

# Amphenol MIL-DTL-26482 Series II MB (Matrix®)



## HIGH-PERFORMANCE MINIATURE CONNECTOR PERFECT FOR AEROSPACE APPLICATIONS

Amphenol's Matrix® MIL-DTL-26482 series II miniature cylindrical connectors have a quick-mating, three-point bayonet coupling system. Given their small size and high-quality contact retention and seal, the MB series is excellent for high-reliability applications in the harshest conditions, including the aerospace industry.

- Space-rated Class G outgassing available in 48 hours
- Mates with all MIL-DTL-26482 series I connectors

## APPLICATIONS

- Commercial and military aircraft
- High-temperature industrial equipment
- Instrumentation
- Avionics

## FEATURES

### HIGH-QUALITY CONTACT SYSTEM

Amphenol's MB connector series uses industry-standard M39029 crimp-style contacts and a field-proven contact retention clip that locks the contact into place while allowing easy insertion and removal with simple, low-cost plastic tools.

### WIDE RANGE OF CABLE ACCESSORIES, INCLUDING MILITARY-STANDARD

Unlike MIL-DTL-26482 series I style connectors, MIL-DTL-26482 Series II style are supplied without rear accessories but with military-standard rear threads. This permits a choice from one of the broadest array of endbells, including M85049-standard endbells, and from low-cost, simple cable tie versions to fully environmentally-sealed EMI-shielded endbells.

### BROAD OPERATING TEMPERATURES

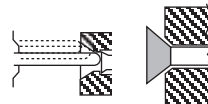
MBs use high-quality silicone for the peripheral, interfacial and wire seals. This, along with the stable hard dielectric insert material that houses the contact retention clip, provide operating temperatures from -85°F to +392°F (-65°C to +200°C).

### REAR CONTACT INSERTION AND RELEASE SYSTEM

Used properly, the insertion and extraction tools never touch, come in contact with or damage the interfacial seals, eliminating a common problem with front-release contact systems.

### CORK-IN-A-BOTTLE INTERFACIAL SEAL SYSTEM

Socket inserts have hard, dielectric, funnel-shaped contact lead-ins that not only assist in aligning the contacts when mating, but provide compression of the raised individual contact seals on the high-quality silicone interfacial seals of the pin insert.



TECHNICAL  
SPECIFICATIONS

## MATERIALS &amp; FINISHES

Shell	High-grade aluminum alloy per QQ-A-367, QQ-A-591 or QQ-A-225; stainless steel 303 grade (AMS 5640)
Jam Nut	Aluminum alloy per QQ-A-225
Coupling Nut	High-grade aluminum alloy per QQ-A-591; stainless steel 303 grade (AMS 5640)
Plating	Electroless nickel per MIL-C-26074 class 3; 4 grade B, or olive drab chromate over cadmium over nickel per QQ-P-416 black-anodized non-conductive, black zinc conductive
Bayonet Pins	Passivated stainless steel per QQ-S-763
Contacts	Copper alloy
Plating	Gold-plated per MIL-G-45204 50 microinches
Insulator	Rigid-plastic dielectric
Grommet & Seals	Silicone-based elastomer

## ELECTRICAL DATA

## Working &amp; Test Voltage

SERVICE RATING	WORKING		TEST	
	At Sea Level VAC RMS	70,000 feet ALTITUDE VAC RMS	At Sea Level VAC RMS	70,000 feet ALTITUDE VAC RMS
I	600	300	1,500	375
II	1,000	450	2,300	500

Current Rating	WIRE SIZE AWG	CONTACT SIZE	MAX. CURRENT FOR TEST IN AMPS	POTENTIAL DROP MILLIVOLT AT 77°F, (25°C)
	24	20	3	<45
	20	20	7.5	<55
	20	16	7.5	<45
	16	16	13	<50
	14	12	17	<45
	12	12	23	<50

Wire Range Sizes 24 – 12 AWG

Insulation Resistance 5,000 megohms minimum at 77°F (25°C)  
500 megohms minimum at 392°F (200°C) Class L and  
347°F (175°C) Class W

## MECHANICAL

Operating Temperature Electroless nickel and olive drab chromate over cadmium over nickel  
-85°F up to +392°F (-65°C up to +200°C)

## Wire Sealing Range

CONTACT SIZE	WIRE SEALING RANGE MIN. INCH (MM)	WIRE SEALING RANGE MAX. INCH (MM)
20	.040 (1.02)	.083 (2.11)
16	.053 (1.35)	.103 (2.62)
12	.097 (2.46)	.158 (4.01)

CONTACT SIZE	WIRE SIZE AWG	STRIP LENGTH INCH (MM)
20	20-24	.188 (4.76)
16	16-20	.281 (7.14)
12	12-14	.281 (7.14)

Mating Life	500 cycles minimum, 250 cycles minimum for shielded plug								
Salt Spray	Class L, 48 hours unmated; Class W, 500 hours mated; 452 hours mated per MIL-STD-1344 Method, 1001 per MIL-DTL-26482 black zinc, 500 hours								
Heat	All platings and materials, +392°F (+200°C); for 1000 hours to MIL-STD-1344 Method 1005.1								
Chemical Resistance	Tested unmated according to MIL-DTL-26482 4.6.28 for hydraulic fluid, lubricating oil, deicing fluids, jet fuels, solvents and coolants								
Vibration	10 to 2000Hz (20g's) 10 microseconds maximum discontinuity. To MIL-STD-1344 Method 2005 per MIL-DTL-26482								
Shock	150g's 6ms duration, three major axes. 10 microsecond maximum discontinuity								
Contact Type	Crimp, coax, twinax, printed circuit board, and fiber optic								
Number of Circuits	3 to 61								
Contact Insertion & Extraction	Insertion from rear of connector with simple plastic or high-quality metal hand-tool. Extraction from rear with plastic or high-quality metal hand-tools								
Contact Retention	Per MIL-STD-1344A Method 2007 per MIL-DTL-26482 <table border="1" data-bbox="727 1003 1188 1129"> <thead> <tr> <th>CONTACT SIZE</th> <th>AXIAL LOAD POUNDS MIN.</th> </tr> </thead> <tbody> <tr> <td>20</td> <td>20</td> </tr> <tr> <td>16</td> <td>25</td> </tr> <tr> <td>12</td> <td>30</td> </tr> </tbody> </table>	CONTACT SIZE	AXIAL LOAD POUNDS MIN.	20	20	16	25	12	30
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Polarization	Five-keyway, three-point bayonet with optional rotational polarization. <a href="#">↪ See page 173.</a>								
Approvals	MIL-DTL-26482								

### Excerpt from MIL-DTL-26482H

3.7.4 **JAN and J marking.** The United States Government has adopted and is exercising legitimate control over the certification marks "JAN" and "J", respectively, to indicate that items so marked or identified are manufactured to, and meet all the requirements of specifications. Accordingly, items acquired to, and meeting all of the criteria specified herein and in applicable specifications shall bear the certification mark "JAN" except that items too small to bear the certification mark "JAN" shall bear the letter "J". The "JAN" or "J" shall be placed immediately before the PIN except that if such location would place a hardship on the manufacturer in connection with such marking, the "JAN" or "J" may be located on the first line above or below the PIN. Items furnished under contracts or orders which either permit or require deviation from the conditions or requirements specified herein or in applicable specifications shall not bear "JAN" or "J". In the event an item fails to meet the requirements of this specification and the applicable specification sheets, the manufacturer shall remove completely the military PIN and the "JAN" or the "J" from the sample tested and also from all items represented by the sample. The "JAN" or "J" certification mark shall not be used on products acquired to contractor drawings or specification. The United States Government has obtained Certificate of Registration Number 504,860 for the certification mark "JAN" and Registration Number 1,586,261 for the certification mark "J".

PIN = Part Identification Number