

# Amphenol

**MW Series**

**MIL-DTL-55181**



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# Amphenol



## Introduction

Amphenol MW series power connectors are MIL Qualified & listed in QPL & meets the requirement of MIL-DTL-55116.

MW series power connectors are with center lock coupling screw, waterproof & polarized. Connectors used for interconnection of power & control circuit electric equipment specially in U.S. Army Communication System.

These connectors are designed to withstand high shock & vibrations ensured with center locking screw mechanism.

Military Radios



Harsh Environment Communications



Ground Vehicles



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## Materials & Finish

| Part             | Material                                             | Finishes                                      |
|------------------|------------------------------------------------------|-----------------------------------------------|
| Plug Shell       | Aluminum Alloy                                       | Cadmium Plate with Olive drab chromate finish |
| Receptacle Shell | Brass                                                | Cadmium Plate with Olive drab chromate finish |
| Nose Piece       | Alloy Steel                                          | Cadmium Plate with Olive drab chromate finish |
| Draw Screws      | Stainless Steel                                      | Passivation                                   |
| Pin Contact      | Brass                                                | 1.27 Micron Gold over Nickel                  |
| Socket Contact   | Copper Alloy with BeCu Spring Element                | 1.27 Micron Gold over Nickel                  |
| Insulator        | Glass-filled dially phthalate, type GDF-30F or SDG-F |                                               |

## Mechanical

|                   |           |
|-------------------|-----------|
| Contact Retention | 10 lbs    |
| Durability        | 500 Cycle |
| Insert Strength   | 400 lbs   |

## Electrical

|                                                       |                                        |
|-------------------------------------------------------|----------------------------------------|
| Operating Current 4 Contacts (12 AWG)                 | 35 Amp                                 |
| Operating Current 9 & 18 Contacts (20 AWG)            | 7.5 Amp                                |
| Contact Resistance 4 Contacts (12 AWG)                | <0.57 milli Ohms (20 m V drop at 35 A) |
| Contact Resistance 9 & 18 Contacts (20 AWG)           | <3.33 milli Ohms(20 m V drop at 7.5 A) |
| Insulation Resistance                                 | 1000 M Ohms min at 500 Vdc             |
| Dielectric with Standing Voltage- 4 Contacts (12 AWG) | 2000 V RMS                             |
| Dielectric with Standing Voltage- 18 Contacts(20 AWG) | 1500 V RMS                             |

## Environmental

|                       |                         |
|-----------------------|-------------------------|
| Operating Temperature | -55 Deg C To + 85 Deg C |
| Air Pressure          | 2.5 PSI                 |
| Water Immersion       | 6 Feet, 48 Hours        |



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DSCC-VQP-09-019067 (Mr. Funk/614-692-6608/jf)  
SUBJECT: Qualification for MIL-DTL-55181  
DSCC Test Report Number 55181-2284-08  
FSC 5935, Preparing Activity: DLA-CC

OCT 6 2009

Ms. Seema Tiwari  
Sr. Deputy Manager QA  
Amphenol Interconnect India Pvt. Ltd.  
105, Bhosari Industrial Estate  
Pune-411026 (INDIA)

Dear Ms. Tiwari:

We have received Amphenol Interconnect India's test report and supporting data dated August 18, 2009. Qualification of your products is granted under the Military Specification Sheets listed below as a result of providing exhibit samples that demonstrate your capability to manufacture these products to Military Specification MIL-DTL-55181.

| GOVERNMENT DESIGNATION | MANUFACTURER'S DESIGNATION OR TYPE NUMBER | TEST OR QUALIFICATION REFERENCE | SUPPLIER'S NAME                       |
|------------------------|-------------------------------------------|---------------------------------|---------------------------------------|
| M55181/1-01            | MW10F(M)A11                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/1-02            | MW10F(M)A13                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/1-03            | MW10F(M)A17                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/1-04            | MW10F(M)A19                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/1-05            | MW10F(M)A15                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/2-01            | MW20M(M)A00                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/3-01            | MW10M(M)A11                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/3-02            | MW10M(M)A13                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/3-03            | MW10F(M)A17                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/3-04            | MW10M(M)A19                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/3-05            | MW10M(M)A15                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/4-01            | MW20F(M)A00                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/7-01            | MW10M(M)D11                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/7-02            | MW10M(M)D13                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/7-03            | MW10M(M)D17                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/7-04            | MW10M(M)D19                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/7-05            | MW10M(M)D15                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |
| M55181/8-01            | MW20F(M)D00                               | 55181-2284-08                   | Amphenol Interconnect India Pvt. Ltd. |

A detailed listing of the connector type under the Military Specification Sheet will be listed on the Qualified Products List (QPL) 55181. This qualification is subject to the conditions stated in DoD 4120.24-M and SD-6.

Because we are held responsible for the accuracy and currency of this QPL, please let us know if your company discontinues production of these products.

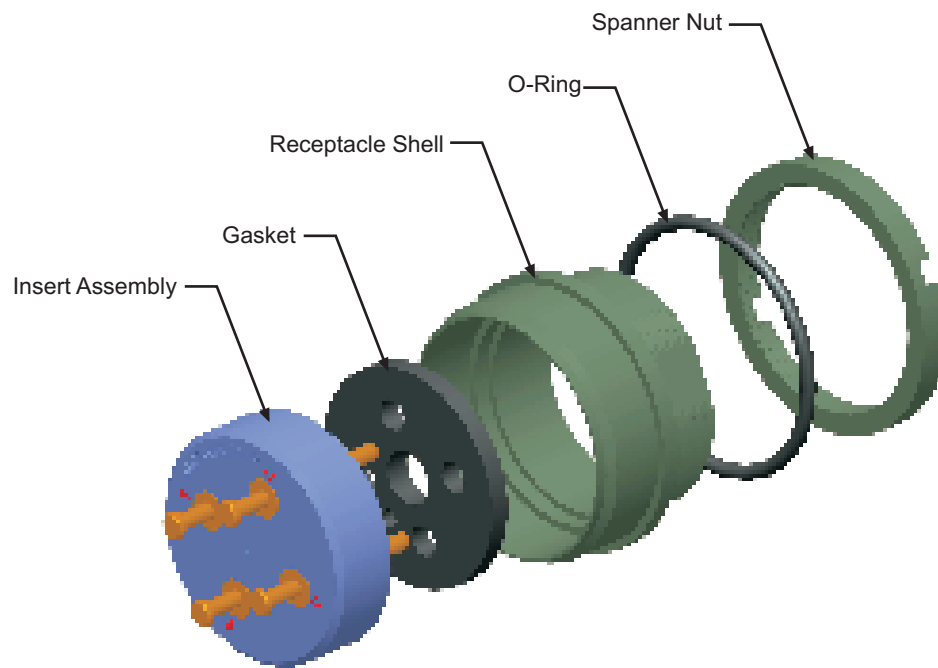
If you have any questions concerning this letter, please contact Mr. Funk at 614-692-6608 or email [Jeremy.Funk@dla.mil](mailto:Jeremy.Funk@dla.mil).

Sincerely,

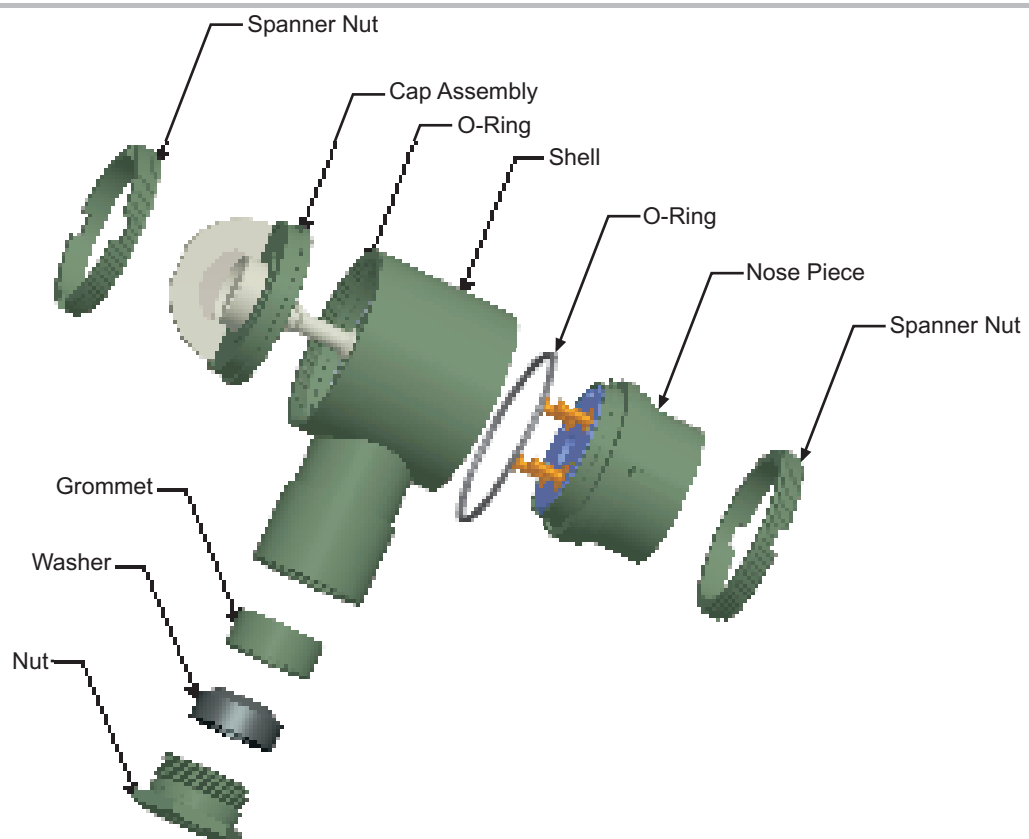


Division

### Receptacle Assembly



### Plug Assembly

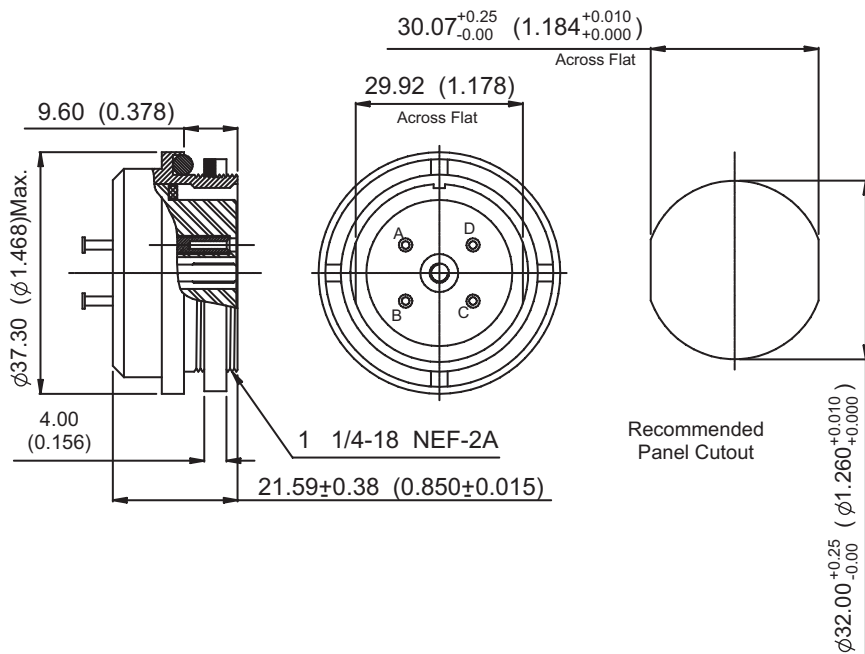
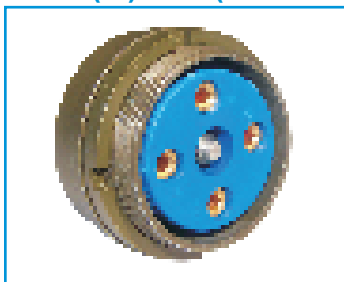


## Receptacle Connector

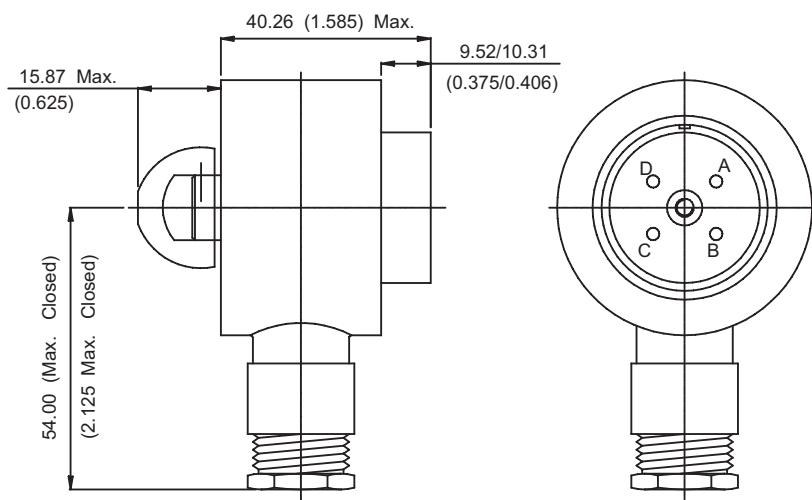
### MW20M(M)AXX (M55181/2-XX)



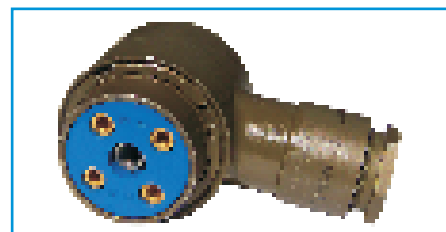
### MW20F(M)AXX (M55181/4-XX)



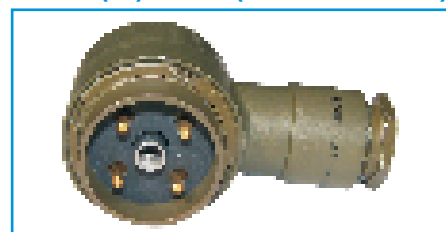
## Plug Connector



### MW10F(M)AXX (M55181/1-XX)



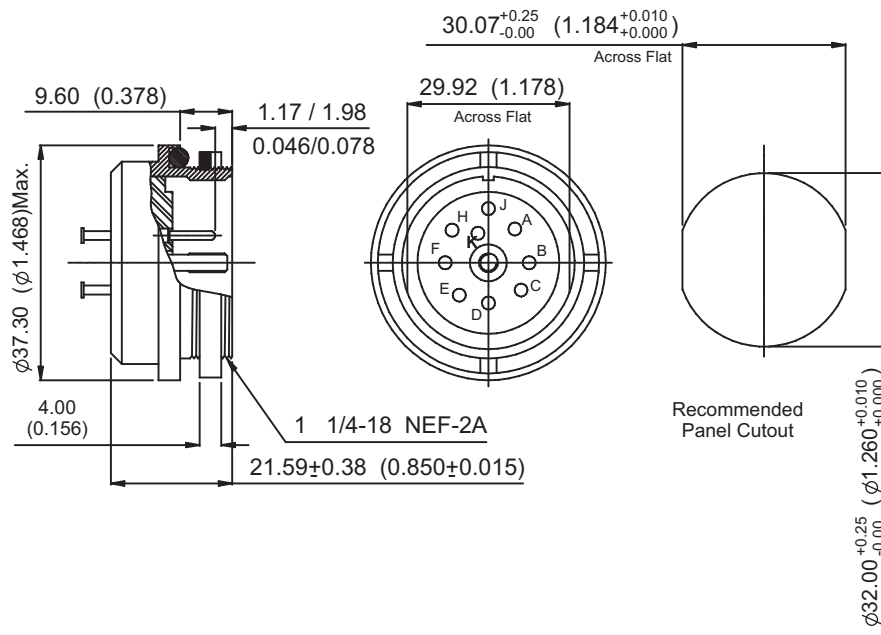
### MW10M(M)AXX\* (M55181/3-XX)



\* For Complete Part No. Replace "XX"  
With Cable Clamp Code Shown In The Table-2 (page 8)

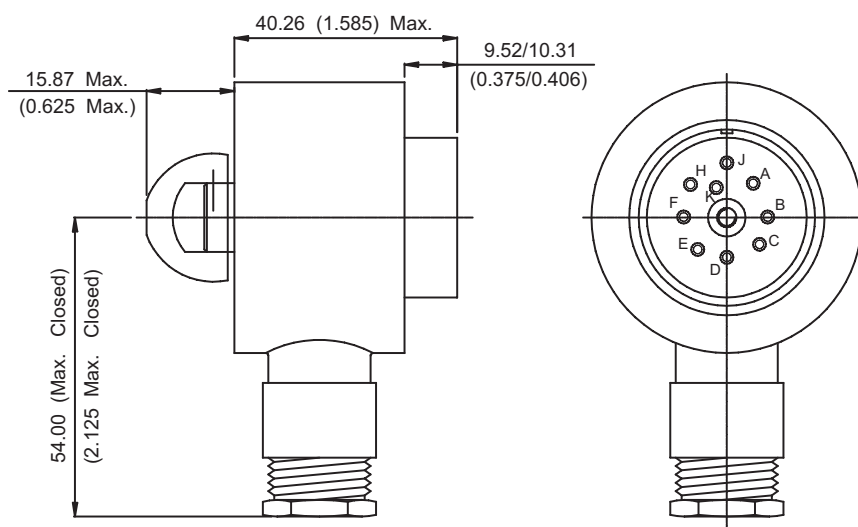
## Receptacle Connector

### MW20F(M)BXX (M55181/6-XX)



## Plug Connector

### MW10M(M)BXX (M55181/5-XX)

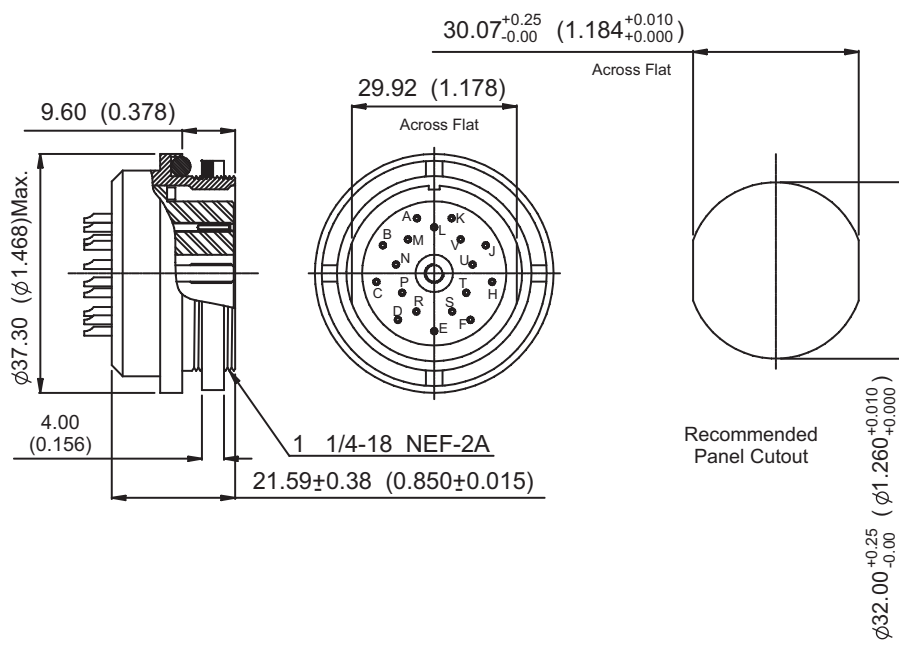
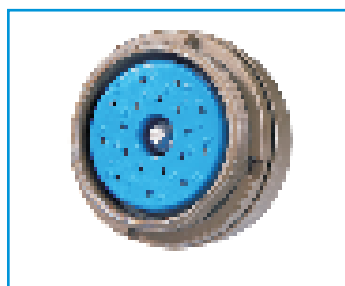


\* For Complete Part No. Replace "XX"  
With Cable Clamp Code Shown In The Table-2 (page 8)

\* Above connectors are not tooled up, contact factory

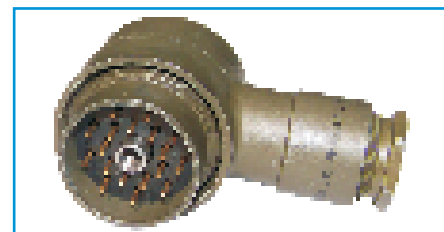
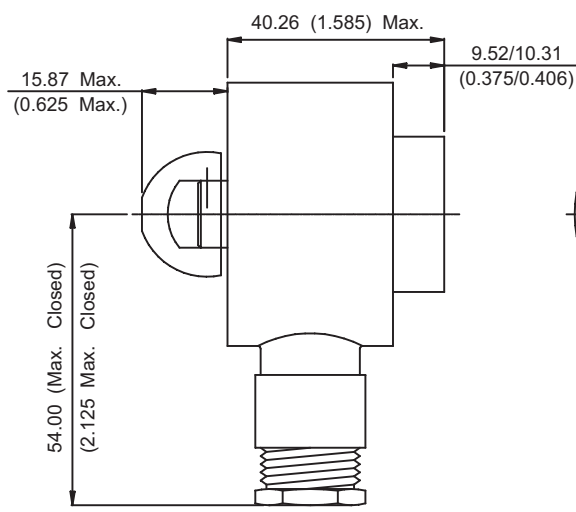
## Receptacle Connector

### MW20F(M)DXX (M55181/8-01)



## Plug Connector

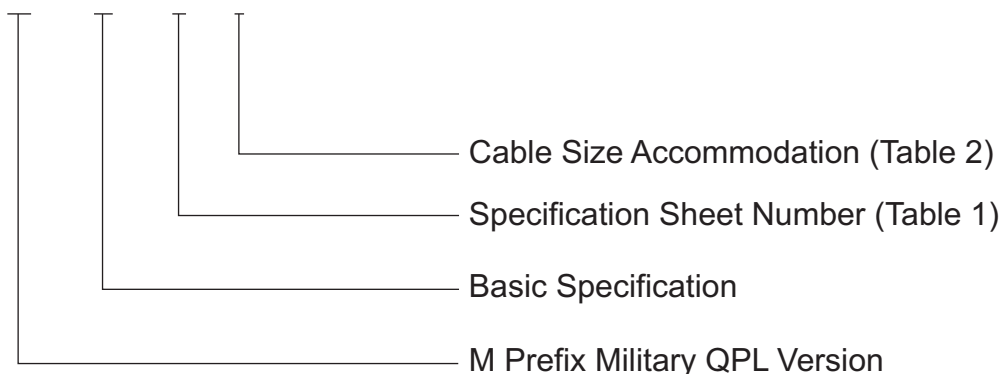
### MW10M(M)DXX\* (M55181/7-XX)



\* For Complete Part No. Replace "XX"  
With Cable Clamp Code Shown In The Table-1 (page 8)

Notice : All information, including illustrations given herein is believed to be accurate at the time of printing. In lieu of design advances, Amphenol reserves the right to change specifications without notice. This publication MW Series Connectors 01/10 supercedes all existing Amphenol literature on MW Series Connectors.

M 55181 / 1 - 01



**Table 1**

| MIL Designation | Amphenol Designation |
|-----------------|----------------------|
| M55181/1-01     | MW10F(M)A11          |
| M55181/1-02     | MW10F(M)A13          |
| M55181/1-03     | MW10F(M)A17          |
| M55181/1-04     | MW10F(M)A19          |
| M55181/1-05     | MW10F(M)A15          |
| M55181/2-01     | MW20M(M)A00          |
| M55181/3-01     | MW10M(M)A11          |
| M55181/3-02     | MW10M(M)A13          |
| M55181/3-03     | MW10M(M)A17          |
| M55181/3-04     | MW10M(M)A19          |
| M55181/3-05     | MW10M(M)A15          |
| M55181/4-01     | MW20F(M)A00          |
| M55181/7-01     | MW10M(M)D11          |
| M55181/7-02     | MW10M(M)D13          |
| M55181/7-03     | MW10M(M)D17          |
| M55181/7-04     | MW10M(M)D19          |
| M55181/7-05     | MW10M(M)D15          |
| M55181/8-01     | MW20F(M)D00          |

**Table 2**

| Cable Clamp Code for M55181 Part No. | Cable Clamp Code For MW Part No. | Cable Diameter-Inch | Cable Diameter-mm |
|--------------------------------------|----------------------------------|---------------------|-------------------|
| 1                                    | 11                               | 0.292 to 0.343      | 7.42 to 8.71      |
| 2                                    | 13                               | 0.323 to 0.406      | 8.20 to 10.31     |
| 3                                    | 15                               | 0.386 to 0.468      | 9.80 to 11.88     |
| 4                                    | 17                               | 0.448 to 0.531      | 11.38 to 14.49    |
| 5                                    | 19                               | 0.511 to 0.593      | 12.98 to 15.06    |

\* Cable size accommodation specification is not applicable for receptacles

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# Amphenol

*A Global Company*



Pune Operations



Bangalore Operations

# Amphenol

Interconnect India Pvt. Ltd.

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