Dragonfly
High Density Signal/Power Interconnection Systems

Unless otherwise specified, dimensional tolerances are:

1) Male contact mating diameters: ±0.03 [0.001]
2) Contact termination diameters: ±0.08 [0.003]
3) All other diameters: ±0.13 [0.005]
4) All other dimensions: ±0.38 [0.015]

Dimensions are in millimeters [inches]. All dimensions are subject to change.


Products described within this catalog may be protected by one or more of the following U.S. patents:

#4,721,472  #4,900,261  #5,255,580  #5,329,697  #6,260,268

Patented in Canada, 1992

Unless otherwise stated, Positronic code and part number are marked on each connector. The contents of the code are subjected to the discretion of Positronic and it is for internal use only. Marking may be done on either side or both sides of the connector.

Positronic believes the data contained herein to be reliable. Since the technical information is given free of charge, the user employs such information at his own discretion and risk. Positronic assumes no responsibility for results obtained or damages incurred from use of such information in whole or in part.
Typical Connection Systems

**System 1**
Straight Board Mounting to Cable

- DF04M00 with crimp contacts installed.
- DF04F3N

**System 2**
Straight Board Mounting to Right Angle Board Mounting

- DF07M30
- DF07F4BN

**System 3**
Right Angle Board Mounting to Cable

- DF16F4BN
- DF16M00 with crimp contacts installed.

**System 4**
Cable to Cable

- DF07M00 with crimp contacts installed.
- DF07F00 with crimp contacts installed.

**System 5**
Cable Connector and Hood with Cable Clamp DF07F0W1

- Hood Top
- Hood Insert
- Wire Clamp
- Hood Bottom
- 2x Cable Clamp Screws
- 2x Hood Screws
## Connector Versions

<table>
<thead>
<tr>
<th>Version 03</th>
<th>Version 04</th>
<th>Version 07</th>
<th>Version 10</th>
<th>Version 16</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power Contact Connector</strong></td>
<td><strong>Mixed Density Contact Connector</strong></td>
<td><strong>Power Contact Connector</strong></td>
<td><strong>Signal/ Power Contact Connector</strong></td>
<td><strong>High Density Signal Contact Connector</strong></td>
</tr>
<tr>
<td>Three (3) Size 16 Power Contacts</td>
<td>Two (2) Size 16 Power Contacts and Two (2) Size 22 Signal Contacts</td>
<td>Specify Code 07 in Step 2</td>
<td>Seven (7) Size 16 Power Contacts</td>
<td>Sixteen (16) Size 22 Signal Contacts</td>
</tr>
</tbody>
</table>

### Technical Characteristics

#### Materials and Finishes:
- **Insulator:** Glass-filled nylon, UL 94V-0, green for versions 07, 10 and 16. Black color for version 04.
- **Hood (W1):** Polypropylene, UL 94V-0. Black color.
- **Hood (W2):** Glass-filled nylon, UL 94V-0. Black color.
- **Contacts:** Precision machined copper alloy with gold over nickel plate.
- **Push-on fasteners:** Copper alloy with tin plate.
- **Screws:** Steel with zinc plate and chromate seal.

#### Electrical Characteristics:
- **Contact Current Rating:**
  - Size 16 Contacts: 20.0 amperes, continuous.
  - Size 20 Contacts: 7.5 amperes, nominal.
  - Size 22 Contacts: 12.0 amperes, continuous with AWG 18 wires.
- **Initial Contact Resistance**
  - Max (per IEC 512-2, Test 2b):
    - Size 16 Contacts: 0.003 ohms
    - Size 20 Contacts: 0.005 ohms.
    - Size 22 Contacts: 0.005 ohms.
- **Insulator Resistance:**
  - 5 G ohms (per IEC 512-2, Test 3a).
- **Voltage Proof:**
  - Size 16 Contacts: 1500 V r.m.s.
  - Size 20 Contacts: 1000 V r.m.s.
  - Size 22 Contacts: 1000 V r.m.s.
- **Working Voltage:**
  - Size 16 Contacts: 500 V r.m.s.
  - Size 20 Contacts: 333 V r.m.s.
  - Size 22 Contacts: 333 V r.m.s.

#### Mechanical Characteristics:
- **Connection Systems:** Connector provides cable to cable, cable to printed board and printed board to printed board mating systems.
- **Locking Systems:** Insulators provide locking between cable to cable and cable to printed board applications.
- **Polarization:** Provided in insulator design.
- **Removable Contacts:** Install contact from rear of insulator, release with extraction tool from front of insulator. Female contacts feature “closed entry” 1,000 cycle design. (Size 16 contact tested to 10,000 cycles. See page 3.) “Open entry” 500 cycle design also available.
- **Fixed Contacts:** Size 16 female contact features “closed entry” 1,000 cycles design for both straight and right angle (90°) PCB mount. Size 22 female contact features “open entry” design. “Closed entry” available on request. Size 20 female contact features both “closed entry” and “open entry” design options. See ordering informations.
- **Removable Contact Retention in Insulator**
  - Size 16 Contacts: 45 N [10 lbs.] Min.
  - Size 20 Contacts: 27 N [6 lbs.] Min.
  - Size 22 Contacts: 27 N [6 lbs.] Min.
- **Fixed Contact Retention in Insulator**
  - Size 16 Contacts: 45 N [10 lbs.] Min.
  - Size 20 Contacts: 27 N [6 lbs.] Min.
  - Size 22 Contacts: 27 N [6 lbs.] Min.
- **Sequential Mating:** Consult factory for details.
- **Recognized:** UL File E49351.

#### Climatic Characteristic:
- Working temperature: -55°C to +105°C.
Above curves developed separately using (a) DF04 connectors and AWG 12 wires, and (b) DF07 connectors and AWG 12 wires and (c) DF10 connectors and AWG 18 wires. All power contacts under load.

Temperature Rise Curve
Tested per IEC 512-3, Test 5a

Temperature Rise (°C)

Rated Current (Amps)

Above curves developed using DF07 connectors fully populated with size 16 contacts. This information is supplied for reference. Contact wear and change in contact resistance may vary from one application to another. Contact technical sales to discuss details.

10,000 Cycles Contact Performance
Contact resistance tested per IEC 512-2, Test 2b

Contact Resistance (Ohms)

Mating Cycle

Above curves developed using DF07 connectors fully populated with size 16 contacts. This information is supplied for reference. Contact wear and change in contact resistance may vary from one application to another. Contact technical sales to discuss details.
Male Panel Connector

Positioning of Survivable Contacts Are To Be Ordered Separately

Contacts: Precision Machined Copper Alloy With Gold Flash Over Nickel.
Insulator: Glass Filled Nylon, UL 94V-0 Equivalent. Color: Green.

1. Materials and Finishes:

2. NOTES:

3. DRAWING NO. PART NUMBER

4. REMOVABLE CONTACTS ARE TO BE ORDERED SEPARATELY

5. 2X Ø 1.06 [20.00] [28.00 [1.12]

6. 7.20 [0.283] 2X Ø 0.45 [11.45] 2X Ø 0.45 [11.45]

7. 18.52 [0.725] 10.00 [0.394] 10.00 [0.394]

8. 0.95 [24.00] 0.95 [24.00] 0.95 [24.00]

9. 0.35 [9.00] 0.35 [9.00] 0.35 [9.00]

10. 0.75 [19.00] 0.75 [19.00] 0.75 [19.00]

11. 18.00 [0.709] 5.00 [0.217] 5.00 [0.217]

12. 0.15 [0.381] 20.70 [0.815]
DF04 Outline Dimensions

PCB Mount Connector

Male

Female

Contact Termination Dimensions

See Step 4 of Ordering Information

Straight PCB Mount

Specify Code 3 in Step 4

Power contacts  Signal contacts

Power contacts  Signal contacts

Right Angle (90°) PCB Mount

Specify Code 4 in Step 4

Power contacts  Signal contacts

Power contacts  Signal contacts

Not supplied with alignment bar
Dragonfly Version 04
Right Angle (90°) PCB Mount
(Longer Insulator Version) and Removable Contact Cable Connectors

DF04 Outline Dimensions

PCB Mount Connector (Longer Insulator)

Male only

2X Ø1.80 [0.071] Thru'

18.20 [0.717]
12.38 [0.487]
7.20 [0.283]

24.00 [0.945]

Contact Termination Dimensions

See Step 4 of Ordering Information

Right Angle (90°) PCB Mount
Specify Code 42 in Step 4

Power contacts

2X Ø1.60 [0.063]
2X 5.08 [0.200]
2X 3.71 [0.146]

Signal contacts

2X Ø0.71 [0.028]
4.80 [0.189]
7.40 [0.291]

Removable Contact Cable Connectors

Specify Code 0 in Step 4 of Ordering Information

Outline Dimensions

Male

17.80 [0.701]

12.38 [0.487]

7.20 [0.283]

Female

16.00 [0.630]

12.38 [0.487]

7.20 [0.283]

Version 04

28.20 [1.032]

25.70 [1.012]

Removable contacts should be allowed to float after terminated and installed in connector body. This enables superior mating performance. Consult factory if alignment insert for male contacts is desired.
Dragonfly Version 07
PCB Mount Connectors and Removable Contact Cable Connectors

DF07 Outline Dimensions

**PCB Mount Connector**

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>27.60 [1.087]</td>
<td>27.60 [1.087]</td>
</tr>
<tr>
<td>17.40 [0.685]</td>
<td>17.60 [0.701]</td>
</tr>
<tr>
<td>8.60 [0.339]</td>
<td>8.30 [0.327]</td>
</tr>
<tr>
<td>11.00 [0.433]</td>
<td>11.00 [0.433]</td>
</tr>
<tr>
<td>17.50 [0.689]</td>
<td></td>
</tr>
<tr>
<td>22.60 [0.890]</td>
<td>22.60 [0.890]</td>
</tr>
</tbody>
</table>

2X Ø1.93 [0.076] x Dp 4.25 [0.167]

**Contact Termination Dimensions**

See Step 4 of Ordering Information

**Male**

<table>
<thead>
<tr>
<th>Straight PCB Mount</th>
<th>Right Angle (90°) PCB Mount</th>
</tr>
</thead>
<tbody>
<tr>
<td>7X 3.71 [0.146]</td>
<td>7X Ø1.60 [0.063]</td>
</tr>
<tr>
<td>2X 1.84 [0.072]</td>
<td>2X 1.84 [0.072]</td>
</tr>
<tr>
<td>7X Ø1.60 [0.063]</td>
<td>7X Ø1.60 [0.063]</td>
</tr>
<tr>
<td>3.12 [0.123]</td>
<td>3.12 [0.123]</td>
</tr>
<tr>
<td>6.00 [0.236]</td>
<td>0.56 [0.022]</td>
</tr>
</tbody>
</table>

**Removable Contact Cable Connectors**

Specify Code 0 in Step 4 of Ordering Information

**Outline Dimensions**

<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.00 [0.433]</td>
<td>11.00 [0.433]</td>
</tr>
<tr>
<td>23.00 [0.906]</td>
<td>22.70 [0.894]</td>
</tr>
</tbody>
</table>

Removable contacts should be allowed to float after terminated and installed in connector body. This enables superior mating performance. Consult factory if alignment insert for male contacts is desired.
Dragonfly Versions 10 and 16
PCB Mount Connectors and Contact Termination Dimensions

DF10 and DF16 Outline Dimensions

PCB Mount Connector

Male
- 27.60 [1.087]
- 17.80 [0.701]
- 8.60 [0.339]
- 11.00 [0.433]
- 17.50 [0.689]
- 2X Ø1.93 [0.076] x Dp 4.25 [0.167]

Female
- 27.60 [1.087]
- 17.80 [0.701]
- 8.30 [0.327]
- 11.00 [0.433]
- 15.20 [0.598]

Removable Contact Cable Connectors
Specify Code 0 in Step 4 of Ordering Information

Male
- 25.00 [0.984]
- 11.00 [0.433]
- 23.00 [0.906]

Female
- 23.00 [0.906]
- 11.00 [0.433]
- 22.70 [0.894]

Removable contacts should be allowed to float after terminated and installed in connector body. This enables superior mating performance. Consult factory if alignment insert for male contacts is desired.

Version 10 PCB Mount Contact Termination Dimensions

Straight PCB Mount
Specify Code 3 in Step 4

Male
- 10X 3.71 [0.146]
- 10X Ø1.02 [0.040]
- 2X 1.60 [0.063]

Female
- 10X 3.71 [0.146]
- 10X Ø1.02 [0.040]
- 2X 1.60 [0.063]

Right Angle (90°) PCB Mount
Specify Code 4 in Step 4

Male
- 10X 3.71 [0.146]
- 10X Ø1.02 [0.040]
- 0.20 [0.008]
- 3.20 [0.126]

Female
- 10X 3.71 [0.146]
- 10X Ø1.02 [0.040]
- 0.20 [0.008]
- 3.20 [0.126]

Integrated alignment bar and angle bracket shown for reference only. (Specify code B in Step 5)
Version 16 PCB Mount Contact Termination Dimensions

**Straight PCB Mount**
Specify Code 3 in Step 4

**Female**

**Male**

**Right Angle (90°) PCB Mount**
Specify Code 4 in Step 4

**Female**

Integrated alignment bar and angle bracket shown for reference only.
(Specify code B in Step 5)

---

Version 04 PCB Mount - Contact Hole Patterns

**Contact Hole Pattern for Straight PCB Mount**

**Contact Hole Pattern for Right Angle (90°) PCB Mount**

For both male and female connectors.

Version 07 PCB Mount - Contact Hole Patterns

**Contact Hole Pattern for Straight PCB Mount**

**Contact Hole Pattern for Right Angle (90°) PCB Mount**

For both male and female connectors.

Suggested Ø2.00±0.08 [0.079±0.003] holes for mounting connector with push-on fasteners.
Suggested Ø2.54 [0.100] holes for mounting connector with screws.
Version 10 PCB Mount - Contact Hole Patterns

Contact Hole Patterns for Straight PCB Mount

Contact Hole Pattern for Right Angle (90°) PCB Mount

For both male and female connectors.

Contact Hole Patterns for Version 16 PCB Mount

Contact Hole Pattern for Straight PCB Mount

Contact Hole Pattern for Right Angle (90°) PCB Mount

For both male and female connectors.

Suggested Ø2.00±0.08 [0.079±0.003] holes for mounting connector with push-on fasteners.
Suggested Ø2.54 [0.100] holes for mounting connector with screws.
Panel Mount Option, Mounting Hardware and Installation Tools

Panel Mount Option
For Male Crimp Connectors of Versions 07, 10 and 16 only
(Specify Code P in Step 5)

**Flange Dimensions**

- 42.00 [1.654]
- 35.00 [1.379]
- 14.10 [0.555]
- 2X Ø3.20 [0.0626]

**Panel Cutout**

- Ø3.50 [0.138]
- 28.60 [1.126]
- 14.40 [0.567]

**Suggested Installation to Panel:**
Suggested installation of connector to panel with screws and nuts.
(Screws and nuts shown for reference only)

**Materials and Finishes:**
Flange: Glass-filled nylon, UL 94V-0.
Flange supplied factory installed to connector

**Push-on Fasteners**
Available on all connectors except Version 04 code 42 contacts

**Straight PCB mount version**
Specify code N in Step 5

**Right Angle (90°) PCB mount version**
Specify code BN in Step 5

**Mounting Screws Ordering Information**

<table>
<thead>
<tr>
<th>Connector Variant</th>
<th>Screw Part Number</th>
<th>Screw Length “A”</th>
<th>Recommended PCB Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>DF04<em>3/93</em></td>
<td>4546-7-1-16</td>
<td>6.35 [0.250]</td>
<td>2.20 [0.087] to 3.50 [0.138]</td>
</tr>
<tr>
<td></td>
<td>4546-7-2-16</td>
<td>7.93 [0.312]</td>
<td>3.60 [0.142] to 4.50 [0.177]</td>
</tr>
<tr>
<td>DF04<em>4/42</em></td>
<td>4546-32-1-16</td>
<td>8.00 [0.315]</td>
<td>1.40 [0.055] to 4.00 [0.157]</td>
</tr>
<tr>
<td></td>
<td>4546-32-2-16</td>
<td>10.00 [0.393]</td>
<td>3.00 [0.118] to 6.00 [0.236]</td>
</tr>
<tr>
<td>DF07<em>3/93</em></td>
<td>4546-7-1-16</td>
<td>6.35 [0.250]</td>
<td>1.40 [0.055] to 3.00 [0.118]</td>
</tr>
<tr>
<td>DF10<em>3/98</em></td>
<td>4546-7-1-16</td>
<td>7.93 [0.312]</td>
<td>3.00 [0.118] to 4.00 [0.157]</td>
</tr>
<tr>
<td>DF16<em>3/98</em></td>
<td>4546-7-2-16</td>
<td>7.93 [0.312]</td>
<td>3.00 [0.118] to 4.00 [0.157]</td>
</tr>
<tr>
<td>DF07/10/16<em>4</em></td>
<td>4546-7-0-16</td>
<td>4.78 [0.188]</td>
<td>2.00 [0.079] maximum</td>
</tr>
</tbody>
</table>

**Compliant Press-Fit Terminations**
PCB Straight Mount Connector Installation Tools

<table>
<thead>
<tr>
<th>Catalog Part Number</th>
<th>Seating Tool Part Number</th>
<th>Support Tool Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>DF04F930</td>
<td>9513-309-21</td>
<td>9513-404-4</td>
</tr>
<tr>
<td>DF04M930</td>
<td>9513-309-22</td>
<td>9513-404-5</td>
</tr>
<tr>
<td>DF07F930</td>
<td>9513-309-25</td>
<td>9513-404-6</td>
</tr>
<tr>
<td>DF07M930</td>
<td>9513-309-24</td>
<td>9513-404-7</td>
</tr>
<tr>
<td>DF10F980</td>
<td>9513-309-26</td>
<td>9513-404-8</td>
</tr>
<tr>
<td>DF10M980</td>
<td>9513-309-27</td>
<td>9513-404-9</td>
</tr>
<tr>
<td>DF16F980</td>
<td>9513-309-20</td>
<td>9513-404-10</td>
</tr>
<tr>
<td>DF16M980</td>
<td>9513-309-23</td>
<td>9513-404-11</td>
</tr>
</tbody>
</table>
Connector Hood

Hood - Top and Side Opening
For Versions 07, 10 and 16 only
Specify code W1 in Step 5

Outline Dimensions

Hood comes supplied with extra insert for unused opening.

Materials and Finishes:
Hood Top and Bottom, Insert: Polypropylene, UL 94V-0, black.
Cable Clamp: Steel with nickel plate.
Hood and Cable Clamp Screws: Steel with black oxide or Steel with zinc plate and chromate seal.

Hood - Top Opening - Wide Body
For Versions 07, 10 and 16 only (for partially and fully populated connector)
Specify code W2 in Step 5

Outline Dimensions

Note: “W2” Hood are able to accommodate fully populated connector using thick insulation 12, 14 and 16 AWG wires.

Materials and Finishes:
Hood: Glass-filled nylon, UL 94V-0, black.
Cable Clamp: Steel with nickel plate.
Hood and Cable Clamp Screws: Steel with black oxide or Steel with zinc plate and chromate seal.

Top opening: 16.50 [0.650] x 9.00 [0.354] (for reference only)

Note: “W1” Hood may not accommodate fully populated connector using thick insulation 12, 14 and 16 AWG wires. Customer review recommended.
Removable Crimp Contacts

**Size 16 contact**
Rated 20.0 amperes (“Closed entry” 1,000 cycles minimum)

<table>
<thead>
<tr>
<th>Male Contact</th>
<th>Female Contact</th>
<th>Wire Size AWG [mm²]</th>
<th>ØA</th>
<th>ØB</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC112N</td>
<td>FC112N2</td>
<td>12 [4.0]</td>
<td>2.49 [0.098]</td>
<td>N/A</td>
</tr>
<tr>
<td>MC114N</td>
<td>FC114N2</td>
<td>14-16 [2.5-1.5]</td>
<td>2.06 [0.081]</td>
<td>2.67 [0.105]</td>
</tr>
<tr>
<td>MC116N</td>
<td>FC116N2</td>
<td>16-18 [1.5-1.0]</td>
<td>1.70 [0.067]</td>
<td>2.36 [0.093]</td>
</tr>
<tr>
<td>MC120N</td>
<td>FC120N2</td>
<td>20-22-24 [0.5-0.3-0.25]</td>
<td>1.14 [0.045]</td>
<td>1.73 [0.068]</td>
</tr>
</tbody>
</table>

Note: Size 16 contacts tested to 10,000 cycles performance as shown in graph on page 3. This does not insure similar performance under different conditions. Wear in mating area of contacts does occur. Customer review recommended.

**Size 20 contact**
Rated up to 12.0 amperes (“Closed entry” 1,000 cycles minimum)

<table>
<thead>
<tr>
<th>Contact Part Number</th>
<th>Wire Size AWG [mm²]</th>
<th>ØA</th>
<th>ØB</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC718N</td>
<td>18 [1.0]</td>
<td>1.40 [0.055]</td>
<td>N/A</td>
<td>18.80 [0.740]</td>
</tr>
<tr>
<td>FC718N2</td>
<td>1.40 [0.055]</td>
<td>N/A</td>
<td>18.24 [0.718]</td>
<td></td>
</tr>
<tr>
<td>FC718N7</td>
<td>1.37 [0.054]</td>
<td>16.80 [0.740]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*MC720N</td>
<td>20-22-24 [0.5-0.3-0.25]</td>
<td>1.14 [0.045]</td>
<td>1.73 [0.068]</td>
<td>19.41 [0.764]</td>
</tr>
<tr>
<td>*FC720N2</td>
<td>1.14 [0.045]</td>
<td>18.80 [0.740]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*FC720N7</td>
<td>1.37 [0.054]</td>
<td>19.41 [0.764]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Contact rated 7.5 amperes

**Size 22 contact**
Rated 3.0 amperes (“Closed entry” 1,000 cycles minimum)

<table>
<thead>
<tr>
<th>Male Contact</th>
<th>Female Contact</th>
<th>Wire Size AWG [mm²]</th>
<th>ØA</th>
<th>ØB</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC422N</td>
<td>FC422N2</td>
<td>22 [0.3]</td>
<td>0.89 [0.035]</td>
<td>1.42 [0.056]</td>
</tr>
<tr>
<td>MC422N</td>
<td>FC422N7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please use correct wire size and it should be smaller than ØA of the contact. Consult factory for other contact sizes, materials and termination styles.
## Connector Ordering Information

Specify complete connector by following step 1 to 5

### Step 1: Basic Series

| Example | DF | 07 | M | 3 | N | /AA | - | XXX |

### Step 2: Connector Versions

| 04 | Mixed density contact connector  
two (2) size 16 power contacts and  
two (2) size 22 signal contacts |
| 07 | Power contact connector  
seven (7) size 16 power contacts |
| 10 | Signal/ power contact connector  
ten (10) size 20 signal/ power contacts |
| 16 | High density signal contact connector  
sixteen (16) size 22 signal contacts |

### Step 3: Connector Gender

| 0 | Male |
| 1 | Female |

### Step 4: Type of Contact

| 0 | Removable contact. (contacts ordered separately). |
| 3 | Solder, straight PCB mount. |
| 31 | Solder, open-entry, straight PCB mount.  
(For female connectors of version 10 only.) |
| *4 | Solder, right angle (90°) PCB mount.  
(For female connectors of version 10 only.) |
| 41 | Solder, open-entry, right angle PCB mount.  
(For female connectors of version 10 only.) |
| 42 | Solder, right angle (90°) PCB mount.  
(For version 04 male only. Using Longer Insulator.) |
| 93 | Press-fit, compliant termination straight pcb mount.  
(For versions 04 and 07 only.) |
| 98 | Press-fit, compliant termination straight pcb mount.  
(For versions 10 and 16 only.) |

*Standard female contact is closed-entry for Versions 07 and 10.  
*Standard female contact is open-entry for Version 16.

### Step 5: Mounting Style, Hoods, Panel Mount

| 0 | No hardware.  
For mounting connector with self-tapping screws.  
(Order screws separately.) |
| N | Push-on fasteners. |
| B | Plastic 90° Mounting Bracket.  
For versions 07, 10 and 16 only. |
| BN | Plastic 90° mounting bracket with push-on fasteners.  
For versions 07, 10 and 16 only. |
| W1 | Top and side opening hood.  
For versions 07, 10 and 16 only. |
| W2 | Top opening hood-wide body  
For versions 07, 10 and 16 only. |
| P | Panel mount adaptor for male crimp connectors of  
versions 07, 10 and 16 only. |

*Note: For suggested straight mount pcb holes sizes  
of compliant press-fit connectors, please consult factory.

### Step 6: Environmental Compliance Options

| /AA | Compliant per EU Directive 2002/95/EC (RoHS) |

*Note: If compliance to environmental legislation is not  
required, this step will not be used.  
Example: DF16F30

### Step 7: Special Options

Consult factory for customization of connectors.  
Example: Selective loading, sequential mating, etc.

### Recommended Tools for Crimp Contacts

- **Contact Extraction Tool**
- **Contact Insertion Tool**
- **Cycle-Controlled Step Adjustable Hand Crimp Tool**

### Contact Information

- **Positronic Industries, Inc**
- **www.connectpositronic.com**
- **www.positronicasia.com**
SUGGESTED PRINTED BOARD HOLE SIZES COMPLIANT PRESS-FIT CONNECTORS

Traditionally, tin-lead has been a popular plating for PCB holes. However, many PCB hole platings must now be RoHS Compliant. Positronic is pleased to offer PCB HOLE SIZE FOR RoHS PCB plating as shown below.

## Bi-Spring Compliant Press-Fit Contact Hole

<table>
<thead>
<tr>
<th>Board Type</th>
<th>Contact Size</th>
<th>Recommanded Drill Hole Size</th>
<th>Recommanded Plating</th>
<th>Finished Hole Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin-Lead Solder PCB</td>
<td>16</td>
<td>ø1.750±0.025 [ø0.069±0.001]</td>
<td>15µ (0.0006) min. solder over 25µ (0.0010) min. copper</td>
<td>ø1.600±0.090-0.060 [ø0.0630±0.0035-0.0024]</td>
</tr>
<tr>
<td>Copper PCB</td>
<td>16</td>
<td>ø1.750±0.025 [ø0.069±0.001]</td>
<td>25µ [0.0010] min. copper</td>
<td>ø1.600±0.090-0.060 [ø0.0630±0.0035-0.0024]</td>
</tr>
<tr>
<td>Immersion Tin PCB</td>
<td>16</td>
<td>ø1.750±0.025 [ø0.069±0.001]</td>
<td>0.85±0.15µ [0.000033±0.000006] immersion tin over 25µ [0.0010] min. copper</td>
<td>ø1.600±0.090-0.060 [ø0.0630±0.0035-0.0024]</td>
</tr>
<tr>
<td>Immersion Silver PCB</td>
<td>16</td>
<td>ø1.750±0.025 [ø0.069±0.001]</td>
<td>0.34±0.17µ [0.000013±0.000007] immersion silver over 25µ [0.0010] min. copper</td>
<td>ø1.600±0.090-0.060 [ø0.0630±0.0035-0.0024]</td>
</tr>
<tr>
<td>Electroless Nickel/Immersion Gold PCB</td>
<td>16</td>
<td>ø1.750±0.025 [ø0.069±0.001]</td>
<td>0.05µ [0.000020] min. immersion gold over [4.5±1.5µ [0.000177±0.000059] electroless nickel per IPC-4552 over 25µ (0.0010) min. copper</td>
<td>ø1.600±0.090-0.060 [ø0.0630±0.0035-0.0024]</td>
</tr>
</tbody>
</table>

## Omega Compliant Press-Fit Contact Hole

<table>
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<tr>
<th>Board Type</th>
<th>Contact Size</th>
<th>Recommanded Drill Hole Size</th>
<th>Recommanded Plating</th>
<th>Finished Hole Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tin-Lead Solder PCB</td>
<td>20, 22</td>
<td>ø1.190±0.025 [ø0.045±0.001]</td>
<td>15µ [0.0006] min. solder over 25µ [0.0010] min. copper</td>
<td>ø1.090±0.090-0.060 [ø0.0394±0.0035-0.0024]</td>
</tr>
<tr>
<td>Copper PCB</td>
<td>20, 22</td>
<td>ø1.190±0.025 [ø0.045±0.001]</td>
<td>25µ [0.0010] min. copper</td>
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</tr>
<tr>
<td>Electroless Nickel/Immersion Gold PCB</td>
<td>20</td>
<td>ø1.190±0.025 [ø0.047±0.001]</td>
<td>0.05µ [0.000020] min. immersion gold over [4.5±1.5µ [0.000177±0.000059] electroless nickel per IPC-4552 over 25µ (0.0010) min. copper</td>
<td>ø1.090±0.090-0.060 [ø0.0394±0.0035-0.0024]</td>
</tr>
</tbody>
</table>

Note: For PCB plating compositions not shown, consult Technical Sales.

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Positronic Industries, Inc.
www.connectpositronic.com
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A-002 Rev. B2
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