# The Micro Line - .050" Contact Spacing

The Cannon MICRO Series established the standards for performance and reliability in mircominiature interconnects. Exceptionally versatile, MICRO connectors are available in rectangular, circular, and strip configurations, with 3 amp MICROPIN™/MICROSOCkET™ contacts on .050(1.27) centers, or with special arrangements of power and coaxial contacts.

The heart of the Cannon MICROPIN/MICROSOCKET contact system is a multi-element Twist Pin Contact recessed with and insulating housing. The rugged, cylindrical sockets are mounted in the exposed half of the connector. When connector halves are mated, the chamfered sockets are first aligned by the connector body, then guide the spiral MICROPIN contacts into proper and positive alignment, even under worst-case tolerance conditions. This is Cannon's POS-A-LINE connectors design.

The multiple spring elements of the MICROPIN, then under compression, form a multi-point contact system of high mechanical and electrical integrity. Contacts will provide a high degree of reliability over hundreds of mating and unmating cycles, and have proven themselves in applications that range from commercial products to equipment that has been landed on the moon.

- Contact rating - 3 amps max.
- Contacts centers - .050(1.27).
- Wire sizes - #24 thru #32 AWG, stranded or solid.
- Contact termination - multiple indent crimp.
- Contact retention -fixed via epoxy.
- Contact materials and finish - Copper alloy, gold-plated per MIL-G-45204, Type II, Grade C, Class 1 over copper flash.
- Mating/unmating force - 8 oz. per contact, max./0.5 oz. per contact min.

## Test Data

The table below summarizes the results of key tests performed in accordance with MIL-STD-1344, where applicable. Data is applicable to standard connectors with standard termination. Variations may affect this data, so please consult the factory for further information on your requirements.

| Test | Method | Criteria of Acceptance |
|---|---|---|
| Dielectric Withstanding Voltage | Method 3001: | |
| | 900 VAC at sea level | No breakdown |
| | 300 VAC at 70,00' altitude Solder Pots and Shielded | No breakdown |
| | Cable 600 VAC at sea level | No breakdown |
| | 150 VAC at 70,000' altitude | No breakdown |
| Insulation Resistance | Method 3003 | 5,000 megohms minimum |
| Thermal Shock | Method 1003. Condition A: - 55°C to +125°C | No physical damage |
| Physical Shock | Method 2004, Condition E: 50 G's, 3 axes, 6 millisecond duration sawtooth pulse | No physical damage<br>No loss of continuity > 1 µsec |
| Vibration | Method 2005, Condition IV: 20 G's, 10-2,000 Hz. 12 hrs | No physical damage<br>No loss of continuity > 1 µsec |
| Durability | 500 cycles of mating and unmating, 500 CPH max. | No mechanical or electrical defects |
| Moisture Resistance | Method 1002, Type II omit steps 7a & 7B | Insulation resistance > 100 megohms |
| Salt Spray | Method 1001, Condition B: 48 hours | Shall be cable of mating and unmating, and meet contact resistance requirements |
| Contact Resistance (MIL-STD-202) | Method 307 | |
| | At 3 amps | 8 milliohms maximum |
| | At 1 milliamps | 10 milliohms maximum |
| Contact Retention | Per MIL-C-83513 | 5 lb. minimum axial load |

MDM connectors are used in applications requiring highly reliable, extremely small, lightweight connectors with higher density contact configurations than available in traditional rectangular connectors. They are available in 8 shell sizes accommodating from 9 to 100 contacts, and special arrangements of power and coaxial contacts.

These connectors are designed to meet the rapidly increasing demands for an environmental, high performance, rugged, moisture-sealed microminiature connector. This connector employs size 24 MICRO-PIN[a]/MICROSOCKET[a] contacts on .050(1.27_ centers in a contact density identical to the standard MICRO-D connector series, but with these additional features:

- ¥ Aluminum shells to provide greater strength, prevent chipping, cracking or breaking, offer electromagnetic (EMI) and RFI shielding.
- ¥ Silicone elastomer compression interfacial seal to provide a moisture and humidity seal between each contact and between contacts and shell.

## How to Order

**MIL-C-83513 ordering information- pages 240 and 241**

**MDM - 51 P H 001 P - XXX**

- **SERIES**
- **CONTACT ARRANGEMENTS**
- **CONTACT TYPE**
- **TERMINATION TYPE**
- **TERMINATION CODE**
- **HARDWARE**
- **SHELL FINISH MOD CODES**

**SERIES**

MDM (size 9-100): Liquid Crystal Ploymer (LCP)
MDM (Combo Layout): Diallyl Phthalate insulator Material

**CONTACT ARRANGEMENTS**

9-15-21-25-31-37-51-100 (standard)
7C2, 24C42 (coaxial) } or combination of
7P2, 24P4 (power) } coax and power

**CONTACT TYPE**

P - Pin
S - Socket

**TERMINATION TYPE**

H - Harness-insulated wire.
L - Solid-uninsulated wire.
S - Solder pot to accept #26 AWG MAX. harness wire. (Not available with power contact arrangements.)

**TERMINATION CODE***

(H) 001 - 18",7/34 strand,#26 AWG, MIL-W-16878/4, Type E Teflon, yellow.
(H) 003 - 18", 7/34 strand, #26 AWG, MIL-W-16878/4, Type E Teflon, color coded to MIL-STD-681 System I.
(L) 1 - 1/2" uninsulated solid #25 AWG gold plated copper.
(L) 2 - 1" uninsulated solid #25 AWG gold plated copper.

**HARDWARE**

M - Military specification hardware, see page 237.
P - Jackpost
K - Jackscrew-standard
L - Jackscrew-low profile
F - Float mount
B - No hardware standard
.091 (2.31) dia. hole for sizes 9-51;
.120 (3.05) dia. hole for size 100.
A - .125 (3.18) dia. mounting holes fo sizes 9-51;
.166 (4.22) dia. hole for size 100.
B1 - .1475 (3.75) dia. hole for size 100 (Per MIL-C-83513)

**SHELL FINISH MOD CODES****

No
Number - Standard Cadmium/yellow chromate
A174 - Electroless nickel
A172 - Gold over nickel
A141 - Irridite/alodine
A30 - Black anodize

*See Termination Codes page 233 for additional length Modification codes.
**For other modifications not listed, consult the factory.

## Performance and Material Specifications

### STANDARD MATERIALS AND FINISHES

| | |
|---|---|
| Shell | - Aluminum alloy per QQ-A-200/8 (6061-T6), yellow chromate/cadmium per QQ-P-416, Type II, class 3. |
| Insulator | - MIL-M-24519, Type GLCP-30F Glass-filled diallyl phthalate per MIL-M-14, Type SDGF |
| Contacts | - Copper alloy, gold plate |
| Mounting Hardware | - 300 Series stainless steel, passivate |
| Kit, Jackpost (3) items | - 300 Series stainless steel, passivate |
| Washer | - 400 Series stainless stell, passivate |
| Standard Epoxy | - Hysol EE4198 with HD3561 hardener, color green or EE4215 with HD3561, color black |

### MECHANICAL FEATURES

| | |
|---|---|
| Coupling | - Friction/jackscrews |
| Polarization | - Keystone-shaped shells |
| Contact Spacing Centers | - .050 (1.27) |
| Shell Styles | - Plug and receptacle |
| No. of Contacts | - 9 thru 100 standard; 5 signal/2 coaxial; 5 signal/2 power. 20 signal/4 coaxial; 20 signal/4 power |
| Coaxial Cable | - RG - 178/U |
| Wire Size | - #24 thru #32 AWG |
| Contact Termination | - Multiple indent crimp |

**ELECTRICAL DATA - page 231**

## Standard Wire Termination Codes

Cannon Modification Code (Not MS)

The following tetmination codes are listed for your information. For lengths not shown, consult factory for proper modification code. All wire lengths are minimum.

**Harness TYPE (H)**

#26 AWG per MIL-W-16878/4, 7/34 strand, type E Teflon, stranded.

| Length | All Yellow | Color Coded* |
|---|---|---|
| 3 (76.2) | H020 | H027 |
| 6 (152.4) | H019 | H016 |
| 8 (203.2) | H026 | H034 |
| 10 (254.0) | H029 | H025 |
| 12 (304.8) | H028 | H002 |
| 18 (457.2) | H001 | H003 |
| 20 (508.0) | H038 | H023 |
| 24 (609.6) | H009 | H004 |
| 30 (762.0) | H010 | H005 |
| 36 (914.4) | H011 | H006 |
| 48 (1219.2) | H013 | H048 |
| 72 (1828.8) | H017 | H046 |
| 120 (3048.0) | H042 | H041 |

* Cavity #1 black

**Solid Uninsulated Type (L)**

#25 AWG gold plated copper

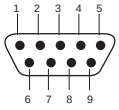
| Termination Code | Length |
|---|---|
| L61 | .125 (3.18) |
| L56 | .150 (3.81) |
| L57 | .190 (4.83) |
| L39 | .250 (6.35) |
| L58 | .375 (9.52) |
| L1 | .500 (12.70) |
| L14 | .750 (19.05) |
| L2 | 1.000 (25.40) |
| L7 | 1.500 (38.10) |
| L6 | 2.000 (50.80) |
| L16 | 2.500 (63.50) |
| L10 | 3.000 (76.20) |

Milimeters are in parentheses.

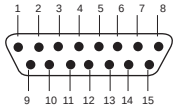
## Contact Arrangements

**(Face View of Pin insert - Use Reverse Order for Socket Side)**

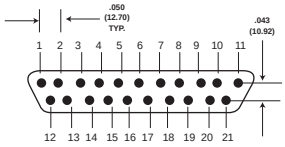
**Standard**



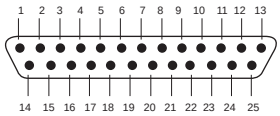

**9 Contacts**



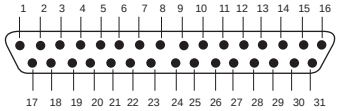

**15 Contacts**



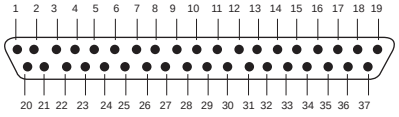

**21 Contacts**



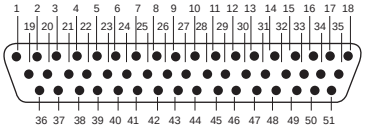

**25 Contacts**



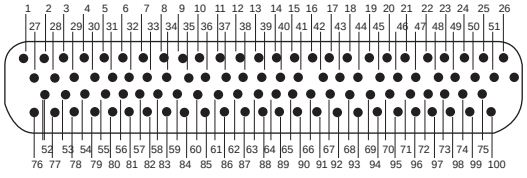

**31 Contacts**




**37 Contacts**



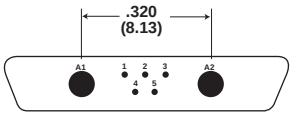

**51 Contacts**



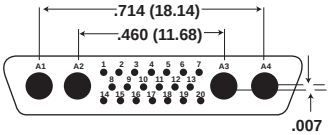

**100 Contacts**

Contact identification numbers are for reference only and do not appear on insulator or connector body.

**Coaxial**



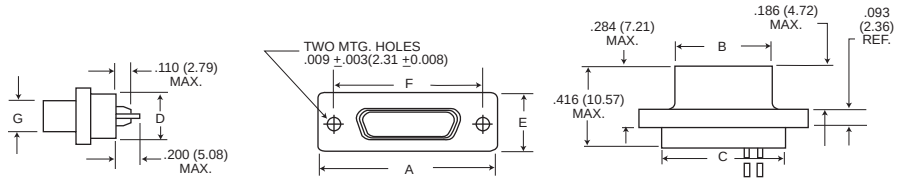

**Size 25 Shell**
**5 Micro contact**
**2 Coax or 2 Power**




**Size 51 Shell**
**20 Micro Contacts**
**4 Coax or 4 Power**
**(Not MS)**

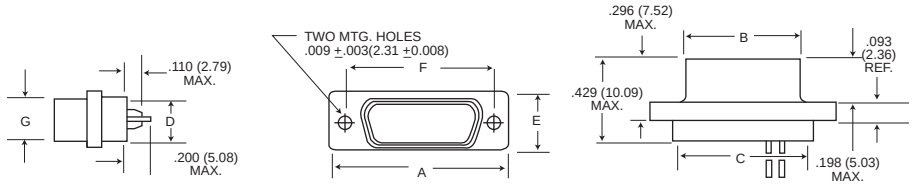
## Shell Dimensions (Conforms to MIL-C-83513)

**Plug**



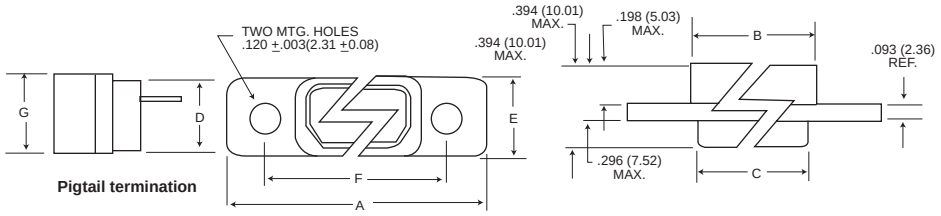

**Solder Pot**

**Receptacle**




**Solder Pot**

**Receptacle (MDM-100 only)**

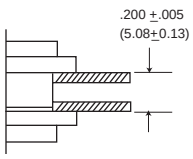



**Pigtail termination**

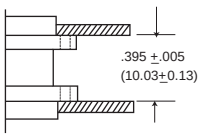
| Part Number By Shell Size | A Max. | B Max. | C Max. | D Max. | E Max. | F ±.005 (0.13) | G Max. | Average Weights** oz. (gm.) ±5% |
|---|---|---|---|---|---|---|---|---|
| **MDM-9P*** | .785 (19.94) | .334 (8.48) | .400 (10.16) | .270 (6.86) | .308 (7.82) | .565 (14.35) | .185 (4.70) | .063 (1.79) |
| **MDM-9S*** | .785 (19.94) | .402 (10.21) | .400 (10.16) | .270 (6.86) | .308 (7.82) | .565 (14.35) | .253 (6.43) | .063 (1.79) |
| **MDM-15P*** | .935 (23.75) | .484 (12.29) | .550 (13.97) | .270 (6.86) | .308 (7.82) | .715 (18.16) | .185 (4.70) | .084 (2.39) |
| **MDM-15S*** | .935 (23.75) | .552 (13.97) | .550 (13.97) | .270 (6.86) | .308 (7.82) | .715 (18.16) | .253 (6.43) | .083 (2.37) |
| **MDM-21P*** | 1.085 (27.56) | .634 (16.10) | .700 (17.78) | .270 (6.86) | .308 (7.82) | .865 (21.97) | .185 (4.70) | .105 (2.99) |
| **MDM-21P*** | 1.085 (27.56) | .702 (17.83) | .700 (17.78) | .270 (6.86) | .308 (7.82) | .865 (21.97) | .253 (6.43) | .104 (2.97) |
| **MDM-25P*** | 1.185 (30.10) | .734 (18.64) | .800 (20.32) | .270 (6.86) | .308 (7.82) | .965 (24.51) | .185 (4.70) | .119 (3.39) |
| **MDM-25S*** | 1.185 (30.10) | .802 (20.37) | .800 (20.32) | .270 (6.86) | .308 (7.82) | .965 (24.51) | .253 (6.43) | .118 (3.36) |
| **MDM-31P*** | 1.335 (33.91) | .884 (22.45) | .950 (24.13) | .270 (6.86) | .308 (7.82) | 1.115 (28.32) | .185 (4.70) | .140 (3.99) |
| **MDM-31S*** | 1.335 (33.91) | .952 (24.18) | .950 (24.13) | .270 (6.86) | .308 (7.82) | 1.115 (28.32) | .253 (6.43) | .139 (3.96) |
| **MDM-37P*** | 1.485 (37.72) | 1.034 (26.26) | 1.100 (27.94) | .270 (6.86) | .308 (7.82) | 1.265 (32.13) | .185 (4.70) | .161 (4.59) |
| **MDM-37S*** | 1.485 (37.72) | 1.102 (27.99) | 1.100 (27.94) | .270 (6.86) | .308 (7.82) | 1.265 (32.13) | .253 (6.43) | .160 (4.56) |
| **MDM-51P*** | 1.435 (36.45) | .984 (24.99) | 1.050 (26.67) | .310 (7.87) | .351 (8.92) | 1.215 (30.86) | .228 (5.79) | .193 (5.50) |
| **MDM-51S*** | 1.435 (36.45) | 1.052 (26.72) | 1.050 (26.67) | .310 (7.87) | .351 (8.92) | 1.215 (30.86) | .296 (7.52) | .188 (5.35) |
| **MDM-100P*** | 2.170 (55.12) | 1.384 (35.15) | 1.442 (36.63) | .360 (9.14) | .394 (10.01) | 1.800 (45.72) | .271 (6.88) | .500 (14.3) |
| **MDM-100S*** | 2.170 (55.12) | 1.508 (38.10) | 1.442 (36.63) | .360 (9.14) | .394 (10.01) | 1.800 (45.72) | .394 (10.01) | 1.040 (29.5) |

*Add lead type and length; see How To Order. ***Weight given is 1/2", uninsulated, solid, #25 AWG gold plated copper pigtails.

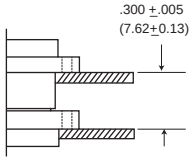
## Panel Mounting Dimensions (Sizes 9 - 100)




**Plug and Receptacle Rear Mounted**




**Plug and Receptacle Front Mounted**




**Plug Front Mounted Receptacle Rear Mounted**

## Panel Cutouts

NOTE: See page 237 for rear panel mounting configuration.

**Shell Sizes 9 thru 51**

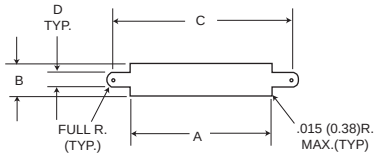



**Figure 1**
**Front Mounting**

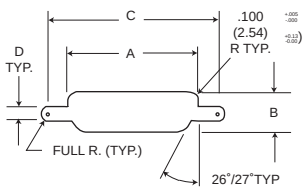



**Figure 2**
**Rear Mounting**

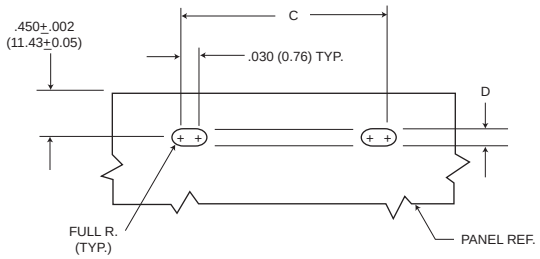



**Figure 3**
**Edgeboard Mounting**

**Shell Size 100**

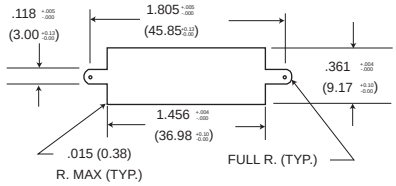



**Figure 1**
**Front Mounting**

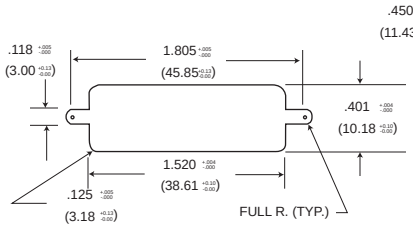



**Figure 2**
**Rear Mounting**

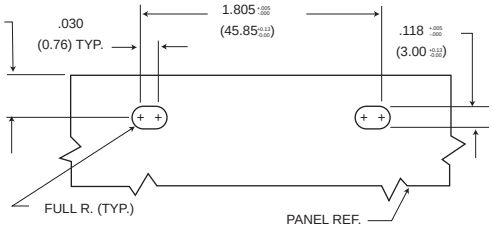



**Figure 3**
**Edgeboard Mounting**

### For 9-51 Shell Sizes

**NOTES:**

1. Front mounting (figure 1) and rear mounting (figure 2) accommodates #2-56 screws
2. Front mounting is preferred. However, when rear mounting is necessary, use figure 2 dimensions when jackscrews are used. See detail on page 24 when jackpost are used.
3. Edgeboard mounting bracket (figure 3) uses #2-56 screws. Dimension .450±.002 (11.43±0.05) locates the MDM receptacle flush with the end of the board.

### For 100 Shell Size

**NOTES:**

1. Front mounting (figure 1) and rear mounting (figure 2) accommodates #4-40 screws.
2. Edgeboard mounting bracket (figure 3) uses #4-40 screws. Dimension .450±.002 (11.43±0.05) locates the MDM receptacle flush with the end of the board.
3. Front mounting is prefered. However, when rear mounting is necessary, use figure 2 dimensions.

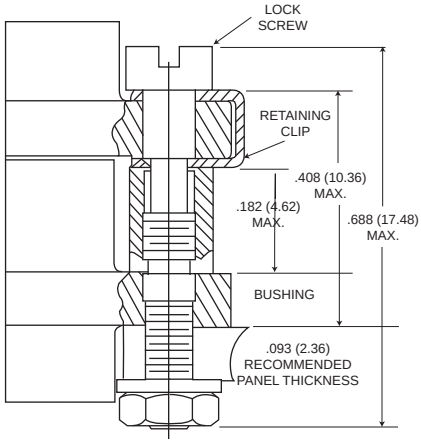
| Shell Size | Cutout Figure | A +.004 (0.10) -.000 (0.00) | B +.004 (0.10) -.000 (0.00) | C +.005 (0.13) -.000 (0.00) | D +.005 (0.13) -.000 (0.00) |
|---|---|---|---|---|---|
| 9 | 1 | .408 (10.36) | .271 (6.88) | .570 (14.48) | .089 (2.26) |
| | 2 | .401 (10.19) | .252 (6.40) | .570 (14.48) | .089 (2.26) |
| | 3 | - | - | .570 (14.48) | .089 (2.26) |
| 15 | 1 | .558 (14.17) | .271 (6.88) | .720 (18.29) | .089 (2.26) |
| | 2 | .551 (14.00) | .252 (6.40) | .720 (18.29) | .089 (2.26) |
| | 3 | - | - | .720 (18.29) | .089 (2.26) |
| 21 | 1 | .708 (17.98) | .271 (6.88) | .870 (22.10) | .089 (2.26) |
| | 2 | .701 (17.81) | .252 (6.40) | .870 (22.10) | .089 (2.26) |
| | 3 | - | - | .870 (22.10) | .089 (2.26) |
| 25 | 1 | .808 (20.52) | .271 (6.88) | .970 (24.64) | .089 (2.26) |
| | 2 | .801 (20.34) | .252 (6.40) | .970 (24.64) | .089 (2.26) |
| | 3 | - | - | .970 (24.64) | .089 (2.26) |
| 31 | 1 | .958 (24.33) | .271 (6.88) | 1.120 (28.45) | .089 (2.26) |
| | 2 | .951 (24.16) | .252 (6.40) | 1.120 (28.45) | .089 (2.26) |
| | 3 | - | - | 1.120 (28.48) | .089 (2.26) |
| 37 | 1 | 1.108 (28.14) | .271 (6.88) | 1.270 (32.26) | .089 (2.26) |
| | 2 | 1.101 (27.97) | .252 (6.40) | 1.270 (32.26) | .089 (2.26) |
| | 3 | - | - | 1.270 (32.26) | .089 (2.26) |
| 51 | 1 | 1.058 (26.87) | .315 (8.00) | 1.220 (30.99) | .089 (2.26) |
| | 2 | 1.051 (26.70) | .295 (7.49) | 1.220 (30.99) | .089 (2.26) |
| | 3 | - | | 1.220 (30.99) | .089 (2.26) |

## Mouting Hardware Views (for sizes 9-51)

This hardware supplied unassembled.

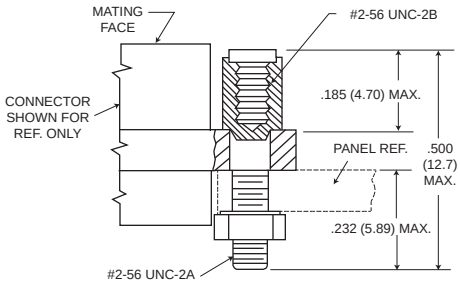
**Screw Lock Assembly**

**90˚ Angle Mounting Bracket**

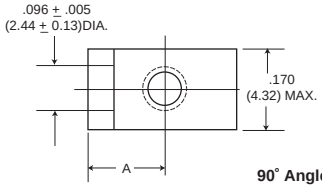


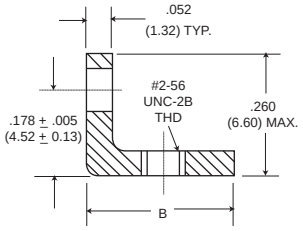

**Screw Lock Assembly***

*NOTE Torque value is 2.5 in/lbs max.




**Jackpost - (P)**



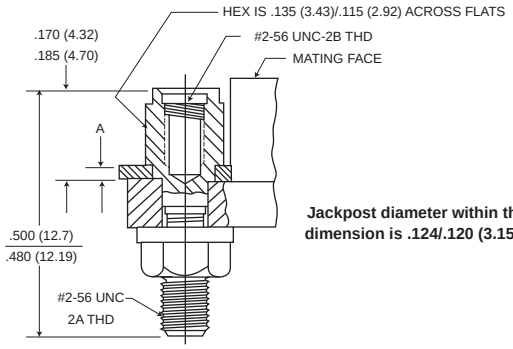




**90˚ Angle Mounting Bracket**

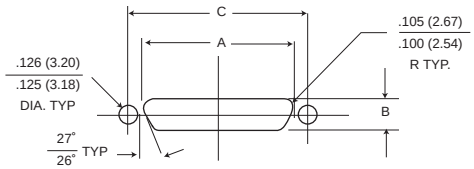
| Description | Part Number | A ±.005 (±0.13) | B Max. |
|---|---|---|---|
| Screw Lock Assembly | 322-9500-000 | N/A | |
| Jackpost kit | 320-9505-000 | N/A | |
| Mounting Bracket 90˚ MDM for 9 thru 37 Shell Sizes | 015-9516-002 | .147 (3.73) | .308 (7.82) |
| Mounting Bracket 90˚ MDM fo 51 Shell Size | 015-9516-003 | .169 (4.29) | .350 (8.89) |

NOTES: Screw lock assembly (322-9500-000) can be used for front mounting only. Jackpot kit (320-9505-000) consists of two assmblies, shipped unassmbled.

## Jackpost Bushing (for rear panel mounting-for sizes 9-51)




**Jackpost diameter within the "A" dimension is .124/.120 (3.15/3.05).**




| Panel A Thickness | A +.005 (0.13) -.000 (0.00) | Jackpost Kit Number* |
|---|---|---|
| 3/32 (2.4) | .087 (2.21) | 320-9505-007 |
| 1/16 (1.6) | .056 (1.42) | 320-9505-006 |
| 3/64 (1.2) | .042 (1.07) | 320-9505-005 |
| 1/32 (0.8) | .025 (0.64) | 320-9505-004 |

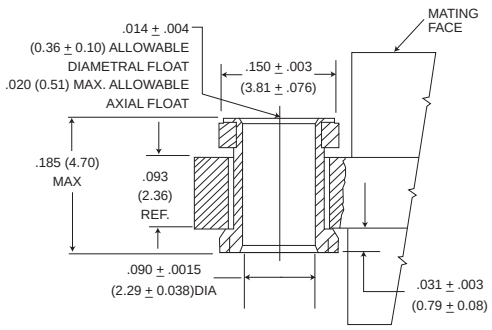
*A kit consists of 2 jackpost, 2 nuts, 2 washers.

**Plug and Recptacle Dimensions**

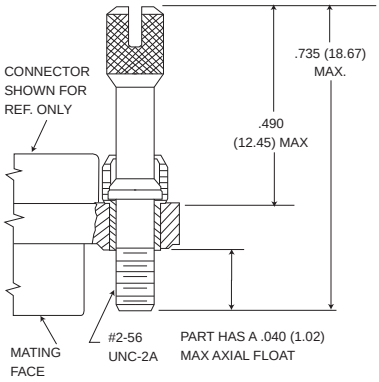
| Shell Size | A +.004 (0.10) -.000 (0.00) | B +.004 (0.10) -.000 (0.00) | C ±.005 (0.13) |
|---|---|---|---|
| 9 | .401 (10.19) | .252 (6.40) | .565 (14.35) |
| 15 | .551 (14.00) | .252 (6.40) | .715 (18.16) |
| 21 | .701 (17.81) | .252 (6.40) | .865 (21.97) |
| 25 | .801 (20.34) | .252 (6.40) | .965 (24.51) |
| 31 | .951 (24.16) | .252 (6.40) | 1.115 (28.34) |
| 37 | 1.101 (27.97) | .252 (6.40) | 1.265 (32.13) |
| 51 | 1.051 (26.70) | .295 (7.49) | 1.215 (30.86) |

## Mounting Hardware Views (sizes 9-51)

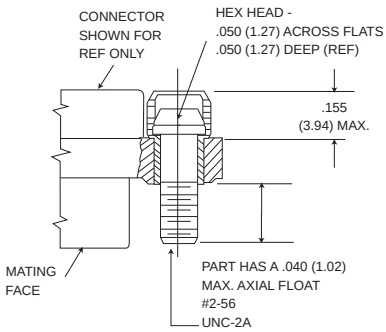
This hardware is factory installed.




**Float Mount - (F)**




**Jackscrew - (K) Standard**




**Jackscrew - (L) Low Profile**

Shown here is a cutaway view of the float mount for the MD connector. The basic shell dimensions are the same for the float mount and the screw mounting hole configurations. Veiw shown is for standard float mount front panel mounting. Reverse mounting is available on request.

* NOTE: Torque vales are as follows:
Low Profile Jackscrew (L)-2.5 in/lbs
Standard Jackscrew (K)-2.5 in/lbs

Repair kit available-consult factory.

## Mounting Hardware to Military Specification (for sizes 9 - 100) per MIL-C-83513/5

This hardware supplied in kits unassembled (2 pieces of each item).

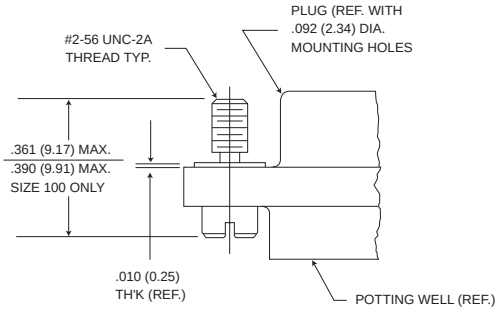
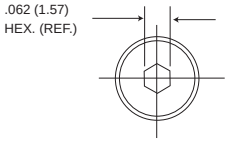



**Figure 1. Jackscrew - Low profile**
**Slotted Head**
**Size 9-51**
**Size 100***




**Allen head**
**Optional Head Configuration**
**Plug and Receptacle**
**Low and High Profile**
**Size 9-51**
**Size 100* (same dimensions)**

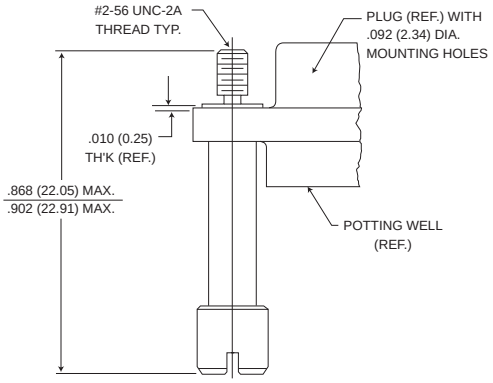



**Figure 2. Jackscrew - High Profile**
**Slotted Head**
**Size 9-51**
**Size 100***

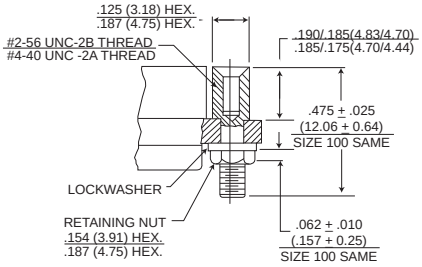



**Figure 3. Jackpost Assembly**
**Size 9-51**
**Size 100***

To order hardware kits separately, order either by M83513/5-** or by 320-950X-XXX.

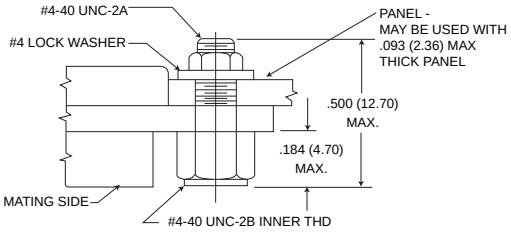
| Description | Size 9-51 Mod Code Part Number | ** | Size 100* Mod Code Part Number | ** |
|---|---|---|---|---|
| Slotted Head Jackscrew Assy Low Profile (Figure 1) | M5 320-9508-025 | 05 | M15 320-9508-021 | 15 |
| Slotted Head Jackscrew Assy Low Profile (Figure 2) | M6 320-9508-027 | 06 | M16 320-9508-023 | 16 |
| Allen Head Jackscrew Assy Low Profile (Figure 1) | M2 320-9508-026 | 02 | M12 320-9508-022 | 12 |
| Allen Head Jackscrew Assy High Profile (Figure 2) | M3 320-9508-028 | 03 | M13 320-9508-024 | 13 |
| Jackpost Assy (Figure 3) | M7 320-9505-033 | 07 | M17 320-9505-030 | 17 |

*Size 100 requires B1 size mounting holes.

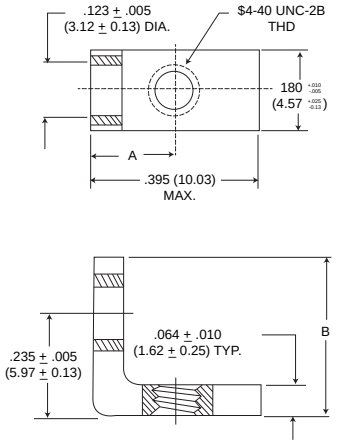
## Mounting Hardware Views (for size 100)

This hardware supplied unassembled.

**90˚Angle Mounting Bracket**



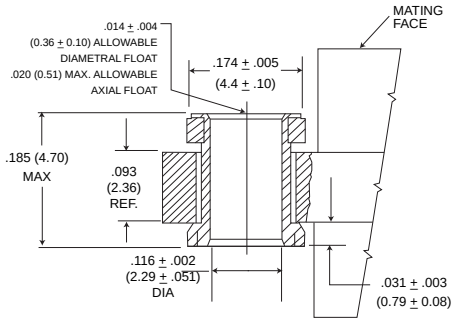

**Jackpost - (P)**



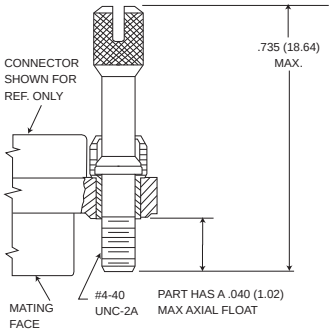

**90˚ Angle Mounting Bracket**

| Description | Part Number | A ± .005 (0.13) | B Max. |
|---|---|---|---|
| Jackpost kit | 320-9505-015 | N/A | |
| Mounting Bracket 90˚ MDM | 015-9528-000 | .191 (4.85) | .370 (9.40) |

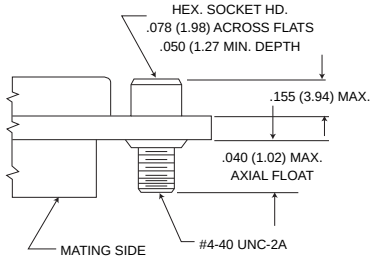
This hardware is factory installed.




**Float Mount - (F) Std.**




**Jackscrew - (K) Standard**



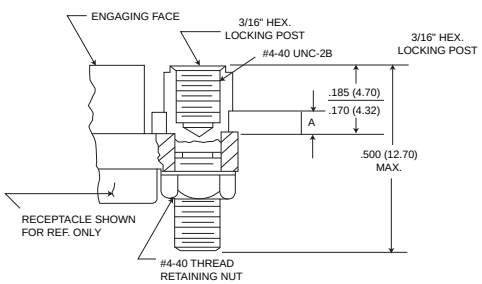

**Jackscrew - (L) (Low Profile)**

*NOTE: Torque vales are as follows:
Low Profile Jackscrew (L)-4.0 in/lbs
Standard Jackscrew (K)-4.0 in/lbs

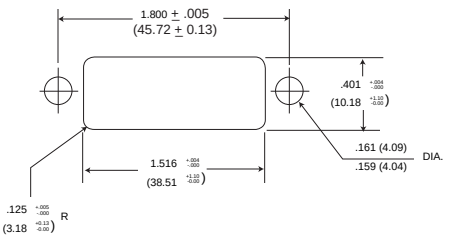
## Jackpost Bushing (for Rear Panel Mounting)

| Panel Thickness | A +.005 (0.13) -.000 (0.00) | Jackpost Kit Number* |
|---|---|---|
| 3/32 (2.4) | .087 (2.21) | 320-9505-013 |
| 1/16 (1.6) | .058 (1.42) | 320-9505-012 |
| 1/32 (0.8) | .025 (0.64) | 320-9505-010 |
| 3/64 (1.2) | .042 (1.07) | 320-9505-011 |

*2 jackposts, 2 nuts, 2 washers




**Dimensions for Rear Panel Mounting**

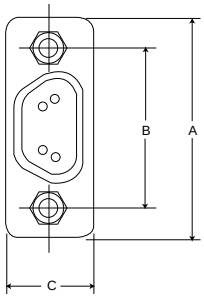


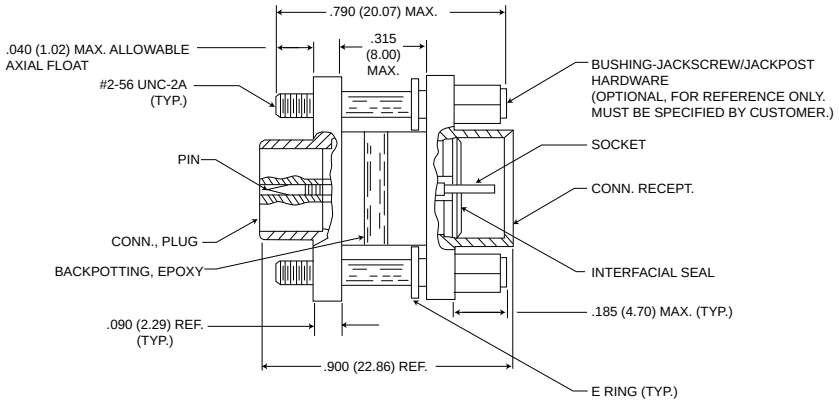
## Connector Saver

Save wear and tear on your equipment and systems connectors by using the "Connector Saver".

The multi-matings and unmatings experienced by most connectors during testing and final check out can be eliminated.

Simply mate the "Connectors Saver" to your unit and use the opposite side for your testing interface... less wear, less tear, less chansce of damage. It is available in all seven standard MDM layouts. Mating hardware is available and can be ordered either separately or included with the connector saver.




**MDM Size 9 Shown**

| Size | A174 Electroless Nickel With Hardware | A174 Electroless Nickel W/O Hardware | Cadmium Plated With Hardware | Cadmium Plated W/O Hardware | *Hadware Kits | A Max. | B ± .005 (0.13) | C Max. |
|---|---|---|---|---|---|---|---|---|
| 9 | **MDM98479-86** | **MDM98479-18** | **MDM98479-78** | **MDM-97294-371** | **320-9505-014**** | .785 (19.94) | .565 (14.35) | .308 (7.82) |
| 15 | **MDM98479-87** | **MDM98479-19** | **MDM98479-79** | **MDM-97294-372** | **320-9505-014**** | .935 (23.75) | .715 (18.16) | .308 (7.82) |
| 21 | **MDM98479-88** | **MDM98479-20** | **MDM98479-80** | **MDM-97294-373** | **320-9505-014**** | 1.085 (27.56) | .865 (21.97) | .308 (7.82) |
| 25 | **MDM98479-89** | **MDM98479-21** | **MDM98479-81** | **MDM-97294-374** | **320-9505-014**** | 1.185 (30.10) | .965 (24.51) | .308 (7.82) |
| 31 | **MDM98479-90** | **MDM98479-14** | **MDM98479-82** | **MDM-97294-375** | **320-9505-014**** | 1.335 (33.91) | 1.115 (28.32) | .308 (7.82) |
| 37 | **MDM98479-91** | **MDM98479-15** | **MDM98479-83** | **MDM-97294-376** | **320-9505-014**** | 1.485 (37.72) | 1.265 (32.13) | .308 (7.82) |
| 51 | **MDM98479-92** | **MDM98479-16** | **MDM98479-84** | **MDM-97294-377** | **320-9505-014**** | 1.435 (36.45) | 1.215 (30.86) | .351 (8.91) |
| 100 | **MDM98479-93** | **MDM98479-17** | **MDM98479-85** | **MDM-97294-717** | **320-9508-014***** | 2.170 (55.12) | 1.800 (45.72) | .394 (10.01) |

* Kit contains 2 bushings-jackpost/jackscrew and 2 E rings.
** Size 9-51-#2-56 UNC2B Thread
*** Size 100-#4-40 UNC2B Thread

## How to Order - ITT Cannon Part Number Nomenclature to MIL-C-83513 △1

MD** 01 - H100 - ** ****

**ITT CANNON SERIES**

MDM - Metal Shell, Liquid Crystal Polymer (LCP)
MDB - Diallyl Phthalate Insulator
MDVB - Polyester Insulator

**MIL-C-83513 SLASH SHEET**

01 - Plug, Connector, Solderpot
02 - Receptacle, Connector, Solderpot
03 - Plug, Connector, Crimp Type
04 - Receptacle, Connector, Crimp Type
} Metal Shell
05 - Hardware Only △7
06 - Plug, Connector, Solderpot
07 - Receptacle, Connector, Solderpot
08 - Plug, Connector, Crimp Type
09 - Receptacle, Connector, Crimp Type
} Plastic △5

**INSERT ARRANGEMENT**

| | | METAL SHELL | PLASTIC |
|---|---|---|---|
| A9 | - | 9 Contact | 9 Contact |
| B15 | - | 15 Contact | 15 Contact |
| C21 | - | 21 Contact | 21 Contact |
| D25 | - | 25 Contact | 25 Contact |
| E31 | - | 31 Contact | 31 Contact |
| F37 | - | 37 Contact | 37 Contact |
| G51 | - | 51 Contact | 51 Contact |
| H100 | - | 100 Contact | ——— △5 |

**WIRE TYPE**

No Number - For Solderpot
01 - 18" long, #26 AWG per MIL-W-22759/11-26-9
02 - 36" long, #26 AWG per MIL-W-22759/11-26-9
03 - 18" long, #26 AWG per MIL-W-22759/11-26 Color Coded per MIL-STD-681, System 1 △6
04 - 36" long, #26 AWG per MIL-W-22759/11-26- Color Coded per MIL-STD-681, System 1 △6
05 - .5" long. #25 AWG, type S per QQ-W-343, Gold Plated
06 - 1.0" long, #25 AWG, type S per QQ-W-343, Gold Plated
07 - .5" long, #25 AWG, type S per QQ-W-W-343, Tin Plated
08 - 1.0" long, #25 AWG, type S per QQ-W-343, Tin Plated
09 - 18" long, #26 AWG per MIL-W-22759/33-26-9 △3
10 - 36" long, #26 AWG per MIL-W-22759/33-26-9 △3
11 - 18" long, #26 AWG per MIL-W-22759/33-26 Color Coded per MIL-STD-681, System 1 △3 △6
12 - 36" long, #26 AWG per MIL-W-22759/33-26 Color Coded per MIL-STD-681, System 1 △3 △6
13 - 72" long, #26 AWG per MIL-W-22759/11-26-9
14 - 72" long, #26 AWG per MIL-W-22759/11-26 Color Coded per MIL-STD-681, System 1 △6
15 - 72" long, #26 AWG per MIL-W-22759/33-26-9 △3
16 - 72" long, #26 AWG per MIL-W-22759/33-26 Color Coded per MIL-STD-681, System 1 △3 △6

**SHELL FINISH**

No number - for plastic type connector
No number - for Cadmium
A174 - Electroless Nickel △3

**NOTES:**
(Specify when ordering, if necessary.)

△1 - For every Mil-Spec P/N, ITT has one corresponding part numbers. Example: ITT P/N's MDM01-A9

2 - Tolerance on wire lengths-18", 36" and 72" long, +1.00"/-0.00" .5" and 1.00" + .200"/-.000"

△3 - **For space application, connector shell finish must be "A174" and wire must be per MIL-W-22759/33-26.**

4 - Any deviations to these P/N's will result in assignment of a special P/N, consult factory.

△5 - No size 100 in plastic type connector.

△6 - Color coding in accordance with MIL-STD-681, System 1 except the appropriate color code is the individual contact cavity number minus 1 for contact positions.

△7 - For mounting hardware to Military Specification (sizes 9 to 100) see page 238.

**Qualification to slash sheets 10 thru 27 for the PCB connector will be announeced when completed.**

## How to Order - MIL-C-83513 Part Number Nomenclature △1

**M83513/ - 01 - A ** C**

**SERIES**
Connector, Electrical, Rectangular
Microminiature, Polarized Shell

**MIL-C-83513 SLASH SHEET**

| | | | |
|---|---|---|---|
| 01 | - | Plug, Connector, Solderpot | } Metal Shell |
| 02 | - | Receptacle, Connector, Solderpot | |
| 03 | - | Plug, Connector, Crimp Type | |
| 04 | - | Receptacle, Connector, Crimp Type | |
| 05 | - | Hardware Only △7 | |
| 06 | - | Plug, Connector, Solderpot | } Plastic △5 |
| 07 | - | Receptacle, Connector, Solderpot | |
| 08 | - | Plug, Connector, Crimp Type | |
| 09 | - | Receptacle, Connector, Crimp Type | |

**INSERT ARRANGEMENT**

| | | METAL SHELL | PLASTIC |
|---|---|---|---|
| A | - | 9 Contact | 9 Contact |
| B | - | 15 Contact | 15 Contact |
| C | - | 21 Contact | 21 Contact |
| D | - | 25 Contact | 25 Contact |
| E | - | 31 Contact | 31 Contact |
| F | - | 37 Contact | 37 Contact |
| G | - | 51 Contact | 51 Contact |
| H | - | 100 Contact | ——— △5 |

**WIRE TYPE**

No Number - For Solderpot

| | | | |
|---|---|---|---|
| 01 | - 18" | long, #26 AWG per MIL-W-22759/11-26-9 | |
| 02 | - 36" | long, #26 AWG per MIL-W-22759/11-26-9 | |
| 03 | - 18" | long, #26 AWG per MIL-W-22759/11-26 Color Coded per MIL-STD-681, System 1 | △6 |
| 04 | - 36" | long, #26 AWG per MIL-W-22759/11-26- Color Coded per MIL-STD-681, System 1 | △6 |
| 05 | - .5" | long. #25 AWG, type S per QQ-W-343, Gold Plated | |
| 06 | - 1.0" | long, #25 AWG, type S per QQ-W-343, Gold Plated | |
| 07 | - .5" | long, #25 AWG, type S per QQ-W-W-343, Tin Plated | |
| 08 | - 1.0" | long, #25 AWG, type S per QQ-W-343, Tin Plated | |
| 09 | - 18" | long, #26 AWG per MIL-W-22759/33-26-9 | △3 |
| 10 | - 36" | long, #26 AWG per MIL-W-22759/33-26-9 | △3 |
| 11 | - 18" | long, #26 AWG per MIL-W-22759/33-26 Color Coded per MIL-STD-681, System 1 | △3 △6 |
| 12 | - 36" | long, #26 AWG per MIL-W-22759/33-26 Color Coded per MIL-STD-681, System 1 | △3 △6 |
| 13 | - 72" | long, #26 AWG per MIL-W-22759/11-26-9 | |
| 14 | - 72" | long, #26 AWG per MIL-W-22759/11-26 Color Coded per MIL-STD-681, System 1 | △6 |
| 15 | - 72" | long, #26 AWG per MIL-W-22759/33-26-9 | △3 |
| 16 | - 72" | long, #26 AWG per MIL-W-22759/33-26 Color Coded per MIL-STD-681, System 1 | △3 △6 |

**SHELL FINISH**

No letter - for plastic type connector
C - Cadmium
N - Electroless Nickel △3

**NOTES:**
(Specify when ordering, if necessary.)

△1 - For every Mil-Spec P/N, ITT has one corresponding part numbers. Example: ITT P/N's MDM01-A9

2 - Tolerance on wire lengths-18", 36" and 72" long, +1.00"/-0.00" .5" and 1.00" + .200"/-.000"

△3 - **For space application, connector shell finish must be "N" and wire must be per MIL-W-22759/33-26.**

4 - Any deviations to these P/N's will result in assignment of a special P/N, consult factory.

△5 - No size 100 in plastic type connector.

△6 - Color coding in accordance with MIL-STD-681, System 1 except the appropriate color code is the individual contact cavity number minus 1 for contact positions.

△7 - For mounting hardware to Military Specification (sizes 9 to 100) see page 238.

**Qualification to slash sheets 10 thru 27 for the PCB connectors will be announced when completed.**

MDM-PCB connectors are designed for use with flex circuitry, flat cable and printed circuit boards or multi-layer boards. They use the standard MDM metal shell and provide high density and high reliability in board-to-board, board-to-cable and cable-to-cable applications.

MDM-PCB connectors are available in 8 shell sizes with 9 to 100 contacts. Terminations may be straight (BS) or at 90û (BR, CBR) board thickness. Jackpost mounting for use with locking hardware is also available.

## How to Order - MDM-PCB Series

MDM * - 25 P BS P - T L39 A174

- SERIES
- INSULATOR MATERIAL
- CONTACT ARRANGEMENT
- CONTACT TYPE
- TERMINATION TYPE
- MOUNTING HARDWARE (Shell Flange)
- MOUNTING HARDWARE FOR PCB
- TERMINATION TAIL LENGTH MODIFICATION CODE
- SHELL FINISH MODIFICATION CODES

**SERIES**
MDM - Microm "D" Metal Shell

**INSULATOR MATERIAL**
Liquid Crystal Polymer (LCP)

**CONTACT ARRANGEMENT**
9, 15, 21, 25, 31, 37, 51, and 100
Size 100 not available in "BR"

**CONTACT TYPE**
P - Pin (Plug)
S - Socket (Receptacle)

**TERMINATION TYPE**
BS - Straight PCB Termination
BR - 90û PCB Termination
CBR - 90û Narrow Profile PCB Terminations

**MOUNTING HARDWARE (Shell Flange)**
P - Jackposts
M7 - Jackposts
M83513/5-07 (Sizes 9-51)
M17 - Jackposts
M83513/5-17 (Size 100)
No letter - none

**NOTE:** Back molding material - Epoxy Hysol #MG40FS

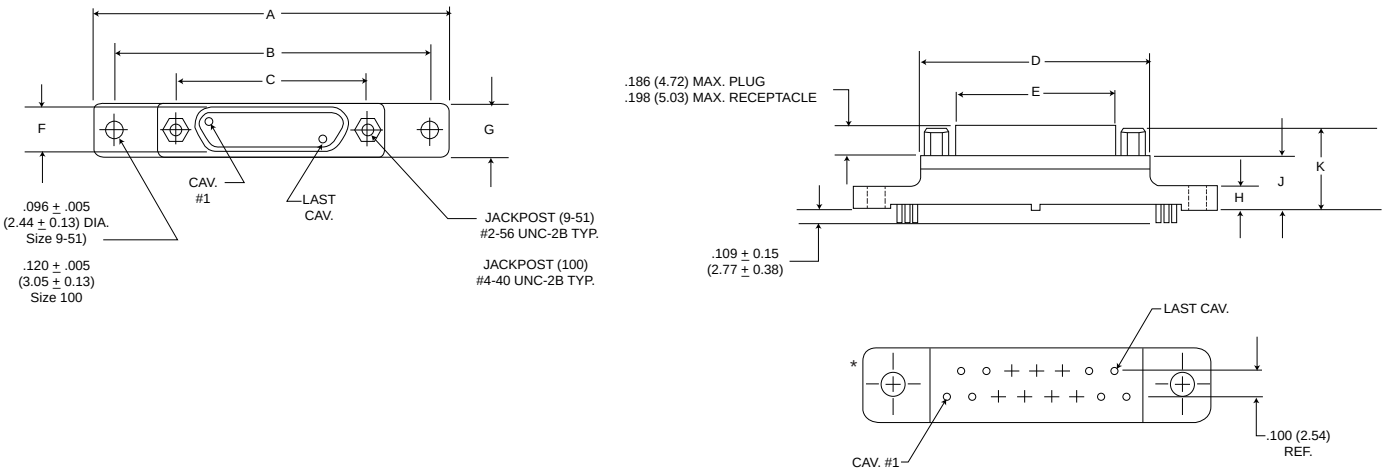
**MOUNTING HARDWARE FOR PCB**
T - Threaded Insert
#2-56 Thd for Shell Sizes 9 thru 51
#4-40 Thd for Shell Size 100
No letter - none

**TERMINATION TAIL LENGTH MODIFICATION CODE**
None - .109 (2.77) ±.015 (0.38) Standard
L61 - .125 (3.18)
L56 - .150 (3.81)
L57 - .190 (4.83)
L39 - .250 (6.35)
L58 - .375 (9.52)

**SHELL FINISH MODIFICATION CODES**
None - Yellow Chromate/Cadmium over Nickel
A174 - Electroless Nickel
A172 - Gold over Nickel
A141 - Irridite/Alodine
A30 - Black Anodize

(For special modification codes, consult factory.)

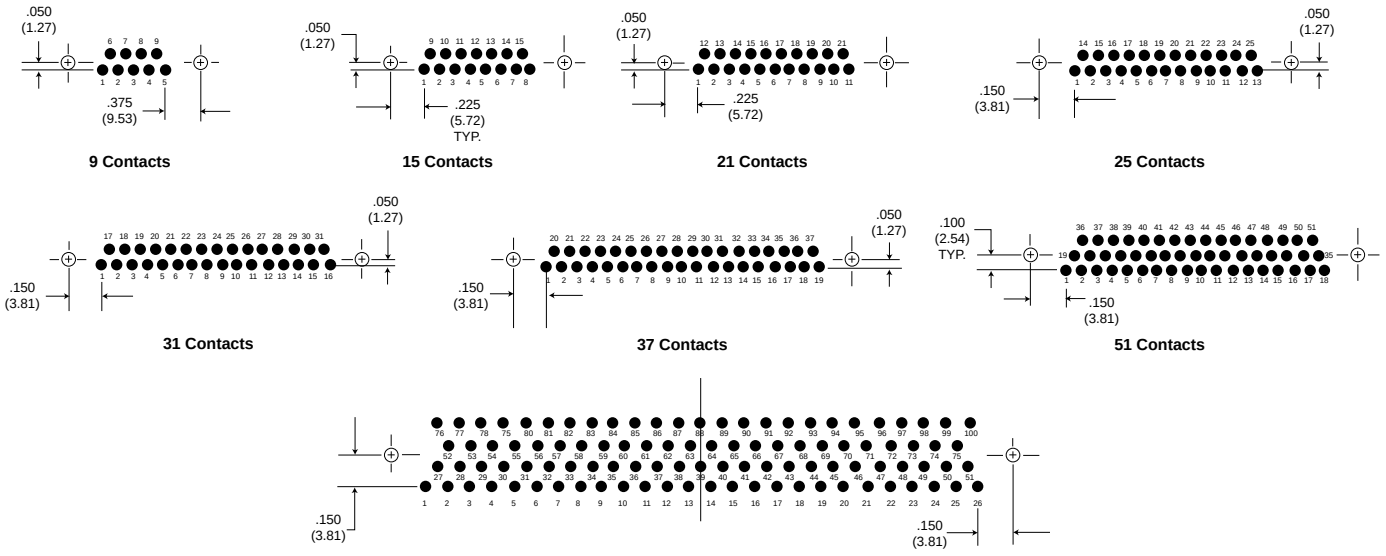
## BS (Board Straight) Series




### PCB Termination Arrangements* (Viewed from PCB solder side)

Identification number shown for plug connector, use reverse order for socket connector.

NOTE: Dimensions shown are for reference only-consult factory for final design dimensions.




**9 Contacts** **15 Contacts** **21 Contacts** **25 Contacts**

**31 Contacts** **37 Contacts** **51 Contacts**

**100 Contacts**

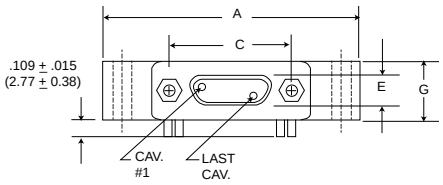
**NOTE:** Standard lead termination is #24 AWG, solid copper, solder or tin dipped

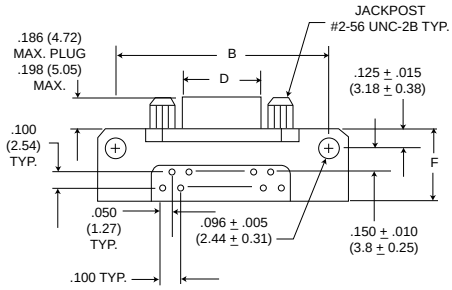
All Termination Configurations .100 (2.54) x .100 (2.54) Grid Pattern, Offset .050 (1.27)

| Part Number<br>By Shell Size | A<br>Max. | B<br>±.007 (.018) | C<br>±.005 (.013) | D<br>Max. | E<br>Max. | F<br>Max. | G<br>Max. | H<br>Max. | J<br>Max. | K<br>Max. |
|---|---|---|---|---|---|---|---|---|---|---|
| **MDM-9PBS*** | 1.390 (35.31) | 1.150 (29.21) | .565 (14.35) | .785 (19.94) | .334 (8.48) | .185 (4.70) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-9SBS*** | 1.390 (35.31) | 1.150 (29.21) | .565 (14.35) | .785 (19.94) | .402 (10.21) | .253 (6.43) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-15PBS*** | 1.390 (35.31) | 1.150 (29.21) | .715 (18.16) | .935 (23.75) | .484 (12.29) | .185 (4.70) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-15SBS*** | 1.390 (35.31) | 1.150 (29.21) | .715 (18.16) | .935 (23.75) | .552 (13.97) | .253 (6.43) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-21PBS*** | 1.690 (43.93) | 1.450 (36.83) | .865 (21.97) | 1.085 (27.56) | .634 (16.10) | .185 (4.70) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-21SBS*** | 1.690 (43.93) | 1.450 (36.83) | .865 (21.97) | 1.085 (27.56) | .702 (17.83) | .253 (6.43) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-25PBS** | 1.740 (44.20) | 1.500 (38.10) | .965 (24.51) | 1.185 (30.10) | .734 (18.64) | .185 (4.70) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-25SBS*** | 1.740 (44.20) | 1.500 (38.10) | .965 (24.51) | 1.185 (30.10) | .802 (20.37) | .253 (6.43) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-31PBS*** | 2.040 (51.82) | 1.800 (45.72) | 1.115 (28.32) | 1.335 (33.91) | .884 (22.45) | .185 (4.70) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-31SBS*** | 2.040 (51.82) | 1.800 (45.72) | 1.115 (28.32) | 1.335 (33.91) | .952 (24.18) | .253 (6.43) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-37PBS*** | 2.340 (59.44) | 2.100 (53.34) | 1.265 (32.13) | 1.485 (37.72) | 1.034 (26.26) | .185 (4.70) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-37SBS*** | 2.340 (59.44) | 2.100 (53.34) | 1.265 (32.13) | 1.485 (37.72) | 1.102 (27.99) | .253 (6.43) | .308 (7.82) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-51PBS*** | 2.270 (67.66) | 2.000 (50.80) | 1.215 (30.86) | 1.435 (36.45) | .984 (24.99) | .228 (5.79) | .351 (8.92) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-51SBS*** | 2.270 (67.66) | 2.000 (50.80) | 1.215 (30.86) | 1.435 (36.45) | 1.052 (26.72) | .296 (7.52) | .351 (8.92) | .165 (4.19) | .355 (9.02) | .555 (14.10) |
| **MDM-100PBS*** | 3.070 (77.98) | 2.800 (71.12) | 1.800 (45.72) | 2.175 (55.24) | 1.384 (35.15) | .271 (6.88) | .460 (11.68) | .303 (7.70) | .550 (12.70) | .686 (17.42) |
| **MDM-100SBS*** | 3.070 (77.98) | 2.800 (71.12) | 1.800 (45.72) | 2.175 (55.24) | 1.508 (38.30) | .394 (10.01) | .460 (11.68) | .303 (7.70) | .550 (12.70) | .686 (17.75) |

*For jackpost, add letter "P" or "M7" for sizes 9-51, "M17" for size 100.

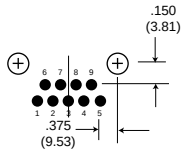
## BR (Board Right Angle) Series



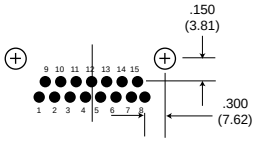




**PCB Termination Arrangements (Viewed from bottom of connector, PCB solder side.)**

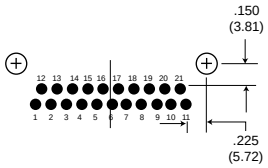
Identification number shown for plug connector, use reverse order for socket connector.



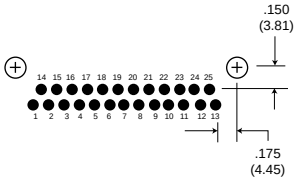

**9 Contacts**



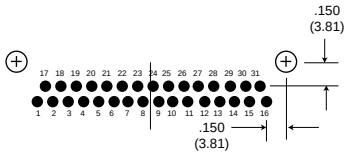

**15 Contacts**



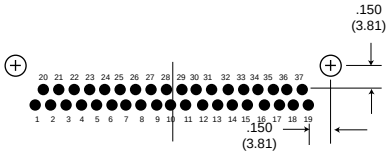

**21 Contacts**



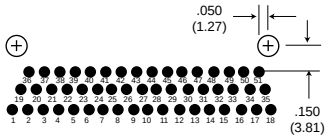

**25 Contacts**




**31 Contacts**




**37 Contacts**




**51 Contacts**

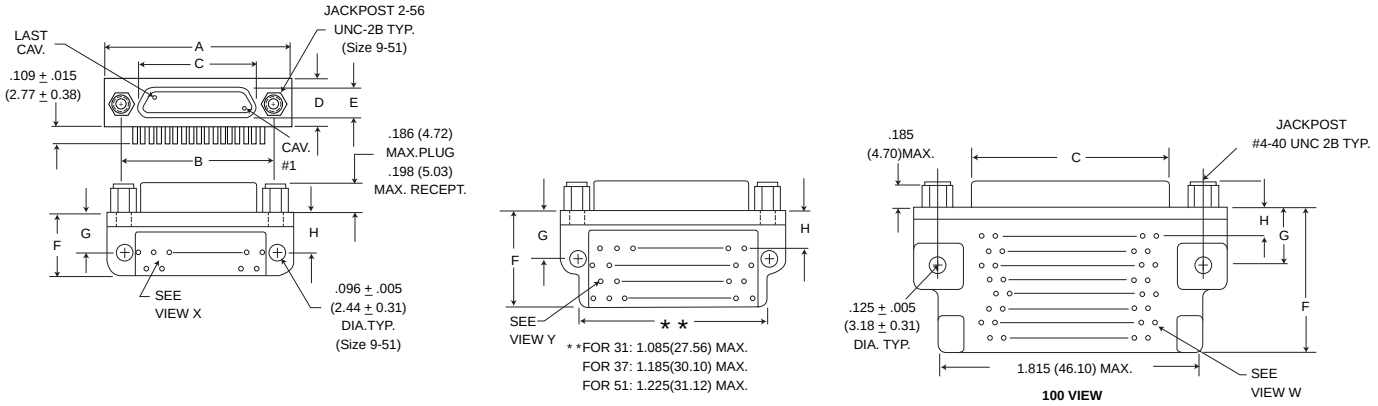
NOTE: Standard lead termination is #24 AWG, gold plated, solid copper, solder or tin dripped.

All Termination Configurations .100 (2.54) x .100 (2.54) Grid Pattern, Offset .050 (1.27).

| Part Number By Shell Size | A Max. | B ± .007 (.018) | C ± .005 (.013) | D Max. | E Max. | F Max. | G Max. |
|---|---|---|---|---|---|---|---|
| **MDM-9PBR*** | 1.390 (35.31) | 1.150 (29.21) | .565 (14.35) | .334 (8.48) | .185 (4.70) | .455 (11.56) | .308 (7.82) |
| **MDM-9SBR*** | 1.390 (35.31) | 1.150 (29.21) | .565 (14.35) | .402 (10.21) | .253 (6.43) | .455 (11.56) | .308 (7.82) |
| **MDM-15PBR*** | 1.540 (39.12) | 1.300 (33.02) | .715 (18.16) | .484 (12.29) | .185 (4.70) | .455 (11.56) | .308 (7.82) |
| **MDM-15SBR*** | 1.540 (39.12) | 1.300 (33.02) | .715 (18.16) | .552 (13.97) | .253 (6.43) | .455 (11.56) | .308 (7.82) |
| **MDM-21PBR*** | 1.690 (42.93) | 1.450 (36.83) | .865 (21.97) | .634 (16.10) | .185 (4.70) | .455 (11.56) | .308 (7.82) |
| **MDM-21SBR*** | 1.690 (42.93) | 1.450 (36.83) | .865 (21.97) | .702 (17.83) | .253 (6.43) | .455 (11.56) | .308 (7.82) |
| **MDM-25PBR*** | 1.790 (45.47) | 1.550 (39.37) | .965 (24.51) | .734 (18.64) | .185 (4.70) | .455 (11.56) | .308 (7.82) |
| **MDM-25SBR*** | 1.790 (45.47) | 1.550 (39.37) | .965 (24.51) | .802 (20.37) | .253 (6.43) | .455 (11.56) | .308 (7.82) |
| **MDM-31PBR*** | 2.040 (51.82) | 1.800 (45.72) | 1.115 (28.32) | .884 (22.45) | .185 (4.70) | .455 (11.56) | .308 (7.82) |
| **MDM-31SBR*** | 2.040 (51.52) | 1.800 (45.72) | 1.115 (28.32) | .952 (24.18) | .253 (6.43) | .455 (11.56) | .308 (7.82) |
| **MDM-37PBR*** | 2.340 (59.44) | 2.100 (53.34) | 1.265 (32.13) | 1.034 (26.26) | .185 (4.70) | .455 (11.56) | .308 (7.82) |
| **MDM-37SBR*** | 2.340 (59.44) | 2.100 (53.34) | 1.265 (32.13) | 1.102 (27.99) | .253 (6.43) | .455 (11.56) | .308 (7.82) |
| **MDM-51PBR*** | 1.875 (47.63) | 1.600 (40.64) | 1.215 (30.86) | .984 (24.99) | .228 (5.79) | .565 (14.35) | .351 (8.92) |
| **MDM-51SBR*** | 1.875 (47.63) | 1.600 (40.64) | 1.215 (30.86) | 1.052 (26.72) | .296 (7.52) | .565 (14.35) | .351 (8.92) |

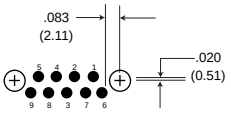
*For jackpost, add letter "P" or "M7" for sizes 9-51, "M17" for size 100.

## CBR (Condensed Board Right Angle) Series

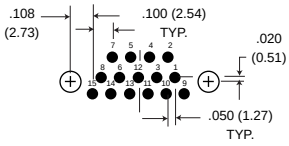



**PCB Termination Arrangements (Viewed from bottom of connector, PCB solder side.)**

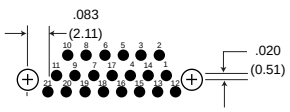
Identification number shown for plug connector, use reverse order for socket connector.



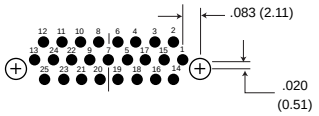

**9 Contacts**
**View X**



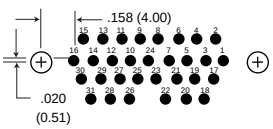

**15 Contacts**
**View X**



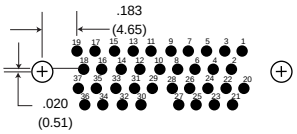

**21 Contacts**
**View X**



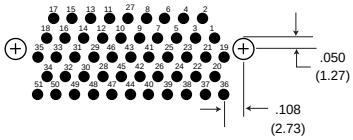

**25 Contacts**
**View X**



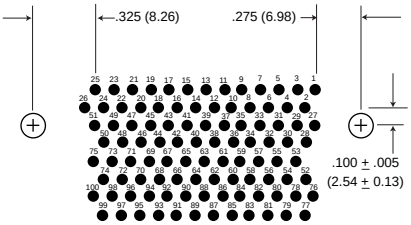

**31 Contacts**
**View Y**




**37 Contacts**
**View Y**




**51 Contacts**
**View Y**



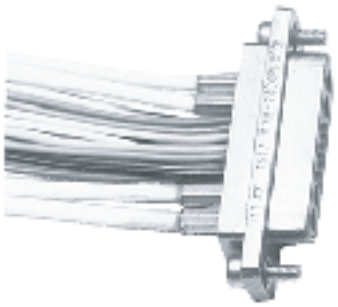

**100 Contacts**
**View W**

All Termination Configurations .100 (2.54) x .100 (2.54) Grid Pattern, Offset .050 (1.27).

NOTE: Standard lead termination is #24 AWG, solid copper, solder or tin dripped.

| Part Number By Shell Size | A Max. | B ± .005 (.013) | C Max. | D Max. | E Max. | F Max. | G ± .010 (.025) | H ± .010 (.025) |
|---|---|---|---|---|---|---|---|---|
| **MDM-9PCBR*** | .785 (19.94) | .565 (14.35) | .334 (8.48) | .308 (7.82) | .185 (4.70) | .420 (10.67) | .250 (6.35) | .230 (5.81) |
| **MDM-9SCBR*** | .785 (19.94) | .565 (14.35) | .402 (10.21) | .308 (7.82) | .253 (6.43) | .420 (10.67) | .250 (6.35) | .230 (5.81) |
| **MDM-15PCBR*** | .935 (23.75) | .715 (18.16) | .484 (12.29) | .308 (7.82) | .185 (4.70) | .420 (10.67) | .250 (6.35) | .130 (3.30) |
| **MDM-15SCBR*** | .935 (23.75) | .715 (18.16) | .552 (13.97) | .308 (7.82) | .253 (6.43) | .420 (10.67) | .250 (6.35) | .130 (3.30) |
| **MDM-21PCBR*** | 1.085 (27.56) | .865 (21.97) | .634 (16.10) | .308 (7.82) | .185 (4.70) | .420 (10.67) | .250 (6.35) | .130 (3.30) |
| **MDM-21SCBR*** | 1.085 (27.56) | .865 (21.97) | .702 (17.83) | .308 (7.82) | .253 (6.43) | .420 (10.67) | .250 (6.35) | .130 (3.30) |
| **MDM-25PCBR*** | 1.185 (30.10) | .965 (24.51) | .734 (18.64) | .308 (7.82) | .184 (4.70) | .420 (10.67) | .250 (6.35) | .130 (3.30) |
| **MDM-25SCBR*** | 1.185 (30.10) | .965 (24.51) | .802 (20.37) | .308 (7.82) | .253 (6.43) | .420 (10.67) | .250 (6.35) | .130 (3.30) |
| **MDM-31PCBR*** | 1.335 (33.91) | 1.115 (28.32) | .884 (22.45) | .308 (7.82) | .185 (4.70) | .520 (13.21) | .250 (6.35) | .130 (3.30) |
| **MDM-31SCBR*** | 1.335 (33.91) | 1.115 (28.32) | .952 (24.18) | .308 (7.82) | .253 (6.43) | .520 (13.21) | .250 (6.35) | .130 (3.30) |
| **MDM-37PCBR*** | 1.485 (37.72) | 1.265 (32.13) | 1.034 (26.26) | .308 (7.82) | .185 (4.70) | .520 (13.21) | .250 (6.35) | .130 (3.30) |
| **MDM-37SCBR*** | 1.485 (37.72) | 1.265 (32.13) | 1.102 (27.99) | .308 (7.82) | .253 (6.43) | .520 (13.21) | .250 (6.35) | .130 (3.30) |
| **MDM-51PCBR*** | 1.435 (36.45) | 1.215 (30.86) | .984 (24.99) | .351 (8.92) | .228 (5.79) | .650 (16.15) | .300 (7.62) | .150 (3.81) |
| **MDM-51SCBR*** | 1.435 (36.45) | 1.215 (30.86) | 1.052 (26.72) | .351 (8.92) | .296 (7.52) | .650 (16.15) | .300 (7.62) | .150 (3.81) |
| **MDM-100PCBR*** | 2.170 (55.12) | 1.800 (45.72) | 1.384 (35.15) | .394 (10.01) | .271 (6.88) | 1.000 (25.40) | .400 (10.16) | .200 (5.08) |
| **MDM-100SCBR*** | 2.170 (55.12) | 1.800 (45.72) | 1.508 (38.10) | .394 (10.01) | .394 (10.01) | 1.000 (25.40) | .400 (10.16) | .200 (5.08) |

*For jackpost, add letter "P" or "M7" for sizes 9-51, "M17" for size 100.



**MDM Coaxial**

The MDM Metal Shell Connectors have been tooled in several coaxial layouts and offer the versatility of combining coaxial and signal lines in the same connector. Any modifications to these layouts or new requirements, please consult the factory. For ordering information see page 232. For contact layouts see page 233. Standard coax is RG178 white.

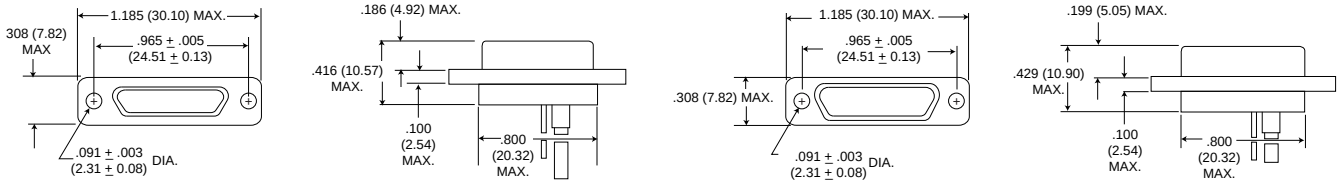
**MDM Power**

The same insulator that is used with coaxial contacts is available with power contacts. This offers the versatility of combining power and signal lines in the same connector.

**MDM Coaxial/Power**

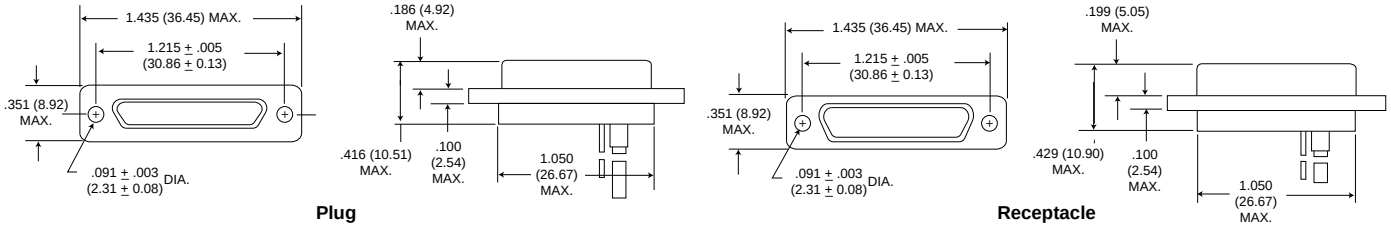
Power and coaxial contacts can be interchanged as desired. Power contacts are rated at 13 amps, 24V rms, AWG #16 stranded.

**7C2/7P2**



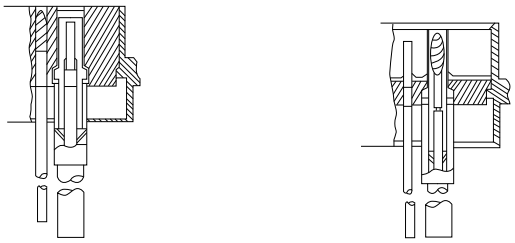

**Plug** **Receptacle**

**24C4/24P4**



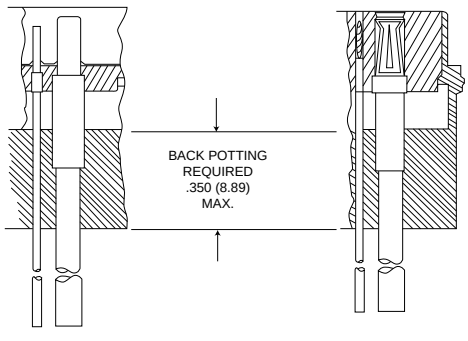

**Plug** **Receptacle**

## Coaxial Contacts



**Plug** **Receptacle**

## Power Contacts




**Receptacle** **Plug**

**Microminiature Rectangular Connectors with MICRO-Pin Contacts on .050 (1.27) centers.**

MICRO-D microminature rack/panel connectors are used in applications requiring highly reliable, extremely small, lightweight connectors.

These connectors are available in 2 insulator materials, 2 mounting variations, 7 shell sizes accommodating from 9 to 51 contacts and a special arrangement of 5 micro contacts and 2 coaxials. The insulator materials listed give the MICRO-D connector wide versatility in most applications required by industry.

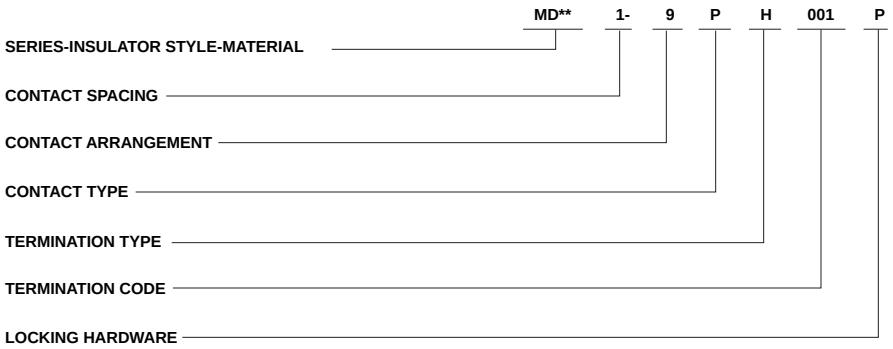
ITT Cannon can also terminate a wide variety of stranded or solid wire directly to MICRO-D contacts, which is often desirable in high density arrangements.

MICRO-D connectors can also be custom harnessed to meet any customer requirement of single or multiple connectors. Pigtail lead and harness description must be given by the customer. A typical description would be: .5" #25 AWG, gold plated copper leads or 18" of #26 yellow, Teflon-insulated, Type E wire. Shown below are various methods of termination. Consult the factory for any routine or complex harnessing of MICRO-D connectors.

- Glass-filled diallyl phthalate-a thermoset material used in high termperature applications that is immune to cleaning solvents. It also has excellent dielectric properties. Temperature range: -65˚F to +300˚F (--55˚C to +149˚C).
- Glass-filled polyester-a- thermoplastic that is not affected by cleaning solvents and exhibits excellent dielectric properties. Temperature range: -55˚F to +257˚F (-65˚C to +125˚C).

## How to Order

**PCB ordering information - page 242**




**SERIES-INSULATOR STYLE-MATERIAL**

MD - Clip mounting -Diallyl phthalate
MDB - Screw mounting-Diallyl phthalate
MDV - Clip mounting-Polyester
MDVB - Screw mounting-Polyester

**CONTACT SPACING**

1 - .050 (1.27) centers

**CONTACT ARRANGEMENT**

9-15-21-25-31*-37-51. See page 233.

**CONTACT TYPE**

P - Pin
S - Socket

**TERMINATION TYPE**

H - Insulated solid or stranded wire
L - Uninsulated solid wire
S - Solder pot to accept #26 AWG max. harness wire.

**TERMINATION CODE****

(H) 001 - 18", 7/34 strand, #26 AWG, MIL-W-16878/4, Type E Teflon, Yellow.
(H) 003 - 18", 7/34 strand, #26 AWG, MIL-W-16878/4, Type E Teflon, color coded to MIL-STD-681 System I.
(L) 1 - 1/2" uninsulated solid #25 AWG gold plated copper.
(L) 2 - 1" uninsulated solid #25 AWG gold plated copper.

**LOCKING HARDWARE (SCREW MOUNTING ONLY)**

P - Jackpost
K - Jackscrew-standard
L - Jackscrew-low profile
F - Float mount
M - Military specification hardware, see page 237.

No designator - No hardware - standard mounting .091 (2.31) hole diameter

* Not available in clip mounting.
** See table below for additional codes.

## Standard Wire Termination Codes

For lengths not shown, consult factory for proper modification code. All wire lengths are minimum.

**Harness Type (H)**
#26 AWG per MIL-W-16878 Type E Teflon, stranded.

| Length | All Yellow | Color Coded* |
|---|---|---|
| 3 (76.2) | H020 | H027 |
| 6 (152.4) | H019 | H016 |
| 8 (203.2) | H026 | H034 |
| 10 (254.0) | H029 | H025 |
| 12 (304.8) | H028 | H002 |
| 18 (457.2) | H001 | H003 |
| 20 (508.0) | H038 | H023 |
| 24 (609.6) | H009 | H004 |
| 30 (762.0) | H010 | H005 |
| 36 (914.4) | H011 | H006 |
| 48 (1219.2) | H013 | H048 |
| 72 (1828.8) | H017 | H046 |
| 120 (3048.0) | H042 | H041 |

* Cavity #1 black

**Solid Uninsulated Type (L)**
#25 AWG Gold Plated Copper

| Termination Code | Length |
|---|---|
| L61 | .125 (3.18) |
| L56 | .150 (3.81) |
| L57 | .190 (4.83) |
| L39 | .250 (6.35) |
| L58 | .375 (9.52) |
| L1 | .500 (12.70) |
| L14 | .750 (19.05) |
| L2 | 1.000 (25.40) |
| L7 | 1.500 (38.10) |
| L6 | 2.000 (50.80) |
| L16 | 2.500 (63.50) |
| L10 | 3.000 (76.20) |