High-density Circular MT Optical Cable Assemblies are designed for critical, high-reliability applications

Circular MT Connectors, Circular MT Adapter, and Circular MT Receptacle.

Molex’s rugged, high-density circular MT cable assemblies are designed to meet requirements mandated by telecommunication, military, medical and many other industries. Utilizing the low-profile Circular MT or 1-by-3 circular connectors, these cable assemblies are designed to meet or exceed the mechanical specifications of traditional data communication and telecommunication interchassis connections.

The circular MT assemblies use a single MT ferrule housed in a nickel-plated, metal-connector shell. Fiber counts range from 12 to 72 fibers. The metal housing and stainless steel push-pull locking ring provide a more robust design than the current industry standard MTP® and MPO connectors’ polymer housings and latches. The MT ferrule is recessed in both the circular connector and receptacle housings, providing additional improvement over traditional MT connectors. Recessing the ferrule ensures it is scoop-proof, preventing damage to the precise MT alignment pins and ferrule endface during handling and mating of the connector.

The 1-by-3 circular MT connector housings utilize three MT ferrules in a nickel-plated, metal-connector shell. Fiber counts range from 36 fibers up to 72 fibers by using either 12 or 24 fiber MT ferrules. The 1-by-3 circular MT connector housing uses a stainless-steel, locking mechanism to provide a robust connection. The circular MT receptacle and 1-by-3 circular MT adapter housings feature a deep, polarized mating cavity which will reduce alignment-pin hole damage that may occur during the mating process with traditional MT connector systems.

The circular MT receptacle housing uses a jam nut for mounting versus the 1-by-3 circular MT adapter that is flange mount with screws. The shutter designed for the 1-by-3 adapter provides laser eye safety and has passed the TP-91 dust test specification. Molex’s circular MT cable assemblies offer a more robust MT ferrule-based interface versus ribbon-based optical interfaces, which have traditionally been rectangular. The circular MT and 1-by-3 circular MT products ensure improved alignment benefits, increased pull-strength and the use of new round ribbon-cable constructions. Circular MT connectors will be sold only as terminated cable assemblies. Circular MT cable assemblies complement Molex’s existing line of MT products. For more information on Molex’s extensive optical product offering, please visit: www.molex.com/fiber.

Features and Benefits

- MT ferrules are recessed in the connector and receptacle housings ensuring scoop-proof mating which prevents damage to alignment pins and ferrule endface
- Aluminum connector and receptacle housings provide a robust interconnect with exceptional pull strength
- Electro Magnetic Interference (EMI) gasket provide seals and EMI
- Stainless Steel locking mechanism provides a secure latch to prevent accidental demating
- Standard MT ferrules which provide an industry-standard interface with high density and reliable performance
- Enable custom board-to-board stack-height requirements
- Designed for round, multi-fiber jackets to provide improved fiber management
Specifications

Reference Information
Packaging: Custom per assembly

Optical
Ferrule Type: MT Ferrule
Fiber Density: 12 to 72 fibers
Fiber Type:
- Single mode: 9/125μm
- Multimode: 50/125μm or 62.5/125μm
Insertion Loss:
- Single mode: 8 Fiber: 0.12 dB typical <0.5dB max.
- 12 Fiber: 0.15 dB typical <0.75dB max.
- 24 Fiber: 0.20 dB typical <0.75dB max.
- Multimode
- 12 Fiber: 0.15 dB typical <0.5dB max.
- 24 Fiber: 0.22 dB typical <0.75dB max.
- 36 Fiber: 0.30 dB typical <1.0dB max.
- 72 Fiber: 0.35 dB typical <1.25dB max.

Mechanical
Operating Temperature Range: -5 to +75°C
Durability: 200 matings

Physical
Housing: Nickel-plated aluminum

Applications
Telecommunication Equipment
- Hubs, routers, data centers
Instrumentation and Medical Equipment
- Test equipment, switches, video systems
Military
- Communications equipment

Ordering Information

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Component</th>
<th>Component Width</th>
<th>Component Length</th>
<th>Cable Length</th>
<th>Fiber Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>106275-1000*</td>
<td>1-by-3 Circular MT Connector, Double-Ended Assembly</td>
<td>Ø17.175mm (0.676&quot;)</td>
<td>Ø49.00mm (1.92&quot;)</td>
<td>3.00m (9.840&quot;)</td>
<td>3-by-12 Fiber MT = 36 Fibers</td>
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<tr>
<td>106275-1001*</td>
<td>1-by-3 Circular MT Adapter System Drawing</td>
<td>26.2-by-26.2mm (1.03 x 1.03&quot;)</td>
<td>38.80mm (1.527&quot;)</td>
<td>N/A</td>
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<tr>
<td>106275-0000*</td>
<td>1-by-3 Circular MT Connector and Adapter System</td>
<td>N/A</td>
<td>N/A</td>
<td>3.00m (9.840&quot;)</td>
<td></td>
</tr>
</tbody>
</table>

* Only sold as terminated cable assemblies. Circular connector and receptacle components will not be sold separately. Part numbers and sales drawings will be established based on specific customer design requirements.
† Cable Length: Dependent upon customer design requirement
‡ Fiber Density: Fiber counts range from 12 to 72 fibers, dependent upon customer design requirement

www.molex.com/product/circularmt.html