

2M Series 801 Dual-Start Acme Threads

General Information

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Amphenol's 2M Micro38999 Connector Series... The New Aerospace Standard

Averaging less than half the size and weight of their 38999 ancestors, Amphenol's 2M Micro38999 series are an easy and inexpensive way to take weight out of your system. 2M meet or exceed most environmental and performance requirements listed in MIL-DTL-38999, so modernizing your equipment doesn't mean sacrificing ruggedness. With almost 2,000,000 configurations in every termination style and a full complement of accessories available right out of the catalog, customization has never been easier. Smarter, faster and smaller: Amphenol's 2M... the only connector you'll ever need.

2M801 Features

- Heavy Dual-Start ACME Thread
- Most durable of the 2M series
- Up to 2,000 mating cycles
- Two Plug Styles
- Ratcheting Anti-Decoupling Plug
- Free-Spinning Plug



Why 2M801?

2M801 is generally considered a legacy series and is mostly inactive for new designs. Its successor, the 2M805 series, has a number of important improvements, including a triple-start thread (which reduces the number of turns it takes to fully mate the connectors) and an EMI band (which increases shell-to-shell conductivity and greatly improves signal shielding). You should choose 2M801 if you're looking to maintain compatibility or interoperability with existing technology or cables.

2M VS 38999

| SPECIFICATION | 2M801 | MIL-DTL 38999 |
|-----------------------------|---|---|
| Signal Count | 1 to 130 | 1 to 187 |
| Insulation Resistance | 5,000 megaohms min | 5,000 megaohms min |
| Operating Temperature | -65°C to +150°C | -65°C to +175°C |
| Shock | 300 G ± 15 | 300 G ± 15 |
| Vibration | "43.9 G Random 60.0 G Sine" | "43.9 G Random 60.0 G Sine" |
| Shielding Effectiveness | "55 dB min. from 100 MHz to 1000 MHz" | "50 dB min. from 100 MHz to 1000 MHz" |
| Durability | 500 mating cycles | 500 mating cycles |
| Shell to Shell Conductivity | 2.5 mV drop max | 2.5 mV drop max |
| Contacts | Per AS39029 | Per AS39029 |
| Environmental Resistance | IP67 (When Mated or with a Protection Cap) | IP67 (When Mated or with a Protection Cap) |

2M801 MATERIALS AND FINISHES

| | |
|-----------------------------------|-----------------------------------|
| Shells | Aluminum Alloy or Stainless Steel |
| Contacts | Copper Alloy, gold plated |
| Insulators | Polyphenylene Sulfide (PPS) |
| Contact Retention | Beryllium Copper Alloy |
| Grommet, Interfacial Seal, O-Ring | Fluorosilicone Rubber |

2M801 Dual-Start ACME Threads

Ordering Guide for 2M801



| 1. | 2. | 3. | 4. | 5. | 6. |
|-----------|-------------|---------------|-------------------------|----------|--------|
| SERIES | SHELL STYLE | SERVICE CLASS | SHELL SIZE-INSERT AGGMT | CONTACTS | KEYING |
| 2M801-007 | -01 | C | 5-3 | P | A |

| 1. SERIES | | |
|-----------|-------------------|------------------------------------|
| Type | Part # | Description |
| CRIMP | PLUG | |
| | 2M801-007 | Plug with Integral Backshell |
| | 2M801-008 | Plug with Accessory Threads |
| | RECEPTACLE | |
| | 2M801-009 | Receptacle with Integral Backshell |
| | 2M801-010 | Receptacle with Accessory Threads |

| PCB/SOLDER | | |
|-------------|------------------------|---|
| PCB/ SOLDER | 2M801-011 | Receptacle for Solder Cup or PCB Termination with Epoxy Potting |
| | 2M801-033 | Receptacle with Solder Cup or PCB Termination with Special Sealing for Open Face (unmated) Water Immersion Requirements. 100% Leak Tested. To maintain a helium leak rate of 1-10 ⁻⁴ cc/sec. pressure differential from -55°C to 150° C. |
| | 2M801-075 | Receptacle with Standoff Flange for Mechanical PCB Strain Relief |
| | RIGHT ANGLE PCB | |
| | 2M801-023 | Receptacle w/ Right Angle PCB |

| 2. SHELL STYLE | |
|-------------------|---|
| Part # | Description |
| PLUG | |
| -16 | Anti-Decoupling |
| -26 | Self-Locking Ratchet |
| RECEPTACLE | |
| -01 | In-Line** |
| -02 | Square Flange |
| -07 | Jam Nut |
| PCB/SOLDER | |
| -02 | Square Flange |
| -07 | Jam Nut* |
| -12 | Square Flange w/non-locking Clinch Nuts |
| -22 | Square Flange w/ locking Clinch Nuts |

| 3. SERVICE CLASS | | | |
|------------------|--------|---------------------------|------|
| Material | Part # | Description | RoHS |
| ALUMINUM | C | Anodized (Non-conductive) | |
| | M | Electroless Nickel | |
| | NF | Olive Drab Cadmium | |
| | MT | Durmalon (Ni PTFE) | |
| | ZN | Olive Drab Zinc Nickel | |
| | ZNU | Black Zinc Nickel | |
| | BEN | Black Electroless Nickel | |
| STAINLESS STEEL | Z1 | Passivated | |
| | ZM | Electroless Nickel | |

| RIGHT ANGLE PCB | |
|-----------------|----------|
| -07 | Jam Nut* |

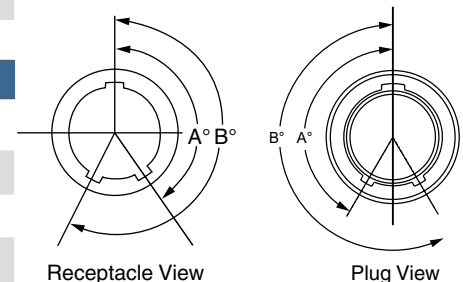
*add "-501" as a suffix to the Jam Nut Part number to include a Hex Nut instead of a Spanner Nut.

| 6. KEYING | | |
|-----------|------|------|
| Part # | A° | B° |
| A | 150° | 210° |
| B | 75° | 210° |
| C | 95° | 230° |
| D | 140° | 275° |
| E | 75° | 275° |
| F | 95° | 210° |

4. SHELL SIZE-INSERT ARRANGEMENT

See Table on pages 7-20

| 5. CONTACTS | | |
|-------------------|--------|----------------------|
| Style | Part # | Description |
| CRIMP | P | Pin |
| | S | Socket |
| | A | Pin-Less Contacts |
| | B | Socket-Less Contacts |
| PCB/SOLDER | | |
| PCB/SOLDER | P | Pin-PCB |
| | S | Socket-PCB |
| | E | Pin-Solder Cup |
| | F | Socket-Solder Cup |



For additional assistance building a part number and for 3D models, please visit www.amphenol-aerospace.com to access our 2M configurator.

2M801

F

2M Series 801 Dual-Start Acme Threads

Connector Weights

SERIES 2M801 MAXIMUM CONNECTOR WEIGHT IN GRAMS

| Insert Arrg. | Plug | Jam Nut Recept. Crimp | Jam Nut Recept. PCB | Sq. Flange Recept. Crimp | Sq. Flange Recept. PCB | Insert Arrg. | Plug | Jam Nut Recept. Crimp | Jam Nut Recept. PCB | Sq. Flange Recept. Crimp | Sq. Flange Recept. PCB |
|--------------|------|-----------------------|---------------------|--------------------------|------------------------|--------------|------|-----------------------|---------------------|--------------------------|------------------------|
| 5-3P | 4.4 | 3.4 | 3.6 | 2.0 | 2.2 | 10-201S | 16.7 | 13.5 | 14.4 | 15.0 | 11.7 |
| 5-3S | 4.5 | 3.5 | 3.7 | 2.0 | 2.4 | 10-202P | 14.9 | 11.7 | 12.6 | 13.2 | 9.9 |
| 6-1P | 5.6 | 4.3 | 4.6 | 2.7 | 2.9 | 10-202S | 16.3 | 13.1 | 14.0 | 14.6 | 11.3 |
| 6-1S | 5.9 | 4.6 | 4.9 | 3.0 | 3.2 | 13-2P | 18.9 | 17.2 | 17.2 | 17.2 | 15.1 |
| 6-4P | 5.6 | 4.3 | 4.6 | 2.7 | 2.9 | 13-2S | 20.4 | 18.7 | 18.7 | 18.7 | 16.6 |
| 6-4S | 5.8 | 4.5 | 4.7 | 2.8 | 3.0 | 13-3P | 19.8 | 18.1 | 18.1 | 18.1 | 16.0 |
| 6-7P | 5.4 | 4.1 | 4.6 | 2.9 | 3.4 | 13-3S | 21.4 | 19.7 | 19.7 | 19.7 | 17.6 |
| 6-7S | 5.6 | 4.4 | 4.7 | 3.2 | 3.5 | 13-7P | 20.0 | 18.3 | 18.3 | 18.3 | 16.2 |
| 7-1P | 7.8 | 6.5 | 7.2 | 4.5 | 5.2 | 13-7S | 22.4 | 20.7 | 20.7 | 20.7 | 18.6 |
| 7-1S | 8.3 | 7.0 | 7.7 | 5.0 | 5.7 | 13-37P | 18.4 | 16.7 | 16.7 | 16.7 | 14.6 |
| 7-10P | 7.6 | 6.3 | 7.7 | 4.3 | 5.0 | 13-37S | 19.9 | 17.6 | 17.6 | 17.6 | 15.5 |
| 7-10S | 8.0 | 6.7 | 7.0 | 4.7 | 5.2 | 13-200P | 19.0 | 17.3 | 17.3 | 17.3 | 15.2 |
| 8-2P | 8.9 | 7.7 | 7.2 | 5.6 | 6.8 | 13-200S | 21.1 | 19.4 | 19.4 | 19.4 | 17.3 |
| 8-2S | 9.6 | 8.4 | 8.7 | 6.3 | 7.5 | 13-201P | 19.1 | 17.4 | 17.4 | 17.4 | 15.3 |
| 8-13P | 8.3 | 7.1 | 9.4 | 5.0 | 6.2 | 13-201S | 21.3 | 19.6 | 19.6 | 19.6 | 17.5 |
| 8-13S | 8.9 | 7.6 | 8.1 | 5.6 | 6.5 | 16-5P | 28.5 | 22.6 | 24.4 | 25.4 | 23.0 |
| 8-200P | 9.2 | 8.0 | 8.5 | 5.9 | 7.1 | 16-5S | 31.2 | 25.3 | 28.1 | 28.1 | 25.7 |
| 8-200S | 9.8 | 8.6 | 9.0 | 6.5 | 7.7 | 16-12P | 29.2 | 23.3 | 26.1 | 26.1 | 23.7 |
| 9-4P | 10.9 | 8.7 | 10.7 | 7.6 | 8.6 | 16-12S | 32.5 | 26.6 | 29.4 | 29.4 | 27.0 |
| 9-4S | 11.8 | 10.6 | 11.6 | 8.5 | 9.5 | 16-55P | 26.5 | 20.6 | 24.3 | 24.3 | 21.9 |
| 9-19P | 10.1 | 7.9 | 9.2 | 5.8 | 7.1 | 16-55S | 29.2 | 23.3 | 26.1 | 26.1 | 23.7 |
| 9-19S | 10.9 | 8.7 | 9.7 | 6.6 | 7.6 | 17-7P | 29.8 | 27.0 | 29.4 | 29.4 | 25.2 |
| 9-200P | 10.4 | 9.2 | 10.2 | 7.1 | 8.1 | 17-7S | 33.0 | 30.2 | 32.6 | 32.6 | 28.4 |
| 9-200S | 11.4 | 10.2 | 11.2 | 8.1 | 9.1 | 17-14P | 32.6 | 29.8 | 32.2 | 32.2 | 28.0 |
| 9-201P | 9.6 | 8.4 | 9.4 | 6.6 | 7.6 | 17-14S | 32.3 | 29.5 | 31.9 | 31.9 | 27.7 |
| 9-201S | 11.5 | 10.3 | 11.3 | 8.2 | 9.2 | 17-85P | 28.1 | 23.2 | 29.0 | 29.0 | 25.3 |
| 10-5P | 15.8 | 12.6 | 13.5 | 14.1 | 12.8 | 17-85S | 31.0 | 26.2 | 30.6 | 30.6 | 26.4 |
| 10-5S | 17.1 | 13.9 | 14.8 | 15.4 | 14.1 | 21-12P | 35.0 | 31.4 | 34.4 | 26.4 | 31.4 |
| 10-26P | 14.2 | 11.0 | 11.9 | 12.5 | 8.7 | 21-12S | 39.6 | 36.0 | 39.0 | 31.0 | 36.0 |
| 10-26S | 15.3 | 12.1 | 12.5 | 16.7 | 9.2 | 21-22P | 37.3 | 33.7 | 36.7 | 28.7 | 33.7 |
| 10-200P | 15.0 | 11.8 | 12.7 | 13.3 | 10.0 | 21-22S | 43.6 | 40.0 | 43.0 | 35.0 | 40.0 |
| 10-200S | 16.3 | 13.1 | 14.0 | 14.6 | 11.3 | 21-130P | 32.9 | 29.3 | 32.3 | 24.3 | 29.3 |
| 10-201P | 15.3 | 12.1 | 13.3 | 13.6 | 10.3 | 21-130S | 39.4 | 35.8 | 38.8 | 30.8 | 35.8 |