

Amphenol MIL-DTL-83723, Series III, Matrix®



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MIL-DTL-83723 Series III, Matrix® Typical Markets:

- Military & Commercial Aviation
- Military Vehicles

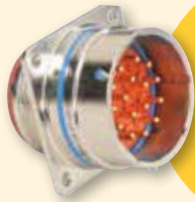


MIL-DTL-83723, Series III, Matrix®

With a Wide Variety of Coupling Styles & Options

Amphenol Aerospace offers the Matrix® Product line of MIL-DTL-83723*, Series III Connectors.

MIL-DTL-83723, SERIES III CONNECTORS WITH BAYONET COUPLING



M83723/71 & 72
wall mounting
receptacle



M83723/73 & 74
jam nut
receptacle



M83723/75 & 76
straight plug

M83723/77 & 78
straight plug,
RFI grounding

- Quick positive coupling assured by 3 point bayonet coupling system; visual confirmation of complete coupling
- Five key/keyway design eliminates mismatching
- Shell sizes 8 – 24
- Intermateable with most MIL-DTL-26500 bayonet coupling connectors

MIL-DTL-83723, SERIES III CONNECTORS WITH THREADED COUPLING



M83723/82 & 83
wall mounting
receptacle



M83723/84 & 85
jam nut
receptacle



M83723/86 & 87
straight plug

M83723/91 & 92
straight plug,
RFI grounding

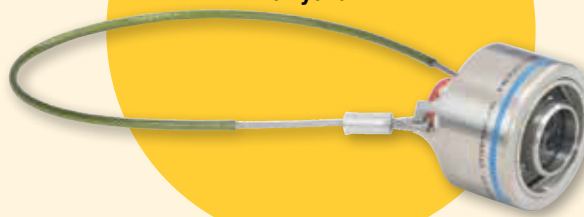


M83723/95 & 96
straight plug,
self-locking

- Threaded coupling offers greater resistance to decoupling with a visual full mating indicator band on the shell
- Shell sizes 8 – 28
- Intermateable with most MIL-DTL-26500 threaded coupling connectors

MIL-DTL-83723, SERIES III CONNECTORS WITH QUICK DISCONNECT COUPLING

M83723/66 & 67
quick disconnect plug
M83723/68 & 69
quick disconnect plug
with lanyard



- Push-Pull, quick disconnect coupling is available in a straight plug that can be ordered with or without a lanyard release mechanism

This series provides many choices within the range of a medium sized, environmentally resistant circular connector. With three coupling style choices - bayonet, threaded and quick-disconnect - the versatility of this family makes it increasingly popular for panel mount, box mount and line-to-line applications in aircraft. For general duty environmentally resistant requirements, this family of connectors provides a wide range of interconnection solutions.

DESIGN CHARACTERISTICS

- Recommended operating voltage to 600 VAC (RMS) at sea level
- Complete environmental sealing includes individual contact seals and a silicone elastomer interfacial seal with raised barriers around each pin, a shell-to-shell seal and an insert-to-shell seal. Sealing over a wide range of wire diameters is assured by a triple-webbed grommet design
- Captive coupling nut prevents tampering, while a reduced coupling ring ramp allows easier mating
- Incorporates crimp rear release contacts in sizes 12, 16 and 20; contact arrangements accept 2 to 61 circuits
- Contacts conform to SAE AS39029** and use standard qualified rear-release type plastic tools
- Insertion and removal of contacts from the rear of the connector assures no damage to the front that might affect the sealing characteristics
- Grommets are constructed of tear-resistant elastomer and experience no degradation when exposed to a broad range of fluids
- 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
- MS and Commercial versions available
- Alternate positioning available
- Aluminum shells with black anodized, cadmium or electroless nickel finish options; passivated stainless steel shells are also available

**SAE AS39029 supersedes MIL-DTL-39029

*MIL-DTL-83723 supersedes MIL-C-83723. Pyle-National Series of MIL-DTL-83723 is also offered by Amphenol.; see 83723 Pyle section of this catalog.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH
SPEED

Fiber
Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class 1

Back-
Shells

Options
Others

38999

- III
- HD
- Dualok
- II
- I
- SJT
- Accessories
- Aquacon
- Herm/Seal
- PCB

- HIGH SPEED
- Fiber Optics
- Contacts
- Connectors
- Cables

- EMI Filter
- Transient

- 26482
- Matrix 2

- 83723 III
- Matrix | Pyle

- 26500
- Pyle

- 5015
- Crimp Rear Release
- Matrix

- 22992
- Class I

- Back-Shell
- Shells

- Options
- Others

CLASS DESCRIPTIONS

| Military MIL-DTL-83723, Series III | Amphenol®/Matrix® Commercial MB Series | Connector Style | Description |
|------------------------------------|--|---------------------------------------|---|
| Class A | Class A | Bayonet, Threaded or Quick-Disconnect | Aluminum shell, black non-conductive anodize finish, fluid resistant |
| Class R | Class R | Bayonet, Threaded or Quick-Disconnect | Aluminum shell, electroless nickel finish, fluid resistant |
| Class G | Class G | Bayonet, Threaded or Quick-Disconnect | Stainless steel shell, passivated, fluid resistant |
| Class W | Class W | Bayonet, Threaded or Quick-Disconnect | Aluminum shell, cadmium olive drab finish, corrosion/ fluid resistant |

For Classes K, S and N see the Amphenol/Pyle high temperature versions of MIL-DTL-83723, Series III in the 83723 Pyle section of this catalog.

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 |

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

Classes A, G and R: -65°C (-85°F) to 200°C (392°F)
Class W: -65°C to 175°C

ENVIRONMENTAL SEAL

Wired, mated connectors with the specified accessory attached will meet the altitude immersion test specified in MIL-DTL-83723.

DURABILITY

Minimum of 500 mating cycles.

SHOCK AND VIBRATION REQUIREMENTS

Wired, mated connectors shall not be damaged, nor shall there be a current interruption longer than one microsecond when subjected to the following:

SHOCK: One shock in each of the three major axes, having a 100g peak for a six millisecond duration (half-sine pulse).

VIBRATION: Twelve hours of random vibration having a range of 10 to 2,000 Hz with a .06 inch double amplitude (10-55 Hz) and a 20g peak level (55-2,000 Hz).

The following is a quick reference chart for use in determining either the military designation or the commercial Amphenol®/Matrix® designation number of MIL-DTL-83723 connectors. See also the how to order pages for complete part number breakdowns.

| Connector Style | MIL-DTL-83723 Military Designation | Amphenol®/Matrix® Commercial Designation | Contact Type |
|--|------------------------------------|--|--------------|
| BAYONET COUPLING | | | |
| Square flange wall mount receptacle | M83723/71 | MB30()S | Socket |
| Square flange wall mount receptacle | M83723/72 | MB30()P | Pin |
| Single hole mount jam nut receptacle | M83723/73 | MB34()S | Socket |
| Single hole mount jam nut receptacle | M83723/74 | MB34()P | Pin |
| Standard straight plug | M83723/75 | MB36()S | Socket |
| Standard straight plug | M83723/76 | MB36()P | Pin |
| Straight plug with RFI grounding fingers | M83723/77 | MB38()S | Socket |
| Straight plug with RFI grounding fingers | M83723/78 | MB38()P | Pin |
| THREADED COUPLING | | | |
| Square flange wall mount receptacle | M83723/82 | MT30()S | Socket |
| Square flange wall mount receptacle | M83723/83 | MT30()P | Pin |
| Single hole mount jam nut receptacle | M83723/84 | MT34()S | Socket |
| Single hole mount jam nut receptacle | M83723/85 | MT34()P | Pin |
| Standard straight plug | M83723/86 | MT36()S | Socket |
| Standard straight plug | M83723/87 | MT36()P | Pin |
| Straight plug with RFI grounding fingers | M83723/91 | MT38()S | Socket |
| Straight plug with RFI grounding fingers | M83723/92 | MT38()P | Pin |
| Straight plug with self-locking clutch plate | M83723/95 | MT37()S | Socket |
| Straight plug with self-locking clutch plate | M83723/96 | MT37()P | Pin |
| QUICK-DISCONNECT PUSH-PULL COUPLING | | | |
| Straight plug without lanyard | M83723/66 | MQ36()P | Pin |
| Straight plug without lanyard | M83723/67 | MQ36()S | Socket |
| Straight plug with lanyard | M83723/68 | MQ35()P | Pin |
| Straight plug with lanyard | M83723/69 | MQ35()S | Socket |

Alternate Keying Positions, Alternate Rotations

INSERT ARRANGEMENTS

| Shell Size/ Insert Arrangement | Service Rating | Total Contacts | Contact Size | | |
|--------------------------------------|-------------------|-------------------|--------------|----|----|
| | | | 12 | 16 | 20 |
| 0803 | I | 3 | | | 3 |
| 0898 | I | 3 | | | 3 |
| 1002 | I | 2 | | | 2 |
| 1005 | I | 5 | | | 5 |
| 1006 | I | 6 | | | 6 |
| 1020 | I | 2 | | 2 | |
| 1203 | I | 3 | | 3 | |
| 1212 | I | 12 | | | 12 |
| 1404 | I | 4 | 4 | | |
| 1407 | I | 7 | | 7 | |
| 1412 | I | 12 | | 3 | 9 |
| 1415 | I | 15 | | | 15 |
| 1610 | I | 10 | | 10 | |
| 1624 | I | 24 | | | 24 |
| 1808 | I | 8 | 8 | | |
| 1814 | I | 14 | | 14 | |
| 1831 | I | 31 | | | 31 |
| 2016 | I | 16 | | 16 | |
| 2025 | I | 25 | 6 | | 19 |
| 2028 | I | 28 | 4 | | 24 |
| 2039 | I | 39 | | 2 | 37 |
| 2041 | I | 41 | | | 41 |
| 2212 | I | 12 | 12 | | |
| 2219 | I | 19 | | 19 | |
| 2232 | I | 32 | 6 | | 26 |
| 2239* | I | 39 | | 12 | 27 |
| 2255 | I | 55 | | | 55 |
| 2429† | | 29 | | 29 | |
| 2430† | | 30 | | 30 | |
| 2443 | I | 43 | | 20 | 23 |
| 2457 | I | 57 | | 2 | 55 |
| 2461 | I | 61 | | | 61 |
| 2841† | | 41 | | 41 | |
| 2842† | | 42 | | 42 | |

† Not an MS layout.

Connectors with these insert arrangements should be ordered by commercial part number only.

Shell size 28 is available in threaded coupling connectors only.

* Consult Amphenol Aerospace for availability of arrangement 22-39.

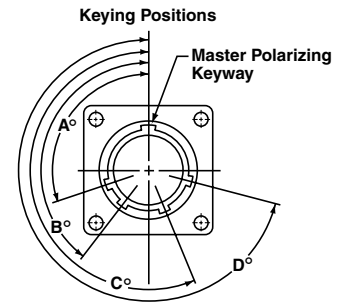
See how to order for bayonet type connectors on page 352, how to order for threaded on page 355, and how to order for quick-disconnect type connectors on page 359.

Insert arrangements are per MIL-STD-1554.

ALTERNATE KEYING POSITIONS (Rotation of key/keyway of shell)

To avoid cross-plugging problems in applications requiring the use of more than one connector of the same size and arrangement, alternate keying positions are available as indicated in the chart below. The diagram shows the engaging view of a receptacle shell with keyways. Plug shells would be the opposite of this diagram.

In the "alternate keying positions" (positions 6, 7, 8, 9 and Y), the minor keys/keyways are positioned with reference to master key/keyway as indicated in the keying position table.



Shown is Engaging Face View of Receptacle Shell with Keyways (Plug Shell Keys would be Opposite)

ALTERNATE KEYING POSITIONS OF SHELL

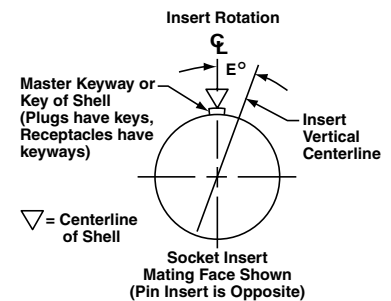
| Shell Size | Polarizing Position | Key/Keyway Positions | | | |
|-----------------------------------|---------------------|----------------------|-----|-----|-----|
| | | A° | B° | C° | D° |
| 8 thru 24 | N | 105 | 140 | 215 | 265 |
| 8 & 10 | 6 | 102 | 132 | 248 | 320 |
| | 7 | 80 | 118 | 230 | 312 |
| | 8 | 35 | 140 | 205 | 275 |
| | 9 | 64 | 155 | 234 | 304 |
| 10 only | Y* | 25 | 115 | 220 | 270 |
| 12, 14, 16, 18, 20, 22, 24 and 28 | 6 | 18 | 149 | 192 | 259 |
| | 7 | 92 | 152 | 222 | 342 |
| | 8 | 84 | 152 | 204 | 334 |
| | 9 | 24 | 135 | 199 | 240 |
| | Y* | 98 | 152 | 268 | 338 |

* Position Y supersedes inactive positions 10 and Z designations. Ref. MIL-STD-1554.

ALTERNATE ROTATIONS (Rotation of insert)

Alternate positioning is also available with the rotation of the insert. The diagram shows the pin insert mating face. The center-line of the shell in the normal insert position (position N) coincides with the center-line of the master key/keyway in the shell. In alternate rotations, (positions 1, 2, 3, 4 and 5), the insert rotates relative to the center-line of the key/keyway of the shell. See E° call out on diagram and the table.

The socket insert is rotated clockwise, and the pin insert is rotated counter-clockwise.



ALTERNATE ROTATIONS OF INSERT

| Shell Size | Polarizing Position | Insert Position E° |
|-----------------------------------|---------------------|--------------------|
| 8 & 10 | N | 0 |
| | 1 | 10 |
| | 2 | 20 |
| | 3 | 30 |
| | 4 | 40 |
| 12, 14, 16, 18, 20, 22, 24 and 28 | N | 0 |
| | 1 | 10 |
| | 2 | 20 |
| | 3 | 30 |
| | 4 | 40 |
| | 5 | 50 |

Note: Positions 1-5 are inactive for new designs per MIL-STD-1554.

38999

- III
- HD
- Dualok
- II
- I
- SJT
- Accessories
- Aquacon
- Herm/Seal
- PCB

- HIGH SPEED
- Fiber Optics
- Contacts Connectors Cables

- EMI Filter
- Transient
- 26482
- Matrix 2

- 83723 III
- Matrix | Pyle

- 26500
- Pyle

- 5015
- Crimp Rear Release Matrix

- 22992
- Class 1

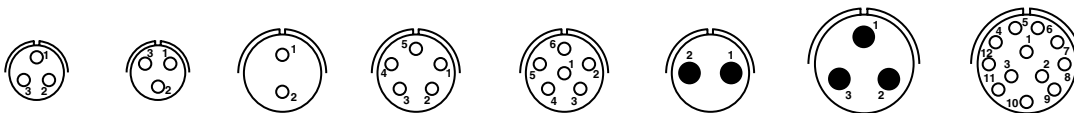
- Back-
- Shells

- Options
- Others

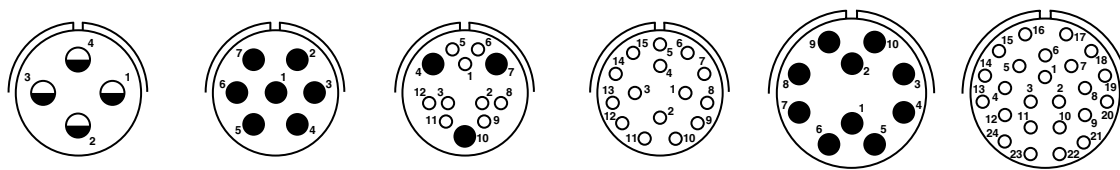
Front Face of Pin Insert or Rear Face of Socket Insert Illustrated

38999

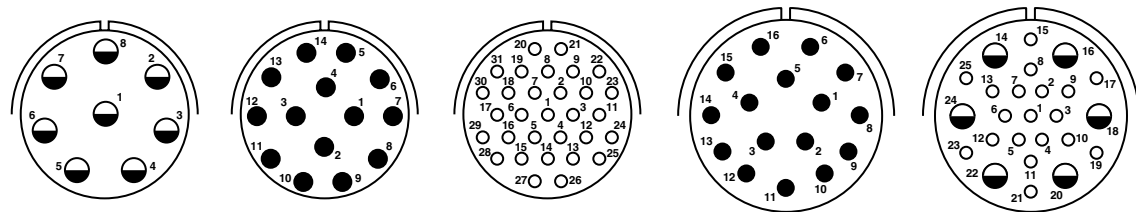
- III
- HD
- Dualok
- II
- I
- SJT
- Accessories
- Aquacon
- Herm/Seal
- PCB



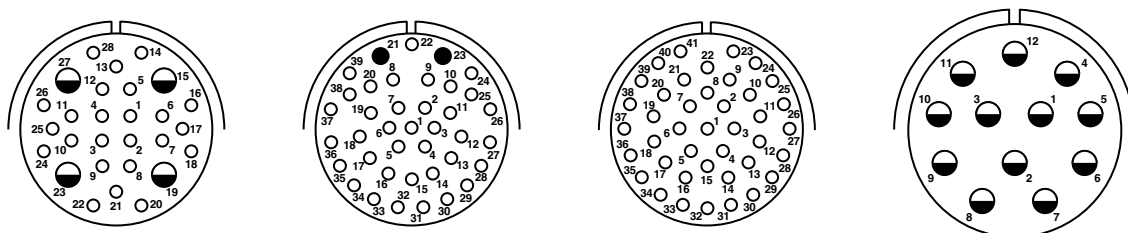
| Insert Arrangement | 0803 | 0898 | 1002 | 1005 | 1006 | 1020 | 1203 | 1212 |
|--------------------|------|------|------|------|------|------|------|------|
| Service Rating | I | I | I | I | I | I | I | I |
| Number of Contacts | 3 | 3 | 2 | 5 | 6 | 2 | 3 | 12 |
| Contact Size | 20 | 20 | 20 | 20 | 20 | 16 | 16 | 20 |



| Insert Arrangement | 1404 | 1407 | 1412 | 1415 | 1610 | 1624 |
|--------------------|------|------|------|------|------|------|
| Service Rating | I | I | I | I | I | I |
| Number of Contacts | 4 | 7 | 9 | 3 | 15 | 24 |
| Contact Size | 12 | 16 | 20 | 16 | 20 | 20 |



| Insert Arrangement | 1808 | 1814 | 1831 | 2016 | 2025 |
|--------------------|------|------|------|------|------|
| Service Rating | I | I | I | I | I |
| Number of Contacts | 8 | 14 | 31 | 16 | 19 |
| Contact Size | 12 | 16 | 20 | 16 | 12 |



| Insert Arrangement | 2028 | 2039 | 2041 | 2212 |
|--------------------|------|------|------|------|
| Service Rating | I | I | I | I |
| Number of Contacts | 24 | 4 | 37 | 2 |
| Contact Size | 20 | 12 | 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.



- HIGH SPEED
- Fiber Optics
- Contacts Connectors Cables

- EMI Filter Transient

- 26482 Matrix 2

- 83723 III Matrix Pyle

- 26500 Pyle

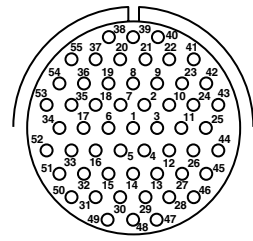
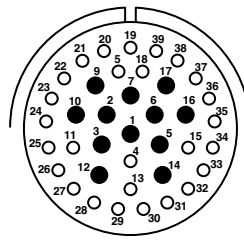
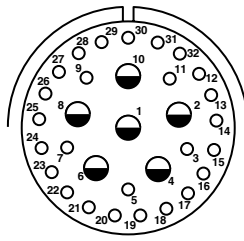
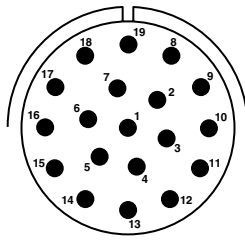
- 5015 Crimp Rear Release Matrix

- 22992 Class I

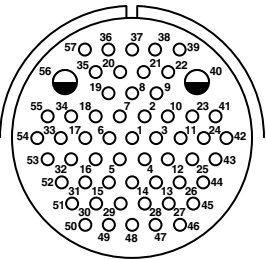
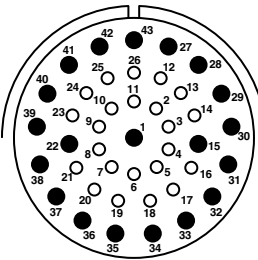
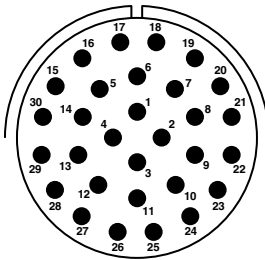
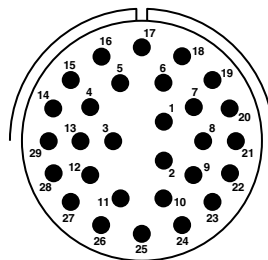
- Back-Shells

- Options Others

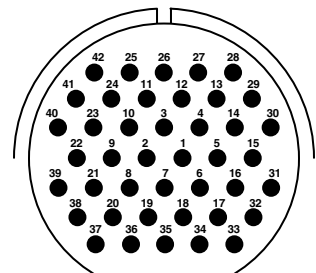
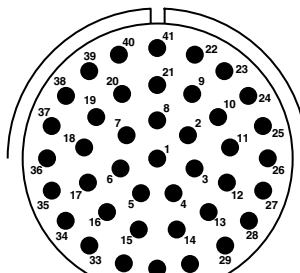
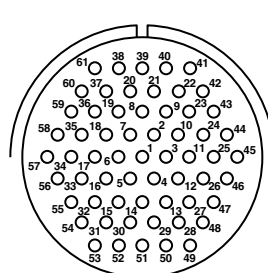
Front Face of Pin Insert or Rear Face of Socket Insert Illustrated



| Insert Arrangement | 2219 | 2232 | 2239* | 2255 |
|--------------------|------|-------|-------|------|
| Service Rating | I | I | I | I |
| Number of Contacts | 19 | 26 6 | 27 12 | 55 |
| Contact Size | 16 | 20 12 | 20 16 | 20 |



| Insert Arrangement | 2429† | 2430† | 2443 | 2457 |
|--------------------|-------|-------|-------|-------|
| Service Rating | | | I | I |
| Number of Contacts | 29 | 30 | 23 20 | 55 2 |
| Contact Size | 16 | 16 | 20 16 | 20 12 |



| Insert Arrangement | 2461 | 2841† | 2842† |
|--------------------|------|-------|-------|
| Service Rating | I | | |
| Number of Contacts | 61 | 41 | 42 |
| Contact Size | 20 | 16 | 16 |

†Not a MS layout.

Connectors with these insert arrangements can be ordered by commercial part number only.

Shell size 28 is available in threaded coupling connectors only.

* Consult Amphenol Aerospace for availability of arrangement 22-39.

See how to order for bayonet type connectors on page 352, how to order for threaded on page 355, and how to order for quick-disconnect type connectors on page 359.

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.



38999

- III
- HD
- Duallok
- II
- I
- SJT
- Accessories
- Aquacon
- Herm/Seal
- PCB

- HIGH SPEED
- Fiber Optics
- Contacts Connectors Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class I

Back-Shell's

Options
Others

- 38999
- III
- HD
- Dualok
- II
- I
- SJT
- Accessories
- Aquacon
- Herm/Seal
- PCB

- HIGH SPEED
- Fiber Optics
- Contacts Connectors Cables

- EMI Filter Transient

- 26482 Matrix 2

- 83723 III Matrix Pyle

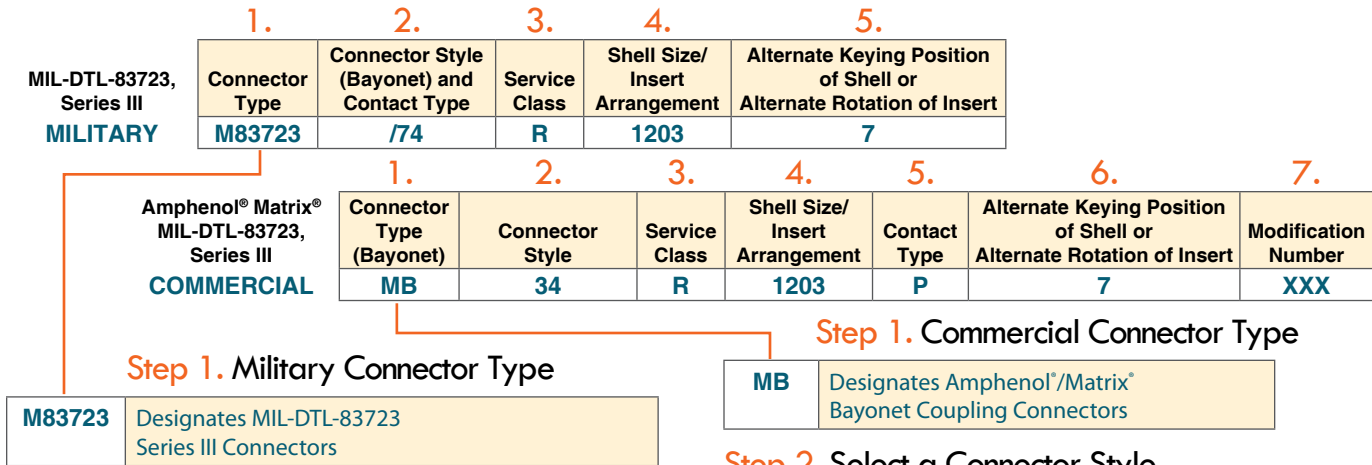
- 26500 Pyle

- 5015 Crimp Rear Release Matrix

- 22992 Class I

- Back-Shells

- Options Others



Step 1. Military Connector Type

| | |
|---------------|--|
| M83723 | Designates MIL-DTL-83723 Series III Connectors |
|---------------|--|

Step 1. Commercial Connector Type

| | |
|-----------|--|
| MB | Designates Amphenol®/Matrix® Bayonet Coupling Connectors |
|-----------|--|

Step 2. Select a Connector Style

(Refer to military specification slash sheet number.) Bayonet coupling connectors are designated by numbers /71 -/78 as follows:

| | Designates |
|------------|---|
| /71 | Wall Mount Receptacle with Socket Contacts |
| /72 | Wall Mount Receptacle with Pin Contacts |
| /73 | Jam Nut Receptacle with Socket Contacts |
| /74 | Jam Nut Receptacle with Pin Contacts |
| /75 | Standard Straight Plug with Socket Contacts |
| /76 | Standard Straight Plug with Pin Contacts |
| /77 | Straight Plug with RFI grounding, Socket Contacts |
| /78 | Straight Plug with RFI grounding, Pin Contacts |

Step 2. Select a Connector Style

| | Designates |
|-----------|--|
| 30 | Wall Mount Receptacle |
| 34 | Jam Mount Receptacle |
| 36 | Standard Straight Plug |
| 38 | Straight Plug with RFI grounding fingers |

Step 3. Select a Service Class

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

Step 3. Select a Service Class

| | Designates |
|----------|--|
| A | Aluminum shell, black non-conductive anodize finish, fluid resistant insert |
| R | Aluminum shell, electroless nickel finish, fluid resistant insert |
| G | Stainless steel shell, passivated, fluid resistant insert |
| W | Aluminum shell, cadmium olive drab finish, corrosion resistant, fluid resistant insert |

Note: Consult Amphenol Aerospace for hermetic classes H and Y availability.

Note: Consult Amphenol Aerospace for hermetic classes H and Y availability.

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 349.

First number represents Shell Size, second number is the Insert Arrangement.

Step 4. Select a Shell Size & Insert Arrangement from chart on page 349.

First number represents Shell Size, second number is the Insert Arrangement.

Step 5. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 349 for descriptions.

Step 5. Select a Contact Type

| | Designates |
|----------|-----------------|
| P | Pin Contacts |
| S | Socket Contacts |

or Step 5. Select an Alternate Rotation of Insert.

Use N for normal. Use 1, 2, 3, 4, or 5 for alternate rotation of insert. See page 349 for descriptions.

Step 6. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use 6, 7, 8, 9 or Y for alternate keying positions. No letter required for normal (No rotation position). See page 349 for descriptions.

or Step 6. Select an Alternate Rotation of Insert.

Use 1, 2, 3, 4, or 5 for alternate rotation of insert. No letter required for normal (No rotation position). See page 349 for descriptions.

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

Step 7. Modification Number

Consult Amphenol Aerospace for information.

M83723/71 & /72 – MIL-DTL-83723, Series III

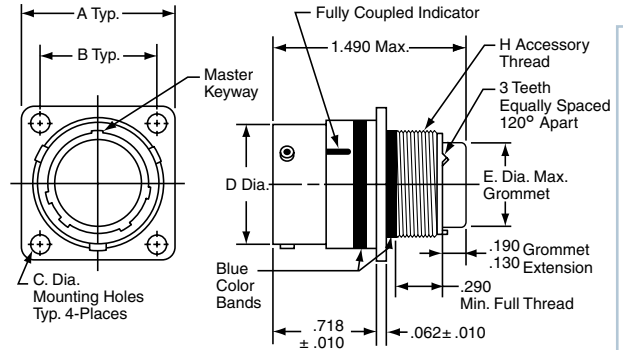
Wall Mounting Receptacle with Bayonet Coupling



PART

To complete, see how to order page 352.

| Connector Type | Connector Style (Bayonet) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation | Modification Number |
|----------------|--|---------------|--------------------------|---------------------------------------|---------------------|
| Military | M83723 /71 (with socket contacts) | X | X-X | X | |
| Military | M83723 /72 (with pin contacts) | X | X-X | X | |
| Commercial | MB 30 | X | X-X | X | XXX |



| Shell Size | A ±.005 | B ±.005 | C Dia. ±.005 | D Dia. | E Dia. | H Accessory Thread Class 2A |
|------------|---------|---------|--------------|-------------|--------|-----------------------------|
| 8 | .812 | .594 | .120 | .536/.531 | .305 | .5000-20 UNF |
| 10 | .937 | .719 | .120 | .659/.654 | .405 | .6250-24 UNEF |
| 12 | 1.031 | .812 | .120 | .829/.824 | .531 | .7500-20 UNEF |
| 14 | 1.125 | .906 | .120 | .898/.893 | .665 | .8750-20 UNEF |
| 16 | 1.250 | .969 | .120 | 1.025/1.020 | .790 | 1.0000-20 UNEF |
| 18 | 1.343 | 1.062 | .120 | 1.131/1.126 | .869 | 1.0625-18 UNEF |
| 20 | 1.437 | 1.156 | .120 | 1.256/1.251 | .994 | 1.1875-18 UNEF |
| 22 | 1.562 | 1.250 | .120 | 1.381/1.376 | 1.119 | 1.3125-18 UNEF |
| 24 | 1.703 | 1.375 | .149 | 1.506/1.501 | 1.244 | 1.4375-18 UNEF |

All dimensions for reference only.

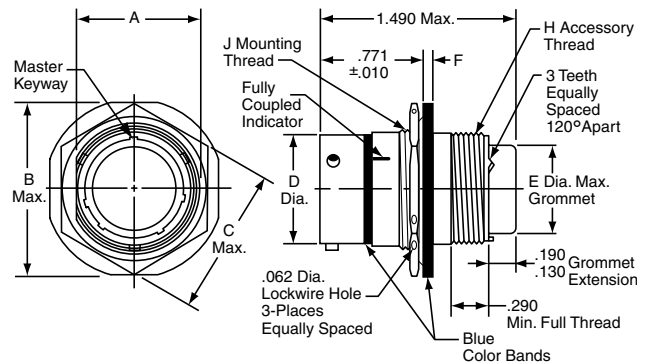
M83723/73 & /74 – MIL-DTL-83723, Series III

Jam Nut Receptacle with Bayonet Coupling

PART

To complete, see how to order page 352.

| Connector Type | Connector Style (Bayonet) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation | Modification Number |
|----------------|--|---------------|--------------------------|---------------------------------------|---------------------|
| Military | M83723 /73 (with socket contacts) | X | X-X | X | |
| Military | M83723 /74 (with pin contacts) | X | X-X | X | |
| Commercial | MB 34 | X | X-X | X | XXX |



| Shell Size | A | B Max. | C Max. | D Dia. | E Dia. Max. | F | H Accessory Thread Class 2A | J Mounting Thread Class 2A |
|------------|-------------|--------|--------|-------------|-------------|-----------|-----------------------------|----------------------------|
| 8 | .596/.590 | .979 | .829 | .536/.531 | .305 | .137/.097 | .5000-20 UNF | .6250-20 UN |
| 10 | .721/.715 | 1.104 | .954 | .659/.654 | .405 | .137/.097 | .6250-24 UNEF | .7500-20 UNEF |
| 12 | .908/.902 | 1.291 | 1.142 | .829/.824 | .531 | .113/.097 | .7500-20 UNEF | .9375-20 UNEF |
| 14 | .971/.965 | 1.391 | 1.205 | .898/.893 | .665 | .137/.097 | .8750-20 UNEF | 1.0000-20 UNEF |
| 16 | 1.096/1.090 | 1.516 | 1.329 | 1.025/1.020 | .790 | .137/.097 | 1.0000-20 UNEF | 1.1250-20 UN |
| 18 | 1.220/1.214 | 1.641 | 1.455 | 1.131/1.126 | .869 | .137/.097 | 1.0625-18 UNEF | 1.2500-18 UNEF |
| 20 | 1.345/1.339 | 1.766 | 1.579 | 1.256/1.251 | .994 | .137/.097 | 1.1875-18 UNEF | 1.3750-18 UNEF |
| 22 | 1.470/1.464 | 1.954 | 1.705 | 1.381/1.376 | 1.119 | .169/.128 | 1.3125-18 UNEF | 1.5000-20 UNEF |
| 24 | 1.595/1.589 | 2.079 | 1.829 | 1.506/1.501 | 1.244 | .168/.128 | 1.4375-18 UNEF | 1.6250-18 UNEF |

All dimensions for reference only.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH

SPEED

Fiber

Optics

Contacts

Connectors

Cables

EMI Filter

Transient

26482

Matrix 2

83723 III

Matrix Pyle

26500

Pyle

5015

Crimp Rear Release Matrix

22992

Class 1

Back-

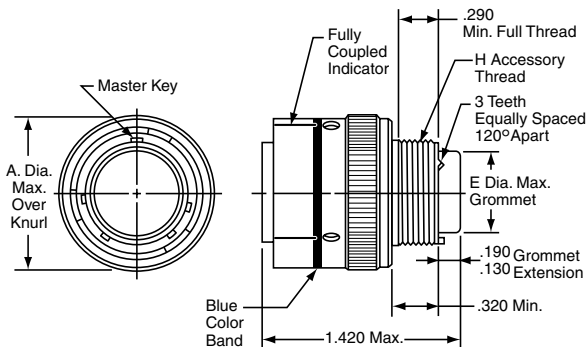
Shells

Options

Others

38999

- III
- HD
- Dualok
- II
- I
- SJT
- Accessories
- Aquacon
- Herm/Seal
- PCB



PART #

To complete, see how to order page 352.

| Connector Type | Connector Style (Bayonet) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation | |
|----------------|--|----------------------------|--------------------------|---------------------------------------|---|
| Military | M83723 | /75 (with socket contacts) | X | X-X | X |
| Military | M83723 | /76 (with pin contacts) | X | X-X | X |

| Connector Type (Bayonet) | Connector Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alt. Keying Position or Alt. Rotation | Modification Number |
|--------------------------|-----------------|---------------|--------------------------|--------------|---------------------------------------|---------------------|
| Commercial | MB | 36 | X | X-X | X | XXX |

| Shell Size | A Dia. Max. | E Dia. Max. | H Accessory Thread Class 2A |
|------------|-------------|-------------|-----------------------------|
| 8 | .776 | .305 | .5000-20 UNF |
| 10 | .906 | .405 | .6250-24 UNEF |
| 12 | 1.078 | .531 | .7500-20 UNEF |
| 14 | 1.141 | .665 | .8750-20 UNEF |
| 16 | 1.266 | .790 | 1.0000-20 UNEF |
| 18 | 1.375 | .869 | 1.0625-18 UNEF |
| 20 | 1.510 | .994 | 1.1875-18 UNEF |
| 22 | 1.625 | 1.119 | 1.3125-18 UNEF |
| 24 | 1.760 | 1.244 | 1.4375-18 UNEF |

All dimensions for reference only.

HIGH SPEED

- Fiber Optics
- Contacts
- Connectors
- Cables

EMI Filter Transient

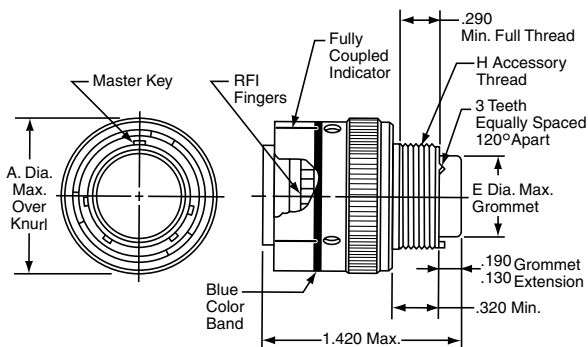
26482 Matrix 2

M83723/77 & /78 – MIL-DTL-83723, Series III

Straight Plug, Bayonet Coupling (with RFI grounding fingers)

83723 III Matrix Pyle

26500 Pyle



PART #

To complete, see how to order page 352.

| Connector Type | Connector Style (Bayonet) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation | |
|----------------|--|----------------------------|--------------------------|---------------------------------------|---|
| Military | M83723 | /77 (with socket contacts) | X | X-X | X |
| Military | M83723 | /78 (with pin contacts) | X | X-X | X |

| Connector Type (Bayonet) | Connector Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alt. Keying Position or Alt. Rotation | Modification Number |
|--------------------------|-----------------|---------------|--------------------------|--------------|---------------------------------------|---------------------|
| Commercial | MB | 38 | X | X-X | X | XXX |

| Shell Size | A Dia. Max. | E Dia. Max. | H Accessory Thread Class 2A |
|------------|-------------|-------------|-----------------------------|
| 8 | .776 | .305 | .5000-20 UNF |
| 10 | .906 | .405 | .6250-24 UNEF |
| 12 | 1.078 | .531 | .7500-20 UNEF |
| 14 | 1.141 | .665 | .8750-20 UNEF |
| 16 | 1.266 | .790 | 1.0000-20 UNEF |
| 18 | 1.375 | .869 | 1.0625-18 UNEF |
| 20 | 1.510 | .994 | 1.1875-18 UNEF |
| 22 | 1.625 | 1.119 | 1.3125-18 UNEF |
| 24 | 1.760 | 1.244 | 1.4375-18 UNEF |

All dimensions for reference only.

22992 Class I

Back-Shells

Options Others

MIL-DTL-83723, Series III, Matrix®

How to Order – Threaded Coupling Connectors

| | 1. | 2. | 3. | 4. | 5. |
|---------------------------|----------------|---|---------------|--------------------------------|--|
| MIL-DTL-83723, Series III | Connector Type | Connector Style (Threaded) and Contact Type | Service Class | Shell Size/ Insert Arrangement | Alternate Keying Position of Shell or Alternate Rotation of Insert |
| MILITARY | M83723 | /84 | R | 803 | N |

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. |
|---|---------------------------|-----------------|---------------|--------------------------------|--------------|--|---------------------|
| Amphenol®/Matrix® MIL-DTL-83723, Series III | Connector Type (Threaded) | Connector Style | Service Class | Shell Size/ Insert Arrangement | Contact Type | Alternate Keying Position of Shell or Alternate Rotation of Insert | Modification Number |
| COMMERCIAL | MT | 34 | R | 0803 | P | 7 | XXX |

Step 1. Military Connector Type

| | |
|---------------|--|
| M83723 | Designates MIL-DTL-83723 Series III Connectors |
|---------------|--|

Step 2. Select a Connector Style

(Refer to military specification slash sheet number).

| | Designates |
|------------|---|
| /82 | Wall Mount Receptacle with Socket Contacts |
| /83 | Wall Mount Receptacle with Pin Contacts |
| /84 | Jam Nut Receptacle with Socket Contacts |
| /85 | Jam Nut Receptacle with Pin Contacts |
| /86 | Standard Straight Plug with Socket Contacts |
| /87 | Standard Straight Plug with Pin Contacts |
| /91 | Straight Plug with RFI grounding, Socket Contacts |
| /92 | Straight Plug with RFI grounding, Pin Contacts |
| /95 | Straight Plug with Self-Locking Clutch Plate, Socket Contacts |
| /96 | Straight Plug with Self-Locking Clutch Plate, Pin Contacts |

Step 3. Select a Service Class

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

See additional classes of MIL-DTL-83723, Series III which are available in the Amphenol/Pyle versions: Classes K, S, N - firewall, high temperature (200°C – 260°C) and Classes H and Y - hermetics. These are covered in the 83723 Pyle section of this catalog.

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 349.

First number represents Shell Size, second number is the Insert Arrangement. (Note that shell size 28 is not an MS connector, and should be ordered by commercial number.)

Step 5. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 349 for descriptions.

or Step 5. Select an Alternate Rotation of Insert.

Use N for Normal. Use 1, 2, 3, 4, or 5 for alternate rotation of insert. See page 349 for descriptions.

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

Step 1. Commercial Connector Type

| | |
|-----------|--|
| MT | Designates Amphenol®/Matrix® Threaded Coupling Connector |
|-----------|--|

Step 2. Select a Connector Style

| | Designates |
|-----------|--|
| 30 | Wall Mount Receptacle |
| 34 | Jam Mount Receptacle |
| 36 | Standard Straight Plug |
| 38 | Straight Plug with RFI grounding fingers |
| 37 | Straight Plug with Self-Locking Clutch Plate |

Step 3. Select a Service Class

| | Designates |
|----------|--|
| A | Aluminum shell, black non-conductive anodize finish, fluid resistant insert |
| R | Aluminum shell, electroless nickel finish, fluid resistant insert |
| G | Stainless steel shell, passivated, fluid resistant insert |
| W | Aluminum shell, cadmium olive drab finish, corrosion resistant, fluid resistant insert |

See additional classes of MIL-DTL-83723, Series III which are available in the Amphenol/Pyle versions: Classes K, S, N - firewall, high temperature (200°C – 260°C) and Classes H and Y - hermetics. These are covered in the 83723 Pyle section of this catalog.

Step 4. Select a Shell Size & Insert Arrangement from chart on pg. 349.

First number represents Shell Size, second number is the Insert Arrangement.

Step 5. Select a Contact Type

| | Designates |
|----------|-----------------|
| P | Pin Contacts |
| S | Socket Contacts |

Step 6. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use 6, 7, 8, 9 or Y for alternate keying positions. No letter required for normal (No rotation position). See page 349 for descriptions.

or Step 6. Select an Alternate Rotation of Insert.

Use 1, 2, 3, 4, or 5 for alternate rotation of insert. No letter required for normal (No rotation position) See page 349 for descriptions.

Step 7. Modification Number

Consult Amphenol Aerospace for information.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts Connectors Cables

EMI Filter Transient

26482 Matrix 2

83723 III Matrix | Pyle

26500 Pyle

5015 Crimp Rear Release Matrix

22992 Class 1

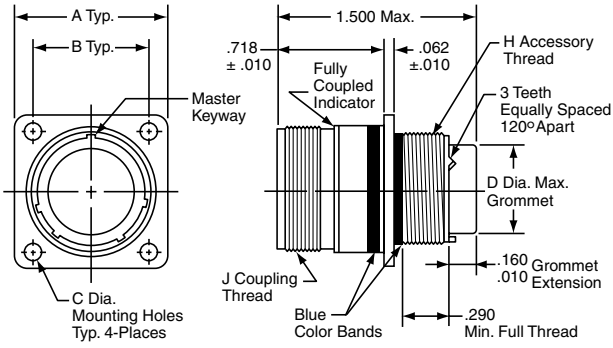
Back-Shell's

Options Others

M83723/82 & /83 – MIL-DTL-83723, Series III

Wall Mounting Receptacle with Threaded Coupling

38999
III
HD
Dualok
II
I
SJT
Accessories
Aquacon
Herm/Seal
PCB



PART #

To complete, see how to order page 355.

| | Connector Type | Connector Style (Threaded) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation |
|----------|----------------|---|---------------|--------------------------|---------------------------------------|
| Military | M83723 | /82 (with socket contacts) | X | X-X | X |
| Military | M83723 | /83 (with pin contacts) | X | X-X | X |

| | Connector Type (Threaded) | Connector Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alt. Keying Position or Alt. Rotation | Modification Number |
|------------|---------------------------|-----------------|---------------|--------------------------|--------------|---------------------------------------|---------------------|
| Commercial | MT | 30 | X | X-X | X | X | XXX |

| Shell Size | A ±.005 | B ±.005 | C Dia. | D Dia. Max. | H Accessory Thread Class 2A | J Coupling Thread Class 2A |
|------------|---------|---------|-----------|-------------|-----------------------------|----------------------------|
| 8 | .812 | .594 | .125/.116 | .305 | .5000-20 UNEF | .5625-24 UNEF |
| 10 | .937 | .719 | .125/.116 | .405 | .6250-24 UNEF | .6875-24 UNEF |
| 12 | 1.031 | .812 | .125/.116 | .531 | .7500-20 UNEF | .8750-20 UNEF |
| 14 | 1.125 | .906 | .125/.116 | .665 | .8750-20 UNEF | .9375-20 UNEF |
| 16 | 1.250 | .969 | .125/.116 | .790 | 1.0000-20 UNEF | 1.0625-18 UNEF |
| 18 | 1.343 | 1.062 | .125/.116 | .869 | 1.0625-18 UNEF | 1.1875-18 UNEF |
| 20 | 1.437 | 1.156 | .125/.116 | .994 | 1.1875-18 UNEF | 1.3125-18 UNEF |
| 22 | 1.562 | 1.250 | .125/.116 | 1.119 | 1.3125-18 UNEF | 1.4375-18 UNEF |
| 24 | 1.703 | 1.375 | .154/.145 | 1.244 | 1.4375-18 UNEF | 1.5625-18 UNEF |
| 28* | 2.000 | 1.562 | .154/.145 | 1.465 | 1.7500-18 UNS | 1.8125-16 UN |

* Shell size 28 is not a MS connector; order by commercial part number.

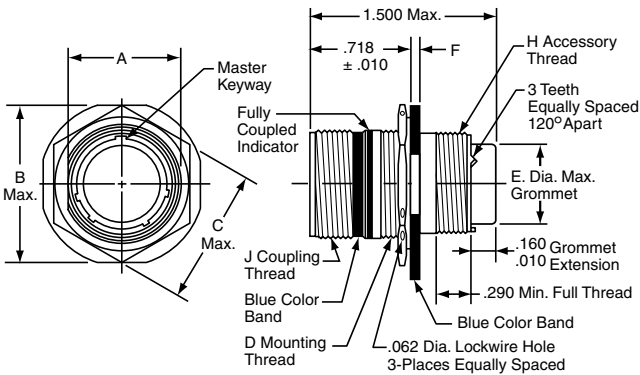
All dimensions for reference only.

HIGH SPEED
Fiber Optics
Contacts
Connectors
Cables
EMI Filter
Transient

26482 Matrix 2
83723 III Matrix Pyle
26500 Pyle
5015 Crimp Rear Release Matrix

M83723/84 & /85 – MIL-DTL-83723, Series III

Jam Nut Receptacle with Threaded Coupling



PART #

To complete, see how to order page 355.

| | Connector Type | Connector Style (Threaded) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation |
|----------|----------------|---|---------------|--------------------------|---------------------------------------|
| Military | M83723 | /84 (with socket contacts) | X | X-X | X |
| Military | M83723 | /85 (with pin contacts) | X | X-X | X |

| | Connector Type (Threaded) | Connector Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alt. Keying Position or Alt. Rotation | Modification Number |
|------------|---------------------------|-----------------|---------------|--------------------------|--------------|---------------------------------------|---------------------|
| Commercial | MT | 34 | X | X-X | X | X | XXX |

| Shell Size | A ±.003 | B Max. | C Max. | D Mounting Thread | E Dia. Max. | F | H Accessory Thread Class 2A | J Coupling Thread Class 2A |
|------------|---------|--------|--------|-------------------|-------------|-----------|-----------------------------|----------------------------|
| 8 | .593 | .980 | .828 | .6250-20 UN | .305 | .137/.097 | .5000-20 UNEF | .5625-24 UNEF |
| 10 | .718 | 1.104 | .953 | .7500-20 UNEF | .405 | .137/.097 | .6250-24 UNEF | .6875-24 UNEF |
| 12 | .905 | 1.291 | 1.140 | .9375-20 UNEF | .531 | .137/.097 | .7500-20 UNEF | .8750-20 UNEF |
| 14 | .968 | 1.391 | 1.250 | 1.0000-20 UNEF | .665 | .137/.097 | .8750-20 UNEF | .9375-20 UNEF |
| 16 | 1.093 | 1.516 | 1.329 | 1.1250-18 UNEF | .790 | .137/.097 | 1.0000-20 UNEF | 1.0625-18 UNEF |
| 18 | 1.217 | 1.641 | 1.455 | 1.2500-18 UNEF | .869 | .137/.097 | 1.0625-18 UNEF | 1.1875-18 UNEF |
| 20 | 1.342 | 1.766 | 1.642 | 1.3750-18 UNEF | .994 | .137/.097 | 1.1875-18 UNEF | 1.3125-18 UNEF |
| 22 | 1.467 | 1.954 | 1.705 | 1.5000-18 UNEF | 1.119 | .148/.128 | 1.3125-18 UNEF | 1.4375-18 UNEF |
| 24 | 1.592 | 2.079 | 1.892 | 1.6250-18 UNEF | 1.244 | .148/.128 | 1.4375-18 UNEF | 1.5625-18 UNEF |
| 28* | 1.840 | 2.330 | 2.145 | 1.8750-20 UN | 1.465 | .148/.128 | 1.7500-18 UNS | 1.8125-16 UN |

* Shell size 28 is not a MS connector; order by commercial part number.

All dimensions for reference only.

22992 Class I
Back-Shells
Options Others

M83723/86 & /87 – MIL-DTL-83723, Series III

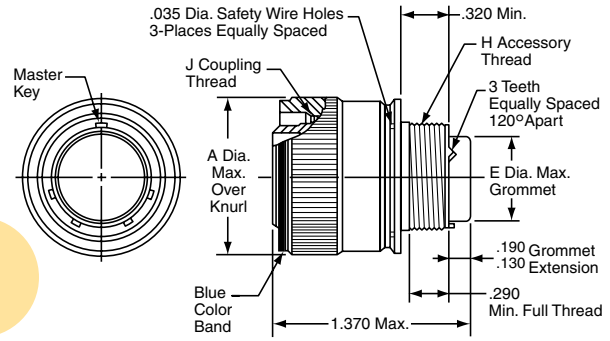
Straight Plug with Threaded Coupling



PART

To complete, see how to order page 355.

| Connector Type | Connector Style (Threaded) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation | Modification Number | |
|---------------------------|---|---------------|--------------------------|---------------------------------------|---------------------------------------|---------------------|
| Military | M83723 /86 (with socket contacts) | X | X-X | X | | |
| Military | M83723 /87 (with pin contacts) | X | X-X | X | | |
| Connector Type (Threaded) | Connector Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alt. Keying Position or Alt. Rotation | Modification Number |
| Commercial | MT | 36 | X | X-X | X | XXX |



| Shell Size | A Dia. Max. | E Dia. Max. | H Accessory Thread Class 2A | J Coupling Thread Class 2B |
|------------|-------------|-------------|-----------------------------|----------------------------|
| 8 | .756 | .305 | .5000-20 UNF | .5625-24 UNEF |
| 10 | .906 | .405 | .6250-24 UNEF | .6875-24 UNEF |
| 12 | 1.078 | .531 | .7500-20 UNEF | .8750-20 UNEF |
| 14 | 1.141 | .665 | .8750-20 UNEF | .9375-20 UNEF |
| 16 | 1.266 | .790 | 1.0000-20 UNEF | 1.0625-18 UNEF |
| 18 | 1.375 | .869 | 1.0625-18 UNEF | 1.1875-18 UNEF |
| 20 | 1.510 | .994 | 1.1875-18 UNEF | 1.3125-18 UNEF |
| 22 | 1.625 | 1.119 | 1.3125-18 UNEF | 1.4375-18 UNEF |
| 24 | 1.760 | 1.244 | 1.4375-18 UNEF | 1.5625-18 UNEF |
| 28* | 2.050 | 1.465 | 1.7500-18 UNS | 1.8125-18 UN |

* Shell size 28 is not a MS connector; order by commercial part number. All dimensions for reference only.

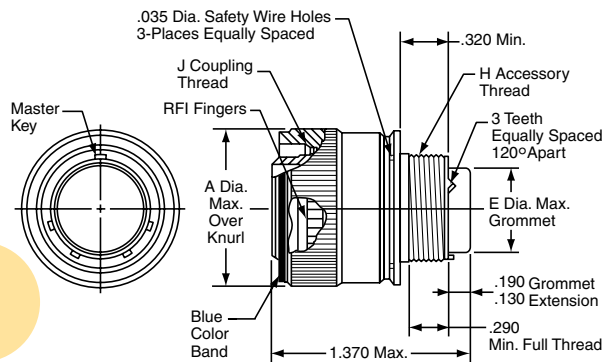
M83723/91 & /92 – MIL-DTL-83723, Series III

Straight Plug, Threaded Coupling (With RFI Grounding Fingers)

PART

To complete, see how to order page 355.

| Connector Type | Connector Style (Threaded) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation | Modification Number | |
|---------------------------|---|---------------|--------------------------|---------------------------------------|---------------------------------------|---------------------|
| Military | M83723 /91 (with socket contacts) | X | X-X | X | | |
| Military | M83723 /92 (with pin contacts) | X | X-X | X | | |
| Connector Type (Threaded) | Connector Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alt. Keying Position or Alt. Rotation | Modification Number |
| Commercial | MT | 38 | X | X-X | X | XXX |



| Shell Size | A Dia. Max. | E Dia. Max. | H Accessory Thread Class 2A | J Coupling Thread Class 2B |
|------------|-------------|-------------|-----------------------------|----------------------------|
| 8 | .756 | .305 | .5000-20 UNF | .5625-24 UNEF |
| 10 | .906 | .405 | .6250-24 UNEF | .6875-24 UNEF |
| 12 | 1.078 | .531 | .7500-20 UNEF | .8750-20 UNEF |
| 14 | 1.141 | .665 | .8750-20 UNEF | .9375-20 UNEF |
| 16 | 1.266 | .790 | 1.0000-20 UNEF | 1.0625-18 UNEF |
| 18 | 1.375 | .869 | 1.0625-18 UNEF | 1.1875-18 UNEF |
| 20 | 1.510 | .994 | 1.1875-18 UNEF | 1.3125-18 UNEF |
| 22 | 1.625 | 1.119 | 1.3125-18 UNEF | 1.4375-18 UNEF |
| 24 | 1.760 | 1.244 | 1.4375-18 UNEF | 1.5625-18 UNEF |
| 28* | 2.050 | 1.465 | 1.7500-18 UNS | 1.8125-18 UN |

* Shell size 28 is not a MS connector; order by commercial part number. All dimensions for reference only.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts Connectors Cables

EMI Filter Transient

26482 Matrix 2

83723 III Matrix Pyle

26500 Pyle

5015 Crimp Rear Release Matrix

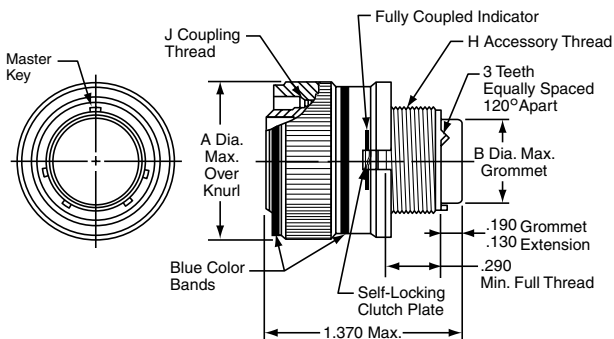
22992 Class 1

Back-Shell

Options Others

38999

- III
- HD
- Dualok
- II
- I
- SJT
- Accessories
- Aquacon
- Herm/Seal
- PCB



PART #

To complete, see how to order page 355.

| Connector Type | Connector Style (Threaded) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation | |
|----------------|---|----------------------------|--------------------------|---------------------------------------|---|
| Military | M83723 | /95 (with socket contacts) | X | X-X | X |
| Military | M83723 | /96 (with pin contacts) | X | X-X | X |

| Connector Type (Threaded) | Connector Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alt. Keying Position or Alt. Rotation | Modification Number |
|---------------------------|-----------------|---------------|--------------------------|--------------|---------------------------------------|---------------------|
| Commercial | MT | 37 | X | X-X | X | XXX |

| Shell Size | A Dia. Max. | B Dia. Max. | H Accessory Thread Class 2A | J Coupling Thread Class 2B |
|------------|-------------|-------------|-----------------------------|----------------------------|
| 8 | .832 | .305 | .5000-20 UNEF | .5625-24 UNEF |
| 10 | .959 | .405 | .6250-24 UNEF | .6875-24 UNEF |
| 12 | 1.097 | .531 | .7500-20 UNEF | .8750-20 UNEF |
| 14 | 1.236 | .665 | .8750-20 UNEF | .9375-20 UNEF |
| 16 | 1.360 | .790 | 1.0000-20 UNEF | 1.0625-18 UNEF |
| 18 | 1.428 | .869 | 1.0625-18 UNEF | 1.1875-18 UNEF |
| 20 | 1.586 | .994 | 1.1875-18 UNEF | 1.3125-18 UNEF |
| 22 | 1.703 | 1.119 | 1.3125-18 UNEF | 1.4375-18 UNEF |
| 24 | 1.846 | 1.244 | 1.4375-18 UNEF | 1.5625-18 UNEF |
| 28* | 2.165 | 1.465 | 1.7500-18 UNS | 1.8125-18 UN |

* Shell size 28 is not a MS connector; order by commercial part number.

All dimensions for reference only.

HIGH SPEED

- Fiber Optics
- Contacts
- Connectors
- Cables

EMI Filter Transient

26482 Matrix 2

83723 III Matrix Pyle

26500 Pyle

5015 Crimp Rear Release Matrix

22992 Class I

Back-Shells

Options Others

Connectors

| | 1. | 2. | 3. | 4. | 5. |
|---------------------------|----------------|---|---------------|--------------------------------|--|
| MIL-DTL-83723, Series III | Connector Type | Connector Style (Quick-Disconnect) and Contact Type | Service Class | Shell Size/ Insert Arrangement | Alternate Keying Position of Shell or Alternate Rotation of Insert |
| MILITARY | M83723 | /66 | R | 0803 | N |

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. |
|---|-----------------------------------|-----------------|---------------|--------------------------------|--------------|--|---------------------|
| Amphenol®/Matrix® MIL-DTL-83723, Series III | Connector Type (Quick-Disconnect) | Connector Style | Service Class | Shell Size/ Insert Arrangement | Contact Type | Alternate Keying Position of Shell or Alternate Rotation of Insert | Modification Number |
| COMMERCIAL | MQ | 35 | R | 0803 | P | 7 | XXX |

Step 1. Military Connector Type

| | |
|---------------|--|
| M83723 | Designates MIL-DTL-83723 Series III Connectors |
|---------------|--|

Step 2. Select a Connector Style

(Refer to military specification slash sheet number).

| | Designates |
|------------|--|
| /66 | Straight Plug without Lanyard, Pin Contacts |
| /67 | Straight Plug without Lanyard, Socket Contacts |
| /68 | Straight Plug with Lanyard, Pin Contacts |
| /69 | Straight Plug with Lanyard, Socket Contacts |

Step 3. Select a Service Class

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

See additional classes of MIL-DTL-83723, Series III which are available in the Amphenol/Pyle versions: Classes K, S, N - firewall, high temperature (200°C – 260°C) and Classes H and Y - hermetics. These are covered in the 83723 Pyle section of this catalog.

Step 4. Select a Shell Size & Insert

Arrangement from chart on page 349.

Shell Size & Insert Arrangements are together in one chart. First number represents Shell Size, second number is the Insert Arrangement. (Note that shell size 28 is not an MS connector, and should be ordered by commercial number.)

Step 5. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use N for normal. Use 6, 7, 8, 9 or Y for alternate keying positions. See page 349 for descriptions.

or Step 5. Select an Alternate Rotation of Insert.

Use N for Normal. Use 1, 2, 3, 4, or 5 for alternate rotation of insert. See page 349 for descriptions.

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

Step 1. Commercial Connector Type

| | |
|-----------|--|
| MQ | Designates Amphenol®/Matrix® Quick-Disconnect Coupling Connector |
|-----------|--|

Step 2. Select a Connector Style

| | Designates |
|-----------|--|
| 35 | Straight Plug with Lanyard |
| 36 | Straight Plug without Lanyard |
| 38 | Straight Plug with Lanyard, RFI grounding fingers (No Mil-Spec equivalent) |

Step 3. Select a Service Class

| | Designates |
|----------|--|
| A | Aluminum shell, black non-conductive anodize finish, fluid resistant insert |
| R | Aluminum shell, electroless nickel finish, fluid resistant insert |
| G | Stainless steel shell, passivated, fluid resistant insert |
| W | Aluminum shell, cadmium olive drab finish, corrosion resistant, fluid resistant insert |

See additional classes of MIL-DTL-83723, Series III which are available in the Amphenol/Pyle versions: Classes K, S, N - firewall, high temperature (200°C – 260°C) and Classes H and Y - hermetics. These are covered in the 83723 Pyle section of this catalog.

Step 4. Select a Shell Size & Insert

Arrangement from chart on page 349.

Shell Size & Insert Arrangements are together in one chart. First number represents Shell Size, second number is the Insert Arrangement.

Step 5. Select a Contact Type

| | Designates |
|----------|-----------------|
| P | Pin Contacts |
| S | Socket Contacts |

Step 6. Select an Alternate Keying Position - Rotation of master key/keyway of shell.

Use 6, 7, 8, 9 or Y for alternate keying positions. No letter required for normal (No rotation position) See page 349 for descriptions.

or Step 6. Select an Alternate Rotation of Insert.

Use 1, 2, 3, 4, or 5 for alternate rotation of insert. No letter required for normal (No rotation position). See page 349 for descriptions.

Step 7. Modification Number

Consult Amphenol Aerospace for information.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts Connectors Cables

EMI Filter Transient

26482 Matrix 2

83723 III Matrix | Pyle

26500 Pyle

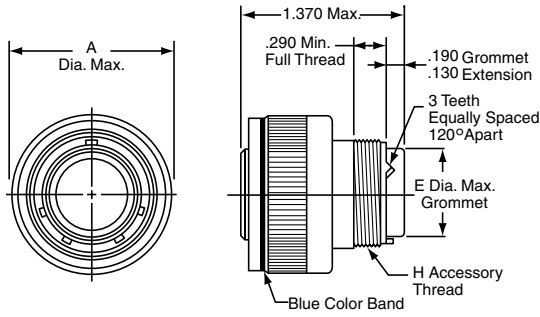
5015 Crimp Rear Release Matrix

22992 Class 1

Back-Shell's

Options Others

- 38999
- III
- HD
- Dualok
- II
- I
- SJT
- Accessories
- Aquacon
- Herm/Seal
- PCB



PART #

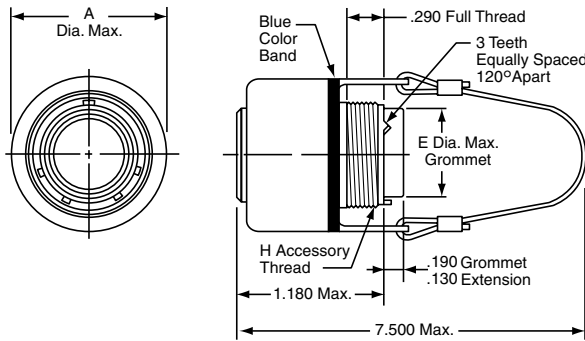
To complete, see how to order page 359.

| | Connector Type | Connector Style (Quick-Disconnect) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation |
|----------|----------------|---|---------------|--------------------------|---------------------------------------|
| Military | M83723 | /67 (with socket contacts) | X | X-X | X |
| Military | M83723 | /66 (with pin contacts) | X | X-X | X |

| | Connector Type (Quick-Disconnect) | Connector Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alt. Keying Position or Alt. Rotation | Modification Number |
|------------|-----------------------------------|-----------------|---------------|--------------------------|--------------|---------------------------------------|---------------------|
| Commercial | MQ | 36 | X | X-X | X | X | XXX |

- HIGH SPEED
- Fiber Optics
- Contacts Connectors Cables

M83723/68 & /69 – MIL-DTL-83723, Series III
Quick-Disconnect Plug with Lanyard



PART #

To complete, see how to order page 359.

| | Connector Type | Connector Style (Quick-Disconnect) and Contact Type | Service Class | Shell Size & Insert Arrg | Alt. Keying Position or Alt. Rotation |
|----------|----------------|---|---------------|--------------------------|---------------------------------------|
| Military | M83723 | /69 (with socket contacts) | X | X-X | X |
| Military | M83723 | /68 (with pin contacts) | X | X-X | X |

| | Connector Type (Quick-Disconnect) | Connector Style | Service Class | Shell Size & Insert Arrg | Contact Type | Alt. Keying Position or Alt. Rotation | Modification Number |
|-------------------------------------|-----------------------------------|-----------------|---------------|--------------------------|--------------|---------------------------------------|---------------------|
| Commercial | MQ | 35 | X | X-X | X | X | XXX |
| Commercial (No Mil-spec Equivalent) | MQ | 38 | X | X-X | X | X | XXX |

- EMI Filter Transient
- 26482 Matrix 2
- 83723 III Matrix Pyle

Adapter for Mating Quick-Disconnect Plugs with Receptacles

| Shell Size | A Dia. Max. | E Dia. Max. | H Accessory Thread Class 2A |
|------------|-------------|-------------|-----------------------------|
| 8 | 1.095 | .305 | .5000-20 UNF |
| 10 | 1.240 | .405 | .6250-24 UNEF |
| 12 | 1.432 | .531 | .7500-20 UNEF |
| 14 | 1.490 | .665 | .8750-20 UNEF |
| 16 | 1.711 | .790 | 1.0000-20 UNEF |
| 18 | 1.815 | .869 | 1.0625-18 UNEF |
| 20 | 1.962 | .994 | 1.1875-18 UNEF |
| 22 | 2.070 | 1.119 | 1.3125-18 UNEF |
| 24 | 2.195 | 1.244 | 1.4375-18 UNEF |

- 26500 Pyle
- 5015 Crimp Rear Release Matrix
- 22992 Class I
- Back-Shells
- Options Others

Receptacle Adapter

Required to mate the quick-disconnect plug with receptacle.

Not furnished with the quick-disconnect plug; must be ordered separately.

Note: Use Locktite Material on the threads for a permanent installation to the shell.

How to Order Adapter by Commercial Part Number
2500-007-0X XX

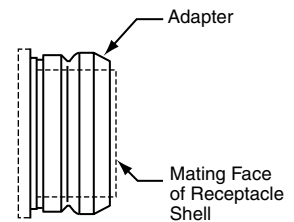
Finish | Shell Size

00 designates aluminum, electroless nickel, Class R
01 designates aluminum, hard anodize, Class A
03 designates aluminum, cadmium plate, Class W
02 designates stainless steel, Class G

How to Order Adapter by Military Part Number
M83723/70 X XX

Finish | Shell Size

R designates aluminum, electroless nickel, Class R
A designates aluminum, hard anodize, Class A
W designates aluminum, cadmium plate, Class W
G designates stainless steel, Class G



Crimping and Insertion/Removal Tools

MIL-DTL-83723, SERIES III CRIMP CONTACTS

| Contact Size | Wire Range | | Socket Contacts | Pin Contacts |
|--------------|------------|-----------------|----------------------|----------------------|
| | AWG | mm ² | Military Part Number | Military Part Number |
| 20 | 24-20 | 0.2-0.6 | M39029/5-115 | M39029/4-110 |
| 16 | 20-16 | 0.5-1.4 | M39029/5-116 | M39029/4-111 |
| 12 | 14-12 | 2-3 | M39029/5-118 | M39029/4-113 |

CONTACT CURRENT RATING AND RETENTION

| Contact Size* | Current Rating | | Contact Retention | |
|---------------|----------------|-------------------------|-------------------|-------|
| | Amperes Max. | Voltage Drop Millivolts | Axial Load | |
| | | | lb. | N |
| 20 | 7.5 | 35 | 20 | 89.0 |
| 16 | 13.0 | 25 | 25 | 111.2 |
| 12 | 23.0 | 25 | 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 | 3400-043-0020 |
| 16 | MS27488-16 | 3400-043-0016 |
| 12 | MS27488-12 | 3400-043-0012 |

CRIMPING TOOLS

| Contact Size | Wire Range | | Finished Wire Dia. Range | | Crimping Tool Part Number | Turret or Positioner Part Number |
|--------------|------------|-----------------|--------------------------|-----------|----------------------------|----------------------------------|
| | AWG | mm ² | 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 | 6500-001-0020 |
| 16 | Blue/White | M81969/14-03 | 6500-001-0016 |
| 12 | Yellow/White | M81969/14-04 | 6500-001-0012 |

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 10% of the number of contacts.

BACKSHELLS

The section of this catalog called "Backshells" covers the backshells for MIL-DTL-83723 Matrix, Series III that are provided through Amphenol PCD. Please refer to this section for:

- Backshells for Connector Family "J", which includes MIL-DTL-26482 (Series II), MIL-DTL-5015 (MS3400), MIL-DTL-83723 (Series I & III).

38999

| |
|-------------|
| III |
| HD |
| Dualok |
| II |
| I |
| SJT |
| Accessories |
| Aquacon |
| Herm/Seal |
| PCB |

| |
|--------------|
| HIGH SPEED |
| Fiber Optics |
| Contacts |
| Connectors |
| Cables |

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release
Matrix

22992
Class 1

Back-Shell

Options
Others