

# MediSpec™ Medical Plastic Circular (MPC) Interconnect System



**Combining premium performance and ease-of-use, MediSpec™ Medical Plastic Circular (MPC) Interconnect System incorporates 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 and 10,000 mating cycles. Utilizes economical stamped-and-formed process, which enables selective plating for further cost reduction

Simple push-pull engagement with optional locking sleeve

Easy to use. Optional latch lock provides cable un-mating force to >85N, complying with ANSI / AAMI EC53 specification. Non-locking (passive latch) version provides 15 to 20N un-mating force

Lightweight medical-grade plastic housing (on the standard male plug and panel-mount female receptacles)

Withstands medical industry sterilization processes including autoclave, EtO, gamma and chemical

Factory-sealed 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. Currently available: D2 (up to 17 contacts); Tooling in process: D1 (up to 8 contacts); Planned: D3 (up to 35 contacts) and D4 (up to 59 contacts)  
Four keying positions and six color-coding choices

Addresses a full range of medical equipment applications

IP64 rating option available

Protects against dust ingress and splashing water

Modular design will accommodate inserts for future applications including fiber optics, RF, power, fluidic, air couplings, etc.

Delivers flexibility via alternate interface technologies and hybrid solutions

Custom cable assemblies available

Offers a complete cable solution, from design through manufacturing, in an ISO 13485-certified facility



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Left: Male Plugs; Right: Panel-Mount Receptacle

## Applications

### Medical

- Surgical Instrumentation
- Electrophysiology
- Therapeutic
- Patient Monitoring
- Imaging
- Dental
- Disposables (Sensors / Catheters)

### Other Industries

- Instrumentation
- Test and Measurement
- Avionics
- Data Acquisition
- Entertainment Equipment



Surgical Instrumentation

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## Specifications

### Reference Information

Electronic Industries Association (EIA) Compliant: Yes  
 American National Standards Institute / Association for the Advancement of Medical Instrumentation (ANSI / AAMI) Standards: Yes  
 ROHS Compliant: Yes  
 Halogen Free: Yes  
 Designed in: Millimeters

### Electrical

Current Rating:  
 1.6A / Signal Contact (17 Circuits Loaded at 30°C T-Rise)  
 10.0A / Power Contact (Planned)  
 Test Voltage: 1600V AC  
 Operating Voltage: 300V AC (RMS)  
 Dielectric Strength:  
 PEI = 19.7KV/mm, PC = 14.9KV/mm  
 Contact Resistance (max.): <10 milliohms

### Mechanical

Latch Mating Force (max.): 50N  
 Latch Un-Mate Force (min. / max.): 15N / 35N  
 Latch w/Lock Assurance Un-Mate Force (min.): 85N  
 Contact Mating Cycles (Signal Contacts): 10,000  
 Latch Durability Cycles: > 5,000

### Physical

Body Housings and Terminal Insulators:  
 Standard Product: Polyetherimide (PEI)  
 Single Use Product: Polycarbonate (PC)  
 Contacts:  
 Male Blade: Copper Alloy  
 Female: High-Performance Copper Alloy  
 Plating:  
 Standard Product: 30µ" Au over 100µ" Ni, Selective; Pre-Tinned Solder Cups  
 Disposable Male: 5µ" Au over 100µ" Ni Pre-Tinned Solder Cups  
 Operating Temperature: -40 to +105°C  
 Ingress Protection (Mated):  
 IP50 Standard and Single Use Product  
 IP64 Option for Standard Male and Female only  
 Sterilization Resistance:  
 Autoclave, EtO, Gamma, Chemical

## Ordering Information

### Connector Kits

Order No.	Basic Description	Off-the-Shelf Options				
		Circuit Size	Key Option (4 available)	Body Color	Panel-Mount Color Code	Mated IP Rating
<a href="#">172350-1710</a>	D2, Panel-Mount Receptacle	17	AA	Black	Black	50
<a href="#">172360-1710</a>	D2, Standard Male w/ Locking Latch	17	AA	Black	Black	N/A
<a href="#">172890-1710</a>	D2, Single-Use Male w/ Passive Latch	17	AA	Black	Black	Must Mate with IP50 Panel Mount

### Available Options

Released Connector Kit Series No	Basic Description	Custom Options				
		Circuit Size	Key Option	Body Color	Panel-Mount Color Code	Mated IP Rating
<a href="#">172350</a>	D2, Panel-Mount Receptacle	4 through 16	AB, BB, BA	Gray	Red, Yellow, Blue, Violet, Gray	IP 64 Seal
<a href="#">172360</a>	D2, Standard Male w/ Locking Latch					N/A
<a href="#">172890</a>	D2, Single-Use Male w/ Passive Latch					N/A

[www.molex.com/link/medispecmpc.html](http://www.molex.com/link/medispecmpc.html)