



DEPENDABLE

- Secure breech lock coupling
- 100% scoop-proof
- Pin-to-pin mating protection helps prevent failures

RUGGED

- Mated connectors help withstand high-impact shock
- Rear accessory threads help provide increased strength
- >500-mating-cycle durability
- Corrosion resistant

EMI PROTECTED

- Grounding fingers for excellent EMI protection
- Connector is grounded when the shells meet, even before the contacts are engaged

EASY INSTALLATION

- Blind-mateable grounding fingers to help provide a safer assembly during mating
- Requires only 90° rotation to engage and disengage

MIL-DTL-38999 Series IV Connectors



DEUTSCH DIV Series Connectors

DEUTSCH DIV Series connectors from TE Connectivity (TE) are high-performance MIL-DTL-38999 connectors for use in high shock, vibration and EMI environments where reliability is essential.

Qualified to MIL-DTL-38999 specifications, DEUTSCH DIV Series connectors are designed and built using the high-vibration capable breech lock coupling mechanism that only requires 90° of rotation to engage and disengage.

Special grounding fingers form a 360-degree circle just inside the shell, acting as a shield for excellent EMI protection. The connector is actually grounded when the shells meet, even before the contacts engage.

Inserts are available in 8 shell sizes, with contact arrangements meeting MIL-DTL-1560, along with additional arrangements, to help provide flexibility in circuit configurations.



MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Specifications

MATERIALS

- **Shell:** Stainless steel, aluminum
- **Plating:** Olive drab cadmium, passivated, and electroless nickel (anodized coupling ring for Class F only)
- **Insert:** Thermoplastic and fluorinated silicone elastomer
- **EMI Spring Fingers:** Nickel or cadmium-plated beryllium copper
- **O-Ring:** Fluorinated silicone elastomer

ENVIRONMENTAL

- **Temperature Range:**
-65°C to +175°C (Class W)
-65°C to +200°C (Classes C, F, Y and N)
- **Fluid Resistance:** Fluid immersion per EIA 364.10, including resistance to
MIL-PRF-5606: Hydraulic fluid
MIL-DTL-83133: JP-8 aviation fuel
MIL-PRF-7808: Lubricating oil
MIL-PRF-23699: Lubricating oil
MIL-A-8243: Deicing/defrosting fluid
MIL-C-25769: Aircraft cleaning compound
MIL-PRF-87937: Aircraft cleaning compound
MIL-G-3056: Gasoline
- **Salt Spray:**
48 hours (Nickel finishes)
500 hours (Cadmium and passivated finishes)
- **Thermal Cycling:** -65° to 150/175/200°C (max. temperature is class dependent)

MECHANICAL

- **Sine Vibration:** Up to 60 g for 36 hr.
- **Random Vibration:** Up to 41.7 g for 16 hr. at 175° C
Up to 50 g for 16 hr. at ambient temperature
- **Shock:** 300 g, 3 ms in the 3 axes
- **Durability:** >500 mating cycles
- **Contact Retention:**
Size 22D: 44 N (10 lb.)
Size 20: 67 N (15 lb.)
Size 16: 111 N (25 lb.)
Size 12: 111 N (25 lb.)
Size 10: 111 N (25 lb.)
Size 8: 111 N (25 lb.)

ELECTRICAL

- **Shell-to-Shell Conductivity:**
Olive Drab Cadmium: 2.5 mV
Passivated: 10.0 mV
Electroless Nickel: 1.0 mV
- **Shielding Effectiveness:** >90 dB at 100 MHz, >65 dB through 10 GHz



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Voltage Rating

Service Rating	Suggested Operating Voltage		Test Voltage at Altitude (VAC _{rms})			
	VAC _{rms}	VDC	Sea Level	50,000 Ft.	70,000 Ft.	100,000 Ft.
M	400	550	1300	550	350	200
N	300	450	1000	400	260	200
I	600	850	1800	600	400	200
II	750	1050	2300	800	500	200

Hermetic Connectors

- **Hermetic Seal:** Sintered glass
- **Leakage:** ≤16 cm³/hr. (0.97 in³/hr.) on mated pairs connected under 2.1 bar (4.38 psi)
- **Thermal Shock:** 10 cycles, 4°C max. to 90°C min.

Current Rating

Contact Size	Test Current (A)	Voltage Drop (mV)
22D	5	73
20	7.5	55
16	13	50
12	23	42
10	33	34
8*	46	26

*When commercial power contact replaces twin-ax contact

Thread Sizes

Shell Size	Accessory Thread (6g 0.100R)	Jam Nut Thread (6g 0.100R)
11	M15 x 1.0	M20 x 1.0
13	M18 x 1.0	M25 x 1.0
15	M22 x 1.0	M28 x 1.0
17	M25 x 1.0	M32 x 1.0
19	M28 x 1.0	M35 x 1.0
21	M31 x 1.0	M38 x 1.0
23	M34 x 1.0	M41 x 1.0
25	M37 x 1.0	M44 x 1.0



MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Insert		Contact Size/Quantity													Uses 38999/62-8" Boots	Inactive: Superseded by
DIV Commercial	Military	8 Twinax	8 Coax	8 Power	12 Twinax	12 Coax	10	12	16	20	22D	QPL	QPL Hermetic			
11-02	B2								2			✓	✓			
11-04	B4									4		✓	✓			
11-05	B5									5		✓	✓			
11-35	B35										13	✓	✓			
11-98	B98									6		✓	✓			
11-99	B99									7		✓	✓			
13-04	C4								4			✓	✓			
13-08	C8									8		✓	✓			
13-35	C35										22	✓	✓			
13-98	C98									10		✓	✓			
15-05	D5								5			✓	✓			
15-15	D15								1	14		✓	✓			
15-18	D18									18		✓	✓			
15-19	D19									19		✓	✓			
15-26	D26								2		24					
15-35	D35										37	✓	✓			
15-97	D97								4	8		✓	✓			
17-02	E2	1									38				17-03	
17-03	E3	1									38			✓		
17-06	E6							6				✓	✓			
17-08	E8								8			✓	✓			
17-11	E11				2	1				8						
17-19	E19								4	11	4					
17-20	E20							4			16					
17-22	E22	2						2								
17-24	E24			2							22					
17-26	E26									26		✓				
17-35	E35										55	✓	✓			
17-99	E99								2	21		✓	✓			
19-11	F11								11			✓	✓			
19-18	F18	4									14	✓			19-19	
19-19	F19	4									14	✓		✓		
19-28	F28								2	26			✓			
19-32	F32									32		✓				
19-35	F35										66	✓	✓			

Blue shaded entries are not Mil Spec.



MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Insert		Contact Size/Quantity													Inactive: Superseded by
DIV Commercial	Military	8 Twinax	8 Coax	8 Power	12 Twinax	12 Coax	10	12	16	20	22D	QPL	QPL Hermetic	Uses 38999/62-8" Boots	
21-11	G11							11				✓	✓		
21-16	G16								16			✓	✓		
21-20	G20	2								18					
21-35	G35										79	✓	✓		
21-39	G39								2	37		✓	✓		
21-41	G41									41		✓	✓		
21-48	G48			4											
21-75	G75	4													21-76
21-76	G76	4												✓	
23-06	H6	6													
23-21	H21								21			✓	✓		
23-35	H35										100	✓	✓		
23-53	H53									53		✓	✓		
23-54	H54							4	9		40				
23-55	H55									55		✓	✓		
23-63	H63							4	4		49				
25-04	J4								8	48		✓	✓		
25-07	J7	2									97				25-09
25-08	J8	8													25-10
25-09	J9	2									97			✓	
25-10	J10	8												✓	
25-17	J17	6									36				
25-19	J19							19				✓	✓		
25-20	J20	3				4			13	10					25-21
25-21	J21	3				4			13	10				✓	
25-24	J24							12	12			✓	✓		
25-29	J29								29			✓	✓		
25-35	J35										128	✓	✓		
25-37	J37								37			✓			
25-43	J43								20	23			✓		
25-46	J46		2						4	40					25-47
25-47	J47		2						4	40				✓	
25-61	J61									61		✓	✓		
25-90	J90	2							4	40					25-91
25-91	J91	2							4	40				✓	

Blue shaded entries are not Mil Spec.



MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Part Numbering

MIL-DTL-38999 and DEUTSCH Commercial Versions

		Military Commercial	D38999/ DIV	40 40	W E	J 25	-	35 35	P P	N N	-	L/C 6139
Commercial	Military											
PREFIX												
SHELL STYLE/MIL SLASH SHEET												
40	40											
43	42											
44	44											
46	46											
47	47											
48	48											
Hermetic Connectors												
41	45											
44	43											
CLASS/FINISH												
E	F											
F	(Not Avail.)											
G	G											
E (023)	W											
Hermetic Connectors												
H	H											
N	N											
Y	Y											
SHELL SIZE												
11 (B), 13 (C), 15 (D), 17 (E), 19 (F), 21 (G), 23 (H), 25 (J)												
INSERT ARRANGEMENT												
CONTACTS												
P 500-Cycle Pin	S 500-Cycle Socket											
H 1500-Cycle Pin	J 1500-Cycle Socket											
A Less Pin (with intent to use nonstandard contacts)												
B Less Socket (with intent to use nonstandard contacts)												
Hermetic Contacts												
P Pin, Solder Cup	S Socket, Solder Cup											
X Pin, Eyelet	Z Socket, Eyelet											
C Pin, PC Tail	D Socket, PC Tail											
POLARIZING POSITIONS												
N Normal												
A, B, C, D, K												
MODIFICATIONS												
023*												
6149*												
6139*												
L/C**												

*Use with Commercial DIV callout only

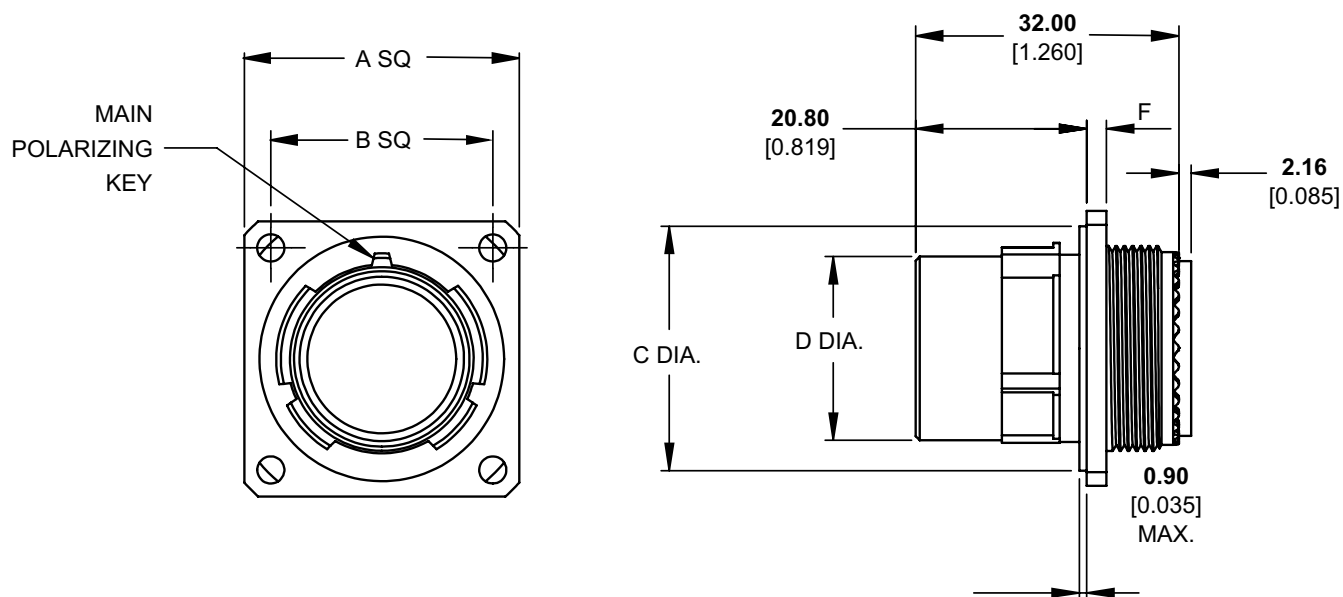
**Use with Military D38999 callout only



MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Wall Mount/Square Flange Receptacle



Shell Size	A Sq. Max.	B Sq.	ØC Max.	ØD Max.	F
11	26.70 1.051	20.62 0.812	20.15 0.793	12.93 0.509	2.60 0.102
13	29.10 1.146	23.02 0.906	23.35 0.919	16.10 0.634	2.60 0.102
15	31.50 1.240	24.62 0.970	26.52 1.044	19.28 0.759	2.60 0.102
17	33.90 1.335	26.98 1.062	29.72 1.170	22.48 0.885	2.60 0.102
19	37.10 1.461	29.36 1.156	32.87 1.294	25.63 1.009	2.60 0.102
21	40.20 1.583	31.76 1.250	36.05 1.419	28.80 1.134	3.40 0.133
23	43.40 1.709	34.92 1.374	39.22 1.544	31.98 1.259	3.40 0.133
25	46.60 1.835	38.10 1.500	42.40 1.669	35.15 1.384	3.40 0.133

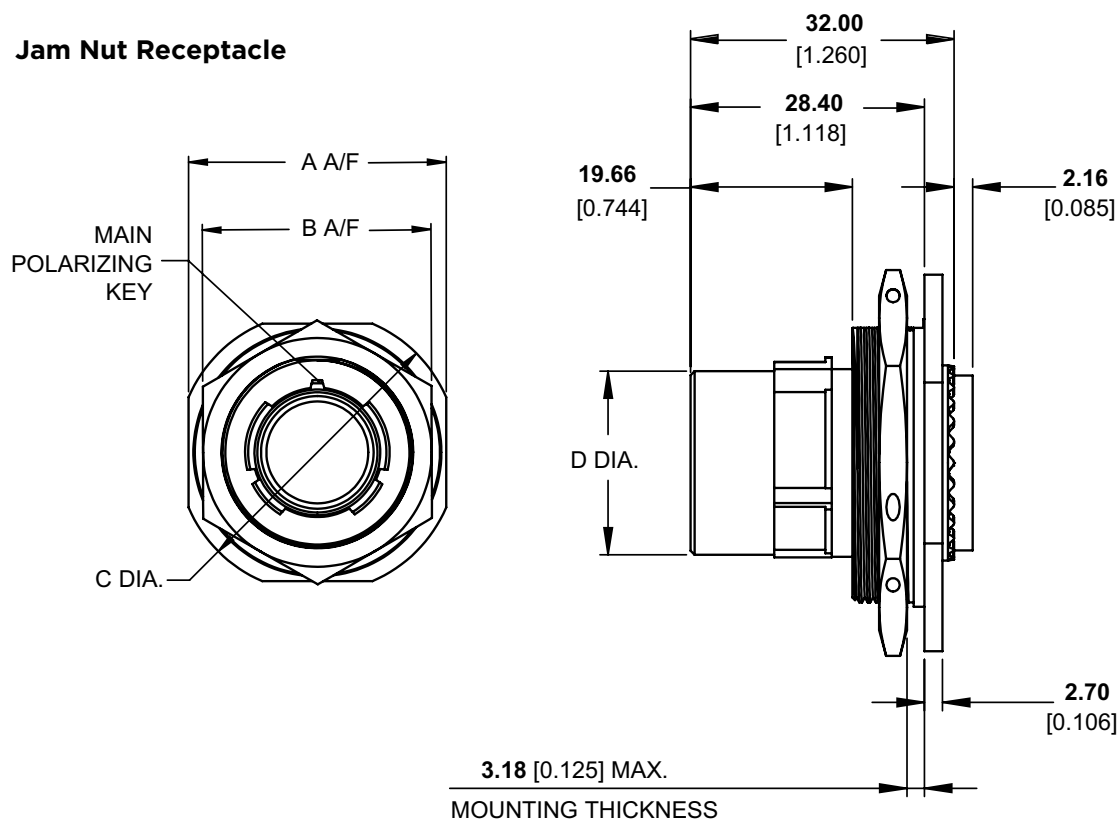
Millimeters Inches



MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Jam Nut Receptacle



Shell Size	A A/F Max.	B A/F Max.	C Dia. Max.	D Dia. Max.
11	35.40 1.394	32.00 1.260	38.60 1.520	12.93 0.509
13	38.60 1.520	36.00 1.417	41.70 1.642	16.10 0.634
15	41.70 1.642	41.00 1.614	44.90 1.768	19.28 0.759
17	45.70 1.799	41.00 1.614	49.70 1.957	22.48 0.885
19	48.50 1.909	46.00 1.811	51.70 2.035	25.63 1.009
21	51.70 2.035	50.00 1.968	54.80 2.157	28.80 1.134
23	54.80 2.157	50.00 1.968	58.00 2.283	31.98 1.259
25	58.00 2.283	55.00 2.165	61.20 2.409	35.15 1.384

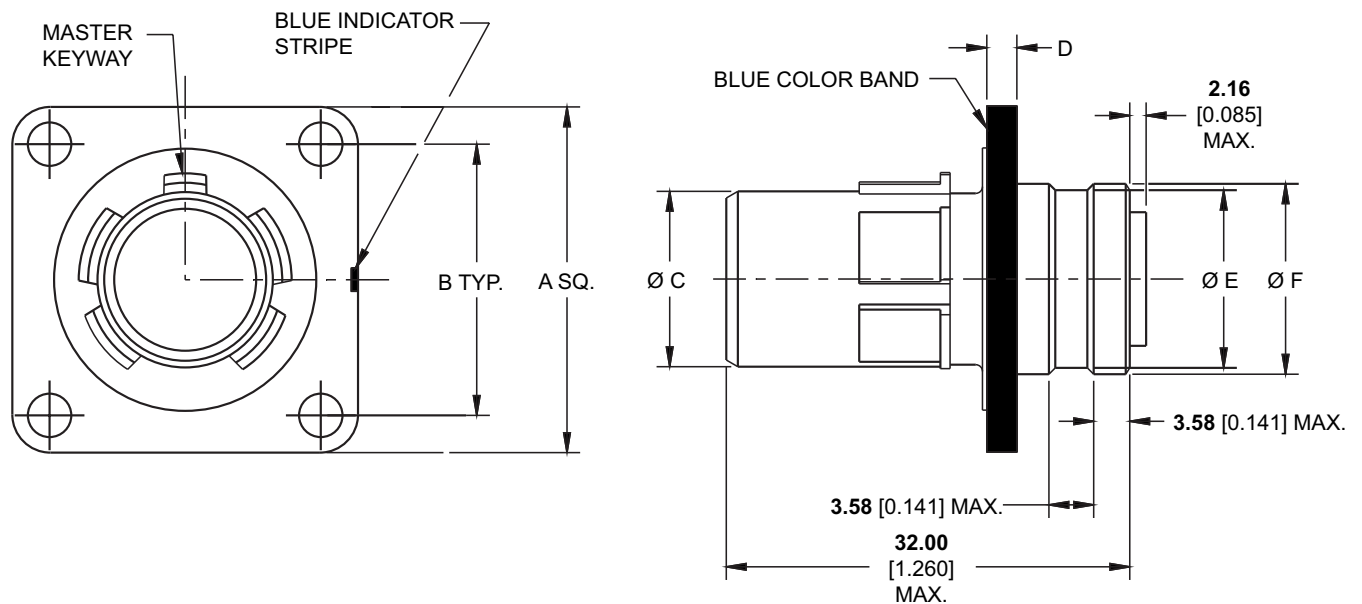
Millimeters Inches



MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Box Mount Receptacle



Shell Size	A Sq. Max.	B Sq.	ØC Max.	D	ØE	ØF
11	26.70 1.051	20.62 0.812	20.15 0.793	2.60 0.102	13.41 0.528	14.50 0.571
13	29.10 1.146	23.02 0.906	23.35 0.919	2.60 0.102	16.31 0.642	17.40 0.685
15	31.50 1.240	24.62 0.970	26.52 1.044	2.60 0.102	19.41 0.764	20.60 0.811
17	33.90 1.335	26.98 1.062	29.72 1.170	2.60 0.102	22.61 0.890	23.80 0.937
19	37.10 1.461	29.36 1.156	32.87 1.294	2.60 0.102	25.30 0.996	26.52 1.044
21	40.20 1.583	31.76 1.250	36.05 1.419	3.40 0.133	28.52 1.123	29.620 1.166
23	43.40 1.709	34.92 1.374	39.22 1.544	3.40 0.133	31.70 1.248	32.82 1.292
25	46.60 1.835	38.10 1.500	42.40 1.669	3.40 0.133	34.82 1.371	36.02 1.418

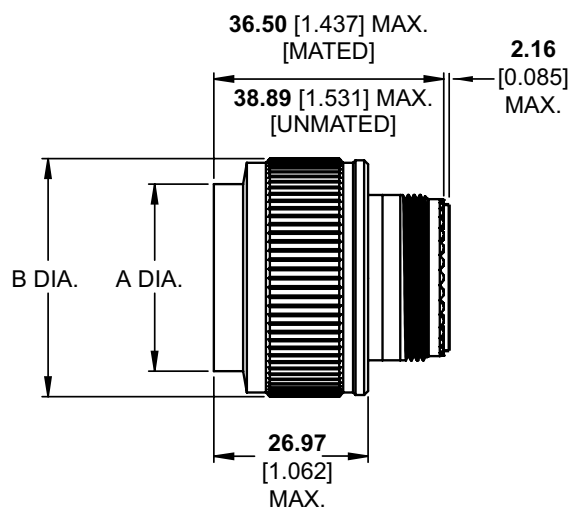
Millimeters Inches



MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Plug



Shell Size	Ø A Max.	Ø B Max.
11	26.60 1.047	19.70 0.775
13	31.00 1.220	22.90 0.901
15	34.20 1.346	26.40 1.039
17	37.40 1.472	29.20 1.149
19	40.20 1.583	32.40 1.275
21	43.30 1.704	35.60 1.401
23	46.50 1.831	38.80 1.527
25	49.70 1.957	41.90 1.649

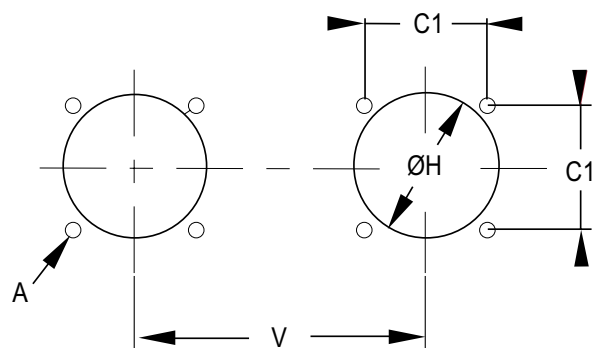
Millimeters Inches



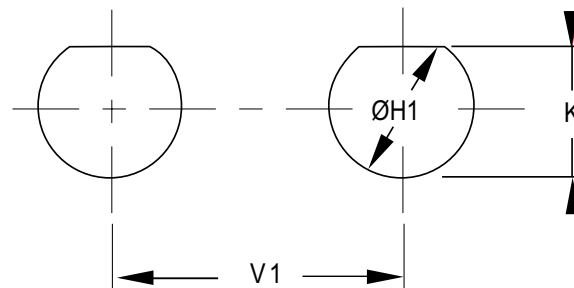
MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Recommended Panel Cutouts



Square Flange Receptacle



Jam Nut Receptacle

Shell Size	C1	H Min.		H1 Max.	K Max.	V Min.	V1 Min.
		Front	Rear				
11	20.62 0.812	15.08 0.594	22.22 0.875	20.88 0.822	19.53 0.769	27.00 1.063	32.60 1.283
13	23.01 0.906	19.05 0.750	23.42 0.922	25.58 1.007	24.26 0.995	30.20 1.189	36.00 1.417
15	24.61 0.969	23.01 0.906	26.59 1.047	28.80 1.134	27.53 1.084	33.30 1.331	39.60 1.559
17	26.97 1.062	25.81 1.106	30.96 1.219	31.98 1.259	30.68 1.208	36.50 1.437	43.30 1.705
19	29.36 1.156	28.98 1.141	32.94 1.297	35.15 1.384	33.86 1.333	39.30 1.547	47.00 1.850
21	31.75 1.250	32.16 1.266	36.12 1.422	38.28 1.507	37.06 1.459	42.50 1.673	50.60 1.992
23	34.93 1.375	34.93 1.375	39.29 1.547	41.50 1.634	40.01 1.575	45.70 1.799	54.20 2.134
25	38.10 1.500	37.69 1.484	42.47 1.672	44.68 1.759	43.41 1.709	48.80 1.921	59.70 2.350

Millimeters Inches



MIL-DTL-38999 Series IV Connectors

DEUTSCH DIV Series Connectors

Keying Options

(Viewed from Mating Face of the Receptacle Connector)

Clocking	X° Ref.	Y° Ref.
N	110	250
A	100	260
B	90	270
C	80	280
D	70	290
K	120	255

