

## **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**

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# 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      Millivolt  
Wire Size      (Amps)      Drop (\*)  
22D              5              73  
20              7.5              55  
16              13              49  
12              23              42

#### Usable wire size:

(Meets MIL-C-39029, paragraph 3.4.3.1)  
Contact Size      Accepts (AWG)  
22D              22-28  
20              20-24  
16              16-20  
12              12&14

#### 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)  
Contact      Max. Wire      Min. Wire  
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<br>MHz | Leakage attenuation<br>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.

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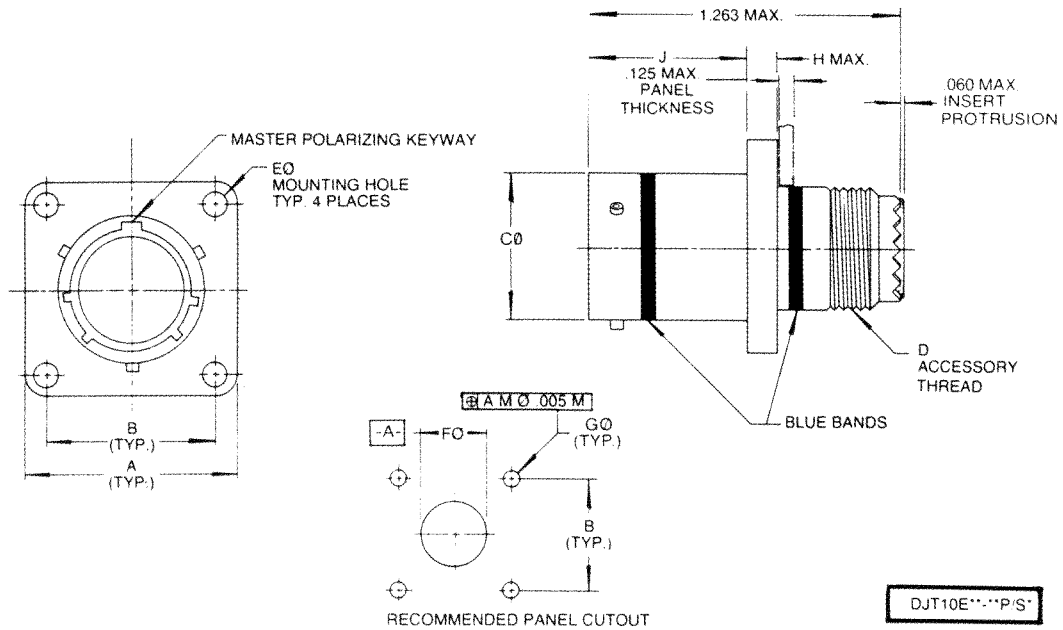
| SHELL SIZE | H DIA. REF. | SHELL SIZE | KEY POSITION $\alpha$ |     |     |      |      |
|------------|-------------|------------|-----------------------|-----|-----|------|------|
|            |             |            | H                     | A   | B   | C    | D    |
| 09         | .568        | 09         | 95°                   | 77° | --- | ---  | 113° |
| 11         | .696        | 11         | 95°                   | 81° | 67° | 123° | 109° |
| 13         | .846        | 13         | 95°                   | 75° | 63° | 127° | 115° |
| 15         | .971        | 15         | 95°                   | 74° | 61° | 129° | 116° |
| 17         | 1.096       | 17         | 95°                   | 77° | 65° | 125° | 113° |
| 19         | 1.203       | 19         | 95°                   | 77° | 65° | 125° | 113° |
| 21         | 1.328       | 21         | 95°                   | 77° | 65° | 125° | 113° |
| 23         | 1.453       | 23         | 95°                   | 80° | 69° | 121° | 110° |
| 25         | 1.578       | 25         | 95°                   | 80° | 69° | 121° | 110° |



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Receptacle Outline Dimensions



Plug Outline Dimensions



| SHELL SIZE | A ± .020 | B ± .005 | C0 ± .003 | D THREAD UNEF-2A | E0 + .010 - .005 | F0 MIN. | G0 ± .005 | H MAX. | J + .000 - .005 | A0 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   | .632            | 1.281  | .8125-20         |
| 17         | 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         | 1.688    | 1.375    | 1.455     | 1.3125-18        | .147             | 1.377   | .154      | .130   | .602            | 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        |

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# DJT Series Insert Arrangements

## Contact Arrangements



## Deutsch Shell Sizes

| DJT   | Service Rating | Total Contacts | Contact Size |    |    |       |
|-------|----------------|----------------|--------------|----|----|-------|
|       |                |                | 22D          | 20 | 16 | 12    |
| 9-35  | M              | 6              | 6            |    |    |       |
| 9-98  | I              | 3              |              | 3  |    |       |
| 11-5  | I              | 5              |              | 5  |    |       |
| 11-35 | M              | 13             | 13           |    |    |       |
| 11-99 | I              | 7              |              | 7  |    |       |
| 13-4  | I              | 4              |              |    | 4  |       |
| 13-35 | M              | 22             | 22           |    |    |       |
| 13-98 | I              | 10             |              | 10 |    |       |
| 15-5  | II             | 5              |              |    | 5  |       |
| 15-18 | I              | 18             |              |    | 18 |       |
| 15-35 | M              | 37             | 37           |    |    |       |
| 15-97 | I              | 12             |              | 8  | 4  |       |
| 17-6  | I              | 6              |              |    |    | 6     |
| 17-8  | II             | 8              |              |    | 8  |       |
| 17-26 | I              | 26             |              | 26 |    |       |
| 17-35 | M              | 55             | 55           |    |    |       |
| 19-11 | II             | 11             |              |    |    | 11    |
| 19-32 | I              | 32             |              | 32 |    |       |
| 19-35 | M              | 66             | 66           |    |    |       |
| 21-11 | I              | 11             |              |    |    | 11    |
| 21-16 | II             | 16             |              |    | 16 |       |
| 21-41 | I              | 41             |              | 41 |    |       |
| 21-35 | M              | 79             | 79           |    |    |       |
| 23-21 | II             | 21             |              |    | 21 |       |
| 23-53 | I              | 53             |              | 53 |    |       |
| 23-55 | I              | 55             |              | 55 |    |       |
| 25-4  | I              | 56             |              | 48 | 8  |       |
| 25-19 | I              | 19             |              |    |    | 19    |
| 25-24 | I              | 24             |              |    |    | 12 12 |
| 25-29 | I              | 29             |              |    | 29 |       |
| 25-35 | M              | 128            | 128          |    |    |       |
| 25-61 | I              | 61             |              | 61 |    |       |

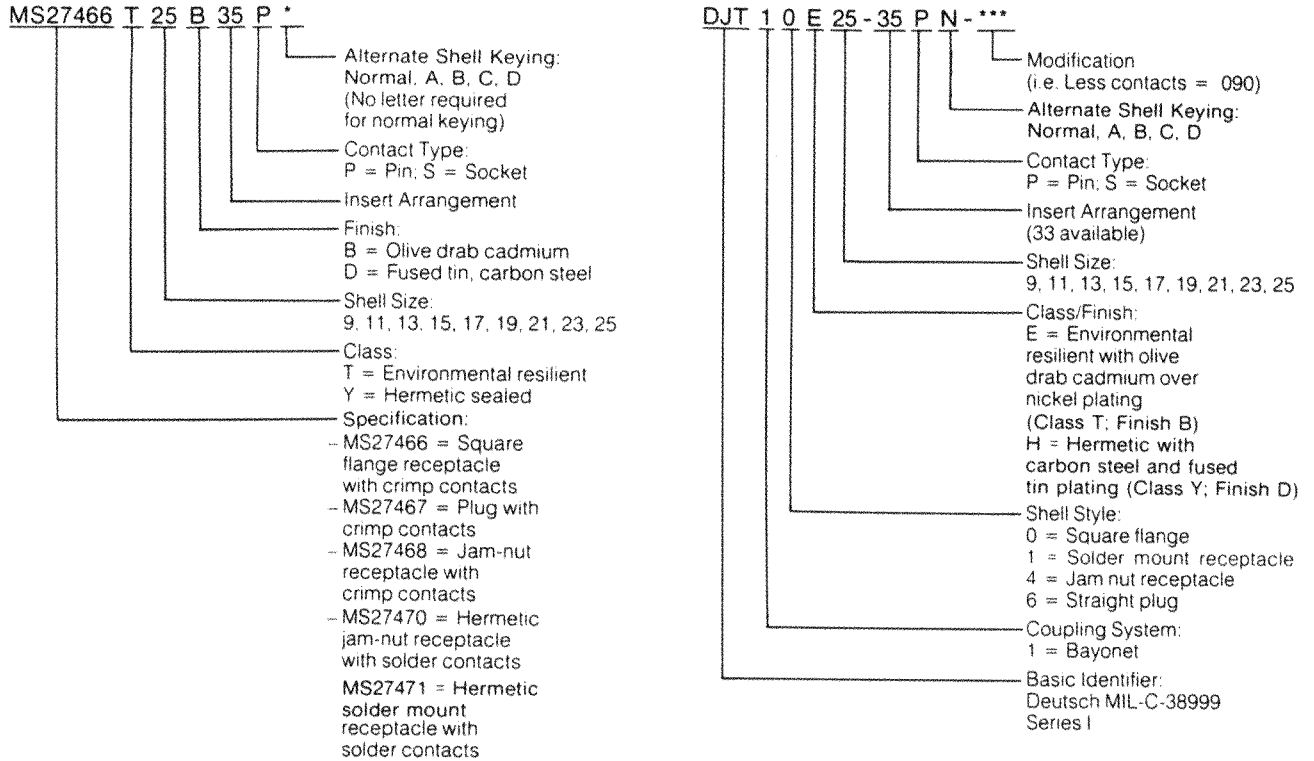


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# Part Number Cross Reference



## Assembly Tools

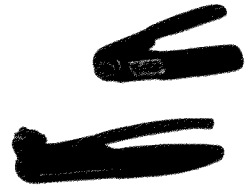
Wire/contact assembly tools are standard military type insertion/removal tools found in most assembly areas.

Yellow  Size 22D

Red  Size 20

Blue  Size 16

Yellow  Size 12



| 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                  |

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## JONHON

«JONHON» (основан в 1970 г.)

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