ITT

Interconnect Solutions
Cannon, VEAM, BIW

D Subminiature Accessories

Engineered for life
Cannon, VEAM, BIW

A Historical Achievement of Technology Leadership

Defining and Championing Innovation

Showcasing a portfolio of creativity, ITT’s “Engineered For Life” execution embraces products which have become ubiquitous in a broad collection of markets including: Military/Aerospace, Civil Aircraft, Industrial Instrumentation, Medical, Oil & Gas, Energy, Transportation, Telecom/Handset, Computer, Consumer, and Automotive.

ITT’s rich interconnect history embraces contributions to both technological breakthroughs and social movements. With one of the industry’s broadest product offerings, ITT’s interconnect products have supported:

• Every Free World space mission, bringing the universe to our doorstep.
• Motion picture, radio, and television equipment, serving laughter and entertainment to millions.
• Commercial and military communications systems, linking the voices of the world.
• Computerized tools, reshaping the information highway.
• Aircraft, rapid transit, and automobiles, mobilizing our expanding society.
• Oil and natural gas production, powering the world’s economies.
• Agricultural equipment, attacking the roots of world hunger.
Cannon D Subminiature Accessories

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D Subminiature Accessories

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Cannon D-Subminiature Accessories

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</tbody>
</table>

▲ Supplied with backshell
* Optional compatible locking hardware
— Not compatible
Cannon D-Subminiature Accessories

Selection Guide

<table>
<thead>
<tr>
<th>Locking Hardware</th>
<th>Jackscrew Assembly</th>
<th>Jackpost Assembly</th>
<th>Recessed Jackscrew</th>
<th>Extended Jackscrew</th>
<th>Thumbscrew</th>
<th>In-Line Connections</th>
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<td>see page 17</td>
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<td>see page 10</td>
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</table>

Dimensions shown in mm (inch)
Specifications and dimensions subject to change

www.ittcannon.com
Die cast metal backshells reduce EMI/RFI emissions. Die cast metal backshells offer improved shielding in a rugged package.

Product Features
- Improves conformance to FCC DOC #20780 shielding requirements
- No crimp ferrule tooling needed
- Kit consists of 1 front shell, 1 rear shell, 2 screws, 2 hex nuts, 2 mounting screws, 2 end brackets, 1 set of compression inserts

Attenuation

Compression inserts (included with die cast zinc metal backshell)

Compression inserts accommodate a wide variety of cable sizes.

Specifications
- Attenuation: -50 dB @ 1000MHz
- Temperature Range: -20º C to 80º C

Materials and Finishes
- Backshell Material: Zinc
- Backshell Finish: Clear Zinc
- Compression Inserts: PVC
- Hardware Material: Steel
- Hardware Finish: Clear Zinc

Die Cast Zinc Backshell, Straight Exit, EMI Shielded

Attenuation

Diecast Shell Shielding Performance

Compression inserts (included with die cast zinc metal backshell)

Compression inserts accommodate a wide variety of cable sizes.
Cannon D-Subminiature Accessories

Metal Backshell Straight Exit

The new Cannon Metal Backshells D*FM series for D-Subminiature Connectors offers protection from magnetic and radio interferences to cable assemblies.

This backshell series is characterized by simple assembly and fit for industrial and telecom applications.

Product Features:
- No crimp ferrule tooling needed
- Material: Zinc, blue chromated
- Unique metal filled plastic cable strain relief guarantees 360° shielding
- RoHS compliant
- -40 - +120°C temperature range
- Corrosion resistant

**Attenuation curve**

Kit consists of 1 front shell, 1 rear shell, 4 strain reliefs, 2 mounting crosshead screws, and 2 jack screws.

**Assembly Instructions Size 9, 15, 25, 37**

- Use two halves of strain relief (different sizes can be mixed)
- Strip cable 18mm and shape cable to two pigtails
- Attach the strain relief around the cable
- Bend cable shielding back on outside of strain relief
- Mount connector and cable into the backshell
- Assemble the other half (screwing force: 100-120 Ncm)

Dimensions shown in mm (inch)
Specifications and dimensions subject to change
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Metal Backshell 45° Exit

The new Cannon Metal Backshells D*FM series for D-Subminiature Connectors offers protection from magnetic and radio interferences to cable assemblies.

This backshell series is characterized by simple assembly and fit for Industrial and telecom applications.

Product Features:
- No crimp ferrule tooling needed
- Material: Zinc, blue chromated
- Unique metal filled plastic cable strain relief guarantees 360° shielding
- RoHS compliant
- -40 - +120°C temperature range
- Corrosion resistant

Part Description

<table>
<thead>
<tr>
<th>Shell Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D Cable Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size 9*</td>
<td>37.5mm [1.476inch]</td>
<td>35.5mm [1.398inch]</td>
<td>14.6mm [0.575inch]</td>
<td>4 - 9mm</td>
</tr>
<tr>
<td>Size 15**</td>
<td>41.5mm [1.634inch]</td>
<td>39.5mm [1.555inch]</td>
<td>14.6mm [0.575inch]</td>
<td>33.3mm [1.311inch]</td>
</tr>
<tr>
<td>Size 25**</td>
<td>41.5mm [1.634inch]</td>
<td>53.5mm [2.106inch]</td>
<td>14.5mm [0.571inch]</td>
<td>47.0mm [1.850inch]</td>
</tr>
<tr>
<td>Size 37**</td>
<td>41.5mm [1.634inch]</td>
<td>70.0mm [2.756inch]</td>
<td>14.5mm [0.571inch]</td>
<td>63.5mm [2.500inch]</td>
</tr>
<tr>
<td>Size 50***</td>
<td>45.0mm [1.772inch]</td>
<td>67.5mm [2.657inch]</td>
<td>17.4mm [0.69inch]</td>
<td>61.0mm [2.402inch]</td>
</tr>
</tbody>
</table>

Assembly Instructions Size 9, 15, 25, 37

*Size 9 Backshell: Kit consists of 1 front shell, 1 rear shell, 4 strain reliefs, 2 mounting crosshead screws, 1 jack screw
**Size 15, 25, 37 Backshell: Kit consists of 1 front shell, 1 rear shell, 4 strain reliefs, 2 mounting crosshead screws, 2 jack screws
***Size 50 Backshell: Kit consists of 1 front shell, 1 rear shell, 1 cable clamp, 4 mounting crosshead screws, 2 jack screws

*Size 9 Backshell: Kit consists of 1 front shell, 1 rear shell, 4 strain reliefs, 2 mounting crosshead screws, 1 jack screw
D Cannon D-Subminiature Accessories

**Metal Backshell**

Metal Backshells provide strain relief. Various profiles available for different cable routing requirements.

**Product Features**

- Qualified to MIL-Spec M85049

**Materials and Finishes**

<table>
<thead>
<tr>
<th>Backshell Material:</th>
<th>Low Carbon Steel or Brass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backshell Finish:</td>
<td>Chromate over Cadmium (Mil Spec) or Zinc (RoHS)</td>
</tr>
<tr>
<td>Hardware Material:</td>
<td>Steel</td>
</tr>
</tbody>
</table>

**Deep Straight Clamp**

- Kit consists of 1 shell, 2 cable clamps, 2 screws, 2 hex nuts.

**Round Cable Clamp**

- Kit consists of 1 shell, 2 cable clamps, 2 screws, 2 hex nuts.

**Dimensions shown in mm (inch)**

Specifications and dimensions subject to change

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### Short Straight Clamp

- Kit consists of 1 shell, 2 or 3 screws, 2 or 3 hex nuts

### 90° Entry

- Kit consists of 1 shell, 1 cable clamp, 1 screw, 1 nut, 2 rivnuts (assembled)

---

**Metal Backshell**

**Dimensions shown in mm (inch)**

Specifications and dimensions subject to change

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Snap-Together Metalized Plastic

Metalized plastic backshells reduce EMI/RFI emissions. Metalized plastic provides a lightweight solution. Includes integral strain relieving cable clamp.

Product Features
- Improves conformance to FCC DOC #20780 shielding requirements
- No crimp ferrule tooling needed
- Quick and simple assembly using snap-together design feature
- Non-metalized, non-shielded versions available

Specifications
- Attenuation: -49 dB @ 100MHz
- Temperature Range: -20º C to 80º C

Note: Cable grounding tang not available on DE size backshell.

Materials and Finishes
- Material: Thermoplastic, UL 94V-0 rated
- Finish: Nickel over Copper

50º Exit

- Kit consists of 1 front shell, 1 rear shell, 1 cable clamp, 2 screws
- Optional locking hardware sold separately, see page 5

Dimensions shown in mm (inch)
Specifications and dimensions subject to change

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Cannon D-Subminiature Accessories

Plastic Backshell

Locking Hardware for Snap-Together Plastic Backshell

Recessed Jackscrew

Extended Jackscrew

Thumbscrew

Materials and Finishes

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Finish</th>
<th>Quantity Required per Connector</th>
</tr>
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<tbody>
<tr>
<td>250-8501-004</td>
<td>Brass</td>
<td>Nickel</td>
<td>2</td>
</tr>
<tr>
<td>250-8501-009 (M3), 250-8501-010 (#4-40)</td>
<td>Brass</td>
<td>Nickel</td>
<td>2</td>
</tr>
<tr>
<td>250-8501-013</td>
<td>Brass</td>
<td>Nickel</td>
<td>2</td>
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</table>

Jackpost for In-Line Connections

Rectangular Nut

Jackpost

Jackpost Assembly

Assembly consists of 1 rectangular nut, 1 jackpost, 1 #4-40 lock washer.

Part Number: D121073-19
Material: Brass
Finish: Nickel
Quantity required per connector: 2

Straight Exit - Metalized Plastic Low Cost

- Kit consists of 1 front shell, 1 rear shell, 1 cable clamp, 2 screws

Materials and Finishes: Thermoplastic, UL 94V-0 rated, Nickel plated

Dimensions shown in mm (inch)
Specifications and dimensions subject to change

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Snap-Together Universal

- 2-piece snap-together design for quick assembly.
- Customer furnishes tie-wrap.

Materials and Finishes

Material: Black Thermoplastic, UL 94V-0 rated

<table>
<thead>
<tr>
<th>Shell Size</th>
<th>Layout</th>
<th>Part Number</th>
<th>øB max.</th>
<th>øC ±0.20 (0.008)</th>
<th>øD ±0.20 (0.008)</th>
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<tbody>
<tr>
<td>DE</td>
<td>9</td>
<td>DE115339-20</td>
<td>7.01 (276)</td>
<td>17.00 (0.669)</td>
<td>19.51 (0.768)</td>
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<tr>
<td>DA</td>
<td>15</td>
<td>DA115339-21</td>
<td>9.63 (378)</td>
<td>17.00 (0.669)</td>
<td>27.79 (1.094)</td>
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<td>DB</td>
<td>25</td>
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<td>17.00 (0.669)</td>
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<td>DC</td>
<td>37</td>
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<td>13.00 (512)</td>
<td>17.00 (0.669)</td>
<td>59.99 (2.383)</td>
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<td>DD</td>
<td>50</td>
<td>DD115339-24</td>
<td>16.00 (630)</td>
<td>19.81 (0.780)</td>
<td>52.32 (2.060)</td>
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Note: Part Numbers above replace the following part number series: DE110963-1 to DD110963-5

One-Piece Snap-Together

- Low cost
- Easy to assemble
- Mounting hardware included
- 2 thumbscrews, 2 cable clamps

Materials and Finishes

Backshell Material: Polypropylene
Hardware Material: Steel
Hardware Finish: Black Nickel

<table>
<thead>
<tr>
<th>Shell Size</th>
<th>Layout</th>
<th>Part Number</th>
<th>A Ø (mm)</th>
<th>C ø Ø (mm)</th>
<th>ø D max.</th>
<th>E Ø (mm)</th>
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<td>9</td>
<td>DEBS-9</td>
<td>35.20 (1.386)</td>
<td>24.99 (0.984)</td>
<td>5.69 (0.224)</td>
<td>27.51 (1.083)</td>
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<td>DA</td>
<td>15</td>
<td>DABS-15</td>
<td>43.31 (1.705)</td>
<td>33.33 (1.312)</td>
<td>5.69 (0.224)</td>
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<tr>
<td>DB</td>
<td>25</td>
<td>DBBS-25</td>
<td>57.20 (2.252)</td>
<td>47.04 (1.852)</td>
<td>6.50 (0.256)</td>
<td>38.30 (1.508)</td>
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<tr>
<td>DC</td>
<td>37</td>
<td>DCBS-37</td>
<td>72.00 (2.83)</td>
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<td>7.80 (0.307)</td>
<td>43.08 (1.69)</td>
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<tr>
<td>DD</td>
<td>50</td>
<td>DBBS-50</td>
<td>73.70 (2.90)</td>
<td>63.70 (2.50)</td>
<td>8.20 (0.322)</td>
<td>48.04 (1.89)</td>
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</table>

Dimensions shown in mm (inch)
Specifications and dimensions subject to change

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One-Piece Plastic

Straight Exit

- Kit consists of 1 shell, 1 cable clamp, 1 set screw
- Mounting hardware included
- 2 screws #4-24 x 5/16 long self tapping
- Accommodates spring latches

Materials and Finishes

| Material: | Black Thermoplastic, UL 94V-0 rated |
| Hardware Material: | Steel |
| Hardware Finish: | Chromate over Zinc |

90° Exit

- Kit consists of 1 shell, 1 cable clamp, 1 set screw
- Mounting hardware included
- 2 screws #4-24 x 5/16 long self tapping

Materials and Finishes

| Material: | Black Thermoplastic, UL 94V-0 rated |
| Hardware Material: | Steel |
| Hardware Finish: | Chromate over Zinc |

Specifications and dimensions subject to change

Dimensions shown in mm (inch)

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Cannon D-Subminiature Accessories

Locking Hardware

Screw Lock Assemblies

ITT offers the largest variety of locking and latching hardware. Refer to the accessories selection guide on pages 2-3 for use with Cannon backshells.

Product Features
- Ensures positive mating
- Provides locking and latching for high vibration applications

Male Screw Lock

- Kit consists of 1 screw and 1 clip
- Order 2 per connector
- Similar to M24308/25-Style

Materials and Finishes

<table>
<thead>
<tr>
<th>Material</th>
<th>Steel</th>
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<tbody>
<tr>
<td>Finish</td>
<td>Trivalent Chromate over Zinc</td>
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</table>

<table>
<thead>
<tr>
<th>Shell</th>
<th>Size</th>
<th>each P/N</th>
<th>2 each P/N</th>
<th>A ±0.38 (0.015)</th>
<th>B ±0.2 (0.010)</th>
<th>C ±0.13 (0.005)</th>
<th>RoHS Compliant</th>
<th>RoHS Compliant</th>
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<tr>
<td>DD</td>
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<td>D20420</td>
<td>D20420-009</td>
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<td>16.66 (0.656)</td>
<td>D20420-157</td>
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<td>14.10 (0.555)</td>
<td>16.66 (0.656)</td>
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<td>14.10 (0.555)</td>
<td>16.66 (0.656)</td>
<td>14.10 (0.555)</td>
<td>D20419-211</td>
<td>D20419-218</td>
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</tr>
<tr>
<td>DE</td>
<td>DE, DA, DB, DC</td>
<td>D20419-212</td>
<td>14.10 (0.555)</td>
<td>16.66 (0.656)</td>
<td>14.10 (0.555)</td>
<td>D20419-211</td>
<td>D20419-218</td>
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<tr>
<td>DE</td>
<td>DE, DA, DB, DC</td>
<td>D20419-213</td>
<td>14.10 (0.555)</td>
<td>16.66 (0.656)</td>
<td>14.10 (0.555)</td>
<td>D20419-211</td>
<td>D20419-218</td>
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<td>DE, DA, DB, DC</td>
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<td>16.66 (0.656)</td>
<td>14.10 (0.555)</td>
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<td>D20419-215</td>
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<td>16.66 (0.656)</td>
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<td>16.66 (0.656)</td>
<td>14.10 (0.555)</td>
<td>D20419-211</td>
<td>D20419-218</td>
<td></td>
</tr>
</tbody>
</table>

Dimensions shown in mm (inch)
Specifications and dimensions subject to change

www.ittcannon.com
Cannon D-Subminiature Accessories

Locked Hardware

Female Screw Lock

- Kit consists of 1 nut, 3 washer, 1 lock washer, 1 hex nut.
- Order 2 per connector.

Material: Steel
Finish: Chromate over Cadmium (Mil Spec) or Zinc (RoHS)

<table>
<thead>
<tr>
<th>Yellow Chromate Over Cadmium</th>
<th>Chromate Over Zinc</th>
<th>RoHS Compliant Part Number</th>
<th>A ± 0.38 (.015)</th>
<th>Designed to be compatible to Mil Spec Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kit of 2 each</td>
<td>Kit of 2 each</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>D20418-2</td>
<td>D20418-82</td>
<td>D20418-134</td>
<td>7.92 (.312)</td>
<td>M24308/26-1F-Style</td>
</tr>
<tr>
<td>D20418-50</td>
<td>D20418-131</td>
<td>D20418-135</td>
<td>12.70 (.500)</td>
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</tr>
<tr>
<td>D20418-39</td>
<td>D20418-83</td>
<td>D20418-136</td>
<td>15.88 (.625)</td>
<td>M24308/26-2F-Style</td>
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<tr>
<td>D20418-14</td>
<td>D20418-132</td>
<td>D20418-137</td>
<td>19.05 (.750)</td>
<td>-</td>
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</tbody>
</table>

Lockwasher

Screw Locks for Connectors with Integral Threaded Inserts

- Kit consists of 1 jackpost, 1 lock washer.
- Order 2 per connector.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>THD A</th>
<th>THD B</th>
</tr>
</thead>
<tbody>
<tr>
<td>D121073-39</td>
<td>#4-40 UNC-2B</td>
<td>#4-40 UNC-2A</td>
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<tr>
<td>D121041    *</td>
<td>#4-40 UNC-2B</td>
<td>#4-40 UNC-2A</td>
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<tr>
<td>D121073-42</td>
<td>M3</td>
<td>M3</td>
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Loose Spacer

Part Number: 253-0343-000 (D*M Style)  Part Number: 253-0343-011 (D*MA Style)
Dim A: 5.84 ± .08 (.230 ± .003) Dim A: 9.40 ± .13 (.370 ± .005)

Material: Aluminum
Finish: Chromate over Cadmium

Dimensions shown in mm (inch)
Specifications and dimensions subject to change

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Cannon D-Subminiature Accessories

Slide Lock Assemblies

ITT offers the largest variety of locking and latching hardware. Refer to the accessories selection guide on pages 2-3 for use with Cannon backshells.

Product Features
- Ensures positive mating
- Provides locking and latching for high vibration applications

Slide Lock Retainer Assembly

- Kit consists of 1 sliding lock plate, 2 mounting screws, 2 lock washer, 2 hex nuts
- Order 1 kit per connector

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Material</th>
<th>Finish/Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sliding Lock Plate</td>
<td>Stainless Steel</td>
<td>Passivated</td>
</tr>
<tr>
<td>Screw, Mounting</td>
<td>Steel</td>
<td>Trivalent Chromium over Zinc</td>
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<tr>
<td>Washer Lock</td>
<td>Steel</td>
<td></td>
</tr>
<tr>
<td>Nut, Hex</td>
<td>Steel</td>
<td></td>
</tr>
</tbody>
</table>

Slide Lock Post Assemblies

- Consists of 1 post, 2 washers, 1 lock washer, and 1 hex nut.
- Order 2 per connector.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material, Finish</th>
<th>Kit of 2 each</th>
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</thead>
<tbody>
<tr>
<td>D53018</td>
<td>Steel, Chromate/Zinc</td>
<td>Each¹,²</td>
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<td>D53018-11</td>
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<td>D53018-14</td>
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<tr>
<td>D53018-20</td>
<td>Stainless Steel, Passivated</td>
<td>D53018-11</td>
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</table>

Dimensions shown in mm (inch)
Specifications and dimensions subject to change

www.ittcannon.com
Cannon D-Subminiature Accessories

Spring Latch Assemblies

ITT offers the largest variety of locking and latching hardware. Refer to the accessories selection guide on pages 2-3 for use with Cannon backshells.

Product Features
- Low Cost
- Minimizes field connection time
- Positive lock between connectors
- Packaged 2 kits per bag

Materials and Finishes
Material: Stainless Steel
Treatment: Passivated

Spring Latch Plate Assembly

• Kit consists of 1 plate, 1 screw, 1 lock washer, 1 hex nut.
• Order 2 kits per connector.

Spring Latch Assembly

• Kit consists of 1 spring, 1 screw, 1 bracket, 1 lock washer, 1 hex nut.
• Order 2 kits per connector. Front panel mounting.

ITT offers the largest variety of locking and latching hardware. Refer to the accessories selection guide on pages 2-3 for use with Cannon backshells.

Product Features
- Low Cost
- Minimizes field connection time
- Positive lock between connectors
- Packaged 2 kits per bag

Materials and Finishes
Material: Stainless Steel
Treatment: Passivated

Spring Latch Plate Assembly

• Kit consists of 1 plate, 1 screw, 1 lock washer, 1 hex nut.
• Order 2 kits per connector.

Spring Latch Assembly

• Kit consists of 1 spring, 1 screw, 1 bracket, 1 lock washer, 1 hex nut.
• Order 2 kits per connector. Front panel mounting.

Dimensions shown in mm (inch)
Specifications and dimensions subject to change

www.ittcannon.com
Cannon D-Subminiature Accessories

Jackscrew/Jackpost Assemblies

ITT offers the largest variety of locking and latching hardware. Refer to the accessories selection guide on pages 2-3 for use with Cannon backshells.

Jackscrew Assembly

• Kit consists of 2 studs, 2 heads, 1 tube retaining compound (US only)
• Order one kit per connector

Part Number: D110550
Materials and Finishes
Material: Stainless Steel
Treatment: Passivated

Jackpost Assembly

• Kit consists of 2 posts, 2 hex nuts, 2 lock washer
• Order one kit per connector

Part Number: D110551
Materials and Finishes
Material: Stainless Steel
Treatment: Passivated

Specifications and dimensions subject to change
www.ittcannon.com

NOTE: Jack post is not compatible with rear-panel mount connectors.
Guide Pin Plate

- Useful in blind mate applications.
- Kit consists of 1 plate, 2 screws.
- Guide pin inserts for Size 8 cavities for Combo D® connectors also available. Refer to Combo D Catalog.

Plate and Hardware Material: Steel
Plate and Hardware Finish: Chromate over Zinc

Recommended Panel Cutout

Dimensions shown in mm (inch)
Specifications and dimensions subject to change

www.ittcannon.com
Cannon D-Subminiature Accessories

Guide Pin Plate

Male

• Useful in blind mate applications.
• Kit consists of 1 plate, 2 sems screws, 2 rivets, 2 guide pins, 2 washer
• Guide pin inserts for Size 8 cavities for Combo D® connectors also available. Refer to Combo D® Catalog.

Plate and Hardware Material: Steel
Plate and Hardware Finish: Chromate over Zinc
Guide Pin Material: Stainless Steel

<table>
<thead>
<tr>
<th>Shell</th>
<th>Layout</th>
<th>Number</th>
<th>A ±0.41 (.016)</th>
<th>B ±0.13 (.005)</th>
<th>C ±0.13 (.005)</th>
<th>D ±0.13 (.005)</th>
<th>E ±0.13 (.005)</th>
<th>F ±0.41 (.016)</th>
<th>G ±0.41 (.016)</th>
<th>H ±0.41 (.016)</th>
<th>J ±0.41 (.016)</th>
<th>K ±0.41 (.016)</th>
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<tr>
<td>DE</td>
<td>09</td>
<td>DE111919</td>
<td>49.61 (1.953)</td>
<td>46.08 (1.813)</td>
<td>33.91 (1.335)</td>
<td>18.85 (0.741)</td>
<td>25.40 (1.000)</td>
<td>19.05 (0.750)</td>
<td>25.00 (0.984)</td>
<td>12.29 (0.484)</td>
<td>38.89 (1.531)</td>
<td>6.15 (0.242)</td>
</tr>
<tr>
<td>DA</td>
<td>15</td>
<td>DA22213</td>
<td>57.96 (2.282)</td>
<td>48.41 (1.906)</td>
<td>42.24 (1.663)</td>
<td>22.81 (0.896)</td>
<td>25.40 (1.000)</td>
<td>19.05 (0.750)</td>
<td>33.32 (1.312)</td>
<td>12.29 (0.484)</td>
<td>38.89 (1.531)</td>
<td>6.15 (0.242)</td>
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<tr>
<td>DB</td>
<td>25</td>
<td>DB22255</td>
<td>71.63 (2.820)</td>
<td>62.13 (2.446)</td>
<td>55.96 (2.199)</td>
<td>29.67 (1.168)</td>
<td>25.40 (1.000)</td>
<td>19.05 (0.750)</td>
<td>47.04 (1.852)</td>
<td>12.29 (0.484)</td>
<td>51.99 (2.047)</td>
<td>6.15 (0.242)</td>
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<tr>
<td>DC</td>
<td>37</td>
<td>DC22070</td>
<td>88.11 (3.469)</td>
<td>78.59 (3.094)</td>
<td>72.42 (2.851)</td>
<td>37.90 (1.492)</td>
<td>25.40 (1.000)</td>
<td>19.05 (0.750)</td>
<td>63.50 (2.500)</td>
<td>12.29 (0.484)</td>
<td>68.25 (2.687)</td>
<td>6.15 (0.242)</td>
</tr>
<tr>
<td>DD</td>
<td>50</td>
<td>DD21962</td>
<td>85.72 (3.375)</td>
<td>76.20 (3.000)</td>
<td>69.82 (2.749)</td>
<td>36.50 (1.437)</td>
<td>28.58 (1.125)</td>
<td>22.20 (0.874)</td>
<td>61.11 (2.406)</td>
<td>15.06 (0.593)</td>
<td>66.93 (2.635)</td>
<td>7.52 (0.296)</td>
</tr>
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</table>

Recommended Panel Cutout
Cannon D-Subminiature Accessories

High Reliability Connector Saver

Engaging Face, Pin Side

NOTE: Hardware removed for clarity.

Specifications

Temperature: -55º C to 105º C
Current Rating: 7 A
Dielectric withstanding Voltage: 500 VAC at Sea Level

Materials and Finishes

<table>
<thead>
<tr>
<th>Description</th>
<th>Material</th>
<th>Finish</th>
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<tbody>
<tr>
<td>Shells</td>
<td>Steel</td>
<td>Yellow Chromate over Zinc</td>
</tr>
<tr>
<td>Insulator</td>
<td>White Thermoplastic, UL 94V-0</td>
<td>—</td>
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<tr>
<td>Contacts</td>
<td>Copper Alloy</td>
<td>Gold Over Copper</td>
</tr>
<tr>
<td>Locking Hardware</td>
<td>Stainless Steel</td>
<td>Passivated</td>
</tr>
</tbody>
</table>

Dimensions shown in mm (inch)
Specifications and dimensions subject to change
Cannon D-Subminiature Accessories

Polarizing Plates

**Material:** Black plastic, 94-V-O rated

<table>
<thead>
<tr>
<th>Part Number by Shell Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tbody>
<tr>
<td>DE 115398</td>
<td>1.208 (30.7)</td>
<td>0.629 (16)</td>
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<tr>
<td>DA 115398-1</td>
<td>1.535 (39.0)</td>
<td>0.629 (16)</td>
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<td>DC 115398-2</td>
<td>2.082 (52.9)</td>
<td>0.629 (16)</td>
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<tr>
<td>DD 115398-3</td>
<td>2.530 (63.8)</td>
<td>0.749 (19)</td>
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Right Angle Brackets (Used with 90° Printed Circuit Connector D*M, D*, D*C, D*U)

**Material:** Black Polyester, UL-94V-O Rated

<table>
<thead>
<tr>
<th>Shell Size</th>
<th>Part Number</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>015-0338-000</td>
<td>1.224 (31.1)</td>
<td>.984 (24.0)</td>
<td>.340 (8.63)</td>
<td>.484 (12.3)</td>
<td>24.7 (6.27)</td>
<td>.283 (7.2)</td>
</tr>
<tr>
<td>DA</td>
<td>015-0339-000</td>
<td>1.552 (39.4)</td>
<td>1.312 (33.3)</td>
<td>.340 (8.63)</td>
<td>.484 (12.3)</td>
<td>24.7 (6.27)</td>
<td>.283 (7.2)</td>
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<tr>
<td>DC</td>
<td>015-0340-000</td>
<td>2.092 (53.1)</td>
<td>1.852 (47.0)</td>
<td>.340 (8.63)</td>
<td>.484 (12.3)</td>
<td>24.7 (6.27)</td>
<td>.283 (7.2)</td>
</tr>
<tr>
<td>DD</td>
<td>015-0342-000</td>
<td>2.646 (67.2)</td>
<td>2.406 (61.1)</td>
<td>.395 (10.0)</td>
<td>.594 (15.1)</td>
<td>24.7 (6.27)</td>
<td>.283 (7.2)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Shell Size</th>
<th>Part Number</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>DE</td>
<td>015-0348-000</td>
<td>1.224 (31.1)</td>
<td>.984 (24.0)</td>
<td>.340 (8.63)</td>
<td>.484 (12.3)</td>
<td>24.7 (6.27)</td>
<td>.283 (7.2)</td>
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<tr>
<td>DA</td>
<td>015-0349-000</td>
<td>1.552 (39.4)</td>
<td>1.312 (33.3)</td>
<td>.340 (8.63)</td>
<td>.484 (12.3)</td>
<td>24.7 (6.27)</td>
<td>.283 (7.2)</td>
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<tr>
<td>DC</td>
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<td>2.092 (53.1)</td>
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<td>.340 (8.63)</td>
<td>.484 (12.3)</td>
<td>24.7 (6.27)</td>
<td>.283 (7.2)</td>
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<tr>
<td>DD</td>
<td>015-0352-000</td>
<td>2.646 (67.2)</td>
<td>2.406 (61.1)</td>
<td>.395 (10.0)</td>
<td>.594 (15.1)</td>
<td>24.7 (6.27)</td>
<td>.283 (7.2)</td>
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</table>

Wire Hole Fillers (D*MA Series Only)

**Material:** Nylon

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Insert Type</th>
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</thead>
<tbody>
<tr>
<td>DMA 51236-1</td>
<td>Socket</td>
</tr>
<tr>
<td>DMA 51235-1</td>
<td>Pin</td>
</tr>
</tbody>
</table>

Dimensions shown in mm (inch)

Specifications and dimensions subject to change

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Cannon D-Subminiature Accessories

Dust Cap

Dust caps provide protection from moisture and dust for unused I/O ports.

Product Features
- Dust Caps meet the static decay test requirements of MIL-B-81705C, Type II.
- Dust Caps have an integral flange for easy application and removal.

Materials and Finishes
- Material: Polyethylene

Interfacial Seal

Interfacial seals provide moisture resistance at the mating interface.

Product Features
- Other Interfacial Seals in the Combo D® layouts are available upon request.

Materials and Finishes
- Material: Silastic Sheet

Potting Shell

Potting shells are molded with a thin flange 0.76 (.030) to permit the use of D Subminiature locking devices.

Materials and Finishes
- Material: Nylon
- Color: Natural (white)

<table>
<thead>
<tr>
<th>Black Antistatic</th>
<th>Red Caps</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Surface Resistivity &lt;1x10^10 ohm/sq)</td>
<td>(Surface Resistivity 10^9-10^12 ohm/sq)</td>
</tr>
<tr>
<td>I.D.</td>
<td>A</td>
</tr>
<tr>
<td>DE-59-20BA</td>
<td>DE-59-20RC</td>
</tr>
<tr>
<td>DA-59-20BA</td>
<td>DA-59-20RC</td>
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<tr>
<td>DB-59-20BA</td>
<td>DB-59-20RC</td>
</tr>
<tr>
<td>DC-59-20BA</td>
<td>DC-59-20RC</td>
</tr>
<tr>
<td>DD-59-20BA</td>
<td>DD-59-20RC</td>
</tr>
</tbody>
</table>

| DE-60-20BA | DE-60-20RC | Pin | 31.80 (1.250) | 12.95 (.510) | 26.52 (1.044) | 9.05 (3.55) |
| DA-60-20BA | DA-60-20RC | Pin | 41.10 (1.620) | 12.95 (.510) | 39.34 (1.550) | 9.05 (3.55) |
| DB-60-20BA | DB-60-20RC | Pin | 54.20 (2.130) | 13.46 (.530) | 44.24 (1.740) | 9.10 (3.59) |
| DC-60-20BA | DC-60-20RC | Pin | 60.71 (2.390) | 13.46 (.530) | 56.90 (2.240) | 9.37 (3.69) |
| DD-60-20BA | DD-60-20RC | Pin | 58.17 (2.290) | 16.00 (.630) | 54.28 (2.137) | 12.04 (4.74) |

Potting shells are molded with a thin flange 0.76 (.030) to permit the use of D Subminiature locking devices.

Materials and Finishes
- Material: Polyethylene
- Color: Natural (white)

ITT Cap

Dimensions shown in mm (inch)
Specifications and dimensions subject to change
www.ittcannon.com
## Cannon D-Subminiature Accessories

<table>
<thead>
<tr>
<th>Standard RoHS Part #</th>
<th>Standard RoHS Part #</th>
<th>Page #</th>
<th>Standard RoHS Part #</th>
<th>Page #</th>
<th>Standard RoHS Part #</th>
<th>Page #</th>
<th>Standard RoHS Part #</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>075-0354-003 Same</td>
<td>DA22214 Same</td>
<td>18</td>
<td>DD121073-53 Same</td>
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<td>250-8501-004 Same</td>
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<td>DD19678-4 Same</td>
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Dimensions shown in mm (inch)  
Specifications and dimensions subject to change  
www.ittcannon.com
Product Safety and Warranty

1. MATERIAL CONTENT AND PHYSICAL FORM
   Electrical connectors do not usually contain hazardous materials. They contain conducting and non-conducting materials and can be divided into two groups.
   a) Printed circuit types and low cost audio types which employ all plastic insulators and casings.
   b) Rugged, Fire Barrier and High Reliability types with metal casings and either natural rubber, synthetic rubber, plastic or glass insulating materials. Contact materials vary with type of connector and also application and are usually manufactured from either: Copper, copper alloys, nickel, alumel, chromel or steel. In special applications, other alloys may be specified.

2. FIRE CHARACTERISTICS AND ELECTRIC SHOCK HAZARD
   There is no fire hazard when the connector is correctly wired and used within the specified parameters. Incorrect wiring or assembly of the connector or careless use of metal tools or conductive fluids, or transit damage to any of the component parts may cause electric shock or burns. Live circuits must not be broken by separating mated connectors as this may cause arcing, ionization and burning. Heat dissipation is greater at maximum resistance in a circuit. Hot spots may occur when resistance is raised locally by damage, e.g. cracked or deformed contacts, broken strands of wire. Local overheating may also result from the use of the incorrect application tools or from poor quality soldering or slack screw terminals. Overheating may occur if the ratings in the product Data Sheet/Catalog are exceeded and can cause breakdown of insulation and hence electric shock. If heating is allowed to continue it intensifies by further increasing the local resistance through loss of temper of spring contacts, formation of oxide film on contacts and wires and leakage currents through carbonization of insulation and tracking paths. Fire can then result in the presence of combustible materials and this may release noxious fumes. Overheating may not be visually apparent. Burns may result from touching overheated components.

3. HANDLING
   Care must be taken to avoid damage to any component parts of electrical connectors during installation and use. Although there are normally no sharp edges, care must be taken when handling certain components to avoid injury to fingers. Electrical connectors may be damaged in transit to the customers, and damage may result in creation of hazards. Products should therefore be examined prior to installation/use and rejected if found to be damaged.

4. DISPOSAL
   Incineration of certain materials may release noxious or even toxic fumes.

5. APPLICATION
   Connectors with exposed contacts should not be selected for use on the current supply side of an electrical circuit, because an electric shock could result from touching exposed contacts on an unmated connector. Voltages in excess of 30 V ac or 42.5 V dc are potentially hazardous and care should be taken to ensure that such voltages cannot be transmitted in any way to exposed metal parts of the connector body. The connector and wiring should be checked, before making live, to have no damage to metal parts or insulators, no solder blobs, loose strands, conducting lubricants, swarf, or any other undesired conducting particles.

IMPORTAN'T GENERAL INFORMATION
(i) Air and creepage paths/Operating voltage. The admissible operating voltages depend on the individual applications and the valid national and other applicable safety regulations.
(ii) Temperature
   All information given are temperature limits. The operation temperature depends on the individual application.
(iii) Other important information
   Cannon continuously endeavors to improve their products. Therefore, Cannon products may deviate from the description, technical data and shape as shown in this catalog and data sheets.

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As a world leader in circular, filter, and hermetic connectors, ITT can leverage its design and manufacturing expertise to fit virtually any application. Our expertise includes fast positive mating for a wide range of military applications, as well as numerous sizes and contact configurations for various harsh environments.

Cannon invented D-sub connectors in 1952. Our family of D-Subs now includes combinations of signal, power and RF, as well as severe service sealed connectors. Cannon D-Subs are available with an extensive line of backshells and accessories and are one of the most economical shielded connector solutions available.

Cannon fiber optic solutions provide an excellent performance/cost value. Performance may be tailored to the end system, with our use of superior materials and bonding agents providing highly effective solutions. Our wide variety of products include fiber optic hybrid contacts, multi-channel, rack and panel and hi-rel assemblies.

Developed first by Cannon in the 1960s, Microminiature Connectors offer high performance and reliability with exceptional versatility. Available in rectangular, circular and strip-style configurations for countless applications, many of our highly engineered Microminiature connector products meet critical customer demands in multiple applications across the Aerospace & Defense industry.

Pioneered by Cannon during the 1930s, our Rack & Panel Connectors offer an unmatched variety of shell configurations and insert arrangements, as well as materials, plating and contact options. Today, we are recognized as an industry leader, offering an unparalleled range of off-the-shelf and custom Rack & Panel products to align with customer needs.

ITT Cannon has been providing interconnect products to the Microwave and RF industry since 1963 (formerly The Sealectro Corporation). The RF 50 & 75 Ohm product lines cover UHF band through Ku band requirements. These connectors and cable assemblies are available with a thread type, snap type, bayonet type or slide on coupling method. The frequencies range from DC to 18+ GHz.

ITT Cannon is a leading global manufacturer of connector products serving international customers in the aerospace and defense, medical, energy, transportation and industrial end markets. Whether delivering critical specs to aircraft pilots, streaming data through communications satellites or enabling ultrasound technology that gives an expectant mother the first glimpse of her unborn child, Cannon connects the world’s most important information with the people who need it. To learn more, visit www.ittcannon.com
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