MT38999 Connectors

For High Density Fiber Optic Interconnect Solutions

The features of the Amphenol MT Cylindrical Connector include:

- High fiber density in a relatively small circular connector package with all the advantages of the MIL-DTL-38999 series III connector
- Three levels of alignment provide for precision fiber to fiber interface:
  - Shell to shell with keying to allow for alternate positions
  - Insert plug to insert receptacle
  - MT contact guide pins
- Compatible with 12-fiber or 24-fiber MT ferrules in multi-mode PC, single mode PC, and single mode APC configurations
- 2 arrangements are available, shell size 11 with one ferrule, and shell size 21 with four ferrules

Very high density can be achieved with the use of Amphenol MT38999 connectors:
- Up to 24 fiber channels in a size 11 shell
- Up to 96 fiber channels in a size 21 shell

OPTICAL / MECHANICAL / ENVIRONMENTAL

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPTICAL (Multi-mode)* Insertion Loss (850 nm)</td>
<td>0.40 dB (typ)</td>
</tr>
<tr>
<td>Thermal Cycling</td>
<td>EIA-364-03D, test condition VII</td>
</tr>
<tr>
<td>Temperature Life</td>
<td>TIA/EIA-455-4; 85° for 336 hours</td>
</tr>
<tr>
<td>Vibration</td>
<td>MIL-STD-810F, Method 514.5</td>
</tr>
<tr>
<td>Mechanical Shock (Operational)</td>
<td>MIL-STD-810F, Method 516.5</td>
</tr>
<tr>
<td>Mechanical Shock (Non-Operational)</td>
<td>MIL-STD-810F, Method 516.5</td>
</tr>
<tr>
<td>Humidity</td>
<td>TIA/EIA-455-5</td>
</tr>
</tbody>
</table>

* Values shown are typical. Optical loss performance dependant on optical launch conditions, end face geometry, end face quality, and grade of MT ferrule.

MT Termini Assembly Kit

Amphenol supplies MT termini assemblies in kits, minus the MT ferrule. MT ferrules that meet the IEC1754-5 specification are recommended for use.

Kit Order Numbers (each are minus the MT ferrules):
- MT male assembly kit (flat ribbon): CF-198136-000
- MT female assembly kit (flat ribbon): CF-198137-000

Components in MT Termini Assembly Kit:
Parts are shipped unassembled.

(MT assembly kit shown)
Easy Steps to build a part number... MT38999

<table>
<thead>
<tr>
<th>1.</th>
<th>2.</th>
<th>3.</th>
<th>4.</th>
<th>5.</th>
<th>6.</th>
<th>7.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Type</td>
<td>Connector Class</td>
<td>Terminus Style</td>
<td>Shell Finish</td>
<td>Shell Style</td>
<td>Shell Size - Insert Arrangement</td>
<td>Insert Type &amp; Key/Keyway Position</td>
</tr>
<tr>
<td>CF–</td>
<td>6</td>
<td>9</td>
<td>9</td>
<td>0</td>
<td>11-01</td>
<td>P</td>
</tr>
</tbody>
</table>

**Step 1. Select a Connector Type**

CF– Designates Multi-Channel Fiber Optic Connector

**Step 2. Select a Connector Class**

Designates

- 5 Aluminum
- 6 Composite
- 8 Stainless Steel

**Step 3. Terminus Style**

Designates

- 9 MT terminus - Flat ribbon cable

**Step 4. Select a Shell Finish**

Designates

- 4 electroless nickel plated aluminum
- 6 Corrosion resistant stainless steel (connector class 8 only)
- 9 Corrosion resistant olive drab cadmium plate aluminum
- D Durmalon™ (Nickel-PTFE)

Durmalon is a trademark of Amphenol Aerospace. For more information on Durmalon, go to www.amphenol-aerospace.com/durmalon.asp

Other shell finishes are available. Consult Amphenol Aerospace for more information.

**Step 5. Select a Shell Style**

Designates

- 0 Wall mount receptacle
- 1 Line receptacle
- 6 Straight plug
- 7 Jam nut receptacle

**Step 6. Select a Shell Size - Insert Arrangement**

Designates

- 11-01 Shell size 11 – Single cavity
- 21-04 Shell size 21 – Four Cavity

**Step 7. Insert Type & Key/Keyway Position**

Insert Type and Keyway Position

P designates pin insert

S designates socket insert

For keyway positioning, choose the alternate rotation suffix from the chart below.

**Alternate Position Suffix**

<table>
<thead>
<tr>
<th>Alternate Position</th>
<th>Suffix Letter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>P</td>
</tr>
<tr>
<td>A</td>
<td>G</td>
</tr>
<tr>
<td>B</td>
<td>I</td>
</tr>
<tr>
<td>C</td>
<td>K</td>
</tr>
<tr>
<td>D</td>
<td>M</td>
</tr>
<tr>
<td>E</td>
<td>R</td>
</tr>
</tbody>
</table>

**MT Insert Availability**

Front face of pin inserts illustrated

**MT Assembly Tool**

Order Number: 11-100000-000

**MT Removal Tool**

Order Number: CF-008025-000

See the Fiber Optic section of Amphenol’s combined circular product catalog, 12-C3 - online at www.amphenol-aerospace.com

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