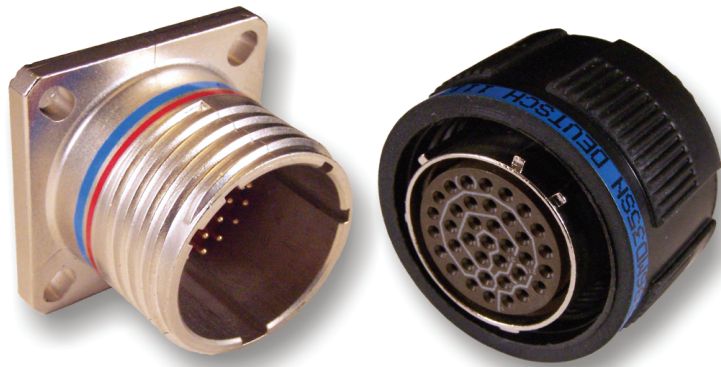




DEUTSCH

DEFENSE AEROSPACE OPERATIONS

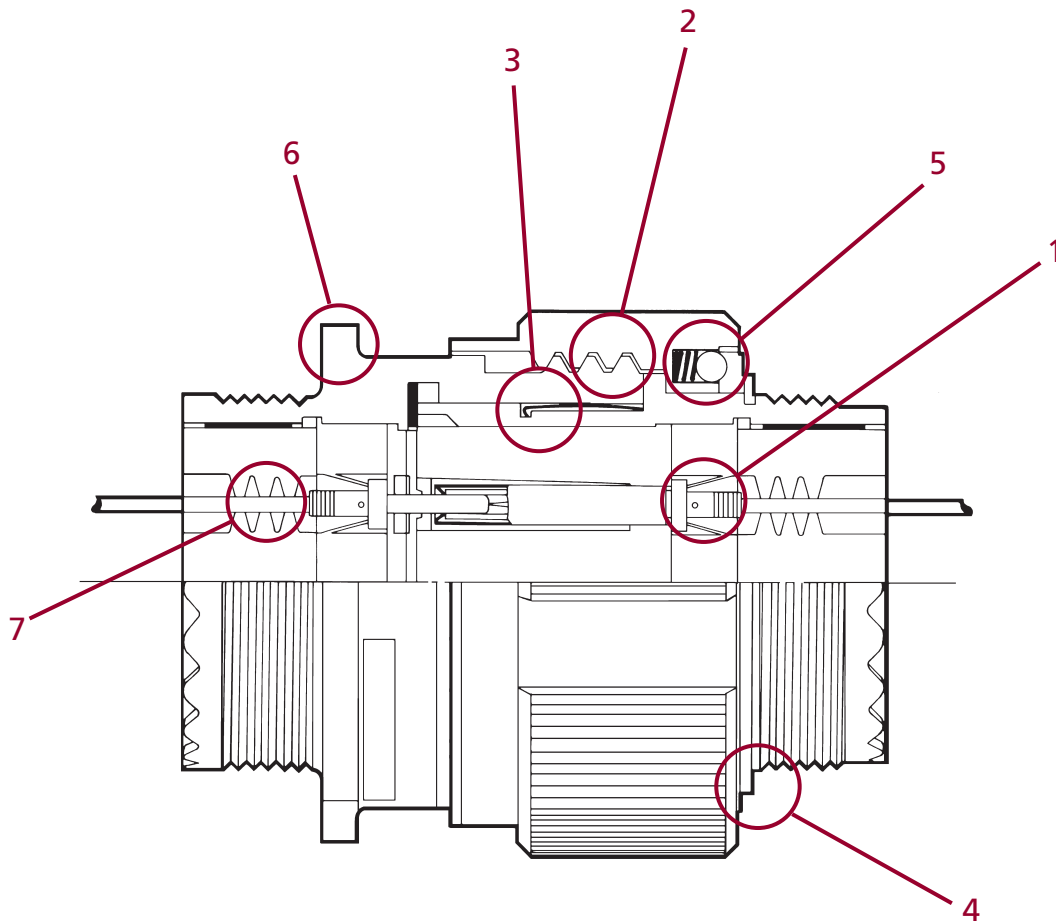


ACT Mil-C-38999 Series III Composite

Circular bayonet connector

Aeronautics industry connector

Introduction	1
Advantages	2
Technical Specifications	3
ACT Summary	4
Dimensions	5-6
Insert Arrangements	7
Key Orientation	8
Contacts	9
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- 1 - Deutsch proven dielectric retention system provides superior contact retention under severe vibration.**
- 2 - The ACT series provides 100 % thread to thread bottoming for maximum EMI grounding protection.**
- 3 - Grounding fingers provide excellent EMI protection.**
- 4 - Non-reflective olive drab cadmium or nickel shell plating provides 2000 hours salt spray corrosion protection.**
- 5 - Threaded coupling with self locking feature.**
- 6 - Elongated mounting holes permit the ACT connector to intermount with existing standard MIL -C -38999 box or wall mount receptacles, giving it a design replacement advantage.**
- 7 - Deutsch uses superior silicone seals providing maximum tear resistance and sealing memory.**

Deutsch's MIL-C-38999 Series III ACT with triple start, self locking, threaded coupling and crimp-type terminations.

The Deutsch ACT is a high performance composite connector qualified to MIL-C-38999. What Deutsch Defense / Aerospace does better than anyone else is make wire termination devices for demanding applications. Deutsch utilized its unprecedented achievements in the area of Defense / Aerospace composite technology, enabling us to design and produce the latest version of MIL-C-38999 connectors. The superior design of the ACT deliberately took into consideration the connector, its contacts and the respective strain reliefs to favorably influence intra-system life-cycle performance and costs.

The total performance of the ACT connector is matched by individual components within the system. For example, the use of composite materials has increased the durability of the connector housing and coupling mechanism to 1500 cycles. Deutsch developed an extended life MIL-C-38999 contact to meet the increased performance requirements of today's systems. The ACT eliminates the largest contributing factor in advanced systems malfunction... corrosion, which is the main cause of mechanical, electrical and EMI degradation. Galvanic action is eliminated resulting in a system that withstands over 2000 hours of salt spray.

- *Threaded coupling with self locking.*
- *100 % scoop-proof shells.*
- *Corrosion : 2000 + hours salt spray protection for class W and class M.*
- *R.F.I. fingers.*
- *Plugs and receptacles are equipped with thermoplastic and elastomer insert.*
- *Thermoplastic clips molded directly with insert.*
- *Removable crimping contacts (MIL-C 39029).*
- *Sealing receptacle with contacts for printed circuit.*
- *Connector in accordance with specifications MIL-C 38999 series III.*
- *Connector QPL (to order as per QPL).*

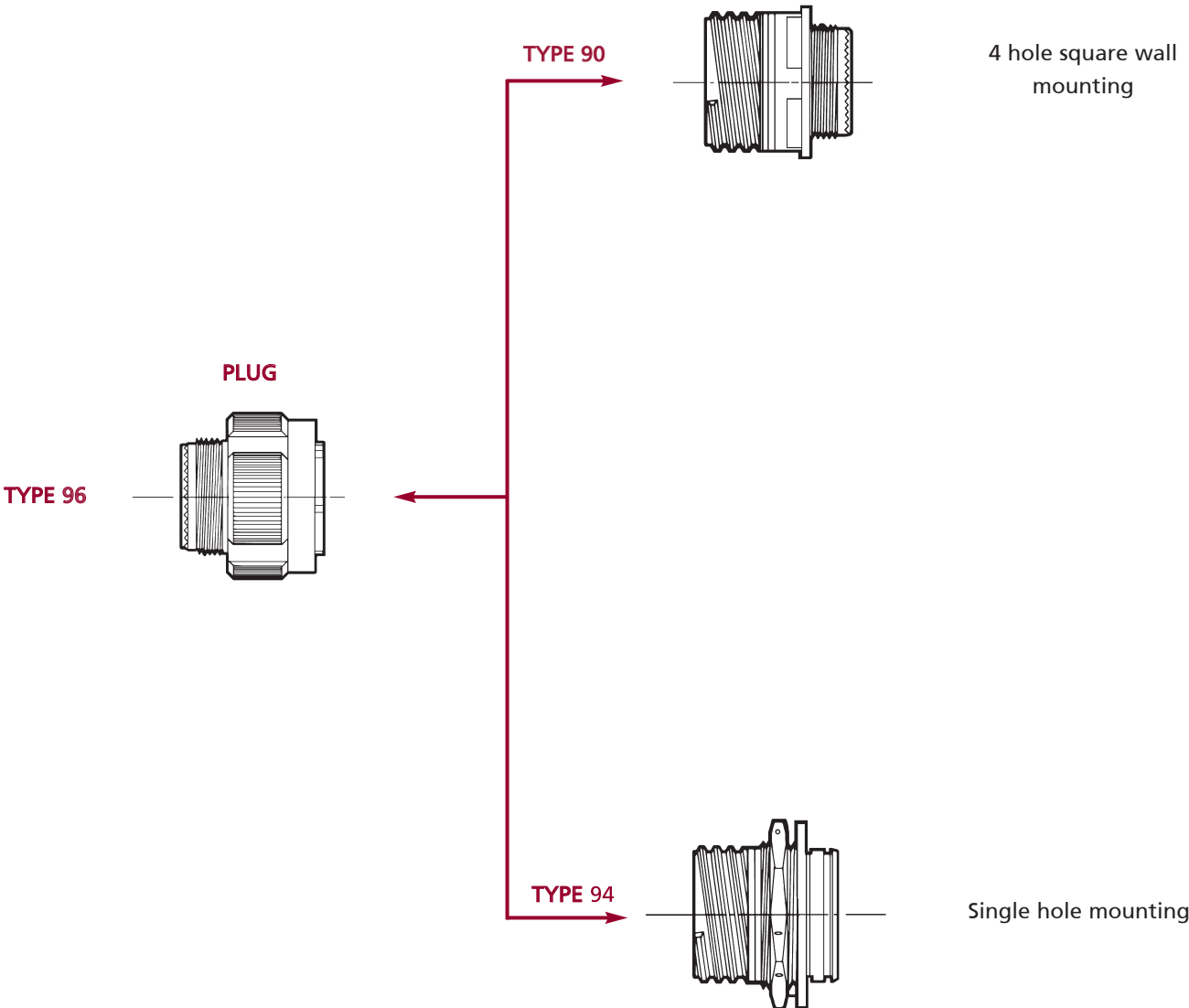
● Mechanical

Shell	Material Plating	: Composite : W - Olive Drab cadmium : M - Nickel coating
Silicone Insert	Material	: Thermoplastic and fluorinated silicone elastomer
Flat gasket and o'ring		: Flouronited silicone elastomer
Contact	Material Plating Type	: Copper alloy : Gold : Crimp type or printed circuit pin (contact Deutsch)
Service Temperature		: Cadmium plating - 65° C to + 175° C (- 85°F to + 347°F) : Nickel plating - 65° C to + 200° C (- 85°F to + 392°F)
Corrosion		: (Class W) 2000 hours salt spary per MIL-DTL-38999 : (Class M) 2000 hours salt spary per MIL-DTL-38999
Thermal Shock		: Per MIL-DTL-38999
Shock		: 300 Gs, 3ms in 3 axes
Vibration		: Per MIL-DTL-38999
Durability		: 1500 coupling/uncoupling cycles

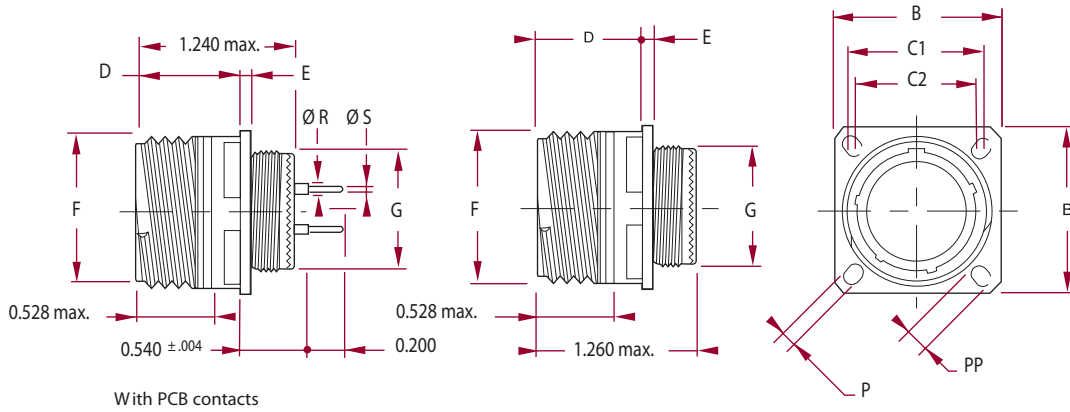
● Electrical

Dielectric withstanding voltage	at sea level at 50,000 ft.	: Service M: 1300 VAC (rms) : Service I: 1800 VAC (rms) : 3Service II: 2300 VAC (rms)
Contacts maximum current	at 70,000 ft.	: Mated Connector : Service M: 800 VAC (rms) : Service I: 1000 VAC (rms) : Service II: 1000VAC (rms) : Unmated Connector : Service M: 350VAC (rms) : Service I: 400VAC (rms) : Service II: 500VAC (rms)
Insulation resistance		: 5000 megaohms min. at + 25°C (+ 77°F) @ 65% Rel.H max.
Contact millivolt drop		: Size 22 : 73 millivolts at 5.0 amps : Size 20 : 55 millivolts at 7.5 amps : Size 16 : 49 millivolts at 12.0 amps : Size 12 : 42 millivolts at 23.0 amps : Size 8 : 26 millivolts at 46.0 amps
EMI Shielding		: Per MIL-DTL-38999

SEALED RECEPTICLES



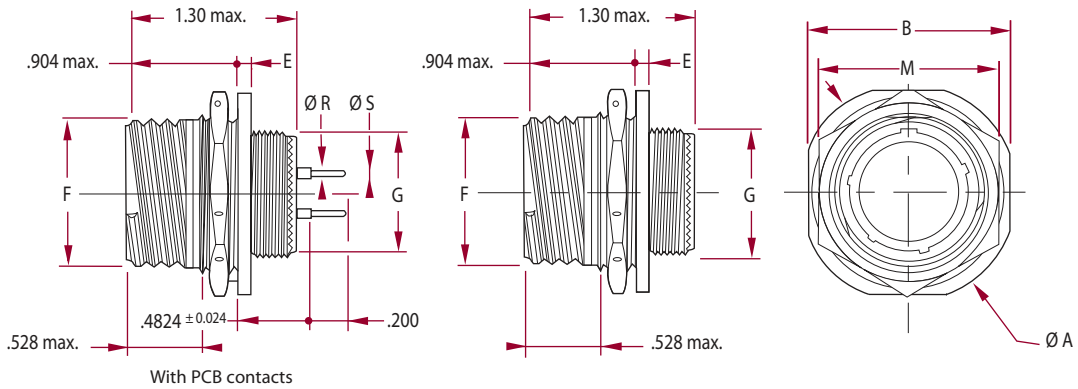
Square Flange Receptacle



Contact Size	R	S
	+ 0 - 0.002	± 0.002
22	0.420	
20	0.060	0.028
16	0.104	0.046

Size	B	C1	C2	D	E	F	G	P	PP	Wt. oz. max.
	± 0.010			min.	max.	± 0.004	± 0.004	± 0.004 0.002	± 0.008 0.002	
A	.937	.719	.594	.768	.144	.630	.476	.128	.216	.280
B	1.031	.812	.719	.768	.144	.756	.596	.128	.194	.385
C	1.126	.906	.812	.768	.144	.884	.716	.128	.194	.490
D	1.220	.969	.906	.768	.144	1.010	.876	.128	.173	.630
E	1.311	1.062	.969	.768	.144	1.198	.996	.128	.194	.805
F	1.437	1.156	1.062	.768	.144	1.262	1.116	.128	.194	.910
G	1.563	1.250	1.156	.736	.171	1.388	1.236	.128	.194	1.850
H	1.689	1.375	1.250	.736	.171	1.516	1.356	.154	.242	1.260
J	1.811	1.500	1.375	.736	.171	1.644	1.476	.154	.242	1.505

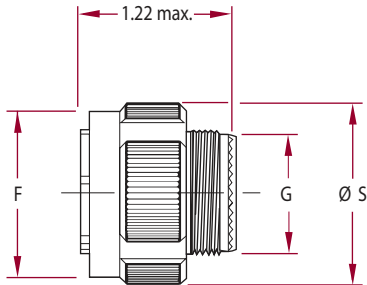
Jam Nut Receptacle



Contact Size	R	S
	+ 0 - 0.002	± 0.002
22	.420	
20	.060	.028
16	.104	.046

Size	A	B	E	F	G	M	Mass oz. max.
	± 0.011	± 0.016	+ 0.028 - 0.004	± 0.004	± 0.004		
A	1.189	1.080	.120	.630	.476	.873	.385
B	1.374	1.272	.120	.756	.596	1.000	.490
C	1.500	1.396	.120	.884	.716	1.191	.630
D	1.626	1.524	.120	1.010	.876	1.316	.805
E	1.752	1.652	.120	1.198	.996	1.445	1.015
F	1.937	1.840	.148	1.262	1.116	1.570	1.225
G	2.063	1.968	.148	1.388	1.236	1.699	1.330
H	2.189	2.096	.148	1.516	1.356	1.824	1.610
J	2.311	2.224	.148	1.644	1.476	1.970	1.925

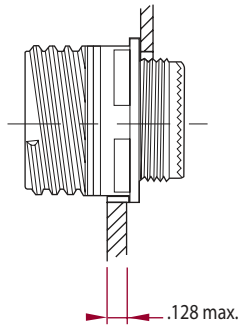
Plug



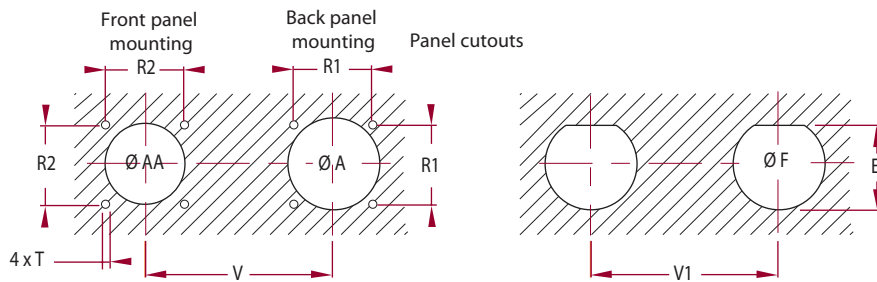
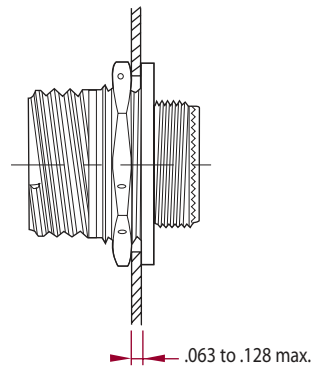
Size	F max.	G max.	S max.	Wt. max.
A	.736	.476	.858	.315
B	.844	.596	.984	.455
C	1.016	.716	1.157	.635
D	1.148	.876	1.280	.805
E	1.288	.996	1.406	.875
F	1.396	1.116	1.516	1.120
G	1.524	1.236	1.642	1.225
H	1.644	1.356	1.768	1.435
J	1.772	1.476	1.890	1.680

Mounting Cutouts
















































Type 90

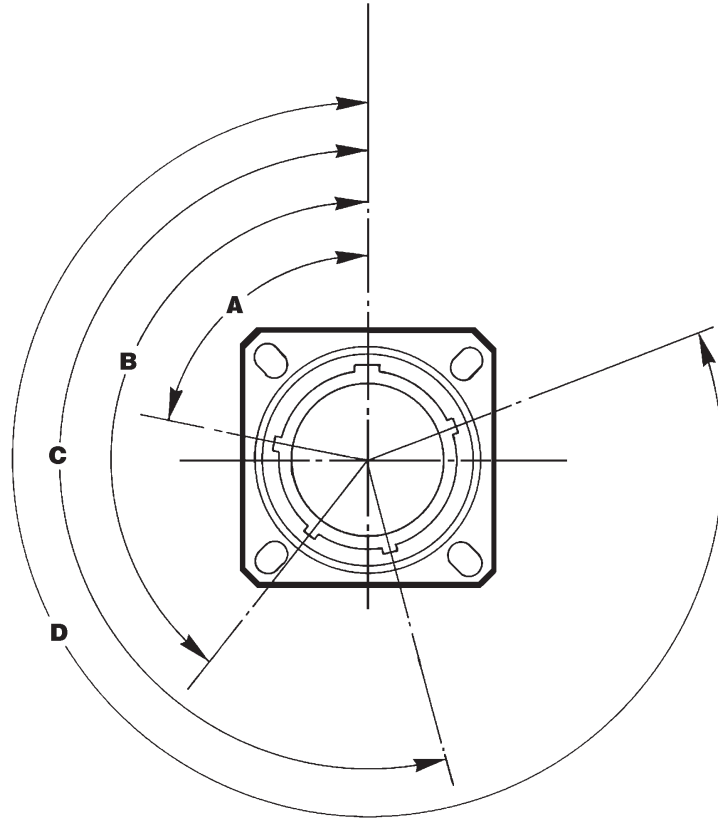


Type 94



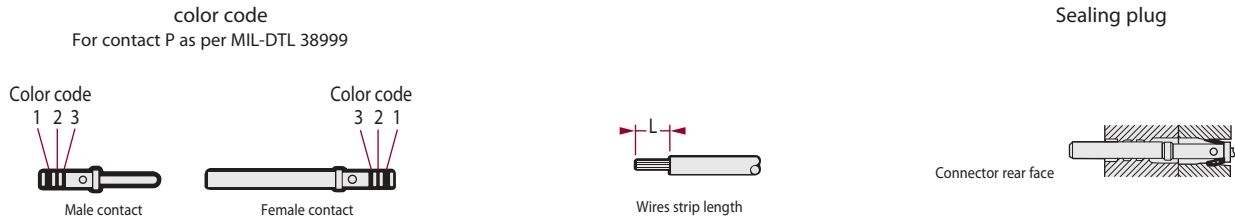
Size	Back R1 max	Front R2 max	A min	AA min	T Dia ± .13	V min	V1 min	E +.00 - .25	F +.25 - .00	Inch lbs Torque
A	.719	.594	.656	.516	.128	.984	1.112	.670	.700	30/36
B	.812	.719	.795	.625	.128	1.080	1.304	.771	.825	40/45
C	.906	.812	.922	.750	.128	1.208	1.440	.955	1.010	55/60
D	.989	.989	1.047	.908	.128	1.332	1.584	1.085	1.135	70/75
E	1.082	.989	1.219	1.016	.128	1.460	1.732	1.210	1.260	80/85
F	1.156	1.082	1.297	1.141	.128	1.572	1.880	1.335	1.385	90/95
G	1.250	1.156	1.442	1.286	.128	1.700	2.024	1.460	1.510	100/110
H	1.375	1.250	1.547	1.375	.154	1.828	2.168	1.585	1.635	110/120
J	1.500	1.375	1.672	1.485	.150	1.952	2.388	1.710	1.760	120/130

 A-35 6 contacts size 22	 A-98 3 contacts size 20	 B-02 2 contacts size 16	 B-05 5 contacts size 20	 B-35 13 contacts size 22	 B-98 6 contacts size 20	 B-99 7 contacts size 20	 C-04 4 contacts size 16
 C-08 8 contacts size 20	 C-35 22 contacts size 22	 C-98 10 contacts size 20	 D-05 5 contacts size 16	 D-15 14 contacts size 20 1 contacts size 16	 D-18 18 contacts size 20	 D-19 19 contacts size 20	 D-35 37 contacts size 22
 D-97 8 contacts size 20 4 contacts size 16	 E-02 38 contacts size 22 1 contacts size 8	 E-06 6 contacts size 12	 E-08 8 contacts size 16	 E-26 26 contacts size 20	 E-35 55 contacts size 22	 E-99 21 contacts size 20 2 contacts size 16	 F-11 11 contacts size 16
 F-32 32 contacts size 20	 F-35 66 contacts size 22	 G-11 11 contacts size 12	 G-16 16 contacts size 16	 G-35 79 contacts size 22	 G-39 2 contacts size 16 37 contacts size 20	 G-41 41 contacts size 20	 G-75 4 contacts size 8
 H-21 21 contacts size 16	 H-35 100 contacts size 22	 H-53 53 contacts size 20	 H-55 55 contacts size 20	 J-04 48 contacts size 20 8 contacts size 16	 J-7 97 contacts size 22 2 contacts size 8	 J-8 8 contacts size 8	
 J-19 19 contacts size 12	 J-20 10 contacts size 20 13 contacts size 16 4 contacts size 12 3 contacts size 8	 J-24 12 contacts size 16 12 contacts size 12	 J-29 29 contacts size 16	 J-35 128 contacts size 22	 J-43 23 contacts size 20 20 contacts size 16	 J-61 61 contacts size 20	
 J-90 40 contacts size 20 4 contacts size 16 2 contacts size 8	<p>Note: For additional insert arrangements consult factory.</p>						
<p>This information is for reference only. Consult factory for envelope drawings, updated specifications and additions to the product line.</p>							



Size	Orientation	Polarization in degrees			
		A	B	C	D
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 thru 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 thru 25	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
17 thru 25	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272

Standard gold 500 cycles contact (3025)



CONTACTS							CABLES			SEALING PLUG		
Commercial Part-number	Type	Size	Color code			Observations	Section mm ²	AWG wire	Ø over sheath	L	P/N	Color
			1	2	3							
724-0001-22	P	22	Orange	Blue	Black	Standard contact	0.10 to 0.38	22 - 28	0.76 to 1.37	5,00 to 5,80	028-0102-22	Yellow
724-0007-22	S		Orange	Yellow	Grey							
724-0001-20	P	20	Orange	Blue	Orange	Standard contact	0.21 to 0.60	20 - 24	1.02 to 2.11	5,80 to 6,60	006-0893-20	Red
724-0007-20	S		Orange	Green	Brown							
724-0001-16	P	16	Orange	Blue	Yellow	Standard contact	0.60 to 1.34	16 - 20	1,65 to 2.77	5,80 to 6,60	006-0893-16	Blue
724-0007-16	S		Orange	Green	Red							
724-0001-12	P	12	Orange	Blue	Green	Standard contact	1.93 to 3.18	12 - 14	2.46 to 3.61	5,80 to 6,60	006-0892-12	Yellow
724-0007-12	S		Orange	Green	Orange							
182-0003-08	P	8	-	-	-	Power contact	5.30 to 8.98	8	4.50 to 5.80	9,20 to 9,80	182-0061-08	-
182-0003-08	S											
182-0068-20	P	20	Yellow	Purple	Green	Alumel contact	0.21 to 0.60	20 - 24	1.02 to 2.11	5,80 to 6,60	006-0893-20	Red
182-0009-20	S		Yellow	Grey	Purple							
182-0069-20	P	20	Yellow	Purple	Blue	Chromel contact	0.21 to 0.60	20 - 24	1.02 to 2.11	5,80 to 6,60	006-0893-20	Red
182-0010-20	S		Yellow	Grey	Grey							
182-0068-22	P	22	Yellow	Purple	Brown	Alumel contact	0.10 to 0.38	22 - 28	0.76 to 1.37	5,00 to 5,80	028-0102-22	Yellow
182-0009-22	S		Yellow	White	Green							
182-0069-22	P	22	Yellow	Purple	Red	Chromel contact	0.10 to 0.38	22 - 28	0.76 to 1.37	5,00 to 5,80	028-0102-22	Yellow
182-0010-22	S		Yellow	White	Blue							

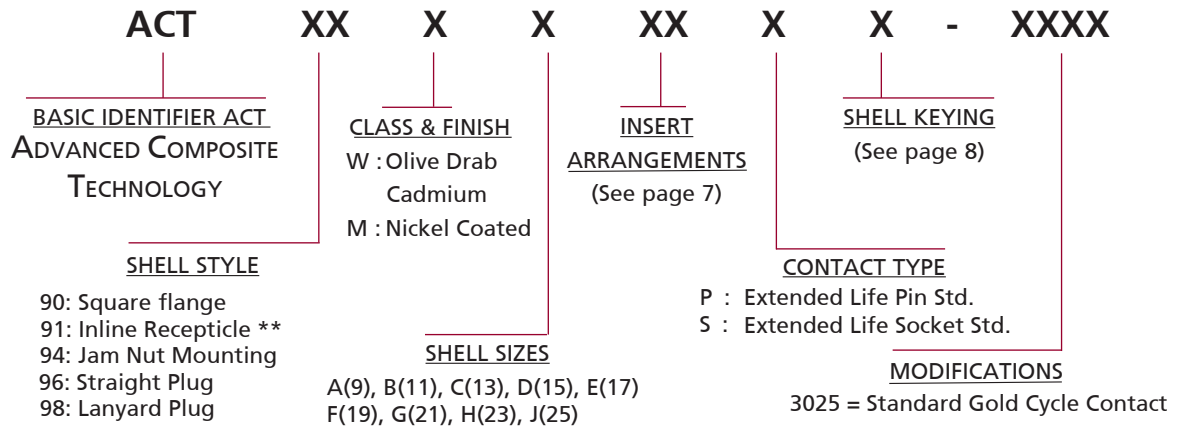
DATABUS CONTACTS SIZE 8 (TWISTED PAIR) AS PER MIL-C 38999 SERIES I, III AND IV STANDARD										
CONTACTS				CABLES			SLEEVE	TOOLS		
Part-number	Type	Size	Color code	Type	Conductor max. section	Braid Ø max.	Types	Crimping tool		Extraction
								Conductor	Ferrule	
182-0034-03	P	8	Brown-red	braid simple	0,86 mm ²	3,48	Thermosetting and silicone	TDB-CT-08	TDB-CT-HEX Mark C	114-008 or M 81969/14-06
182-0035-03	S									
182-0034-04	P	8	Red-red	Hight immunity double braid	0,86 mm ²	3,91	Thermosetting and silicone	TDB-CT-08	TDB-CT-HEX Mark D	114-008 or M 81969/14-06
182-0035-04	S									

Nota : Standard contacts delivered with connector.
Size 8 and Bus contacts are delivered with protect sleeve.

1500 cycle contact

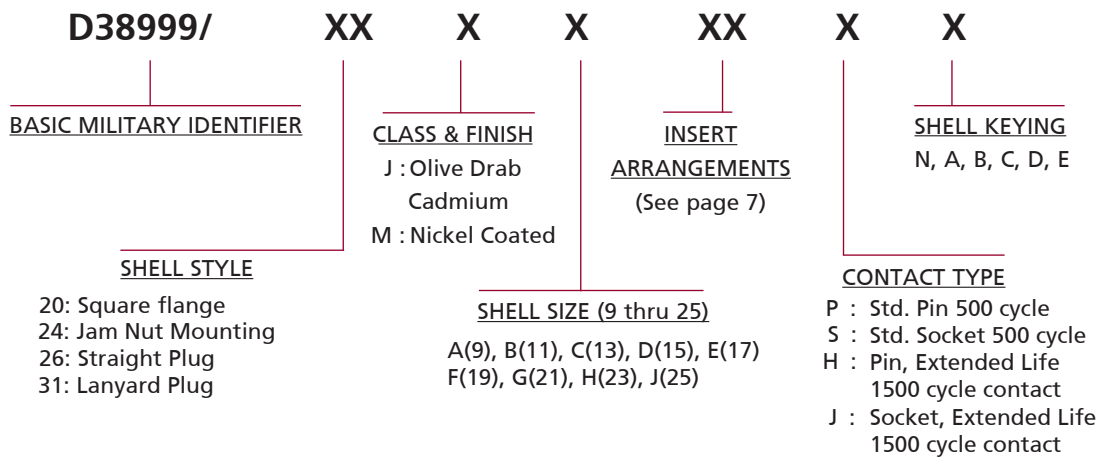
DEUTSCH EXTENDED LIFE FINISH						
Part number	Military part number	Type	Size	Color code		
				1	2	3
12331-22	MIL-C 39029/107-620	p	22	Blue	Red	Black
182-0447-12	MIL-C 39029/106-614	S		Blue	Brown	Yellow
182-0441-20	MIL-C 39029/107-621	P	20	Blue	Red	Bown
182-0447-20	MIL-C 39029/106-614	S		Blue	Brown	Green
12331-16	MIL-C 39029/107-622	P	16	Blue	Red	Red
12333-16	MIL-C 39029/106-616	S		Blue	Brown	Blue
12331-12	MIL-C 39029/107-623	P	12	Blue	Red	Orange
12333-12	MIL-C 39029/106-617	S		Blue	Brown	Violet

DEUTSCH ACT CONNECTOR PART NUMBERS



** Consult factory regarding availability

DEUTSCH MILITARY COMPOSITE NUMBERS





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