

## SMB Connectors

### Product Facts

- **SMB offers snap-fit coupling for quick connect/disconnect**
- **Choice of Commercial or High Rel Connectors**
- **50 and 75  $\Omega$  MIL-Type connectors available**
- **Straight plugs and jacks are completely crimp terminated**
- **Fast easy cable assembly**
- **Low VSWR**
- **Standard military, commercial or Tyco Electronics tooling**
- **Listed under the Component Program of Underwriters Laboratories Inc., File No. E81956** 
- **PC Board soldered connectors are recognized under the Component Program of Underwriters Laboratories Inc., File No. E81956** 
- **Certified by Canadian Standards Association File No. LR 7189** 

SMB Connectors are available in commercial and high rel versions. They are ideally suited for circuit miniaturization and are offered in a wide range of configurations including plugs, right-angle plugs, jacks, bulkhead jacks and adapters, as well as printed circuit board and solder jacks.

Termination costs are kept to a minimum using plugs and jacks with a crimp center contact and hex crimp outer braid. Both hand held tooling and pneumatic bench-mounted tooling is available. Easily assembled right-angle plugs have a hex crimp on the outer braid ferrule and bifurcated solder center contacts.

Tyco Electronics' 75 Ohm BT 43 SMB Connectors feature unique spring mating with snap-fit couplings for quick connect/disconnect. These connectors are designed to be intermateable with 75 Ohm SMB MIL-C-39012 connectors. They also feature reliable dual crimp cable terminations.



**Packaging** — All connectors are packaged individually unless otherwise noted under the "Military No. and/or Comments" column in the connector specifications chart.

### Between Series Adapters

For SMB Between Series Adapters, please see pages 251-260.

## SMB Connector Specifications

### Electrical Characteristics

**Impedance** — 50 ohms and 75 ohms, nominal

**Frequency Range** — 0 to 4.0 GHz

**Voltage Rating (VRMS)** —

|                                             |     |     |
|---------------------------------------------|-----|-----|
| 50 ohm connectors for RG 178/U series cable | 300 | 75  |
| 50 ohm connectors for RG 316/U series cable | 400 | 100 |
| 75 ohm connectors for RG 179/U series cable | 300 | 75  |
| 75 ohm connectors for RG 195/U series cable | 500 | 125 |

**Insulations Resistance** — 1000 megohms min.

**Contact Resistance** — (milliohms max.)

|                | Initial | After Environment |
|----------------|---------|-------------------|
| Center contact | 6.0     | 8.0               |
| Outer contact  | 1.0     | 1.5               |
| Braid to body  | 1.0     | N/A               |

**Contact Current Rating** — 1.5 amps DC max.

**Voltage Standing Wave Ratio (VSWR)** — to 4.0 GHz or 80% of upper cutoff frequency of the cable, whichever is lower.

| Cable           | Mating Engagement |             |
|-----------------|-------------------|-------------|
|                 | Straight          | Right-Angle |
| RG 178/U Series | 1.30 + .04F       | 1.45 + .06F |
| RG 316/U Series | 1.25 + .04F       | 1.35 + .04F |

F=GHz, does not apply to 75 ohm connectors.

### RF High Potential Withstanding Voltage

**Frequency** — 5 MHz

**Leakage Current** — N/A

|                                             |           |
|---------------------------------------------|-----------|
| 50 ohm connectors for RG 178/U series cable | 675 VRMS  |
| 50 ohm connectors for RG 316/U series cable | 950 VRMS  |
| 75 ohm connectors for RG 179/U series cable | 950 VRMS  |
| 75 ohm connectors for RG 195/U series cable | 1225 VRMS |

**RF Leakage** — -55 dB min. at 2-3 GHz

**Insertion Loss** — .30dB max. at 3 GHz

### Mechanical Characteristics

**Engagement Forces** — 14 lbs. [62.3 N] maximum engagement initially.

After 500 matings, 14 lbs. [62.3 N] maximum engagement and 2 lbs. [8.8 N] minimum disengagement for all of SMBs.

**Cable Attachment** —

**Straight Connectors** — Crimp, both center contact and braid

**Right-Angle Connectors** — Crimp on braid and bifurcated solder center contact

**Durability** — 500 cycles per MIL-C-39012

**Contact Captivation** — When captivated, the contacts will withstand 4.0 lbs. minimum axial force.

**Cable Retention** — When properly assembled to the compatible braided coaxial cable, the retention is equal to the breaking strength of the cable.

**Marking** — Per MIL-STD-130

### Environmental Characteristics

**Temperature Rating** — -65°C to +165°C

**Corrosion (salt spray)** — MIL-STD-202, Method 101, test condition B, 5% salt solution

**Vibration High Frequency** — MIL-STD-202, Method 204, test condition B (15 G's)

**Shock** — MIL-STD-202, Method 213, test condition B, 75 G's at 6 milliseconds, 1/2 sine

**Thermal Shock** — MIL-STD-202, Method 107, test condition B, except high temperature shall be +85°C. High temperature shall be +200°C for connectors using 200°C cables.

**Moisture Resistance** — MIL-STD-202, Method 106, when interface gasket is used. No measurements of high humidity. Insulation resistance shall be 200 megohms minimum within five minutes after removal from humidity.

**Durability Test** — Conducted per MIL-C-39012 Reg. Para. 3.15, Method Para. 4.6.12

### Materials

**Body, Body Components and Male Contacts** — Brass, half hard, per QQ-B-626, Alloy 360, Zinc per QQ-Z-363

**Female Contacts** — Beryllium copper per QQ-C-530, heat treated per MIL-H-7199

**Insulators** — TFE fluorocarbon per ASTM D 1710, Type 1, Grade 1

**Lockwashers** — Phosphor bronze per QQ-B-750

**Crimp Ferrule** — Annealed copper alloy per WW-T-799

**Gaskets** — Silicone rubber per ZZ-R-765, Class 11B, Grade 65-75

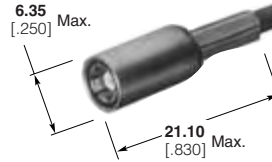
### Plating

**Center Contacts** — 0.00127 [0.00050] min. Gold per MIL-G-452048 Type 1, Grade C, Class 1, over 0.00254 [0.00100] min. nickel per QQ-N-290

**Other Metal Parts** — Gold, Nickel or Solder plated to meet the Finish and Corrosion requirements of MIL-C-39012

## SMB Connectors, 50 Ohm

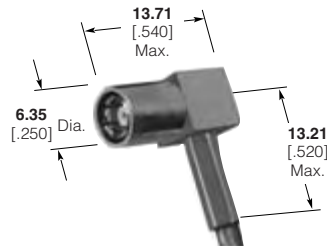
### Straight Plugs



| RG/U Cable                                   | Center Contact Plating | Outer Contact Plating | Other Metal Parts Plating | Dielectric | Style    | Part No.          |
|----------------------------------------------|------------------------|-----------------------|---------------------------|------------|----------|-------------------|
| 178, 178A, 178B, 196, 196A                   | Gold                   | Gold                  | Nickel                    | TEFLON     | MIL Type | <b>413985-6</b>   |
| 174, 316, 188, 188A                          | Gold                   | Gold                  | Gold                      | TEFLON     | MIL Type | <b>413985-1</b>   |
|                                              | Gold                   | Gold                  | Nickel                    | TEFLON     | MIL Type | <b>413985-3</b>   |
|                                              | Gold                   | Nickel                | Nickel                    | TEFLON     | MIL Type | <b>413985-7</b>   |
|                                              | Gold                   | Gold                  | Nickel                    | TEFLON     | Die Cast | <b>414946-1</b>   |
|                                              | Gold                   | Nickel                | Nickel                    | TEFLON     | Die Cast | <b>5414946-2</b>  |
| 179, 179A, 179B, 161, 187, 187A, BELDEN 9221 | Gold                   | Gold                  | Nickel                    | TEFLON     | MIL Type | <b>1-413985-1</b> |
|                                              | Gold                   | Gold                  | Nickel                    | TEFLON     | Die Cast | <b>5414946-5</b>  |
|                                              | Gold                   | Nickel                | Nickel                    | TEFLON     | Die Cast | <b>5414946-6</b>  |
| RG 316, 188 Double Braid                     | Gold                   | Gold                  | Gold                      | TEFLON     | MIL Type | <b>413985-2</b>   |
|                                              | Gold                   | Gold                  | Nickel                    | TEFLON     | MIL Type | <b>413985-4</b>   |
|                                              | Gold                   | Gold                  | Nickel                    | TEFLON     | Die Cast | <b>5414946-3</b>  |
|                                              | Gold                   | Nickel                | Nickel                    | TEFLON     | MIL Type | <b>413985-8</b>   |

### Right-Angle Plugs

#### MIL Type



#### Die Cast



| RG/U Cable                                                        | Center Contact Plating | Outer Contact Plating | Other Metal Parts Plating | Dielectric | Style    | Part No.         |
|-------------------------------------------------------------------|------------------------|-----------------------|---------------------------|------------|----------|------------------|
| 178, 178A, 178B, 196, 196A                                        | Gold                   | Gold                  | Gold                      | TEFLON     | MIL Type | <b>414002-7</b>  |
|                                                                   | Gold                   | Gold                  | Nickel                    | TEFLON     | MIL Type | <b>414002-8</b>  |
|                                                                   | Gold                   | Gold                  | Nickel                    | TEFLON     | Die Cast | <b>5414363-8</b> |
| 174, 316, 188, 188A, 179, 179A, 179B, 161, 187, 187A, BELDEN 9221 | Gold                   | Gold                  | Gold                      | TEFLON     | MIL Type | <b>414002-1</b>  |
|                                                                   | Gold                   | Gold                  | Nickel                    | TEFLON     | MIL Type | <b>414002-3</b>  |
|                                                                   | Gold                   | Nickel                | Nickel                    | TEFLON     | MIL Type | <b>414002-5</b>  |
|                                                                   | Gold                   | Gold                  | Nickel                    | TEFLON     | Die Cast | <b>5414363-3</b> |
|                                                                   | Gold                   | Nickel                | Nickel                    | TEFLON     | Die Cast | <b>5414363-5</b> |
| RG 316, 188 Double Braid                                          | Gold                   | Gold                  | Gold                      | TEFLON     | MIL Type | <b>414002-2</b>  |
|                                                                   | Gold                   | Gold                  | Nickel                    | TEFLON     | MIL Type | <b>414002-4</b>  |
|                                                                   | Gold                   | Gold                  | Nickel                    | TEFLON     | Die Cast | <b>5414363-4</b> |

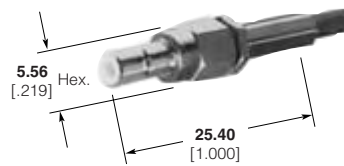
BELDEN is a trademark of Belden Wire and Cable Company.  
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**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

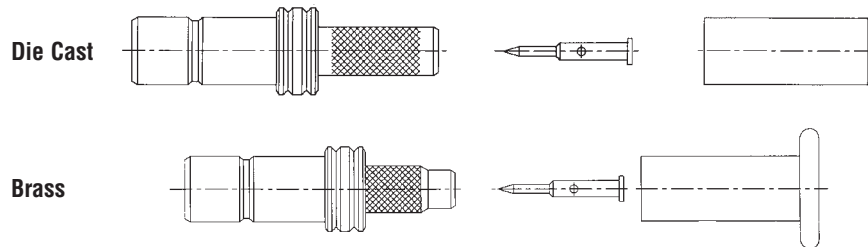
## SMB Connectors, 50 Ohm (Continued)

### Straight Jacks

#### Commercial Jack

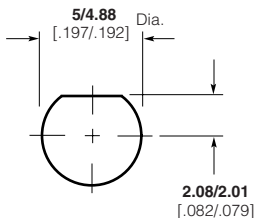


#### MIL Type Jack

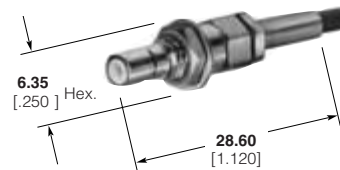


| RG/U Cable                 | Center Contact Plating | Body Plating | Dielectric | Style      | Jack Part No.    |
|----------------------------|------------------------|--------------|------------|------------|------------------|
| 178, 178A, 178B, 196, 196A | Gold                   | Nickel       | TEFLON     | MIL Type   | <b>5414170-2</b> |
| 174, 316, 188, 188A        | Gold                   | Nickel       | TEFLON     | MIL Type   | <b>5414170-1</b> |
|                            | Gold                   | Nickel       | TEFLON     | Die Cast   | <b>414948-1</b>  |
| RD 316, 188 Double Braid   | Gold                   | Nickel       | TEFLON     | Commercial | <b>414948-3</b>  |

### Bulkhead Jacks



Maximum Panel Thickness **2.36** [.093]  
**Recommended Panel Cutout for Bulkhead Jack and Adapter**



| RG/U Cable               | Center Contact Plating | Body Plating | Dielectric | Style      | Bulkhead Jack Part No. |
|--------------------------|------------------------|--------------|------------|------------|------------------------|
| 174, 316, 188, 188A      | Gold                   | Nickel       | TEFLON     | Commercial | <b>5415006-1</b>       |
|                          | Gold                   | Nickel       | TEFLON     | Commercial | <b>5228217-1</b>       |
| RD 316, 188 Double Braid | Gold                   | Nickel       | TEFLON     | Commercial | <b>5415006-2</b>       |

### Bulkhead Jack Adapter (Jack-Jack)



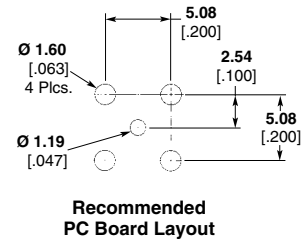
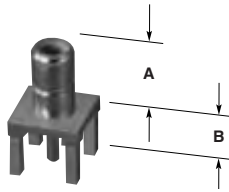
| Type         | Center Contact Plating | Body Plating | Dielectric | Style    | Part No.        |
|--------------|------------------------|--------------|------------|----------|-----------------|
| Jack-To-Jack | Gold                   | Nickel       | TEFLON     | MIL Type | <b>228553-1</b> |
|              | Gold                   | Gold         | TEFLON     | MIL Type | <b>228553-2</b> |

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**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

## SMB Connectors, 50 Ohm (Continued)

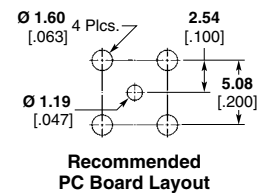
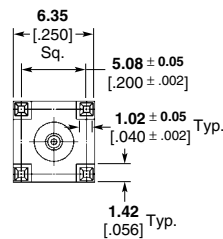
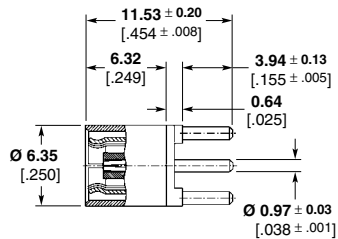
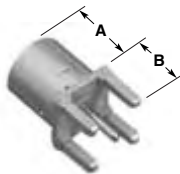
### PC Board Vertical Jacks



### Jacks

| Type | Center<br>Contact<br>Plating | Body<br>Plating | Dim.<br>A     | Dim.<br>B         | Dielectric | Style             | Part<br>No. |
|------|------------------------------|-----------------|---------------|-------------------|------------|-------------------|-------------|
| —    | Gold                         | Gold            | 7.62<br>.300  | 3.94<br>.155      | TEFLON     | MIL Type          | 413990-1    |
| —    | Gold                         | Nickel          | 7.62<br>.300  | 3.94<br>.155      | TEFLON     | MIL Type          | 413990-2    |
| —    | Gold                         | Nickel          | 10.16<br>.400 | 2.54<br>.100      | TEFLON     | MIL Type          | 414612-2    |
| —    | Gold                         | Tin             | 3.94<br>.155  | 8.25<br>.325 Max. | TEFLON     | Brass,<br>Stamped | 5221111-1   |

### PC Board Vertical Plugs



### Plugs

| Type                             | Center<br>Contact<br>Plating | Body<br>Plating | Dim.<br>A    | Dim.<br>B    | Dielectric | Recommended<br>PC Board<br>Layout | Style    | Part<br>No. |
|----------------------------------|------------------------------|-----------------|--------------|--------------|------------|-----------------------------------|----------|-------------|
| Low Profile (Plug)<br>Mated Pair | Gold                         | Nickel          | 3.94<br>.155 | 7.62<br>.300 | TEFLON     | B                                 | MIL Type | 415774-1    |

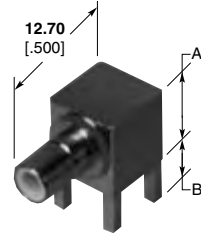
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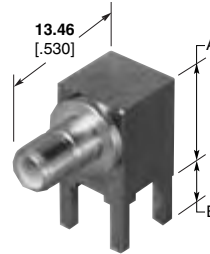
## SMB Connectors, 50 Ohm (Continued)

### PC Board, Right-Angle Jacks

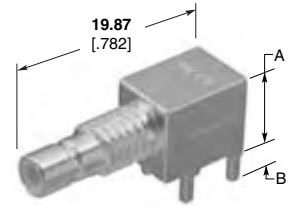
#### Jack Low Profile



#### Jack with Standoff Pads



#### Bulkhead Jack

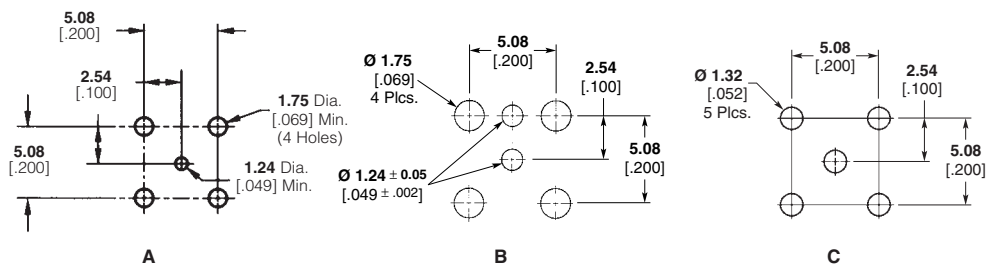
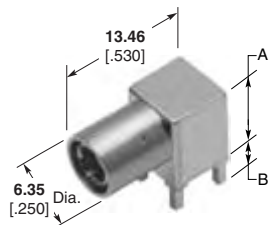


#### Jacks

| Type               | Center Contact Plating | Interface Body Plating | PCB Leg Plating | Dielectric    | Dim. A       | Dim. B       | Style          | Recommended PC Board Layout | Part No.   |
|--------------------|------------------------|------------------------|-----------------|---------------|--------------|--------------|----------------|-----------------------------|------------|
| Low Profile        | Gold                   | Gold                   | Gold            | TEFLON        | 7.11<br>.280 | 3.94<br>.155 | MIL Type       | A                           | 413996-2   |
|                    | Gold                   | Nickel                 | Nickel          | TEFLON        | 7.11<br>.280 | 3.94<br>.155 | MIL Type       | A                           | 413996-4   |
|                    | Gold                   | Gold                   | Gold            | TEFLON        | 7.11<br>.280 | 2.79<br>.110 | Die Cast       | A                           | 415340-1   |
|                    | Gold                   | Gold                   | Gold            | TEFLON        | 8.76<br>.345 | 2.79<br>.110 | Die Cast       | A                           | 415672-1   |
| With Standoff Pads | Gold                   | Gold                   | Gold            | TEFLON        | 8.51<br>.335 | 3.94<br>.155 | MIL Type       | A                           | 414026-2   |
|                    | Gold                   | Nickel                 | Nickel          | TEFLON        | 8.76<br>.345 | 3.94<br>.155 | MIL Type       | A                           | 414026-3   |
|                    | Gold                   | Nickel                 | Tin-Lead        | TEFLON        | 8.76<br>.345 | 3.94<br>.155 | Die Cast       | A                           | 5414337-1  |
|                    | Gold                   | Nickel                 | Nickel          | TEFLON        | 8.76<br>.345 | 2.79<br>.110 | Die Cast       | B                           | 5415379-1* |
|                    | Gold                   | Nickel                 | Nickel          | TEFLON        | 8.51<br>.335 | 3.94<br>.155 | Die Cast       | A                           | 415381-1 ♦ |
| Bulkhead           | Gold                   | Gold                   | Gold            | TEFLON        | 7.67<br>.302 | 2.79<br>.110 | Die Cast       | A                           | 414963-1   |
| Commercial         | Gold                   | Nickel                 | Tin             | Polypropylene | 9.78<br>.385 | 3.94<br>.155 | Brass, Stamped | C                           | 5228435-1  |
| Bulkhead           | Gold                   | Gold                   | Gold            | TEFLON        | 7.67<br>.302 | 2.79<br>.110 | Die Cast       | A                           | 1274330-1  |

\* 5 leg design

### PC Board, Right-Angle Plug



#### Recommended PC Board Layouts

#### Plugs

| Center Contact Plating | Interface Body Plating | PCB Leg Plating | Dielectric | Dim. A       | Dim. B       | Style    | Recommended PC Board Layout | Part No.  |
|------------------------|------------------------|-----------------|------------|--------------|--------------|----------|-----------------------------|-----------|
| Gold                   | Nickel                 | Nickel          | TEFLON     | 8.76<br>.345 | 2.79<br>.110 | Die Cast | B                           | 415380-1* |
| Gold                   | Nickel                 | Tin             | TEFLON     | 8.76<br>.345 | 3.94<br>.155 | Die Cast | A                           | 5414338-1 |

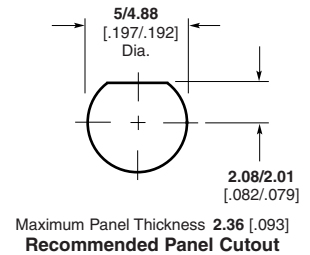
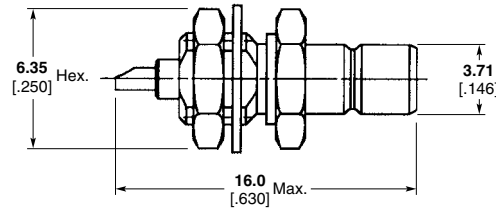
\* 5 leg design

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**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

## SMB Connectors, 50 Ohm (Continued)

### Bulkhead PC Board Jack, Solder Receptacle Kits



### Kit Includes Lockwasher and Jam Nut

#### Lockwasher and Jam Nut



Part No.  
415001-2

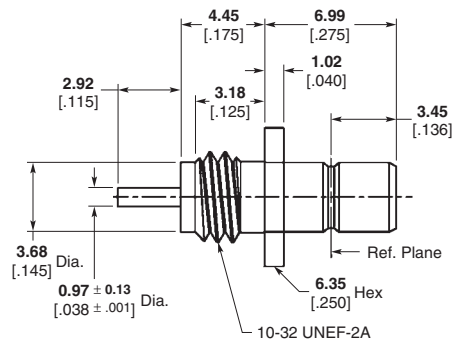


Part No.  
414969-2

| Type        | Center Contact Plating | Body Plating | Dielectric | Style    | Kit Part No. |
|-------------|------------------------|--------------|------------|----------|--------------|
| Front Mount | Gold                   | Nickel       | TEFLON     | MIL Type | 228216-1*    |
| Rear Mount  | Gold                   | Nickel       | TEFLON     | MIL Type | 228215-1*    |

\*includes Jam Nut and Lockwasher

### SMB Receptacle Jack



| Type        | Center Contact Plating | Body Plating | Dielectric | Style    | Part No. |
|-------------|------------------------|--------------|------------|----------|----------|
| Front Mount | Gold                   | Nickel       | TEFLON     | MIL Type | 414895-1 |

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## SMB Connectors, Mini 75 Ohm

### Product Facts

- Industry standard for miniature 75 ohm SMB
- SMB offers snap-fit coupling for quick connect/disconnect
- Suitable for high density applications
- Fast easy cable assembly
- Low VSWR
- Connectors offer consistent mating and unmating forces
- Straight plugs and jacks are completely crimp terminated
- Low cost

Mini 75 ohm SMB connectors are ideally suited for circuit miniaturization in communication, broadband and switching equipment as well as a variety of other applications.

They offer the same low consistent mating/unmating force as Tyco Electronics standard SMB products and therefore, outer contact resistance values are maintained from connector to connector.

Standard military, commercial or Tyco Electronics tooling can be used to terminate these products. Cost effective assembly of the straight plugs is completed with a crimp center contact and hex crimp on the outer braid. Right-angle plugs have a hex crimp on the outer braid ferrule and bifurcated solder center contacts.



### Electrical Characteristics

**Impedance** — 75 ohms

**Frequency Range** — 0 to 4.0 GHz

**Insulation Resistance** — 1000 megohms

**Contact Current Rating** — 1.5 amps DC max.

### Mechanical Characteristics

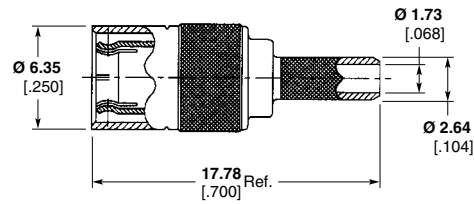
**Engagement Forces** — Initial—14.0 lbs. [62.3 N] maximum engagement.  
After 500 matings, 14.0 lbs. [62.3 N] maximum engagement.  
Durability—500 cycles

### Environmental Characteristics

**Temperature Rating** — -65°C to +165°C

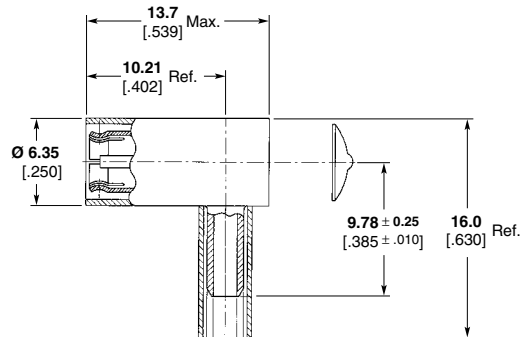
## SMB Connectors, Mini 75 Ohm (Continued)

### Straight Plug



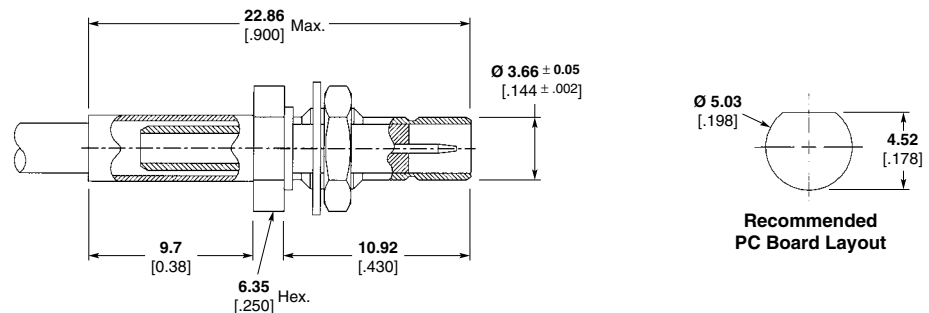
| RG Cable | Center Contact Plating | Outer Contact Plating | Body Plating | Part No.  |
|----------|------------------------|-----------------------|--------------|-----------|
| 179, 187 | Gold                   | Gold                  | Nickel       | 5415487-1 |
| 179, 187 | Gold                   | Nickel                | Nickel       | 5415487-2 |
| RD 179   | Gold                   | Nickel                | Nickel       | 5415487-3 |

### Right-Angle Plug



| RG Cable | Center Contact Plating | Outer Contact Plating | Body Plating | Part No.  |
|----------|------------------------|-----------------------|--------------|-----------|
| 179, 187 | Gold                   | Nickel                | Nickel       | 5415484-1 |
| 179, 187 | Gold                   | Gold                  | Nickel       | 5415484-2 |
| RD 179   | Gold                   | Gold                  | Nickel       | 5415484-3 |

### Bulkhead Jack

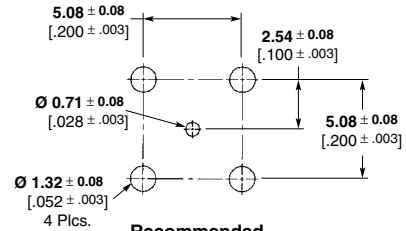
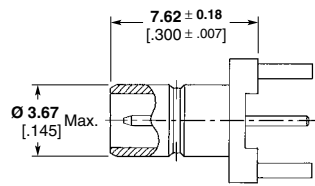


| RG Cable | Center Contact Plating | Body Plating | Part No. |
|----------|------------------------|--------------|----------|
| 179, 187 | Gold                   | Nickel       | 415500-1 |

**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

## SMB Connectors, Mini 75 Ohm (Continued)

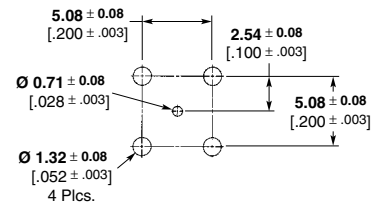
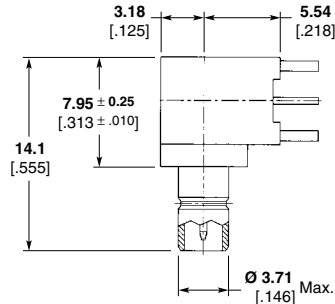
### Vertical PC Board Jacks



**Recommended  
PC Board Layout**

| Leg Length   | Center Contact Plating | Body Plating | Part No. |
|--------------|------------------------|--------------|----------|
| 2.11<br>.083 | Gold                   | Gold Flash   | 415504-2 |
| 3.05<br>.120 | Gold                   | Gold         | 415504-3 |
| 3.05<br>.120 | Gold                   | Gold Flash   | 415504-4 |

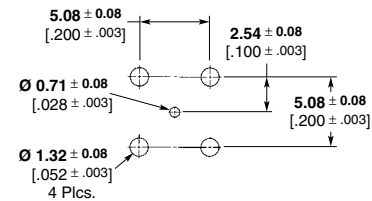
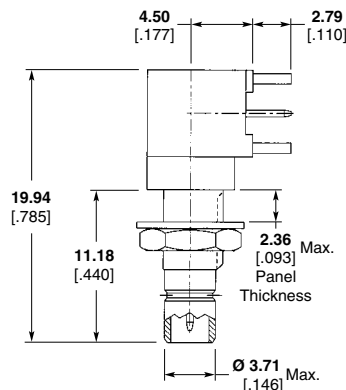
### Right-Angle PC Board Jacks



**Recommended  
PC Board Layout**

| Leg Length   | Center Contact Plating | Body Plating | Part No. |
|--------------|------------------------|--------------|----------|
| 2.79<br>.110 | Gold                   | Gold         | 415490-1 |
| 2.79<br>.110 | Gold                   | Nickel       | 415490-2 |
| 2.11<br>.083 | Gold                   | Gold         | 415490-3 |
| 2.11<br>.083 | Gold                   | Nickel       | 415490-4 |

### Right-Angle PC Board Bulkhead Jacks



**Recommended  
PC Board Layout**

| Leg Length   | Center Contact Plating | Body Plating | Part No.  |
|--------------|------------------------|--------------|-----------|
| 2.79<br>.110 | Gold                   | Nickel       | 415377-1  |
| 2.79<br>.110 | Gold                   | Gold         | 415377-2  |
| 2.79<br>.110 | Gold                   | Gold         | 415377-5* |

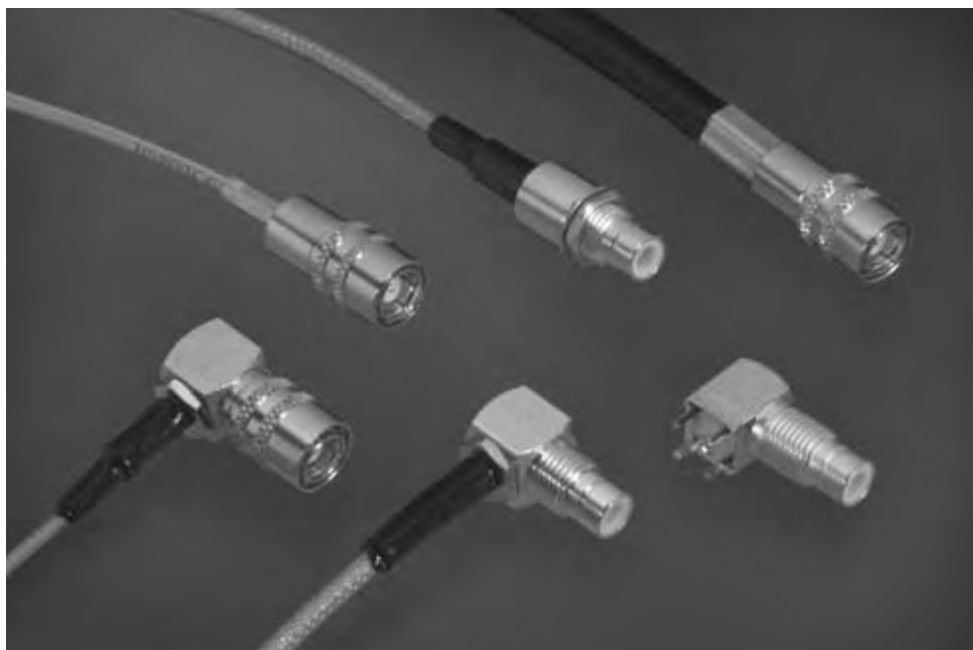
**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

\*Isolated.

## SMB Connectors, 75 Ohm BT 43 (SMZ)

### Product Facts

- Widely used in data transmission and telecommunication applications
- BT 43 connector developed from the SMB range and feature snap-on and latching variant
- Most BT 43 connectors are available as fully crimped connectors.
- BT 43 and 75  $\Omega$  connectors available in solder and crimp versions



The Tyco Electronics range of 75 ohm SMB (SMZ) connectors are designed to meet the increasing demands of the Telecommunications market, and are designed in accordance with BS9210 F0022.

### Specifications

**Max working voltage (dc)** — 500 V

**Max proof voltage (dc)** — 1.5 kV

**Contact resistance (inner)** —  
5 milliohm

**Contact resistance (outer)** —  
1 milliohm

**Bodies and other parts** — Brass

### Female center contacts —

Copper Alloy

### Male center contacts —

Copper Alloy

**Outer contacts** — BeCu

### Plating —

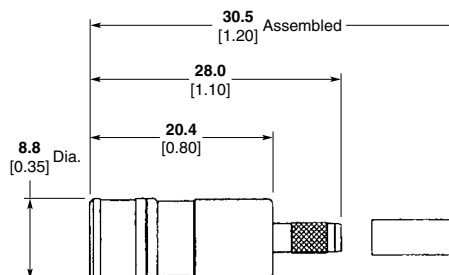
Contacts and critical surfaces — Gold

Other parts — Nickel

**Insulators** — P.T.F.E.

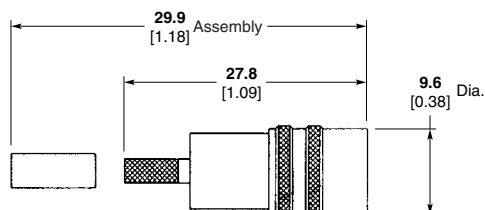
## SMB Connectors, 75 Ohm BT 43 (SMZ) (Continued)

### Straight Plugs, Snap-On



| Cable Type | Termination Method |       | Body Plating   | Part No.         |
|------------|--------------------|-------|----------------|------------------|
|            | Inner              | Outer |                |                  |
| RG 179B/U  | Crimp              | Crimp | Selective Gold | <b>1311097-1</b> |
| BT2002     | Crimp              | Crimp | Selective Gold | <b>1311098-1</b> |

### Straight Plugs, Latching, Crimp/Crimp

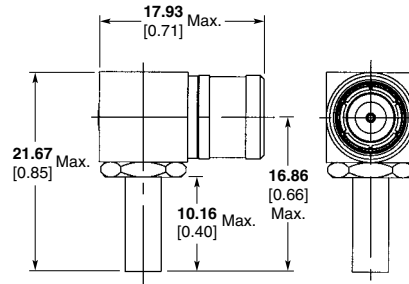


| Cable Type                   | Body Plating   | Part No          |
|------------------------------|----------------|------------------|
| RG 179B/U                    | Selective Gold | <b>1311099-1</b> |
| BT2003                       | Selective Gold | <b>1311100-1</b> |
| BT2002                       | Selective Gold | <b>1311101-1</b> |
| BT2001                       | Selective Gold | <b>1311696-1</b> |
| BT3002, TZC75024             | Selective Gold | <b>1311102-1</b> |
| RG 59B/U,<br>RG 140/U, URM90 | Selective Gold | <b>1313507-1</b> |

**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

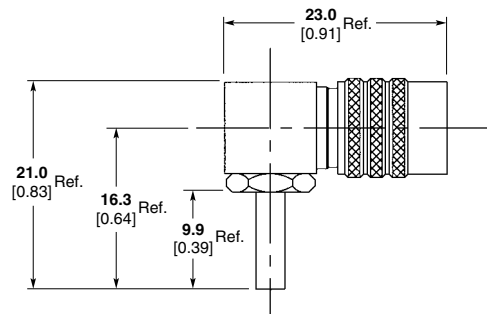
## SMB Connectors, 75 Ohm BT 43 (SMZ) (Continued)

### Right-Angle Socket, Snap-On, Solder/Crimp



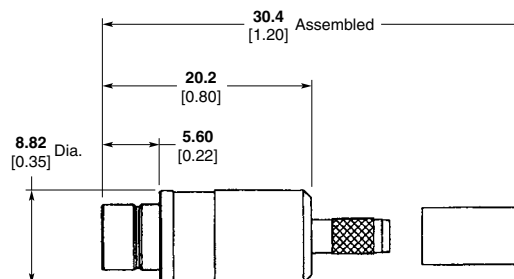
| Cable Type       | Body Plating   | Part No   |
|------------------|----------------|-----------|
| RG 179B/U        | Selective Gold | 1311103-1 |
| BT3002, TZC75024 | Selective Gold | 1311104-1 |

### Right-Angle Socket, Latching, Solder/Crimp



| Cable Type         | Body Plating   | Part No   |
|--------------------|----------------|-----------|
| RG 179B/U          | Selective Gold | 1311106-1 |
| BT2003             | Selective Gold | 1311698-1 |
| BT3002, TZC75024   | Selective Gold | 1311111-1 |
| RG 59B/U, RG 140/U | Selective Gold | 1313508-1 |

### Straight Free Plug, Crimp/Crimp

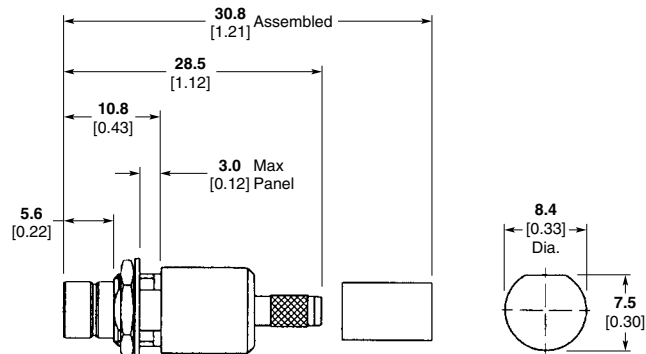


| Cable Type | Body Plating   | Part No   |
|------------|----------------|-----------|
| RG 179B/U  | Selective Gold | 1408041-1 |

**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

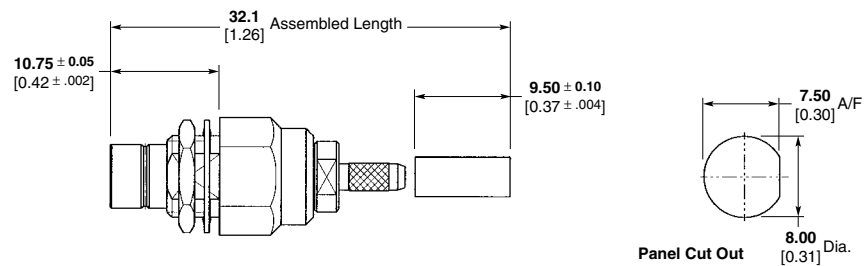
## SMB Connectors, 75 Ohm BT 43 (SMZ) (Continued)

### Straight Bulkhead Plug



Mounting Detail

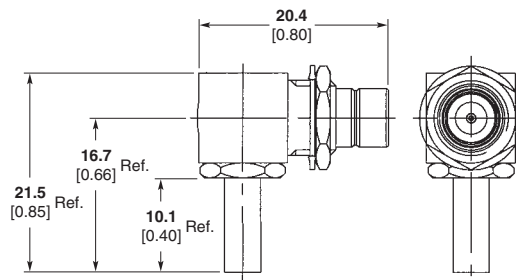
| Cable Type              | Termination Method |       | Body Plating   | Part No.  |
|-------------------------|--------------------|-------|----------------|-----------|
|                         | Inner              | Outer |                |           |
| RG 179B/U               | Crimp              | Crimp | Selective Gold | 1311120-1 |
| BT500B, BT2003, BT2003A | Crimp              | Crimp | Selective Gold | 1311701-1 |
| BT3002, TZC75024        | Crimp              | Crimp | Selective Gold | 1311122-1 |



Panel Cut Out

| Cable Type                       | Termination Method |       | Body Plating   | Part No.  |
|----------------------------------|--------------------|-------|----------------|-----------|
|                                  | Inner              | Outer |                |           |
| 3M: 043, 031C, CS4456, Gore: GCX | Crimp              | Crimp | Selective Gold | 1313511-1 |

### Right-Angle Bulkhead Plug, Solder/Crimp

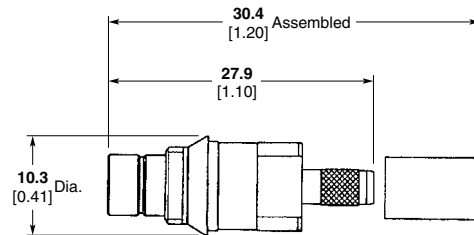


| Cable Type | Body Plating   | Part No   |
|------------|----------------|-----------|
| RG 179B/U  | Selective Gold | 1311115-1 |

**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

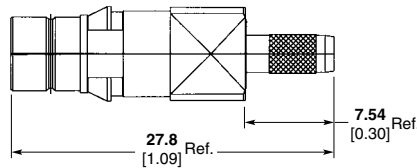
## SMB Connectors, 75 Ohm BT 43 (SMZ) (Continued)

### DDF Plug, Crimp/Crimp



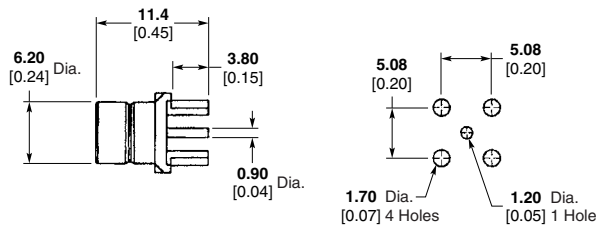
| Cable Type                | Body Plating   | Part No   |
|---------------------------|----------------|-----------|
| RG 179B/U                 | Selective Gold | 1327083-1 |
| BT2003                    | Selective Gold | 1311117-1 |
| BT2002                    | Selective Gold | 1311700-1 |
| B2001                     | Selective Gold | 1313883-1 |
| BT3002, TZC75024          | Selective Gold | 1311118-1 |
| RG 59B/U, RG 140/U, URM90 | Selective Gold | 1313887-1 |

### DDF Plug, Crimp/Crimp



| Cable Type                                                           | Body Plating   | Part No   |
|----------------------------------------------------------------------|----------------|-----------|
| RD179, 124431 (Filotex), 1366 (Orebro), K02253D-1, K02253-2 (Shuner) | Selective Gold | 1314422-1 |

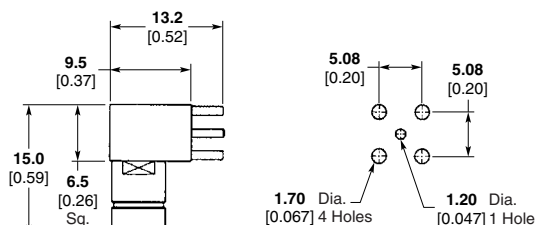
### PC Board Plug 43/1D



Mounting Detail

| Body Plating   | Part No.  |
|----------------|-----------|
| Selective Gold | 1311125-1 |

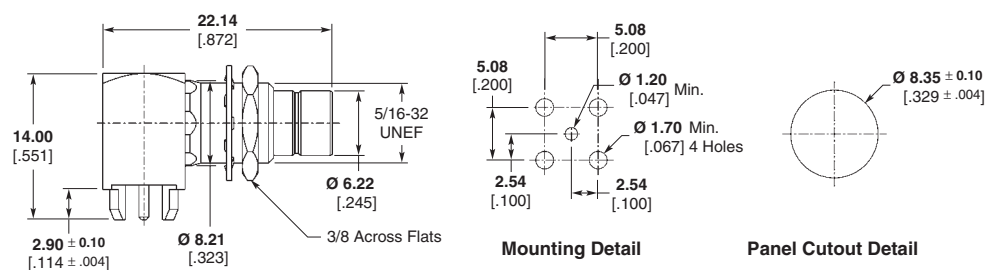
### PC Board Plug 43/1E



Mounting Detail

| Body Plating   | Part No.  |
|----------------|-----------|
| Selective Gold | 1314103-1 |

### Right-Angle PC Board Plug



Mounting Detail

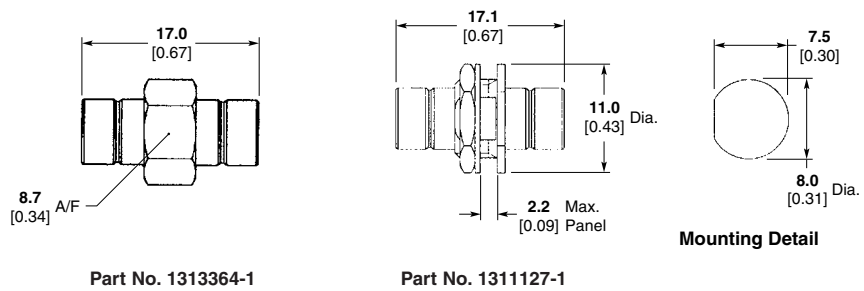
Panel Cutout Detail

Part No. 1314102-1

**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

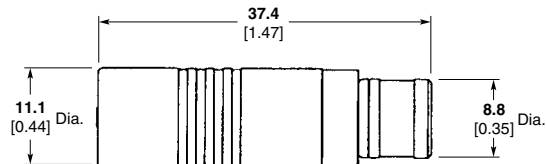
## SMB Connectors, 75 Ohm BT 43 (SMZ) (Continued)

### Straight Adapter Plug-Plug



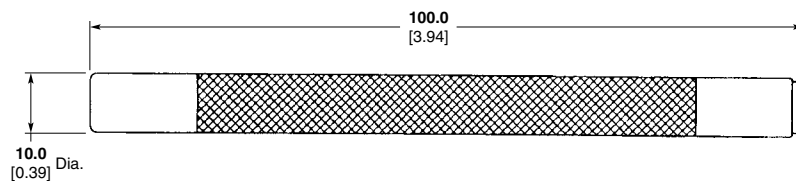
| Body Plating   | Part No.  |
|----------------|-----------|
| Selective Gold | 1313364-1 |
| Selective Gold | 1311127-1 |

### Tester 430A



| Body Plating      | Part No.    |
|-------------------|-------------|
| Selective Plating | 6-1311703-1 |

### Extraction Tool 65A



| Part No.    |
|-------------|
| 1311164-1 ♦ |

**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

## SMB Connector Crimp Tooling

50 Ω/75 Ω

| RG/U Cable                                  | Commercial Connector Tooling                           |                                           |          |                                                        |          |                                              | MIL Type Connector Tooling   |                            |                   |                                                        |          |                   |                      |
|---------------------------------------------|--------------------------------------------------------|-------------------------------------------|----------|--------------------------------------------------------|----------|----------------------------------------------|------------------------------|----------------------------|-------------------|--------------------------------------------------------|----------|-------------------|----------------------|
|                                             | Center Contact Crimp Tooling                           |                                           |          | Braid Crimp Tooling                                    |          |                                              | Center Contact Crimp Tooling |                            |                   | Braid Crimp Tooling                                    |          |                   |                      |
|                                             | Dies for Tyco Electronics PRO-CRIMPER Hand Tool Number | MIL-C-22520/2-01 Tool DANIELS* Positioner | Position | Dies for Tyco Electronics PRO-CRIMPER Hand Tool Number | Position | MIL-C-22520/5-01 Tool DANIELS* Hex Crimp Die | DANIELS* Hand Tool           | DANIELS* Positioner Number | Selector Position | Dies for Tyco Electronics PRO-CRIMPER Hand Tool Number | Position | DANIELS Hand Tool | Hex Die Across Flats |
|                                             |                                                        |                                           |          |                                                        |          |                                              |                              |                            |                   |                                                        |          |                   |                      |
| 178, 178A, 178B, 196, 196A                  | 58489-1                                                | Female-K699 Male-K727                     | 4        | 58489-1                                                | A&B      | Y624                                         | AFM8                         | Female-K699 Male-K727      | 4                 | 58483-1                                                | A        | HX4-1637          | 2.67 .105            |
| Double Braid 178, 196                       | —                                                      | —                                         | —        | —                                                      | —        | —                                            | AFM8                         | Female-K699 Male-K727      | 4                 | 58483-1                                                | B        | HX4-1637          | 3.25 .128            |
| 174, 316 188, 188A                          | 58489-1                                                | Female-K699 Male-K727                     | 4        | 58489-1                                                | A        | Y444                                         | AFM8                         | Female-K699 Male-K727      | 4                 | 58483-1                                                | B        | HX4-1637          | 3.25 .128            |
| Double Braid 174, 316, 188                  | 58489-1                                                | Female-K699                               | 4        | 58489-1                                                | C        | Y196 Location A                              | AFM8                         | Female-K699                | 4                 | 58483-1                                                | C        | HX4-1637          | 3.84 .151            |
| Double Braid 174, 316, 188                  | 58489-1                                                | Male-K727                                 | 4        | 58489-1                                                | C        | Y196 Location A                              | AFM8                         | Solder                     | —                 | 58483-1                                                | B        | HX4-1637          | 3.25 .128            |
| 179, 179A 179B, 161, 187, 187A, BELDEN 9221 | 58489-1                                                | Female-K699                               | 4        | 58489-1                                                | A        | Y444                                         | AFM8                         | Female-K699                | 4                 | 58483-1                                                | B        | HX4-1637          | 3.25 .128            |
| 179, 179A 179B, 161, 187, 187A, BELDEN 9221 | 58489-1                                                | Male-K727                                 | 4        | 58489-1                                                | A        | Y444                                         | —                            | Solder                     | —                 | 58483-1                                                | B        | HX4-1637          | 3.25 .128            |
| 180, 180A 180B                              | —                                                      | —                                         | —        | —                                                      | —        | —                                            | —                            | Solder                     | —                 | 58483-1                                                | C        | HX4-1637          | 3.84 .151            |
| <b>Mini SMB 75 ohm</b>                      |                                                        |                                           |          |                                                        |          |                                              |                              |                            |                   |                                                        |          |                   |                      |
| 179, 187                                    | —                                                      | Female-K699                               | —        | 58483-1                                                | B        | HX4-1637                                     | —                            | —                          | —                 | —                                                      | —        | —                 | —                    |
| 179, 187                                    | —                                                      | Solder Center Contact                     | —        | 58483-1                                                | B        | HX4-1637                                     | —                            | —                          | —                 | —                                                      | —        | —                 | —                    |

**Note:** All 75 ohm SMB connectors have a solder center contact.

\* DANIELS Manufacturing Corporation Telephone: 407-855-6161  
6103 Anno Avenue FAX: 407-855-6884  
Orlando, Florida 32809

**Note:** Equivalent military tool part numbers—  
M22520/5-01 – DANIELS Hand Tool HX4  
M22520/5-33 – DANIELS Die Set Y136

M22520/5-37 – DANIELS Die Set Y138  
M22520/5-41 – DANIELS Die Set Y140  
M22520/5-03 – DANIELS Die Set Y196  
M22520/2-01 – DANIELS Hand Tool AFM8

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DANIELS is a trademark of Daniels Manufacturing Corporation.

**Note:** Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

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### Офис по работе с юридическими лицами:

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