

# Rack and Panel Connectors Military, MIL-C-28748/7/8 Qualified and Commercial Microminiature Rectangular



## FEATURES

- Qualified to MIL-C-28748/7/8
- Solder cup contacts
- Dip solder contacts
- Fixed and turnable screwlocks
- Optional closed entry socket contacts

## APPLICATIONS

Especially suited for use in airborne, instrumentation and portable equipment applications or wherever the following requirements must be met: Minimum space and weight without sacrifice of performance, high quality materials, long service life, high vibration and shock resistance and positive locking.

## ELECTRICAL SPECIFICATIONS

**Current Rating:** Model MM22 = 5 A

Model MM24 = 3 A

**Breakdown Voltage:** At sea level: 2000 V<sub>RMS</sub>

At 70 000 feet: 500 V<sub>RMS</sub>

## MATERIAL SPECIFICATIONS

**Contact Pin:** Phosphor bronze

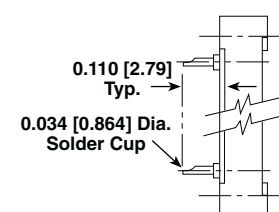
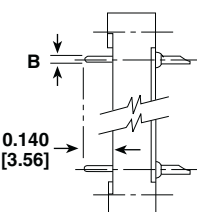
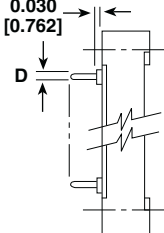
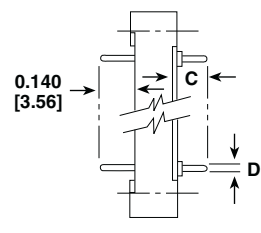
**Contact Socket:** Phosphor bronze (Beryllium copper available on request)

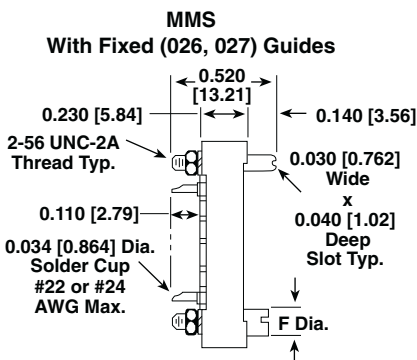
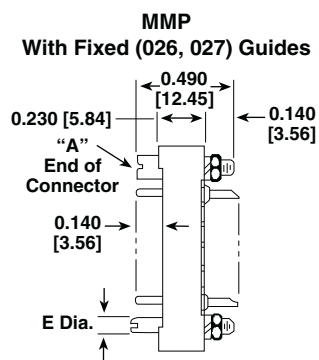
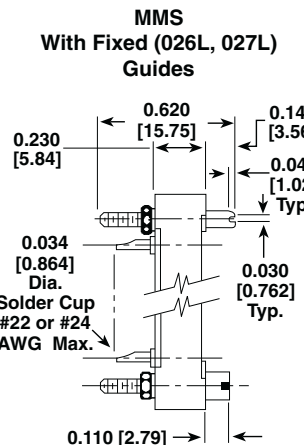
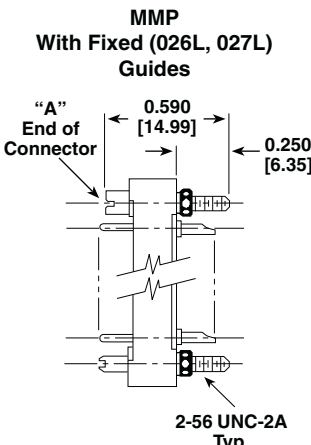
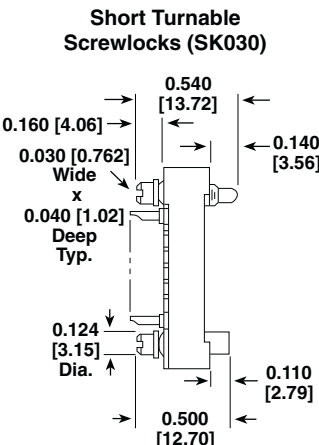
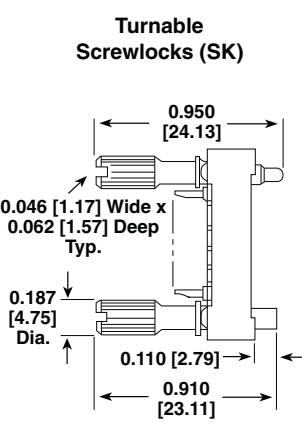
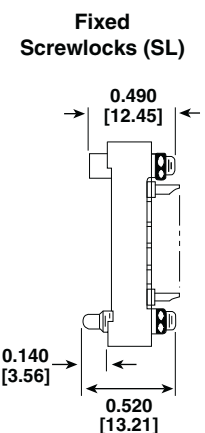
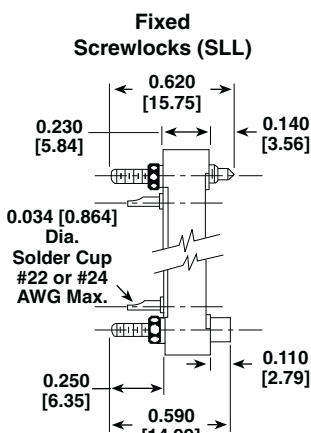
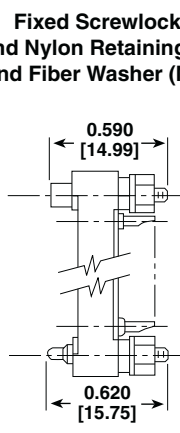
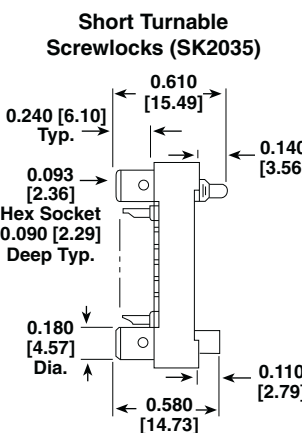
**Contact Plating:** Gold

**Screwlocks:** Stainless steel, passivated

**Guides:** Brass, gold plated or stainless steel, passivated

**Standard Body:** Glass-filled diallyl phthalate per MIL-M-14, Model SDG-F, green

| DIMENSIONS in inches [millimeters]                                                                                            |                                  |                                                                                                                                  |                                       |                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>MMS</b><br>With Solder Cup Contacts<br> |                                  | <b>MMP</b><br>With Solder Cup Contacts<br>    |                                       | <b>MMDS</b><br>With Dip Solder Contacts<br> |
|                                                                                                                               |                                  | <b>MMDP</b><br>With Dip Solder Contacts<br> |                                       |                                                                                                                                 |
| CONTACT GAUGE                                                                                                                 | B DIAMETER                       | CONTACT GAUGE                                                                                                                    | C DIP TAIL LENGTH                     | D DIAMETER                                                                                                                      |
| 22 AWG                                                                                                                        | 0.030 ± 0.001<br>[0.762 ± 0.025] | 22 AWG                                                                                                                           | 0.160 or 0.350<br>[4.06 or 8.89] nom. | 0.025<br>[0.635]                                                                                                                |
| 24 AWG                                                                                                                        | 0.025 ± 0.001<br>[0.635 ± 0.025] | 24 AWG                                                                                                                           | 0.160 or 0.350<br>[4.06 or 8.89] nom. | 0.025<br>[0.635]                                                                                                                |

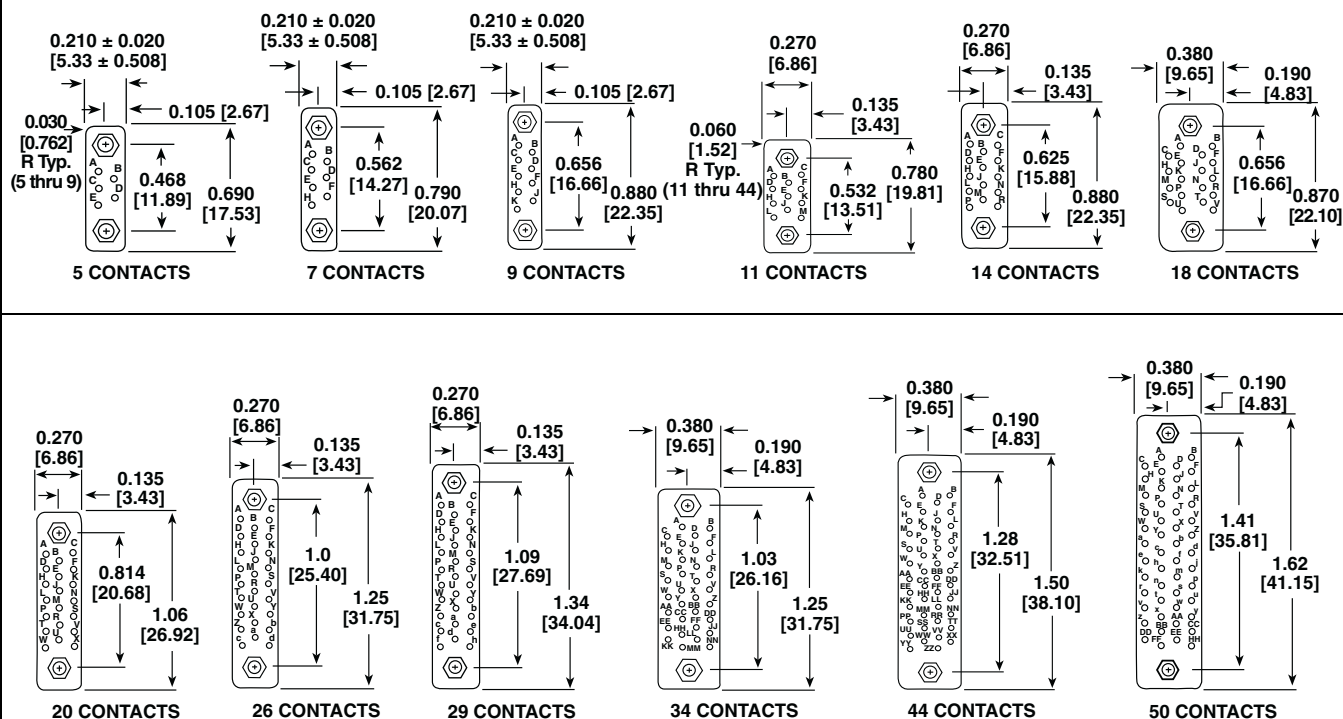
| DIMENSIONS in inches [millimeters]                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                   |                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
|  <p><b>MMS</b><br/>With Fixed (026, 027) Guides</p> <p>0.230 [5.84]<br/>2-56 UNC-2A Thread Typ.</p> <p>0.110 [2.79]<br/>0.034 [0.864] Dia. Solder Cup #22 or #24 AWG Max.</p> <p>0.520 [13.21]<br/>0.140 [3.56]<br/>0.030 [0.762] Wide x 0.040 [1.02] Deep Slot Typ.</p> <p>F Dia.</p> |  <p><b>MMP</b><br/>With Fixed (026, 027) Guides</p> <p>0.230 [5.84]<br/>"A" End of Connector</p> <p>0.490 [12.45]<br/>0.140 [3.56]</p> <p>E Dia.</p>                                                        | <b>HARDWARE TYPE</b>                                                                                                                                                                                                                                                                                   | <b>E DIAMETER</b>                                                                                                                                                                                                                                                                                                 | <b>F DIAMETER</b> |
|                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                              | 026                                                                                                                                                                                                                                                                                                    | 0.078 [1.98]                                                                                                                                                                                                                                                                                                      | 0.125 [3.17]      |
|                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                              | 026L                                                                                                                                                                                                                                                                                                   | 0.078 [1.98]                                                                                                                                                                                                                                                                                                      | 0.125 [3.17]      |
|                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                              | 027                                                                                                                                                                                                                                                                                                    | 0.078 [1.98]                                                                                                                                                                                                                                                                                                      | 0.125 [3.17]      |
|                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                              | 027L                                                                                                                                                                                                                                                                                                   | 0.078 [1.98]                                                                                                                                                                                                                                                                                                      | 0.125 [3.17]      |
|  <p><b>MMS</b><br/>With Fixed (026L, 027L) Guides</p> <p>0.230 [5.84]<br/>0.620 [15.75]<br/>0.140 [3.56]<br/>0.040 [1.02] Typ.</p> <p>0.034 [0.864] Dia. Solder Cup #22 or #24 AWG Max.</p> <p>0.030 [0.762] Typ.</p> <p>0.110 [2.79]</p>                                             |  <p><b>MMP</b><br/>With Fixed (026L, 027L) Guides</p> <p>"A" End of Connector</p> <p>0.590 [14.99]<br/>0.250 [6.35]</p> <p>2-56 UNC-2A Typ.</p>                                                            |  <p><b>Short Turnable Screwlocks (SK030)</b></p> <p>0.160 [4.06]<br/>0.030 [0.762] Wide x 0.040 [1.02] Deep Typ.</p> <p>0.540 [13.72]<br/>0.140 [3.56]<br/>0.124 [3.15] Dia.<br/>0.500 [12.70]<br/>0.110 [2.79]</p> |  <p><b>Turnable Screwlocks (SK)</b></p> <p>0.950 [24.13]<br/>0.046 [1.17] Wide x 0.062 [1.57] Deep Typ.</p> <p>0.187 [4.75] Dia.<br/>0.110 [2.79]<br/>0.910 [23.11]</p>                                                       |                   |
|  <p><b>Fixed Screwlocks (SL)</b></p> <p>0.490 [12.45]<br/>0.140 [3.56]<br/>0.520 [13.21]</p>                                                                                                                                                                                         |  <p><b>Fixed Screwlocks (SLL)</b></p> <p>0.620 [15.75]<br/>0.230 [5.84]<br/>0.140 [3.56]<br/>0.034 [0.864] Dia. Solder Cup #22 or #24 AWG Max.</p> <p>0.250 [6.35]<br/>0.590 [14.99]<br/>0.110 [2.79]</p> |  <p><b>Fixed Screwlocks And Nylon Retaining Nut And Fiber Washer (NSL)</b></p> <p>0.590 [14.99]<br/>0.620 [15.75]</p>                                                                                              |  <p><b>Short Turnable Screwlocks (SK2035)</b></p> <p>0.240 [6.10] Typ.<br/>0.610 [15.49]<br/>0.140 [3.56]<br/>0.093 [2.36] Hex Socket 0.090 [2.29] Deep Typ.</p> <p>0.180 [4.57] Dia.<br/>0.580 [14.73]<br/>0.110 [2.79]</p> |                   |

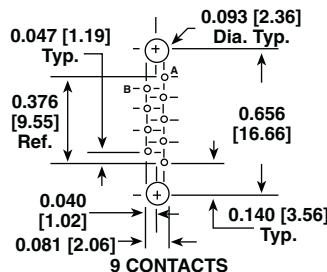
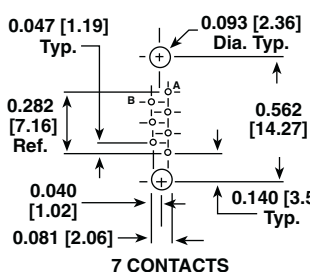
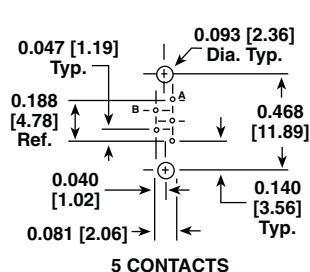
**HARDWARE MATING CHART**

| HARDWARE MODEL | MATES WITH HARDWARE MODEL | <p><b>NOTE:</b><br/>EITHER MMP OR MMS CONNECTORS MAY BE ORDERED WITH ANY TYPE OF HARDWARE SHOWN.</p> <p><b>EXAMPLES:</b><br/>1. MMP WITH 026 HARDWARE WOULD MATE WITH AN MMS WITH 026 HARDWARE.<br/>2. MMS WITH SK HARDWARE WOULD MATE WITH AN MMP WITH SL OR NSL HARDWARE.<br/>3. MMS WITH SL2 HARDWARE WOULD MATE WITH AN MMP WITH SK2 OR SK2030 HARDWARE.</p> |
|----------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 026            | 026, 026L                 |                                                                                                                                                                                                                                                                                                                                                                  |
| 027            | 027, 027L                 |                                                                                                                                                                                                                                                                                                                                                                  |
| SK             | SL, NSL or SLL            |                                                                                                                                                                                                                                                                                                                                                                  |
| SK030          | SL, NSL or SLL            |                                                                                                                                                                                                                                                                                                                                                                  |
| SK2            | SL2, NSL2 or SL2L         |                                                                                                                                                                                                                                                                                                                                                                  |
| SK2030         | SL2, NSL2 or SL2L         |                                                                                                                                                                                                                                                                                                                                                                  |
| SK2035         | SL2, NSL2 or SL2L         |                                                                                                                                                                                                                                                                                                                                                                  |

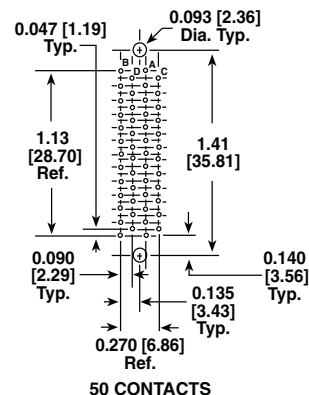
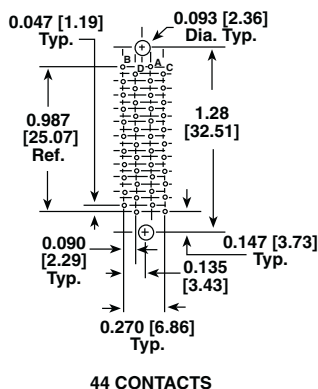
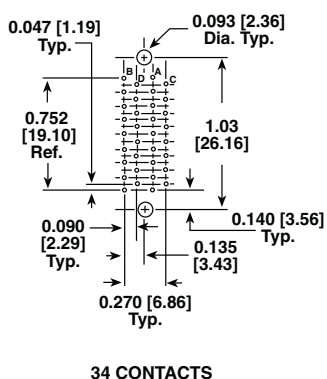
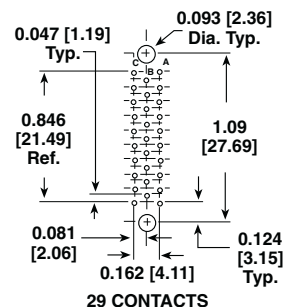
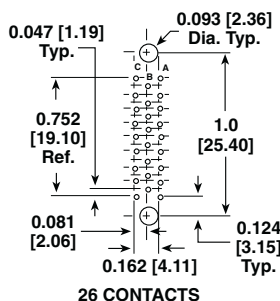
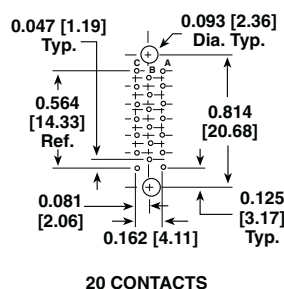
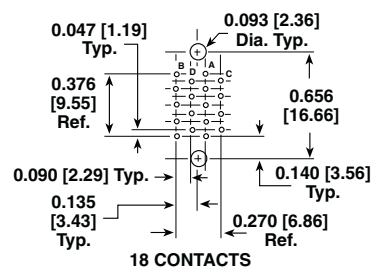
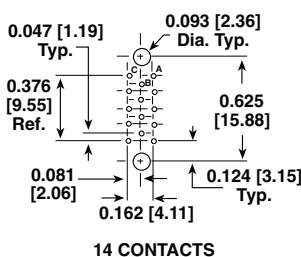
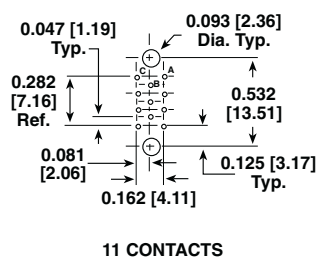
**DIMENSIONS** in inches [millimeters]

**NOTE:** The views below show the wiring side of a pin model connector (female is opposite). Socket hardware assembled at "A" contact end of a pin model connector.



**MOUNTING VARIATIONS** in inches [millimeters]

**DIP SOLDER PC BOARD MOUNTING PATTERNS**

Male (MMP) connector shown - female is opposite. Contact, contact row and mating hole  $C_L$  to  $C_L$ . Dimensions also applies to solder cup style connectors.

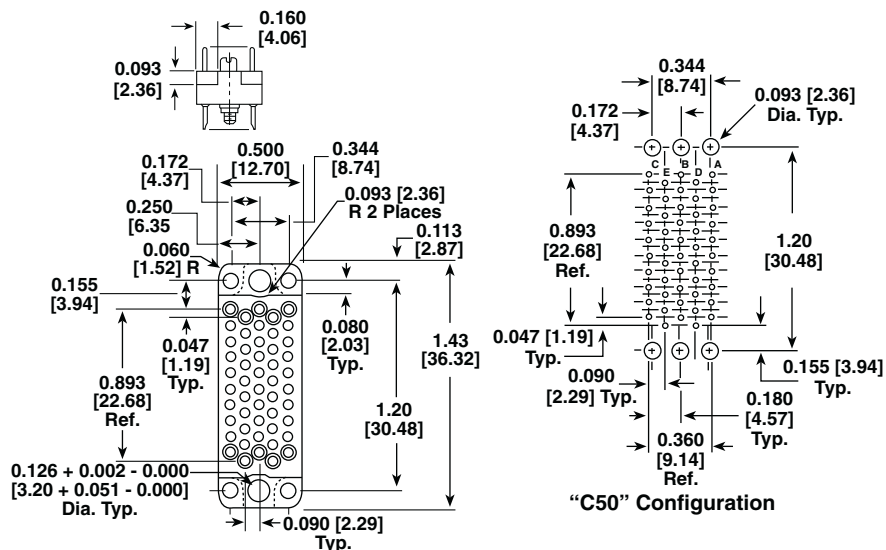


**PANEL CUTOUT** in inches [millimeters]

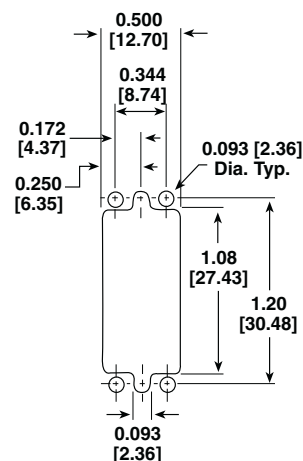
|  | NUMBER OF CONTACTS | A               | B                | C                | NUMBER OF CONTACTS | A               | B                | C                |
|--|--------------------|-----------------|------------------|------------------|--------------------|-----------------|------------------|------------------|
|  | 5                  | 0.210<br>[5.33] | 0.468<br>[11.89] | 0.340<br>[8.64]  | 20                 | 0.270<br>[6.86] | 0.814<br>[20.68] | 0.690<br>[17.53] |
|  | 7                  | 0.210<br>[5.33] | 0.562<br>[14.27] | 0.440<br>[11.18] | 26                 | 0.270<br>[6.86] | 1.0<br>[25.40]   | 0.870<br>[22.10] |
|  | 9                  | 0.210<br>[5.33] | 0.656<br>[16.66] | 0.530<br>[13.46] | 29                 | 0.270<br>[6.86] | 1.09<br>[27.69]  | 0.970<br>[24.64] |
|  | 11                 | 0.270<br>[6.86] | 0.532<br>[13.51] | 0.410<br>[10.41] | 34                 | 0.380<br>[9.65] | 1.03<br>[26.16]  | 0.910<br>[23.11] |
|  | 14                 | 0.270<br>[6.86] | 0.625<br>[15.88] | 0.500<br>[12.70] | 44                 | 0.380<br>[9.65] | 1.28<br>[32.51]  | 1.16<br>[29.46]  |
|  | 18                 | 0.380<br>[9.65] | 0.656<br>[16.66] | 0.530<br>[13.46] | 50                 | 0.380<br>[9.65] | 1.41<br>[35.81]  | 1.28<br>[32.51]  |

**DIMENSIONS** in inches [millimeters]

**NOTE:** The views below show the wiring side of a pin model connector (socket style is opposite). Socket hardware is assembled at "A" contact end of pin connector.


**PANEL CUTOUT**

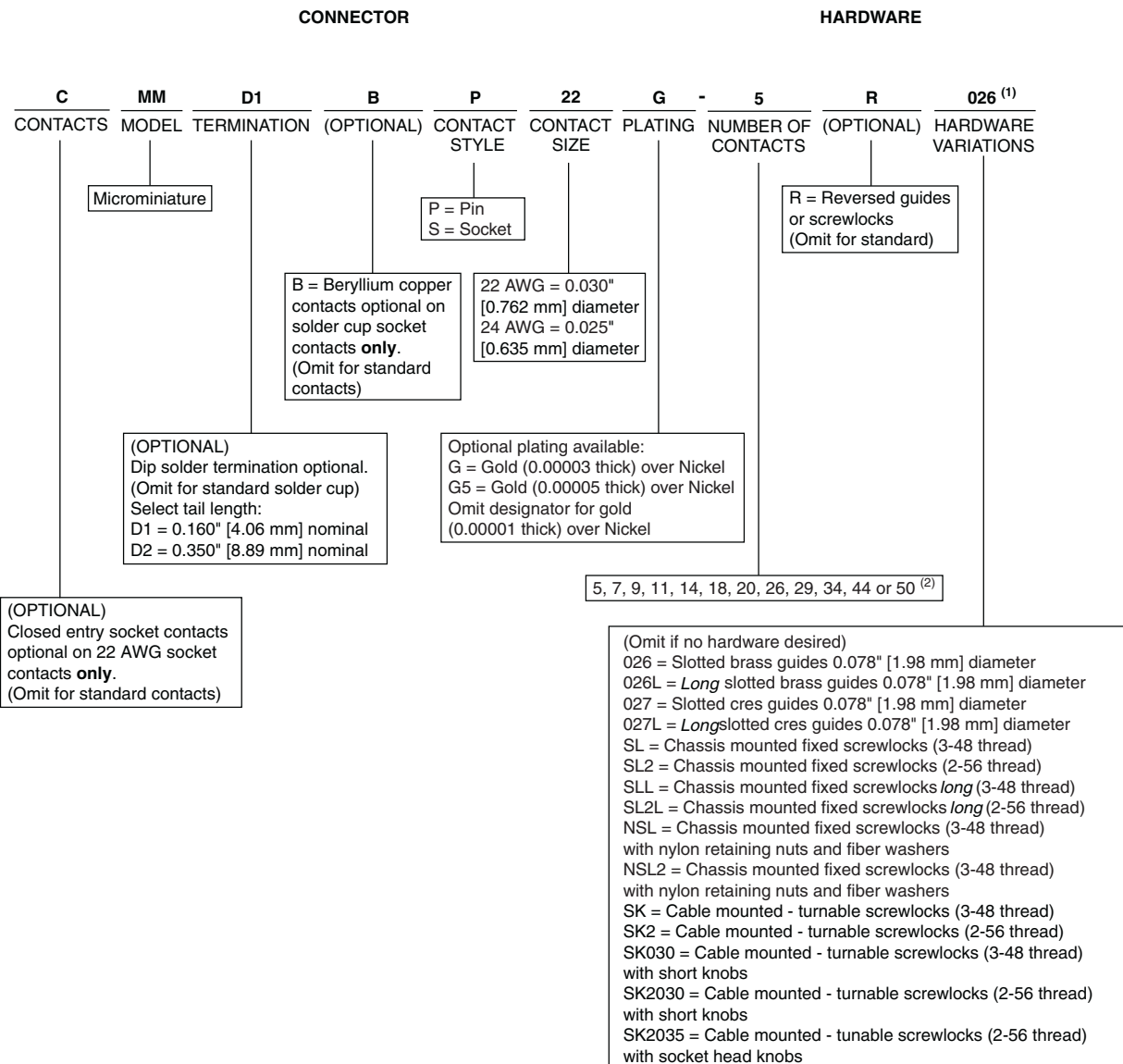
in inches [millimeters]


**DIP SOLDER PC BOARD MOUNTING PATTERNS**

Male (MMP) connector shown - female is opposite. Contact, contact row and mating hole  $C_L$  to  $C_L$  dimensions also applies to solder cup style connectors.



## ORDERING INFORMATION



## Notes

- (1) To order complete connector with hardware supplied unassembled, add suffix "UA" on end of hardware designation.
- (2) 50 contact connectors are available in either the standard 4-row contact arrangement per MIL-C-28748 or a special 5-row contact arrangement. To order the special 5-row contact arrangement, use the designator "C50" for the number of contacts.



## Disclaimer

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