Amphenol® 67 and 165 Series Miniaturized Standard Connectors

12-023-6
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#### Sales Office Listing
Amphenol® 67 Series “Minni E”
environmental resistant cylindrical connectors

**DESIGN CHARACTERISTICS**
- Approximately half the weight of standard cylindricals
- Quick, positive, stainless steel bayonet coupling
- Operating temperatures from -67°F to +257°F per MIL-C-5015
- Sealed connectors capable of 1500 VRMS at 70,000 ft. altitude
- Vibration resistance of 10 to 2,000 cps at 20Gs
- Interfacial seal of neoprene rubber with individual contact barriers
- Moisture resistance exceeds MIL-C-5015 requirements with potting
- UL approved recognition file E115497

**CUSTOMER OPTIONS**
- Five shell styles
- Choice of unitized back end grommet or provision for potting
- Seventeen insert configurations
- Four construction classes available:
  - E - with unitized grommet for individual wire seal
  - P - includes potting mold
  - J - sealing clamp for jacketed cable
  - C - vise action with two-screw strain relief

Shell components are fabricated from high grade aluminum with gray anodize finish and stainless steel bayonet pins and slots. Contacts are copper alloy gold over nickel plate. Inserts are diallyl phthalate, providing high arc and insulation resistance under both humidity and thermal stress conditions. Positive locking action is provided by the spring-loaded coupling ring.

Amphenol® 67 Series connectors are ideal for applications that require a light to medium weight, durable, environmentally sealed connector.

For additional information on Amphenol® 67 Series connectors, or for special application requirements, contact your local sales office, authorized distributor, or Amphenol Corporation
Amphenol Aerospace
40-60 Delaware Avenue
Sidney, New York 13838-1395
Phone: 607-563-5011
Fax: 607-563-5157
www.amphenol-aerospace.com

Amphenol Aerospace is a certified ISO 9001 manufacturer.

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<table>
<thead>
<tr>
<th>Voltage Rating</th>
<th>Rating**</th>
<th>Mechanical Spacing (Nominal)</th>
<th>Flashover V-RMS*</th>
<th>Test V-RMS*</th>
<th>Recommended Working Voltage DC</th>
<th>AC</th>
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<tbody>
<tr>
<td>Sea Level (unsealed) A B</td>
<td>.034 .046</td>
<td>2,000 2,300</td>
<td>1,500 1,800</td>
<td>700 840</td>
<td>500 600</td>
<td></td>
</tr>
<tr>
<td>Sea Level (sealed) A B</td>
<td>.034 .046</td>
<td>2,500 3,000</td>
<td>2,000 2,500</td>
<td>700 840</td>
<td>500 600</td>
<td></td>
</tr>
<tr>
<td>70,000 ft. (unsealed) A B</td>
<td>.034 .046</td>
<td>500 600</td>
<td>375 450</td>
<td>175 210</td>
<td>125 150</td>
<td></td>
</tr>
<tr>
<td>70,000 ft. (sealed) A B</td>
<td>.034 .046</td>
<td>2,500 3,000</td>
<td>1,500 1,800</td>
<td>700 840</td>
<td>500 600</td>
<td></td>
</tr>
</tbody>
</table>

* RATING - “B” rating is for insert 14-5 which takes a higher voltage; “A” rating is for other inserts.
** TYPICAL FLASHOVER VOLTAGES AT STANDARD CONDITIONS (unsealed) Refers to connectors with no provisions for sealing front or rear areas. (sealed) Refers to connectors that are potted or pressurized in mounting, with front and rear areas sealed.
67 Series
connector applications

With Grommet for Individual Wire Seal

With Form for Potting Seal

With Standard Type Cable Clamp for Unjacketed Individual Wire Leads

Plugs

Cable-to-Cable Receptacles

Wall Receptacles

67-06E

67-01E

67-00E

67-06P

67-01P

67-00P

67-06C

67-01C

67-00C

Panel Mounting Receptacle

Round Flange Receptacle

With Cable Seal for Jacketed Cable

67-02E

67-03E

67-06J

Mounting Dimensions
(For all 67 Series square flange connectors)

<table>
<thead>
<tr>
<th>Connector Size</th>
<th>A</th>
<th>B</th>
<th>Suggested Mounting Hole</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>.812</td>
<td>1.031</td>
<td>.700</td>
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<tr>
<td>14</td>
<td>.906</td>
<td>1.125</td>
<td>.822</td>
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<tr>
<td>18</td>
<td>1.062</td>
<td>1.312</td>
<td>1.072</td>
</tr>
<tr>
<td>20</td>
<td>1.156</td>
<td>1.437</td>
<td>1.197</td>
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<tr>
<td>22</td>
<td>1.250</td>
<td>1.562</td>
<td>1.291</td>
</tr>
</tbody>
</table>

NOTE: All dimensions for reference only.
67 Series
connector applications

<table>
<thead>
<tr>
<th>Connector Size</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>.662</td>
<td>.062</td>
<td>.690</td>
</tr>
<tr>
<td>14</td>
<td>.781</td>
<td>.062</td>
<td>.812</td>
</tr>
<tr>
<td>18</td>
<td>1.032</td>
<td>.093</td>
<td>1.062</td>
</tr>
<tr>
<td>20</td>
<td>1.156</td>
<td>.093</td>
<td>1.187</td>
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<tr>
<td>22</td>
<td>1.281</td>
<td>.093</td>
<td>1.281</td>
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<table>
<thead>
<tr>
<th>Connector Size</th>
<th>A</th>
<th>B</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
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<td>1.031</td>
<td>.750</td>
<td>.695</td>
<td>.755</td>
</tr>
<tr>
<td>14</td>
<td>1.156</td>
<td>.875</td>
<td>.820</td>
<td>.880</td>
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<tr>
<td>18</td>
<td>1.406</td>
<td>1.125</td>
<td>1.079</td>
<td>1.130</td>
</tr>
<tr>
<td>20</td>
<td>1.531</td>
<td>1.250</td>
<td>1.195</td>
<td>1.255</td>
</tr>
<tr>
<td>22</td>
<td>1.656</td>
<td>1.375</td>
<td>1.320</td>
<td>1.380</td>
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</tbody>
</table>

NOTE: All dimensions for reference only.
67 Series
insert arrangements

front face of insert illustrated

<table>
<thead>
<tr>
<th>Insert Arrangement</th>
<th>Number of Contacts</th>
<th>Contact Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-7</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td>12-60</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>14-5</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>14-9</td>
<td>9</td>
<td>20</td>
</tr>
<tr>
<td>14-12</td>
<td>12</td>
<td>20</td>
</tr>
</tbody>
</table>

Insert Arrangement 14-61
Number of Contacts 8
Contact Size 20
plus 1 shielded contact

Insert Arrangement 14-63
Number of Contacts 5
Contact Size 16
plus 1 shielded contact

Insert Arrangement 18-24
Number of Contacts 24
Contact Size 20
plus 1 shielded contact

Insert Arrangement 18-62
Number of Contacts 19
Contact Size 20
plus 1 shielded contact

Insert Arrangement 18-64
Number of Contacts 14
Contact Size 16

Insert Arrangement 18-65
Number of Contacts 7
Contact Size 20

Insert Arrangement 20-37
Number of Contacts 37
Contact Size 20

Insert Arrangement 20-66
Number of Contacts 19
Contact Size 16

Insert Arrangement 22-67
Number of Contacts 25
Contact Size 16

Insert Arrangement 22-48
Number of Contacts 48
Contact Size 20

Insert Arrangement 22-68
Number of Contacts 36
Contact Size 20

Insert Arrangement 22-69
Number of Contacts 40
Contact Size 20

Current rating - #20 contact: 7.5 amps, #16 contact: 12 amps
Shielded contact: 7.5 amps

Contact Legend
16 ●
20 ●
shielded ⊗
Amphenol® 67 Series "Minni E" Connectors can be ordered by coded part number. Ordering procedure is illustrated by part number 67-06E12-7PW-100 as shown below:

<table>
<thead>
<tr>
<th>Series Designation</th>
<th>Shell Style</th>
<th>Construction</th>
<th>Insert Arrangement</th>
<th>Type of Contact</th>
<th>Alternate Insert Positions</th>
<th>Deviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>67 –</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Shell Style**
- 00 - Wall mounting receptacle
- 01 - Cable mounting receptacle
- 02 - Panel mount receptacle
- 03 - Rear panel mount, round flange receptacle
- 06 - Cable plug - straight

**Construction**
- E Environmentally sealed (Unitized grommet)
- P Environmentally sealed (Disposable polyethylene potting form furnished)
- J Sealing clamp for jacketed cable (Waterproof)
- C Mechanical Clamp (Sealed only when potted)

**Type of Contact**
- P - Pin
- S - Socket

**Alternate Insert Positions**

**Deviations**
- 100 - 100 μin. gold over silver contacts
- 106 - Pretinned solder wells
- 113 - Aluminum parts iridite finish
Amphenol® 165 Series
miniaturized standard connectors

DESIGN CHARACTERISTICS
• Approximately one-third the size and weight of standard MIL-C-5015 connectors
• Quick, positive, bayonet coupling
• O-ring seals in both plugs and receptacles make connectors pressure proof and water protected when mated
• Meets pressure seal requirements of MIL-C-5015, Class C construction
• UL approved recognition file E115497

CUSTOMER OPTIONS
• Five shell styles in two sizes - large and small
• Seven insert configurations

Shell components are fabricated from high grade aluminum with gray anodize finish. Contacts are copper alloy gold over nickel plate. Inserts are diallyl phthalate, providing high arc and insulation resistance under both humidity and thermal stress conditions. Connectors using female inserts feature a sandwich construction with the insert spun into a cartridge. Connectors are factory sealed to prevent leakage.

Amphenol® 165 Series connectors are ideal for applications that demand a lightweight connector that meets MIL-C-5015 requirements.

For additional information on Amphenol® 165 Series connectors, or for special application requirements, contact your local sales office, authorized distributor, or

Amphenol Corporation
Amphenol Aerospace
40-60 Delaware Avenue
Sidney, New York 13838-1395
Phone: 607-563-5011
Fax: 607-563-5157

Amphenol Aerospace is a certified ISO 9001 manufacturer.

Connector Weights

<table>
<thead>
<tr>
<th>Style</th>
<th>Weight (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small</td>
</tr>
<tr>
<td>Cable receptacle for potting</td>
<td>0.0415</td>
</tr>
<tr>
<td>Cable receptacle</td>
<td>0.0600</td>
</tr>
<tr>
<td>Panel receptacle</td>
<td>0.0264</td>
</tr>
<tr>
<td>Plug</td>
<td>0.0659</td>
</tr>
<tr>
<td>Plug for potting</td>
<td>0.0302</td>
</tr>
</tbody>
</table>
165 Series
connector applications

Panel Receptacle

Cable Receptacle

Cable Plug

Potting Construction

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>.891</td>
<td>.375*</td>
<td>1.063</td>
<td>.781</td>
<td>.391</td>
<td>.875</td>
<td>.813</td>
<td>1.922</td>
</tr>
<tr>
<td>Large</td>
<td>1.141</td>
<td>.656</td>
<td>1.313</td>
<td>.969</td>
<td>.484</td>
<td>1.125</td>
<td>1.063</td>
<td>1.938</td>
</tr>
</tbody>
</table>

* 165-33 and 165-34 have cable opening of .281
NOTE: All dimensions for reference only
# 165 Series

## Insert Arrangements, Order Information

The following chart provides ordering information. For example, to order a 165 Series plug with pin contacts use part number 165-33.

<table>
<thead>
<tr>
<th>Insert Arrangements</th>
<th>Insert Style</th>
<th>Plug</th>
<th>Receptacle Sq. Flange</th>
<th>Cable Receptacle</th>
<th>Potting Constructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 #20 contacts</td>
<td>Pin</td>
<td>165-33</td>
<td>165-35</td>
<td>165-35-1002</td>
<td>165-33-1000</td>
</tr>
<tr>
<td></td>
<td>Socket</td>
<td>165-34</td>
<td>165-36</td>
<td>165-36-1003</td>
<td>165-34-1000</td>
</tr>
<tr>
<td>9 #20 contacts</td>
<td>Pin</td>
<td>165-13</td>
<td>165-15</td>
<td>165-15-1002</td>
<td>165-13-1000</td>
</tr>
<tr>
<td></td>
<td>Socket</td>
<td>165-14</td>
<td>165-16</td>
<td>165-16-1003</td>
<td>165-14-1000</td>
</tr>
<tr>
<td>8 #20 contacts, 1 Shielded contact</td>
<td>Pin</td>
<td>165-82</td>
<td>165-73</td>
<td>165-73-1001</td>
<td>165-82-1000</td>
</tr>
<tr>
<td></td>
<td>Socket</td>
<td>165-61-1008</td>
<td>165-83</td>
<td>165-83-1001</td>
<td>165-83-1000</td>
</tr>
<tr>
<td>12 #20 contacts</td>
<td>Pin</td>
<td>165-9</td>
<td>165-11</td>
<td>165-11-1002</td>
<td>165-9-1000</td>
</tr>
<tr>
<td></td>
<td>Socket</td>
<td>165-10</td>
<td>165-12</td>
<td>165-12-1002</td>
<td>165-10-1000</td>
</tr>
<tr>
<td>14 #16 contacts</td>
<td>Pin</td>
<td>165-29</td>
<td>165-31</td>
<td>165-31-1003</td>
<td>165-29-1000</td>
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<tr>
<td></td>
<td>Socket</td>
<td>165-30</td>
<td>165-32</td>
<td>165-32-1006</td>
<td>165-30-1000</td>
</tr>
<tr>
<td>19 #20 contacts, 1 Shielded contact</td>
<td>Pin</td>
<td>165-86</td>
<td>165-84</td>
<td>165-84-1001</td>
<td>165-86-1000</td>
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<tr>
<td></td>
<td>Socket</td>
<td>165-62-1007</td>
<td>165-85</td>
<td>165-85-1001</td>
<td>165-85-1000</td>
</tr>
<tr>
<td>24 #20 contacts</td>
<td>Pin</td>
<td>165-25</td>
<td>165-27</td>
<td>165-27-1005</td>
<td>165-25-1000</td>
</tr>
<tr>
<td></td>
<td>Socket</td>
<td>165-26</td>
<td>165-28</td>
<td>165-28-1003</td>
<td>165-26-1000</td>
</tr>
</tbody>
</table>

*Voltage rating (Volts RMS at sea level)*:
- 5 #20 contacts: 600 Volts RMS
- 9 #20 contacts: 500 Volts RMS
- 8 #20 contacts, 1 Shielded contact: 500 Volts RMS
- 12 #20 contacts: 500 Volts RMS
- 14 #16 contacts: 500 Volts RMS
- 19 #20 contacts, 1 Shielded contact: 500 Volts RMS
- 24 #20 contacts: 500 Volts RMS