

# Amphenol®



**Micro Bayonet Connector**  
**Micro-B™**

[www.amphenol-industrial.com](http://www.amphenol-industrial.com)

## Company Introduction



### Amphenol Industrial Products Group

Amphenol Industrial Operations (AIO), a division of the Amphenol Corporation, is a prominent manufacturer of cylindrical connectors known around the world. Amphenol Industrial's product lines consist of rectangular, standard miniature, fiber optic, EMI/EMP filter, and a variety of special application connectors.

Manufacturing connectors since 1932, we take pride that the Amphenol Industrial Operations is the undisputed leader in interconnect systems for harsh environment applications. Innovations like our RADSOK® contact technology can provide roughly 50% more current through the same size pin. Connectors utilizing this RADSOK® technology will outperform similar products in the market hands down.

The Sidney, NY facility, nestled at the foothills of the Catskill Mountains, is over 307,000 square feet (28,521m<sup>2</sup>). This complex houses over 1,000+ employees incorporating state-of-the-art manufacturing technologies. The facility is both ISO9001 certified and qualified to MIL-STD-790 requirements.



### Amphenol Technology (Zhuhai)

Established in 2007, Amphenol Technology (Zhuhai) Co., Ltd. is a manufacturing facility for the Amphenol Industrial Products Group, which serves a number of industrial markets, included but not limited to Factory Automation, Transportation, Heavy Equipment, Alternative Energy, Oil & Gas, Server/Data Comm and Power Distribution.

Amphenol Technology (Zhuhai) Co., Ltd. covers an area of 306,449 square feet (28,470m<sup>2</sup>) and is equipped with CNCs, plating, injection molding and assembly workshops. This plant specializes in the design and manufacturing of industrial connectors featuring high power, high density inserts, medium to high voltage electrical properties, and harsh environment applications.

Many of the products produced here have been certified by independent standards including UL, IEC/TUV, ATEX, IECEx and MA. The facility is also certified to ISO 9001, ISO 14001 and TS16949.

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## Micro-B™ Product Introduction



Amphenol Industrial offers a high performance circular connector product range developed for industrial applications where electrical performance must be met with affordability. High mating cycles, along with the ability to operate in difficult environments are the benchmark of rugged connectors. Amphenol's new Micro-Bayonet series provides the solution that meets your budget and performance goals.

Made from an aluminum shell, Micro-B utilizes a robust triple bayonet coupling (1/4 turn mating) mechanism and stamped & formed contacts. Various mounting options are available including in-line and 2-hole flange mount configurations.

**Micro-B meets the requirements of today's electrical equipment for a connector with a small footprint, light in weight, high density insert patterns, and high reliability.**

Micro-B meets all RoHS requirements. With Gray ZnNi Plating, Micro-B can withstand up to 500 hours salt spray without corrosion detrimental to its operation.



### Features and Benefits

- Aluminum shell construction provides high strength while being light in weight
- Stamped and formed crimp contacts, easy for cable assembly
- 1/4 turn positive bayonet coupling, quick coupling
- Multiple shell plating options (up to 500H salt spray protection)
- High shock and high vibration resistance
- Operating temperature range: -40°C~125°C
- Protection up to IP67 when in the mated condition with Backshell
- 5 Key/keyway mating
- High density
- Small Footprint
- PCB Tail contact option is available
- UL certifications in process

## Market Application

Widely used in general and harsh environments, Micro-B is suitable for markets using signal connections including but not limited to the following:

- **Telecommunications**
- **Hybrid/Electric Vehicle**
- **Robotics/Factory Automation**
- **Industrial Instrumentation**
- **Security**
- **Test Equipment**
- **Unmanned Aerial Vehicles**



## Technical Specifications

|                                      |                                                                                                                                                                             |                 |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <b>Shell Material</b>                | Aluminum                                                                                                                                                                    |                 |
| <b>EMI-Ring</b>                      | Copper Alloy                                                                                                                                                                |                 |
| <b>Retaining Ring</b>                | Stainless steel                                                                                                                                                             |                 |
| <b>Wave Ring</b>                     | Stainless steel                                                                                                                                                             |                 |
| <b>Insert Material</b>               | Plastic (PA66)                                                                                                                                                              |                 |
| <b>Contact</b>                       | Material                                                                                                                                                                    | Copper Alloy    |
|                                      | Plating                                                                                                                                                                     | Tin/Gold Plated |
|                                      | Termination                                                                                                                                                                 | Crimp           |
| <b>Temperature Range</b>             | -40°C ~ 125°C                                                                                                                                                               |                 |
| <b>Ingress Protection</b>            | With Heat Shrink, the ingress protection is IP54 in the mated condition. With Cable Gland Backshell, the ingress protection level increases to IP67 in the mated condition. |                 |
| <b>Test Current</b>                  | #22D Contact 3A                                                                                                                                                             |                 |
| <b>Recommended Operating Voltage</b> | AC 250V RMS                                                                                                                                                                 |                 |
| <b>Test Voltage</b>                  | AC 500V RMS                                                                                                                                                                 |                 |
| <b>Insulation Resistance</b>         | 500V, 1000MΩ Min                                                                                                                                                            |                 |
| <b>Contact Resistance</b>            | 22mΩ Max                                                                                                                                                                    |                 |
| <b>Mating Cycles</b>                 | 500 Cycles (30μ Gold Plated, Selective Area on Contacts)                                                                                                                    |                 |
| <b>Vibration</b>                     | In accordance with test procedure EIA-364-28D                                                                                                                               |                 |
| <b>Thermal Shock</b>                 | In accordance with test procedure EIA-364-32D                                                                                                                               |                 |
| <b>Salt Spray</b>                    | 1. Gray ZnNi (Conductive): 500H                                                                                                                                             |                 |
|                                      | 2. Electroless Nickel (Conductive): 48H                                                                                                                                     |                 |
| <b>RoHS</b>                          | Compliant                                                                                                                                                                   |                 |

Insert Arrangements

| Pole               | 7   | 9    | 15    |
|--------------------|-----|------|-------|
| Insert Arrangement |     |      |       |
|                    | 8-7 | 9-10 | 10-15 |
| Total Contacts     | 7   | 10   | 15    |
| Contact Size       | 22D | 22D  | 22D   |



CONTACT LEGEND

22D

| 6 - Keying |  |
|------------|--|
| N          |  |
| A          |  |
| B          |  |
| C          |  |
| D          |  |

Keying

To avoid cross-plugging within applications requiring the use of more than one miniature cylindrical connector of the same size and arrangement, alternate insert rotations are available.

As shown in the diagram to the left, the front face of the plug shell is rotated in a clockwise direction from the normal shell keying position. The receptacle shell is rotated counterclockwise the same number of degrees in respect to the normal shell key position.

A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The degree angles for a given connector are the same whether it contains pin or socket. Inserts are not rotated in conjunction with the master key/keyway.

## Shell Styles

### 1. Receptacle: 01H/01T/03H/03A



01H



01T



03H



03A

### 2. Plug: 06T/06H



06T



06H

## Shell Dimensions

### Receptacles

01H



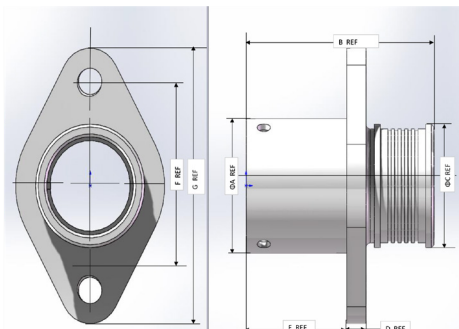
| Shell Size | ØA   | ØB   | ØC | D     | E    |
|------------|------|------|----|-------|------|
| 08         | 12.2 | 11.6 | 11 | 22.40 | 3.50 |
| 09         | 14.8 | 14.2 | 13 | 22.40 | 3.50 |
| 10         | 17.2 | 16.6 | 15 | 22.40 | 3.50 |

01T



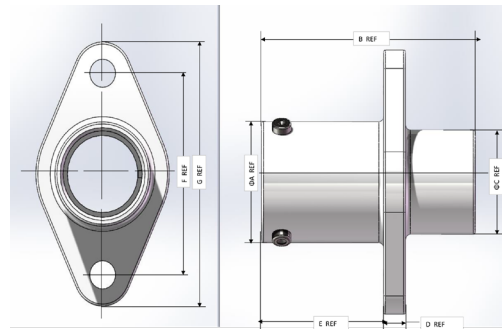
| Shell Size | ØA   | ØB   | C     | ØD | E    |
|------------|------|------|-------|----|------|
| 08         | 11.6 | 12.2 | 22.40 | 10 | 3.50 |
| 09         | 14.2 | 14.8 | 22.40 | 12 | 3.50 |
| 10         | 16.6 | 17.2 | 22.40 | 15 | 3.50 |

03H



| Shell Size | ØA   | B     | ØC | D    | E  | F    | G    |
|------------|------|-------|----|------|----|------|------|
| 08         | 11.6 | 22.40 | 11 | 2.30 | 12 | 19.3 | 25.3 |
| 09         | 14.2 | 22.40 | 13 | 2.30 | 12 | 22   | 29   |
| 10         | 16.6 | 22.40 | 15 | 2.30 | 12 | 24.9 | 33.1 |

03A



| Shell Size | ØA   | B     | ØC | D    | E     | F    | G    |
|------------|------|-------|----|------|-------|------|------|
| 08         | 11.6 | 22.40 | 10 | 2.30 | 12.80 | 19.3 | 25.3 |
| 09         | 14.2 | 22.40 | 12 | 2.30 | 12.80 | 22   | 29   |
| 10         | 16.6 | 22.40 | 14 | 2.30 | 12.80 | 24.9 | 32.9 |

### Plugs

06H



| Shell Size | ØA    | ØB   | C     | ØD | E    | F     |
|------------|-------|------|-------|----|------|-------|
| 08         | 8.5   | 14.8 | 22.40 | 10 | 0.89 | 11.63 |
| 09         | 10.95 | 17.2 | 22.40 | 13 | 0.89 | 11.63 |
| 10         | 13    | 19.5 | 22.40 | 15 | 0.89 | 11.63 |

06T



| Shell Size | ØA    | ØB   | C     | ØD | E    | F     |
|------------|-------|------|-------|----|------|-------|
| 08         | 8.5   | 14.8 | 22.40 | 10 | 0.89 | 11.63 |
| 09         | 10.95 | 17.2 | 22.40 | 12 | 0.89 | 11.63 |
| 10         | 13    | 19.5 | 22.40 | 15 | 0.89 | 11.63 |

## How to Order

| 1         | 2           | 3             | 4                  | 5        | 6        | 7            |
|-----------|-------------|---------------|--------------------|----------|----------|--------------|
| Series    | Shell Style | Service Class | Insert Arrangement | Contacts | Keying   | Options      |
| <b>MB</b> | <b>06T</b>  | <b>E</b>      | <b>10-15</b>       | <b>P</b> | <b>N</b> | <b>(072)</b> |

### 1 - Series

|           |                     |
|-----------|---------------------|
| <b>MB</b> | Designates Micro-B™ |
|-----------|---------------------|

### 2 - Shell Style

|            |                                                             |
|------------|-------------------------------------------------------------|
| <b>01T</b> | Cable connecting receptacle with metric thread              |
| <b>01H</b> | Cable connecting receptacle with Heat Shrink Tubing grooves |
| <b>03T</b> | 2 Hole flanged receptacle with metric thread                |
| <b>03H</b> | 2 Hole flanged receptacle with Heat Shrink Tubing grooves   |
| <b>06T</b> | Straight plug with metric thread                            |
| <b>06H</b> | Straight plug with Heat Shrink Tubing grooves               |
| <b>03A</b> | 2 Hole flanged receptacle with no grooves and no thread     |

### 3 - Class

|          |                                     |
|----------|-------------------------------------|
| <b>A</b> | Non-Environmental                   |
| <b>E</b> | Environmental with proper backshell |

### 4 - Insert Arrangements

Refer to page 5 for insert availability.  
 "10-15" designates insert arrangement.

### 5 - Contacts

|          |                                                                                   |
|----------|-----------------------------------------------------------------------------------|
| <b>P</b> | designates S&F pin contacts, order separately and packaged by reel, see page 9    |
| <b>S</b> | designates S&F socket contacts, order separately and packaged by reel, see page 9 |

### 6 - Keying

(See Alternate Keying, page 5)

|          |                                                                                                   |
|----------|---------------------------------------------------------------------------------------------------|
| <b>N</b> | <br>(Standard) |
| <b>A</b> |               |
| <b>B</b> |               |
| <b>C</b> |               |
| <b>D</b> |               |

### 7 - Options

|              |                                            |
|--------------|--------------------------------------------|
| <b>(072)</b> | Gray ZnNi                                  |
| <b>(023)</b> | Electroless Nickel                         |
| <b>(424)</b> | Electroless Nickel finish with cable clamp |
| <b>(425)</b> | Electroless Nickel finish with cable gland |
| <b>(574)</b> | Gray ZnNi finish with cable clamp          |
| <b>(575)</b> | Gray ZnNi finish with cable gland          |
| <b>(EMI)</b> | EMI Band                                   |



**Note:** Contacts are sold separately, please refer to page 9.

**Example:** **MB 06T E 10-15 PN(425)** equals Straight plug with Cable Gland, Electroless Nickel Plated Shell, N Keyway.

By including a cable gland (E service class), this connector can reach IP67 when in the mated condition.

Notice: Specifications are subject to change without notice. Contact your nearest Amphenol Corporation Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements of suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe and any patent. The user should assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all connectors.

## #22D Stamped & Formed Contacts

| Size | Current | PIN/SOCKET   | Wire  |                 | Plating           | Part No        | Pcs/Reel                             |
|------|---------|--------------|-------|-----------------|-------------------|----------------|--------------------------------------|
|      | (A)     |              | AWG   | mm <sup>2</sup> |                   |                |                                      |
| 22D# | 3       | S & F PIN    | 22-26 | 0.14-0.30       | Tin plating       | C10-737688-221 | 3000pcs / Reel<br>(Order Separately) |
|      |         |              |       |                 | Gold flash        | C10-737688-222 |                                      |
|      |         |              |       |                 | 10u" gold plating | C10-737688-223 |                                      |
|      |         |              |       |                 | 30u" gold plating | C10-737688-224 |                                      |
|      |         | S & F POCKET | 22-26 | 0.14-0.30       | Tin plating       | C10-737689-221 |                                      |
|      |         |              |       |                 | Gold flash        | C10-737689-222 |                                      |
|      |         |              |       |                 | 10u" gold plating | C10-737689-223 |                                      |
|      |         |              |       |                 | 30u" gold plating | C10-737689-224 |                                      |

## Accessories – Cable Clamps, Cable Glands, Caps

### Non-Environmental Cable Clamp



| Shell Size | ØA<br>±0.1 | H<br>±0.1 | L<br>±0.1 | CableRange<br>ØD | V<br>Thread |
|------------|------------|-----------|-----------|------------------|-------------|
| 08         | 11.6       | 14        | 14.87     | 3~6.5            | M10x0.5-6H  |
| 09         | 13.6       | 16        | 14.87     | 4~8              | M12x0.5-6H  |
| 10         | 16.6       | 19        | 14.87     | 7~12             | M15x1-6H    |

### Environmental Cable Gland (EMI Shielding & IP67)



| Shell Size | ØA<br>±0.1 | L<br>REF  | CableRange<br>ØD | V<br>Thread |
|------------|------------|-----------|------------------|-------------|
| 08         | 14.64      | 20.8~23.7 | 3~6.5            | M10x0.5-6H  |
| 09         | 16.7       | 20.8~23.7 | 4~8              | M12x0.5-6H  |
| 10         | 20         | 20.8~23.7 | 7~12             | M15x1-6H    |

### Non-Environmental Cable Clamp



### Environmental Cable Gland (EMI Shielding & IP67)



## Accessories – Cable Clamps, Cable Glands, Caps

### Receptacle Metal Cap



| Part Number     | Cap Size | ØA<br>+0.13<br>0 | B<br>±0.1 | ØD<br>±0.1 | L<br>±0.1 | Strap Length Code |
|-----------------|----------|------------------|-----------|------------|-----------|-------------------|
| C10-738666-08M  | 08       | 16               | 11        | 14.5       | 15.5      | Less Lanyard      |
| C10-738666-08M0 |          |                  |           |            |           | 150 Millimeters   |
| C10-738666-08M1 |          |                  |           |            |           | 200 Millimeters   |
| C10-738666-08M2 |          |                  |           |            |           | 250 Millimeters   |
| C10-738666-08M3 |          |                  |           |            |           | 300 Millimeters   |
| C10-738666-08M4 |          |                  |           |            |           | 350 Millimeters   |
| C10-738666-09M  | 09       | 18.6             | 11        | 17.1       | 15.5      | Less Lanyard      |
| C10-738666-09M0 |          |                  |           |            |           | 150 Millimeters   |
| C10-738666-09M1 |          |                  |           |            |           | 200 Millimeters   |
| C10-738666-09M2 |          |                  |           |            |           | 250 Millimeters   |
| C10-738666-09M3 |          |                  |           |            |           | 300 Millimeters   |
| C10-738666-09M4 |          |                  |           |            |           | 350 Millimeters   |
| C10-738666-10M  | 10       | 21               | 11        | 19.5       | 15.5      | Less Lanyard      |
| C10-738666-10M0 |          |                  |           |            |           | 150 Millimeters   |
| C10-738666-10M1 |          |                  |           |            |           | 200 Millimeters   |
| C10-738666-10M2 |          |                  |           |            |           | 250 Millimeters   |
| C10-738666-10M3 |          |                  |           |            |           | 300 Millimeters   |
| C10-738666-10M4 |          |                  |           |            |           | 350 Millimeters   |

## Tools



|                    |                |
|--------------------|----------------|
| <b>Part Number</b> | C10-737871-000 |
| <b>Description</b> | Crimp Tool     |



|                    |                             |
|--------------------|-----------------------------|
| <b>Part Number</b> | 10-738141-22D               |
| <b>Description</b> | Insertion / Extraction Tool |

## Crimp Instructions

### Wire Preparation

Strip wire to length shown in chart.  
DO not cut or nick wire strands. Twist  
wire strands back to their original lay.



#### CONTACT AND WIRE SIZES

| Contact Size | Wire Size | Insulation O.D. | Stripping Length "A" |
|--------------|-----------|-----------------|----------------------|
| 22D          | 22AWG     | 0.643           | 3-4mm                |

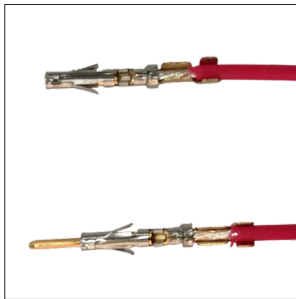
### Crimp Tool

Part Number: 10-737871-000  
DMC GMT 220



### Crimp Wire To Contacts

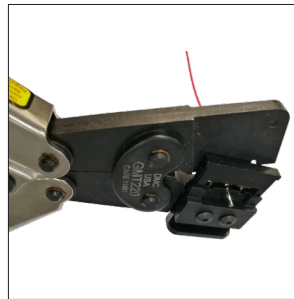
1. Put the wire into the contact. All wire strands should be in crimp barrel. Place contact crimp barrel on correct anvil of tool with open side facing up.
2. Slowly close jaws until the contact is retained by crimping jaws.
3. Check that the wire is in place, making sure all wire strands are in crimp barrel. Continue to close the jaws slowly, until the ratchet disengages.
4. The tool will not release until the crimp cycle is complete.



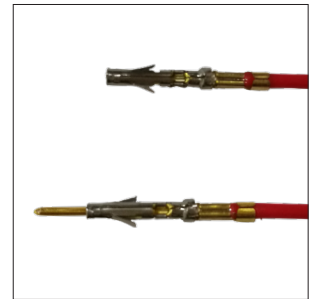
Step One



Step Two



Step Three



Step Four

## Cable Assembly Instructions



**Step 1:**

Spread open the shielding braid and cover with the copper Foil Tape then pass the terminated contacts through the adaptor and grommet.



**Step 2:**

Align the connector into their corresponding insert holes. Press the cable gland down into a tightly seated position into the rear of the cable gland adaptor.



**Step 3:**

Assemble the hex nut onto the adaptor and tighten using a spanner.





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