

# Amphenol MIL-DTL-26482, Series 2, Matrix<sup>®</sup>



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### Shell Styles:

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(Covered in-depth in Amphenol Industrial Catalog 12-070)



## MIL-DTL-26482 Series 2, Matrix<sup>®</sup> Typical Markets:

- Military & Commercial Aviation
  - Cockpit, Landing Gear, Aircraft Frame
- Military Aircraft Carriers
- Instrumentation/Process Control/Test Equipment
- C4ISR



Amphenol Aerospace offers the Matrix® Product line of MIL-DTL-26482\*, Series 2 connectors.

This series provides a bayonet coupling connector with crimp rear insertable, rear releasable contacts.

**DESIGN CHARACTERISTICS**

- Medium size, environmentally resistant connector
- Recommended operating voltage to 1,000 VAC (RMS) at sea level
- Quick positive coupling assured by 3 point bayonet coupling system
- Visual confirmation of complete coupling
- Eliminates mismatching by the use of five key/keyway design
- Insertion and removal of contacts from the rear of the connector assures no damage to the front that might affect the sealing characteristics
- Utilizes same standard qualified rear-release type plastic tool for contact insertion and removal
- Contacts are qualified to SAE AS39029\*\* requirements – BIN coded (three color bands), and are crimped with standard crimp tools per MIL-DTL-22520
- Grommets are constructed of tear-resistant elastomer and experience no degradation when exposed to a broad range of fluids
- Sealing over a range of wire diameters is assured by a triple webbed grommet at the rear of the connector
- Closed entry socket side of the insert is designed with a lead-in chamfer and a hard face that will accept a pin contact bent within pre-established limits
- Elastomer interfacial seal on the pin side has raised barriers around each pin which displace into the socket chamfer when mated, providing a positive moisture seal

**CUSTOMER OPTIONS**

- Shell styles within this family include: Wall mount with either a narrow or a wide flange, jam nut single hole mount, and cable connecting receptacles, along with standard plugs or plugs with RFI grounding fingers, in shell sizes 8 to 24
- MS and Proprietary versions available
- Accommodation of contact sizes 20, 16 and 12
- 34 insert arrangement patterns available, accommodating from a minimum of 3 to a maximum of 55 circuits
- Alternate positioning available
- Various finishes are available (for information on non-cadmium zinc alloy plating, consult Amphenol Aerospace, Sidney, NY)

\* MIL-DTL-26482 supersedes MIL-C-26482

\*\* SAE AS39029 supersedes MIL-C-39029



**MS3470**  
wall mounting receptacle  
with narrow flange

**MS3472**  
wall mounting receptacle  
with wide flange

**MS3471**  
cable connecting  
receptacle

**MS3474**  
jam nut receptacle

**MS3476**  
straight plug  
**MS3475**  
plug with RFI grounding  
fingers

38999  
SJT I II III

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

INSERT ARRANGEMENTS

| Insert Arrangement | Service Rating | Total Contacts | Contact Size |    |    |
|--------------------|----------------|----------------|--------------|----|----|
|                    |                |                | 12           | 16 | 20 |
| 8-33               | I              | 3              |              |    | 3  |
| 8-98               | I              | 3              |              |    | 3  |
| 10-6               | I              | 6              |              |    | 6  |
| 12-3               | II             | 3              |              | 3  |    |
| 12-8               | I              | 8              |              |    | 8  |
| 12-10              | I              | 10             |              |    | 10 |
| 14-4               | I              | 4              | 4            |    |    |
| 14-5               | II             | 5              |              | 5  |    |
| 14-9S              | I              | 9              | 4            |    | 5  |
| 14-12              | I              | 12             |              | 4  | 8  |
| 14-15              | I              | 15             |              | 1  | 14 |
| 14-18              | I              | 18             |              |    | 18 |
| 14-19              | I              | 19             |              |    | 19 |
| 16-8               | II             | 8              |              | 8  |    |
| 16-23S             | I              | 23             |              | 1  | 22 |
| 16-26              | I              | 26             |              |    | 26 |
| 18-8               | I              | 8              | 8            |    |    |
| 18-11S             | II             | 11             |              | 11 |    |
| 18-30S             | I              | 30             |              | 1  | 29 |
| 18-32              | I              | 32             |              |    | 32 |
| 20-16              | II             | 16             |              | 16 |    |
| 20-24S             | I              | 24             |              |    | 24 |
| 20-39              | I              | 39             |              | 2  | 37 |
| 20-41              | I              | 41             |              |    | 41 |
| 22-12S             | I              | 12             | 12           |    |    |
| 22-19S             | I              | 19             | 19           |    |    |
| 22-21              | II             | 21             |              | 21 |    |
| 22-32S             | I              | 32             |              |    | 32 |
| 22-41              | I              | 41             |              | 14 | 27 |
| 22-55              | I              | 55             |              |    | 55 |
| 22-95S             | I              | 32             | 6            |    | 26 |
| 24-19S             | II             | 19             | 19           |    |    |
| 24-31              | I              | 31             |              | 31 |    |
| 24-61              | I              | 61             |              |    | 61 |

Arrangements designated with an S are tooled in socket only.

ALTERNATE ROTATIONS OF INSERT

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate rotations are available as indicated in the chart below.

As shown in the diagram, the front face of the pin insert is rotated within the shell in a clockwise direction from the normal shell key. The socket insert would be rotated counter-clockwise the same number of degrees in respect to the normal shell key.



View looking into front face of pin insert or rear of socket insert.

| Insert Arrangement | Degrees |     |     |     |
|--------------------|---------|-----|-----|-----|
|                    | W       | X   | Y   | Z   |
| 8-33               | 90      | -   | -   | -   |
| 8-98               | -       | -   | -   | -   |
| 10-6               | 90      | -   | -   | -   |
| 12-3               | -       | -   | 180 | -   |
| 12-8               | 90      | 112 | 203 | 292 |
| 12-10              | 60      | 155 | 270 | 295 |
| 14-4               | 45      | -   | -   | -   |
| 14-5               | 40      | 92  | 184 | 273 |
| 14-9               | 15      | 90  | 180 | 270 |
| 14-12              | 43      | 90  | -   | -   |
| 14-15              | 17      | 110 | 155 | 234 |
| 14-18              | 15      | 90  | 180 | 270 |
| 14-19              | 30      | 165 | 315 | -   |
| 16-8               | 54      | 152 | 180 | 331 |
| 16-23              | 158     | 270 | -   | -   |
| 16-26              | 60      | -   | 275 | 338 |
| 18-8               | 180     | -   | -   | -   |
| 18-11              | 62      | 119 | 241 | 340 |
| 18-30              | 180     | 193 | 285 | 350 |
| 18-32              | 85      | 138 | 222 | 265 |
| 20-16              | 238     | 318 | 333 | 347 |
| 20-24              | 70      | 145 | 215 | 290 |
| 20-39              | 63      | 144 | 252 | 333 |
| 20-41              | 45      | 126 | 225 | -   |
| 22-12              | -       | -   | -   | -   |
| 22-19              | 15      | 90  | 225 | 308 |
| 22-21              | 16      | 135 | 175 | 349 |
| 22-32              | 72      | 145 | 215 | 288 |
| 22-41              | 39      | 135 | 264 | -   |
| 22-55              | 30      | 142 | 226 | 314 |
| 22-95              | 26      | 180 | 266 | -   |
| 24-19              | 30      | 165 | 315 | -   |
| 24-31              | 90      | 225 | 255 | -   |
| 24-61              | 90      | 180 | 270 | 324 |

38999  
III  
II  
I  
SJT

26482  
Matrix 2

83723 III  
Matrix  
Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

front face of pin insert or rear face of socket insert illustrated



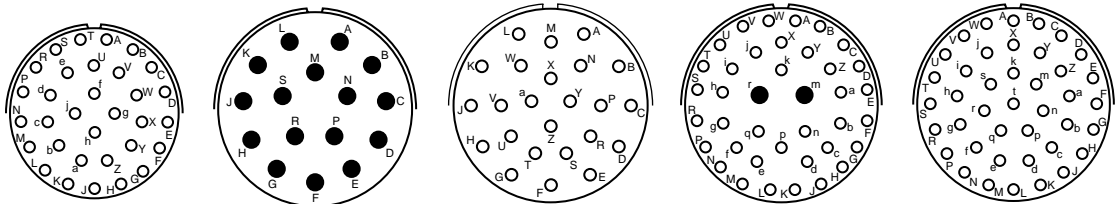
| Insert Arrangement | 8-33 | 8-98 | 10-06 | 12-03 | 12-08 | 12-10 | 14-04 | 14-05 |
|--------------------|------|------|-------|-------|-------|-------|-------|-------|
| Service Rating     | I    | I    | I     | II    | I     | I     | I     | II    |
| Number of Contacts | 3    | 3    | 6     | 3     | 8     | 10    | 4     | 5     |
| Contact Size       | 20   | 20   | 20    | 16    | 20    | 20    | 12    | 16    |



| Insert Arrangement | 14-09 | 14-12 | 14-15 | 14-18 | 14-19 | 16-08 |
|--------------------|-------|-------|-------|-------|-------|-------|
| Service Rating     | I     | I     | I     | I     | I     | II    |
| Number of Contacts | 5     | 4     | 8     | 14    | 19    | 8     |
| Contact Size       | 20    | 12    | 20    | 16    | 20    | 16    |



| Insert Arrangement | 16-23 | 16-26 | 18-08 | 18-11 | 18-30 |    |
|--------------------|-------|-------|-------|-------|-------|----|
| Service Rating     | I     | I     | I     | II    | I     |    |
| Number of Contacts | 22    | 1     | 26    | 11    | 29    | 1  |
| Contact Size       | 20    | 16    | 20    | 16    | 20    | 16 |



| Insert Arrangement | 18-32 | 20-16 | 20-24 | 20-39 | 20-41 |
|--------------------|-------|-------|-------|-------|-------|
| Service Rating     | I     | II    | I     | I     | I     |
| Number of Contacts | 32    | 16    | 24    | 37    | 41    |
| Contact Size       | 20    | 16    | 20    | 20    | 16    |

NOTE: Connectors sold as mil-spec connectors will have mil-spec markings on the insert (a "snail-trail" designating the numerical path). Commercial versions will have insert markings as shown here.

**CONTACT LEGEND**

|    |    |    |
|----|----|----|
| ○  | ●  | ◐  |
| 20 | 16 | 12 |

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26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear  
Release Matrix

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Printed  
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Fiber Optics

High Speed  
Contacts

Options  
Others

front face of pin insert or rear face of socket insert illustrated



| Insert Arrangement | 22-12 | 22-19 | 22-21 | 22-32 |
|--------------------|-------|-------|-------|-------|
| Service Rating     | I     | I     | II    | I     |
| Number of Contacts | 12    | 19    | 21    | 32    |
| Contact Size       | 12    | 12    | 16    | 20    |



| Insert Arrangement | 22-41    | 22-55 | 22-95    | 24-19 |
|--------------------|----------|-------|----------|-------|
| Service Rating     | I        | I     | I        | II    |
| Number of Contacts | 27    14 | 55    | 26    6  | 19    |
| Contact Size       | 20    16 | 20    | 20    12 | 12    |



| Insert Arrangement | 24-31 | 24-61 |
|--------------------|-------|-------|
| Service Rating     | I     | I     |
| Number of Contacts | 31    | 61    |
| Contact Size       | 16    | 20    |

NOTE: Connectors sold as mil-spec connectors will have mil-spec markings on the insert (a "snail-trail" designating the numerical path). Commercial versions will have insert markings as shown here.

**CONTACT LEGEND**

○ 20    ● 16    ◐ 12

38999  
SJT

26482  
Matrix 2

83723 III  
Pyle

5015  
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38999  
SJT I II III

26482  
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Matrix Pyle

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Contacts

Options  
Others

**CLASS DESCRIPTIONS**

| Military MIL-DTL-26482, Series 2 | Amphenol/Matrix Commercial MB1 Series | Description   |
|----------------------------------|---------------------------------------|---|
| Class L                          | Class R                               | Aluminum shell, electroless nickel finish, fluid resistant            |
| Class E                          | –                                     | Inactive, superceded by Class L*                                      |
| Class R                          | –                                     | Inactive, superceded by Class L*                                      |
| Class A                          | Class A                               | Aluminum shell, black non-conductive anodized finish, fluid resistant |
| –                                | Class G                               | Stainless steel shell, passivated, fluid resistant                    |
| Class W                          | Class W                               | Aluminum shell, olive drab cadmium plated, corrosion/fluid resistant  |

\* Ref. MIL-DTL-26482

**PERFORMANCE SPECIFICATIONS**

**SERVICE RATINGS\*\***

| Service Rating | Recommended Operating AC Voltage at Sea Level | Test Voltage AC (RMS), 60 cps |            |            |             |
|----------------|---|-------------------------------|------------|------------|-------------|
|                |   | Sea Level                     | 50,000 ft. | 70,000 ft. | 110,000 ft. |
| I              | 600   | 1,500                         | 500        | 375        | 200         |
| II             | 1,000   | 2,300                         | 750        | 500        | 200         |

\*\* Service Rating is comparable to MS rating A. Miniature connectors rated Service Rating I will provide a minimum flashover voltage at sea level of 2,000 volts AC (RMS). Service Rating II is comparable to MS Service Rating D, and will provide a minimum flashover voltage of 2,800 volts AC (RMS) at sea level.

Please note that the electrical data given is not an establishment of electrical safety factors. This is left entirely in the designer's hands, as he can best determine which peak voltage, switching surges, transients, etc. can be expected in a particular circuit.

**OPERATING TEMPERATURE RANGE**

–65°C (–85°F) to 200°C (392°F)

**ENVIRONMENTAL SEAL**

Wired, mated connectors with the specified accessory attached will meet the altitude immersion test specified in MIL-DTL-26482.

**DURABILITY**

Minimum of 500 mating cycles.

**SHOCK AND VIBRATION REQUIREMENTS**

When tested as follows, the connector shall sustain no physical damage, or electrical discontinuity exceeding one microsecond.

**SHOCK:**

Pulse of an approximate half sine wave of 300g magnitude with duration of 3 milliseconds applied in three axes.

**VIBRATION:**

Sixteen hours of random vibration having a range of 50 to 2,000 Hz with a 41.7G peak level.

1. 2. 3. 4. 5. 6. 7.

| MIL-DTL-26482, Series 2 | Connector Type | Connector Style | Service Class | Shell Size/Insert Arrangement | Contact Type | Alternate Rotation of Insert | Modification Number |
|-------------------------|----------------|-----------------|---------------|-------------------------------|--------------|------------------------------|---------------------|
| MILITARY                | MS             | 3470            | W             | 12-10                         | P            | W                            | NA                  |
| COMMERCIAL              | MB1            | 0               | W             | 12-10                         | P            | W                            | (xxx)               |

### Step 1. Military Connector Type

|           |                              |
|-----------|------------------------------|
| <b>MS</b> | Designates Military Standard |
|-----------|------------------------------|

### Step 2. Select a Connector Style

|             | Designates                               |
|-------------|--|
| <b>3470</b> | Wall Mount Receptacle with Narrow Flange |
| <b>3472</b> | Wall Mount Receptacle with Wide Flange   |
| <b>3471</b> | Cable Connecting Receptacle              |
| <b>3474</b> | Jam Nut Receptacle                       |
| <b>3476</b> | Straight Plug                            |
| <b>3475</b> | Straight Plug with RFI Grounding Fingers |

### Step 3. Select a Service Class

|          | Designates   |
|----------|--|
| <b>L</b> | Aluminum shell, electroless nickel finish, fluid resistant insert            |
| <b>A</b> | Aluminum shell, black anodized finish, non-conductive fluid resistant insert |
| <b>W</b> | Aluminum shell, olive drab cadmium plated, fluid resistant insert            |

Note: For stainless steel shell, passivated, order by Amphenol®/Matrix® commercial Class G.  
Class L inactivates classes E and R (Ref. MIL-DTL-26482)

### Step 4. Select a Shell Size & Insert

Arrangement from chart on page 111.

Shell Size & Insert Arrangements are on pages 111  
First number represents Shell Size, second number is the Insert Arrangement.

### Step 5. Select a Contact Type

|          | Designates      |
|----------|-----------------|
| <b>P</b> | Pin Contacts    |
| <b>S</b> | Socket Contacts |
| <b>A</b> | Less Pins       |
| <b>B</b> | Less Sockets    |

Use A & B only when other than a full complement of power contacts is to be installed.

### Step 6. Select an Alternate Rotation of Insert

“W”, “X”, “Y”, “Z” designate that insert is rotated in its shell from normal position. No letter required for normal (no rotation) position. See page 111 for description of alternate positions.

For ordering information on accessories, such as protection caps and backshell hardware, contact Amphenol Aerospace, Sidney, NY.

### Step 1. Commercial Connector Type

|            |   |
|------------|---|
| <b>MB1</b> | Designates Amphenol®/Matrix® Bayonet Coupling Connector |
|------------|---|

### Step 2. Select a Connector Style

|          | Designates                               |
|----------|--|
| <b>0</b> | Wall Mount Receptacle with Narrow Flange |
| <b>1</b> | Wall Mount Receptacle with Wide Flange   |
| <b>3</b> | Cable Connecting Receptacle              |
| <b>4</b> | Jam Nut Receptacle                       |
| <b>6</b> | Straight Plug                            |
| <b>8</b> | Straight Plug with RFI Grounding Fingers |

### Step 3. Select a Service Class

|          | Designates  |
|----------|---|
| <b>A</b> | Aluminum shell, black anodized finish, non-conductive, fluid resistant insert |
| <b>R</b> | Aluminum shell, electroless nickel finish, fluid resistant insert             |
| <b>G</b> | Stainless steel shell, passivated, fluid resistant insert                     |
| <b>W</b> | Aluminum shell, cadmium plated, olive drab finish, fluid resistant insert     |

### Step 4. Select a Shell Size & Insert

Arrangement from chart on page 111.

Shell Size & Insert Arrangements are on pages 111.  
First number represents Shell Size, second number is the Insert Arrangement.

### Step 5. Select a Contact Type

|          | Designates      |
|----------|-----------------|
| <b>P</b> | Pin Contacts    |
| <b>S</b> | Socket Contacts |

### Step 6. Select an Alternate Rotation of Insert

“W”, “X”, “Y”, “Z” designate that insert is rotated in its shell from normal position. No letter required for normal (no rotation) position. See page 111 for description of alternate positions.

### Step 7. Modification Number

Consult Amphenol Aerospace, Sidney, NY for information.  
For strain reliefs use the following codes:  
(189) E-nut M85049/31 configuration  
(190) Straight strain relief M85049/52 configuration  
(191) 90° strain relief M85049/51 configuration

38999  
III  
II  
I  
SJT

26482  
Matrix 2

83723 III  
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5015  
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38999  
SJT I II III

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Contacts

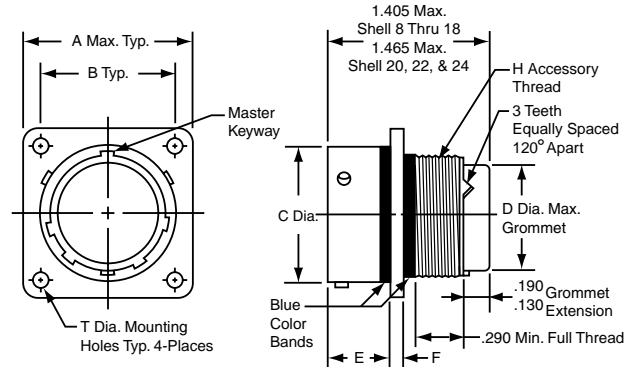
Options  
Others

**PART #**

\*To complete, see how to order page 115.

|                   | Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Rotation of Insert | Modification Number |
|-------------------|----------------|-------------|---------------|--------------------------|--------------|------------------------------|---------------------|
| <b>Military</b>   | <b>MS</b>      | <b>3470</b> | X             | X-X                      | X            | X                            | NA                  |
| <b>Commercial</b> | <b>MB1</b>     | <b>0</b>    | X             | X-X                      | X            | X                            | (XXX)               |

**MS3470  
MB10**



| Shell Size | A Max. | B ±.005 | C Dia. ±.003 | D Dia. Max. | E         | F ±.016 | H Accessory Thread Class 2A | T Dia. ±.005 |
|------------|--------|---------|--------------|-------------|-----------|---------|-----------------------------|--------------|
| 8          | .828   | .594    | .471         | .305        | .462/.431 | .062    | .5000-20 UNF                | .120         |
| 10         | .954   | .719    | .588         | .405        | .462/.431 | .062    | .6250-24 UNEF               | .120         |
| 12         | 1.047  | .812    | .748         | .531        | .462/.431 | .062    | .7500-20 UNEF               | .120         |
| 14         | 1.141  | .906    | .873         | .665        | .462/.431 | .062    | .8750-20 UNEF               | .120         |
| 16         | 1.234  | .969    | .998         | .790        | .462/.431 | .062    | 1.0000-20 UNEF              | .120         |
| 18         | 1.328  | 1.062   | 1.123        | .869        | .462/.431 | .062    | 1.0625-18 UNEF              | .120         |
| 20         | 1.453  | 1.156   | 1.248        | .994        | .587/.556 | .094    | 1.1875-18 UNEF              | .120         |
| 22         | 1.578  | 1.250   | 1.373        | 1.119       | .587/.556 | .094    | 1.3125-18 UNEF              | .120         |
| 24         | 1.703  | 1.375   | 1.498        | 1.244       | .620/.589 | .094    | 1.4375-18 UNEF              | .147         |

All dimensions for reference only.

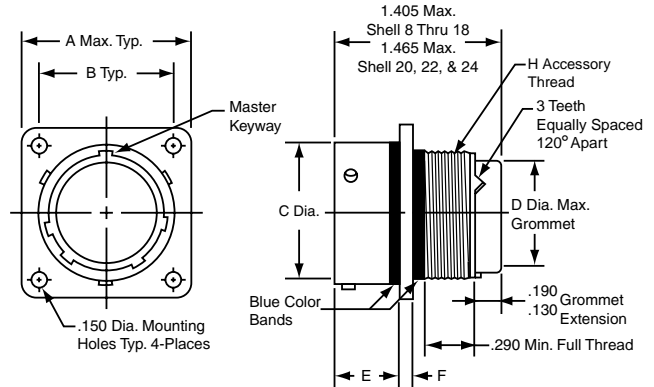
**MS3472 (MB11) – MIL-DTL-26482, Series 2**  
Wall Mounting Receptacle (with Wide Flange)

**PART #**

\*To complete, see how to order page 115.

|                   | Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Rotation of Insert | Modification Number |
|-------------------|----------------|-------------|---------------|--------------------------|--------------|------------------------------|---------------------|
| <b>Military</b>   | <b>MS</b>      | <b>3472</b> | X             | X-X                      | X            | X                            | NA                  |
| <b>Commercial</b> | <b>MB1</b>     | <b>1</b>    | X             | X-X                      | X            | X                            | (XXX)               |

**MS3472  
MB11**

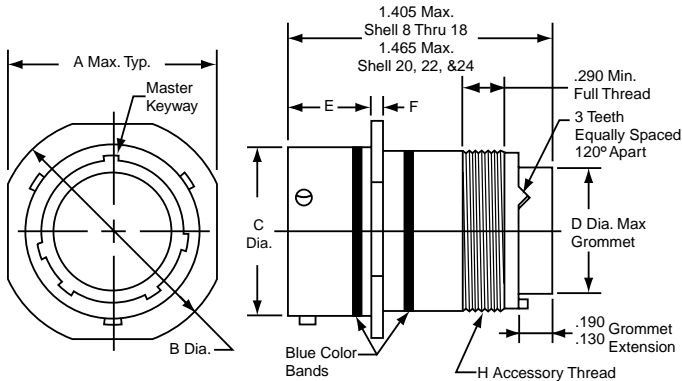


| Shell Size | A Max. | B ±.005 | C Dia. ±.003 | D Dia. Max. | E         | F ±.016 | H Accessory Thread Class 2A | T Dia. ±.005 |
|------------|--------|---------|--------------|-------------|-----------|---------|-----------------------------|--------------|
| 8          | 1.065  | .734    | .471         | .305        | .493/.462 | .062    | .5000-20 UNF                | .120         |
| 10         | 1.141  | .812    | .588         | .405        | .493/.462 | .062    | .6250-24 UNEF               | .120         |
| 12         | 1.266  | .938    | .748         | .531        | .493/.462 | .062    | .7500-20 UNEF               | .120         |
| 14         | 1.360  | 1.031   | .873         | .665        | .493/.462 | .062    | .8750-20 UNEF               | .120         |
| 16         | 1.453  | 1.125   | .998         | .790        | .493/.462 | .062    | 1.0000-20 UNEF              | .120         |
| 18         | 1.532  | 1.203   | 1.123        | .869        | .493/.462 | .062    | 1.0625-18 UNEF              | .120         |
| 20         | 1.688  | 1.297   | 1.248        | .994        | .587/.556 | .094    | 1.1875-18 UNEF              | .120         |
| 22         | 1.766  | 1.375   | 1.373        | 1.119       | .587/.556 | .094    | 1.3125-18 UNEF              | .120         |
| 24         | 1.891  | 1.500   | 1.498        | 1.244       | .620/.589 | .094    | 1.4375-18 UNEF              | .147         |

All dimensions for reference only.



# MS3471 (MB13) – MIL-DTL-26482, Series 2 Cable Connecting Receptacle



### PART #

\*To complete, see how to order page 115.

| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Rotation of Insert | Modification Number |
|----------------|-------------|---------------|--------------------------|--------------|------------------------------|---------------------|
| Military       | MS          | 3471          | X                        | X-X          | X                            | NA                  |
| Commercial     | MB1         | 3             | X                        | X-X          | X                            | (XXX)               |

**MS3471  
MB13**

| Shell Size | A Max. | B Dia. ±.020 | C Dia. ±.003 | D Dia. Max. | E         | F ±.016 | H Accessory Thread Class 2A |
|------------|--------|--------------|--------------|-------------|-----------|---------|-----------------------------|
| 8          | .828   | .938         | .471         | .305        | .462/.431 | .062    | .5000-20 UNF                |
| 10         | .954   | 1.062        | .588         | .405        | .462/.431 | .062    | .6250-24 UNEF               |
| 12         | 1.047  | 1.156        | .748         | .531        | .462/.431 | .062    | .7500-20 UNEF               |
| 14         | 1.141  | 1.250        | .873         | .665        | .462/.431 | .062    | .8750-20 UNEF               |
| 16         | 1.234  | 1.344        | .998         | .790        | .462/.431 | .062    | 1.0000-20 UNEF              |
| 18         | 1.328  | 1.438        | 1.123        | .869        | .462/.431 | .062    | 1.0625-18 UNEF              |
| 20         | 1.453  | 1.562        | 1.248        | .994        | .587/.556 | .094    | 1.1875-18 UNEF              |
| 22         | 1.578  | 1.688        | 1.373        | 1.119       | .587/.556 | .094    | 1.3125-18 UNEF              |
| 24         | 1.703  | 1.812        | 1.498        | 1.244       | .620/.589 | .094    | 1.4375-18 UNEF              |

All dimensions for reference only.

# MS3474 (MB14) – MIL-DTL-26482, Series 2 Jam Nut Receptacle



### PART #

\*To complete, see how to order page 115.

| Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Rotation of Insert | Modification Number |
|----------------|-------------|---------------|--------------------------|--------------|------------------------------|---------------------|
| Military       | MS          | 3474          | X                        | X-X          | X                            | NA                  |
| Commercial     | MB1         | 4             | X                        | X-X          | X                            | (XXX)               |

**MS3474  
MB14**

| Shell Size | A Max. | B ±.005 | C Dia. ±.003 | D Dia. Max. | E         | F         | H Accessory Thread Class 2A | J Mounting Thread Class 2A | K Max. |
|------------|--------|---------|--------------|-------------|-----------|-----------|-----------------------------|----------------------------|--------|
| 8          | .954   | .525    | .471         | .305        | .707/.658 | .113/.086 | .5000-20 UNF                | .5625-24 UNEF              | .767   |
| 10         | 1.078  | .650    | .588         | .405        | .707/.658 | .113/.086 | .6250-24 UNF                | .6875-24 UNEF              | .892   |
| 12         | 1.266  | .813    | .748         | .531        | .707/.658 | .113/.086 | .7500-20 UNEF               | .8750-20 UNEF              | 1.079  |
| 14         | 1.391  | .937    | .873         | .665        | .707/.658 | .113/.086 | .8750-20 UNEF               | 1.0000-20 UNEF             | 1.205  |
| 16         | 1.516  | 1.061   | .998         | .790        | .707/.658 | .113/.086 | 1.0000-20 UNEF              | 1.1250-18 UNEF             | 1.329  |
| 18         | 1.641  | 1.186   | 1.123        | .869        | .707/.658 | .113/.086 | 1.0625-18 UNEF              | 1.2500-18 UNEF             | 1.455  |
| 20         | 1.828  | 1.311   | 1.248        | .994        | .772/.721 | .148/.096 | 1.1875-18 UNEF              | 1.3750-18 UNEF             | 1.579  |
| 22         | 1.954  | 1.436   | 1.373        | 1.119       | .772/.721 | .148/.096 | 1.3125-18 UNEF              | 1.5000-18 UNEF             | 1.705  |
| 24         | 2.078  | 1.561   | 1.498        | 1.244       | .772/.721 | .148/.096 | 1.4375-18 UNEF              | 1.6250-18 UNEF             | 1.829  |

All dimensions for reference only.

38999  
SJT  
Matrix 2  
26482  
83723 III  
Pyle  
5015  
Crimp Rear Release Matrix  
26500 Pyle  
Printed Circuit Board  
EM1 Filter Transient  
Fiber Optics  
High Speed Contacts  
Options Others

38999  
SJT I II III

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others

**PART #**

\*To complete, see how to order page 115.

|                   | Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Rotation of Insert | Modification Number |
|-------------------|----------------|-------------|---------------|--------------------------|--------------|------------------------------|---------------------|
| <b>Military</b>   | <b>MS</b>      | <b>3476</b> | X             | X-X                      | X            | X                            | NA                  |
| <b>Commercial</b> | <b>MB1</b>     | <b>6</b>    | X             | X-X                      | X            | X                            | (XXX)               |

**MS3476  
MB16**



| Shell Size | A Dia. Max. | B Dia. Max. | H Accessory Thread Class 2A |
|------------|-------------|-------------|-----------------------------|
| 8          | .782        | .305        | .5000-20 UNF                |
| 10         | .926        | .405        | .6250-24 UNEF               |
| 12         | 1.043       | .531        | .7500-20 UNEF               |
| 14         | 1.183       | .665        | .8750-20 UNEF               |
| 16         | 1.305       | .790        | 1.0000-20 UNEF              |
| 18         | 1.391       | .869        | 1.0625-18 UNEF              |
| 20         | 1.531       | .994        | 1.1875-18 UNEF              |
| 22         | 1.656       | 1.119       | 1.3125-18 UNEF              |
| 24         | 1.777       | 1.244       | 1.4375-18 UNEF              |

All dimensions for reference only.

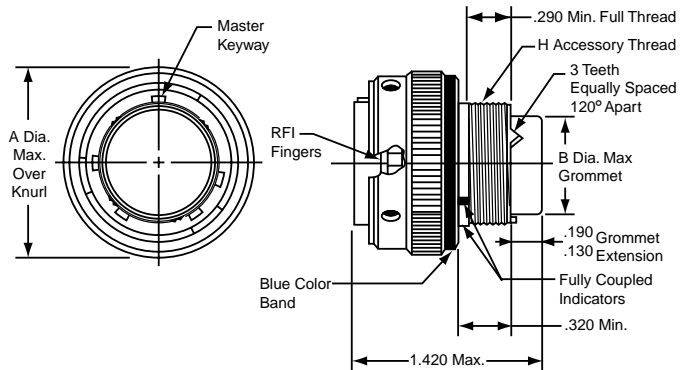
**MS3475 (MB18) – MIL-DTL-26482, Series 2**  
Straight Plug (With RFI Grounding Fingers)

**PART #**

\*To complete, see how to order page 115.

|                   | Connector Type | Shell Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alternate Rotation of Insert | Modification Number |
|-------------------|----------------|-------------|---------------|--------------------------|--------------|------------------------------|---------------------|
| <b>Military</b>   | <b>MS</b>      | <b>3475</b> | X             | X-X                      | X            | X                            | NA                  |
| <b>Commercial</b> | <b>MB1</b>     | <b>8</b>    | X             | X-X                      | X            | X                            | (XXX)               |

**MS3475  
MB18**



| Shell Size | A Dia. Max. | B Dia. Max. | H Accessory Thread Class 2A |
|------------|-------------|-------------|-----------------------------|
| 8          | .782        | .305        | .5000-20 UNF                |
| 10         | .926        | .405        | .6250-24 UNEF               |
| 12         | 1.043       | .531        | .7500-20 UNEF               |
| 14         | 1.183       | .665        | .8750-20 UNEF               |
| 16         | 1.305       | .790        | 1.0000-20 UNEF              |
| 18         | 1.391       | .869        | 1.0625-18 UNEF              |
| 20         | 1.531       | .994        | 1.1875-18 UNEF              |
| 22         | 1.656       | 1.119       | 1.3125-18 UNEF              |
| 24         | 1.777       | 1.244       | 1.4375-18 UNEF              |

All dimensions for reference only.

### MIL-DTL-26482, SERIES 2 CRIMP CONTACTS

| Contact Size | Wire Range |                 | Socket Contacts      |                             | Pin Contacts         |                             |
|--------------|------------|-----------------|----------------------|-----------------------------|----------------------|-----------------------------|
|              | AWG        | mm <sup>2</sup> | Military Part Number | Amphenol/Matrix Part Number | Military Part Number | Amphenol/Matrix Part Number |
| 20           | 24-20      | 0.2-0.6         | M39029/5-115         | M5100-001-0020L             | M39029/4-110         | M5000-054-0020L             |
| 16           | 20-16      | 0.5-1.4         | M39029/5-116         | M5100-001-0016L             | M39029/4-111         | M5000-054-0016L             |
| 12           | 14-12      | 2-3             | M39029/5-118         | M5100-001-0012L             | M39029/4-113         | M5000-054-0012L             |

### CONTACT CURRENT RATING AND RETENTION

| Contact Size* | DC Test Amperage | Contact Retention |       |
|---------------|------------------|-------------------|-------|
|               |                  | Axial Load        |       |
|               |                  | lb.               | N     |
| 20            | 7.5              | 15                | 66.7  |
| 16            | 13.0             | 25                | 111.2 |
| 12            | 23.0             | 30                | 133.4 |

\* Organize individual circuits to maintain heat rise within operating temperature requirements.

### SEALING PLUGS

| Contact Size | Sealing Plugs        |                             |
|--------------|----------------------|-----------------------------|
|              | Military Part Number | Amphenol/Matrix Part Number |
| 20           | MS27488-20           | 10-405996-020               |
| 16           | MS27488-16           | 10-405996-016               |
| 12           | MS27488-12           | 10-405996-012               |

### CRIMPING TOOLS

| Contact Size | Wire Range |                 | Finished Wire Dia. Range |           | Crimping Tool Part Number  | Turret or Positioner Part Number |
|--------------|------------|-----------------|--------------------------|-----------|----------------------------|----------------------------------|
|              | AWG        | mm <sup>2</sup> | Inch                     | mm        |                            |                                  |
| 20           | 24-20      | 0.2-0.6         | .040-.083                | 1.02-2.11 | M22520/1-01 or M22520/2-01 | M22520/1-02 or M22520/2-02       |
| 16           | 20-16      | 0.5-1.4         | .053-.103                | 1.34-2.62 | M22520/1-01                | M22520/1-02                      |
| 12           | 14-12      | 2-3             | .097-.158                | 2.46-4.01 | M22520/1-01                | M22520/1-02                      |

### INSERTION/REMOVAL TOOLS

| Contact Size | Color Code   | Military Part Number | Amphenol/Matrix Part Number |
|--------------|--------------|----------------------|-----------------------------|
| 20           | Red/White    | M81969/14-11         | 10-538988-021               |
| 16           | Blue/White   | M81969/14-03         | 10-538988-016               |
| 12           | Yellow/White | M81969/14-04         | 10-538988-012               |

Note: Each connector is furnished with contacts. One spare for inserts requiring 1 to 26 of each contact, two spares for inserts with more than 26 contacts, and a minimum of one sealing plug up to 15% of the number of contacts.

38999

SJT I II III

26482  
Matrix 2

83723 III  
Matrix Pyle

5015  
Crimp Rear  
Release Matrix

26500 Pyle

Printed  
Circuit Board

EMI Filter  
Transient

Fiber Optics

High Speed  
Contacts

Options  
Others



## MIL-DTL-26482, Series 1 Connectors

There are several additional connector types within the Amphenol® MIL-DTL-26482 family. MIL-Spec and commercial versions are available with varying design characteristics and customer options to meet cost considerations and to provide users with the most design flexibility possible.

MIL-DTL-26482, Series 1 Circular connectors are shown in detail in Amphenol Industrial Operations' catalog 12-070, which can be supplied upon request or visit [www.amphenol-industrial.com](http://www.amphenol-industrial.com).

Briefly the MIL-DTL-26482 Series 1 circulars are described as follows:

### PT, SP, MS/PT Commercial/MIL-DTL-26482, Series 1

These are bayonet type with solder contacts. Both the insert and main joint gasket are molded from resilient neoprene. This provides excellent moisture sealing at the gasket and superior electrical isolation of the contact in the inserts.

Socket contacts are closed entry design. Printed circuit board contacts are also available in this series.

The SP is a modification of the PT providing special shells with a wide mounting flange for back panel mounting. The SP also has a durable non-conductive hard anodic "Alumilite" coating which provides abrasion and corrosion protection.

There are 8 shell styles in the PT, SP and MS/PT series, and shell sizes are 6-24. The PT solder is UL recognized. Hermetics are also available.

### PT-SE, SP-SE, MS/PT-SE Commercial/MIL-DTL-26482, Series 1

These are a derivative of the PT line, bayonet type. However, they incorporate crimp contacts that are rear insertable, front releasable. An MS approved spring tower retention system holds the contacts in place.

### PT-CE, SP-CE Commercial crimp type

Another derivative of the PT line, bayonet type. These also have crimp contacts that are rear insertable, front releasable, but the contacts are held in place by a nylon wafer retention system. The voidless one-piece insert and grommet assembly provide continuous dielectric separation between contacts.

### PC, PC-SE, PC-CE Commercial solder and crimp type

The PC series within the Amphenol® miniature circular family is threaded coupling, rather than bayonet coupling. The threads are double-stubbed so they can not be cross threaded.

The PC is offered with solder contacts. The PC-SE has crimp contacts in a spring tower retention system, while the PC-CE has crimp contacts in a nylon wafer retention system. Hermetics are available

All miniature circular are intermateable and intermountable with each other except for the threaded coupling PC Series.

For further information ask for catalog 12-070. Consult Amphenol Industrial Operations, Sidney, NY for any assistance on these products or for any specific application needs. See catalog 12-070 online at [www.amphenol-industrial.com](http://www.amphenol-industrial.com)