

# Connectors and Accessories Selection Guide

## D38999 Series III

For Military, Aerospace & Harsh Environments



WE'RE MATING TECHNOLOGY WITH CONFIDENCE



[www.matecelectronics.com](http://www.matecelectronics.com)



**MATEC ELECTRONICS**

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## About MATEC

MATEC Electronics is an authorized and leading distributor, that specializes on the design and custom-engineered connectors, cables and electronic interconnect solutions for Military-Aerospace, Industrial and Telecom market fields. MATEC's deep technical and commercial knowledge on it's concentrated product portfolio has made the company the chosen distributor of the customers in the region it serves, Turkey, Middle East, Africa, Eastern Europe and Asia. Headquartered in Istanbul, MATEC also has a branch office in Ankara and warehouses in Istanbul and NY, U.S.A. With it's highly experienced team, knowledge on dynamic supply chain solutions and rich inventory, MATEC has provided it's customer with the best technical and commercial service along with the quality products since it was founded in 2011. Our first priority is complete customer satisfaction. While MATEC's IPC/WHMA-A-620 certified technical team acts as design partner in your projects, the company commercial team ensures that the service given has it is highest achievable standards. Due to the fact that MATEC Electronics works with the world's well-known companies, it offers its products with proven quality to its customers. We are ISO 9001:2015 registered and dedicated to use those guidelines for your satisfaction.

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## How We Serve

As a leading and authorized distributor, MATEC Electronics supports all types electrical interconnect requirements of Mil-Aero projects. MATEC is not only able to provide solutions to electronic interconnect requirements technically, but it also provides best commercial experience to its customers with dynamic team.

### 5015 Series Connectors



### Backshells



### 26482 Series Connectors



## Inventory Solutions

In addition to commercial and customized harsh environment Mil-Aero series, MATEC also offers most popular qualified Mil-Spec versions for all type of your projects from it's inventory. MATEC also supports all type of connector accessory requirements like strain reliefs, backshells, heat shrink tubes and contacts, providing order-to-manufacture kit solutions.

D38999 Series Connectors



### Boots



2M Series Connectors

MIL-DTL-38999 Series III

Amphenol® Tri-Start MIL-DTL-38999 Series III Connectors offer the highest performance capabilities for both general duty and severe environment applications. Meeting or exceeding MIL- DTL-38999 Series III requirements, the Tri-Start connector with standard metal shells (aluminum or stainless steel with several finish options) offers these features:

- EMI Shielding: EMI shielding capability of 65dB minimum at 10 GH
- Moisture Resistance: Improved interfacial Seal
- Quick Coupling: Completely mates and self-locks in a 360° turn of the coupling nut
- Mating Cycle: 500 couplings minimum
- Thermoplastic insert
- Silicone rubber back insert and interfacial seal

| Contact Size | Test Current (Amps) |          | Maximum Millivolt Drop Crimp* | Maximum Millivolt Drop | Contact Resistance | Contact Retention Force |
|--------------|---------------------|----------|-------------------------------|------------------------|--------------------|-------------------------|
|              | Crimp               | Hermetic |                               | Hermetic*              |                    |                         |
| 23           | 5                   | 3        | 73                            | 85                     | 15                 | 44                      |
| 22M          | 3                   | 2        | 45                            | 60                     | 8                  | 44                      |
| 22D          | 5                   | 3        | 73                            | 85                     | 8                  | 44                      |
| 22           | 5                   | 3        | 73                            | 85                     | 4.7                | 67                      |
| 20           | 7.5                 | 5        | 55                            | 60                     | 2                  | 111                     |
| 16           | 13                  | 10       | 49                            | 85                     | 1.1                | 111                     |
| 12           | 23                  | 17       | 42                            | 85                     | 0.8                | 111                     |
| 10 (Power)   | 33                  | NA       | 33                            | NA                     | 0.8                | 111                     |
| 8 (Power)    | 46                  | NA       | 26                            | NA                     | 0.6                | 111                     |
| 4            | 80                  | NA       | 23                            | NA                     | 0.26               | 150                     |
| 0            | 150                 | NA       | 21                            | NA                     | -                  | -                       |

| Service Rating | Suggested Oper. Voltage (Sea Level) |      | Test Voltage (Sea Level) | Test Voltage (50.000 ft) | Test Voltage (70.000 ft) | Test Voltage (110.000 ft) |
|----------------|-------------------------------------|------|--------------------------|--------------------------|--------------------------|---------------------------|
|                | AC (RMS)                            | DC   |                          |                          |                          |                           |
| N              | 400                                 | 500  | 1300 VRMS                | 550 VRMS                 | 350 VRMS                 | 200 VRMS                  |
| M              | 300                                 | 450  | 1000 VRMS                | 400 VRMS                 | 260 VRMS                 | 200 VRMS                  |
| I              | 600                                 | 850  | 1800 VRMS                | 600 VRMS                 | 400 VRMS                 | 200 VRMS                  |
| II             | 900                                 | 1250 | 2300 VRMS                | 800 VRMS                 | 500 VRMS                 | 200 VRMS                  |

Applications: Military / Aerospace



MIL-DTL-38999 Series III

| Shell Material  | Shell Finish       | Salt Spray Exposure per EIA364.26 | Class Norm | Amphenol    | Operating Temperature |        | Shell to Shell Conductivity |
|-----------------|--------------------|-----------------------------------|------------|-------------|-----------------------|--------|-----------------------------|
|                 |                    |                                   |            |             | Min                   | Max    |                             |
| Composite       | Electroless Nickel | 2000 H                            | M          | CTV-RF      | -65°C                 | +200°C | 3mΩ                         |
|                 | O.D Cadmium        | 2000 H                            | J          | CTV-RW      | -65°C                 | +175°C | 3mΩ                         |
| Aluminium       | Electroless Nickel | 48 H                              | F          | TVS-RF      | -65°C                 | +200°C | 1mΩ                         |
|                 | O.D Cadmium        | 500 H                             | W          | TV-RW       | -65°C                 | +175°C | 2.5mΩ                       |
|                 | Durmalon (Ni-PTFE) | 500 H                             | T          | TV-DT       | -65°C                 | +175°C | 2.5mΩ                       |
|                 | Green Zinc Cobalt  | 96 H                              | -          | TV-RZ       | -65°C                 | +175°C | 3mΩ                         |
|                 | Black Zinc Nickel  | 500 H                             | Z          | TV-ZN TV-DZ | -65°C                 | +175°C | 2.5mΩ                       |
| Stainless Steel | Nickel             | 500 H                             | S          | TVS-RS      | -65°C                 | +200°C | 1mΩ                         |
|                 | -                  | 500 H                             | K          | TVS-RK      | -65°C                 | +200°C | 10mΩ                        |
| Bronze          | -                  | 500 H                             |            | TVS-RB      | -65°C                 | +200°C | 5mΩ                         |

| Contact Size | Contact Diameter (mm) | Crimp Barrel  |            | Acceptable Cables                      |      |      |       |                       |         |      |
|--------------|-----------------------|---------------|------------|----------------------------------------|------|------|-------|-----------------------|---------|------|
|              |                       | Diameter (mm) | Depth (mm) | Gauge AWG Section (mm <sup>2</sup> )   |      |      |       | Outside Diameter (mm) |         |      |
|              |                       |               |            |                                        |      |      |       | Min                   | Average | Max  |
| 23           | 0.68                  | 0.88±0.03     | 3.81       | 22                                     | 24   | 26   | 28    | -                     | -       | 1.2  |
|              |                       |               |            | 0.38                                   | 0.22 | 0.15 | 0.095 |                       |         |      |
| 22D          | 0.76                  | 0.88±0.03     | 3.58       | 22                                     | 24   | 26   | 28    | 0.76                  | 1.20    | 1.37 |
|              |                       |               |            | 0.38                                   | 0.22 | 0.15 | 0.095 |                       |         |      |
| 20           | 1                     | 1.19±0.03     | 5.30       | 20                                     | 22   | 24   | -     | 1.02                  | 1.83    | 2.11 |
|              |                       |               |            | 0.60                                   | 0.38 | 0.22 | -     |                       |         |      |
| 16           | 1.57                  | 1.70±0.03     | 5.30       | 16                                     | 18   | 20   | -     | 1.68                  | 2.41    | 2.77 |
|              |                       |               |            | 1.34                                   | 0.93 | 0.60 | -     |                       |         |      |
| 12           | 2.36                  | 2.54±0.03     | 10.00      | 12                                     | 14   | -    | -     | 2.46                  | 3.20    | 3.61 |
|              |                       |               |            | 3.30                                   | 1.94 | -    | -     |                       |         |      |
| 8            | 3.60                  | 4.60±0.03     | 10.00      | 8                                      |      |      |       | 4.50                  | -       | 5.20 |
|              |                       |               |            | 8.98 Max Acceptable: 10mm <sup>2</sup> |      |      |       |                       |         |      |
| 4            | 5.70                  | 7.40±0.03     | 12.00      | 4                                      |      |      |       | 7.73                  | -       | 8.40 |
|              |                       |               |            | 21.10                                  |      |      |       |                       |         |      |

MIL-DTL-38999 Series III

How to Order

MILITARY DESIGNATION

D38999/ 26 W B35 P N - BK4S - B1-DC -CG

Series: \_\_\_\_\_

Shell Type: \_\_\_\_\_

20: Square Flange Receptacle 24: Jam-Nut Receptacle  
26: Straight Plug

Shell Material and Finish: \_\_\_\_\_

Composite:  
J: Olive drab cadmium plated 175°C M: Electroless nickel plated 200°C

Aluminium:  
W: Olive drab cadmium plated 175°C  
F: Electroless nickel plated 200°C  
T: Nickel PTFE plated 175°C  
Z: Black Zinc Nickel plated aluminium 175°C

Stainless Steel:  
K: Passivated 200°C, firewall capability  
S: Nickel plated 200°C, firewall capability

Shell Size and Contact Arrangement: \_\_\_\_\_

Shell Size:

A B C D E F G H J MIL  
09 11 13 15 17 19 21 23 25 Amphenol

Contact Arrangement:

See section "Insert Arrangements"

Contact Type: \_\_\_\_\_

A: Without pin contact  
B: Without socket contact  
P: With pin contacts  
S: With socket contacts

Polarization: \_\_\_\_\_

N for normal or A, B, C, D, E.

Backshell Type: \_\_\_\_\_

BK4S: Straight Direct Coupling EMI Backshell with Constant Force Spring and Conductive Tape  
BK4R: 90 Degree Spin Coupling EMI Backshell with Band for Braid Fixing (Please consult us for cable entry)  
\*Omit for no backshell

Boot Type: \_\_\_\_\_

B1: Straight Boot  
B2: 90 Degree Boot  
\*Omit for no boot

Dust Cap: \_\_\_\_\_

Metallic Dust Cap  
\*Omit for no cap

Conductive Gasket: \_\_\_\_\_

Conductive Gasket  
\*Omit for no gasket

MIL-DTL-38999 Series III

How to Order

AMPHENOL DESIGNATION

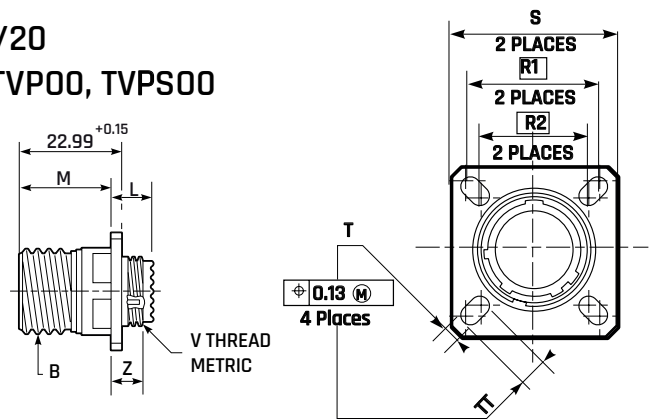
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | TV | 06 | R | W | 11-35 | P | A | - | BK4S | B2 | DC | CG |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|---|---|-------|---|---|---|------|----|----|----|
| Series:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |    |    |   |   |       |   |   |   |      |    |    |    |
| Shell Type:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>P00: Square flange receptacle: 175°C (0 .D. cadmium, g. zinc cobalt, ni-PTFE, b. zinc nickel)<br/>PS00: Square flange receptacle: 200°C *** (nickel, s. steel, bronze)<br/>07: Jam nut receptacle: 175°C (0. D. cadmium, g. zinc cobalt, ni-PTFE, b. zinc nickel)<br/>S07: Jam nut receptacle: 200°C *** (nickel, s. steel, bronze)<br/>06: Straight plug: 175°C (0. D. cadmium, g. zinc cobalt, ni-PTFE, b. zinc nickel)<br/>S06: Straight plug: 200°C *** (nickel, s. steel, bronze)<br/>01: In line receptacle: 175°C (0. D. cadmium, g. zinc cobalt, ni-PTFE, b. zinc nickel)<br/>S01: In line receptacle: 200°C *** (nickel, s. steel, bronze)</p> |    |    |   |   |       |   |   |   |      |    |    |    |
| Contact Type:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>R: Crimp contacts (or connector delivered without contact)<br/>*For pc tail contacts directly get in touch with MATEC Electronics</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |    |   |   |       |   |   |   |      |    |    |    |
| Class:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>W: Olive Drab Cadmium plating (on aluminium or composite)<br/>F: Nickel Plating (on aluminium or composite)<br/>K: Passivated Stainless Steel<br/>S: Nickel plated Stainless Steel<br/>B: Marine Bronze (copper aluminium alloy)<br/>Z: Green zinc Cobalt plated aluminium<br/>ZN: Black Zinc Nickel plated aluminium</p>                                                                                                                                                                                                                                                                                                                               |    |    |   |   |       |   |   |   |      |    |    |    |
| Shell Size and Contact Arrangement:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>*** See section "Insert Arrangements"</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |    |   |   |       |   |   |   |      |    |    |    |
| Contact type:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>A: Without pin contact<br/>B: Without socket contact<br/>P: With pin contacts<br/>S: With socket contacts</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |    |   |   |       |   |   |   |      |    |    |    |
| Polarization:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>N for normal or A, B, C, D, E.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |    |   |   |       |   |   |   |      |    |    |    |
| Contacts:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>Omit for connectors delivered with contacts<br/>LC: Connector delivered without contacts</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |   |   |       |   |   |   |      |    |    |    |
| Backshell Type:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>BK4S: Straight Direct Coupling EMI Backshell with Contant Force Spring and Conductive Tape<br/>BK4R: 90 Degree Spin Coupling EMI Backshell with Band for Braid Fixing (Please consult us for cable entry)<br/>*Omit for no backshell</p>                                                                                                                                                                                                                                                                                                                                                                                                                |    |    |   |   |       |   |   |   |      |    |    |    |
| Boot Type:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>B1: Straight Boot<br/>B2: 90 Degree Boot<br/>*Omit for no boot</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |    |   |   |       |   |   |   |      |    |    |    |
| Dust Cap:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>Metallic Dust Cap    *Omit for no cap</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |    |    |   |   |       |   |   |   |      |    |    |    |
| Conductive Gasket:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |    |    |   |   |       |   |   |   |      |    |    |    |
| <p>Conductive Gasket    *Omit for no gasket</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |   |   |       |   |   |   |      |    |    |    |

MIL-DTL-38999 Series III

Square Flange Receptacle

MIL DESIGNATION: D38999/20

AMPHENOL DESIGNATION: TVP00, TVPS00



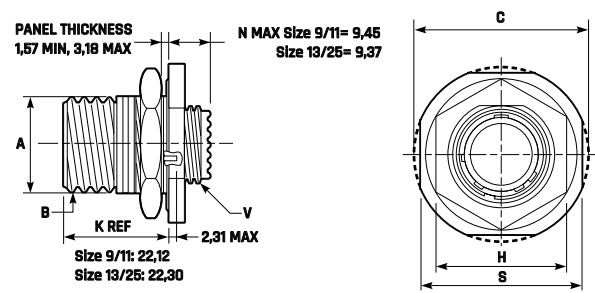
| Shell Size               |          | B Thread Class             | L Max | M                | R1    | R2    | S          | T                | Z1       | TT               | V Thread Metric |
|--------------------------|----------|----------------------------|-------|------------------|-------|-------|------------|------------------|----------|------------------|-----------------|
| MIL-DTL-38999 Series III | Amphenol | 2A 0.1P - 0.3L-TS (Inches) | (mm)  | +0.00 -0.13 (mm) | (mm)  | (mm)  | ±0.25 (mm) | +0.20 -0.13 (mm) | Max (mm) | +0.20 -0.13 (mm) |                 |
| A                        | 9        | .6250                      | 11.91 | 20.83            | 18.26 | 15.09 | 23.83      | 3.25             | 3.89     | 5.49             | M12x1-6g        |
| B                        | 11       | .7500                      | 11.91 | 20.83            | 20.62 | 18.26 | 26.19      | 3.25             | 3.89     | 4.93             | M15x1-6g        |
| C                        | 13       | .8750                      | 11.91 | 20.83            | 23.01 | 20.62 | 28.58      | 3.25             | 3.89     | 4.93             | M18x1-6g        |
| D                        | 15       | 1.0000                     | 11.91 | 20.83            | 24.61 | 23.01 | 30.96      | 3.25             | 3.89     | 4.39             | M22x1-6g        |
| E                        | 17       | 1.1875                     | 11.91 | 20.83            | 26.97 | 24.61 | 33.32      | 3.25             | 3.89     | 4.93             | M25x1-6g        |
| F                        | 19       | 1.2500                     | 11.91 | 20.83            | 29.36 | 26.97 | 36.53      | 3.25             | 3.89     | 4.93             | M28x1-6g        |
| G                        | 21       | 1.3750                     | 12.70 | 20.07            | 31.75 | 29.36 | 39.67      | 3.25             | 4.65     | 4.93             | M31x1-6g        |
| H                        | 23       | 1.5000                     | 12.70 | 20.07            | 34.93 | 31.75 | 42.88      | 3.91             | 4.65     | 6.15             | M34x1-6g        |
| J                        | 25       | 1.6250                     | 12.70 | 20.07            | 38.10 | 34.93 | 46.02      | 3.91             | 4.65     | 6.15             | M37x1-6g        |

MIL-DTL-D38999 Series III

Jam-Nut Receptacle

MIL DESIGNATION: D38999/24

AMPHENOL DESIGNATION: TV07, TVS07



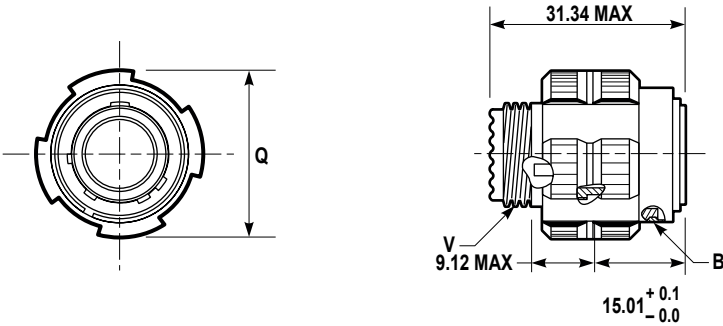
| Shell Size               |          | B Thread Class             | A                | C        | H                    | S         | V Thread | Hex Nut        |
|--------------------------|----------|----------------------------|------------------|----------|----------------------|-----------|----------|----------------|
| MIL-DTL-38999 Series III | Amphenol | 2A 0.1P - 0.3L-TS (Inches) | +0.10 -0.15 (mm) | Max (mm) | Hex +0.43 -0.41 (mm) | ±0.4 (mm) | Metric   | Max Torque N.m |
| A                        | 9        | .6250                      | 16.53            | 30.45    | 22.23                | 26.97     | M12x1-6g | 4.1            |
| B                        | 11       | .7500                      | 19.07            | 35.20    | 25.40                | 31.75     | M15x1-6g | 5.3            |
| C                        | 13       | .8750                      | 23.82            | 38.38    | 30.17                | 34.93     | M18x1-6g | 6.9            |
| D                        | 15       | 1.0000                     | 26.97            | 41.55    | 33.32                | 38.10     | M22x1-6g | 8.6            |
| E                        | 17       | 1.1875                     | 30.15            | 44.73    | 36.52                | 41.28     | M25x1-6g | 9.8            |
| F                        | 19       | 1.2500                     | 33.32            | 49.50    | 39.67                | 46.02     | M28x1-6g | 10.9           |
| G                        | 21       | 1.3750                     | 36.50            | 52.65    | 42.87                | 49.23     | M31x1-6g | 12.7           |
| H                        | 23       | 1.5000                     | 39.67            | 55.85    | 46.02                | 52.37     | M34x1-6g | 13.8           |
| J                        | 25       | 1.6250                     | 42.85            | 59.00    | 50.80                | 55.58     | M37x1-6g | 15             |

MIL-DTL-38999 Series III

Straight Plug

MIL DESIGNATION: D38999/26

AMPHENOL DESIGNATION: TV06 TVS06

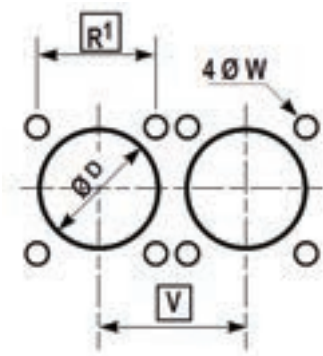


| Shell Size               |          | B Thread<br>Class 2A<br>0.1P - 0.3L-<br>TS | Q<br>Max<br>(mm) | V Thread<br>Metric |
|--------------------------|----------|--------------------------------------------|------------------|--------------------|
| MIL-DTL-38999 Series III | Amphenol |                                            |                  |                    |
| A                        | 9        | .6250                                      | 21.82            | M12x1-6g           |
| B                        | 11       | .7500                                      | 24.62            | M15x1-6g           |
| C                        | 13       | .8750                                      | 28.98            | M18x1-6g           |
| D                        | 15       | 1.0000                                     | 32.16            | M22x1-6g           |
| E                        | 17       | 1.1875                                     | 35.33            | M25x1-6g           |
| F                        | 19       | 1.2500                                     | 38.10            | M28x1-6g           |
| G                        | 21       | 1.3750                                     | 41.28            | M31x1-6g           |
| H                        | 23       | 1.5000                                     | 44.45            | M34x1-6g           |
| J                        | 25       | 1.6250                                     | 47.63            | M37x-1-6g          |

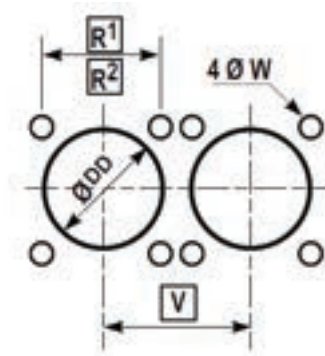
MIL-DTL-38999 Series III

Panel Drilling for Receptacles

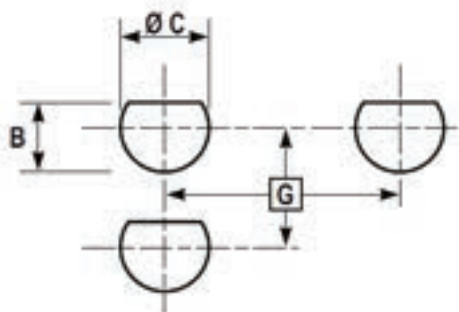
Square flange receptacle  
rear panel mounting



Square flange receptacle  
front panel mounting



Jam nut receptacle  
rear panel mounting



| Shell Size | R <sup>1</sup><br>(mm) | R <sup>2</sup><br>(mm) | V mini<br>(mm) | Ø D Min<br>(mm) | Ø DD Min<br>(mm) | Ø W ±0.25<br>(mm) | G Mini<br>(mm) | Ø C ±0.25<br>(mm) | B ±0.25<br>(mm) |
|------------|------------------------|------------------------|----------------|-----------------|------------------|-------------------|----------------|-------------------|-----------------|
| A=9        | 18.26                  | 15.09                  | 24.60          | 16.66           | 13.11            | 3.25              | 27.80          | 17.60             | 16.70           |
| B=11       | 20.62                  | 18.26                  | 27.00          | 20.22           | 15.88            | 3.25              | 32.60          | 20.96             | 19.59           |
| C=13       | 23.01                  | 20.62                  | 30.20          | 23.42           | 19.05            | 3.25              | 36.00          | 25.65             | 24.26           |
| D=15       | 24.61                  | 23.01                  | 33.30          | 26.59           | 23.01            | 3.25              | 39.60          | 28.83             | 27.56           |
| E=17       | 26.97                  | 24.61                  | 36.50          | 30.96           | 25.81            | 3.25              | 43.30          | 32.01             | 30.73           |
| F=19       | 29.36                  | 26.97                  | 39.30          | 32.94           | 28.98            | 3.25              | 47.00          | 35.18             | 33.91           |
| G=21       | 31.75                  | 29.36                  | 42.50          | 36.12           | 32.16            | 3.25              | 50.60          | 38.35             | 37.08           |
| H=23       | 34.93                  | 31.75                  | 45.70          | 39.29           | 34.93            | 3.81              | 54.20          | 41.53             | 40.26           |
| J=25       | 38.10                  | 34.93                  | 48.80          | 42.47           | 37.69            | 3.81              | 59.70          | 44.70             | 43.43           |

MIL-DTL-38999 Series III

Insert Arrangements

Front Face of Pin Inserts Shown

|                    |          |        |      |      |      |      |      |      |          |       |       |       |       |      |
|--------------------|----------|--------|------|------|------|------|------|------|----------|-------|-------|-------|-------|------|
|                    |          |        |      |      |      |      |      |      |          |       |       |       |       |      |
| Insert Arrangement | 9-5      | 9-9 HD | 9-35 | 9-94 | 9-98 | 11-2 | 11-4 | 11-5 | 11-19 HD | 11-35 | 11-54 | 11-98 | 11-99 | 13-4 |
| Service Rating     | Grounded | N      | M    | M    | I    | I    | I    | I    | N        | M     | II    | I     | I     | I    |
| Number of Contacts | 1        | 9      | 6    | 2    | 3    | 2    | 4    | 5    | 19       | 13    | 4     | 6     | 7     | 4    |
| Contact Size       | Twinax   | 23     | 22D  | 20   | 20   | 16   | 20   | 20   | 23       | 22D   | 22D   | 20    | 20    | 16   |

|                    |      |        |          |       |       |       |        |      |      |
|--------------------|------|--------|----------|-------|-------|-------|--------|------|------|
|                    |      |        |          |       |       |       |        |      |      |
| Insert Arrangement | 13-8 | 13-26  | 13-32 HD | 13-35 | 13-63 | 13-98 | 15-AT  | 15-4 | 15-5 |
| Service Rating     | I    | M      | N        | M     | I     | I     | I      | I    | II   |
| Number of Contacts | 8    | 6 2    | 32       | 22    | 2 2   | 10    | 10 3   | 4    | 5    |
| Contact Size       | 20   | 22D 12 | 23       | 22D   | 16 12 | 20    | 22D 12 | 12   | 16   |

|                    |       |       |       |        |       |          |       |              |
|--------------------|-------|-------|-------|--------|-------|----------|-------|--------------|
|                    |       |       |       |        |       |          |       |              |
| Insert Arrangement | 15-15 | 15-18 | 15-19 | 15-25  | 15-35 | 15-55 HD | 15-97 | 17-EA        |
| Service Rating     | I     | I     | I     | M      | M     | N        | I     |              |
| Number of Contacts | 14 1  | 18    | 19    | 22 3   | 37    | 55       | 8 4   | 10 3 2 4     |
| Contact Size       | 20 16 | 20    | 20    | 22D 16 | 22D   | 23       | 20 16 | 22D 20 16 12 |

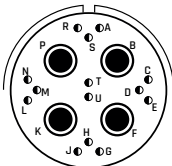
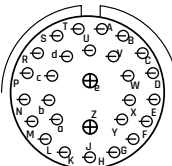
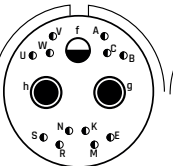
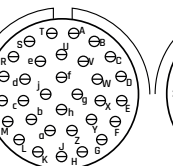
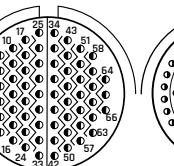
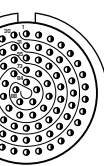
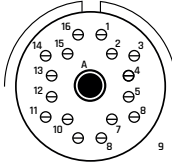
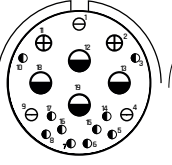
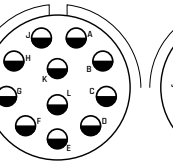
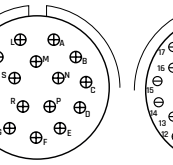
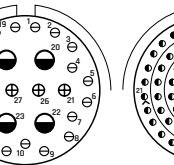
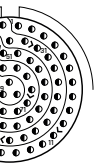
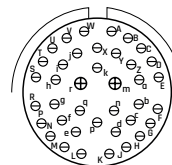
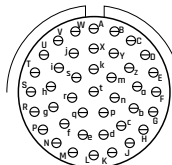
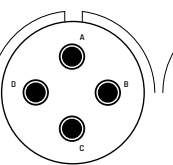
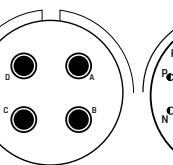
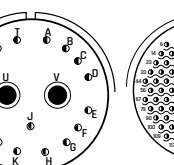
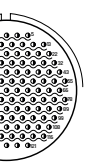
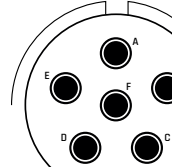
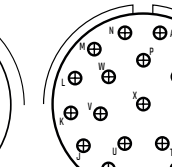
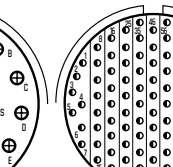
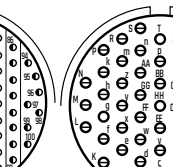
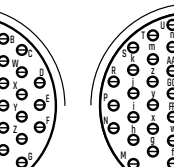
|                    |        |              |      |      |                |       |       |
|--------------------|--------|--------------|------|------|----------------|-------|-------|
|                    |        |              |      |      |                |       |       |
| Insert Arrangement | 17-EC  | 17-2         | 17-6 | 17-8 | 17-22 Coax     | 17-26 | 17-35 |
| Service Rating     |        | M            | I    | I    |                | I     | M     |
| Number of Contacts | 32 9   | 38 1         | 6    | 8    | 2 2            | 26    | 55    |
| Contact Size       | 22D 20 | 22D 8 Twinax | 12   | 16   | 12 Coax 8 Coax | 20    | 22D   |

|                    |          |            |          |       |              |       |
|--------------------|----------|------------|----------|-------|--------------|-------|
|                    |          |            |          |       |              |       |
| Insert Arrangement | 17-52    | 17-60      | 17-73 HD | 17-99 | 19-FA        | 19-11 |
| Service Rating     | M        | I/Coax     | N        | I     | M            | II    |
| Number of Contacts | 2        | 8 2        | 73       | 21 2  | 6 8 7 2      | 11    |
| Contact Size       | 8 Twinax | 22D 8 Coax | 23       | 20 16 | 22D 20 16 12 | 16    |

MIL-DTL-38999 Series III

Insert Arrangements

Front Face of Pin Inserts Shown

|                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                             |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------|
|    |    |    |    |    |    |                             |
| Insert Arrangement<br>Service Rating<br>Number of Contacts<br>Contact Size          | 19-18<br>M<br>14 4<br>22D 8 Twinax                                                  | 19-28<br>M<br>26 2<br>20 16                                                         | 19-31<br>M<br>2 1 12<br>8 Coax 12 22D                                                | 19-32<br>1<br>32<br>20                                                                | 19-35<br>M<br>66<br>22D                                                               | 19-88 HD<br>N<br>88<br>23   |
|   |   |   |   |   |   |                             |
| Insert Arrangement<br>Service Rating<br>Number of Contacts<br>Contact Size          | 19-AD<br>Inst.<br>16 1<br>20 8 Twinax                                               | 19-FA<br>M<br>6 8 7 2<br>22D 20 16 12                                               | 21-11<br>I<br>11<br>12                                                               | 21-16<br>II<br>16<br>16                                                               | 21-29<br>I<br>19 4 4<br>20 16 12                                                      | 21-35<br>M<br>79<br>22D     |
|  |  |  |  |  |  |                             |
| Insert Arrangement<br>Service Rating<br>Number of Contacts<br>Contact Size          | 21-39<br>1<br>37 2<br>20 16                                                         | 21-41<br>I<br>41<br>20                                                              | 21-48<br>M<br>4<br>8 Power                                                           | 21-75<br>N<br>4<br>(See Note)                                                         | 21-79<br>II<br>17(See Note)<br>22D                                                    | 21-121 HD<br>N<br>121<br>23 |
|  |  |  |  |  |                                                                                       |                             |
| Insert Arrangement<br>Service Rating<br>Number of Contacts<br>Contact Size          | 23-6<br>M<br>6<br>8 Twinax                                                          | 23-21<br>II<br>21<br>16                                                             | 23-35<br>M<br>100<br>22D                                                             | 23-53<br>I<br>53<br>20                                                                | 23-55<br>I<br>55<br>20                                                                |                             |

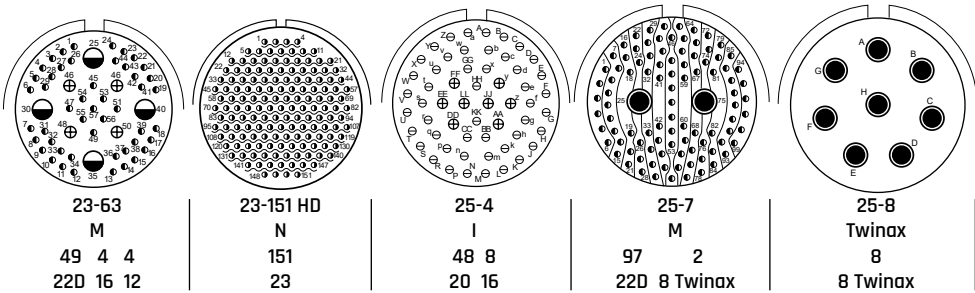
**Note:** Military connectors 21-75 is supplied with 4 size 8 twinaX contacts. Commercial connectors 21-75 is supplied with 4 size 8 coax contacts. Military connector 21-79 has provision for 2 size 8 coax contacts. Coax contacts are not supplied unless specified by customers.

MIL-DTL-38999 Series III

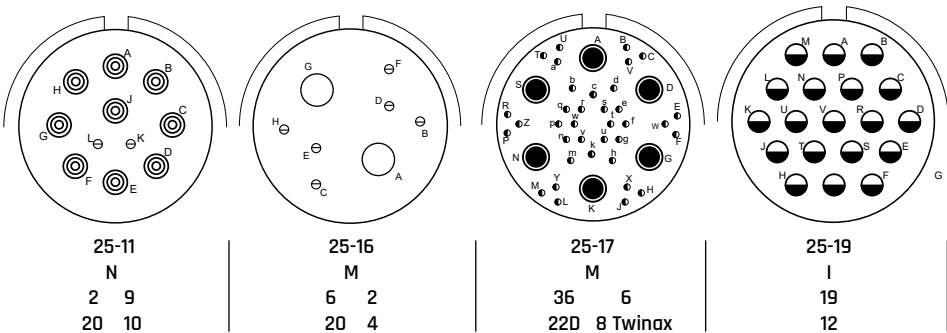
Insert Arrangements

Front face of pin inserts shown

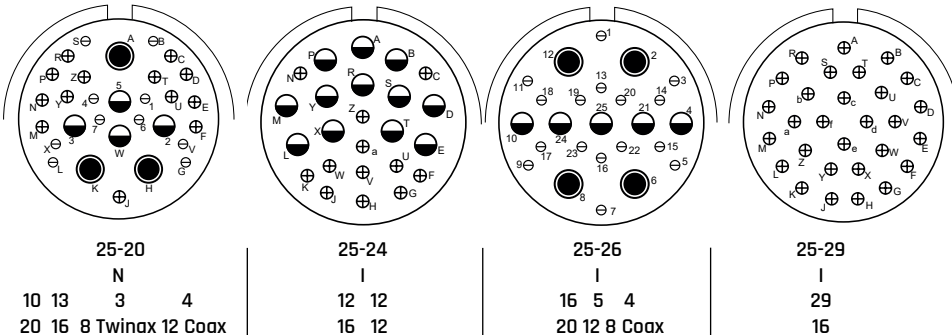
Insert Arrangement  
Service Rating  
Number of Contacts  
Contact Size



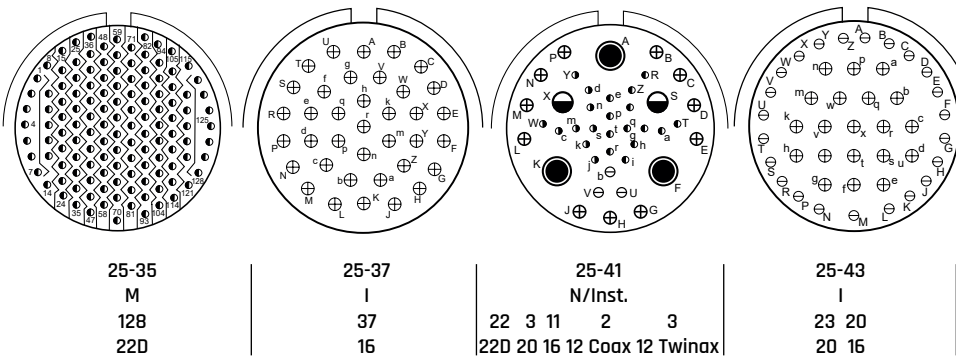
Insert Arrangement  
Service Rating  
Number of Contacts  
Contact Size



Insert Arrangement  
Service Rating  
Number of Contacts  
Contact Size



Insert Arrangement  
Service Rating  
Number of Contacts  
Contact Size

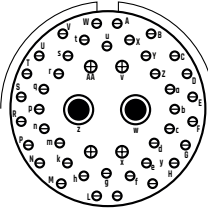
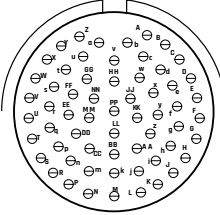
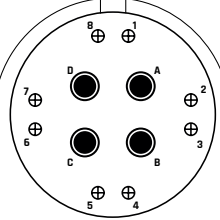
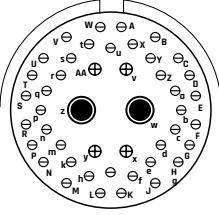


MIL-DTL-38999 Series III

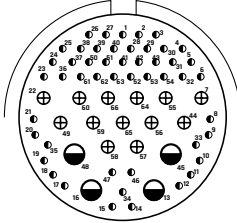
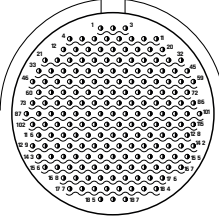
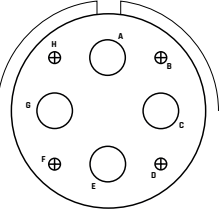
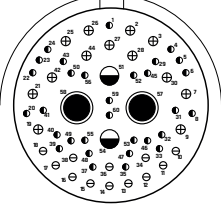
Insert Arrangements

Front Face of Pin Inserts Shown

Insert Arrangement  
Service Rating  
Number of Contacts  
Contact Size

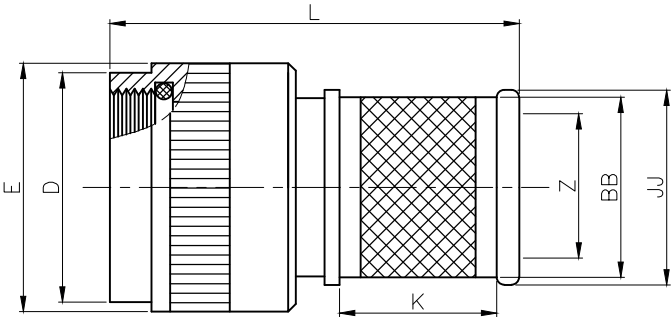
|                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |
| 25-46                                                                             | 25-61                                                                             | 25-62                                                                              | 25-90                                                                               |
| I                                                                                 | I                                                                                 | I                                                                                  | I                                                                                   |
| 40 4 2                                                                            | 61                                                                                | 8 4                                                                                | 40 4 2                                                                              |
| 20 16 8 Coax                                                                      | 20                                                                                | 16 8                                                                               | 20 16 8 Twinax                                                                      |

|                                                                                    |                                                                                    |                                                                                     |                                                                                      |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|  |  |  |  |
| 25-F4                                                                              | 25-187 HD                                                                          | 25-1A                                                                               | 25-AT                                                                                |
| Size 22D=M Balance=I                                                               | N                                                                                  | N                                                                                   | N                                                                                    |
| 49 13 4                                                                            | 187                                                                                | 4 4                                                                                 | 2 2 13 12 31                                                                         |
| 22D 16 12                                                                          | 23                                                                                 | 16 4                                                                                | 10 12 16 20 22D                                                                      |

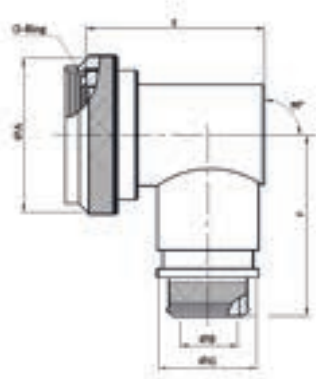
MIL-DTL-D38999 Series III

BK4S Backshell



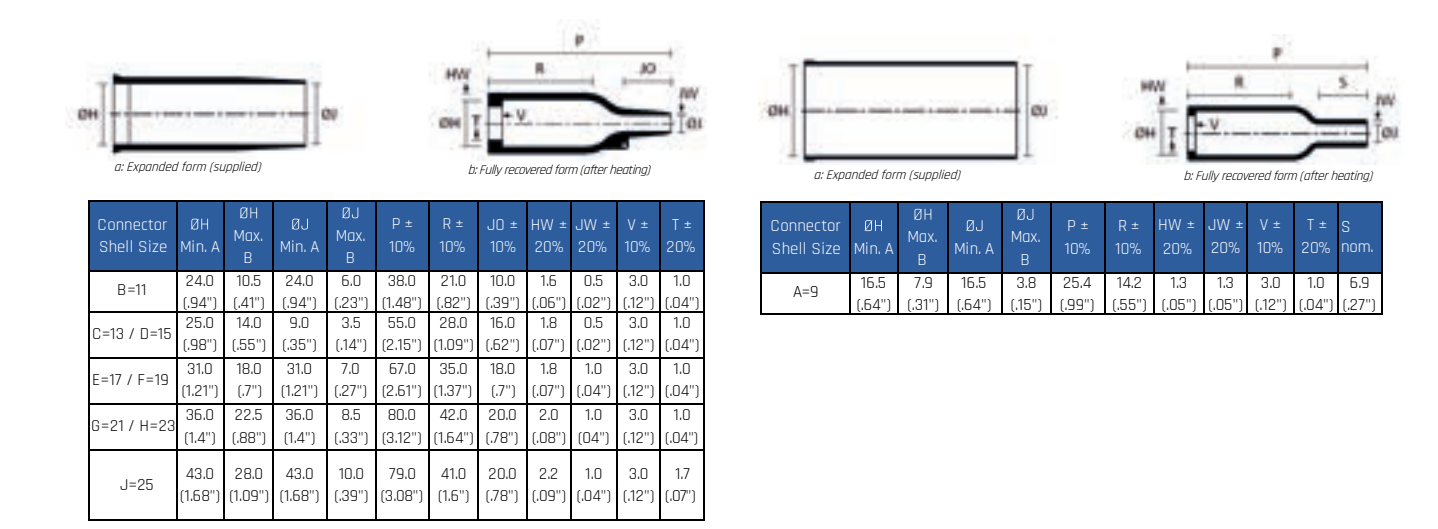
| Shell Size Designator | A Thread Class 2B | ØD ± 1.5 |       | ØE +0.20 -0.00 |       | ØZ Cable Max. |       | ØBB Max. |      | ØJJ Max. |      | K Max. |      | L Max. |      |
|-----------------------|-------------------|----------|-------|----------------|-------|---------------|-------|----------|------|----------|------|--------|------|--------|------|
|                       |                   | INCH     | MM    | INCH           | MM    | INCH          | MM    | INCH     | MM   | INCH     | MM   | INCH   | MM   | INCH   | MM   |
| 8                     | 09/A              | 0.596    | 15.14 | 0.674          | 17.14 | 0.281         | 7.2   | 0.391    | 9.9  | 0.486    | 12.3 | 0.433  | 11.0 | 1.970  | 50.0 |
| 10                    | 11/B              | 0.712    | 18.11 | 0.791          | 20.11 | 0.338         | 8.6   | 0.493    | 12.5 | 0.587    | 14.9 | 0.433  | 11.0 | 2.090  | 53.1 |
| 12                    | 13/C              | 0.829    | 21.08 | 0.908          | 23.08 | 0.506         | 12.9  | 0.665    | 16.9 | 0.783    | 19.9 | 0.476  | 12.1 | 2.100  | 53.3 |
| 14                    | 15/D              | 0.985    | 25.04 | 1.064          | 27.04 | 0.562         | 14.3  | 0.744    | 18.9 | 0.862    | 21.9 | 0.476  | 12.1 | 2.210  | 56.1 |
| 16                    | 17/E              | 1.103    | 28.02 | 1.181          | 30.02 | 0.619         | 15.7  | 0.821    | 20.9 | 0.939    | 23.9 | 0.476  | 12.1 | 2.280  | 57.9 |
| 18                    | 19/F              | 1.220    | 30.99 | 1.298          | 32.99 | 0.675         | 17.1  | 0.891    | 22.6 | 1.010    | 25.6 | 0.476  | 12.1 | 2.360  | 59.9 |
| 20                    | 21/G              | 1.337    | 33.96 | 1.415          | 35.95 | 0.731         | 18.6  | 0.954    | 24.2 | 1.072    | 27.2 | 0.476  | 12.1 | 2.400  | 61.0 |
| 22                    | 23/H              | 1.448    | 36.80 | 1.527          | 38.80 | 0.843         | 21.4  | 1.095    | 27.8 | 1.213    | 30.8 | 0.476  | 12.1 | 2.520  | 64.0 |
| 24                    | 25/J              | 1.566    | 39.78 | 1.644          | 41.78 | 0.900         | 22.86 | 1.160    | 29.4 | 1.276    | 32.4 | 0.476  | 12.1 | 2.520  | 64.0 |

BK4R Backshell



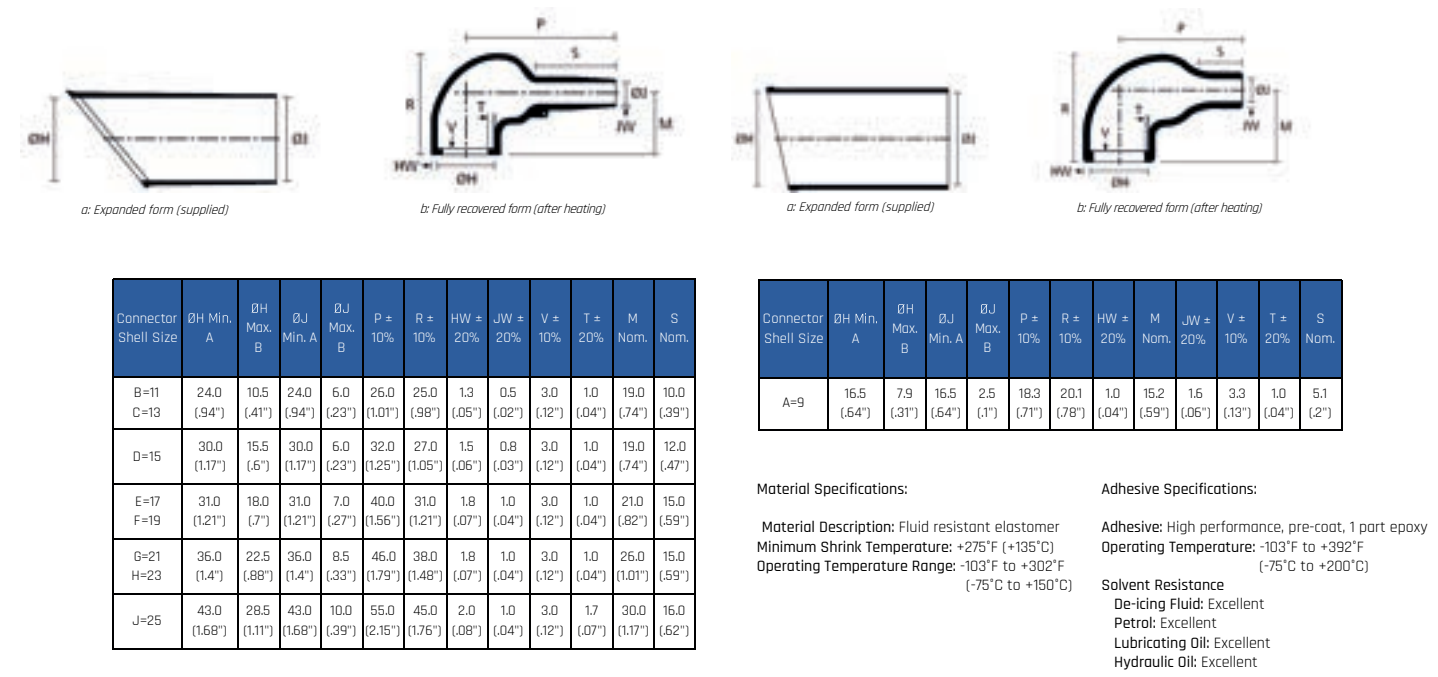
| Connector Shell Size/Code | ØA MAX |       | F MAX |       | E MAX |       | ØB +0.010-0.020 (+0.25-0.50) |       | ØG MAX |       |
|---------------------------|--------|-------|-------|-------|-------|-------|------------------------------|-------|--------|-------|
|                           | INCH   | MM    | INCH  | MM    | INCH  | MM    | INCH                         | MM    | INCH   | MM    |
| 09/A                      | 0.86   | 21.82 | 1.279 | 32.51 | 0.839 | 21.33 | 0.311                        | 7.92  | 0.591  | 15.00 |
| 11/B                      | 0.99   | 25.04 | 1.339 | 34.03 | 0.970 | 24.64 | 0.374                        | 9.52  | 0.657  | 16.70 |
| 13/C                      | 1.16   | 29.36 | 1.409 | 35.81 | 1.090 | 27.69 | 0.500                        | 12.70 | 0.780  | 19.80 |
| 15/D                      | 1.28   | 32.54 | 1.469 | 37.33 | 1.219 | 30.98 | 0.562                        | 14.30 | 0.843  | 21.40 |
| 17/E                      | 1.41   | 35.71 | 1.529 | 38.86 | 1.339 | 34.03 | 0.625                        | 15.88 | 0.906  | 23.00 |
| 19/F                      | 1.52   | 38.51 | 1.589 | 40.38 | 1.409 | 35.81 | 0.688                        | 17.50 | 0.969  | 24.60 |
| 21/G                      | 1.64   | 41.68 | 1.659 | 42.16 | 1.529 | 38.86 | 0.750                        | 19.05 | 1.031  | 26.20 |
| 23/H                      | 1.77   | 44.86 | 1.719 | 43.68 | 1.659 | 42.16 | 0.875                        | 22.23 | 1.157  | 29.40 |
| 25/J                      | 1.89   | 48.03 | 1.779 | 45.21 | 1.779 | 45.21 | 0.938                        | 23.83 | 1.220  | 31.00 |

MIL-DTL-38999 Series III  
Straight Boot: B1 Style



Dimensions in mm, inches in brackets. Subject to technical changes.

90 Degree Boot: B2 Style

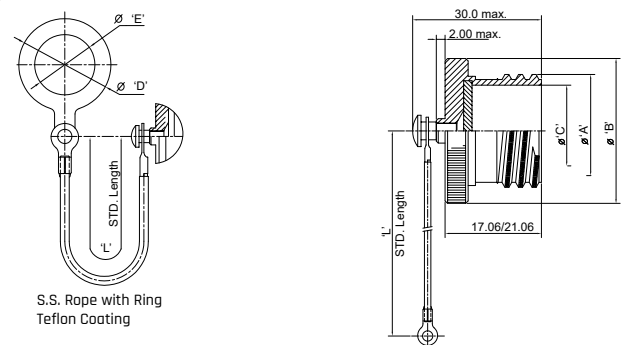


Dimensions in mm, inches in brackets. Subject to technical changes.

MIL-DTL-38999 Series III

Dust Cap

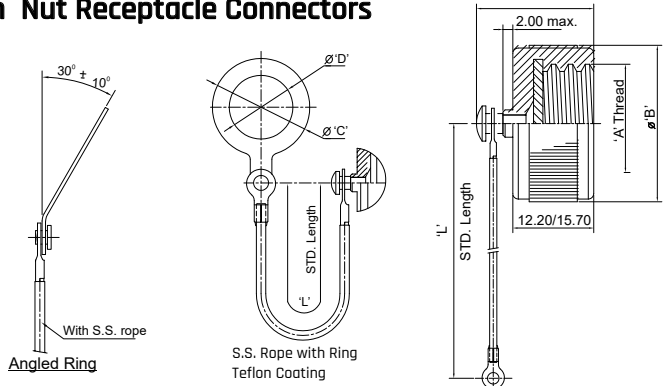
Dust Cap Drawing For Plug Connectors



| Shell Size | "A" Thread | B Max | C (+0.0 -0.15) | D Max | E Min | L + 13.0<br>-7.0 |
|------------|------------|-------|----------------|-------|-------|------------------|
| 09/A       | 0.625"     | 23.0  | 12.50          | 24.0  | 13.0  | 127              |
| 11/B       | 0.750"     | 26.0  | 15.75          | 27.0  | 18.0  |                  |
| 13/C       | 0.875"     | 31.0  | 19.53          | 30.0  | 20.0  |                  |
| 15/D       | 1.000"     | 33.0  | 22.71          | 31.0  | 23.0  |                  |
| 17/E       | 1.1875"    | 37.0  | 25.88          | 37.0  | 26.0  |                  |
| 19/F       | 1.250"     | 40.0  | 28.55          | 40.0  | 29.0  |                  |
| 21/G       | 1.375"     | 44.0  | 31.72          | 44.0  | 32.0  |                  |
| 23/H       | 1.500"     | 46.0  | 34.80          | 45.0  | 34.0  |                  |
| 25/J       | 1.625"     | 50.0  | 38.07          | 49.0  | 39.0  |                  |

All Dimensions are in mm

Dust Cap Drawing For Jam Nut Receptacle Connectors



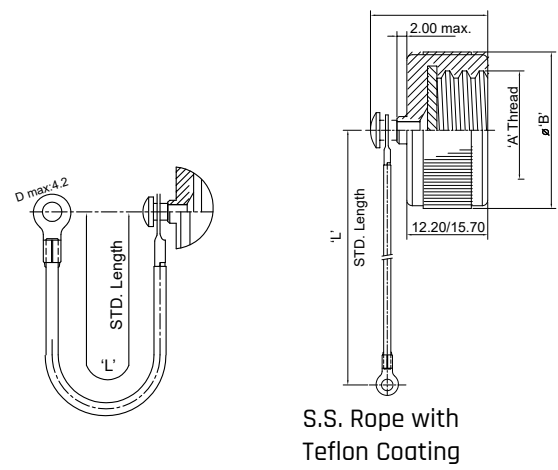
| Shell Size | "A" Thread | B Max | C Max | D Min | L + 13.0<br>-7.0 |
|------------|------------|-------|-------|-------|------------------|
| 09/A       | 0.625"     | 23.0  | 27.0  | 17.64 | 127              |
| 11/B       | 0.750"     | 28.0  | 32.0  | 21.97 |                  |
| 13/C       | 0.875"     | 31.0  | 37.0  | 25.15 |                  |
| 15/D       | 1.000"     | 32.0  | 40.0  | 29.92 |                  |
| 17/E       | 1.1875"    | 37.0  | 44.0  | 32.0  |                  |
| 19/F       | 1.250"     | 39.0  | 46.0  | 36.27 |                  |
| 21/G       | 1.375"     | 42.0  | 49.0  | 38.25 |                  |
| 23/H       | 1.500"     | 45.0  | 54.0  | 42.62 |                  |
| 25/J       | 1.625"     | 49.0  | 56.0  | 44.45 |                  |

All Dimensions are in mm

MIL-DTL-D38999 Series III

Dustcap

Dust Cap Drawing For Square Flange Receptacle Connectors



| Shell Size | "A" Thread | B Max | L + 13.0<br>-7.0 |
|------------|------------|-------|------------------|
| 09/A       | 0.625"     | 23.0  | 127              |
| 11/B       | 0.750"     | 28.0  |                  |
| 13/C       | 0.875"     | 31.0  |                  |
| 15/D       | 1.000"     | 32.0  |                  |
| 17/E       | 1.1875"    | 37.0  |                  |
| 19/F       | 1.250"     | 39.0  |                  |
| 21/G       | 1.375"     | 42.0  |                  |
| 23/H       | 1.500"     | 45.0  |                  |
| 25/J       | 1.625"     | 49.0  |                  |

Conductive Gaskets

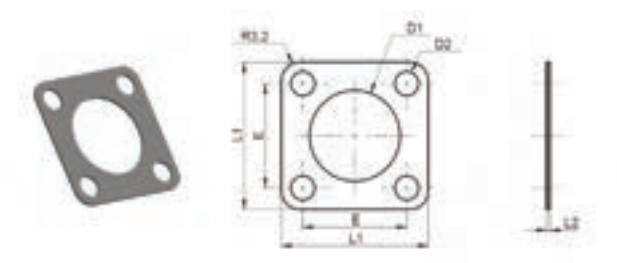
Electrical Properties

| Contents                                | Properties             |
|-----------------------------------------|------------------------|
| Material                                | Nickel Coated Graphite |
| Temp. Rating                            | -75°C // +150°C        |
| Volume Resistivity                      | Max. 0.10              |
| Specific Gravity (at 25°C)              | 2.0±0.3                |
| Hardness (Shore A)                      | 60±5                   |
| Tensile Strength (kgf/cm <sup>2</sup> ) | Min. 20                |
| Tear Strength (kN/m)                    | Min. 6                 |
| Elongation(%)                           | Min. 200               |

MIL-DTL-D38999 Series III

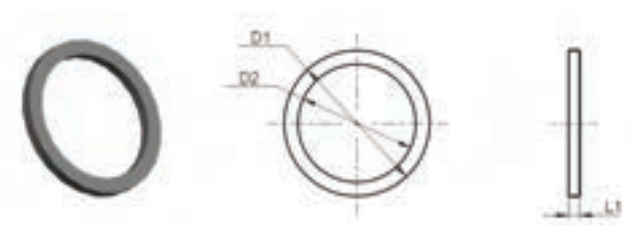
Conductive Gasket Drawing

Square Flange Receptacle



| Size | D1 (+0.4) | D2 (-0.3) | L1 (±0.25) | L2 (±0.1) | E (±0.25) |
|------|-----------|-----------|------------|-----------|-----------|
| A=9  | 15.88     | 3.50      | 23.83      | 0.51      | 18.26     |
| B=11 | 19.05     |           | 26.19      |           | 20.65     |
| C=13 | 22.23     |           | 28.56      |           | 23.01     |
| D=15 | 25.40     |           | 30.96      |           | 24.61     |
| E=17 | 30.16     |           | 34.80      |           | 27.00     |
| F=19 | 31.75     |           | 36.53      |           | 29.36     |
| G=21 | 34.93     |           | 39.70      |           | 31.75     |
| H=23 | 38.10     | 4.50      | 42.88      |           | 34.93     |
| J=25 | 41.50     |           | 46.50      |           | 37.10     |

Jam Nut Receptacle



| Size | D1    | D2    | L1 (+0.1/-0.15) |
|------|-------|-------|-----------------|
| A=9  | 24.00 | 20.00 | 2.00            |
| B=11 | 29.00 | 25.00 |                 |
| C=13 | 32.00 | 28.00 |                 |
| D=15 | 35.00 | 31.00 |                 |
| E=17 | 38.50 | 34.50 |                 |
| F=19 | 43.00 | 37.00 |                 |
| G=21 | 46.00 | 40.00 |                 |
| H=23 | 50.00 | 44.00 |                 |
| J=25 | 53.00 | 47.00 |                 |

MIL-DTL-D38999 Series III

Crimp Contacts

| Contact Size | Pins          | Sockets       | Cable Type                                              |
|--------------|---------------|---------------|---------------------------------------------------------|
| 12           | M39029/58-365 | M39029/56-353 |                                                         |
| 16           | M39029/58-364 | M39029/56-352 |                                                         |
| 20           | M39029/58-363 | M39029/56-351 |                                                         |
| 22D          | M39029/58-360 | M39029/56-348 |                                                         |
| 8(Coax)      | M39029/60-367 | M39029/59-366 | M17/95-RG180                                            |
| 8(Twinax)    | M39029/90-529 | M39029/91-530 | M17/176-00002                                           |
| 12 (Coax)    | M39029/28-211 | M39029/75-416 | M17/94-RG179<br>M17/113-RG316<br>M17/119-RG174          |
|              | M39029/28-409 | M39029/75-417 | M17/95-RG180<br>Raychem 9528 A1318                      |
| 16 (Coax)    | M39029/76-424 | M39029/77-428 | M17/94-RG179<br>M17/113-RG316<br>M17/119-RG174<br>KX22A |
|              | M39029/76-425 | M39029/77-429 | M17/93-RG178<br>M17/169-00001                           |

\*For power and high speed contacts, please consult us.

Sealing Plugs

| Contact Size | Part Number  |
|--------------|--------------|
| 12           | MS27488-12-2 |
| 16           | MS27488-16-2 |
| 20           | MS27488-20-2 |
| 22D          | MS27488-22-2 |
| 23           | MS27488-22-2 |

## MIL-DTL-D38999 Series III

### Tools

#### Crimp Tools



| Contact Size | Contact Type      | Crimping Tool | Positioner   |
|--------------|-------------------|---------------|--------------|
| 8(Coax)      | Inner Pin &Socket | M22520/2-01   | M22520/2-31  |
|              | Outer Pin &Socket | M22520/5-01   | M22520/5-41  |
| 12(Coax)     | Inner Pin &Socket | M22520/2-01   | M22520/2-34  |
|              | Outer Pin &Socket | M22520/31-01  | M22520/31-02 |
| 12           | Pin               | M22520/1-01   | M22520/1-04  |
|              | Socket            | M22520/1-01   | M22520/1-04  |
| 16(Coax)     | Inner Pin &Socket | M22520/2-01   | M22520/2-35  |
|              | Outer Pin &Socket | M22520/4-01   | M22520/4-02  |
| 16           | Pin               | M22520/1-01   | M22520/1-04  |
|              | Socket            | M22520/1-01   | M22520/1-04  |
| 20           | Pin               | M22520/1-01   | M22520/1-04  |
|              | Pin               | M22520/2-01   | M22520/2-10  |
|              | Socket            | M22520/1-01   | M22520/1-04  |
|              | Socket            | M22520/2-01   | M22520/2-10  |
| 22D          | Pin               | M22520/2-01   | M22520/2-09  |
|              | Socket            | M22520/2-01   | M22520/2-07  |
| 23           | Pin               | M22520/2-01   | M22520/2-13  |
|              | Socket            | M22520/2-01   | M22520/2-16  |

#### Insertion and Removal Tools

##### Plastic Tools



| Contact Size | Insertion Tool | Removal Tool | Colour    |            |
|--------------|----------------|--------------|-----------|------------|
|              |                |              | Insertion | Extraction |
| 8 Power/Coax | *              | M81969/14-12 | -         | green      |
| 12           | M81969/14-04   | M81969/14-04 | yellow    | white      |
| 16           | M81969/14-03   | M81969/14-03 | blue      | white      |
| 20           | M81969/14-10   | M81969/14-10 | red       | orange     |
| 22D          | M81969/14-01   | M81969/14-01 | green     | white      |

\*Manuel Insertion

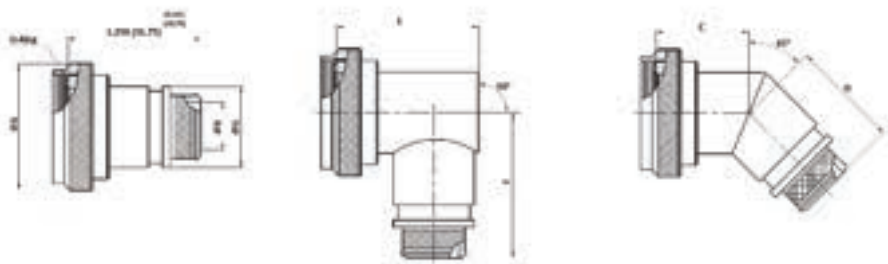
##### Metallic Tools



| Contact Size | Straight Type   |               | Angle Type      |               |
|--------------|-----------------|---------------|-----------------|---------------|
|              | Insertion Tools | Removal Tools | Insertion Tools | Removal Tools |
| 8 Power/Coax | -               | 809 961       | -               | 809 845       |
| 12           | -               | -             | 809 838         | 809 839       |
| 16           | 809 816         | 809 846       | 809 812         | 809 820       |
| 20           | 809 817         | 809 847       | 809 813         | 809 821       |
| 22D          | 809 819         | 809 849       | 809 815         | 809 823       |

MIL-DTL-D38999 Series III

Other Backshell Types



All dimensions are in INCHES (mm)

Part Numbering System

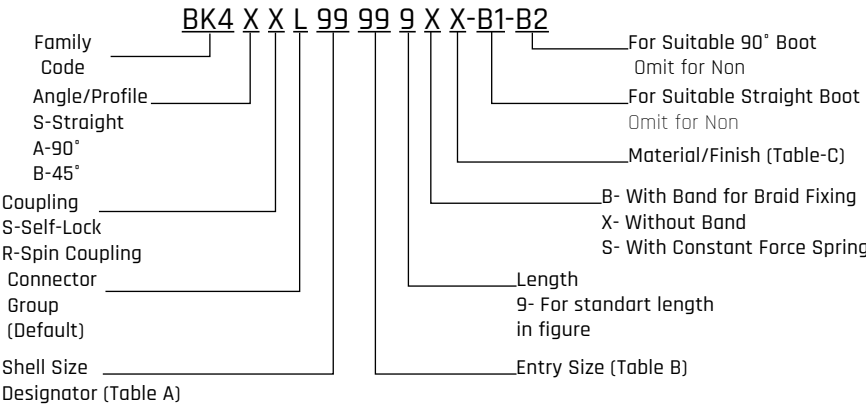


Table B

| Entry Size | ØB +0.010-0.020 (+0.25-0.50) |       | ØG MAX |       |
|------------|------------------------------|-------|--------|-------|
|            | INCH                         | MM    | INCH   | MM    |
| 02         | 0.124                        | 3.17  | 0.208  | 9.80  |
| 03         | 0.187                        | 4.75  | 0.528  | 13.40 |
| 04         | 0.250                        | 6.35  | 0.547  | 13.90 |
| 05         | 0.311                        | 7.92  | 0.591  | 15.00 |
| 06         | 0.374                        | 9.52  | 0.657  | 16.70 |
| 07         | 0.437                        | 11.12 | 0.717  | 18.20 |
| 08         | 0.500                        | 12.70 | 0.780  | 19.80 |
| 09         | 0.562                        | 14.30 | 0.843  | 21.40 |
| 10         | 0.625                        | 15.88 | 0.906  | 23.00 |
| 11         | 0.688                        | 17.50 | 0.969  | 24.60 |
| 12         | 0.750                        | 19.05 | 1.031  | 26.20 |
| 13         | 0.812                        | 20.65 | 1.094  | 27.80 |
| 14         | 0.875                        | 22.23 | 1.157  | 29.40 |
| 15         | 0.938                        | 23.83 | 1.220  | 31.00 |
| 16         | 1.000                        | 25.40 | 1.283  | 32.60 |
| 17         | 1.082                        | 27.50 | 1.346  | 34.20 |
| 18         | 1.125                        | 28.58 | 1.409  | 35.80 |
| 19         | 1.208                        | 30.70 | 1.472  | 37.40 |
| 20         | 1.250                        | 31.75 | 1.535  | 39.00 |
| 21         | 1.333                        | 33.88 | 1.598  | 40.60 |
| 22         | 1.374                        | 34.92 | 1.661  | 42.20 |
| 23         | 1.440                        | 36.58 | 1.744  | 44.29 |
| 24         | 1.500                        | 38.10 | 1.787  | 45.40 |

Table A

| Shell Size Designator | MAX. Entry Size (Normal Style) | Connector Shell Size/Code | ØA MAX |       | C MAX |       | D MAX |       | F MAX |       | E MAX |       |
|-----------------------|--------------------------------|---------------------------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                       |                                |                           | INCH   | MM    | INCH  | MM    | INCH  | MM    | INCH  | MM    | INCH  | MM    |
| 08                    | 04                             | 09/A                      | 0.86   | 21.82 | 0.519 | 13.20 | 1.150 | 29.21 | 1.279 | 32.51 | 0.839 | 21.33 |
| 10                    | 06                             | 11/B                      | 0.99   | 25.04 | 0.540 | 13.72 | 1.170 | 29.72 | 1.339 | 34.03 | 0.970 | 24.64 |
| 12                    | 08                             | 13/C                      | 1.16   | 29.36 | 0.570 | 14.48 | 1.200 | 30.50 | 1.409 | 35.81 | 1.090 | 27.69 |
| 14                    | 10                             | 15/D                      | 1.28   | 32.54 | 0.590 | 14.99 | 1.230 | 31.25 | 1.469 | 37.33 | 1.219 | 30.98 |
| 16                    | 12                             | 17/E                      | 1.41   | 35.71 | 0.620 | 15.75 | 1.250 | 31.75 | 1.529 | 38.86 | 1.339 | 34.03 |
| 18                    | 14                             | 19/F                      | 1.52   | 38.51 | 0.629 | 16.00 | 1.259 | 32.00 | 1.589 | 40.38 | 1.409 | 35.81 |
| 20                    | 15                             | 21/G                      | 1.64   | 41.68 | 0.659 | 16.76 | 1.289 | 32.76 | 1.659 | 42.16 | 1.529 | 38.86 |
| 22                    | 17                             | 23/H                      | 1.77   | 44.86 | 0.681 | 17.30 | 1.320 | 33.53 | 1.719 | 43.68 | 1.659 | 42.16 |
| 24                    | 20                             | 25/J                      | 1.89   | 48.03 | 0.708 | 18.00 | 1.339 | 34.03 | 1.779 | 45.21 | 1.779 | 45.21 |

All dimensions are in INCHES (mm)

Table C

| Code | Material/Finish                                                                |
|------|--------------------------------------------------------------------------------|
| N    | Aluminium Alloy/ Electroless Nickel                                            |
| W    | Aluminium Alloy/ Cadmium Olive Drab Over Electroless Nickel                    |
| Y    | Aluminium Alloy/ Zinc-Cobalt Dark Olive Drab Over Electroless Nickel           |
| TN   | Aluminium Alloy/ Nickel Teflon                                                 |
| ZN   | Aluminium Alloy/ Zinc Nickel                                                   |
| S    | Stainless Steel/ Passivate                                                     |
| K    | Nickel Aluminium Bronze/ Shot Blast                                            |
| P    | Aluminium Alloy/ Cadmium Olive Drab Over Electroless Nickel(Selective Plating) |

Note: When maximum cable entry exceeds consult MATEC Electronics.



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