

# Amphenol® /Matrix® MIL-C-83723, Series III Connectors

12-073-3

**Bayonet, Threaded or Quick-Disconnect  
Coupling Connectors for Demanding  
Environments**



# Amphenol

This catalog covers the Amphenol® /Matrix® MIL-C-83723, Series III Connectors. These connectors incorporate crimp rear release contacts. There is great diversity within this cylindrical family, with the following options available:

- Three coupling styles - bayonet or threaded plugs and receptacles, and quick-disconnect plugs with or without lanyards
- Aluminum or passivated stainless steel versions
- A wide variety of mounting configurations
- Can be ordered by military or equivalent Amphenol/Matrix proprietary part numbers.

The Matrix® connectors covered in this catalog broaden the miniature cylindrical family offered by Amphenol. Equivalent MIL-C-83723, Series III connectors can be ordered in the Amphenol®/Pyle® versions. Within the Pyle product family of MIL-C-83723 are additional options such as high temperature firewall versions and hermetic styles. See page 22 for more information on the Amphenol/Pyle versions of MIL-C-83723, Series III connectors.

Should more information be required concerning the connectors covered in this publication, or if special application needs arise, please contact:

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 Sidney, New York 13838-1395  
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 Fax: 607-563-5157

View and download or print Amphenol catalogs online at:  
 Web site: [www.Amphenol-Aerospace.com](http://www.Amphenol-Aerospace.com)

Amphenol operates quality systems that are certified to ISO9001: 2000 by third party registrars.

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# Amphenol<sup>®</sup>/Matrix<sup>®</sup> Miniature Cylindrical MIL-C-83723, Series III Connectors

## general description, features and benefits

**Amphenol broadens their Miniature Cylindrical Family of Connectors with the addition of the Matrix<sup>®</sup> Product line of MIL-C-83723, Series III Connectors.**

This series provides many choices within the range of a medium sized, environmentally resistant cylindrical 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.

### **Amphenol<sup>®</sup>/Matrix<sup>®</sup> MIL-C-83723, Series III Connector 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 MIL-C-39029 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

### **BAYONET COUPLING CONNECTORS**

- 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 in the following mounting styles:
  - wall mounting receptacle
  - jam nut receptacle
  - straight plug, straight plug with RFI grounding (provides EMI shielding)
- MS and Proprietary versions available
- Alternate positioning available
- Intermateable with most MIL-C-26500 bayonet coupling connectors
- Aluminum shells with black anodized, cadmium or electroless nickel finish options; also shells of passivated stainless steel are available.

### **THREADED COUPLING CONNECTORS**

- Threaded coupling offers greater resistance to decoupling with a visual full mating indicator band on the shell
- Shell sizes 8 – 28 in the following mounting styles:
  - wall mounting receptacle
  - jam nut receptacle
  - straight plug, straight plug with RFI grounding (provides EMI shielding), and straight plug with a self-locking clutch plate
- MS and Proprietary versions available
- Alternate positioning available
- Intermateable with most MIL-C-26500 threaded coupling connectors
- Aluminum shells with black anodized, cadmium or electroless nickel finish options; also shells of passivated stainless steel are available.

### **QUICK-DISCONNECT COUPLING CONNECTORS**

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

# Amphenol<sup>®</sup>/Matrix<sup>®</sup> Miniature Cylindrical MIL-C-83723, Series III Connectors

wide variety of coupling styles and customer options

## BAYONET COUPLING CONNECTORS



**M83723/71 & 72**  
wall mounting receptacle



**M83723/73 & 74**  
jam nut receptacle



**M83723/75 & 76**  
straight plug  
**M83723/77 & 78**  
straight plug,  
RFI grounding

## THREADED COUPLING CONNECTORS



**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

## QUICK-DISCONNECT COUPLING CONNECTORS



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

# Amphenol<sup>®</sup>/Matrix<sup>®</sup> Miniature Cylindrical MIL-C-83723, Series III Connectors

## class descriptions, performance specifications

### CLASS DESCRIPTIONS

Military MIL-C-83723, Series III	Amphenol/Matrix Proprietary 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, contact Amphenol, Sidney, NY for information on the Amphenol/Pyle high temperature versions of MIL-C-83723, Series III.

### 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

-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-C-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).

# Amphenol® Matrix® Miniature Cylindrical MIL-C-83723, Series III Connectors quick reference chart

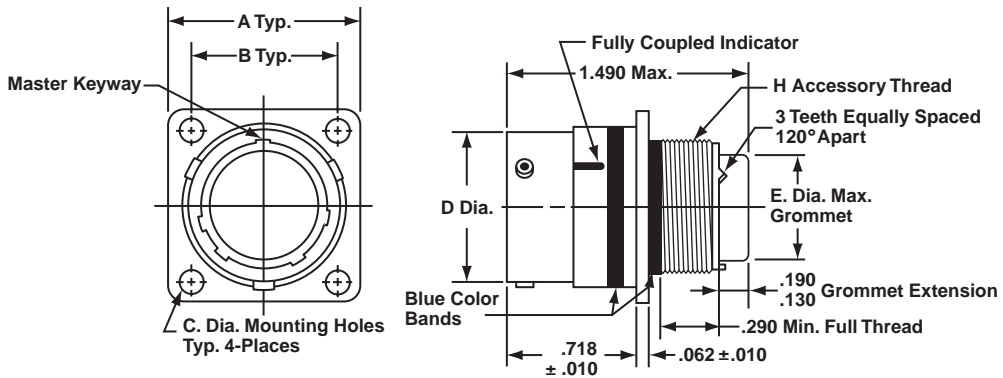
The following is a quick reference chart for use in determining either the military designation or the proprietary Amphenol®/Matrix® designation number for the MIL-C-83723 connectors covered in this catalog. See also the how to order pages for complete part number breakdowns. The how to order for bayonet connectors is shown on page 9, and the how to order for threaded and quick-disconnect type connectors is shown on page 15.

MIL-C-83723 Military Designation	Amphenol®/Matrix® Proprietary Designation	Contact Type	Connector Style
M83723/71	MB30( )S	Socket	Bayonet coupling, square flange wall mount receptacle
M83723/72	MB30( )P	Pin	Bayonet coupling, square flange wall mount receptacle
M83723/73	MB34( )S	Socket	Bayonet coupling, single hole mount jam nut receptacle
M83723/74	MB34( )P	Pin	Bayonet coupling, single hole mount jam nut receptacle
M83723/75	MB36( )S	Socket	Bayonet coupling, standard straight plug
M83723/76	MB36( )P	Pin	Bayonet coupling, standard straight plug
M83723/77	MB38( )S	Socket	Bayonet coupling, straight plug with RFI grounding fingers
M83723/78	MB38( )P	Pin	Bayonet coupling, straight plug with RFI grounding fingers
M83723/82	MT30( )S	Socket	Threaded coupling, square flange wall mount receptacle
M83723/83	MT30( )P	Pin	Threaded coupling, square flange wall mount receptacle
M83723/84	MT34( )S	Socket	Threaded coupling, single hole mount jam nut receptacle
M83723/85	MT34( )P	Pin	Threaded coupling, single hole mount jam nut receptacle
M83723/86	MT36( )S	Socket	Threaded coupling, standard straight plug
M83723/87	MT36( )P	Pin	Threaded coupling, standard straight plug
M83723/91	MT38( )S	Socket	Threaded coupling, straight plug with RFI grounding fingers
M83723/92	MT38( )P	Pin	Threaded coupling, straight plug with RFI grounding fingers
M83723/95	MT37( )S	Socket	Threaded coupling, straight plug with self-locking clutch plate
M83723/96	MT37( )P	Pin	Threaded coupling, straight plug with self-locking clutch plate
M83723/66	MQ36( )P	Pin	Quick-Disconnect push-pull coupling, straight plug without lanyard
M83723/67	MQ36( )S	Socket	Quick-Disconnect push-pull coupling, straight plug without lanyard
M83723/68	MQ35( )P	Pin	Quick-Disconnect push-pull coupling, straight plug with lanyard
M83723/69	MQ35( )S	Socket	Quick-Disconnect push-pull coupling, straight plug with lanyard

# Miniature Cylindrical MIL-C-83723, Series III Bayonet Coupling M83723/71 & 72 wall mounting receptacle

Receptacle Shell, Square Flange Wall Mount,  
Bayonet Coupling

Military No. M83723/71 with socket contacts  
M83723/72 with pin contacts  
Amphenol/Matrix No. MB30



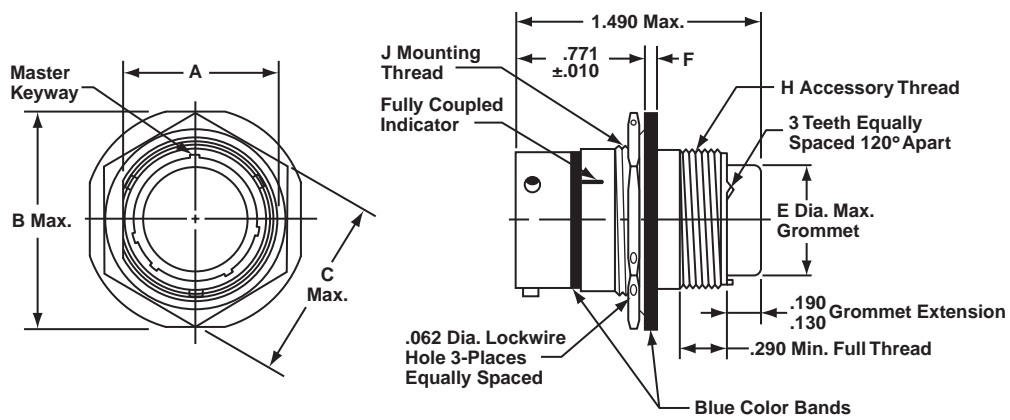
To complete order number see how to order for bayonet coupling connectors, page 9.

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

# Miniature Cylindrical MIL-C-83723, Series III Bayonet Coupling M83723/73 & 74 jam nut receptacle

Receptacle Shell, Single Hole Mount Jam Nut,  
Bayonet Coupling

Military No. M83723/73 with socket contacts  
M83723/74 with pin contacts  
Amphenol/Matrix No. MB34



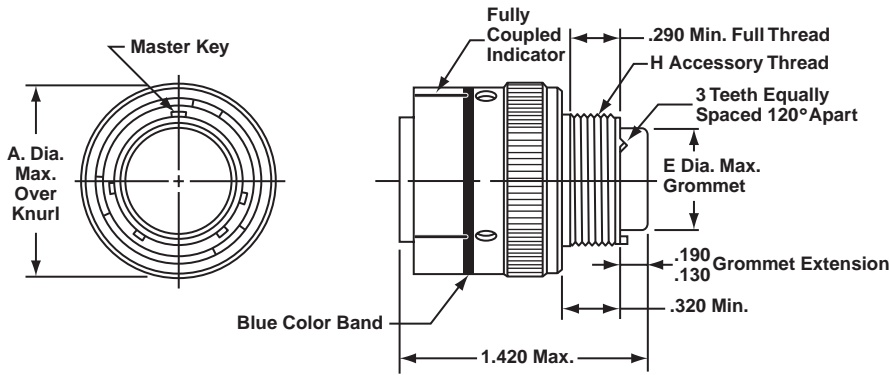
To complete order number see how to order for bayonet coupling connectors, page 9.

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



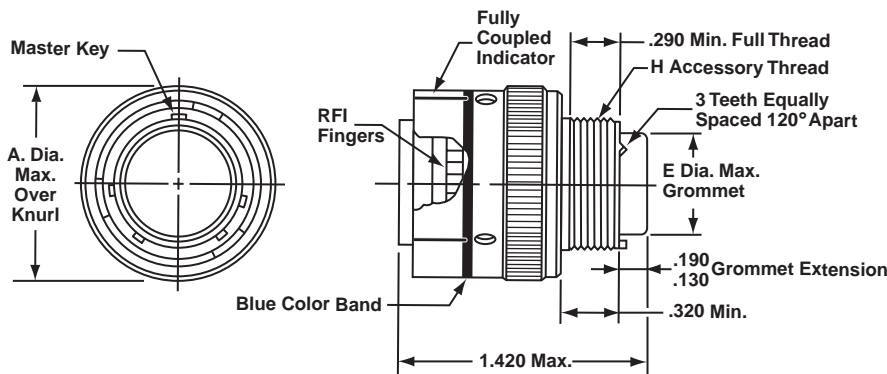
# Miniature Cylindrical MIL-C-83723, Series III Bayonet Coupling

M83723/75 & 76 straight plug  
M83723/77 & 78 straight plug with RFI grounding



**Plug Shell,  
Bayonet Coupling**

**Military No.**  
M83723/75 with socket contacts  
M83723/76 with pin contacts  
**Amphenol/Matrix No. MB36**



**Plug Shell, RFI Grounding,  
Bayonet Coupling**

**Military No.**  
M83723/77 with socket contacts  
M83723/78 with pin contacts  
**Amphenol/Matrix No. MB38**

To complete order number see how to order, page 9.

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

# Miniature Cylindrical MIL-C-83723, Series III Bayonet Coupling how to order

## HOW TO ORDER BY MILITARY PART NUMBER MIL-C-83723 SERIES III BAYONET COUPLING CONNECTORS

M83723    /74    R    12    03    7  
1            2        3        4        5        6

1. Connector Type  
M83723 designates MIL-C-83723 Series III Connectors
2. Connector Style  
(Refer to military specification slashsheet number.)  
Bayonet coupling connectors are designated by numbers /71-/78 as follows:  
/71 wall mounting receptacle with socket contacts  
/72 wall mounting 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
3. Service Class  
A aluminum shell, black non-conductive anodize finish, fluid resistant  
R aluminum shell, electroless nickel finish, fluid resistant  
G stainless steel shell, passivated, fluid resistant  
W aluminum shell, cadmium olive drab finish, corrosion/fluid resistant  
  
Note: Consult Amphenol, Sidney, NY for hermetic classes H and Y availability.
- 4., 5. Shell size (sizes 8-24 available), and insert arrangement -  
See chart on page 16 and pattern drawings that follow.
6. Keying Positions (rotation of master key/keyway of shell)  
Use N for normal.  
Use 6, 7, 8, 9, or Y for alternate keying positions.  
See page 17 for descriptions.  
  
Clocking Positions (rotation of insert)  
Use 1, 2, 3, 4, or 5 for alternate clocking positions.  
See page 17 for descriptions.

## HOW TO ORDER BY PROPRIETARY PART NUMBER MIL-C-83723 SERIES III BAYONET COUPLING CONNECTORS

MB    34    R    -    12    03    P    7    -    \*\*\*  
1        2        3        4        5        6        7        8

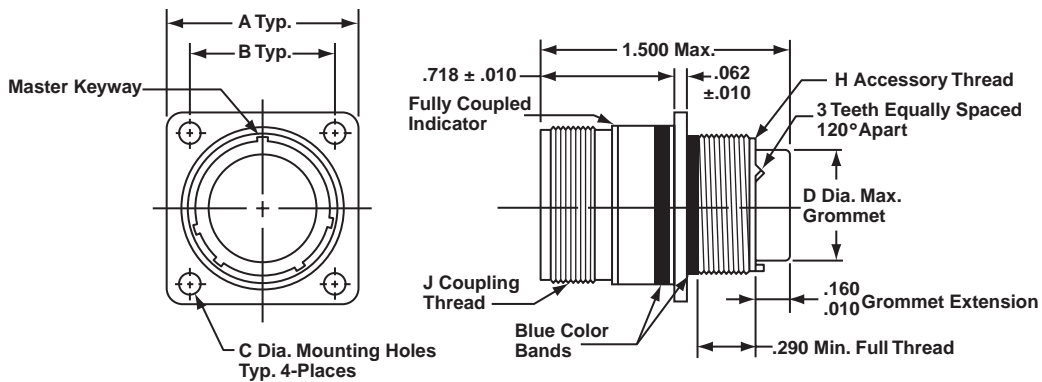
1. Connector Type  
MB designates Amphenol®/Matrix® Bayonet Coupling Connectors
2. Connector Style  
30 wall mounting receptacle  
34 jam nut receptacle  
36 standard straight plug  
38 straight plug with RFI grounding fingers
3. Service Class  
A aluminum shell, black non-conductive anodize finish, fluid resistant  
R aluminum shell, electroless nickel finish, fluid resistant  
G stainless steel shell, passivated, fluid resistant  
W aluminum shell, cadmium olive drab finish, corrosion/fluid resistant  
  
Note: Consult Amphenol, Sidney, NY for hermetic classes H and Y availability.
- 4., 5. Shell size (sizes 8-24 available), and insert arrangement -  
See chart on page 16 and pattern drawings that follow.
6. Contact Types  
P designates pin  
S designates socket
7. Keying Positions (rotation of master key/keyway of shell)  
"N" not required for normal position.  
Use 6, 7, 8, 9, or Y for alternate keying positions.  
See page 17 for descriptions.  
  
Clocking Positions (rotation of insert)  
Use 1, 2, 3, 4, or 5 for alternate clocking positions.  
See page 17 for descriptions.
8. Modification Number  
Consult Amphenol, Sidney, NY for information.

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

# Miniature Cylindrical MIL-C-83723, Series III Threaded Coupling M83723/82 & 83 wall mounting receptacle

Receptacle Shell, Square Flange Wall Mount,  
Threaded Coupling

Military No. M83723/82 with socket contacts  
M83723/83 with pin contacts  
Amphenol/Matrix No. MT30



To complete order number see how to order, page 15.

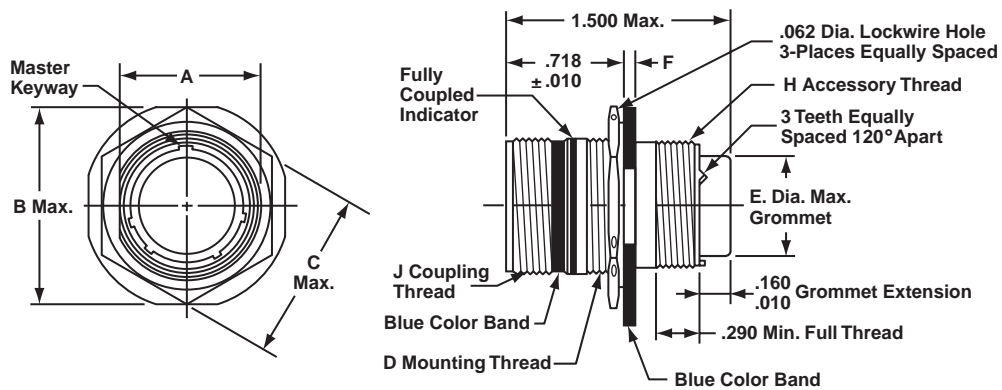
Shell Size	A ±.005	B ±.005	C Dia.	D Dia. Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2B
8	.812	.594	.125/.116	.305	.5000-20 UNEF	.5625-24 UNEF
10	.937	.719	.125/.116	.405	.6250-24 UNEF	.6875-24 UNEF
12	1.031	.812	.125/.116	.531	.7500-20 UNEF	.8750-20 UNEF
14	1.125	.906	.125/.116	.665	.8750-20 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 proprietary part number.

# Miniature Cylindrical MIL-C-83723, Series III Threaded Coupling M83723/84 & 85 jam nut receptacle

Receptacle Shell, Single hole mount Jam Nut Receptacle,  
Threaded Coupling

Military No. M83723/84 with socket contacts  
M83723/85 with pin contacts  
Amphenol/Matrix No. MT34



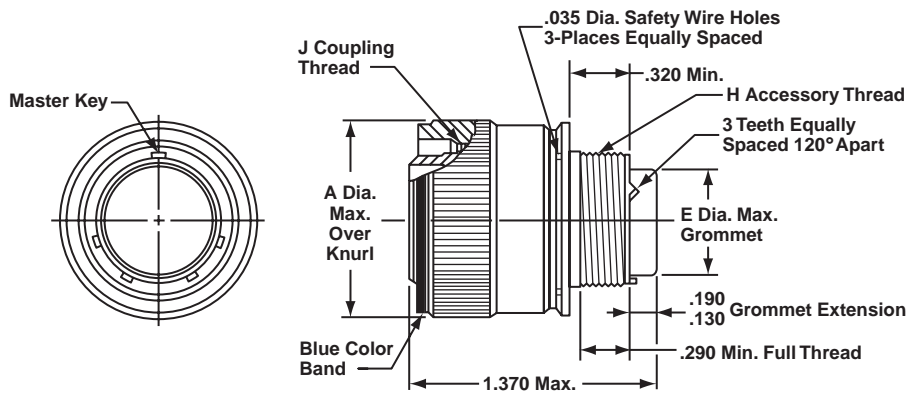
To complete order number see how to order, page 15.

Shell Size	A ±.003	B Max.	C Max.	D Mounting Thread	E Dia. Max.	F	H Accessory Thread Class 2A	J Mounting Thread Class 2A
8	.593	.980	.828	.6250-20 UN	.305	.137/.097	.5000-20 UNF	.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	1.8125-18 UN

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

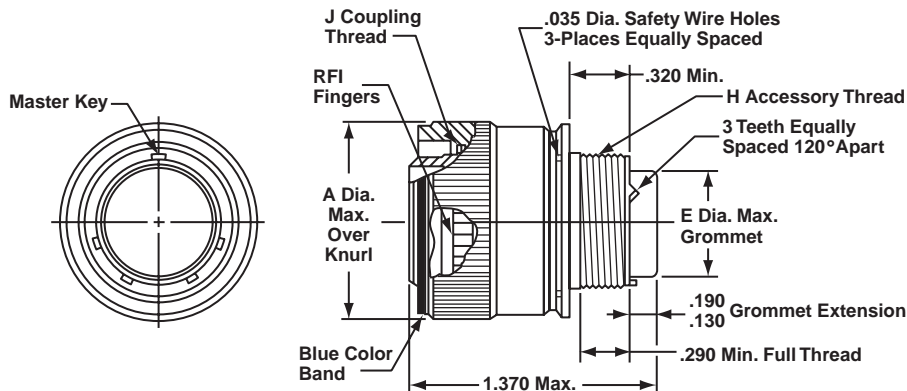
# Miniature Cylindrical MIL-C-83723, Series III Threaded Coupling

M83723/86 & 87 straight plug  
M83723/91 & 92 straight plug with RFI grounding



## Plug Shell, Threaded Coupling

**Military No.**  
M83723/86 with socket contacts  
M83723/87 with pin contacts  
**Amphenol/Matrix No. MT36**



## Plug Shell, RFI Grounding, Threaded Coupling

**Military No.**  
M83723/91 with socket contacts  
M83723/92 with pin contacts  
**Amphenol/Matrix No. MT38**

To complete order number see how to order, page 15.

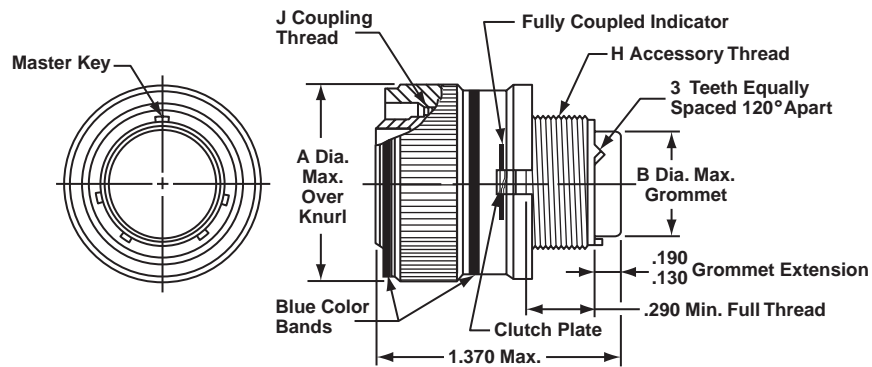
Shell Size	A Dia. Max.	E Dia. Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2B
8	.756	.305	.5000-20 UNF	.5625-24 UNEF
10	.906	.405	.6250-24 UNEF	.6875-24 UNEF
12	1.078	.531	.7500-20 UNEF	.8750-20 UNEF
14	1.141	.665	.8750-20 UNEF	.9375-20 UNEF
16	1.266	.790	1.0000-20 UNEF	1.0625-18 UNEF
18	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 proprietary part number.

# Miniature Cylindrical MIL-C-83723, Series III Threaded Coupling M83723/95 & 96 straight plug, self-locking

Plug Shell, with Self-Locking Clutch Plate,  
Threaded Coupling

Military No. M83723/95 with socket contacts  
M83723/96 with pin contacts  
Amphenol/Matrix No. MT37



To complete order number see how to order, page 15.

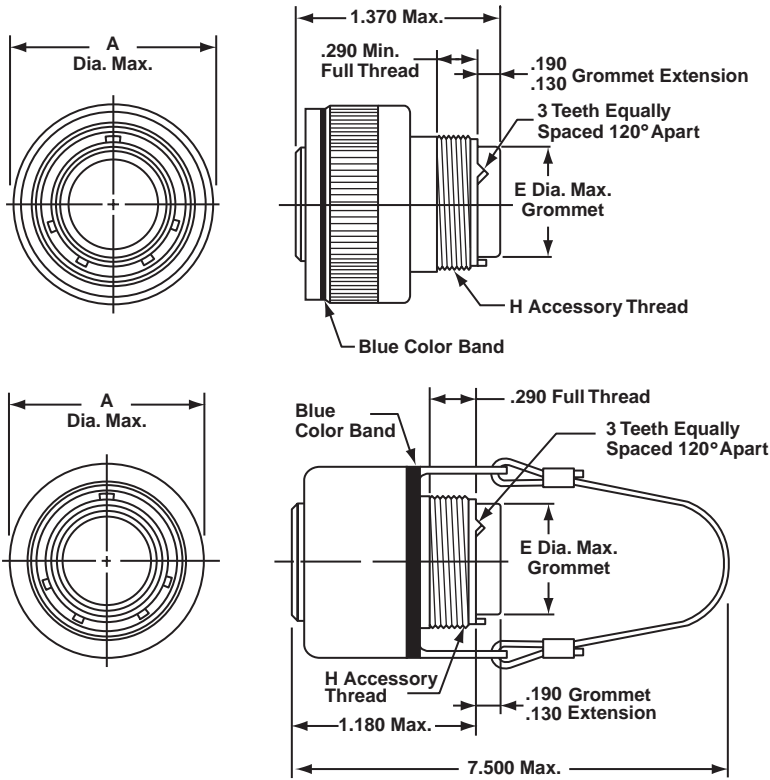
Shell Size	A Dia. Max.	B Dia. Max.	H Accessory Thread Class 2A	J Coupling Thread Class 2B
8	.832	.305	.5000-20 UNEF	.5625-24 UNEF
10	.959	.405	.6250-24 UNEF	.6875-24 UNEF
12	1.097	.531	.7500-20 UNEF	.8750-20 UNEF
14	1.236	.665	.8750-20 UNEF	.9375-20 UNEF
16	1.360	.790	1.0000-20 UNEF	1.0625-18 UNEF
18	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 proprietary part number.

# Miniature Cylindrical MIL-C-83723, Series III Quick-Disconnect Coupling

## M83723/66 & 67 quick-disconnect plug

## M83723/68 & 69 quick-disconnect plug with lanyard



**Plug Shell, Quick-Disconnect,  
Push-Pull Coupling  
without Lanyard**

**Military No.**  
M83723/66 with pin contacts  
M83723/67 with socket contacts  
**Amphenol/Matrix No. MQ36**

**Plug Shell, Quick-Disconnect,  
Push-Pull Coupling  
with Lanyard**

**Military No.**  
M83723/68 with pin contacts  
M83723/69 with socket contacts  
**Amphenol/Matrix No. MQ35**

To complete order number see how to order, page 15.

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

### Receptacle Adapter

Required to mate the quick-disconnect plug with receptacle.  
Not furnished with the quick-disconnect plug; must be ordered separately.

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

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

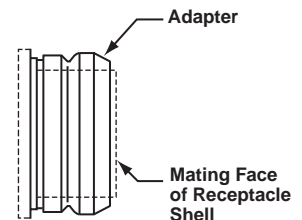
Finish  Shell Size

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



# Miniature Cylindrical MIL-C-83723, Series III Threaded and Quick-Disconnect Coupling

## how to order

### HOW TO ORDER BY MILITARY PART NUMBER MIL-C-83723 SERIES III THREADED COUPLING AND QUICK-DISCONNECT COUPLING CONNECTORS

<u>M83723</u>	<u>/84</u>	<u>R</u>	<u>08</u>	<u>03</u>	<u>N</u>
1	2	3	4	5	6

- Connector Type  
M83723 designates MIL-C-83723 Series III Connectors
- Connector Style  
(Refer to military specification slashesheet number.)  
THREADED COUPLING CONNECTORS  
are designated by the following numbers:  
/82 wall mounting receptacle with socket contacts  
/83 wall mounting 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  
QUICK-DISCONNECT COUPLING CONNECTORS  
are designated by the following numbers:  
/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
- Service Class  
For threaded and quick-disconnect coupling connectors:  
A aluminum shell, black non-conductive anodize finish, fluid resistant  
R aluminum shell, electroless nickel finish, fluid resistant  
G stainless steel shell, passivated, fluid resistant  
W aluminum shell, cadmium olive drab finish, corrosion/fluid resistant  
  
Consult Amphenol, Sidney, NY for the following additional classes of MIL-C-83723, Series III which are available in the Amphenol/Pyle versions.:  
Classes K, S, N - firewall, high temperature (200°C - 260°C)  
Classes H and Y - hermetics
- , 5. Shell size and insert arrangement - See chart on page 16 and pattern drawings that follow.  
Shell sizes 8 thru 28 are available in threaded coupling connectors. (However, note that size 28 shell is not an MS connector, and should be ordered by proprietary number.)  
Shell sizes 8 thru 24 are available in quick-disconnect coupling connectors.
- Keying Positions (rotation of master key/keyway of shell)  
Use N for normal.  
Use 6, 7, 8, 9, or Y for alternate keying positions.  
See page 17 for descriptions.  
  
Clocking Positions (rotation of insert)  
Use 1, 2, 3, 4 or 5 for alternate clocking positions.  
See page 17 for descriptions.

### HOW TO ORDER BY PROPRIETARY PART NUMBER MIL-C-83723 SERIES III THREADED COUPLING AND QUICK-DISCONNECT COUPLING CONNECTORS

<u>MT</u>	<u>34</u>	<u>R</u>	<u>08</u>	<u>03</u>	<u>P</u>	<u>Z</u>	<u>-</u>	<u>***</u>
1	2	3	4	5	6	7		8

- Connector Type  
MT designates Amphenol®/Matrix® Threaded Coupling Connectors  
MQ designates Amphenol®/Matrix® Quick-Disconnect Coupling Connectors
- Connector Style  
THREADED COUPLING CONNECTORS  
are designated by the following numbers:  
30 wall mounting receptacle  
34 jam nut receptacle  
36 standard straight plug  
38 straight plug with RFI grounding fingers  
37 straight plug with self-locking clutch plate  
QUICK-DISCONNECT COUPLING CONNECTORS  
are designated by the following numbers:  
35 straight plug with lanyard  
36 straight plug without lanyard
- Service Class  
For threaded and quick-disconnect coupling connectors:  
A aluminum shell, black non-conductive anodize finish, fluid resistant  
R aluminum shell, electroless nickel finish, fluid resistant  
G stainless steel shell, passivated, fluid resistant  
W aluminum shell, cadmium olive drab finish, corrosion/fluid resistant  
  
Consult Amphenol, Sidney, NY for the following additional classes of MIL-C-83723, Series III which are available in the Amphenol/Pyle versions.:  
Classes K, S, N - firewall, high temperature (200°C - 260°C)  
Classes H and Y - hermetics
- , 5. Shell size and insert arrangement - See chart on page 16 and pattern drawings that follow.  
Shell sizes 8 thru 28 are available in threaded coupling connectors. Shell sizes 8 thru 24 are available in quick-disconnect coupling connectors.
- Contact Types  
P designates pin  
S designates socket
- Keying Positions (rotation of master key/keyway of shell)  
Use 6, 7, 8, 9, or Y for alternate keying positions.  
See page 17 for descriptions.  
  
Clocking Positions (rotation of insert)  
Use 1, 2, 3, 4 or 5 for alternate clocking positions.  
See page 17 for descriptions.
- Modification Number  
Consult Amphenol, Sidney, NY for information.

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



# Miniature Cylindrical MIL-C-83723, Series III insert arrangement chart

## 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
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 proprietary part number only.

Shell size 28 is available in threaded coupling connectors only.

See how to order for bayonet type connectors on page 9, and how to order for threaded and quick-disconnect type connectors on page 15.

Insert arrangements are per MIL-STD-1554.

# Miniature Cylindrical MIL-C-83723, Series III alternate positioning

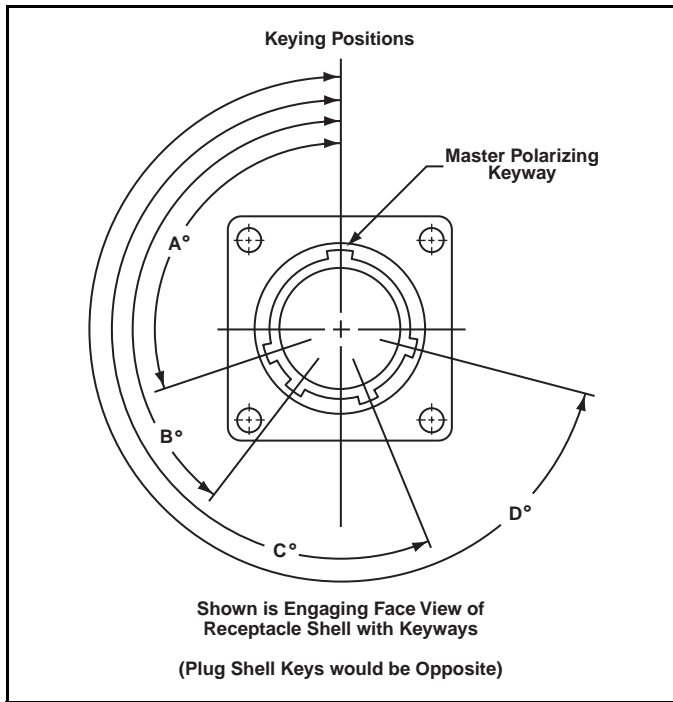
## ALTERNATE KEYING POSITIONS (Rotation of key/keyway of shell)

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. The insert is rotated counter-clockwise relative to the centerline. Plug shells would be the opposite of this diagram.

In the "Normal insert position" (position N), the insert center line coincides with the centerline of the master key/keyway of the shell.

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.



### KEYING POSITIONS

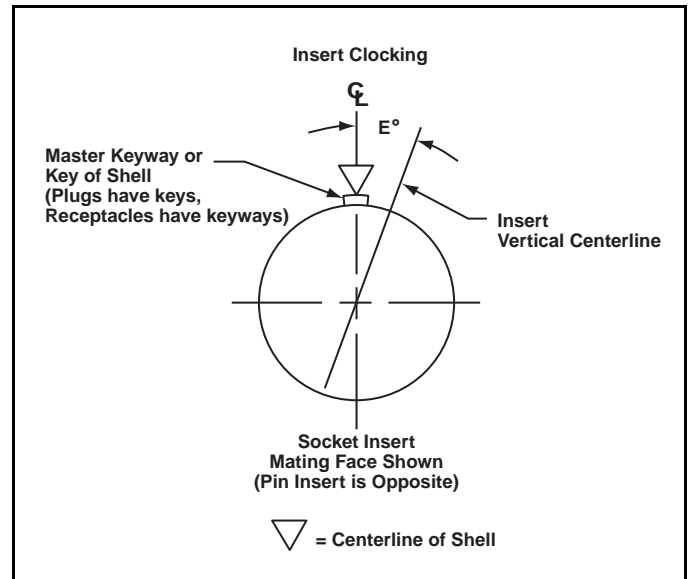
Shell Size	Polarizing Position	Key/Keyway Positions				Insert Position E°
		A°	B°	C°	D°	
8 thru 24	N	105	140	215	265	0
8 & 10	6	102	132	248	320	0
	7	80	118	230	312	0
	8	35	140	205	275	0
	9	64	155	234	304	0
10 only	Y*	25	115	220	270	0
12, 14, 16, 18, 20, 22, 24 and 28	6	18	149	192	259	0
	7	92	152	222	342	0
	8	84	152	204	334	0
	9	24	135	199	240	0
	Y*	98	152	268	338	0

\* Position Y supersedes inactive positions 10 and Z designations.

## ALTERNATE CLOCKING POSITIONS (Rotation of insert)

Alternate positioning is also available with the rotation of the insert. The diagram below shows the pin insert mating face. The centerline of the shell in the normal insert position (position N) coincides with the centerline of the master key/keyway in the shell.

In alternate clocking positions, (positions 1, 2, 3, 4 and 5), the insert rotates relative to the centerline of the key/keyway of the shell. See E° callout on diagram and the table for insert clocking. The socket insert is rotated clockwise, and the pin insert is rotated counter-clockwise.





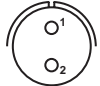



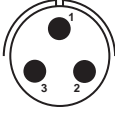
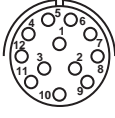
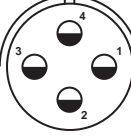
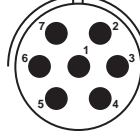
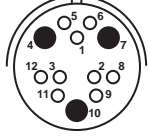
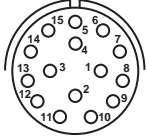
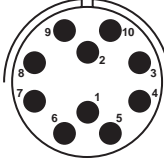
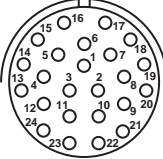
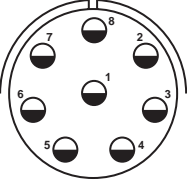
### INSERT CLOCKING POSITIONS

Shell Size	Polarizing Position	Key/Keyway Positions				Insert Position E°
		A°	B°	C°	D°	
8 & 10	N	105	140	215	265	0
	1	105	140	215	265	10
	2	105	140	215	265	20
	3	105	140	215	265	30
	4	105	140	215	265	40
	5	105	140	215	265	50
12, 14, 16, 18, 20, 22, 24 and 28	N	105	140	215	265	0
	1	105	140	215	265	10
	2	105	140	215	265	20
	3	105	140	215	265	30
	4	105	140	215	265	40
	5	105	140	215	265	50

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

# Miniature Cylindrical MIL-C-83723, Series III contact arrangements

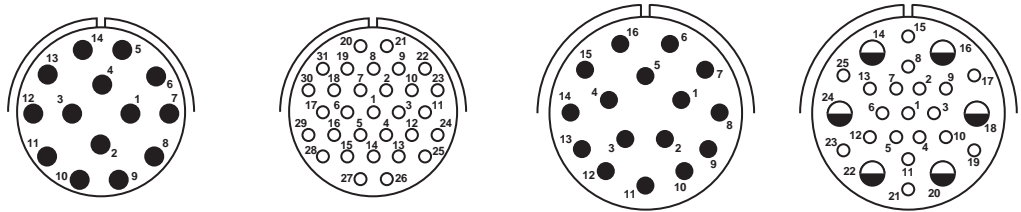
front face of pin insert or rear face of socket insert illustrated

						
<b>Insert Arrangement</b>	<b>0803</b>	<b>0898</b>	<b>1002</b>	<b>1005</b>	<b>1006</b>	<b>1020</b>
<b>Service Rating</b>	I	I	I	I	I	I
<b>Number of Contacts</b>	3	3	2	5	6	2
<b>Contact Size</b>	20	20	20	20	20	16
						
<b>Insert Arrangement</b>	<b>1203</b>	<b>1212</b>	<b>1404</b>	<b>1407</b>	<b>1412</b>	
<b>Service Rating</b>	I	I	I	I	I	
<b>Number of Contacts</b>	3	12	4	7	9 3	
<b>Contact Size</b>	16	20	12	16	20 16	
						
<b>Insert Arrangement</b>	<b>1415</b>	<b>1610</b>	<b>1624</b>	<b>1808</b>		
<b>Service Rating</b>	I	I	I	I		
<b>Number of Contacts</b>	15	10	24	8		
<b>Contact Size</b>	20	16	20	12		

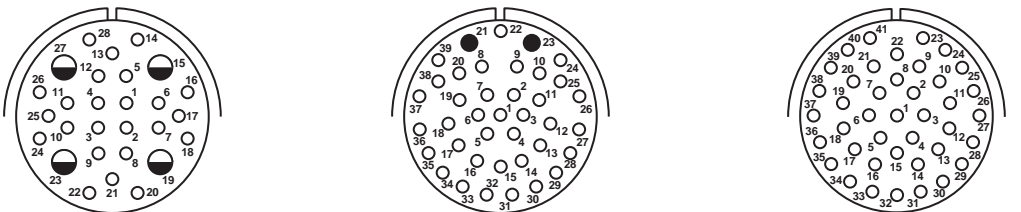
**CONTACT LEGEND**      ○ 20      ● 16      ◐ 12

# Miniature Cylindrical MIL-C-83723, Series III contact arrangements

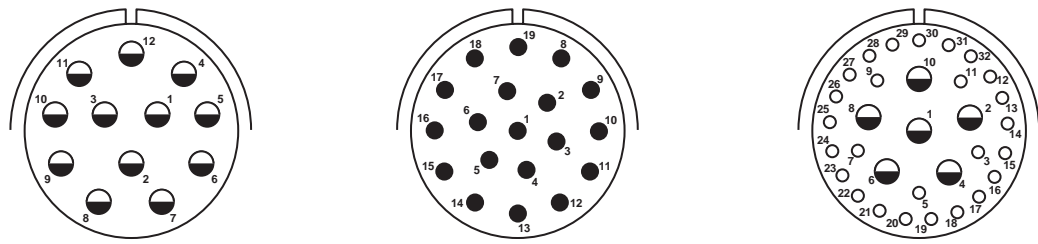
front face of pin insert or rear face of socket insert illustrated



<b>Insert Arrangement</b>	<b>1814</b>	<b>1831</b>	<b>2016</b>	<b>2025</b>
<b>Service Rating</b>	<b>I</b>	<b>I</b>	<b>I</b>	<b>I</b>
<b>Number of Contacts</b>	<b>14</b>	<b>31</b>	<b>16</b>	<b>19 6</b>
<b>Contact Size</b>	<b>16</b>	<b>20</b>	<b>16</b>	<b>20 12</b>



<b>Insert Arrangement</b>	<b>2028</b>	<b>2039</b>	<b>2041</b>
<b>Service Rating</b>	<b>I</b>	<b>I</b>	<b>I</b>
<b>Number of Contacts</b>	<b>24 4</b>	<b>37 2</b>	<b>41</b>
<b>Contact Size</b>	<b>20 12</b>	<b>20 16</b>	<b>20</b>

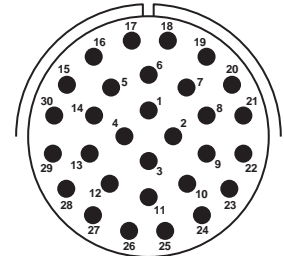
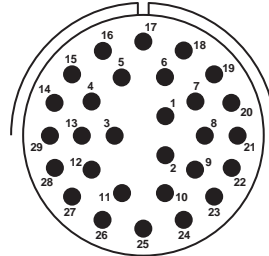
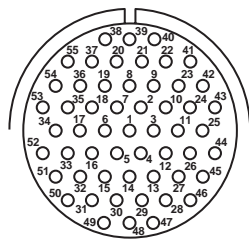


<b>Insert Arrangement</b>	<b>2212</b>	<b>2219</b>	<b>2232</b>
<b>Service Rating</b>	<b>I</b>	<b>I</b>	<b>I</b>
<b>Number of Contacts</b>	<b>12</b>	<b>19</b>	<b>26 6</b>
<b>Contact Size</b>	<b>12</b>	<b>16</b>	<b>20 12</b>

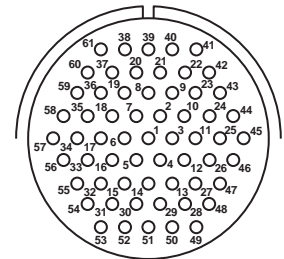
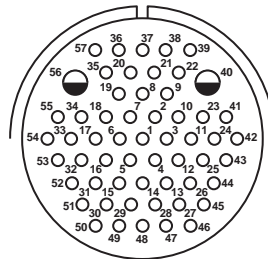
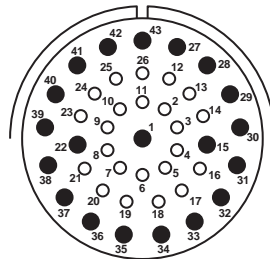


# Miniature Cylindrical MIL-C-83723, Series III contact arrangements

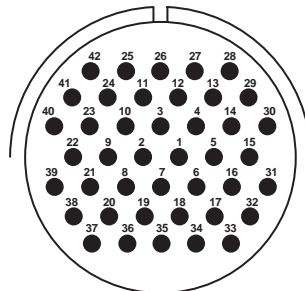
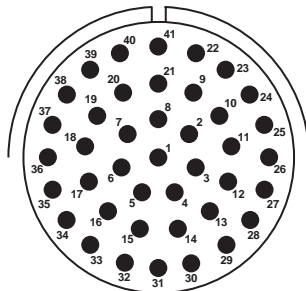
front face of pin insert or rear face of socket insert illustrated



Insert Arrangement	2255	2429†	2430†
Service Rating	I		
Number of Contacts	55	29	30
Contact Size	20	16	16



Insert Arrangement	2443	2457	2461
Service Rating	I	I	I
Number of Contacts	23 20	55 2	61
Contact Size	20 16	20 12	20



Insert Arrangement	2841†	2842†
Service Rating		
Number of Contacts	41	42
Contact Size	16	16

† Not an MS layout.  
Connectors with these insert arrangements can be ordered by proprietary part number only.

Shell size 28 is available in threaded coupling connectors only.

See how to order for bayonet type connectors on page 9, and how to order for threaded and quick-disconnect type connectors on page 15.



# Miniature Cylindrical MIL-C-83723, Series III contact information, sealing plugs, crimping and insertion/removal tools

## MIL-C-83723, SERIES III CRIMP CONTACTS

Contact Size	Wire Range		Socket Contacts	Pin Contacts
	AWG	mm <sup>2</sup>	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 <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	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.

# Additional MIL-C-83723, Series III Miniature Cylindrical Connectors offered by Amphenol

Amphenol offers additional connector product lines within the family of MIL-C-83723, Series III under the Pyle-National® brands. These products are shown in detail in the Amphenol/Pyle catalog, MS-102, which can be supplied upon request. Each series offers varying design characteristics and customer options to provide users with the highest level of flexibility.

The additional products offered through the Pyle designations of Amphenol products are briefly described as follows:



Amphenol®/Pyle® ESC10, /11, /15 and /16 are available from Amphenol

- **Class K Firewall**

Pyle-National offers Class K MIL-C-83723, Series III connectors which have corrosion-resistant, stainless steel, passivated shells. These connectors incorporate non-flammable, hard dielectric, fluid resistant inserts, and they have high temperature capability up to 200°C.

- **High Temperature/European Specification Versions**

Offered under the Pyle designation, there are high temperature versions (up to 260°C) of MIL-C-83723, Series III that meet the following specifications:

- Boeing BACC63CM/CN Firewall, and Pyle equivalent BSK versions
- ESC11/Pyle HTK Series - 100% scoop-proof version/ high temperature
- AECMA designation - EN2997
- ESC10, /11, /15, /16 Rolls Royce Standards
- Aerospatiale, ASN-EO44X Class KE/SE
- General Electric M50TF3564

- **Hermetic MIL-C-83723, Series III**

Hermetics are available under Pyle designation part numbers. Shell styles are: square flange receptacles, D-hole mounted receptacles, and solder mount receptacles. These are stainless steel, passivated, and are temperature capable for up to 200°C.

- **Additional contact options**

Pyle offers additional options for MIL-C-83723, Series III connectors which include shielded twinax and thermocouple types.

For further information on these Amphenol/Pyle products, or any specific applications consult Amphenol, Sidney, NY.

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