

# 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

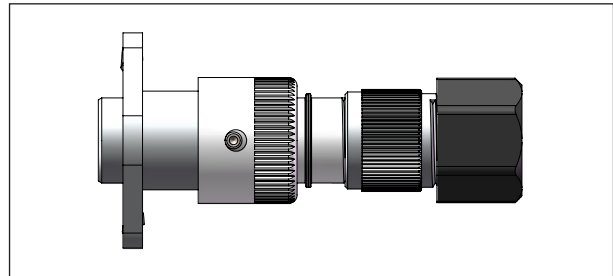


Amphenol Industrial offers a high performance circular connector product range developed for industrial applications where electrical performance must be met with affordability. High mating cycles, along with the ability to operate in difficult environments are the benchmark of rugged connectors. Amphenol's 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	 (Standard)
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.

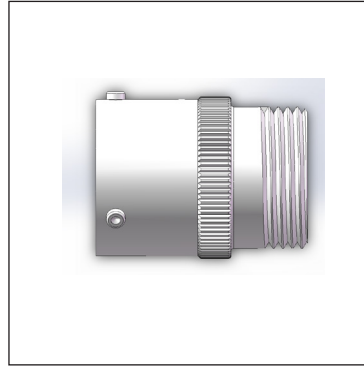
A plug with a given rotation letter will mate with a receptacle with the same rotation letter. The degree angles for a given connector are the same whether it contains pin or socket. Inserts are not rotated in conjunction with the master key/keyway.

## Shell Styles

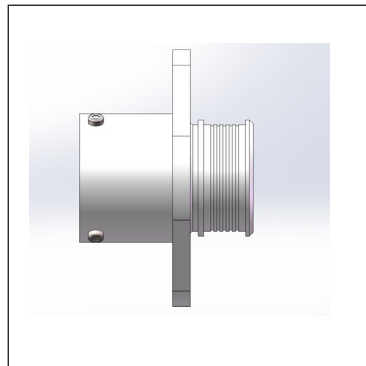
### 1. Receptacle: 01H/01T/03H/03A



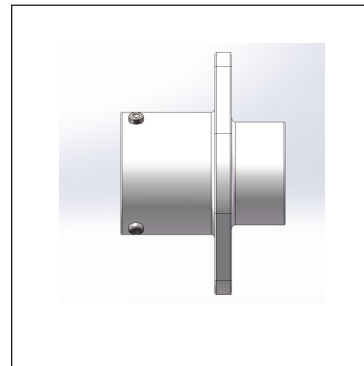
01H



01T

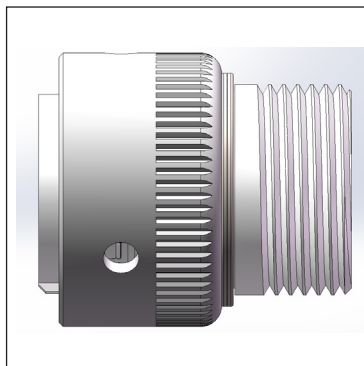


03H

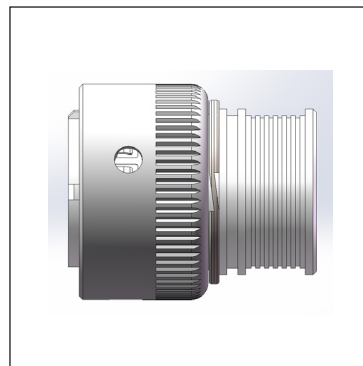


03A

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



06T



06H

# Shell Dimensions

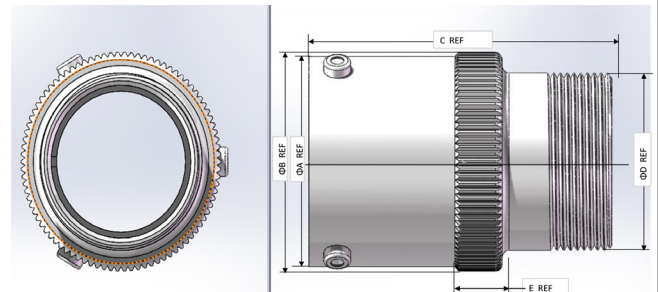
## Receptacles

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



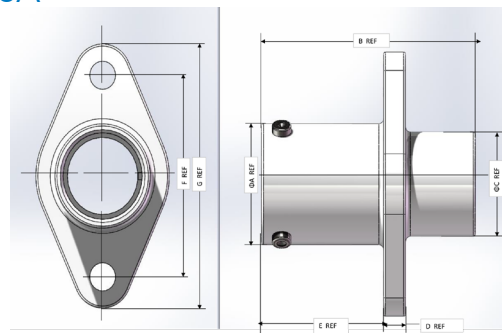
Shell Size	ØA	ØB	C	ØD	E
08	11.6	12.2	22.40	10	3.50
09	14.2	14.8	22.40	12	3.50
10	16.6	17.2	22.40	15	3.50

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

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>	 (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

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



**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.

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## #22D Stamped & Formed Contacts

Size	Current (A)	PIN/SOCKET	Wire		Plating	Part No	Pcs/Reel
			AWG	mm <sup>2</sup>			
22D#	3	S & F PIN	22-26	0.14-0.30	Tin plating	C10-737688-221	3000pcs / Reel (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 ±0.1	H ±0.1	L ±0.1	CableRange ØD	V 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 ±0.1	L REF	CableRange ØD	V 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 +0.13 0	B ±0.1	ØD ±0.1	L ±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

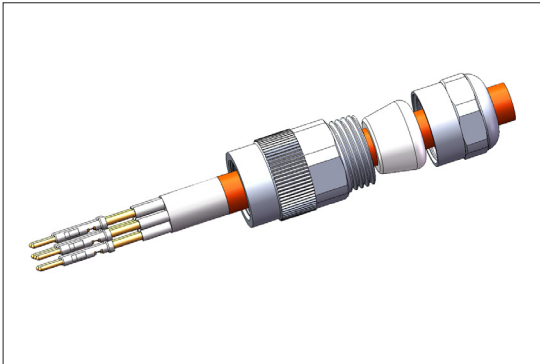


Step Three



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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