

fischer **disposable** connectors

L.U.C.[™] – Limited Use Connector

new



fischer[®]
CONNECTORS

Edition 1.0

Fischer Limited Use Connectors™ *When low cost* *meets high performance*

With its new Fischer L.U.C.™ (Limited Use Connector) specifically designed for disposable devices, Fischer Connectors® introduces a cost effective solution that does not compromise on quality. Engineered to take advantage of high volume savings while still offering the proven reliability of a Fischer Connectors® product, the new Fischer L.U.C.™ truly contributes to the competitive pricing and performance necessary for disposable medical devices.

Directly mounted into a disposable hand piece, overmolded or mounted to a disposable cable, the new Fischer L.U.C.™ offers multiple configurations and optimally suits a wide array of applications, from catheters to surgical hand tools and more.



Product Benefits

- Low Cost / High Performance
- Ideal for disposable applications
- Meets applicable medical standards
- Sterilizable by EtO and gamma
- Modular connector system, suited for a variety of configurations
- Mateable with standard Fischer high performance receptacles

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Two-Piece Shell

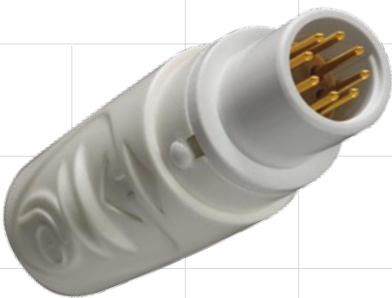


1

- Mounted to a disposable cable
- Easy and fast assembly (Snap Lock design)
- Advanced ergonomics and aesthetic design
- Improved grip in dry and wet environments
- Ideal to incorporate embedded electronics

Go to page 6 for more information

One-Piece Shell



2

- Mounted to a disposable cable
- Easy and fast assembly
- Simple and economic design

Go to page 7 for more information

Overmoldable Plug



3



- Overmolded on a disposable cable
- Fully customizable
- Compact and lightweight
- Simple and economic design
- Sealable up to IP68

Go to page 8 for more information

Snap-in Plug



4



- Fully integrated into hand piece
- Compact and lightweight
- Simple and economic design
- Easy and fast assembly

Go to page 8 for more information

Mechanical & Environmental Data

Mating cycles	10
Mating and unmating forces	10 - 20 N typical
Operating and storage temperature	-20° C to +65° C
Environment	Without conductive or corrosive dust. Non explosive atmosphere.
Gamma irradiation for sterilization	Tested to withstand irradiation values above standards
EtO for sterilization	Tested with a standard EtO sterilization cycle validated in acc. with EN 550/ISO 11135
Protection – Two-Piece Shell – One-Piece Shell – Overmolded Plug	IP 40 IP 30 Up to IP 68 / 2m / 24h. Not tested by Fischer Connectors.

Material

Part	Materials	Flammability
Plastic housing	ABS	UL 94 HB
Soft-touch housing areas	TPE	UL 94 HB
Contacts	Brass or Bronze	–
Plating contacts	Gold over nickel	–
Insulator	PBTP	UL 94 V-0
Ferrule	Copper alloy	–
Plating ferrule	Nickel	–

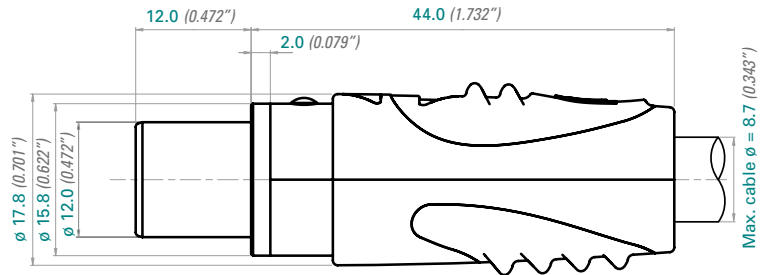
Our products are RoHS compliant.

Contact configurations

Electrical Specifications	Visual angle												
	A051	A040	A037	A087	A053	A065	A054	A066	A055	A056	A086	A092	
Number of contacts	2	3	4	4 ² ₂	5	6	7	8	9 ¹ ₈	11	16	19	
Contact Diameter A [mm]	1.6	1.6	1.3	2.3 0.9	1.3	0.9	0.9	0.9	1.3 0.9	0.9	0.7	0.7	
Wire Barrel Diameter B [mm]	1.8	1.8	1.2	2.4 0.8	1.2	0.8	0.8	0.8	1.2 0.8	0.8	0.6	0.6	
Insulating Material	PBT	PBT	PBT	PBT	PBT	PBT	PBT	PBT	PBT	PBT	PBT	PBT	
Solder Contacts	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Crimp Contacts	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	✓	
Test Voltage [kV] in mated position	Contact to Receptacle Body (AC rms)	1.8	1.6	2.2	1.5 2.0	1.4	1.7	1.5	1.5	2.4 1.4	1.4	0.8	0.8
	Contact to Contact (AC rms)	2.2	2.0	2.3	1.6	1.7	2.0	1.8 2.1	1.6	2.2 1.5	1.5	1.5	1.2
	Contact to Receptacle Body (DC)	2.8	2.6	2.6	2.2 2.8	2.4	2.4	2.2	2.2	3.8 2.0	2.1	1.3	1.2
	Contact to Contact (DC)	3.2	3.0	2.9	2.5	2.7	2.6	2.0 2.8	2.7	3.6 2.4	2.2	2.1	1.8
Max. Admissible Current [A] at 10°C Temperature Rise	-	-	5.4	-	-	-	-	3.0	-	-	1.7	-	

A037, A066 and A086 are standard configurations, others available on request.

Dimensions



Parts

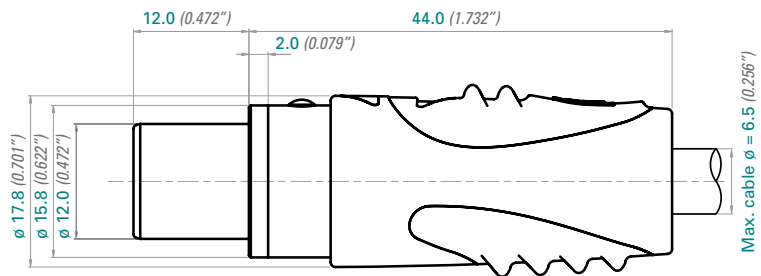
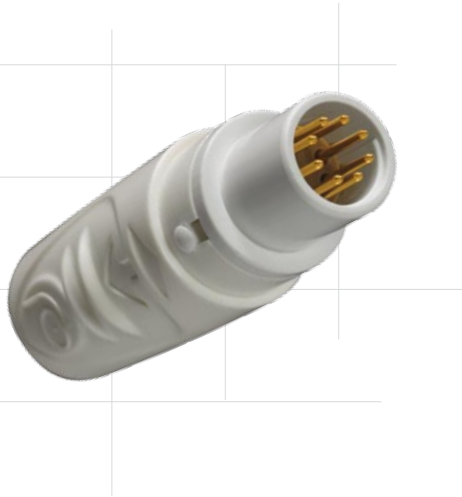


Part numbers

Part	Part number	Description
Interface	U1 504-A	Interface, white
Contact block	E21 504 A037-J	Contact block, 4 poles, solder contacts
	E21 504 A037-K	Contact block, 4 poles, crimp contacts
	E21 504 A066-J	Contact block, 8 poles, solder contacts
	E21 504 A066-K	Contact block, 8 poles, crimp contacts
	E21 504 A086-J	Contact block, 16 poles, solder contacts
	E21 504 A086-K	Contact block, 16 poles, crimp contacts
	Other pin configurations available on request	
Top shell	U31 504-A03	White top shell + blue soft-touch
	U31 504-A04	White top shell + violet soft-touch
	U31 504-A09	White top shell + turquoise soft-touch
Bottom shell	U32 504-A03	White bottom shell + blue soft-touch
	U32 504-A04	White bottom shell + violet soft-touch
	U32 504-A09	White bottom shell + turquoise soft-touch
Ferrule	U33 504/5.0	Ferrule Dia 5.0 for two-piece shell version
Bend relief	Optional; customized per cable diameter	

All dimensions shown are in millimeters (*inches*) and are for reference only.

Dimensions



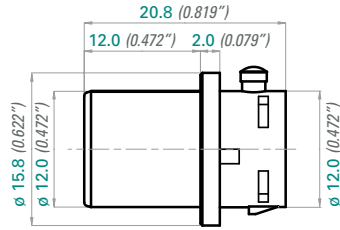
Parts



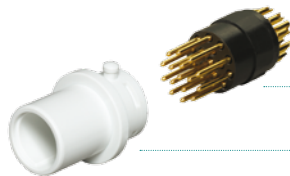
Part numbers

Part	Part number	Description
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	E21 504 A037-K	Contact block, 4 poles, crimp contacts
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	E21 504 A066-K	Contact block, 8 poles, crimp contacts
	E21 504 A086-J	Contact block, 16 poles, solder contacts
	E21 504 A086-K	Contact block, 16 poles, crimp contacts
	Other pin configurations available on request	
Single shell	U41 504-A	One-piece shell, white
Ferrule	U42 504/5.0	Ferrule Dia 5.0 for one-piece shell version

Dimensions



Parts



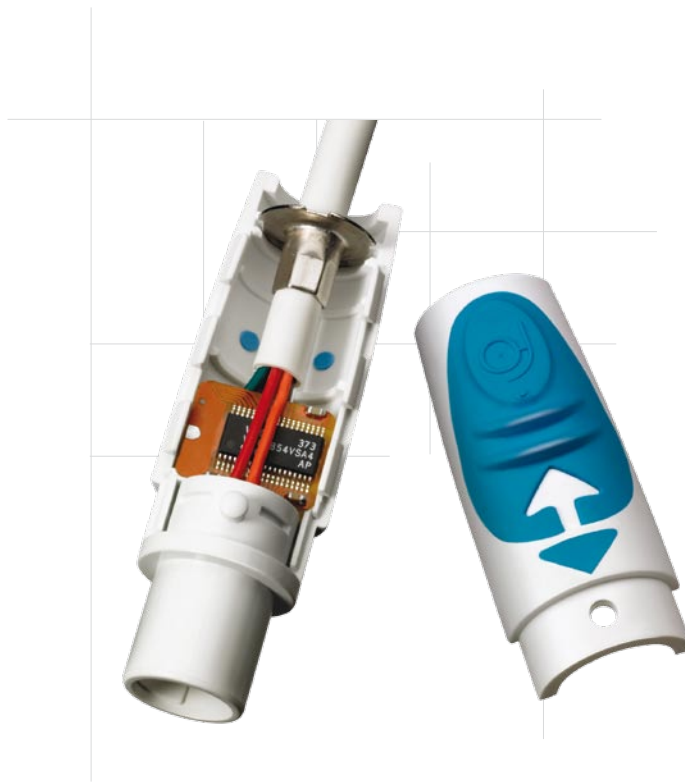
Contact block

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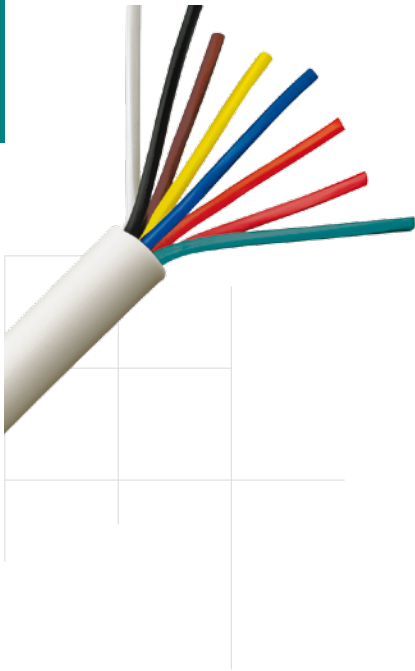


*Fischer L.U.C.™ –
Engineered for easy integration
of embedded electronics*

In many disposable applications, it is desirable to increase the functionality of the hand piece by utilizing embedded electronics. Tracking how many times the product has been inserted coupled with a disabling feature is a guarantee of safety. Other functions can include ensuring that the correct system components are being connected together, storing calibration data, or providing intelligent identification - hardwired or RFID.

The Two-Piece Shell of the Fischer L.U.C.™ system was designed in part to be easily customized on the interior and still be cost effective. This feature makes it sure and easy to mount a variety of component shapes, circuit boards, flex circuits and so on. Eliminating potting and other slow assembly processes also contribute to increased efficiency and reduced total costs.





Complete and integrated cable solution - to fully suit the specific needs of your application

Fischer Connectors® dedicated assembly service provides turnkey solutions for most Fischer assembly applications. From simple to complex, small to high volume production, overmolded or non overmolded, our cable assembly services can help you with the next step in your final connection solution. For the Fischer L.U.C.™, each of the four configurations provides different wiring options.

The two-piece shell allows for plenty of room to employ assembly aids such as molded-in, cable specific strain reliefs or intermediate flex circuits for custom, cost effective termination. Custom electronics are also easily implemented in this version. The shell can be assembled at the end of cable assembly process, so there is no chance to forget sliding components on the cable first, or in the wrong order.

If a full length disposable cable is desired, then the economical choice is the one-piece backshell.

Your disposable cable can also be overmolded after wiring. This provides robust strain and bend relief as well as sealing the connection. This implementation also provides an opportunity to customize the molded section and give a specific company appearance.

The snap-in plug configuration has no backshell, rather it snaps into your design. This eliminates the cost of a full cable from your disposable product. Fischer Connectors® can assist by providing pre-terminated leads or flex circuits.

Once the appropriate plug configuration is selected, an autoclavable intermediate cable may be required. Fischer Connectors® has the molds and processes to provide design and manufacturing services. In addition, we can also provide the leads on the panel mounted receptacle, completing the connection.



Mateable with all high performance Fischer panel receptacles of the standard 104 Series, the new Fischer disposable plug allows permanent equipment to keep working with high cycle lifetime receptacles.

Receptacles

D Panel receptacle



DG Completely threaded receptacle



DB Front projecting receptacle



DGP Completely threaded receptacle with PCB contacts



DBP Rear-mounted panel receptacle



DBPC Rear-mounted receptacle, right-angle PCB contacts



Sealed & Hermetic Receptacles

DEE Hermetic panel receptacle



DBPE Hermetic, rear-mounted panel receptacle



DEU IP68 sealed receptacle



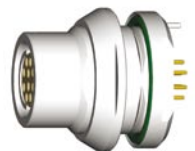
DBPU IP68 sealed, rear mounted panel receptacle



DBEE Hermetic, front projecting receptacle



DBPLE Hermetic, rear-mounted low profile front projecting receptacle



DBEU IP68 sealed, front projecting receptacle

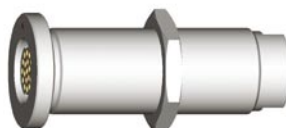


DBPLU IP68 sealed, rear-mounted low profile front projecting receptacle



Bulkhead Feedthrough

WDE Hermetic bulk-head feedthrough for connection of 2 plugs



Mateable with all high performance Fischer cable receptacles of the standard 104 Series, the new Fischer disposable plug allows permanent equipment to keep working with high cycle lifetime cable receptacles.

Cable Receptacles

K Cable receptacle

KE Sealed cable receptacle



KS Short cable receptacle

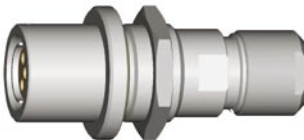
KSE Short sealed cable receptacle



DK Panel-mounted cable receptacle



DKE Sealed, panel-mounted cable receptacle



DKBE Sealed rear-mounted cable receptacle





■ *Broadcast*



■ *Medical*



■ *Defense & Security*



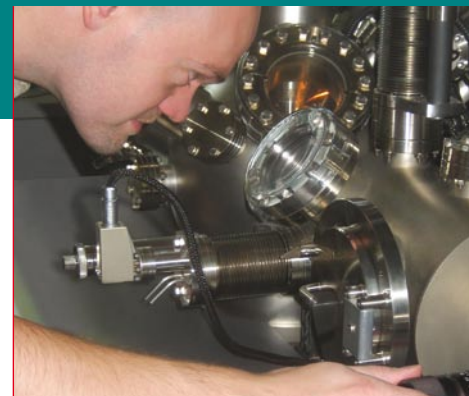
■ *Extreme Environments*

www.fischerconnectors.com

Using state of the art technology, Fischer Connectors® designs, manufactures and distributes high-performance connectors.

Known for their reliability, precision, and resistance to extreme environmental conditions, our products are used in fields requiring faultless quality, such as medical equipment, instrumentation, measuring and testing devices, broadcast, telecommunication and military applications.

Selecting the right connector is an important and challenging process. Our specialists are on hand to help you equip your application with the most suitable connector solution. Contact us for more information.



■ *Test & Measure*

fischer[®]
CONNECTORS

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