



SERIES III SUB MINIATURE CIRCULAR CONNECTORS (AE3 SERIES) REAR RELEASE TRIPLE START THREADED CONFIGURATION



This MIL-C-38999 Series III connector series features the triple start threaded coupling mechanism that offers greater vibration protection. In addition, the Series III has metric accessory threads for greater strength and support of backshells. These environmental resistant connectors are 100% "scoop proof". The connectors are available in nine shell sizes, with a choice of two receptacle configurations, and a standard plug. There are 55 insert arrangements available, utilizing 3 to 128 contacts. Contacts are 22D, 20, 16, and 12 gauge terminate wire sizes 28 through 12 gauge. The hard plastic socket interface features the chamfered conical entry that aids in the proper mating of contacts. The fluorosilicone interfacial seal has conical risers around each pin contact, that compress into the socket interface, assuring the seal of the mating surfaces. Three finishes are available for the aluminum shells. Polarization is machined into the the shell (locksmith keying).

GENERAL SPECIFICATIONS

Operating temperature range: Refer to Part numbering System under "Finish"
Operating Voltage service rating: M = 400 v, I = 600 v, II = 900 v.
Test Voltage:

Polarization: Locksmith keying
Contact sizes: 22D, 20, 16, and 12
 Per Mil-C-39029

ALTITUDE	Service Rating M		Service Rating I		Service Rating II	
	Mated	Unmated	Mated	Unmated	Mated	Unmated
SEA LEVEL	1300	2300	1800	1800	2300	2300
50,000 FT.	800	550	1000	600	1000	800
70,000 FT.	800	550	1000	400	1000	500
110,000 FT.	800	200	1000	200	1000	200

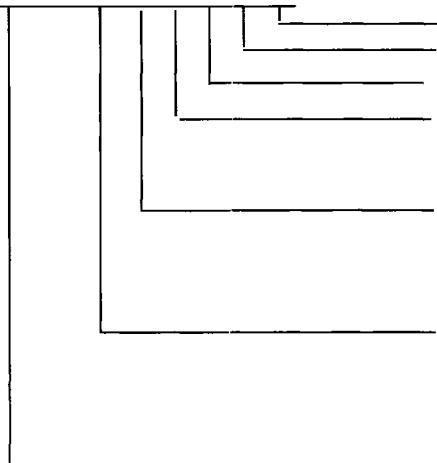
Contact Current Rating	
SIZE	AMPS
22D	5
20	7.5
16	13
12	23

Environmental fluorosilicone elastomers

MIL-C-38999 SERIES III MILITARY PART NUMBERING SYSTEM

(AE3 **)

D38999 / 20 C B 35 S N



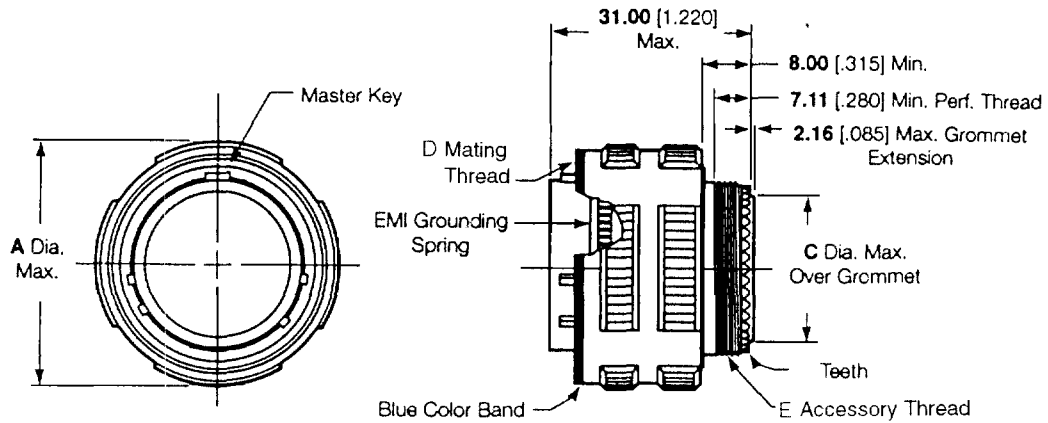
- Polarization** (n for normal, A, B, C or D for alternates)
- Contacts** (P = Pin, S = Socket)
- Insert Arrangement** (Refer to MIL-C-38999 Insert Arrangements)
- Shell Size Code:**
 A = 9 B = 11 C = 13 D = 15 E = 17
 F = 19 G = 21 H = 23 J = 25
- Class:**
 W = Aluminum, olive drab cadmium over nickel, -65°C to +175°C
 F = Aluminum, electroless nickel, -65°C to 200°C
 C = Aluminum, Anodic (Non-Conductive) -65°C to +200°C
- Shell Style:**
 20 = Receptacle, wall mount
 24 = Receptacle, jam nut mount
 26 = Plug, RFI

MS Prefix --- (AERO series part number) ---AERO part number examples

AE320	AE320W1135SN
AE324	AE324W935PN
AE326	AE326W2504PN



D38999/26 SERIES III PLUG, RFI GROUNDING



SHELL SIZE	MS SHELL SIZE CODE	A DIA MAX	B TEETH	C MAX		D MATING THREAD	E ACCESSORY THREAD
				INCH	MM		
9	A	21.8	12	.299	7.59	.6250-0.1P-0.3L	M12 x 1-6g
11	B	25	16	.427	10.85	.7500-0.1P-0.3L	M15 x 1-6g
13	C	29.4	20	.541	13.74	.8750-0.1P-0.3L	M18 x 1-6g
15	D	32.5	24	.666	16.92	1.0000-0.1P-0.3L	M22 x 1-6g
17	E	35.7	28	.791	20.29	1.1875-0.1P-0.3L	M25 x 1-6g
19	F	38.5	32	.897	22.78	1.2500-0.1P-0.3L	M28 x 1-6g
21	G	41.7	36	1.022	25.96	1.3750-0.1P-0.3L	M31 x 1-6g
23	H	44.9	40	1.147	29.13	1.5000-0.1P-0.3L	M34 x 1-6g
25	J	48	44	1.272	32.31	1.6250-0.1P-0.3L	M37 x 1-6g

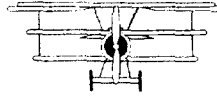
SERIES III THREAD DETAILS

MATING THREADS

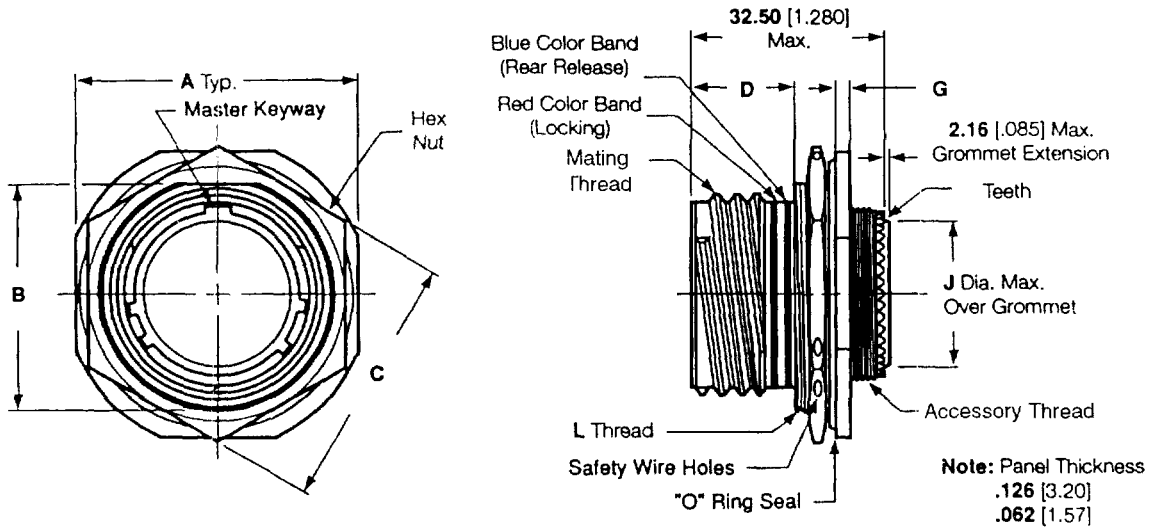
SHELL SIZE	MS SHELL SIZE CODE	MATING THREAD
9	A	.6250-0.P-0.3L
11	B	.7500-0.1P-0.3L
13	C	.8750-0.1P-0.3L
15	D	1.0000-0.1P-0.3L
17	E	1.1875-0.1P-0.3L
19	F	1.2500-0.1P-0.3L
21	G	1.3750-0.1P-0.3L
23	H	1.5000-0.1P-0.3L
25	J	1.6250-0.1P-0.3L

ACCESSORY THREADS

SHELL SIZE	MS SHELL SIZE CODE	ACCESSORY THREAD	NUMBER OF TEETH
9	A	M12 x 1-6g	12
11	B	M15 x 1-6g	16
13	C	M18 x 1-6g	20
15	D	M22 x 1-6g	24
17	E	M25 x 1-6g	28
19	F	M28 x 1-6g	32
21	G	M31 x 1-6g	36
23	H	M34 x 1-6g	40
25	J	M37 x 1-6g	44

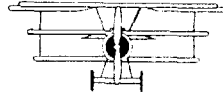


D38999/24 SERIES III RECEPTACLE, JAM NUT MOUNT

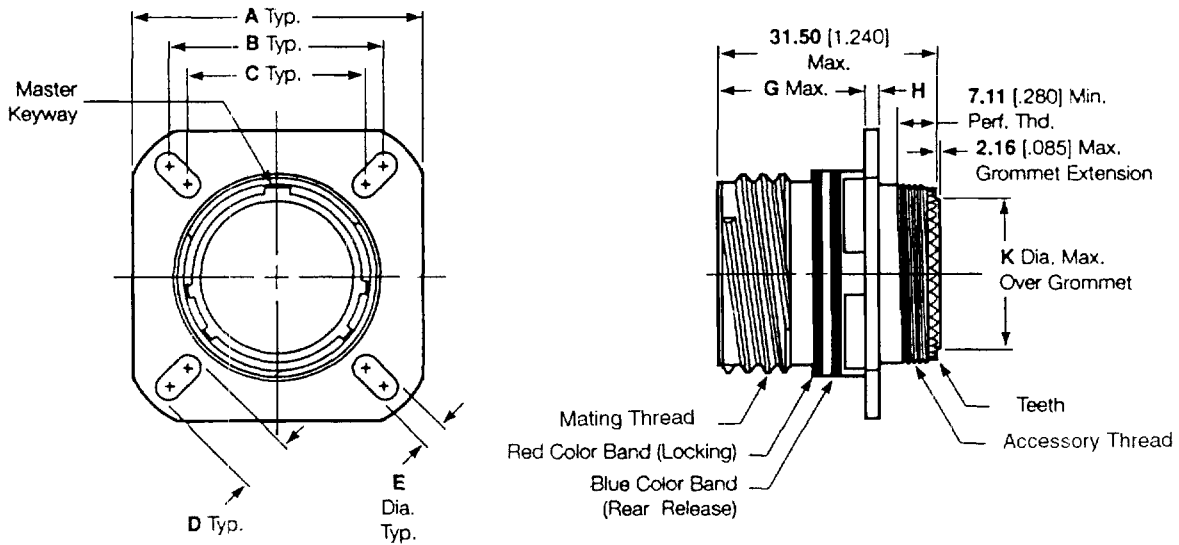


NOTE: See page 15 for details on mating threads, accessory threads and teeth.

SHELL SIZE	MS SHELL CODE	A		B MTG. FLAT		C HEX		D		G		J MAX		L JAM NUT THREAD
		INCH ±.016	MM ± 0.40	INCH +.004 -.006	MM +0.10 -0.15	INCH	MM	INCH +.028 -.004	MM +0.70 -0.10	INCH +.028 -.004	MM +0.70 -0.10	INCH	MM	
9	A	1.063	27.00	.651	16.53	.945/1.859	24.00/21.82	.555	14.10	.087	2.20	.299	7.59	M17 x 1-6g
11	B	1.252	31.80	.751	19.07	1.063/1.984	27.00/24.99					.427	10.85	M20 x 1-6g
13	C	1.374	34.90	.938	23.82	1.260/1.172	32.00/29.77	.541	13.74			M25 x 1-6g		
15	D	1.500	38.10	1.062	26.97	1.417/1.296	36.00/32.91	.666	16.92			M28 x 1-6g		
17	E	1.626	41.30	1.187	30.15	1.457/1.422	37.00/36.12	.563	14.30	.791	20.09	M32 x 1-6g		
19	F	1.811	46.00	1.312	33.32	1.614/1.546	41.00/39.26			.897	22.78	M35 x 1-6g		
21	G	1.937	49.20	1.437	36.50	1.811/1.672	46.00/42.47			.118	3.00	1.022	25.96	M38 x 1-6g
23	H	2.063	52.40	1.562	39.67	1.969/1.796	50.00/45.61	1.147	29.13			M41 x 1-6g		
25	J	2.189	55.60	1.687	42.85	2.017/1.939	51.23/49.25	1.272	32.31			M44 x 1-6g		

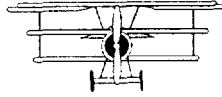


D38999/20 SERIES III RECEPTACLE, WALL MOUNT FLANGE

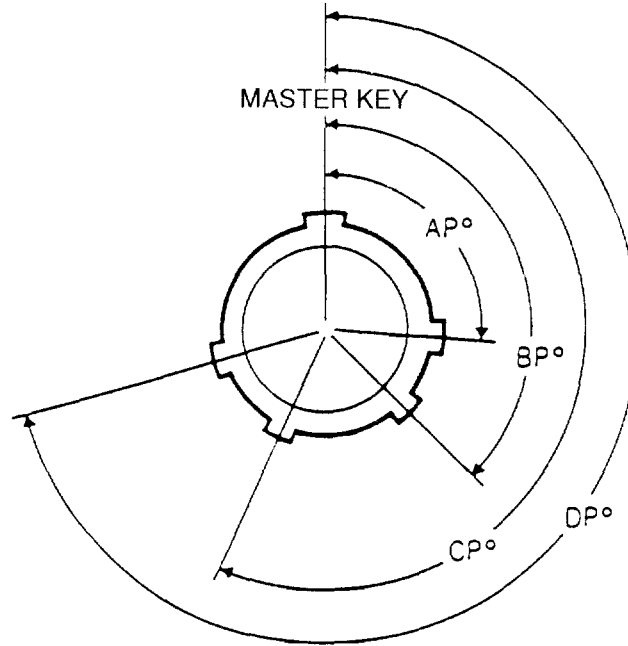


NOTE: See page 15 for details on mating threads, accessory threads and teeth.

SHELL SIZE	MS SHELL CODE	A		B		C		D		E		G MAX		H MAX		K MAX	
		INCH ±.012	MM ± 0.30	INCH ±.010	MM ±0.26	INCH ±.010	MM ±0.26	INCH +.004 -.002	MM +0.10 -0.05	INCH +.028 -.004	MM +0.70 -0.10	INCH	MM	INCH	MM	INCH	MM
9	A	.937	23.80	.719	18.26	.594	15.09	.216	5.49							.299	7.59
11	B	1.031	26.20	.812	20.82	.719	18.26	.173	4.39				20.90			.427	10.85
13	C	1.126	28.60	.906	23.01	.812	20.62									.541	13.74
15	D	1.200	31.00	.969	24.61	.906	23.01	.194		.128	3.25	823		.099	2.50	.666	16.92
17	E	1.311	33.30	1.062	26.97	.969	24.61		4.93							.791	20.09
19	F	1.437	36.50	1.156	29.36	1.062	26.97									.897	22.78
21	G	1.563	39.70	1.250	31.75	2.156	29.36									1.022	25.96
23	H	1.689	42.90	1.375	34.93	1.250	31.75	2.42	6.14	.154	3.91	.792	20.10	.126	3.20	1.147	29.13
25	J	1.811	46.00	1.500	38.10	1.375	34.93									1.272	32.31



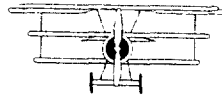
SERIES III POLARIZATION REFERENCE LOCKSMITH KEYING (MACHINED INTO SHELL)



FACE OF THE PLUG IS SHOWN, ANGLE FOR THE RECEPTACLE IS OPPOSITE

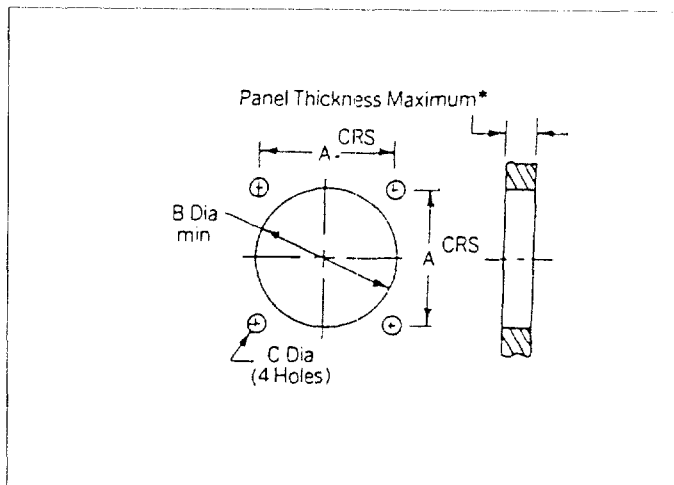
SHELL KEYING

SHELL SIZE	KEY AND KEYWAY IDENTIFICATION LETTER	ANGLES IN DEGREES			
		AP°	BP°	CP°	DP°
9	N	105	140	215	265
	A	102	132	248	320
	B	60	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
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272

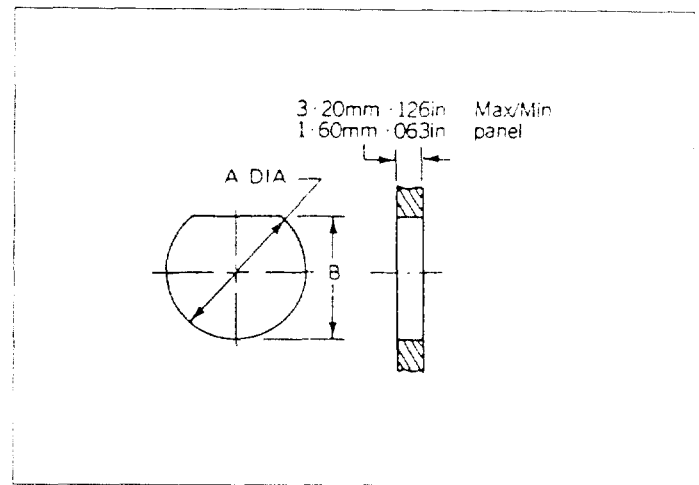


PANEL CUTOUTS SERIES III

FLANGE MOUNTING



JAM NUT MOUNTING



PANEL THICKNESS MAXIMUM
Rear of Panel mounted sizes:
9 - 19 5.94 mm (.234")
21 - 25 5.18 mm (.204")

FLANGE MOUNTING DIMENSIONS

SHELL SIZE	A CRS		B DIA MIN		C DIA MIN	
	INCH	MM	INCH	MM	INCH	MM
9	.719	18.26	.656	16.66	.123 - .133	3.12 - 3.38
11	.812	20.62	.796	20.22	.123 - .133	3.12 - 3.38
13	.906	23.01	.922	23.42	.123 - .133	3.12 - 3.38
15	.969	26.97	1.047	26.59	.123 - .133	3.12 - 3.38
17	1.062	24.61	1.219	30.96	.123 - .133	3.12 - 3.38
19	1.156	29.36	1.297	32.94	.123 - .133	3.12 - 3.38
21	1.250	31.75	1.422	36.12	.123 - .133	3.12 - 3.38
23	1.375	34.93	1.547	39.29	.149 - .159	3.78 - 4.04
25	1.500	38.10	1.672	42.47	.149 - .159	3.78 - 4.04

JAM NUT MOUNTING DIMENSIONS

SHELL SIZE	A DIA		B	
	INCH	MM	INCH	MM
9	.697 - .707	17.70 - 17.95	.659 - .669	16.74 - 16.99
11	.822 - .832	20.88 - 21.13	.759 - .769	19.28 - 19.53
13	1.007 - 1.017	25.58 - 25.83	.945 - .955	24.01 - 24.26
15	1.134 - 1.144	28.80 - 29.05	1.074 - 1.084	27.28 - 27.53
17	1.259 - 1.269	31.98 - 32.23	1.198 - 1.208	30.43 - 30.68
19	1.384 - 1.394	35.15 - 35.40	1.323 - 1.333	33.61 - 33.86
21	1.507 - 1.517	38.28 - 38.53	1.449 - 1.459	36.81 - 37.06
23	1.634 - 1.644	41.50 - 41.75	1.574 - 1.584	39.99 - 40.24
25	1.759 - 1.769	44.68 - 44.93	1.699 - 1.709	43.16 - 43.41