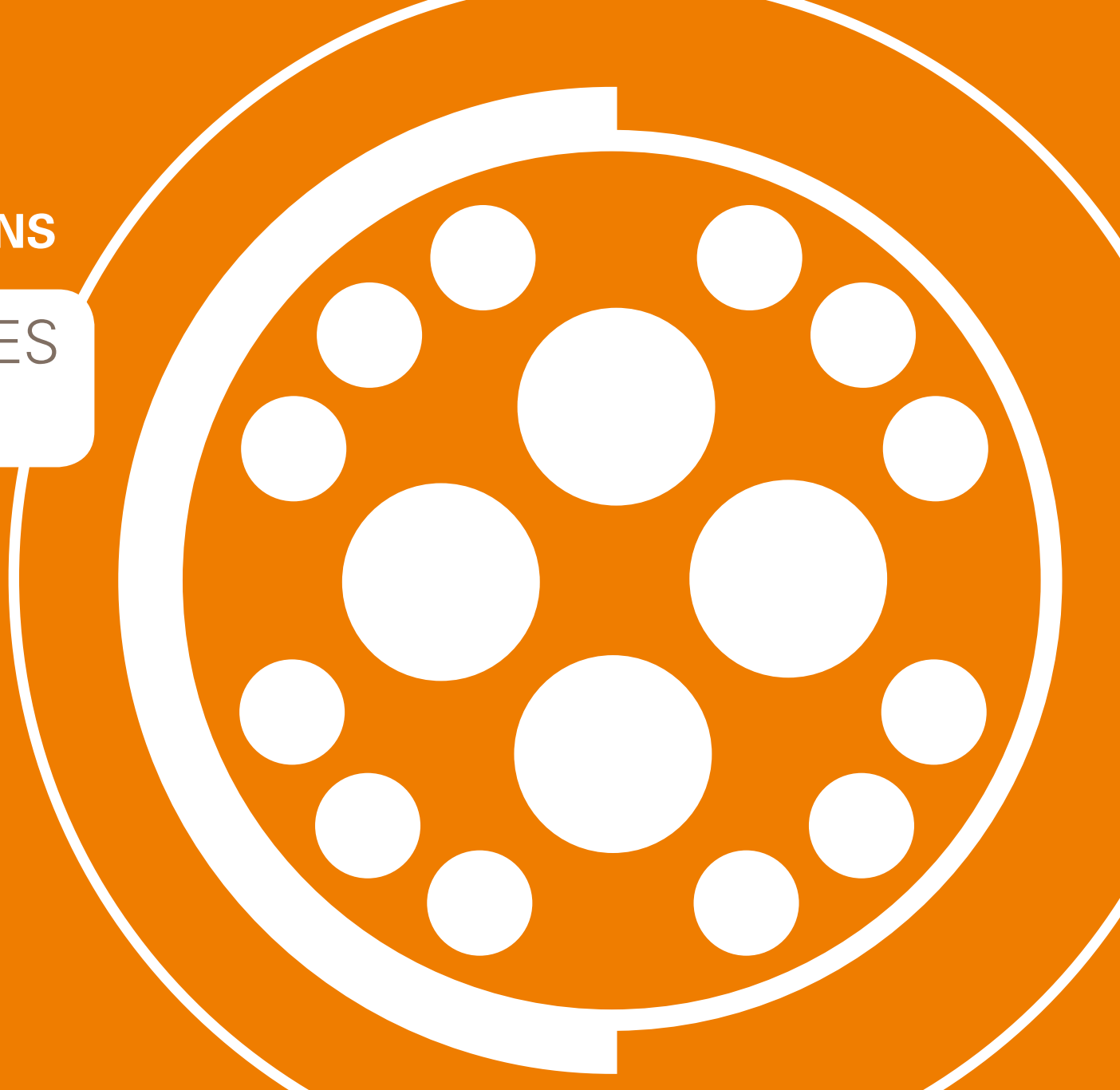


TECHNICAL SPECIFICATIONS

FISCHER CORE SERIES

**ALULITE™**



FISCHER  
CORE SERIES  
**ALULITE™**





## KEY FEATURES



The aluminum engineered Fischer Core Series AluLite™ is ultralight and compact, offering an excellent strength-to-weight ratio. This push-pull circular connector smoothly fits in with your product design and offers an easy-to-use color coding system featuring products available in black, grey, red and blue.

Significantly lighter (around 50%) than typical metal connectors, the Fischer Core Series AluLite™ is ideal for mobile equipment, portable systems or hand-held devices.

### ULTRALIGHT

- 50% lighter than typical metal connectors
- Enhanced efficiency on mobile equipment
- Compact & rugged construction

### RUGGED DESIGN

- 360° EMC shielded to eliminate interference
- Sealed up to IP68 or hermetic
- Operating temperature: -50°C to +150°C

### MODULAR

- Wide range of colors for visual coding
- Easy to integrate in product design
- High flexibility

### EASY MATING

- Easy connect/disconnect options
- Over 10,000 mating cycles



## PLUGS

### CABLE MOUNTED



- Body style selection (S/SC; SS/SSC) .....D4
- Technical dimensions .....D6
- Part numbering .....D7

## RECEPTACLES

### PANEL FRONT MOUNTED



- Body style selection (D; DEU/DEE) ..... D5
- Technical dimensions ..... D8
- Part numbering ..... D9

### PANEL REAR MOUNTED



- Body style selection (DBPU/DBPE; DBPLU/DBPLE) ..... D5
- Technical dimensions ..... D10
- Part numbering ..... D11

## FOR ALL ALULITE™

- Electrical & contact configurations .....D12
- Cable clamp sets .....D18
- Accessories .....D24
- Tooling ..... D29
- Technical information.....D30
- Technical information.....A9



**PLUGS\***

**CABLE MOUNTED**



BODY STYLES	<b>S</b>	<b>SC</b>	<b>SS</b>	<b>SSC</b>
Locking system	Push-pull	Quick-release	Push-pull	Quick-release
Sealing	IP50/IP68	IP50/IP68	IP50/IP68	IP50/IP68
Design	Standard	Standard	Short/Overmolding	Short/Overmolding

**RECEPTACLES\***

**PANEL FRONT MOUNTED**



BODY STYLES	<b>D</b>	<b>DEU</b>	<b>DEE</b>
Sealing	IP50	IP68	Hermetic
Design	Rear-projecting	Rear-projecting	

**PANEL REAR MOUNTED**

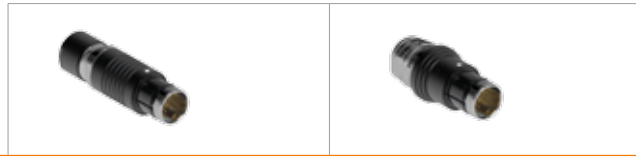


BODY STYLES	<b>DBPU</b>	<b>DBPE</b>	<b>DBPLU</b>	<b>DBPLE</b>
Sealing	IP68	Hermetic	IP68	Hermetic
Design	Rear-projecting		Front-projecting	

\*See full color selection in part numbering sections (pages D7, D9, D11).



## PLUGS







Body style		S	SC	SS	SSC
Protection	Sealed up to IP68	●	●	●	●
	360° EMC shielded	●	●	●	●
Locking system	Push-pull	●		●	
	Emergency release		●		●
Contact types	Crimp	●	●	●	●
	Solder	●	●	●	●
Design specifics	Colored housing	●	●	●	●
	Shortened body			●	●
Assembly specifics	Cable mounted	●	●	●	●
	Overmoldable			●	●
	Heat shrinkable			●	●

Other body styles available on request.



## RECEPTACLES

								
Body Style		D	DEU	DEE	DBPU	DBPE	DBPLU	DBPLE
Protection	Sealed up to IP68		●	●	●	●	●	●
	Hermetic			●		●		●
	360° EMC shielded	●	●	●	●	●	●	●
Contact types	Crimp	●						
	Solder	●	●	●	●	●	●	●
	PCB	●	●	●	●	●	●	●
Design specifics	Colored housing	●	●	●	●	●	●	●
	Flush	●	●	●	●	●		
	Front-projecting						●	●
Assembly specifics	Panel-mounted	●	●	●	●	●	●	●
	Front-mounting	●	●	●				
	Rear-mounting				●	●	●	●

Other body styles available on request.

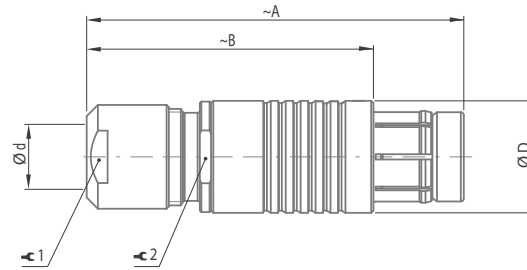


## PLUGS

### CABLE MOUNTED

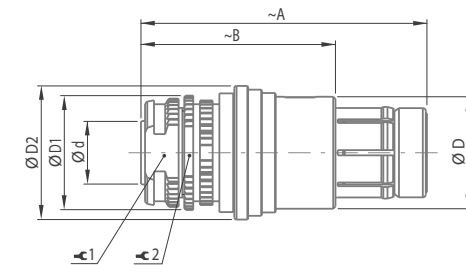
#### S/SC

##### BODY STYLES



#### SS/SSC

##### BODY STYLES



Series	Weight <sup>1)</sup> (~g)	A	B	D	d max		Y 1	Y 2
					Unsealed	Sealed		
102	3	36	26	9	4.7	4.3	7	7
103	8	46	35	12	6.7	6.2	10	10
1031	8	48	38	13	7.2	6.7	12	11
104	11	50	38	15	9.1	8.7	12	13
105	19	62	47	18	10.7	10.7	15	16

<sup>1)</sup> Weight shown is without cable clamp set, overmolding or heat shrinking.

<sup>2)</sup> Max. cable diameter below shield.

Series	Weight <sup>1)</sup> (~g)	A	B	D	D1	D2	d max <sup>2)</sup>	Y 1	Y 2
103	7	33	22	12.0	12.5	15.0	6.0	10	11
1031	8	33	23	12.4	13.0	15.5	6.2	10	11
104	8	38	26	15.0	15.3	18.0	8.0	12	13
105	16	44	29	18.0	18.4	21.2	10.0	15	16





## PLUGS

The configurator below is designed for multipole contact blocks only.  
For coax or triax blocks, please contact us.



**Example:**

A. Housing			B. Body style		C. Size	D. Contact blocks				E. Options
AL	12	31	S	C	103	A	053	SR	11	11

**Housing material**

- AL = Aluminium

**Housing color<sup>1)</sup>**

**Housing treatment**

- 1231 = Black (chromium) ■
- 1411 = Blue (anodized) ■
- 1611 = Red (anodized) ■
- 1731 = Grey (chromium) ■

**Connector style**

- S = Straight plug, standard body length
- SS = Straight plug, shortened body length

**Locking system**

If standard automatic push-pull locking system desired, leave field blank.  
Other option possible:

- C = Clic Loc, emergency release

**Connector size**

102, 103, 1031, 104 or 105 = Series  
(See dimensions section page 6)

**Clamp nut**

For standard body length plugs (S):

- 11 = Standard clamp nut, no bend relief. (See pages D 19 - D 23)

For shortened body length plugs (SS):

- 13 = For heat shrinking/boots
- 14 = For injection/overmolding

**Keying code**

- 11 = Code 1
- 12 = Code 2
- 13 = Code 3

**Contact type**

- SR = Solder
- CP = Crimp

**Contact configuration**

Three-digit number  
(see pages D 12 - D 17)

**Polarity**

- A = Male contacts on plug
- Z = Female contacts on plug

<sup>1)</sup> Fischer Connectors can not be held liable for small color variations that may appear from one batch to another.

**Example 1**

AL 1231-S-103-A062SR11-11

**Example 2**

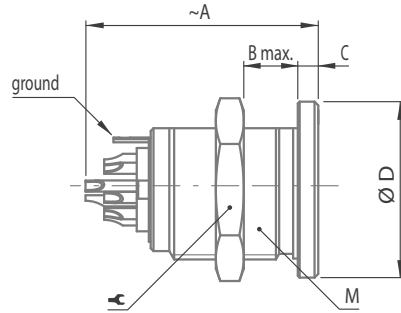
AL 1231-S-103-A053SR11-11  
AL 1731-SS-102-A056SR12-13



**RECEPTACLES**

**PANEL FRONT MOUNTED**

**D**  
BODY STYLES



Series	Weight <sup>1)</sup> (~g)	A	B max	C	D	M	⚙
102	3	19	9	1.5	11	9x0.5	11
103	5	23	8	1.5	14	12x1	14
1031	8	25	10	2.0	16	14x1	17
104	9	25	11	2.2	19	15x1	17
105	18	32	15	2.0	22	18x1	22

Series	G	H	Fig.
102	9.1	8.5	1
103	12.1	11.2	1
1031	14.1	12.1	2
104	15.1	14.2	1
105	18.1	17.3	1

PANEL CUT OUT

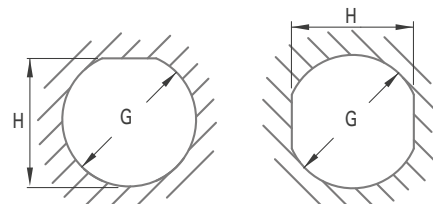
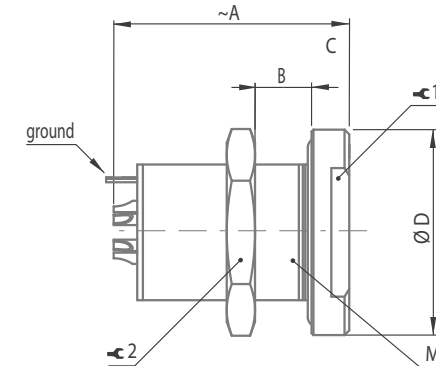


Fig. 1

Fig. 2

**DEU / DEE**  
BODY STYLES



Series	Weight <sup>1)</sup> (~g)	A	B min/max	C	D	M	⚙ <sub>1</sub>	⚙ <sub>2</sub>
102	4	20	8/10 <sup>2)</sup>	2.5	14	9x0.5	11	11
103	9	23	12	3.0	18	14x1	14	17
1031	10	25	12	3.0	19	14x1	15	17
104	13	25	15	4.0	22	16x1	17	19
105	28	33	18	4.0	27	20x1	22	25

Series	G	H	Fig.
102	10.1	9.2	3
103	14.1	12.5	3
1031	14.1	13.0	2
104	16.1	14.5	3
105	20.1	18.5	3

PANEL CUT OUT

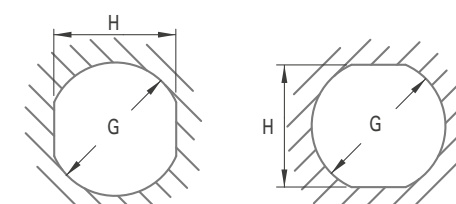


Fig. 2

Fig. 3

<sup>1)</sup>Weight includes nut.

<sup>2)</sup>In the 102 Series only, the thread does not go all the way to the flange but stops 8 mm away. For panels thinner than 8 mm, spacers are available.



## RECEPTACLES

### PANEL FRONT MOUNTED

The configurator below is designed for multipole contact blocks only.  
For coax or triax blocks, please contact us.



## SPACERS

### FOR DEU / DEE BODY STYLES OF THE 102 SERIES

Panel width	Spacer part number
0.5 - 3.0	102.550
2.5 - 5.5	102.551
5.0 - 8.0	102.552

Material: aluminium

**Example:** AL 12 31 D EE 103 A 062 SR 11 11 G 11

**A. Housing**  
 AL = Aluminium  
 12 = Housing color<sup>1)</sup>  
 31 = Housing treatment

**B. Body style**  
 D = Connector style  
 EE = Sealing level

**C. Size**  
 103 = Connector size

**D. Contact blocks**  
 A = Contact type  
 062 = Contact configuration  
 SR = Contact type  
 11 = Contact type

**E. Options**  
 11 = Nut type  
 G = Grounding  
 11 = O-ring at plug interface  
 11 = Keying code  
 11 = Contact type

**Housing material**  
 ■ AL = Aluminium

**Housing color<sup>1)</sup>**

**Housing treatment**  
 1231 = Black (chromium) ■  
 1411 = Blue (anodized) ■  
 1611 = Red (anodized) ■  
 1731 = Grey (chromium) ■

**Connector style**  
 ■ D = Flush (vs. panel) Front-mounting receptacle

**Sealing level**  
 If no sealing level desired, leave field blank.  
 Other options possible:  
 ■ EU = Sealed (IP68) even unmated  
 ■ EE = Hermetic

**Connector size**  
 102, 103, 1031, 104 or 105 = Series (See dimensions section)

**Nut type**  
 ■ 11 = Hexagonal  
 ■ 12 = None

**Grounding**  
 ■ G = Yes ■ Z = No

**O-ring at plug interface**  
 If 'No sealing level' chosen in section BC, leave field blank.  
 Options possible if you selected 'Sealed (IP68) even unmated' or 'Hermetic':  
 ■ 11 = Viton  
 ■ 12 = EPDM (low temperature)

**Keying code**  
 ■ 11 = Code 1   
 ■ 12 = Code 2   
 ■ 13 = Code 3

**Contact type**  
 Options possible if, in field BC, you selected 'No sealing level':  
 ■ SR = Solder  
 ■ CP = Crimp "D" only  
 ■ PB = PCB  
 Options possible if, in field BC, you selected 'Sealed (IP68) even unmated' or 'Hermetic':  
 ■ SR = Solder  
 ■ PB = PCB

**Contact configuration**  
 Three-digit number (see pages D12 - D17)

**Polarity**  
 ■ A = Female contacts on receptacle  
 ■ Z = Male contacts on receptacle

<sup>1)</sup>Fischer Connectors can not be held liable for small color variations that may appear from one batch to another.

**Example 1**  
 AL 1611-DEU-1031-A019SR11-11G11

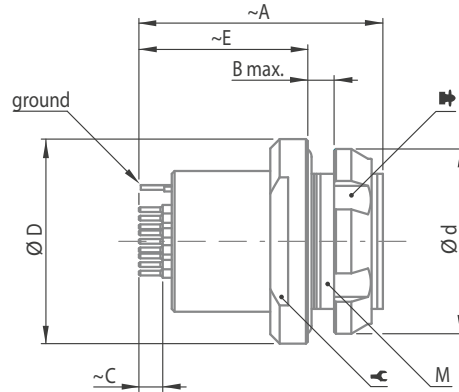
**Example 2**  
 AL 1411-DEU-102-A053SR11-11G11



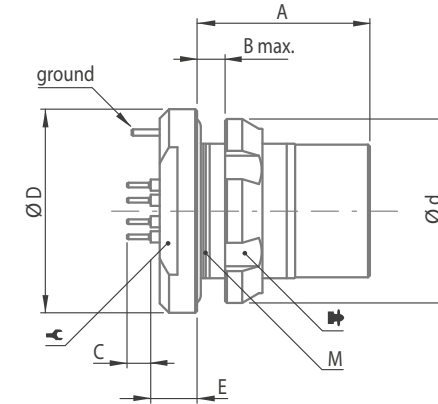
**RECEPTACLES**

**PANEL REAR MOUNTED**

**DBPU / DBPE**  
BODY STYLES



**DBPLU / DBPLE**  
BODY STYLES



SERIES	Weight <sup>1)</sup> (~g)	A <sup>2)</sup>	B <sub>max</sub>	D	d	E <sup>2)</sup>	C <sup>2)</sup>	M <sup>3)</sup>	⚙
102	3	20	3.5	14	12	13	2.54	9x0.5	11
103	8	26	3.0	18	18	18	2.54	14x1	15
1031	8	23	3.0	19	18	15	2.54	14x1	15
104	11	26	4.0	22	20	18	2.54	16x1	17
105	26	30	5.0	27	25	20	2.54	20x1	22

SERIES	Weight <sup>1)</sup> (~g)	A	B <sub>max</sub>	C	d	D	E	M <sup>3)</sup>	⚙
102	3	14.2	4.5	2.54	13	14	3.6	10x0.5	11
103	8	16.5	5.0	2.54	18	18	4.2	14x1	15
1031	8	16.0	5.5	2.54	20	19	4.2	15x1	15
104	11	18.5	6.5	2.54	20	22	5.0	16x1	17
105	26	22.5	7.0	2.54	25	27	5.5	20x1	22

<sup>1)</sup> Weight includes nut.

<sup>2)</sup> Pin length and diameter vary according to contact configuration. Contact us for more information.

<sup>3)</sup> For information on nutdrivers (⚙), see Tooling page D29.

SERIES	G	H	Fig.
102	9.1	8.0	3
103	14.1	12.5	3
1031	14.1	12.1	2
104	16.1	14.5	3
105	20.1	18.5	3

PANEL CUT OUT

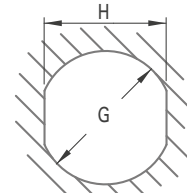


Fig. 2

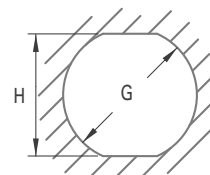


Fig. 3

SERIES	G	H	Fig.
102	10.1	9.2	3
103	14.1	12.5	3
1031	15.1	13.5	2
104	16.1	14.5	3
105	20.1	18.5	3

PANEL CUT OUT

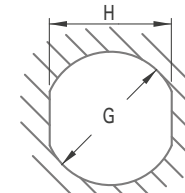


Fig. 2

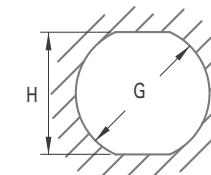


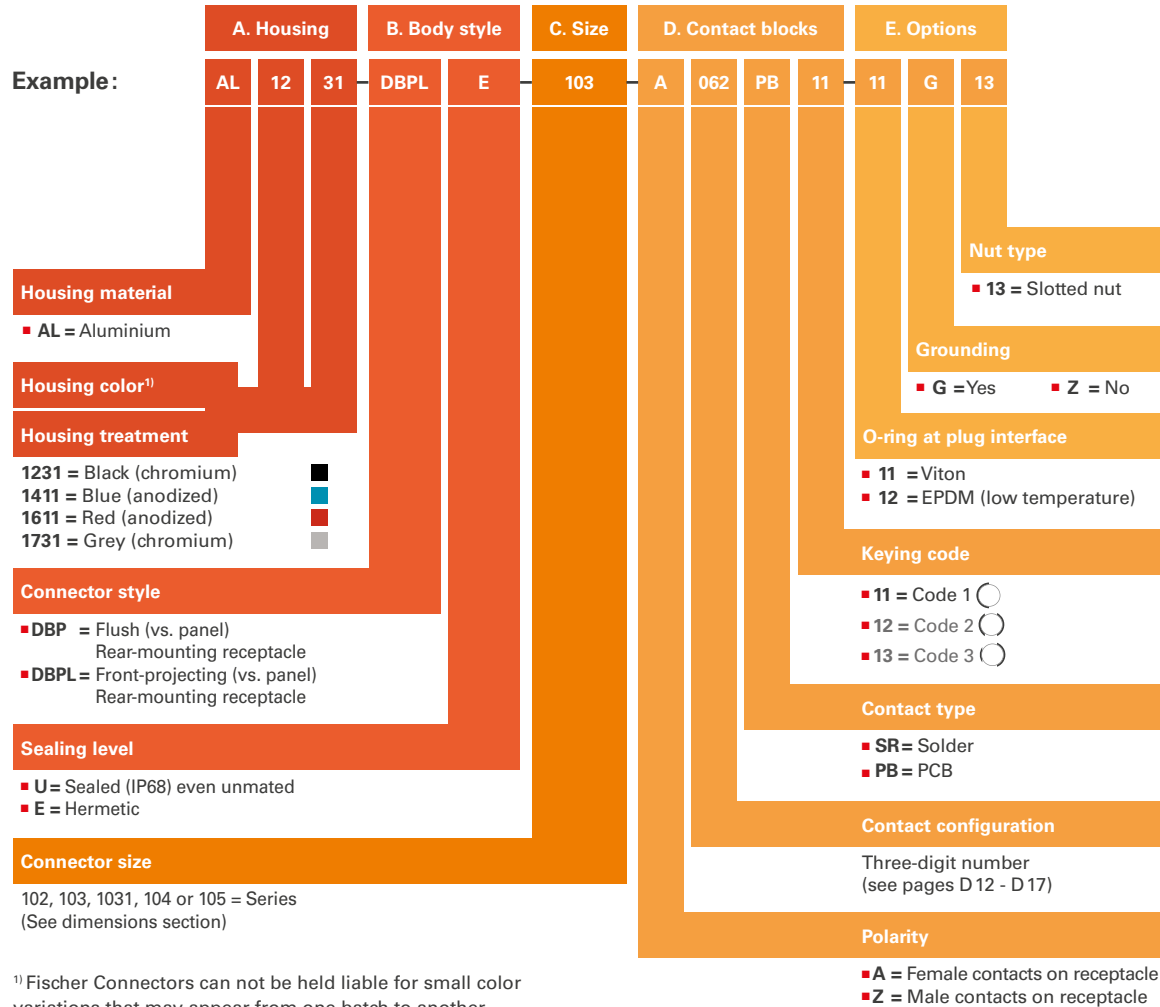
Fig. 3



## RECEPTACLES

### PANEL REAR MOUNTED

The configurator below is designed for multipole contact blocks only. For coax or triax blocks, please contact us.



**Example 1:**  
AL 1231-DBPLU-102-A059PB12-12G13

**Example 2:**  
AL 1231-DBPLE-102-Z054SR11-11G13

<sup>1)</sup> Fischer Connectors can not be held liable for small color variations that may appear from one batch to another.



102 SERIES

● = Standard ○ = Option

Reference	Pin layout	Number of contacts	Contact types			Insulating material	Contact ø [mm]	Wire size <sup>2)</sup>		Test voltage <sup>3)</sup> [kV] in mated position				Rated voltage <sup>4)</sup> rms [V]	Current <sup>3)</sup> [A]
			Solder	Crimp <sup>6)</sup>	PCB			Solder contacts <sup>1)</sup>	Crimp contacts	AC rms		DC			
										Contact to body	Contact to contact	Contact to body	Contact to contact		
102 A Z 051		2	●	● <sup>7)</sup>	●	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 Z 052		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 Z 053		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 Z 054		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 A Z 056		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 Z 059		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> Wire gauge stranding values are in brackets.

<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>3)</sup> Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For the max. operating current a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A17 for details.

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

<sup>5)</sup> Measured with S plug and D receptacle.

<sup>6)</sup> Plug with crimp contacts must be used with unshielded clamps only.

<sup>7)</sup> Only available for A polarity plugs.



**103 & 1031 SERIES**

● = Standard ○ = Option

References	Pin layout	Number of contacts	Contact types			Insulating material	Contact ø [mm]	Wire size <sup>2)</sup>		Test voltage <sup>5)</sup> [kV] in mated position				Rated voltage <sup>4)</sup> rms [V]	Current <sup>3)</sup> [A]
			Solder	Crimp	PCB			Solder contacts <sup>1)</sup>	Crimp contacts	AC rms		DC			
										Contact to body	Contact to contact	Contact to body	Contact to contact		
103 <sup>A</sup> / <sub>Z</sub> 051		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 <sup>A</sup> / <sub>Z</sub> 052		3	●		●	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.2	1.5	1.8	2.0	≤ 250	12
103 <sup>A</sup> / <sub>Z</sub> 053		4	●		●	PEEK	0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.2	1.6	2.0	2.4	≤ 250	7.0
103 <sup>A</sup> / <sub>Z</sub> 054		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 <sup>A</sup> / <sub>Z</sub> 056		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 <sup>A</sup> / <sub>Z</sub> 057		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 <sup>A</sup> / <sub>Z</sub> 058		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> / <sub>Z</sub> 062		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> 010		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> / <sub>Z</sub> 012		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> / <sub>Z</sub> 019		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>1)</sup> Wire gauge stranding values are in brackets.

<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 maybe required.

<sup>3)</sup> Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For the max. operating current a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A17 for details.

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

<sup>5)</sup> Measured with S plug and D receptacle.



## 104 SERIES

● = Standard ○ = Option

Reference	Pin layout	Number of contacts		Contact types			Insulating material	Contact ø [mm]	Wire size <sup>2)</sup>		Test voltage <sup>6)</sup> [kV] in mated position				Rated voltage <sup>4)</sup> rms [V]	Current <sup>3)</sup> [A]
				Solder	Crimp	PCB			Solder contacts <sup>1)</sup>	Crimp contacts	AC rms		DC			
											Contact to body	Contact to contact	Contact to body	Contact to contact		
104 A Z 051		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 Z 040		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 Z 037		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 A Z 087		4	2	●		●	PBT	2.3	max ø2.48mm AWG11 [1] AWG12 [7/20]	-	1.5	1.6	2.2	2.5	≤ 400	28
			2					0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-						
104 A Z 053		5		●		●	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.4	1.7	2.4	2.7	≤ 320	11
104 A Z 065		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 Z 054		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
											2.1	2.8				

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

<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>3)</sup> Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For the max. operating current a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A17 for details.

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

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

<sup>6)</sup> Measured with S plug and D receptacle.





**104 SERIES**

● = Standard ○ = Option

Reference	Pin layout	Number of contacts		Contact types			Insulating material	Contact ø [mm]	Wire size <sup>2)</sup>		Test voltage <sup>6)</sup> [kV] in mated position				Rated voltage <sup>4)</sup> rms [V]	Current <sup>3)</sup> [A]
				Solder	Crimp	PCB			Solder contacts <sup>1)</sup>	Crimp contacts	AC rms		DC			
											Contact to body	Contact to contact	Contact to body	Contact to contact		
104 A Z 066		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 Z 055		1	●	●	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	2.4	2.2	3.8	3.6	≤ 250	12		
		8				0.9	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.4	1.5	2.0	2.4			6.0	
104 A Z 056		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 Z 086		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 A Z 092		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 A124 <sup>5)</sup>		27		●	●	●	PEEK	0.5	-	max ø0.43mm min ø0.20mm AWG28-32	1.2	0.5	1.8	0.5	≤ 200	2.0

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

<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>3)</sup> Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For the max. operating current a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A17 for details.

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

<sup>5)</sup> Only "U" body style receptacles available.

<sup>6)</sup> Measured with S plug and D receptacle.



## 105 SERIES

● = Standard ○ = Option

Reference	Pin layout	Number of contacts		Contact types			Insulating material	Contact ø [mm]	Wire size <sup>2)</sup>		Test voltage <sup>6)</sup> [kV] in mated position				Rated voltage <sup>4)</sup> rms [V]	Current <sup>3)</sup> [A]
				Solder	Crimp	PCB			Solder contact <sup>1)</sup>	Crimp contacts	AC rms		DC			
											Contact to body	Contact to contact	Contact to body	Contact to contact		
105 A Z 051		2		●			PEEK	2.0	max ø2.03mm AWG13 [1] AWG14 [7/22]	-	2.5	3.0	4.0	4.0	≤ 630	26
105 A Z 087		2		●			PEEK	3.0	max ø3.13mm AWG9 [1] AWG10 [105/30]	-	1.2	1.6	2.3	3.0	≤ 400	30
105 A Z 052		3		●			PEEK	2.0	max ø2.03mm AWG13 [1] AWG14 [7/22]	-	2.0	2.5	3.0	3.5	≤ 400	23
105 A Z 053 <sup>5)</sup>		4		●			PEEK	2.0	max ø2.03mm AWG13 [1] AWG14 [7/22]	-	1.8	1.8	2.6	2.6	≤ 320	20
105 A Z 054 <sup>5)</sup>		7	1	●			PEEK	2.0	max ø2.03mm AWG13 [1] AWG14 [7/22]	-	3.0	2.0	4.0	3.0	≤ 320	25
			6					1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.8	1.5	2.5	2.0		7.0
105 A Z 067		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 124		8	2	●			PEEK	2.3	max ø2.48mm AWG11 [1] AWG12 [7/20]	-	1.2	2.2	1.8	3.2	≤ 250	18.5
			6					1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.2	1.2	1.8	1.8		7.5
105 A Z 101 <sup>5)</sup>		9	1	●		●	PEEK	2.0	max ø2.03mm AWG13 [1] AWG14 [7/22]	-	3.0	2.0	4.0	3.0	≤ 320	25
			8					1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.8	1.5	2.5	2.0		5.0

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

<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>3)</sup> Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For the max. operating current a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A17 for details.

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

<sup>5)</sup> Contact dia. 2.0 is positioned to make contact first and break last.

<sup>6)</sup> Measured with S plug and D receptacle.



**105 SERIES**

● = Standard ○ = Option

Reference	Pin layout	Number of contacts		Contact types			Insulating material	Contact ø [mm]	Wire size <sup>2)</sup>		Test voltage <sup>8)</sup> [kV] in mated position				Rated voltage <sup>4)</sup> rms [V]	Current <sup>3)</sup> [A]
				Solder	Crimp	PCB			AC rms		DC					
									Solder contacts <sup>1)</sup>	Crimp contacts	Contact to body	Contact to contact	Contact to body	Contact to contact		
105 A Z 062		10		●	●	●	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 A Z 069		12		●		●	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	1.4	1.5	1.8	2.0	≤ 250	8.0
105 A Z 104 <sup>5)</sup>		13	3	●		●	PEEK	1.3	max ø1.18mm AWG17 [1] AWG18 [16/30]	-	2.5	1.5	3.8	2.2	≤ 320	14
			10					0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.3	1.5	1.8	2.2		1.0
105 A 127 <sup>7)</sup>		13	3		●		PEEK	1.3	-	max ø1.18mm min ø0.58mm AWG18-24	3.0	2.8	4.8	3.9	≤ 320	14
			10					0.7	-	max ø0.62mm min ø0.38mm AWG24-28	3.1	1.1	4.7	1.9		1.0
105 A Z 058		15		●	●	●	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 Z 110 <sup>6)</sup>		16	4	●		●	PEEK	1.6	max ø1.86mm AWG13 [1] AWG14 [7/22]	-	1.6	1.3	2.8	2.1	≤ 250	14
			12					0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.0	1.2	1.5	2.0		1.0
105 A Z 038		18		●	●	●	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 Z 093		24		●		●	PBT	0.7	max ø0.79mm AWG21 [1] AWG22 [7/30]	-	1.2	1.5	1.5	2.0	≤ 250	3.5
105 A Z 102		27		●	●	●	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>1)</sup> Stranding values are in brackets.

<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>3)</sup> Current per contact at 40°C temperature rise measured on the basic curve according to IEC 60512-5-2-5b. For the max. operating current a reduction factor must be used and limitations due to the size of the wires and the permissible upper temperature limit of the materials employed must be taken into account. See page A 17 for details.

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

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

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

<sup>7)</sup> Inverted polarity: female contacts on plug/male contact on receptacle

<sup>8)</sup> Measured with S plug and D receptacle.



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

- Collet style clamp system retains cable over large jacket surface area.
- Protection of small diameters and delicate conductors.
- Can be combined with cable bend reliefs for optimal performance.

Cable clamp sets are used with cable mounted connectors, except SS/SSC which require 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.

Cable clamp set	Do you need the interface between the cable and the connector to be sealed?		Do you need the connector to be terminated to the cable shield?	
	Unsealed	Sealed	Unshielded	Shielded
<b>S - Shielded</b>	●			●
<b>U - Unshielded</b>	●		●	
<b>E - Environmental</b>		●	●	●

**PART NUMBERING**

<b>Below cable clamp sets are ordered separately</b>
<b>Multipole low voltage</b>
AL 1731-S-102-A056SR11-11
<b>Examples connector ordering line</b>
AL 1731-S-102-A056SR11-11
<b>Clamp set ordering line</b>
E3 102.5/2.0

See following pages for cable clamp set selection.



## 102 SERIES

### S SHIELDED

Shielded cable clamp with sleeve and clamp.



Cable dia. range	Collet Ø	Cable clamp set
1.5 - 2.1	2.1	E32 102.1/2.1 + A
2.1 - 2.6	2.6	E32 102.1/2.6 + A
2.6 - 3.1	3.1	E32 102.1/3.1 + A
3.1 - 3.6	3.6	E32 102.1/3.6 + A
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	E3 102.248 + A

### U UNSHIELDED

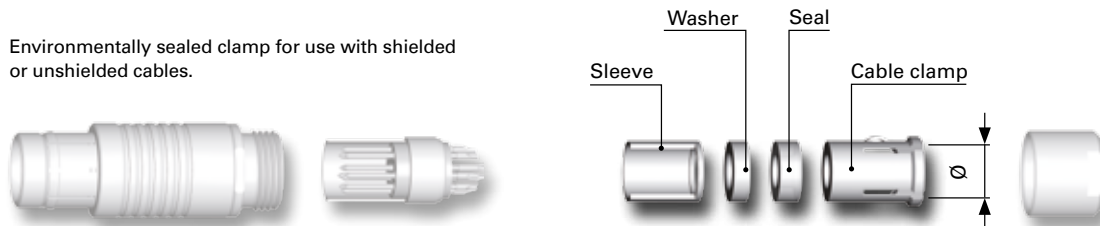
Unshielded, one-piece cable clamp.



Cable dia. range	Collet Ø	Cable clamp set
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
3.5 - 4.2	4.2	E3 102.5/4.2
4.2 - 4.7	4.7	E3 102.5/4.7

### E ENVIRONMENTAL

Environmentally sealed clamp for use with shielded or unshielded cables.



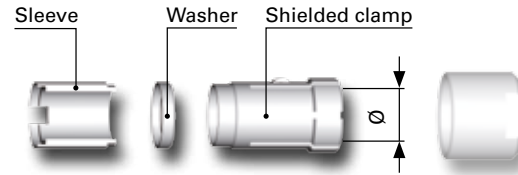
Cable dia. range	Collet Ø	Cable clamp set
1.5 - 2.1	2.1	E31 102.2/2.1 + B
2.1 - 2.6	2.6	E31 102.2/2.6 + B
2.6 - 3.1	3.1	E31 102.2/3.1 + B
3.1 - 3.6	3.6	E31 102.2/3.6 + B
3.6 - 4.1	4.1	E31 102.2/4.1 + B
4.1 - 4.3	4.3	E31 102.2/4.3 + B



**103 SERIES**

**S**  
SHIELDED

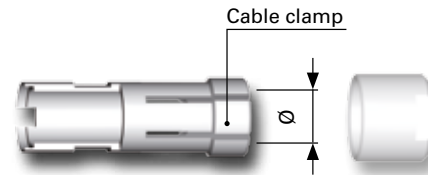
Shielded cable clamp with sleeve and clamp.



Cable dia. range	Collet Ø	Cable clamp set 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
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

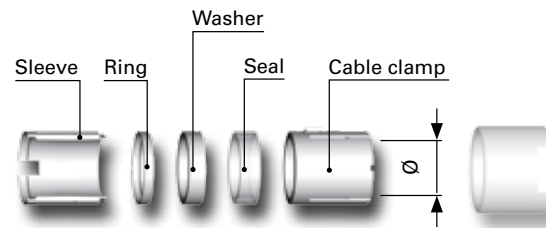
Unshielded, one-piece cable clamp.



Cable dia. range	Collet Ø	Cable clamp set 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
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.



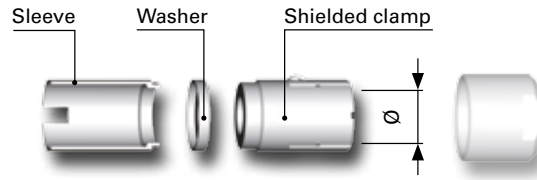
Cable dia. range	Collet Ø	Cable clamp set PEEK or PBT insulator
1.7 - 2.2	2.2	E31 103.2/2.2 + B
2.2 - 2.7	2.7	E31 103.2/2.7 + B
2.7 - 3.2	3.2	E31 103.2/3.2 + B
3.2 - 3.7	3.7	E31 103.2/3.7 + B
3.7 - 4.2	4.2	E31 103.2/4.2 + B
4.2 - 4.7	4.7	E31 103.2/4.7 + B
4.7 - 5.2	5.2	E31 103.2/5.2 + B
5.2 - 5.7	5.7	E31 103.2/5.7 + B
5.7 - 6.2	6.2	E31 103.2/6.2 + B



## 1031 SERIES

### S SHIELDED

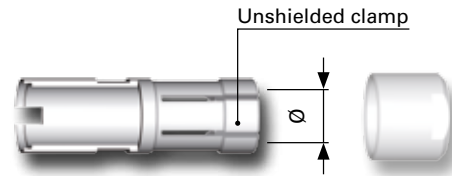
Shielded cable clamp with sleeve and clamp.



Cable dia. range	Collet Ø	Cable clamp set
2.2 - 2.7	2.7	E3 1031.1/2.7
2.7 - 3.2	3.2	E3 1031.1/3.2
3.2 - 3.7	3.7	E3 1031.1/3.7
3.7 - 4.2	4.2	E3 1031.1/4.2
4.2 - 4.7	4.7	E3 1031.1/4.7
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

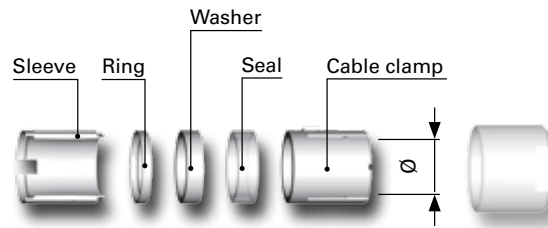
Unshielded, one-piece cable clamp.



Cable dia. range	Collet Ø	Cable clamp set
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
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

### E ENVIRONMENTAL

Environmentally sealed clamp for use with shielded or unshielded cables.



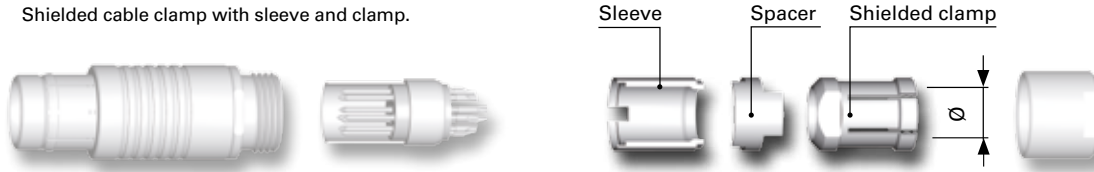
Cable dia. range	Collet Ø	Cable clamp set
2.2 - 2.7	2.7	E3 1031.2/2.7
2.7 - 3.2	3.2	E3 1031.2/3.2
3.2 - 3.7	3.7	E3 1031.2/3.7
3.7 - 4.2	4.2	E3 1031.2/4.2
4.2 - 4.7	4.7	E3 1031.2/4.7
4.7 - 5.2	5.2	E3 1031.2/5.2
5.2 - 5.7	5.7	E3 1031.2/5.7
5.7 - 6.2	6.2	E3 1031.2/6.2
6.2 - 6.7	6.7	E3 1031.2/6.7



## 104 SERIES

### S SHIELDED

Shielded cable clamp with sleeve and clamp.



Cable dia. range	Collet $\varnothing$	Cable clamp set PEEK or PBT insulator
		Plug
2.9 - 4.0	4.0	E3 104.3/4.0 + B
4.0 - 4.7	4.7	E3 104.3/4.7 + B
4.7 - 5.7	5.7	E3 104.3/5.7 + B
5.7 - 6.7	6.7	E3 104.3/6.7 + B
6.7 - 7.7	7.7	E3 104.3/7.7 + B
7.7 - 8.7	8.7	E3 104.3/8.7 + B
8.7 - 9.1	9.1	E3 104.3/9.1 + B

### U UNSHIELDED

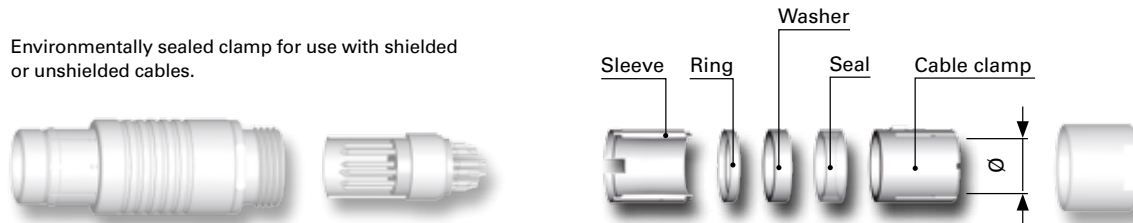
Unshielded, one-piece cable clamp.



Cable dia. range	Collet $\varnothing$	Cable clamp set PEEK or PBT insulator
		Plug
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
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

### E ENVIRONMENTAL

Environmentally sealed clamp for use with shielded or unshielded cables.



Cable dia. range	Collet $\varnothing$	Cable clamp set PEEK or PBT insulator
		Plug
2.9 - 4.0	4.0	E3 104.2/4.0 + B
4.0 - 4.7	4.7	E3 104.2/4.7 + B
4.7 - 5.7	5.7	E3 104.2/5.7 + B
5.7 - 6.7	6.7	E3 104.2/6.7 + B
6.7 - 7.7	7.7	E3 104.2/7.7 + B
7.7 - 8.7	8.7	E3 104.2/8.7 + B

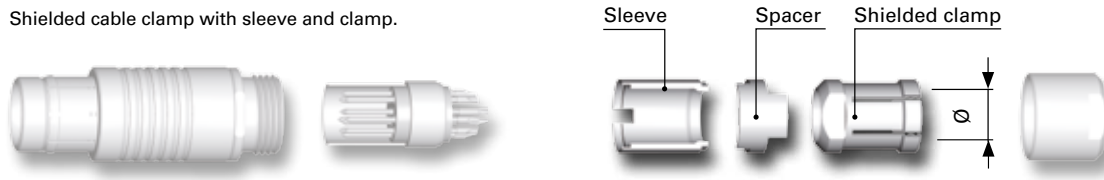




## 105 SERIES

### S SHIELDED

Shielded cable clamp with sleeve and clamp.



Cable dia. range	Collet Ø	Cable clamp set 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
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

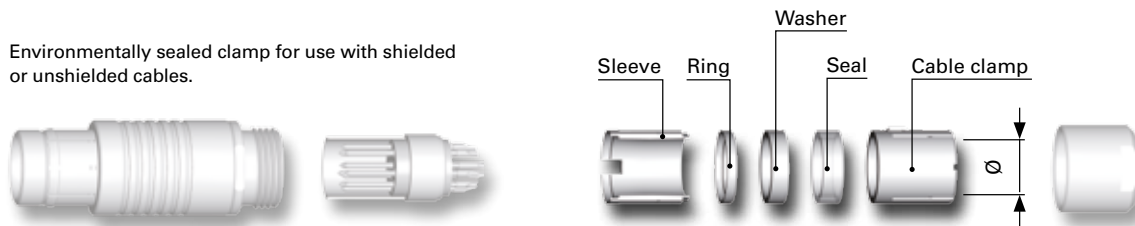
Unshielded, one-piece cable clamp.



Cable dia. range	Collet Ø	Cable clamp set 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
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

### E ENVIRONMENTAL

Environmentally sealed clamp for use with shielded or unshielded cables.



Cable dia. range	Collet Ø	Cable clamp set 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
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



## CONTACT TYPES

### CRIMP CONTACTS



- Selectively annealed area
- Special tools required
- Limited range of wire sizes
- Each contact has a selectively annealed area which is crushed during assembly by specialized tooling to assure proper termination of the wire to the contact.
- Commonly used for field termination or repair, as no soldering process is required.
- Not available for sealed or hermetic connectors.

#### TOOLING FOR CRIMP CONTACTS

Series	Polarity	Contact diameter (mm) <sup>1)</sup>									
		0.5		0.7		0.9		1.3		1.6	
		Contact part number	Positioner part number	Contact part number	Positioner part number	Contact part number	Positioner part number	Contact part number	Positioner part number	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	-	-	200.2884	TX00.304	200.2891	TX00.308	200.2403	TX00.338	200.1653	TX00.313
	Female	-	-	200.2886	TX00.306	200.2893	TX00.310	200.2214	TX00.312	200.1654	TX00.314
Crimp tool part number		TX00.240		TX00.240		TX00.240		TX00.240		TX00.242	




<sup>1)</sup>Please refer to [www.fischerconnectors.com/technical](http://www.fischerconnectors.com/technical) for detailed information and assembly instructions.

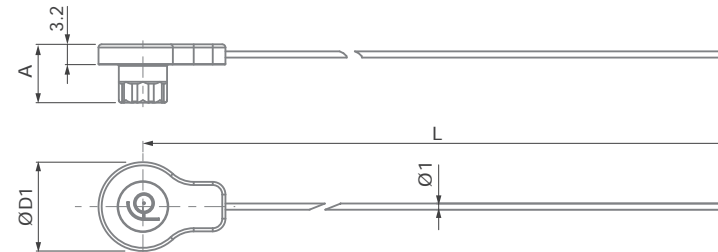


## SOFT CAPS

### LANYARD WITH NYLON THIN CORD FOR RECEPTACLES






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

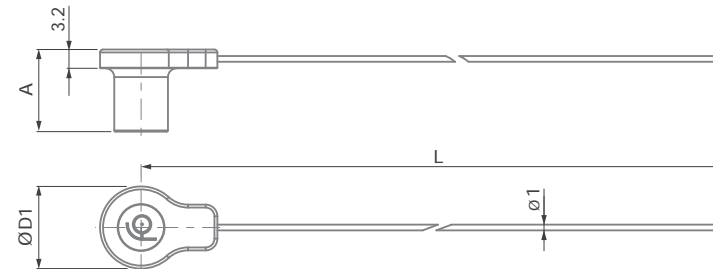


Series	A	D1	L	Part Number
102	9.2	14	200	102.2181
103	9.7	17	200	103.2406
1031	9.5	18	200	1031.1433
104	10.0	20	200	104.2808
105	10.0	23	200	105.3265

## FOR PLUGS



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



Series	A	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

Crimp ferrule, crimp lug and heat shrink tube have to be ordered separately.  
Material: Cap: Santoprene™TPV 101-80 / Cord: Nylon

All dimensions and images shown are in millimeters and are for reference only.

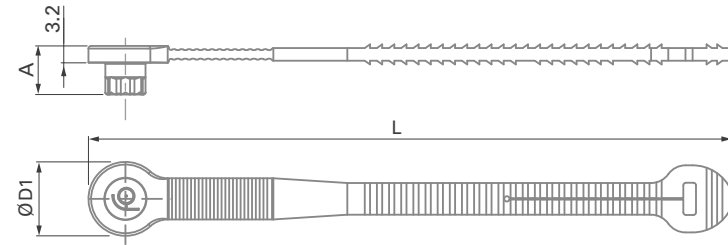


## SOFT CAPS

### SINGLE-PIECE FOR RECEPTACLES



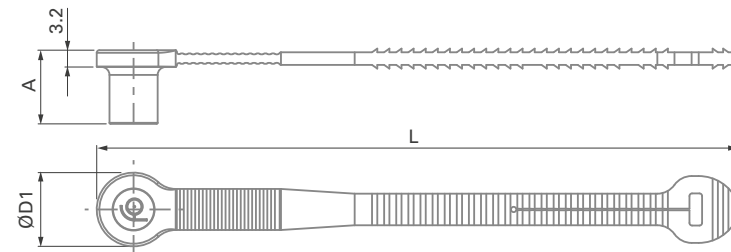
Series	A	D1	L	Part Number
<b>102</b>	9.2	14	122	102.2166
<b>103</b>	9.7	17	147	103.2396
<b>1031</b>	9.5	18	148	1031.1422
<b>104</b>	10.0	20	164	104.2763
<b>105</b>	10.0	23	186	105.3250



### FOR PLUGS



Series	A	D1	L	Part Number
<b>102</b>	14.0	14	122	102.2169
<b>103</b>	14.7	17	147	103.2399
<b>1031</b>	14.0	18	148	1031.1425
<b>104</b>	16.0	20	164	104.2766
<b>105</b>	19.0	23	186	105.3253



Material: Santoprene™TPV 101-80

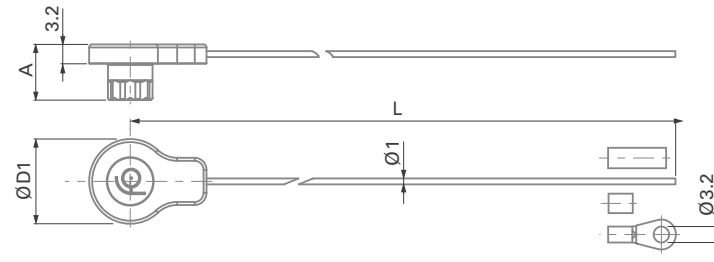


## SOFT CAPS

### LANYARD WITH STAINLESS STEEL CABLE FOR RECEPTACLES



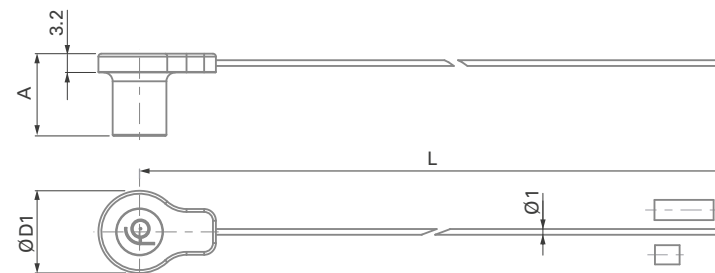
Series	A	D1	L	Part Number
102	9.2	14	200	102.2167
103	9.7	17	200	103.2397
1031	9.5	18	200	1031.1423
104	10.0	20	200	104.2764
105	10.0	23	200	105.3251



### FOR PLUGS



Series	A	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



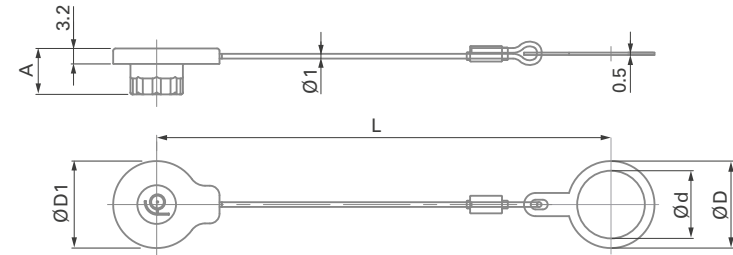
Crimp ferrule (300.922) and heat shrink tube (300.930) are included.  
 Material: Cap: Santoprene™ TPV 101-80 / Cable: Stainless steel with FEP-Teflon® covering

All dimensions and images shown are in millimeters and are for reference only.



**SOFT CAPS**

**ASSEMBLED LANYARD WITH STAINLESS STEEL CABLE FOR RECEPTACLES**



Series	A	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

Crimp ferrule, heat shrink tube and fixing lug are included and mounted.

Materials

Cap: Santoprene™ TPV 101-80

Cable: stainless steel with FEP-Teflon® covering


Fixing lug: black chrome plated brass (ISO CuZn37)



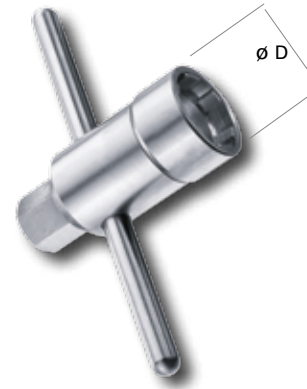
Caps are interchangeable to provide additional dust protection.



## NUT DRIVER FOR SLOTTED NUTS

Thread size	D	 Part number
<b>M9x0.5</b>	15	TC00.000
<b>M10x0.5</b>	16	TC00.007
<b>M14x1</b>	21	TG00.001
<b>M15x1</b>	22	TK00.000
<b>M16x1</b>	23	TK00.002
<b>M20x1</b>	28	TP00.005

Material: hardened tool steel, nickel plated.



**MECHANICAL & ENVIRONMENTAL DATA**

Parameter	Value	Standard
Mating cycles	10,000	IEC 60512-5-9a EIA-364-09
Temperature range - Viton O-ring at plug interface - EPDM O-ring (Low temp) at plug interface	-20°C to +200°C -50°C to +160°C	IEC 60068-2-14
Sealing	IP68 ; 2m submersion for 24 hours	IEC 60529
Hermeticity - DEE, DBPE, DBPLE	Hermetic: Tested: <10 <sup>-8</sup> mbar l/sec. IP69	IEC 60068-2-17 test Qk method 3, alternative b IEC 60529
Vibration	Contact interruption < 1µs (10-2000Hz/15G)	MIL-STD-202 Method 204, Condition B

**ELECTRICAL DATA \***

Parameter	Series				
	102	103	1031	104	105
Grounding resistance <sup>1)</sup> (shell-to-shell)	Typical 50 mΩ				
EMC shielding	360-degree EMC shielding				

<sup>1)</sup> IEC 60512-2-6-2f

\* Please refer to contact block sections for detailed information.





## MATERIAL & SURFACE TREATMENTS

Metal Parts	Material				Finish	
	Designation	Standards			Designation	Standard
		ISO	UNS	EN		
<b>Plug housing</b> - Body - Latching sleeve	Aluminium Aluminium or Brass	AlMgSi1SnBi CuZn39Pb3	- -	AW-6023 AW-6026	Electroless nickel Sulfuric anodizing or chromium	SAE AMS 2404 MIL-A-8625 SAE AMS 2460
<b>Receptacle housing</b> - Receptacle housing (anodized)	Aluminium	AlMgSi1SnBi	-	AW-6023	Sulfuric anodizing	MIL-A-8625
<b>Grounding</b> - Tag (solder and crimp contacts) - Pin (PCB contacts)	Brass Brass	CuZn39Pb3 CuZn39Pb3	C 38500 C 38500	- -	Electroless nickel Nickel + Flash Gold	SAE AMS 2404
<b>Contacts</b> - Male contacts - Female contacts	Brass Bronze	CuZn39Pb3 CuSn4Zn4Pb4	C 38500 C 54000	- -	Electroless nickel 1 µm Gold	MIL-DTL-45204D Type 1 + ASTM B488

## 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 configurations in pages D 12 through D 17. Ceramics and other dielectrics are available on special order.

Insulator and sealing	International symbol	Flammability
<b>Insulator</b>	PEEK - PTFE - PBT	UL 94 V-O
<b>Interface O-rings (receptacles)</b>	FPM (Viton®) / EPDM	-
<b>Sealant material - IP68 (receptacles) - Hermetic</b>	Silicon compound Epoxy compound	UL 94 V-O UL 94 HB

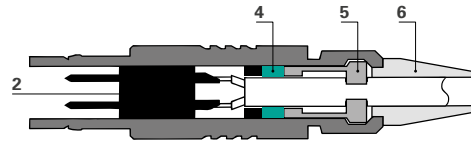
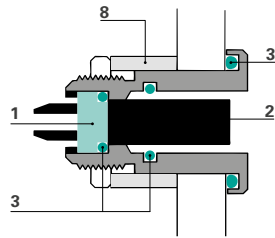
Our products are RoHs compliant and conform with the EC Directives 2002/95/EC.



## OPERATING TEMPERATURES

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. The table below shows our recommended operating temperature ranges.



Ref.	Component	Material	Operating temperatures
1	Sealant	"U" Type	-55°C to +200°C
		"E" Type	-65°C to +150°C
2	Insulator	PEEK	-65°C to +200°C
		PTFE (Teflon®)	-65°C to +160°C
		PBT	-65°C to +135°C
3	Standard O-rings	FPM (Viton®)	-20°C to +200°C <sup>1)</sup>
	Interface O-rings (option)	EPDM	-50°C to +160°C <sup>2)</sup>
4	Cable clamp seal	TPE	-70°C to +130°C
5	Cable clamp	Standard Brass	-40°C to +100°C
		High Voltage Connectors POM	-60°C to +100°C
6	Cable strain relief	TPE	-60°C to +180°C
		VMQ - Silicone rubber	-55°C to +85°C
7	Sealing caps	Soft caps TPE	-55°C to +85°C
8	Panel spacer		

<sup>1)</sup> Minimum mating temperature: 0°C.

<sup>2)</sup> Minimum mating temperature: -20°C.



