

MediSpec Hybrid Circular MT Cable Assemblies and Receptacles

Integrated Optical and Electrical Solutions

molex

MediSpec Hybrid Circular MT Connectors provide high-performance, mixed optical and electrical signaling to streamline the number of connectors required in medical systems

The Hybrid Circular MT Cable and Receptacle System combines optical and electrical solutions in one connector. This multifunctional connector provides options for three configurable ports by leveraging the existing circular MT optical connector and receptacle design.

For optical connections, any of the three connector ports can utilize the MT ferrule. For multimode versions, both 50/125 and 62.5/125µm fiber are available.

Mating electrical receptacles feature copper MT ferrules. The copper MT connector utilizes copper MT ferrules with the pins. For additional information visit: www.molex.com/link/medispechybridcircular.html.



MediSpec Hybrid Circular MT
Metal/Plastic

Features and Benefits

Custom-configured connector for dual optical and electrical

Hybrid connector and receptacle contains three configurable ports for combining optical and electrical interfaces enables use with the proven optical MT ferrule and 2-4-8 copper electrical contacts

Fiber counts range from 1 to 24 fibers per ferrule

Provides options for different transmission link distances using OS2, OM3, and OM4, multimode and singlemode fibers.

Expanded beam MT ferrule option

Reduces optical loss due to contamination, protects fibers from debris, scratching, pitting and makes the fiber easier to clean; long-term connection reliability; tested to over 5000 cycles

Copper contacts designed to meet MIL-DTL-83513/MIL-DTL32129 standards

Ethernet transmissions up to 1 Gbps. Additional power and ground options available. Proven robustness for over 500 insertions

Copper contacts range from 2 to 8 positions

Copper MT ferrules with 22, 24 and 30 AWG wire in a pin-and-socket format; 22 and 24 AWG contacts deliver up to 3.0A; 30 AWG contacts deliver up to 1.0A; 22, 24 and 30 AWG assemblies will meet Insulation Resistance (IR) at 5000 Megaohms; 22/24 and 30 AWG assemblies will meet Dielectric Withstanding Voltage (DWW) at 600V and 250V, respectively.

Metal and medical-grade plastic housing

Metal housing provides a robust connector to withstand harsh environments and offers EMI shielding. Plastic housing is light-weight and ideal for sensitive applications. Cross compatibility between metal and plastic housing

Custom cable constructions

Allows for use with different cable and conduit types to meet optical and electrical cable requirements for medical applications

Circular-to-custom breakout configurations available

Optical MT and LC cables plus electrical MicroFit 3.0, MicroClasp and various RJ-45 jacks available for board-level connectivity provides a complete and reliable end-to-end solution

Applications

Medical

- Robotic Surgery
- Minimally Invasive Surgery
- Diagnostic Imaging
- Telecommunication

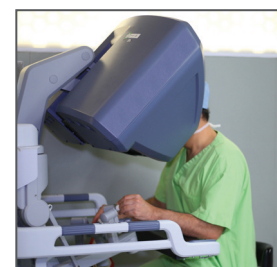
Telecom

Industrial

Aerospace



Diagnostic - IVUS Ultrasound



Robotic Surgery

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Specifications

REFERENCE INFORMATION

Packaging: Bag
 UL File No.: Plastic Connector is rated UL-94V0
 Mates With: Circular Hybrid Receptacles – either plastic or metal
 Designed In: Millimeters
 RoHS: Yes
 Halogen Free: Yes

MECHANICAL

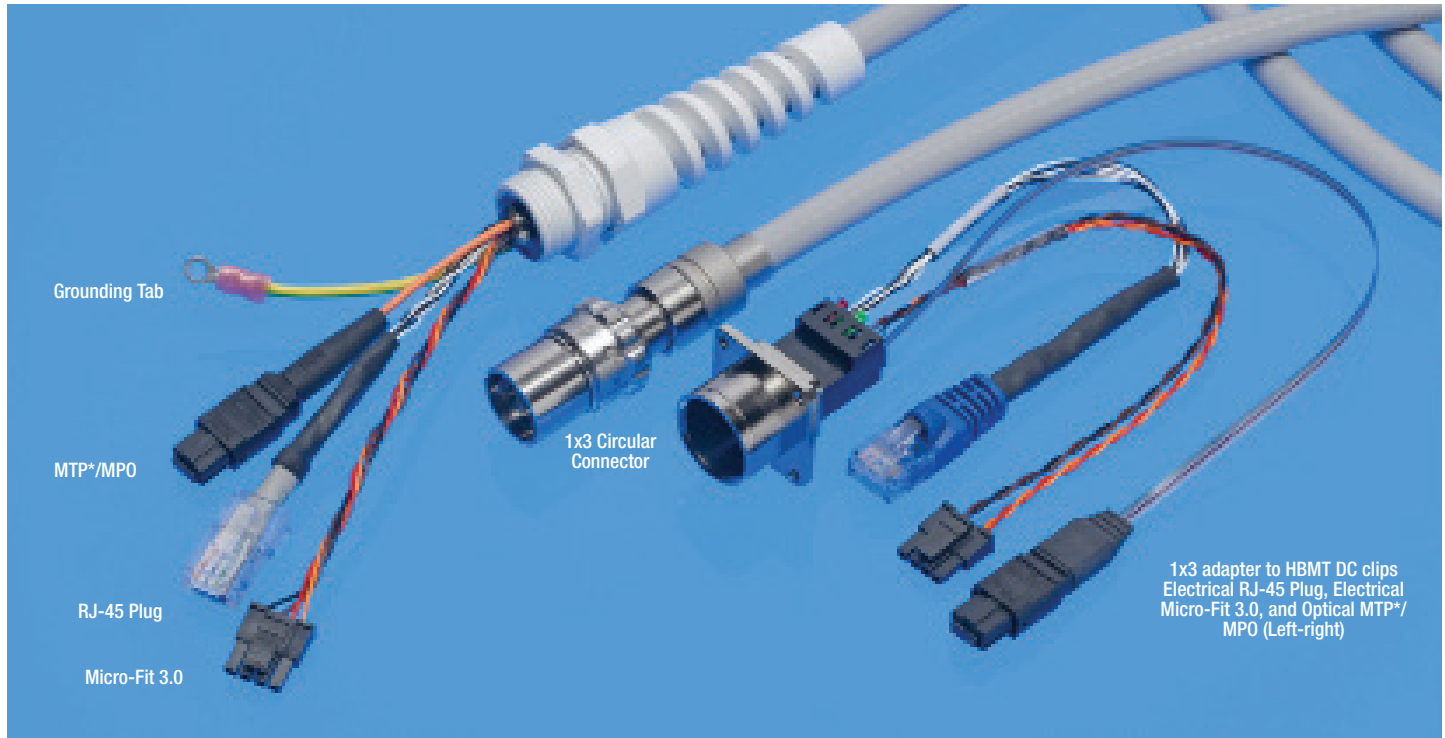
MT Ferrule Insertion Loss: 0.75 dB
 MT Ferrule Return Loss: -20 dB
 Copper Contacts:
 2 Contacts: 22 AWG, 600V, 3.0A
 4 Contacts: 24 AWG, 600V, 3.0A
 8 Contacts: 30AWG, 600V, 1.0A

DURABILITY

Copper Connectors: 500 mate/demates
 Expanded Beam MT Connectors:
 up to 5000 mating cycles

PHYSICAL

Housing:
 Metal Circular – Nickel plated aluminum
 Plastic Circular – Engineering Grade Polymer
 Ferrule - optical:
 PPS plastic (optional lens)
 Ferrule - copper – PEI plastic
 Operating Temperature – connector (polymer or metal): -40 to +60 °C
 Operating Temperature – cable:
 will vary with application and cable type



MediSpec Hybrid Circular MT Metal Cable Assemblies: Circular 1X3 connector and adapter incorporating Grounding tab, Optical MTP*/MPO, Electrical Micro-Fit 3.0, and Electrical RJ-45 Plug for board level connectivity

Ordering Information

Ordering Information	Description	Fiber Type (µm)	Mode	Connectivity	Material
Custom – Contact Molex	Circular connector Assembly, 12F, 24F or hybrid - Series 106291	50/125 62.5/125 9/125	Multimode Single mode	Optical Hybrid	Metal Plastic
Custom – Contact Molex	Circular Receptacle/Adapter, 12F, 24F or hybrid - Series 106291	50/125 62.5/125 9/125	Multimode Single mode	Optical Hybrid	Metal Plastic

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