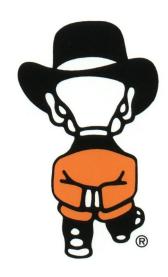


MIL-C-38999 Series I

Mil-Spec Connectors & Accessories



DEUTSCH ECD

Defense / Aerospace Operations...

is the world's premier manufacturer of electrical interconnection devices for use in defense, aerospace, and commercial applications. Whether you need an interconnection device for a commercial or military aircraft, missile, tank, truck transmission or a host of other applications, Deutsch has the solution you're looking for.

Deutsch ECD Defense Aerospace Operations

5733 W. Whittier Ave., Hemet CA (USA) 92545 Phone 909/765-2200 • FAX 909/922-1544

MIL-C-38999 Series I

DEUTSCH DJT SERIES CONNECTORS

Cylindrical, High Density Bayonet Coupling Connector Qualified to MIL-C-38999 Series I

The Deutsch Series I version is a long shell, scoop-proof, bayonet coupling connector available in both environment resisting resilient and hermetic types. These Series I connectors are intermateable and interchangeable with all other MIL-C-38999 Series I connectors.

Dielectric withstanding voltage:

(Meets MIL-C-38999, paragraph 3.14) At sea level: 1800 volts AC (RMS) At 100,000 ft.: 200 volts AC (RMS)

Insulation resistance:

(Meets MIL-C-38999, paragraph 3.13) 5000 megohms min.at 25°

Thermal shock:

(Meets MIL-C-38999, paragraph 3.8) After cycling the connector between -65° C and +175° C, it will meet all applicable electrical and mechanical requirements.

Current rating:

(Meets MIL-C-39029, paragraph 1.3.1) Contact Size Max. Amps

22D	5	
20	7.5	
16	13	
12	23	

Temperature:

(Meets MIL-C-38999, paragraph 3.11) Operative at temperatures from -65° C to +175° C.

Durability:

(Meets MIL-C-38999, paragraph 3.11) No electrical or mechanical defects after 500 cycles of engagement and disengagement.

Physical shock:

(Meets MIL-C-38999, paragraph 3.27) No loosening of parts, cracking or other deleterious results hindering further part operation after 300 G's in each of 3 mutually perpendicular planes.

Contact millivolt drop:

22D — 73 millivolts at 5.0 amps
 20 — 55 millivolts at 7.5 amps
 16 — 49 millivolts at 135.0 amps
 12 — 42 millivolts at 23.0 amps

Corrosion:

(Meets MIL-C-38999, paragraph 3.16) Meets appropriate electrical and mechanical requirements and shows no exposure of base metal after 500 hours of salt spray.

Vibration:

(Meets MIL-C-38999, paragraph 3.26)

Contact resistance at 25° C:

(Meets MIL-C-39029, paragraph 3.5.4) Contact & Test Current Wire Size (Amps) Drop (*) 22D 5 73 20 7.5 55 13 49 16 12 42

Usable wire size:

(Meets MIL-C-39029, paragraph 3.4.3.1)

maci Size	Accepts (AVVG)
22D	22-28
20	20-24
16	16-20
12	12814

Materials:

Shell — aluminum alloy. Pin contacts — copper alloy. Inserts — plastic; silicone.

Finish

Shell — O.D. cad over nickel. Contacts — gold over nickel.

Grommet sealing range:

(Meets MIL-C-39029, paragraph 3.4.3.1) Max. Wire Min. Wire Contact Size O.D. O.D. 22D .054 .030 20 .083 .040 16 .109 .065 12 .142 .097

Fluid compatibility:

(Meets MIL-C-38999, paragraph 3.33) Designed to function in all fluids encountered in any modern military or aerospace environment.

EMI shielding:

(Meets MIL-C-38999, paragraph 3.31)
Effective over a range of 100 MHz to 10
GHz with a minimum 50 dB effectiveness at 10 GHz.

Frequency	Leakage attenuation
MHz	minimum (dB)
100	90
200	88
300	87
400	85
800	85
1,000	85
1,500	69
2,000	65
3,000	61
4,000	58
6,000	55
10,000	50

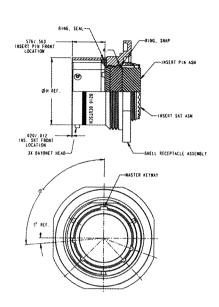
Fluid immersion:

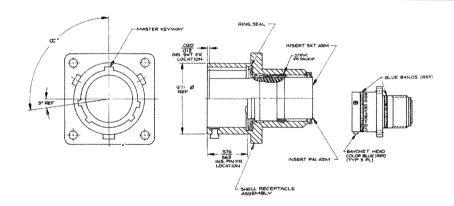
Fluid resistant to many fuels, coolants and solvents per MIL-C-38999.

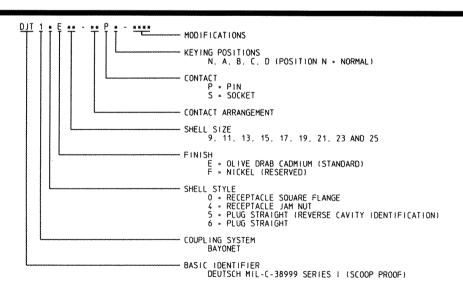


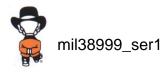
SHELL	H DIA.
SIZE	REF.
09	. 568
11	. 696
13	. 846
15	. 971
17	1.096
19	1.203
21	1.328
23	1.453
25	1.578

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SHELL		KEY POSITION CE						
SIZE	N	A	8	C	D	1		
09	95°	77°			113	1		
11	95°	81°	67°	123°	109°	1		
13	95°	75°	63°	1270	115°	1		
15	95°	74°	61°	129°	116°	1		
17	95°	77°	65°	125°	113°	1		
19	95°	77°	65°	125°	113°	×		
21	95°	770	65°	125°	113°	6		
23	95°	80°	69°	121°	110°	1		
25	95°	80°	69°	151°	110°]ā		

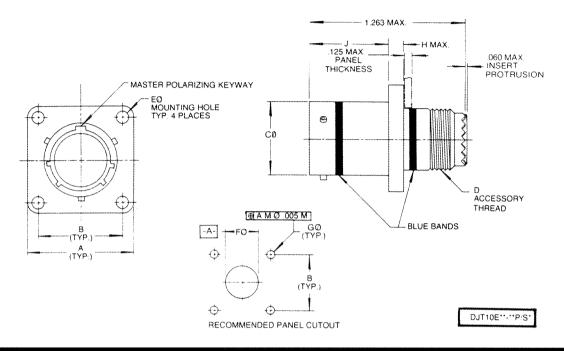




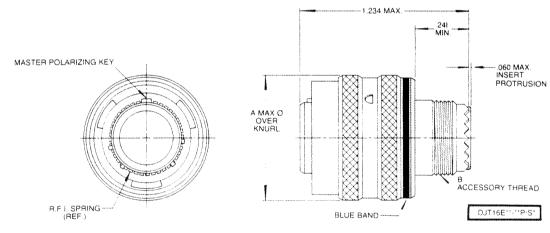




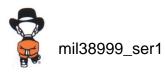
Receptacle Outline Dimensions



Plug Outline Dimensions



SHELL SIZE	A ± .020	B ± .005	C Q ± .003	D THREAD UNEF-2A	E 0 + .010 005	FØ MIN.	GØ ± .005	H MAX.	J + .000 005	AØ MAX	B THREAD UNEF-2A
9	.938	.719	.570	,4375-28	.128	.516	.128	.100	.632	.859	.4375-28
11	1.031	.812	.698	.5625-24	.128	.664	128	.100	.632	.984	.5625-24
13	1.125	.906	.848	.6875-24	.128	.750	.128	.100	632	1.156	.6875-24
15	1.219	.969	.973	.8125-20	.128	.906	.128	.100	032	1.281	.8125-20
1.7	1.312	1.062	1.098	.9375-20	.128	1.016	.128	.100	.632	1.406	.9375-20
19	1.438	1.156	1.205	1.0625-18	.128	1.141	.128	.100	.632	1.516	1.0625-18
21	1.562	1.250	1.330	1.1875-18	.128	1.266	.128	.130	.602	1.641	1.1875-18
23	1.588	1.375	1.455	1.3125-18	.147	1.377	.154	130	. 502	1.766	1.3125-18
25	1.812	1,500	1.580	1.4375-18	.147	1.484	.154	.130	.602	1.891	1.4375-18



DJT Series Insert Arrangements

Contact Arrangements









Insert 11-35





















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Insert 15-18

37#22D Contacts

Insert 17-6

Insert 17-8

55#22D Contacts insert 17-35

11#16 Contacts



32#20 Contacts Insert 19-32



66#22D Contacts Insert 19-35



Insert 21-11



16#16 Contacts



41#20 Contacts



79#22D Contacts

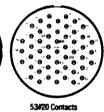
Deutsch Shell Sizes

TLQ	Service Rating	Total Con- tacts	Contact Size			
			22D	20	16	12
9-35	M	- 6	6	1		T
9-98	- 1	3		3	T	T
11-5	1	5		5		Т
11-35	M	13	13		1	1
11-99	1	7		7	T	
13-4	1	4			4	1
13-35	M	22	22			
13-98	1	10		10		
15-5	11	5		T	5	
15-18	1	18		18	T	
15-35	M	37	37			
15-97	1	12		8	4	
17-6	ı	6				6
17-8	H	8			8	
17-26	ı	26		26		
17-35	M	55	55			T
19-11	H	11			11	
19-32	ı	32		32		
19-35	M	66	56			
21-11	ı	11				11
21-16	Ħ	16			16	
21-41	1	41		41		
21-35	M	79	79			
23-21	11	21			21	
23-53	ı	53	****	53		
23-55	1	55		55		
25-4	1	58		48	8	
25-19	1	19				19
25-24	ı	24			12	12
25-29	ı	29			29	
25-35	M	128	128			
25-61	1	61		61		



21#16 Contacts Insert 23-21

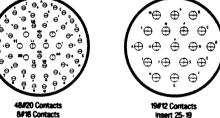
100#220 Contacts Insert 23-35



Insert 23-53



55#20 Contacts Insert 23-55







128#22D Contacts insert 25-35

• `⊕ Θ' ⊕' • ⊕ Θ, 12#16 Contacts

61#20 Contacts

This information is for reference only. Consult factory for envelope drawings, updated specifications, and additions to the product line.

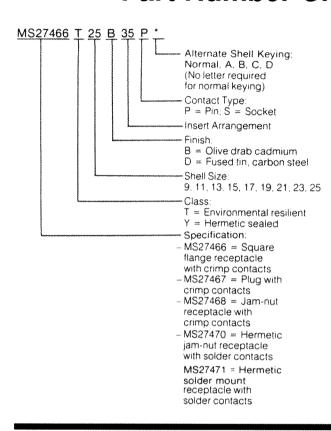
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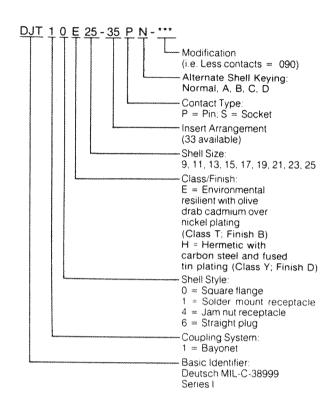
29/16 Contacts

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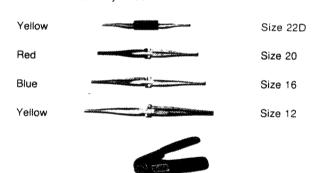
Part Number Cross Reference





Assembly Tools

Wire/contact assembly tools are standard military type insertion/removal tools found in most assembly areas.





Contact Size	Insertion/ removal tool	Crimp tool	Crimp tool positioner	Sealing plug (Military P/N)
22D	M81969 14-01	M22520/7-01	M22520/7-07	MS27488-22
	MS3160-23		M22520-7/05	
20	M81969 14-02	M22520/1-01	M22520/1-04	MS27488-20
16	M81969 14-03	M22520/1-01	M22520/1-04	MS27488-15
12	M81969 14-04	M22520/1-01	M22520/1-04	MS27488-12

