

# Amphenol AIT/MS Series MIL-DTL-5015



## ENVIRONMENTALLY-SEALED FOR CHALLENGING ENVIRONMENTS

The MIL-DTL-5015 AIT/MS series is a cost-effective threaded circular connector for use in harsh environments. These Amphenol connectors are sealed to withstand moisture, condensation, vibration and flash-over. Over 286 contact layouts are available, in variations that allow for just power, just signal, or a mix of both contact types. Available in five mounting styles, nineteen shell sizes, and solder or crimp termination.

- Formerly MIL-C-5015

## APPLICATIONS

Military, industrial and commercial environments requiring extreme reliability, high-power handling and cost efficiency.

- Power generators
- Engines
- Sensors
- Motion control
- Off-road vehicles
- Earth-moving equipment
- Ships
- Mobile equipment
- Industrial machinery
- Telecommunications

## FEATURES

### AGENCY APPROVALS

MIL-DTL-5015 (Formerly MIL-C-5015)

### BROAD TEMPERATURE RANGE

These connectors will operate in temperatures ranging from -67°F to +257°F (-55°C to +125°C).

### ENVIRONMENTAL

These connectors will perform in the full range of operating conditions as defined in MIL-DTL-5015 and are recommended for conditions where vibration, moisture, pressure and/or temperature are extreme.

### RESILIENT INSULATOR AND GROMMET

A resilient neoprene insulator and rear-seal grommet provide a liquid-tight assembly.

### RUGGED SHELL

The rugged aluminum alloy shell and hardware are light in weight yet highly resistant to damage and corrosion. Shells are available in five different styles and in 19 sizes.

### WIDE RANGE OF WIRE GAUGES AND CURRENT CARRYING CAPACITY

Up to 150 amps for standard military contacts and up to 255 amps using Radsok® contacts. Wire gauges from 24 to size 0 AWG.

### WIDE VARIETY OF CONTACTS

Machined contacts with silver or gold plating are available in sizes from 16 through 0. Solder, Crimp, PC, and thermocouple contacts are available.

TECHNICAL  
SPECIFICATIONS

## MATERIALS &amp; FINISHES

|           |                                                                                                                                               |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| Shell     | Aluminum alloy                                                                                                                                |
| Plating   | Olive drab chromate coating over cadmium plating to QQ-P-416; black alloy, conductive black alloy, electroless nickel, anodized or green zinc |
| Contacts  | Brass or copper alloy                                                                                                                         |
| Platings  | Silver plating to QQ-S-365 (solder contacts have tinned solder pot)<br>Gold plating to MIL-G-45204                                            |
| Insulator | Resilient Neoprene®, Viton®, low-smoke, zero-halogen (LSZH)                                                                                   |

## ELECTRICAL DATA

Operating Voltage/Test Voltage

| MS<br>SERVICE<br>RATING | NOMINAL<br>DISTANCE (IN.) |          | OPERATING<br>VOLTAGE* |            | STANDARD<br>SEA LEVEL<br>CONDITIONS         |                             | PRESSURE<br>ALTITUDE†<br>50,000 FEET        |                             | PRESSURE<br>ALTITUDE†<br>70,000 FEET        |                             |
|-------------------------|---------------------------|----------|-----------------------|------------|---------------------------------------------|-----------------------------|---------------------------------------------|-----------------------------|---------------------------------------------|-----------------------------|
|                         | AIRSPACE                  | CREEPAGE | DC V                  | AC<br>VRMS | MINIMUM<br>FLASHOVER<br>VOLTAGE<br>AC (RMS) | TEST<br>VOLTAGE<br>AC (RMS) | MINIMUM<br>FLASHOVER<br>VOLTAGE<br>AC (RMS) | TEST<br>VOLTAGE<br>AC (RMS) | MINIMUM<br>FLASHOVER<br>VOLTAGE<br>AC (RMS) | TEST<br>VOLTAGE<br>AC (RMS) |
| I                       | 1/32                      | 1/16     | 250                   | 200        | 1,400                                       | 1,000                       | 550                                         | 400                         | 325                                         | 260                         |
| A                       | 1/16                      | 1/8      | 700                   | 500        | 2,800                                       | 2,000                       | 800                                         | 600                         | 450                                         | 360                         |
| D                       | 1/8                       | 3/16     | 1,250                 | 900        | 3,600                                       | 2,800                       | 900                                         | 675                         | 500                                         | 400                         |
| E                       | 3/16                      | 1/4      | 1,750                 | 1,250      | 4,500                                       | 3,500                       | 1,000                                       | 750                         | 550                                         | 440                         |
| B                       | 1/4                       | 5/16     | 2,450                 | 1,750      | 5,700                                       | 4,500                       | 1,100                                       | 825                         | 600                                         | 480                         |
| C                       | 5/16                      | 1        | 4,200                 | 3,000      | 8,500                                       | 7,000                       | 1,300                                       | 975                         | 700                                         | 560                         |

\* Each insulator has a specific service rating. These should be used by the designer only as a guide.

The Service Ratings for each layout are listed on ➔ [pages 72-93](#).

† Not corrected for change in density resulting from variations in temperature

**MS connectors show no evidence of breakdown when the given test voltages are applied between the two closest contacts and between the shell and the contacts closest to the shell for a period of one minute, per MIL-STD-1344 Method 3001.**

Current Rating &amp; Contact Resistance

| CONTACT<br>SIZE | TEST CURRENT<br>(AMPS) | POTENTIAL DROP<br>(MILLIVOLTS) | CONTACT RESISTANCE<br>(MILLIOHM) MAX. |
|-----------------|------------------------|--------------------------------|---------------------------------------|
| 16              | 13                     | 49                             | 6                                     |
| 12              | 23 (50*)               | 42                             | 3                                     |
| 8               | 46 (69*)               | 26 (20*)                       | 1 (0.44*)                             |
| 4               | 80 (80*)               | 23 (18*)                       | 0.5 (0.23*)                           |
| 0               | 150 (225*)             | 21 (27*)                       | 0.2 (0.18*)                           |

\*Using non-military crimp Radsok contact

Maximum total current to be carried per connector in wire bundles as specified in MIL-W-5088.  
Contact resistance when tested to MIL-C-39029 will not exceed voltage drops listed in above table.

Viton® is a registered trademark of Dupont Dow Elastomers

# TECHNICAL SPECIFICATIONS

## MECHANICAL

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| Wire Range Sizes      | 24 to 0 AWG (⇒ crimp contacts on pages 30-31)       |
| Insulation Resistance | >5000 megohms at 77°F (25°C) per MIL-DTL-5015, 3.18 |
| Wire Sealing Range    |                                                     |

| CONTACT SIZE | WIRE SIZE<br>(MIL-W-5086) | INSULATION OUTSIDE DIAMETER LIMIT |       |      |       |
|--------------|---------------------------|-----------------------------------|-------|------|-------|
|              |                           | MIN.                              |       | MAX. |       |
|              |                           | IN.                               | MM.   | IN.  | MM.   |
| 16           | 16 thru 20                | .064                              | 1.63  | .130 | 3.30  |
| 12           | 12 thru 14                | .114                              | 2.90  | .170 | 4.32  |
| 8            | 8 thru 10                 | .164                              | 4.17  | .255 | 6.48  |
| 4            | 4 thru 6                  | .275                              | 6.98  | .370 | 9.40  |
| 0            | 0 thru 2                  | .415                              | 10.54 | .550 | 13.97 |

The connector is designed for individual wire sealing. Sealing of an outer cable jacket on multiconductor cables must be accomplished with an appropriate endbell. Sealing is only guaranteed if wires according to MIL-W-5086 or within the listed ranges are used.

|                          |                                                                                                                                                                                                       |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Insulation Strip Lengths | (⇒ see page 30)                                                                                                                                                                                       |
| Mating Life              | 100 cycles minimum, to MIL-DTL-5015, 3.16                                                                                                                                                             |
| Salt Spray               | MIL-STD-1344 Method 1001 condition B minimum (cadmium), 48 hour, olive drab chromate over cadmium, non-conductive black alloy, conductive black alloy, green zinc, black anodized, electroless nickel |
| Heat                     | +257°F (+125°C) for 60 hours, +185°F (+85°C) for 1,000 hours per MIL-DTL-5015, 4.6.14, minimum                                                                                                        |
| Chemical Resistance      | 20-hour full-immersion unmated in hydraulic fluid and lubricating oil per MIL-DTL-5015 minimum                                                                                                        |
| Vibration                | 10 to 2,000Hz (10g's) 10 microseconds maximum discontinuity to MIL-STD-1344 Method 2005, condition II per MIL-DTL-5015                                                                                |
| Shock                    | 50g 11 millisecond duration, three major axes.<br>10 microseconds maximum discontinuity to MIL-DTL-5015 per MIL-STD-1344 method 2004, condition A, 3.13                                               |
| Contact Type             | Solder, crimp, PC, or thermocouple (hard silver or gold plating)                                                                                                                                      |
| Number of Circuits       | 1 to 85 (⇒ See pages 72-82)                                                                                                                                                                           |
| Contact Insertion        | Insertion from rear with simple hand tool. Removable, five cycles minimum. (Solder, PC and coax outer housings are bonded into the insulator.)                                                        |
| Contact Retention        | To MIL-DTL-5015, 4.6.6 & 3.26 and separation forces                                                                                                                                                   |

| CONTACT SIZE | AXIAL LOAD |      | SEPARATION FORCE MINIMUM |      |
|--------------|------------|------|--------------------------|------|
|              | NEWTONS    | LBS. | NEWTONS                  | LBS. |
| 16           | 44         | 10   | 1                        | 0.25 |
| 12           | 67         | 15   | 2                        | 0.50 |
| 8            | 89         | 20   | 3                        | 0.75 |
| 4            | 89         | 20   | 4                        | 1.00 |
| 0            | 111        | 25   | 9                        | 2.00 |

|              |                                                                                                     |
|--------------|-----------------------------------------------------------------------------------------------------|
| Polarization | Integral key and keyway plus optional rotational polarization ⇒ See pages 83-93 or valid rotations. |
| Approvals    | MIL-DTL-5015                                                                                        |

## CREATE YOUR PART NUMBER USING THESE EIGHT STEPS

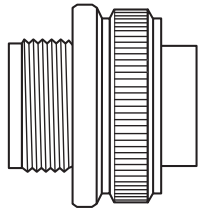
| STEP             | 1           | 2                                             | 3                                                     | 4        | 5            | 6        | 7               | 8                    |
|------------------|-------------|-----------------------------------------------|-------------------------------------------------------|----------|--------------|----------|-----------------|----------------------|
|                  | <b>AIT</b>  | <b>6</b>                                      | <b>A</b>                                              | <b>A</b> | <b>24-21</b> | <b>S</b> |                 | <b>-472</b>          |
| SERIES<br>PREFIX | SHELL STYLE | ENDBELLS<br>(If omitting<br>endbell, enter -) | CABLE<br>CLAMP/BOOT<br>(leave blank if<br>not needed) | LAYOUT   | CONTACT      | ROTATION | CONTACT<br>TYPE | PLATING<br>(example) |

## STEP 1: SELECT SHELL STYLE, PLUG OR RECEPTACLE

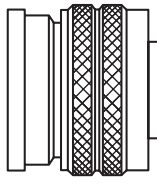
PLUGS

Mates with

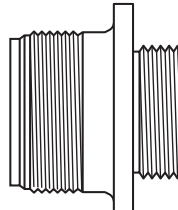
RECEPTACLES



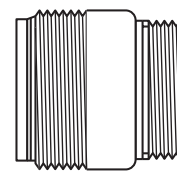
**6**  
Standard (MS3106)



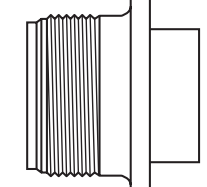
**6B**  
Box Mount



**0** Wall Mount with  
Accessory Threads  
(MS3100)



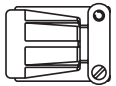
**1** Cable Mount  
with Accessory  
Threads (MS3101)



**2** Box Mount  
No Accessory  
Threads (MS3102)

## STEP 2: SELECT ENDBELL

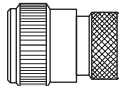
**TIP:** Order connector, backshell and all accessories as one part number! See [www.peigenesis.com/en/solution-guides.html](http://www.peigenesis.com/en/solution-guides.html)



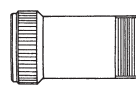
**E** MS Style (E/F)  
Standard Clamp



**RV**  
No Clamp



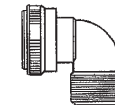
**G** Heat Shrink



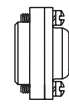
**L** Long Extender



**A** Unsealed  
(no grommet seal)



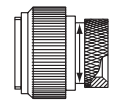
**T** MS Style  
(MS3108) 90°



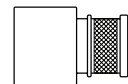
**R** MS Style  
Low Profile



**P** Potting  
\*Potting  
Compound  
⇒ See  
Page 443



**G2** Spin Coupling  
Heat Shrink

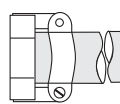


**U** Low Cost  
Shielded/Unshielded

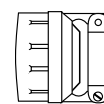
## STEP 3: SELECT CABLE CLAMP OR BOOT (IF APPLICABLE)



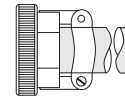
Heat Shrink Boot  
⇒ See pages 440-441



**A** MS3057-A  
Standard Cable Clamp



**C** MS3057-C  
Gland Seal  
⇒ See Page 41



**9767** 9767  
Gland Seal for  
Smaller Cable Range  
⇒ See Page 42

**STEP 4: SELECT LAYOUT**

⇒ See pages 72-82

**STEP 5: SELECT CONTACT**

**P** = Pin   **S** = Socket

**STEP 6: SELECT ROTATION**

⇒ See pages 83-93 (Omit for normal)

**W, X, Y, Z**

**STEP 7: SELECT CONTACT TYPE**

**S** = Solder  
**H** = PC\*\*

**C** = Crimp\*  
**O** = Less Contacts

\* When using a "C" in part number, the connector is supplied with the standard size crimp contacts for its layout. Bolded part numbers on ⇒ page 30 indicate crimp contact. Please contact us for connectors with reduced or enlarged crimp barrel contacts.  
\*\* ⇒ See page 38 for post diameters and lengths.

**STEP 8: SELECT PLATING****CONTACTS**

(Omit for silver contacts)

- B30** = Gold 50μ Gold over Nickel  
**T** = Thermocouple (*solder only*)  
*Need types with cavities and installed and uninstalled*  
**RDS** = RADSOK (Crimp socket only)  
sizes 12,8,4,0  
**116** = Less pre-tinned solder cups

**SHELL PLATING**

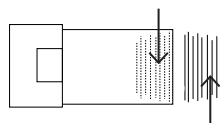
(Omit for olive drab chromate over cadmium)  
(MS style)

- 023** = Electroless Nickel  
(*RoHS with crimp or 116 contacts*)  
**024** = Green Zinc Cobalt  
**025** = Black Alloy  
(*RoHS with crimp or 116 contacts*)  
**027** = Conductive Black Alloy  
(*RoHS with crimp or 116 contacts*)  
**G96** = Black Anodized  
**472** = 116&025 mod codes (*RoHS*)  
**548** = 116&023 mod codes (*RoHS*)  
**553** = 116&027 mod codes (*RoHS*)

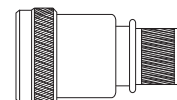
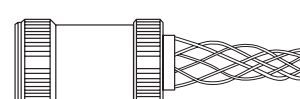
**MATERIALS**

(Omit for standard neoprene)

- L** = Low-smoke, zero-halogen  
**V** = High-temperature Viton®

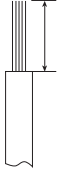
**STANDARD SPECIALS — CONTACT US WITH NPT THREAD SIZE, SEAL TITE CONDUIT DIAMETER, OR CABLE OUTSIDE DIAMETER.****INTERNAL THREAD VERSION****EXTERNAL THREAD VERSION****LOW COST GLAND SEAL****CONDUIT PLASTIC**

⇒ See pages 445

**CONDUIT METAL****GLAND SEAL****SHIELDED CABLE****MESH GRIP**

**NEED HELP?** PEI engineers will help you solve your design challenges and build the perfect part for your application. Email us at [sales@peigenesis.com](mailto:sales@peigenesis.com) or complete our online Technical Request at [www.peigenesis.com/technical-support](http://www.peigenesis.com/technical-support). To contact us by phone, please see the back cover for a complete listing of our branch offices and contact numbers.

## PIN &amp; SOCKET CRIMP CONTACTS

|              |               | PIN CONTACT                                                                       |              | SOCKET CONTACT                                                                     |              |     | WIRE STRIP LENGTH                                                                   | WIRE RANGE                                                                          |  |  |
|--------------|---------------|-----------------------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------|--------------|-----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--|--|
|              |               |  |              |  |              |     |  |  |  |  |
| CONTACT SIZE | WIRE SIZE AWG | PART NUMBER                                                                       |              |                                                                                    |              |     | WIRE STRIP LENGTHS INCHES (MM)                                                      | WIRE SEALING RANGE INCHES (MM)                                                      |  |  |
|              |               | PIN CONTACT                                                                       |              | SOCKET CONTACT                                                                     |              |     |                                                                                     |                                                                                     |  |  |
|              |               | SILVER                                                                            | GOLD         | SILVER                                                                             | GOLD         |     |                                                                                     |                                                                                     |  |  |
| 16S†         | 16-18-20      | AIC16S-16P*                                                                       | AIC16S-16PG* | AIC16S-16S*                                                                        | AIC16S-16SG* |     | 0.312<br>(7.9)                                                                      | .090-.118<br>(2.3-3.0)                                                              |  |  |
|              | 12-14         | AIC16S-12P                                                                        | AIC16S-12PG  | AIC16S-12S                                                                         | AIC16S-12SG  | C4  |                                                                                     |                                                                                     |  |  |
|              | 14-16         | AIC16S-14P                                                                        | AIC16S-14PG  | AIC16S-14S                                                                         | AIC16S-14SG  | C3  |                                                                                     |                                                                                     |  |  |
|              | 18-20         | AIC16S-20P                                                                        | AIC16S-20PG  | AIC16S-20S                                                                         | AIC16S-20SG  | C13 |                                                                                     |                                                                                     |  |  |
|              | 20-22         | AIC16S-22P                                                                        | AIC16S-22PG  | AIC16S-22S                                                                         | AIC16S-22SG  | C14 |                                                                                     |                                                                                     |  |  |
|              | 22-24         | AIC16S-24P                                                                        | AIC16S-24PG  | AIC16S-24S                                                                         | AIC16S-24SG  | C2  |                                                                                     |                                                                                     |  |  |
| 16           | 16-18-20      | AIC16-16P*                                                                        | AIC16-16PG*  | AIC16-16S*                                                                         | AIC16-16SG*  |     |                                                                                     |                                                                                     |  |  |
|              | 12-14         | AIC16-12P                                                                         | AIC16-12PG   | AIC16-12S                                                                          | AIC16-12SG   | C4  |                                                                                     |                                                                                     |  |  |
|              | 14-16         | AIC16-14P                                                                         | AIC16-14PG   | AIC16-14S                                                                          | AIC16-14SG   | C3  |                                                                                     |                                                                                     |  |  |
|              | 18-20         | AIC16-18P                                                                         | AIC16-18PG   | AIC16-18S                                                                          | AIC16-18SG   | C13 |                                                                                     |                                                                                     |  |  |
|              | 20-22         | AIC16-20P                                                                         | AIC16-20PG   | AIC16-20S                                                                          | AIC16-20SG   | C14 |                                                                                     |                                                                                     |  |  |
|              | 20-24         | AIC16-2024P                                                                       | AIC16-2024PG | AIC16-2024S                                                                        | AIC16-2024SG | C36 |                                                                                     |                                                                                     |  |  |
|              | 22-24         | AIC16-22P                                                                         | AIC16-22PG   | AIC16-22S                                                                          | AIC16-22SG   | C2  |                                                                                     |                                                                                     |  |  |
| 12           | 12-14         | AIC12-12P*                                                                        | AIC12-12PG*  | AIC12-12S*                                                                         | AIC12-12SG*  |     | 0.312<br>(7.9)                                                                      | .126-.177<br>(3.2-4.5)                                                              |  |  |
|              | 12 High-Power | -                                                                                 | -            | AIC12-12SRAD                                                                       | -            |     |                                                                                     |                                                                                     |  |  |
|              | 8-10          | AIC12-8P                                                                          | AIC12-8PG    | AIC12-8S                                                                           | AIC12-8SG    | C5  |                                                                                     |                                                                                     |  |  |
|              | 10-12         | AIC12-10P                                                                         | AIC12-10PG   | AIC12-10S                                                                          | AIC12-10SG   | C8  |                                                                                     |                                                                                     |  |  |
|              | 14-16         | AIC12-14P                                                                         | AIC12-14PG   | AIC12-14S                                                                          | AIC12-14SG   | C9  |                                                                                     |                                                                                     |  |  |
|              | 16-18         | AIC12-16P                                                                         | AIC12-16PG   | AIC12-16S                                                                          | AIC12-16SG   | C7  |                                                                                     |                                                                                     |  |  |
|              | 18-20         | AIC12-18P                                                                         | AIC12-18PG   | AIC12-18S                                                                          | AIC12-18SG   | C6  |                                                                                     |                                                                                     |  |  |
| 8            | 20-22         | AIC12-20P                                                                         | AIC12-20PG   | AIC12-20S                                                                          | AIC12-20SG   | C40 |                                                                                     |                                                                                     |  |  |
|              | 8             | AIC8-8P*                                                                          | AIC8-8PG*    | AIC8-8S*                                                                           | AIC8-8SG*    |     | 0.563<br>(14.3)                                                                     | .150-.256<br>(3.8-6.5)                                                              |  |  |
|              | 8 High-Power  | -                                                                                 | -            | AIC8-8SRAD                                                                         | -            |     |                                                                                     |                                                                                     |  |  |
|              | 10-12         | AIC8-10P                                                                          | AIC8-10PG    | AIC8-10S                                                                           | AIC8-10SG    | C10 |                                                                                     |                                                                                     |  |  |
| 12-14        | AIC8-12P      | AIC8-12PG                                                                         | AIC8-12S     | AIC8-12SG                                                                          | C38          |     |                                                                                     |                                                                                     |  |  |
| 4            | 4             | AIC4-4P*                                                                          | AIC4-4PG*    | AIC4-4S*                                                                           | AIC4-4SG*    |     | 0.500<br>(12.7)                                                                     | .279-.366<br>(7.1-9.3)                                                              |  |  |
|              | 4 High-Power  | -                                                                                 | -            | AIC4-4SRAD                                                                         | -            |     |                                                                                     |                                                                                     |  |  |
|              | 8             | AIC4-8P                                                                           | AIC4-8PG     | AIC4-8S                                                                            | AIC4-8SG     | C15 |                                                                                     |                                                                                     |  |  |
| 0            | 0             | AIC0-0P*                                                                          | AIC0-0PG*    | AIC0-0S*                                                                           | AIC0-0SG*    |     | 0.750<br>(19.0)                                                                     | .394-.539<br>(10.0-13.7)                                                            |  |  |
|              | 0 High-Power  | -                                                                                 | -            | AIC0-0SRAD                                                                         | -            |     |                                                                                     |                                                                                     |  |  |
|              | 0-2           | AIC0-2P                                                                           | AIC0-2PG     | AIC0-2S                                                                            | AIC0-2SG     | C11 |                                                                                     |                                                                                     |  |  |
|              | 4             | AIC0-4P                                                                           | AIC0-4PG     | AIC0-4S                                                                            | AIC0-4SG     | C12 |                                                                                     |                                                                                     |  |  |

\*Bolded items are standard crimp contacts.

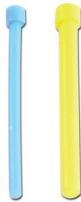
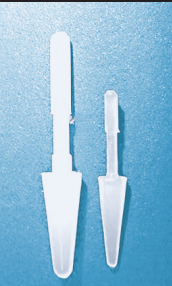
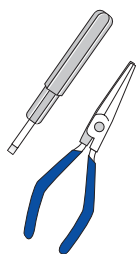
| SOLDER THERMOCOUPLE CONTACTS |            |                |                |
|------------------------------|------------|----------------|----------------|
|                              | TYPE       | PINS           | SOCKETS        |
| <b>16S<sup>†</sup></b>       | Alumel     | 10-040799-02P* | 10-040799-02S* |
|                              | Chromel    | 10-040799-01P* | 10-040799-01S* |
|                              | Iron       | 10-040799-03P* | 10-040799-03S* |
|                              | Constantan | 10-040799-04P* | 10-040799-04S* |
| <b>16</b>                    | Alumel     | 10-040799-12P* | 10-040799-12S* |
|                              | Chromel    | 10-040799-11P* | 10-040799-11S* |
|                              | Iron       | 10-040799-13P* | 10-040799-13S* |
|                              | Constantan | 10-040799-14P* | 10-040799-14S* |

| SOLDER THERMOCOUPLE CONTACTS |            |                |                |
|------------------------------|------------|----------------|----------------|
|                              | TYPE       | PINS           | SOCKETS        |
| <b>12</b>                    | Alumel     | 10-040799-42P* | 10-040799-42S* |
|                              | Chromel    | 10-040799-41P* | 10-040799-41S* |
|                              | Iron       | 10-040799-43P* | 10-040799-43S* |
|                              | Constantan | 10-040799-44P* | 10-040799-44S* |

**Thermocouple Types:** **J** = Iron-Constantan      **K** = Alumel-Chromel  
**T** = Copper-Constantan      **E** = Chromel-Constantan

\*Contact us for availability. Contact information is below.

† 16S contacts are used in 8S, 10S, 10SL, 12S, 14S &amp; 16S connector sizes only.

| ACCESSORIES                                                                                                            |                              | TOOLS                                                                                                                                                 |                                                           |                              |                                                                                    |                   |                                                                                     |                                                                                     |
|------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|------------------------------|------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <br>Insert head first.<br>Trim excess |                              | <br>AF8<br>WA27F<br>TH29-1<br>Die set, locator and<br>Go-No-Go gauge |                                                           |                              |  |                   |  |  |
| CONTACT<br>SIZE                                                                                                        | WIRE<br>HOLE FILLER<br>COLOR | CRIMP TOOLS                                                                                                                                           | CRIMP<br>LOCATOR &<br>DIE SETS                            | LOCATOR<br>COLOR             | PILOT<br>PIN/INSERTION<br>GUIDE FOR<br>SOCKETS                                     | INSERTION<br>TOOL | EXTRACTION TOOL                                                                     |                                                                                     |
| 16S†                                                                                                                   | Blue<br>MS27488-16-3         | AF8-(hand)<br>WA27F-<br>(pneumatic)<br>††                                                                                                             | TH29-1                                                    | Red                          | 10-242758-016                                                                      | DAK168-16         | DRK59<br>Kit with<br>Multiple Tips                                                  |                                                                                     |
| 16                                                                                                                     |                              |                                                                                                                                                       |                                                           | Pin-Blue<br>Socket-<br>Green |                                                                                    |                   |                                                                                     |                                                                                     |
| 12                                                                                                                     |                              |                                                                                                                                                       |                                                           | Yellow<br>MS27488-12-3       | Green                                                                              | 10-242758-012     |                                                                                     | DAK168-12                                                                           |
| 8                                                                                                                      | Red<br>MS27488-8-3           | 400BHD                                                                                                                                                | Die Set<br>414DA-8N<br>Locator<br>4025-Pin<br>4026-Socket | -                            | 10-242758-008                                                                      | DAK282            | AIC4EXT<br><br>AIC0EXT                                                              |                                                                                     |
| 4                                                                                                                      | Blue<br>MS27488-4-3          |                                                                                                                                                       | Die Set<br>414DA-4N<br>Locator<br>4043-2                  | -                            | -                                                                                  | AIC4INS           |                                                                                     |                                                                                     |
| 0                                                                                                                      | Yellow<br>MS27488-0-3        |                                                                                                                                                       | Die Set<br>414DA-0N<br>Locator<br>4042                    | -                            | -                                                                                  | AIC0INS           |                                                                                     |                                                                                     |

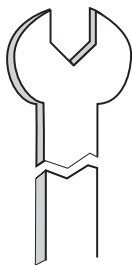
†† Contact us for additional tool accessories. Contact information is below.

All dimensions in inches (millimeters in parenthesis)

## PIN &amp; SOCKET COAX CONTACTS

|                   |                                                                    | PIN CONTACT                                                                       |                                                                  | SOCKET CONTACT                                                                    |                                                                 | WIRE STRIP LENGTH                                                                   | WIRE RANGE                                                                          |                   | ACCESSORIES                                                                                                            |
|-------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------|
|                   |                                                                    |  |                                                                  |  |                                                                 |  |  |                   | <br>Insert head first. Trim excess. |
| COAX CONTACT SIZE | COAX WIRE SIZE                                                     | PART NUMBER                                                                       |                                                                  |                                                                                   |                                                                 | WIRE STRIP LENGTHS<br>INCHES (mm)                                                   | WIRE SEALING RANGE<br>INCHES (mm)                                                   |                   | WIRE HOLE FILLER                                                                                                       |
|                   |                                                                    | PINS                                                                              |                                                                  | SOCKETS                                                                           |                                                                 |                                                                                     | MIN.                                                                                | MAX.              |                                                                                                                        |
|                   |                                                                    | SILVER                                                                            | GOLD                                                             | SILVER                                                                            | GOLD                                                            |                                                                                     |                                                                                     |                   |                                                                                                                        |
| 12                | RG161/U<br>RG174A/U<br>RG179B/U<br>RG187A/U<br>RG188A/U<br>RG316/U | 21-33034-1                                                                        | 21-33014-21<br>21-33048-1()<br>21-33130-1()                      | 21-33033-1                                                                        | 21-33013-21<br>21-33047-1()<br>21-33129-1 ()                    | Contact us for details.                                                             | 0.126<br>(3.2 mm)                                                                   | 0.177<br>(4.5 mm) | Yellow<br>10-405996-12                                                                                                 |
|                   | RG178B/U<br>RG196A/U                                               | -                                                                                 | 21-33014-22                                                      | -                                                                                 | 21-33013-22                                                     |                                                                                     |                                                                                     |                   |                                                                                                                        |
| 8                 | RG58C/U<br>RG141A/U<br>RG303/U                                     | 21-33034-2(1)                                                                     | 21-33014-1(5)<br>21-33016-5(3)<br>21-33130-2()                   | 21-33033-2(1)<br>21-33048-2()                                                     | 21-33013-1(5)<br>21-33047-2()<br>21-33015-5(3)<br>21-33129-2()  | Contact us for details.                                                             | 0.150<br>(3.8 mm)                                                                   | 0.256<br>(6.5 mm) | White<br>10-405996-8                                                                                                   |
|                   | RG59B/U<br>RG62A/U<br>RG62B/U<br>RG210/U                           | 21-33034-5(1)                                                                     | 21-33014-5(5)<br>21-33016-2(3)<br>21-33130-5()<br>21-33064-21()  | 21-33033-3(1)                                                                     | 21-33013-5(5)<br>21-33015-2(3)<br>21-33129-3()<br>21-33063-21() |                                                                                     |                                                                                     |                   |                                                                                                                        |
|                   | RG161/U<br>RG174A/U<br>RG179B/U<br>RG187A/U<br>RG188A/U<br>RG316/U | 21-33034-3(1)                                                                     | 21-33014-3(5)<br>21-33016-1(3)<br>21-33130-3 ()<br>21-33064-20() | 21-33033-3(1)                                                                     | 21-33013-3(5)<br>21-33015-1(3)<br>21-33129-3()<br>21-33063-20() |                                                                                     |                                                                                     |                   |                                                                                                                        |
|                   | RG180B/U<br>RG195A/U                                               | 21-33034-6                                                                        | 21-33014-6(5)<br>21-33048-3()<br>21-33130-6()                    | 21-33033-6                                                                        | 21-33013-(6)<br>21-33047-3()<br>21-33129-6()                    |                                                                                     |                                                                                     |                   |                                                                                                                        |
|                   | RG140/U<br>RG302/U                                                 | 21-33034-8                                                                        | 21-33014-8(5)<br>21-33033-8<br>21-33130-8()                      | -                                                                                 | 21-33013-8(5)<br>21-33129-8()                                   |                                                                                     |                                                                                     |                   |                                                                                                                        |
|                   | RG55B/U<br>RG142A/U<br>RG142B/U<br>RG223/U                         | 21-33034-4                                                                        | 21-33014-5(5)<br>21-33130-4()                                    | 21-33033-4                                                                        | 21-33013-5(5)<br>21-33129-4()                                   |                                                                                     |                                                                                     |                   |                                                                                                                        |
| 4                 | RG59B/U<br>RG62A/U<br>RG62B/U<br>RG210/U                           |                                                                                   | 21-33060-10()                                                    |                                                                                   | 21-33059-10()                                                   | Contact us for details.                                                             | 0.279<br>(7.1 mm)                                                                   | 0.366<br>(9.3 mm) | Blue<br>10-405996-4                                                                                                    |
|                   | RG212/U                                                            | -                                                                                 | 21-33060-11()                                                    | -                                                                                 | 21-33059-11()                                                   |                                                                                     |                                                                                     |                   |                                                                                                                        |
|                   | RG55B/U<br>RG142A/U<br>RG142B/U<br>RG223/U                         |                                                                                   | 31-33060-12()                                                    |                                                                                   | 21-33059-12()                                                   |                                                                                     |                                                                                     |                   |                                                                                                                        |

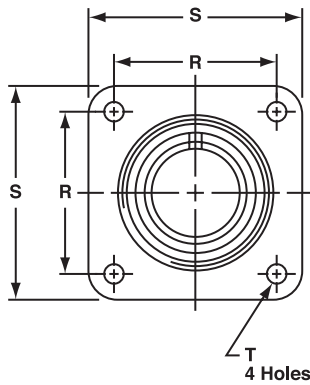
( ) Various platings available. Availability of coax contacts varies widely. Contact us for details. Contact information is below.  
All dimensions in inches (millimeters in parenthesis)

|                                            |                                                                    | TOOLS                                                                             |                                                                                                 |             |                                                                                     |
|--------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------|-------------------------------------------------------------------------------------|
|                                            |                                                                    |  | <br>Crimp Dies |             |  |
| COAX CONTACT SIZE                          | COAX WIRE SIZE                                                     | HAND CRIMP TOOL                                                                   | CRIMP DIES                                                                                      | USE LOCATOR | COAX CLAMP NUT WRENCH                                                               |
| 12                                         | RG161/U<br>RG174A/U<br>RG179B/U<br>RG187A/U<br>RG188A/U<br>RG316/U | M22520/10-01                                                                      | M22520/10-05                                                                                    | A           | 11-8676-1                                                                           |
|                                            | RG178B/U<br>RG196A/U                                               |                                                                                   |                                                                                                 | B           |                                                                                     |
| 8                                          | RG58C/U<br>RG141A/U<br>RG303/U                                     | M22520/10-01                                                                      | M22520/10-07                                                                                    | B           | 11-8676-2                                                                           |
|                                            | RG59B/U<br>RG62A/U<br>RG62B/U<br>RG210/U                           | M22520/5-01                                                                       | M22520/5-45                                                                                     | B           | 11-8676-3                                                                           |
|                                            | RG161/U<br>RG174A/U<br>RG179B/U<br>RG187A/U<br>RG188A/U<br>RG316/U | M22520/10-01                                                                      | M22520/10-05                                                                                    | A           | 11-8676-2                                                                           |
|                                            | RG180B/U<br>RG195A/U                                               |                                                                                   | M22520/10-07                                                                                    | B           |                                                                                     |
|                                            | RG140/U<br>RG302/U                                                 |                                                                                   |                                                                                                 | A           |                                                                                     |
|                                            | RG55B/U<br>RG142A/U<br>RG142B/U<br>RG223/U                         |                                                                                   |                                                                                                 |             |                                                                                     |
|                                            | 4                                                                  | RG59B/U<br>RG62A/U<br>RG62B/U<br>RG210/U                                          | M22520/5-01                                                                                     | M22520/5-45 | B                                                                                   |
| RG212/U                                    |                                                                    | M22520/5-01                                                                       | M22520/5-34                                                                                     | A           | 11-8676-4                                                                           |
| RG55B/U<br>RG142A/U<br>RG142B/U<br>RG223/U |                                                                    | M22520/10-01                                                                      | M22520/10-07                                                                                    | A           | -                                                                                   |

All dimensions in inches (millimeters in parenthesis)

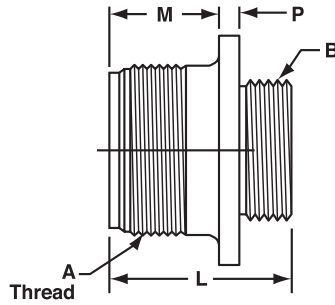
## DIMENSIONS

## RECEPTACLE STYLES

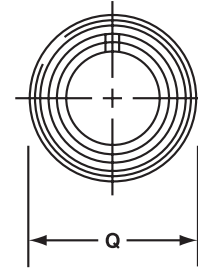


AIT0-MS3100

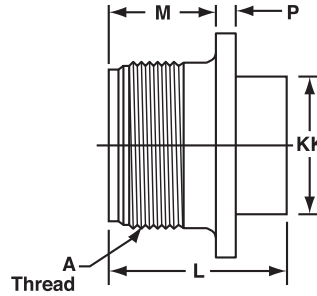
AIT2-MS3102



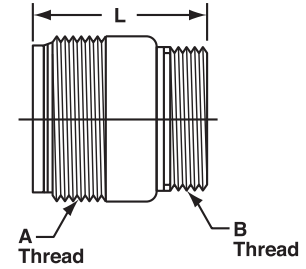
AIT0-MS3100



AIT1-MS3101



AIT2-MS3102

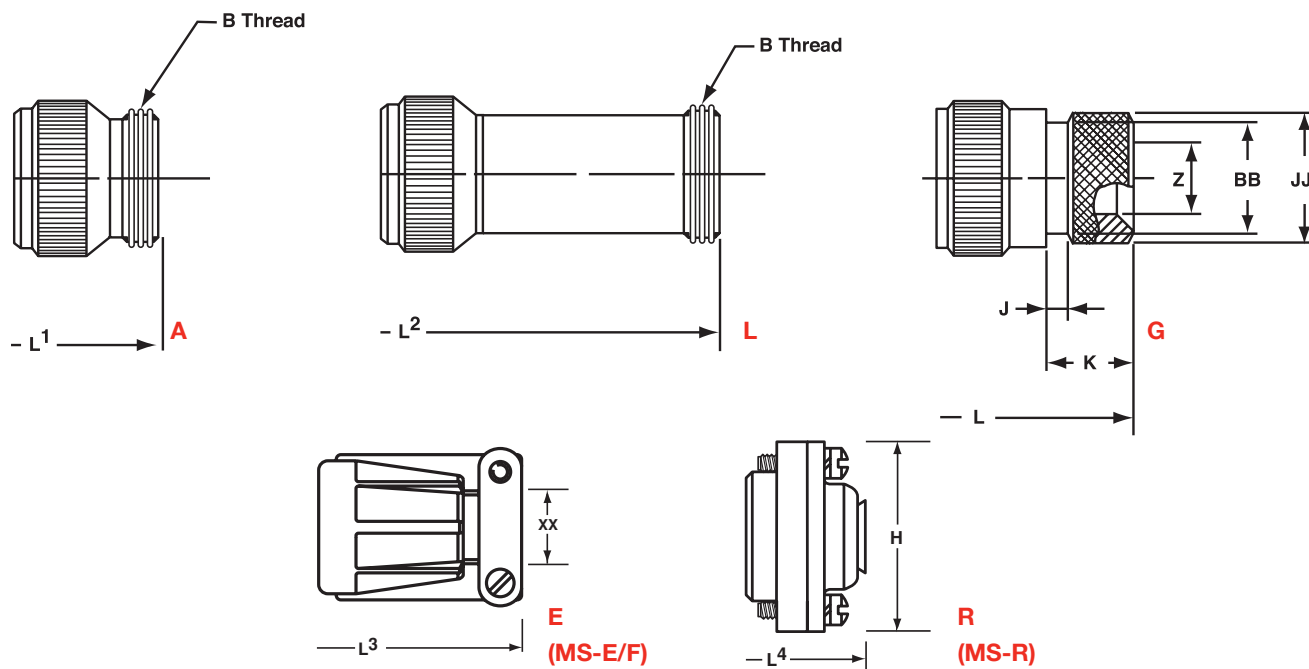


AIT1-MS3101

| SHELL SIZE | A THREAD CLASS 2A | AIT0-MS3100/AIT2-MS3102 |                |                 |                 |                          | AIT2-MS3102     |                           | AIT0/AIT1              |                 | AIT1 | AIT0/AIT1     |
|------------|-------------------|-------------------------|----------------|-----------------|-----------------|--------------------------|-----------------|---------------------------|------------------------|-----------------|------|---------------|
|            |                   | M<br>+.010<br>-.000     | P REF.         | R<br>+/- .005   | S<br>+/- .031   | T DIA.<br>+.004<br>-.002 | L REF<br>LENGTH | KK DIA.<br>+.010<br>-.000 | LENGTH<br>3100<br>3101 | Q DIA.          |      |               |
| 8S         | .5000-28UNEF      | 0.562<br>(14.3)         | 0.110<br>(2.8) | 0.594<br>(15.1) | 0.875<br>(22.2) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.375<br>(9.5)            | 1.087<br>(27.6)        | 0.532<br>(13.5) |      | .5000-28UNEF  |
| 10S        | .6250-24NEF       | 0.562<br>(14.3)         | 0.110<br>(2.8) | 0.719<br>(18.3) | 1.000<br>(25.4) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.500<br>(12.7)           | 1.087<br>(27.6)        | 0.628<br>(16.0) |      | .5000-28UNEF  |
| 10SL       | .6250-24NEF       | 0.562<br>(14.3)         | 0.110<br>(2.8) | 0.719<br>(18.3) | 1.000<br>(25.4) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.625<br>(15.9)           | 1.087<br>(27.6)        | 0.755<br>(19.2) |      | .6250-24UNEF  |
| 12S        | .7500-20UNEF      | 0.562<br>(14.3)         | 0.110<br>(2.8) | 0.812<br>(20.6) | 1.094<br>(27.8) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.625<br>(15.9)           | 1.087<br>(27.6)        | 0.755<br>(19.2) |      | .6250-24UNEF  |
| 12         | .7500-20UNEF      | 0.750<br>(19.1)         | 0.110<br>(2.8) | 0.812<br>(20.6) | 1.094<br>(27.8) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 0.625<br>(15.9)           | 1.334<br>(33.9)        | 0.755<br>(19.2) |      | .6250-24UNEF  |
| 14S        | .8750-20UNEF      | 0.562<br>(14.3)         | 0.110<br>(2.8) | 0.906<br>(23.0) | 1.188<br>(30.2) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.750<br>(19.1)           | 1.087<br>(27.6)        | 0.882<br>(22.4) |      | .7500-20UNEF  |
| 14         | .8750-20UNEF      | 0.750<br>(19.1)         | 0.110<br>(2.8) | 0.906<br>(23.0) | 1.188<br>(30.2) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 0.750<br>(19.1)           | 1.334<br>(33.9)        | 0.882<br>(22.4) |      | .7500-20UNEF  |
| 16S        | 1.0000-20UNEF     | 0.562<br>(14.3)         | 0.110<br>(2.8) | 0.969<br>(24.6) | 1.281<br>(32.5) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.875<br>(22.2)           | 1.087<br>(27.6)        | 1.010<br>(25.7) |      | .8750-20UNEF  |
| 16         | 1.0000-20UNEF     | 0.750<br>(19.1)         | 0.110<br>(2.8) | 0.969<br>(24.6) | 1.281<br>(32.5) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 0.875<br>(22.2)           | 1.334<br>(33.9)        | 1.010<br>(25.7) |      | .8750-20UNEF  |
| 18         | 1.1250-18NEF      | 0.750<br>(19.1)         | 0.141<br>(3.6) | 1.062<br>(27.0) | 1.375<br>(34.9) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 1.000<br>(25.4)           | 1.334<br>(33.9)        | 1.137<br>(28.9) |      | 1.0000-20UNEF |
| 20         | 1.2500-18NEF      | 0.750<br>(19.1)         | 0.141<br>(3.6) | 1.156<br>(29.4) | 1.500<br>(38.1) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 1.125<br>(28.6)           | 1.334<br>(33.9)        | 1.264<br>(32.1) |      | 1.1250-18UNEF |
| 22         | 1.3750-18NEF      | 0.750<br>(19.1)         | 0.141<br>(3.6) | 1.250<br>(31.8) | 1.625<br>(41.3) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 1.250<br>(31.8)           | 1.334<br>(33.9)        | 1.392<br>(35.4) |      | 1.2500-18UNEF |
| 24         | 1.5000-18NEF      | 0.812<br>(20.6)         | 0.141<br>(3.6) | 1.375<br>(34.9) | 1.750<br>(44.5) | 0.147<br>(3.7)           | 1.406<br>(35.7) | 1.375<br>(34.9)           | 1.406<br>(35.7)        | 1.519<br>(38.6) |      | 1.3750-18UNEF |
| 28         | 1.7500-18NS       | 0.812<br>(20.6)         | 0.141<br>(3.6) | 1.562<br>(39.7) | 2.000<br>(50.8) | 0.147<br>(3.7)           | 1.406<br>(35.7) | 1.625<br>(41.3)           | 1.406<br>(35.7)        | 1.774<br>(45.1) |      | 1.6250-18UNEF |
| 32         | 2.0000-18NS       | 0.875<br>(22.2)         | 0.156<br>(4.0) | 1.750<br>(44.5) | 2.250<br>(57.2) | 0.173<br>(4.4)           | 1.469<br>(37.3) | 1.875<br>(47.6)           | 1.469<br>(37.3)        | 1.996<br>(50.7) |      | 1.8750-16UN   |
| 36         | 2.2500-16UN       | 0.875<br>(22.2)         | 0.156<br>(4.0) | 1.938<br>(49.2) | 2.500<br>(63.5) | 0.173<br>(4.4)           | 1.469<br>(37.3) | 2.062<br>(52.4)           | 1.469<br>(37.3)        | 2.251<br>(57.2) |      | 2.0625-16UN   |
| 40         | 2.5000-16UN       | 0.875<br>(22.2)         | 0.156<br>(4.0) | 2.188<br>(55.6) | 2.750<br>(69.9) | 0.173<br>(4.4)           | 1.469<br>(37.3) | 2.312<br>(58.7)           | 1.469<br>(37.3)        | 2.506<br>(63.7) |      | 2.3125-16UN   |

All dimensions in inches (millimeters in parenthesis)

ENDBELL STYLES

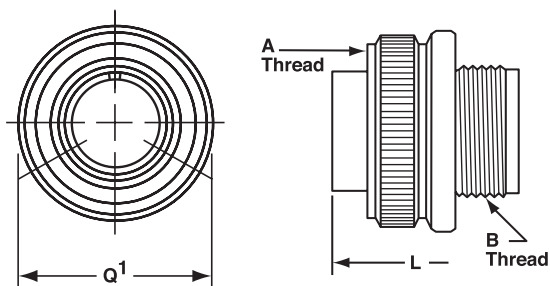


| SHELL SIZE | AIT0-MS3100/AIT1-MS3101 |                     |                   |                 |                 |                 |                 |                 | AIT0/AIT1 G    |                 |                 |                 |                 |                 |
|------------|-------------------------|---------------------|-------------------|-----------------|-----------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|            | A & L ENDBELL           |                     |                   | E ENDBELL       |                 | R ENDBELL       |                 |                 | L MAX.         | J ± .008 (±0.2) | K ± .020 (+0.5) | Z MIN.          | BB MAX.         | JJ ±.008 (+.02) |
|            | L <sup>1</sup>          | L <sup>2</sup> MAX. | B THREAD CLASS 2A | L               | XX CABLE MIN.   | L               | H DIA MAX.      |                 |                |                 |                 |                 |                 |                 |
| 8S         | 1.390<br>(35.3)         | 3.20<br>(81.20)     | .5000-28UNEF      | -               | -               | 1.588<br>(40.3) | 0.959<br>(24.4) | -               | -              | -               | -               | -               | -               | -               |
| 10S        | 1.468<br>(37.3)         | 3.20<br>(81.20)     | .5000-28UNEF      | -               | -               | 1.588<br>(40.3) | 1.026<br>(26.1) | -               | -              | -               | -               | -               | -               | -               |
| 10SL       | 1.468<br>(37.3)         | 3.23<br>(93.6)      | .6250-24NEF       | 2.129<br>(54.1) | 0.281<br>(7.1)  | 1.588<br>(40.3) | 1.120<br>(28.4) | 1.969<br>(50.0) | 0.138<br>(3.5) | 0.461<br>(11.7) | 0.303<br>(7.7)  | 0.524<br>(13.3) | 0.610<br>(15.5) |                 |
| 12S        | 1.468<br>(37.3)         | 3.58<br>(91.1)      | .6250-24NEF       | 2.129<br>(54.1) | 0.281<br>(7.1)  | 1.588<br>(40.3) | 1.120<br>(28.4) | -               | -              | -               | -               | -               | -               | -               |
| 12         | 1.843<br>(46.8)         | 3.66<br>(93.0)      | .6250-24NEF       | 2.129<br>(54.1) | 0.281<br>(7.1)  | 1.931<br>(49.0) | 1.120<br>(28.4) | -               | -              | -               | -               | -               | -               | -               |
| 14S        | 1.468<br>(37.3)         | 3.23<br>(82.09)     | .7500-20UNEF      | 2.201<br>(55.9) | 0.406<br>(10.3) | 1.588<br>(40.3) | 1.307<br>(33.2) | 1.969<br>(50.0) | 0.138<br>(3.5) | 0.461<br>(11.7) | 0.417<br>(10.6) | 0.669<br>(17.0) | 0.752<br>(19.1) |                 |
| 14         | 1.843<br>(46.8)         | 3.64<br>(92.5)      | .7500-20UNEF      | 2.524<br>(62.1) | 0.406<br>(10.3) | 1.931<br>(49.0) | 1.307<br>(33.2) | -               | -              | -               | -               | -               | -               | -               |
| 16S        | 1.468<br>(37.3)         | 3.23<br>(82.09)     | .8750-20UNEF      | 2.201<br>(55.9) | 0.500<br>(12.7) | 1.588<br>(40.3) | 1.432<br>(36.4) | 1.969<br>(50.0) | 0.138<br>(3.5) | 0.461<br>(11.7) | 0.531<br>(13.5) | 0.862<br>(21.9) | 0.941<br>(23.9) |                 |
| 16         | 1.843<br>(46.8)         | 3.58<br>(91.03)     | .8750-20UNEF      | 2.524<br>(62.1) | 0.500<br>(12.7) | 1.931<br>(49.0) | 1.432<br>(36.4) | 2.362<br>(60.0) | 0.138<br>(3.5) | 0.453<br>(11.5) | 0.531<br>(13.5) | 0.862<br>(21.9) | 0.941<br>(23.9) |                 |
| 18         | 1.938<br>(49.2)         | 3.66<br>(92.94)     | 1.000-20UNEF      | 2.596<br>(65.9) | 0.531<br>(13.5) | 1.931<br>(49.0) | 1.557<br>(39.5) | 2.362<br>(60.0) | 0.138<br>(3.5) | 0.453<br>(11.5) | 0.575<br>(14.5) | 0.862<br>(21.9) | 0.941<br>(23.9) |                 |
| 20         | 1.844<br>(46.8)         | 3.64<br>(92.56)     | 1.1875-18NEF      | 2.654<br>(67.4) | 0.656<br>(16.7) | 1.931<br>(49.0) | 1.744<br>(44.3) | 2.559<br>(65.0) | 0.138<br>(3.5) | 0.500<br>(12.7) | 0.736<br>(18.7) | 1.031<br>(26.2) | 1.165<br>(29.6) |                 |
| 22         | 1.938<br>(49.2)         | 3.65<br>(92.68)     | 1.1875-18NEF      | 2.654<br>(67.4) | 0.740<br>(18.8) | 1.931<br>(49.0) | 1.869<br>(47.5) | 2.559<br>(65.0) | 0.138<br>(3.5) | 0.500<br>(12.7) | 0.819<br>(20.8) | 1.031<br>(26.2) | 1.165<br>(29.6) |                 |
| 24         | 1.969<br>(50.0)         | 3.73<br>(94.64)     | 1.4375-18NEF      | 2.885<br>(73.3) | 0.781<br>(19.8) | 2.009<br>(51.0) | 1.994<br>(50.6) | 2.559<br>(65.0) | 0.138<br>(3.5) | 0.500<br>(12.7) | 0.969<br>(24.6) | 1.358<br>(34.5) | 1.488<br>(37.8) |                 |
| 28         | 2.188<br>(55.6)         | 3.90<br>(98.96)     | 1.4375-18NEF      | 2.885<br>(73.3) | 0.922<br>(23.4) | 2.009<br>(51.0) | 2.166<br>(55.0) | 2.559<br>(65.0) | 0.138<br>(3.5) | 0.500<br>(12.7) | 1.063<br>(27.0) | 1.358<br>(34.5) | 1.488<br>(37.8) |                 |
| 32         | 2.157<br>(54.8)         | 4.10<br>(104.24)    | 1.7500-18NS       | 2.943<br>(74.8) | 1.156<br>(29.4) | 2.072<br>(52.6) | 2.541<br>(64.5) | 2.756<br>(70.0) | 0.138<br>(3.5) | 0.598<br>(15.2) | 1.311<br>(33.3) | 1.717<br>(43.6) | 1.882<br>(47.8) |                 |
| 36         | 2.219<br>(56.4)         | 4.15<br>(105.38)    | 2.0000-18NS       | 2.943<br>(74.8) | 1.250<br>(31.8) | 2.072<br>(52.6) | 2.729<br>(69.3) | 3.150<br>(80.0) | 0.138<br>(3.5) | 0.598<br>(15.2) | 1.516<br>(38.5) | 1.717<br>(43.6) | 1.882<br>(47.8) |                 |
| 40         | 2.188<br>(55.6)         | 4.15<br>(105.38)    | 2.2500-16UN       | 3.068<br>(77.9) | 1.562<br>(39.7) | 2.072<br>(52.6) | 2.979<br>(75.7) | 3.150<br>(80.0) | 0.138<br>(3.5) | 0.610<br>(15.5) | 1.898<br>(48.2) | 2.070<br>(52.6) | 2.276<br>(57.8) |                 |

All dimensions in inches (millimeters in parenthesis)

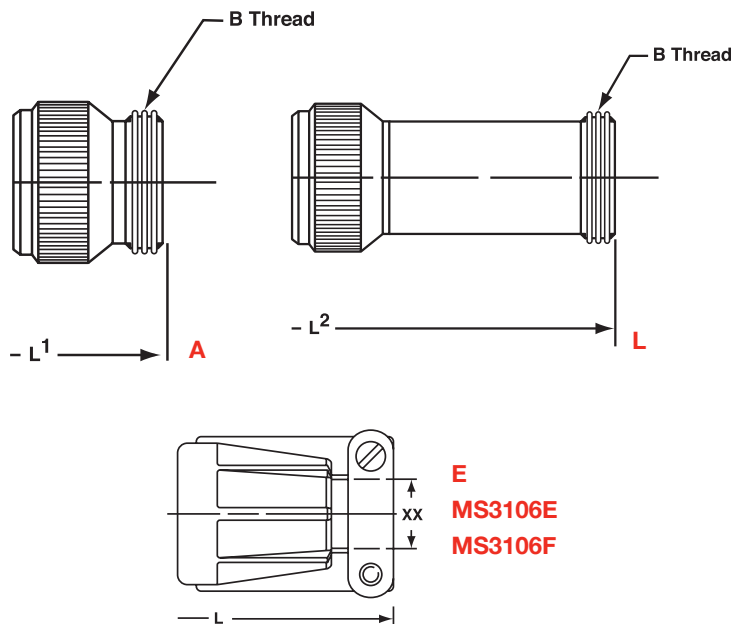
## DIMENSIONS

## STYLE 6 PLUGS (BARREL ASSEMBLY)



**AIT6-MS3106**  
**MS3108**

## STYLE 6 ENDBELLS



**E**  
**MS3106E**  
**MS3106F**

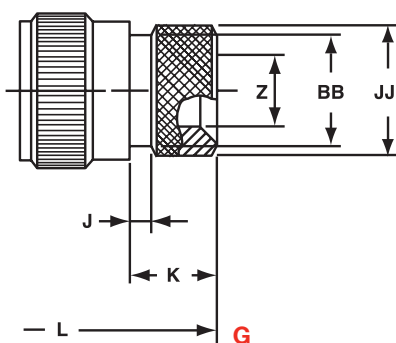
| SHELL SIZE | A THREAD CLASS 2B | Q1 DIA. MAX. | BARREL B THREAD CLASS 2A |
|------------|-------------------|--------------|--------------------------|
| 8S         | .5000-28UNEF      | 0.741 (18.8) | .5000-28UNEF             |
| 10S        | .6250-24NEF       | 0.869 (22.1) | .5000-28UNEF             |
| 10SL       | .6250-24NEF       | 0.946 (24.0) | .6250-24UNEF             |
| 12S        | .7500-20UNEF      | 0.995 (25.3) | .6250-24UNEF             |
| 12         | .7500-20UNEF      | 0.995 (25.3) | .6250-24UNEF             |
| 14S        | .8750-20UNEF      | 1.123 (28.5) | .7500-20UNEF             |
| 14         | .8750-20UNEF      | 1.123 (28.5) | .7500-20UNEF             |
| 16S        | 1.0000-20UNEF     | 1.250 (31.8) | .8750-20UNEF             |
| 16         | 1.0000-20UNEF     | 1.250 (31.8) | .8750-20UNEF             |
| 18         | 1.1250-18NEF      | 1.333 (33.9) | 1.0000-20UNEF            |
| 20         | 1.2500-18NEF      | 1.461 (37.1) | 1.1250-18UNEF            |
| 22         | 1.3750-18NEF      | 1.588 (40.3) | 1.2500-18UNEF            |
| 24         | 1.5000-18NEF      | 1.715 (43.6) | 1.3750-18UNEF            |
| 28         | 1.7500-18NS       | 1.968 (50.0) | 1.6250-18UNEF            |
| 32         | 2.0000-18NS       | 2.209 (56.1) | 1.8750-16UN              |
| 36         | 2.2500-16UN       | 2.463 (62.6) | 2.0625-16UN              |
| 40         | 2.5000-16UN       | 2.719 (69.1) | 2.3125-16UN              |

| A & L          |                |                   |
|----------------|----------------|-------------------|
| L <sup>1</sup> | L <sup>2</sup> | B THREAD CLASS 2A |
| 1.390 (35.3)   | -              | .5000-28UNEF      |
| 1.468 (37.3)   | -              | .5000-28UNEF      |
| 1.468 (37.3)   | 3.684 (93.6)   | .6250-24NEF       |
| 1.468 (37.3)   | -              | .6250-24NEF       |
| 1.843 (46.8)   | -              | .6250-24NEF       |
| 1.468 (37.3)   | 3.748 (95.2)   | .7500-20UNEF      |
| 1.843 (46.8)   | -              | .7500-20UNEF      |
| 1.468 (37.3)   | 3.748 (95.2)   | .8750-20UNEF      |
| 1.843 (46.8)   | 3.710 (94.2)   | .8750-20UNEF      |
| 1.938 (49.2)   | 4.094 (104.0)  | 1.0000-20UNEF     |
| 1.844 (46.8)   | 4.094 (104.0)  | 1.1875-18NEF      |
| 1.938 (49.2)   | 4.102 (104.2)  | 1.1875-18NEF      |
| 1.970 (50.0)   | 3.950 (100.4)  | 1.4375-18NEF      |
| 2.189 (55.6)   | 4.392 (111.6)  | 1.4375-18NEF      |
| 2.158 (54.8)   | 5.038 (128.0)  | 1.7500-18NS       |
| 2.219 (56.4)   | 4.354 (100.6)  | 2.0000-18NS       |
| 2.188 (55.6)   | 4.354 (110.6)  | 2.2500-16UN       |

| MS3106E/MS3106F |               |
|-----------------|---------------|
| L MAX.          | CABLE MIN. XX |
| ---             | ---           |
| ---             | ---           |
| ---             | ---           |
| ---             | ---           |
| 2.129 (54.1)    | 0.281 (7.1)   |
| 2.129 (54.1)    | 0.281 (7.1)   |
| 2.129 (54.1)    | 0.281 (7.1)   |
| 2.201 (55.9)    | 0.406 (10.3)  |
| 2.524 (64.1)    | 0.406 (10.3)  |
| 2.201 (55.9)    | 0.500 (12.7)  |
| 2.524 (64.1)    | 0.500 (12.7)  |
| 2.596 (65.9)    | 0.531 (13.5)  |
| 2.654 (67.4)    | 0.656 (16.7)  |
| 2.654 (67.4)    | 0.740 (18.8)  |
| 2.885 (73.3)    | 0.781 (19.8)  |
| 2.885 (73.3)    | 0.922 (23.4)  |
| 2.943 (74.8)    | 1.156 (29.4)  |
| 2.943 (74.8)    | 1.250 (31.8)  |
| 3.068 (77.9)    | 1.562 (39.7)  |

All dimensions in inches (millimeters in parenthesis)

STYLE 6 RIGHT ANGLE ENDBELLS



| SHELL SIZE | R               |                 | G               |                 |                 |                 |                 |                 | 3108            |                   |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|
|            | L MAX.          | H DIA. MAX.     | L MAX.          | J ± .008 (±0.2) | K +.020 (+0.5)  | Z MIN.          | BB MAX.         | JJ +.008 (+0.2) | L MAX.          | B THREAD CLASS 2A |
| 8S         | 1.588<br>(40.3) | 0.959<br>(24.4) | -               | -               | -               | -               | -               | -               | 1.427<br>(36.2) | .5000-28UNEF      |
| 10S        | 1.588<br>(40.3) | 1.026<br>(26.1) | -               | -               | -               | -               | -               | -               | 1.458<br>(37.0) | .5000-28UNEF      |
| 10SL       | 1.588<br>(40.3) | 1.120<br>(28.4) | 1.969<br>(50.0) | 0.138<br>(3.5)  | 0.461<br>(11.7) | 0.303<br>(7.7)  | 0.524<br>(13.3) | 0.610<br>(15.5) | 1.482<br>(37.6) | .6250-24NEF       |
| 12S        | 1.588<br>(40.3) | 1.120<br>(28.4) | -               | -               | -               | -               | -               | -               | 1.487<br>(37.8) | .6250-24NEF       |
| 12         | 1.931<br>(49.0) | 1.120<br>(28.4) | -               | -               | -               | -               | -               | -               | 1.862<br>(47.3) | .6250-24NEF       |
| 14S        | 1.588<br>(40.3) | 1.307<br>(33.2) | 1.969<br>(50.0) | 0.138<br>(3.5)  | 0.461<br>(11.7) | 0.417<br>(10.6) | 0.669<br>(17.0) | 0.752<br>(19.1) | 1.651<br>(41.9) | .7500-20UNEF      |
| 14         | 1.931<br>(49.0) | 1.307<br>(33.2) | -               | -               | -               | -               | -               | -               | 1.926<br>(48.9) | .7500-20UNEF      |
| 16S        | 1.588<br>(40.3) | 1.432<br>(36.4) | 1.969<br>(50.0) | 0.138<br>(3.5)  | 0.461<br>(11.7) | 0.531<br>(13.5) | 0.862<br>(21.9) | 0.941<br>(23.9) | 1.677<br>(42.6) | .8750-20UNEF      |
| 16         | 1.931<br>(49.0) | 1.432<br>(36.4) | 2.362<br>(60.0) | 0.138<br>(3.5)  | 0.453<br>(11.5) | 0.531<br>(13.5) | 0.862<br>(21.9) | 0.941<br>(23.9) | 2.051<br>(52.1) | .8750-20UNEF      |
| 18         | 1.931<br>(49.0) | 1.557<br>(39.5) | 2.362<br>(60.0) | 0.138<br>(3.5)  | 0.453<br>(11.5) | 0.575<br>(14.5) | 0.862<br>(21.9) | 0.941<br>(23.9) | 2.114<br>(53.7) | 1.0000-20UNEF     |
| 20         | 1.931<br>(49.0) | 1.744<br>(44.3) | 2.559<br>(65.0) | 0.138<br>(3.5)  | 0.500<br>(12.7) | 0.736<br>(18.7) | 1.031<br>(26.2) | 1.165<br>(29.6) | 2.364<br>(60.0) | 1.1875-18NEF      |
| 22         | 1.931<br>(49.0) | 1.869<br>(47.5) | 2.559<br>(65.0) | 0.138<br>(3.5)  | 0.500<br>(12.7) | 0.819<br>(20.8) | 1.031<br>(26.2) | 1.165<br>(29.6) | 2.364<br>(60.0) | 1.1875-18NEF      |
| 24         | 2.009<br>(51.0) | 1.994<br>(50.6) | 2.559<br>(65.0) | 0.138<br>(3.5)  | 0.500<br>(12.7) | 0.969<br>(24.6) | 1.358<br>(34.5) | 1.488<br>(37.8) | 2.615<br>(66.4) | 1.4375-18NEF      |
| 28         | 2.009<br>(51.0) | 2.166<br>(55.0) | 2.559<br>(65.0) | 0.138<br>(3.5)  | 0.500<br>(12.7) | 1.063<br>(27.0) | 1.358<br>(34.5) | 1.488<br>(37.8) | 2.615<br>(66.4) | 1.4375-18NEF      |
| 32         | 2.072<br>(52.6) | 2.541<br>(64.5) | 2.756<br>(70.0) | 0.138<br>(3.5)  | 0.598<br>(15.2) | 1.311<br>(33.3) | 1.717<br>(43.6) | 1.882<br>(47.8) | 2.837<br>(72.1) | 1.7500-18NS       |
| 36         | 2.072<br>(52.6) | 2.729<br>(69.3) | 3.150<br>(80.0) | 0.138<br>(3.5)  | 0.598<br>(15.2) | 1.516<br>(38.5) | 1.717<br>(43.6) | 1.882<br>(47.8) | 2.895<br>(73.5) | 2.0000-18NS       |
| 40         | 2.072<br>(52.6) | 2.979<br>(75.7) | 3.150<br>(80.0) | 0.138<br>(3.5)  | 0.610<br>(15.5) | 1.898<br>(48.2) | 2.070<br>(52.6) | 2.276<br>(57.8) | 3.020<br>(76.7) | 2.2500-16UN       |

All dimensions in inches (millimeters in parenthesis)

## DIMENSIONS

## PRINTED CIRCUIT CONTACTS

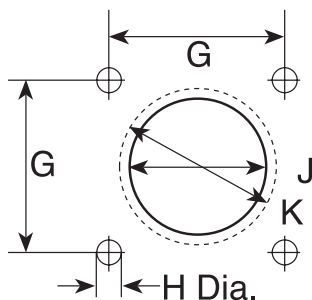


| SHELL SIZE | USE AIT OR AMPHENOL PART NUMBER | A THREAD CLASS 2A | M<br>+.010<br>-.000 | P<br>REF.      | R (TP)<br>+/- .005 | S<br>+/- .031   | T DIA.<br>+.004<br>-.002 | 3102<br>REF. L  | KK DIA.<br>+.010<br>-.000 | X REF.          | Y REF.<br>+/- .045 |
|------------|---------------------------------|-------------------|---------------------|----------------|--------------------|-----------------|--------------------------|-----------------|---------------------------|-----------------|--------------------|
| 8S         | 10-602460-XXX                   | .5000-28UNEF      | 0.562<br>(14.3)     | 0.110<br>(2.8) | 0.594<br>(15.1)    | 0.875<br>(22.2) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.375<br>(9.5)            | 0.595<br>(15.1) | 0.188<br>(4.8)     |
| 10S        | 10-602461-XXX                   | .6250-24NEF       | 0.562<br>(14.3)     | 0.110<br>(2.8) | 0.719<br>(18.3)    | 1.000<br>(25.4) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.500<br>(12.7)           | 0.595<br>(15.1) | 0.188<br>(4.8)     |
| 10SL       | 10-602462-XXX                   | .6250-24NEF       | 0.562<br>(14.3)     | 0.110<br>(2.8) | 0.719<br>(18.3)    | 1.000<br>(25.4) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.625<br>(15.9)           | 0.595<br>(15.1) | 0.188<br>(4.8)     |
| 12S        | 10-602463-XXX                   | .7500-20UNEF      | 0.562<br>(14.3)     | 0.110<br>(2.8) | 0.812<br>(20.6)    | 1.094<br>(27.8) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.625<br>(15.9)           | 0.595<br>(15.1) | 0.188<br>(4.8)     |
| 12         | 10-602464-XXX                   | .7500-20UNEF      | 0.750<br>(19.1)     | 0.110<br>(2.8) | 0.812<br>(20.6)    | 1.094<br>(27.8) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 0.625<br>(15.9)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 14S        | 10-602465-XXX                   | .8750-20UNEF      | 0.562<br>(14.3)     | 0.110<br>(2.8) | 0.906<br>(23.0)    | 1.188<br>(30.2) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.750<br>(19.1)           | 0.595<br>(15.1) | 0.188<br>(4.8)     |
| 14         | 10-602466-XXX                   | .8750-20UNEF      | 0.750<br>(19.1)     | 0.110<br>(2.8) | 0.906<br>(23.0)    | 1.188<br>(30.2) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 0.750<br>(19.1)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 16S        | 10-602467-XXX                   | 1.0000-20UNEF     | 0.562<br>(14.3)     | 0.110<br>(2.8) | 0.969<br>(24.6)    | 1.281<br>(32.5) | 0.120<br>(3.0)           | 0.969<br>(24.6) | 0.875<br>(22.2)           | 0.595<br>(15.1) | 0.188<br>(4.8)     |
| 16         | 10-602468-XXX                   | 1.0000-20UNEF     | 0.750<br>(19.1)     | 0.110<br>(2.8) | 0.969<br>(24.6)    | 1.281<br>(32.5) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 0.875<br>(22.2)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 18         | 10-602469-XXX                   | 1.1250-18NEF      | 0.750<br>(19.1)     | 0.141<br>(3.6) | 1.062<br>(27.0)    | 1.375<br>(34.9) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 1.000<br>(25.4)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 20         | 10-602470-XXX                   | 1.2500-18NEF      | 0.750<br>(19.1)     | 0.141<br>(3.6) | 1.156<br>(29.4)    | 1.500<br>(38.1) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 1.125<br>(28.6)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 22         | 10-602471-XXX                   | 1.3750-18NEF      | 0.750<br>(19.1)     | 0.141<br>(3.6) | 1.250<br>(31.8)    | 1.625<br>(41.3) | 0.120<br>(3.0)           | 1.344<br>(34.1) | 1.250<br>(31.8)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 24         | 10-602472-XXX                   | 1.5000-18NEF      | 0.812<br>(20.6)     | 0.141<br>(3.6) | 1.375<br>(34.9)    | 1.750<br>(44.5) | 0.147<br>(3.7)           | 1.406<br>(35.7) | 1.375<br>(34.9)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 28         | 10-602473-XXX                   | 1.7500-18NS       | 0.812<br>(20.6)     | 0.141<br>(3.6) | 1.562<br>(39.7)    | 2.000<br>(50.8) | 0.147<br>(3.7)           | 1.406<br>(35.7) | 1.625<br>(41.3)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 32         | 10-602474-XXX                   | 2.0000-18NS       | 0.875<br>(22.2)     | 0.156<br>(4.0) | 1.750<br>(44.5)    | 2.250<br>(57.2) | 0.173<br>(4.4)           | 1.469<br>(37.3) | 1.875<br>(47.6)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 36         | 10-602475-XXX                   | 2.2500-16UN       | 0.875<br>(22.2)     | 0.156<br>(4.0) | 1.938<br>(49.2)    | 2.500<br>(63.5) | 0.173<br>(4.4)           | 1.469<br>(37.3) | 2.062<br>(52.4)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |
| 40         | 10-602476-XXX                   | 2.5000-16UN       | 0.875<br>(22.2)     | 0.156<br>(4.0) | 2.188<br>(55.6)    | 2.750<br>(69.9) | 0.173<br>(4.4)           | 1.469<br>(37.3) | 2.312<br>(58.7)           | 0.782<br>(19.9) | 0.188<br>(4.8)     |

XXX = Insert layout code. Contact us for correct code. Contact information is below.

All dimensions in inches (millimeters in parenthesis)

## PANEL CUTOUTS

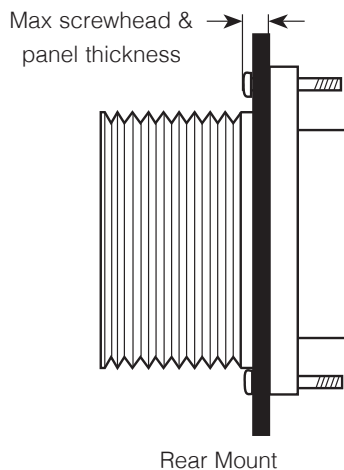


Dimension J is flange in front of panel. Dimension K is flange at rear of panel. See sealing screws on [page 439](#).

| SHELL SIZE | FLANGE STYLE 0-2-6B |               |                      |              |
|------------|---------------------|---------------|----------------------|--------------|
|            | G                   | MOUNTING HOLE | FRONT MOUNT DIAMETER | REAR MOUNT   |
|            |                     | H             | J                    | K            |
| 8S         | 0.594 (15.1)        | 0.134 (3.4)   | 0.396 (10.1)         | 0.603 (15.4) |
| 10S        | 0.717 (18.2)        | 0.134 (3.4)   | 0.525 (13.3)         | 0.728 (18.5) |
| 10SL       | 0.717 (18.2)        | 0.134 (3.4)   | 0.646 (16.4)         | 0.728 (18.5) |
| 12S/12     | 0.811 (20.6)        | 0.134 (3.4)   | 0.646 (16.4)         | 0.854 (21.7) |
| 14S/14     | 0.906 (23.0)        | 0.134 (3.4)   | 0.776 (19.7)         | 0.980 (24.9) |
| 16S/16     | 0.969 (24.6)        | 0.134 (3.4)   | 0.902 (22.9)         | 1.091 (27.7) |
| 18         | 1.063 (27.0)        | 0.134 (3.4)   | 1.028 (26.1)         | 1.224 (31.1) |
| 20         | 1.157 (29.4)        | 0.134 (3.4)   | 1.161 (29.5)         | 1.358 (34.5) |
| 22         | 1.252 (31.8)        | 0.134 (3.4)   | 1.287 (32.7)         | 1.488 (37.8) |
| 24         | 1.374 (34.9)        | 0.154 (3.9)   | 1.417 (36.0)         | 1.626 (41.3) |
| 28         | 1.563 (39.7)        | 0.154 (3.9)   | 1.654 (42.0)         | 1.854 (47.1) |
| 32         | 1.752 (44.5)        | 0.177 (4.5)   | 1.902 (48.3)         | 2.118 (53.8) |
| 36         | 1.937 (49.2)        | 0.177 (4.5)   | 2.150 (54.6)         | 2.362 (60.0) |
| 40         | 2.185 (55.5)        | 0.177 (4.5)   | 2.409 (61.2)         | 2.610 (66.3) |

++ 6B panel plug is front mount only.

## PANEL THICKNESS



| SHELL SIZE | FRONT MOUNT | REAR MOUNT  |
|------------|-------------|-------------|
| 8SL        | .125 (3.18) | .125 (3.18) |
| 10S        |             | .125 (3.18) |
| 10SL       |             | .125 (3.18) |
| 12S/12SL   |             | .125 (3.18) |
| 12         |             | .187 (4.75) |
| 14S        |             | .187 (4.75) |
| 16S        |             | .187 (4.75) |
| 16         |             | .187 (4.75) |
| 18         |             | .187 (4.75) |
| 20         |             | .187 (4.75) |
| 22         |             | .187 (4.75) |
| 24         |             | .187 (4.75) |
| 28         |             | .187 (4.75) |
| 32         |             | .250 (6.35) |
| 36         |             | .250 (6.35) |
| 40         |             | .250 (6.35) |

All dimensions in inches (millimeters in parenthesis)

# Pre-Earth Series/FMLB



## FIRST-MATE, LAST-BREAK (FMLB) CONNECTOR THAT INTERMATES WITH MIL-DTL-5015

Amphenol's DL Pre-Earth /FMLB (first-mate, last-break) connectors are designed for applications where a protective circuit from the ground contact to the shell is a safety requirement. These connectors provide a path for stray voltage to be shunted to a safe ground to avoid damage to sensitive equipment or harm to operators.

- Intermateable with AIT, MIL-DTL-5015 & 97 series
- UL-listed

### APPLICATIONS

- Power generators
- Engines
- Sensors
- Motion control
- Off-road vehicles
- Earth-moving equipment
- Ships
- Mobile equipment
- Industrial machinery
- Telecommunications

### FEATURES

- Conformity with European (CE) safety standards (DIN VDE 0627 and certified through TUV Product Service GmbH) in the approved insert arrangement
- Offered in shell styles: 3102A box mount and 3106A straight plug
- Intermateable with AIT, MIL-DTL-5015 and 97 styles
- Class IP67 protection when mated
- UL-listed file # E202200
- Pre-earth (ground contact) design
- First-mate/last-break capability

## CREATE YOUR PART NUMBER USING THESE THREE STEPS

| 1              | 2            | 3        | (example) |
|----------------|--------------|----------|-----------|
| <b>DL3106A</b> | <b>18-10</b> | <b>S</b> |           |
| CONNECTOR TYPE | LAYOUT       | CONTACT  |           |

### STEP 1: SELECT SHELL STYLE

#### PLUGS



**DL3106A**  
Plug

#### RECEPTACLES



**DL3102A**  
Box Mount Receptacle

### STEP 2: SELECT LAYOUT

| LAYOUT  | MATING VIEW OF PIN INSERT | TOTAL CONTACTS | CURRENT RATING (AMPS) |     |     |
|---------|---------------------------|----------------|-----------------------|-----|-----|
|         |                           |                | 13A                   | 23A | 46A |
|         |                           |                | CONTACT SIZE          |     |     |
|         |                           |                | 16                    | 12  | 8   |
| 10SL-3  |                           | 3              | 3                     | -   | -   |
| 18-10   |                           | 4              | -                     | 4   | -   |
| 18-12   |                           | 6              | 6                     | -   | -   |
| 20-15   |                           | 7              | -                     | 7   | -   |
| 22-22   |                           | 4              | -                     | -   | 4   |
| 24-106* |                           | 7              | -                     | -   | 7   |
| 24-10   |                           | 7              | -                     | -   | 7   |

• Indicates Pre-Earth contact only

\*Pre-Earth contact in plug

### STEP 3: SELECT CONTACT

→ ☐ P = Pin ☐ S = Socket

## MS3057-A CABLE CLAMP



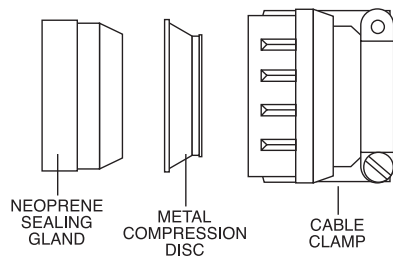
Standard MS3057 cable clamps have dual-clamping action to provide a balanced, positive hold on the wires and greatly reduce moisture transmission. This cable clamp accepts MS3420 bushings. MS3420 bushings can be nested to reduce the inside diameter (ID) to more closely match the diameter of the cable or wire bundle.

| SHELL SIZE | THREAD CLASS 2B | STANDARD CLAMP     |                          |                                    |                                  | STANDARD CLAMP & TELESCOPIC BUSHING |                  |                      |
|------------|-----------------|--------------------|--------------------------|------------------------------------|----------------------------------|-------------------------------------|------------------|----------------------|
|            |                 | LOW-COST CAST ZINC | ALUMINUM W/ BRASS SCREWS | ALUMINUM W/ STAINLESS STEEL SCREWS | MAXIMUM CABLE DIAMETER INCH (MM) | LOW-COST ZINC WITH BUSHING          | BUSHING INCLUDED | BUSHING ID INCH (MM) |
| 8S/10S     | 1/2-28UNEF      | -                  | MS3057-3A                | M85049/41-3A                       | 0.250 (6.35)                     | -                                   | MS3420-3         | 0.130 (3.3)          |
| 10SL       | 5/8-24UNEF      | 97-3057-1004**     | MS3057-4A                | M85049/41-4A                       | 0.312 (7.92)                     | 97-3057-1004-1                      | MS3420-4         | 0.220 (5.6)          |
| 12/12S     | 5/8-24UNEF      | 97-3057-1004**     | MS3057-4A                | M85049/41-4A                       | 0.312 (7.92)                     | 97-3057-1004-1                      | MS3420-4         | 0.220 (5.6)          |
| 12SL/14S   | 3/4-20UNEF      | 97-3057-1007**     | MS3057-6A                | M85049/41-6A                       | 0.438 (11.10)                    | 97-3057-1007-1                      | MS3420-6         | 0.312 (7.9)          |
| 16/16S     | 7/8-20UNEF      | 97-3057-1008**     | MS3057-8A                | M85049/41-8A                       | 0.562 (14.27)                    | 97-3057-1008-1                      | MS3420-8         | 0.437 (11.1)         |
| 18         | 1-20UNEF        | 97-3057-1010**     | MS3057-10A               | M85049/41-10A                      | 0.625 (15.88)                    | 97-3057-1010-1                      | MS3420-10        | 0.562 (14.3)         |
| 20/22      | 1 3/16-18UNEF   | 97-3057-1012**     | MS3057-12A               | M85049/41-12A                      | 0.750 (19.05)                    | 97-3057-1012-1                      | MS3420-12        | 0.625 (15.9)         |
| 24/28      | 1 7/16-18UNEF   | 97-3057-1016**     | MS3057-16A               | M85049/41-16A                      | 0.938 (23.80)                    | 97-3057-1016-1                      | MS3420-16, -12   | 0.625 (15.9)         |
| 32         | 1 3/4-18UNS     | 97-3057-1020**     | MS3057-20A               | M85049/41-20A                      | 1.250 (31.75)                    | 97-3057-1020-1                      | MS3420-20, -16   | 0.750 (19.1)         |
| 36         | 2-18UNS         | 97-3057-1024**     | MS3057-24A               | M85049/41-24A                      | 1.375 (34.92)                    | 97-3057-1024-1                      | MS3420-24, -20   | 0.937 (23.8)         |
| 40         | 2 1/4UNS-16     | -                  | MS3057-28A               | M85049/41-28A                      | 1.625 (41.28)                    | -                                   | -                | -                    |

Default plating is CAD OD.

\*\* Other platings are available. ➔ See page 17.

## MS3057-C WATERPROOF CABLE CLAMP



Standard MS3057-C waterproof cable clamp with mechanical strain relief for use with threaded endbells. Internal neoprene gland and compression ring will seal a broad range of round cable diameters, as listed below. For reduction of cable diameters, order the appropriate MS3420A bushing in table.

| SHELL SIZE  | PART NUMBER | WIRE DIAMETER INCHES (MM) |               | OPTIONAL BUSHINGS |                     |
|-------------|-------------|---------------------------|---------------|-------------------|---------------------|
|             |             | MAX.                      | MIN.          | PART NUMBER       | MAX. WIRE DIA. (MM) |
| 8S/10S      | MS3057-3C   | 0.219 (5.56)              | 0.095 (2.41)  | MS3420-3A         | 0.125 (3.17)        |
| 10SL/12S/12 | MS3057-4C   | 0.312 (7.93)              | 0.188 (4.80)  | MS3420-4A         | 0.219 (5.56)        |
| 12SL/14S    | MS3057-6C   | 0.438 (11.12)             | 0.281 (7.10)  | MS3420-6A         | 0.312 (7.93)        |
|             |             |                           |               | MS3420-4A         | 0.219 (5.56)        |
| 16/16S      | MS3057-8C   | 0.530 (13.48)             | 0.312 (7.90)  | MS3420-8A         | 0.438 (11.1)        |
|             |             |                           |               | MS3420-6A         | 0.312 (7.93)        |
| 18          | MS3057-10C  | 0.625 (15.87)             | 0.375 (9.50)  | MS3420-10A        | 0.438 (11.1)        |
|             |             |                           |               | MS3420-6A         | 0.312 (7.93)        |
| 20/22       | MS3057-12C  | 0.750 (19.00)             | 0.500 (12.70) | MS3420-12A        | 0.540 (13.74)       |
|             |             |                           |               | MS3420-8A         | 0.438 (11.10)       |
| 24/28       | MS3057-16C  | 0.940 (23.80)             | 0.625 (15.90) | MS3420-16A        | 0.750 (19.00)       |
|             |             |                           |               | MS3420-12A        | 0.540 (13.74)       |
|             |             |                           |               | MS3420-8A         | 0.438 (11.10)       |
| 32          | MS3057-20C  | 1.250 (31.75)             | 0.921 (23.40) | MS3420-20A        | 0.938 (23.8)        |
|             |             |                           |               | MS3420-16A        | 0.750 (19.00)       |
|             |             |                           |               | MS3420-12A        | 0.540 (13.74)       |
| 36          | MS3057-24C  | 1.380 (35.00)             | 1.00 (25.40)  | MS3420-24A        | 1.12 (28.50)        |
|             |             |                           |               | MS3420-18A        | 0.938 (23.80)       |
|             |             |                           |               | MS3420-16A        | 0.750 (19.00)       |
| 40          | MS3057-28C  | 1.620 (41.25)             | 1.25 (31.80)  | MS3420-28A        | 1.25 (31.75)        |
|             |             |                           |               | MS3420-20A        | 0.940 (23.80)       |
|             |             |                           |               | MS3420-16A        | 0.750 (19.00)       |

All dimensions in inches (millimeters in parenthesis)

**MS3420 TELESCOPING BUSHINGS**

For use with style-A cable clamps and AIT/MS style-E/F endbells to resist dust, dirt, and oil. Bushings can be nested, one inside the other, to reduce the inside diameter to better seal against the cable jacket. Each bushing will accept the next smallest bushing.

| SHELL SIZE  | 1ST BUSHING PART NUMBER | INSIDE DIAMETER | 2ND NESTED BUSHING INSIDE | DIAMETER      | FITS IN CABLE CLAMP |
|-------------|-------------------------|-----------------|---------------------------|---------------|---------------------|
| 8S/10S      | MS3420-3                | 0.130 (3.30)    | NONE                      | -             | MS3057-3A           |
| 10SL/12/12S | MS3420-4                | 0.220 (5.59)    | NONE                      | -             | MS3057-4A           |
| 14/14S      | MS3420-6                | 0.312 (7.92)    | NONE                      | -             | MS3057-6A           |
| 16S         | MS3420-8                | 0.437 (11.10)   | NONE                      | -             | MS3057-8A           |
| 16          | MS3420-8                | 0.437 (11.10)   | NONE                      | -             | MS3057-8A           |
| 18          | MS3420-10               | 0.562 (14.30)   | NONE                      | -             | MS3057-10A          |
| 20          | MS3420-12               | 0.625 (15.90)   | NONE                      | -             | MS3057-12A          |
| 22          | MS3420-12               | 0.625 (15.90)   | NONE                      | -             | MS3057-12A          |
| 24          | MS3420-16               | 0.750 (19.05)   | MS3420-12                 | 0.625 (15.90) | MS3057-16A          |
| 28          | MS3420-16               | 0.750 (19.05)   | MS3420-12                 | 0.625 (15.90) | MS3057-16A          |
| 32          | MS3420-20               | 0.937 (23.80)   | MS3420-16                 | 0.750 (19.05) | MS3057-20A          |
| 36          | MS3420-24               | 1.250 (31.75)   | MS3420-20                 | 0.937 (23.80) | MS3057-24A          |
| 40          | MS3420-28               | 1.375 (34.92)   | MS3420-24                 | 1.250 (31.75) | SE96-28A4           |

**MS3420-A REDUCTION BUSHINGS**

For use with MS3057-C cable clamps (style-C) to reduce the wire-sealing diameter. Bushings can be nested, one inside the other, to progressively reduce the inside diameter of the cable clamp. The column labeled “reduction bushings” shows the acceptable nesting options for each clamp.

**9767 CABLE CLAMPS**

9767 waterproof cable clamp with mechanical strain relief. An internal Neoprene gland seal bushing and compression washer will seal a broad range of round cable diameters as listed below.

| SHELL SIZE  | CABLE CLAMP PART NUMBER | MAX. CABLE OUTSIDE DIAMETER |       | MIN. CABLE OUTSIDE DIAMETER |       | THREAD CLASS 2B UNEF |
|-------------|-------------------------|-----------------------------|-------|-----------------------------|-------|----------------------|
|             |                         | INCHES                      | MM    | INCHES                      | MM    |                      |
| 10SL/12S/12 | 9767-12-4               | 0.219                       | 5.55  | 0.100                       | 0.51  | 5/8-24               |
| 14S         | 9767-14-4               | 0.219                       | 5.55  | 0.100                       | 0.51  | 3/4-20               |
| 14S         | 9767-14-6               | 0.344                       | 8.73  | 0.176                       | 4.47  | 3/4-20               |
| 16S/16      | 9767-16-4               | 0.219                       | 5.55  | 0.100                       | 0.51  | 7/8-20               |
| 16S/16      | 9767-16-6               | 0.344                       | 8.73  | 0.176                       | 4.47  | 7/8-20               |
| 16S/16      | 9767-16-8               | 0.438                       | 11.12 | 0.177                       | 4.50  | 7/8-20               |
| 18          | 9767-18-6               | 0.344                       | 8.73  | 0.176                       | 4.47  | 1-20                 |
| 18          | 9767-18-8               | 0.438                       | 11.12 | 0.177                       | 4.50  | 1-20                 |
| 18          | 9767-18-10              | 0.563                       | 14.29 | 0.292                       | 7.42  | 1-20                 |
| 20/22       | 9767-22-8               | 0.438                       | 11.12 | 0.177                       | 4.50  | 1-3/16-18            |
| 20/22       | 9767-22-10              | 0.563                       | 14.29 | 0.292                       | 7.42  | 1-3/16-18            |
| 20/22       | 9767-22-12              | 0.688                       | 17.46 | 0.370                       | 9.40  | 1-3/16-18            |
| 24/28       | 9767-28-10              | 0.563                       | 14.29 | 0.292                       | 7.42  | 1-7/16-18            |
| 24/28       | 9767-28-12              | 0.688                       | 17.46 | 0.370                       | 9.40  | 1-7/16-18            |
| 24/28       | 9767-28-16              | 0.844                       | 21.43 | 0.536                       | 13.61 | 1-7/16-18            |
| 32          | 9767-32-20              | 1.031                       | 26.19 | 0.590                       | 14.99 | 1-3/4-18UNS          |
| 36          | 9767-36-16              | 0.844                       | 21.43 | 0.536                       | 13.61 | 2-18UNS              |

All dimensions in inches (millimeters in parenthesis)

## GASKETS



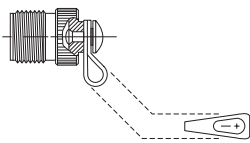
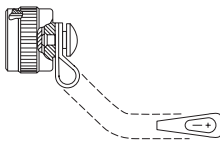
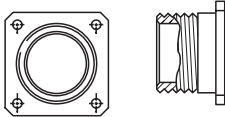
Synthetic rubber gaskets are used to ensure a moisture-tight seal between a receptacle and the panel. Gaskets are available for front or rear panel mounting of style-0, 2, and 6B connectors. Gasket thickness is approximately .031 inches (1 mm), for nonconductive and low-temperature types.

Conductive shielding gaskets contain an imbedded metal screen for EMI/RFI shielding in addition to moisture sealing. Gaskets are available for front or rear panel mounting of connectors. Gasket thickness is .020 inches (.5 mm).

| SHELL SIZE | NON-CONDUCTIVE | CONDUCTIVE    | LOW-TEMPERATURE<br>-67°F (-55°C) |
|------------|----------------|---------------|----------------------------------|
| 8S         | 10-040450-008  | 10-040450-08S | 10-036675-008                    |
| 10S/10SL   | 10-040450-010  | 10-040450-10S | 10-036675-010                    |
| 12/12S     | 10-040450-012  | 10-040450-12S | 10-036675-012                    |
| 14/14S     | 10-040450-014  | 10-040450-14S | 10-036675-014                    |
| 16S        | 10-040450-016  | 10-040450-16S | 10-036675-016                    |
| 16         | 10-040450-016  | 10-040450-16S | 10-036675-016                    |
| 18         | 10-040450-018  | 10-040450-18S | 10-036675-018                    |
| 20         | 10-040450-020  | 10-040450-20S | 10-036675-020                    |
| 22         | 10-040450-022  | 10-040450-22S | 10-036675-022                    |
| 24         | 10-040450-024  | 10-040450-24S | 10-036675-024                    |
| 28         | 10-040450-028  | 10-040450-28S | 10-036675-028                    |
| 32         | 10-040450-032  | 10-040450-32S | 10-036675-032                    |
| 36         | 10-040450-036  | 10-040450-36S | 10-036675-036                    |
| 40         | 10-040450-040  | 10-040450-40S | 10-036675-040                    |

## METAL DUST CAPS WITH SASH CHAIN &amp; DUMMY RECEPTACLES

Metal dust caps are used to protect the contacts when the connectors are left unmated. Dust caps come with metal chain lanyards. Dummy receptacles are for front or rear panel mounting. The center of the dummy receptacle is closed. Dummy receptacles mount on the same centers and have the same outside dimensions as MS3102 receptacles. A version with a clearance hole through the middle of the connector is also available. Call for ordering information; contact information is below.

|             | DUST CAPS                                                                           |                                                                                      |                                                                                       |
|-------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|             | PLUG CAP                                                                            | RECEPTACLE                                                                           | DUMMY RECEPTACLES                                                                     |
| SHELL SIZE  |  |  |  |
| 8S          | MS25042-8*                                                                          | MS25043-8*                                                                           | MS3105-8S                                                                             |
| 10S/10SL    | MS25042-10*                                                                         | MS25043-10*                                                                          | MS3105-10S                                                                            |
| 12/12S/12SL | MS25042-12*                                                                         | MS25043-12*                                                                          | MS3105-12S                                                                            |
| 14S         | MS25042-14*                                                                         | MS25043-14*                                                                          | MS3105-14S                                                                            |
| 16S         | MS25042-16*                                                                         | MS25043-16*                                                                          | MS3105-16S                                                                            |
| 16          | MS25042-16*                                                                         | MS25043-16*                                                                          | MS3105-16                                                                             |
| 18          | MS25042-18*                                                                         | MS25043-18*                                                                          | MS3105-18                                                                             |
| 20          | MS25042-20*                                                                         | MS25043-20*                                                                          | MS3105-20                                                                             |
| 22          | MS25042-22*                                                                         | MS25043-22*                                                                          | MS3105-22                                                                             |
| 24          | MS25042-24*                                                                         | MS25043-24*                                                                          | MS3105-24                                                                             |
| 28          | MS25042-28*                                                                         | MS25043-28*                                                                          | MS3105-28                                                                             |
| 32          | MS25042-32*                                                                         | MS25043-32*                                                                          | MS3105-32                                                                             |
| 36          | MS25042-36*                                                                         | MS25043-36*                                                                          | MS3105-36                                                                             |
| 40          | MS25042-40*                                                                         | MS25043-40*                                                                          | MS3105-40                                                                             |

\*Contact us for other platings. \*D = Olive drab chromate over cadmium DA = Anodized

SOLDER CONTACTS

- STEP 1:** Slide the rear accessories over the wire bundle in the proper sequence for re-assembly: cable clamp and/or endbell first, then ferrule and (if used) coupling nut.
- STEP 2:** Insert individual wires through the proper holes in the grommet. Use isopropyl alcohol as a lubricant.
- STEP 3:** Solder wires to appropriate contacts on the rear of the connector. Information on standard soldering practices is available upon request. Please contact us.
- STEP 4:** Fixture the connector for reassembly using the endbell assembly tools on [page 122](#).
- STEP 5:** Slide the grommet down the wires (lubricating the grommet with isopropyl alcohol will help).
- STEP 6:** Fill all unused grommet cavities with a wire hole filler to maintain the sealing integrity of the connector.
- STEP 7:** Slide coupling nut, ferrule, and endbell accessories over rear of the connector and tighten. For tooling, [see page 122](#).

CRIMP TOOL OPERATION



- STEP 1:** Strip the wires to the appropriate length. See strip lengths on the Contact Selection Guide, [page 30](#).
- STEP 2:** Open the crimp tool by squeezing the handles. Push the latch on the turret to release the locator. Attach the turret to the crimp tool using the two captive hex bolts in the turret.

**NOTE:** Hand-crimp tools can be used with size 16S, 16 & 12 contacts. Size 8, 4 and 0 contacts require the use of air-powered crimp tools. Contact us for assistance in the use of these tools.
- STEP 3:** Select the proper locator position for your contact by rotating the locator until the proper color is aligned with the index mark. Push locator back down until it snaps into position.

| CONTACT SIZE | PIN LOCATOR COLOR | SOCKET LOCATOR COLOR |
|--------------|-------------------|----------------------|
| 16S          | Blue              | Blue                 |
| 16           | Green             | Red                  |
| 12           | Red               | Red                  |



- STEP 4:** Adjust dial for proper wire gauge. To change the dial setting, remove the lock pin and lift center of dial. Turn to the desired wire gauge. Replace lock pin on dial.
- STEP 5:** Cycle the tool before inserting the contact to be sure the tool is in the open position. Drop the contact, mating end first, into the crimp cavity of the tool. Squeeze the tool handle just enough to grip the contact without actually crimping it.
- STEP 6:** Insert the stripped wire into the contact with a slight twisting motion. Be sure all wire strands are inside the contact. Squeeze the handle to cycle the tool. The handle will not release until the contact is completely crimped.

## CRIMP TOOL OPERATION (CONTINUED)



**STEP 7:** Remove the crimped contact. Pull on the wire slightly to be sure it is properly crimped. Be sure the contact is not bent or damaged in any way. Visually inspect the crimp.

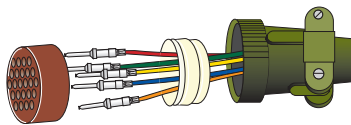
**MICRO-SECTIONS:** Enlargement of micro-section permits a final inspection of crimp quality. This test is recommended whenever new tools or new types of wire or contacts are used.

## CRIMP TENSILE STRENGTH

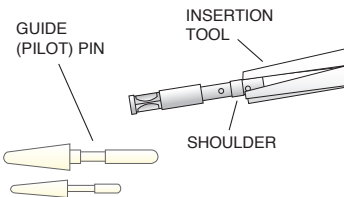
Initial minimum pullout force in lbs. (before conditioning)

| SIZE | WIRE GAUGE (AWG) | LB. |
|------|------------------|-----|
| 16   | 20               | 20  |
|      | 18               | 40  |
|      | 16               | 50  |
| 12   | 14               | 70  |
|      | 12               | 110 |
| 8    | 8                | 185 |
| 4    | 4                | 450 |
| 0    | 0                | 800 |

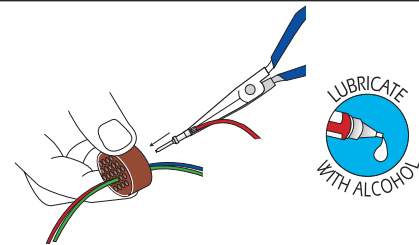
## INSERTION OF CONTACTS



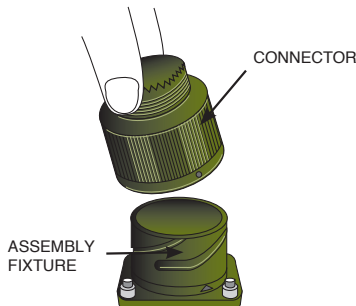
**STEP 1:** Slide the rear accessories over the wire bundle in the proper sequence for re-assembly: cable clamp and/or endbell first, then ferrule, and coupling nut.



**STEP 2:** Use the proper insertion tool from the Contact Selection Chart on [page 31](#). Place the contact in the tool. The tool should push against the shoulder of the contact. Contact sizes 16S, 16, and 12 use a pliers-style tool. Contact sizes 8, 4 and 0 use a tool with a C-shaped shaft.



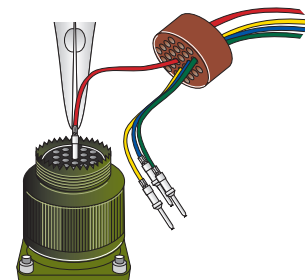
**STEP 3:** Lubricate the grommet with isopropyl alcohol (do not use any other type of lubricant). Insert the contact through the appropriate cavity in the grommet. Sizes 16S, 16 and 12 socket contacts must be installed using guide (pilot) pins. See the Contact Selection Guide on [page 31](#) for Insertion Guide (Pilot) Pin part numbers.



**STEP 4:** Place the connector into an assembly fixture. Fixtures are available for production use; contact us using the information below. If you are not using a fixture, be sure to allow clearance on the mating face of the connector for the guide pins to come through the connector during insertion.

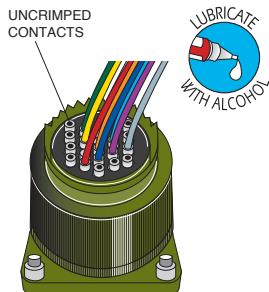


**STEP 5:** Lubricate the contact cavities of the connector insulator with isopropyl alcohol (do not use any other type of lubricant).

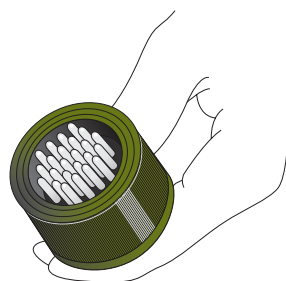


**STEP 6:** Using guide pins where necessary, push straight down with a firm, even pressure until the contact snaps into position in the proper cavity. Start at the center of the pattern and work toward the outer edges.

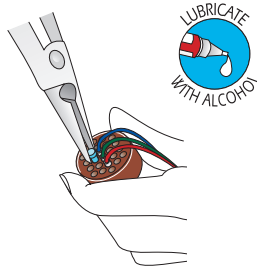
## INSERTION OF CONTACTS (CONTINUED)



**STEP 7:** Fill any unused cavities with contacts.



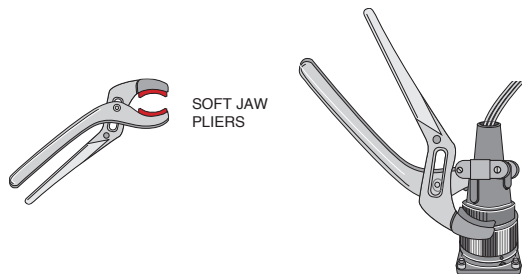
**STEP 8:** Check the mating face of the connector to ensure that all of the same size contacts are on the same plane (fully inserted). If not, the contact is not fully inserted. Remove the contact using the proper extraction tool and procedure, and reinsert. Do not attempt to reinsert the insertion tool to correct the problem.



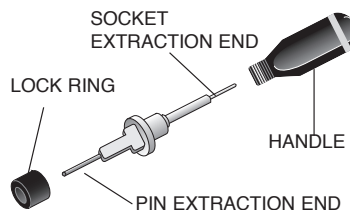
**STEP 9:** A wire hole filler must be inserted into the grommet behind the unused contacts to maintain the sealing integrity of the connector. See the Contact Selection Chart on [page 31](#) for wire hole fillers.

**STEP 10:** Place the connector back in the fixture for re-assembly. Slide the connector accessories back down the cable over the rear of the connector and tighten. Use the appropriate endbell tools as shown on [page 122](#).

## EXTRACTION OF CONTACTS



**STEP 1:** Remove the endbell accessories and slide them back over the wires. Use the appropriate endbell tools as shown on [page 122](#).



**STEP 2:** Use the proper extraction tool from the Contact Selection Chart on [page 31](#). The extraction tool can be used for both pin and socket contacts by removing the shaft from the handle and reversing it for pin or socket extraction.



**STEP 3:** On the mating face of the connector, insert the tool over the pin contact or into the socket contact until the tool touches bottom. Apply a slow, continuous pressure to push the contact out through the rear of the connector. When the shoulder of the tool “thunks” against the insulator, the contact is extracted.

**STEP 4:** Carefully remove the extraction tool from the connector to avoid damage to the insulator.

## AIT/MS SERIES CONNECTORS

**J MS 3102 R 18-3 P W -RES**

### CONNECTOR TYPE

J Prefix\*  
MS Military Standard

### (NOT J MS)

Modification for A-style service class only  
**RES**ilient insert (*neoprene*)

### SHELL STYLE

Mates with

- 3100 = Wall-mounting receptacle
- 3101 = Cable-connecting receptacle (*plug†*)
- 3102 = Box-mounting receptacle
- 3106 = Straight plug
- 3108 = 90° plug

### INSERT ROTATION

W, X, Y, and Z designate that the insert is rotated in its shell from normal position. No letter is required for normal (*no rotation*) position. See tables on ➡ pages 83-93.

### SERVICE CLASS

A Solid shell, not MS qualified  
C Solid shell for pressurized applications  
E Environmentally-resistant  
F Environmentally-resistant with strain relief (*J MS part number only*)  
R Lightweight, environmentally-resistant (*J MS part number only; not available for 3108*)

### CONTACT TYPES

P Pin contact  
S Socket contact

† Note: The US military changed the designation from cable receptacle to plug in the MIL-DTL-5015 specifications.

### SHELL SIZE & INSERT ARRANGEMENT

See tables on ➡ pages 72-93.

✓ Parts are the only MS-approved inserts.

For insert arrangements over 50 and shell size 40 and above. Exceptions: 36-52, 40-1, 40-9 and 40-56 are approved.

\*The March 30, 2003 revision of MIL-DTL-5015H requires that the letters JAN or J be physically marked on the connector preceding the MS designator. This mark certifies that the connector meets specification. The United States Government has obtained Certificate and Registration Number 504,860 for the certification mark "JAN" and Registration Number 1,586,261 for the certification mark "J."

## HAVE A UNIQUE REQUIREMENT?

Quick assembly of custom products is our specialty! Email us at [sales@peigenesis.com](mailto:sales@peigenesis.com) or complete our online Technical Request at [www.peigenesis.com/technical-support](http://www.peigenesis.com/technical-support). To contact us by phone, please see the back cover for a complete listing of our branch offices and contact numbers.

## AC SERIES CONNECTORS

Ordering example part number ACC06AF18-1SX-025 is shown as follows:

If part number incorporates a "B," see AIB/GT ➔ page 119.

**AC C 06 AF 18-1 S X - 025**

**SERIES**

AC Designates Amphenol Industrial Series

**CONTACT STYLE**

C Designates crimp contacts  
S Designates solder contacts  
CL Designates crimp contacts with low-smoke, zero-halogen insert and grommets  
SL Designates solder contacts with low-smoke, zero-halogen insert and grommets

**SHELL STYLE**

Mates with  
00 Wall-mounting receptacle  
01 In-line receptacle  
02 Box-mounting receptacle  
06 Straight plug  
08 90° plug

**CONNECTOR CLASS**

A General-duty, threaded backshell, cable clamp, no grommet  
AF General-duty, threaded backshell, cable clamp, no grommet  
CF General-duty, threaded backshell, gland-sealed cable clamp, no grommet (08 only)  
E General-duty, integral endbell with cable clamp, with grommet (08 not integral endbell)  
F General-duty, threaded backshell, cable clamp, with grommet  
LCFZ Long-threaded endbell, gland-sealed cable clamp, with grommet (06 only)  
PGA Environmental connector for jacketed cable  
PGR Environmental connector for jacketed cable  
R General-duty, threaded backshell, no cable clamp, with grommet (06 only)  
SB Shielded shrink boot endbell with grommet (06 only)

**SHELL SIZE & LAYOUT**

See layout availability on ➔ pages 72-93.

**PLATING MODIFICATION CODES**

003 Olive drab cadmium plate finish  
023 Electroless nickel finish (RoHS with crimp only)  
024 Green zinc alloy finish  
025 Non-conductive black alloy finish (RoHS with crimp)  
027 Conductive black alloy finish (RoHS with crimp)  
G96 Black hard-coat anodize  
A24 .000035 gold/nickel on contacts  
116 Less pre-tinned solder cups (solder only)  
472 116 & 025 mod codes (RoHS)  
548 116 & 023 mod codes (RoHS)  
553 116 & 027 mod codes (RoHS)

**ALTERNATE INSERT ROTATION**

W, X, Y, and Z designate that the insert is rotated in its shell from a normal position. No letter required for normal (no rotation) position. See ➔ pages 83-93.

**CONTACT TYPE**

P Pin contacts  
S Socket contacts  
R RADSOK (high-amperage) crimp socket contacts only for sizes 12, 8, 4, and 0