



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



## 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

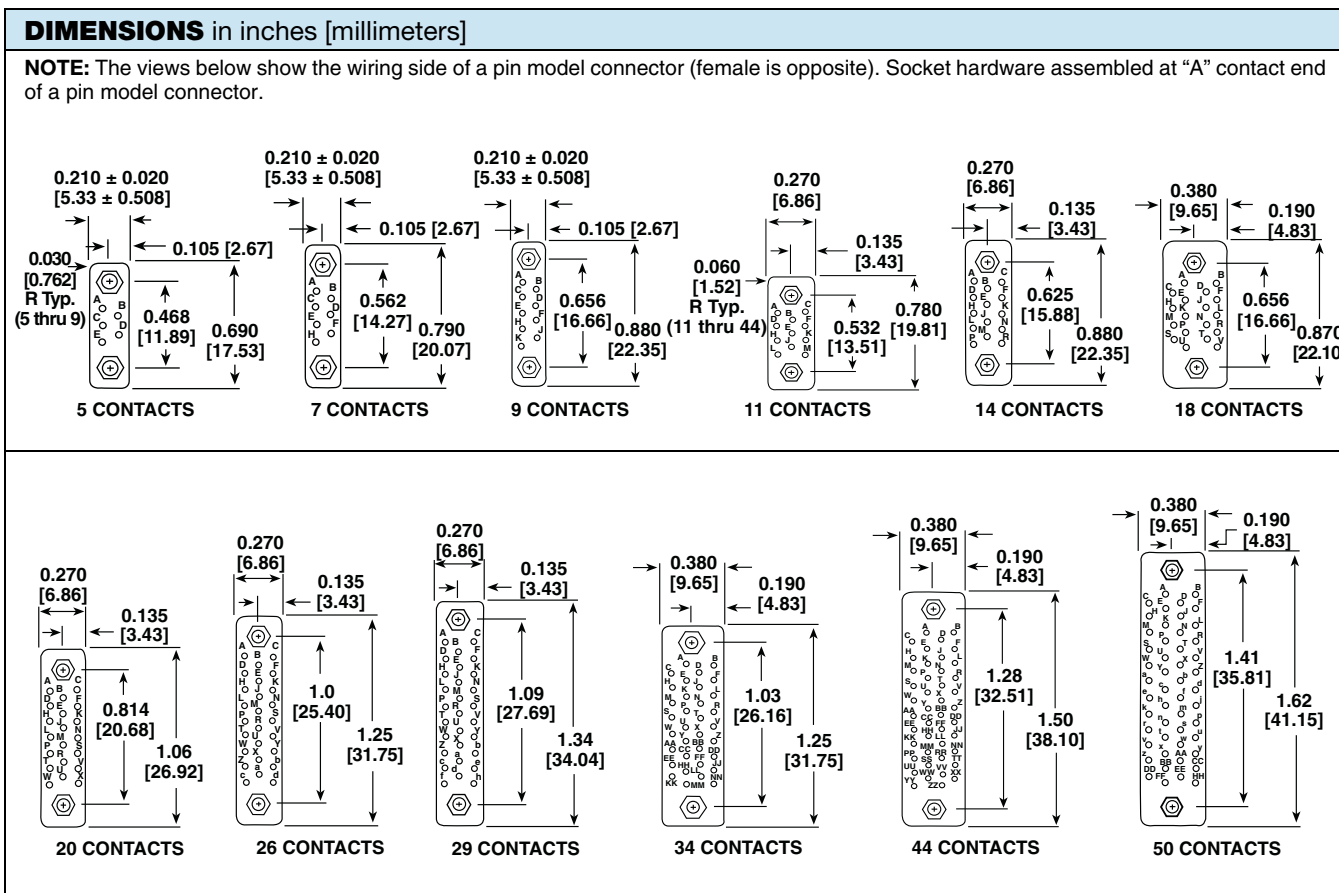
**Guides:** Brass, gold plated or stainless steel, passivated

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

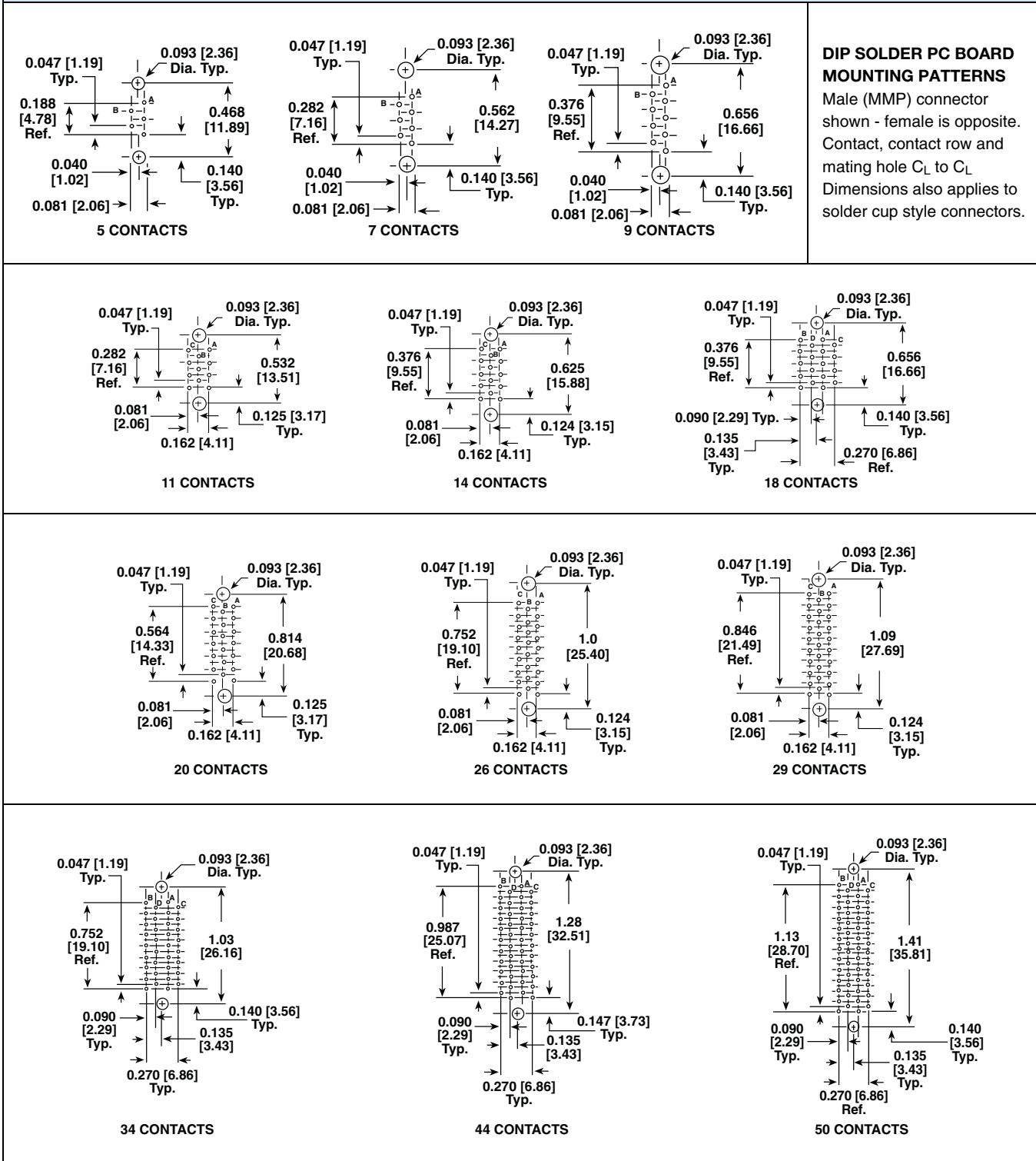
| DIMENSIONS in inches [millimeters]          |                                  |   |                                       |                  |
|---|----------------------------------|---|---------------------------------------|------------------|
| <b>MMS</b><br>With Solder Cup Contacts<br>  |                                  | <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]   |   |  |              |   |
|--|---|--|--------------|---|
|  |   | HARDWARE TYPE  | E DIAMETER   | F DIAMETER  |
| <p><b>MMS</b><br/>With Fixed (026, 027) Guides</p> <p>0.520 [13.21]<br/>0.230 [5.84]<br/>2-56 UNC-2A Thread Typ.<br/>0.140 [3.56]<br/>0.030 [0.762] Wide x 0.040 [1.02] Deep Slot Typ.<br/>0.110 [2.79]<br/>0.034 [0.864] Dia. Solder Cup #22 or #24 AWG Max.<br/>F Dia.</p> | <p><b>MMP</b><br/>With Fixed (026, 027) Guides</p> <p>0.490 [12.45]<br/>0.230 [5.84]<br/>"A" End of Connector<br/>0.140 [3.56]<br/>E Dia.</p>   | 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>0.620 [15.75]<br/>0.230 [5.84]<br/>0.140 [3.56]<br/>0.040 [1.02] Typ.<br/>0.034 [0.864] Dia. Solder Cup #22 or #24 AWG Max.<br/>0.030 [0.762] Typ.<br/>0.110 [2.79]</p>  | <p><b>MMP</b><br/>With Fixed (026L, 027L) Guides</p> <p>"A" End of Connector<br/>0.590 [14.99]<br/>0.250 [6.35]<br/>2-56 UNC-2A Typ.</p>  | <p><b>Short Turnable Screwlocks (SK030)</b></p> <p>0.540 [13.72]<br/>0.160 [4.06]<br/>0.030 [0.762] Wide x 0.040 [1.02] Deep Typ.<br/>0.124 [3.15] Dia.<br/>0.110 [2.79]<br/>0.500 [12.70]</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.<br/>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.<br/>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>0.610 [15.49]<br/>0.240 [6.10] Typ.<br/>0.093 [2.36] Hex Socket 0.090 [2.29] Deep Typ.<br/>0.180 [4.57] Dia.<br/>0.110 [2.79]<br/>0.580 [14.73]</p> |

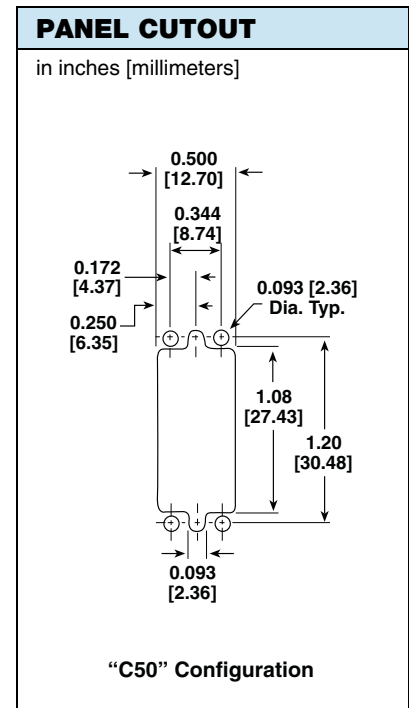
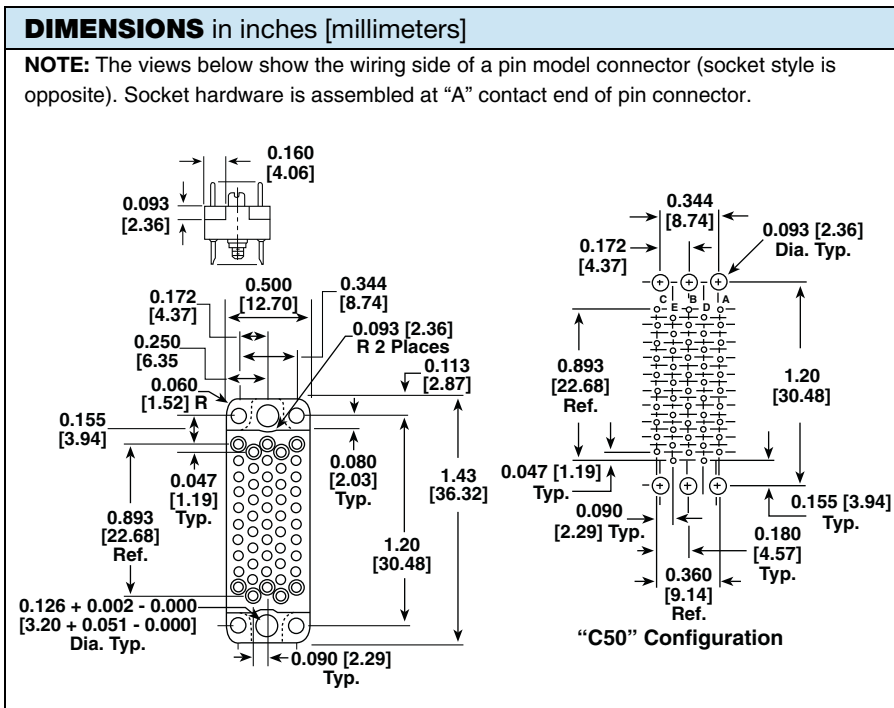
| HARDWARE MATING CHART |                           |  |
|-----------------------|---------------------------|--|
| HARDWARE MODEL        | MATES WITH HARDWARE MODEL | NOTE:  |
| 026                   | 026, 026L                 | <p>EITHER MMP OR MMS CONNECTORS MAY BE ORDERED WITH ANY TYPE OF HARDWARE SHOWN.</p> <p>EXAMPLES:</p> <ol style="list-style-type: none"> <li>1. MMP WITH 026 HARDWARE WOULD MATE WITH AN MMS WITH 026 HARDWARE.</li> <li>2. MMS WITH SK HARDWARE WOULD MATE WITH AN MMP WITH SL OR NSL HARDWARE.</li> <li>3. MMS WITH SL2 HARDWARE WOULD MATE WITH AN MMP WITH SK2 OR SK2030 HARDWARE.</li> </ol> |
| 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         |  |



**MOUNTING VARIATIONS** in inches [millimeters]



| 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]  |



**DIP SOLDER PC BOARD MOUNTING PATTERNS**

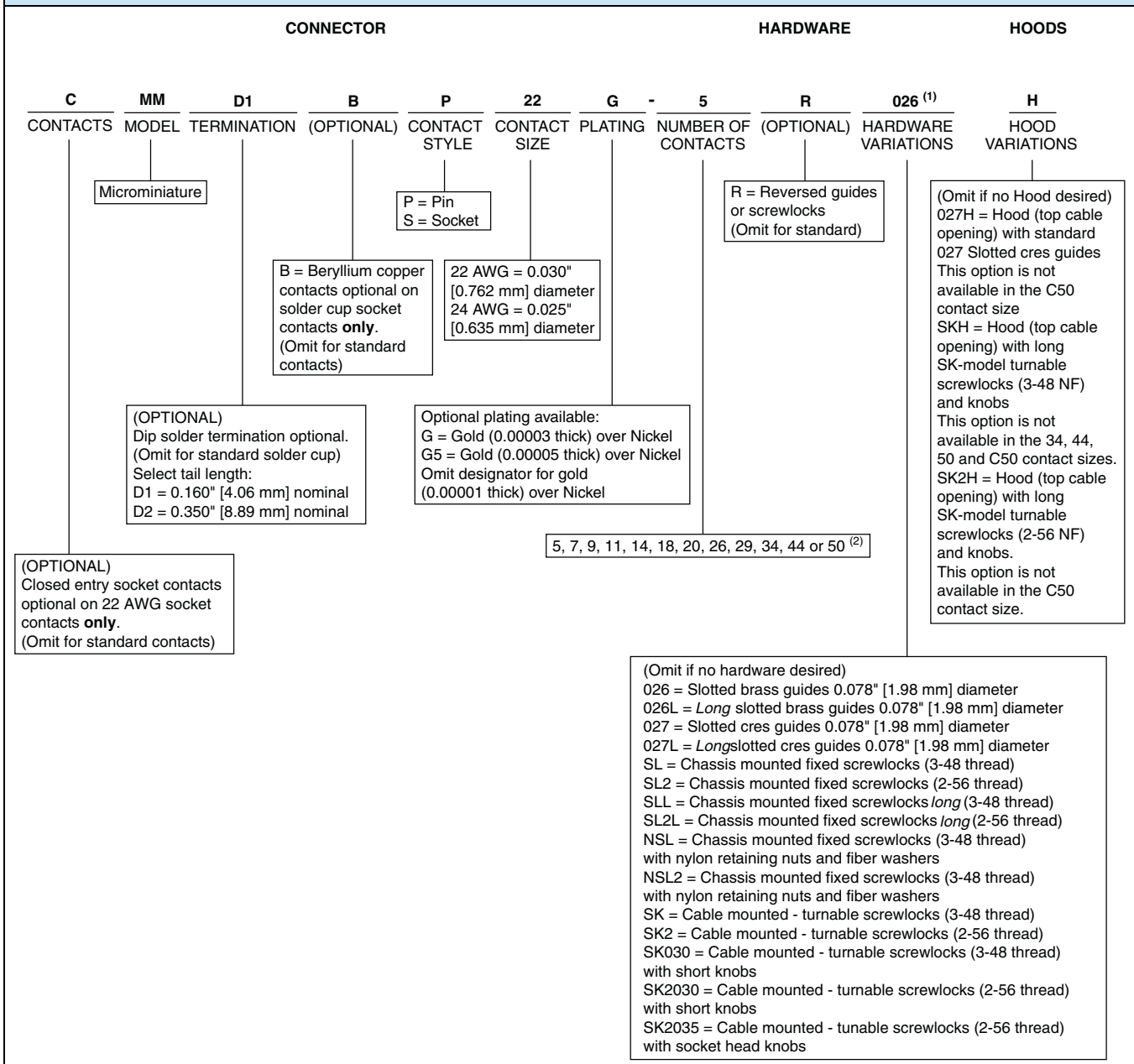
Male (MMP) connector shown - female is opposite. Contact, contact row and mating hole  $C_L$  to  $C_L$  dimensions also applies to solder cup style connectors.

**HOOD VARIATIONS** in inches [millimeters]

| HOOD VARIATIONS in inches [millimeters]    |                      |                                 |               |                         |   |
|--|----------------------|---------------------------------|---------------|-------------------------|---|
| <b>027H</b><br><br>5, 7, 9 CONTACTS        |                      | <br>11, 14, 20, 26, 29 CONTACTS |               | <br>34, 44, 50 CONTACTS |   |
| <b>SKH or SK2H</b><br><br>5, 7, 9 CONTACTS |                      | <br>11, 14, 20, 26, 29 CONTACTS |               | <br>34, 44, 50 CONTACTS |   |
| NUMBER OF CONTACTS                         | A<br>± 0.016 [0.406] | B<br>± 0.030 [0.76]             | C             | D<br>± 0.016 [0.406]    | "E" CABLE OPENING<br>SQ. IN. [mm <sup>2</sup> ] |
| 5  | 0.690 [17.53]        | 0.650 [16.51]                   | 0.468 [11.89] | 0.310 [7.87]            | 0.028 [0.711]                                   |
| 7  | 0.780 [19.81]        | 0.650 [16.51]                   | 0.562 [14.27] | 0.440 [11.18]           | 0.037 [0.940]                                   |
| 9  | 0.870 [22.10]        | 0.650 [16.51]                   | 0.656 [16.66] | 0.500 [12.70]           | 0.052 [1.321]                                   |
| 11   | 0.780 [19.81]        | 0.650 [16.51]                   | 0.532 [13.51] | 0.440 [11.18]           | 0.054 [1.372]                                   |
| 14   | 0.870 [22.10]        | 0.650 [16.51]                   | 0.625 [15.88] | 0.500 [12.70]           | 0.076 [1.930]                                   |
| 20   | 1.06 [26.92]         | 0.650 [16.51]                   | 0.814 [20.68] | 0.620 [15.75]           | 0.105 [2.667]                                   |
| 26   | 1.25 [31.75]         | 0.650 [16.51]                   | 1.00 [25.40]  | 0.620 [15.75]           | 0.105 [2.667]                                   |
| 29   | 1.34 [34.04]         | 0.650 [16.51]                   | 1.09 [27.67]  | 0.620 [15.75]           | 0.105 [2.667]                                   |
| 34   | 1.25 [31.75]         | 0.650 [16.51]                   | 1.03 [26.16]  | 0.500 [12.70]           | 0.160 [4.064]                                   |
| 44   | 1.50 [38.10]         | 1.17 [29.72]                    | 1.28 [32.51]  | 0.500 [12.70]           | 0.190 [4.826]                                   |
| 50   | 1.62 [41.15]         | 1.17 [29.72]                    | 1.41 [35.81]  | 0.620 [15.75]           | 0.202 [5.131]                                   |



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.





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