

MIL-DTL-5015 Series



International Network
Connectors

Summary

This connector was originally designed for military equipments and today it is widely applied at low costs in various industries. In particular, the MIL-DTL-5015 Connector is used in industrial products which require high levels of reliability such as medical equipments, electric cars, industrial building machinery, robots, and etc., The MIL-DTL-5015 uses a screw type coupling method and Soldering type coupling is used to contact the connector cables. This connector is measurements regarding mutual coupling and contact arrangements are consistent with the MIL-DTL-5015 standards.

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MIL-DTL-5015 Series

Ordering information

How To Order

INC 3100 E 28 - 21 P W **
 MS 3100 E 28 - 21 P W

Finishes

R - RoHs Compliance
 N - Electroless Nickel
 Z - Olive drab chromate over zinc plate
 Omit for standard finish (See page 3)

Alternate Insert Position

W, X, Y, Z Omit for normal

Contact Style

P - Pin contact
 S - Socket contact

Contact Arrangement

See page 9

Shell Size

10,14, 16S, 16, 18, 20, 22, 24, 28, 32, 36

Class

A - With threaded adapter
 E - Environmental with resilient insulators and integral cable clamp
 R - Environmental with resilient insulators and shortened light weight endbell; also additional sealing with O-ring seal under coupling nut in style 3106 and 3108
 ing individual wires ; provides added wire bundle

Shell style

3110 - Wall mounting receptacle
 3111 - Cable connecting plug
 3112 - Box mounting receptacle
 3114 - Jam nut receptacle
 3116 - Straight plug
 3119 - Thru - bulkhead receptacle

Prefix

MIL-DTL-5015 Series

Technical Data

Standard Materials & Finishes

Shell	Aluminum alloy, olive drab chromate coating over zinc plate
Insulator	Polychloroprene rubber
Grommet & Seal	Polychloroprene rubber
Contacts	Copper alloy, silver plate

Characteristics

Insulation Resistance	5,000MΩ Minimum (at 25 °C)
Temperature Range	-55°C To 125°C
Durability	500 Cycle connection / Disconnection
Water Proof	IP67

Electrical Data

Contact Size	Pin Contact Dia. (mm)	Solder Pot Dia. (mm)	Current (A) Rating	Contact Resistance		Wire Range Accommodations		
				Test Current (A)	Potential Milivolt Drop (Max.)	Wire Size (A.W.G)	Wire Nomal Square (mm ²)	Dielectric Material O.D
16	1.6	2.0	13	20	21	20, 18, 16	1.3	1.7 ~ 3.3
12	2.4	3.0	23	35	20	14, 12	3.5	2.9 ~ 4.3
8	3.6	5.2	46	60	12	10, 8	8.0	4.2 ~ 6.4
4	5.7	8.5	80	110	10	6, 4	22.0	7.0 ~ 9.4
0	9.1	12.0	150	200	10	2, 0	50.0	10.6 ~ 14.0

Service Rating	Dielectric Withstanding Voltage			
	Operating Voltage		Test Voltage AC(rms)	
	AC	DC	Sea Level	70,000(ft)
INST	200	250	1,000	260
A	500	700	2,000	360
D	900	1,250	2,800	400
E	1,250	1,750	3,500	440
B	1,750	2,450	4,500	480
C	3,000	4,200	7,000	560

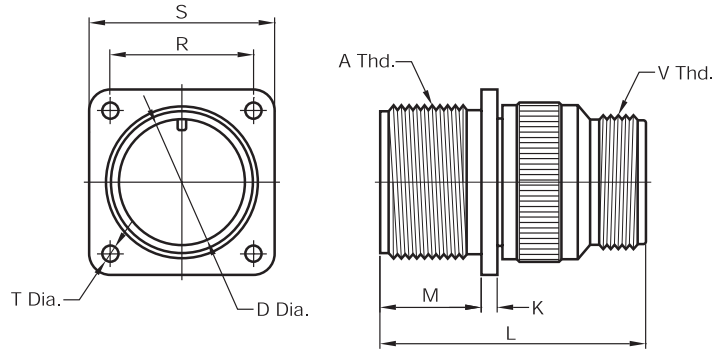
Contact Mating End Size	Contact Engaging & Separating Forces		
	Force in Lbs.		
	Maximum	Average	Minimum
16	3.00	2.10	0.25
12	5.00	3.50	0.50
8	10.00	7.00	0.75
4	15.00	10.50	1.00
0	20.00	14.00	2.00

MIL-DTL-5015 Series

Wall Mounting Receptacle

INC3100 Class A

MS3100 Class A

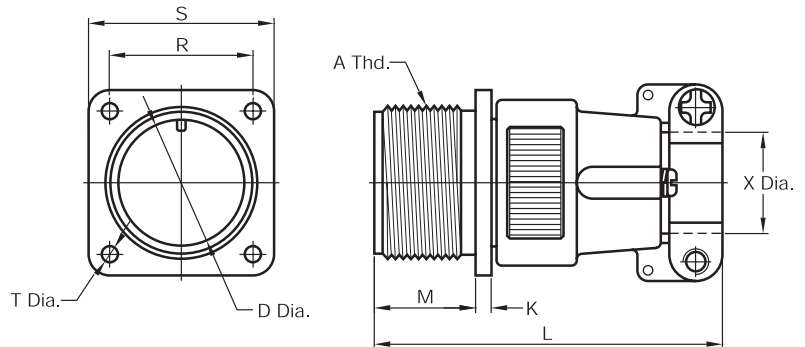


Units : mm

Shell Size	A Thread Class 2A	D Dia. +0.38 -0.00	K ±0.30	L Max.	M +0.78 -0.00	R ±0.12	S ±0.78	T Dia. +0.25 -0.12	V Thread Class 2A
10SL	5/8-24UNEF	11.38	2.30	38.88	14.28	18.26	25.40	3.05	5/8-24UNEF
14S	7/8-20UNEF	17.33	2.30	42.87	14.28	23.01	30.18	3.05	3/4-20UNEF
16S	1-20UNEF	20.50	2.50	42.87	14.28	23.01	32.54	3.05	7/8-20UNEF
16	1-20UNEF	20.50	2.50	52.37	19.05	24.61	32.54	3.05	7/8-20UNEF
18	1 1/8-18UNEF	23.68	3.00	52.37	19.05	26.97	34.93	3.05	1-20UNEF
20	1 1/4-18UNEF	26.88	3.00	55.57	19.05	29.36	38.10	3.05	1 3/16-18UNEF
22	1 3/8-18UNEF	30.03	3.20	55.57	19.05	31.75	41.28	3.05	1 3/16-18UNEF
24	1 1/2-18UNEF	33.20	3.20	58.72	20.63	34.93	44.45	3.73	1 7/16-18UNEF
28	1 3/4-18UNEF	38.77	3.60	58.72	20.63	39.67	50.80	3.73	1 7/16-18UNEF
32	2-18UNS	45.12	4.20	61.92	22.23	44.45	57.15	4.39	1 3/4-18UNS
36	2 1/4-16UN	50.68	4.20	61.92	22.23	49.23	63.50	4.39	2 -18UNS

INC3100 Class E

MS3100 Class E

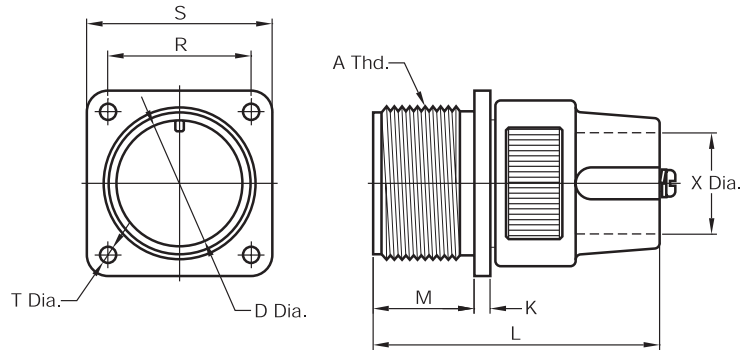


Units : mm

Shell Size	A Thread Class 2A	D Dia. +0.38 -0.00	K ±0.30	L Max.	M +0.78 -0.00	R ±0.12	S ±0.78	T Dia. +0.25 -0.12	X Min. Cable Clearance
10SL	5/8-24UNEF	11.38	2.30	57.15	14.28	18.26	25.40	3.05	7.14
14S	7/8-20UNEF	17.33	2.30	57.15	14.28	23.01	30.18	3.05	10.32
16S	1-20UNEF	20.50	2.50	57.15	14.28	23.01	32.54	3.05	12.70
16	1-20UNEF	20.50	2.50	66.67	19.05	24.61	32.54	3.05	12.70
18	1 1/8-18UNEF	23.68	3.00	68.27	19.05	26.97	34.93	3.05	13.49
20	1 1/4-18UNEF	26.88	3.00	69.85	19.05	29.36	38.10	3.05	16.67
22	1 3/8-18UNEF	30.03	3.20	69.85	19.05	31.75	41.28	3.05	19.05
24	1 1/2-18UNEF	33.20	3.20	75.41	20.63	34.93	44.45	3.73	19.84
28	1 3/4-18UNEF	38.77	3.60	76.98	20.63	39.67	50.80	3.73	23.42
32	2-18UNS	45.12	4.20	76.98	22.23	44.45	57.15	4.39	29.37
36	2 1/4-16UN	50.68	4.20	83.33	22.23	49.23	63.50	4.39	31.75

MIL-DTL-5015 Series

INC3100 Class R
MS3100 Class R

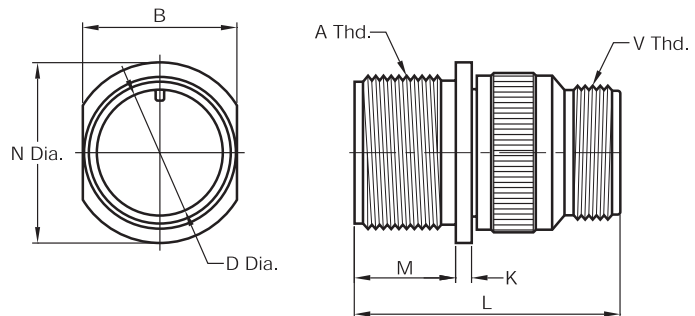


Units : mm

Shell Size	A Thread Class 2A	D Dia. +0.38 -0.00	K ±0.30	L Max.	M +0.78 -0.00	R ±0.12	S ±0.78	T Dia. +0.25 -0.12	X Min. Cable Clearance
10SL	5/8-24UNEF	11.38	2.30	46.68	14.28	18.26	25.40	3.05	7.14
14S	7/8-20UNEF	17.33	2.30	46.68	14.28	23.01	30.18	3.05	10.32
16S	1-20UNEF	20.50	2.50	46.68	14.28	23.01	32.54	3.05	12.70
16	1-20UNEF	20.50	2.50	55.39	19.05	24.61	32.54	3.05	12.70
18	1 1/8-18UNEF	23.68	3.00	57.93	19.05	26.97	34.93	3.05	13.49
20	1 1/4-18UNEF	26.88	3.00	57.93	19.05	29.36	38.10	3.05	16.67
22	1 3/8-18UNEF	30.03	3.20	57.93	19.05	31.75	41.28	3.05	19.05
24	1 1/2-18UNEF	33.20	3.20	57.93	20.63	34.93	44.45	3.73	19.84
28	1 3/4-18UNEF	38.77	3.60	57.93	20.63	39.67	50.80	3.73	23.42
32	2-18UNS	45.12	4.20	58.97	22.23	44.45	57.15	4.39	29.37
36	2 1/4-16UN	50.68	4.20	58.97	22.23	49.23	63.50	4.39	31.75

Cable Connecting Plug

INC3101 Class A
MS3101 Class A

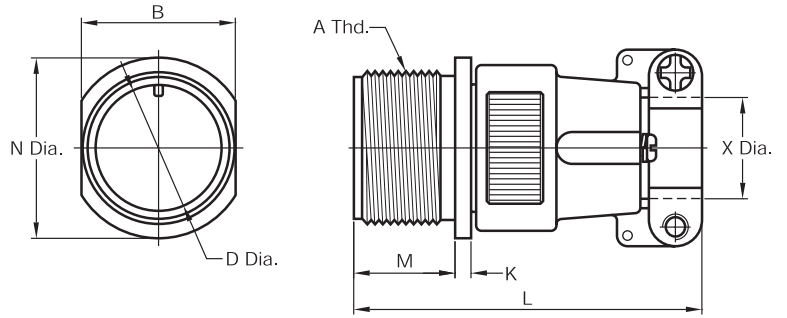


Units : mm

Shell Size	A Thread Class 2A	B Approx	D Dia. +0.38 -0.00	K ±0.30	L Max.	M +0.78 -0.00	N Dia. Max.	V Thread Class 2A
10SL	5/8-24UNEF	16.40	11.38	2.30	38.88	14.28	24.61	5/8-24UNEF
14S	7/8-20UNEF	22.80	17.33	2.30	42.87	14.28	29.36	3/4-20UNEF
16S	1-20UNEF	25.90	20.50	2.50	42.87	14.28	31.75	7/8-20UNEF
16	1-20UNEF	25.90	20.50	2.50	52.37	19.05	31.75	7/8-20UNEF
18	1 1/8-18UNEF	29.00	23.68	3.00	52.37	19.05	34.13	1-20UNEF
20	1 1/4-18UNEF	32.20	26.88	3.00	55.57	19.05	37.31	1 3/16-18UNEF
22	1 3/8-18UNEF	35.40	30.03	3.20	55.57	19.05	40.48	1 3/16-18UNEF
24	1 1/2-18UNEF	38.60	33.20	3.20	58.72	20.63	43.66	1 7/16-18UNEF
28	1 3/4-18UNEF	45.00	38.77	3.60	58.72	20.63	50.01	1 7/16-18UNEF
32	2-18UNS	51.30	45.12	4.20	61.92	22.23	56.36	1 3/4-18UNS
36	2 1/4-16UN	57.60	50.68	4.20	61.92	22.23	62.71	2 -18UNS

MIL-DTL-5015 Series

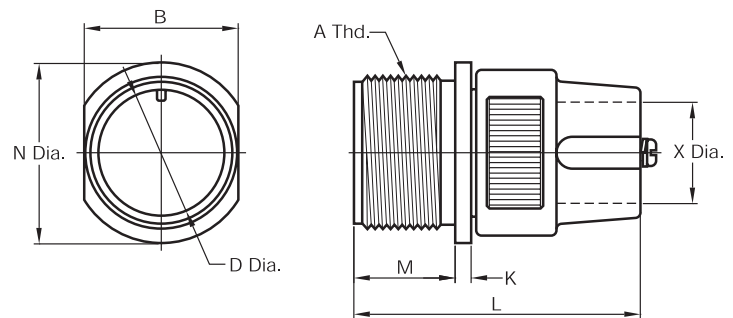
INC3101 Class E MS3101 Class E



Units : mm

Shell Size	A Thread Class 2A	B Approx	D Dia. +0.38 -0.00	K ±0.30	L Max.	M +0.78 -0.00	N Dia. Max.	X Min. Cable Clearance
10SL	5/8-24UNEF	16.40	11.38	2.30	57.15	14.28	24.61	7.14
14S	7/8-20UNEF	22.80	17.33	2.30	57.15	14.28	29.36	10.32
16S	1-20UNEF	25.90	20.50	2.50	57.15	14.28	31.75	12.70
16	1-20UNEF	25.90	20.50	2.50	66.67	19.05	31.75	12.70
18	1 1/8-18UNEF	29.00	23.68	3.00	68.27	19.05	34.13	13.49
20	1 1/4-18UNEF	32.20	26.88	3.00	69.85	19.05	37.31	16.67
22	1 3/8-18UNEF	35.40	30.03	3.20	69.85	19.05	40.48	19.05
24	1 1/2-18UNEF	38.60	33.20	3.20	75.41	20.63	43.66	19.84
28	1 3/4-18UNEF	45.00	38.77	3.60	76.98	20.63	50.01	23.42
32	2-18UNS	51.30	45.12	4.20	76.98	22.23	56.36	29.37
36	2 1/4-16UN	57.60	50.68	4.20	83.33	22.23	62.71	31.75

INC3101 Class R MS3101 Class R



Units : mm

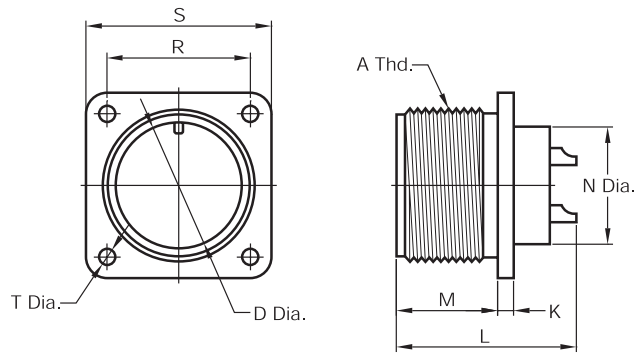
Shell Size	A Thread Class 2A	B Approx	D Dia. +0.38 -0.00	K ±0.30	L Max.	M +0.78 -0.00	N Dia. Max.	X Min. Cable Clearance
10SL	5/8-24UNEF	16.40	11.38	2.30	46.68	14.28	24.61	7.14
14S	7/8-20UNEF	22.80	17.33	2.30	46.68	14.28	29.36	10.32
16S	1-20UNEF	25.90	20.50	2.50	46.68	14.28	31.75	12.70
16	1-20UNEF	25.90	20.50	2.50	55.39	19.05	31.75	12.70
18	1 1/8-18UNEF	29.00	23.68	3.00	57.93	19.05	34.13	13.49
20	1 1/4-18UNEF	32.20	26.88	3.00	57.93	19.05	37.31	16.67
22	1 3/8-18UNEF	35.40	30.03	3.20	57.93	19.05	40.48	19.05
24	1 1/2-18UNEF	38.60	33.20	3.20	57.93	20.63	43.66	19.84
28	1 3/4-18UNEF	45.00	38.77	3.60	57.93	20.63	50.01	23.42
32	2-18UNS	51.30	45.12	4.20	58.97	22.23	56.36	29.37
36	2 1/4-16UN	57.60	50.68	4.20	58.97	22.23	62.71	31.75

MIL-DTL-5015 Series

Box Mounting Receptacle

INC3102 Class A/E/R

MS3102 Class A/E/R



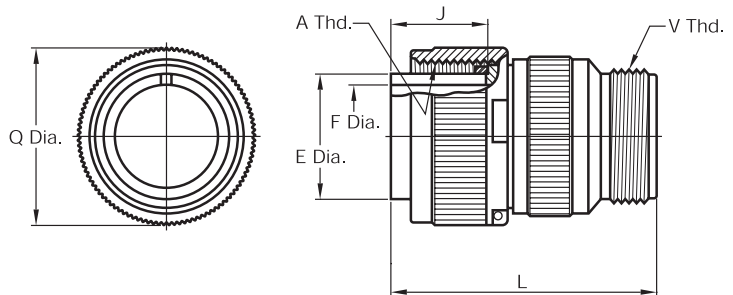
Units : mm

Shell Size	A Thread Class 2A	D Dia. +0.38 -0.00	K ±0.30	L Max.	M +0.78 -0.00	N Dia. +0.00 -4.78	R ±0.12	S ±0.78	T Dia. +0.25 -0.12
10SL	5/8-24UNEF	11.38	2.30	30.25	14.28	19.86	18.26	25.40	3.05
14S	7/8-20UNEF	17.33	2.30	30.25	14.28	23.01	23.01	30.18	3.05
16S	1-20UNEF	20.50	2.50	30.25	14.28	26.21	23.01	32.54	3.05
16	1-20UNEF	20.50	2.50	44.45	19.05	26.21	24.61	32.54	3.05
18	1 1/8-18UNEF	23.68	3.00	49.22	19.05	29.36	26.97	34.93	3.05
20	1 1/4-18UNEF	26.88	3.00	49.22	19.05	32.56	29.36	38.10	3.05
22	1 3/8-18UNEF	30.03	3.20	49.22	19.05	35.71	31.75	41.28	3.05
24	1 1/2-18UNEF	33.20	3.20	49.22	20.63	38.91	34.93	44.45	3.73
28	1 3/4-18UNEF	38.77	3.60	49.22	20.63	45.26	39.67	50.80	3.73
32	2-18UNS	45.12	4.20	49.22	22.23	51.61	44.45	57.15	4.39
36	2 1/4-16UN	50.68	4.20	49.22	22.23	57.96	49.23	63.50	4.39

Straight Plug

INC3106 Class A

MS3106 Class A

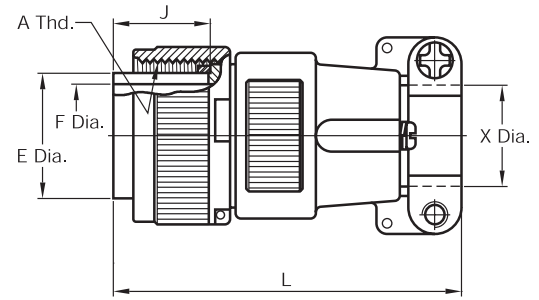
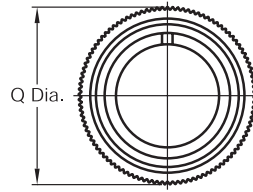


Units : mm

Shell Size	A Thread Class 2B	E Dia. +0.00 -0.38	F Dia. Min.	J ±0.12	L Max.	Q Dia. Max.	V Thread Class 2A
10SL	5/8-24UNEF	11.32	8.21	13.49	38.88	24.61	5/8-24UNEF
14S	7/8-20UNEF	17.14	13.37	13.49	42.87	29.36	3/4-20UNEF
16S	1-20UNEF	20.44	16.54	13.49	42.87	31.75	7/8-20UNEF
16	1-20UNEF	20.44	16.54	18.26	52.37	31.75	7/8-20UNEF
18	1 1/8-18UNEF	23.62	19.72	18.26	52.37	34.13	1-20UNEF
20	1 1/4-18UNEF	26.67	23.68	18.26	55.57	37.31	1 3/16-18UNEF
22	1 3/8-18UNEF	29.84	26.07	18.26	55.57	40.48	1 3/16-18UNEF
24	1 1/2-18UNEF	33.02	29.24	18.26	58.72	43.66	1 7/16-18UNEF
28	1 3/4-18UNEF	38.60	34.80	18.26	58.72	50.01	1 7/16-18UNEF
32	2-18UNS	44.95	41.15	18.26	61.92	56.36	1 3/4-18UNS
36	2 1/4-16UN	50.29	46.69	18.26	61.92	62.71	2 -18UNS

MIL-DTL-5015 Series

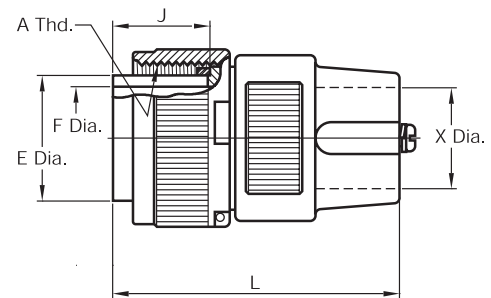
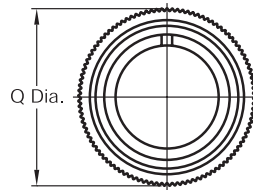
INC3106 Class E
MS3106 Class E



Units : mm

Shell Size	A Thread Class 2B	E Dia. +0.00 -0.38	F Dia. Min.	J ±0.12	L Max.	Q Dia. Max.	X Min. Cable Clearance
10SL	5/8-24UNEF	11.32	8.21	13.49	57.15	24.61	7.14
14S	7/8-20UNEF	17.14	13.37	13.49	57.15	29.36	10.32
16S	1-20UNEF	20.44	16.54	13.49	57.15	31.75	12.70
16	1-20UNEF	20.44	16.54	18.26	66.67	31.75	12.70
18	1 1/8-18UNEF	23.62	19.72	18.26	68.27	34.13	13.49
20	1 1/4-18UNEF	26.67	23.68	18.26	69.85	37.31	16.67
22	1 3/8-18UNEF	29.84	26.07	18.26	69.85	40.48	19.05
24	1 1/2-18UNEF	33.02	29.24	18.26	75.41	43.66	19.84
28	1 3/4-18UNEF	38.60	34.80	18.26	76.98	50.01	23.42
32	2-18UNS	44.95	41.15	18.26	76.98	56.36	29.37
36	2 1/4-16UN	50.29	46.69	18.26	83.33	62.71	31.75

INC3106 Class R
MS3106 Class R



Units : mm

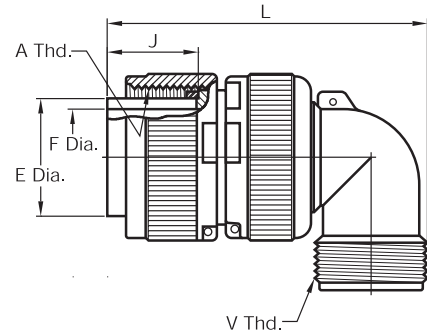
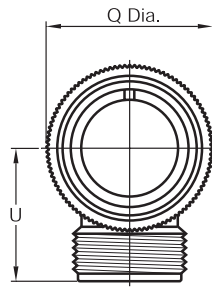
Shell Size	A Thread Class 2B	E Dia. +0.00 -0.38	F Dia. Min.	J ±0.12	L Max.	Q Dia. Max.	X Min. Cable Clearance
10SL	5/8-24UNEF	11.32	8.21	13.49	46.68	24.61	7.14
14S	7/8-20UNEF	17.14	13.37	13.49	46.68	29.36	10.32
16S	1-20UNEF	20.44	16.54	13.49	46.68	31.75	12.70
16	1-20UNEF	20.44	16.54	18.26	55.39	31.75	12.70
18	1 1/8-18UNEF	23.62	19.72	18.26	57.93	34.13	13.49
20	1 1/4-18UNEF	26.67	23.68	18.26	57.93	37.31	16.67
22	1 3/8-18UNEF	29.84	26.07	18.26	57.93	40.48	19.05
24	1 1/2-18UNEF	33.02	29.24	18.26	57.93	43.66	19.84
28	1 3/4-18UNEF	38.60	34.80	18.26	57.93	50.01	23.42
32	2-18UNS	44.95	41.15	18.26	58.97	56.36	29.37
36	2 1/4-16UN	50.29	46.69	18.26	58.97	62.71	31.75

MIL-DTL-5015 Series

90° Angle Plug

INC3108 Class A

MS3108 Class A

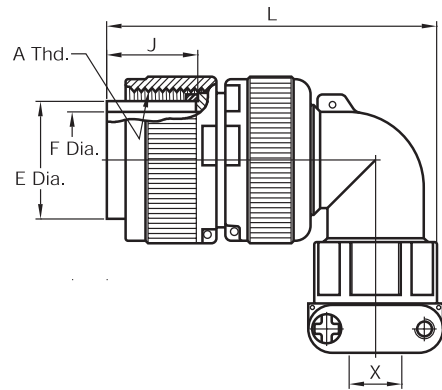
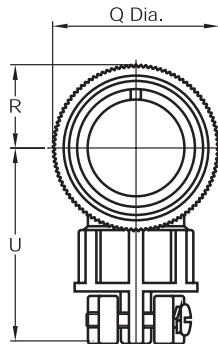


Units : mm

Shell Size	A Thread Class 2B	E Dia. +0.00 -0.38	F Dia. Min.	J ±0.12	L Max.	Q Dia. Max.	U Max.	V Thread Class 2A
10SL	5/8-24UNEF	11.32	8.21	13.49	46.02	24.61	25.40	5/8-24UNEF
14S	7/8-20UNEF	17.14	13.37	13.49	53.97	29.36	28.57	3/4-20UNEF
16S	1-20UNEF	20.44	16.54	13.49	60.32	31.75	30.17	7/8-20UNEF
16	1-20UNEF	20.44	16.54	18.26	65.07	31.75	30.17	7/8-20UNEF
18	1 1/8-18UNEF	23.62	19.72	18.26	68.27	34.13	33.32	1-20UNEF
20	1 1/4-18UNEF	26.67	23.68	18.26	76.98	37.31	34.92	1 3/16-18UNEF
22	1 3/8-18UNEF	29.84	26.07	18.26	76.98	40.48	34.92	1 3/16-18UNEF
24	1 1/2-18UNEF	33.02	29.24	18.26	86.51	43.66	39.67	1 7/16-18UNEF
28	1 3/4-18UNEF	38.60	34.80	18.26	86.51	50.01	39.67	1 7/16-18UNEF
32	2-18UNS	44.95	41.15	18.26	95.25	56.36	47.62	1 3/4-18UNS
36	2 1/4-16UN	50.29	46.69	18.26	100.02	62.71	52.37	2-18UNS

INC3108 Class E/R

MS3108 Class E/R



Units : mm

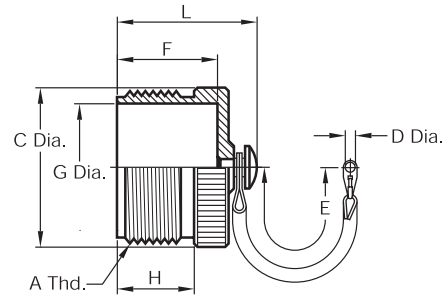
Shell Size	A Thread Class 2B	E Dia. +0.00 -0.38	F Dia. Min.	J ±0.12	L Max.	Q Dia. Max.	U Max.	X Min. Cable Clearance	R Max.
10SL	5/8-24UNEF	11.32	8.21	13.49	55.57	24.61	38.10	7.14	13.10
14S	7/8-20UNEF	17.14	13.37	13.49	58.72	29.36	40.48	10.32	15.87
16S	1-20UNEF	20.44	16.54	13.49	61.11	31.75	42.87	12.70	17.47
16	1-20UNEF	20.44	16.54	18.26	70.63	31.75	42.87	12.70	17.47
18	1 1/8-18UNEF	23.62	19.72	18.26	72.23	34.13	45.23	13.49	19.05
20	1 1/4-18UNEF	26.67	23.68	18.26	82.55	37.31	50.01	16.67	21.43
22	1 3/8-18UNEF	29.84	26.07	18.26	82.55	40.48	50.80	19.05	23.01
24	1 1/2-18UNEF	33.02	29.24	18.26	94.46	43.66	53.97	19.84	24.20
28	1 3/4-18UNEF	38.60	34.80	18.26	94.46	50.01	55.57	23.42	27.78
32	2-18UNS	44.95	41.15	18.26	106.38	56.36	65.88	29.37	31.34
36	2 1/4-16UN	50.29	46.69	18.26	109.14	62.71	69.06	31.75	34.51

MIL-DTL-5015 Series

Plug Protection Cover

INC25042

MS25042



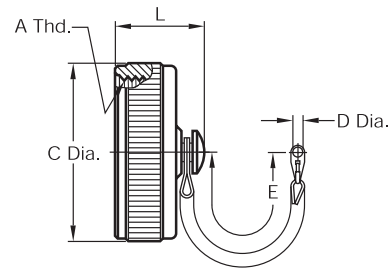
Units : mm

Dash No.	Connector Shell Size	A Thread Class 2A	C Dia. Max.	D Dia. +0.25 -0.12	E ±One Link	F	G Dia.	H Max.	L Max.
-10	10S, 10SL	5/8-24UNEF	17.44	3.96	101.6	14.27	11.91	9.66	24.61
-14	14S, 14	7/8-20UNEF	23.79	3.96	120.0	19.05	17.48	16.01	29.36
-16	16S, 16	1-20UNEF	26.97	3.96	120.0	19.05	20.62	16.01	29.36
-18	18	1 1/8-18UNEF	30.14	3.96	120.0	19.05	23.83	16.01	29.36
-20	20	1 1/4-18UNEF	33.32	4.75	127.0	19.05	26.97	16.01	29.36
-22	22	1 3/8-18UNEF	36.49	4.75	127.0	19.05	30.18	16.01	29.36
-24	24	1 1/2-18UNEF	39.67	4.75	139.7	19.05	33.32	16.01	29.36
-28	28	1 3/4-18UNEF	46.02	4.75	196.8	19.05	38.89	16.01	29.36
-32	32	2-18UNS	52.37	5.54	196.8	19.05	45.24	16.01	29.36
-36	36	2 1/4-16UN	58.72	5.54	196.8	19.05	50.80	16.01	29.36

Receptacle Protection Cover

INC25043

MS25043

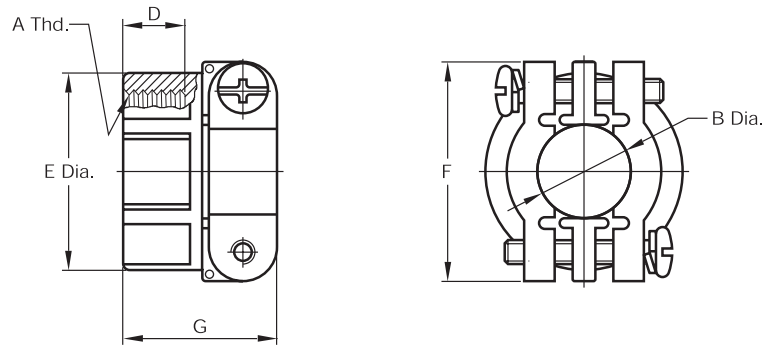


Units : mm

Dash No.	Connector Shell Size	A Thread Class 2B	C Dia. Max.	D Dia. +0.25 -0.12	E ±One Link	L Max.
-10	10S, 10SL	5/8-24UNEF	20.70	3.56	101.6	24.61
-14	14S, 14	7/8-20UNEF	28.57	3.56	120.0	29.36
-16	16S, 16	1-20UNEF	30.17	3.56	120.0	29.36
-18	18	1 1/8-18UNEF	34.13	3.56	120.0	29.36
-20	20	1 1/4-18UNEF	37.31	3.56	127.0	29.36
-22	22	1 3/8-18UNEF	40.48	3.56	127.0	29.36
-24	24	1 1/2-18UNEF	43.66	4.34	139.7	29.36
-28	28	1 3/4-18UNEF	50.01	4.34	196.8	29.36
-32	32	2-18UNS	56.36	4.75	196.8	29.36
-36	36	2 1/4-16UN	62.71	4.75	196.8	29.36

MIL-DTL-5015 Series

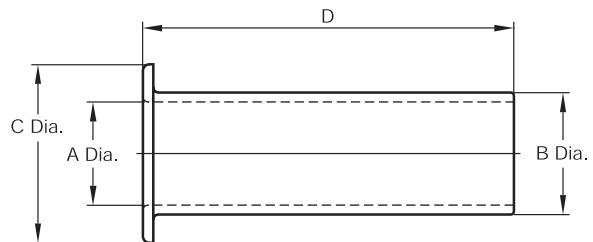
Cable Clamp INC3057 (MS3057)



Units : mm

Dash No.	Connector Shell Size	A Thread Class 2B	B Max. Wire Bundle Accommodation	D	E Dia. ±0.78	F ±0.78	G ±0.78
-4A	10SL	.625-24UNEF	7.92	10.31	20.62	22.23	20.62
-6A	14S	.750-20UNEF	11.12	10.31	24.61	26.97	22.23
-8A	16S, 16	.875-20UNEF	14.27	10.31	27.79	29.36	23.83
-10A	18	1.000-20UNEF	15.87	10.31	30.18	31.75	23.83
-12A	20, 22	1.188-18UNEF	19.05	10.31	34.94	37.31	23.83
-16A	24, 28	1.438-18UNEF	23.82	10.31	42.06	42.88	26.19
-20A	32	1.750-18UNS	31.75	11.91	51.59	51.59	27.79
-24A	36	2.000-18UNS	34.92	13.49	56.36	57.94	29.36

Rubber Bushing INC3420 (MS3420)



Units : mm

Dash No.	Connector Shell Size	A Dia.	B Dia.	C Dia.	D
-4	10SL	5.59	7.67	12.83	69.85
-6	14S	7.92	10.85	15.72	66.68
-8	16S, 16	11.10	14.02	18.90	63.50
-10	18	14.27	15.62	22.58	60.33
-12	20, 22	15.83	18.80	27.53	57.15
-16	24, 28	19.05	23.55	33.38	53.98
-20	32	23.80	31.50	40.59	50.80
-24	36	31.75	34.67	46.91	47.63

MIL-DTL-5015 Series

Insert Arrangements Table

Insert arrangement	Service Rating		No. Of Contact	Contact Size				
				0	4	8	12	16
10SL-3	All	A	3					3
10SL-4	All	A	2					2
14S-1	All	A	3					3
14S-2	All	INST	4					4
14S-4	-	D	1					1
14S-5	All	INST	5					5
14S-6	All	INST	6					6
14S-7	All	A	3					3
14S-9	All	A	2					2
16S-1	All	A	7					7
16-2	-	E	1				1	
16S-3	-	B	1					1
16S-4	All	D	2					2
16S-5	All	A	3					3
16S-6	All	A	3					3
16-7	All	A	3			1		2
16S-8	All	A	5					5
16-9	All	A	4				2	2
16-10	All	A	3				3	
16-11	All	A	2				2	
16-12	-	A	1		1			
16-13	All	A	2				2	
18-1	B, C, F, G	A	10					10
	All Others	INST	0					
18-3	All	D	2				2	
18-4	All	D	4					4
18-5	All	D	3				2	1
18-6	-	D	1		1			
18-7	-	B	1			1		
18-8	All	A	8				1	7
18-9	All	INST	7				2	5
18-10	All	A	4				4	
18-11	All	A	5				5	
18-12	All	A	6					6
18-13	All	A	4			1	3	
18-14	All	A	2		1			1
18-15	All	A	4				4	
18-16	-	C	1				1	
18-20	All	A	5					5
18-22	All	D	3					3
18-29	All	A	5					5
20-2	-	D	1	1				
20-3	All	D	3				3	
20-4	All	D	4				4	

Insert arrangement	Service Rating		No. Of Contact	Contact Size				
				0	4	8	12	16
20-5	All	E	2					2
20-6	All	D	3					3
20-7	A, B, G, H	D	8					8
	All Others	A						
20-8	All	INST	6			2		4
20-9	H	D	8				1	7
	All Others	A						
20-11	All	INST	13					13
20-12	All	A	2		1			1
20-13	All	A	4					4
20-14	All	A	5			2	3	
20-15	All	A	7				7	
20-16	All	A	9				2	7
20-17	All	A	6				5	1
20-18	All	A	9				3	6
20-19	All	A	3			3		
20-20	All	A	4		1		3	
20-21	All	A	9				1	8
20-22	All	A	6			3		3
20-23	All	A	2			2		
20-24	All	A	4			2		2
20-27	All	A	14					14
20-29	All	A	17					17
20-31	All	A	11					11
20-33	All	A	11					11
22-1	All	D	2			2		
22-2	All	D	3			3		
22-3	All	D	2		1			1
22-4	All	A	4			2	2	
22-5	All	D	6				2	4
22-6	All	D	3			2		1
22-7	-	E	1	1				
22-8	All	E	2				2	
22-9	All	E	3				3	
22-10	All	E	4					4
22-11	All	B	2					2
22-12	All	D	5			2		3
22-13	E	D	5				4	1
	All Others	A						
22-14	All	A	19					19
22-15	D	E	6				5	1
	All Others	A						
22-16	All	A	9				3	6

Insert Arrangements Table

Insert arrangement	Service Rating		No. Of Contact	Contact Size				
				0	4	8	12	16
22-17	A	D	9				1	8
	All Others	A						
22-18	C, D, E	A	8					8
	All Others	D						
22-19	All	A	14					14
22-20	All	A	9					9
22-21	All	A	3	1				2
22-22	All	A	4			4		
22-23	H	D	8				8	
	All Others	A						
22-24	C, D, E	D	6				2	4
	All Others	A						
22-25	All	A	3	1				2
22-27	J	D	9			1		8
	All Others	A						
22-28	All	A	7				7	
22-29	All	A	7		1			6
22-33	E, F, G	A	7					7
	All Others	D						
22-34	All	D	5				3	2
22-36	H	D	8				8	
	All Others	A						
24-1	All	D	2	1			1	
24-2	All	D	7				7	
24-3	All	D	7				2	5
24-4	All	D	4	1				3
24-6	A, G, H	D	8				8	
	All Others	A						
24-5	All	A	16					16
24-7	All	A	16				2	14
24-9	All	A	2		2			
24-10	All	A	7			7		
24-11	All	A	9			3	6	
24-12	All	A	5		2		3	
24-14	All	A	3	1			2	
24-16	A, B, F, G	D	7			1	3	3
	All Others	A						
24-17	All	D	5				2	3
24-20	All	D	11				2	9
24-21	All	D	10			1		9
24-22	All	D	4			4		
24-23	All	D	5			3		2
24-27	All	E	7					7
24-28	All	INST	24					24
24-80	All	INST	23					23
28-1	A, E, J	D	9			3	6	
	All Others	A						
28-2	All	D	14				2	12
28-3	All	E	3			3		
28-4	G, P, S	E	9				2	7
	All Others	D						
28-5	All	D	5		2		1	2
28-6	All	D	3		3			
28-8	L, M	E	12					
	B	D					2	10
	All Others	A						
28-9	All	D	12				6	6
28-10	G	D	7					
	All Others	A			2	2	3	
28-11	All	A	22				4	18
28-12	All	A	26					26
28-14	All	D	11					11
28-15	All	A	35					35
28-16	All	A	20					20
28-17	R	B	15					
	M, N, P	D						15
	All Others	A						
28-18	M	C	12					
	A, B	A						12
	C, D, E, F	INST						
	All Others	D						
28-19	H, M	B	10					
	A, B	D					4	6
	All Others	A						
28-20	All	A	14				10	4
28-21	All	A	37					37
28-22	All	D	6		3			3
32-1	A	E	5	2			3	
	All Others	D						
32-2	All	E	5		3		2	
32-3	All	D	9	1	2		2	4
32-4	All Others	D	14				2	12
	F, J, K, N	A						
32-5	All	D	2	2				
32-6	All	A	23		2	3	2	16
32-7	A, B, h, j	INST	35				7	28
	All Others	A						
32-8	All	A	30				6	24

MIL-DTL-5015 Series

Insert Arrangements Table

Insert arrangement	Service Rating		No. Of Contact	Contact Size				
				0	4	8	12	16
32-9	All	D	14		2			12
32-12	C, D, E, F, G	A	15				5	10
	All Others	D						
32-13	All	D	23				5	18
32-14	All	D	7		2		5	
32-15	All	D	8	2			6	
32-17	All	D	4		4			
32-22	All	A	54					54
32-63	All	D	5		5			
32-73	All	A	46					46
36-1	All	D	22				4	18
36-3	All	D	6	3			3	
36-4	A	D	3	3				
	All Others	A						

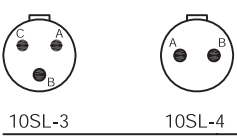
Insert arrangement	Service Rating		No. Of Contact	Contact Size				
				0	4	8	12	16
36-5	All	A	4	4				
36-6	All	A	6	2	4			
36-7	All	A	47				7	40
36-8	All	A	47				1	46
36-9	All	A	31		1	2	14	14
36-10	All	A	48					48
36-13	N, P, Q	E	17				2	15
	All Others	A						
36-14	All	D	16			5	5	6
36-15	M	D	35					35
	All Others	A						
36-19	All	D	17	1	1		5	10
36-52	All	A	52					52
36-66	All	A	56				4	52

MIL-DTL-5015 Series

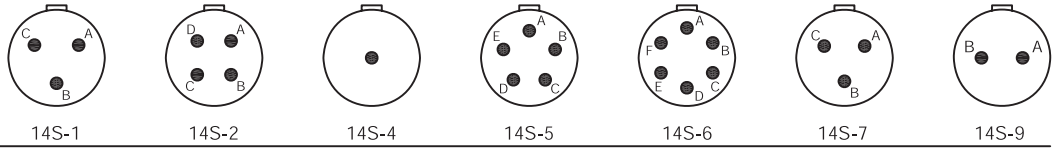
Contact Arrangements



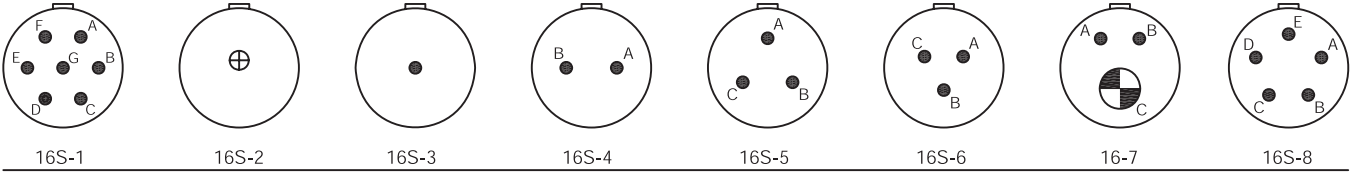
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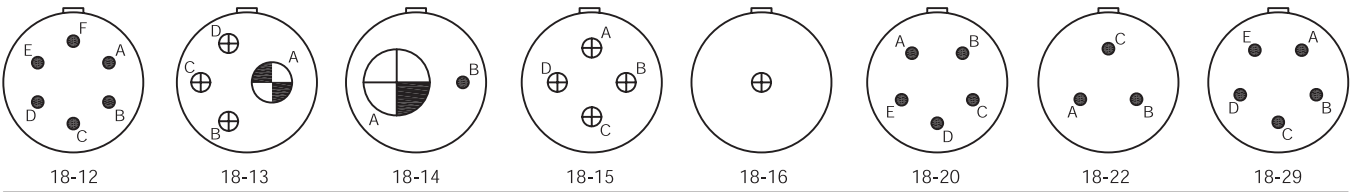
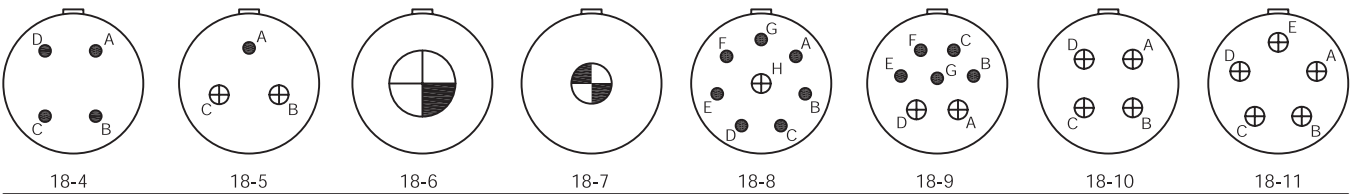
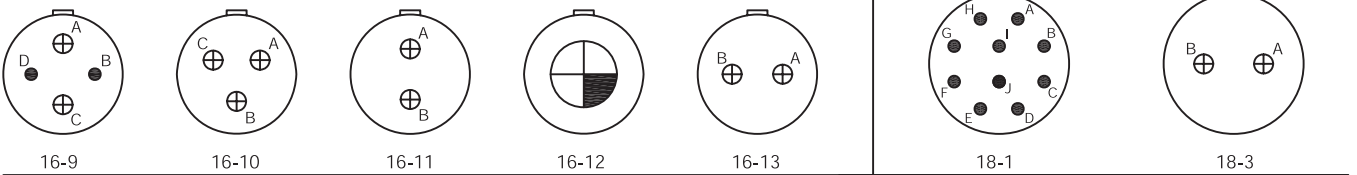
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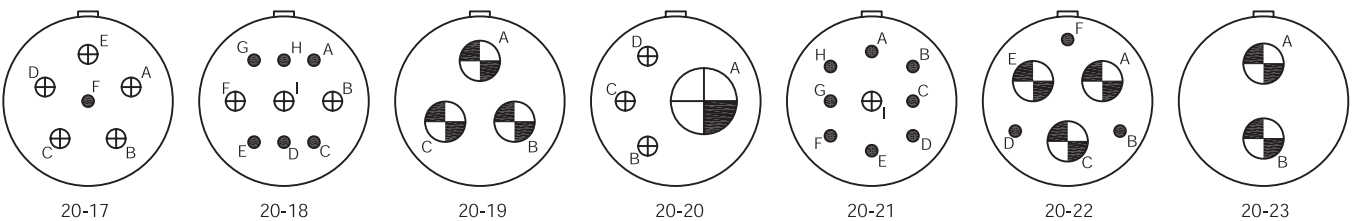
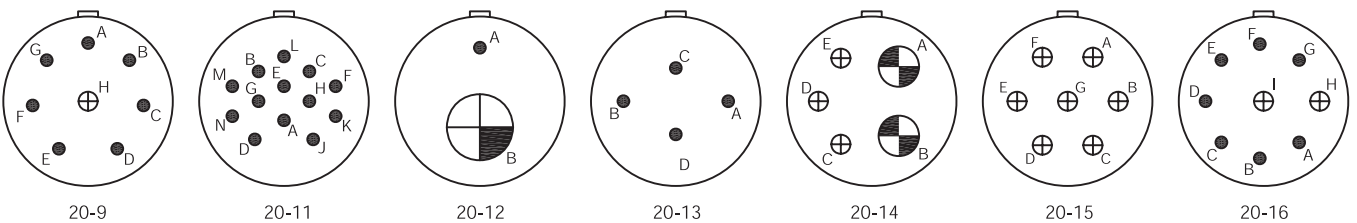
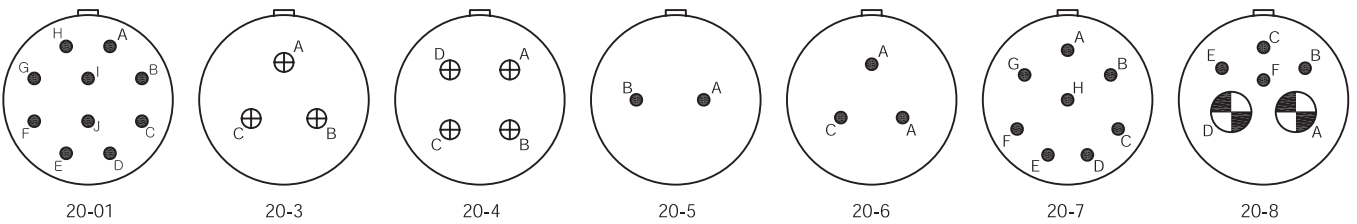
Shell Size 16S & 16



Shell Size 18



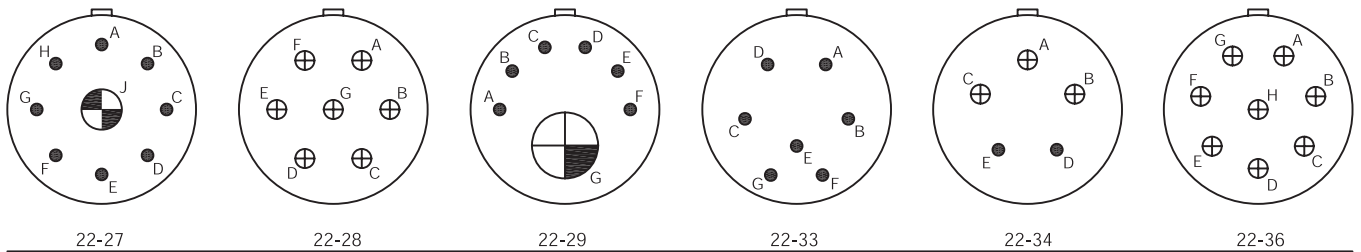
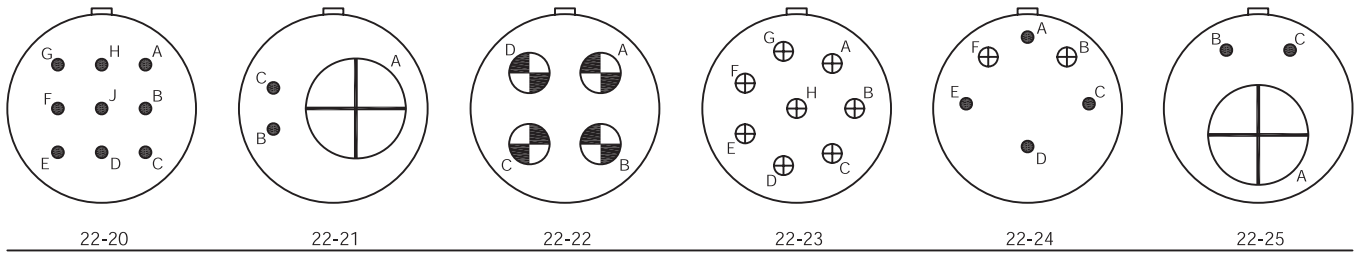
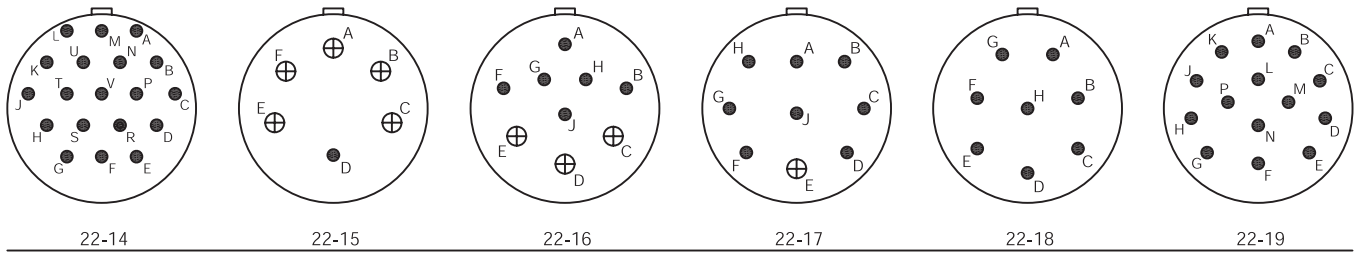
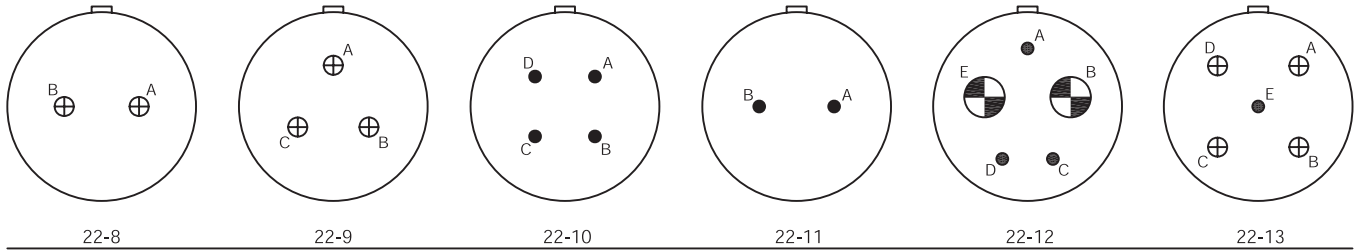
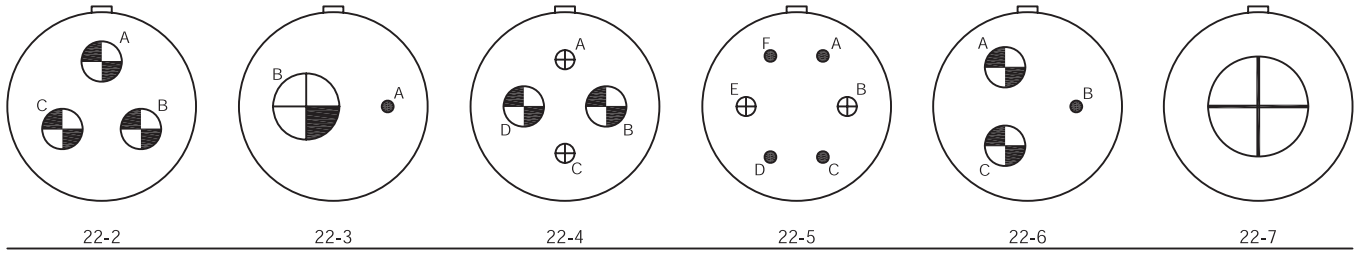
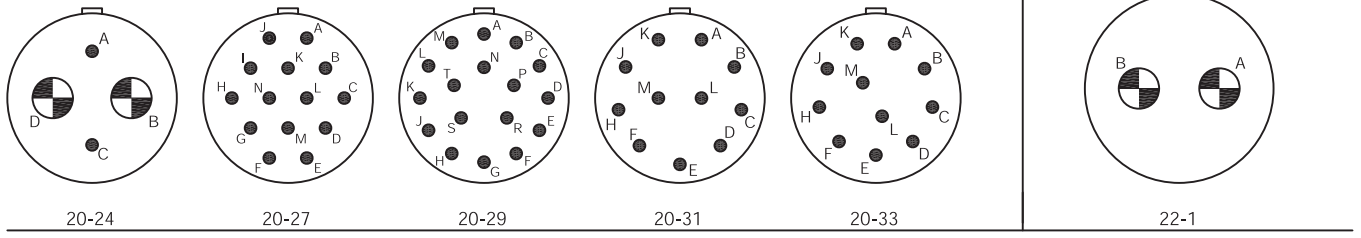
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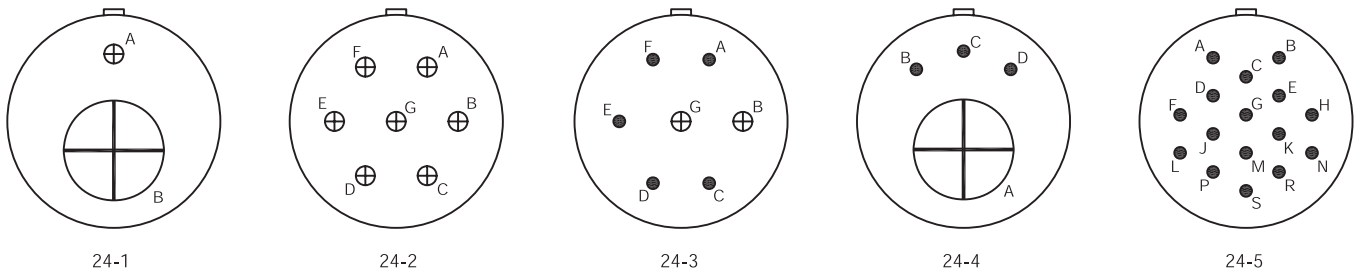
MIL-DTL-5015 Series

Contact Arrangements

Shell Size 22

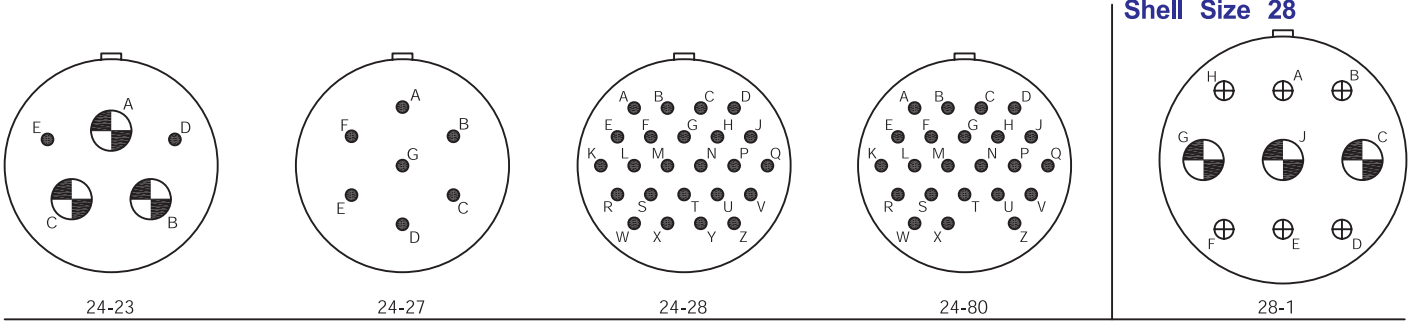
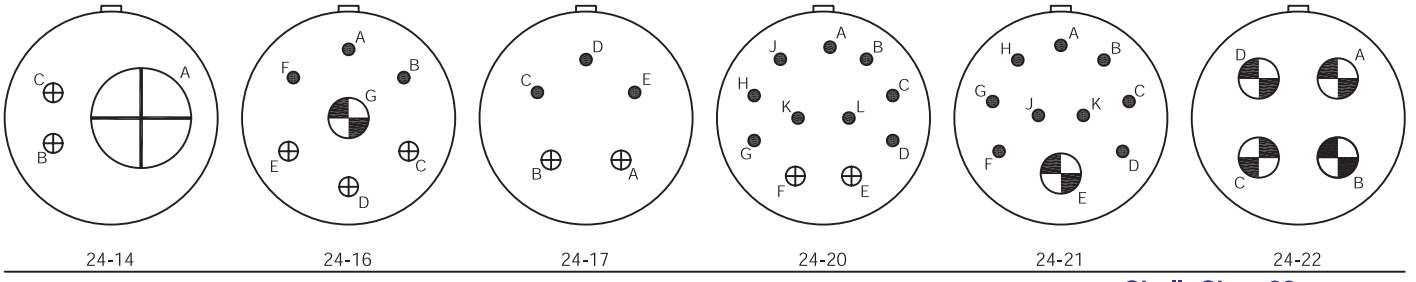
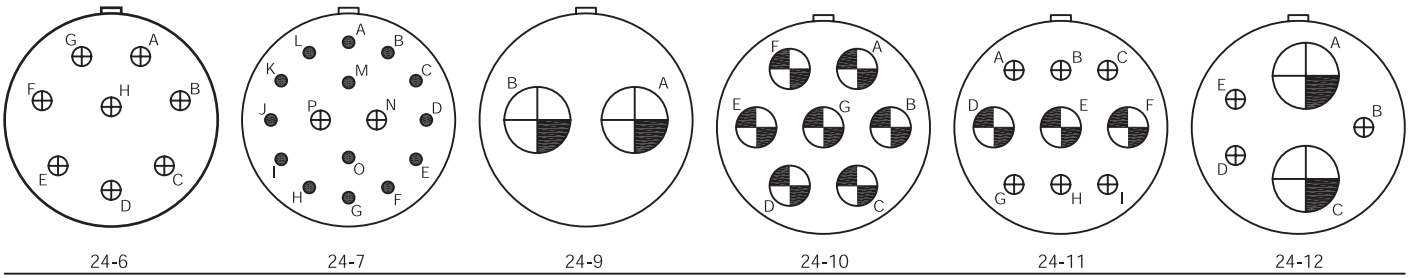


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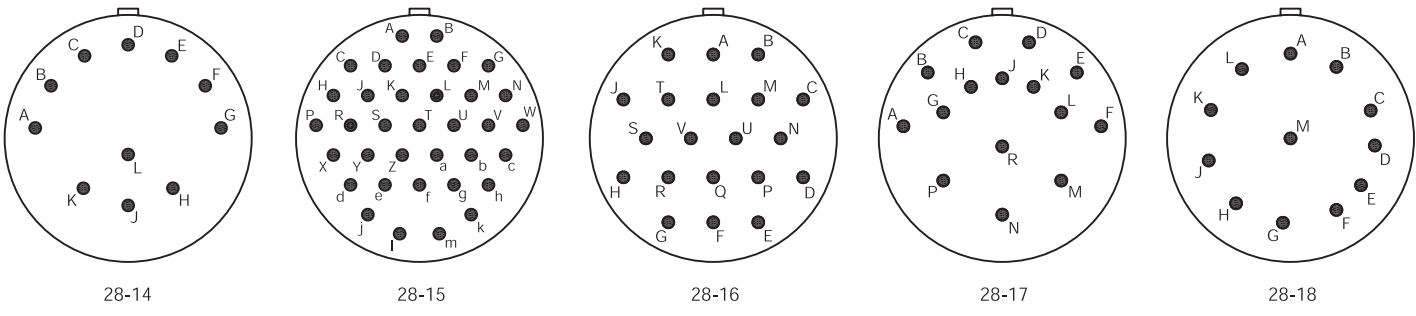
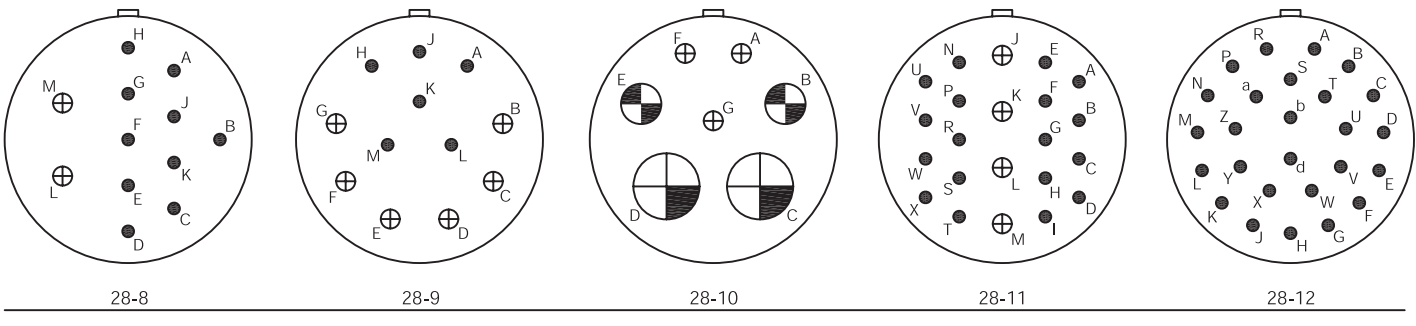
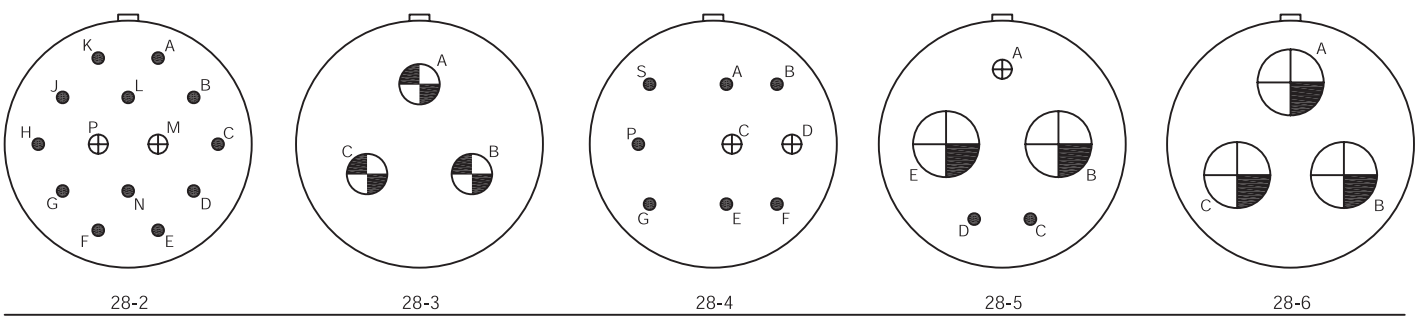


MIL-DTL-5015 Series

Contact Arrangements



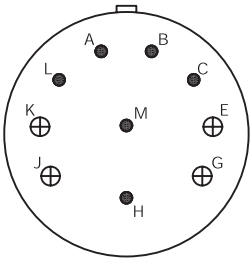
Shell Size 28



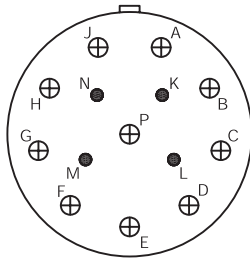
MIL-DTL-5015 Series

Contact Arrangements

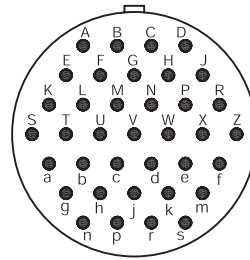
Shell Size 32



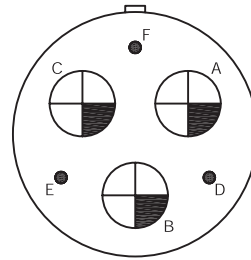
28-19



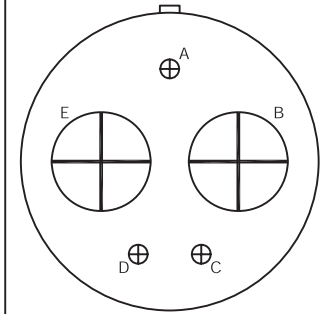
28-20



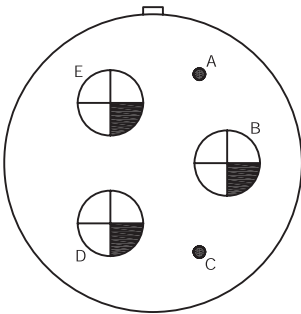
28-21



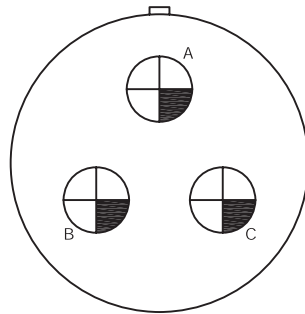
28-22



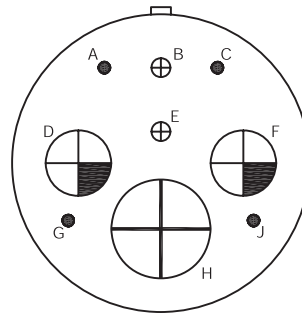
32-1



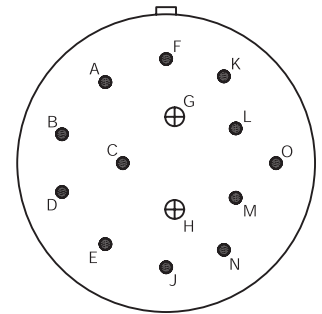
32-2



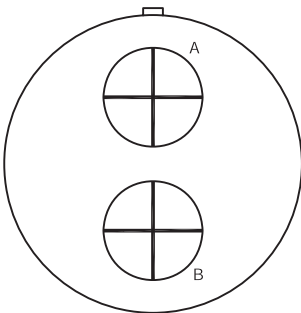
32-03



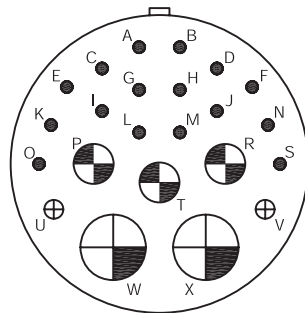
32-3



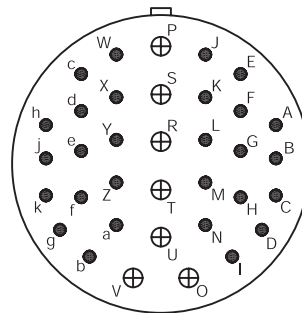
32-4



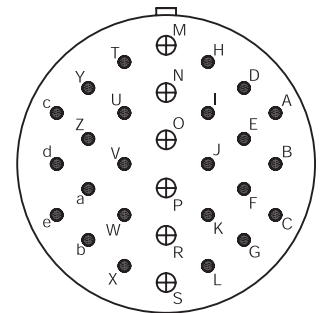
32-5



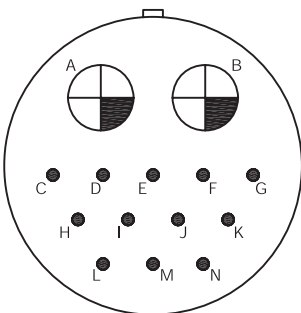
32-6



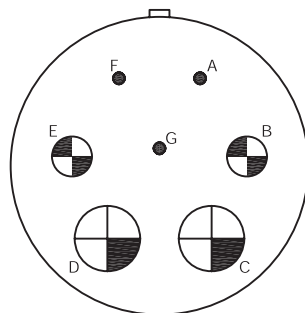
32-7



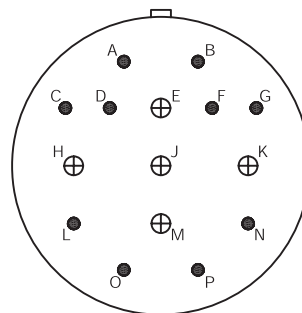
32-8



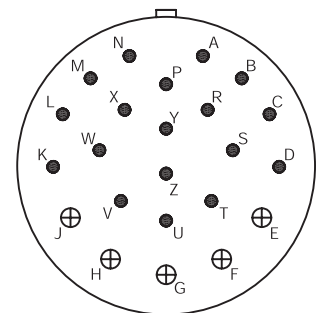
32-9



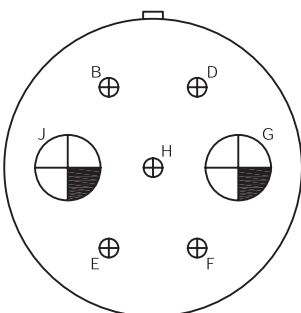
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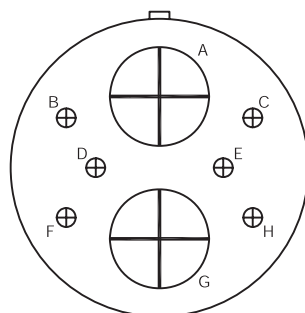
32-12



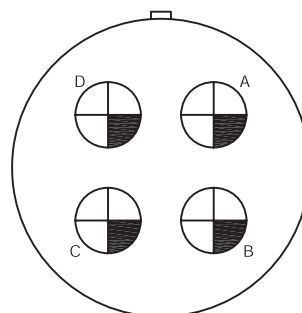
32-13



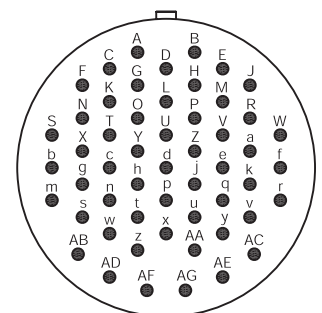
32-14



32-15



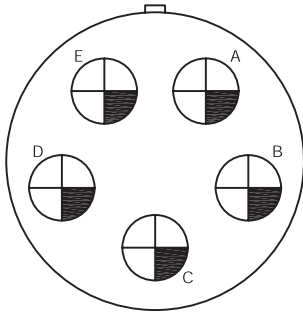
32-17



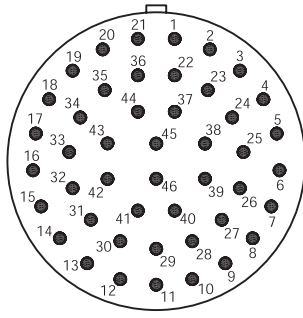
32-22

Contact Arrangements

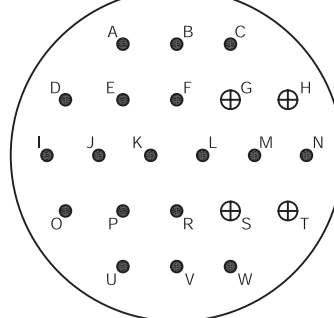
Shell Size 36



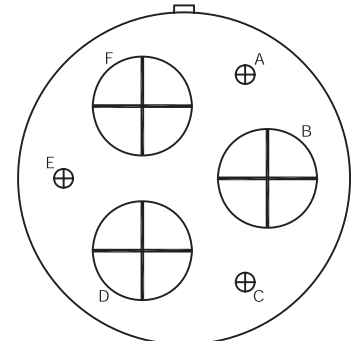
32-63



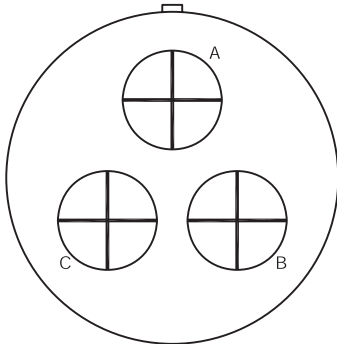
32-73



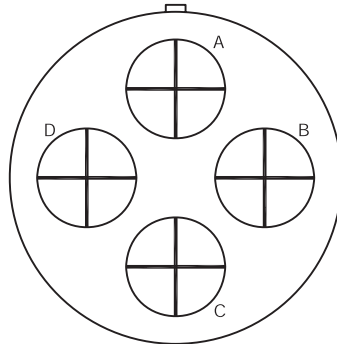
36-1



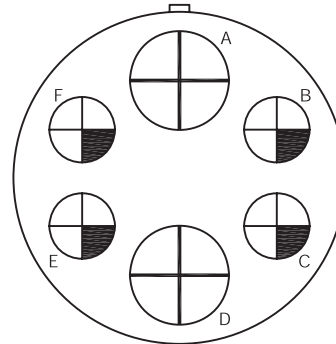
36-3



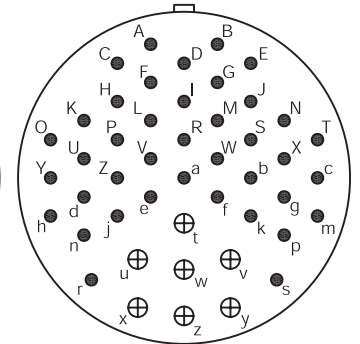
36-4



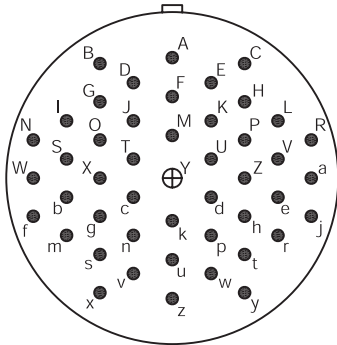
36-5



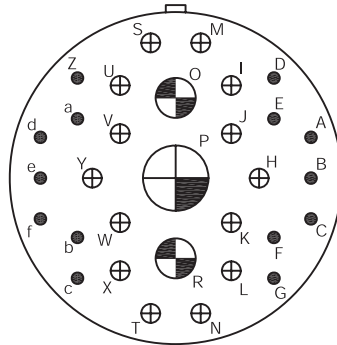
36-6



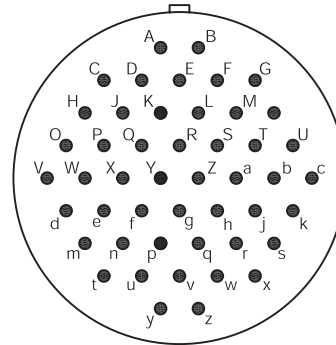
36-7



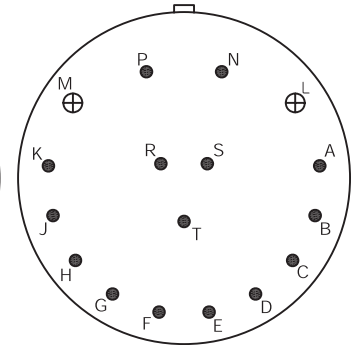
36-8



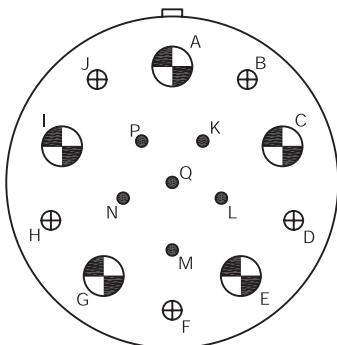
36-9



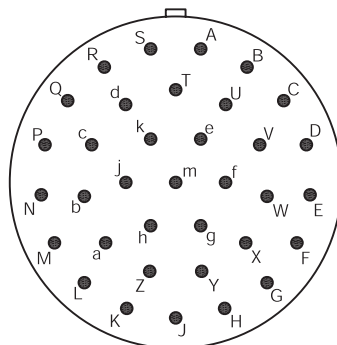
36-10



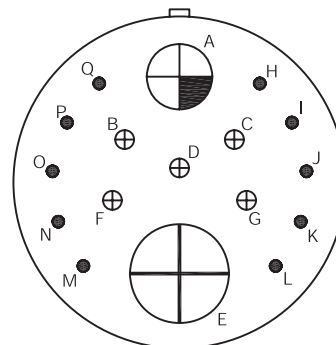
36-13



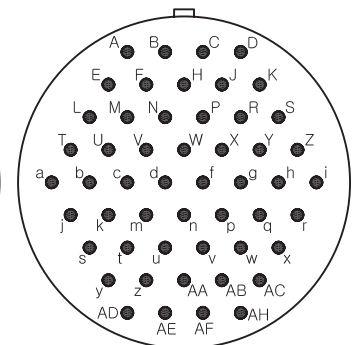
36-14



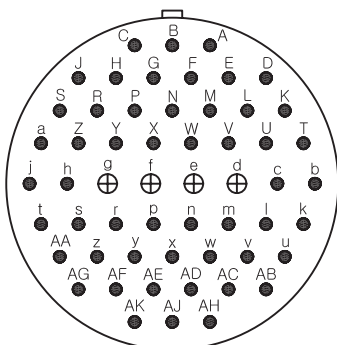
36-15



36-19

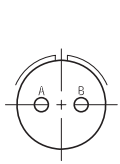


36-52

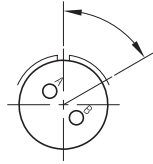


36-66

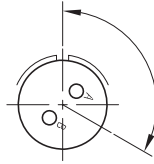
Alternate Insert Position



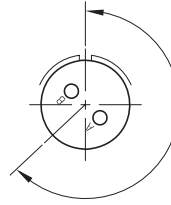
N Normal



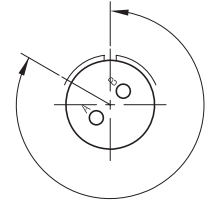
Position W



Position X



Position Y



Position Z

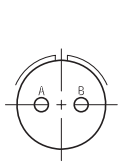
Views looking into front face of pin insert or rear face of socket insert.

Insert arrangement	Alternate Position			
	W	X	Y	Z
10SL-3	-	-	-	-
10SL-4	-	-	-	-
14S-1	-	-	-	-
14S-2	-	120	240	-
14S-4	-	-	-	-
14S-5	-	110	-	-
14S-6	-	-	-	-
14S-7	90	180	270	-
14S-9	70	145	215	290
16S-1	80	-	-	280
16-2	-	-	-	-
16S-3	-	-	-	-
16S-4	35	110	250	325
16S-5	70	145	215	290
16S-6	90	180	270	-
16-7	80	110	250	280
16S-8	-	170	265	-
16-9	35	110	250	325
16-10	90	180	270	-
16-11	35	110	250	325
16-12	-	-	-	-
16-13	35	110	250	325
18-1	70	145	215	290
18-3	35	110	250	325
18-4	35	110	250	325
18-5	80	110	250	280
18-6	-	-	-	-
18-7	-	-	-	-
18-8	70	-	-	290
18-9	80	110	250	280
18-10	-	120	240	-
18-11	-	170	265	-
18-12	80	-	-	280
18-13	80	110	250	280
18-14	80	110	250	280

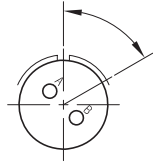
Insert arrangement	Alternate Position			
	W	X	Y	Z
18-15	-	120	240	-
18-16	-	-	-	-
18-20	90	180	270	-
18-22	70	145	215	290
18-29	90	180	270	-
20-2	-	-	-	-
20-3	70	145	215	290
20-4	45	110	250	-
20-5	35	110	250	325
20-6	70	145	215	290
20-7	80	110	250	280
20-8	80	110	250	280
20-9	80	110	250	280
20-11	-	-	-	-
20-12	80	110	250	280
20-13	-	-	-	-
20-14	80	110	250	280
20-15	80	-	-	280
20-16	80	110	250	280
20-17	90	180	270	-
20-18	35	110	250	325
20-19	90	180	270	-
20-20	80	110	250	280
20-21	35	110	250	325
20-22	80	110	250	280
20-23	35	110	250	325
20-24	35	110	250	325
20-27	35	110	250	325
20-29	80	-	-	280
20-31	-	-	-	-
20-33	-	-	-	-
22-1	35	110	250	325
22-2	70	145	215	290
22-3	80	110	250	280
22-4	35	110	250	325

Insert arrangement	Alternate Position			
	W	X	Y	Z
22-5	35	110	250	325
22-6	80	110	250	280
22-7	-	-	-	-
22-8	35	110	250	325
22-9	70	145	215	290
22-10	35	110	250	325
22-11	35	110	250	325
22-12	80	110	250	280
22-13	35	110	250	325
22-14	80	110	250	280
22-15	80	110	250	280
22-16	80	110	250	280
22-17	80	110	250	280
22-18	80	110	250	280
22-19	80	110	250	280
22-20	35	110	250	325
22-21	80	110	250	280
22-22	-	110	250	-
22-23	35	-	250	-
22-24	80	110	250	280
22-25	80	110	250	280
22-27	80	-	250	280
22-28	80	-	-	280
22-29	80	110	250	280
22-33	80	110	250	280
22-34	80	110	250	280
22-36	90	-	270	-
24-1	80	110	250	280
24-2	80	-	-	280
24-3	80	110	250	280
24-4	80	110	250	280
24-6	80	110	250	280
24-5	80	110	250	280
24-7	80	110	250	280
24-9	35	110	250	325

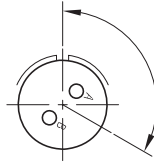
Alternate Insert Position



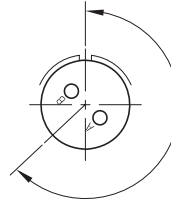
N Normal



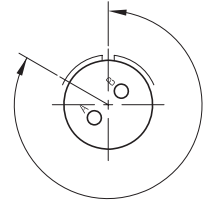
Position W



Position X



Position Y



Position Z

Views looking into front face of pin insert or rear face of socket insert.

Insert arrangement	Alternate Position			
	W	X	Y	Z
24-10	80	-	-	280
24-11	35	110	250	325
24-12	80	110	250	280
24-14	80	110	250	280
24-16	80	110	250	280
24-17	80	110	250	280
24-20	80	110	250	280
24-21	80	110	250	280
24-22	45	110	250	-
24-23	80	110	250	280
24-27	80	-	-	280
24-28	80	110	250	280
24-80	35	145	240	300
28-1	80	110	250	280
28-2	35	110	250	325
28-3	70	145	215	290
28-4	80	110	250	280
28-5	35	110	250	325
28-6	70	145	215	290
28-8	80	110	250	280
28-9	80	110	250	280
28-10	80	110	250	280

Insert arrangement	Alternate Position			
	W	X	Y	Z
28-11	80	110	250	280
28-12	90	180	270	-
28-14	80	110	250	280
28-15	80	110	250	280
28-16	80	110	250	280
28-17	80	110	250	280
28-18	70	145	215	290
28-19	80	110	250	280
28-20	80	110	250	280
28-21	80	110	250	280
28-22	70	145	215	290
32-1	80	110	250	280
32-2	70	145	215	290
32-3	80	110	250	280
32-4	80	110	250	280
32-6	80	110	250	280
32-7	80	125	235	280
32-8	80	125	235	280
32-9	80	110	250	280
32-12	80	110	250	280
32-13	80	110	250	280
32-14	35	110	250	325

Insert arrangement	Alternate Position			
	W	X	Y	Z
32-15	35	110	250	280
32-17	45	110	250	-
32-22	80	110	250	280
32-63	-	-	-	-
32-73	36	-	-	-
36-1	80	110	250	280
36-3	70	145	215	290
36-4	70	145	215	290
36-5	-	120	240	-
36-6	35	110	250	325
36-7	80	110	250	280
36-8	80	110	250	280
36-9	80	125	235	280
36-10	80	125	235	280
36-13	80	110	250	280
36-14	90	180	270	-
36-15	60	125	245	305
36-19	80	110	250	280
36-52	72	144	216	288
36-66	110	250	260	280



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