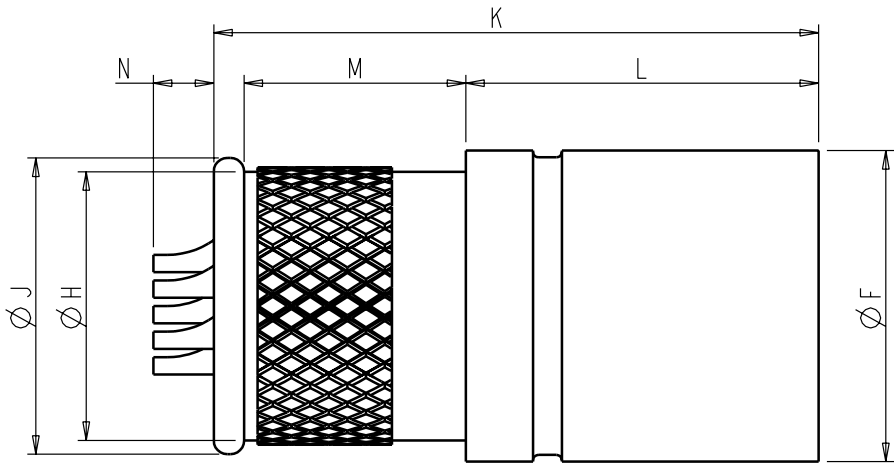
SCE2-X-71A

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SCE2-X-01KXX-XXPX

- Inline Receptacle, Integral Backshell



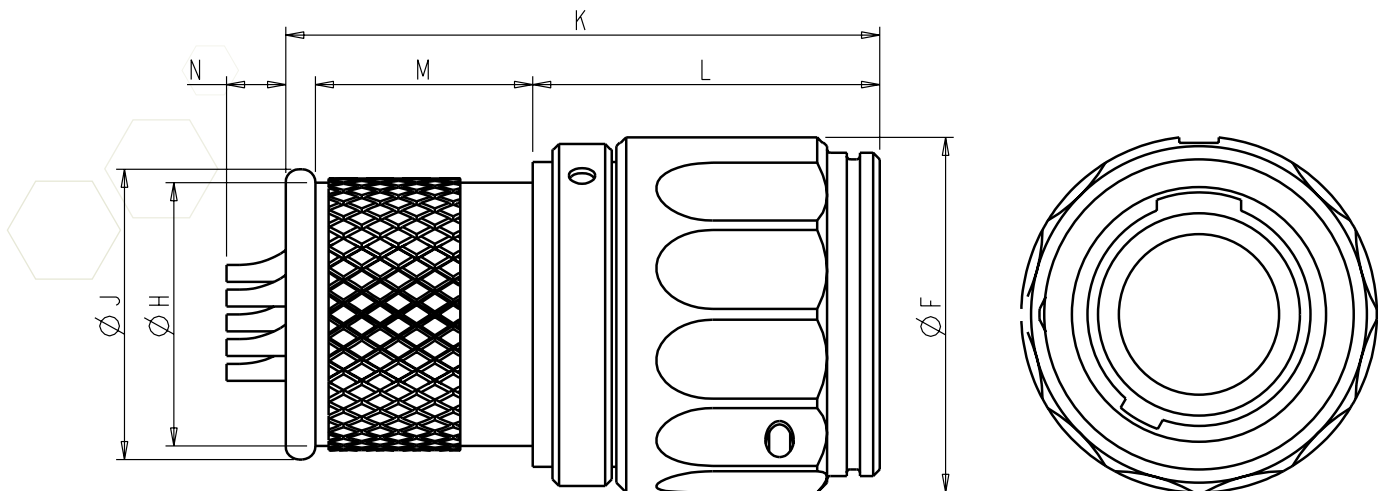
Shell Size	ØF	ØH	ØJ	K	L	M	N
Size 06	.462 (11.73)	.399 (10.13)	.440 (11.18)	.900 (22.86)	.525 (13.34)	.330 (8.38)	.090 (2.29)
Size 07	.575 (14.61)	.460 (11.68)	.505 (12.83)	.900 (22.86)	.525 (13.34)	.330 (8.38)	.090 (2.29)
Size 08	.620 (15.75)	.581 (14.76)	.620 (15.75)	.900 (22.86)	.525 (13.34)	.330 (8.38)	.090 (2.29)
Size 09	.691 (17.55)	.651 (16.54)	.690 (17.53)	.970 (24.64)	.525 (13.34)	.400 (10.16)	.020 (0.51)
Size 10	.761 (19.33)	.721 (18.31)	.760 (19.30)	.970 (24.64)	.525 (13.34)	.400 (10.16)	.020 (0.51)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Inline Latching Receptacle, Integral Backshell

SCE2-X-L1KXX-XXPX

- Inline Latching Receptacle, Integral Backshell



Shell Size	ØF	ØH	ØJ	K	L	M	N
Size 06	.540 (13.75)	.399 (10.14)	.440 (11.18)	.902 (22.91)	.527 (13.39)	.330 (8.38)	.090 (2.29)
Size 07	.610 (15.50)	.447 (11.35)	.505 (12.83)	.902 (22.91)	.527 (13.39)	.330 (8.38)	.090 (2.29)
Size 08	.699 (17.75)	.581 (14.75)	.620 (15.75)	.902 (22.91)	.527 (13.39)	.330 (8.38)	.090 (2.29)
Size 09	.770 (19.56)	.651 (16.54)	.690 (17.53)	.972 (24.69)	.527 (13.39)	.400 (10.16)	.090 (2.29)
Size 10	.840 (21.34)	.721 (18.31)	.760 (19.30)	.972 (24.69)	.527 (13.39)	.400 (10.16)	.090 (2.29)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Contacts
& Tools

2M Specs

2M801

2M803

2M804

2M805

2M
Accessories

HD38999

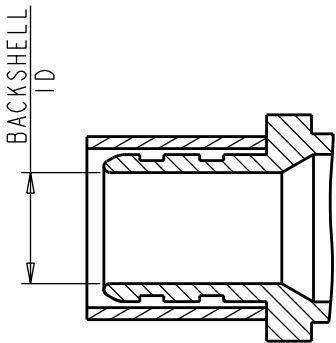
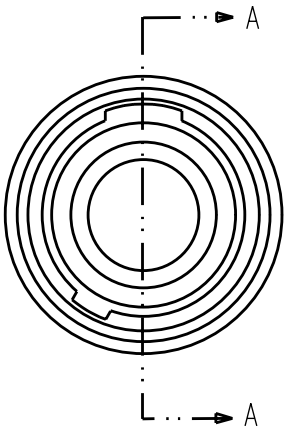
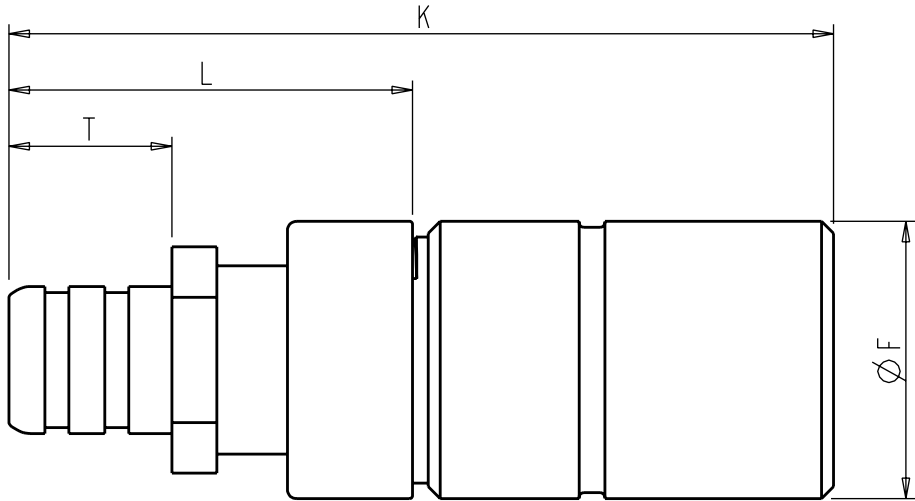
Micro-D

Terrapin

Nexus

SCE2-X-01TXX-XXPX-003

- Inline Receptacle, Threaded Backshell



SECTION A-A
-003 ACCESSORY

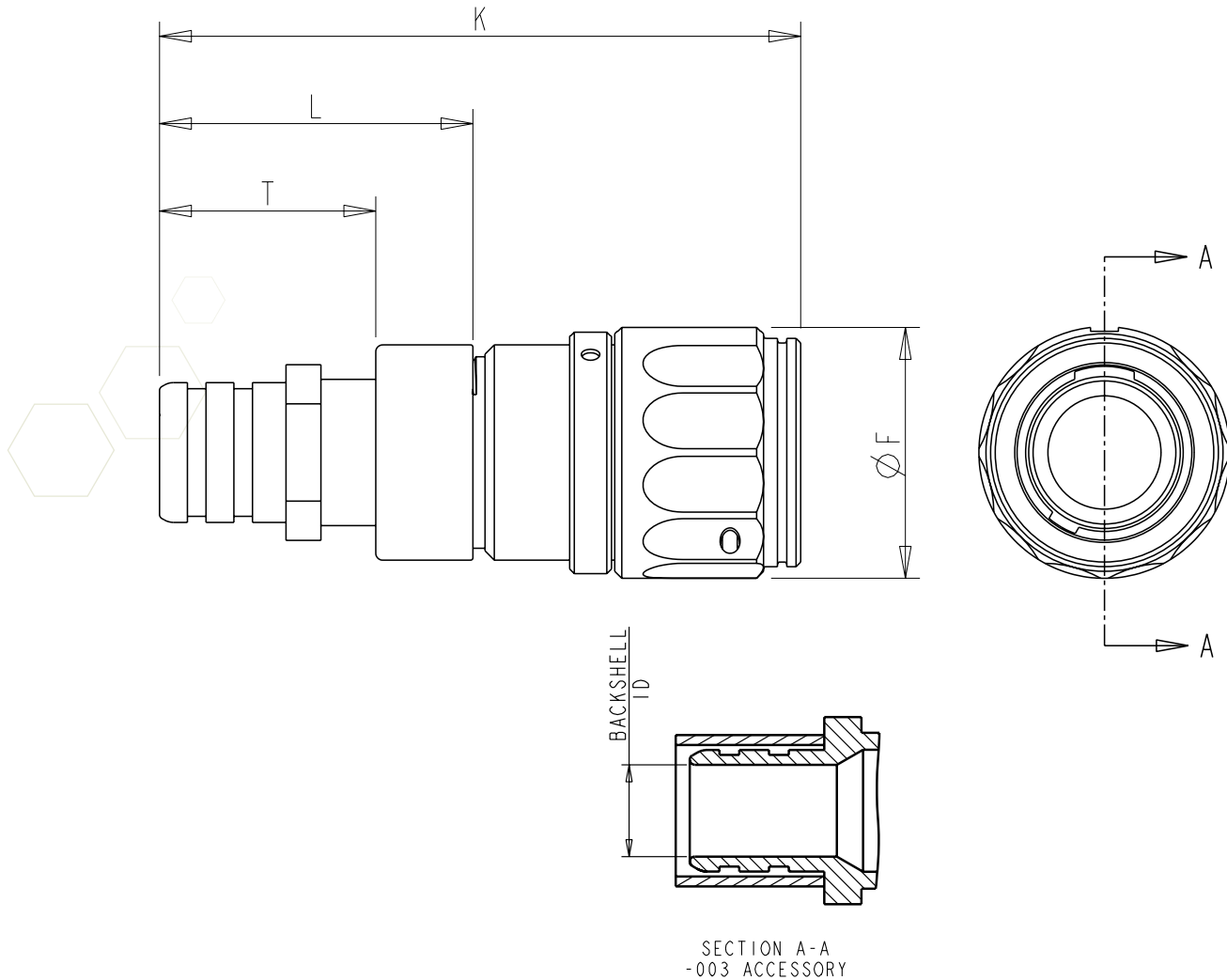
Shell Size	ØF	K	L	T	Backshell ID
					-003
Size 06	.462 (11.73)	1.377 (34.98)	.674 (17.12)	.272 (6.91)	.185 (4.70)
Size 07	.575 (14.61)	1.377 (34.98)	.674 (17.12)	.272 (6.91)	.265 (6.73)
Size 08	.620 (15.75)	1.377 (34.98)	.674 (17.12)	.272 (6.91)	.345 (8.76)
Size 09	.690 (17.53)	1.447 (36.75)	.674 (17.12)	.272 (6.91)	.425 (10.80)
Size 10	.760 (19.30)	1.447 (36.75)	.674 (17.12)	.272 (6.91)	.505 (12.83)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Inline Latching Receptacle, Threaded Backshell

SCE2-X-L1TXX-XXPX-003

- Inline Latching Receptacle, Threaded Backshell

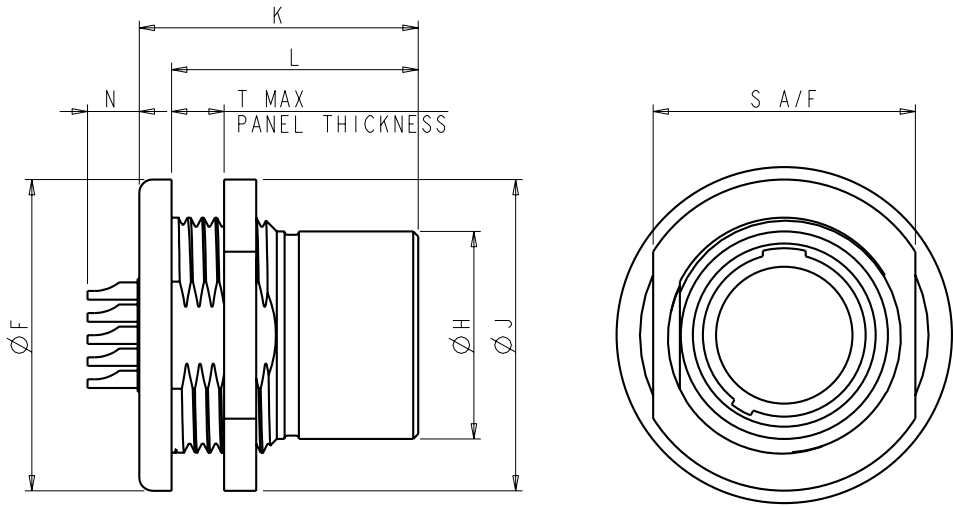


Shell Size	ØF	K	L	T	Backshell ID
					-003
Size 06	.538 (13.67)	1.379 (35.03)	.674 (17.12)	.465 (11.81)	.185 (4.70)
Size 07	.610 (15.50)	1.379 (35.03)	.674 (17.12)	.465 (11.81)	.265 (6.73)
Size 08	.699 (17.75)	1.379 (35.03)	.674 (17.12)	.465 (11.81)	.345 (8.76)
Size 09	.770 (19.56)	1.449 (36.80)	.674 (17.12)	.465 (11.81)	.425 (10.80)
Size 10	.840 (21.34)	1.449 (36.80)	.674 (17.12)	.465 (11.81)	.505 (12.83)

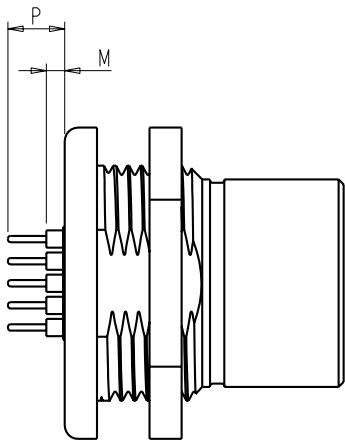
All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

SCE2-X-07AXX-XXPX-XXX

- Rear Mount Jam Nut Receptacle



SOLDER CUP TYPE (-002)



PC TAIL TYPE (-001)

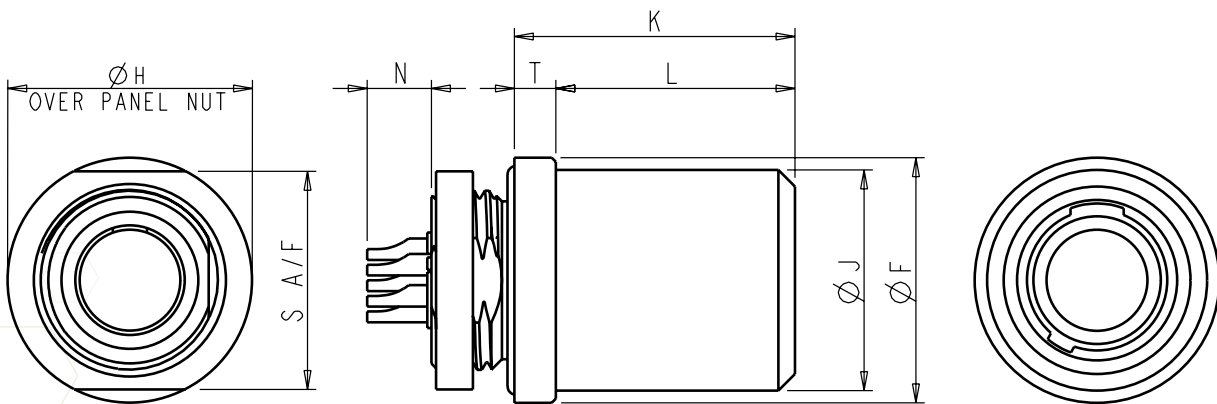
Shell Size	ØF	ØH	ØJ	K	L	M	N	P	S A/F	T Max
Size 06	.750 (19.05)	.462 (11.73)	.750 (19.05)	.835 (21.21)	.738 (18.75)	.055 (1.40)	.155 (3.94)	.170 (4.42)	.672 (17.07)	.157 (4.45)
Size 07	.895 (22.73)	.575 (14.61)	.895 (22.73)	.835 (21.21)	.738 (18.75)	.055 (1.40)	.155 (3.94)	.170 (4.42)	.750 (19.05)	.157 (4.45)
Size 08	.930 (23.62)	.620 (15.75)	.930 (23.62)	.835 (21.21)	.738 (18.75)	.055 (1.40)	.155 (3.94)	.170 (4.42)	.825 (20.96)	.157 (4.45)
Size 09	1.005 (25.53)	.690 (17.53)	1.005 (25.53)	.905 (22.99)	.808 (20.52)	N/A	.080 (2.03)	.170 (4.42)	.900 (22.86)	.157 (4.45)
Size 10	1.080 (27.43)	.760 (19.30)	1.080 (27.43)	.905 (22.99)	.808 (20.52)	N/A	.080 (2.03)	.170 (4.42)	.975 (24.77)	.157 (4.45)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

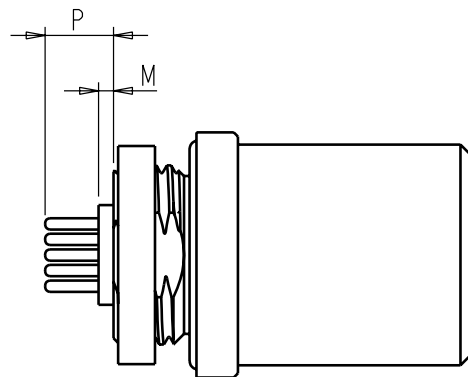
Front Mount Receptacle, Threaded

SCE2-X-71AXX-XXPX-XXX

- Front Mount Receptacle, Threaded



SOLDER CUP TYPE (-002)



PC TAIL TYPE (-001)

Shell Size	ØF	ØJ	ØH	K	L	M	N	P	S A/F	T
Size 06	.590 (14.99)	.462 (11.73)	.590 (14.99)	.877 (22.28)	.677 (17.20)	.015 (0.38)	.113 (2.87)	.130 (3.30)	.525 (13.34)	.100 (2.54)
Size 07	.620 (15.75)	.575 (14.61)	.620 (15.75)	.877 (22.28)	.677 (17.20)	.015 (0.38)	.113 (2.87)	.130 (3.30)	.685 (17.40)	.100 (2.54)
Size 08	.760 (19.30)	.620 (15.75)	.760 (19.30)	.877 (22.28)	.677 (17.20)	.015 (0.38)	.113 (2.87)	.130 (3.30)	.825 (20.96)	.100 (2.54)
Size 09	.890 (22.61)	.690 (17.53)	.890 (22.61)	.947 (24.05)	.747 (18.97)	N/A	.113 (2.87)	.060 (1.52)	.955 (24.26)	.100 (2.54)
Size 10	.930 (20.62)	.760 (19.30)	.930 (20.62)	.947 (24.05)	.747 (18.97)	N/A	.113 (2.87)	.060 (1.52)	.995 (25.27)	.100 (2.54)

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Cap assembly part numbering

Example: 390-5056-06-130-02 | See Pages 253-256 for drawings

390-	XXXX-	XX-	XXX-	XX
Series identifier	Cap style	Shell size	Cord length in mm	Accessories
	5056 Metal for receptacle	06 07 08 09 10	060 130 180	01 02 03 04 05 See table on pages 221-224
	5057 Metal for plug			
	5063 Rubber for receptacle			
	5064 Rubber for plug			

Heat Shrink Boots

- Part number: 123GB-0798-XX-X-0
XX = shell size, for example: 06, 07, 08, 09, or 10
X = S for straight or R for right angled



Braid Retention Strap

- Part number: 123GB-0799-0
Tooling available on request



Castellated Panel Nut

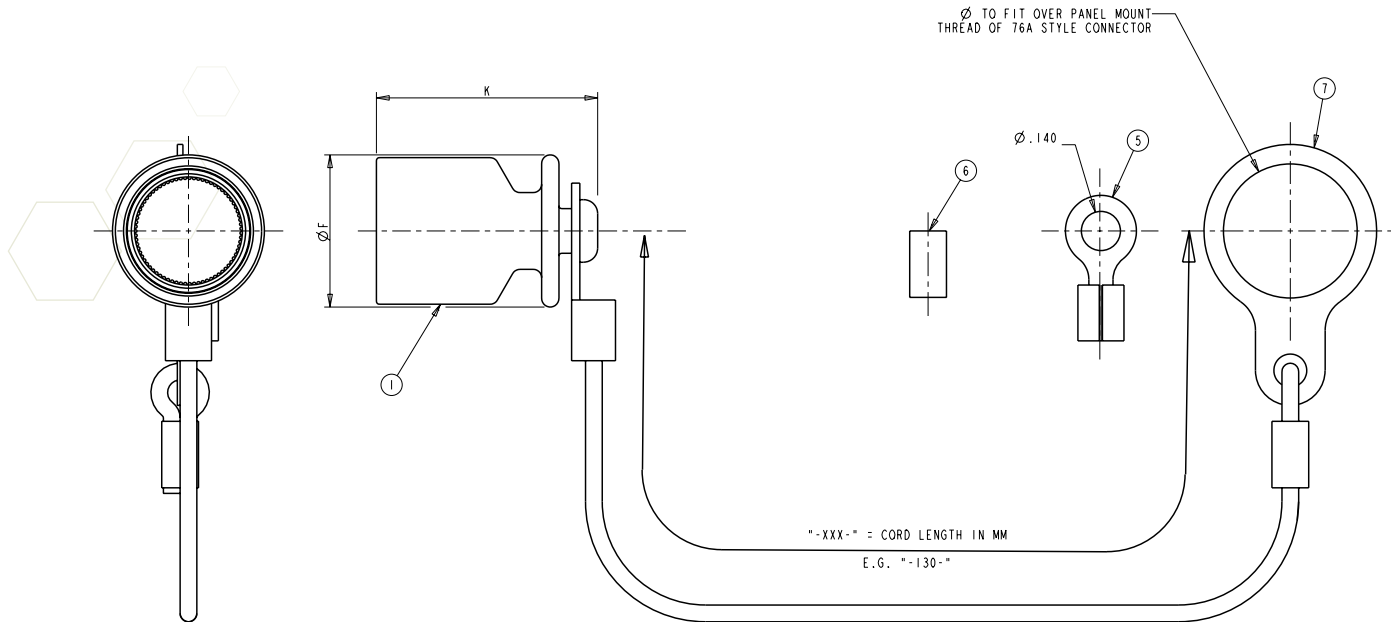
- Add deviation (981)
Tooling available on request



Metal Dust Cap Assembly for Plugs

390-5057-XX-XXX-XX

- Metal Dust Cap Assembly for Plugs



Shell size	Part number	Item 1 Cap	
		ØF	K
06	390-5057-06-XXX-XX	.464 (11.79)	.794 (20.17)
07	390-5057-07-XXX-XX	.545 (13.84)	.794 (20.17)
08	390-5057-08-XXX-XX	.620 (15.75)	.794 (20.17)
09	390-5057-09-XXX-XX	.695 (17.65)	.794 (20.17)
10	390-5057-10-XXX-XX	.770 (19.56)	.794 (20.17)

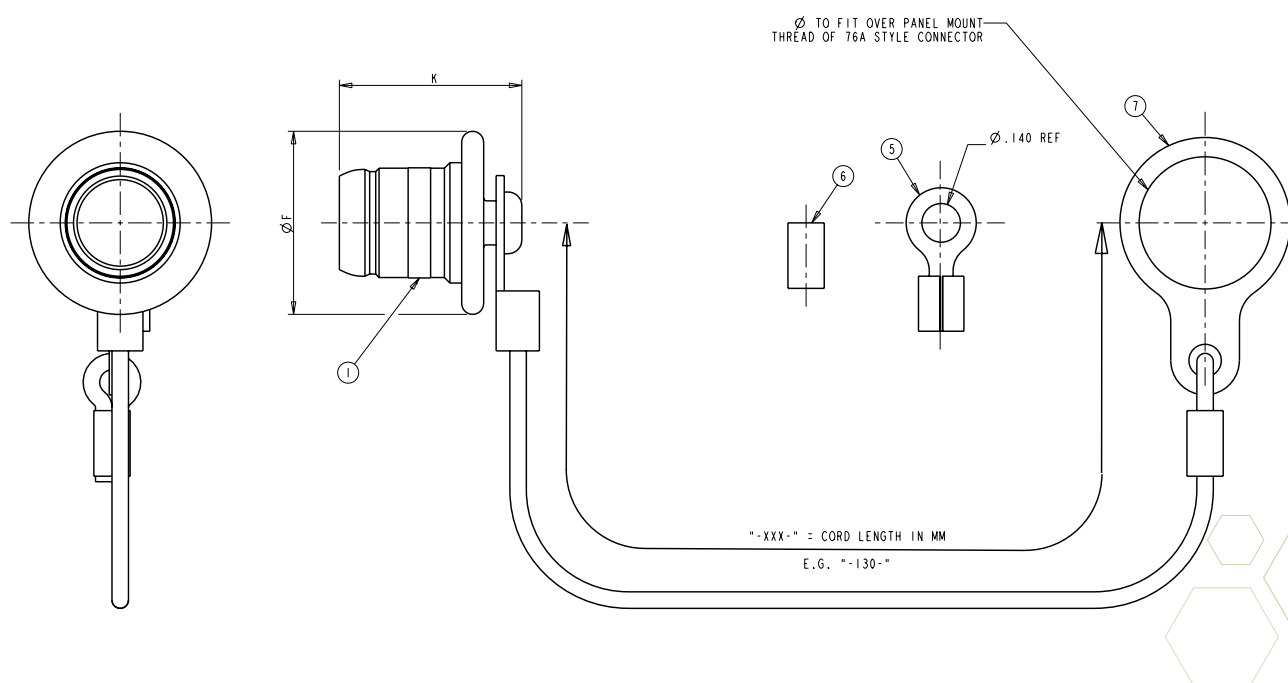
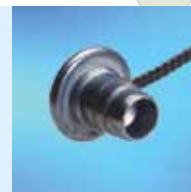
Supplied with			
Part number	Item 5 Eyelet	Item 6 Crimp ferrule	Item 7 Large eyelet
390-5057-XX-XXX-01	—	—	—
390-5057-XX-XXX-02	—	1	—
390-5057-XX-XXX-03	1	—	—
390-5057-XX-XXX-04	1	1	—
390-5057-XX-XXX-05	—	—	1

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Metal Dust Cap Assembly for Receptacles

390-5056-XX-XXX-XX

- Metal Dust Cap Assembly for Receptacles



Shell size	Part number	Item 1 Cap	
		ØF	K
06	390-5056-06-XXX-XX	.575 (14.61)	.664 (16.87)
07	390-5056-07-XXX-XX	.575 (14.61)	.664 (16.87)
08	390-5056-08-XXX-XX	.750 (19.05)	.664 (16.87)
09	390-5056-09-XXX-XX	.825 (20.95)	.664 (16.87)
10	390-5056-10-XXX-XX	.900 (22.86)	.664 (16.87)

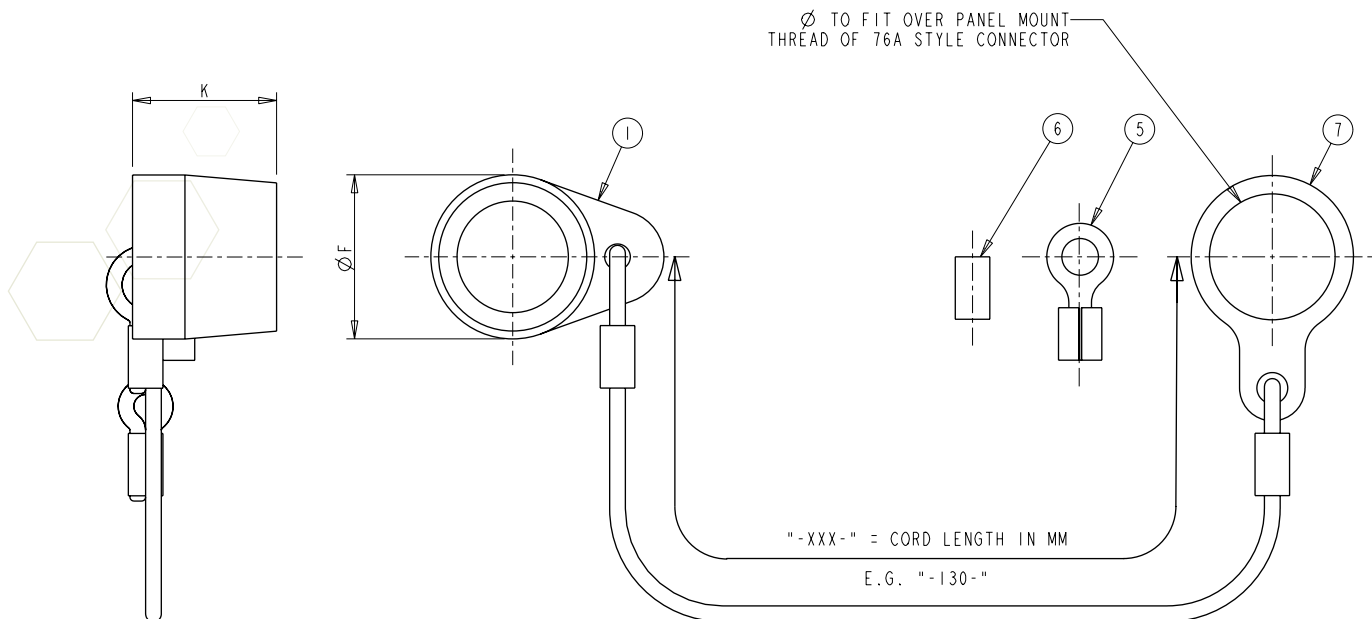
Supplied with			
Part number	Item 5 Eyelet	Item 6 Crimp ferrule	Item 7 Large eyelet
390-5056-XX-XXX-01	—	—	—
390-5056-XX-XXX-02	—	1	—
390-5056-XX-XXX-03	1	—	—
390-5056-XX-XXX-04	1	1	—
390-5056-XX-XXX-05	—	—	1

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Rubber Dust Cap Assembly for Plugs

390-5064-XX-XXX-XX

- Rubber Dust Cap Assembly for Plugs



Shell size	Part number	Item 1 Cap	
		ØF	K
06	390-5064-06-XXX-XX	.450 (11.43)	.550 (13.97)
07	390-5064-07-XXX-XX	.525 (13.34)	.550 (13.97)
08	390-5064-08-XXX-XX	.595 (15.11)	.550 (13.97)
09	390-5064-09-XXX-XX	.665 (16.89)	.550 (13.97)
10	390-5064-10-XXX-XX	.735 (18.67)	.550 (13.97)

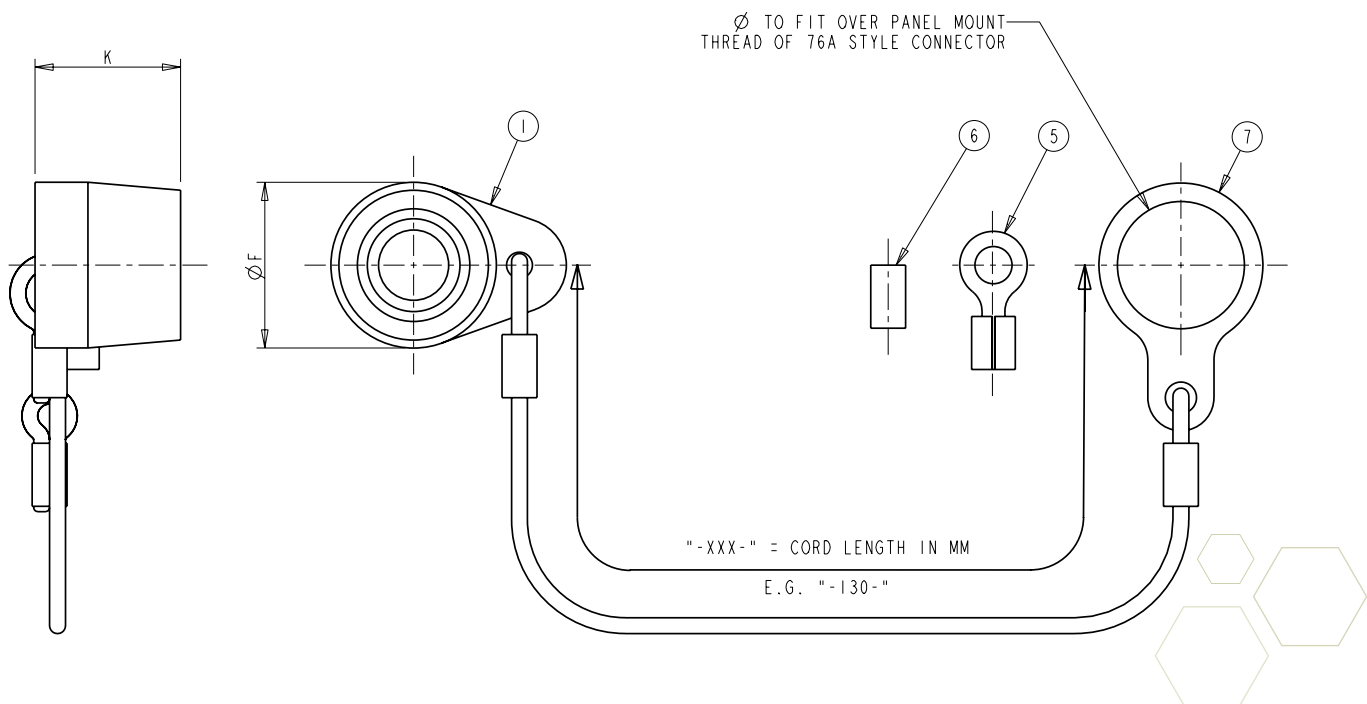
Supplied with			
Part number	Item 5 Eyelet	Item 6 Crimp ferrule	Item 7 Large eyelet
390-5064-XX-XXX-01	—	—	—
390-5064-XX-XXX-02	—	1	—
390-5064-XX-XXX-03	1	—	—
390-5064-XX-XXX-04	1	1	—
390-5064-XX-XXX-05	—	—	1

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Rubber Dust Cap Assembly for Receptacles

390-5063-XX-XXX-XX

- Rubber Dust Cap Assembly for Receptacles



Shell size	Part number	Item 1 Cap	
		ØF	K
06	390-5063-06-XXX-XX	.450 (11.43)	.550 (13.97)
07	390-5063-07-XXX-XX	.525 (13.34)	.550 (13.97)
08	390-5063-08-XXX-XX	.595 (15.11)	.550 (13.97)
09	390-5063-09-XXX-XX	.665 (16.89)	.550 (13.97)
10	390-5063-10-XXX-XX	.735 (18.67)	.550 (13.97)

Supplied with			
Part number	Item 5 Eyelet	Item 6 Crimp ferrule	Item 7 Large eyelet
390-5063-XX-XXX-01	—	—	—
390-5063-XX-XXX-02	—	1	—
390-5063-XX-XXX-03	1	—	—
390-5063-XX-XXX-04	1	1	—
390-5063-XX-XXX-05	—	—	1

All dimensions are in inches (mm shown in brackets) and are for reference only. Figure enlarged scale.

Overmolded cable harnesses using Terrapin connectors



Amphenol designs, build prototypes and manufactures a wide range of both standard and customized cable harness assemblies utilizing overmold technology. The Terrapin connector range has been designed specifically to lend itself to this method of termination.

Amphenol's capability in manufacturing is matched by our engineering expertise; we are able to offer a full design and development service from drawing conception to production delivery. Overmolding has fast become widely recognized for the benefits it brings to equipment used in both military and harsh environment situations.

Military/harsh environment situations

- Both standard and custom profile moldings available
- In-house design and prototype facility
- Aesthetically uniform product
- Repeatable high complexity moldings
- Low cost and repair by replacement
- Robust and tamper-proof
- Straight and angled moldings
- Low profile moldings
- Finger grips, logos and tactile indicators optional
- Mold material suitable for NBC washdown
- High degree of sealing – IP68

Typical applications

- Chemical detection units
- Comms units
- Display modules
- GPS
- Headsets
- Hubs
- LAN Switches
- Radios
- Routers
- Ruggedized laptops
- Sensor units
- Surveillance and rangefinders
- Weapons systems

Contents



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AP/AJ Watertight Breakaway Connector	261



For 50 years, Amphenol Nexus Technologies has been designing and manufacturing superior quality: electro-mechanical devices; low-voltage connectors; waterproof, breakaway connectors, commercial telephone plugs and jacks; push-button switches; and much more.

Amphenol Nexus Technologies offers a wide selection of configurations that are focused on the current market needs for small, lightweight ruggedized interconnect devices. We can design and build to your requirements with rapid turnaround. Experience why so many military and commercial customers choose to connect with Amphenol Nexus Technologies.

Products include:

- Mil-Spec Qualified M55116 Connectors
- Miniaturized M55116-type TAC Connectors
- 7- and 10-Pin Waterproof, Breakaway Connectors
- Ruggedized Telephone Plugs and Jacks
- Military Microphone Plugs and Jacks
- Push-Button Switches
- Miniature Connectors
- Connector Specials



Miniature M55116- Type Connectors

New military and commercial applications are demanding a reduction in connector size and weight without a loss of performance. Amphenol NEXUS Technologies has met that demand with its new Miniature M55116-Type TAC Connectors for soldier-worn applications, radio systems, and ruggedized communications systems.

TAC Connectors are designed and manufactured to the exacting specifications of MIL-DTL-55116 requirements at half the size of the standard connectors.

Amphenol NEXUS Technologies TAC Connectors are the ideal choice to reduce size and weight and still maintain many of the same performance benefits wherever a M55116 connector is needed on a newly designed system.

TAC Connector Product Series compared to M55116 mated pair



Features

- Both plug and receptacle are 50% smaller than the standard M55116 connectors (M55116/4 and M55116/10, as a comparison)
- Standard plugs have rigid contacts; jacks have spring-loaded contacts with solder cup terminals
- Molded-in spring-loaded contacts provide self-cleaning feature and eliminate issues with pin/socket open contacts
- Standard wire strain relief accommodates .125 & .250 cable diameter

Options

Shell Styles

- | | |
|--------------------|---------------|
| • In-Line Plug | # of Contacts |
| • Panel-Mount Plug | • 6-pin |
| • In-Line Jack | • 7-pin |
| • Panel-Mount Jack | • 10-pin |

In-Line Rear Accessories

- | | |
|----------------------|---------------|
| • Wire Strain Relief | Contact Types |
| • Over-Molded | • Solder Cup |
| | • PCB |

Part Numbers

Part Number	Connector Style
MAP-56-30	6-Conductor Plug
MAP-57-30	7-Conductor Plug
MAP-56-50	6-Conductor Plug (for Overmolding)
MAP-57-50	7-Conductor Plug (for Overmolding)
MAJ-16-00	6-Conductor Panel Mount Receptacle
MAJ-17-00	7-Conductor Panel Mount Receptacle
MAJ-56-30	6-Conductor In-Line Receptacle
MAJ-57-30	7-Conductor In-Line Receptacle
MAP-60-50	10-Conductor Plug (for Overmolding)
MAP-60-00	10-Conductor Panel-Mount Plug
MAJ-60-50	10-Conductor In-Line Jack (for Overmolding)
MAJ-60-00	10-Conductor Panel-Mount Jack

Technical Specifications

Shell:	Stainless Steel, Passivated
Finish:	Sand Blast, finish type E300 IAW MIL-F-14072
Mating:	Bayonet Coupling
Temperature:	-55°C to +85°C
Insert Material:	Thermoset Plastic
Contacts:	Gold-plated Brass / Silver-plated BeCu (Springs)
Current Rating:	0.5 amperes
Voltage Rating:	60V max
Dielectric	Withstanding Voltage; Sea Level: 500V
Insulation Resistance:	1000 megaohms min, except for connectors unmated after immersion test shall not be less than 100 megaohms
Contact Resistance:	.05 max

AJ-107BRS



Connector Miniaturization:
7-pin standard connectors with
10-pin miniaturized versions

AP-107



Features

- Plug and Jack breakaway connectors designed to function in severe environments
- Watertight in up to 6 feet of water
- Molded-in wiping-action contacts provide self-cleaning feature and eliminate issues with pin/socket open contacts
- Designed for multiple cable diameters
- Miniature versions are 50% smaller than standard connectors while maintaining many of the same performance characteristics AJ-107BRS AP-107 Connector Miniaturization

Options

- 7- or 10-pin (miniature version only) contacts
- Solder-type contacts or insulation-piercing contacts
- Wire strain relief or over-molded versions available for all plugs and jacks
- Panel mount versions are available for both front- and rear-mount panels
- Shielding is available in all connector choices
- All standard connector options also available in miniaturized versions

Applications

- C4I Systems
- Military Vehicles
- Commercial Aircraft
- Telecommunications Equipment
- Missiles and Ordnance
- Medical Equipment
- Commercial / Industrial Equipment

Technical Specifications

Shell:	Aluminum
Plating:	Black Anodize (standard); Black Chrome (shielded)
Insert:	Thermoset Plastic
Contacts:	Gold-plated Brass (Jacks) / Gold-plated BeCu (Plugs)
Mating:	Axial push-pull motion
Engagement Force:	≤ 14 lbs.
Disengagement Force:	8 - 12 lbs.
Mating Cycles:	5,000
Temperature:	-55°C to +85°C
Contact Current Capacity:	3 amperes
Contact Resistance:	≤ 150 mV



AP-1100M



AJ-1100M

Part Descriptions

Nexus Part Number	Connector Type	# of Contacts	Contact Type	Rear Accessory
AP-107	Plug	7	Insulation Piercing	None
AJ-107	Jack	7	Insulation Piercing	None
AP-107DR	Plug	7	Insulation Piercing	Overmold Cap
AJ-107DR	Jack	7	Insulation Piercing	Overmold Cap
AP-107DRS	Plug, Shielded	7	Insulation Piercing	Overmold Cap
AJ-107DRS	Jack, Shielded	7	Insulation Piercing	Overmold Cap
AP-107BR	Plug	7	Solder	Wire Strain Relief
AJ-107BR	Jack	7	Solder	Wire Strain Relief
AP-107BRS	Plug, Shielded	7	Solder	Wire Strain Relief
AJ-107BRS	Jack, Shielded	7	Solder	Wire Strain Relief
AP-117OM	Plug, Miniature	7	Solder	Overmold
AJ-117OM	Jack, Miniature	7	Solder	Overmold
AP-117BR	Plug, Miniature	7	Solder	Wire Strain Relief (.148 max)
AJ-117BR	Jack, Miniature	7	Solder	Wire Strain Relief (.148 max)
AP-117BRXL	Plug, Miniature	7	Solder	Wire Strain Relief (.250 max)
AJ-117BRXL	Jack, Miniature	7	Solder	Wire Strain Relief (.250 max)
AP-117LR-AL	Plug, Miniature w/Threaded Locking Ring	7	Solder	Wire Strain Relief (.250 max)
AJ-117LR-AL	Jack, Miniature w/Threaded Locking Ring	7	Solder	Wire Strain Relief (.250 max)
AP-117PLR	Plug, Miniature w/Threaded Locking Ring	7	Solder	Overmold
AJ-117PLR	Jack, Miniature w/Threaded Locking Ring	7	Solder	Overmold
AJ-117PM	Front Panel-Mount Jack, Miniature	7	Solder	None
AJ-117PMDC	Rear Panel-Mount Jack, Miniature	7	Solder	None
AP-110OM	Plug, Miniature	10	Solder	Overmold
AJ-110OM	Jack, Miniature	10	Solder	Overmold
AP-110OMS	Plug, Miniature, Shielded	10	Solder	Overmold
AJ-110OMS	Jack, Miniature, Shielded	10	Solder	Overmold

Mating Chart

		JACKS											
		AJ-107	AJ-107BR	AJ-107BSR	AJ-107DR	AJ-107DRS	AJ-110OM	AJ-110OMS	AJ-117BR	TXBL11-7A	TL-LR-11-7A	WOM11-7A	AJ-117PLR
PLUGS	AP-107	X											
	AP-107BR		X										
	AP-107BRS			X									
	AP-107DR				X								
	AP-107DRS					X							
	AP-110OM						X						
	AP-110OMS							X					
	AP-117BR								X				X
	AP-117BRXL									X			X
	AP-117LR-AL X										X		
	AP-117OM											X	X
	AP-117PLR											X	

Amphenol is pleased to introduce the next level of performance for interconnect systems with a complete range of Higher Density products. The New HD series from Amphenol are available as Circular and Rectangular connectors shells as well as dedicated PCB mount interconnects. Having full compatibility with well known Mil spec/standards in mind. Amphenol developed the HD Series connectors (see HD38999 section in this catalog) as a straight forward extension of existing series i.e.: MIL-DTL-38999 or EN4165... The contacts, even of a smaller size than usual, are part of EAS 39029 standards: a guarantee of performance, cost effectiveness and large availability. Higher Density means up to 50% more contacts for the same shell size!

30 contacts size 23 instead of 20 contacts size 22

50% more with same size insert

EN4165/ARINC 809/ SIM Monomodule Push Pull Connector

These modular push-pull composite SIM connectors are available in shielded or not-shielded versions, featuring 7 keying positions, and fitted with EN4165 / SIM modules (for contacts from gage 8 to 23, as per MIL-C-39029 or EN3155 spec.). They are lightweight, compact and easy-to-use, then perfectly suited for in-flight entertainment and cabin systems applications. They are flexible and suited for all configurations of installation, thanks to the broad range of backshells and fixing-on-structure devices. Designed and qualified according to Arinc 809 and EN4165 spec.



EN4165/SIM High Density Insert

The #23 High-density SIM module is an exclusive innovation of Amphenol. Based on standard EN4165 SIM modules, the HD modules have 30 size 23 contacts (BACC47) – an increase of more than 50% over #22 modules. HD SIM Modules are available with or without peripheral sealing and are fully compatible with all EN4165 / SIM connector series.

Features

- Operating temperature -55° C to +175° C
- Shell: Thermoplastic
- Seal: Silicone elastomer
- Dielectric withstanding Voltage (sea level) 1000 volts ac, rms 50 Hz
- Insulation Resistance at ambient temperature: 5000 Megohms minimum between any pair of contacts
- Contact maximum current: wire gauge 22 = 5 Amp
- Wire range 22-26



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