# fischer connectors

# Core Series Catalogue





## High Performance Push-Pull Connector and Cable Assembly Solutions

For more than 50 years, Fischer Connectors has designed, manufactured, and distributed high performance push-pull connector and cable assembly solutions. Known for their quality and ruggedness, our products prove to be reliable in the most demanding environments.

Fischer Connectors is committed to working closely with its customers to equip their application with the most appropriate connector and cable system. Our product range comprises over 10,000 standard items and we are always prepared to develop customized solutions for specific requests.

Primary design and manufacturing facilities are in Switzerland, with subsidiaries and distributors located worldwide.





## Core Competencies

- High performance push-pull connectors
- Complete cable assembly solutions
- Rugged solutions for demanding environments
- Sealed and hermetic connector solutions
- Lightweight and compact connectors
- High flexibility of product configurations
- Standard solutions or customized product development
- World-class customer service
- Specialized advice and support
- High quality industrial processes
- Trusted by high-end industries
- Certified ISO 9001 and ISO 14001







Introduction	s cher
General Information	
Cable Assembly	
Multipole Low Voltage Connectors	
Multipole High Voltage Connectors	O DO
Coax Low Voltage Connectors	
Coax High Voltage Connectors	
Triax Connectors	
Mixed High Voltage Connectors	
Mixed Coax Connectors	
Accessories	PUD I
Tooling	
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Customer Care and Index	





## Complete Customer Solutions

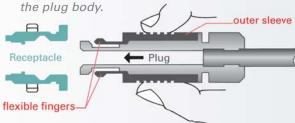
- Leading edge connector technology innovative and high performance products
- Cable assembly service standard or custom cabling and cable design assistance
- Standard or customized solutions > 10,000 standard items or custom developments
- Specialized technical and sales support assistance through advice, design, prototype and assembly
- Worldwide network close to our customers to offer unequaled service

## Original Push-Pull Locking System

- Original push-pull locking system widely adopted by the industry
- Unparalleled signal integrity
  fully secured against accidental disconnection
- Self-locking mechanism designed for frequent connect/disconnect operations
- Ideal for compact product designs locking system integrated into connector housing
- Push-pull locking system delivered as standard non-locking or emergency quick release solutions also available

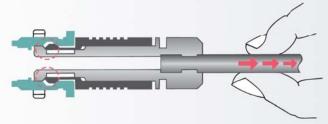
#### ■ How Does it Work?

The plug has an outer sleeve, with flexible fingers, which slides forward and backwards along



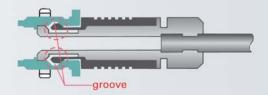
#### When Cable Pulled

The bevelled edges of the fingers are forced into the groove, securing the connection.



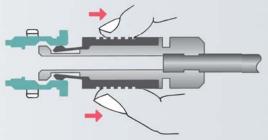
#### When Mated

The bevelled edges are firmly captured by a locking groove located inside the receptacle.



## When Unplugging

Pulling on the outer sleeve of the plug unlocks the latching mechanism.





- Designed for Easy Connect/ Disconnect Operations
- Easy mating, can be blind-mated guiding mechanism ensures precise alignment
- Increased safety and user friendliness mechanical and color coding prevent misconnection
- Convenient grip even with gloves circular connectors with ribbed housing profile
- Increased equipment life span guiding mechanism optimally protects the contacts





## Proven Rugged, Lightweight and Compact Solutions

- Robust and shock resistant designs ideal for equipment used in the field
- Compact and lightweight construction ideal for miniature and portable devices
- High pin density and hybrid contacts contributing to equipment miniaturization
- Long product durability
  10,000 mating cycles guaranteed

## Operational in Demanding and Harsh Environments

- High performance connectors
  designed and tested to withstand extreme conditions
- Sealed up to IP68 and corrosion resistant usable underwater
- Hermetic for use in vacuum or pressurized environments
- Sterilizable ideal for medical applications
- 360° EMC shielded preventing electromagnetic interferences
- Functional in a wide temperature range from -65°C to +200°C





## Medical

- Diagnostic devices
- Surgical instrumentation
- Therapy applications
- Medical imaging
- Cardiac assist devices
- Disposable equipment







## Instrumentation

- Test & measurement
- Sensors
- Data acquisition
- Automation
- Scientific research
- Vacuum -





# Transport

- Avionics
- Maritime
- Automotive
- Railways







# Energy

- Petrol & gas
- Nuclear
- Renewable energies
- Batteries
- Fuel cells





# ■ Defense & Security

- Communication systems
- Surveillance equipment
- Computers
- Target acquisition



## Broadcast

- Studios and outside broadcasting
- TV and motion picture
- HD and SD cameras
- Remote camera control



## Extreme

- Motorsports
- Sailboat racing
- Diving
- Submarine industry
- Weatherproof applications



# A Connector Solution for Every Application

This catalogue features Fischer Connectors Core Series and related items.

To find information on other connector solutions, visit www.fischerconnectors.com/catalogues

## Fischer Connectors Product Range Overview

#### **Generic Connectors**

#### Core Series



Brass connectors ideal for a wide array of applications

#### **Fischer Core Series**

#### ■ AluLite<sup>™</sup> Series



Aluminium connectors ideal for ultralight or portable applications

#### Fischer AluLite<sup>™</sup> Series

#### Plastic Series



Plastic connectors ideal for lightweight applications

Fischer 405 Series Fischer 4032 Series

#### Specific Connectors

#### Nim-Camac



Coax and Triax Connectors engineered according to Nim-Camac standards

#### **Fischer Nim-Camac 101 Series**

#### Disposable



Low cost, high performance connectors developed for disposable equipments

Fischer L.U.C<sup>™</sup> Series

#### SD/HD Broadcast Cameras



Triax or Fiber Optic connector solutions

Fischer 1051 Series Fischer 1052 Series Fischer 1053 HDTV Series

#### ■ Fischer UltiMate™



High performance connectors specially designed for military land forces

Fischer LandForce<sup>™</sup> Series



# Fiber Optic and Hybrid Connector Solutions

Fiber Optic and Hybrid connector solutions are developed based on specific applications needs. They are not featured in this catalogue.

However, Fischer Connectors has a broad experience in fiber optic, hybrid connector and cable systems. Please, contact us for more information.

### ■ Fiber Optic

- Wide range of body styles and sizes
- Signal or light
- Single or multimode
- Single or multi-fiber (up to 16)
- Sealed or unsealed

To find more information on Fiber Optic Series, visit www.fischerconnectors/catalogues



### ■ Hybrids

- High flexibility of contact configurations, mixing:
  - Low voltage
  - High voltage
  - Coax
  - Fiber optic
  - Fluid/Gas
- Solving complex interconnection needs
- Wide range of body styles & sizes
- Sealed or unsealed











#### Contact Us

What is the optimal connector shell size for my application? Would a plastic housing be better than a metal one? Could my connection mix fiber optic and electrical contacts? For my application, what would be the appropriate sealing level? Selecting the right connector and cable system is an important and challenging process.

If in doubt, just ask! Our specialists are on hand to help you equip your application with the most suitable connector solution. Please contact us.

# Our Website is your Starting Point to:

■ Find your Local Fischer Connectors Office www.fischerconnectors.com/contacts





- Access our Technical Library
- 3D CAD models
- Technical and dimensional specifications
- Assembly instructions

www.fischerconnectors.com/technical

■ Download our Catalogues www.fischerconnectors.com/catalogues















S Locking plug SC Quick release plug

SOV Non-locking plug

SA Plug with lanyard

SV **Tamperproof** plug

SS Short plug SSC Quick release short plug

WSO Right-angle plug



# **Cable Mounted Receptacles**

K Cable receptacle

KE Sealed cable receptacle



KS Short cable receptacle

**KSE** Short sealed cable receptacle



## **Panel Mounted Plugs**

#### Front Mounted

**SF** Non-locking panel plug



**SFU** IP68 sealed non-locking panel plug

**SFE** Hermetic non-locking panel plug





#### Rear Mounted

SFPU IP68 sealed panel plug

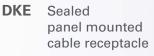
SFPE Hermetic panel plug



# Panel Mounted Cable Receptacles

#### Front Mounted

DK Panel mounted cable receptacle







#### Rear Mounted

**DKBE** Sealed panel mounted cable receptacle





#### Front Mounted

Panel receptacle



**DB** Front projecting receptacle



**DG** Completely threaded receptacle



#### ■ Rear Mounted

**DBP** Rear-mounted panel receptacle



DBPC Rear-mounted receptacle, right-and

receptacle, right-angle with PCB contacts



**DGP** Completely threaded

receptacle with PCB

contacts

Hermetic

IP68 sealed

panel receptacle

panel receptacle



#### ■ Sealed and Hermetic Receptacles

**DEE** Hermetic

panel receptacle





**DBEE** Hermetic

front projecting receptacle

**DBEU** IP68 sealed

front projecting receptacle



**DBPLE** Herme

**DBPE** 

**DBPU** 

Hermetic low profile front projecting receptacle



**DBPLU** IP68 sealed

low profile front projecting receptacle



WDE Hermetic bulkhead

feedthrough for connection of 2 plugs





# Ordering Information: How to Build a Part Number?

Fischer Connectors Core Series is built on a modular design and offers over 10,000 standard configurations. Refer to the table below to find the information you need to build the part number to order your selected connector. For customized solutions, please contact us.

				CONNECTORS PARTS
Part System	Body Style	Size	Polarity	Contact Configuration
Part Number E	xamples:			
Plug	S	102	А	056
	S cable mounted plug in si	ze 102 with 7 (multipole) low voltag	ge male contacts and follow	ving options
Receptacle	D	102	А	056
	D panel mounted receptacl	e in size 102 with 7 (multipole) low	voltage female contacts an	d following options
	▼	<b>Y</b>	▼	▼
	Cable Mounted Plugs	Series	As Standard Rule	Three-Digit Number
	S/SC SOV	102 103	A = Male contacts on plug and Female contacts on receptacle	Specific for Each Pin Layout
	SA SV	1031 104		
	SS/SSC	105	Z = Female contacts on	
	WSO	106 107	plug and Male contacts on receptacle	See Electrical & Contact specifications tables Column "Type"
	Cable Mounted Receptacles K/KE	See page 2-5 Connector Size vs Cable	See page 4-9-1 for details	tables Column Type
	KS/KSE	Diameter for details on Series selection.	Exceptions	
	Panel Mounted		Multipole High Voltage Mixed High Voltage	
	Cable Receptacles		See page 5-5 and 9-5 for details	
	DK/DKE DKBE		ioi detaiis	
	Panel Mounted Receptacles			
	D			
	DEU/DEE			
	DB DBEU/DBEE			
	DBP DBEE			
	DBPU/DBPE			
	DBPLU/DBPLE	See page 2-1 Range Overview		
	DG/DGP	for body styles selection.		
	DBPC	To check body styles available for each contact		
	WDE	configurations see:		
		Multipole Low Voltage Section 4		
	Panel Mounted Plugs	Multipole High Voltage Section 5 Coax Low Voltage Section 6		
	SF SFU/SFE	Coax High Voltage Section 7 Triax Section 8 Mixed High Voltage Section 9		
	SFPU/SFPE	Mixed Coax Section 10		



Options

Cable Clamp Sets for Cable Mounted Plugs & Receptacles

130

Natural chrome housing, PEEK contact blocks with solder contacts, keying code 1 and clamp nut wihout bend relief.

130

Not applicable as panel mounted

**Below Cable Clamp Sets** 

Example:

E3 102.5/2.0

See page 4-11 for Cable Clamp Set selection

S 102 A 056 - 130 +

Clamp set ordering line

**Should be Ordered Separetly** 

Multipole Low Voltage

Natural chrome housing, PEEK contact blocks with solder contacts and keying code 1.

Specific Suffix Corresponding to Selected Options

**Housing Color** 

**Natural Chrome** 

**Black Chrome** 

Contact Block Insulating Material

PTFE

**PBT** 

PEEK

**Contact Type** 

Solder

Crimp PCB

Mechanical Coding of the Contact Block

Clamp Nut Type & Color

Other Options

See page 4-10 for Multipole Low Voltage, High Voltage and Mixed Multipole options

See page 6-10 for Coax Low and High Voltage, Triax and Mixed Coax options

Accessories

Tooling

**RELATED ITEMS** 

102.785

Protective sleeve

Example:

Cable bend reliefs

Protective sleeves

Soft caps Metal caps

Spacers

Washers

Mounting nuts

See Section 11

TX00.240

Crimping tool

Spanners / Wrenches

**Crimping tools** 

Tools for crimp contacts and high voltage contacts

See Section 12

Below Cable Clamp Sets are Included with Connector

Coax Low Voltage Coax High Voltage

Shielded (S) or Environmental (E) Cable Clamp Set diameter should be added to the connector part number separated by ø.

Examples:

For Shielded S Clamp Sets

K 103 A002-600 ø6.2

For Environmental E Clamp Sets

KE 103 A002-600 ø6.2

See page 4-11 for S or E Cable Clamp Set selection Multipole High Voltage Mixed High Voltage Mixed Coax

Insulating Clamp Set ø (104, 105 and 106 Series) should be added to the connector part number separated by ø and followed by UI (Unshielded Insulated).

Example:

S 104 A062-130 ø6.6 - UI

See page 5-6 for Insulating Clamp Set selection



## Connector Size Versus Cable Diameter



<sup>&</sup>lt;sup>1)</sup> Pictures represent standard S plug, but values can be extended to all cable mounted plugs, except for SS/SSC body styles.

<sup>&</sup>lt;sup>2)</sup> For max cable ø, values in parenthesis are valid for sealed connectors (IP68).



LV = Low Voltage HV = High Voltage

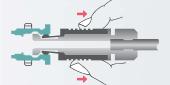
l Hi	Vlultīpo igh Volta	le age	Lo	oax ow tage	Ca H <b>i</b> gh V	ax ′oltage		Tri	ax		Hi	Mixed gh Volta	age			Mixed Coax	
Min Cable ø	Max Cable ø	Number of Contacts	Min Cable ø	Max Cable ø	Min Cable ø	Max Cable ø		Min Cable ø	Max Cable ø		Min Cable ø	Max Cable ø	Number of Contacts	l	Min Cable ø	Max Cable ø	Number of Contacts
			1 <b>.</b> 5	4.7 (4.3) <sup>2)</sup>	1.5	4.7 (4.3) <sup>2)</sup>		1 <b>.</b> 5	4.7 (4.3) <sup>2)</sup>								
			1.7	6.7 (6.2) <sup>2)</sup>	1.7	6.7 (6.2) <sup>2)</sup>		1.7	6.7 (6.2) <sup>2)</sup>					ı			
														ı			
2.9	8.7	4HV	2 <b>.</b> 9	8.7	2.9	8.7					2.9	8.7	1LV 2HV		2.9	8.7	1 Coax 1-4 LV
3.2	10.7	3-5 HV	3 <b>.</b> 2	10.7	3.2	10.7					3.2	10.7	1-10 LV 1-4 HV		3.2	10.7	1 Coax 1-9 LV
4.2	19.2	6-7 HV	l						ı		4.2	19.2	6LV 2HV				
5.7	22.7	7HV			5.7	22.7											
	More Information See Section 5  More Information See Section 6		nat <b>i</b> on	Inforn	More Information See Section 7			More Information See Section 8		More Information See Section 9		More Information See Section 10					



#### Push-Pull Automatic Locking Plugs: S - SS - WSO

Fischer Connectors original push-pull automatic locking is widely adopted by the industry for its ease of use, safety of mating and speed in connection and disconnection.





 Fully secured against accidental disconnection, it provides unparalleled signal integrity.

- Integrated into the connector housing, it is ideal for compact product design.
- For more details on Fischer locking expertise, see: www.fischerconnectors.com/push-pull.

Secure locking when cable pulled

Pull the outer sleeve to unlock

#### Lanyard Plug: SA

Fischer Lanyard plug combines push-pull automatic locking with an emergency release lanyard.





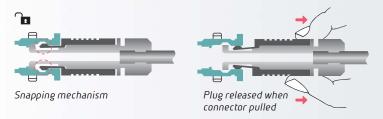
- A strong pull on the lanyard will unlock the latching mechanism.
- Specially suited to allow quick unmating on the field.

Secure locking when cable pulled

Pull the lanyard to unlock

#### Quick Release Plugs: SC - SSC

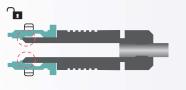
Fischer Quick Release plugs are designed without locking mechanism for emergency release.

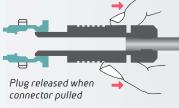


- Quick Release plugs snap into the receptacle with an audible "click".
- A strong pull on the cable will allow unmating of the plug.
- Specially suited to avoid injuries to the users and damages to the material in case of accidental stress.

## Non-Locking Plugs: SOV - SF - SFE/SFU - SFPE/SFPU

Fischer non-locking plugs are designed without snapping mechanism.



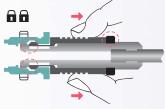


- A soft pull on the cable will release the plug.
- Specially suitable for connections with limited accessibility and/or requiring no locking.

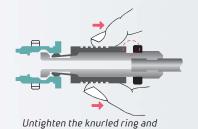
## Tamperproof Plug: SV

No snapping

Fischer tamper proof plug features an integral safety locking ring to prevent unauthorized or unintentional disengagement.



Secure locking when knurled ring tightened



pull the outer sleeve to unlock

- When tightened, the knurled ring will prevent unmating of the plug.
- Specially suitable for applications involving high voltage or current.







Fischer Connectors provides complete, high quality turnkey solutions – connectors, cable assemblies and overmolding – all from one supplier.

## Fischer Cable Assembly Solutions

In addition to leading edge connector technology, Fischer Connectors also provides complete cable assembly solutions for:



- Data transmission
- Power transmission
- Coax / Triax
- Fiber-Optic applications
- Fluid / Gas transmission
- Hybrid applications





# **Capabilities**

Fischer engineering expertise provides standard and customized high quality cable assembly solutions:

- Conventional cable termination using:
   Cable clamp sets, see pages 4-11 and 5-6
   Cable bend reliefs, see Accessories page 11-2
- Overmolding
- Heat shrink
- Potting
- Fiber optic termination
- Low cost and disposable







# **Application fields**

Fischer provides complete cable assembly solutions for demanding applications.

- Medical
- Defense & Security
- Instrumentation
- Transportation
- Industry
- Energy
- Broadcast
- Extreme environment











# **Overmolding**

For improved cable bend relief, sealing and aesthetics. Suggested for short body connectors SS, SSC, KS and KSE.





#### **Key Features and Benefits**

- Straight and right-angle cable orientation
- Large variety of solutions available for different cable diameters
- Various materials depending on application: thermoplastic and silicone
- Aesthetic design
- Integrated cable bend relief improves cable flex life
- Submersible cable solutions: enhanced sealing level with internal potting



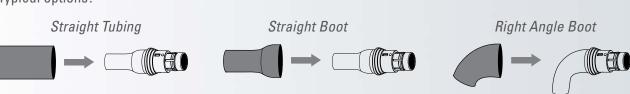


## **Heat Shrinking**

For extra protection of wires and cable support. Suitable for short body connectors SS, SSC, KS and KSE.

## **Key Features and Benefits**

- Adds protection and support to exposed wires
- Potting and/or adhesive lined heat shrink can allow submersion
- Ideal for quick prototyping or low volume applications
- Use knurled clamp nut for resistant heat shrinking (See Accessories 11-1)
- Typical options:



Please contact us for more details on cable assembly solutions.







## **Key Features**

- Wide range of body styles and sizes
- Unsealed, sealed or hermetic
- Signal or power
- Multipole up to 55 contacts
- Up to 30 A
- Standard or inverted polarity
- Solder, crimp or PCB contacts
- Guide mark standard
- Mechanical and color coding



This catalogue covers our standard connector solutions.

For thermocouple connectors, check our online documentation on **www.fischerconnectors.com** For specific requests, hybrids or fiber optic configurations, please contact us.

### How to Order our Products?

- To find your local Fischer Connectors Office see Catalogue back cover or go to www.fischerconnectors.com/contacts
- For General Ordering Information, see page 2-3
- Cable Clamp Set should be ordered separately, see page 4-11
- For details on Options, see page 4-10
- For Accessories, see Section 11
- For Tooling, see Section 12

# Other Fischer Connectors Series with Multipole Low Voltage Contacts

■ AluLite<sup>™</sup> Series



Disposable

■ Fischer UltiMate™



Aluminium connectors ideal for ultralight or portable applications

Fischer AluLite™ Series



Plastic connectors ideal for lightweight applications

Fischer 405 Series Fischer 4032 Series



Low cost, high performance connectors developped for disposable equipments

Fischer L.U.C™ Series



High performance connectors specially designed for military land Forces

Fischer LandForce™ Series



Cable Mounted P	Plugs	
	<ul><li>Body Style Selection (S/SC; SOV; SA; SV; SS/SSC; WSO)</li><li>Dimensions</li></ul>	4-3 4-3-1
Cable Mounted R	Receptacles	
	<ul><li>Body Style Selection (K/KE; KS/KSE)</li><li>Dimensions</li></ul>	4-4 4-4-1
Panel Mounted R	Beceptacles	
	<ul> <li>Body Style Selection         <ul> <li>(D; DEU/E; DB; DBEU/E; DBP; DBPU/E; DBPLU/E; DG/DGP; DBPC; WDE)</li> </ul> </li> <li>Dimensions</li> <li>Panel Cut-Outs</li> </ul>	4-5 4-5-2 4-8
Panel Mounted P	Plugs	
	<ul> <li>Body Style Selection (SF; SFU/E; SFPU/E)</li> <li>Dimensions</li> <li>Panel Cut-Outs</li> </ul>	4-6 4-6-1 4-8
Panel Mounted C	Cable Receptacles	
	<ul> <li>Body Style Selection (DKBE; DK; DKE)</li> <li>Dimensions</li> <li>Panel Cut-Outs</li> </ul>	4-7 4-7-1 4-8
For all Multipole	Low Voltage	
	<ul> <li>Electrical &amp; Contact Specifications</li> <li>Options</li> <li>Cable Clamp Sets</li> <li>Cable Assembly</li> <li>Accessories</li> <li>Tooling</li> </ul>	4-9 4-10 4-11 3 11

■ Technical Information.

12

13



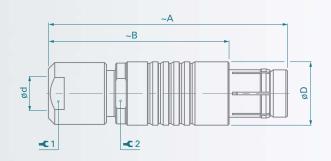
Во	ody Style	s	sc	sov	SA	sv	SS	SSC	wso	Links to Detailed Information	
Protection	Unsealed (IP50)	•	•	•	•	•	•	•	•	Sealed and Hermetic	
Prote	Sealed up to IP68	•	•	•	•	•	•	•	•	Connectors Page 13-8	
Ξ	None			•							
vste	Push-Pull	•			•	•	•		•		
Lockina System	Emergency Release		•					•		Plug Locking Systems Page 2-7	
-ock	Lanyard				•					r dgo z 7	
	Tamperproof					•					
Contacts	Crimp	•	•	•	•	•	•	•	•	Electrical & Contact	
	Solder	•	•	•	•	•	•	•	•	Specifications Page 4-9	
Housing	Natural Chrome	•	•	•	•	•	•	•	•	Options	
Hou	Black Chrome	•	•	•	•		•	•	•	Page 4-10	
<u> </u>	Shortened Body						•	•			
Design	Straight						•	•		Core Series Overview Page 2-1	
	Right Angle						•	•	•		
0	Cable Clamp Sets	•	•	•	•	•			•	Cable Clamp Sets Page 4-11	
abling	Overmoldable						•	•		Cable Assembly	
Ö	Heat Shrinkable						•	•		Section 3	
ies ies	Cable Bend Reliefs	•	•	•	•	•			•		
Accessories	Protective Sleeves	•	•	•						Accessories Section 11	
Acc	Sealing Caps	•	•	•	•	•	•	•	•	Codion 11	
	102 Series	•	•	•	•	•	•	•	•		
	103 Series	•	•	•	•	•	•	•	•	Dimensions Page 4-3-1	
	1031 Series	•	•	•	•	•	•	•	•		
Size	104 Series	•	•	•	•	•	•	•	•	For more Information Visit:	
	105 Series	•	•	•	•	•	•	•	•	www.fischerconnectors.com /technical	
	106 Series	•				•					
	107 Series	•				•					

Plugs mate with receptacles.



# S / SC Body Styles

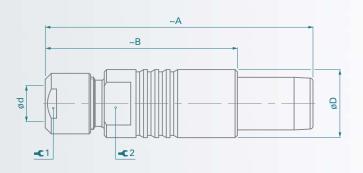




Series	Α	В	D	d max Unsealed Sealed		<b>Q</b> 1	Torque 1	¥2
102	36	26	9	4.7	4.3	7	0.6	7
103	46	35	12	6.7	6.2	10	1.0	10
1031	48	38	13	7.2	6.7	12	1.5	11
104	50	38	15	8.7	8.7	12	2.0	13
105	62	47	18	10.7	10.7	15	3.5	16
106	80	55	28	19.2	19.2	22	8.0	-
107	110	85	34	22.7	22.7	32	10.0	32

## ■ SOV Body Style



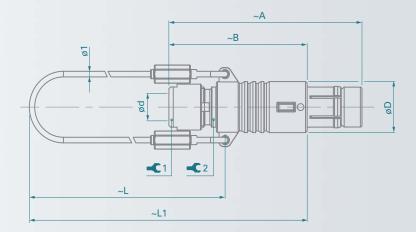


Series	Α	В	D	d <i>max</i> Unsealed Sealed		¥1	Torque 1	¥ 2						
102	36	26	9	4.7	4.3	7	0.6	7						
103	46	35	12	6.7	6.2	10	1.0	10						
1031	48	38	13	7.2	6.7	12	1.5	11						
104	50	38	15	8.7	8.7	12	2.0	13						
105	62	47	18	10.7	10.7	15	3.5	16						
106		Please contact us for additional information												
107		,	icase co	illact us ic	auditioi	iai iiii0iii	iation							



## ■ SA Body Style



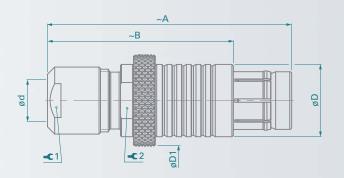


Series	Α	В	D	L	L1	d max Unsealed Sealed		<b>Q</b> 1	Torque 1	<b>₽</b> 2
102	36	26	9	50	65	4.7	4.3	7	0.6	7
103	46	35	12	60	77	6.7	6.2	10	1.0	10
1031	48	38	13	55	75	7.2	6.7	12	1.5	11
104	50	38	15	65	84	8.7	8.7	12	2.0	13
105	62	47	18	70	94	10.7	10.7	15	3.5	16

106
Please contact us for additional information

## SV Body Style

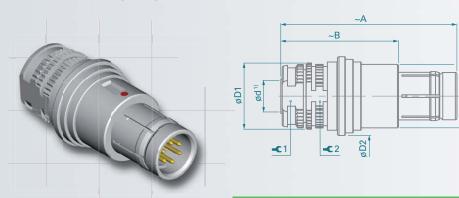




Series	Α	В	D	D1	d n Unsealed	nax Sealed	<b>₽</b> 1	Torque 1	¥ 2			
102	36	26	9	11	4.7	4.3	7	0.6	-			
103	46	35	12	13	6.7	6.2	10	1.0	-			
1031	Please contact us for additional information											
104	50	38	15	20	8.7	8.7	12	2.0	13			
105	62	47	18	22	10.7	10.7	15	3.5	16			
106	80	55	30	35	19.2	19.2	22	8.0	-			
107	110	85	34	38	22.7	22.7	32	10.0	32			



## SS / SSC Body Styles



# Cable Assembly: Overmolding Options

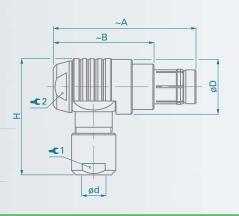


Series	Α	В	D	D1	D2	d max	<b>Q</b> 1	Torque 1 [Nm]	¥2				
102	30	20	9.0	9.5	12.0	3.8	7	0.6	8				
103	33	22	12.0	12.5	15.0	6.0	10	1.0	11				
1031	33	23	12.4	13.0	15.5	6.2	10	1.0	11				
104	38	26	15.0	15.3	18.0	8.0	12	2.0	13				
105	44	29	18.0	18.4	21.2	10.0	15	3.5	16				
106													
107		Please contact us for additional information											

<sup>1)</sup> Max. cable diameter below shield.

## ■ WSO Body Style





#### Cable Orientations: View from the back

Up: Optional Suffix: -12H

Right: Optional Suffix: -3H

Left: Optional Suffix: -9H

Down: Standard Suffix: None

Series	Α	В	D	н	d max Unsealed Sealed		¥1	Torque 1 [Nm]	¥2	Torque 2		
102	33	23	12	25	4.7	4.3	7	0.6	8	1.0		
103	38	27	15	31	6.7	6.2	10	1.0	11	1.3		
1031	39	29	17	33	7.2	6.7	12	1.5	12	2.0		
104	45	32	19	37	8.7	8.7	12	2.0	14	2.5		
105	53	38	23	45	10.7	10.7	15	3.5	17	4.5		
106	Please contact us for additional information											

WSO is available for different cable orientations.

When ordering, choose which suffix to use in cable orientations figure.

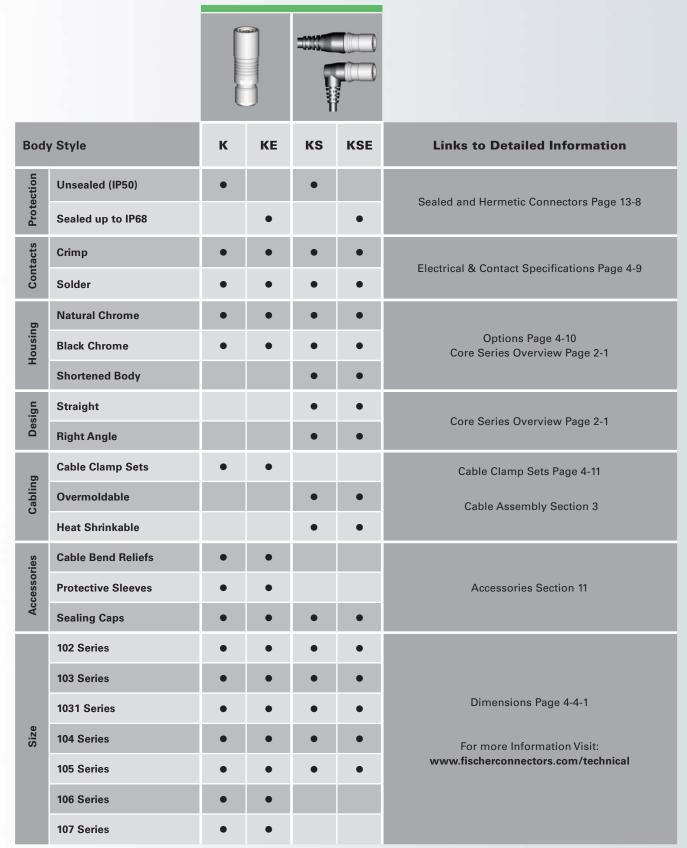
**Example:** WSO 102 A056 -130 + with standard down cable orientation

WSO 102 A056 -130 -9H with left

with left cable orientation



# **Cable Mounted Receptacles**



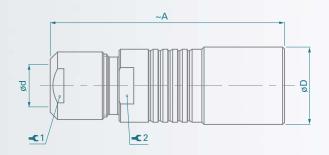
Plugs mate with receptacles.



# **Cable Mounted Receptacles**

## ■ K / KE Body Styles





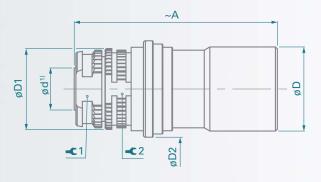
Series	Α	D	d max Unsealed   Sealed		<b>Q</b> 1	Torque 1	<b>¥</b> 2
102	35	10	4.7	4.3	7	0.6	7
103	43	13	6.7	6.2	10	1.0	10
1031	46	13.5	7.2	6.7	12	1.5	11
104	50	16	8.7	8.7	12	2.0	13
105	60	19	10.7	10.7	15	3.5	16
106	79	33	19.2	19.2	25	8	25
107	105	36	22.7	22.7	32	10	32

## ■ KS / KSE Body Styles



# Cable Assembly: Overmolding Options





Series	Α	D	D1	D2	d max	<b>Q</b> 1	Torque 1 [Nm]	<b>Q</b> 2					
102	28	10.0	10.0	12.0	3.8	7	0.6	8					
103	32	13.0	13.0	15.0	6.0	10	1.0	11					
1031	31	13.5	13.5	15.5	6.2	10	1.0	11					
104	35	16.0	16.0	18.0	8.0	12	2.0	13					
105	43	43 19.0 18.0 21.2 10.0 15 3.5 16											
106		D		toot us fo	or additio	nal infar	mation						
407		P1	lease con	tact us it	or additio	nai iniori	nation						

<sup>1)</sup> Max. cable diameter below shield.



		8				<u>a</u>		8
Body	/ Style	D	DEU	DEE	DB	DBEU	DBEE	DBP
ion	Unsealed (IP50)	•			•			•
Protection	Sealed up to IP68		•	•		•	•	
Pro	Hermetic			•			•	
cts	Crimp	•			•			•
Contacts	Solder	•	•	•	•	•	•	•
ပိ	PCB	•	•	•	•	•	•	•
Housing	Natural Chrome	•	•	•	•	•	•	•
Hou	Black Chrome	•	•	•	•	•	•	•
	Right Angle							
Design	Flush	•	•	•				•
De	Front Projecting				•	•	•	
	Bulkhead Feedthrough							
Assembly	Front Mounting	•	•	•	•	•	•	
Asse	Rear Mounting							•
	Sealing Caps	•	•	•	•	•	•	•
S	Spacers	•	•	•	•	•	•	•
Accessories	Color-Coded Washers	•			•			•
seco	Grounding Washers	•	•	•	•	•	•	•
⋖	Locking Washers	•	•	•	•	•	•	•
	<b>Decorative Nuts</b>							•
	102 Series	•	•	•	•	•	•	•
	103 Series	•	•	•	•	•	•	•
	1031 Series	•	•	•	•	•	•	•
Size	104 Series	•	•	•	•	•	•	•
	105 Series	•	•	•	•	•	•	•
	106 Series	•		•			•	
	107 Series	•		•			•	

Plugs mate with receptacles.

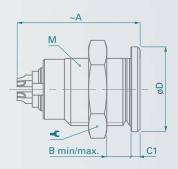


=				8	8			
DBPU	DBPE	DBPLU DBPLE		DG	DGP	DBPC	WDE	Links to Detailed Information
•	•	•	•	•	•	•	•	Sealed and Hermetic Connectors Page 13-8
•	•	•	•	•	•	•		Electrical & Contact Specifications Page 4-9
•	•	•	•	•	•	•	•	Options Page 4-10
•	•	•	•	•	•	•	•	Core Series Overview Page 2-1
•	•	•	•	•	•	•	•	Core Series Overview Page 2-1
•	•	•	•	•	•	•	•	Accessories Section 11
•	•	•	•	•	•	•	•	Dimensions Page 4-5-2
•	•	•	•	•	•		•	For more Information Visit: www.fischerconnectors.com /technical



## ■ D Body Style

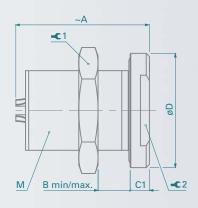




Series	Α	В	C1	D	M	Ŷ	Torque [Nm]
102	19	0/9	1.5	11	9x0.5	11	1.3
103	23	0/8	1.5	14	12x1	14	2.5
1031	25	0/10	2.0	16	14x1	17	3.0
104	25	0/11	2.2	19	15x1	17	4.0
105	32	0/15	2.0	22	18x1	22	6.0
106	50	0/18	3.0	37	32x1	TX00.106	15
107	46	0/18	4.0	40	35x1	TX00.107	16

## ■ DEU / DEE Body Styles



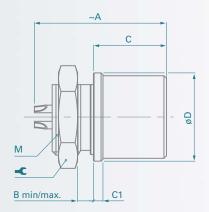


Series	А	В	C1	D	M	<b>Q</b> 1	Torque 1 [Nm]	<b>₽</b> 2
102	20	8/10	2.5	14	9x0.5	11	1.3	11
103	23	0/12	3.0	18	14x1	17	3.0	14
1031	25	0/12	3.0	19	14x1	17	3.0	15
104	25	0/15	4.0	22	16x1	19	4.5	17
105	33	10.5/18	4.0	27	20x1	25	6.5	-
106	50	19/24	5.0	41	32x1	TX00.106	15	-
107	47	19.2/22	5.0	45	35x1	TX00.107	16	-



# ■ DB Body Style

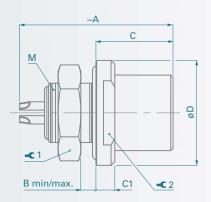




Series	А	B min/max.	С	C1	D	M	Ŷ	Torque [Nm]				
102	18	0/3	11.0	1.0	11	9x0.5	11	1.3				
103	21	0/4	11.5	1.5	14	12x1	14	2.5				
1031	Please contact us for additional information											
104	26	0/3	14.5	2.5	19	16x1	19	4.5				
105	33	0/7	19.0	2.0	22	18x1	22	6.0				
106		Please contact us for additional information										
107			Please co	ntact us to	additional	intormatio	n					

## ■ DBEU / DBEE Body Styles



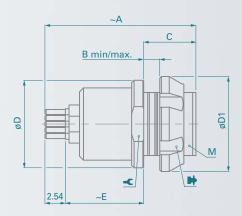


Series	А	B min/max.	С	C1	D	M	<b>Q</b> 1	Torque 1	¥ 2
102	20	0/3.5	10.2	2.5	14	9x0.5	11	1.3	11
103	23	0/4.0	13.0	3.0	18	14x1	17	3.0	14
1031	24	0/4.0	12.0	3.0	19	14x1	17	3.0	15
104	30	0/3.5	16.0	4.0	22	16x1	19	4.5	17
105	32	0/5.0	19.0	4.0	27	18x1	22	6.0	22
106	50	0/6.5	25.5	7.0	40	32x1	TX00.106	15	-
107	47	0/5.0	24.0	5.0	45	35x1	TX00.107	16	38



## ■ DBP Body Style



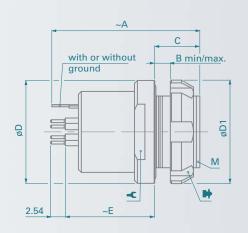


Series	Α	B min/max.	С	D	D1	E	M	Ŷ	1)	Torque [Nm]
102	20	0/3.5	6.5	11	12	10.0	9x0.5	10	TC00.000	1.3
103	23	0/4.0	8.0	14	15	12.0	12x1	-	TF00.001	2.5
1031	23	0/3.0	7.0	16	18	13.0	14x1	-	TG00.001	3.0
104	26	0/5.0	9.0	19	19	11.5	15x1	-	TK00.000	4.0
105	30	0/12.0	17.0	22	23	10.0	18x1	-	TP00.011	6.0
106				Diagon		for odditi	anal infam			
107				Please	contact us	tor additi	onal infor	mation		

<sup>&</sup>lt;sup>1)</sup> Assembly tool for decorative slotted nut, see Tooling Page 12-1 for details.

## ■ DBPU / DBPE Body Styles





Series	Α	B min/max.	С	D	D1	E	M	Ŷ	1)	Torque [Nm]	
102	20	0/3.5	6.5	14	12	13.0	9x0.5	11	TC00.000	1.3	
103	26	0/3.0	7.8	18	18	15.5	14x1	15	TG00.001	3.0	
1031	23	0/3.0	7.0	19	18	13.0	14x1	15	TG00.001	3.0	
104	26	0/4.0	8.0	22	20	15.5	16x1	-	TK00.002	4.5	
105	30	0/5.0	10.0	27	25	14.0	20x1	-	TP00.005	6.5	
106	Please contact us for additional information										

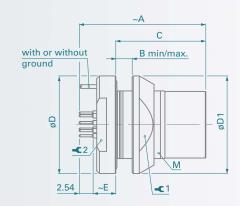
<sup>&</sup>lt;sup>1)</sup> Assembly tool for decorative slotted nut, see Tooling Page 12-1 for details.



# **Panel Mounted Receptacles**

# ■ DBPLU / DBPLE Body Styles





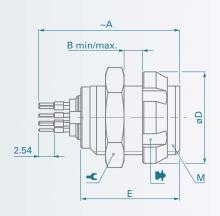
Series	А	B min/max.	С	D	D1	Е	M	<b>Q</b> 1	Torque 1	¥ 2
102	21	0/4.5	14.2	14	13	3.6	10x0.5	11	1.5	11
103	24	0/5.0	16.5	18	18	4.2	14x1	15	3.0	15
1031	23	0/5.5	16.0	19	20	4.2	15x1	17	4.0	15
104	27	0/6.5	18.5	22	20	5	16x1	17	4.5	17
105	31	0/7.0	22.5	27	25	5.5	20x1	22	6.5	22
106										

Please contact us for additional information

# ■ DG / DGP Body Styles



107



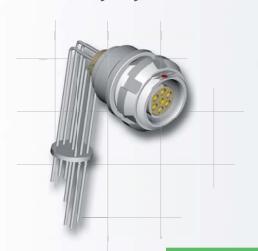
Series	Α	B min/max.	D	Е	M	Ŷ	1)	Torque [Nm]					
102	20	0/6	12	14	9x0.5	11	TC00.000	1.3					
103	23	0/7	15	15	12x1	14	TF00.001	2.5					
1031	23	0/7	18	18	14x1	17	TG00.001	3.0					
104	26	0/9	19	18	15x1	17	TK00.000	4.0					
105	30	0/15	23	24	18x1	22	TP00.011	6.0					
106		Please contact us for additional information											
			riease	contact us	s for additi	onai Intori	nation						

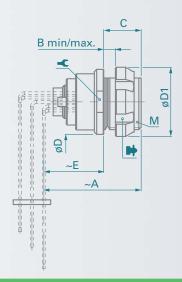
<sup>&</sup>lt;sup>1)</sup> Assembly tool for decorative slotted nut, see Tooling Page 12-1 for details.



# Panel Mounted Receptacles

# ■ DBPC Body Style

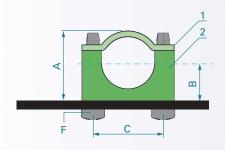


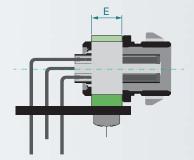


Series	Α	В	С	D	D1	E <sup>1)</sup>	M	Ŷ	<b>₽</b> 2)	Torque [Nm]
102	20.0	0/3.5	6.5	11	12	13	9x0.5	10	TC00.000	1.3
103	22.0	0/4.0	8.0	14	15	13	12x1	-	TF00.001	2.5
1031	21.5	0/3.0	7.0	16	18	14	14x1	-	TG00.001	3.0

<sup>&</sup>lt;sup>1)</sup> Please refer to online Dimensional Specifications for precise value and layout dimensions.

## ■ DBPC Mounting Clamp





- Enables mounting directly to PCB with two screws
- Improves grounding of body to the PCB

Series	А	В	С	E	F	Part Number
102	11.5	6.0	12	3.8	ø 2.2x13	102.1943
103 1031	15.2	8.2	16	4.9	ø 2.9x16	103.2253

#### Material:

- 1 Nickel plated brass copper
- 2 PBT

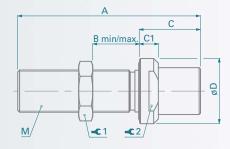
<sup>&</sup>lt;sup>2)</sup> Assembly tool for decorative slotted nut, see Tooling Page 12-1 for details.



# **Panel Mounted Receptacles**

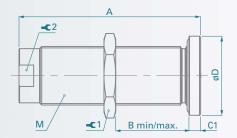
■ WDE Body Style for 102, 103 and 104 Series





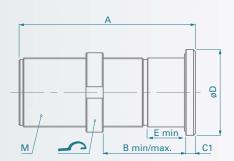
■ WDE Body Style for 105 Series





■ WDE Body Style for 106 and 107 Series 1)





Series	Α	B min/max	С	C1	D	E min	M	1	Torque 1	¥ 2				
102	39	0/23	13	4	14	-	9x0.5	11	1.3	11				
103	40	0/23	14	4	17	-	12x1	14	2.5	14				
1031		Please contact us for additional information												
104	40	0/21	16	4	22	-	15x1	17	4.0	17				
105	62	0/47	-	4	27	-	20x1	22	6.5	-				
106 <sup>1)</sup>	74	0/39	-	12	42	30	32x1	TX00.106	15	-				
107 <sup>1)</sup>	92	0/76	-	5	45	20	36x1	TX00.107	17	-				

<sup>&</sup>lt;sup>1)</sup> Feedthroughs of series 106 and 107 are supplied with slotted nuts. For nuts dimensions see Section 11 Accessories.

The bulkhead feedthrough connector allows the passing of electrical signals and power through a panel via two cable plugs.

The "AZ" version of the feedthrough accepts a type "A" plug on the flange side and a type "Z" plug on the threaded end, which is typically oriented toward the interior of the chassis.

In the version "ZA" the connections "A" and "Z" are inverted. See A/Z Polarity on Page 4-9-1.

Dimension "B max" specifies the maximum panel thickness. For panels thinner than the unthreaded section "E min", we can provide spacers as shown in Section 11 Accessories.

<sup>&</sup>lt;sup>2)</sup> Assembly tool for side slotted nut, see Tooling Page 12-1 for details.



# **Panel Mounted Plugs**

		8	Ę	]			
Bod	y Style	SF	SFU	SFE	SFPU	SFPE	Links to Detailed Information
ioi	Unsealed (IP50)	•					
Protection	Sealed up to IP68		•	•	•	•	Sealed and Hermetic Connectors Page 13-8
Pro	Hermetic			•		•	comissions rags to c
cts	Crimp	•					
Contacts	Solder	•	•	•	•	•	Electrical & Contacts Specifications Page 4-9
ŭ	PCB	•	•	•	•	•	
Housing Color	Natural Chrome	•	•	•	•	•	Options Page 4-10
H 20	Black Chrome	•	•	•	•	•	Options rage 4-10
Assembly	Front Mounting	•	•	•			Core Series Overview
Asse	Rear Mounting				•	•	Page 2-1
	Sealing Caps	•	•	•	•	•	
	Spacers	•	•	•	•	•	
Accessories	Color-Coded Washers	•					A
cess	Insulating Washers	•					Accessories Section 11
Ac	Grounding Washers	•	•	•			
	Locking Washers	•	•	•	•	•	
	Decorative Nuts				•	•	
	102 Series	•	•	•	•	•	
	103 Series	•	•	•	•	•	Dimensions Page 4-6-1
Φ	1031 Series	•	•	•	•	•	
Size	104 Series	•	•	•	•	•	For more Information Visit:
	105 Series	•	•	•	•	•	www.fischerconnectors.com /technical
	106 Series	•					/ teciniicai
	107 Series	•					

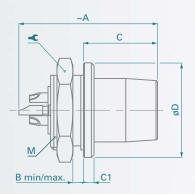
Plugs mate with receptacles.



# **Panel Mounted Plugs**

# ■ SF Body Style

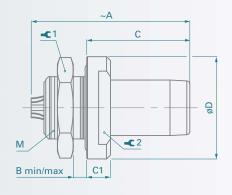




Series	А	B min/max.	С	C1	D	M	Ŷ	Torque [Nm]
102	20.0	0/4.0	11.0	1.0	10	9x0.5	11	1.3
103	23.5	0/3.0	12.5	1.5	14	12x1	14	2.5
1031	26.0	0/4.0	12.0	2.0	16	14x1	17	3.0
104	28.0	0/3.0	14.0	2.0	18	15x1	17	4.0
105	30.5	0/5.5	16.8	1.2	22	16x1	19	4.5
106	42.5	0/5.5	27.5	2.5	34	30x1	TX00.106	14
107	50.0	6.0	28.0	3.0	36	32x1	TX00.106	15

# ■ SFU / SFE Body Styles





Series	А	B min/max.	С	C1	D	M	<b>Q</b> 1	Torque 1	<b>¥</b> 2
102	21	0/2.5	13	3	13	9x0.5	11	1.3	9
103	26	0/5.0	14	3	17	12x1	14	2.5	12
1031	26.5	0/4.0	13.7	3.7	19	14x1	17	3.0	12
104	28	0/7.5	15	3	22	16x1	19	4.5	-
105	32	0/6.0	4	4	27	20x1	25	6.5	-
106									

Please contact us for additional information

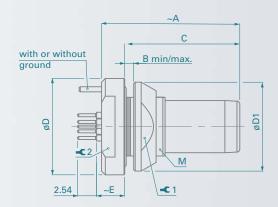
107



# **Panel Mounted Plugs**

# ■ SFPU / SFPE Body Styles



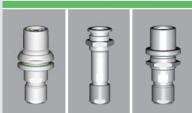


Series	Α	B min/max.	С	D	D1	Е	M	<b>Q</b> 1	Torque 1 [Nm]	<b>₽</b> 2
102	22.0	0/2.5	15.4	13	12	3.8	9x0.5	10	1.3	9
103	25.5	0/4.0	18.5	17	16	4.5	12x1	13	2.5	12
1031	25.0	0/4.0	18.0	19	18	4.5	14x1	15	3.0	15
104	29.0	0/6.0	22.0	22	20	4.2	16x1	17	4.5	17
105	32.5	0/5.0	25.0	27	25	5.0	20x1	22	6.5	19
400										

Please contact us for additional information



# **Panel Mounted Cable Receptacles**



Body	/ Style	DKBE	DK	DKE	Links to Detailed Information
Protection	Unsealed (IP50)		•		Sealed and Hermetic Connectors Page 13-8
Prot	Sealed up to IP68	•		•	
Contacts	Crimp	•	•	•	Electrical & Contacts Specifications Page 4-9
	Solder	•	•	•	
Housing Color	Natural Chrome	•	•	•	Options Page 4-10
H	Black Chrome			•	
Design	Flush				Core Series Overview Page 2-1
De	Front Projecting	•		•	
>	Panel Mounted	•	•	•	
Assembly	Front Mounting •		•	•	Core Series Overview Page 2-1
Asse	Rear Mounting	•			
	Cable Clamp Sets	•	•	•	Cable Clamp Sets Page 4-11
	Cable Bend Reliefs	•	•	•	
	Sealing Caps	•	•	•	
s S	Spacers	•	•	•	
Accessories	Color-Coded Washers	•	•		Accessories Section 11
Secon	Insulating Washers				Accessories dection in
4	Grounding Washers	•	•	•	
	Locking Washers	•	•	•	
	<b>Decorative Nuts</b>	•			
	102 Series	•	•	•	
	103 Series	•	•	•	
	1031 Series	•			Dimensions Page 4-7-1
Size	104 Series	•	•	•	For more Information Visit:
	105 Series	•	•	•	www.fischerconnectors.com/technical
	106 Series	•	•	•	
	107 Series	•	•	•	

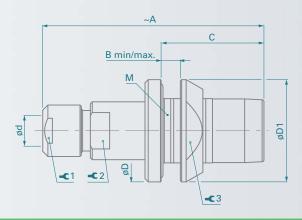
Plugs mate with receptacles.



# Panel Mounted Cable Receptacles

# ■ DKBE Body Style

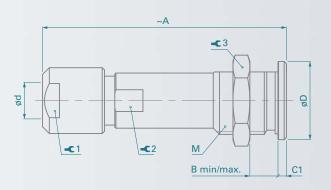




Series	Α	B min/max.	С	D	d max	D1	M	¥1	Torque 1	¥ 2	<b>₽</b> 3	Torque 3
102	35	0/3.5	16.0	16	4.3	16	12x1	7	0.6	7	13	2.5
103	43	0/4.0	19.0	19	6.2	20	15x1	10	1.0	10	17	4.0
1031	46	0/4.0	18.0	21	6.7	20	16x1	12	1.5	11	17	4.5
104	50	0/5.0	22.5	23	8.7	23	18x1	12	2.0	13	20	6.0
105	60	0/5.0	26.0	28	10.7	27	22x1	15	3.5	16	24	8.0
106	101	0/6.5	32.0	41	19.2	40	34x1	25	8.0	25	36	15
107	105	0/8.0	34.0	45	22.7	45	38x1	32	10.0	30	40	18

# ■ DK Body Style



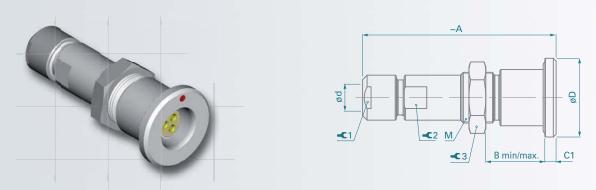


Series	Α	B min/max.	C1	D	d max	M	¥1	Torque 1 [Nm]	¥2	<b>₩</b> 3	Torque 3			
102	35	0/9	1.5	11	4.7	9x0.5	7	0.6	-	11	1.3			
103	44	0/10	1.5	14	6.7	12x1	10	1.0	9	14	2.5			
1031		Please contact us for additional information												
104	50	0/11	2.0	19	8.7	15x1	12	2.0	12	17	4.0			
105	60	0/16	2.0	22	10.7	18x1	15	3.5	14	22	6.0			
106	80	0/21	3.0	37	19.2	32x1	25	8.0	25	TX00.106	15			
107	105	0/17	4.0	40	22.7	35x1	32	10.0	30	TX00.107	16			



# Panel Mounted Cable Receptacles

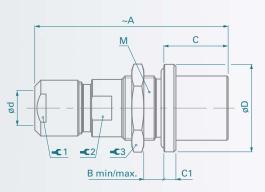
■ DKE Body Style for 102, 103 and 1031 Series



Series	Α	B min/max.	С	C1	D	d max	M	<b>₽</b> 1	Torque 1 [Nm]	<b>₽</b> 2	<b>¥</b> 3	Torque 3	
102	35	9/12	-	2	14	4.3	9x0.5	7	0.6	7	11	1.3	
103	45	9/14	-	3	17	6.2	14x1	10	1.0	10	17	3.0	
1031	Please contact us for additional information												

■ DKE Body Style for 104, 105, 106 and 107 Series





Series	Α	B min/max.	С	C1	D	d max	M	<b>₽</b> 1	Torque 1 [Nm]	¥ 2	<b>₩</b> 3	Torque 3
104	50	0/8	16.0	3	22	8.7	16x1	12	2.0	13	19	4.5
105	61	0/9	19.0	4	27	10.7	20x1	15	3.5	16	25	6.5
106	85	0/9	25.5	7	37	19.2	30x1	25	8.0	25	TX00.106	14
107	110	0/21	25.0	5	45	22.7	35x1	32	10.0	30	TX00.107	16



# Panel Cut-Outs

The dimension of panel cut-outs varies according to the body style and size of the panel mounted connector. Refer to table below for more details.

Check details on dimensional specifications on our web site: www.fischerconnectors.com/technical



### ■ Panel Mounted Receptacles

Series	D	DEU DI		DBEU DBEE	DBP	DBPU DBPE	DBPLU DBPLE	DG DGP	DBPC	WDE
					ø					
102	9.1	10.1	9.1	9.1	9.1	9.1	10.1	9.1	9.1	9.1
103	12.1	14.1	12.1	14.1	12.1	14.1	14.1	12.1	12.1	12.1
1031	14.1	14.1	-	14.1	14.1	14.1	15.1	14.1	14.1	-
104	15.1	16.1	16.1	16.1	15.1	16.1	16.1	15.1	-	15.1
105	18.1	20.1	18.1	18.1	18.1	20.1	20.1	18.1	-	20.1
106	32.2	34.2	-	32.2	-	-	-	32.2	-	32.2
107	35.2	36.2	-	35.2	-	35.2	-	-	-	36.2

# ■ Panel Mounted Plugs

Series	SF	SFU SFE	SFPU SFPE
		ø d	
102	9.1	9.1	9.1
103	12.1	12.1	12.1
1031	14.1	14.1	14.1
104	15.1	16.1	16.1
105	16.1	20.1	20.1
106	30.2	-	-
107	32.2	-	-

# ■ Panel Mounted Cable Receptacles

Series	DK	DKBE	DKE
		ø d	
102	9.1	12.1	10.1
103	12.1	15.1	14.1
1031		16.1	-
104	15.1	18.1	16.1
105	18.1	22.1	20.1
106	32.2	34.2	30.2
107	35.2	38.2	35.2



# **Contents**

A/Z Polarity	<ul><li>For all Body Styles (except WDE)</li><li>For WDE Body Style</li></ul>	4-9-1 4-9-1
Contact Types	■ Solder Contacts	4-9-2
	<ul><li>PCB Contacts</li></ul>	4-9-2
	<ul><li>Crimp Contacts, Tooling</li></ul>	4-9-3

# For Multipole Low Voltage Connectors



- Contact Configurations
- Wire Size
- Test & Rated Voltages
- Current Rating

■ 102 Series	4-9	9-4
■ 103 Series	4-9	<b>}-</b> 5
■ 1031 Series	4-9	}-5
■ 104 Series	4-9	<b>3-6</b>
■ 105 Series	4-9	<b>3-8</b>
■ 106 Series	4-9	9-10
■ 107 Series	4.0	o_11



# A/Z Polarity

To protect users from contact with dangerous voltages, most Fischer connectors exist in two versions:

#### ■ Type "A" Standard Polarity:

The contacts of the receptacle are protected against accidental touch. This version is recommended when voltage is present on the receptacle.

#### ■ Type "Z" Inverted Polarity:

The contacts of the plug are protected against accidental touch. This version is recommended when voltage is present on the plug.

	Receptacle D	Plug S
Type "A" Standard Polarity	4	
Type "Z" Inverted Polarity		7

#### ■ Important: An "A" type connector can never be mated with a "Z" type connector.

A plug "S" has the same housing in type "A" as in type "Z", but type "A" comes with unprotected contacts while type "Z" is equipped with touch-protected contacts.

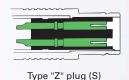
In most cases these are female contacts which are recessed in the insulator.

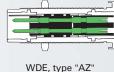
For the exceptions, see High Voltage Connectors page 5-5 and Mixed High Voltage page 9-5

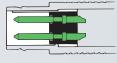
#### Bulkhead Feedthrough WDE:

Type "AZ" is the standard version of the WDE.

The flange side accepts an "A" type plug, and the threaded side accepts a "Z" type plug.







ype "AZ" Type "A" plug (S)

The "ZA" version of the WDE accepts a type "Z" plug at the flange side and accepts a type "A" plug at the threaded end.



# **Contact Types**

The Fischer contact designs are highly reliable and are guaranteed up to 10,000 mating cycles.

All standard brass and bronze contacts for use in the Core Series are screw machined, and all are gold plated over a nickel underplate.

The current Fischer design has very low insertion forces, improved contact area, and can be machined and calibrated in one operation.

The classic Fischer design, which has equivalent performance, is still in use on certain connectors.

Most connectors are available with solder, crimp or PCB contacts and each type is optimized for a particular application.

Fischer Connectors manufactures as well connectors with thermocouple contacts. Please check our online documentation on **www.fischerconnectors.com** 

All contacts and connectors are RoHS compliant.

#### Solder Contacts

Solder contacts are the most versatile contact as they can be produced with any type of contact block material and can accept a wide range of wire sizes.



- The contacts are pre-installed in the insulator block, and the wires can be terminated with any appropriately sized soldering iron.
- Solder contacts may require operators who are qualified in specialized soldering techniques.

#### **PCB Contacts**

PCB contacts are available on some Panel Mounted Connectors.



- These connectors are designed to be mounted directly to a PCB or flex circuit, and can be used in wave solder operations for faster production assembly.
- The pin diameter has been necessarily reduced in the area that will mount to the PCB, and this can affect the current carrying capacity and voltage characteristics of the connector depending on the PCB design and assembly techniques. These requirements should be reviewed during the product design process.
- PCB pins are non standard for Cable Mounted products.



# **Contact Types**

#### **Crimp Contacts**

Crimp contacts are often used in higher volume applications, and offer the advantage of being able to replace individual contacts if they become damaged.



- Each contact has a selectively annealed area that is deformed during assembly by specialized tooling to assure proper termination of the wire to the contact.
- Special tools are also required to insert the contact into the insulator block. See Section 12 Tooling.
- Teflon insulator blocks are not compatible with crimp contacts, and crimp contacts only accept a limited range of wire sizes.
- Crimp contacts are not available in sealed or hermetic connectors.

# **Tooling for Crimp Contacts**

Series	Polarity	Contact Diameter (mm)													
		0	.5	0	.7	0	.9	1	.3	1.6					
		Contact Part Number	Positioner Part Number												
102	Male	200.2113	TX00.300	200.2884	TX00.304	200.2890	TX00.307	-	-	-	-				
	Female	200.2114	TX00.302	200.2885	TX00.305	200.2892	TX00.309	-	-	-	-				
103	Male	200.2113	TX00.300	200.2884	TX00.304	200.2890	TX00.307	200.2402	TX00.311	-	-				
	Female	200.2114	TX00.302	200.2885	TX00.305	200.2892	TX00.309	200.2214	TX00.312	-	-				
1031	Male	200.2172	TX00.301	200.2884	TX00.304	200.2890	TX00.307	200.2402	TX00.311	-	-				
	Female	200.2183	TX00.303	200.2885	TX00.305	200.2892	TX00.309	200.2214	TX00.312	-	-				
104	Male	200.2172	TX00.301	200.2884	TX00.304	200.2890	TX00.307	200.2402	TX00.311	200.1653	TX00.313				
	Female	200.2183	TX00.303	200.2885	TX00.305	200.2892	TX00.309	200.2214	TX00.312	200.1654	TX00.314				
105	Male	200.2172	TX00.301	200.2884	TX00.304	200.2891	TX00.308	200.2403	TX00.338	200.1653	TX00.313				
Female		200.2412	TX00.324	200.2886	TX00.306	200.2893	TX00.310	200.2214	TX00.312	200.1654	TX00.314				
Crimp To Part Nur		TX00	0.240	TX00	0.240	TX00	0.240	TX00	0.240	TX00	0.242				

See Section 12 Tooling, Page 12-2 for description of Crimping Tool and Positioner.



					ontact nination			Wire Size <sup>2)</sup>				tage [			
			ier	minai	ion				AC rms		DC		S [V]		
Туре	Pin Layout	Number of Contacts	Solder	Crimp	PCB	Insulating Material	Contact Ø [mm]	Solder Contacts <sup>1)</sup>	Crimp Contacts	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Rated Voltage 4) r.m.s [V]	Current Rating <sup>3)</sup> [A]
102 A <b>051</b>		2	•	•	•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.83mm min ø0.48mm AWG22-26	1.3	1.7	1.8	2.4	≤ 250	9.2
102 A <b>052</b>		3	•		•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.3	1.3	1.8	1.6	≤ 250	8.2
102 A <b>053</b>		4	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	1.2	1.2	1.7	1.8	≤200	5.5
102 A <b>054</b>		5	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	0.8	1.0	1.3	1.8	≤ 160	5.2
102 <sup>A</sup> <b>056</b>		7	•	•	•	PEEK	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	max ø0.43mm min ø0.20mm AWG28-32	0.8	1.0	1.3	1.8	≤ 160	2.0
102 A <b>059</b>		9	•		•	PEEK	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	-	0.8	1.1	1.2	1.8	≤ 160	1.7

<sup>1)</sup> Stranding values are in brackets.

<sup>&</sup>lt;sup>2)</sup> For a given AWG, the diameter of some stranded conductor designs could exceptionally be larger than the hole diameter of the barrel. Testing may be required.

<sup>&</sup>lt;sup>3)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>4)</sup> Recommended operating voltage at sea level measured according to IEC 60664-1.

This rated voltage is a general purpose guideline where no other electrical safety standard applies. In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering. In cases where other calculation methods are preferred, please use the Test Voltage to determine the operating voltage. See page 13-6 for details.



## 103 and 1031 Series

			C	Contact Wire Size 2)				Cino 2)		st Vo					
			Ter	minat	ion			vvire	Size */	AC	rms	D	С	S [V]	
Туре	Pin Layout	Number of Contacts	Solder	Crimp	PCB	Insulating Material	Contact Ø [mm]	Solder Contacts <sup>1)</sup>	Crimp Contacts	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Rated Voltage 4) r.m.s [V]	Current Rating <sup>3)</sup> [A]
103 A <b>051</b>		2	•	•	•	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	max ø1.18mm min ø0.58mm AWG18-24	1.5	2.2	2.2	3.0	≤ 250	13
103 A <b>052</b>		3	•		•	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.2	1.5	1.8	2.0	≤ 250	12
103 A <b>053</b>		4	•		•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.2	1.6	2.0	2.4	≤ 250	7.0
103 A <b>054</b>		5	•	•	•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.83mm min ø0.48mm AWG22-26	1.1	1.4	1.9	2.2	≤ 250	6.8
103 A <b>056</b>		6	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	1.0	1.3	2.0	2.0	≤ 250	5.2
103 A <b>057</b>		7	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	1.0	1.3	2.0	2.0	≤ 250	5.0
103 A <b>058</b>		8	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	0.8	1.1	1.4	1.9	≤ 200	3.8
103 <sup>A</sup> <b>062</b>		12	•	•	•	PEEK	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	max ø0.43mm min ø0.20mm AWG28-32	0.9	1.2	1.5	1.8	≤ 200	2.0
1031 <sup>A</sup> <sub>Z</sub> <b>010</b>		10	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	1.4	1.5	2.0	2.2	≤ 250	4.5
1031 <sup>A</sup> <b>012</b>		12	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	1.4	1.5	2.0	2.2	≤ 250	4.2
1031 <sup>A</sup> <b>019</b>		19	•	•	•	PEEK	0.5	max ø0.43mm AWG26 [1] AWG28 [19/40]	max ø0.43mm min ø0.20mm AWG28-32	1.2	0.9	2.0	1.5	≤ 250	2.5

<sup>&</sup>lt;sup>1)</sup> Stranding values are in brackets.

<sup>&</sup>lt;sup>2)</sup> For a given AWG, the diameter of some stranded conductor designs could exceptionally be larger than the hole diameter of the barrel. Testing may be required.

<sup>&</sup>lt;sup>3)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>4)</sup> Recommended operating voltage at sea level measured according to IEC 60664-1.

This rated voltage is a general purpose guideline where no other electrical safety standard applies. In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering. In cases where other calculation methods are preferred, please use the Test Voltage to determine the operating voltage. See page 13-6 for details.



					ontac				Wire	Size <sup>2)</sup>		est Vo				
				ieri	minat	ion					AC	rms	D	C	S [V]	
Туре	Pin Layout		Number of Contacts	Solder	Crimp	PCB	Insulating Material	Contact Ø [mm]	Solder Contacts <sup>1)</sup>	Crimp Contacts	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Rated Voltage 4) r.m.s [V]	Current Rating <sup>3)</sup> [A]
104 A <b>051</b>			2	•		•	PEEK PTFE	1.6	max ø1.86mm AWG13 [1] AWG14 [7/22]	-	1.8	2.2	2.8	3.2	≤ 500	20
104 A <b>040</b>		;	3	•	•	•	PEEK PBT	1.6	max ø1.86mm AWG13 [1] AWG14 [7/22]	max ø1.78mm min ø1.17mm AWG14-18	1.6	2.0	2.6	3.0	≤ 500	18
104 A <b>037</b>		,	4	•	•	•	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	max ø1.18mm min ø0.58mm AWG18-24	1.8	2.2	2.5	3.0	≤ 500	12
104 <sup>A</sup> <b>087</b>		4	2				PBT	2.3	max ø2.48mm AWG11 [1] AWG12 [7/20]	-	1.5	1.6	2.2	2.5	≤ 400	28
Z Z		4	2				PDI	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	2.0	1.0	2.8	2.5	≤ 400	3.0
104 A <b>053</b>			5	•		•	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.4	1.7	2.4	2.7	≤ 320	11
104 A <b>065</b>			6	•	•	•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.83mm min ø0.48mm AWG22-26	1.7	2.0	2.4	2.6	≤ 400	6.5
104 A <b>054</b>			7	•		•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.5	1.8 <sup>5)</sup>	2.2	2.0 <sup>5)</sup>	≤320	6.5

<sup>&</sup>lt;sup>1)</sup> Stranding values are in brackets.

<sup>&</sup>lt;sup>2)</sup> For a given AWG, the diameter of some stranded conductor designs could exceptionally be larger than the hole diameter of the barrel. Testing may be required.

<sup>&</sup>lt;sup>3)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>4)</sup> Recommended operating voltage at sea level measured according to IEC 60664-1.

This rated voltage is a general purpose guideline where no other electrical safety standard applies. In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering. In cases where other calculation methods are preferred, please use the Test Voltage to determine the operating voltage. See page 13-6 for details.

<sup>&</sup>lt;sup>5)</sup> Test voltages between the contacts with the shortest distance.



				_	ontac		Wire Size 2)		Size <sup>2)</sup>		est Vol					
			<b>10</b>	ieri	minat	ion					AC	rms	s DC		s [V]	
Туре	Pin Layout		Number of Contacts	Solder	Crimp	PCB	Insulating Material	Contact Ø [mm]	Solder Contacts <sup>1)</sup>	Crimp Contacts	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Rated Voltage 4) r.m.s [V]	Current Rating <sup>3)</sup> [A]
104 <sup>A</sup> <sub>Z</sub> <b>066</b>		,	8	•	•	•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.83mm min ø0.48mm AWG22-26	1.5	1.5	2.5	2.5	≤ 320	6.2
104 A <b>055</b>		9	1				PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	2.4	2.2	3.8	3.6	≤ 250	12
Z Z		9	8				FEER	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.4	1.5	2.0	2.4	≤ 250	6.0
104 A <b>056</b>		1	11	•	•	•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.83mm min ø0.48mm AWG22-26	1.4	1.5	2.1	2.2	≤ 250	5.8
104 A <b>086</b>		1	16	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	1.0	1.5	1.6	2.2	≤ 200	4.0
104 <sup>A</sup> <b>092</b>		1	19	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	0.8	1.2	1.2	1.8	≤ 200	3.5
104 A <b>124</b> <sup>5)</sup>		2	27		•	•	PEEK	0.5	-	max ø0.43mm min ø0.20mm AWG28-32	1.2	0.5	1.8	0.5	≤ 200	2.0

<sup>&</sup>lt;sup>1)</sup> Stranding values are in brackets.

<sup>&</sup>lt;sup>2)</sup> For a given AWG, the diameter of some stranded conductor designs could exceptionally be larger than the hole diameter of the barrel. Testing may be required.

<sup>&</sup>lt;sup>3)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>4)</sup> Recommended operating voltage at sea level measured according to IEC 60664-1.

This rated voltage is a general purpose guideline where no other electrical safety standard applies. In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering. In cases where other calculation methods are preferred, please use the Test Voltage to determine the operating voltage. See page 13-6 for details.

<sup>&</sup>lt;sup>5)</sup> This configuration has different environmental performances due to the use of another sealant material. Please contact us for more information.



															iiu O=	-  -										
					onta				Wire	Size <sup>2)</sup>		st Vo mated														
				Ten	minat	ion				<b></b>	AC	rms	D	С	S [V]											
Туре	Pin Layout		Number of Contacts	Solder	Crimp	PCB	Insulating Material	Contact ø [mm]	Solder Contacts <sup>1)</sup>	Crimp Contacts	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Rated Voltage 4) r.m.s [V]	Current Rating <sup>3)</sup> [A]										
105 <sup>A</sup> <b>051</b>			2				DEEN	2.0	max ø2.03mm		2.5	2.0	4.0	4.0	. 620	26										
Z Z		·	2	•			PEEK	2.0	AWG13 [1] AWG14 [7/22]	-	2.5	3.0	4.0	4.0	≤ 630	26										
105 <sup>A</sup> <b>087</b>		:	2	•			PEEK	3.0	max ø3.13mm AWG9 [1] AWG10 [105/30]	-	1.2	1.6	2.3	3.0	≤ 400	30										
105 A <b>052</b>		;	3	•			PEEK	2.0	max ø2.03mm AWG13 [1] AWG14 [7/22]	-	2.0	2.5	3.0	3.5	≤ 400	23										
105 A <b>053</b>			4	•			PEEK	2.0	max ø2.03mm AWG13 [1] AWG14 [7/22]	-	1.8	1.8	2.6	2.6	≤ 320	20										
105 A 054 <sup>5)</sup>		_	1				DEEK	2.0	max ø2.03mm AWG13 [1] AWG14 [7/22]	-	3.0	2.0	4.0	3.0	000	25										
105 <sup>A</sup> <b>054</b> <sup>5</sup>		7	6	•			PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.8	1.5	2.5	2.0	≤ 320	7.0										
105 <sup>A</sup> <b>067</b>		:	8	•			PEEK PTFE	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.7	2.0	2.5	2.8	≤ 320	10										
105 A 404		0	2				DEEK	2.3	max ø2.48mm AWG11 [1] AWG12 [7/20]	-	1.2	2.2	1.8	3.2	050	18.5										
105 A <b>124</b>		8	6				PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.2	1.2	1.8	1.8	≤ 250	7.5										
105 A 101 <sup>5)</sup>		0	1				DEFV	2.0	max ø2.03mm AWG13 [1] AWG14 [7/22]	-	3.0	2.0	4.0	3.0	. 220	25										
105 A 101 5												9 -	8			• PEE	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.8	1.5	2.5	2.0	≤ 320	5.0

<sup>&</sup>lt;sup>1)</sup>Stranding values are in brackets.

<sup>&</sup>lt;sup>2)</sup> For a given AWG, the diameter of some stranded conductor designs could exceptionally be larger than the hole diameter of the barrel. Testing may be required.

<sup>&</sup>lt;sup>3)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>4)</sup>Recommended operating voltage at sea level measured according to IEC 60664-1.

This rated voltage is a general purpose guideline where no other electrical safety standard applies. In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering. In cases where other calculation methods are preferred, please use the Test Voltage to determine the operating voltage. See page 13-6 for details.

 $<sup>^{\</sup>rm 5)}\mbox{Contact}$  dia. 2.0 is positioned to make contact first and break last.



				Contact Termination					Wire	Size <sup>2)</sup>		est Vo				
			<b>10</b>	Ter	minat	ion			VVIIC	Size ·	AC	rms	D	С	S [V]	
Туре	Pin Layout		Number of Contacts	Solder	Crimp		Insulating Material	Contact ø [mm]	Solder Contacts <sup>1)</sup>	Crimp Contacts	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Rated Voltage 4) r.m.s [V]	Current Rating <sup>3)</sup> [A]
105 <sup>A</sup> <b>062</b>		1	0	•	•	•	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	max ø1.18mm min ø0.58mm AWG18-24	1.7	2.0	2.5	2.7	≤ 320	9.0
105 <sup>A</sup> <b>069</b>		1	2	•		•	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.4	1.5	1.8	2.0	≤ 250	8.0
105 A 104 5)		13	3				PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	2.5	1.5	3.8	2.2	≤ 320	14
Z Z		13	10				TEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.3	1.5	1.8	2.2	≤ 320	1.0
105 A <b>127</b>		13	3				PEEK	1.3	-	max ø1.18mm min ø0.58mm AWG18-24	3.0	2.8	4.8	3.9	≤ 630	14
100 A 127		15	10				TEEK	0.7	-	max ø0.62mm min ø0.38mm AWG24-28	3.1	1.1	4.7	1.9	3 000	1.0
105 <sup>A</sup> <b>058</b>		1	5	•	•	•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.83mm min ø0.48mm AWG22-26	1.4	1.6	1.8	2.2	≤ 250	5.3
105 A 110 6)		16	4				PEEK	1.6	max ø1.86mm AWG13 [1] AWG14 [7/22]	-	1.6	1.3	2.8	2.1	≤ 250	14
Z		10	12			Ĭ	TEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.0	1.2	1.5	2.0	3 200	1.0
105 <sup>A</sup> <b>038</b>		1	8	•	•	•	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.83mm min ø0.48mm AWG22-26	1.4	1.6	1.8	2.2	≤ 200	4.5
105 A <b>093</b>		2	4	•		•	PBT	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.2	1.5	1.5	2.0	≤ 250	3.5
105 A <b>102</b>		2	7	•	•	•	PEEK	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.62mm min ø0.38mm AWG24-28	1.2	1.5	1.5	2.0	≤ 250	3.0

<sup>&</sup>lt;sup>1)</sup>Stranding values are in brackets.

<sup>&</sup>lt;sup>2)</sup> For a given AWG, the diameter of some stranded conductor designs could exceptionally be larger than the hole diameter of the barrel. Testing may be required.

<sup>&</sup>lt;sup>3)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>4)</sup> Recommended operating voltage at sea level measured according to IEC 60664-1.

This rated voltage is a general purpose guideline where no other electrical safety standard applies. In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering. In cases where other calculation methods are preferred, please use the Test Voltage to determine the operating voltage. See page 13-6 for details.

<sup>&</sup>lt;sup>5)</sup> Contacts dia. 1.3 are positioned to make contact first and break last.

<sup>&</sup>lt;sup>6)</sup> Contacts dia. 1.6 are positioned to make contact first and break last.



 $\bullet$  = Standard  $\bigcirc$  = Option

			_	onta				Wire	Size <sup>2)</sup>			Itage I positio			
		10	Ter	minat	tion					AC	rms	D	С	S [V]	
Туре	Pin Layout	Number of Contacts	Solder	Crimp	PCB	Insulating Material	Contact Ø [mm]	Male Solder Contacts <sup>1)</sup>	Female Solder Contacts <sup>1)</sup>	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Rated Voltage 4) r.m.s [V]	Current Rating <sup>3)</sup> [A]
Δ 5)			•			PTFE		max ø2.13mm	max ø2.28mm						
106 <sup>A</sup> Z <b>003</b> <sup>5)</sup>		3	О			PEEK	2.3	AWG12 [1] AWG14 [7/22]	AWG12 [1] AWG14 [105/34]	3.5	5.0	6.0	6.5	≤ 1000	26
100 A 00= 5)6)			•			PTFE		max ø2.08mm	max ø2.03mm						
106 <sup>A</sup> <sub>Z</sub> <b>007</b> <sup>5)6)</sup>		7	0	PEEK 2.0 AWG12 [1] AWG13 [1] AWG14 [7/22] AWG14 [7/22]	AWG13 [1] AWG14 [7/22]	2.5	3.0	4.5	4.5	≤ 800	20				
100 A 212			•			PTFE		max ø2.08mm	max ø2.03mm						
106 <sup>A</sup> <b>019</b>		8	0			PEEK	2.0	AWG12 [1] AWG14 [7/22]	AWG13 [1] AWG14 [7/22]	2.2	2.2	4.0	3.0	≤ 630	19
400 A <b>645</b>			•			PTFE		max ø2.08mm	max ø2.03mm						
106 A <b>015</b>		12	0			PEEK	2.0	AWG12 [1] AWG14 [7/22]	AWG13 [1] AWG14 [7/22]	1.8	2.2	2.5	3.0	≤ 500	16
100 A 010			•			PTFE		max ø1.18mm	max ø1.23mm						
106 <sup>A</sup> <b>018</b>		17	О			PEEK	1.3	AWG17 [1] AWG18 [16/30]	AWG17 [1] AWG18 [16/30]	1.8	2.2	2.5	3.0	≤ 500	8.0
100 A 25-			•			PTFE		max ø1.18mm	max ø1.18mm						
106 <sup>A</sup> <b>017</b>	24	0			PEEK	1.3	AWG17 [1] AWG18 [16/30]	AWG17 [1] AWG18 [16/30]	1.8	1.5	2.5	2.1	≤ 400	7.0	

<sup>&</sup>lt;sup>1)</sup>Stranding values are in brackets.

<sup>&</sup>lt;sup>2)</sup> For a given AWG, the diameter of some stranded conductor designs could exceptionally be larger than the hole diameter of the barrel. Testing may be required.

<sup>&</sup>lt;sup>3)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>4)</sup>Recommended operating voltage at sea level measured according to IEC 60664-1.

This rated voltage is a general purpose guideline where no other electrical safety standard applies. In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering. In cases where other calculation methods are preferred, please use the Test Voltage to determine the operating voltage. See page 13-6 for details.

<sup>&</sup>lt;sup>5)</sup>The contact solder cups are specially insulated.

<sup>&</sup>lt;sup>6)</sup>Contact Number 1 is positioned to make contact first and break last.



 $\bullet$  = Standard  $\bigcirc$  = Option

				_	onta			,		size <sup>2)</sup>		st Vol				
			10	ien	minat	lion		AC rms DC				С	<b>S</b> [V]			
Туре	Pin Layout		Number of Contacts	Solder	Crimp	PCB	Insulating Material	Contact Ø [mm]	Male Solder Contacts <sup>1)</sup>	Female Solder Contacts <sup>1)</sup>	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Rated Voltage 4) r.m.s [V]	Current Rating <sup>3)</sup> [A]
107 A <b>013</b>		4	4	•			PTFE	2.3	max ø2.93mm AWG9 [1] AWG10 [37/26]	max ø2.28mm AWG12 [1] AWG14 [105/34]	6.5	7.0	10	11	≤ 1000	26
107 A <b>018</b>		(	6	•			PTFE PEEK	2.3	max ø2.93mm AWG9 [1] AWG10 [37/26]	max ø2.28mm AWG12 [1] AWG14 [105/34]	4.5	4.5	6.0	6.0	≤ 800	25
107 A <b>015</b>		1	9	•			PTFE PEEK	2.0	max ø2.08mm AWG12 [1] AWG14 [7/22]	max ø2.03mm AWG13 [1] AWG14 [7/22]	2.0	2.5	2.5	3.2	≤ 500	13
107 A <b>051</b>		2	7	•			PTFE PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	max ø1.18mm AWG17 [1] AWG18 [16/30]	2.0	2.0	3.0	3.2	≤ 400	7.5
107 A <b>052</b>		4	.0	•			PTFE PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	max ø1.18mm AWG17 [1] AWG18 [16/30]	1.8	1.5	2.5	2.0	≤ 320	6.5
107 <sup>A</sup> <b>023</b>		55	8	•			PTFE	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	max ø1.18mm AWG17 [1] AWG18 [16/30]	2.0	1.8	2.8	2.5	≤ 400	7.0
		33	47	0			PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	max ø0.88mm AWG20 [1] AWG22 [19/34]	17	15	2.5	2.1	<u> </u>	3.0

<sup>&</sup>lt;sup>1)</sup>Stranding values are in brackets.

This rated voltage is a general purpose guideline where no other electrical safety standard applies. In cases where other standards rule a specific use of the connector, the application-specific safety criteria shall be considered first. This must be evaluated in the framework of equipment engineering. In cases where other calculation methods are preferred, please use the Test Voltage to determine the operating voltage. See page 13-6 for details.

<sup>&</sup>lt;sup>2)</sup> For a given AWG, the diameter of some stranded conductor designs could exceptionally be larger than the hole diameter of the barrel. Testing may be required.

<sup>&</sup>lt;sup>3)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>4)</sup>Recommended operating voltage at sea level measured according to IEC 60664-1.



# **Contents**

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Connector Housing Colors	4-10-1
Cable Bend Reliefs and Clamp Nut Types	4-10-1
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# **Options Part Numbering**

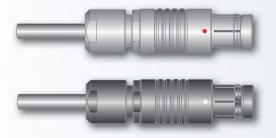
■ Multipole Low Voltage, High Voltage and Mixed High Voltage Connectors 4-10-3



# Housing Colors and Cable Bend Reliefs

#### **Connector Housing Colors**

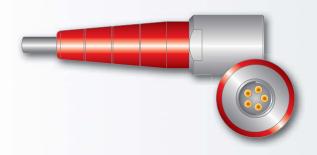
All the body styles of our Core Product Line are available in two colors:



- Natural chrome connector housing with red guide mark.
- Non reflective black chrome housing with white guide mark.

Guide mark is standard for Multipole Low and High Voltage, Mixed Multipole and Mixed Coax Connectors.

#### Color-coding is achieved by using accessories:



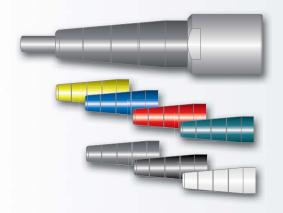
- Cable Bend Reliefs for Cable Connectors.
- Washers for Panel Connectors.

For detailed information on Cable Bend Reliefs and Washers, See Section 11 Accessories.

Our AluLite<sup>™</sup> connector Series – ideal for ultralight product development – features a wide array of housing colors. For more, download AluLite<sup>™</sup> series catalogue at www.fischerconnectors.com/catalogues.

### Cable Bend Reliefs and Clamp Nut Types

A cable bend relief is a useful accessory for connectors mounted with cable clamp sets (S/SC; SOV; SA; SV; WSO; K/KE; DK; DKE; DBKE).



#### It enables to:

- Prevent cable torsion, enhancing your connections efficiency.
- Color-code your connectors for easy identification.

Cable bend reliefs require special clamp nuts, thus are linked with your selection of options.

For detailed information on cable bend reliefs and washers, see Section 11 Accessories.



# **Mechanical Coding**

### For Easy Connect / Disconnect Operations

Our contact blocks are engineered with arc-shape metal guides, which ensure precise alignement of connectors during the mating process.



This guiding mechanism provides:

- Increased safety and user friendliness by preventing misconnection.
- Easy mating cycles, can be blind-mated.
- Increased equipment life span by optimally protecting the contacts.

#### **Keying Codes Options**

All Multipole body styles are mechanically coded.

Code 1 is the standard, but other codes can be requested (See table below).

	Female Block	Male Block
Code 1		
Code 2		
Code 3		

Other keying codes are available on request, please contact us.



# Multipole Low Voltage, High Voltage & Mixed Connectors

1	Housing Color Which housing color do you need?	NATURAL CHROME with Red Guide Mark							
2	Contact Block Material Which contact block material do you ne	PTFE	PI	ЗТ	PEEK				
3	Contact Type Which contact type do you need?	Solder	Solder	Crimp <sup>1)</sup>	Solder	Crimp <sup>1)</sup>			
4	Keying Code Which keying code do you need?	Code 1	-60	-80	-100	-130	-150		
ı	С	code 2	-2060	-2080	-2100	-230	-250		
	С	code 3	-3060	-3080	-3100	-330	-350		

<sup>&</sup>lt;sup>1)</sup>Crimp contacts are not an option for sealed or hermetic connectors.

#### Cable Bend Relief

Do you need a cable bend relief, and if yes which color?

Applicable for	Last Digit	Description	
	0	Clamp nut without bend relief	
	1	Clamp nut with white bend relief	
Cable Mounted Plugs	2	Clamp nut with black bend relief	
& Receptacles using	3	Clamp nut with green bend relief	
Cable Clamp Sets	4	Clamp nut with blue bend relief	
Except SS/SSC-KS/KSE	5	Clamp nut with yellow bend relief	
	6	Clamp nut with red bend relief	
	7	Clamp nut with grey bend relief	

# **Contact Type for Panel Mounted Connectors**

Applicable for	Last Digit	Description						
Front Mounted:	0	Standard: solder contacts						
D-DEU/E-DB-DBEU/E- DG-SF-SFU/E	9	With PCB (Printed Circuit Board) contacts instead of solder contacts						
Rear Mounted:	0	Standard: PCB (Printed Circuit Board) contacts						
DBP-DBPU/E-DBPLU/E - DGP-SFPU/E	9	With solder contacts instead of PCB (Printed Circuit Board) contacts						

### **Design and Accessories**

Applicable for	Extensions	Description
	N	Nickel plated body with bright finish
	Е	EPDM interface O-ring
Receptacles	G	Ground tag if solder contact or Ground pin if PCB contact
	В	Black Nut
	D	Decorative slotted nut
	F	Decorative nut (with 2 flats)

Other options are available on request, please contact us.



# Multipole Low Voltage, High Voltage & Mixed Connectors

BLACK CHROME with White Guide Mark											
PTFE	PBT PEEK										
Solder	Solder	Crimp <sup>1)</sup>	Solder	Crimp <sup>1)</sup>							
-70	-90	-110	-140	-160							
-2070	-2090	-2110	-240	-260							
-3070	-3090	-3110	-340	-360							

<sup>&</sup>lt;sup>1)</sup>Crimp contacts are not an option for sealed or hermetic connectors.

#### **Examples**

#### **Plugs**

S 102 A056 - 130+

Natural chrome housing color with PEEK contact block, solder contacts, keying code 1, clamp nut without bend relief and without cable clamp set (To be ordered separately)

S 102 A056 - 232+

Natural chrome housing color with PEEK contact block, solder contacts, keying code 2, clamp nut with black bend relief, without cable clamp set

SS 102 A056 - 260

Black chrome housing color with PEEK contact block, crimp contacts, keying code 2

#### Receptacles

D 102 A056 - 130

Natural chrome housing color with PEEK contact block, solder contacts, keying code 1

D 102 A056 - 260

Black chrome housing color with PEEK contact block, crimp contacts, keying code 2

DBPU 102 A056 - 130G

Natural chrome housing color with PEEK contact block, PCB contacts, keying code 1 and ground pin

**DBPU 102 A056 - 130NBE** 

Nickel plated body with PEEK contact block, solder contacts, keying code 1, with black nut and EPDM interface O-ring



# **Contents**

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■ 103 Series	4-11-3
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## Dimensions WSO Body Style

■ 102, 103, 1031, 104 and 105 Series \_\_\_\_\_\_\_\_\_4-11-9



### Introduction

To guarantee excellent cable retention and strain relief, Fischer Connectors provides robust and high quality cable clamp sets:



- Collet style clamp system retaining cable over large jacket surface area.
- Protection of small diameters and delicate conductors.
- Can be combined with cable bend reliefs for optimal performance. See Accessories, page 11-2.

Cable clamp sets are suitable for all cable mounted connectors, except SS/SSC and KS/KSE.

For these specific body styles, see Section 3 Cable Assembly for overmolding or heat shrinking techniques.

### Range Overview: S, U and E Cable Clamp Sets

Fischer Connectors offers three types of cable clamps sets.

The table below will help you select the one corresponding to your needs.

Do you need the interface between the cable and the connector to be sealed?		_	e connector to be he cable shield?	
	Unsealed	Sealed	Unshielded	Shielded
S - Shielded	•			•
U - Unshielded	•		•	
E - Environmental		•	•	•

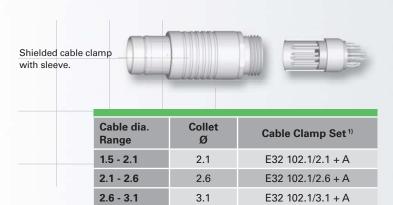
For 106 and 107 connector series, only S and E cable clamp sets are available. See page 4-11-7 and 4-11-8 for details.

# **Part Numbering**

Below Cable Clamp Sets Should be Ordered Separately			Below Cable Clamp Sets a	re Included with Connector
Multipole Low Voltage	Triax		Coax Low Voltage	Coax High Voltage
S 102 A056-130 +		Shielded (S) or Environmental (E) Cable Clamp Set diameter should be added to the connector part number separated by ø.		
Exan	nples	Examples		
Connector	ordering line	For S - Shielded Clamp Sets		
S 102 A0	56-130 <b>+</b>	K 103 A002-600 ø6.2		
Clamp Set o	ordering line		For E - Environm	ental Clamp Sets
E3 102	2.5/2.0	KE 103 A002-600 ø6.2		02-600 ø6.2
See following pages for C	able Clamp Set selection.		See following pages for S or	E Cable Clamp Set selection.

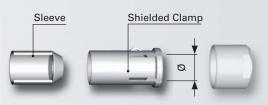


#### ■ **S** - Shielded



3.6

E32 102.1/3.6 + A



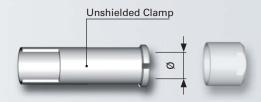
Cable dia. Range	Collet Ø	Cable Clamp Set 1)
3.6 - 4.1	4.1	E32 102.1/4.1 + A
4.1 - 4.3	4.3	E32 102.1/4.3 + A
4.3 - 4.7	4.7	102.248 + A

### ■ **U** - Unshielded

3.1 - 3.6



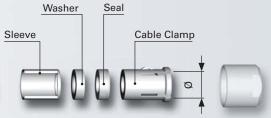
Cable dia. Range	Collet Ø	Cable Clamp Set 1)
1.4 - 2.0	2.0	E3 102.5/2.0
2.0 - 2.7	2.7	E3 102.5/2.7
2.7 - 3.5	3.5	E3 102.5/3.5



Cable dia. Range	Collet Ø	Cable Clamp Set 1)
3.5 - 4.2	4.2	E3 102.5/4.2
4.2 - 4.7	4.7	E3 102.5/4.7



Cable dia. Range	Collet Ø	Cable Clamp Set <sup>1)</sup>
1.5 - 2.1	2.1	E31 102.2/2.1 + B
2.1 - 2.6	2.6	E31 102.2/2.6 + B
2.6 - 3.1	3.1	E31 102.2/3.1 + B



Cable dia. Range	Collet Ø	Cable Clamp Set 1)
3.1 - 3.6	3.6	E31 102.2/3.6 + B
3.6 - 4.1	4.1	E31 102.2/4.1 + B
4.1 - 4.3	4.3	E31 102.2/4.3 + B

<sup>&</sup>lt;sup>1)</sup> For ordering information see Page 4-11-1.



## ■ **S** - Shielded

Shielded cable clamp with washer and sleeve.





Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
1.7 - 2.2	2.2	E31 103.1/2.2 +B
2.2 - 2.7	2.7	E31 103.1/2.7 +B
2.7 - 3.2	3.2	E31 103.1/3.2 +B
3.2 - 3.7	3.7	E31 103.1/3.7 +B
3.7 - 4.2	4.2	E31 103.1/4.2 +B

Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
4.2 - 4.7	4.7	E31 103.1/4.7 +B
4.7 - 5.2	5.2	E31 103.1/5.2 +B
5.2 - 5.7	5.7	E31 103.1/5.7 +B
5.7 - 6.2	6.2	E31 103.1/6.2 +B
6.2 - 6.7	6.7	E31 103.1/6.7 +B

#### ■ **U** - Unshielded

Unshielded, one-piece cable clamp.



Cable Clamp	
0	

Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
2.2 - 3.2	3.2	E3 103.6/3.2
3.2 - 4.2	4.2	E3 103.6/4.2
4.2 - 4.7	4.7	E3 103.6/4.7
4.7 - 5.2	5.2	E3 103.6/5.2

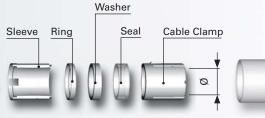
Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
5.2 - 5.7	5.7	E3 103.6/5.7
5.7 - 6.2	6.2	E3 103.6/6.2
6.2 - 6.7	6.7	E3 103.6/6.7

### ■ E - Environmental

Environmentally sealed clamp for use with shielded or unshielded cables.





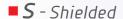


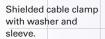
Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
1.7 - 2.2	2.2	E31 103.2/2.2 + B
2.2 - 2.7	2.7	E31 103.2/2.7 + B
2.7 - 3.2	3.2	E31 103.2/3.2 + B
3.2 - 3.7	3.7	E31 103.2/3.7 + B
3.7 - 4.2	4.2	E31 103.2/4.2 + B

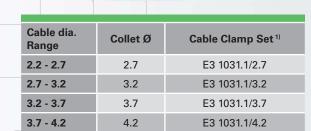
Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
4.2 - 4.7	4.7	E31 103.2/4.7 + B
4.7 - 5.2	5.2	E31 103.2/5.2 + B
5.2 - 5.7	5.7	E31 103.2/5.7 + B
5.7 - 6.2	6.2	E31 103.2/6.2 + B

<sup>&</sup>lt;sup>1)</sup> For ordering information see Page 4-11-1.

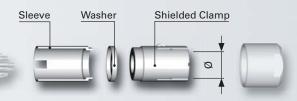








E3 1031.1/4.7



Cable dia. Range	Collet Ø	Cable Clamp Set 1)	
4.7 - 5.2	5.2	E3 1031.1/5.2	
5.2 - 5.7	5.7	E3 1031.1/5.7	
5.7 - 6.2	6.2	E3 1031.1/6.2	
6.2 - 6.7	6.7	E3 1031.1/6.7	
6.7 - 7.2	7.2	E3 1031.1/7.2	

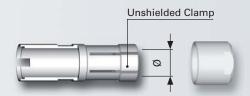
### ■ **U** - Unshielded

4.2 - 4.7



4.7

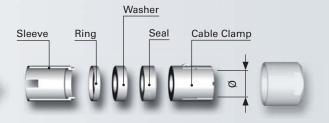
Cable dia. Range	Collet Ø	Cable Clamp Set 1)
2.2 - 2.7	2.7	E3 1031.6/2.7
2.7 - 3.2	3.2	E3 1031.6/3.2
3.2 - 3.7	3.7	E3 1031.6/3.7
3.7 - 4.2	4.2	E3 1031.6/4.2
4.2 - 4.7	4.7	E3 1031.6/4.7



Cable dia. Range	Collet Ø	Cable Clamp Set 1)
4.7 - 5.2	5.2	E3 1031.6/5.2
5.2 - 5.7	5.7	E3 1031.6/5.7
5.7 - 6.2	6.2	E3 1031.6/6.2
6.2 - 6.7	6.7	E3 1031.6/6.7
6.7 - 7.2	7.2	E3 1031.6/7.2



	Cable dia. Range	Collet Ø	Cable Clamp Set 1)
	2.2 - 2.7	2.7	E3 1031.2/2.7
	2.7 - 3.2	3.2	E3 1031.2/3.2
	3.2 - 3.7	3.7	E3 1031.2/3.7
	3.7 - 4.2	4.2	E3 1031.2/4.2
	4.2 - 4.7	4.7	E3 1031.2/4.7

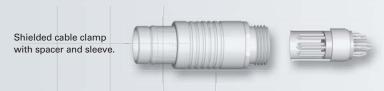


Cable dia. Range	Collet Ø	Cable Clamp Set 1)
4.7 - 5.2	5.2	E3 1031.2/5.2
5.2 - 5.7	5.7	E3 1031.2/5.7
5.7 - 6.2	6.2	E3 1031.2/6.2
6.2 - 6.7	6.7	E3 1031.2/6.7

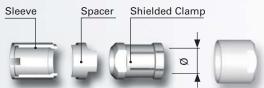
<sup>&</sup>lt;sup>1)</sup> For ordering information see Page 4-11-1.



### ■ **S** - Shielded



Cable dia.	Collet	Cable Clamp Set 1) PEEK or PBT Insulator	
Range	Ø	Plug	Receptacle
2.9 - 4.0	4.0	E3 104.3/4.0 + B	E3 104.4/4.0 + C
4.0 - 4.7	4.7	E3 104.3/4.7 + B	E3 104.4/4.7 + C
4.7 - 5.7	5.7	E3 104.3/5.7 + B	E3 104.4/5.7 + C

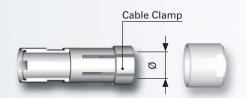


Cable dia.	Collet	Cable Clamp Set <sup>1)</sup> PEEK or PBT Insulator		
Range	Ø	Plug	Receptacle	
5.7 - 6.7	6.7	E3 104.3/6.7 + B	E3 104.4/6.7 + C	
6.7 - 7.7	7.7	E3 104.3/7.7 + B	E3 104.4/7.7 + C	
7.7 - 8.7	8.7	E3 104.3/8.7 + B	E3 104.4/8.7 + C	
8.7 - 9.1	9.1	E3 104.3/9.1 + B	E3 104.4/9.1 + C	

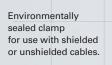
#### ■ **U** - Unshielded



Cable dia. Range	Collet Ø	Cable Clamp Set <sup>1)</sup> PEEK or PBT Insulator
3.2 - 4.2	4.2	E3 104.6/4.2
4.2 - 4.7	4.7	E3 104.6/4.7
4.7 - 5.7	5.7	E3 104.6/5.7
5.7 - 6.7	6.7	E3 104.6/6.7

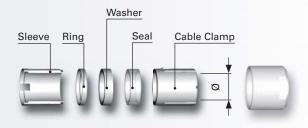


Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
6.7 - 7.7	7.7	E3 104.6/7.7
7.7 - 8.2	8.2	E3 104.6/8.2
8.2 - 8.7	8.7	E3 104.6/8.7





Cable dia.	Collet	Cable Clamp Set <sup>1)</sup> PEEK or PBT Insulator	
Range	Ø	Plug	Receptacle
2.9 - 4.0	4.0	E3 104.2/4.0 + B	E3 104.2/4.0 + C
4.0 - 4.7	4.7	E3 104.2/4.7 + B	E3 104.2/4.7 + C
4.7 - 5.7	5.7	E3 104.2/5.7 + B	E3 104.2/5.7 + C



Cable dia.	Collet	Cable Clamp Set <sup>1)</sup> PEEK or PBT Insulator	
Range	Ø	Plug	Receptacle
5.7 - 6.7	6.7	E3 104.2/6.7 + B	E3 104.2/6.7 + C
6.7 - 7.7	7.7	E3 104.2/7.7 + B	E3 104.2/7.7 + C
7.7 - 8.7	8.7	E3 104.2/8.7 + B	E3 104.2/8.7 + C

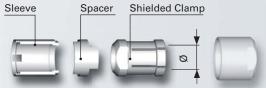
<sup>&</sup>lt;sup>1)</sup> For ordering information see Page 4-11-1.



## **S** - Shielded



Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
3.2 - 4.2	4.2	E3 105.1/4.2 + B
4.2 - 5.2	5.2	E3 105.1/5.2 + B
5.2 - 6.2	6.2	E3 105.1/6.2 + B
6.2 - 7.2	7.2	E3 105.1/7.2 + B

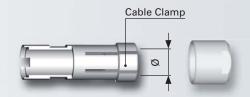


Cable dia. Range	Collet Ø	Cable Clamp Set <sup>1)</sup> PEEK or PBT Insulator
7.2 - 8.2	8.2	E3 105.1/8.2 + B
8.2 - 9.2	9.2	E3 105.1/9.2 + B
9.2 - 10.0	10.0	E3 105.1/10.0 + B
10.0 - 10.7	10.7	E3 105.1/10.7 + B

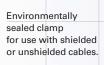
### ■ **U** - Unshielded



Cable dia. Range	Collet Ø	Cable Clamp Set <sup>1)</sup> PEEK or PBT Insulator
2.5 - 3.5	3.5	E3 105.6/3.5
3.5 - 4.5	4.5	E3 105.6/4.5
4.5 - 5.5	5.5	E3 105.6/5.5
5.5 - 6.5	6.5	E3 105.6/6.5

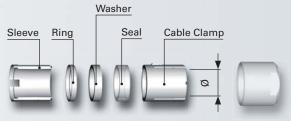


Cable dia. Range	Collet Ø	Cable Clamp Set <sup>1)</sup> PEEK or PBT Insulator
6.5 - 7.5	7.5	E3 105.6/7.5
7.5 - 8.5	8.5	E3 105.6/8.5
8.5 - 9.5	9.5	E3 105.6/9.5
9.5 - 10.5	10.5	E3 105.6/10.5





Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
3.2 - 4.2	4.2	E31 105.2/4.2 + B
4.2 - 5.2	5.2	E31 105.2/5.2 + B
5.2 - 6.2	6.2	E31 105.2/6.2 + B
6.2 - 7.2	7.2	E31 105.2/7.2 + B



Cable dia. Range	Collet Ø	Cable Clamp Set 1) PEEK or PBT Insulator
7.2 - 8.2	8.2	E31 105.2/8.2 + B
8.2 - 9.2	9.2	E31 105.2/9.2 + B
9.2 - 10.0	10.0	E31 105.2/10.0 + B
10.0 - 10.7	10.7	E31 105.2/10.7 + B

<sup>&</sup>lt;sup>11</sup> For ordering information see Page 4-11-1.

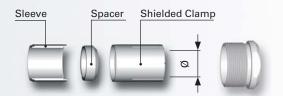


## ■ **S** - Shielded



Cable dia.		Cable Clamp Set 1)		
Range	Collet Ø	PTFE Insulator		
	Ø	Plug	Receptacle	
4.2 - 5.2	5.2	E3 106.1/5.2	E3 106.3/5.2	
5.2 - 6.2	6.2	E3 106.1/6.2	E3 106.3/6.2	
6.2 - 7.2	7.2	E3 106.1/7.2	E3 106.3/7.2	
7.2 - 8.2	8.2	E3 106.1/8.2	E3 106.3/8.2	
8.2 - 9.2	9.2	E3 106.1/9.2	E3 106.3/9.2	
9.2 - 10.2	10.2	E3 106.1/10.2	E3 106.3/10.2	
10.2 - 11.2	11.2	E3 106.1/11.2	E3 106.3/11.2	
11.2 - 12.2	12.2	E3 106.1/12.2	E3 106.3/12.2	

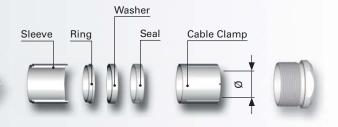
Shielded cable clamps with washers and sleeves.



Cable dia. Range Colle		Cable Clamp Set 1) PTFE Insulator		
	, y	Plug	Receptacle	
12.2 -13.2	13.2	E3 106.1/13.2	E3 106.3/13.2	
13.2 - 14.2	14.2	E3 106.1/14.2	E3 106.3/14.2	
14.2 - 15.2	15.2	E3 106.1/15.2	E3 106.3/15.2	
15.2 - 16.2	16.2	E3 106.1/16.2	E3 106.3/16.2	
16.2 - 17.2	17.2	E3 106.1/17.2	E3 106.3/17.2	
17.2 - 18.2	18.2	E3 106.1/18.2	E3 106.3/18.2	
18.2 - 19.2	19.2	E3 106.1/19.2	E3 106.3/19.2	



Cable dia. Range	Collet	Cable Cla PTFE In	•	
	Ø	Plug	Receptacle	
4.2 - 5.2	5.2	E3 106.2/5.2	E3 106.4/5.2	
5.2 - 6.2	6.2	E3 106.2/6.2	E3 106.4/6.2	
6.2 - 7.2	7.2	E3 106.2/7.2	E3 106.4/7.2	
7.2 - 8.2	8.2	E3 106.2/8.2	E3 106.4/8.2	
8.2 - 9.2	9.2	E3 106.2/9.2	E3 106.4/9.2	
9.2 - 10.2	10.2	E3 106.2/10.2	E3 106.4/10.2	
10.2 - 11.2	11.2	E3 106.2/11.2	E3 106.4/11.2	
11.2 - 12.2	12.2	E3 106.2/12.2	E3 106.4/12.2	



Cable dia. Range	Collet	Cable Clamp Set <sup>1)</sup> PTFE Insulator	
	Ø	Plug	Receptacle
12.2 -13.2	13.2	E3 106.2/13.2	E3 106.4/13.2
13.2 - 14.2	14.2	E3 106.2/14.2	E3 106.4/14.2
14.2 - 15.2	15.2	E3 106.2/15.2	E3 106.4/15.2
15.2 - 16.2	16.2	E3 106.2/16.2	E3 106.4/16.2
16.2 - 17.2	17.2	E3 106.2/17.2	E3 106.4/17.2
17.2 - 18.2	18.2	E3 106.2/18.2	E3 106.4/18.2
18.2 - 19.2	19.2	E3 106.2/19.2	E3 106.4/19.2

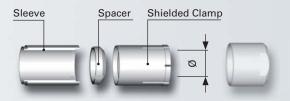
<sup>&</sup>lt;sup>1)</sup> For ordering information see Page 4-11-1.



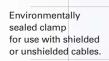
## ■ **S** - Shielded

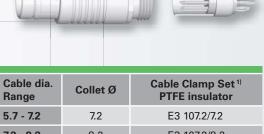


Cable dia. Range	Collet Ø	Cable Clamp Set <sup>1)</sup> PTFE insulator
5.7 - 7.2	7.2	E3 107.1/7.2
7.2 - 8.2	8.2	E3 107.1/8.2
8.2 - 9.2	9.2	E3 107.1/9.2
9.2 - 10.2	10.2	E3 107.1/10.2
10.2 - 11.2	11.2	E3 107.1/11.2
11.2 - 12.2	12.2	E3 107.1/12.2
12.2 - 13.2	13.2	E3 107.1/13.2
13.2 - 14.2	14.2	E3 107.1/14.2

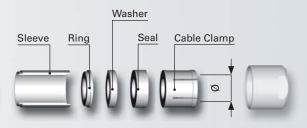


Cable dia. Range	Collet Ø	Cable Clamp Set 1) PTFE insulator
14.2 -15.2	15.2	E3 107.1/15.2
15.2 - 16.2	16.2	E3 107.1/16.2
16.2 - 17.2	17.2	E3 107.1/17.2
17.2 - 18.2	18.2	E3 107.1/18.2
18.2 - 19.2	19.2	E3 107.1/19.2
19.2 - 20.2	20.2	E3 107.1/20.2
20.2 - 21.2	21.2	E3 107.1/21.2
21.2 - 22.7	22.7	E3 107.1/22.7





	Hallye		I II E Ilisulatoi
	5.7 - 7.2	7.2	E3 107.2/7.2
	7.2 - 8.2	8.2	E3 107.2/8.2
	8.2 - 9.2	9.2	E3 107.2/9.2
	9.2 - 10.2	10.2	E3 107.2/10.2
	10.2 - 11.2	11.2	E3 107.2/11.2
	11.2 - 12.2	12.2	E3 107.2/12.2
	12.2 - 13.2	13.2	E3 107.2/13.2
	13.2 - 14.2	14.2	E3 107.2/14.2



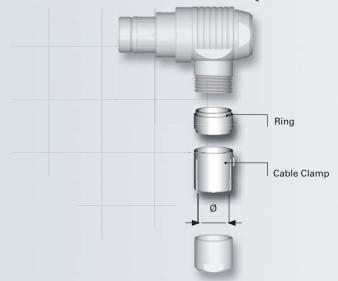
Cable dia. Range Collet Ø		Cable Clamp Set 1) PTFE insulator
14.2 - 15.2	15.2	E3 107.2/15.2
15.2 - 16.2	16.2	E3 107.2/16.2
16.2 - 17.2	17.2	E3 107.2/17.2
17.2 - 18.2	18.2	E3 107.2/18.2
18.2 - 19.2	19.2	E3 107.2/19.2
19.2 - 20.2	20.2	E3 107.2/20.2
20.2 - 21.2	21.2	E3 107.2/21.2
21.2 - 22.7	22.7	E3 107.2/22.7

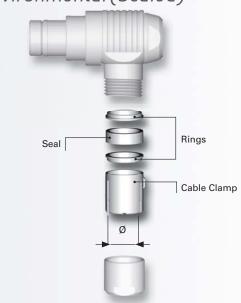
<sup>&</sup>lt;sup>1)</sup> For ordering information see Page 4-11-1.



## WSO 102, 103, 1031, 104 and 105 Series

#### ■ S-Shielded or U-Unshielded (Unsealed) ■ E-Environmental (Sealed)





Series	Cable dia.	Clamp	Cable Clamp Set 1)		
	Range		Unsealed	Sealed	
102	1.5 - 2.1	2.1	E3 102.12/2.1	E3 102.13/2.1	
	2.1 - 2.6	2.6	E3 102.12/2.6	E3 102.13/2.6	
	2.6 - 3.1	3.1	E3 102.12/3.1	E3 102.13/3.1	
	3.1 - 3.6	3.6	E3 102.12/3.6	E3 102.13/3.6	
	3.6 - 4.1	4.1	E3 102.12/4.1	E3 102.13/4.1	
	4.1 - 4.3	4.3	E3 102.12/4.3	E3 102.13/4.3	
	4.3 - 4.7	4.7	E3 102.12/4.7	-	
103	1.7 - 2.2	2.2	E3 103.12/2.2	E3 103.13/2.2	
	2.2 - 2.7	2.7	E3 103.12/2.7	E3 103.13/2.7	
	2.7 - 3.2	3.2	E3 103.12/3.2	E3 103.13/3.2	
	3.2 - 3.7	3.7	E3 103.12/3.7	E3 103.13/3.7	
	3.7 - 4.2	4.2	E3 103.12/4.2	E3 103.13/4.2	
	4.2 - 4.7	4.7	E3 103.12/4.7	E3 103.13/4.7	
	4.7 - 5.2	5.2	E3 103.12/5.2	E3 103.13/5.2	
	5.2 - 5.7	5.7	E3 103.12/5.7	E3 103.13/5.7	
	5.7 - 6.2	6.2	E3 103.12/6.2	E3 103.13/6.2	

6.7 E3 103.12/6.7

Series	Cable dia.	Clamp Ø	Cable Cla	ımp Set 1)			
	Range	Ø	Unsealed	Sealed			
1031	2.2 - 2.7	2.7	E3 1031.12/2.7	E3 1031.13/2.7			
	2.7 - 3.2	3.2	E3 1031.12/3.2	E3 1031.13/3.2			
	3.2 - 3.7	3.7	E3 1031.12/3.7	E3 1031.13/3.7			
	3.7 - 4.2	4.2	E3 1031.12/4.2	E3 1031.13/4.2			
	4.2 - 4.7	4.7	E3 1031.12/4.7	E3 1031.13/4.7			
	4.7 - 5.2	5.2	E3 1031.12/5.2	E3 1031.13/5.2			
	5.2 - 5.7	5.7	E3 1031.12/5.7	E3 1031.13/5.7			
	5.7 - 6.2	6.2	E3 1031.12/6.2	E3 1031.13/6.2			
	6.2 - 6.7	6.7	E3 1031.12/6.7	E3 1031.13/6.7			
	6.7 - 7.2	7.2	E3 1031.12/7.2	-			
104	2.9 - 4.0	4.0	E3 104.12/4.0	E3 104.13/4.0			
	4.0 - 4.7	4.7	E3 104.12/4.7	E3 104.13/4.7			
	4.7 - 5.7	5.7	E3 104.12/5.7	E3 104.13/5.7			
	5.7 - 6.7	6.7	E3 104.12/6.7	E3 104.13/6.7			
	6.7 - 7.7	7.7	E3 104.12/7.7	E3 104.13/7.7			
	7.7 - 8.7	8.7	E3 104.12/8.7	E3 104.13/8.7			
105	3.2 - 4.2	4.2	E3 105.12/4.2	E3 105.13/4.2			
	4.2 - 5.2	5.2	E3 105.12/5.2	E3 105.13/5.2			
	5.2 - 6.2	6.2	E3 105.12/6.2	E3 105.13/6.2			
	6.2 - 7.2	7.2	E3 105.12/7.2	E3 105.13/7.2			
	7.2 - 8.2	8.2	E3 105.12/8.2	E3 105.13/8.2			
	8.2 - 9.2	9.2	E3 105.12/9.2	E3 105.13/9.2			
	9.2 - 10.0	10.0	E3 105.12/10.0	E3 105.13/10.0			
	10.0 - 10.7	10.7	E3 105.12/10.7	E3 105.13/10.7			
1) For orde	<sup>1)</sup> For ordering information see Page 4-11-1						

<sup>1)</sup> For ordering information see Page 4-11-1

6.2 - 6.7









#### **Key Features**

- Wide range of body styles and sizes
- Unsealed, sealed or hermetic
- Power
- Up to 14 kV
- Standard or inverted polarity



For specific requests, hybrids or fiber optic configurations, please contact us.

#### How to Order our Products?

- To find your local Fischer Connectors Office see Catalogue back cover or go to www.fischerconnectors.com/contacts
- For General Ordering Information, see page 2-3
- Cable Clamp Set is included with connector, see Page 5-6
- For details on Options, see page 4-10
- For Accessories, see Section 11
- For Tooling, see Section 12

## Other Fischer Connectors Series with Multipole High Voltage Contacts

■ AluLite<sup>™</sup> Series



Aluminium connectors ideal for ultralight or portable applications

Fischer AluLite™ Series

Plastic Series



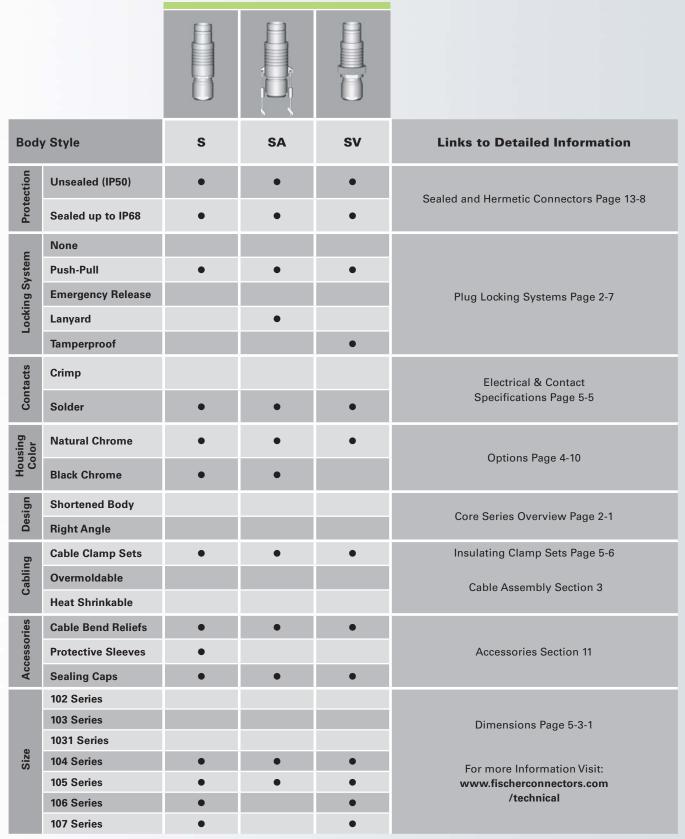
Plastic connectors ideal for lightweight applications

Fischer 405 Series Fischer 4032 Series



	<ul><li>Body Style Selection (S; SA; SV)</li><li>Dimensions</li></ul>	
Panel Mounted Re	ceptacle	
	<ul> <li>Body Style Selection (D)</li> <li>Dimensions</li> <li>Panel Cut-Outs</li> </ul>	5-4-1
For all Multipole H	ligh Voltage	
	<ul> <li>Electrical &amp; Contact Specifications</li> <li>Options</li> <li>Insulating Clamp Sets</li> <li>Cable Assembly</li> <li>Accessories</li> <li>Tooling</li> <li>Technical Information</li> </ul>	5-6 3 11 12



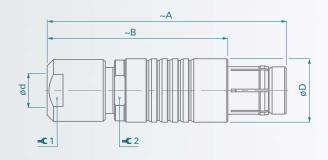


Plugs mate with receptacles.



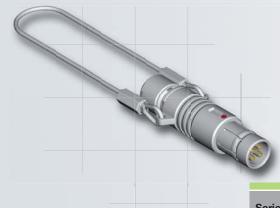
#### ■ S Body Style

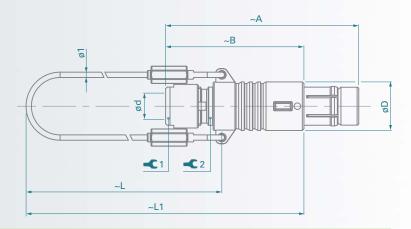




Series	Α	В	D	d max	<b>₽</b> 1	Torque 1	<b>₽</b> 2
104	50	38	15	8.6	12	2.0	13
105	62	47	18	10.5	15	3.5	16
106	80	55	30	18.5	22	8.0	-
107	110	85	34	22.7	32	10.0	32







Series	Α	В	D	L	L1	d <i>max</i>	<b>₽</b> 1	Torque 1	<b>₽</b> 2
104	50	38	15	65	83	8.6	12	2.0	13
105	62	47	18	70	96	10.5	15	3.5	16
106									

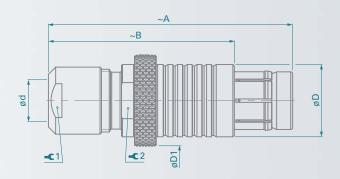
107

Please contact us for additional information



#### SV Body Style





Series	Α	В	D	D1	d <i>max</i>	¥1	Torque 1	¥ 2
104	50	38	15	20	8.6	12	2.0	13
105	62	47	18	22	10.5	15	3.5	16
106	80	55	30	35	18.5	22	8.0	-
107	110	85	34	38	22.7	32	10	32





Body	/ Style	D	Links to Detailed Information				
uo	Unsealed (IP50)	•					
Protection	Sealed up to IP68	1)	Sealed and Hermetic Connectors Page 13-8				
Pre	Hermetic	1)					
ts	Crimp						
Contacts	Solder	•	Electrical & Contacts Specifications Page 5-5				
S	PCB						
Housing Color	Natural Chrome	•	Outions Bons 4.10				
Hou	Black Chrome	•	Options Page 4-10				
	Right Angle						
Design	Flush	•	Core Series Overview Page 2-1				
De	Front Projecting		Core Series Overview rage 2-1				
	Bulkhead Feedthrough						
Assembly	Front Mounting	•	Core Series Overview Page 2-1				
Asse	Rear Mounting		Core Series Overview rage 2-1				
	Sealing Caps	•					
S	Spacers	•					
Accessories	Color-Coded Washers	•	Accessories Section 11				
Acces	Grounding Washers	•	Accessories dection in				
	Locking Washers	•					
	<b>Decorative Nuts</b>						
	102 Series						
	103 Series		8				
	1031 Series		Dimension Page 5-4-1				
Size	104 Series	•	For more Information Visit: www.fischerconnectors.com/technical				
	105 Series	•					
	106 Series	•					
	107 Series	•					

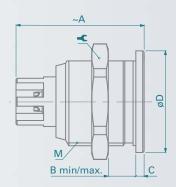
Plugs mate with receptacles.

<sup>1)</sup> Sealed and hermetic connector styles are available on request.



#### ■ D Body Style





Series	А	B min/max.	C1	D	M	Ŷ	Torque [Nm]
104	28	0/10.5	2.25	19	15x1	17	4.0
105	34	0/15.0	2	22	18x1	22	6.0
106	51	0/18.0	3	37	32x1	TX00.106	15
107	63	0/18.0	4	40	35x1	TX00.107	16

Receptacles of 106 and 107 Series are supplied with slotted nuts.

For nut dimensions see section 11 Accessories.

For wrenches see section 12 Tooling.

Other connector styles and contact configurations are available on request.



#### A / Z Polarity

For Multipole High Voltage connectors, it is essential to pay attention to the differences between type "A" and "Z".

#### Type "A" Standard Polarity:

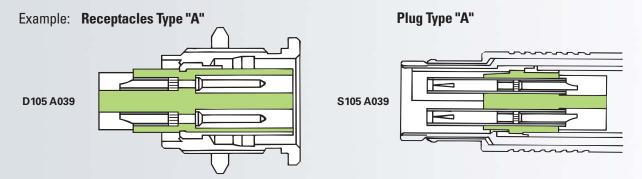
The contacts of the receptacle are recessed to reduce the possibility of electric shock in the unmated position. This version should be used when the voltage is sourced from the receptacle.

#### Type "Z" Inverted Polarity:

The contacts of the plug are recessed to reduce the possibility of electric shock in the unmated position.

This version should be used when the voltage is sourced from the plug.

Protected contacts are usually female contacts recessed in the insulator. For Multipole High Voltage connectors, however, it is safer to recess the male contacts. In these cases, the plug type "A" is equipped with female contacts and the receptacle with protected male contacts.



#### 104, 105, 106 and 107 Series

● = Standard ○ = Option

				tact					Test Vo	ltage [V] I position		
		10	Termi	nation				AC	rms	D	С	
Туре	Pin Layout	Number of Contacts	Solder	Crimp	Insulating Material	Contact ø [mm]	Wire Barrel Ø [mm]	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Current Rating <sup>1)</sup> [A]
104 A <b>062</b>		4	•		PEEK	0.9	0.8	4.5	4.5	7.5	7.5	8.0
105 A <b>057</b>		3	•		PTFE	1.3	1.2	4.5	6.0	8.0	10	14
105 A <b>039</b>		5	•		PTFE	1.3	1.2	4.5	4.5	7.0	7.0	11
106 <sup>A</sup> <b>013</b>		6	•		PTFE	1.3	1.2	8.0	8.0	12	12	12
107 A <b>034</b> <sup>2)3)</sup>		7	•		PTFE	2.0	2.0	8.0	7.5	14	14	20

<sup>&</sup>lt;sup>1)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>2)</sup> For clamp sets selection see page 4-11-8.

<sup>&</sup>lt;sup>3)</sup> See Section 12Tooling, for insertion tool of contacts.



#### **Part Numbering**

Multipole High Voltage connectors as well as Mixed High Voltage and Mixed Coax connectors are equipped with POM (Delrin®) collet type cable clamps. These insulated one-piece clamps are fitted for optimal High-Voltage ratings.



Insulating Cabl	e Clamp Set is Included v	with Connector		
Multipole High Voltage Mixed High Voltage Mixed Coax				
Insulating Clamp Set ø should be added to the connector part number separated by ø (Select the collet ø according to the cable clamping range)				

#### Example

S 104 A062-130 ø 6.6 - UI

and followed by - UI (Unshielded Insulated).

104 Series 4 pole High Voltage S plug with Insulating Cable Clamp Set allowing cable diameter included between 4.7  $\&\,6.6$  mm

#### ■ Connector Types with Insulating Cable Clamps

Series	Multipole High Voltage	Mixed High Voltage	Mixed Coax
104	104 <sup>A</sup> 2 062	104 <sup>A</sup> 2 083	104 A 078
			104 A 093
105	105 <sup>A</sup> 2 039	105 A 020	105 A 074
	105 A 057	105 A 036	105 A 089
		105 A 060	105 A 095
		105 A 112	
106	106 <sup>A</sup> 2 013	106 A 014	

Insulating clamps for other cable diameters and shapes are available on request.

Cable clamp sets for sealed or shielded connectors are available on request.

Series	Cable Diameter	Collet Diameter		
104	2.4 - 3.4	3.4		
	3.0 - 4.0	4.0		
	3.6 - 4.6	4.6		
	4.7 - 5.7	5.7		
	4.7 - 6.6	6.6		
	5.8 - 7.7	7.7		
	6.2 - 8.1	8.1		
	6.7 - 8.6	8.6		
105	2.8 - 4.2	4.2		
	4.1 - 5.5	5.5		
	5.1 - 6.5	6.5		
	6.1 - 7.5	7.5		
	6.6 - 8.0	8.0		
	7.1 - 8.5	8.5		
	8.3 - 9.7	9.7		
	9.1 - 10.5	10.5		
106	4.3 - 5.7	5.7		
	5.3 - 6.7	6.7		
	5.8 - 7.2	7.2		
	7.8 - 9.2	9.2		
	9.8 - 11.2	11.2		
	11.8 - 13.2	13.2		
	13.8 - 15.2	15.2		
	14.8 - 17.2	17.2		
	17.1 - 18.5	18.5		







#### Key Features

- Wide range of body styles and sizes
- Unsealed, sealed or hermetic
- RF signal or power
- 50 and 75 Ohms impedance
- Up to 2GHz
- Standard or inverted polarity
- No guide mark standard



This catalogue covers our standard connector solutions.
For specific requests, hybrids or fiber optic configurations, please contact us.

#### How to Order our Products?

- To find your local Fischer Connectors Office see Catalogue back cover or go to www.fischerconnectors.com/contacts
- For General Ordering Information, see page 2-3
- Cable Clamp Set is included with connector, see page 4-11
- For details on Options, see page 6-10
- For Accessories, see Section 11
- For Tooling, see Section 12

# Other Fischer Connectors Series with Coax Low Voltage Contacts

■ AluLite<sup>™</sup> Series



Aluminium connectors ideal for ultralight or portable applications

Fischer AluLite™ Series

Plastic Series



Plastic connectors ideal for lightweight applications

Fischer 405 Series Fischer 4032 Series Nim-Camac



Coax and Triax connectors engineered according to Nim-Camac standards

**Fischer Nim-Camac 101 Series** 



Cable Mounted Plu	gs	
	<ul><li>Body Style Selection (S/SC; SOV; SA; SV; WSO)</li><li>Dimensions</li></ul>	6-3 6-3-1
Cable Mounted Red	ceptacles	
	<ul><li>Body Style Selection (K/KE)</li><li>Dimensions</li></ul>	6-4 6-4-1
Panel Mounted Red	ceptacles	
	<ul> <li>Body Style Selection (D; DEU/E; DB; DBEU/E; DBP; DBPU/E; DBPLU/E; DG; WDE)</li> <li>Dimensions</li> <li>Panel Cut-Outs</li> </ul>	6-5 6-5-2 4-8
Panel Mounted Plu	rgs	
	<ul> <li>Body Style Selection (SF; SFU/E; SFPU/E)</li> <li>Dimensions</li> <li>Panel Cut-Outs</li> </ul>	6-6 6-6-1 4-8
Panel Mounted Cal	ble Receptacles	
	<ul> <li>Body Style Selection (DKBE; DK; DKE)</li> <li>Dimensions</li> <li>Panel Cut-Outs</li> </ul>	6-7 6-7-1 4-8
For all Coax Low Vo	oltage	
	■ Tooling	6-8 6-9 6-10 4-11 3 11 12



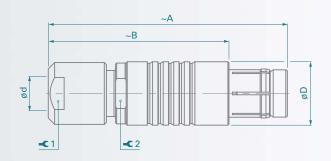
Bod	Body Style		sc	sov	SA	sv	wso	Links to Detailed Information
Protection	Unsealed (IP50)	•	•	•	•	•	•	Sealed and Hermetic
Prote	Sealed up to IP68	•	•	•	•	•	•	Connectors Page 13-8
Ε	None			•				
yste	Push-Pull	•			•	•	•	
ng S	Emergency Release		•					Plug Locking Systems Page 2-7
Locking System	Lanyard				•			1 090 2 7
	Tamperproof					•		
Contacts	Crimp							Electrical & Contact
Cor	Solder	•	•	•	•	•	•	Specifications Page 6-8
Housing Color	Natural Chrome	•	•	•	•	•	•	Options
Hor C	Black Chrome	•	•	•	•		•	Page 6-10
Design	Shortened Body							Core Series Overview Page 2-1
De	Right Angle						•	Core Series Overview rage 2-1
g	Cable Clamp Sets	•	•	•	•	•	•	Cable Clamp Sets Page 4-11
Cabling	Overmoldable							See Cable Assembly
	Heat Shrinkable							Section 3
ries	Cable Bend Reliefs	•	•	•	•	•	•	
Accessories	Protective Sleeves	•	•	•				Accessories Section 11
Acc	Sealing Caps	•	•	•	•	•	•	
	102 Series	•	•	•	•	•	•	
	103 Series	•	•	•	•	•	•	Dimensions Page 6-3-1
	1031 Series							Difficultions 1 age 0-0-1
Size	104 Series	•	•	•	•	•	•	For more Information Visit:
	105 Series	•	•	•	•	•	•	www.fischerconnectors.com
	106 Series							/technical
	107 Series							

Plugs mate with receptacles.



#### S / SC Body Styles

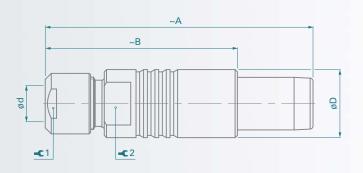




Series	Α	В	D	d ma	d <i>max</i> Unsealed Sealed		Torque 1	¥ 2
102	36	26	9	4.7	4.3	7	0.6	7
103	46	35	12	6.7	6.7	10	1.0	10
104	50	38	15	8.7	8.7	12	2.0	13
105	62	47	18	10.7	10.7	15	3.5	16

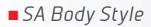
#### ■ SOV Body Style



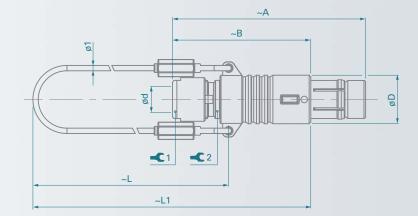


Series	Α	В	D	d max Unsealed Sealed		¥1	Torque 1 [Nm]	¥ 2
102	36	26	9	4.7	4.3	7	0.6	7
103	46	35	12	6.7	6.2	10	1.0	10
104	50	38	15	8.7	8.7	12	2.0	13
105	62	47	18	10.7	10.7	15	3.5	16





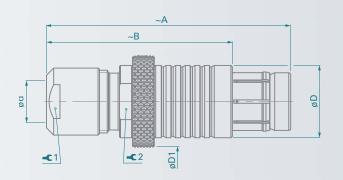




Series	Α	В	D	L	L1	d <i>max</i> Unsealed Sealed		<b>Q</b> 1	Torque 1 [Nm]	¥ 2
102	36	26	9	50	65	4.7	4.3	7	0.6	7
103	46	35	12	60	77	6.7	6.2	10	1.0	10
104	50	38	15	65	84	8.7	8.7	12	2.0	13
105	62	47	18	70	94	10.7	10.7	15	3.5	16

#### SV Body Style



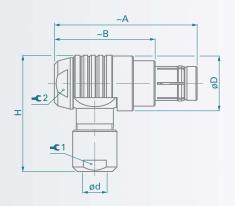


Series	Α	В	D	D1	d <i>m</i>	ax Sealed	<b>Q</b> 1	Torque 1 [Nm]	<b>¥</b> 2
102	36	26	9	11	4.7	4.3	7	0.6	-
103	46	35	12	13	6.7	6.2	10	1.0	-
104	50	38	15	20	8.7	8.7	12	2.0	13
105	62	47	18	22	10.7	10.7	15	3.5	16



#### ■ WSO Body Style





Series	А	В	D	н	d <i>n</i>	d <i>max</i>		Torque 1	¥ 2	Torque 2	
Octios					Unsealed	Sealed	[Nm]		• -	[Nm]	
102	33	23	12	25	4.7	4.3	7	0.6	8	1.0	
103	38	27	15	31	6.7	6.2	10	1.0	11	1.3	
104	45	32	19	37	8.7	8.7	12	2.0	14	2.5	
105	53	38	23	45	10.7	10.7	15	3.5	17	4.5	



## **Cable Mounted Receptacles**



Bod	y Style	К	KE	Links to Detailed Information
Protection	Unsealed (IP50)	•		Sealed and Hermetic Connectors Page 13-8
Prote	Sealed up to IP68		•	Sealed and nermetic connectors rage 13-6
Contacts	Crimp			Electrical & Contact Specifications Page 6-8
Con	Solder	•	•	Liodifical a contact opcomodition rago co
ng	Natural Chrome	•	•	
Housing	Black Chrome	•	•	Options Page 6-10 Core Series Overview Page 2-1
I	Shortened Body			
bu	Cable Clamp Sets	•	•	Cable Clamp Sets Page 4-11
Cabling	Overmoldable			Cable Assembly Section 3
	Heat Shrinkable			Capieriaconial, Coolien C
ries	Cable Bend Reliefs	•	•	
Accessories	Protective Sleeves	•	•	Accessories Section 11
Ă	Sealing Caps	•	•	
	102 Series	•	•	
	103 Series	•	•	
0	1031 Series			Dimensions Page 6-4-1
Size	104 Series	•	•	5 16 2 16 16
	105 Series	•	•	For more Information Visit: www.fischerconnectors.com/technical
	106 Series			
	107 Series			

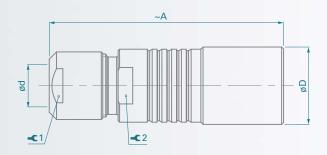
Plugs mate with receptacles.



## **Cable Mounted Receptacles**

#### ■ K / KE Body Styles





Series	А	D	d m	ax Sealed	<b>Q</b> 1	Torque 1	<b>₽</b> 2
102	35	10	4.7	4.3	7	0.6	7
103	43	13	6.7	6.2	10	1.0	10
104	50	16	8.7	8.7	12	2.0	13
105	60	19	10.7	10.7	15	3.5	16



		8				<u></u>		
Body	y Style	D	DEU	DEE	DB	DBEU	DBEE	DBP
ion	Unsealed (IP50)	•			•			•
Protection	Sealed up to IP68		•	•		•	•	
P	Hermetic			•			•	
cts	Crimp							
Contacts	Solder	•	•	•	•	•	•	•
ŏ	PCB							
Housing Color	Natural Chrome	•	•	•	•	•	•	•
Hou	Black Chrome	•	•	•	•	•	•	•
	Right Angle							
Design	Flush	•	•	•				•
De	Front Projecting				•	•	•	
	Bulkhead Feedthrough							
Assembly	Front Mounting	•	•	•	•	•	•	
Asse	Rear Mounting							•
	Sealing Caps	•	•	•	•	•	•	•
es	Spacers	•	•	•	•	•	•	•
ssori	Color-Coded Washers	•			•			•
Accessories	Grounding Washers	•	•	•	•	•	•	•
	Locking Washers	•	•	•	•	•	•	•
	<b>Decorative Nuts</b>							•
	102 Series	•	•	•	•	•	•	•
	103 Series	•	•	•	•	•	•	•
Φ	1031 Series							
Size	104 Series	•	•	•	•	•	•	•
	105 Series	•	•	•	•	•	•	•
	106 Series							
	107 Series							

Plugs mate with receptacles.

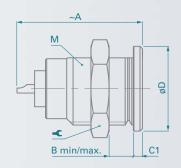


-						8		
DBPU	DBPE	DBPLU	DBPLE	DG	WDE	Links to Detailed Information		
				•				
•	•	•	•		•	Sealed and Hermetic Connectors Page 13-8		
	•		•		•			
•	•	•	•	•	•	Electrical & Contact Specifications Page 6-8		
•	•	•	•	•	•	Options Section Page 6-10		
•	•	•	•	•	•	Core Series Overview Page 2-1		
•	•	•	•	•	•	Core Series Overview Page 2-1		
•	•	•	•	•	•	Accessories Section 11		
•	•	•	•	•	•	Dimensions Page 6-5-2		
•	•	•	•	•	•	For more Information Visit: www.fischerconnectors.com/technical		



#### ■ D Body Style

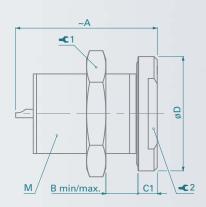




Series	Α	B min/max.	C1	D	M	Ŷ	Torque 1
102	19	0/9	1.5	11	9x0.5	11	1.3
103	23	0/8	1.5	14	12x1	14	2.5
104	25	0/11	2.2	19	15x1	17	4.0
105	32	0/15	2.0	22	18x1	22	6.0

#### ■ DEU / DEE Body Styles



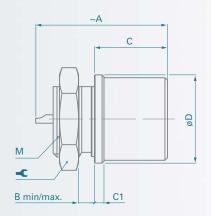


Series	А	B min/max.	C1	D	M	<b>Q</b> 1	Torque 1 [Nm]	¥2
102	20	8/10	2.5	14	9x0.5	11	1.3	11
103	23	0/12	3.0	18	14x1	17	3.0	14
104	25	0/15	4.0	22	16x1	19	4.5	17
105	33	10.5/18	4.0	27	20x1	25	6.5	-



#### ■ DB Body Style

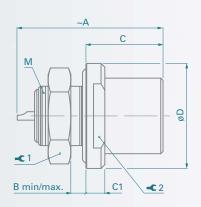




Series	А	B min/max.	С	C1	D	M	Ŷ	Torque [Nm]
102	18	0/3	11.0	1.0	11	9x0.5	11	1.3
103	21	0/4	11.5	1.5	14	12x1	14	2.5
104	26	0/3	14.5	2.5	19	16x1	19	4.5
105	33	0/7	19.0	2.0	22	18x1	22	6.0

#### ■ DBEU / DBEE Body Styles



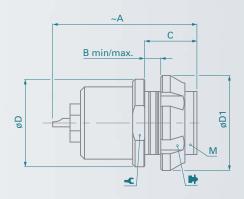


Series	А	B min/max.	С	C1	D	M	<b>Q</b> 1	Torque 1 [Nm]	<b>₽</b> 2
102	20	0/3.5	10.2	2.5	14	9x0.5	11	1.3	11
103	23	0/4.0	13.0	3.0	18	14x1	17	3.0	14
104	30	0/3.5	16.0	4.0	22	16x1	19	4.5	17
105	32	0/5.0	19.0	4.0	27	18x1	22	6.0	22



#### ■ DBP Body Style



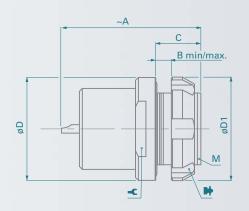


Series	Α	B min/max.	С	D	D1	M	Ŷ	<b>□</b> 1)	Torque [Nm]
102	20	0/3.5	6.5	11	12	9x0.5	10	TC00.000	1.3
103	23	0/4.0	8.0	14	15	12x1	-	TF00.001	2.5
104	26	0/5.0	9.0	19	19	15x1	-	TK00.000	4.0
105	30	0/12.0	17.0	22	23	18x1	-	TP00.011	6.0

<sup>&</sup>lt;sup>1)</sup> Assembly tool for decorative slotted nut, see Tooling Page 12-1 for details.

#### ■ DBPU / DBPE Body Styles





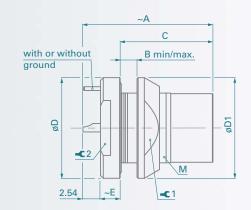
Series	Α	B min/max.	С	D	D1	M	Ŷ	<b>1</b> )	Torque [Nm]
102	20	0/3.5	6.5	14	12	9x0.5	11	TC00.000	1.3
103	26	0/3.0	7.8	18	18	14x1	15	TG00.001	3.0
104	26	0/4.0	8.0	22	20	16x1	-	TK00.002	4.5
105	30	0/5.0	10.0	27	25	20x1	-	TP00.005	6.5

<sup>&</sup>lt;sup>1)</sup> Assembly tool for decorative slotted nut, see Tooling Page 12-1 for details.



#### ■ DBPLU / DBPLE Body Styles

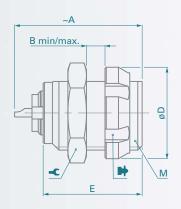




Series	Α	B min/max.	С	D	D1	M	<b>Q</b> 1	Torque 1 [Nm]	¥ 2
102	21	0/4.5	14.2	14	13	10x0.5	11	1.5	11
103	24	0/5.0	16.5	18	18	14x1	15	3.0	15
104	27	0/6.5	18.5	22	20	16x1	17	4.5	17
105	31	0/7.0	22.5	27	25	20x1	22	6.5	22

#### ■ DG Body Style





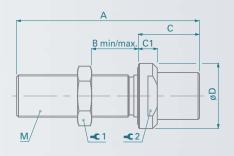
Series	Α	B min/max.	D	E	M	Ŷ	1)	Torque [Nm]
102	20	0/6	12	14	9x0.5	11	TC00.000	1.3
103	23	0/7	15	15	12x1	14	TF00.001	2.5
104	26	0/9	19	18	15x1	17	TK00.000	4.0
105	30	0/15	23	24	18x1	22	TP00.011	6.0

<sup>&</sup>lt;sup>1)</sup> Assembly tool for decorative slotted nut, see Tooling Page 12-1 for details.



■ WDE Body Style for 102, 103 and 104 Series

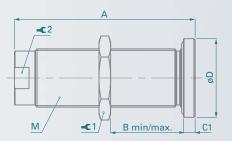




Series	Α	B min/max	С	C1	D	M	<b>Q</b> 1	Torque 1	¥ 2
102	39	0/23	13	4	14	9x0.5	11	1.3	11
103	40	0/23	14	4	17	12x1	14	2.5	14
104	40	0/21	16	4	22	15x1	17	4.0	17

#### ■ WDE Body Style for 105 Series





Series	Α	B min/max	С	C1	D	M	<b>Q</b> 1	Torque 1	<b>¥</b> 2
105	62	0/47	-	4	27	20x1	22	6.5	-

The bulkhead feedthrough connector allows the passing of electrical signals and power through a panel via two cable plugs.

The "AZ" version of the feedthrough accepts a type "A" plug on the flange side and a type "Z" plug on the threaded end, which is typically oriented toward the interior of the chassis.

In the version "ZA", the connections "A" and "Z" are inverted, see "A/Z Polarity" on Page 4-9-1.

Dimension "B max" specifies the maximum panel thickness.



## **Panel Mounted Plugs**

		8	Ę	]		1	
Body	/ Style	SF	SFU	SFE	SFPU	SFPE	Links to Detailed Information
on	Unsealed (IP50)	•					
Protection	Sealed up to IP68		•	•	•	•	Sealed and Hermetic Connectors Page 13-8
- Ā	Hermetic			•		•	
cts	Crimp						
Contacts	Solder	•	•	•	•	•	Electrical & Contacts Specifications Page 6-8
	РСВ						
Housing Color	Natural Chrome	•	•	•	•	•	Options Page 6-10
훈	Black Chrome	•	•	•	•	•	opiiono rago o no
Assembly	Front Mounting	•	•	•			Core Series Overview Page 2-1
Ass	Rear Mounting				•	•	
	Sealing Caps	•	•	•	•	•	
	Spacers	•	•	•	•	•	
ories	Color-Coded Washers	•					Accessories Section 11
Accessories	Insulating Washers	•					
Ac	Grounding Washers	•	•	•			
	Locking Washers	•	•	•	•	•	
	<b>Decorative Nuts</b>				•	•	
	102 Series	•	•	•	•	•	
	103 Series	•	•	•	•	•	
	1031 Series						Dimensions Page 6-6-1
Size	104 Series	•	•	•	•	•	For more Information Visit: www.fischerconnectors.com
	105 Series	•	•	•	•	•	/technical
	106 Series						
	107 Series						

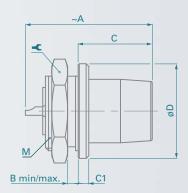
Plugs mate with receptacles.



## **Panel Mounted Plugs**

#### SF Body Style

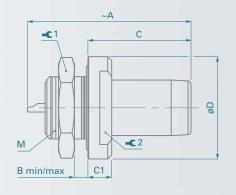




Series	Α	B min/max.	С	C1	D	M	Ŷ	Torque [Nm]
102	20.0	0/4.0	11.0	1.0	10	9x0.5	11	1.3
103	23.5	0/3.0	12.5	1.5	14	12x1	14	2.5
104	28.0	0/3.0	14.0	2.0	18	15x1	17	4.0
105	30.5	0/5.5	16.8	1.2	22	16x1	19	4.5

#### ■ SFU / SFE Body Styles





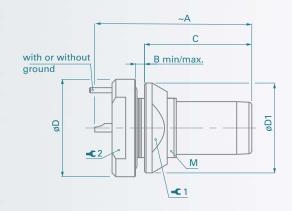
Series	А	B min/max.	С	C1	D	M	<b>Q</b> 1	Torque 1 [Nm]	¥ 2
102	21	0/2.5	13	3	13	9x0.5	11	1.3	9
103	26	0/5.0	14	3	17	12x1	14	2.5	12
104	28	0/7.5	15	3	22	16x1	19	4.5	-
105	32	0/6.0	4	4	27	20x1	25	6.5	-



## **Panel Mounted Plugs**

#### ■ SFPU / SFPE Body Styles

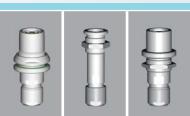




Series	Α	B min/max.	С	D	D1	M	<b>Q</b> 1	Torque 1 [Nm]	<b>Q</b> 2
102	26.0	0/2.5	15.4	13	12	9x0.5	10	1.3	9
103	29.5	0/4.0	18.5	17	16	12x1	13	2.5	12
104	33.0	0/6.0	22.0	22	20	16x1	17	4.5	17
105	36.5	0/5.0	25.0	27	25	20x1	22	6.5	19



## Panel Mounted Cable Receptacles



Body	/ Style	DKBE	DK	DKE	Links to Detailed Information
Protection	Unsealed (IP50)		•		Sealed and Hermetic Connectors Page 13-8
Prot	Sealed up to IP68	•		•	ocaled and normette connectors rage to c
Contacts	Crimp				Electrical & Contact Specifications Page 6-8
Con	Solder	•	•	•	Liectrical & Contact Openications 1 age 0-0
Housing Color	Natural Chrome	•	•	•	Options Page 6-10
Hor	Black Chrome	•	•	•	Options Lage 0-10
Design	Flush		•		Core Series Overview Page 2-1
De	Front Projecting	•		•	Core Deries Overview Lage 2-1
	Panel Mounted	•	•	•	
bly	Front Mounting		•	•	Cara Carias Ovarniano Bara 2.1
Assembly	Rear Mounting	•			Core Series Overview Page 2-1
As	Cable Mounted	•	•	•	
	Cable Clamp Sets	•	•	•	Cable Clamp Sets Page 4-11
	Cable Bend Reliefs	•	•	•	
	Sealing Caps	•	•	•	
S	Spacers	•	•	•	
sori	Color-Coded Washers	•	•	•	Accessories Section 11
Accessories	Insulating Washers				Accessories Section 11
٩	Grounding washers	•	•	•	
	Locking Washers	•	•	•	
	<b>Decorative Nuts</b>	•			
	102 Series	•	•	•	
	103 Series	•	•	•	
	1031 Series				Dimensions Page 6-7-1
Size	104 Series	•	•	•	For more Information Visit:
	105 Series	•	•	•	www.fischerconnectors.com/technical
	106 Series				
	107 Series				

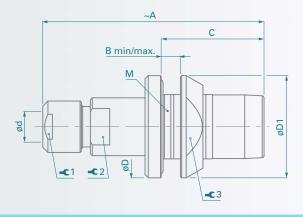
Plugs mate with receptacles.



## Panel Mounted Cable Receptacles

#### ■ DKBE Body Style

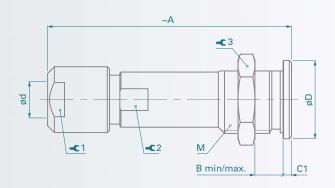




Series	Α	B min/max.	С	D	d <i>max</i>	D1	M	¥1	Torque 1	¥ 2	₩3	Torque 3
102	35	0/3.5	16.0	16	4.3	16	12x1	7	0.6	7	13	2.5
103	43	0/4.0	19.0	19	6.2	20	15x1	10	1.0	10	17	4.0
104	50	0/5.0	22.5	23	8.7	23	18x1	12	2.0	13	20	6.0
105	60	0/5.0	26.0	28	10.7	27	22x1	15	3.5	16	24	8.0

#### ■ DK Body Style



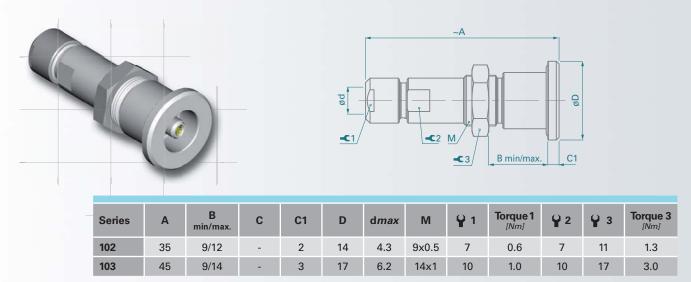


Series	Α	B min/max.	C1	D	d <i>max</i>	M	¥ 1	Torque 1 [Nm]	¥ 2	₩3	Torque3 [Nm]
102	35	0/9	1.5	11	4.7	9x0.5	7	0.6	-	11	1.3
103	44	0/10	1.5	14	6.7	12x1	10	1.0	9	14	2.5
104	50	0/11	2.0	19	8.7	15x1	12	2.0	12	17	4.0
105	60	0/16	2.0	22	10.7	18x1	15	3.5	14	22	6.0

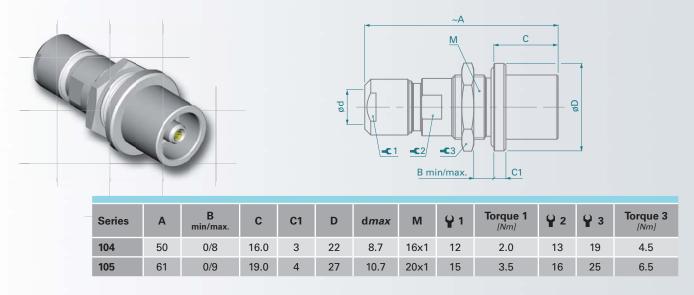


## Panel Mounted Cable Receptacles

■ DKE Body Style for 102 and 103 Series



■ DKE Body Style for 104 and 105 Series





## 102, 103, 104 and 105 Series

 $\bullet$  = Standard  $\bigcirc$  = Option

											tage [KV]	ildard 5	
	Contact Termination												
		iermii	nation						AC	rms	D	С	
Туре	Pin Layout	Solder	Crimp	Insulating Material	Cable Group 1)	Contact ø [mm]	Wire Barrel ø [mm]	Impedance [ohms]	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Current Rating <sup>2)</sup> [A]
102 A <b>001</b>		•		PTFE	1 3 5	1.6	1.2	-	1.8	-	2.5	-	14
102 A <b>002</b>		•		PTFE	1 2 3	0.9	0.8	50	3.0	-	5.0	-	10
102 A <b>017</b>	(O)	•		PTFE	1 2 3	0.7	0.6	75	1.7	-	2.8	-	7.0
103 <sup>A</sup> <b>001</b>		•		PTFE	3 4 5	2.0	2.0	-	2.2	-	4.2	-	19
103 <sup>A</sup> <b>002</b>	(e)	•		PTFE	1 2 6	1.3	1.2	75	3.8	-	5.4	-	12
103 A <b>026</b>		•		PTFE	4 5 6	1.6	1.9	50	1.8		2.4	-	15
104 A <b>002</b>	(O)	•		PTFE	6 7	1.6	1.9	75	4.8	-	6.8	-	15
104 A <b>012</b>		•		PTFE	4 5 6 7	4.0	2.5		2.7	-	4.3	-	22
104 A <b>060</b>		•		PTFE	4 5 6 7	2.0	1.9	50	4.5	-	6.5	-	13
105 A 002 105 A 090		•		PTFE	5 6 7 8	3.0	2.8	50	4.8	-	7.0	-	30
105 A <b>090</b>	0	•		PTFE	6 7	1.3	1.2	75	6.4	-	11	-	13

<sup>&</sup>lt;sup>1)</sup> See list of recommended cables on page 6-9.

<sup>&</sup>lt;sup>2)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.



#### For Coax, Triax and Mixed Coax Connectors

Gr.	Designation	Impedance	Center Conductor			Dielectric		Cable	e Screen	Cable	Jacket	IEC Publication
No	US MIL-C-17	ohms	Constr	uction	ø [mm]	ø [mm]	Material	ø [mm]	Material	ø [mm]	Material	or Manufacturer
0	RG-178B/U RG-196A/U	50±2 50±2	7 x 0.1 7 x 0.1	AcCuAg AcCuAg	0.3 0.3	0.84 0.84	PTFE PTFE	1.3 1.3	CuAg CuAg	1.8 2.0	FEP PTFE	50-1-1 50-1-2
1	RG-174A/U RG-174/U RG-178B/U RG-188A/U RG-196A/U RG-316/U RG-179B/U LiYCY 1 x 0.14 mm <sup>2</sup> LifYCY 1 x 0.04 mm <sup>2</sup>	50±2 50±2 50±2 50±2 50±2 50±2 75±3	7 x 0.16 7 x 0.16 7 x 0.1 7 x 0.18 7 x 0.1 7 x 0.18 7 x 0.1 18 x 0.1 20 x 0.05	AcCu AcCuAg AcCuAg AcCuAg AcCuAg AcCuAg AcCuAg CuSn CuSn	0.48 0.48 0.3 0.54 0.3 0.54 0.3 0.5 0.5	1.5 1.5 0.84 1.5 0.84 1.5 1.5 1.1	PE PE PTFE PTFE PTFE PTFE PVC PVC	2.0 2.0 1.3 2.0 1.3 2.0 2.0 1.6 1.3	CuSn CuSn CuAg CuAg CuAg CuAg CuAg CuSn CuSn	2.8 2.6 1.8 2.6 2.0 2.5 2.6 2.4 1.6	PVC PVC FEP FEP PTFE FEP PVC PVC	50-2-1 50-1-1 50-2-3 50-1-2 50-2-2 75-2-1
2	RG-180B/U BELDEN 8218	95±5 75±3	7 x 0.1 7 x 0.14	AcCuAg AcCu	0.3 0.43	2.6 2.54	PTFE PE	3.1 3.0	CuAg CuSn	3.6 3.81	FEP PVC	Belden(USA)
3	RG-122/U LiYCY 1 x 0.25 mm <sup>2</sup> LiYCY 1 x 0.38 mm <sup>2</sup>	50±2 1) 2)	27 x 0.13 14 x 0.15 19 x 0.16	CuSn CuSn CuSn	0.8 0.66 0.8	2.5 1.3 1.4	PE PVC PVC	3.2 1.8 2.0	CuSn CuSn CuSn	4.1 2.6 2.9	PVC PVC PVC	
4	RG-58C/U RG-141A/U RG-142B/U RG-303/U RG-400/U	50±2 50±2 50±2 50±2 50±2	19 x 0.18 1 x 0.95 1 x 0.95 1 x 0.95 19 x 0.2	CuSn AcCuAg AcCuAg AcCuAg CuAg	0.9 0.95 0.95 0.95 1.0	2.95 2.95 2.95 2.95 2.95	PE PTFE PTFE PTFE PTFE	3.6 3.6 4.3 3.6 4.3	CuSn CuAg 2x CuAg CuAg 2x CuAg	5.0 4.8 5.0 4.3 5.0	PVC PTFE FEP FEP FEP	50-3-1 50-3-7
5	LiYCY 1 x 0.50 mm <sup>2</sup> LiYCY 1 x 0.75 mm <sup>2</sup> LifYCY 1 x 0.50 mm <sup>2</sup> LifYCY 1 x 0.75 mm <sup>2</sup>	1) 1) 2) 2)	16 x 0.2 24 x 0.2 256 x 0.05 384 x 0.05	CuSn CuSn CuSn CuSn	0.95 1.2 1.0 1.2	1.8 2.0 2.0 2.2	PVC PVC PVC PVC	2.4 2.6 2.6 2.8	CuSn CuSn CuSn CuSn	3.1 3.2 3.2 3.6	PVC PVC PVC PVC	
6	RG-59B/U RG-223/U RG-302/U	75±3 50±2 75±3	1 x 0.6 1 x 0.89 1 x 0.64	AcCu CuAg AcCuAg	0.6 0.89 0.64	3.7 2.95 3.7	PE PE PTFE	4.5 4.2 4.4	Cu 2x CuAg CuAg	6.1 5.4 5.1	PVC PVC FEP	50-3-5 75-4-6
7	RG-212/U RG-222/U SUHNER G 05232 RG-6A/U	50±2 50±2 50±2 75±3	1 x 1.35 1 x 1.37 7 x 0.5 1 x 0.73	CuAg CrNi Cu AcCu	1.35 1.37 1.5 0.73	4.7 4.7 4.8 4.7	PE PE PE PE	6.2 6.2 5.6 6.2	2x CuAg 2x CuAg Cu CuAg	8.5 8.5 7.4 8.5	PVC PVC PVC PVC	Suhner (CH)
8	RG-115A/U RG-165/U RG-213/U RG-11A/U	50±2 50±2 50±2 75±3	7 x 0.75 7 x 0.82 7 x 0.75 7 x 0.4	CuAg CuAg Cu CuSn	2.25 2.46 2.25 1.2	6.5 7.25 7.25 7.25	PTFE PTFE PE PTFE	8.0 8.0 8.2 8.2	2 x CuAg CuAg Cu Cu	10.5 10.4 10.3 10.3	PTFE PTFE PVC PVC	50-7-8 50-7-1 75-7-1
9	RG-214/U RG-217/U RG-280/U RG-12A/U RG-34B/U	50±2 50±2 50±2 75±3 75±3	7 x 0.75 1 x 2.7 1 x 2.9 RG-11A/U 7 x 0.62	CuAg Cu Cu armoured Cu		7.25 9.4 8.3 c plated 11.5	PE PE PTFE steel braid PE	8.7 11.2 9.8 11.8 12.4	2 x CuAg 2 x Cu 2 x CuAg FeZn Cu	10.8 13.8 12.2 14.0 16.0	PVC PVC PVC PVC PVC	
10	RG-177/U RG-218/U RG-164/U	50±2 50±2 75±3	1 x 5.0 1 x 5.0 1 x 2.65	Cu Cu Cu	5.0 5.0 2.65	17.3 17.3 17.3	PE PE PE	18.8 18.6 18.6	2x CuAg Cu Cu	22.7 22.1 22.1	PVC PVC PVC	50-17-1 75-17-1
11	RG-403/U Triaxal RG-178 Type Triax SUHNER G 02332 Triaxial	50±2 50±2 50±2	7 x 0.1 7 x 0.1 7 x 0.15	AcCuAg AcCuAg Cu	0.3 2. scr 0.49	0.84 een and 1.6 een and 1.5 een and	PTFE jacket: PE	1.3 2.4 1.8 2.9 2.0 3.0	CuAg CuAg CuAg CuAg Cu	1.9 3.1 2.6 3.6 2.55 4.25	FEP FEP FEP PVC PVC	Habia (UK) Filotex (F) Suhner (CH)
12	BELDEN 9222 RG-58 Type Triax	50±2	7 x 0.32	CuSn	0.93 2. scr	2.95 een and	PE jacket:	3.5 5.2	CuSn CuSn	4.65 6.1	PE PVC	Belden (USA)
13	ALPHA 9850 RG-59 Type Triax	75±3	1 x 0.52	AcCu	0.52 2. scr	3.71 een and	FPE jacket:	4.5	Cu Cu	- 8.0	PE PVC	Alpha (UK)
14	BELDEN 9267 RG-59 Type Triax	75±3	1 x 0.84	Cu	0.84 2. scr	3.71 een and	FPE jacket:	4.5 7.9	Cu Cu	7.4 9.2	PE CSM	Belden (USA)

<sup>1)</sup> Insulated, stranded wires with screen and jacket, standardized by the German VDE 0812, for low frequency applications when no defined impedance is required.

Insulated, highly flexible stranded wires with screen and jacket, for low frequency applications when no defined impedance is required.

Legend

Cu Plain copper wire FEP Fluorethylenepropylene CSM Hypalon ® (DuPont)

CuAg Silver plated copper wire FPE Foam polyethylene

CuSn Tin plated copper wire PE Polyethylene

StCu Copper-clad steel wire PTFE Polyettrafluorethylene

StCuAg Copper-clad steel wire, silver plated PVC Polyvinyl chloride



### Coax Low and High Voltage, Triax & Mixed Coax

1	Housing Color Which housing color do you need?		. CHROME Guide Mark	BLACK CHROME without Guide Mark		
2	Contact Block Material Which contact block material do you need?	PTFE	PEEK	PTFE PEEK		
3	Contact Type	Sol	lder	Sol	der	
4	Keying Code None	-600	-120	-700	-180	

#### **Contact Types for Panel Mounted Connectors**

Applicable for	Last Digit	Description
Front Mounted: D-DEU/E-DB-DBEU/E- DG-SF-SFU/E	0	Solder contacts
Rear Mounted: DBP-DBPU/E-DBPLU/E - DGP-SFPU/E	9	Solder contacts

#### **Design and Accessories**

Applicable for	Extensions	Description						
	N	Nickel plated body with bright finish						
	Е	EPDM interface O-ring						
Receptacles	G	Ground tag						
Tiooptuoioo	В	Black Nut						
	D	Decorative slotted nut						
	F	Decorative nut (with 2 flats)						

Other options are available on request, please contact us.

#### Examples

#### **Plugs**

SV 103 A002 - 600 Ø6.7

Natural chrome housing color with PTFE contact block, solder contacts and cable clamp set (diameter 6.7 mm)

S 104 A060 - 600 Ø3.4-UI

Natural chrome housing color with PTFE contact block, solder contacts and insulating clamp set (diameter 3.4 mm)

#### Receptacles

DBPLE 102 A002 - 709EGD

Black chrome housing color with PTFE contact block, solder contacts, EPDM interface O-ring, ground tag and decorative slotted nut

DKBE 103 A026 - 600 Ø6.2E

Natural chrome housing color with PTFE contact block, solder contacts, cable clamp set (diameter 6.2 mm) and EPDM interface O-ring









#### **Key Features**

- Wide range of body styles and sizes
- Unsealed, sealed or hermetic
- RF signal or power
- 50 and 75 Ohms impedance
- Standard or inverted polarity
- No guide mark standard
- Up to 50kV



This catalogue covers our standard connector solutions.
For specific requests, hybrids or fiber optic configurations, please contact us.

#### How to Order our Products?

- To find your local Fischer Connectors Office see Catalogue back cover or go to www.fischerconnectors.com/contacts
- For General Ordering Information, see page 2-3
- Cable Clamp Set is included with connector, see page 4-11
- For details on Options, see page 6-10
- For Accessories, see Section 11
- For Tooling, see Section 12

# Other Fischer Connectors Series with Coax High Voltage Contacts

■ AluLite<sup>™</sup> Series



Aluminium connectors ideal for ultralight or portable applications

Fischer AluLite™ Series

Plastic Series



Plastic connectors ideal for lightweight applications

Fischer 405 Series Fischer 4032 Series Nim-Camac



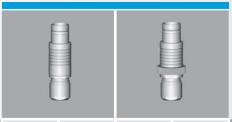
Coax and Triax Connectors engineered according to Nim-Camac standards

Fischer Nim-Camac 101 Series



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-2-2	■ Body Style Selection (D; DEE)	7-4
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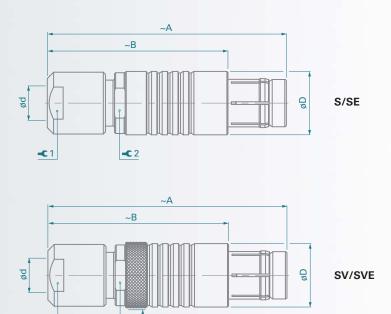


			)			
Bod	y Style	S	SE	sv	SVE	Links to Detailed Information
Protection	Unsealed (IP50)	•		•		Sealed and Hermetic Connectors Page 13-8
Prote	Sealed up to IP68		•		•	Sealed and nermetic conflectors rage 15-6
E	None					
Locking System	Push-Pull	•	•	•	•	
ng S	Emergency Release					Plug Locking Systems Page 2-7
-ocki	Lanyard					
	Tamperproof			•	•	
Contacts	Crimp					Electrical & Contact
Con	Solder	•	•	•	•	Specifications Page 7-5
Housing Color	Natural Chrome	•	•	•	•	Ontiona Paga 6 10
Hou	Black Chrome	•	•			Options Page 6-10
Design	Shortened Body					Core Series Overview Page 2-1
De	Right Angle					Core Series Overview rage 2-1
βι	Cable Clamp Sets	•	•	•	•	Cable Clamp Sets Page 4-11
Cabling	Overmoldable					Cable Assembly Section 3
	Heat Shrinkable					
Accessories	Cable Bend Reliefs	•	•	•	•	
cesso	Protective Sleeves	•	•			Accessories Section 11
Ac	Sealing Caps	•	•	•	•	
	102 Series	•	•	•	•	
	103 Series	•	•	•	•	
	1031 Series					Dimensions Page 7-3-1
Size	104 Series	•	•	•	•	For more Information Visit:
	105 Series	•	•	•	•	www.fischerconnectors.com/technical
	106 Series					
	107 Series	•	•	•	•	



#### ■ S/SE and SV/SVE Body Styles





Туре	Α	В	D	D1	d <i>m</i> Unsealed	ax Sealed	<b>₽</b> 1	Torque 1	¥2
102 A 018	36	26	9	11	4.7	4.3	7	0.6	7
102 A 025	60	46	9	-	5.2	-		ing tool and 0.241 &TX0	
103 A 023	46	35	12	13	6.7	6.2	10	1.0	10
104 A 010	50	38	15	20	8.7	8.7	12	2.0	13
105 A 004	62	47	18	22	10.7	10.7	15	3.5	16
105 A 005	62	47	18	22	10.7	10.7	15	3.5	16
105 A 049	90	60	18	22	10.7	10.7	15	3.5	16
105 A 108 <sup>2)</sup>	100	60	18	-	10.7	-	15	3.5	16
107 A 003	110	85	34	38	22.7	-	32	10	32
107 A 004	137	112	34	38	22.7	-	30	10	32
107 A 017	137	112	34	38	22.7	22.7	30 <sup>3)</sup>	10	32

<sup>&</sup>lt;sup>1)</sup>Cable screen and jacket (e.g. RG-58) are retained by hex-crimp to the plug shell.

Suitable Coax cables are indicated in the column "Cable Group" in Electrical & Contact specifications. The cable specifications are listed on page 6-9. If required, we will supply adapter sleeves which must be placed over the cable dielectric during assembly in order to guarantee proper performance.

For cable clamps sets see page 4-11. For non-sealed Coax connectors, the collet diameter has to be selected from the tables of type "S-Shielded", and for sealed Coax connectors from the tables of type "Environmental".

<sup>&</sup>lt;sup>2)</sup> For improved safety, the center contact is further recessed than in the S 105 A049.

<sup>&</sup>lt;sup>3)</sup>Two wrenches with an opening of 32 mm are required for SV/SVE 107 series.

<sup>&</sup>lt;sup>4)</sup>For insertion of center contact which has to be assembled after wiring, we recommend tool TP00.000, as shown on page 12-3.



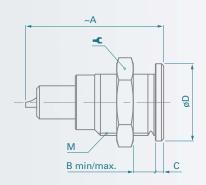


Body	/ Style	D	DEE	Links to Detailed Information
ion	Unsealed (IP50)	•		
Protection	Sealed up to IP68		•	Sealed and Hermetic Connectors Page 13-8
Ā	Hermetic		•	
cts	Crimp			
Contacts	Solder	•	•	Electrical & Contacts Specifications Page 7-5
Ö	PCB			
Housing Color	Natural Chrome	•	•	Options Page 6-10
Hou	Black Chrome	•	•	Options ruge o 10
	Right Angle			
Design	Flush	•	•	Core Series Overview Page 2-1
De	Front Projecting			Gore Gerries Gverview Lage 2 T
	Bulkhead Feedthrough			
Assembly	Front Mounting	•	•	Core Series Overview Page 2-1
Asse	Rear Mounting			Core Jenes Overview rage 2-1
	Sealing Caps	•	•	
S	Spacers	•	•	
ssorie	Color-Coded Washers	•		Accessories Section 11
Accessories	Grounding Washers	•	•	Accessories occitor in
	Locking Washers	•	•	
	Decorative Nuts			
	102 Series	•	•	
	103 Series	•	•	
0	1031 Series			Dimensions Page 7-4-1
Size	104 Series	•	•	For more Information Visit:
	105 Series	•	•	www.fischerconnectors.com/technical
	106 Series			
	107 Series	•	•	



#### ■ D Body Style





Types	А	B min/max.	С	D	M	Ŷ	Torque [Nm]
102 A 018	24	0/8	1.5	11	9x0.5	11	1.3
102 A 025	45	0/7	2.0	11	9x0.5	11	1.3
103 A 023	27	0/7	1.5	14	12x1	14	2.5
104 <sup>A</sup> Z 010	35	0/10	2.5	19	15x1	17	4.0
105 A 004	46	0/15	2.0	22	18x1	22	6.0
105 A 005 1)	46	0/15	2.0	22	18x1	22	6.0
105 A <sup>2)</sup> 049 <sup>1)</sup>	63 68	0/13	2.0	22	18x1	22	6.0
105 A 108 <sup>2)</sup>	59	0/13	2.0	22	18x1	22	6.0
107 A 003	72	0/18	4.0	40	35x1	TX00.107	16
107 A 004	89	0/18	4.0	40	35x1	TX00.107	16
107 A 017	89	0/18	4.0	40	35x1	TX00.107	16

<sup>&</sup>lt;sup>1)</sup>Also available with an optional micro switch.

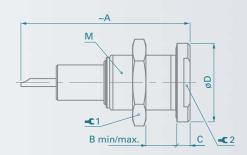
Receptacles of 106 and 107 Series are supplied with slotted nuts. For nut dimensions see Section 11 Accessories. For wrenches see Section 12 Tooling.

<sup>&</sup>lt;sup>2)</sup> For insertion of center contact which has to be assembled after wiring we recommend toolTP00.000, as shown on page 12-3.



### ■ DEE Body Style





Types	Α	B min/max.	С	D	M	<b>¥</b> 1	Torque 1 [Nm]	<b>₽</b> 2
102 A 018	26	8/12	2	14	9x0.5	11	1.3	11
102 A 025	45	0.5/7	2	15	11x0.75	11	1.5	-
103 <sup>A</sup> 2 023	39 38	0/12	3	18	14x1	17	3.0	14
104 <sup>A</sup> Z 010	41 40	0/15	4	22	16x1	19	4.5	17
102 A 005 <sup>1)</sup>	46 50	10.5/18	4	27	20x1	25	6.5	-
105 A 049 <sup>1)</sup>	72 74	10.5/30	4	27	20x1	25	6.5	-
107 <sup>A</sup> 2 003	73	19.2/22	5	45	35x1	TX00.107	16	-
107 A 017	90 95	19.2/22	5	45	35x1	TX00.107	16	-

<sup>&</sup>lt;sup>1)</sup>Also available with an optional micro switch.

Receptacles of 106 and 107 series are supplied with slotted nuts. For nut dimensions see Section 11 Accessories. For wrenches see Section 12 Tooling.



# 102, 103, 104, 105 and 107 Series

● = Standard ○ = Option

											- 010	induid 5	= Option
			tact							Test Vol	tage [KV] I position		
		Termi	nation						AC	rms	D	С	
Туре	Pin Layout	Solder	Crimp	Insulating Material	Cable Group 1)	Contact ø [mm]	Wire Barrel Ø [mm]	Impedance [ohms]	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Current Rating <sup>2)</sup> [A]
102 <sup>A</sup> <b>018</b>		•	•	PTFE	1 2	0.9	0.8	-	5.0	-	8.0	-	10
102 <sup>A</sup> <b>025</b>		•	● <sup>3)</sup>	PTFE	4	0.9	0.8	50	7.0	-	11	-	10
103 <sup>A</sup> <b>023</b>	(O)	•		PTFE	4 6	1.3	1.2	50	6.0	-	10	-	12
104 A <b>010</b>		•		PTFE	4 5 6 7	2.0	1.9	-	7.0	-	10	-	13
105 <sup>A</sup> <b>004</b>	( <b>O</b> )	•		PTFE	5 7 8	4.0	3.0	40	9.0	-	13	-	32
105 <sup>A</sup> Z <b>005</b> <sup>4)6)</sup>		•		PTFE PEEK	4 6 7	2.0	2.1	75	9.0	-	14	-	20
105 <sup>A</sup> Z <b>049</b> <sup>4)6)</sup>		•		PTFE	4 6 7 8	2.0	2.3	-	11	-	19	-	35
105 A <b>108</b> <sup>5)6)</sup>		•		PTFE	4 6 7 8	2.0	2.5	-	14	-	20	-	23
107 A <b>003</b>	(O)	•		PTFE	7 8 9	4.0	2.8	75	14	-	25	-	45
107 A <b>004</b>		•		PTFE	7 8 9	4.0	2.8	75	30	-	50	-	45
107 A <b>017</b>	( <b>O</b> )	•		PTFE	7 8 9 10	5.0	5.1	50	30	-	50	-	60

<sup>&</sup>lt;sup>1)</sup> See list of recommended cables on page 6-9.

<sup>&</sup>lt;sup>2)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>3)</sup> Plug: Center contact-crimp / Outer contact-crimp ferrule.

Receptacle: Center contact-solder / Outer contact-washer with solder tag.

<sup>&</sup>lt;sup>4)</sup> Receptacles are available with an optional micro switch.

 $<sup>^{\</sup>rm 5)}\,\mbox{Plug}$  contains additionally recessed contacts.

<sup>&</sup>lt;sup>6)</sup> See Section 11 Tooling for insertion tool of contact.









#### **Key Features**

- Wide range of body styles and sizes
- Unsealed, sealed or hermetic
- RF signal or power
- 50 Ohms impedance
- No guide mark standard



This catalogue covers our standard connector solutions.
For specific requests, hybrids or fiber optic configurations, please contact us.

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- For General Ordering Information, see page 2-3
- Cable Clamp Set should be ordered separately, see page 4-11
- For details on Options, see page 6-10
- For Accessories, see Section 11
- For Tooling, see Section 12

#### Other Fischer Connectors Series with Triax Contacts

Nim-Camac



Coax and Triax Connectors engineered according to Nim-Camac standards:

**Fischer Nim-Camac 101 Series** 

SD/HD Broadcast Cameras



Triax connector solutions:

Fischer 1051 Series Fischer 1052 Series



Cable Mounted Plugs
---------------------

ouble intention i	ayo .	
	<ul><li>Body Style Selection (S/SC; SOV; SA; SV; WSO)</li><li>Dimensions</li></ul>	8-3 8-3-1
Cable Mounted Re	eceptacles	
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For all Triax		
	<ul> <li>Electrical &amp; Contact Specifications</li> <li>Cable Groups for Coax, Triax and Mixed Coax Connectors</li> <li>Options</li> <li>Cable Clamp Sets</li> <li>Cable Assembly</li> <li>Accessories</li> </ul>	8-8 6-9 6-10 4-11 3

■ Tooling

■ Technical Information

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13

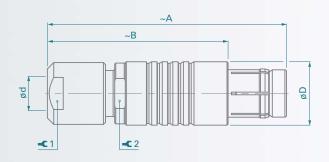


Body	Style	s	sc	sov	SA	sv	wso	Links to Detailed Information	
Protection	Unsealed (IP50)	•	•	•	•	•	•	Sealed and Hermetic Connectors	
Prote	Sealed up to IP68	•	•	•	•	•	•	Page 13-8	
Ε	None	,		•					
yste	Push-Pull	•			•	•	•		
ing S	Emergency Release		•					Plug Locking Systems Page 2-7	
Locking System	Lanyard				•				
	Tamperproof					•			
Contacts	Crimp							Electrical & Contact	
ပိ	Solder	•	•	•	•	•	•	Specifications Page 8-8	
Housing Color	Natural Chrome	•	•	•	•	•	•	Options Page 6-10	
운 3	Black Chrome	•	•	•	•		•		
Design	Shortened Body							Core Series Overview Page 2-1	
De	Right Angle						•	00.0 00.00 00.000 1 0 0 0 1	
D	Cable Clamp Sets	•	•	•	•	•	•	Cable Clamp Sets Page 4-11	
Cabling	Overmoldable							Cable Assembly Section 3	
S	Heat Shrinkable							Cable Assembly Section 3	
ries	Cable Bend Reliefs	•	•	•	•	•	•		
Accessories	Protective Sleeves	•	•	•				Accessories Section 11	
Acc	Sealing Caps	•	•	•	•	•	•		
	102 Series	•	•	•	•	•	•		
	103 Series	•	•	•	•	•	•		
	1031 Series							Dimensions Page 8-3-1	
Size	104 Series								
	105 Series							For more Information Visit: www.fischerconnectors.com/technical	
	106 Series								
	107 Series								



# S / SC Body Styles

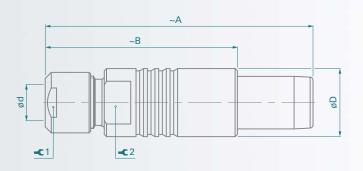




Series	Α	В	D	d max Unsealed Sealed		<b>Q</b> 1	Torque 1	¥ 2
102	36	26	9	4.7	4.3	7	0.6	7
103	46	35	12	6.7	6.2	10	1.0	10

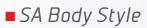
### ■ SOV Body Style



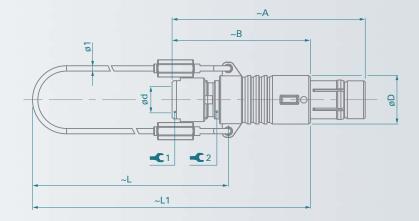


Series	Α	В	D	d m Unsealed	d <i>max</i> Unsealed Sealed		Torque 1 [Nm]	¥ 2
102	36	26	9	4.7	4.3	7	0.6	7
103	46	35	12	6.7	6.2	10	1.0	10





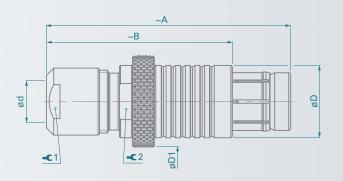




Series	Α	В	D	L	L1	d <i>max</i> Unsealed Sealed		<b>Q</b> 1	Torque 1 [Nm]	<b>₽</b> 2
102	36	26	9	50	65	4.7	4.3	7	0.6	7
103	46	35	12	60	77	6.7	6.2	10	1.0	10

#### SV Body Style



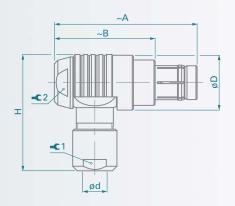


Series	Α	В	D	D1	d <i>m</i> Unsealed	d max Unsealed   Sealed		Torque 1	¥ 2
102	36	26	9	11	4.7	4.3	7	0.6	-
103	46	35	12	13	6.7	6.2	10	1.0	-



# ■ WSO Body Style





Carina					d m	nax.	0.4	Torque 1		Torque 2	
Series	Α	В	D	Н	Unsealed			[Nm]	<b>Q</b> 2	[Nm]	
102	33	23	12	25	4.7	4.3	7	0.6	8	1.0	
103	38	27	15	31	6.7	6.2	10	1.0	11	1.3	



# Cable Mounted Receptacles



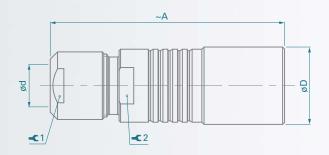
Body	/ Style	К	KE	Links to Detailed Information
Protection	Unsealed (IP50)	•		Sealed and Hermetic Connectors Page 13-8
Prote	Sealed up to IP68		•	Sealed and nermetic Connectors rage 13-6
Contacts	Crimp			Electrical & Contact Specifications Page 8-8
Con	Solder	•	•	Electrical & Contact Opecinications (age 0-0
gr.	Natural Chrome	•	•	
Housing	Black Chrome	•	•	Options Page 6-10
	Shortened Body			
<u> </u>	Cable Clamp Sets	•	•	Cable Clamp Sets Page 4-11
Cabling	Overmoldable			Cable Assembly Section 3
	Heat Shrinkable			
ries	Cable Bend Reliefs	•	•	
Accessories	Protective Sleeves	•	•	Accessories Section 11
<b>∢</b>	Sealing Caps	•	•	
	102 Series	•	•	
	103 Series	•	•	
	1031 Series			Dimensions Section 8-4-1
Size	104 Series			For more Information Visit:
	105 Series			www.fischerconnectors.com/technical
	106 Series			
	107 Series			



# **Cable Mounted Receptacles**

### ■ K / KE Body Styles





Series	Α	D	d <i>n</i>	nax	Q <sub>1</sub>	Torque 1	¥ 2					
			Unsealed	Sealed		[Nm]						
102	35	10	4.7	4.3	7	0.6	7					
103	43	13	6.7	6.2	10	1.0	10					

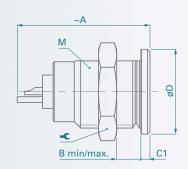


			-			Ę		8	
Bod	y Style	D	DEU	DEE	DB	DBEU	DBEE	DG	Links to Detailed Information
ion	Unsealed (IP50)	•			•			•	
Protection	Sealed up to IP68		•	•		•	•		Sealed and Hermetic Connectors Page 13-8
Pre	Hermetic			•			•		
cts	Crimp								
Contacts	Solder	•	•	•	•	•	•	•	Electrical & Contact Specifications Page 8-8
	РСВ								
Housing	Natural Chrome	•	•	•	•	•	•	•	Options Page 6-10
운의	Black Chrome	•	•	•	•	•	•	•	opnome age e ve
	Right Angle								
Design	Flush	•	•	•				•	Core Series Overview
Ğ	Front Projecting				•	•	•	•	Page 2-1
	Bulkhead Feedthrough								
Assembly	Front Mounting	•	•	•	•	•	•	•	Core Series Overview
Asse	Rear Mounting							•	Page 2-1
	Sealing Caps	•	•	•	•	•	•	•	
	Spacers	•	•	•	•	•	•	•	
ries	Color-Coded Washers	•			•			•	
Accessories	Insulating Washers	•	•	•	•	•	•	•	Accessories Section 11
Acc	Grounding Washers	•	•	•	•	•	•	•	
	Locking Washers	•	•	•	•	•	•	•	
	Decorative Nuts							•	
	102 Series	•	•	•	•	•	•	•	
	103 Series	•	•	•	•	•	•	•	
	1031 Series								Dimensions Page 8-5-1
Size	104 Series								For more Information Visit:
	105 Series								www.fischerconnectors.com/ technical
	106 Series								
	107 Series								



# ■ D Body Style

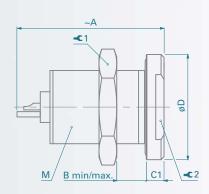




Series	Α	B min/max	C1	D	M	¥	Torque [Nm]
102	19	0/9	1.5	11	9x0.5	11	1.3
103	23	0/8	1.5	14	12x1	14	2.5

### ■ DEU / DEE Body Styles



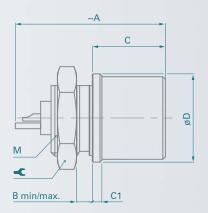


Series	А	B min/max	C1	D	M	<b>Q</b> 1	Torque1 [Nm]	<b>₽</b> 2
102	20	8/10	2.5	14	9x0.5	11	1.3	11
103	23	0/12	3.0	18	14x1	17	3.0	14



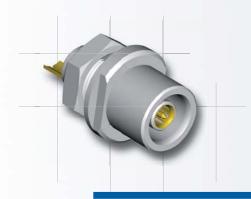
### ■ DB Body Style

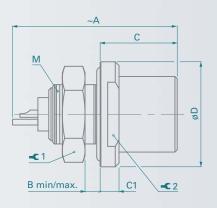




Series	Α	B min/max.	С	C1	D	M	Ŷ	Torque [Nm]
102	18	0/3	11.0	1.0	11	9x0.5	11	1.3
103	21	0/4	11.5	1.5	14	12x1	14	2.5

### ■ DBEU / DBEE Body Styles



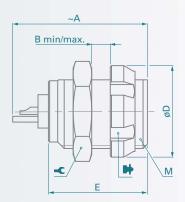


Series	А	B min/max.	С	C1	D	M	<b>Q</b> 1	Torque 1 [Nm]	<b>₽</b> 2
102	20	0/3.5	10.2	2.5	14	9x0.5	11	1.3	11
103	23	0/4.0	13.0	3.0	18	14x1	17	3.0	14



# ■ DG Body Style

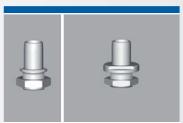




Series	Α	B min/max.	D	Е	M	Ŷ	<b>II</b>	Torque [Nm]
102	20	0/6	12	14	9x0.5	11	TC00.000	1.3
103	23	0/7	15	15	12x1	14	TF00.001	2.5



# Panel Mounted Plugs



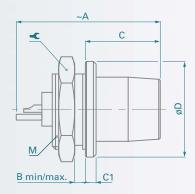
			•	<b>3</b>				
Bod	y Style	SF	SFU	SFE	Links to Detailed Information			
uo	Unsealed (IP50)	•						
Protection	Sealed up to IP68		•	•	Sealed and Hermetic Connectors Page 13-8			
Ŗ	Hermetic			•				
sts	Crimp							
Contacts	Solder	•	•	•	Electrical & Contacts Specifications Page 8-8			
3	PCB							
Housing Color	Natural Chrome	•	•	•	Options Page 6-10			
5 S	Black Chrome	•	•	•	Options rage 6-10			
Assembly	Front Mounting	•	•	•	Carra Carriera Construiron Parra O 4			
Asse	Rear Mounting				Core Series Overview Page 2-1			
	Sealing Caps	•	•	•				
	Spacers	•	•	•				
ries	Color-Coded Washers	•						
Accessories	Insulating Washers	•			Accessories Section 11			
Ace	Grounding Washers	•						
	Locking Washers	•						
	Decorative Nuts							
	102 Series	•	•	•				
	103 Series	•	•	•				
	1031 Series				Dimensions Page 8-6-1			
Size	104 Series				For more Information Visit:			
	105 Series				www.fischerconnectors.com/technical			
	106 Series							
	107 Series							



# **Panel Mounted Plugs**

### ■ SF Body Style

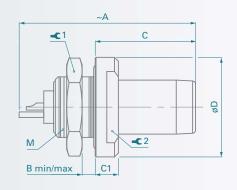




Series	А	B min/max.	С	C1	D	M	Ŷ	Torque [Nm]
102	20.0	0/4.0	11.0	1.0	10	9x0.5	11	1.3
103	23.5	0/3.0	12.5	1.5	14	12x1	14	2.5

### ■ SFU / SFE Body Styles





Series	А	B min/max.	С	C1	D	M	<b>Q</b> 1	Torque 1 [Nm]	<b>¥</b> 2
102	21	0/2.5	13	3	13	9x0.5	11	1.3	9
103	26	0/5.0	14	3	17	12x1	14	2.5	12



# Panel Mounted Cable Receptacles



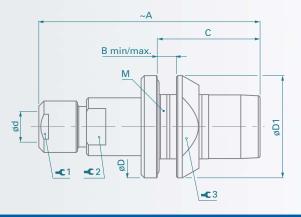
Body Style  DKBE  DK  DKE  Links to Detailed Information  Sealed up to IP68  Crimp  Solder  Solder  DKBE  DK  DKE  Links to Detailed Information  Sealed and Hermetic Connector  Electrical & Contacts Specion  Page 8-8	rs Page 13-8
Crimp  Electrical & Contacts Speci	
Crimp  Electrical & Contacts Speci	
Crimp  Electrical & Contacts Speci Page 8-8	fications
Page 8-8	
O COINCI	
Natural Chrome  Options Page 6-10  Black Chrome	
Options Page 6-10  Black Chrome	
Flush  Core Series Overview Pa	2 1
Front Projecting  Core Series Overview Pa	ge 2-1
Panel Mounted	
Front Mounting  • • Core Series Overview Pa	ao 2 1
Rear Mounting  Rear Mounting  Core Series Overview Pa	ge z-1
Cable Mounted	
Cable Clamp Sets   ●	4-11
Cable Bend Reliefs   ● ● ●	
Sealing Caps   ● ● ●	
Spacers • • •	
Color-Coded Washers  Insulating Washers  Accessories Section	11
Insulating Washers	
Grounding Washers • •	
Locking Washers • •	
Decorative Nuts	
102 Series	
103 Series	
1031 Series Dimensions Page 8-7	-1
104 Series For more Information \	/isit:
105 Series www.fischerconnectors.com	
106 Series	
107 Series	



# Panel Mounted Cable Receptacles

# ■ DKBE Body Style

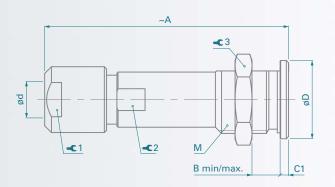




Series	Α	B min/max.	С	D	d <i>max</i>	D1	M	¥ 1	Torque 1	¥ 2	<b>₽</b> 3	Torque 3
102	35	0/3.5	16.0	16	4.3	16	12x1	7	0.6	7	13	2.5
103	43	0/4.0	19.0	19	6.2	20	15x1	10	1.0	10	17	4.0

#### ■ DK Body Style



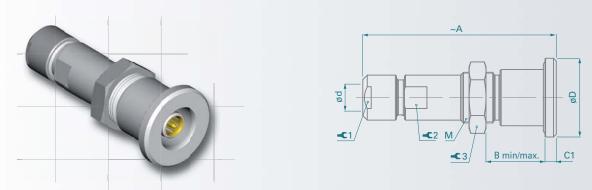


Series	Α	B min/max.	C1	D	d <i>max</i>	M	¥ 1	Torque 1 [Nm]	¥ 2	<b>₩</b> 3	Torque 3 [Nm]
102	35	0/9	1.5	11	4.7	9x0.5	7	0.6	-	11	1.3
103	44	0/10	1.5	14	6.7	12x1	10	1.0	9	14	2.5



# Panel Mounted Cable Receptacles

■ DKE Body Style for 102 and 103 Series



Series	Α	B min/max.	С	C1	D	d <i>max</i>	M	<b>Q</b> 1	Torque 1	<b>₽</b> 2	<b>₩</b> 3	Torque 3
102	35	9/12	-	2	14	4.3	9x0.5	7	0.6	7	11	1.3
103	45	9/14	-	3	17	6.2	14x1	10	1.0	10	17	3.0



#### 102 and 103 Series

 $\bullet$  = Standard  $\bigcirc$  = Option

												indura 9	
			tact							Test Vol	tage [KV] I position		
		iermii	nation						AC	rms	D	C	
Туре	Pin Layout	Solder	Crimp	Insulating Material	Cable Group <sup>1)</sup>	Contact Ø [mm]	Wire Barrel Ø [mm]	Impedance [ohms]	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Current Rating <sup>2)</sup> [A]
102 A014		•		PTFE PEEK	11	0.9	0.8	-	1.1	1.2	1.5	1.7	10
102 A021		•		PTFE	11	0.9	0.8	50	1.2	1.0	1.7	1.5	10
103 A015		•		PTFE PEEK	12	1.3	1.0	50	1.2	1.5	1.6	2.4	12
103 A042		⊕ 3)		PTFE	11	0.7	0.6	50	0.8	1.0	1.0	1.5	3.0

<sup>&</sup>lt;sup>1)</sup> See list of recommended cables on page 6-9.

<sup>&</sup>lt;sup>2)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>3)</sup> Center contact - solder; 1. screen - crimp; 2. screen - clamp.

For crimping of first screen use tool TX00.241 and crimping dies TX00.265 see Section 12 Tooling, page 12-2.









#### **Key Features**

- Wide range of body styles and sizes
- Individually insulated high voltage contacts
- Voltage up to 23 kV
- Guide mark standard
- Locking ring for integral safety
- Unsealed



This catalogue covers our standard connector solutions.
For specific requests, hybrids or fiber optic configurations, please contact us.

#### How to Order our Products?

- To find your local Fischer Connectors Office see Catalogue back cover or go to www.fischerconnectors.com/contacts
- For General Ordering Information, see page 2-3
- Cable Clamp Set is included with connector, see page 5-6
- For details on Options, see page 4-10
- For Accessories, see Section 11
- For Tooling, see Section 12

# Other Fischer Connectors Series with Mixed Multipole Contacts

■ AluLite<sup>™</sup> Series



Aluminium connectors ideal for ultralight or portable applications

Fischer AluLite™ Series

Plastic Series



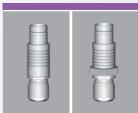
Plastic connectors ideal for lightweight applications

Fischer 405 Series



	<ul><li>Body Style Selection (S; SV)</li><li>Dimensions</li></ul>	0.0.1
Panel Mounted Re	eceptacle	
	■ Body Style Selection (D)	9-4
	Dimensions	
-,-	Panel Cut-Outs	4-8
For all Mixed High	h Voltage	
	■ Electical & Contact Specifications	9-5
	Options	4-10
	Insulating Clamp Sets	
	■ Cable Assembly	
	- Accessories	
	■ Tooling	12
	■ Technical Information	13



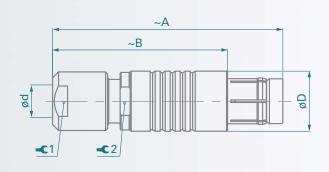


Bod	y Style	S	sv	Links to Detailed Information
Protection	Unsealed (IP50)	•	•	Sealed and Hermetic Connectors Page 13-8
Prot	Sealed up to IP68	•	•	ocalea and normedic connectors rage to o
_	None			
Locking System	Push-Pull	•	•	
ng S	<b>Emergency Release</b>			Plug Locking Systems Page 2-7
-ocki	Lanyard			
	Tamperproof		•	
Contacts	Crimp			Electrical & Contact Specifications Page 9-5
Con	Solder	•	•	Electrical & Contact Specifications rage 9-5
Housing Color	Natural Chrome	•	•	Options Page 4-10
5 S	Black Chrome	•		Options Lage 4-10
Design	Shortened Body			Core Series Overview Page 2-1
De	Right Angle			core contact Cro. Now Tage 2
Вu	Cable Clamp Sets	•	•	Cable Clamp Sets Page 5-6
Cabling	Overmoldable			Cable Assembly Section 3
	Heat Shrinkable			
ories	Cable Bend Reliefs	•	•	
Accessories	Protective Sleeves	•		Accessories Section 11
Aco	Sealing Caps	•	•	
	102 Series			
	103 Series			
	1031 Series			Dimensions Page 9-3-1
Size	104 Series	•	•	For more Information Visit:
	105 Series	•	•	www.fischerconnectors.com/technical
	106 Series	•	•	
	107 Series			



### ■ S Body Style



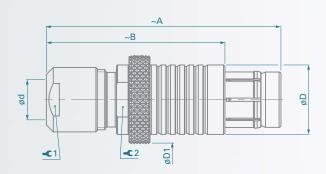


Series	Α	В	D	d <i>max</i>		Ω 1	Torque 1	<b>Q</b> 2
Series	A	В	D	Unsealed	Sealed		Torque 1	<b>Y</b> 2
104	50	38	15	8.7	8.7	12	2.0	13
105	62	47	18	10.7	10.7	15	3.5	16
106	80	55	28	19.2	19.2	22	8.0	-

For insertion of female high voltage contacts which have to be assembled after wiring, we recommend tool TP00.000, shown on page 12-3.

### SV Body Style





Covina	Δ.	В	_	D1	d <i>max</i>		Ω 1	Torque 1	<b>Q</b> 2
Series	Α	В	U	וט	Unsealed	Sealed	11	[Nm]	<b>T</b> 2
104	50	38	15	20	8.7	8.7	12	2.0	13
105	62	47	18	22	10.7	10.7	15	3.5	16
106	80	55	28	35	19.2	19.2	22	8.0	-

For insertion of female high voltage contacts which have to be assembled after wiring, we recommend tool TP00.000, shown on page 12-3.

These connectors are supplied with insulating cable clamps sets. The available inner diameters are listed on page 5-6.

The connection of a cable screen and/or a sealed cable entry is not possible with this clamp type. Some of these types, however, can be delivered with special metal clamps, allowing the clamping of a cable screen.





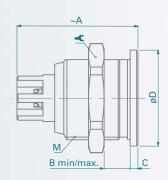
Body Style  Unsealed (IP50) Sealed up to IP68 Hermetic  Crimp Solder PCB  Natural Chrome Black Chrome  Right Angle Flush Front Projecting Bulkhead Feedthrough  Front Mounting  Core Series Overview Page 2-1  Rear Mounting  D Links to Detailed Information  Sealed Information  Electrical & Connectors Page 13-8  Flush Core Series Overview Page 2-1  Core Series Overview Page 2-1		
Sealed up to IP68 Hermetic  Crimp Solder PCB Natural Chrome Black Chrome  Right Angle Flush Front Projecting Bulkhead Feedthrough  Sealed and Hermetic Connectors Page 13-8  Flush Cories Secies Overview Page 2-1		
Crimp  Solder  PCB  Natural Chrome  Black Chrome  Right Angle Flush Front Projecting Bulkhead Feedthrough  Electrical & Contact Specifications Page 9-5  Options Page 4-10  Core Series Overview Page 2-1		
Crimp  Solder  PCB  Natural Chrome  Black Chrome  Right Angle Flush Front Projecting Bulkhead Feedthrough  Electrical & Contact Specifications Page 9-5  Options Page 4-10  Core Series Overview Page 2-1		
Solder PCB  Natural Chrome Black Chrome Right Angle Flush Front Projecting Bulkhead Feedthrough  Electrical & Contact Specifications Page 9-5  Core Series Overview Page 2-1		
Natural Chrome  Black Chrome  Right Angle Flush Front Projecting Bulkhead Feedthrough		
Natural Chrome  Black Chrome  Right Angle Flush Front Projecting Bulkhead Feedthrough		
Right Angle  Flush  Front Projecting  Bulkhead Feedthrough		
Right Angle  Flush  Front Projecting  Bulkhead Feedthrough		
Flush Front Projecting Bulkhead Feedthrough  Flush Core Series Overview Page 2-1		
Bulkhead Feedthrough		
Bulkhead Feedthrough		
후 Front Mounting •		
Core Series Overview Page 2-1		
Rear Mounting		
Sealing Caps ●		
Spacers •		
Color-Coded Washers  Accessories Section 11		
Color-Coded Washers  Grounding Washers   Accessories Section 11		
Locking Washers •		
Decorative Nuts		
102 Series		
103 Series		
1031 Series Dimensions Page 9-4-1		
104 Series   For more Information Visit:		
105 Series • www.fischerconnectors.com/technical		
106 Series ●		
107 Series		

Plugs mate with receptacles.



### ■ D Body Style

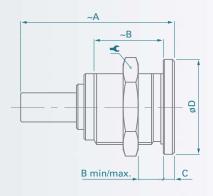




Types	А	B min/max.	С	D	M	Ŷ	Torque [Nm]
104 A 083	31	0/10.5	2.2	19	15x1	17	4.0
105 A 112	34	0/15.0	2.0	22	18x1	22	6.0

### ■ D Body Style





Types	Α	B min/max.	С	D	M	Ŷ	Torque [Nm]
105 A 020	54	0/15	2	22	18x1	22	6.0
105 A 036	54	0/15	2	22	18x1	22	6.0
105 A 060	58	0/15	2	22	18x1	22	6.0
106 A 014 1)	49	0/18	3	37	32x1	TX00.106	15

 $<sup>^{\</sup>rm 1)} The \ D \ 106 \ A014$  is supplied with a slotted nut.

The required hook spanner TX00.106 is shown on page 12-1.

For insertion of male high voltage contacts which have to be assembled after wiring, we recommend tool TP00.001, shown on page 12-3.

### 105 Series

The high voltage center contact is retained in a special insulator. To achieve proper high voltage performance, the window for soldering of the wire has to be covered by the supplied insulating tube, which must be placed over the cable before soldering.



# A / Z Polarity

For Mixed High Voltage connectors, it is essential to pay attention to the differences between type "A" and "Z".

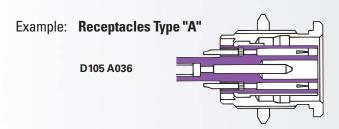
### Type "A" Standard Polarity:

The contacts of the receptacle are recessed to reduce the possibility of electric shock in the unmated position. This version should be used when the voltage is sourced from the receptacle.

### Type "Z" Inverted Polarity:

The contacts of the plug are recessed to reduce the possibility of electric shock in the unmated position. This version should be used when the voltage is sourced from the plug.

Protected contacts are usually female contacts recessed in the insulator. For Mixed High Voltage connectors, however, it is safer to recess the male contacts. In these cases, the plug type "A" is equipped with female contacts and the receptacle with protected male contacts. This applies to all below connectors except 104  $\frac{4}{7}$  083.



Plug Type "A"
S105 A036

### 104, 105 and 106 Series

● = Standard ○ = Option

					Contact Termination					est Vol	tage [K	V]	
			ts	iermination		_			AC	rms	D	С	1
Туре	Pin Layout		Number or Contacts	Solder	Crimp	Insulating Material	Contact Ø [mm]	Wire Barrel Ø [mm]	Contact to Body	Contact to Contact	Contact to Body	Contact to Contact	Current Rating <sup>1)</sup> [A]
104 A 002			2 HT	•		DTEE	0.9	0.8	4.0	4.0	6.0	6.0	8.0
104 A 083		3	1	•		PTFE	1.6	1.8	2.2	4.5	3.5	6.5	18
405 A 000 <sup>3)</sup>			1 HT	•		DTEE	2.0	2.0	6.0	6.0	14	14	20
105 A 020 <sup>3)</sup>		3	2	•		PTFE	1.3	1.1	1.8	3.8	2.5	5.0	12
405 A 000 <sup>3)</sup>		_	1 HT	•		DEEK	2.0	2.0	6.0	6.0	14	14	18
105 A 036 <sup>3)</sup>		) 5	4	•		PEEK	1.3	1.1	1.8	2.0	2.5	3.0	12
105 A 060 <sup>3)</sup>		0	1 HT	•		DTEE	2.0	2.0	6.0	6.0	14	14	16
105 A 060		8	7	•		PTFE	1.3	1.1	1.8	1.6	3.0	2.8	10
105 A 112 <sup>2)</sup>		5	4 HT	•		PTFE	1.3	1.2	4.5	4.5	7.0	7.0	11
105 A 112		5	1	•		PIFE	2.0	2.0	2.0	4.5	3.0	7.0	11
106 A 014 <sup>3)</sup>		8	2 HT	•		PTFE	2.0	2.4	7.0	15	14	23	16
100 A 014		8	6	•		FIFE	1.3	1.1	2.2	2.6	5.0	4.0	9.0

<sup>&</sup>lt;sup>1)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>2)</sup> Contact dia 2.0 is positioned to make contact first and break last.

<sup>&</sup>lt;sup>3)</sup> See Section 11 Tooling for insertion tool of contact dia. 2.0.







# **Key Features**

- Wide range of body styles and sizes
- 50 Ohms impedance
- Guide mark standard
- Unsealed version only
- Frequency up to 2 GHz



This catalogue covers our standard connector solutions.
For specific requests, hybrids or fiber optic configurations, please contact us.

### How to Order our Products?

- To find your local Fischer Connectors Office see Catalogue back cover or go to www.fischerconnectors.com/contacts
- For General Ordering Information, see page 2-3
- Cable Clamp Set is included with connector, see page 5-6
- For details on Options, see page 6-10
- For Accessories, see Section 11
- For Tooling, see Section 12

# Other Fischer Connectors Series with Mixed Multipole Contacts

■ AluLite<sup>™</sup> Series



Aluminium connectors ideal for ultralight or portable applications

Fischer AluLite™ Series

Plastic Series

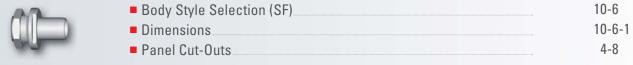


Plastic connectors ideal for lightweight applications

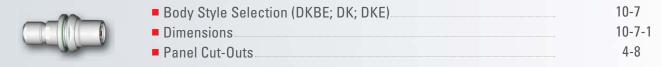
Fischer 405 Series



	<ul><li>Body Style Selection (S/SC; SOV; SA; SV)</li><li>Dimensions</li></ul>	10-3 10-3-
Cable Mounted	Receptacles	
	<ul><li>Body Style Selection (K/KE)</li><li>Dimensions</li></ul>	10-4 10-4-
Panel Mounted	Receptacles	
	<ul> <li>Body Style Selection (D; DB; DG)</li> <li>Dimensions</li> <li>Panel Cut-Outs</li> </ul>	10-5 10-5- 4-8
Panel Mounted	Plug	



# Panel Mounted Cable Receptacles



### For all Mixed Coax

Electrical & Contact Specifications	10-8					
Cable Groups for Coax, Triax and Mixed Coax Connectors						
• Options	6-10					
Insulating Clamp Sets	5-6					
Cable Assembly	3					
Accessories	11					
■ Tooling	12					
Technical Information	13					



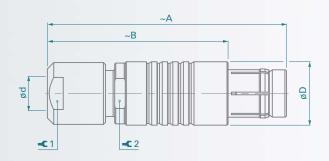
Body	/ Style	s	sc	sov	SA	sv	Links to Detailed Information
Protection	Unsealed (IP50)	•	•	•	•	•	Sealed and Hermetic Connectors
Prote	Sealed up to IP68	•	•	•	•	•	Page 13-8
ε	None			•			
yste	Push-Pull	•			•	•	
ng S	Emergency Release		•				Technical Information Plug Locking Systems Page 2-7
Locking System	Lanyard				•		
	Tamperproof					•	
Contacts	Crimp (Coax)	•	•	•	•	•	Electrical & Contact
S	Solder (Others)	•	•	•	•	•	Specifications Page 10-8
Housing Color	Natural Chrome	• • • •		Options Page 6-10			
훈 3	Black Chrome	•	•	•	•		opinone against
Design	Shortened Body						Core Series Overview Page 2-1
De	Right Angle						Core Certes Overview ruge 2 1
6	Cable Clamp Sets	•	•	•	•	•	Cable Clamp Sets Page 5-6
Cabling	Overmoldable						Cable Assembly Section 3
3	Heat Shrinkable						Capie / Gastinary Countries
ries	Cable Bend Reliefs	•	•	•	•	•	
Accessories	<b>Protective Sleeves</b>	•	•	•			Accessories Section 11
Acc	Sealing Caps	•	•	•	•	•	
	102 Series						
	103 Series						
	1031 Series						Dimensions Page 10-3-1
Size	104 Series	•	•	•	•	•	For more Information Visit:
	105 Series	•	•	•	•	•	www.fischerconnectors.com/technical
	106 Series						
	107 Series						

Plugs mate with receptacles.



# S / SC Body Styles

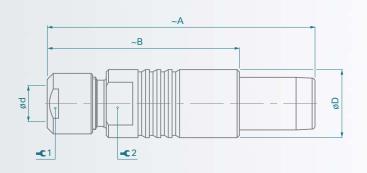




Series	Λ	В	D	d <i>max</i> D		Q <sub>1</sub>	Torque 1	<b>U</b> 2
Series	A		D	Unsealed	Sealed	T'	[Nm]	1 2
104	50	38	15	8.7	8.7	12	2.0	13
105	62	47	18	10.7	10.7	15	3.5	16

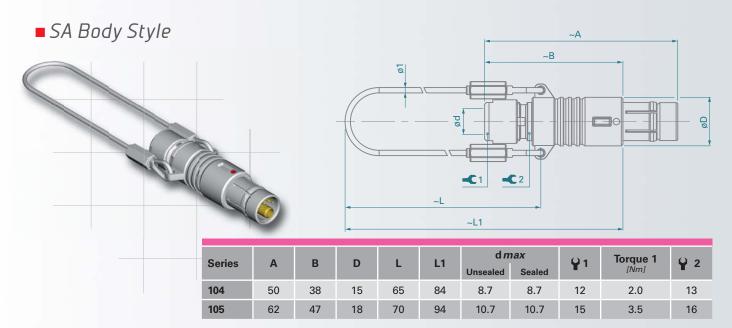
# ■ SOV Body Style



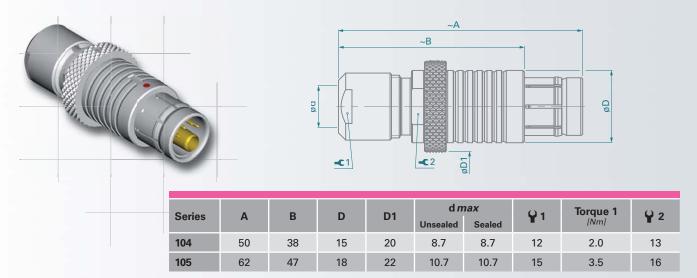


Series	۸	В	D	d <i>max</i>		Q <sub>1</sub>	Torque 1	<b>Q</b> 2
Selles	A			Unsealed	Sealed		[Nm]	- 2
104	50	38	15	8.7	8.7	12	2.0	13
105	62	47	18	10.7	10.7	15	3.5	16





### SV Body Style





# **Cable Mounted Receptacles**



Body	Style	K	KE	Links to Detailed Information
Protection	Unsealed (IP50)	•		Sealed and Hermetic Connectors Page 13-8
Prote	Sealed up to IP68		•	Sealed and Hermetic Connectors rage 13-8
Contacts	Crimp (Coax)	•	•	Electrical & Contact Specifications Page 10-8
Con	Solder (Others)	•	•	Electrical & contact opecinications rage 10-0
g	Natural Chrome	•	•	
Housing	Black Chrome	•	•	Options Page 6-10
	Shortened Body			
ō	Cable Clamp Sets	•	•	Cable Clamp Sets Page 5-6
Cabling	Overmoldable			Cable Assembly Section 3
	Heat Shrinkable			
ries	Cable Bend Reliefs	•	•	
Accessories	Protective Sleeves	•	•	Accessories Section 11
Ac	Sealing Caps	•	•	
	102 Series			
	103 Series			
	1031 Series			Dimensions Page 10-4-1
Size	104 Series	•	•	For more Information Visit:
	105 Series	•	•	www.fischerconnectors.com/technical
	106 Series			
	107 Series			
	107 Series			

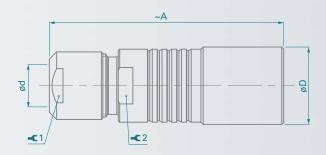
Plugs mate with receptacles.



# Cable Mounted Receptacles

# ■ K / KE Body Styles





Series	Δ	D	d <i>n</i>	ıax	Q1	Torque 1	Q 2	
Octios			Unsealed	Sealed		[Nm]	-	
104	50	16	8.7	8.7	12	2.5	13	
105	60	19	10.7	10.7	15	3.5	16	



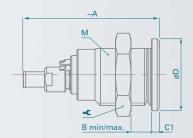
		8		8	
Body	style	D	DB	DG	Links to Detailed Information
lon	Unsealed (IP50)	•	•	•	
Protection	Sealed up to IP68				Sealed and Hermetic Connectors Page 13-8
Prc	Hermetic				
cts	Crimp (Coax)	•	•	•	
Contacts	Solder (Others)	•	•	•	Electrical & Contact Specifications Page 10-8
	PCB				
Housing Color	Natural Chrome	•	•	•	Options Page 6-10
Hot	Black Chrome	•	•	•	Options rage o-10
	Right Angle				
sign	Flush Front Projecting Bulkhead Feedthrough	•		•	Cara Carias Overview Page 2.1
De			•	•	Core Series Overview Page 2-1
Assembly	Front Mounting	•	•	•	Core Series Overview Page 2-1
Asse	Rear Mounting			•	Core Corres Cverview 1 age 2 1
	Sealing Caps	•	•	•	
es	Spacers	•	•	•	
ssories	Color-Coded Washers	•	•	•	Accessories Section 11
Access	Grounding Washers	•	•	•	
	Locking Washers	•	•	•	
	<b>Decorative Nuts</b>			•	
	102 Series				
	103 Series				
	1031 Series				Dimensions Page 10-5-1
Size	104 Series	•	•	•	For more Information Visit:
	105 Series	•	•	•	www.fischerconnectors.com/technical
	106 Series				
	107 Series				

Plugs mate with receptacles.



# ■ D Body Style

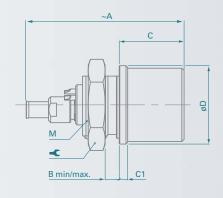




Series	Α	B min/max.	C1	D	M	Ŷ	Torque [Nm]		
104	33	0/11	2.2	19	15x1	17	4.0		
105	38	0/15	2.0	22	18x1	22	6.0		

# ■ DB Body Style



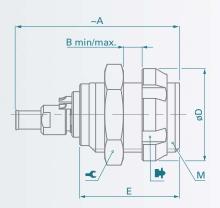


Series	А	B min/max.	С			M	Ŷ	Torque [Nm]
104	33	0/3	14.5	2.5	19	16x1	19	4.5
105	38	0/7	19.0	2.0	22	18x1	22	6.0



# ■ DG Body Style





Series	Α	B min/max.	D	Е	M	Ŷ	<b>■</b> 1)	Torque [Nm]
104	33	0/9	19	18	15x1	17	TK00.000	4.0
105	38	0/15	23	24	18x1	22	TP00.011	6.0

<sup>&</sup>lt;sup>1)</sup> Assembly tool for decorative slotted nut, see Tooling Page 12-1 for details.



# Panel Mounted Plug



Вос	ly Style	SF	Links to Detailed Information
on	Unsealed (IP50)	•	
Protection	Sealed up to IP68		Sealed and Hermetic Connectors Page 13-8
4	Hermetic		
ts	Crimp (Coax)	•	
Contacts	Solder (Others)	•	Electrical & Contact Specifications Page 10-8
0	PCB		
Housing Color	Natural Chrome	•	Options Page 6-10
Hou	Black Chrome	•	Options Lage 0-10
Assembly	Front Mounting	•	Core Series Overview Page 2-1
Asse	Rear Mounting		Core Series Overview rage 2-1
	Sealing Caps	•	
	Spacers	•	
ries	Color-Coded Washers	•	
Accessories	Insulating Washers	•	Accessories Section 11
Ac	Grounding Washers	•	
	Locking Washers	•	
	<b>Decorative Nuts</b>		
	102 Series		
	103 Series		
	1031 Series		Dimensions Page 10-6-1
Size	104 Series	•	For more Information Visit:
	105 Series	•	www.fischerconnectors.com/technical
	106 Series		
	107 Series		

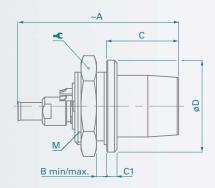
Plugs mate with receptacles.



# **Panel Mounted Plug**

# ■ SF Body Style



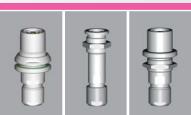


Series	Α	B min/max.	С	C1	D	M	Ŷ	Torque [Nm]
104	28	0/3.0	14.0	2.0	18	15x1	17	4.0
105	35	0/5.5	16.8	1.2	22	16x1	19	4.5

Tests have to be made to evaluate the exact values.



# Panel Mounted Cable Receptales



		U		U						
Bod	y Style	DKBE	DK	DKE	Links to Detailed Information					
Protection	Unsealed (IP50)		•		Sealed and Hermetic Connectors Page 13-8					
Prote	Sealed up to IP68	•		•	Sealed and hermetic connectors rage 15-6					
Contacts	Crimp (Coax)	•	•	•	Electrical & Contact Specifications Page 10-8					
Con	Solder (Others)	•	•	•	Electrical & contact opecinications rage 10-0					
Housing Color	Natural Chrome	•	•	•	Options Page 6-10					
H <sub>O</sub>	Black Chrome	•	•	•	Options rage or to					
Design	Flush		•		Core Series Overview Page 2-1					
De	Front Projecting	•		•	Gore Gorios Gverview Fage 2 T					
	Panel Mounted	• •		•						
ply	Front Mounting		•	•	Core Series Overview Page 2-1					
Assembly	Rear Mounting	•			Core Series Overview rage 2-1					
As	Cable Mounted	•	•	•						
	Cable Clamp Sets	•	•	•	Cable Clamp Sets Page 5-6					
	Cable Bend Reliefs	•	•	•						
	Sealing Caps	•	•	•						
S	Spacers	•	•	•						
sorie	Color-Coded Washers	•	•	•	Accessories Section 11					
Accessories	Insulating Washers				Accessories Section 11					
٩	Grounding Washers	•	•	•						
	Locking Washers	•	•	•						
	<b>Decorative Nuts</b>	•								
	102 Series									
	103 Series									
	1031 Series				Dimensions Section 10-7-1					
Size	104 Series	•	•	•	For more Information Visit:					
	105 Series	•	•	•	www.fischerconnectors.com/technical					
	106 Series									
	107 Series									
	107 Series									

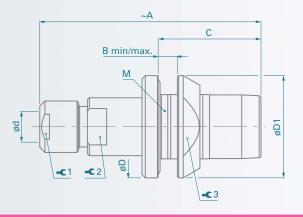
Plugs mate with receptacles.



# Panel Mounted Cable Receptacles

# ■ DKBE Body Style

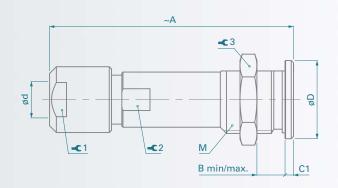




Series	Α	B min/max.	С	D	d <i>max</i>	D1	M	¥1	Torque 1	¥ 2	<b>₽</b> 3	Torque 3
104	50	0/5.0	22.5	23	8.7	23	18x1	12	2.0	13	20	6.0
105	60	0/5.0	26.0	28	10.7	27	22x1	15	3.5	16	24	8.0

# ■ DK Body Style



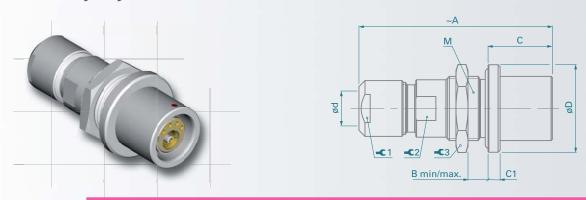


Series	А	B min/max.	C1	D	d <i>max</i>	M	<b>Q</b> 1	Torque 1 [Nm]	<b>Q</b> 2	<b>¥</b> 3	Torque3 [Nm]
104	50	0/11	2.0	19	8.7	15x1	12	2.0	12	17	4.0
105	60	0/16	2.0	22	10.7	18x1	15	3.5	14	22	6.0



# Panel Mounted Cable Receptacles

■ DKE Body Style for 104 and 105 Series



Series	Α	B min/max.	С	C1	D	d <i>max</i>	M	¥1	Torque 1	<b>₽</b> 2	<b>₽</b> 3	Torque 3
104	50	0/8	16.0	3	22	8.7	16x1	12	2.0	13	19	4.5
105	61	0/9	19.0	4	27	10.7	20x1	15	3.5	16	25	6.5



# 104 and 105 Series

● = Standard ○ = Option

					Contact Termination						T AC	est Volin mated	position	v]	
			cts			=									- -
Туре	Pin Layout		Number of Contacts	Solder	Crimp	Insulating Material	Cable Group <sup>1)</sup>	Contact ø [mm]	Wire Barrel ø [mm]	Impedance [ohm]	Contact to Body	Contact to Contact	Contact to Body 2)	Contact to Contact	Current Rating 31 [A]
404 4 070		0	Coax		•	DEEK 4)		0.7	0.6	50	1.8	-	3.0	-	4.0
104 A 078		2	1	•		PEEK <sup>4)</sup>	1	0.9	0.8	-	0.8	-	6.0	-	9.0
4044.000		_	Coax		•	DTEE		0.7	0.6	50	1.8	-	3.0	-	4.0
104 A 093		5	4	•		PTFE	1	0.7	0.6	-	0.8	1.0	1.0	1.4	4.0
			Coax		•	5755		1.3	1.0	50	4.5	-	6.0	-	12.0
105 A 074		2	1	•		PTFE	4	1.3	1.1	-	1.6	-	2.0	-	12.0
			Coax		•			1.3	1.0	50	4.5	-	6.0	-	12.0
105 A 089		5	4	•		PTFE	4	0.9	0.75	-	1.5	2.0	2.3	2.8	7.0
			Coax		•			0.7	0.55	50	1.8	-	3.5	-	4.0
105 A 095		10	9	•		PTFE	1	0.9	0.75	-	1.9	1.5	2.2	2.5	6.0

<sup>&</sup>lt;sup>1)</sup>See list of recommended cables on page 6-9.

<sup>&</sup>lt;sup>2)</sup> Test voltages between contact and body as well as between contact and coaxial outer contact.

<sup>&</sup>lt;sup>3)</sup> Recommended max. operating current per contact at 40°C temperature rise measured according to IEC 60512-3-5b.

<sup>&</sup>lt;sup>4)</sup> PEEK for main insulator and PTFE for Coax.





# 1 1 Accessories

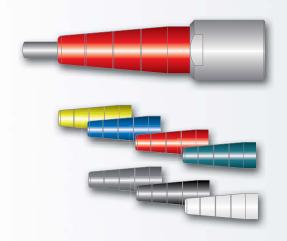




# Cable Mounted Plugs and Receptacles

### Cable Bend Reliefs for an Increased Protection of your Connections

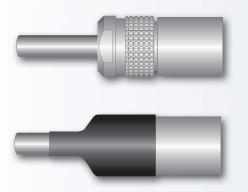
11-2



- Suitable for:
  - Cable Mounted Plugs (S/SC, SOV, SA, SV, WSO)
    Cable Mounted Receptacles (K/KE)
    Panel Mounted Cable Receptacles (DKBE, DK, DKE)
- Prevent cable torsion and increase protection of connection
- Color coding for easy identification when combined with color washer of panel mounted connector

### **Knurled Clamp Nuts for Resistant Heat Shrinking**

11-2



- Suitable for:
  - Cable Mounted Plugs (S/SC, SOV, SA, SV, WSO)
    Cable Mounted Receptacles (K/KE)
    Panel Mounted Cable Receptacles (DKBE, DK, DKE)
- Give a good grip to a shrinkable tube acting as cable bend relief

### **Protective Sleeves for Improved Protection**

11-3





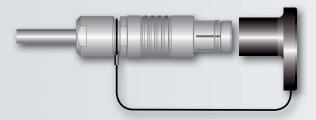
- Suitable for:
  - Cable Mounted Plugs (S/SC, SOV)
    Cable Mounted Receptacles (K/KE)
- Protect against any foreign matter:
   Dust, dirt or mud
   Liquid splash
- Minimize mechanical damage from impact on hard surfaces
- When mated, the front end of the protective sleeve encloses the projecting portion of the receptacle
- Connectors can additionally be protected with sealing caps while unmated



# Plugs and Receptacles

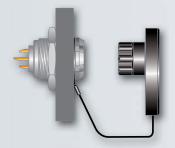
### Sealing Caps for Protection of Unmated Connectors in the Field

11-4



Suitable for:

Cable Mounted Plugs (S/SC, SOV, SA, SV, SS/SSC, WSO)
Cable Mounted Receptacles (K/KE, KS/KSE)



Suitable for:

Panel Mounted Receptacles (D, DEU/E, DBEU/E, DBP, DBPU/E, DBPLU/E, DG/DGP, DBPC, WDE)
Panel Mounted Plugs (SF, SFU/E, SFPU/E)
Panel Mounted Cable Receptacles (DKBE, DK, DKE)

### Soft Caps

11-4



- Lightweight
- Noiseless operation
- Operating temperature 55°C to + 85 °C
- IP68
- Easily installed
- Available in single-piece or lanyard model
- Caps are intermateable to provide additional dust protection

### Metal Caps

11-4-4



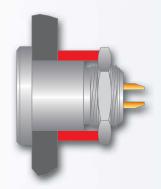
- Rugged
- Fitted with an o-ring seal
- Protect & seal the mating face of the connector
- 1P68
- Easily installed



# Panel Mounted Plugs and Receptacles

### Spacers to Allow Mounting on all Panels

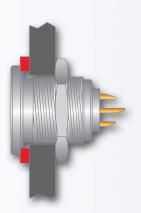
11-5



- Suitable for:
  - Feedthrough (WDE)
    Panel Mounted Receptacles (DEE, DEU, DKE)
- Permit mounting on panels or bulkheads thinner than the unthreaded section

### **Color Coding Washers for Easy Connector Identification**

11-6



- Suitable for:
  - Panel Mounted Receptacles (D, DB, DBP, DBPC, DG, DGP, DK)
    Panel Mounted Plug (SF)
- Can be mounted between the connector flange and the panel
- Color coding for easy identification when combined with cable bend relief for cable mounted connectors
- Not suitable for sealed version



# Insulating & Color Coding Washers for Easy Connector Identification and \_\_\_\_\_\_11-6 Efficient Insulation



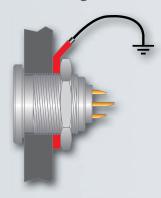
- Suitable for:
  - Panel Mounted Receptacle (D)
- Can be mounted on both sides of the panel cut-out
- Color coding for easy identification when combined with cable bend relief for cable mounted connectors
- Isolate the connector body electrically from the panel
- Not suitable for sealed version



# Panel Mounted Plugs and Receptacles

### **Grounding Washer**

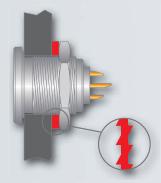
11-6-1



■ Suitable for Panel Mounted Connectors

### Locking Washer

11-6-1



Suitable for Panel Mounted Connectors

### Mounting Nuts for Perfect Connector Grip

11-7

### **Front**



- Decorative slotted nuts supplied for:
   Rear Mounted Panel Receptacles (DBP, DBPC, DBPE, DBPU, DG,DGP)
- Decorative nuts supplied for:
   Panel Mounted Receptacles (DKBE, DBPLU/E, SFPU/E)
   Panel Mounted Plugs (SFPU/E)

### Rear



Hex nuts supplied for:

Front Mounted Panel Receptacles Rear Mounted Panel Receptacles (DG, DGP)

■ Slotted nuts supplied for:

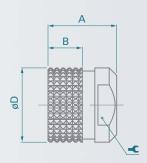
Panel Mounted Connectors for 106 & 107 Series



### **Dimensions**

# ■ Knurled Clamp Nuts

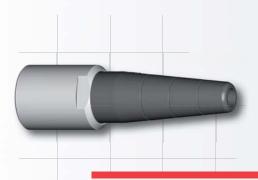


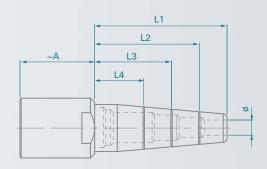


Series	Α	В	D	Ŷ	Part Number
102	6	3.0	9	7	102.1869
103	11	5.5	12	10	103.2092
1031	12	5.5	13	12	1031.248
104	11	5.5	15	12	104.2103
105	14	7.5	18	15	105.2626

Material - Nickel and chromium plated brass (ISO CuZn39Pb3)

### ■ Cable Bend Reliefs





Series 1)	Cable ø Range	Length	Α
102	1.5 - 3.4	L1 = 21	10
	3.5 - 4.5	L1 = 21	10
103	3.0 - 4.0	L1 = 26	
	4.0 - 5.0	L2 = 21	17
	5.0 - 6.2	L3 = 16	
1031	3.0 - 4.0	L1 = 26	
	4.0 - 5.0	L2 = 21	18
	5.0 - 6.5	L3 = 16	

Series 1)	Cable ø Range	Length	Α
104	4.0 - 5.0	L1 = 31	
	5.0 - 6.5	L2 = 25	18
	6.0 - 7.5	L3 = 18	
105	4.0 - 5.0	L1 = 37	
	5.5 - 6.5	L2 = 31	21
	7.0 - 8.5	L3 = 24	21
	8.5 - 10.5	L4 = 18	

<sup>&</sup>lt;sup>1)</sup> For the 102 Series cable bend reliefs are designed specifically for a given cable ø range. For other Series cable bend reliefs have to be cut to length L1, L2, L3 or L4 to fit your cable ø range.

### Material

Clamp nut: Nickel and chromium plated brass (ISO CuZn39Pb3)

Bend relief: TPE (Thermoplastic elastomer)

These cable bend reliefs cannot be assembled with the clamp nuts supplied with the standard connectors. Therefore, the cable bend reliefs are supplied as sub-assemblies.



# **Part Numbers**

### ■ Natural Chrome Connectors

Series <sup>1)</sup>	Cable ø Range	Bend Relief Color			
Series Cable Ø Rang	Cable Ø halige	White	Black	Green	Blue
102	1.5 - 3.4	-	E4 102.190.2	E4 102.190.3	E4 102.190.4
	3.5 - 4.5	-	E4 102.192.2	E4 102.192.3	E4 102.192.4
103	3.0 - 6.2	E4 103.190.1	E4 102.190.2	E4 103.190.3	E4 103.190.4
1031	3.0 - 6.5	E4 1031.190.1	E4 1031.190.2	E4 1031.190.3	E4 1031.190.4
104	4.0 - 7.5	E4 104.190.1	E4 104.190.2	E4 104.190.3	E4 104.190.4
105	4.0 - 10.5	E4 105.190.1	E4 105.190.2	E4 105.190.3	E4 105.190.4

Series <sup>1)</sup>	Cable & Danse	Bend Relief Color			
Series"	Cable ø Range	Yellow	Red	Grey	
102	1.5 - 3.4	E4 102.190.5	E4 102.190.6	E4 102.190.7	
	3.5 - 4.5	E4 102.192.5	E4 102.192.6	E4 102.192.7	
103	3.0 - 6.2	E4 103.190.5	E4 103.190.6	E4 103.190.7	
1031	3.0 - 6.5	E4 1031.190.5	E4 1031.190.6	E4 1031.190.7	
104	4.0 - 7.5	E4 104.190.5	E4 104.190.6	E4 104.190.7	
105	4.0 - 10.5	E4 105.190.5	E4 105.190.6	E4 105.190.7	

### ■ Black Chrome Connectors

Series <sup>1)</sup>	Cable ø Range	Bend Relief Color			
Series Cable Ø Ra	Cable Ø halige	White	Black	Green	Blue
102	1.5 - 3.4	-	E4 102.191.2	E4 102.191.3	E4 102.191.4
	3.5 - 4.5	-	E4 102.193.2	E4 102.193.3	E4 102.193.4
103	3.0 - 6.2	E4 103.191.1	E4 103.191.2	E4 103.191.3	E4 103.191.4
1031	3.0 - 6.5	E4 1031.191.1	E4 1031.191.2	E4 1031.191.3	E4 1031.191.4
104	4.0 - 7.5	E4 104.191.1	E4 1041.191.2	E4 104.191.3	E4 104.191.4
105	4.0 - 10.5	E4 105.191.1	E4 105.191.2	E4 105.191.3	E4 105.191.4

Series <sup>1)</sup>	Cable ø Range	Bend Relief Color			
Series"	Cable & hallge	Yellow	Red	Grey	
102	1.5 - 3.4	E4 102.191.5	E4 102.191.6	E4 102.191.7	
	3.5 - 4.5	E4 102.193.5	E4 102.193.6	E4 102.193.7	
103	3.0 - 6.2	E4 103.191.5	E4 103.191.6	E4 103.191.7	
1031	3.0 - 6.5	E4 1031.191.5	E4 1031.191.6	E4 1031.191.7	
104	4.0 - 7.5	E4 104.191.5	E4 104.191.6	E4 104.191.7	
105	4.0 - 10.5	E4 105.191.5	E4 105.191.6	E4 105.191.7	

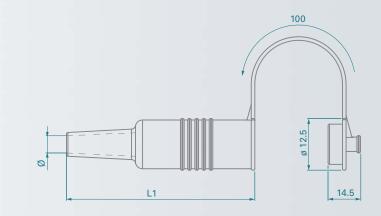
<sup>&</sup>lt;sup>1)</sup> For the 102 Series cable bend reliefs are designed specifically for a given cable ø range. For other Series cable bend reliefs have to be cut to length L1, L2, L3 or L4 to fit your cable ø range.



# 102 Series

# ■ S, SC and SOV



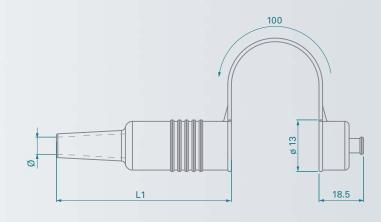


Series	Cable Ø Range	L1	Part Number
102	1.8 - 4.5	56	102.785

Material -TPE (Thermoplastic elastomer)

# ■ K and KE





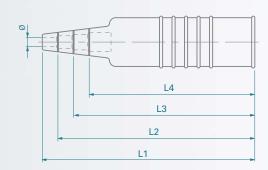
Series	Cable Ø Range	L1	Part Number
102	1.8 - 4.5	47	102.786

Material -TPE (Thermoplastic elastomer)



# 103, 1031, 104, 105, 106 and 107 Series





# ■ S, SC and SOV

Cable Ø Range	Length	Part Number
3.0 - 4.1	L1 = 68	
4.2 - 5.1	L2 = 63	103.861
5.2 - 6.1	L3 = 58	103.001
6.2 - 6.5	L4 = 53	
3.0 - 4.1	L1 = 69	
4.2 - 5.1	L2 = 64	1031.855
5.2 - 6.1	L3 = 59	1031.833
6.2 - 6.5	L4 = 54	
	Range 3.0 - 4.1 4.2 - 5.1 5.2 - 6.1 6.2 - 6.5 3.0 - 4.1 4.2 - 5.1 5.2 - 6.1	Range 3.0 - 4.1

Series	Cable Ø Range	Length	Part Number
104	4.0 - 5.1	L1 = 83	
	5.2 - 6.1	L2 = 76	104.861
	6.2 - 7.1	L3 = 70	104.001
	7.2 - 8.5	L4 = 63	
105	3.5 - 5.6	L1 = 104	
	5.7 - 7.6	L2 = 96	105.1545
	7.7 - 8.6	L3 = 88	105.1545

8.7 - 10.5 L4 = 80

Series	eries Cable Ø Length		Part Number
106	6.0 - 10.4	L1 = 123	
	10.5 - 13.4	L2 = 112	106.226
	13.5 - 16.4	L3 = 102	100.220
	16.5 - 19.0	L4 = 92	
107	7.0 - 10.4	L1 = 170	
	10.5 - 13.4	L2 = 160	
	13.5 - 16.4	L3 = 150	107.808
	16.5 - 19.4	L4 = 140	
	19.5 - 22.5	L4 = 130	

### ■ K and KE

Series	Cable Ø Range	Length	Part Number
103	3.0 - 4.1	L1 = 60	
	4.2 - 5.1	L2 = 55	103.886
	5.2 - 6.1	L3 = 50	103.000
	6.2 - 6.5	L4 = 45	
1031	3.0 - 4.1	L1 = 61	
	4.2 - 5.1	L2 = 56	1031.860
	5.2 - 6.1	L3 = 51	103 1.000
	6.2 - 6.5	L4 = 46	

Material - TPE (Thermoplastic elaston
---------------------------------------

Series	Cable Ø Range	Length	Part Number
104	4.0 - 5.1	L1 = 68	
	5.2 - 6.1	L2 = 61	104.862
	6.2 - 7.1	L3 = 55	104.002
	7.2 - 8.5	L4 = 48	
105	3.5 - 5.6	L1 = 88	
	5.7 - 7.6	L2 = 80	105.1546
	7.7 - 8.6	L3 = 72	105.1540
	8.7 - 10.5	L4 = 64	

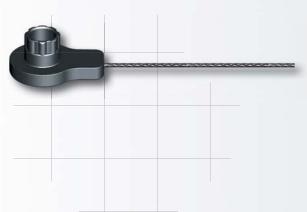
Series	Cable Ø Range	Length	Part Number
106	6.0 - 10.4	L1 = 110	
	10.5 - 13.4	L2 = 99	106.405
	13.5 - 16.4	L3 = 89	100.405
	16.5 - 19.0	L4 = 79	
107	7.0 - 10.4	L1 = 146	
	10.5 - 13.4	L2 = 136	
	13.5 - 16.4	L3 = 126	107.809
	16.5 - 19.4	L4 = 116	
	19.5 - 22.5	L5 = 106	

These protective sleeves for straight cable plugs and cable receptacles have grooved cable bend reliefs which can be shortened according to cable diameters. The lengths of the protections and the corresponding cable diameters are listed above.



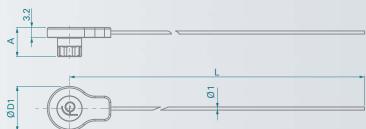
# Lanyard with Nylon Thin Cord

# ■ For Receptacles



Accessories	Description	Part Number
	Crimp ferrule	300.637
3	Crimp lug	300.299
	Heat shrink tube	300.930

Crimp ferrule, crimp lug and heat shrink tube have to be ordered separately.



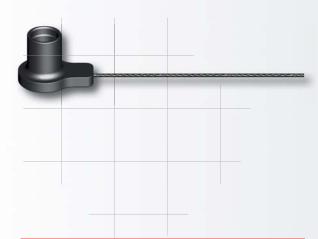
Series	Α	D1	L	Part Number
102	9.2	14	200	102.2181
103	9.7	17	200	103.2406
1031	9.5	18	200	1031.1433
104	10.0	20	200	104.2808
105	10.0	23	200	105.3265

Material

Cap: Santoprene™TPV 101-80

Cord: Nylon

# ■ For Plugs



Accessories	Description	Part Number
	Crimp ferrule	300.637
3	Crimp lug	300.299
	Heat shrink tube	300.930

Crimp ferrule, crimp lug and heat shrink tube have to be ordered separately.



Series	Α	D1	L	Part Number
102	14.0	14	200	102.2180
103	14.7	17	200	103.2405
1031	14.0	18	200	1031.1432
104	16.0	20	200	104.2807
105	19.0	23	200	105.3264

Material

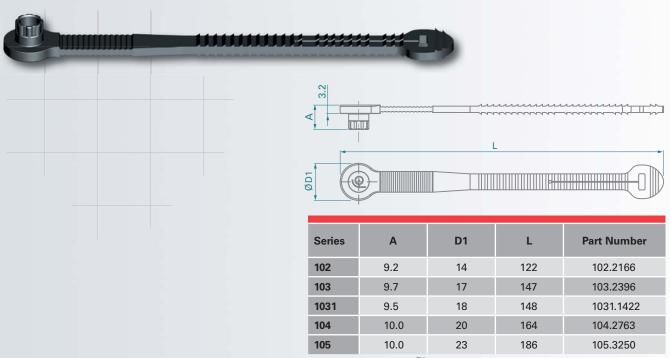
Cap: Santoprene™TPV 101-80

Cord: Nylon



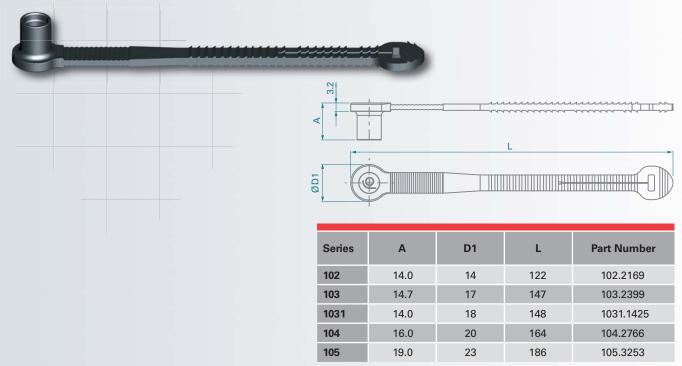
# Single-Piece

# ■ For Receptacles



Material - Santoprene™ TPV 101-80

### ■ For Plugs

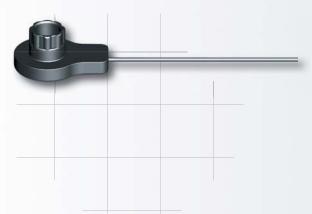


Material - Santoprene™ TPV 101-80

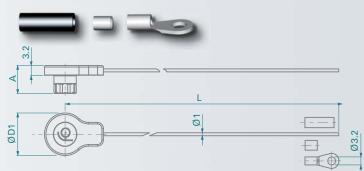


# Lanyard with Stainless Steel Cable

# ■ For Receptacles



Crimp ferrule (300.922), crimp lug (300.299) and heat shrink tube (300.930) are included.



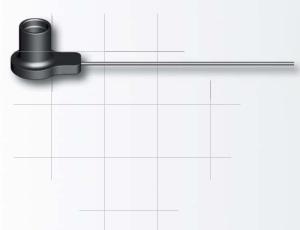
Series	Α	D1	L	Part Number
102	9.2	14	200	102.2167
103	9.7	17	200	103.2397
1031	9.5	18	200	1031.1423
104	10.0	20	200	104.2764
105	10.0	23	200	105.3251

### Material

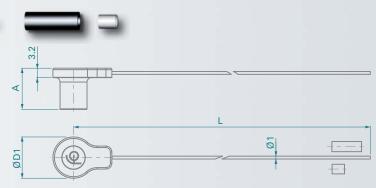
Cap: Santoprene™ TPV 101-80

Cable: Stainless steel with FEP-Teflon® covering

# ■ For Plugs



Crimp ferrule (300.922) and heat shrink tube (300.930) are included.



Series	Α	D1	L	Part Number
102	14.0	14	200	102.2185
103	14.7	17	200	103.2404
1031	14.0	18	200	1031.1431
104	16.0	20	200	104.2806
105	19.0	23	200	105.3263

### Material

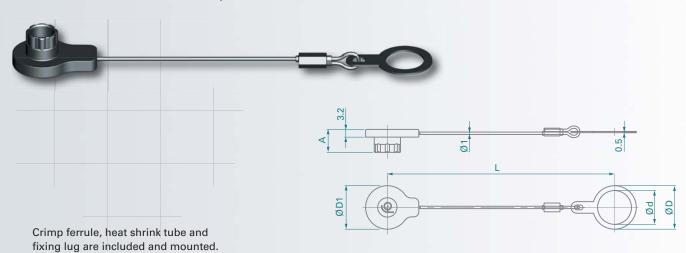
Cap: Santoprene™ TPV 101-80

Cable: Stainless steel with FEP-Teflon® covering



# Assembled Lanyard with Stainless Steel Cable

# ■ For Panel Mounted Receptacles



Series	Α	D1	L	d	D	Part Number
102	9.2	14	86	9	13	102.2182
	9.2	14	86	10	14	102.2165
103	9.7	17	93	14	18	103.2394
1031	9.5	18	94	14	18	1031.1434
	9.5	18	94	15	20	1031.1420
104	10.0	20	98	16	21	104.2761
105	10.0	23	100	20	25	105.3248

### Material

Cap: Santoprene™ TPV 101-80

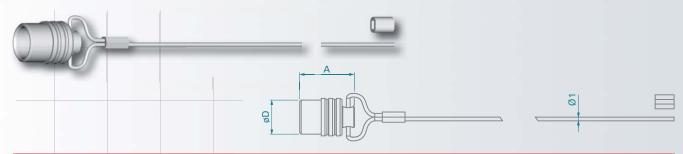
Cable: Stainless steel with FEP-Teflon® covering

Fixing lug: Black chrome plated brass (ISO CuZn39Pb3)





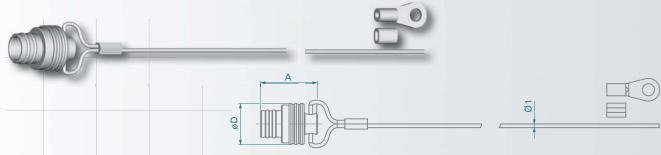
# ■ For Plugs



Series	Part number			Caps		Stainless-Steel Cable		Crimp Ferrule
	Natural Chrome <sup>1)</sup>	Black Chrome <sup>2)</sup>	O-ring Material	А	D	Length	Covering Material	Part Number
102	102.1948	102.1952	FPM - Viton®	14.5	10	100	FEP -Teflon®	300.922
103	103.2274	103.2277		21.0	14	100		
1031	1031.825	1031.827		20.0	15	100		
104	104.715	104.717		21.0	15	150		
105	105.3002	105.3006		29.0	20	150		
106	106.813	106.815		37.0	33	250		
107	107.2312	107.2314		42.0	38	300		

Material - Cap: Natural or Black chrome plated brass (ISO CuZn39Pb3) - Crimp ferrule: Aluminium

### ■ For Receptacles



Series	Part number			Caps		Stainless-Steel Cable		Crimp Ferrule	Crimp Lug
	Natural Chrome <sup>1)</sup>	Black Chrome <sup>2)</sup>	O-ring Material	Α	D	Length	Covering Material	Part Number	Part Number
102	102.1947	102.1951	NBR	15.0	11	100	FEP - Teflon®	300.922	300.299
103	103.2273	103.2276		15.0	13	100			
1031	1031.824	1031.826		17.0	15	100			
104	104.714	104.716		17.5	16	150			
105	105.3001	105.3005		21.0	19	150			
106	106.812	106.814		24.0	31	250			
107	107.2311	107.2313		26.0	36	300			

Material - Cap: Natural or Black chrome plated brass (ISO CuZn39Pb3) - Crimp ferrule: Aluminium - Crimp lug: Tin plated copper

These metal caps are fitted with an O-ring seal. They protect and seal the mating face of the plugs and receptacles.

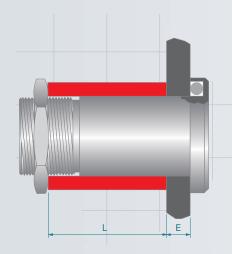
To attach the ferrule or the crimp lug to the stainless-steel cable, use a crimp tool, a vice or a pair of pliers with parallel jaws. See page 12-2 for recommended crimping tool for ferrule.

<sup>&</sup>lt;sup>1)</sup>Assembled with natural plastic covered stainless steel cable.

<sup>&</sup>lt;sup>2)</sup>Assembled with black plastic covered stainless steel cable.



# ■ Spacers for WDE

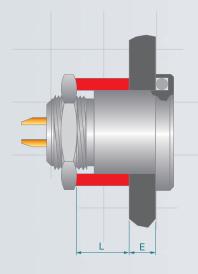


Series	Е	L	Part Number
106	0.5 - 8.5	30.0	106.560
	8.0 - 16.0	22.5	106.561
	15.5 - 23.5	15.0	106.562
	23.0 - 31.0	7.5	106.563

Material - Aluminum

Series	ries E L		Part Number
107	2.0 - 5.5	18.5	107.556
	5.0 - 8.5	15.5	107.557
	8.0 - 11.5	12.5	107.558
	11.0 - 14.5	9.5	107.559
	14.0 - 17.5	6.5	107.560
	17.0 - 20.5	3.5	107.561

# ■ Spacers for DEE, DEU and DKE<sup>®</sup>



Series	E	L	Part Number
102	0.5 - 3.0	8.5	102.550
	2.5 - 5.5	6.0	102.551
	5.0 - 8.0	3.5	102.552

Series	E	L	Part Number
104	0.5 - 3.0	8.5	104.550
	2.5 - 5.5	6.0	104.551
	5.0 - 8.0	3.5	104.552

Series	E	L	Part Number
106	0.5 - 5.5	19.0	106.550
	5.0 - 10.0	14.5	106.551
	9.5 - 14.5	10.0	106.552
	14.0 - 19.0	5.5	106.553

Material - Aluminum

Series	E	L	Part Number
103	0.5 - 3.0	8.5	103.550
1031	2.5 - 5.5	6.0	103.551
	5.0 - 8.0	3.5	103.552

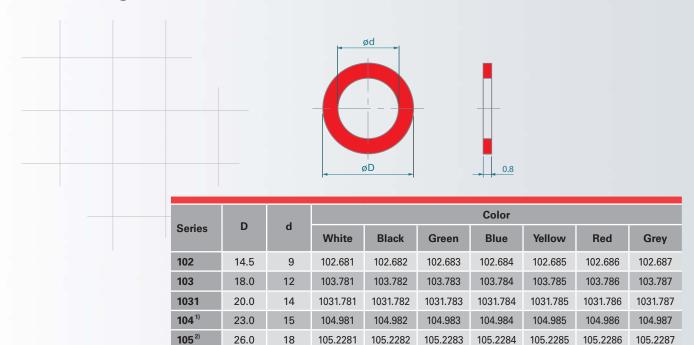
Series	E	L	Part Number
105	0.5 - 5.0	12.0	105.1121
	3.5 - 8.5	8.5	105.1122
	7.0 - 12.0	5.0	105.1123

Series	Е	L	Part Number
107	1.0 - 4.0	18.5	107.556
	4.0 - 7.0	15.5	107.557
	7.0 - 10.0	12.5	107.558
	10.0 - 13.0	9.5	107.559
	13.0 - 16.0	6.5	107.560
	16.0 - 19.0	3.5	107.561

<sup>&</sup>lt;sup>1)</sup>Spacers are useful and available for DKE only in 102 and 103 Series.



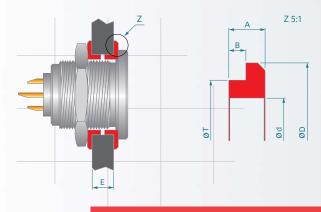
# ■ Color Coding Washers for D, DB, DBP, DBPC, DG, DGP, DK and SF



<sup>&</sup>lt;sup>1)</sup> The connector style DB 104 requires an inner diameter d = 16 mm

Material - PP (Polypropylene)

# ■ Insulating - Color Coding Washers for D Receptacles



Caria			_		_	Е				Color			
Series	D	a	ľ	Α	В	min/max	White	Black	Green	Blue	Yellow	Red	Grey
102	12	9	10.6	1.5	0.6	1.3 / 6.5	102.791	102.792	102.793	102.794	102.795	102.796	102.797
103	15	12	13.9	2.0	1.0	2.1 / 5.0	103.382	103.383	-	-	-	-	-
104	19	15	17.0	2.0	1.0	2.1 / 8.5	-	104.377	-	-	-	-	-

#### Materia

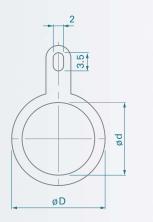
102 Series: ABS (Acrylonitrile butadiene styrene) 103, 104 Series: POM (Polyoxymethylene) Delrin ®

<sup>&</sup>lt;sup>2)</sup> The connector style SF 105 requires an inner diameter d = 16 mm



# ■ Grounding Washers for Panel Connectors

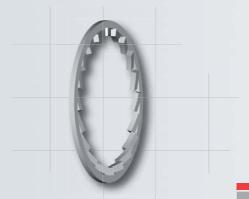


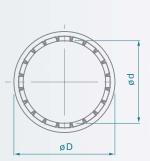


Series	d	D	Part Number
102	9	13	102.680
	10	14	102.679
103	12	16	103.385
1031	14	18	1031.315
104	15	20	104.680
	16	21	104.679
105	18	23	105.680
	20	25	105.679

Material - Copper and tin plated brass (ISO CuZn37)

# ■ Locking Washers for Panel Connectors







d	D	Part Number
9	12.0	300.874
12	15.0	300.875
14	17.5	300.876
15	18.5	300.877

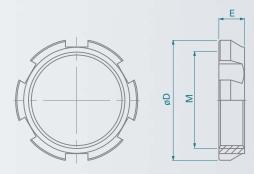
d	D	Part Number
16	20	300.878
18	23	300.879
20	26	300.880
25	33	1052.338

Material - Copper and tin plated brass (ISO CuZn37)



# ■ Decorative Slotted Nuts for DBP, DBPC, DBPE, DBPU, DG and DGP

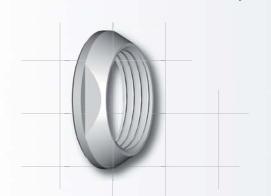


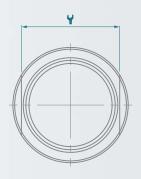


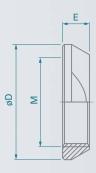
Thread D	_	Part Number		Assembly	
Size	D	E	Natural Chrome	Black Chrome	Tool 📫
M 9x0.5	12	3	102.1417	102.1571	TC00.000
M 10x0.5	13	3	102.2207	102.2206	TC00.007
M 12x1	15	4	103.597	103.1993	TF00.001
M 14x1	18	4	1031.541	1031.542	TG00.001
M 15x1	19	4	104.697	104.698	TK00.000
M 16x1	20	4	104.1729	104.1643	TK00.002
M 18x1	23	5	105.1901	105.2084	TP00.011
M 20x1	25	5	105.2018	105.2085	TP00.005

Material - Nickel and chromium plated brass (ISO CuZn39Pb3)

## ■ Decorative Nuts for DKBE, DBPLU/E and SFPU/E







Thread			Part Number		Nut 🖁
Thread Size	D	Е	Natural Chrome	Black Chrome	Across Flats
M 9x0.5	12	3.0	102.1290	102.1291	10
M 10x0.5	13	3.0	102.2145	102.2146	11
M 12x1	16	3.5	102.1989	102.1990	13
M 14x1	18	4.0	1031.1371	1031.1372	15
M 15x1	20	4.0	103.2294	103.2295	17
M 16x1	20	4.0	1031.1350	1031.1351	17

Thread			Part Number		Nut 🖁
Size	D	E	Natural Chrome	Black Chrome	Across Flats
M 18x1	23	4.5	104.2585	104.2586	20
M 20x1	25	4.5	105.3226	105.3227	22
M 22x1	27	4.5	105.3037	105.3038	24
M 34x1	40	5.5	106.1604	106.1605	36
M 38x1	45	6.0	107.2333	107.2334	40

Material - Nickel and chromium plated brass (ISO CuZn39Pb3)

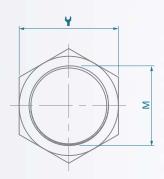
Other receptacle and decorative nut combinations are available on request.



### ■ Hex Nuts







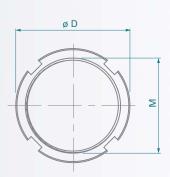
Thread Size	E	Part Number	Nut 🍟 Across Flats	Assembly Tool
M 9 x0.5	3	102.395	11	TX00.011
M 9 x0.5	2	102.1697	11	TX00.011
M 12x1	3	103.395	14	TX00.014
M 14 x1	3	103.580	17	TX00.017
M 15 x1	3	104.392	17	TX00.017
M 16 x1	3	104.595	19	TX00.019
M 18 x1	3	105.257	22	TX00.022
M 20 x1	4	105.724	25	TX00.025

Material - Nickel plated brass (ISO CuZn39Pb3)

### ■ Slotted Nuts







Thread Size	D	E	Part Number	Assembly Tool —
M 30 x1	36	6	106.395	TX00.106
M 32 x1	38	6	106.397	TX00.106
M 35 x1	40	9	107.395	TX00.107
M 36 x1	42	9	107.397	TX00.107

Material - Nickel plated brass (ISO CuZn39Pb3)

Slotted nuts are supplied with all panel mounted connectors of the 106 and 107 Series.









■ Double-End Open Spanners Extra Thin ♀



■ Open-End Spanners Extra Thin ¥



■ Hook Spanners for Side Slotted Nuts →



■ Nutdriver with T-Handle and Hex Drive for Decorative Slotted Nuts ➡



Part Number	Opening Across Flats	Length	Fork Thickness
TX00.007	7	90	2.0
TX00.008	8	96	2.3
TX00.009	9	102	2.5
TX00.010	10	104	2.5
TX00.011	11	114	2.5
TX00.012	12	122	3.0
TX00.013	13	122	3.0
TX00.014	14	130	3.0

Material – Chrome Alloy Steel, Chrome plated, Fork Angles – 15° and 75°

Part Number	Opening Across Flats	Length	Fork Thickness
TX00.015	15	145	5.2
TX00.016	16	160	3.2
TX00.017	17	160	5.5
TX00.019	19	175	6.0
TX00.020	20	175	6.0
TX00.022	22	196	6.5
TX00.024	24	195	6.5
TX00.025	25	216	7.0
TX00.030	30	240	7.5
TX00.032	32	270	8.0

Material - Chrome Vanadium Steel, Chrome plated, Fork Angle - 15°

Part Number	Thread Size	Nut Outer dia.
TX00.106	M30x1 / M32x1	34 – 38
TX00.107	M35x1 / M36x1	39 – 43

Material - Hardened Tool Steel, Gunmetal finish

Part Number	Thread Size	Nut Outer dia.	D	Hex Drive
TC00.000	M9 x 0.5	12	15	7
TC00.007	M10 × 0.5	13	16	7
TF00.001	M12 x 1	15	18	10
TG00.001	M14 x 1	18	21	10
TK00.000	M15 x 1	19	22	12
TK00.002	M16 x 1	20	23	12
TP00.011	M18 x 1	23	26	12
TP00.005	M20 x 1	25	28	12

Material - Hardened Tool Steel, Nickel plated



### Crimp Tool Ultra Precision for Closed C Crimp Termination



Part Number	Contact dia.	C Crimp tool			
	0.5				
TX00.240	0.7	BALMAR 18 - 000 or			
1700.240	0.9	DANIELS MH - 800			
	1.3				
TX00.242	1.6	BUCHANAN 615 708			

The best choice of precision crimp tools for highly reliable eight indenter crimping per US-MIL, IEC and DIN Specifications. Positioners have to be ordered according to contact.

#### Standards

IEC 60203 / DIN 41 611, Part 3 / MIL-C-22520, Class I, Type 1

Fischer Positioner



For the choice of Fischer positioner, please refer to page 4-9-3

Suitable for Crimp Tool TX00.242

Suitable for CrimpTool TX00.240

# ■ Crimp Tool for Coaxial Cable



# Crimping Dies for Precision Crimp Tool



Part Number	Description
TX00.241	ERMA 29020 precision crimp tool without dies for hexagon and square crimping. A light weight tool with handle span of only 130 mm. Weight (without dies): 0.75 kg. For crimping dies not larger than 8.23 mm across flats. Maximum crimping dies: IEC 60803-G; BSI size G.

#### Standards

MIL-C-22520, Class I, Type 2

Part Number	Description
TX00.250	Special crimping dies for coaxial cables of cable group 1 (RG-174 etc.). The hexagon corresponds to IEC 60803-B.
TX00.251	Special crimping dies for coaxial cables of cable group 4 (RG-58 etc.). The hexagon corresponds to IEC 60803-D.
TX00.265	Special crimping dies for crimp ferrule of sealing caps

Table of cable groups see page 6-9.



### Contact Insertion Tool



Part Number	Contact dia.	Description
TX00.214	0.5	Tool for inserting male and female
TX00.210	0.7	removable crimp contacts into the contact block.
TX00.211	0.9	Especially recommended for small
TX00.273	1.3	gauge and fragile wires.

Material

Handle: Black POM (Delrin®)
Fork: Tool Steel, chrome plated

### ■ Contact Extraction Tool



Part Number	Contact dia.	Description
TX00.213	0.5	Tool for extracting male and female
TX00.200	0.7	removable crimp contacts from the contact block.
TX00.205	0.9	The sleeve of this tool is pushed over the
TX00.212	1.3	contact, thereby releasing the contact retaining mechanism. The tool plunger is
TX00.201	1.6	then pushed to eject the contact.

Material

Housing and Plunger: Black POM (Delrin®)
Sleeve: Stainless Steel
Slide: Tool Steel

# Assembly Tool for Male Contacts with Outside Thread



Part Number	Description				
TP00.001	Tool for special contacts which are inserted only after termination to a wire.  To be used for:  - Multipole HV Cable Receptacle 107 A034  - Coax HV Plugs 105 A005 and 105 A108  - Mixed HV Cable Receptacles 105 A020, 105 A036,105 A060  Receptacles 106 A014				

Material Stainless Steel

Length 75 mm - Inside thread M3

## Assembly Tool for Female Contacts with Inside Thread



Part Number	Description				
TP00.000	after termination. To be used for				

Material

Stainless Steel

Length 75 mm – Outside thread M1.7





# **Technical Information**





# **Quality and Environment**

### Fischer Connectors ISO 9001 and ISO 14001 Certified ISO 9001 ISO 14001

- Fischer Connectors is ISO 9001 certified. Through its longstanding quality management commitment, the company targets excellence.
- Fischer Connectors' environmental management system is ISO 14001 certified.

  Fischer Connectors is committed to efficiently managing its waste, to preventing contamination and to reducing the environmental impact.
- Fischer Connectors is committed to protecting the health and safety of its employees, customers and visitors. Fischer Connectors complies with the requirements of OHSAS 18001 standard.

### RoHS Compliant Connectors RoHS

All connectors from Fischer are RoHS compliant since July 1st 2006.
The European Directive 2002/95/EC calls for the elimination of certain hazardous materials - cadmium, lead, mercury, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenylethers (PBDE) - from electrical and electronic equipment including connectors.

### Fischer Connectors REACH Compliant REACH

- Fischer Connectors took all necessary measures to be in conformity with the European Directive REACH (Directive 1917/2006/CE, Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals).
- Fischer Connectors does not manufacture or import chemicals, thus does not need to do any registration or pre-registration. Today, all our business partners gave us sufficient guarantees that the materials and products used in the manufacturing of our connectors are and will be registered according to the REACH Directive.

### Sony® Green Partner Qualified SONY green partner

■ Fischer Connectors is Sony® Green Partner qualified for several years.

This qualification is only granted by Sony® to the business partners who work continuously to maintain and upgrade their environmental management systems. This qualification emphasizes the commitment of Fischer Connectors for the environment.

### **Norms**

### **Environment, Mechanical and Electrical Norms**

- Fischer Connectors' standard products, as well as our products engineered to withstand extreme operational environments, are tested to strict IEC norms comparable to MIL-Specs. Fischer is performing 15 environmental, mechanical and electrical tests for each product according to IEC standards. To view cross-references table comparing IEC testing standards to MIL-Specs see www.fischerconnectors.com/mil-specs
- For information on norms valid for our products, visit: www.fischerconnectors.com/technical to download technical specifications.



Material	and	Surface	Treatments

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#### Metal Parts

The standard Fischer Connectors shells are nickel plated brass with natural (silver) chrome finish. Black chrome finish is available as an option; see Options pages 4-10 and 6-10. Internal piece parts are nickel plated brass. When warranted by an extreme environment, in most cases stainless steel can be substituted for all metal parts.

Metal Parts			Material	Finish		
		Designation ISO Standard			Designation	Standard
Body Shell		Brass	CuZn39Pb3	CW614N UNS C 38500	Chrome over Nickel	SAE-AMS2460
Cable Clan	nps, Nuts Inner Parts	Brass	CuZn39Pb3	CW614N UNS C 38500	Nickel	SAE-AMS-QQ-N-290 SAE-AMS2404
Contacts	Male (solder)	Brass	CuZn39Pb3	CW614N UNS C 38500	1 μm Gold	MIL-DTL-45204D Type 1 + ASTM B488
	Female, Male (crimp)	Bronze	CuSn4Zn4Pb4	CW456K ASTM B 139, UNS C 54400	over Nickel	

Other material and surface treatments are available on request

### Insulator and Sealing

Contact blocks and other insulators for our standard connectors are manufactured from high performance engineering plastic materials. The standard materials of each connector series are listed under Electrical & Contact Specifications in Section 4 through 10. Ceramics and other dielectrics are available on special order.

Insulator and Sealing	International Synbol	Flammability
Insulator	PEEK - PTFE - PBT	UL 94 V-O
Interface O-rings (Receptacles)	Viton® EPDM	UL 94 V-O UL 94 HB
Sealant Material - IP68 (Receptacles) - Hermetic	Silicon compound Epoxy compound	UL 94 V-O UL 94 HB
Cable Sealing - IP68 (Plugs)	TPE-S	UL 94 HB

Our products are RoHs compliant and conform with the EC Directives 2002/95/EC.

#### Elastomer Seals

Sealed connectors are fitted with 0-rings and cable sealing gaskets. The standard materials are:

- Viton® for O-rings
- TPE (Thermoplastic Elastomers) for cable seals, protective sleeves and strain reliefs.

Please note that as an elastomer reaches its lower temperature limit, it becomes rigid and loses the flexibility required for connector mating and unmating. If sealed connectors have to be manipulated at low temperatures, the O-rings in the mating area has to be of a material with a considerably lower temperature limit.

The elastomers listed below represent presently available materials, which Fischer can substitute when required by an application. Not all materials are available in all shapes and sizes so please check with us for details.

Compound and Trade Name	Chemical Name	Excellent Resistance to		
FPM (Viton®)	Fluoro Elastomer	Acids, weather, ozone, fuels, mineral and silicone oils, high vacuum, gamma rays		
EPDM, EPM or EPR	Ethylene Propylene Diene Elastomer	Alcohol, weather, hot water, vapour, brake fluids, detergents, gamma rays		
TPE-S, TPE-O (Thermoplastic Elastomer)	Styrene-Ethylene- Butadiene-Styrene	Very resistant, except to aromated and chlorinated hydrocarbons		



# **Performance and Standard**

Characteristic	Product Type	Value	Standard
	Unsealed Connectors (mated)	IP50	
	Plugs (mated) with General Purpose Sealed Clamps <sup>1)</sup>	IP68 IP69K²)	IEC 60529
Sealing Performance	Receptacles "U" Body Style	IP68	
	D	Hermetic: Tested: <10 <sup>-8</sup> mbar l/sec.	IEC 60068-2-17 Tesk Qk
	Receptacles "E" Body Style	IP69K <sup>2)</sup>	
Operating Temperature Range	See details on page 13-5	See details on page 13-5	IEC 60512-6-11 i+j IEC 60068-2-14-Nb
Corrosion Resistance	Salt mist, 96 hours, 5% salt solution, 35°C		IEC 60068-2-11 Test Ka MIL-STD-202 Method 101 Condition A
Endurance	10'000 mating cycles		IEC 60512-5-9a EIA-364-09
Vibration		10 to 2000 Hz, 1.5 mm or 15g, 12 sweep cycles per axis, 20 minutes per 10-2000-10 Hz sweep cycle, no discontinuity > 1us	MIL-STD-202 Method 204 Condition B
Radiation Resistance <sup>3)</sup>	Unsealed Connectors	PEEK: 10 <sup>6</sup> Gy(=100M Rads)	
	Sealed Receptacles "E"	Viton® O-Rings 10 <sup>5</sup> Gy (=10M Rads)	

<sup>1)</sup> The sealing performance can be affected by the long term quality of the cable.

Most of our connectors are completely sterilizable in autoclave, Cidex®, EtO, gamma radiation, Steris® or Sterrad®. Please contact us for more details.

For more information on norms valid for our products, visit: www.fischerconnectors.com/technical to download technical specifications.

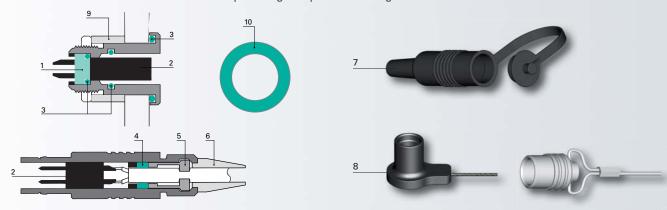
<sup>&</sup>lt;sup>2)</sup> Protected against the effects of high-pessure liquids. The test requirements for IP69K exist only in DIN 40050-9, the German version of IEC 60529.

<sup>&</sup>lt;sup>3)</sup> For information only. Not tested by Fischer Connectors.



# **Operating Temperature Range**

The temperature ranges quoted by the manufacturers of the plastic materials are usually the absolute maximum values. When exposed to the mechanical and electrical stresses present in a connector, these values are often unrealistic. If a composite connector system including accessories is used, then the item with the lowest temperature performance will dictate the operating temperature limit of the system. See in below table our recommended operating temperature ranges.



Ref.	Component	Material		Operating Temperatures				
1	Sealant	"U" Type			-55°C to +200°C		-55°C to +200°C	
	Sealant	"Е"Туре					-65°C to +150°C	
		PEEK					-65°C to +200°C	
2	Insulator	PTFE (Teflon	<sup>®</sup> )				-65°C to +160°C	
		PBT					-65°C to +135°C	
	Standard O-rings	FPM (Viton®)					-20°C to +200°C 1)	
3	Interface O-rings (Option)	EPDM					-50°C to +160°C <sup>2)</sup>	
4	Cable Clamp Seal	TPE					-70°C to +130°C	
_		Standard	Brass					
5	Cable Clamp	High Voltage Connectors	POM				-40°C to +100°C	
6	Cable	TPE					-60°C to +100°C	
	Strain Relief	VMQ - Silico	ne Rubber				-60°C to +180°C	
7	<b>Protective Boots</b>	TPE					-60°C to +100°C	
		Metallic	Plug: Brass with FPM O-ring				-20°C to +200°C 1)	
8	Sealing Caps		Receptacle: Brass with NBR O-ring				-30°C to +110°C <sup>1)</sup>	
	ooug oups	Plastic	POM with FPM O-ring				-20°C to +100°C 1)	
		Soft Caps	TPE				-55°C to +85°C	
9	Panel Spacer	Aluminium						
10	Color Coding Washer	PP					-20°C to +60°C	
1) Mini	mum mating tempe	erature: 0°C						

<sup>&</sup>lt;sup>1)</sup> Minimum mating temperature: 0°C <sup>2)</sup> Minimum mating temperature: -20°C



### **Performance and Standard**

	,		
Characteristic	Contact size	Typical Values	Standard
Contact Resistance 10'000 mating cycles	ø 0.5 mm ø 0.7 mm ø 0.9 mm ø 1.3 mm ø 1.6 mm ø 2.3 mm ø 3.0 mm	5 mohms 5 mohms 4 mohms 2.5 mohms 2.5 mohms 2.5 mohms 1.5 mohms	IEC 60512-2-2a/b
Insulation Resistance		> 10 <sup>10</sup> ohms	IEC 60512-2-3a, Method C

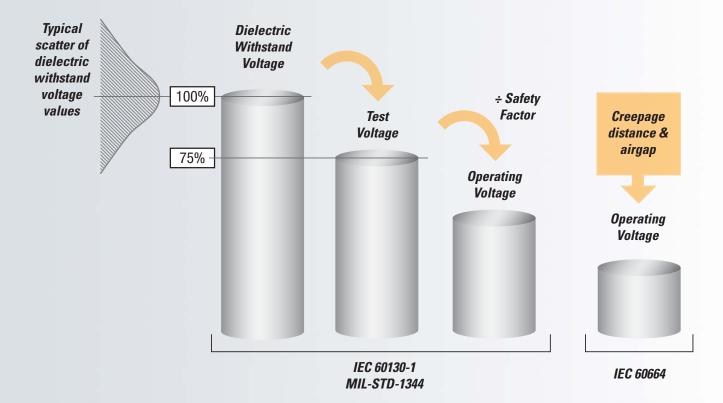
# **Test Voltage and Operating Voltage**

#### **Definitions**

Dielectric Withstand Voltage is the breakdown value of the component in a destructive test.

**Test Voltage:** Voltage level at which the connector is tested during qualification test. This value represents the upper physical limit. It is usually set at 75% of dielectric withstand value. Fischer Connectors always applies this ratio to get reliable results even when breakdown values exhibit the large scatter typical in high voltage testing.

**Operating Voltage (or Rated Voltage):** Voltage under which the connector will actually work in the equipment over the normal expected lifetime and in typical environmental conditions. This value depends on connector design and specific operating environment as well as on safety requirements.





### **Determination of Operating Voltage**

### **General Recommendation for Connectors in Common Applications**

IEC 60664: Generic standard recommended for typical electrical devices. It takes into account long term degradation of insulating materials under variable aggressive environmental influences and uses creepage distance as calculation basis for the operating voltage.

Fischer Connectors recommends the use of IEC 60664 in the general multipole connector specifications, unless other more specific standard or regulations are applicable to the design. For example, IEC 60601 provides adequate special guidelines for medical devices.

For cases where the connector "on-time" or duty cycle is low, and there is little exposure to environmental factors, for example scientific instruments or similar equipment, other previous standards such as former IEC 60130-1 can be used. It does not take into consideration either long term environmental effects, or the specific behaviour of different insulator materials and uses test voltage as calculation basis for the operating voltage

Former IEC 60130-1 recommends to set the operating voltage at

0.33 x test voltage for 500V < test voltage < 3kV</p>

■ 0.66 x test voltage for test voltage ≥ 3kV

Similar recommendations are provided in EIA-364-20 (MIL-STD-1344 method 3001 superseded).

For more details see www.fischerconnectors.com/technical



# **Sealing Standards**

The IP classification system (IP rating) provides a reliable method of comparing relative levels of sealing between various connector products. The protection level offered by a typical envelope is described in IEC 60529. While the first number describes the level of protection from solid objects, the second one relates to protection from moisture.

#### Example:

2nd digit ———————————————————————————————————							
1st Digit	Protection from Solid Objects	2nd Digit	Protection from Moisture				
0	Non Protected	0	Non Protected				
1	Protected against solid objects greater than 50 mm	1	Protected against dripping water				
2	Protected against solid objects greater than 12 mm	2	Protected against dripping water when tilted up to 15°				
3	2.5 mm Protected against solid objects greater than ø 2.5 mm	3	Protected against spraying water				
4	Protected against solid objects greater than ø 1.0 mm	4	Protected against splashing water				
5	Dust protected	5	Protected against water jets				
6	Dust tight	6	Protected against heavy seas				
Note: EN 60529 does not specify sealing effectiveness against the following:  - Mechanical damage of the equipment - Risk of explosions			Protected against immersion effects				
<ul> <li>Certain types of moisture conditions, e.g. those that are produced by condensation</li> <li>Corrosive vapours</li> <li>Fungus</li> <li>Vermin</li> </ul>		8	Protected against submersion (See note)				
		9К	IP69K is a definition from German DIN 40050-9. It is an additional sealing level defined to protect an envelope from intense water jets for short duration (Typically for high pressure cleaning).				

Environmental tests performed during design and qualification of Fischer Connectors environmentally sealed products are standardized to IP68 at a depth of 2 m and duration of 24 hours. Fischer Connectors hermetically sealed products achieve IP69K.



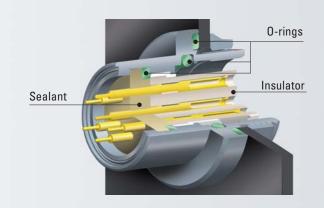
Selecting the right connector for an application is an important and challenging process, even more so when the application involves sealing the connector against various environmental conditions.

# Sealing Categories

Fischer Connectors provides solutions for:

- Environmental sealing
- Hermetic sealing
- High pressure

Each requires different sealing levels and therefore, different connector solutions.

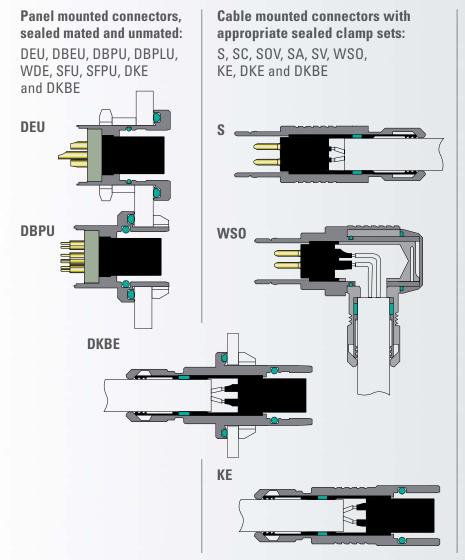


### **Environmental Sealing**

Typically for outdoor applications, exposed to rain, dust and other aggressive environments. Exposure is generally limited in time and pressure.

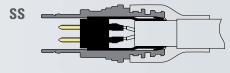
#### **Recommended Fischer Connectors Solutions**

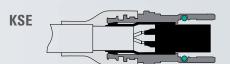
Fischer Connectors offers a complete range of environmentally sealed connectors. These products are designed to offer sealing up to IP68.



Cable mounted connectors with appropriate cable assembly solution:

SS, SSC and KSE







### Hermetic Sealing

Typically for applications requiring gas tightness like vacuum applications and pressurized vessels, immersed for long period of time or exposed to strong jets.

100% of the hermetic pieces are tested with a leak testing instrument to ensure a leak smaller than 10<sup>-8</sup> mbar l/s.

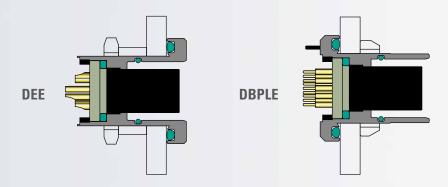
#### **Recommended Fischer Connectors Solutions**

Fischer Connectors offers a complete range of hermetically sealed connectors.

These products undergo a 100% leak test and are designed to offer sealing up to IP69K.

#### Panel mounted connectors, sealed mated and unmated:

DEE, DBEE, DBPE, DBPLE, WDE, SFE, SFPE.



### **High Pressure Sealing**

Typically for applications exposed to liquids under high pressure, like deep submarine applications.

Level of sealing required is extreme in order to withstand exposure to high pressure during an extended period of time.

#### **Recommended Fischer Connectors Solutions**

Fischer Connectors design centre can assist customers for such special requests.

Customized product developments can be proposed, combining hermeticity with high strength mechanical design.

#### Limitations

The recommendations provided in this catalogue are given only with the intention of assisting with the choice of a connector with respect to its particular application.

It remains always the responsibility of the equipment manufacturer, and not the connector supplier, to determine the appropriate technical standards, as well as the necessary safety factors for a given application.



# Sealing Techniques

The degree of protection needed defines the sealing technique to use.

There are various degrees of sealing protection available for connectors, these can be broadly classified into two groups:

- External sealing, achieved through a protective device such as a flexible boot,
- Internal sealing, utilizing some combination of o-rings or potting material.

### **External Sealing**

Most applications requiring protection against only dust or splashing liquid can use an unsealed connector with a flexible protective boot.

When not in use, an unmated connector can be sealed with a protective cap. Using protective caps and boots is often a cost-effective solution to prevent mud, dirt and other foreign matter from fouling, shorting or otherwise damaging contacts and connector locking mechanisms. In addition, mechanical damage caused by impact on hard surfaces can be minimized by using covers and boots. This is particularly well appreciated in the broadcast industry, where outdoor shooting conditions are very rough.



Caps, for receptacles, and flexible boots, for plugs, represent a cost-effective solution to protect interconnections from environmental conditions.



O-rings, here in green, are an efficient mechanical sealing method.

For the contacts of a panel mounted connector, the sealing technique generally applied exploits potting material, such as epoxy resin, rubber compounds, or for the highest levels of impermeability, glass. Sealing this area of the connector guarantees that no fluid or other contaminant will enter an enclosure through the connector, even when the connector is unmated. These sealing methods can achieve reliable and economical sealing performance for deep water applications or ultra vacuum with leakage rates below 10-8 mbar l/s.

### Internal Sealing

Applications requiring exposure to environmental factors like pressure, vacuum, liquids or steam demand a greater degree of sealing than that provided by covers and boots: the connector needs to be intrinsically sealed.

Elastomer o-rings are one of the most common mechanical gaskets used in connector technology. Designed to be seated in a groove and compressed between two parts – for example between two mating connectors, between a connector and its mounting surface (typically a chassis-panel), or between a cable and its attached connector – o-rings create a seal at the interface.



Close-up of the rear of a receptacle, in which potting material was injected.



# Warranty

A limited warranty applies to Fischer Connectors SA products. Except for obligations assumed by Fischer Connectors SA under warranty, Fischer Connectors SA, its subsidiaries, and agents, will not be liable for any loss, damage, cost of repairs, incidental or consequential damages of any kind, whether or not based upon express or implied warranty, contract, negligence, or strict liability arising in connection with the design, manufacture, sale, use, or repair of the products.

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Fischer's liability under this warranty is limited to the repair or replacement of any unit which proves to be defective in material or workmanship under normal use or service within one year from date of shipment, provided the unit is returned at purchaser's expense to seller's shipping point. No material is accepted for analysis, replacement or repair without the written agreement of Fischer Connectors SA, or its subsidiaries or agents.

This warranty is in lieu of all other warranties, expressed or implied.

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# Security Disclaimer

The values given in this catalogue are measured under standard environmental conditions. Applications in non-standard environmental conditions may require additional testing and values that may vary from those listed in the catalog.

Some connectors shown herein are intended for use in areas of high frequencies and high voltages. Suitable safety precautions should be taken to ensure that people do not come into contact with powered conductors during installation and operation.

Every effort has been made to ensure that this catalogue is accurate at the time of printing. Fischer Connectors reserves the right to make any modification to its products without notice and without obligation to replace or manufacture obsolete items.



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# fischer sales network

#### **Headquarters**

**FISCHER CONNECTORS SA** 

Ch. du Glapin 20 1162 Saint-Prex Switzerland Phone +41 21 800 95 95 mail@fischerconnectors.ch

#### **Subsidiaries**

#### **United-States and Canada**

FISCHER CONNECTORS Inc. Atlanta, GA

Phone +1 678 393 5400 Toll free: 800 551 0121 www.fischerconnectors.com mail@fischerconnectors.com

#### France

FISCHER CONNECTORS Sarl Paris

Phone +33 1 5578 2578 Appel gratuit: 0 800 590 444 www.fischerconnectors.fr mail@fischerconnectors.fr

# **Germany and Eastern Europe**FISCHER CONNECTORS GmbH

FISCHER CONNECTORS GmbH Zorneding Phone +49 8106 37722 0

Gebührenfrei: 0 800 233 3233 www.fischerconnectors.de mail@fischerconnectors.de

#### Italv

FISCHER CONNECTORS Srl Monza

Phone +39 039 734 072 www.fischerconnectors.it mail@fischerconnectors.it

#### Sweden and Finland

FISCHER CONNECTORS AB Billdal

Phone +46 31 910 420 www.fischerconnectors.se mail@fischerconnectors.se

### United Kingdom, Ireland and India

FISCHER CONNECTORS Ltd.

Havant/Hampshire Phone +44 23 9245 9600 Toll free: 0 800 432 0301

www.fischerconnectors.co.uk sales@fischerconnectors.co.uk

#### Asia

FISCHER CONNECTORS ASIA Ltd. Hong Kong

Phone +852 2620 6118 www.fischerconnectors.hk mail@fischerconnectors.hk



Visit

www.fischerconnectors.com/contacts

to find details on Fischer Connectors authorized distributors



www.fischerconnectors.com

