

2M Series



SMALLER, LIGHTER-WEIGHT ALTERNATIVE FOR D3899 PERFORMANCE

Amphenol 2M micro-miniature connectors are a small, light-weight option for mil-spec performance that can withstand harsh environments. They are quick-mating and a variety of styles and options are available. For full product details, please see our specifications below.

- Intermateable with Glenair® Mighty Mouse

APPLICATIONS

- Headsets
- Tactical equipment
- Airframes
- Avionics boxes
- Handheld equipment



| | 2M801 | 2M803 | 2M804 | 2M805 |
|------------------------|--|--|--|--|
| Type | Dual-Start ACME Thread | Bayonet | Push-Pull | Tri-Start ACME Thread |
| # of Contacts | 1 to 130 | 1 to 55 | 1 to 55 | 1 to 130 |
| Coupling Type | Threaded Coupling 1-1/2 turns to fully mate | 1/4 Turn Lock Bayonet | Push-Pull Quick-Disconnect | Tri-Start Thread Ratched |
| Sealing | MIL-STD-810 Method 512 1 Meter for 1 Hour | Splashproof | MIL-STD-810 Method 512 1 Meter for 1 Hour | MIL-STD-810 Method 512 1 Meter for 1 Hour |
| EMI-Shielding | Good | Fair | Very Good | Excellent |
| Mating Cycles | 2000 Cycles | 250 Cycles Aluminum; 500 Cycles Stainless Steel | 2000 Cycles | 500 Cycles |
| Electrical Performance | Size 12: 23A, 1800 VAC Size 16: 13A, 1800 VAC Size 20: 7.5A, 750 VAC Size 23: 5A, 500 VAC | Size 12: 23A, 1800 VAC Size 16: 13A, 1800 VAC Size 20: 7.5A, 750 VAC Size 23: 5A, 500 VAC | Size 12: 23A, 1800 VAC Size 16: 13A, 1800 VAC Size 20: 7.5A, 750 VAC Size 23: 5A, 500 VAC | Size 12: 23A, 1800 VAC Size 16: 13A, 1800 VAC Size 20: 7.5A, 750 VAC Size 23: 5A, 500 VAC |
| Shock & Vibration | 37 g's Random Vibration; 300 g's Shock | 37 g's Random Vibration; 300 g's Shock | 37 g's Random Vibration; 300 g's Shock | 37 g's Random Vibration; 300 g's Shock |

MATERIALS AND FINISHES

| | |
|--|--|
| Shell | Aluminum alloy 6061 T6, stainless steel passivated, 200C |
| Insert | Polyphenylene sulfide (PPS) |
| Contact Retention Clip | Beryllium copper, heat-treated, unplated |
| Contacts | 50u" gold-plated copper alloy |
| Socket Contact Hood | Passivated stainless steel |
| Grommet & Seals | Fluorosilicone rubber |
| Adhesives | Epoxy film |
| Potting Compound for PCB & Solder Versions | High-strength epoxy |

ELECTRICAL DATA

Contact Sizes 23, 20, 20HD, 16, & 12 AWG

Operating Voltage & Test Voltage (Mated Condition)

| CONTACT SIZE | 23 | 20 | 20HD | 16 | 12 |
|-----------------|-----|------|------|------|------|
| Sea Level VAC | 500 | 1800 | 750 | 1800 | 1800 |
| 40,000 Feet VAC | 100 | 325 | 150 | 1000 | 1000 |

Current Rating (Max)

| CONTACT SIZE | AMPERES |
|--------------|---------|
| 23 | 5 |
| 20 | 7.5 |
| 16 | 13 |
| 12 | 23 |

Contact Resistance

| CONTACT SIZE | MILLIVOLT DROP |
|--------------|------------------------|
| 23 | 73 @ 5A test current |
| 20 | 55 @ 7.5A test current |
| 16 | 49 @ 13A test current |
| 12 | 42 @ 23A test current |

Insulation Resistance 5,000 megaohms minimum

MECHANICAL

| | |
|-----------------------|--|
| Operating Temperature | -67 F to +302 F (-55C to +150 C) aluminium -67 F to +392 F (-55C to +200 C) stainless steel |
| Sealing | 1 meter for 1 hour (2M803 splashproof) |

Insulation Strip Length

| CONTACT SIZE | STRIP LENGTH |
|--------------|--------------|
| 23 | 0.150 (3.81) |
| 20 | 0.188 (2.54) |
| 20HD | 0.150 (3.81) |
| 16 | 0.188 (2.54) |
| 12 | 0.188 (2.54) |

| | |
|-----------------------------|---|
| Mating Life | 2000 cycles; 2M803 aluminum 250 cycles |
| Salt Spray | Plating C & M: 48-hours Plating MT, NF, ZN, ZNU, UCR: 500-hours |
| Fungus | Fungus inert |
| Vibration | 37g |
| Gunfire Vibration | No discontinuity greater than 1 microseconds; no cracking, breaking or loosening of parts, plug shall not disengage from receptacle. Connectors meet electrical requirements after vibration test. |
| Shock | 300 G, half-sine, 3ms, 3 axes |
| EMI-Shielding Effectiveness | 55 dB min from 100 MHz to 1000 MHz |
| Contact Type | Crimp, solder or printed circuit |
| Number of Contacts | 1 to 130 |

Contact Retention

| CONTACT SIZE | MIN. POUNDS | MIN. NEWTONS |
|--------------|-------------|--------------|
| 23 | 6 | 27 |
| 20 | 15 | 67 |
| 20HD | 9 | 40 |
| 16 | 25 | 111 |
| 12 | 25 | 111 |

Contact Separation Force

| CONTACT SIZE | MIN. OUNCES | MIN. NEWTONS |
|--------------|-------------|--------------|
| 23 | 0.5 | 0.14 |
| 20 | 0.7 | 0.19 |
| 20HD | 0.7 | 0.19 |
| 16 | 2.0 | 0.56 |
| 12 | 3.0 | 0.83 |

Coupling Torque

| SHELL SIZE | INCH / POUNDS |
|------------|---------------|
| 5, 6, 7 | 8 |
| 8, 9 | 9 |
| 10 | 12 |
| 12, 13 | 16 |
| 14, 15 | 28 |
| 16, 17 | 24 |
| 21 | 32 |

| | |
|--------------|--|
| Polarization | Dual-Start ACME Thread coupling, 3 keyways with optional keyway rotations, note insert remained fixed. |
|--------------|--|

All dimensions in inches (millimeters in parenthesis)

LAYOUTS BY NUMBER OF CONTACTS

Front face of pin inserts shown. (Sockets mirror image)

| CONTACTS | 1 | | 2 | | |
|----------------------|------|------|------|------|------|
| | | | | | |
| 2M801 | 6-1 | 7-1 | 8-2 | 10-2 | 13-2 |
| 2M803 | 6-1 | 7-1 | 8-2 | 10-2 | 12-2 |
| 2M804 | 6-1 | 7-1 | 8-2 | 10-2 | 12-2 |
| 2M805 | 8-1 | 9-1 | 10-2 | 12-2 | 15-2 |
| # OF CONTACTS & SIZE | 1#16 | 1#12 | 2#16 | 2#12 | 2#12 |
| DWV VOLTAGE (VAC) | 1800 | 1800 | 1800 | 1800 | 1800 |

| CONTACTS | 3 | | | 4 | |
|----------------------|------|--------|------|------|------|
| | | | | | |
| 2M801 | 5-3 | 6-23 | 13-3 | 6-4 | 9-4 |
| 2M803 | 5-3 | 6-23 | 12-3 | 6-4 | 9-4 |
| 2M804 | 5-3 | 6-23 | 12-3 | 6-4 | 9-4 |
| 2M805 | NA | 8-23 | 15-3 | 8-4 | 11-4 |
| # OF CONTACTS & SIZE | 3#23 | 3#20HD | 3#12 | 4#23 | 4#16 |
| DWV VOLTAGE (VAC) | 500 | 750 | 1800 | 500 | 1800 |

| CONTACTS | 5 | | | 6 | |
|----------------------|--------|------|------|------|-----------------------|
| | | | | | |
| 2M801 | 7-25 | 10-5 | 16-5 | 6-6 | 8-200 |
| 2M803 | 7-25 | 10-5 | 14-5 | 6-6 | 8-200 |
| 2M804 | 7-25 | 10-5 | 14-5 | 6-6 | 8-200 |
| 2M805 | 9-25 | 12-5 | 18-5 | 8-6 | 10-200 |
| # OF CONTACTS & SIZE | 5#20HD | 5#16 | 5#12 | 6#23 | 4#23, 2#20 |
| DWV VOLTAGE (VAC) | 750 | 1800 | 1800 | 500 | 1000 (#20), 500 (#23) |

| CONTACTS | 6 (CONT.) | | 7 | | |
|----------------------|-----------------------|-----------------------|------|------|------|
| | | | | | |
| 2M801 | 9-200 | 10-201 | 6-7 | 13-7 | 17-7 |
| 2M803 | 9-200 | 10-201 | 6-7 | 12-7 | NA |
| 2M804 | 9-200 | 10-201 | 6-7 | 12-7 | NA |
| 2M805 | 11-200 | 12-201 | 8-7 | 15-7 | 19-7 |
| # OF CONTACTS & SIZE | 4#23, 2#16 | 4#23, 2#12 | 7#23 | 7#16 | 7#12 |
| DWV VOLTAGE (VAC) | 1800 (#16), 500 (#23) | 1800 (#12), 500 (#23) | 500 | 1800 | 1800 |

| CONTACTS | 8 | | | 10 | | |
|----------------------|--------|-----------------------|-------|------------------------|---------|-----------------------|
| | | | | | | |
| 2M801 | 8-28 | 13-200 | 7-10 | 9-201 | 9-210 | 10-202 |
| 2M803 | 8-28 | 12-200 | 7-10 | 9-201 | 9-210 | 10-202 |
| 2M804 | 8-28 | 12-200 | 7-10 | 9-201 | 9-210 | 10-202 |
| 2M805 | 10-28 | 15-200 | 9-10 | 11-201 | 11-210 | 12-202 |
| # OF CONTACTS & SIZE | 8#20HD | 6#23, 2#12 | 10#23 | 8#23, 12#20 | 10#20HD | 8#23, 2#16 |
| DWV VOLTAGE (VAC) | 750 | 1800 (#12), 500 (#23) | 500 | 1000 (#700), 500 (#23) | 750 | 1800 (#16), 500 (#23) |

LAYOUTS BY NUMBER OF CONTACTS

Front face of pin inserts shown. (Sockets mirror image)

| CONTACTS | 12 | | | 13 | |
|----------------------|-------|-------|---------------------|-------|---------------------|
| | | | | | |
| 2M801 | 16-12 | 21-12 | 13-201 | 8-13 | 10-200 |
| 2M803 | 14-12 | NA | 12-201 | 8-13 | 10-200 |
| 2M804 | 14-12 | NA | 12-201 | 8-13 | 10-200 |
| 2M805 | 18-12 | 23-12 | 15-201 | 10-13 | 12-200 |
| # OF CONTACTS & SIZE | 12#16 | 12#12 | 10#23, 2#12 | 13#23 | 12#23, 1#12 |
| DWV VOLTAGE (VAC) | 1800 | 1800 | 1800(#12), 500(#23) | 500 | 1800(#12), 500(#23) |

| CONTACTS | 14 | 19 | 20 | 22 | 26 |
|----------------------|-------|-------|---------|-------|-------|
| | | | | | |
| 2M801 | 17-14 | 9-19 | 13-220 | 21-22 | 10-26 |
| 2M803 | NA | 9-19 | 12-220 | NA | 10-26 |
| 2M804 | NA | 9-19 | 12-220 | NA | 10-26 |
| 2M805 | 19-14 | 11-19 | 15-220 | 23-22 | 12-26 |
| # OF CONTACTS & SIZE | 14#16 | 19#23 | 20#20HD | 22#16 | 26#23 |
| DWV VOLTAGE (VAC) | 1800 | 500 | 750 | 1800 | 500 |

| CONTACTS | 35 | 37 | 41 | 55 | 69 |
|----------------------|---------|-------|---------|-------|---------|
| | | | | | |
| 2M801 | 16-235 | 13-37 | 17-241 | 16-55 | 21-269 |
| 2M803 | 14-235 | 12-37 | NA | 14-55 | NA |
| 2M804 | 14-235 | 12-37 | NA | 14-55 | NA |
| 2M805 | 18-235 | 15-37 | 19-241 | 18-55 | 23-269 |
| # OF CONTACTS & SIZE | 35#20HD | 37#23 | 41#20HD | 55#23 | 69#20HD |
| DWV VOLTAGE (VAC) | 750 | 500 | 750 | 500 | 750 |

| CONTACTS | 85 | 130 |
|----------------------|-------|--------|
| | | |
| 2M801 | 17-85 | 21-130 |
| 2M803 | NA | NA |
| 2M804 | 15-85 | NA |
| 2M805 | 19-85 | 23-130 |
| # OF CONTACTS & SIZE | 85#23 | 130#23 |
| DWV VOLTAGE (VAC) | 500 | 500 |

CREATE YOUR PART NUMBER 2M803 BAYONET

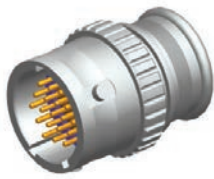
| | | | | |
|---------------------|-----------|---------------------|--------------|----------|
| 1 | 2 | 3 | 5 | 6 |
| 2M803-001-06 | NF | 8-13 | P | N |
| SHELL STYLE | PLATING | SHELL SIZE - LAYOUT | CONTACT TYPE | KEYING |

STEP 1: SELECT SHELL STYLE, PLUG OR RECEPTACLE

RECEPTACLES

Mates with

PLUGS



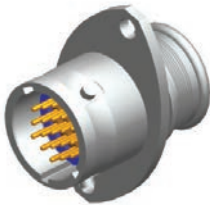
2M803-003-01
In-Line with Integral Backshell



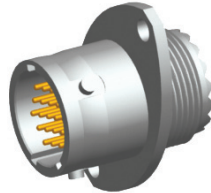
2M803-004-01
In-Line with Rear Accessory Threads



2M803-001-06
Plug with Integral Backshell



2M803-003-02
2-Hole Flange with Integral Backshell



2M803-004-02
2-Hole Flange with Rear Accessory Threads



2M803-002-06
Plug with Rear Accessory Thread



2M803-003-07
Jam Nut with Integral Backshell



2M803-004-07
Jam Nut with Rear Accessory Threads

STEP 2: SELECT CLASS

- C** = Aluminum/ Black Anodize (Non-Conductive) (RoHS)
- M** = Aluminum/ Electroless Nickel (RoHS)
- NF** = Aluminum/ Cadmium with Olive Drab Chromate
- MT** = Aluminum/ Nickel-PTFE (Duralon) (RoHS)
- Z1** = Stainless Steel/ Passivated
- ZN** = Aluminum/ Zinc-Nickel with Olive Drab Chromate
- ZNU** = Aluminum/ Zinc-Nickel with Black Chromate (RoHS)

STEP 3: SELECT LAYOUT

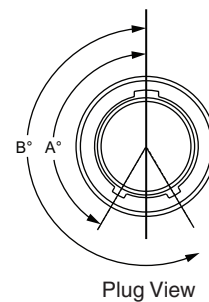
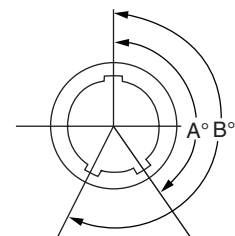
| LAYOUT | # OF CONTACTS | CONTACT SIZE | | | | |
|--------|---------------|--------------|----|------|----|----|
| | | 23 | 20 | 20HD | 16 | 12 |
| 5-3 | 3 | 3 | | | | |
| 6-1 | 1 | | | | 1 | |
| 6-4 | 4 | 4 | | | | |
| 6-6 | 6 | 6 | | | | |
| 6-7 | 7 | 7 | | | | |
| 6-23 | 3 | | | 3 | | |
| 7-1 | 1 | | | | | 1 |
| 7-10 | 10 | 10 | | | | |
| 7-25 | 5 | | | 5 | | |
| 8-2 | 2 | | | | 2 | |
| 8-13 | 13 | 13 | | | | |
| 8-28 | 8 | | | 8 | | |
| 8-200 | 6 | 4 | 2 | | | |
| 9-4 | 4 | | | | 4 | |
| 9-19 | 19 | 19 | | | | |
| 9-200 | 6 | 4 | | | 2 | |
| 9-201 | 10 | 8 | 2 | | | |
| 9-210 | 10 | | | 10 | | |
| 10-2 | 2 | | | | | 2 |
| 10-5 | 5 | | | | 5 | |
| 10-26 | 26 | 26 | | | | |
| 10-200 | 13 | 12 | | | | 1 |
| 10-201 | 6 | 4 | | | | 2 |
| 10-202 | 10 | 8 | | | 2 | |
| 12-2 | 2 | | | | | 2 |
| 12-3 | 3 | | | | | 3 |
| 12-7 | 7 | | | | 7 | |
| 12-37 | 37 | 37 | | | | |
| 12-200 | 8 | 6 | | | | 2 |
| 12-201 | 12 | 10 | | | | 2 |
| 12-220 | 20 | | | 20 | | |
| 14-5 | 5 | | | | | 5 |
| 14-12 | 12 | | | | 12 | |
| 14-55 | 55 | 55 | | | | |
| 14-235 | 35 | | | 35 | | |

STEP 4: SELECT CONTACT

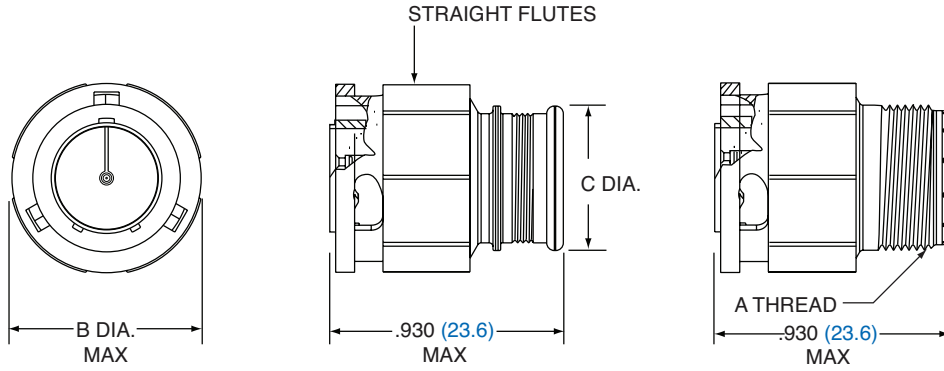
P = Pin **S** = Socket

STEP 5: SELECT KEYING

| | A KEYWAY DEGREE | B KEYWAY DEGREE |
|---|-----------------|-----------------|
| N | 150 | 210 |
| X | 75 | 210 |
| Y | 95 | 230 |
| Z | 140 | 275 |

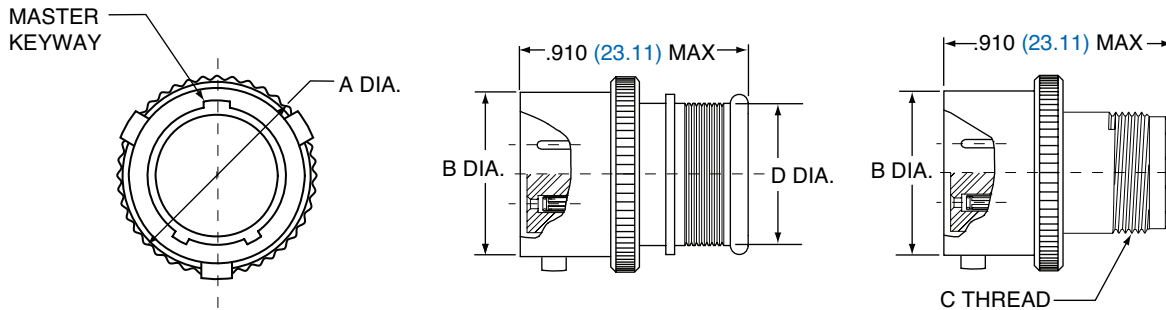


PLUG



| SHELL SIZE | A THREAD | B DIA. MAX. | | C DIA. | |
|------------|------------------|-------------|-------|--------|-------|
| | | IN. | MM. | IN. | MM. |
| 5 | .2500-32 UNEF-2A | 0.470 | 11.94 | 0.210 | 5.33 |
| 6 | .3125-32 UNEF-2A | 0.535 | 13.59 | 0.280 | 7.11 |
| 7 | .4375-28 UNEF-2A | 0.615 | 15.62 | 0.390 | 9.91 |
| 8 | .5000-28 UNEF-2A | 0.670 | 17.02 | 0.455 | 11.56 |
| 9 | .5625-24 UNEF-2A | 0.740 | 18.80 | 0.510 | 12.95 |
| 10 | .6250-24 UNEF-2A | 0.805 | 20.45 | 0.570 | 14.48 |
| 12 | .6875-24 UNEF-2A | 0.890 | 27.60 | 0.650 | 16.51 |
| 14 | .9375-20 UNEF-2A | 1.095 | 27.81 | 0.805 | 20.45 |

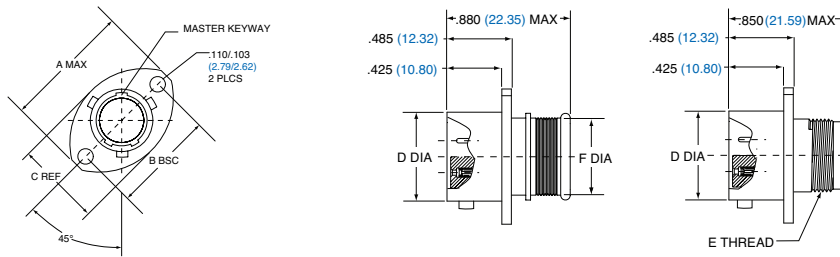
IN-LINE



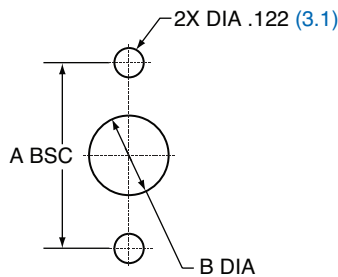
| SHELL SIZE | A MAX. | | B DIA. | | C THREAD | D DIA. | |
|------------|--------|-------|--------|-------|------------------|--------|-------|
| | IN. | MM. | IN. | MM. | | IN. | MM. |
| 5 | 0.380 | 9.65 | 0.300 | 7.62 | .2500-32 UNEF-2A | 0.230 | 5.84 |
| 6 | 0.465 | 11.81 | 0.362 | 9.19 | .3125-32 UNEF-2A | 0.286 | 7.26 |
| 7 | 0.500 | 12.70 | 0.436 | 11.07 | .4375-28 UNEF-2A | 0.390 | 9.91 |
| 8 | 0.570 | 14.48 | 0.508 | 12.90 | .5000-28 UNEF-2A | 0.440 | 11.18 |
| 9 | 0.652 | 16.56 | 0.561 | 14.25 | .5625-24 UNEF-2A | 0.500 | 12.70 |
| 10 | 0.715 | 18.15 | 0.635 | 16.13 | .6250-24 UNEF-2A | 0.562 | 14.27 |
| 12 | 0.805 | 20.45 | 0.714 | 18.14 | .6875-24 UNEF-2A | 0.650 | 16.51 |
| 14 | 0.915 | 23.24 | 0.865 | 21.97 | .9375-20 UNEF-2A | 0.805 | 20.45 |

All dimensions in inches (millimeters in blue)

FLANGE MOUNT RECEPTACLE

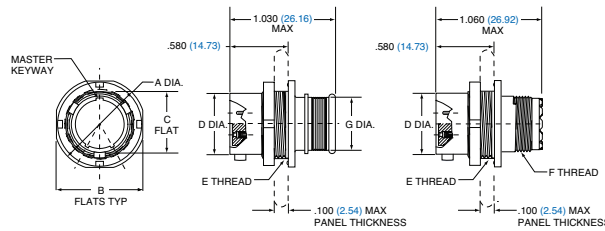


| SHELL SIZE | A MAX. | | B BSC. | | C REF. | | D DIA. | | E THREAD | F DIA. | |
|------------|--------|-------|--------|-------|--------|-------|--------|-------|------------------|--------|-------|
| | IN. | MM. | IN. | MM. | IN. | MM. | IN. | MM. | | IN. | MM. |
| 5 | 0.703 | 17.86 | 0.513 | 13.03 | 0.460 | 11.68 | 0.300 | 7.62 | .2500-32 UNEF-2A | 0.230 | 5.84 |
| 6 | 0.788 | 20.02 | 0.598 | 15.19 | 0.522 | 13.26 | 0.362 | 9.19 | .3125-32 UNEF-2A | 0.286 | 7.26 |
| 7 | 0.890 | 22.61 | 0.708 | 17.98 | 0.590 | 14.99 | 0.436 | 11.07 | .4375-28 UNEF-2A | 0.390 | 9.91 |
| 8 | 1.154 | 29.31 | 0.964 | 24.49 | 0.668 | 16.97 | 0.500 | 12.70 | .5000-28 UNEF-2A | 0.440 | 11.18 |
| 9 | 1.207 | 30.66 | 1.017 | 25.83 | 0.721 | 18.31 | 0.561 | 14.25 | .5625-24 UNEF-2A | 0.500 | 12.70 |
| 10 | 1.291 | 32.79 | 1.101 | 27.97 | 0.795 | 20.19 | 0.635 | 16.13 | .6250-24 UNEF-2A | 0.562 | 14.27 |
| 12 | 1.394 | 35.41 | 1.204 | 30.58 | 0.874 | 22.20 | 0.714 | 18.14 | .6875-24 UNEF-2A | 0.650 | 16.51 |
| 14 | 1.545 | 39.24 | 1.280 | 32.51 | 1.050 | 26.67 | 0.865 | 21.97 | .9375-20 UNEF-2A | 0.805 | 20.45 |

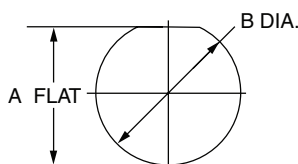


| FLANGE MOUNT PANEL CUTOUTS | | | | |
|----------------------------|--------|-------|--------|-------|
| SHELL SIZE | A BSC. | | B DIA. | |
| | IN. | MM. | IN. | MM. |
| 5 | 0.513 | 13.03 | 0.365 | 9.25 |
| 6 | 0.598 | 15.19 | 0.430 | 10.92 |
| 7 | 0.708 | 17.98 | 0.520 | 13.21 |
| 8 | 0.964 | 17.98 | 0.592 | 15.04 |
| 9 | 1.017 | 25.83 | 0.645 | 16.38 |
| 10 | 1.101 | 27.97 | 0.726 | 18.44 |
| 12 | 1.204 | 30.58 | 0.832 | 21.13 |
| 14 | 1.280 | 32.51 | 0.945 | 24.00 |

JAM NUT RECEPTACLES



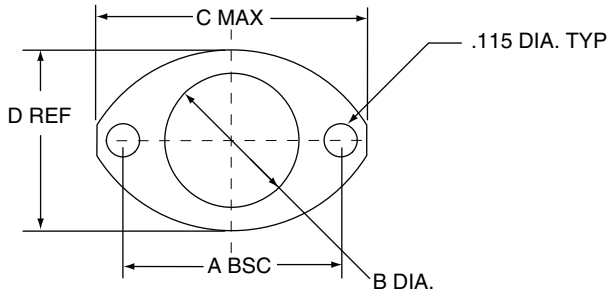
| SHELL SIZE | A DIA. | | B FLAT | | C FLAT | | D DIA. | | E THREAD | F THREAD | G DIA. | |
|------------|--------|-------|--------|-------|--------|-------|--------|-------|------------------|------------------|--------|-------|
| | IN. | MM. | IN. | MM. | IN. | MM. | IN. | MM. | | | IN. | MM. |
| 5 | 0.575 | 14.61 | 0.545 | 13.84 | 0.350 | 8.89 | 0.300 | 7.62 | .3750-32 UNEF-2A | .2500-32 UNEF-2A | 0.230 | 5.84 |
| 6 | 0.635 | 16.13 | 0.595 | 15.11 | 0.410 | 10.41 | 0.362 | 9.19 | .4375-28 UNEF-2A | .3125-32 UNEF-2A | 0.286 | 7.26 |
| 7 | 0.755 | 19.18 | 0.723 | 18.36 | 0.536 | 13.61 | 0.436 | 11.07 | .5625-32 UN-2A | .4375-28 UNEF-2A | 0.390 | 9.91 |
| 8 | 0.830 | 21.08 | 0.790 | 20.11 | 0.593 | 15.10 | 0.500 | 12.70 | .6250-28 UN-2A | .5000-28 UNEF-2A | 0.440 | 11.18 |
| 9 | 0.830 | 21.08 | 0.790 | 20.07 | 0.596 | 15.14 | 0.561 | 14.25 | .6250-28 UN-2A | .5625-24 UNEF-2A | 0.500 | 12.70 |
| 10 | 0.955 | 24.26 | 0.925 | 23.51 | 0.721 | 18.31 | 0.635 | 16.13 | .7500-28 UN-2A | .6250-24 UNEF-2A | 0.562 | 14.27 |
| 12 | 1.078 | 27.38 | 1.044 | 26.52 | 0.845 | 21.46 | 0.714 | 18.14 | .8750-28 UN-2A | .6875-24 UNEF-2A | 0.650 | 16.51 |
| 14 | 1.264 | 32.11 | 1.230 | 31.24 | 1.022 | 25.96 | 0.865 | 21.97 | 1.0625-20 UN-2A | .9375-20 UNEF-2A | 0.805 | 20.45 |



| JAM NUT PANEL CUTOUTS | | | | |
|-----------------------|-----------|-------------|--------|-------|
| SHELL SIZE | A FLAT | | B DIA. | |
| | IN. | MM. | IN. | MM. |
| 5 | 0.355 | 9.02 | 0.382 | 9.70 |
| 6 | 0.415 | 10.54 | 0.445 | 11.30 |
| 7 | 0.541 | 13.74 | 0.572 | 14.53 |
| 8 | .603/.599 | 15.32/15.21 | 0.635 | 16.13 |
| 9 | 0.601 | 15.27 | 0.643 | 16.33 |
| 10 | .731/.727 | 18.57/18.47 | 0.76 | 18.29 |
| 12 | 0.850 | 21.59 | 0.885 | 22.48 |
| 14 | 1.031 | 23.19 | 1.072 | 27.23 |

All dimensions in inches (millimeters in blue)

2 HOLE FLANGED GASKETS



| SHELL SIZE | PART NUMBER | | | A BSC. | | B DIA. | | C TYP. | | D DIA. | |
|------------|----------------|--------------|--------------|--------|-------|--------|-------|--------|-------|--------|-------|
| | FLUOROSILICONE | VITON® | CONDUCTIVE | IN. | MM. | IN. | MM. | IN. | MM. | IN. | MM. |
| 5 | 2M809-108F31 | 2M809-108V31 | 2M809-108X31 | 0.513 | 13.03 | 0.345 | 8.00 | 0.710 | 18.03 | 0.460 | 11.68 |
| 6 | 2M809-108F32 | 2M809-108V32 | 2M809-108X32 | 0.598 | 15.19 | 0.405 | 10.29 | 0.795 | 20.19 | 0.522 | 13.26 |
| 7 | 2M809-108F33 | 2M809-108V33 | 2M809-108X33 | 0.708 | 17.98 | 0.475 | 12.07 | 0.900 | 22.86 | 0.590 | 14.99 |
| 8 | 2M809-108F34 | 2M809-108V34 | 2M809-108X34 | 0.964 | 24.51 | 0.545 | 13.84 | 1.160 | 29.46 | 0.670 | 17.02 |
| 9 | 2M809-108F35 | 2M809-108V35 | 2M809-108X35 | 1.017 | 25.83 | 0.605 | 15.37 | 1.215 | 30.86 | 0.721 | 18.31 |
| 10 | 2M809-108F36 | 2M809-108V36 | 2M809-108X36 | 1.101 | 27.97 | 0.682 | 17.32 | 1.295 | 32.89 | 0.795 | 20.19 |
| 12 | 2M809-108F37 | 2M809-108V37 | 2M809-108X37 | 1.204 | 30.58 | 0.757 | 19.23 | 1.400 | 35.56 | 0.874 | 22.20 |
| 14 | 2M809-108F38 | 2M809-108V38 | 2M809-108X38 | 1.280 | 32.51 | 0.910 | 23.11 | 1.555 | 39.50 | 1.050 | 26.67 |
| 17 | 2M809-108F19 | 2M809-108V19 | 2M809-108X19 | 1.060 | 26.92 | 1.092 | 27.74 | 1.280 | 32.51 | 0.125 | 3.18 |
| 21 | 2M809-108F43 | 2M809-108V43 | 2M809-108X43 | 1.322 | 33.58 | 1.332 | 33.83 | 1.570 | 39.88 | 0.125 | 3.18 |

SHRINK BOOTS FOR INTEGRAL ENDBELL

High-Performance Elastomer

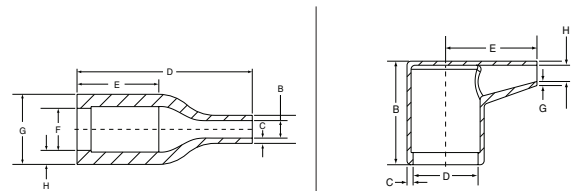
Pre-Coated with high-temperature adhesive

- Operating temperature -94 F to +302 F (-70 C to +150 C)
- Rated for 3000 hours of continuous operation at +302 F (+150 C)
- Excellent resistance to fuels, oils, and solvents
- Spec VG95343 Part 6

Zero-Halogen

Low-Smoke, Zero-Halogen Toxicity Requirements

- Meets U.S. and E.U. standards
- Pre-coated with high-temperature adhesive
- Operating temperature -22 F to +257 F (-30 C to +125 C)
- Good resistance to fuels, oils, and solvents
- Spec NAVSEA 5617649



| BOOT SIZE | SHELL SIZE | HIGH-PERFORMANCE ELASTOMER | | ZERO-HALOGEN | | STRAIGHT BOOT CABLE RANGE | | MIN. | | RIGHT ANGLE BOOT CABLE RANGE | | MIN. | |
|-----------|------------|----------------------------|-------------|--------------|----------------|---------------------------|------|-------|-----|------------------------------|------|-------|-----|
| | | STRAIGHT | RIGHT ANGLE | STRAIGHT | RIGHT ANGLE | IN. | MM. | IN. | MM. | IN. | MM. | IN. | MM. |
| | | | | | | | | | | | | | |
| 1 | 5 | 2M809S060-1 | 2M809A060-1 | 2M809S060-1H | 2M809A060-1H * | 0.350 | 9.0 | 0.080 | 2.0 | 0.240 | 6.0 | 0.080 | 2.0 |
| 2 | 6, 7 | 2M809S060-2 | 2M809A060-2 | 2M809S060-2H | 2M809A060-2H | 0.650 | 16.5 | 0.150 | 3.8 | 0.650 | 16.5 | 0.100 | 2.5 |
| 3 | 8, 9 | 2M809S060-3 | 2M809A060-3 | 2M809S060-3H | 2M809A060-3H | 0.920 | 23.4 | 0.220 | 5.6 | 0.920 | 23.3 | 0.220 | 5.6 |
| 4 | 10, 12 | 2M809S060-4 | 2M809A060-4 | 2M809S060-4H | 2M809A060-4H | 1.120 | 28.4 | 0.260 | 6.6 | 1.120 | 28.5 | 0.250 | 6.3 |
| 5 | 14 | 2M809S060-5 | 2M809A060-5 | 2M809S060-5H | 2M809A060-5H | 1.220 | 31.0 | 0.280 | 7.1 | 1.220 | 30.9 | 0.280 | 7.1 |

* Size 1 zero-halogen right-angle supplied less lip, see graphic

DUSTCAPS



| SHELL SIZE FOR 2M803 | METAL DUSTCAPS WITH NYLON ROPE LANYARD | | |
|----------------------|--|--|--|
| | FOR PLUGS WITH RING ATTACHMENT | FOR FLANGED RECEPTACLES WITH RING ATTACHMENT | FOR JAM NUT RECEPTACLES WITH LARGE RING ATTACHMENT |
| 5 | 2M660-082-XX-G502-4 | 2M660-083-XX-G501-3 | 2M660-083-XX-G514-4 |
| 6 | 2M660-082-XX-G602-4 | 2M660-083-XX-G601-3 | 2M660-083-XX-G615-4 |
| 7 | 2M660-082-XX-G702-4 | 2M660-083-XX-G701-3 | 2M660-083-XX-G716-4 |
| 8 | 2M660-082-XX-G802-4 | 2M660-083-XX-G801-3 | 2M660-083-XX-G817-4 |
| 9 | 2M660-082-XX-G902-4 | 2M660-083-XX-G902-3 | 2M660-083-XX-G918-4 |
| 10 | 2M660-082-XX-G1002-5 | 2M660-083-XX-G1002-3 | 2M660-083-XX-G1019-4 |
| 12 | 2M660-082-XX-G1202-5 | 2M660-083-XX-G1202-3 | 2M660-083-XX-G1219-4 |
| 14 | 2M660-082-XX-G1402-6 | 2M660-083-XX-G1402-3 | 2M660-083-XX-G1420-4 |

C Aluminum/ Black Anodize (Non-Conductive) (RoHS)
M Aluminum/ Electroless Nickel (RoHS)
NF Aluminum/ Cadmium with Olive Drab Chromate
MT Aluminum/ Nickel-PTFE (Duralon) (RoHS)

Z1 Stainless Steel/ Passivated
ZN Aluminum/ Zinc-Nickel with Olive Drab Chromate
ZNU Aluminum/ Zinc-Nickel with Black Chromate (RoHS)
REPLACE XX WITH PLATING CODE

STRAIN RELIEF CABLE CLAMP WITH ROTATABLE COUPLING

| SHELL SIZE | PART NUMBER | THREAD SIZE 2B | CABLE ENTRY DIA. |
|------------|-----------------|----------------|------------------|
| 5 | 2M620MS065-XX05 | .2500-32 UNEF | 0.11 |
| 6 | 2M620MS065-XX06 | .3125-32 UNEF | 0.17 |
| 7 | 2M620MS065-XX07 | .4375-28 UNEF | 0.23 |
| 8 | 2M620MS065-XX08 | .5000-28 UNEF | 0.30 |
| 9 | 2M620MS065-XX09 | .5625-24 UNEF | 0.30 |
| 10 | 2M620MS065-XX10 | .6250-24 UNEF | 0.36 |
| 12 | 2M620MS065-XX12 | .6875-24 UNEF | 0.42 |
| 14 | 2M620MS065-XX14 | .9375-20 UNEF | 0.48 |

C Aluminum/ Black Anodize (Non-Conductive) (RoHS)
M Aluminum/ Electroless Nickel (RoHS)
NF Aluminum/ Cadmium with Olive Drab Chromate
MT Aluminum/ Nickel-PTFE (Duralon) (RoHS)
Z1 Stainless Steel/ Passivated
ZN Aluminum/ Zinc-Nickel with Olive Drab Chromate
ZNU Aluminum/ Zinc-Nickel with Black Chromate (RoHS)
REPLACE XX WITH PLATING CODE

ADDITIONAL BACKSHELLS

| | DESCRIPTION | PART NUMBER PREFIX | STRAIGHT | 90° | 45° |
|--|-----------------------------|--------------------|----------|-----|-----|
| | Thread-On BAND-IT Adapter | 2M440MS135 | X | | |
| | | 2M440ML135 | | X | |
| | | 2M440MK135 | | | X |
| | Low-Profile BAND-IT Adapter | 2M440MS134 | X | | |
| | Environmental Backshell | 2M370MS038 | X | | |
| | | 2M370MA038 | | X | |
| | | 2M370MB038 | | | X |
| | EMI Backshell | 2M380MS137 | X | | |
| | | 2M380MA137 | | X | |
| | | 2M380MB137 | | | X |
| | Environmental EMI Backshell | 2M390MS077 | X | | |
| | | 2M390MA077 | | X | |
| | | 2M390MB077 | | | X |

PINS



| CONTACT SIZE AWG | WIRE SIZE AWG | PIN CONTACT | COLOR BANDS | | | WIRE STRIP LENGTH | WIRE SEALING RANGE | | WIRE HOLE FILLER | HAND-CRIMP TOOL | POSITIONER (LOCATOR) | PLASTIC INSERTION/EXTRACTION TOOL | METAL INSERTION TOOL | METAL EXTRACTION TOOL |
|------------------|---------------|---------------|-------------|------|--------|-------------------|--------------------|--------------|-----------------------|-----------------|----------------------|-----------------------------------|----------------------|-----------------------|
| | | | 1 | 2 | 3 | | MIN. | MAX. | | | | | | |
| 23 | 22,24,26,& 28 | 2M809-001 | N/A | N/A | N/A | 0.15 (3.81) | 0.024 (.609) | 0.052 (1.32) | 2M809-155 (Black) | M22520/2-01 | K1461-1 | 2M809-088 | DAK225-22 | DRK225-22 |
| | 26,28, & 30 | 2M809-042 | Blue | N/A | N/A | 0.15 (3.81) | 0.024 (.609) | 0.052 (1.32) | | | 2M809-057 | | | |
| 20HD | 20,22, & 24 | 2M809-204 | N/A | N/A | N/A | 0.15 (3.81) | 0.040 (1.02) | 0.083 (2.11) | MS27488-20-2 (Red) | M22520/2-01 | 2M809-206 | 2M809-203 | N/A | N/A |
| 20 | 20,22, & 24 | M39029/58-363 | Orange | Blue | Orange | .188 (4.77) | 0.040 (1.02) | 0.083 (2.11) | MS27488-20-2 (Red) | M22520/1-01 | M22520/1-04 | M81969/14-10 | 11-008674-020 | 11-008675-020 |
| 16 | 16,18, & 20 | M39029/58-364 | Orange | Blue | Yellow | .188 (4.77) | 0.065 (1.65) | 0.109 (2.77) | MS27488-16-2 (Green) | M22520/1-01 | M22520/1-04 | M81969/14-03 | 11-008674-016 | 11-008675-016 |
| 12 | 12 & 14 | M39029/58-365 | Orange | Blue | Green | .188 (4.77) | 0.097 (2.46) | 0.142 (.361) | MS27488-12-2 (Orange) | M22520/1-01 | M22520/1-04 | M81969/14-04 | 11-008674-012 | 11-008675-012 |

SOCKETS

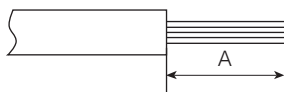


| CONTACT SIZE AWG | WIRE SIZE AWG | PIN CONTACT | COLOR BANDS | | | WIRE STRIP LENGTH | WIRE SEALING RANGE | | WIRE HOLE FILLER | HAND-CRIMP TOOL | POSITIONER (LOCATOR) | PLASTIC INSERTION/EXTRACTION TOOL | METAL INSERTION TOOL | METAL EXTRACTION TOOL |
|------------------|---------------|---------------|-------------|-------|--------|-------------------|--------------------|--------------|-----------------------|-----------------|----------------------|-----------------------------------|----------------------|-----------------------|
| | | | 1 | 2 | 3 | | MIN. | MAX. | | | | | | |
| 23 | 22,24,26,& 28 | 2M809-002 | N/A | N/A | N/A | 0.15 (3.81) | 0.024 (.609) | 0.052 (1.32) | 2M809-155 (Black) | M22520/2-01 | K1461-1 | 2M809-088 | DAK225-22 | DRK225-22 |
| | 26,28, & 30 | 2M809-043 | Blue | N/A | N/A | 0.15 (3.81) | 0.024 (.609) | 0.052 (1.32) | | | 2M809-057 | | | |
| 20HD | 20,22, & 24 | 2M809-205 | N/A | N/A | N/A | 0.15 (3.81) | 0.040 (1.02) | 0.083 (2.11) | MS27488-20-2 (Red) | M22520/2-01 | 2M809-206 | 2M809-203 | N/A | N/A |
| 20 | 20,22, & 24 | M39029/57-357 | Orange | Green | Violet | .188 (4.77) | 0.040 (1.02) | 0.083 (2.11) | MS27488-20-2 (Red) | M22520/1-01 | M22520/1-04 | M81969/14-10 | 11-008674-020 | 11-008675-020 |
| 16 | 16,18, & 20 | M39029/57-358 | Orange | Green | Gray | .188 (4.77) | 0.065 (1.65) | 0.109 (2.77) | MS27488-16-2 (Green) | M22520/1-01 | M22520/1-04 | M81969/14-03 | 11-008674-016 | 11-008675-016 |
| 12 | 12 & 14 | M39029/57-359 | Orange | Green | White | .188 (4.77) | 0.097 (2.46) | 0.142 (.361) | MS27488-12-2 (Orange) | M22520/1-01 | M22520/1-04 | M81969/14-04 | 11-008674-012 | 11-008675-012 |

All dimensions in inches

WIRE STRIPPING

Strip insulation from the end of wire to be crimped. (See table for proper stripping dimensions.) Do not cut or damage wire strands.



| CONTACT SIZE | A |
|--------------|-------------|
| 23, 20HD | .150 (3.18) |
| 20 | .188 (4.77) |
| 16 | .188 (4.77) |
| 12 | .188 (4.77) |

CONTACT CRIMPING



STEP 1: Insert wire into rear of contact. Wire insulation must press against rear of contact. Wire must be visible through inspection hole.

STEP 2: M22520 series crimp tool and locator is recommended. See Contact and Tool Table on pages 182 and 183 for choice of turret head and selection setting according to contact size, part number and wire gauge size.

STEP 3: Insert contact and wire into tool jaws. To crimp, squeeze handles together fully until ratchet releases and allows handles to expand; otherwise, contact cannot be extracted from tool jaws. Maintain slight insertion pressure on wire while crimping contact to wire.

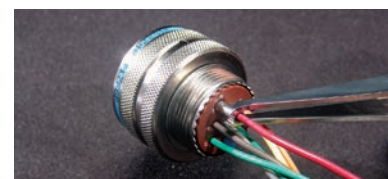
CONTACT INSERTION



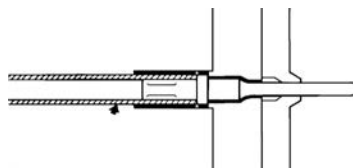
STEP 1: Remove hardware from plug or receptacle and slip over wire bundle in proper order for reassembly.



STEP 2: Using proper plastic or metal insertion tool for corresponding contact, position wire in tip of the tool so that the tool tip presses against the contact shoulder.



STEP 3: Press tool against contact shoulder and, with firm and even pressure, insert wired contact and tool tip into center contact cavity.



STEP 4: When contact bottoms, a slight "click" can be heard as tines of metal retaining clip snap into place behind contact shoulder.



STEP 5: Remove tool and pull back lightly on wire to make sure contact is properly seated. Repeat operation with remainder of contacts to be inserted, beginning with the center cavity and working outward in alternating rows.

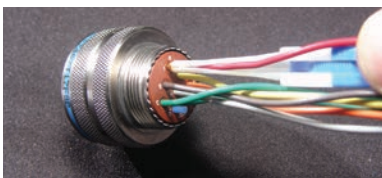


STEP 6: After all contacts are inserted, fill any empty cavities with wire sealing plugs. Reassemble plug or receptacle hardware.

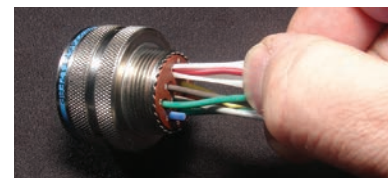
CONTACT EXTRACTION



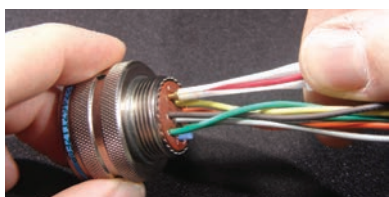
STEP 1: Remove hardware from plug or receptacle and slide hardware back along wire bundle.



STEP 2: Using plastic or metal extraction tool with proper color code corresponding to contact size, place wire in tool.



STEP 3: Insert tool into contact cavity until tool tip bottoms against the contact shoulder, expanding clip retaining tines.



STEP 4: Hold wire firmly in tool and extract wired contact and tool. Repeat operation for all contacts to be extracted.



STEP 5: Fill any empty cavities with wire sealing plugs. Reassemble plug or receptacle hardware.

All dimensions in inches