

Amphenol MIL-DTL-26482, Series 2, Matrix®



TABLE OF CONTENTS

MIL-DTL-26482, Series 2, Matrix®

- Design Characteristics, Customer Options 333
- Insert Availability and Identification, Alternate Positioning 334
- Insert Arrangement Drawings 335, 336
- Class Descriptions, Performance Specifications 337
- How to Order (Military and Commercial) 338

Shell Styles:

- Wall Mounting Receptacle with Narrow Flange, Wall Mounting Receptacle with Wide Flange 339
- Cable Connecting Receptacle, Jam Nut Receptacle. 340
- Straight Plug, Straight Plug with RFI Grounding Fingers 341

Contacts and Tools:

- Contact Information, Sealing Plugs, Crimping and Insertion/Removal Tools 342
- Assembly Instructions 343, 344

Additional MIL-DTL-26482 Connectors

- Brief Description of Commercial/Military MIL-DTL-26482, Series 1 345
(Covered in-depth in Amphenol Industrial Catalog 12-070)



MIL-DTL-26482 Series 2, Matrix® Typical Markets:

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

Amphenol
Aerospace

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

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

DESIGN CHARACTERISTICS

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

CUSTOMER OPTIONS

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

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

** SAE AS39029 supersedes MIL-C-39029



MS3470
wall mounting receptacle
with narrow flange



MS3471
cable connecting recep-
tacle



MS3474
jam nut receptacle



MS3476
straight plug
MS3475
plug with RFI grounding
fingers

38999

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

HIGH SPEED
Fiber Optics
Contacts Connectors Cables

EMI Filter Transient

26482 Matrix 2

83723 III Matrix Pyle

26500 Pyle

5015 Crimp Rear Release Matrix

22992 Class I

Back- Shells

Options Others

Alternate Rotations

INSERT ARRANGEMENTS

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

Arrangements designated with an S are tooled in socket only.

ALTERNATE ROTATIONS OF INSERT

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

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



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

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

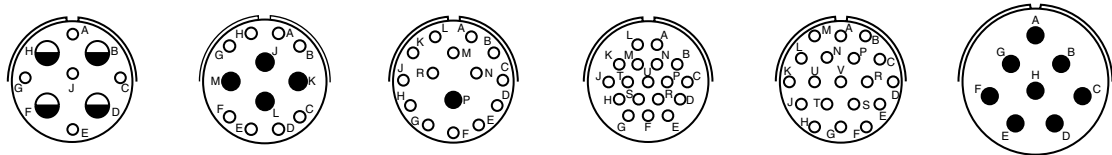
MIL-DTL-26482, Series 2, Matrix®

Insert Arrangements

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



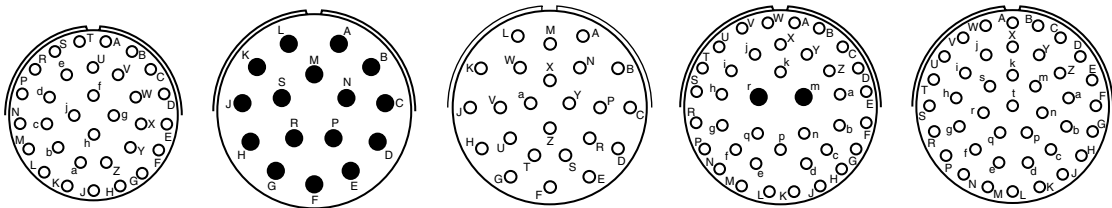
Insert Arrangement	8-33	8-98	10-06	12-03	12-08	12-10	14-04	14-05
Service Rating	I	I	I	II	I	I	I	II
Number of Contacts	3	3	6	3	8	10	4	5
Contact Size	20	20	20	16	20	20	12	16



Insert Arrangement	14-09		14-12		14-15		14-18		14-19		16-08	
Service Rating	I		I		I		I		I		II	
Number of Contacts	5	4	8	4	14	1	18		19		8	
Contact Size	20	12	20	16	20	16	20		20		16	



Insert Arrangement	16-23		16-26	18-08	18-11	18-30	
Service Rating	I		I	I	II	I	
Number of Contacts	22	1	26	8	11	29	1
Contact Size	20	16	20	12	16	20	16



Insert Arrangement	18-32	20-16	20-24	20-39		20-41
Service Rating	I	II	I	I		I
Number of Contacts	32	16	24	37	2	41
Contact Size	20	16	20	20	16	20

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

CONTACT LEGEND

○ 20 ● 16 ◐ 12

38999

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

HIGH SPEED
Fiber Optics
Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2
83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class I

Back-
Shells

Options
Others

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



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



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



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

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

CONTACT LEGEND

○	●	◐
20	16	12

MIL-DTL-26482, Series 2, Matrix®

Class Descriptions, Performance Specifications

CLASS DESCRIPTIONS

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

* Ref. MIL-DTL-26482

PERFORMANCE SPECIFICATIONS

SERVICE RATINGS**

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

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

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

OPERATING TEMPERATURE RANGE

–65°C (–85°F) to 200°C (392°F)

ENVIRONMENTAL SEAL

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

DURABILITY

Minimum of 500 mating cycles.

SHOCK AND VIBRATION REQUIREMENTS

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

SHOCK:

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

VIBRATION:

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

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 L

Back-
Shells

Options
Others

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix Pyle

26500
Pyle

5015
Crimp Rear
Release
Matrix

22992
Class L

Back-
Shells

Options
Others

1.

2.

3.

4.

5.

6.

7.

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

Step 1. Military Connector Type

MS	Designates Military Standard
----	------------------------------

Step 2. Select a Connector Style

	Designates
3470	Wall Mount Receptacle with Narrow Flange
3472	Wall Mount Receptacle with Wide Flange
3471	Cable Connecting Receptacle
3474	Jam Nut Receptacle
3476	Straight Plug
3475	Straight Plug with RFI Grounding Fingers

Step 3. Select a Service Class

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

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

Step 4. Select a Shell Size & Insert

Arrangement from chart on page 334.

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

Step 5. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts
A	Less Pins
B	Less Sockets

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

Step 6. Select an Alternate Rotation of Insert

“W”, “X”, “Y”, “Z” designate that insert is rotated in its shell from normal position. No letter required for normal (no rotation) position. See page 334 for description of alternate positions.

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

Step 1. Commercial Connector Type

MB1	Designates Amphenol®/Matrix® Bayonet Coupling Connector
-----	---

Step 2. Select a Connector Style

	Designates
0	Wall Mount Receptacle with Narrow Flange
1	Wall Mount Receptacle with Wide Flange
3	Cable Connecting Receptacle
4	Jam Nut Receptacle
6	Straight Plug
8	Straight Plug with RFI Grounding Fingers

Step 3. Select a Service Class

	Designates
A	Aluminum shell, black anodized finish, non-conductive, fluid resistant insert
B	Black zinc conductive plating. Must also add modification number (A15) in step 7
C	Green zinc cobalt plating. Must also add modification number (981) in step 7
R	Aluminum shell, electroless nickel finish, fluid resistant insert
G	Stainless steel shell, passivated, fluid resistant insert
W	Aluminum shell, cadmium plated, olive drab finish, fluid resistant insert

Step 4. Select a Shell Size & Insert

Arrangement from chart on page 334.

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

Step 5. Select a Contact Type

	Designates
P	Pin Contacts
S	Socket Contacts

Step 6. Select an Alternate Rotation of Insert

“W”, “X”, “Y”, “Z” designate that insert is rotated in its shell from normal position. No letter required for normal (no rotation) position. See page 334 for description of alternate positions.

Step 7. Modification Number

Consult Amphenol Aerospace for information.

For strain reliefs use the following codes:

(189) E-nut M85049/31 configuration

(190) Straight strain relief M85049/52 configuration

(191) 90° strain relief M85049/51 configuration

(A15) Used with finish class B to designate conductive black zinc plating.

(981) Used with finish class C to designate green zinc cobalt plating.

MS3470 (MB10) – MIL-DTL-26482, Series 2

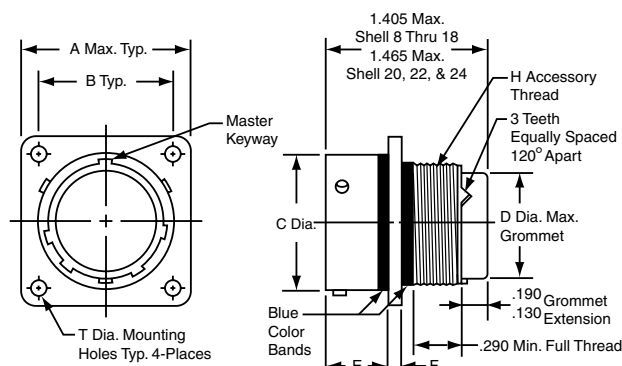
Wall Mounting Receptacle (with Narrow Flange)

PART

*To complete, see how to order page 338.

	Connector Type	Shell Style	Shell Size & Insert Arrg	Contact Type	Alternate Rotation of Insert	Modification Number
Military	MS	3470	X	X-X	X	NA
Commercial	MB1	0	X	X-X	X	(XXX)

**MS3470
MB10**



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

All dimensions for reference only.

MS3472 (MB11) – MIL-DTL-26482, Series 2

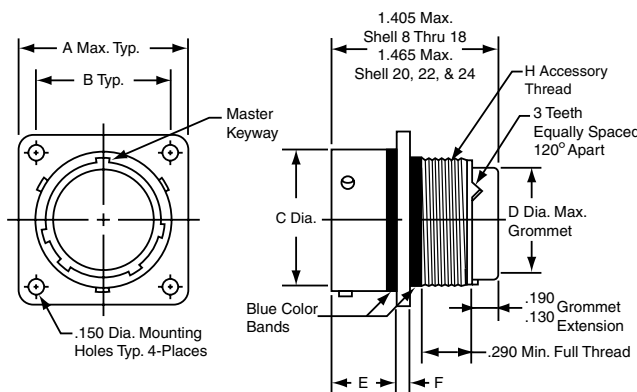
Wall Mounting Receptacle (with Wide Flange)

PART

*To complete, see how to order page 338.

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

**MS3472
MB11**



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

All dimensions for reference only.

38999

III

HD

Dualok

II

I

SJT

Accessories

Aquacon

Herm/Seal

PCB

HIGH SPEED

Fiber Optics

Contacts
Connectors
Cables

EMI Filter
Transient

26482
Matrix 2

83723 III
Matrix | Pyle

26500
Pyle

5015
Crimp Rear Release Matrix

22992
Class 1

Back-Shell

Options
Others

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Circular MIL Spec Connector](#) category:

Click to view products by [Amphenol](#) manufacturer:

Other Similar products are found below :

[0025-262-542](#) [0025-264-3014](#) [58-570121-04S](#) [0134-202-1200](#) [0134-207-1206](#) [0134-207-1800](#) [0134-207-2207](#) [0134-213-0806](#) [0134-213-1007](#) [0134-213-1009](#) [0134-213-1208](#) [0134-213-1800](#) [0134-213-2209](#) [0025-258-000](#) [015-9516-002](#) [60-042722-19P](#) [0114-201-1278](#) [602GB06EG24-61SN](#) [0134-201-1207](#) [0134-201-1806](#) [0134-201-2006](#) [0134-201-2007](#) [0134-201-2010](#) [0134-202-1400](#) [0134-207-0809](#) [0134-207-1208](#) [0134-207-2009](#) [0134-213-1006](#) [6104-207-2302](#) [6104-208-1902](#) [6131-202-19149P](#) [6131-204-21149P](#) [6131-207-13149P](#) [6131-208-13149P](#) [6131-209-17149P](#) [6131-210-11149P](#) [6131-211-19149P](#) [6131-216-19149P](#) [6131-220-25149P](#) [6131-259-11149P](#) [6131-259-21149P](#) [6131-259-23149P](#) [6131-263-19149P](#) [6131-265-17149P](#) [6131-265-19149P](#) [CS3102A-20-15P](#) [CS3102A-20-15S](#) [CS3102C18-4P-472](#) [CS3106A-20-29P](#) [CS3106A-20-74P](#)