

B7

CHAPTER



FISCHER CORE SERIES **STAINLESS STEEL**

ULTRA-RESISTANT | STERILIZABLE | EASY TO HANDLE

KEY FEATURES

- IP68 or hermetic
- Nuclear decontamination fluids compatible
- Easy to handle with gloves or remotely



STAINLESS
STEEL

B7-2 / B7-30

STAINLESS STEEL



PLUGS



CABLE MOUNTED

- Body styles (ST-S; ST-ST)..... B 7-4
- Technical dimensions B 7-5

RECEPTACLES



PANEL FRONT MOUNTED

- Body styles (ST-DBEE)..... B 7-6
- Technical dimensions B 7-7



PANEL REAR MOUNTED

- Body style selection (ST-DBPE) B 7-6
- Technical dimensions B 7-7

FEEDTHROUGH



PANEL FRONT MOUNTED

- Body styles (ST-WDE 103/105/107)..... B 7-6
- Technical dimensions B 7-8

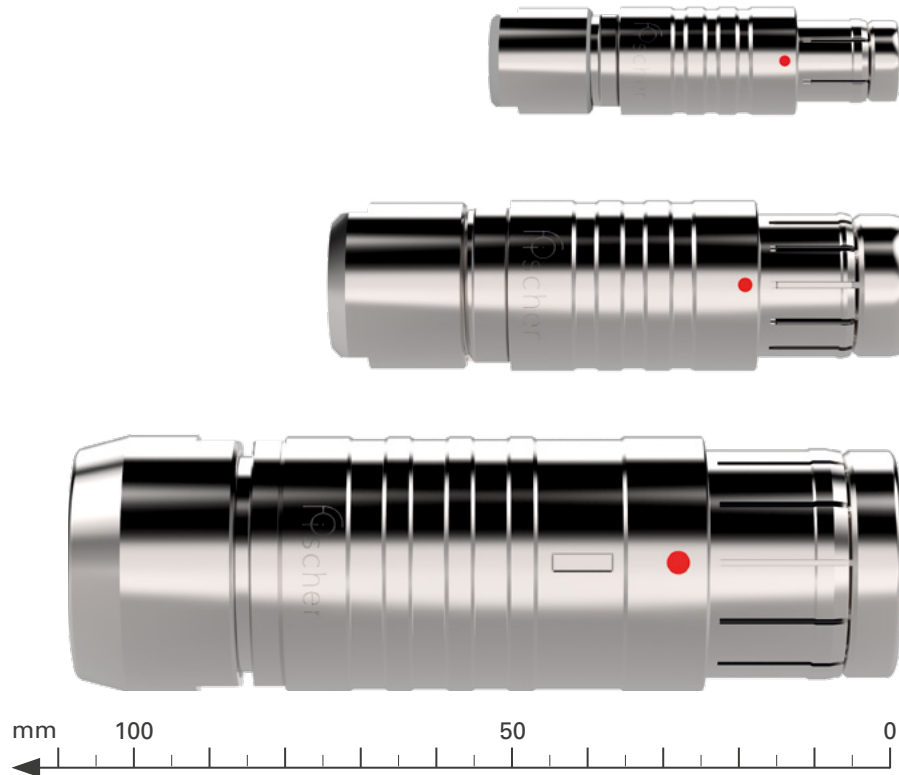
FOR ALL STAINLESS STEEL

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- Electrical & contact configurations..... B 7-10
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This catalog covers our standard connector solutions. For specific requests, including hybrid or custom connectors, please contact your local sales representative.

AVAILABLE SIZES

**CONNECTOR SIZE
VERSUS
CABLE DIAMETER**



| Series | Multipole low voltage | | |
|--------|-----------------------|----------------------------|--------------------|
| | Min cable ø | Max cable ø | Number of contacts |
| 103 | 1.7 | 6.7 (6.2) ¹⁾ | 2-12 |
| 105 | 1.5 | 10.7 | 2-27 |
| 107 | 5.7 | 22.7 | 4-55 |

¹⁾ For max cable ø, values in parenthesis are valid for sealed connectors (IP68).

STAINLESS
STEEL

PLUGS



| Body style | | ST-S | ST-ST | References to detailed information |
|----------------|--------------------|------|-------|--|
| Protection | Unsealed (IP50) | ● | ● | Sealing categories, section A-6 |
| | Sealed up to IP68 | ● | ● | |
| Locking system | Friction | | | Locking systems, page A-5 |
| | Push-pull | ● | ● | |
| | Quick-release | | | |
| | Lanyard | | | |
| | Tamperproof | | | |
| Contacts | Crimp | ● | ● | Electrical & configurations, page B 7-10 |
| | Solder | ● | ● | |
| Housing | Standard | ● | | Options, page B 7-17 |
| | Remote handling | | ● | |
| Design | Shortened body | | | Body styles, chapter B 7-4 |
| | Straight | ● | ● | |
| | Right-angle | | | |
| Cabling | Cable clamp sets | ● | ● | Cable clamp sets, page B 7-20 |
| | Overmoldable | | | |
| | Heat shrinkable | | | |
| Accessories | Cable bend reliefs | | | Accessories, pages B 6-10 and B 7-24 |
| | Protective sleeves | ● | ● | |
| | Sealing caps | ● | ● | |
| Size | 103 Series | ● | | Technical dimensions, page B 7-5 For more information visit our website www.fischerconnectors.com/technical |
| | 105 Series | ● | | |
| | 107 Series | ● | ● | |

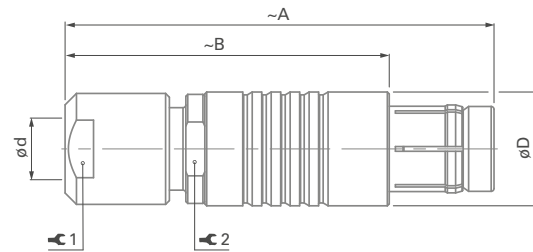
STAINLESS STEEL

PLUGS

CABLE MOUNTED

ST-S

BODY STYLE



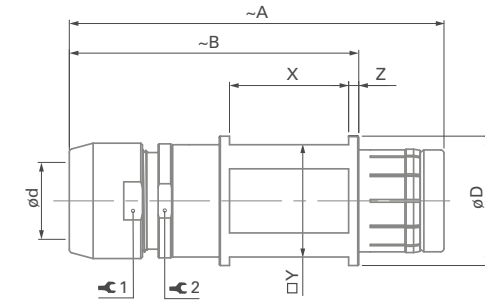
| Series | A | B | D | d max | | 1 | Torque 1 [Nm] | 2 |
|--------|-----|----|----|----------|--------|----|---------------|----|
| | | | | Unsealed | Sealed | | | |
| 103 | 46 | 35 | 12 | 6.7 | 6.2 | 10 | 1.0 | 10 |
| 105 | 62 | 47 | 18 | 10.7 | 10.7 | 15 | 3.5 | 16 |
| 107 | 110 | 85 | 34 | 22.7 | 22.7 | 32 | 10.0 | 32 |

Torque [Nm] are recommended values that may be influenced by the characteristics of the cable jacket. Tests must be conducted to evaluate the exact values. To secure the cable clamp nut, we recommend the use of thread locking adhesive.

CABLE MOUNTED

ST-ST

BODY STYLE



| Series | A | B | D | d max | | 1 | Torque 1 [Nm] | 2 |
|--------|-----|----|----|----------|--------|----|---------------|----|
| | | | | Unsealed | Sealed | | | |
| 107 | 110 | 85 | 38 | 22.7 | 22.7 | 32 | 10.0 | 32 |

| Series | X | Y | Z |
|--------|----|----|---|
| 107 | 35 | 33 | 3 |

RECEPTACLES

PANEL MOUNTED



| Body style | | ST-DBEE | ST-DBPE | ST-WDE | References to detailed information |
|---------------|----------------------|---------|---------|--------|---|
| Protection | Unsealed (IP50) | | | | Sealing categories, page A-6 |
| | Sealed up to IP68 | ● | ● | ● | |
| | Hermetic | ● | ● | ● | |
| Contacts | Crimp | | | | Electrical & contact configurations, page B7-10 |
| | Solder | ● | ● | | |
| | PCB | ● | ● | | |
| Housing color | Natural chrome | ● | ● | ● | Options, page B7-17 |
| | Black chrome | ● | ● | | |
| Design | Right-angle | | | | Body styles, page B7-6 |
| | Flush | | ● | ● | |
| | Front-projecting | ● | | ● | |
| | Rear-projecting | | ● | | |
| | Bulkhead feedthrough | | | ● | |
| Assembly | Front-mounting | ● | | ● | |
| | Rear-mounting | | ● | | |
| Accessories | Sealing caps | ● | ● | ● | Accessories, pages B7-24, B6-16 and B6-18 |
| | Spacers | | | ● | |
| | Color-coded washers | | | | |
| | Grounding washers | ● | ● | | |
| | Locking washers | ● | ● | | |
| | 103 Series | ● | ● | ● | Technical dimensions, page B7-7 For more information visit our website www.fischerconnectors.com/technical |
| | 105 Series | ● | | ● | |
| | 107 Series | ● | | ● | |

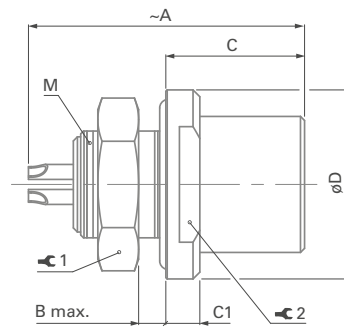
STAINLESS STEEL

RECEPTACLES

PANEL FRONT MOUNTED

ST-DBEE

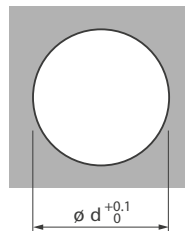
BODY STYLE



| Series | A | B max. | C | C1 | D | M | ⌘ 1 | Torque 1 [Nm] | ⌘ 2 |
|--------|----|--------|------|-----|----|------|----------|---------------|-----|
| 103 | 23 | 4.0 | 13.0 | 3.0 | 18 | 14x1 | 17 | 3.0 | 14 |
| 105 | 32 | 5.0 | 19.0 | 4.0 | 27 | 18x1 | 22 | 6.0 | 22 |
| 107 | 47 | 5.0 | 24.0 | 5.0 | 45 | 36x2 | TX00.107 | 16 | 38 |

PANEL CUT-OUT

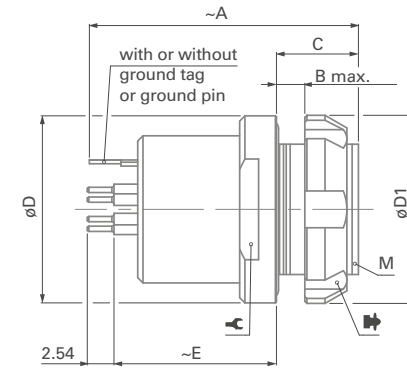
| Series | d |
|--------|------|
| 103 | 14.1 |
| 105 | 18.1 |
| 107 | 36.2 |



PANEL REAR MOUNTED

ST-DBPE

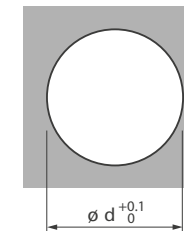
BODY STYLE



| Series | A | B max. | C | D | D1 | E | M | ⌘ | ⌘ | Torque [Nm] |
|--------|----|--------|-----|----|----|------|------|----|----------|-------------|
| 103 | 26 | 3.0 | 7.8 | 18 | 18 | 15.5 | 14x1 | 15 | TG00.001 | 3.0 |

PANEL CUT-OUT

| Series | D |
|--------|------|
| 103 | 14.1 |

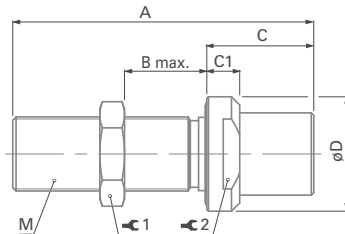


FEEDTHROUGH

PANEL FRONT MOUNTED

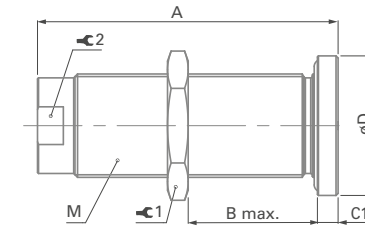
ST-WDE 103

BODY STYLE



ST-WDE 105

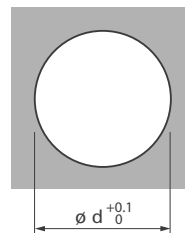
BODY STYLE



| Series | A | B max | C | C1 | D | M | ⌘ 1 ¹⁾ | Torque 1 [Nm] | ⌘ 2 |
|--------|----|-------|----|----|----|------|-------------------|---------------|-----|
| 103 | 40 | 23 | 14 | 4 | 17 | 12x1 | 14 | 2.5 | 14 |
| 105 | 62 | 46 | - | 4 | 27 | 20x1 | 22 | 6.5 | 17 |

PANEL CUT-OUT

| Series | d |
|--------|------|
| 103 | 12.1 |
| 105 | 20.1 |



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.

Dimension "B max" specifies the maximum panel thickness. For panels thinner than the unthreaded section "E min", we can provide spacers as shown accessories section, page B6-16.

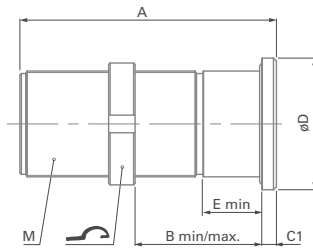
¹⁾ Assembly tool for side hex nut, see Accessories section, page B7-25.


FEEDTHROUGH

PANEL FRONT MOUNTED

ST-WDE 107

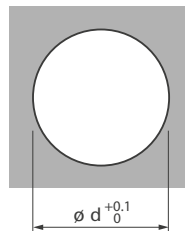
BODY STYLE



| Series | A | B min/max | C1 | D | E min | M |  ¹⁾ | Torque 1 [Nm] |
|--------|----|-----------|----|----|-------|------|---|---------------|
| 107 | 92 | 20/76 | 5 | 45 | 20 | 36x2 | TX00.107 | 17 |

PANEL CUT-OUT

| Series | d |
|--------|------|
| 107 | 36.2 |



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.

Dimension "B max" specifies the maximum panel thickness. For panels thinner than the unthreaded section "E min", we can provide spacers as shown in accessories section, page B 6-16.

¹⁾ Assembly tool for side slotted nut, see Accessories section, page B 7-25.

Torque [Nm] are recommended values that may be influenced by the quality of the panel surface. Tests must be conducted to evaluate the exact values.

A/Z POLARITY

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

STANDARD "A" POLARITY

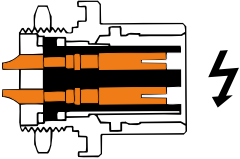
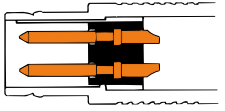
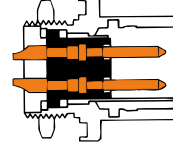
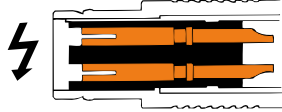
The contacts of the receptacle are protected against accidental touch.

Recommended when voltage is present on the receptacle.

INVERTED "Z" POLARITY

The contacts of the plug are protected against accidental touch.

Recommended when voltage is present on the plug.

| | Receptacle ST-DBEE | Plug ST-S/ST-ST |
|---------------------------------------|---|---|
| Type "A" Standard Polarity |  |  |
| Type "Z" Inverted Polarity |  |  |

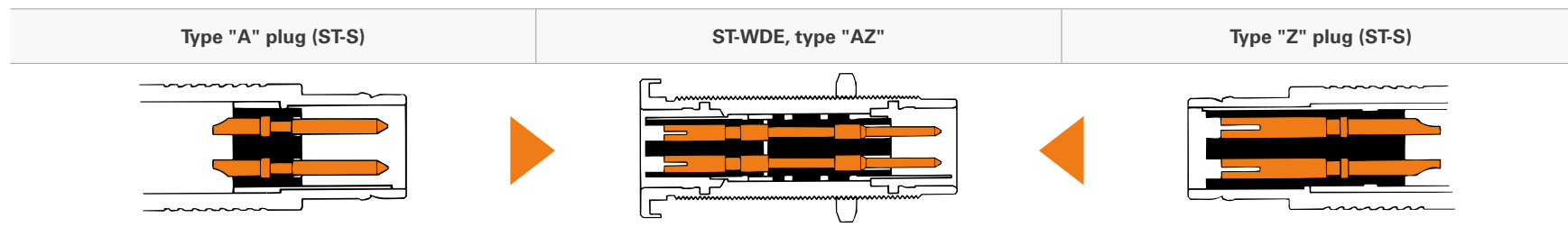
IMPORTANT: AN "A" TYPE CONNECTOR CAN NEVER BE MATED WITH A "Z" TYPE CONNECTOR.

A plug "ST-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.

BULKHEAD FEEDTHROUGH WDE

Type "AZ" is the standard version of the ST-WDE. The flange side accepts an "A" type plug, and the threaded side accepts a "Z" type plug.



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

CONTACT TYPES

The Fischer Connectors' contact designs are highly reliable and are guaranteed up to 5,000 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.

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

SOLDER CONTACTS

Most versatile
Pre-installed contacts
Qualified assemblers required



- Can be produced with any type of contact block material and accept a wide range of wire sizes.
- Contacts are pre-installed in the insulator block, and the wires can be terminated with any appropriately sized soldering iron.
- May require operators who are qualified in specialized soldering techniques.

PCB CONTACTS

PCB or Flex circuit mount
Reduced pin diameter
Wave soldering



- Designed to be mounted directly onto a PCB or flex circuit, can be used in wave soldering operations for faster production assembly.
- Preferred for high rates of data transmission due to the low distance to the board that their integration allows. This helps reducing signal perturbations.
- PCB pins are generally used on rear mounted panel connectors.

CRIMP CONTACTS

Selectively annealed area
Special tools required
Limited range of wire sizes



- Each contact has a selectively annealed area which is deformed 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.

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 ensure proper termination of the wire to the contact.
- Commonly used for field termination or repair, as no soldering is required.
- Not available for sealed or hermetic connectors.

TOOLING FOR CRIMP CONTACTS

| Series | Polarity | Contact diameter (mm) | | | | | | | | | |
|-------------------------------|----------|-----------------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|
| | | 0.5 | | 0.7 | | 0.9 | | 1.3 | | 1.6 | |
| | | Part number | | Part number | | Part number | | Part number | | Part number | |
| | | Contact | Positioner | Contact | Positioner | Contact | Positioner | Contact | Positioner | Contact | Positioner |
| 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 | - | - |
| 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 | |

See following pages for description of crimp tool and positioner.
 Please refer to www.fischerconnectors.com/technical for detailed information and assembly instructions.

STAINLESS STEEL

103 SERIES

● = Standard

| Reference | Pin layout | Number of contacts | Contact types | | | Insulating material | Contact \varnothing [mm] | Wire size ²⁾ | | Test voltage ⁵⁾ [kV] in mated position | | | | Rated voltage ⁴⁾ r.m.s [V] | Current ³⁾ [A] |
|----------------|------------|--------------------|---------------|-------|-----|---------------------|----------------------------|--|--|---|--------------------|-----------------|--------------------|---------------------------------------|---------------------------|
| | | | Solder | Crimp | PCB | | | Solder contacts ¹⁾ | Crimp contacts | AC r.m.s | | DC | | | |
| | | | | | | | | | | Contact to body | Contact to contact | Contact to body | Contact to contact | | |
| 103 A Z 051 | | 2 | ● | ● | ● | PEEK | 1.3 | max \varnothing 1.18mm AWG17 [1] AWG18 [16/30] | max \varnothing 1.18mm min \varnothing 0.58mm AWG18-24 | 1.5 | 2.2 | 2.2 | 3.0 | \leq 250 | 13 |
| 103 A Z 052 | | 3 | ● | | ● | PEEK | 1.3 | max \varnothing 1.18mm AWG17 [1] AWG18 [16/30] | – | 1.2 | 1.5 | 1.8 | 2.0 | \leq 250 | 12 |
| 103 A Z 053 | | 4 | ● | | ● | PEEK | 0.9 | max \varnothing 0.79mm AWG21 [1] AWG22 [7/30] | – | 1.2 | 1.6 | 2.0 | 2.4 | \leq 250 | 7.0 |
| 103 A Z 054 | | 5 | ● | ● | ● | PEEK | 0.9 | max \varnothing 0.79mm AWG21 [1] AWG22 [7/30] | max \varnothing 0.83mm min \varnothing 0.48mm AWG22-26 | 1.1 | 1.4 | 1.9 | 2.2 | \leq 250 | 6.8 |
| 103 A Z 056 | | 6 | ● | ● | ● | PEEK | 0.7 | max \varnothing 0.79mm AWG21 [1] AWG22 [7/30] | max \varnothing 0.62mm min \varnothing 0.38mm AWG24-28 | 1.0 | 1.3 | 2.0 | 2.0 | \leq 250 | 5.2 |
| 103 A Z 057 | | 7 | ● | ● | ● | PEEK | 0.7 | max \varnothing 0.79mm AWG21 [1] AWG22 [7/30] | max \varnothing 0.62mm min \varnothing 0.38mm AWG24-28 | 1.0 | 1.3 | 2.0 | 2.0 | \leq 250 | 5.0 |
| 103 A Z 058 | | 8 | ● | | ● | PEEK | 0.7 | max \varnothing 0.79mm AWG21 [1] AWG22 [7/30] | max \varnothing 0.62mm min \varnothing 0.38mm AWG24-28 | 0.8 | 1.1 | 1.4 | 1.9 | \leq 200 | 3.8 |
| 103 A Z 062 | | 12 | ● | ● | ● | PEEK | 0.5 | max \varnothing 0.43mm AWG26 [1] AWG28 [19/40] | max \varnothing 0.43mm min \varnothing 0.20mm AWG28-32 | 0.9 | 1.2 | 1.5 | 1.8 | \leq 200 | 2.0 |

¹⁾ Stranding values are in brackets.

²⁾ 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.

³⁾ 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-12 for details.

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

⁵⁾ Measured with ST-S plug and ST-D receptacle. Please contact us for rating for ST-WSO right-angle plugs and ST-WDE bulkhead feedthroughs.

STAINLESS
STEEL

105 SERIES

● = Standard

| Reference | Pin layout | Number of contacts | Contact types | | | Insulating material | Contact ø [mm] | Wire size ²⁾ | | Test voltage ⁶⁾ [kV] in mated position | | | | Rated voltage ⁴⁾ r.m.s [V] | Current ³⁾ [A] |
|------------------------------|------------|--------------------|---------------|-------|-----|---------------------|----------------|---|----------------|---|--------------------|-----------------|--------------------|---------------------------------------|---------------------------|
| | | | Solder | Crimp | PCB | | | Solder contact ¹⁾ | Crimp contacts | AC r.m.s | | 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 | | 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 ⁵⁾ | | 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 | 1.3 | max ø1.18mm AWG17 [1] AWG18 [16/30] | – | 1.7 | 2.0 | 2.5 | 2.8 | ≤ 320 | 10 |
| 105 A 124 | | 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 ⁵⁾ | | 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 |

¹⁾ Stranding values are in brackets.

²⁾ 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.

³⁾ 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-12 for details.

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

⁵⁾ Contact dia. 2.0 is positioned to make contact first and break last.

⁶⁾ Measured with S plug and D receptacle.

105 SERIES

● = Standard

| Reference | Pin layout | Number of contacts | | Contact types | | | Insulating material | Contact ø (mm) | Wire size ²⁾ | | Test voltage ⁸⁾ [kV] in mated position | | | | Rated voltage ⁴⁾ r.m.s [V] | Current ³⁾ [A] |
|------------------------------|------------|--------------------|----|---------------|-------|-----|---------------------|----------------|---|--|---|--------------------|-----------------|--------------------|---------------------------------------|---------------------------|
| | | | | Solder | Crimp | PCB | | | | | AC r.m.s | | DC | | | |
| | | | | | | | | | | | 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 ⁵⁾ | | 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 ⁷⁾ | | 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 ⁶⁾ | | 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 |

¹⁾ Stranding values are in brackets.

²⁾ 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.

³⁾ 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-12 for details.

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

⁵⁾ Contacts dia. 1.3 are positioned to make contact first and break last.

⁶⁾ Contacts dia. 1.6 are positioned to make contact first and break last.

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

⁸⁾ Measured with S plug and D receptacle.

STAINLESS
STEEL

107 SERIES

● = Standard ○ = Option

| Reference | Pin layout | Number of contacts | | Contact types | | | Insulating material | Contact ø [mm] | Wire size ²⁾ | | Test voltage ⁵⁾ [kV] in mated position | | | | Rated voltage ⁴⁾ r.m.s [V] | Current ³⁾ [A] |
|----------------|------------|--------------------|-----|---------------|-------|-----|---------------------|--|---|--|---|--------------------|-----------------|--------------------|---------------------------------------|---------------------------|
| | | | | Solder | Crimp | PCB | | | | | AC r.m.s | | DC | | | |
| | | | | | | | | | Male solder contacts ¹⁾ | Female solder contacts ¹⁾ | Contact to body | Contact to contact | Contact to body | Contact to contact | | |
| 107 A Z 013 | | 4 | | ● | | | PEEK | 2.3 | max ø2.93mm AWG9 [1] AWG10 [37/26] | max ø2.28mm AWG12 [1] AWG14 [105/34] | 3.6 | 4.3 | 5.0 | 5.6 | ≤ 1000 | 26 |
| 107 A Z 018 | | 6 | | ● | | | PEEK | 2.3 | max ø2.93mm AWG9 [1] AWG10 [37/26] | max ø2.28mm AWG12 [1] AWG14 [105/34] | 3.4 | 3.4 | 4.3 | 4.3 | ≤ 800 | 25 |
| 107 A Z 015 | | 19 | | ● | | | 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 Z 051 | | 27 | | ● | | | 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 Z 052 | | 40 | | ● | | | 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 A Z 023 | | 8 | | ● | | | PEEK | 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 |
| | | 47 | 0.9 | | | | | max ø0.79mm AWG21 [1] AWG22 [7/30] | max ø0.88mm AWG20 [1] AWG22 [19/34] | 1.7 | 1.5 | 2.5 | 2.1 | 3.0 | | |

¹⁾ Stranding values are in brackets.

²⁾ 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.

³⁾ 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-12 for details.

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

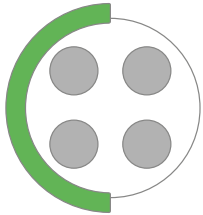
⁵⁾ Measured with S plug and D receptacle.

STAINLESS
STEEL

MECHANICAL CODING

For easy connect/disconnect operations

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

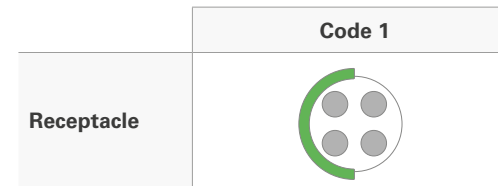


This guiding mechanism provides:

- Increased safety and user friendliness by preventing misconnection.
- Easy mating cycles, can be blind-mated.

Keying codes option


All Multipole body styles are mechanically coded. Code 1 is the standard, but other codes can be requested.



Other keying codes are available on request, please contact us. Images are for reference only.

MULTIPOLE LOW VOLTAGE OPTIONS

OPTIONS

| | | | |
|---|--|--|---------------------------|
| 1 | Housing color Which housing color do you need? | Natural Stainless steel | |
| 2 | Contact block material Which contact block material do you need? | PEEK | |
| 3 | Contact type Which contact type do you need? | Solder | Crimp¹⁾ |
| 4 | Keying code Which keying code do you need? | Code 1  | -130 -150 |

¹⁾ Crimp contacts are not an option for sealed or hermetic connectors.

CONTACT TYPE FOR PANEL MOUNTED CONNECTORS

| Applicable for | Last digit | Description |
|-----------------------------------|------------|--|
| Front mounted: ST-DBEE | 0 | Standard: solder contacts |
| | 9 | With PCB (Printed Circuit Board) contacts instead of solder contacts |
| Rear mounted: ST-DBPE | 0 | Standard: PCB (Printed Circuit Board) contacts |
| | 9 | With solder contacts instead of PCB (Printed Circuit Board) contacts |

Options are available on request, please contact us.

ORDERING INFORMATION

How to build a part number

Refer to the table aside 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 |
|--------------------|-------------------|-------------|-----------------|

PART NUMBER EXAMPLES

| | | | |
|-------------|--------------|------------|----------|
| Plug | ST- S | 103 | A |
|-------------|--------------|------------|----------|


ST- S cable mounted plug in Series 103 with 6 (multipole) low voltage male contacts and following options.

| | | | |
|-------------------|-----------------|------------|----------|
| Receptacle | ST- DBEE | 103 | A |
|-------------------|-----------------|------------|----------|



ST- DBEE panel mounted receptacle in Series 103 with 6 (multipole) low voltage female contacts and following options.

| | | |
|----------------------------------|--|--|
| ▼ | ▼ | ▼ |
| Cable mounted plugs | Series | As standard rule |
| ST-S ST-ST | 103 105 107 | A = male contacts on plug and female contacts on receptacle Z = female contacts on plug and male contacts on receptacle |
| Panel mounted receptacles | See page B 7-3 or Technical dimensions B 7-5 | See page B 7-10 |
| ST-DBEE ST-DBPE ST-WDE | | |

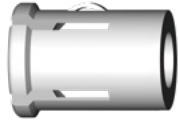
ORDERING INFORMATION

| Contact configuration | Options | Cable clamp sets for cable mounted plugs & receptacles |
|---|--|--|
| 056 | -130 | + |
| Stainless steel housing, PEEK contact blocks with solder contacts, keying code 1 and clamp nut without bend relief. | | |
| 056 | -130E | Not applicable as panel mounted |
| Stainless steel housing, PEEK contact blocks with solder contacts and keying code 1. | | |
| ▼ | ▼ | ▼ |
| Three-digit number specific for each pin layout | Specific suffix corresponding to selected options | Below cable clamp sets should be ordered separately |
|  | Housing color | Multipole low voltage |
| See page B7-13 | Natural Stainless Steel | Example: ST- S 103 A056-130+ |
| | Contact block insulating material | Clamp set ordering line E31 103.1/6.7+B |
| | PEEK | See page B7-20 |
| | Contact type | |
| | Solder Crimp PCB | |
| | Keying code of the contact block | |
| | Clamp nut type & color | |
| | Other options | |
| | See page B7-17 | |

RELATED ITEMS

| Accessories | Tooling |
|--|---|
|  |  |
| Ex: ST-CR105C 2C3 A150 | Ex: TX00.240 |
| Stainless steel cap | Crimping tool |
| ▼ | ▼ |
| Protective sleeves Soft caps Metal caps Spacers Washers Mounting nuts | Spanners / Wrenches Crimping tools Tools for crimp contacts and high voltage contacts |
| See page B7-24 | See page B7-12 |

CABLE CLAMP SETS



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.

Cable clamp sets are suitable for all cable mounted connectors.

RANGE OVERVIEW: S, U & 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 |
| S - Shielded | ● | | | ● |
| U - Unshielded | ● | | ● | |
| E - Environmental | | ● | ● | ● |

For 107 Series connectors, only S and E cable clamp sets are available.

PART NUMBERING

| Cable clamp sets below should be ordered separately |
|---|
| Multipole low voltage |
| ST- S 103 A056-130+ |
| Examples connector ordering line |
| ST- S103 A056-130+ |
| Clamp set ordering line |
| E3 102.5/2.0 |

See following pages for cable clamp sets selection.

STAINLESS STEEL

103 SERIES

S SHIELDED

Shielded cable clamp with spacer and sleeve.



| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-------------------|
| 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 |
|------------------|----------|-----------------|
| 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.

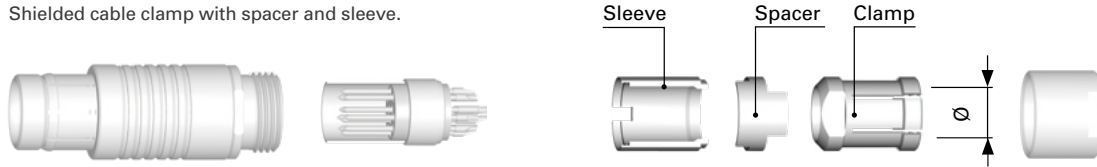


| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-------------------|
| 1.7 - 2.2 | 2.2 | E31 103.2/2.2 + B |
| 2.2 - 2.7 | 2.7 | E31 103.2/2.7 + B |
| 2.7 - 3.2 | 3.2 | E31 103.2/3.2 + B |
| 3.2 - 3.7 | 3.7 | E31 103.2/3.7 + B |
| 3.7 - 4.2 | 4.2 | E31 103.2/4.2 + B |
| 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 |

105 SERIES

S
SHIELDED

Shielded cable clamp with spacer and sleeve.



| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-------------------|
| 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

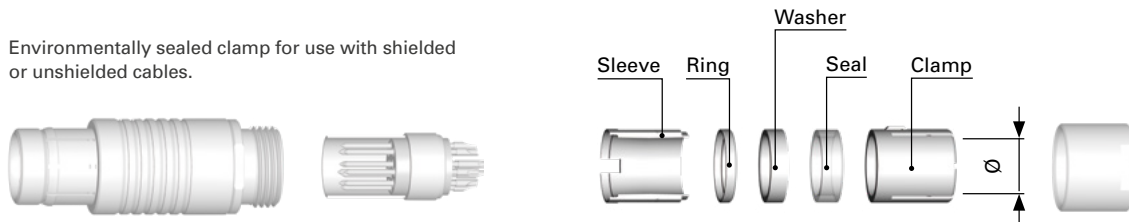
Unshielded, one-piece cable clamp.



| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-----------------|
| 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.



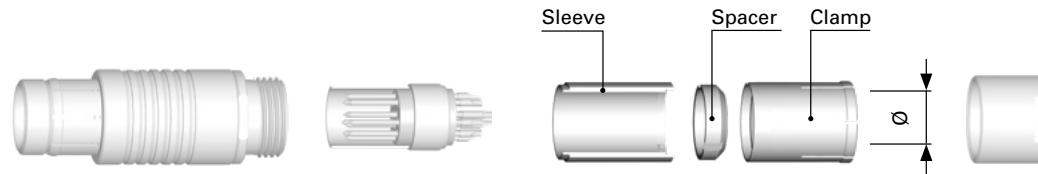
| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|--------------------|
| 3.2 - 4.2 | 4.2 | E31 105.2/4.2 + B |
| 4.2 - 5.2 | 5.2 | E31 105.2/5.2 + B |
| 5.2 - 6.2 | 6.2 | E31 105.2/6.2 + B |
| 6.2 - 7.2 | 7.2 | E31 105.2/7.2 + B |
| 7.2 - 8.2 | 8.2 | E31 105.2/8.2 + B |
| 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 |

STAINLESS STEEL

107 SERIES

S SHIELDED

Shielded cable clamp with spacer and sleeve.



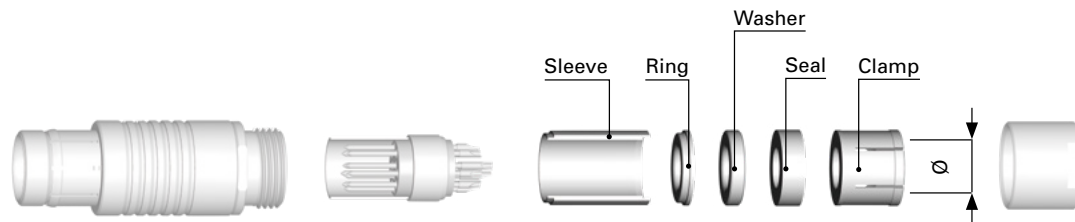
| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-----------------|
| 5.7 - 7.2 | 7.2 | E3 107.1/7.2 |
| 7.2 - 8.2 | 8.2 | E3 107.1/8.2 |
| 8.2 - 9.2 | 9.2 | E3 107.1/9.2 |
| 9.2 - 10.2 | 10.2 | E3 107.1/10.2 |
| 10.2 - 11.2 | 11.2 | E3 107.1/11.2 |

| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-----------------|
| 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 |
| 14.2 - 15.2 | 15.2 | E3 107.1/15.2 |
| 15.2 - 16.2 | 16.2 | E3 107.1/16.2 |

| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-----------------|
| 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 |

E ENVIRONMENTAL

Environmentally sealed clamp for use with shielded or unshielded cables.



| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-----------------|
| 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 |

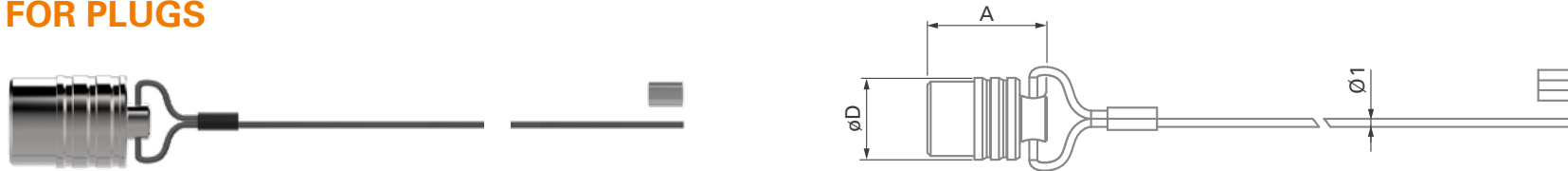
| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-----------------|
| 11.2 - 12.2 | 12.2 | E3 107.2/12.2 |
| 12.2 - 13.2 | 13.2 | E3 107.2/13.2 |
| 13.2 - 14.2 | 14.2 | E3 107.2/14.2 |
| 14.2 - 15.2 | 15.2 | E3 107.2/15.2 |
| 15.2 - 16.2 | 16.2 | E3 107.2/16.2 |

| Cable dia. range | Collet Ø | Cable clamp set |
|------------------|----------|-----------------|
| 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 |

STAINLESS STEEL

STAINLESS STEEL CAPS

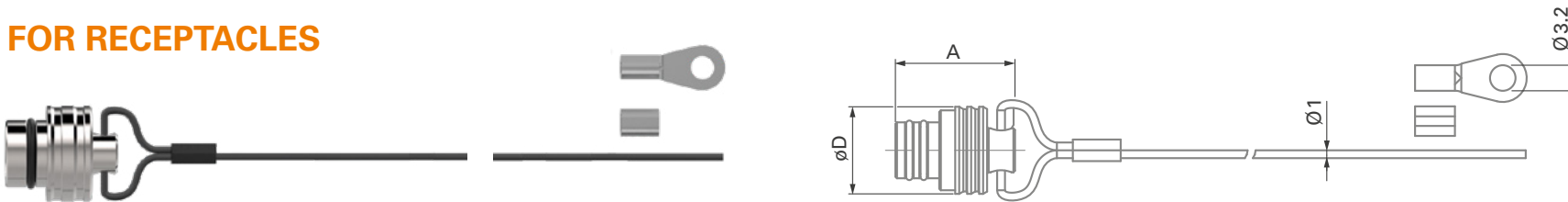
FOR PLUGS



| Series | Part number | O-ring material | Caps | | Stainless steel cable | | Crimp ferrule |
|--------|--------------------|-----------------|------|----|-----------------------|-------------------|---------------|
| | | | A | D | Length | Covering material | Part number |
| 103 | ST-CP103C 2C3 A100 | EPDM | 21 | 13 | 100 | FEP - Teflon® | 300.922 |
| 105 | ST-CP105C 2C3 A150 | | 29 | 20 | 150 | | |
| 107 | ST-CP107C 2C3 A350 | | 47 | 40 | 350 | | |

Material - Cap: Stainless steel 316L – Crimp ferrule: aluminium

FOR RECEPTACLES



| Series | Part number | O-ring material | Caps | | Stainless steel cable | | Crimp ferrule | Crimp lug |
|--------|--------------------|-----------------|------|----|-----------------------|-------------------|---------------|-------------|
| | | | A | D | Length | Covering material | Part number | Part number |
| 103 | ST-CR103C 2C3 A100 | EPDM | 13 | 15 | 100 | FEP - Teflon® | 300.922 | 300.299 |
| 105 | ST-CR105C 2C3 A150 | | 21 | 19 | 150 | | | |
| 107 | ST-CR107C 2C3 A350 | | 26 | 36 | 350 | | | |

Material - Cap: Stainless steel 316L – Crimp ferrule: aluminium

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.

Other available accessories listed on page B7-30. Cable strain relief, Protective Boots, sealing caps)Plasticx, Soft caps).

SPANNERS & NUTDRIVER

DOUBLE-END OPEN SPANNER EXTRA THIN



| Part number | Opening across flats | Length | Fork thickness |
|-------------|----------------------|--------|----------------|
| TX00.010 | 10 | 104 | 2.5 |
| TX00.014 | 14 | 130 | 3.0 |

Material – Chrome alloy steel, chrome plated, fork angles – 15° and 75°

OPEN-END SPANNER EXTRA THIN



| 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 |
| TX00.022 | 22 | 196 | 6.5 |
| TX00.032 | 32 | 270 | 8.0 |

Material – Chrome vanadium steel, chrome plated, fork angle – 15°

HOOK SPANNER FOR SIDE SLOTTED NUTS

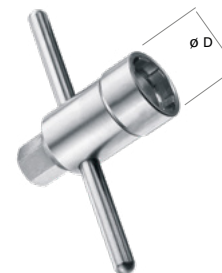


| Part number | Thread size | Nut outer dia. |
|-------------|---------------|----------------|
| TX00.107 | M35x1 / M36x1 | 39 – 43 |

Material – Hardened tool steel, gunmetal finish

NUTDRIVER WITH T-HANDLE AND HEX DRIVE

FOR DECORATIVE SLOTTED NUTS



| Part number | Thread size | Nut outer dia. | D | Hex drive |
|-------------|-------------|----------------|----|-----------|
| TG00.001 | M14 x 1 | 18 | 21 | 10 |

Material – Hardened tool steel, nickel plated

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

CRIMPING TOOLS

CRIMP TOOL
ULTRA PRECISION

FOR CLOSED CRIMP TERMINATION



| Part number | Contact dia. | Crimp tool |
|-------------|--------------|---|
| TX00.240 | 0.5 | BALMAR 18 - 000 or DANIELS MH - 800 |
| | 0.7 | |
| | 0.9 | |
| | 1.3 | |
| TX00.242 | 1.6 | ASTRO TOOL 615708 |

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

POSITIONER

SUITABLE FOR CRIMP TOOL TX00.240



SUITABLE FOR CRIMP TOOL TX00.242



For the choice of Fischer Connectors' positioner, please refer to section "Tooling", page B 2-26.

**STAINLESS
STEEL**

FOR CRIMP CONTACTS

CONTACT
INSERTION TOOL



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

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 removable crimp contacts from the contact block. The sleeve of this tool is pushed over the contact, to release the contact retaining mechanism. The tool plunger is then pushed to eject the contact. |
| TX00.200 | 0.7 | |
| TX00.205 | 0.9 | |
| TX00.212 | 1.3 | |
| TX00.201 | 1.6 | |

Material

Housing and plunger: black POM (Delrin®)
Sleeve: stainless steel
Slide: tool steel

STAINLESS
STEEL

MATERIAL & SURFACE TREATMENT

Metal parts

| Metal parts | Material | | | Finish | |
|--|----------------------|-----------------|----------------------|-----------------------|-------------------------------------|
| | Designation | ISO | Standard | Designation | Standard |
| Shell (Housing), clamp nut, decorative slotted nut | Stainless steel | X2CrNiMo17-12-2 | 316L/1.4404 | - | - |
| Cable clamp, inner sleeve, spacers and rings, nuts and washers | Brass | CuZn39Pb3 | CW614N / UNS C 38500 | Nickel | SAE-AMS-QQ-N-290 / SAE-AMS2404 |
| Contacts | Male (solder) | Brass | CuZn39Pb3 | 1 µm Gold over Nickel | MIL-DTL-45204D / Type 1 + ASTM B488 |
| | Female, Male (crimp) | Bronze | CuSn4Zn4Pb4 | | |

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 for each connector series are listed under Electrical & contact configurations in pages B 7-13 through B 7-16. Ceramics and other dielectrics are available on special order.

| Insulator and sealing | International symbol | Flammability |
|--|------------------------------------|-----------------------|
| Insulator | PEEK | UL 94 V-O |
| Panel and contact block O-rings (receptacles) | FPM (Viton®) | - |
| Interface O-rings (receptacles) | EPDM | - |
| Sealant material - IP68 (receptacles) - Hermetic | Silicon compound Epoxy compound | UL 94 V-O UL 94 HB |
| Cable sealing (plugs) - IP68 | TPE-S | UL 94 HB |

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

ENVIRONMENTAL & MECHANICAL DATA

| Characteristic | Product type | Value | Standard |
|------------------------------------|--|--|--|
| Sealing performance | Unsealed connectors (mated) | IP50 | IEC 60529 |
| | Plugs (mated) with general purpose sealed clamps ¹⁾ | IP68 IP69 | |
| | Receptacles "U" body style | IP68 | |
| | Receptacles "E" body style | Hermetic: Tested: 10^{-8} mbar l/sec. | IEC 60068-2-17 test Qk method 3, alternative b |
| IP69 | | IEC 60529 | |
| Operating temperature range | See details on page A 15 | See details on page A 15 | IEC 60512-6-11 i+j / IEC 60068-2-14-Nb |
| Corrosion resistance | | Salt mist, 1000 hours, 5% salt solution, 35°C | IEC 60068-2-11 test Ka MIL-STD-202 method 101 condition A |
| Endurance | | 5000 mating cycles | IEC 60512-9-1 / 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 ²⁾ | Unsealed connectors | PEEK: 10 ⁷ Gy (= 1000M Rads) | |
| | Sealed receptacles "E" | FPM (Viton®) O-rings 10 ⁵ Gy (= 10M Rads) | |

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

²⁾ For information only. Not tested by Fischer Connectors.

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 visit: www.fischerconnectors.com

ELECTRICAL DATA

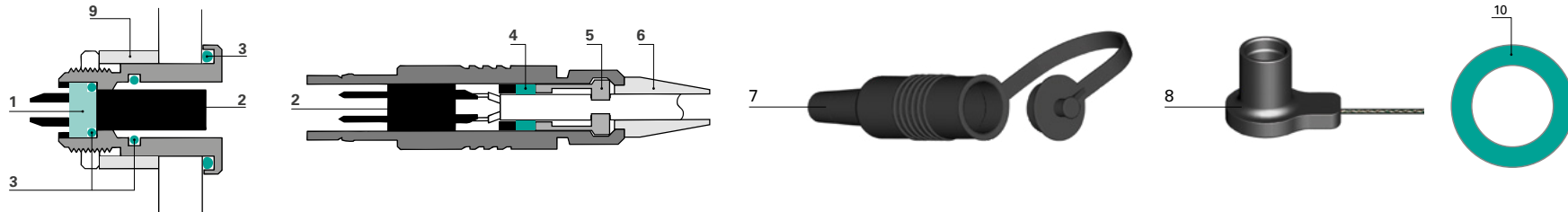
| Characteristic | Contact size | Typical values | Standard |
|---|--------------|----------------------|--|
| Contact resistance 5,000 mating cycles | ø 0.5 mm | 5.0 mΩ | IEC 60512-2-1, Test 2a IEC 60512-2-2, Test 2b |
| | ø 0.7 mm | 5.0 mΩ | |
| | ø 0.9 mm | 4.0 mΩ | |
| | ø 1.3 mm | 2.5 mΩ | |
| | ø 1.6 mm | 2.5 mΩ | |
| | ø 2.3 mm | 2.5 mΩ | |
| | ø 3.0 mm | 1.5 mΩ | |
| Insulation resistance | | > 10 ¹⁰ Ω | IEC 60512-3-1-3a Method C |

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

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 unachievable.

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 +250°C |
| 3 | Panel and contact block O-rings | FPM (Viton®) | -20°C to +200°C ¹⁾ |
| | Interface O-rings | EPDM | -50°C to +160°C ²⁾ |
| 4 | Cable Clamp Seal | TPE | -70°C to +130°C |
| 5 | Cable Clamp | Brass | |
| 6 | Cable Strain Relief | TPE | -60°C to +100°C |
| | | VMQ - Silicone rubber | -60°C to +180°C |
| 7 | Protective Boots | TPE | -60°C to +100°C |
| 8 | Sealing Caps | Metallic | Plug: Stainless steel with EPDM O-ring Receptacle: Stainless steel with EPDM O-ring |
| | | Plastic | POM with FPM O-ring |
| | | Soft Caps | TPE |
| 9 | Panel Spacer | Aluminium | |
| 10 | Color Coding Washer | PP | -20°C to + 85°C |
| | | | -20°C to + 60°C |

¹⁾ Minimum mating temperature: 0°C.

²⁾ Minimum mating temperature: -20°C.



0°C