

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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View and download or print Amphenol catalogs online at:
Web site: www.Amphenol-Aerospace.com

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

TABLE OF CONTENTS

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

Introduction, Table of Contents.1

General Description, Features and Benefits.2, 3

Class Descriptions,
Performance Specifications4

Quick Reference Chart5

Bayonet Coupling
Shell Styles, Dimensional Data:

 Wall Mounting Receptacle6

 Jam Nut Receptacle.7

 Straight Plug,
 Straight Plug with RFI Grounding Fingers8

How to Order Bayonet Coupling Style9

Threaded Coupling
Shell Styles, Dimensional Data

 Wall Mounting Receptacle10

 Jam Nut Receptacle.11

 Straight Plug,
 Straight Plug, with RFI Grounding Fingers.12

 Straight Plug, Self-Locking.13

Quick-Disconnect Coupling Plug
Dimensional Data

 Straight Plug with/without Lanyards.14

How to Order Threaded and Quick-Disconnect
Coupling Styles.15

Insert Arrangement Chart16

Alternate Positioning.17

Insert Arrangement Patterns.18 - 20

Contact Information, Sealing Plugs,
Crimping and Insertion/Removal Tools.21

Additional MIL-C-83723, Series III
Miniature Cylindrical Connectors
offered by Amphenol.22

Sales Office and Distributor Listing.

Amphenol®/Matrix® 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® 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®/Matrix® 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[®]/Matrix[®] 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[®]/Matrix[®] 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

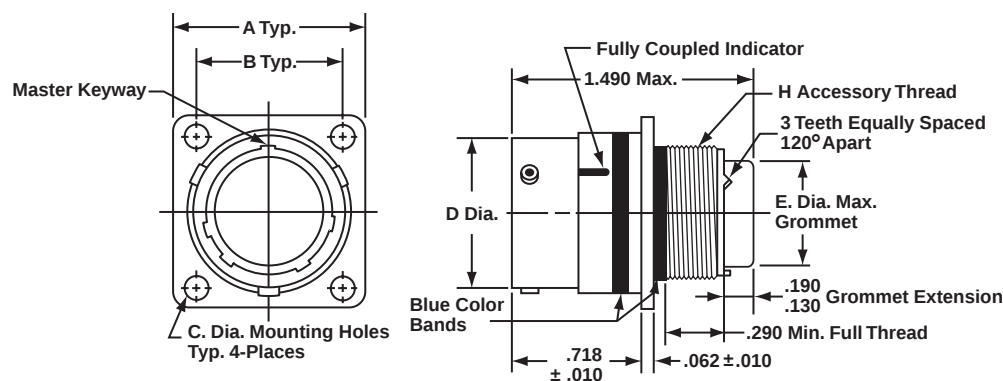
Bayonet Coupling

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

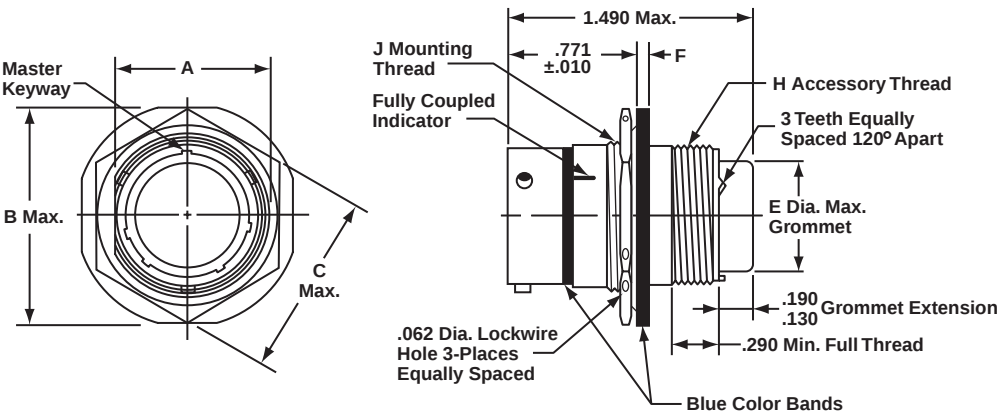
Bayonet Coupling

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.

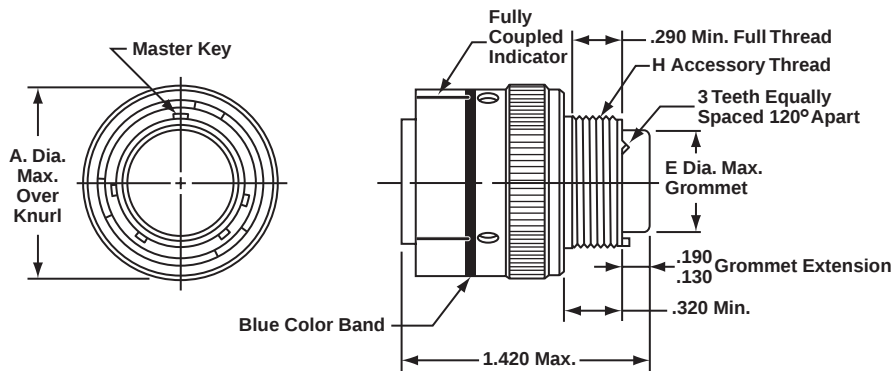
Shell Size	A	B Max.	C Max.	D Dia.	E Dia. Max.	F	H Accessory Thread Class 2A	J Mounting Thread Class 2A
8	.596/.590	.979	.829	.536/.531	.305	.137/.097	.5000-20 UNF	.6250-20 UN
10	.721/.715	1.104	.954	.659/.654	.405	.137/.097	.6250-24 UNEF	.7500-20 UNEF
12	.908/.902	1.291	1.142	.829/.824	.531	.113/.097	.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

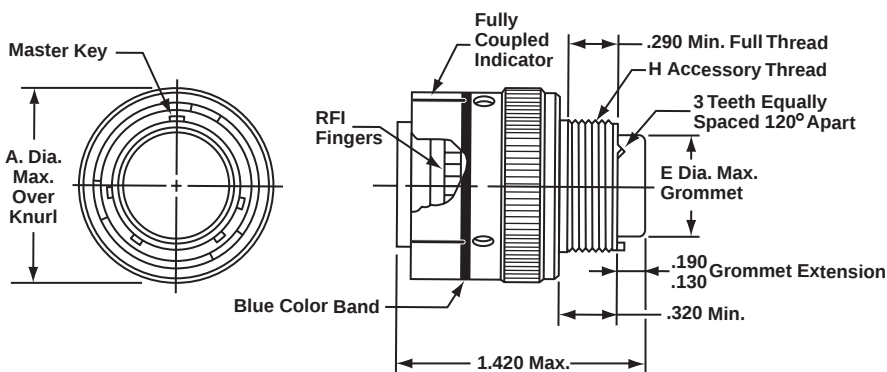
M83723/75 & 76 straight plug

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

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

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

<u>MB</u>	<u>34</u>	<u>R</u>	<u>-</u>	<u>12</u>	<u>03</u>	<u>P</u>	<u>7</u>	<u>-</u>	<u>***</u>
<u>1</u>	<u>2</u>	<u>3</u>		<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>		<u>8</u>

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.

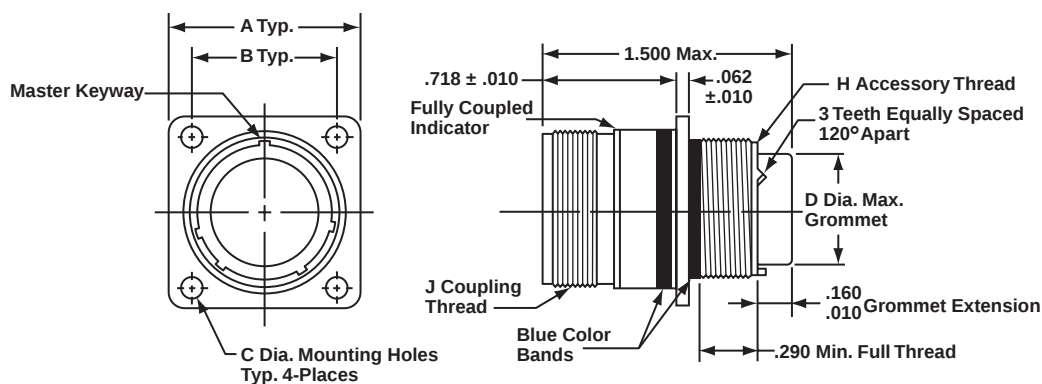
Miniature Cylindrical MIL-C-83723, Series III Threaded Coupling M83723/82 & 83 wall mounting receptacle

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.

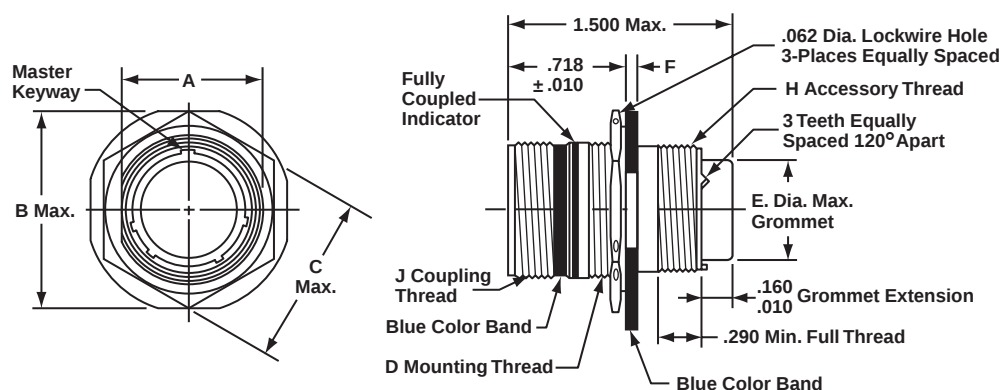
Miniature Cylindrical MIL-C-83723, Series III Threaded Coupling M83723/84 & 85 jam nut receptacle

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.

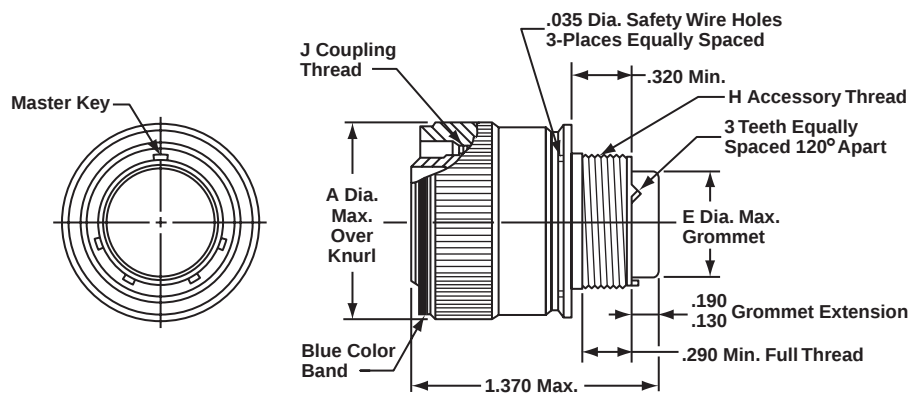
Shell Size	A ±.003	B Max.	C Max.	D Mounting Thread	E Dia. Max.	F	H Accessory Thread Class 2A	J Mounting Thread Class 2A
8	.593	.980	.828	.6250-20 UN	.305	.137/.097	.5000-20 UNF	.5625-24 UNEF
10	.718	1.104	.953	.7500-20 UNEF	.405	.137/.097	.6250-24 UNEF	.6875-24 UNEF
12	.905	1.291	1.140	.9375-20 UNEF	.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



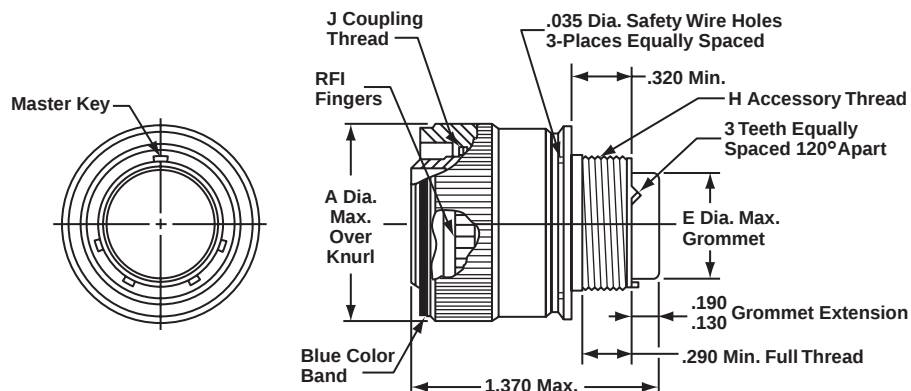
Plug Shell, Threaded Coupling

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

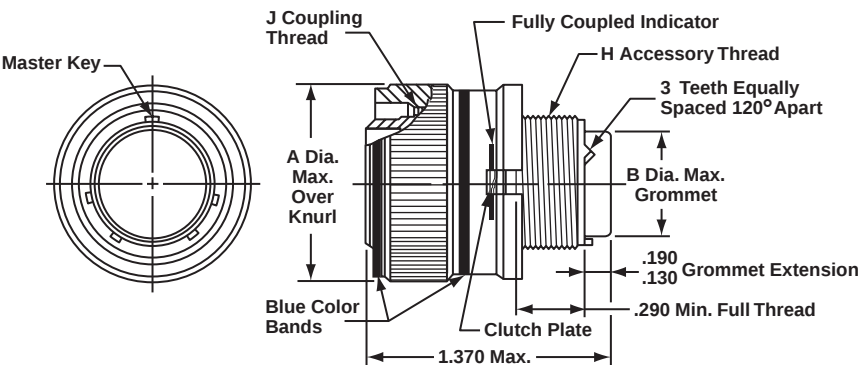
Threaded Coupling

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

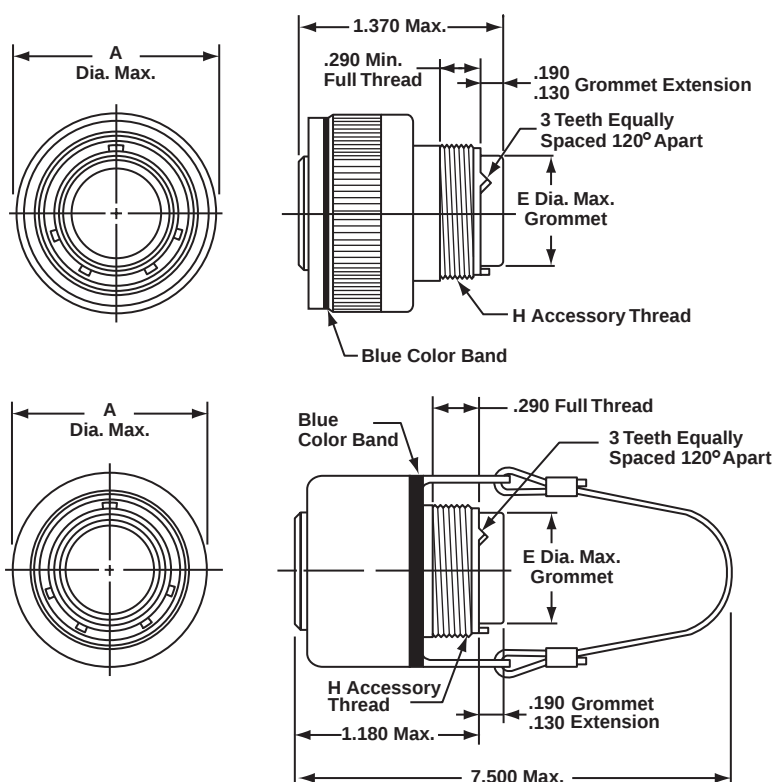
* Shell size 28 is not a MS connector; order by proprietary part number.

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

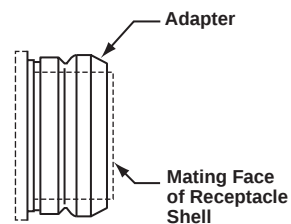
To complete order number see how to order, page 15.

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> |
| <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>6</u> |
1. Connector Type
M83723 designates MIL-C-83723 Series III Connectors
2. Connector Style
(Refer to military specification slashsheet 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
3. 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
- 4., 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.
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 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>7</u> | <u>-</u> | <u>***</u> |
| <u>1</u> | <u>2</u> | <u>3</u> | <u>4</u> | <u>5</u> | <u>6</u> | <u>7</u> | | <u>8</u> |
1. Connector Type
MT designates Amphenol®/Matrix® Threaded Coupling Connectors
MQ designates Amphenol®/Matrix® Quick-Disconnect Coupling Connectors
2. 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
3. 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
- 4., 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.
6. Contact Types
P designates pin
S designates socket
7. 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.
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 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

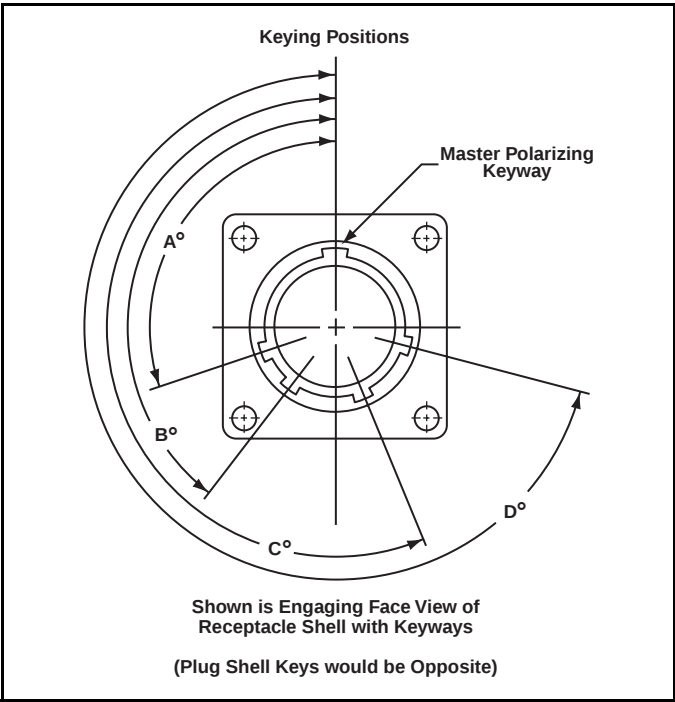
ALTERNATE KEYING POSITIONS (Rotation of key/keyway of shell)

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

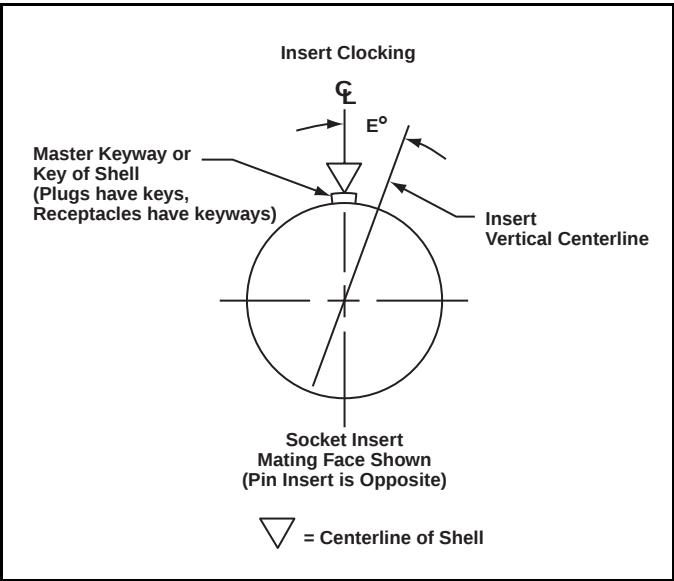
Shell Size	Polarizing Position	Key/Keyway Positions				Insert Position E°
		A°	B°	C°	D°	
8 thru 24	N	105	140	215	265	0
8 & 10	6	102	132	248	320	0
	7	80	118	230	312	0
	8	35	140	205	275	0
	9	64	155	234	304	0
10 only	Y*	25	115	220	270	0
12, 14, 16, 18, 20, 22, 24 and 28	6	18	149	192	259	0
	7	92	152	222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

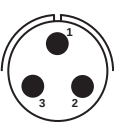
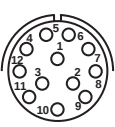
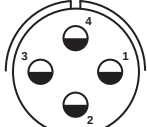
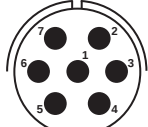
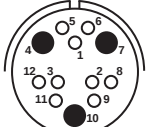
Shell Size	Polarizing Position	Key/Keyway Positions				Insert Position E°
		A°	B°	C°	D°	
8 & 10	N	105	140	215	265	0
	1	105	140	215	265	10
	2	105	140	215	265	20
	3	105	140	215	265	30
	4	105	140	215	265	40
12, 14, 16, 18, 20, 22, 24 and 28	5	105	140	215	265	50
	N	105	140	215	265	0
	1	105	140	215	265	10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

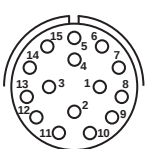
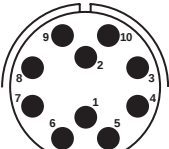
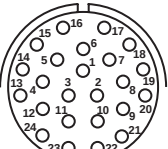
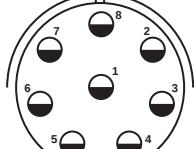
Note: Positions 1-5 are inactive for new designs per MIL-STD-1554.

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

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

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

					
Insert Arrangement	1203	1212	1404	1407	1412
Service Rating	I	I	I	I	I
Number of Contacts	3	12	4	7	9 3
Contact Size	16	20	12	16	20 16

				
Insert Arrangement	1415	1610	1624	1808
Service Rating	I	I	I	I
Number of Contacts	15	10	24	8
Contact Size	20	16	20	12

CONTACT LEGEND

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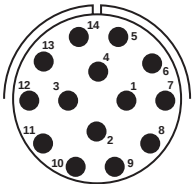
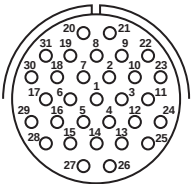
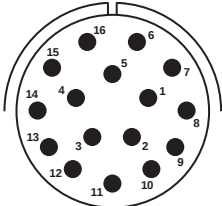
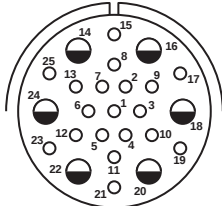
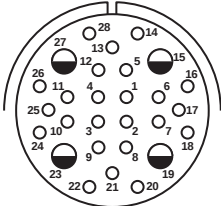
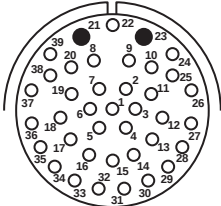
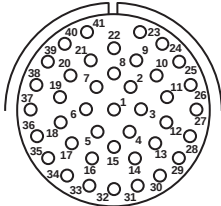
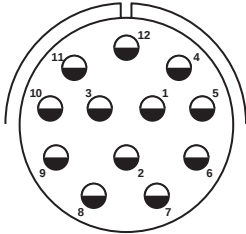
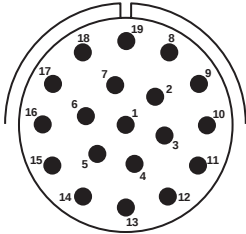
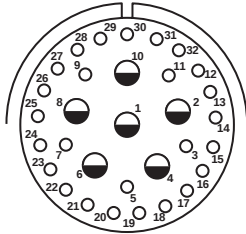
20

16

12

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

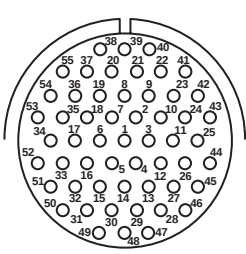
front face of pin insert or rear face of socket insert illustrated

Insert Arrangement				
				
				
				
Service Rating	I			
Number of Contacts	14 31 16 19 6			
Contact Size	16 20 16 20 12			
Insert Arrangement				
				
				
Service Rating	I			
Number of Contacts	24 4 37 2 41			
Contact Size	20 12 20 16 20			
Insert Arrangement				
				
				
Service Rating	I			
Number of Contacts	12 19 26 6			
Contact Size	12 16 20 12			
CONTACT LEGEND				20 16 12

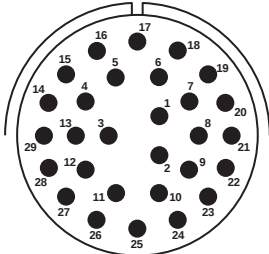
Miniature Cylindrical MIL-C-83723, Series III contact arrangements

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

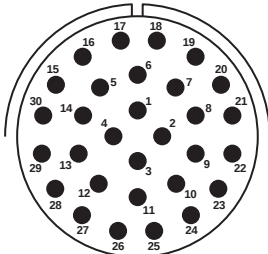
Insert Arrangement
Service Rating
Number of Contacts
Contact Size



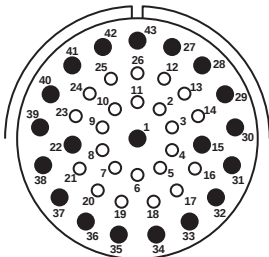
2255
I
55
20



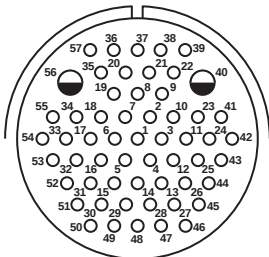
2429†
29
16



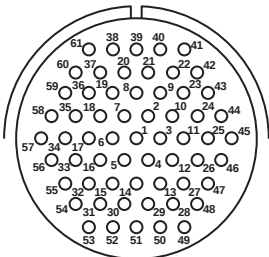
2430†
30
16



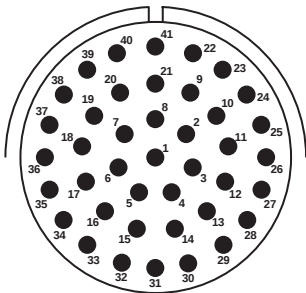
2443
I
23 20
20 16



2457
I
55 2
20 12

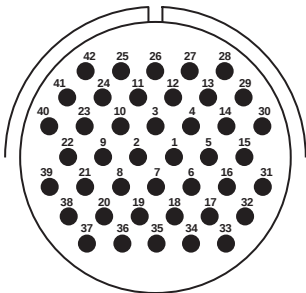


2461
I
61
20



Insert Arrangement
Service Rating
Number of Contacts
Contact Size

2841†
41
16



2842†
42
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.

CONTACT LEGEND

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20

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16

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12

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 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.

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.