

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

- 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.

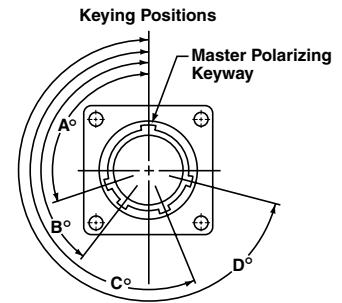
See how to order for bayonet type connectors on page 352, how to order for threaded on page 355, and how to order for quick-disconnect type connectors on page 359.

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

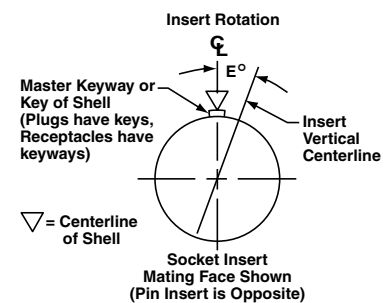
Shell Size	Polarizing Position	Key/Keyway Positions			
		A°	B°	C°	D°
8 thru 24	N	105	140	215	265
8 & 10	6	102	132	248	320
	7	80	118	230	312
	8	35	140	205	275
	9	64	155	234	304
10 only	Y*	25	115	220	270
12, 14, 16, 18, 20, 22, 24 and 28	6	18	149	192	259
	7	92	152	222	342
	8	84	152	204	334
	9	24	135	199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

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- 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

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- Fiber Optics
- Contacts Connectors Cables

- EMI Filter Transient

- 26482 Matrix 2

- 83723 III Matrix Pyle

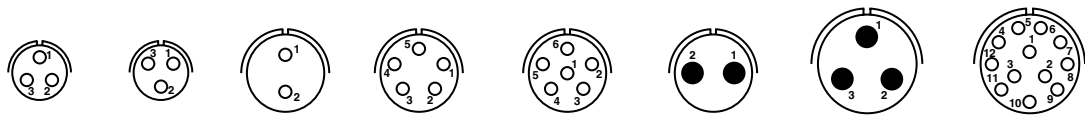
- 26500 Pyle

- 5015 Crimp Rear Release Matrix

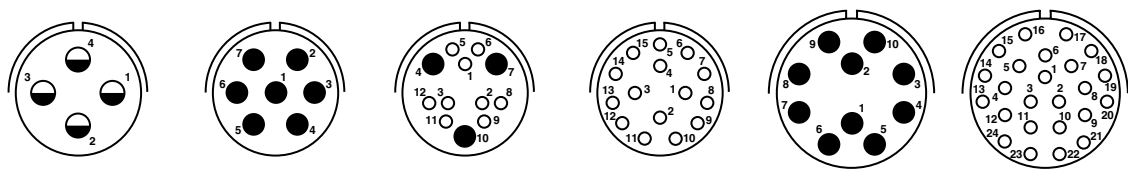
- 22992 Class I

- Back-Shells

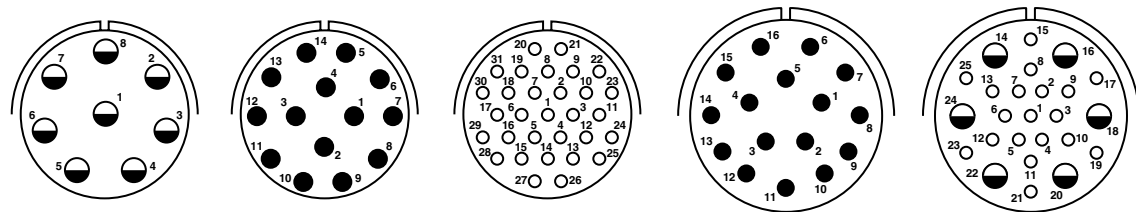
- Options Others



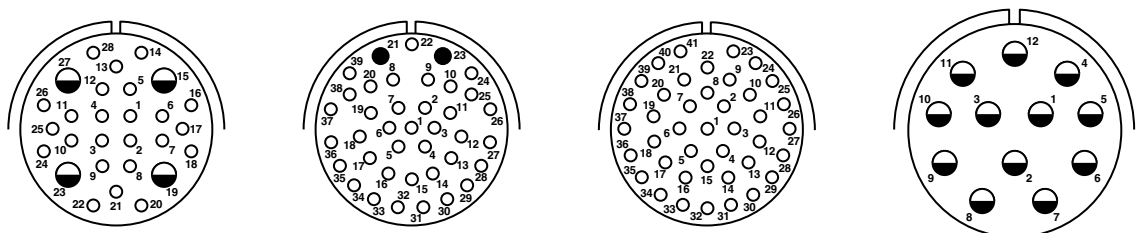
Insert Arrangement	0803	0898	1002	1005	1006	1020	1203	1212
Service Rating	I	I	I	I	I	I	I	I
Number of Contacts	3	3	2	5	6	2	3	12
Contact Size	20	20	20	20	20	16	16	20



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	16



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	20

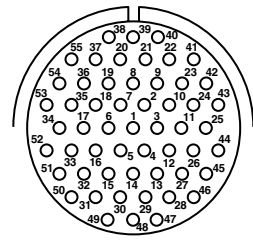
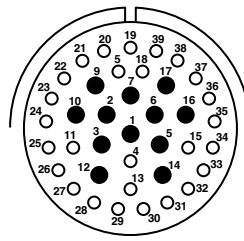
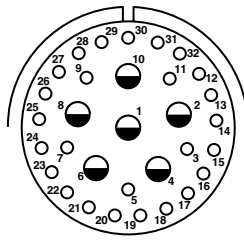
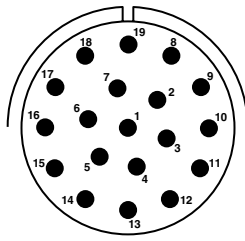


Insert Arrangement	2028	2039	2041	2212
Service Rating	I	I	I	I
Number of Contacts	24	4	37	2
Contact Size	20	12	20	16

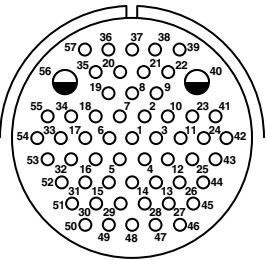
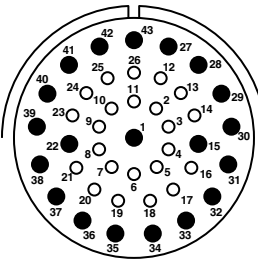
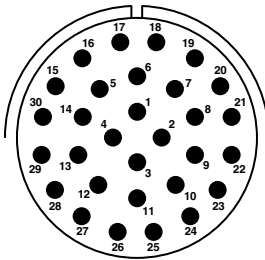
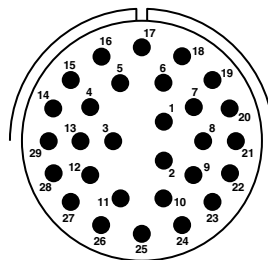
NOTE: Connectors sold as mil-spec connectors will have mil-spec markings on the insert (a "snail-trail" designating the numerical path). Commercial versions will have insert markings as shown here.



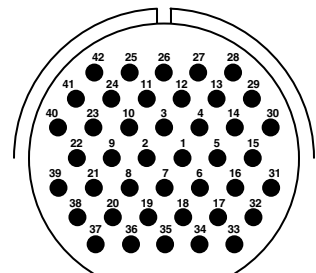
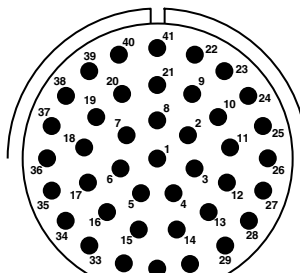
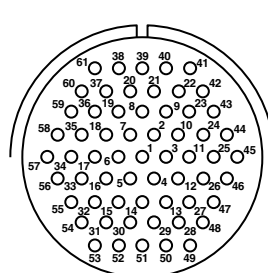
Front Face of Pin Insert or Rear Face of Socket Insert Illustrated



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.



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EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crmp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

38999

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- Dualok
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- I
- SJT
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- PCB

HIGH SPEED

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- 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

	1.	2.	3.	4.	5.	
MIL-DTL-83723, Series III MILITARY	Connector Type M83723	Connector Style (Bayonet) and Contact Type /74	Service Class R	Shell Size/Insert Arrangement 1203	Alternate Keying Position of Shell or Alternate Rotation of Insert 7	
Amphenol® Matrix® MIL-DTL-83723, Series III COMMERCIAL	Connector Type (Bayonet) MB	Connector Style 34	Service Class R	Shell Size/Insert Arrangement 1203	Contact Type P	Alternate Keying Position of Shell or Alternate Rotation of Insert 7
						Modification Number XXX

Step 1. Military Connector Type

M83723	Designates MIL-DTL-83723 Series III Connectors
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Step 1. Commercial Connector Type

MB	Designates Amphenol®/Matrix® Bayonet Coupling Connectors
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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.

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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.

Step 7. Modification Number

Consult Amphenol Aerospace for information.

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

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

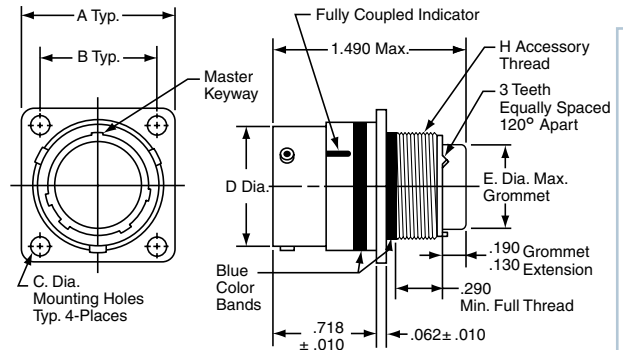
Wall Mounting Receptacle with Bayonet Coupling



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		
Connector Type (Bayonet)	Connector Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alt. Keying Position or Alt. Rotation	Modification Number
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.

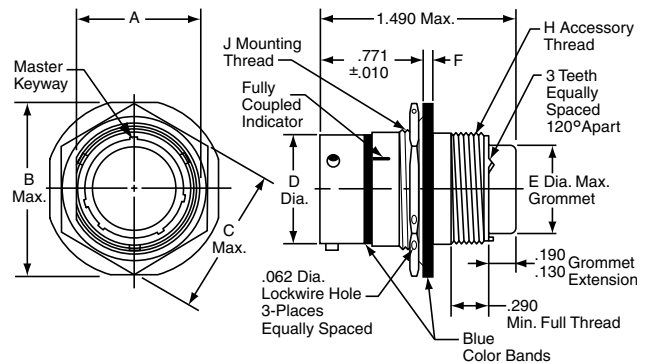
M83723/73 & /74 – MIL-DTL-83723, Series III

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		
Connector Type (Bayonet)	Connector Style	Service Class	Shell Size & Insert Arrg	Contact Type	Alt. Keying Position or Alt. Rotation	Modification Number
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.

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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

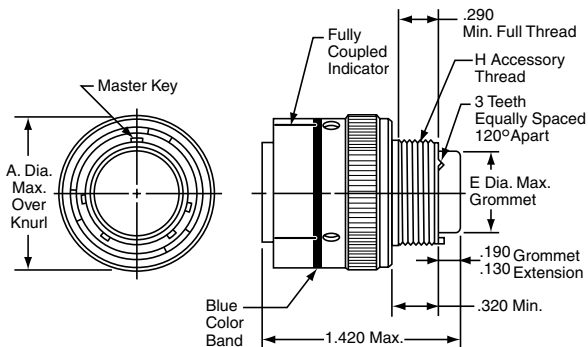
22992 Class 1

Back-Shell's

Options Others

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- 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

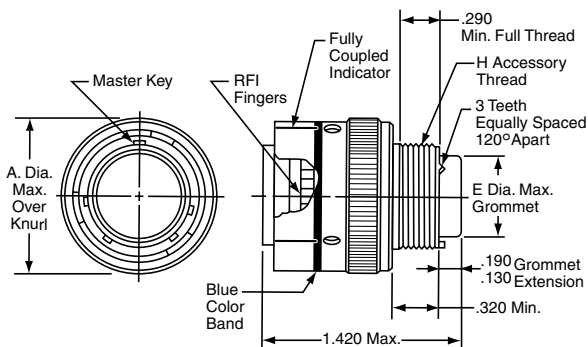
EMI Filter Transient

26482 Matrix 2

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

Straight Plug, Bayonet Coupling (with RFI grounding fingers)

83723 III Matrix Pyle



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