



Combining premium performance and ease-of-use, MediSpec™ MPC interconnects incorporate proven cost-effective technology to meet the stringent standards of medical-device users

Features and Benefits

Utilizes Molex’s LFH™ contact system	Ensures a reliable electrical interface for applications requiring multiple insertions. Cost efficient. Low insertion and withdrawal forces with high cyclability (10,000 mating cycles)
Simple push-pull engagement with optional locking sleeve	Provides ease-of-use (even with surgical gloves). Optional locking sleeve provides cable un-mating force to meet ANSI/AAMI EC53 specification (>90N) and provides 15 to 20N un-mating force without the locking sleeve
Lightweight medical-grade plastic housing	Withstands medical industry sterilization processes including autoclave, sterrad, EtO, gamma and chemical
Factory sealed (potted) contact interface (pin field) for both plugs and receptacles	Prevents ingress of flux into the contact zone during wire termination processes. Prevents ingress through the pin field during field use
Four standard diameters planned: D1 (up to 8 contacts), D2 (up to 17 contacts), D3 (up to 35 contacts) and D4 (up to 59 contacts) plus four keying positions and six colors	Addresses a full range of medical equipment applications
Selective pin-count capability with each diameter interface	Enables contact-usage flexibility without wasted pins
Seal option to IP64 ratings	Provides ingress protection to a splash-proof specification
Modular design will accommodate inserts for future applications including fiber optics, RF, power, fluidic, air couplings, etc.	Provides a cost-competitive, semi-customized connector with excellent contact performance, specifically for hybrid alternatives
Custom cable assemblies available	Provides a complete solution

Applications

- Medical**
- Surgical Instrumentation
 - Electro-Physiology
 - Therapeutic
 - Patient Monitoring
 - Imaging
 - Dental
 - Disposables (Sensors / Catheters)

- Other Industries**
- Instrumentation
 - Test & Measurement
 - Avionics
 - Data Acquisition
 - Entertainment Equipment

**PRELIMINARY
MediSpec™ Medical
Plastic Circular
(MPC) Interconnect
System**

D2, Female, Panel-Mount Receptacle

D2, Male, In-Line Cable Plug

D2, Male, Single-Use (Disposable), In-Line Cable Plug

Custom Cable Assemblies



MediSpec™ Medical Plastic Circular (MPC) Interconnect System

Left: In-Line Cable Plug; Right: Panel-Mount Receptacle

Specifications

Materials

Contacts:

- Male Blade: Copper Alloy
- Female: High-Performance Copper Alloy

Plating:

- 30m" Au over 100m" Ni, Selective Tin Plated in the Solder Cup

Body Housings and

- Terminal Insulators: PEI

Plating:

- Disposable Male: 10m" Au over 100m" Ni, Selective. Tin Plated in the Solder Cup

Disposable Male Body and

- Back Shell: PC

RoHS Compliant

Electrical

Current Rating:

- 1.0A / Signal Contact
- 10.0A / Power Contact

Test Voltage: 600V rms

Higher Voltage Possible based on pin out configurations

Dielectric Strength:

- PEI = 19.7KV/mm
- PC = 14.9KV/mm

Contact Resistance: <10 mΩ

Mechanical

Latch:

- Lock Assurance Un-Mate Force: >90N (compliant to ANSI/AAMI EC53)
- Passive Latch Un-Mate Force: ~15 to 20N

Contact Mating Cycles (Signal): 10K

- Contact Mating Cycles (Power): 2K (<50 mOhm delta R)

PRE-RELEASE MediSpec™ Medical Plastic Circular (MPC) Interconnect System

Environmental

Temperature Range (PEI): -50 to +170°C

Ingress Protection (Mated):

IP64 Mated (will test to IP67)

Sterilization Resistance

Autoclave, EtO, Gamma, Sterrad

Chemical Resistance

Four Diameter Versions Planned



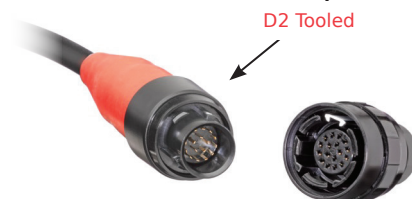
Connector Size	Max Signal Pin Count	Outer Diameter With Lock Sleeve	Outer Diameter Without Lock Sleeve
D1	8	15.5mm	12.5mm
D2	17	20.5mm	15.5mm
D3	35	23mm	20mm
D4	59	27mm	24mm



Without Lock Sleeve



Locking Sleeve



D2 Tooled

www.molex.com/link/medispecmpc.html