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

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

The Deutsch DTS Series is qualified to MIL-C-38999 Series III. This rugged design offers the maximum in vibration, shock and EMI resistance. A general duty threaded connector, the DTS Series, offers thicker wall sections and greater coupling surface with 100% metal to metal bottoming, a superior anti-coupling system, and Deutsch's proven dielectric contact retention. The positive metal to metal coupling design, superior interfacial seals, and cadmium over nickel plating provide excellent EMI, moisture and corrosion resistance. In a 360° turn of the coupling nut, the DTS quickly mates and self locks. Blunting of the thread on both the coupling nut and receptacle makes cross threading virtually impossible. Elongated mounting holes permit the DTS Connector to intermount with existing standard MS/38999 box or wall mount receptacles, giving it a design replacement advantage.

SPECIFICATIONS:

Vibration: (Class W)
Sine — Up to 60 G's for 36 hours duration per MIL-C-38999.

Random — Up to 41.7 G's rms for 16 hours duration at 175°C; Up to 50 G's rms for 16 hours duration at ambient temperature.

Temperature: (Class W)
-65°C to +175°C (-85°F to +347°)

Shock:
High impact per MIL-S-901.

Thermal Shock:
Meets requirements of MIL-C-38999.

EMI Shielding: (Class W)
Effective over a range of 100 MHz to 10GHz with a minimum 50 dB effectiveness at 10 GHz.

Insulation resistance:
5000 megaohms min. at +25°C (+77°F).

Corrosion: (Class W)
500 hours salt spray per MIL-C-38999.

Contact rating: (Crimp Contacts)
22D – 5.0 amps.
20 – 7.5 amps.
16 – 13.0 amps.
12 – 23.0 amps.

Dielectric withstanding voltage:
Test voltage at sea level — 1300 VAC (rms).
Wired, assembled, unmated connectors withstand:
550 VAC (rms) at 50,000 ft.
350 VAC (rms) at 70,000 ft.
200 VAC (rms) at 100,000 ft.

Contact Millivolt drop:
22D – 73 millivolts at 5.0 amps.
20 – 55 millivolts at 7.5 amps.
16 – 49 millivolts at 13.0 amps.
12 – 42 millivolts at 23.0 amps.

Usable wire size:
22D accepts 22 thru 28 AWG.
20 accepts 20 thru 24 AWG.
16 accepts 16 thru 20 AWG.
12 accepts 12 thru 14 AWG.

Materials:
Shell – aluminum alloy.
Pin Contacts – copper alloy.
Inserts – plastic; silicone.

Finish:
Shell – O.D. cad over nickel (class W).
– nickel plated (class F).
Contacts – gold over nickel.

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

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

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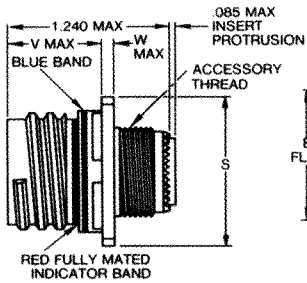
Deutsch's MIL-C-38999 Series III qualified with triple start, self locking, threaded coupling and crimp-type terminations.

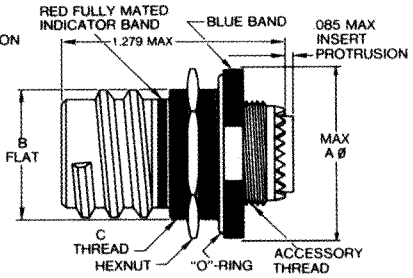
SQUARE FLANGE RECEPTACLE

DTS20WXX-XXXX-XXXX
D38999/20WXXXXX



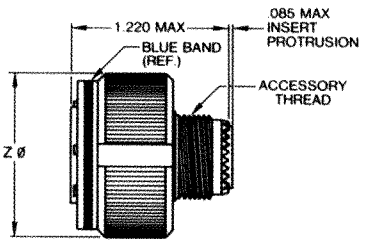
JAM NUT RECEPTACLE

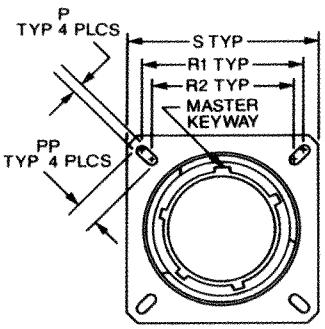
DTS24WXX-XXXX-XXXX
D38999/24WXXXXX



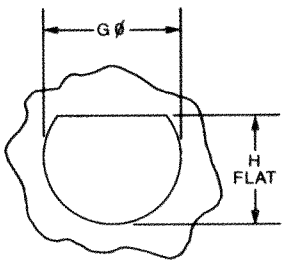
RFI PLUG

DTS26WXX-XXXX-XXXX
D38999/26WXXXXX

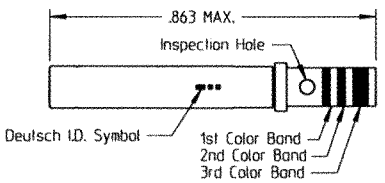


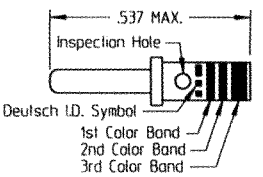


SHELL SIZE	A Ø MAX	+.004 -.006 B FLAT	C THREAD	H FLAT +.000 -.010	G Ø +.010 -.000	S ±.001	V MAX	W MAX	R1 TYP	R2 TYP	P +.004 -.002	PP +.004 -.002	2 Ø MAX	ACCESSORY THREAD
9	1.200	.651	M17X1-6g 0.100R	.669	.697	.937	.822	.098	.719	.594	.128	.216	.858	M12X1/0-6g 0.100R
11	1.385	.751	M20X1-6g 0.100R	.769	.822	1.031	.822	.098	.812	.719	.128	.194	.984	M15X1/0-6g 0.100R
13	1.511	.938	M25X1-6g 0.100R	.955	1.007	1.126	.822	.098	.906	.812	.128	.194	1.157	M18X1/0-6g 0.100R
15	1.637	1.062	M28X1-6g 0.100R	1.084	1.134	1.220	.822	.098	.969	.906	.128	.173	1.279	M22X1/0-6g 0.100R
17	1.763	1.187	M32X1-6g 0.100R	1.208	1.259	1.311	.822	.098	1.062	.969	.128	.194	1.405	M25X1/0-6g 0.100R
19	1.948	1.312	M35X1-6g 0.100R	1.333	1.384	1.437	.822	.098	1.156	1.062	.128	.194	1.515	M28X1/0-6g 0.100R
21	2.074	1.437	M38X1-6g 0.100R	1.459	1.507	1.563	.791	.126	1.250	1.156	.128	.194	1.641	M31X1/0-6g 0.100R
23	2.200	1.562	M41X1-6g 0.100R	1.584	1.634	1.689	.791	.126	1.375	1.250	.154	.242	1.768	M34X1/0-6g 0.100R
25	2.322	1.687	M44X1-6g 0.100R	1.709	1.759	1.811	.791	.126	1.500	1.375	.154	.242	1.889	M37X1/0-6g 0.100R



Contact size	Insertion/ removal tool	Crimp tool	Crimp tool positioner	Sealing plug (Military P/N)
22	M81969/14-01 MS3160-23	M22520/7-01	M22520/7-07 M22520/7-05	MS27488-22
20	M81969/14-10	M22520/1-01	M22520/1-04	MS27488-20
16	M81969/14-03	M22520/1-01	M22520/1-04	MS27488-16
12	M81969/14-04	M22520/1-01	M22520/1-04	MS27488-12





Sockets, Gold Finish

Deutsch Part No.	MIL-C-39029 Equivalent No.	Size	Color Band 1st	2nd	3rd
38943-22	MIL-C-39029/56-348	22D	ORANGE	YELLOW	GRAY
38943-20	MIL-C-39029/56-351	20	ORANGE	GREEN	BROWN
38943-16	MIL-C-39029/56-352	16	ORANGE	GREEN	RED
38943-12	MIL-C-39029/56-353	12	ORANGE	GREEN	ORANGE

Sockets, Deutsch Extended Life Finish

Deutsch Part No.	Military Part No.	Size	Color Band 1st	2nd	3rd
12333-22	MIL-C-39029/106-614	22D	BLUE	BROWN	YELLOW
12333-20	MIL-C-39029/106-615	20	BLUE	BROWN	GREEN
12333-16	MIL-C-39029/106-616	16	BLUE	BROWN	BLUE
12333-12	MIL-C-39029/106-617	12	BLUE	BROWN	VIOLET

Pins, Gold Finish

Deutsch Part No.	MIL-C-39029 Equivalent No.	Size	Color Band 1st	2nd	3rd
38941-22	MIL-C-39029/58-360	22D	ORANGE	BLUE	BLACK
38941-20	MIL-C-39029/58-363	20	ORANGE	BLUE	ORANGE
38941-16	MIL-C-39029/58-364	16	ORANGE	BLUE	YELLOW
38941-12	MIL-C-39029/58-365	12	ORANGE	BLUE	GREEN

Pins, Deutsch Extended Life Finish

Deutsch Part No.	Military Part No.	Size	Color Band 1st	2nd	3rd
12331-22	MIL-C-39029/107-620	22D	BLUE	RED	BLACK
12331-20	MIL-C-39029/107-621	20	BLUE	RED	BROWN
12331-16	MIL-C-39029/107-622	16	BLUE	RED	RED
12331-12	MIL-C-39029/107-623	12	BLUE	RED	ORANGE

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

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Insert Arrangements

6#22D CONTACTS
INSERT 9-35

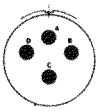
3#20 CONTACTS
INSERT 9-98

5#20 CONTACTS
INSERT 11-5

13#22D CONTACTS
INSERT 11-35

7#20 CONTACTS
INSERT 11-99

4#16 CONTACTS
INSERT 13-4



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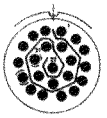

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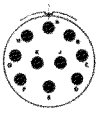

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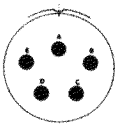

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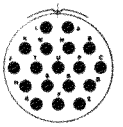

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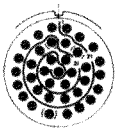

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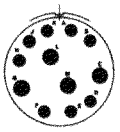

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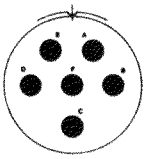

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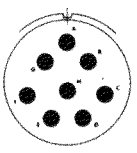

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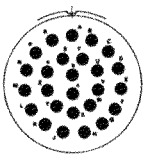

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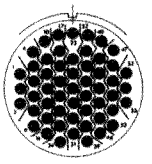

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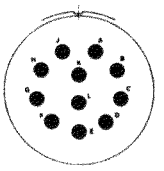

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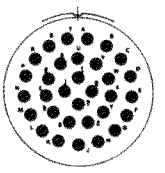

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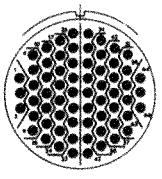

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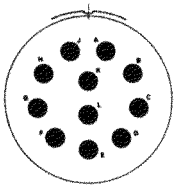

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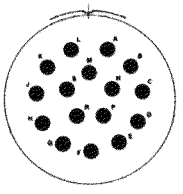

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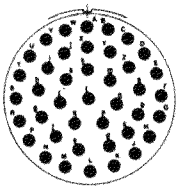

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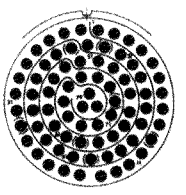

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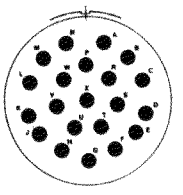

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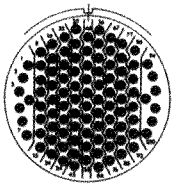

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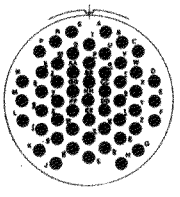

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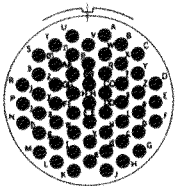

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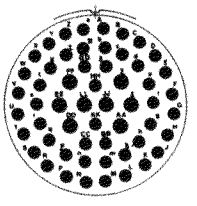

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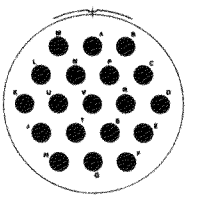
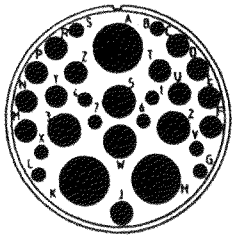


3 SIZE 8 TWINAX CONTACTS
4 SIZE 12 COAX CONTACTS
13 SIZE 16 CONTACTS
10 SIZE 20 CONTACTS
INSERT 25-20



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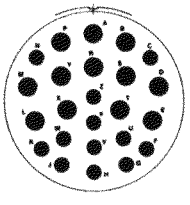

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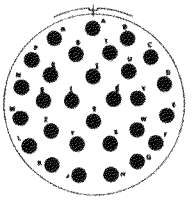

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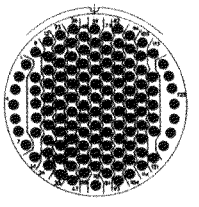
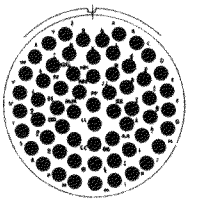


61#20 CONTACTS
INSERT 25-61



Note: For additional insert arrangements consult factory.

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

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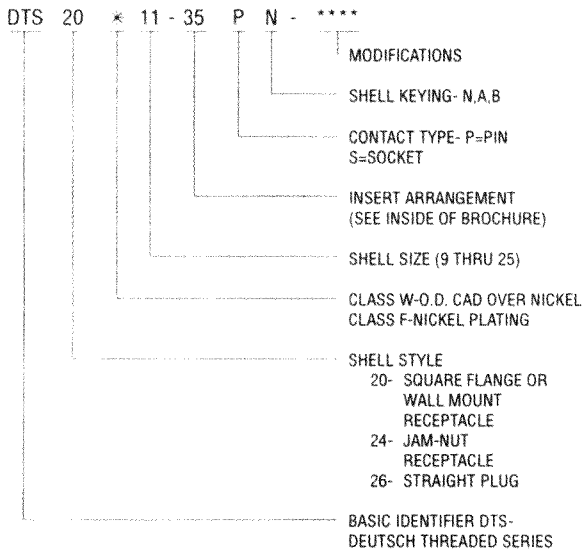
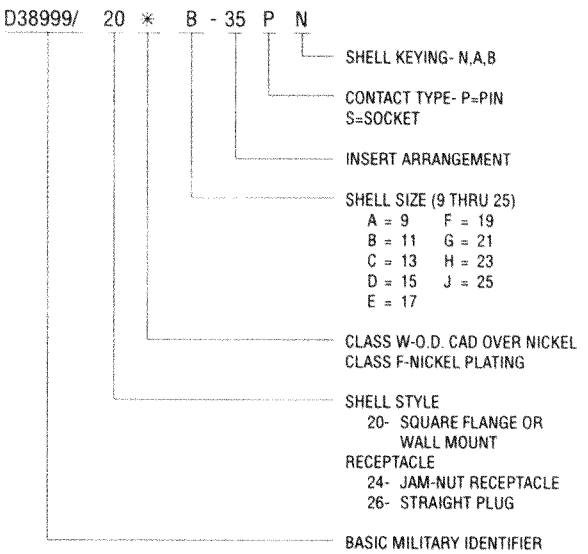
Ordering Information

Basic Deutsch Number



Basic Military Number



* Refer to page 15 for Class M & J.
* Consult factory for alternate keyings.
* Refer to page 20 for Protective Covers.
* Refer to page 21 for Lightweight Tie Type Strain Relief.

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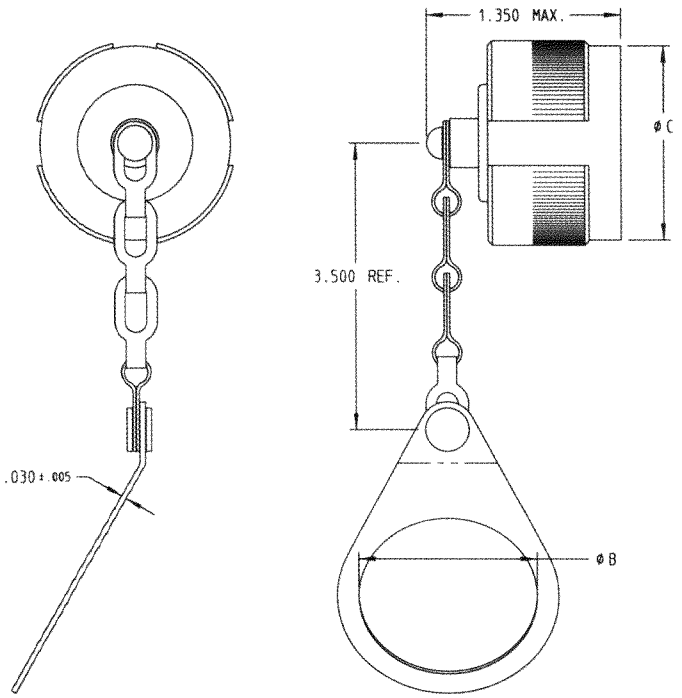
Protective Covers for 38999 III Composite and Metal



Available in both environmental and environmental RFI/EMI (Shielding).

Part Numbers

59503 * ** - ****

MODIFICATION
1E = NO LANYARD
2E = LANYARD CHAIN NO RING

CONNECTOR SIZE 09, 11, 13, 15,1 7
19, 21, 23 AND 25

FINISH
D = NATURAL
E = NATURAL LOCKING
M = NICKEL, SHIELDING, LOCKING
W = OLIVE DRAB CADMIUM, SHIELDING, LOCKING

GENERAL IDENTIFIER
59503 = DUST COVER FOR RECEPTACLES WITH
MOUNTING CHAIN AND RETAINING WASHER

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

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