

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
172350-1710	D2, Panel-Mount Receptacle	17	AA	Black	Black	50
172360-1710	D2, Standard Male w/ Locking Latch	17	AA	Black	Black	N/A
172890-1710	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
172350	D2, Panel-Mount Receptacle	4 through 16	AB, BB, BA	Gray	Red, Yellow, Blue, Violet, Gray	IP 64 Seal
172360	D2, Standard Male w/ Locking Latch					N/A
172890	D2, Single-Use Male w/ Passive Latch					N/A

www.molex.com/link/medispecmpc.html