



# DEUTSCH MIL-DTL-38999 SERIES III CONNECTORS

RUGGED, HARSH ENVIRONMENT  
SUBMINIATURE CONNECTORS

## QUICK REFERENCE GUIDE

### Wide Range

- Mil spec, commercial, and composite
- Full line of finishes, including black zinc nickel and PTFE nickel

### High Performance

- Environmentally sealed

## MIL-DTL-38999 Series III Connectors

|                                     |                                                                                                                                                                                              |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Coupling Mechanism</b>           | Threaded, 360° turn                                                                                                                                                                          |
| <b>Shell Materials</b>              | Stainless steel<br>Aluminum<br>Composite                                                                                                                                                     |
| <b>Features</b>                     | Scoop proof<br>Environmentally sealed<br>Hermetic versions<br>Filter versions<br>Spring fingers for EMI control                                                                              |
| <b>Shell Platings</b>               | Olive drab cadmium<br>Passivated<br>Electroless nickel<br>Electrodeposited nickel<br>Nickel PTFE<br>Black zinc-nickel                                                                        |
| <b>No. of Contact Sizes, Std.</b>   | 23, 22, 20, 16, 12, 10, 8                                                                                                                                                                    |
| <b>Shell Sizes</b>                  | 9, 11, 13, 15, 17, 19, 21, 23, 25                                                                                                                                                            |
| <b>No. of Signal Contacts, Max.</b> | 187                                                                                                                                                                                          |
| <b>Contact Type</b>                 | AS39029                                                                                                                                                                                      |
| <b>Contact Styles</b>               | Crimp<br>Solder cup or eyelet<br>PCB tail                                                                                                                                                    |
| <b>Operating Temperatures</b>       | -65°C to +200°C<br>-65°C to +175°C<br>-65°C to +150°C<br>(Depends on shell finish)                                                                                                           |
| <b>Durability (Mating Cycles)</b>   | 500<br>(Higher durability versions available)                                                                                                                                                |
| <b>Standard Configurations</b>      |                                                                                                                                                                                              |
| <b>Plugs</b>                        | Straight, with EMI spring fingers<br>Lanyard release                                                                                                                                         |
| <b>Receptacles</b>                  | Box mounting, both front and rear panel mounting<br>Wall mounting, both front and rear panel mounting<br>Jam nut, rear panel mounting<br>Solder mount<br>Weld mount<br>Through-hole bulkhead |

### TE Components . . . TE Technology . . . TE Know-how . . .

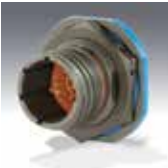
AMP | Agastat | CII | Hartman | Kilovac | Microdot | Nanonics | Polamco | Raychem | Rochester | DEUTSCH  
SEACON Phoenix | L.L. Rowe | Phoenix Optix | SEACON

Get your product to market faster with a smarter, better solution.

DEUTSCH 38999 Series III Connectors

Aluminum • Stainless Steel • Composite

|                                                                       |                            |          |                                                          | Commercial Composite                                                                             | ACT    | 26  | M | D  | 35 | P | N |
|-----------------------------------------------------------------------|----------------------------|----------|----------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------|-----|---|----|----|---|---|
|                                                                       |                            |          |                                                          | Commercial Al/SS                                                                                 | DTS    | 26  | F | 15 | 35 | P | N |
|                                                                       |                            |          |                                                          | Military                                                                                         | D38999 | /26 | F | D  | 35 | P | N |
| Commercial Composite                                                  | Commercial Alum./Stainless | Military | Description                                              |                                                                                                  |        |     |   |    |    |   |   |
| <b>RANGE</b>                                                          |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| ACT                                                                   | DTS                        | D38999   |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| <b>STYLE</b>                                                          |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| 20                                                                    | 20                         | /20      | Square Flange Receptacle                                 |                                                                                                  |        |     |   |    |    |   |   |
| 24                                                                    | 24                         | /24      | Jam Nut Receptacle                                       |                                                                                                  |        |     |   |    |    |   |   |
| 26                                                                    | 26                         | /26      | Straight Plug                                            |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | 20                         | /21      | Hermetic Square Flange Receptacle                        |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | 24                         | /23      | Hermetic Jam Nut Receptacle                              |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | 21                         | /25      | Hermetic Solder Flange                                   |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | 23                         | /27      | Hermetic Weld Flange                                     |                                                                                                  |        |     |   |    |    |   |   |
| <b>FINISH</b>                                                         |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| <b>ALUMINUM SHELL</b>                                                 |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | F                          | F        | Electroless Nickel Plated (48-hr. Salt Spray)            |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | G                          | G        | Space-Grade Electroless Nickel (48-hr. Salt Spray)       |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | T                          | T        | Nickel PTFE (500-hr. Salt Spray)                         |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | W                          | W        | Olive Drab Cadmium (500-hr. Salt Spray)                  |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | Z                          | Z        | Black Zinc Nickel (500-hr. Salt Spray)                   |                                                                                                  |        |     |   |    |    |   |   |
| <b>COMPOSITE SHELL</b>                                                |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| M                                                                     | —                          | M        | Electroless Nickel Plated (2000-hr. Salt Spray)          |                                                                                                  |        |     |   |    |    |   |   |
| J                                                                     | —                          | J        | Olive Drab Cadmium (2000-hr. Salt Spray)                 |                                                                                                  |        |     |   |    |    |   |   |
| <b>STAINLESS STEEL SHELL</b>                                          |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | K                          | K        | Corrosion-Resistant S.S. - Firewall (500-hr. Salt Spray) |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | S                          | S        | Nickel Plated (500-hr. Salt Spray)                       |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | L                          | L        | Electrodeposited Nickel (48-hr. Salt Spray)              |                                                                                                  |        |     |   |    |    |   |   |
| <b>HERMETIC</b>                                                       |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | Y                          | Y        | Stainless Steel, Passivated                              |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | N                          | N        | Stainless Steel, Nickel Plated                           |                                                                                                  |        |     |   |    |    |   |   |
| —                                                                     | H                          | H        | Space Grade                                              |                                                                                                  |        |     |   |    |    |   |   |
| <b>SHELL SIZES</b>                                                    |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| 9 (A), 11 (B), 13 (C), 15 (D), 17 (E), 19 (F), 21 (G), 23 (H), 25 (J) |                            |          |                                                          | Numbers = DTS Commercial;<br>(Letters) = Military/ACT Commercial                                 |        |     |   |    |    |   |   |
| <b>INSERT ARRANGEMENTS</b>                                            |                            |          |                                                          | See Insert Arrangements Table                                                                    |        |     |   |    |    |   |   |
| <b>CONTACTS</b>                                                       |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| P, A, H, S, B, J                                                      |                            |          |                                                          | P = Pin, A = Less Pin, H = 1500-Cycle Pin,<br>S = Socket, B = Less Socket, J = 1500-Cycle Socket |        |     |   |    |    |   |   |
| <b>CONTACTS FOR HERMETIC CONNECTORS</b>                               |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| C, D, X, Z                                                            |                            |          |                                                          | C = PC Tail Pin, D = PC Tail Socket<br>X = Eyelet Pin, Z = Eyelet Socket                         |        |     |   |    |    |   |   |
| <b>KEYING</b>                                                         |                            |          |                                                          |                                                                                                  |        |     |   |    |    |   |   |
| N, A, B, C, D, E                                                      |                            |          |                                                          | N = Normal                                                                                       |        |     |   |    |    |   |   |



Jam Nut



Plug



MIL-SPEC



Square Flange Receptacle



PCB Type



Lanyard

## Insert Arrangements



| Insert         |                             | Contact Size/Quantity |        |         |           |         |    |    |    |    |     |    | Includes K Class | Uses 38999/62-8* Boots | Inactive: Superseded by |
|----------------|-----------------------------|-----------------------|--------|---------|-----------|---------|----|----|----|----|-----|----|------------------|------------------------|-------------------------|
| DTS Commercial | Military and Commercial ACT | 8 Twinax              | 8 Coax | 8 Power | 12 Twinax | 12 Coax | 10 | 12 | 16 | 20 | 22D | 23 |                  |                        |                         |
| 09-07          | A7 (A07)                    |                       |        |         |           |         |    |    |    |    | 7   |    |                  |                        |                         |
| 09-23          | A23                         |                       |        |         |           |         |    |    |    |    |     | 9  |                  |                        |                         |
| 09-35          | A35                         |                       |        |         |           |         |    |    |    |    | 6   |    | ✓                |                        |                         |
| 09-98          | A98                         |                       |        |         |           |         |    |    |    | 3  |     |    | ✓                |                        |                         |
| 11-02          | B2 (B02)                    |                       |        |         |           |         |    |    | 2  |    |     |    |                  |                        |                         |
| 11-04          | B4 (B04)                    |                       |        |         |           |         |    |    |    | 4  |     |    |                  |                        |                         |
| 11-05          | B5 (B05)                    |                       |        |         |           |         |    |    |    | 5  |     |    |                  |                        |                         |
| 11-23          | B23                         |                       |        |         |           |         |    |    |    |    |     | 19 |                  |                        |                         |
| 11-35          | B35                         |                       |        |         |           |         |    |    |    |    | 13  |    | ✓                |                        |                         |
| 11-98          | B98                         |                       |        |         |           |         |    |    |    | 6  |     |    | ✓                |                        |                         |
| 11-99          | B99                         |                       |        |         |           |         |    |    |    | 7  |     |    | ✓                |                        |                         |
| 13-04          | C4 (C04)                    |                       |        |         |           |         |    |    | 4  |    |     |    |                  |                        |                         |
| 13-08          | C8 (C08)                    |                       |        |         |           |         |    |    |    | 8  |     |    | ✓                |                        |                         |
| 13-23          | C23                         |                       |        |         |           |         |    |    |    |    |     | 32 |                  |                        |                         |
| 13-35          | C35                         |                       |        |         |           |         |    |    |    |    | 22  |    | ✓                |                        |                         |
| 13-98          | C98                         |                       |        |         |           |         |    |    |    | 10 |     |    | ✓                |                        |                         |
| 15-05          | D5 (D05)                    |                       |        |         |           |         |    |    | 5  |    |     |    | ✓                |                        |                         |
| 15-15          | D15                         |                       |        |         |           |         |    |    | 1  | 14 |     |    |                  |                        |                         |
| 15-18          | D18                         |                       |        |         |           |         |    |    |    | 18 |     |    | ✓                |                        |                         |
| 15-19          | D19                         |                       |        |         |           |         |    |    |    | 19 |     |    | ✓                |                        |                         |
| 15-23          | D23                         |                       |        |         |           |         |    |    |    |    |     | 55 |                  |                        |                         |
| 15-26          | D-26                        |                       |        |         |           |         |    |    | 2  |    | 24  |    |                  |                        |                         |
| 15-35          | D35                         |                       |        |         |           |         |    |    |    |    | 37  |    | ✓                |                        |                         |
| 15-97          | D97                         |                       |        |         |           |         |    |    | 4  | 8  |     |    | ✓                |                        |                         |
| 17-02          | E2 (E02)                    | 1                     |        |         |           |         |    |    |    |    | 38  |    |                  |                        | 17-03                   |
| 17-03          | E3 (E03)                    | 1                     |        |         |           |         |    |    |    |    | 38  |    |                  | ✓                      |                         |
| 17-06          | E6 (E06)                    |                       |        |         |           |         |    | 6  |    |    |     |    | ✓                |                        |                         |
| 17-08          | E8 (E08)                    |                       |        |         |           |         |    |    | 8  |    |     |    | ✓                |                        |                         |
| 17-11          | E11                         |                       |        |         | 2         | 1       |    |    |    | 8  |     |    |                  |                        |                         |
| 17-19          | E19                         |                       |        |         |           |         |    |    | 4  | 11 | 4   |    |                  |                        |                         |
| 17-20          | E20                         |                       |        |         |           |         |    | 4  |    |    | 16  |    |                  |                        |                         |
| 17-22          | E22                         | 2                     |        |         |           |         |    | 2  |    |    |     |    |                  |                        |                         |
| 17-23          | E23                         |                       |        |         |           |         |    |    |    |    |     | 73 |                  |                        |                         |
| 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  |    |                  | ✓                      |                         |
| 19-23          | E23                         |                       |        |         |           |         |    |    |    |    |     | 88 |                  |                        |                         |
| 19-28          | F28                         |                       |        |         |           |         |    |    | 2  | 26 |     |    |                  |                        |                         |



| Insert         |                             | Contact Size/Quantity |        |         |           |         |    |    |    |    |     |     |                  |                        |                         |
|----------------|-----------------------------|-----------------------|--------|---------|-----------|---------|----|----|----|----|-----|-----|------------------|------------------------|-------------------------|
| DTS Commercial | Military and Commercial ACT | 8 Twlnax              | 8 Coax | 8 Power | 12 Twlnax | 12 Coax | 10 | 12 | 16 | 20 | 22D | 23  | Includes K Class | Uses 38999/62-8* Boots | Inactive: Superseded by |
| 19-32          | F32                         |                       |        |         |           |         |    |    |    | 32 |     |     | ✓                |                        |                         |
| 19-35          | F35                         |                       |        |         |           |         |    |    |    |    | 66  |     | ✓                |                        |                         |
| 21-11          | G11                         |                       |        |         |           |         |    | 11 |    |    |     |     |                  |                        |                         |
| 21-16          | G16                         |                       |        |         |           |         |    |    | 16 |    |     |     |                  |                        |                         |
| 21-20          | G20                         | 2                     |        |         |           |         |    |    |    | 18 |     |     |                  |                        |                         |
| 21-23          | G23                         |                       |        |         |           |         |    |    |    |    |     | 121 |                  |                        |                         |
| 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 (H06)                    | 6                     |        |         |           |         |    |    |    |    |     |     |                  |                        |                         |
| 23-21          | H21                         |                       |        |         |           |         |    |    | 21 |    |     |     |                  |                        |                         |
| 23-23          | H23                         |                       |        |         |           |         |    |    |    |    |     | 151 |                  |                        |                         |
| 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 (J04)                    |                       |        |         |           |         |    |    | 8  | 48 |     |     | ✓                |                        |                         |
| 25-07          | J7 (J07)                    | 2                     |        |         |           |         |    |    |    |    | 97  |     |                  |                        | 25-09                   |
| 25-08          | J8 (J08)                    | 8                     |        |         |           |         |    |    |    |    |     |     |                  |                        | 25-10                   |
| 25-09          | J9 (J09)                    | 2                     |        |         |           |         |    |    |    |    | 97  |     |                  | ✓                      |                         |
| 25-10          | J10                         | 8                     |        |         |           |         |    |    |    |    |     |     |                  | ✓                      |                         |
| 25-11          | J11                         |                       |        |         |           |         | 9  |    |    | 2  |     |     |                  |                        |                         |
| 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 |     |     |                  | ✓                      |                         |
| 25-23          | J23                         |                       |        |         |           |         |    |    |    |    |     | 187 |                  |                        |                         |
| 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.  
Green shading indicates high-density inserts.

## For More Information

### TE Technical Support Center

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| Switzerland    | +41 52 633 66 26   |
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Consult TE for the latest dimensions and design specifications.