

MediSpec™ Medical Plastic Circular (MPC) Interconnect System

molex®

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

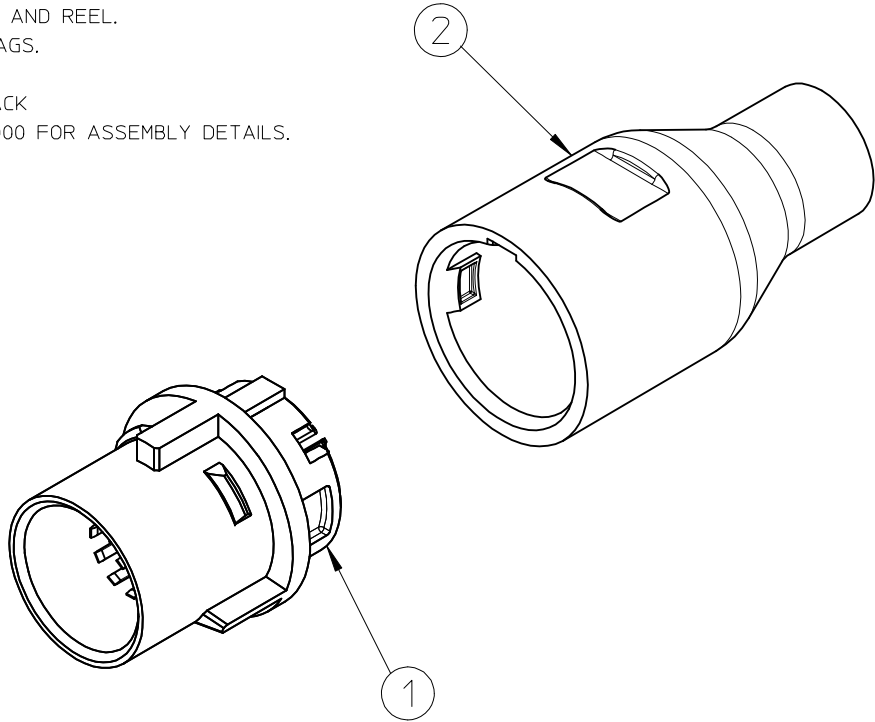
Released Connector Kit Series No	Basic Description	Custom Options				
		Circuit Size	Key Option	Body Color	Panel-Mount Color Code	Mated IP Rating
172350	D2, Panel-Mount Receptacle	4 through 16	AB, BB, BA	Gray	Red, Yellow, Blue, Violet, Gray	IP 64 Seal
172360	D2, Standard Male w/ Locking Latch					N/A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


www.molex.com/link/medispecmpc.html

ITEM NUMBER	P/N	DESCRIPTION	QTY	SPQ
1	172355-2500	MPC D2 17 CIRCUIT DISPOSABLE HOUSING ASSEMBLY	1	10
2	172357-8017	MPC D2 MALE DISPOSABLE BOOT LARGE ID	1	10

NOTES:

1. HOUSING ASSEMBLY TO BE PACKAGED IN TAPE AND REEL.
BOOT TO BE INDIVIDUALLY BULK PACKED IN BAGS.
PER SPEC PK-70873-3344.
2. MATERIAL: MEDICAL GRADE LEXAN; COLOR, BLACK
3. SEE APPLICATION SPECIFICATION AS-172890-0000 FOR ASSEMBLY DETAILS.
4. MATES WITH KIT P/N 172350-1710.



CHGD QTY EC NO: UCP2016-0326 DRWN: JONIAK 2015/07/21 CHKD: APPR: RHODGE 2015/07/21 REV	DESCRIPTION	QUALITY SYMBOLS <div>▽=0</div> <div>▽=0</div> <div>▽=0</div>	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE 4:1	DESIGN UNITS METRIC	 THIRD ANGLE PROJECTION	
				mm	INCH	DRAWN BY JONIAK		DATE 2015/06/25		TITLE MPC D2 MALE DISPOSABLE ASSEMBLY KIT 17 CIRCUIT molex
			4 PLACES	± ---	± ---	CHECKED BY		DATE		
			3 PLACES	± ---	± ---	APPROVED BY		DATE		
			2 PLACES	± ---	± ---	RHODGE		2015/06/26		
			1 PLACE	± 0.13	± ---					
			1 PLACE	± 0.25	± ---					
			0 PLACE	± ---	± ---					
			ANGULAR ±1/2°		MATERIAL NO. 172890-1710		DOCUMENT NO. SD-172890-1710		SHEET NO. 1 OF 1	
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SIZE C		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			