Series 970 PowerTrip®: The Next-Generation Power Connector for Extreme Environments

Glenair®

The widest range of mission-critical interconnect technologies in the world
Series 970 PowerTrip®

The Ultimate Marriage of “Trip 9” Packaging and High-Performance Power

MIL-DTL-5015 power arrangements
MIL-DTL-38999 high-density, precision-machined packaging
MIL-DTL-28840 Navy/shipboard sealing and accessory attachment

= PowerTrip™
**Series 970 PowerTrip®**

### DESIGNER’S CHECKLIST

- Triple-Start ACME Threads
- Watertight Rubber Seals
- High Shock and Vibration
- High Temperature
- EMI Protection
- High Durability
- Low Resistance
- Crimp, Snap-In Contacts
- No. 1/0, 4 and 8 AWG
- Improved Backshell Interface
- Nickel-PTFE Plating
# Series 970 PowerTrip® Specifications

## Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Rating</td>
<td>Up to 400 A per contact</td>
</tr>
<tr>
<td>Dielectric Withstanding Voltage</td>
<td>2000 VAC</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>5000 megohms minimum</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-65° C. to +200° C.</td>
</tr>
<tr>
<td>Shock</td>
<td>300 G</td>
</tr>
<tr>
<td>Vibration</td>
<td>43 G at 175° per D38999</td>
</tr>
<tr>
<td>Shielding Effectiveness</td>
<td>65 dB minimum from 1GHz to 10GHz.</td>
</tr>
<tr>
<td>Durability</td>
<td>2000 mating cycles</td>
</tr>
</tbody>
</table>

## Materials and Finishes

<table>
<thead>
<tr>
<th>Component</th>
<th>Material Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shells, Jam Nuts</td>
<td>Aluminum alloy, stainless steel or marine bronze</td>
</tr>
<tr>
<td>Contacts</td>
<td>High conductivity copper alloy, gold or silver-plated</td>
</tr>
<tr>
<td>Insulators</td>
<td>Glass-reinforced epoxy</td>
</tr>
<tr>
<td>Contact Retention Clip</td>
<td>Beryllium copper alloy</td>
</tr>
<tr>
<td>Seal, O-rings, Grommet</td>
<td>Fluorosilicone rubber</td>
</tr>
<tr>
<td>Spring</td>
<td>Nickel-plated beryllium copper</td>
</tr>
</tbody>
</table>
Series 970 PowerTrip® Benefits

- Provides high power in the smallest form factor
- Improved mechanical, electrical, and environmental performance from general Mil-Spec parts
- Versatile, fulfills many different applications
- Fast, easy mating 360° turn for full mating
- Reduced size and weight compared to 5015/VG95234 solutions

- LouverBand sockets for improved current
- Up to 2000 mating cycles
- Splined backshell interface for improved backshell attachment and EMI shielding
- Ratcheting coupling nut for secure mating
- Operating temperature -65°C to +200°C
- Hermetic and filter options available
# Series 970 PowerTrip®

## Comparison to D38999 and 5015

<table>
<thead>
<tr>
<th></th>
<th>D38999</th>
<th>5015</th>
<th>PowerTrip™</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shell Size</strong></td>
<td>9, 11, 13, 15, 17, 19, 21, 23, 25</td>
<td>8, 10, 12, 14, 16, 18, 20, 22, 24, 28, 32, 36, 40, 44, 48</td>
<td>18, 20, 24, 28, 32, 36, 40, 44</td>
</tr>
</tbody>
</table>
| **DWV (Sea Level)** | SERVICE RATING M - 1300
SERVICE RATING N - 1000
SERVICE RATING I - 1800
SERVICE RATING II - 2300 | INSTRUMENT - 1000
SERVICE RATING A - 2000
SERVICE RATING D - 2800
SERVICE RATING E - 3500
SERVICE RATING B - 4500
SERVICE RATING C - 7000 | 2000 VOLTS                          |
| **Mating Cycle**    | 500 CYCLES, EXCEPT 1500 CYCLES FOR CONTACT STYLE "H" OR "J" | 100 CYCLES, EXCEPT 500 FOR AS34591 CONNECTORS | 500 CYCLES                          |
Series 970 PowerTrip®

Selection guide

- Cable-mount plugs and receptacles
- Panel-mount receptacles
- Filtered receptacles
- Environmental and hermetic feed-thru bulkhead receptacles
Series 970 PowerTrip®

Special configurations and assemblies

Flex termination
Hermetically sealed
Blind mate
Cable with Kellums grip
Series 970 PowerTrip®

The LouverBand Contact

- High-conductivity copper body
- Beryllium copper spring
- Higher ampacity
- Size 1/0 thru size 16a
Series 970 PowerTrip®

The LouverBand Contact: Benefits

- Generates multiple contact points between two conducting surfaces
- Provides consistent and stable force after thousands of mating cycles
- Lowers contact resistance