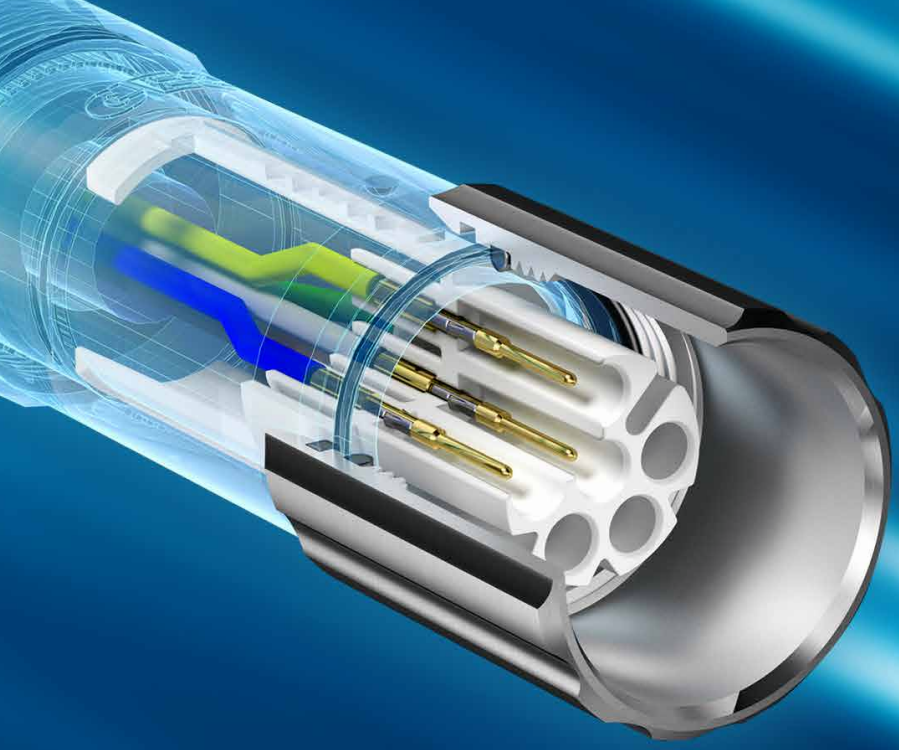

# Catalogue
## High Voltage Connectors

# Connect with GES

GES

*We connect High Voltage*

Your Partner for customized
**High Voltage Connectors**

S 100 200 VP MC MCS M MOD

DIN EN ISO 9001
DIN EN ISO 14001

GES High Voltage GmbH has a certified quality management system according to ISO 9001.

The implemented quality control measures are described in a quality management manual.

Since December 2015 GES has a certified environmental management system according to ISO 14001.

All GES products are in compliance with EU directives 2002/95/EG (RoHS), 2002/96/EG, 2003/11/EG and 2011/65/EU.

## General information

For the use of high voltage connectors, please see the specific equipment regulations and standards with its particular requirements.

It is the users responsibility to check whether the components illustrated in this catalogue comply with different regulations from those stated in special fields of application which we are unable to foresee.

We reserve the right to modify designs in order to improve quality, keep pace with technological advancement or meet particular requirements in production. All technical data, dimensions or characteristics are stated with the provisio of error or modification. With the data given in this catalogue the components are specified but no properties are guaranteed.

High voltage connectors are under no EU-Directive and therefore must not bear the CE marking.

## Safety Instructions

Do not mate or unmate High Voltage Connectors under load. Protection against electric shock has to be ensured by correct mounting according to the mounting type of the connector. The connectors shall be used only within the technical ratings. Please be aware that the design, installation, and inspection of energized high voltage equipment strongly require appropriately trained and qualified personnel. Improper handling of high voltage can cause severe injuries or even death and may cause serious collateral damage!

## Testing advice

Ratings listed in this catalogue apply to clean connector pairs (pollution degree 1) in standard athmospheric conditions. No warranty or merchantability or fitness for a particular purpose is made, and all customers must test each component to determine that it meets their operating and reliability requirements. The connectors should be derated when used in adverse environment other than the stated one, such as higher temperatures, humidity, pollution, or other extreme physical exposure.

## © Copyright

The indicated dimensions with the panel cut-outs represent reference values and are in the concrete application with products to be co-ordinated. This catalogue must not be used in any form or manner without our prior approval in writing (Copyright Law, Fair Trade Law, Civil Code).

Catalogue Vers.: 24.05

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# ABOUT GES

GES stands for top quality and reliability in the world of high-voltage connectors. As a specialised manufacturer, we offer innovative connection solutions for operating voltages of up to 100 kV DC - indispensable in demanding high-tech markets such as the semiconductor industry and particle physics.

Our products are characterised by their quality, versatility and the possibility of application-specific adaptations. Our high standards, expertise and flexibility make GES the preferred partner of leading international companies that rely on our sophisticated solutions for their critical applications in industry and science. We combine high voltage - with innovation and precision.

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www.ges-highvoltage.com/us

For inquiries from other countries than stated above please refer to the according regional representative at **www.ges-highvoltage.com >> Sales Network**

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# ***MAKE***
# *or* ***BUY?***

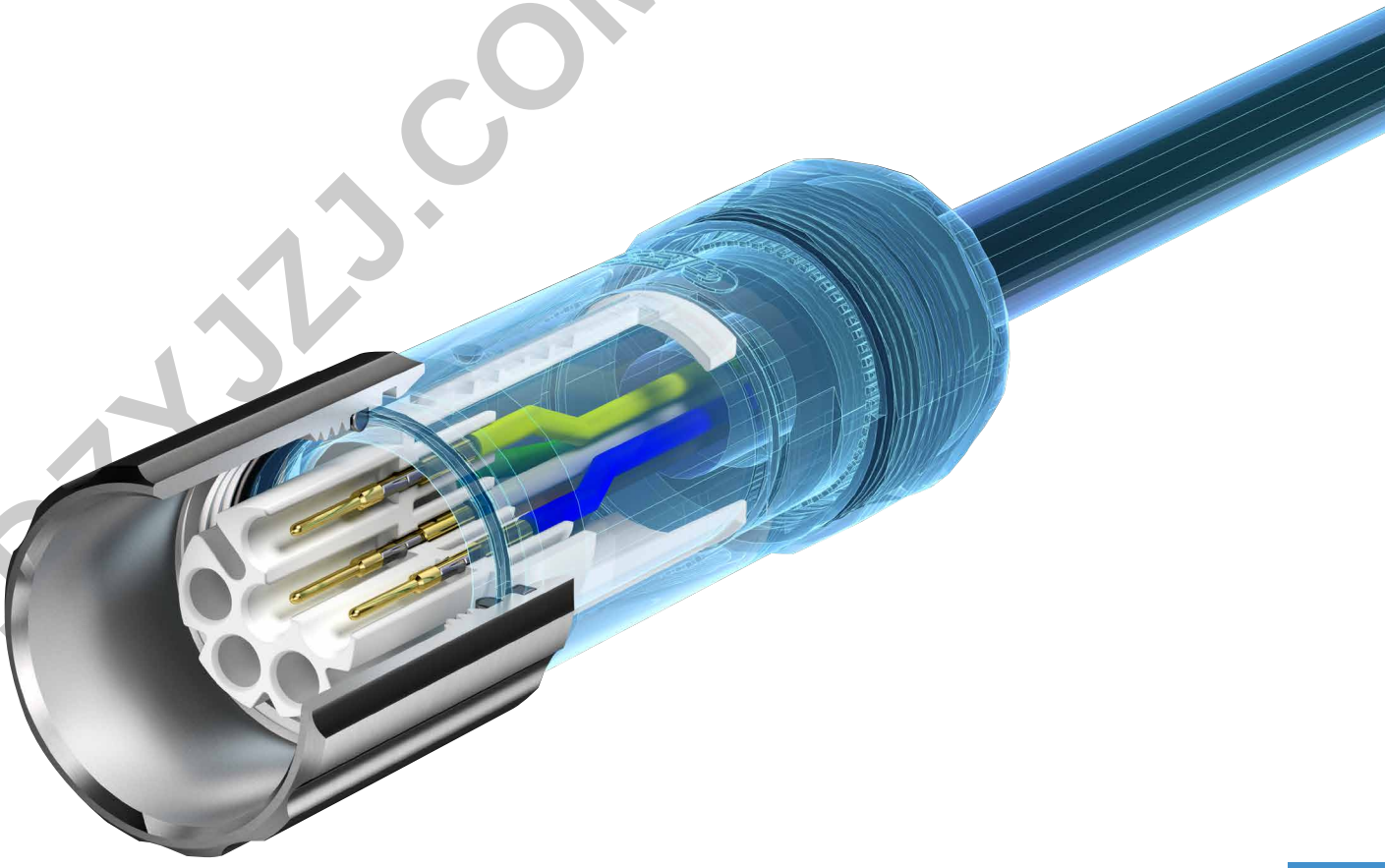
*Growing competitive pressure and accelerated innovation cycles demand flexibility and cost optimization at increased market dynamics. Many companies must ask themselves the question: shall we produce it, or have it produced?*

- **STRENGTHENED INNOVATION DYNAMICS AND INCREASE SOLUTION COMPETENCE**

  **As a specialized company, we have a high innovation momentum, from which you can get direct profit/s.** State-of-the-art construction IT, 3D prototyping, and the latest measurement technology enable us to keep pace with the growing demands of our customers and to realize customized development projects in a timely manner. In addition, our standard products are continually being improved to provide our customers with an optimal and solid solution.

- **VALUE CREATION AND COST REDUCTION**

  **Bundle your resources and focus on your core competencies.** Costs for development, production, assembly, testing, warehousing, quality management and administration of high voltage connectors are obstacles to your lean production and can be handled by us more efficiently due to composite effects. With short and reliable delivery times (even for small quantities) and blanked orders, we can also supply you just-in-time.



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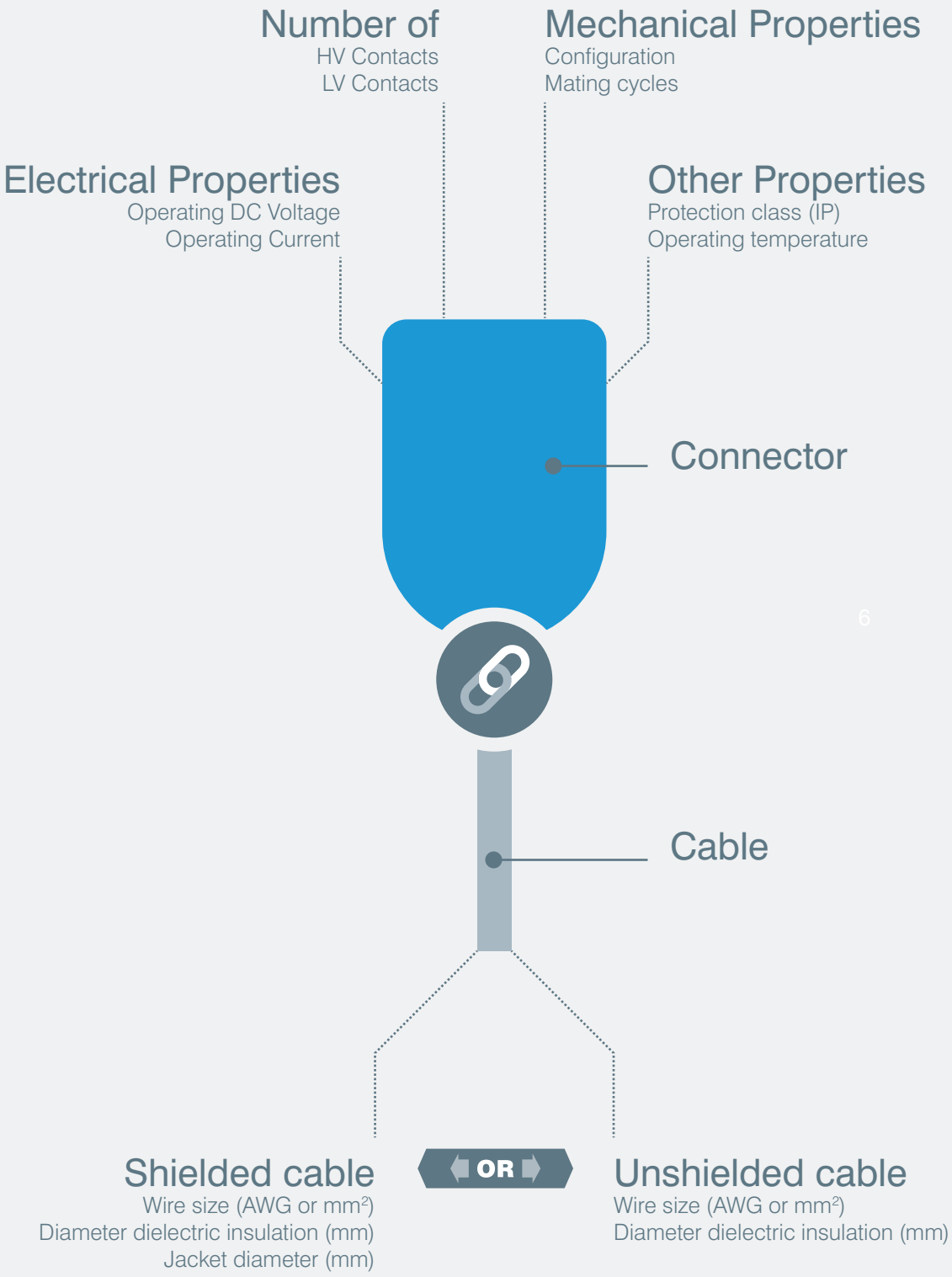
## *Product Finder – Check List*



## Single pin connectors

| | Series S | Series 100 | Series 200 |
|---|---|---|---|
| Operating voltage | 10 - 40 kV DC | 10 - 100 kV DC | 10 - 100 kV DC |
| Operating current | 30 A | 30 / 80 A | 30 / 80 A |
| Max. diameter of dielectric cable insulation | 5.0 mm | 10.0 mm | see data sheet |
| Max. jacket diameter of cable | 6.5 mm | 14.0 mm | see data sheet |
| Wire sizes | 22-14 AWG | 22-8 AWG | 22-14 AWG |

## VarioPro full plastic connectors

| | VarioPro CL | VarioPro CL-B | VarioPro Basic | VarioPro SB10 |
|---|---|---|---|---|
| Operating voltage | 13 kV DC | 13 kV DC | 8 kV DC | 10 kV DC |
| Operating current | 13 A | 13 A | 13 A | 30 A |
| Number of pins | 1 - 3 | 1 - 3 | 1 - 2 | 1 |
| Max. diameter of dielectric cable insulation | 4.0 mm | 4.0 mm | 4.0 mm | 7.2 mm |
| Wire sizes | 26-14 AWG | 20-12 AWG | 26-14 AWG | 14 AWG |

## Multi pin circular connectors

| | Series MCS | Series MC | Series M |
|---|---|---|---|
| Operating voltage | 5 kV DC | 10 – 15 kV DC | 12 kV DC |
| Operating current | 4.5 A | 13 A | 30 A |
| Number of pins | 2 - 6 | 2 - 5 | 2 - 9 |
| Max. diameter of dielectric cable insulation | 1.6 mm | 4.0 mm | 7.0 mm |
| Wire sizes | 26-22 AWG | 26-14 AWG | 22-14 AWG |

## Multi pin modular connectors

| | MOD-HP | MOD-T |
|---|---|---|
| Operating voltage | 12 kV DC | 12 kV DC |
| Operating current | 25 A | 30 A |
| Number of pins | 2 - 14 | 2 - 14 |
| Max. diameter of dielectric cable insulation | 6.2 mm | 7.0 mm |
| Wire sizes | 20-12 AWG | 22-14 AWG |

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# **Hardwired** *or* **plugged?**

The decision whether to design a high voltage connection hardwired or plugged primarily depends on the application. Hardwired connections certainly have their advantages: they transfer (power at high voltage) more efficiently, are cheaper to implement, have lower production costs, and can, therefore, initially have an edge over price.

However, because of the anticipated maintenance cycles, it is crucial to consider service and application friendliness. When dealing with high-voltage equipment and systems, efficient decoupling during repair and maintenance is essential. Service costs can escalate significantly if the decoupling is not straightforward. Expenses may easily surpass the initial savings made during the purchase.

Devices and systems with plugged solutions do not need to be disconnected or even rewired in the field. One hand is enough, and the maintenance or system engineer can continue with their actual task. System components can be exchanged or replaced quickly, and no after-sales costs are transferred to the device manufacturer or even to the end customer/user.

*”Relocated over the entire lifecycle, HV connectors are often the cheaper solution.“*

*”Significantly shortening downtimes, your customers will apreciate it.“*

# **Modification** *or* **development?**

Modifications are individual problem solutions that can be implemented relatively quick, even with small quantities, since they are based on standard products and components. By modifying suitable existing types, we can implement application-specific adaptations to unusual requirements. In consultation with you, we work out the optimal configuration for your application.

**Exclusive developments are not only functionally advantageous but also a real competitive advantage!** We implement an optimal and tailor-made solution for your problem. Together, we work out specifications, feasibility study and preliminary costing, and assist you throughout your project. Due to high complexity, difficult environmental and operating conditions or special properties, a new development might just be your step ahead…

*”Whether modification or development, a solution tailored to the problem guarantees the best possible functionality and economic viability.“*

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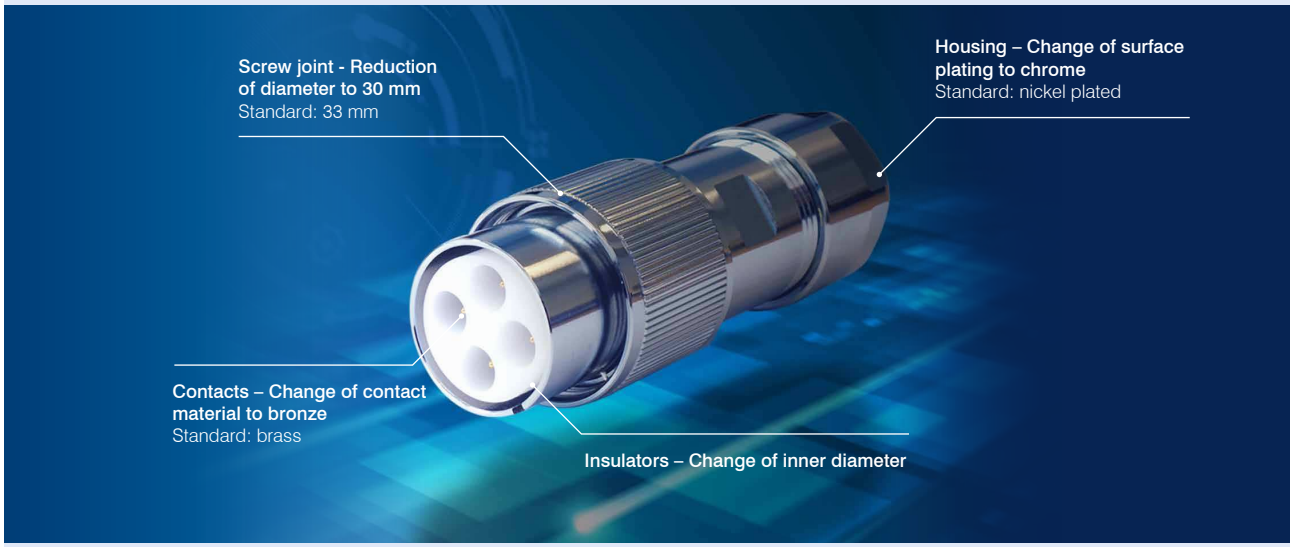
# ***Perfect-fit** or **wangled?***

Even with our wide range of high-voltage connectors, we cannot always fulfill all the desired functions. The "suit off the rack" doesn't always fit. Especially in high-voltage applications, the unusual is the everyday. Over the years, we have implemented several customer-specific projects for industry and research, from exclusive developments to application-specific modifications. Customized solutions often are not as effortful and expensive as presumed, and there are a variety of solutions! Let us help to create your perfect-fit high voltage connector and a solid solution to your problem.

*"The best and most functional solution is usually also the most cost-effective and sustainable in the long term."*

**Modification example (CERN):**
4-pin, 10 kV DC | *Power Trigger Units for Large Hadron Collider (LHC)*




**Exclusive development example (IMS Messsysteme):**
2-pin, 1,6 kV pulsed voltage | *NDT in steel industry*

**Environmental requirements:**
Lubricant, Gamma Ray & UV resistance

***Development:***
Custom made insulator PFA

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# S Series

- Operating voltages up to 40 kV DC
- Operating current up to 30 Amps
- Advanced contact technology
- Silver plated and gold plated contacts available
- High performance insulation material

www.bzy

# General characteristics and technical data Series S



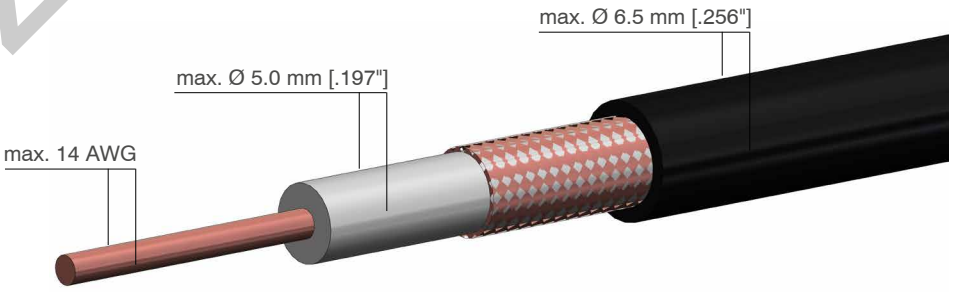


| Housing | |
|---|---|
| Locking system | Threaded coupling |
| Mounting type (panel mount connector) | Round flange / 4-hole flange |
| Housing material | Brass (CuZn) |
| Surface plating | Nickel (Ni) |
| Protection class (mated connector) | IP50 |
| Operating temperature | -30°C to +80°C [-22°F to +176°F] |

| Contacts | |
|---|---|
| Termination method | Solder / screw |
| Rated current | 30 A |
| Max. operating current | 40 A |
| Pulse current | 3000 A |
| Contact resistance | 300 $\mu\Omega$ |
| Contact diameter | 2.5 mm [.098"] |
| Max. wire size | 2.5 mm² [14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) / gold (Au) |
| Insertion / Withdrawal force | 5.5 N / 4.0 N |
| Mating cycles | 100 k |
| Rated temperature | +120°C [+248°F] |

| Insulator | |
|---|---|
| Number of contacts | 1 |
| Insulation material | PTFE or POM |
| Flammability class PTFE | UL94 V-0 |
| Flammability class POM | UL94 HB |
| CTI value | 600 |
| Operating temperature PTFE | -50°C to +200°C [-58°F to +392°F] |
| Operating temperature POM | -30°C to +120°C [-22°F to +248°F] |
| Insulating material group PTFE / POM | I (DIN IEC 60664) |

## Suitable cable dimensions

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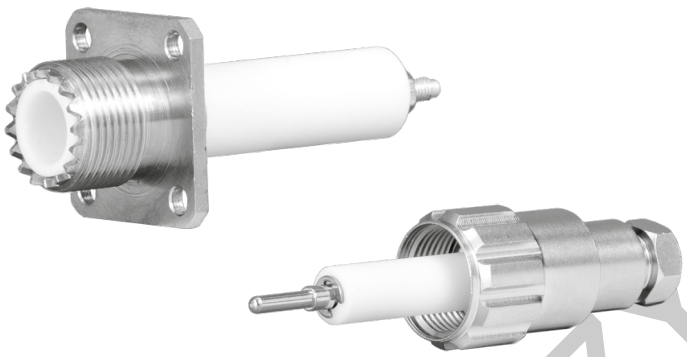
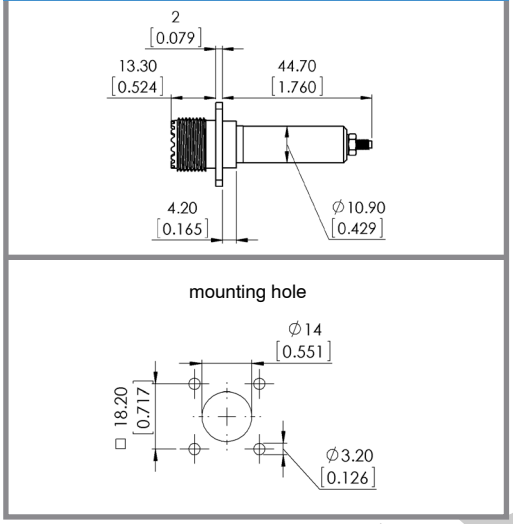
# Type HSB10 **10 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 10 kV DC |
| Test voltage | 15 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Insulation material | PTFE |
| Mounting type receptacle | 4-hole flange |
| Contact plating | Silver (Ag) or gold (Au) |

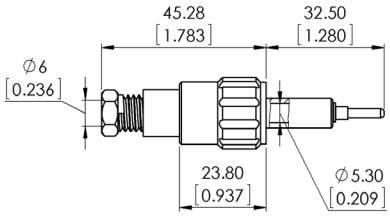


HB10 receptacle, panel mount  HS10 plug, cable mount

**HB10 receptacle, panel mount**




**HS10 plug, cable mount**




drawing - dimensions in mm [inch]

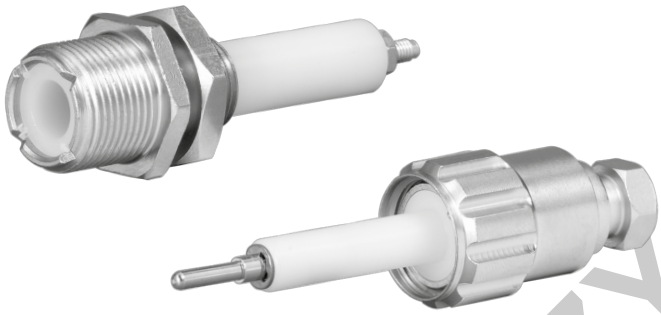
| Part No. | Description | Plug, cable mount | Receptacle, panel mount | Contact silver plated | Contact gold plated |
|---|---|---|---|---|---|
| 7310001 | HS10 PTFE | • | | • | |
| 7310003 | HS10/Au PTFE | • | | | • |
| 7311001 | HB10 PTFE | | • | • | |
| 7311003 | HB10/Au PTFE | | • | | • |

## *Suitable HV cable, shielded*

| Part No. | Operating Voltage | Wire size | Outer diameter | Min. bend radius | Temperature range |
|---|---|---|---|---|---|
| 3330007 | 30 kV DC | 0.35 mm² [22 AWG] | 5.40 mm [.213"] | 54 mm [2.126"] | -25 °C to +90 °C [-13°F to +194°F] |

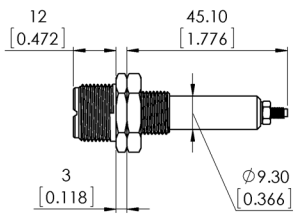
*More information:* Page 26

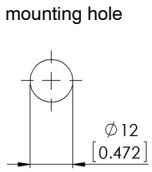
| Electrical values | |
|---|---|
| Operating voltage | 10 kV DC |
| Test voltage | 15 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Insulation material | PTFE |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) or gold (Au) |



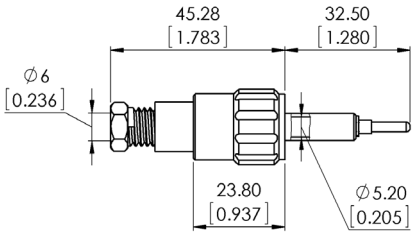
HB11 receptacle, panel mount HS11 plug, cable mount

**HB11 receptacle, panel mount**




**HS11 plug, cable mount**




drawing - dimensions in mm [inch]

| Part No. | Description | Plug, cable mount | Receptacle, panel mount | Contact silver plated | Contact gold plated |
|---|---|---|---|---|---|
| 7310020 | HS11 PTFE | • | | • | |
| 7310021 | HS11/Au PTFE | • | | | • |
| 7311020 | HB11 PTFE | | • | • | |
| 7311021 | HB11/Au PTFE | | • | | • |

## *Suitable HV cable, shielded*

| Part No. | Operating Voltage | Wire size | Outer diameter | Min. bend radius | Temperature range |
|---|---|---|---|---|---|
| 3330007 | 30 kV DC | 0.35 mm² [22 AWG] | 5.40 mm [.213"] | 54 mm [2.126"] | -25 °C to +90 °C [-13°F to +194°F] |

*More information: Page 26*



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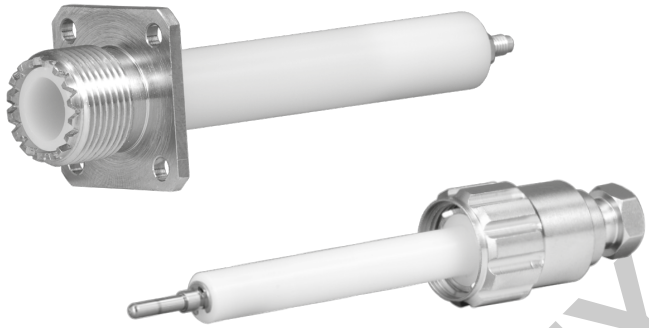
# Type HSB20 20 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 20 kV DC |
| Test voltage | 30 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Insulation material | PTFE |
| Mounting type receptacle | 4-hole flange |
| Contact plating | Silver (Ag) or gold (Au) |

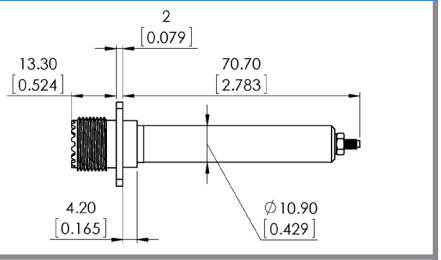


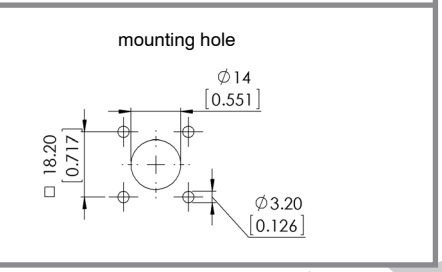
HB20 receptacle, panel mount



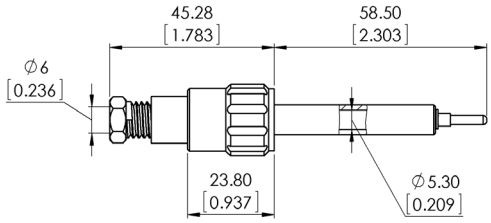
HS20 plug, cable mount

**HB20 receptacle, panel mount**




**HS20 plug, cable mount**




drawing - dimensions in mm [inch]

| Part No. | Description | Plug, cable mount | Receptacle, panel mount | Contact silver plated | Contact gold plated |
|---|---|---|---|---|---|
| 7320005 | HS20 PTFE | • | | • | |
| 7320006 | HS20/Au PTFE | • | | | • |
| 7321005 | HB20 PTFE | | • | • | |
| 7321006 | HB20/Au PTFE | | • | | • |

## Suitable HV cable, shielded

| Part No. | Operating Voltage | Wire size | Outer diameter | Min. bend radius | Temperature range |
|---|---|---|---|---|---|
| 3330007 | 30 kV DC | 0.35 mm² [22 AWG] | 5.40 mm [.213"] | 54 mm [2.126"] | -25 °C to +90 °C [-13°F to +194°F] |

*More information:* Page 26

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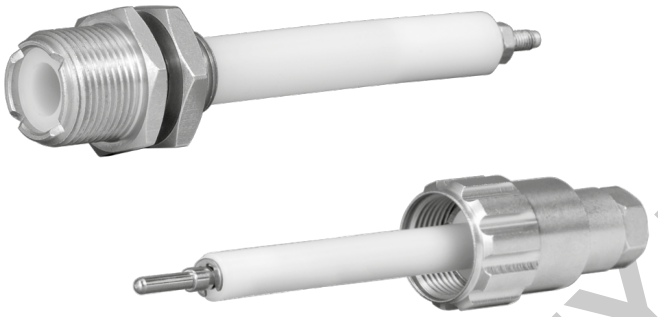
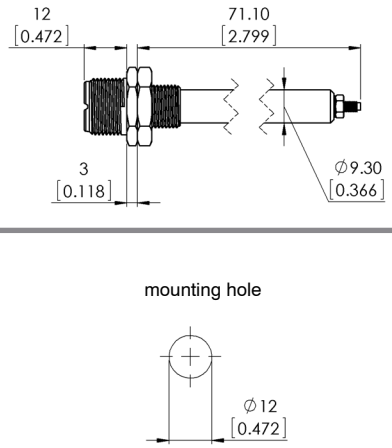
# Type HSB21 **20 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 20 kV DC |
| Test voltage | 30 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Insulation material | PTFE or POM |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) or gold (Au) |

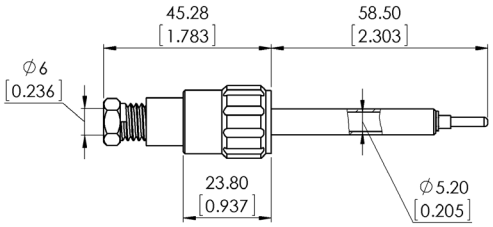


HB21 receptacle, panel mount  HS21 plug, cable mount

**HB21 receptacle, panel mount**




**HS21 plug, cable mount**




drawing - dimensions in mm [inch]

| Part No. | Description | Plug, cable mount | Receptacle, panel mount | Insulation PTFE | Insulation POM | Contact silver plated | Contact gold plated |
|---|---|---|---|---|---|---|---|
| 7320010 | HS21 POM | • | | | • | • | |
| 7320013 | HS21/Au POM | • | | | • | | • |
| 7320020 | HS21 PTFE | • | | • | | • | |
| 7320023 | HS21/Au PTFE | • | | • | | | • |
| 7321010 | HB21 POM | | • | | • | • | |
| 7321013 | HB21/Au POM | | • | | • | | • |
| 7321020 | HB21 PTFE | | • | • | | • | |
| 7321022 | HB21/Au PTFE | | • | • | | | • |

## *Suitable HV cable, shielded*

| Part No. | Operating Voltage | Wire size | Outer diameter | Min. bend radius | Temperature range |
|---|---|---|---|---|---|
| 3330007 | 30 kV DC | 0.35 mm² [22 AWG] | 5.40 mm [.213"] | 54 mm [2.126"] | -25 °C to +90 °C [-13°F to +194°F] |

*More information:* Page 26

# Type HSB30 30 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 30 kV DC |
| Test voltage | 45 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Insulation material | PTFE |
| Mounting type receptacle | 4-hole flange |
| Contact plating | Silver (Ag) or gold (Au) |

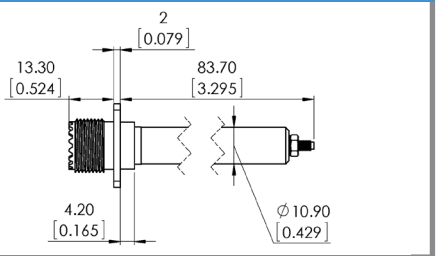
HB30 receptacle, panel mount

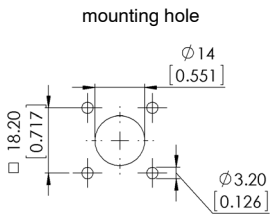


HS30 plug, cable mount



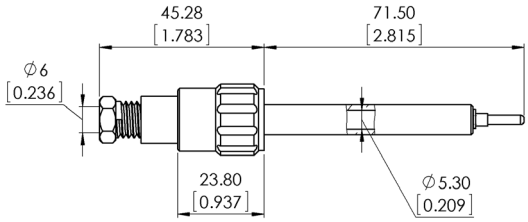
**HB30 receptacle, panel mount**




**HS30 plug, cable mount**

screwed cable gland




drawing - dimensions in mm [inch]

| Part No. | Description | Plug, cable mount | Receptacle, panel mount | Contact silver plated | Contact gold plated |
|---|---|---|---|---|---|
| 7331050 | HS30 PTFE | • | | • | |
| 7331051 | HB30 PTFE | | • | • | |
| 7331150 | HS30/Au PTFE | • | | | • |
| 7331151 | HB30/Au PTFE | | • | | • |

## Suitable HV cable, shielded

| Part No. | Operating Voltage | Wire size | Outer diameter | Min. bend radius | Temperature range |
|---|---|---|---|---|---|
| 3330007 | 30 kV DC | 0.35 mm² [22 AWG] | 5.40 mm [.213"] | 54 mm [2.126"] | -25 °C to +90 °C [-13°F to +194°F] |

*More information:* Page 26

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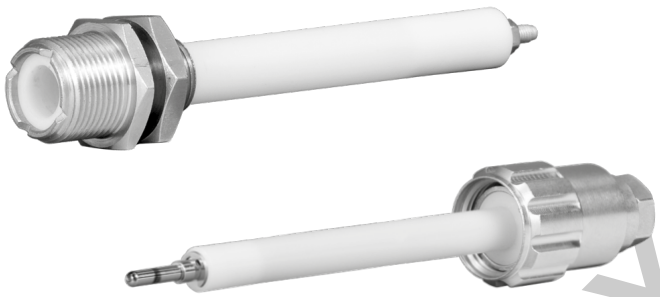
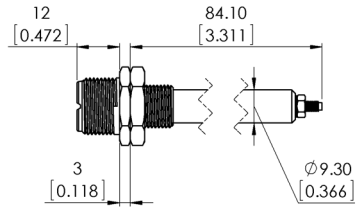
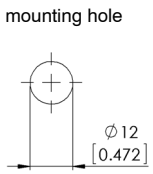
| Electrical values | |
|---|---|
| Operating voltage | 30 kV DC |
| Test voltage | 45 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Insulation material | PTFE |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) or gold (Au) |



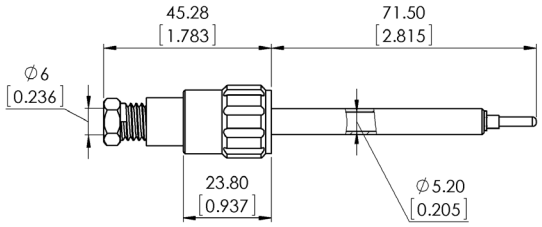
HB31 receptacle, panel mount HS31 plug, cable mount

**HB31 receptacle, panel mount**




**HS31 plug, cable mount**




drawing - dimensions in mm [inch]

| Part No. | Description | Plug, cable mount | Receptacle, panel mount | Contact silver plated | Contact gold plated |
|---|---|---|---|---|---|
| 7331052 | HS31 PTFE | • | | • | |
| 7331053 | HB31 PTFE | | • | • | |
| 7331152 | HS31/Au PTFE | • | | | • |
| 7331153 | HB31/Au PTFE | | • | | • |

## *Suitable HV cable, shielded*

| Part No. | Operating Voltage | Wire size | Outer diameter | Min. bend radius | Temperature range |
|---|---|---|---|---|---|
| 3330007 | 30 kV DC | 0.35 mm² [22 AWG] | 5.40 mm [.213"] | 54 mm [2.126"] | -25 °C to +90 °C [-13°F to +194°F] |

*More information: Page 26*



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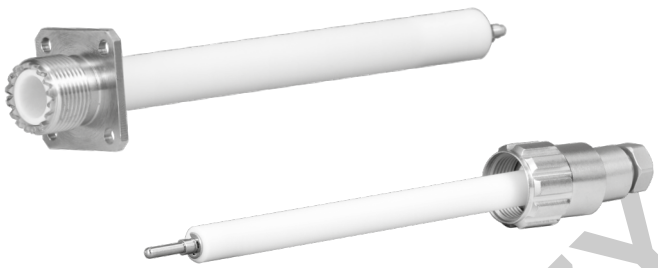
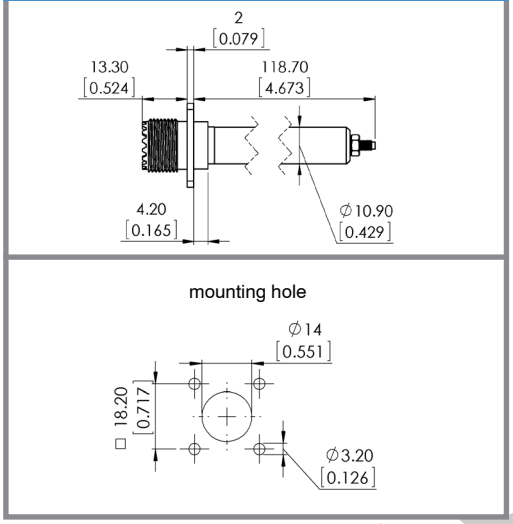
# Type HSB40 40 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 40 kV DC |
| Test voltage | 60 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Insulation material | PTFE |
| Mounting type receptacle | 4-hole flange |
| Contact plating | Silver (Ag) or gold (Au) |

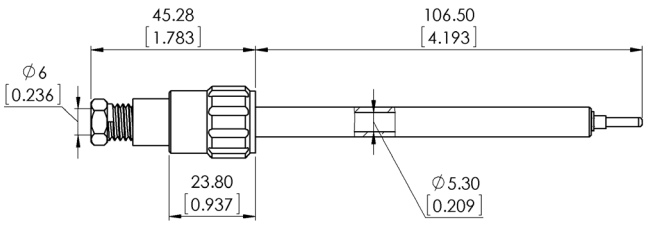


HB40 receptacle, panel mount  HS40 plug, cable mount

**HB40 receptacle, panel mount**




**HS40 plug, cable mount**




drawing - dimensions in mm [inch]

| Part No. | Description | Plug, cable mount | Receptacle, panel mount | Contact silver plated | Contact gold plated |
|---|---|---|---|---|---|
| 7332020 | HS40 PTFE | • | | • | |
| 7332021 | HS40/Au PTFE | • | | | • |
| 7332030 | HB40 PTFE | | • | • | |
| 7332031 | HB40/Au PTFE | | • | | • |

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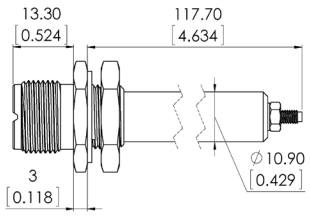
| Electrical values | |
|---|---|
| Operating voltage | 40 kV DC |
| Test voltage | 60 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Insulation material | PTFE |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) or gold (Au) |

HB41 receptacle, panel mount

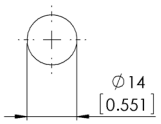


HS41 plug, cable mount

**HB41 receptacle, panel mount**

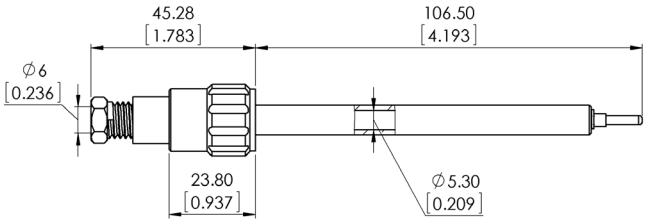



mounting hole




**HS41 plug, cable mount**

screwed cable gland




drawing - dimensions in mm [inch]

| Part No. | Description | Plug, cable mount | Receptacle, panel mount | Contact silver plated | Contact gold plated |
|---|---|---|---|---|---|
| 7332050 | HS41 PTFE | • | | • | |
| 7332051 | HS41/Au PTFE | • | | | • |
| 7332040 | HB41 PTFE | | • | • | |
| 7332041 | HB41/Au PTFE | | • | | • |



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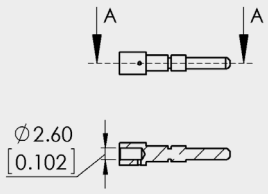
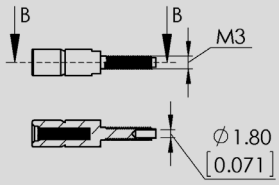
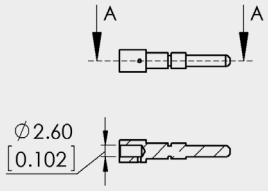
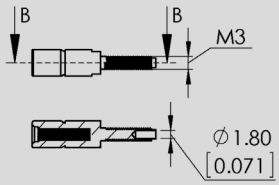
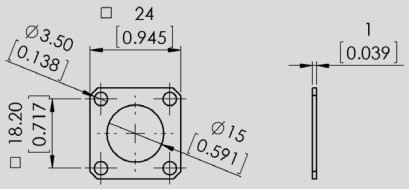
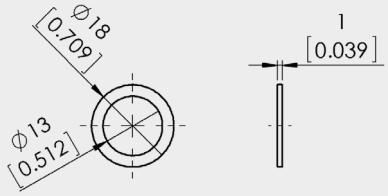
## Contacts

| Part No. | Description | Drawing |
|---|---|---|
| 6572001 | Male contact<br>2.5 mm silver plated (Ag) |  |
| 6572005 | Female contact<br>2.5 mm silver plated (Ag) |  |
| 6571025 | Male contact<br>2.5 mm gold plated (Au) |  |
| 6571027 | Female contact<br>2.5 mm gold plated (Au) |  |

drawing - dimensions in mm [inch]

## Gaskets

| Part No. | Description | Drawing |
|---|---|---|
| 6572092 | Flat gasket, 4-hole mount,<br>NBR, black,<br>for receptacle types HBx0 |  |
| 6572093 | Flat gasket, round flange,<br>NBR, black,<br>for receptacle types HBx1 |  |

drawing - dimensions in mm [inch]

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# Assembly instructions HS (plug, cable mount)





**1.**

**Part as supplied.**

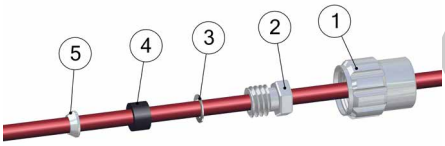
**2.**

**Parts included.**
Screw joint (1), screw (2), washer (3), clamping rubber (4), outer cone (5), basic part (6), snap ring (7), male contact (8).

**3.**

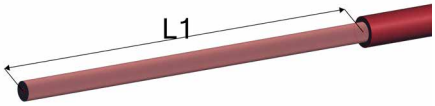
**Remove male contact.**
Loosen snap ring (7) and take out male contact (8).

**4.**




**Place screw joint (1), screw (2), washer (3), clamping rubber (4), outer cone (5) on cable.**
⚠ Respect correct order of parts (see picture).

**5.**




**Remove cable jacket.**

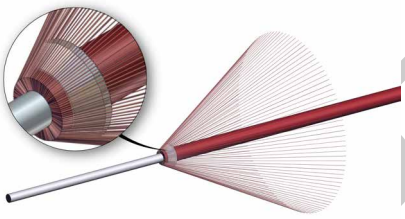
| Type | L1 mm [inch] |
|---|---|
| HS 10/11 | 31 [1.220"] |
| HS 20/21 | 56 [2.205"] |
| HS 30/31 | 69 [2.717"] |
| HS 40 | 104 [4.094"] |

⚠ Do not damage the metal shield. Do not damage the dielectric insulation. Respect the correct order of parts (see picture).

**6.**

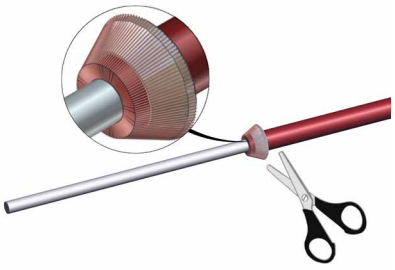
**Fold back shield braid over jacket.**

**7.**



**Prepare shield braid for cutting.**
Completely widen braid. Push outer cone (5) completely under shield braid.

**8.**



**Cut overlapping shield.**
⚠ Carefully remove shield parts. Loose shield parts can cause electrical breakdown.

**9.**

**Remove dielectric insulation (L2 = 5mm [.197"]).**

**10.**

**Solder contact (8) on conductor.**
⚠ Tin-solder must not remain on contact surface.

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# Assembly instructions HS (plug, cable mount)

## 11.

Completely insert cable in basic part (6).

## 12.

Completely slide clamping rubber (4) and washer (3) into basic part (6). Close housing with screw (2) (tightening torque = 3 Nm).

## 13.

Fix male contact (8) with snap ring (7).

## 14.

Put screw joint (1) on basic part (6).

## 15.

Assembly finished.

### *Note – important!*

1. Please read the assembly instructions carefully before assembling the cable.
2. Cable assemble must be done by trained and qualified personnel only.

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# Assembly instructions GB (plug, cable mount)

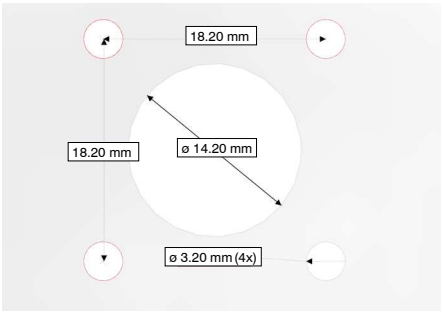




**1.**

Part as supplied.

**2.**




Panel cut out.

**3.**

⚠ For shielded cables: Fold back shield and make sure shield is insulated from solder point (conductor to contact - see step 5.).

**4.**

Remove dielectric insulation.

**5.**

Solder contact (8) on conductor.
⚠ Tin-solder must not remain on contact surface.

**6.**

It is recommended to protect solder point with a shrinking tube (shrinking tube not included).

⚠

## *Note – important!*

1. Please read the assembly instructions carefully before assembling the cable.
2. Cable assemble must be done by trained and qualified personnel only.

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# Cable assemblies - plugs

| Cable characteristics: | Value |
|---|---|
| Operating voltage | 30 kV DC |
| Wire size | 0.35 mm² [22 AWG] |
| Conductor construction | Tinned copper |
| Shield construction | Tinned copper braid |
| Operating temperature | -25 °C to +90 °C [-13°F to +194°F] |
| Outer diameter | 5.40 mm [.213"] |
| Color | RED |

| How to order (Example): | | |
|---|---|---|
| 7310001 | 007 | 01000 |
| \|_____\| | \|_\| | \|____\| |
| P/N plug | Cable code | Cable length in mm |

## Plug cable assemblies type HS10

| P/N | Description | Cable length in mm | Contact silver plated | Contact gold plated |
|---|---|---|---|---|
| 7310001.007.xxxxx | HSC10-007 PTFE (*length*) mm | (xxxxx) | • | |
| 7310003.007.xxxxx | HSC10-007/Au PTFE (*length*) mm | (xxxxx) | | • |

## Plug cable assemblies type HS11

| P/N | Description | Cable length in mm | Contact silver plated | Contact gold plated |
|---|---|---|---|---|
| 7310020.007.xxxxx | HSC11-007 PTFE (*length*) mm | (xxxxx) | • | |
| 7310021.007.xxxxx | HSC11-007/Au PTFE (*length*) mm | (xxxxx) | | • |

## Plug cable assemblies type HS20

| P/N | Description | Cable length in mm | Contact silver plated | Contact gold plated |
|---|---|---|---|---|
| 7320005.007.xxxxx | HSC20-007 PTFE (*length*) mm | (xxxxx) | • | |
| 7320006.007.xxxxx | HSC20-007/Au PTFE (*length*) mm | (xxxxx) | | • |

## Plug cable assemblies type HS21

| P/N | Description | Cable length in mm | Contact silver plated | Contact gold plated |
|---|---|---|---|---|
| 7320010.007.xxxxx | HSC21-007 POM (*length*) mm | (xxxxx) | • | |
| 7320013.007.xxxxx | HSC21-007/Au POM (*length*) mm | (xxxxx) | | • |
| 7320020.007.xxxxx | HSC21-007 PTFE (*length*) mm | (xxxxx) | • | |
| 7320023.007.xxxxx | HSC21-007/Au PTFE (*length*) mm | (xxxxx) | | • |

## Plug cable assemblies type HS30

| P/N | Description | Cable length in mm | Contact silver plated | Contact gold plated |
|---|---|---|---|---|
| 7331050.007.xxxxx | HSC30-007 PTFE (*length*) mm | (xxxxx) | • | |
| 7331150.007.xxxxx | HSC30-007/Au PTFE (*length*) mm | (xxxxx) | | • |

## Plug cable assemblies type HS31

| P/N | Description | Cable length in mm | Contact silver plated | Contact gold plated |
|---|---|---|---|---|
| 7331052.007.xxxxx | HSC31-007 PTFE (*length*) mm | (xxxxx) | • | |
| 7331152.007.xxxxx | HSC31-007/Au PTFE (*length*) mm | (xxxxx) | | • |

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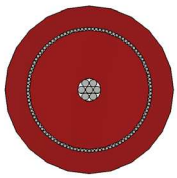
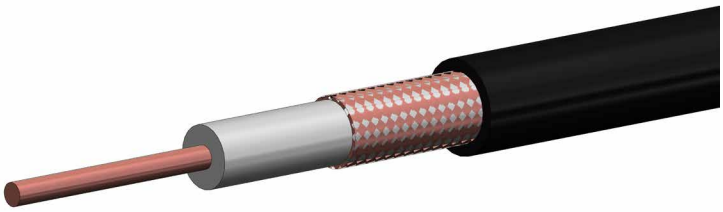


Cross section



Cable construction

## HV cable for connector types HSB10 – HSB31 (10 – 30 kV DC)

| Part No. 3330007 | |
|---|---|
| Description | HV cable 30 kV DC, coaxial cable |
| Operating voltage | 30 kV DC |
| Test voltage | 60 kV DC |
| Capacitance | 82.7 pF/m |
| Conductor resistance | 58.7 Ω/km |
| Insulation resistance | 5.000 MΩ x km |
| Temperature | -25°C to +90°C [-13°F to +194°F] |

| Dimensions | |
|---|---|
| Wire size | 0.35 mm² [22 AWG] |
| Wire material | CuSn |
| Wire structure | 7 x 0.25 mm [.010"] |
| Dielectric insulation material | PE, red |
| - diameter | 3.9 mm [.154"] |
| Screen material | CuSn |
| - diameter | 4.4 mm [.173"] |
| Jacket material | PVC, red |
| - diameter | 5.4 mm [.213"] |



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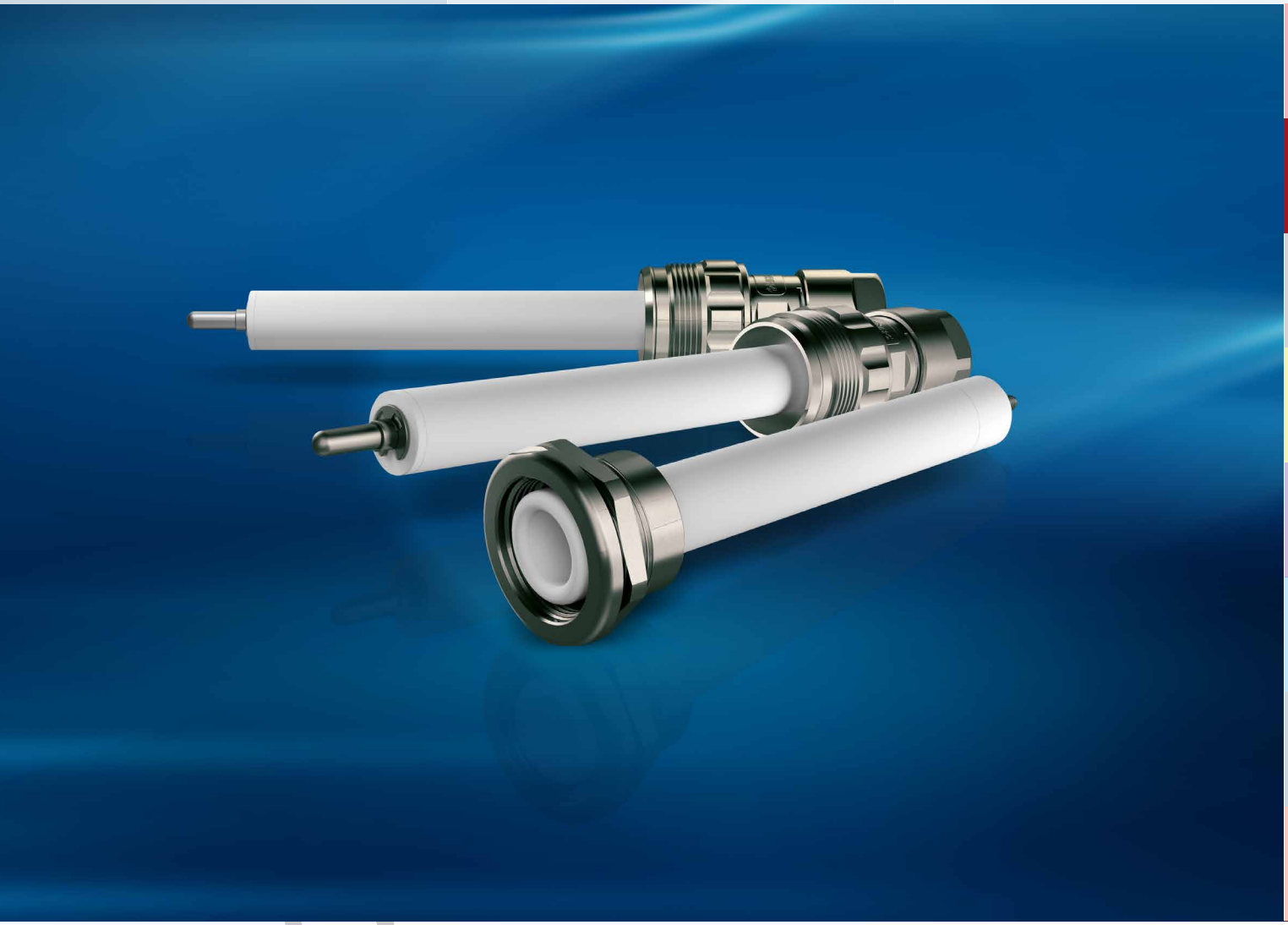
# 100 Series





- Operating voltage up to 100 kV DC
- Operating current up to 80 Amps
- Advanced contact technology
- Oil tight receptacles available
- High performance insulation materials thermoplastic

www.bzy

# General characteristics and technical data Series 100



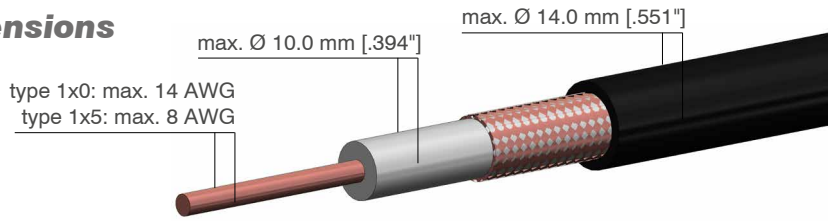
| Housing | |
|---|---|
| Locking system | Threaded coupling |
| Mounting type (panel mount connector) | Round flange |
| Housing material | Brass (CuZn) |
| Surface plating | Nickel (Ni) |
| Protection class (mated connector) | IP67 |
| Operating temperature | -30°C to +80°C [-22°F to +176°F] |

| Contacts 2.5 mm (connector types SB1x0) | |
|---|---|
| Termination method | Solder (male contact), solder / screw (female contact) |
| Rated current | 30 A |
| Max. operating current | 40 A |
| Pulse current | 3000 A |
| Contact resistance | 300 $\mu\Omega$ |
| Contact diameter | 2.5 mm [.173"] |
| Contact diameter | 2.5 mm² [14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Insertion / Withdrawal force | 5.5 N / 4.0 N |
| Mating cycles | 100000 |
| Rated temperature | +120°C [+248°F] |

| Contacts 5 mm (connector types SB1x5) | |
|---|---|
| Termination method | Solder (male contact), solder / screw (female contact) |
| Rated current | 80 A |
| Max. operating current | 110 A |
| Pulse current | 10000 A |
| Contact resistance | 150 $\mu\Omega$ |
| Contact diameter | 5 mm [.197"] |
| Max. wire size | 10 mm² [8 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Insertion / Withdrawal force | 15 N / 10 N |
| Mating cycles | 100000 |
| Rated temperature | +120°C [+248°F] |

| Insulator | |
|---|---|
| Number of contacts | 1 |
| Insulation material | Thermoplastic |
| CTI value | 600 |
| Flammability class thermoplastic | UL94 V-0 |
| Operating temperature thermoplastic | -50°C to +200°C [-58°F to +392°F] |
| Insulating material group thermoplastic / POM | I (DIN IEC 60664) |

## Suitable cable dimensions

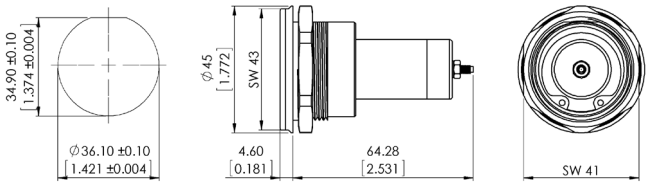


# Type SB110 10 kV DC

GB110 receptacle, panel mount

KS110 plug, cable mount

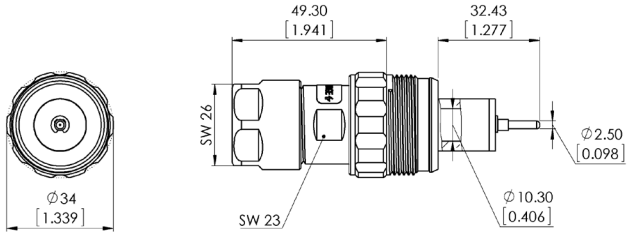
**GB110 receptacle, panel mount (standard / oil tight)**




panel cut out

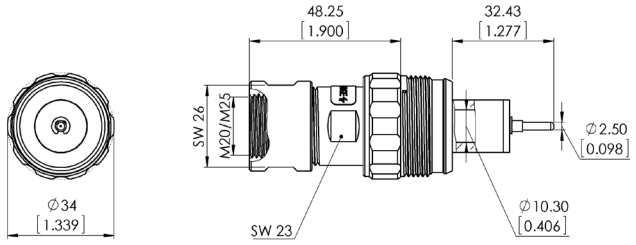
rear view

**KS110 plug, cable mount, with integrated cable gland**




front view

**KS110 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 10 kV DC |
| Test voltage | 15 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 2.5 mm [.173"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200101 | KS110/6.5-8 PTFE | • | | • | | | | | |
| 7200100 | KS110/8-9.5 PTFE | • | | | • | | | | |
| 7200102 | KS110/9.5-11 PTFE | • | | | | • | | | |
| 7200104 | KS110/11-12.5 PTFE | • | | | | | • | | |
| 7200103 | KS110/12.5-14 PTFE | • | | | | | | • | |
| 7200105 | KS110/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200106 | KS110/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200107 | GB110 PTFE | | • | | | | | | |
| 7200108 | GB110/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*

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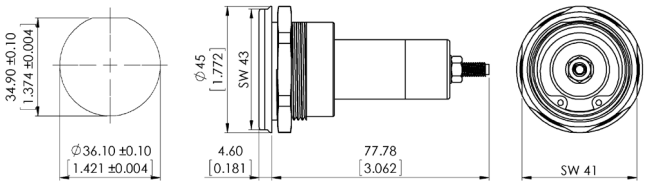
# Type SB115 **10 kV DC**

GB115 receptacle, panel mount

KS115 plug, cable mount

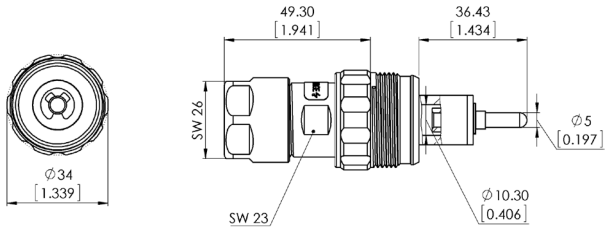
| Electrical values | |
|---|---|
| Operating voltage | 10 kV DC |
| Test voltage | 15 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

**GB115 receptacle, panel mount (standard / oil tight)**



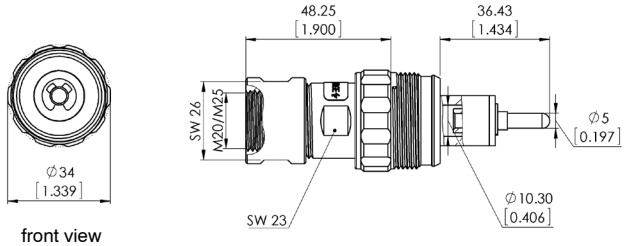

panel cut out — rear view

**KS115 plug, cable mount, with integrated cable gland**




front view

**KS115 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200151 | KS115/6.5-8 PTFE | • | | • | | | | | |
| 7200150 | KS115/8-9.5 PTFE | • | | | • | | | | |
| 7200152 | KS115/9.5-11 PTFE | • | | | | • | | | |
| 7200154 | KS115/11-12.5 PTFE | • | | | | | • | | |
| 7200153 | KS115/12.5-14 PTFE | • | | | | | | • | |
| 7200155 | KS115/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200156 | KS115/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200157 | GB115 PTFE | | • | | | | | | |
| 7200158 | GB115/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*



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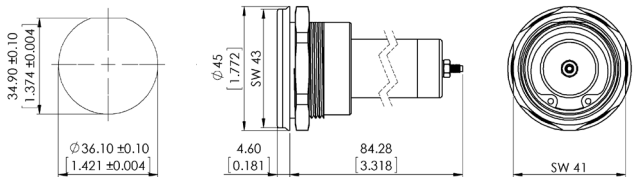
# Type SB120 20 kV DC

GB120 receptacle, panel mount

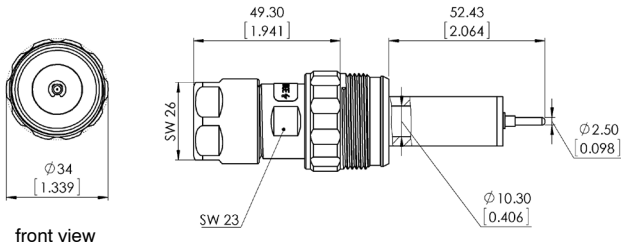
KS120 plug, cable mount

**GB120 receptacle, panel mount (standard / oil tight)**



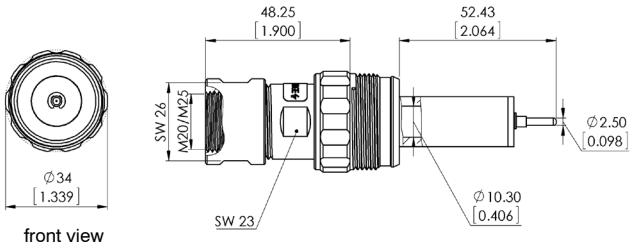

panel cut out — rear view

**KS120 plug, cable mount, with integrated cable gland**




front view

**KS120 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 20 kV DC |
| Test voltage | 30 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 2.5 mm [.173"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200201 | KS120/6.5-8 PTFE | • | | • | | | | | |
| 7200200 | KS120/8-9.5 PTFE | • | | | • | | | | |
| 7200202 | KS120/9.5-11 PTFE | • | | | | • | | | |
| 7200204 | KS120/11-12.5 PTFE | • | | | | | • | | |
| 7200203 | KS120/12.5-14 PTFE | • | | | | | | • | |
| 7200205 | KS120/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200206 | KS120/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200207 | GB120 PTFE | | • | | | | | | |
| 7200208 | GB120/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*

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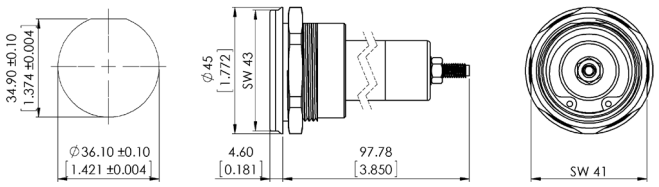
GB125 receptacle, panel mount

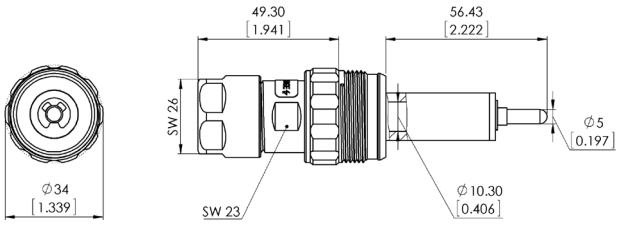
KS125 plug, cable mount

**GB125 receptacle, panel mount (standard / oil tight)**



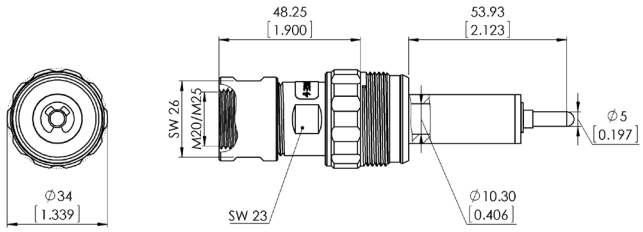

panel cut out — rear view

**KS125 plug, cable mount, with integrated cable gland**




front view

**KS125 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 20 kV DC |
| Test voltage | 30 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200251 | KS125/6.5-8 PTFE | • | | • | | | | | |
| 7200250 | KS125/8-9.5 PTFE | • | | | • | | | | |
| 7200252 | KS125/9.5-11 PTFE | • | | | | • | | | |
| 7200254 | KS125/11-12.5 PTFE | • | | | | | • | | |
| 7200253 | KS125/12.5-14 PTFE | • | | | | | | • | |
| 7200255 | KS125/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200256 | KS125/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200257 | GB125 PTFE | | • | | | | | | |
| 7200258 | GB125/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*



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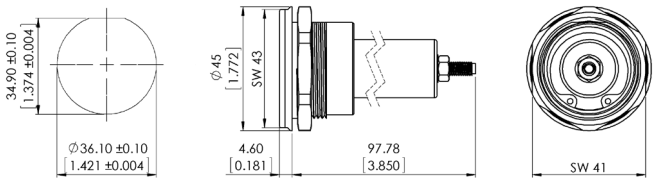
# Type SB125 Pro 20 kV DC

GB125 Pro receptacle, panel mount

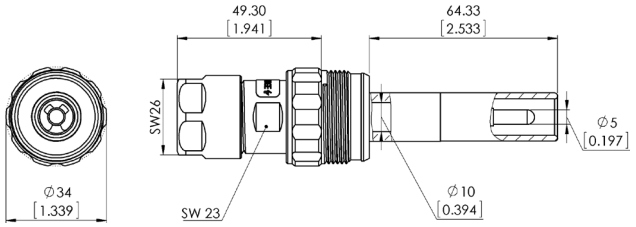
KS125 Pro plug, cable mount

**GB125 Pro receptacle, panel mount (standard / oil tight)**



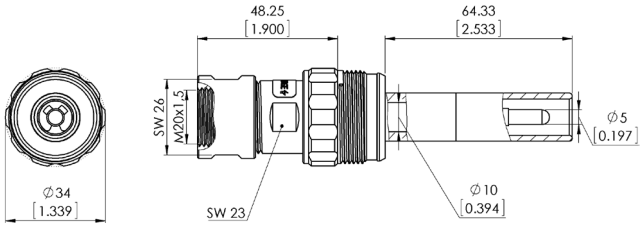

panel cut out — rear view

**KS125 Pro plug, cable mount, with integrated cable gland**




front view

**KS125 Pro plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 20 kV DC |
| Test voltage | 30 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Male contact (plug) | Finger-proof |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200261 | KS125Pro/6.5-8 PTFE | • | | • | | | | | |
| 7200260 | KS125Pro/8-9.5 PTFE | • | | | • | | | | |
| 7200262 | KS125Pro/9.5-11 PTFE | • | | | | • | | | |
| 7200264 | KS125Pro/11-12.5 PTFE | • | | | | | • | | |
| 7200263 | KS125Pro/12.5-14 PTFE | • | | | | | | • | |
| 7200265 | KS125Pro/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200266 | KS125Pro/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200267 | GB125Pro PTFE | | • | | | | | | |
| 7200268 | GB125Pro/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*

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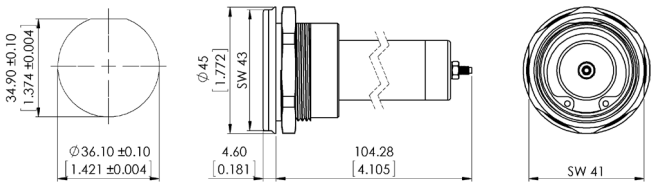
GB130 receptacle, panel mount

KS130 plug, cable mount

| Electrical values | |
|---|---|
| Operating voltage | 30 kV DC |
| Test voltage | 45 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 2.5 mm [.173"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

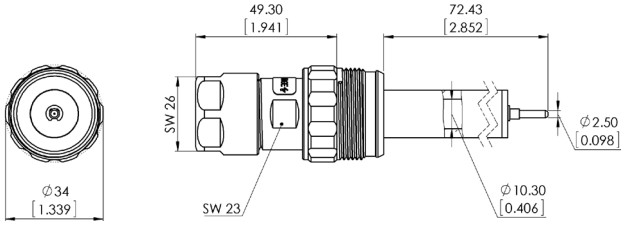
**GB130 receptacle, panel mount (standard / oil tight)**




panel cut out

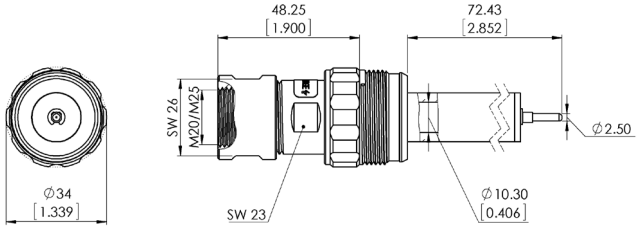
rear view

**KS130 plug, cable mount, with integrated cable gland**




front view

**KS130 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200301 | KS130/6.5-8 PTFE | • | | • | | | | | |
| 7200300 | KS130/8-9.5 PTFE | • | | | • | | | | |
| 7200302 | KS130/9.5-11 PTFE | • | | | | • | | | |
| 7200304 | KS130/11-12.5 PTFE | • | | | | | • | | |
| 7200303 | KS130/12.5-14 PTFE | • | | | | | | • | |
| 7200305 | KS130/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200306 | KS130/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200307 | GB130 PTFE | | • | | | | | | |
| 7200308 | GB130/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*



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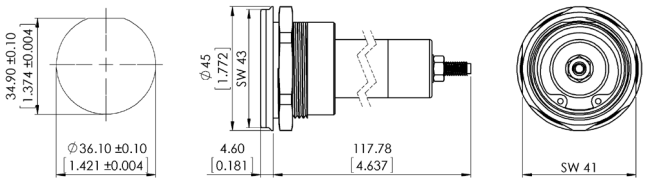
# Type SB135 30 kV DC

GB135 receptacle, panel mount

KS135 plug, cable mount

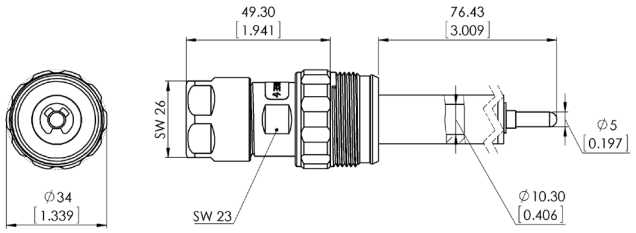
| Electrical values | |
|---|---|
| Operating voltage | 30 kV DC |
| Test voltage | 45 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

**GB135 receptacle, panel mount (standard / oil tight)**



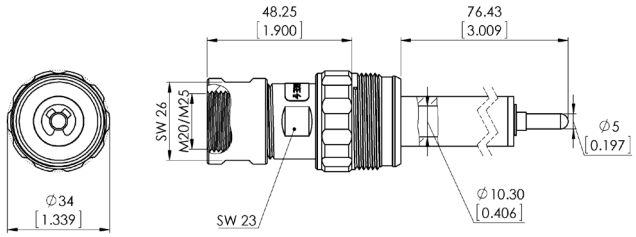

panel cut out — rear view

**KS135 plug, cable mount, with integrated cable gland**




front view

**KS135 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200351 | KS135/6.5-8 PTFE | • | | • | | | | | |
| 7200350 | KS135/8-9.5 PTFE | • | | | • | | | | |
| 7200352 | KS135/9.5-11 PTFE | • | | | | • | | | |
| 7200354 | KS135/11-12.5 PTFE | • | | | | | • | | |
| 7200353 | KS135/12.5-14 PTFE | • | | | | | | • | |
| 7200355 | KS135/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200356 | KS135/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200357 | GB135 PTFE | | • | | | | | | |
| 7200358 | GB135/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*

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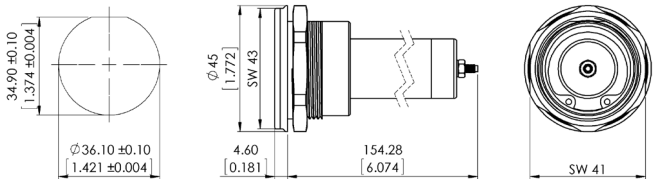
# Type SB150 **50 kV DC**

GB150 receptacle,
panel mount

KS150 plug,
cable mount

| Electrical values | |
|---|---|
| Operating voltage | 50 kV DC |
| Test voltage | 75 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 2.5 mm [.173"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

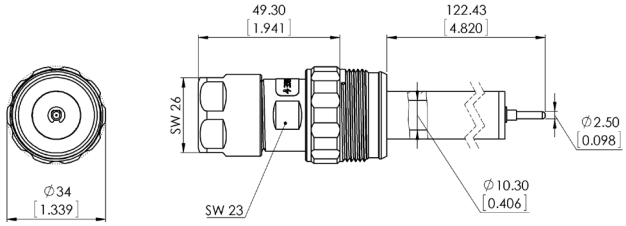
**GB150 receptacle, panel mount (standard / oil tight)**




panel cut out

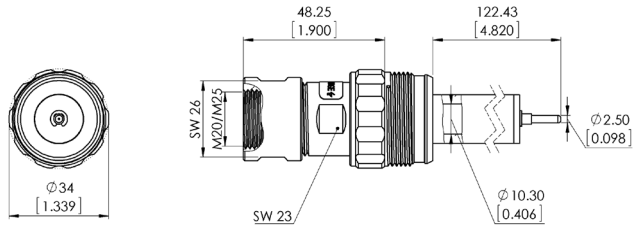
rear view

**KS150 plug, cable mount, with integrated cable gland**




front view

**KS150 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200501 | KS150/6.5-8 PTFE | • | | • | | | | | |
| 7200500 | KS150/8-9.5 PTFE | • | | | • | | | | |
| 7200502 | KS150/9.5-11 PTFE | • | | | | • | | | |
| 7200504 | KS150/11-12.5 PTFE | • | | | | | • | | |
| 7200503 | KS150/12.5-14 PTFE | • | | | | | | • | |
| 7200505 | KS150/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200506 | KS150/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200507 | GB150 PTFE | | • | | | | | | |
| 7200508 | GB150/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*



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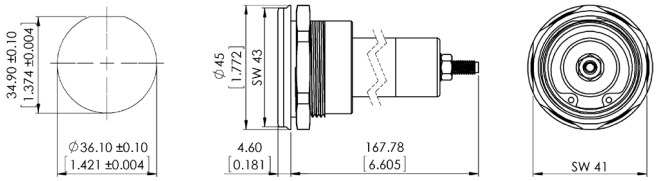
# Type SB155 50 kV DC

GB155 receptacle, panel mount

KS155 plug, cable mount

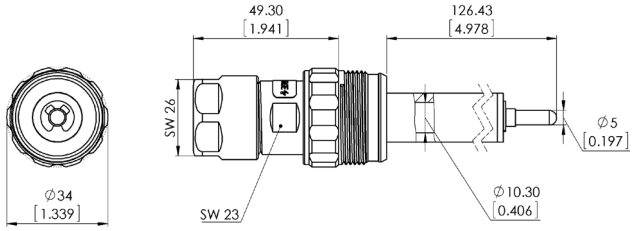
## GB155 receptacle, panel mount (standard / oil tight)




panel cut out

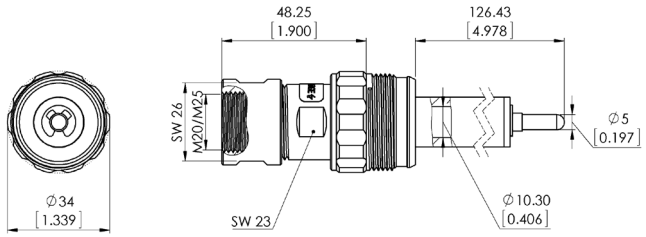
rear view

## KS155 plug, cable mount, with integrated cable gland




front view

## KS155 plug, cable mount, with M20/M25 adapter for external cable gland




front view

drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 50 kV DC |
| Test voltage | 75 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200551 | KS155/6.5-8 PTFE | • | | • | | | | | |
| 7200550 | KS155/8-9.5 PTFE | • | | | • | | | | |
| 7200552 | KS155/9.5-11 PTFE | • | | | | • | | | |
| 7200554 | KS155/11-12.5 PTFE | • | | | | | • | | |
| 7200553 | KS155/12.5-14 PTFE | • | | | | | | • | |
| 7200555 | KS155/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200556 | KS155/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200557 | GB155 PTFE | | • | | | | | | |
| 7200558 | GB155/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*

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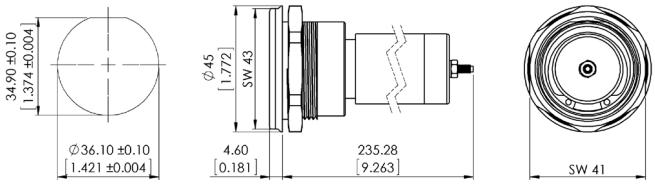
GB160 receptacle,
panel mount

KS160 plug,
cable mount

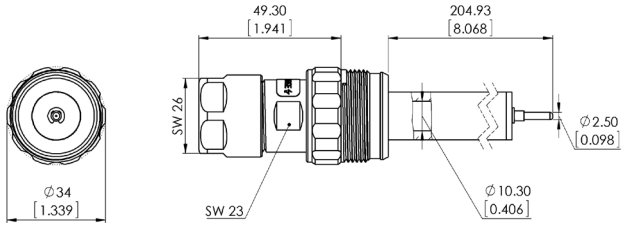
**GB160 receptacle, panel mount (standard / oil tight)**




panel cut out

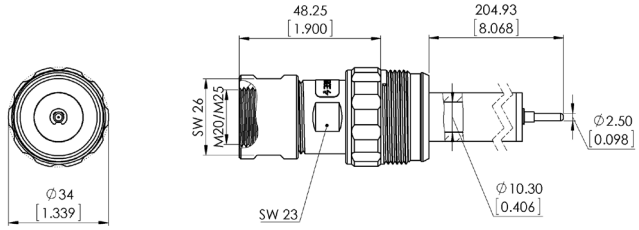
rear view

**KS160 plug, cable mount, with integrated cable gland**




front view

**KS160 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 60 kV DC |
| Test voltage | 90 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 2.5 mm [.173"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200601 | KS160/6.5-8 PTFE | • | | • | | | | | |
| 7200600 | KS160/8-9.5 PTFE | • | | | • | | | | |
| 7200602 | KS160/9.5-11 PTFE | • | | | | • | | | |
| 7200604 | KS160/11-12.5 PTFE | • | | | | | • | | |
| 7200603 | KS160/12.5-14 PTFE | • | | | | | | • | |
| 7200605 | KS160/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200609 | KS160/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200607 | GB160 PTFE | | • | | | | | | |
| 7200608 | GB160/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*



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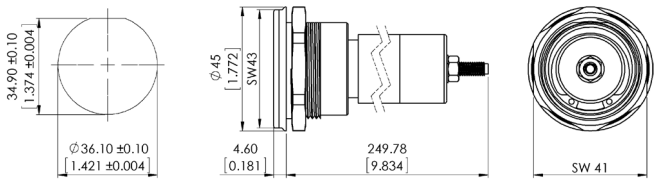
# Type SB165 60 kV DC

GB165 receptacle,
panel mount

KS165 plug,
cable mount

| Electrical values | |
|---|---|
| Operating voltage | 60 kV DC |
| Test voltage | 90 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

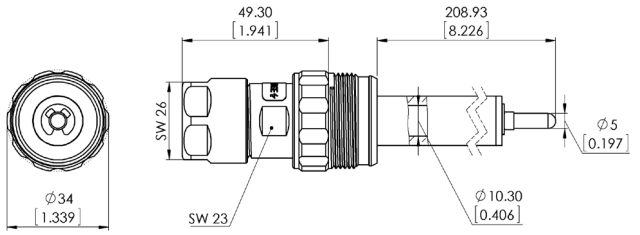
**GB165 receptacle, panel mount (standard / oil tight)**




panel cut out

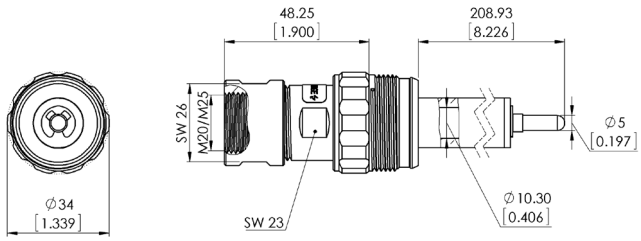
rear view

**KS165 plug, cable mount, with integrated cable gland**




front view

**KS165 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200651 | KS165/6.5-8 PTFE | • | | • | | | | | |
| 7200650 | KS165/8-9.5 PTFE | • | | | • | | | | |
| 7200652 | KS165/9.5-11 PTFE | • | | | | • | | | |
| 7200654 | KS165/11-12.5 PTFE | • | | | | | • | | |
| 7200653 | KS165/12.5-14 PTFE | • | | | | | | • | |
| 7200655 | KS165/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200656 | KS165/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200657 | GB165 PTFE | | • | | | | | | |
| 7200658 | GB165/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*

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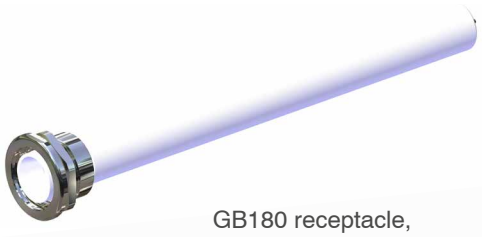
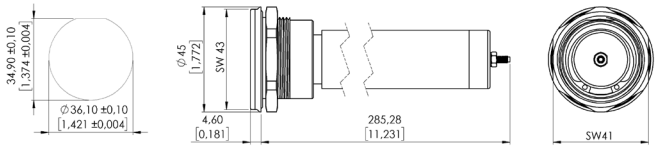


GB180 receptacle, panel mount

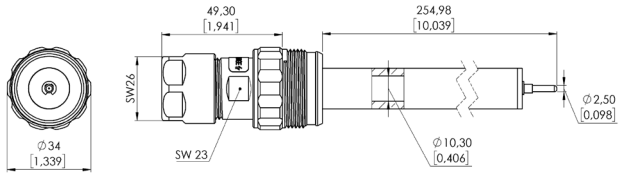
KS180 plug, cable mount

**GB180 recaptacle, panel mount (standard / oil tight)**



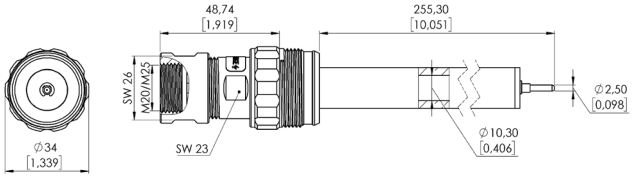

panel cut out rear view

**KS180 plug, cable mount, with integrated cable gland**




front view

**KS180 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 80 kV DC |
| Test voltage | 120 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 2.5 mm [.173"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200800 | KS180/6,5-8 PTFE | • | | • | | | | | |
| 7200801 | KS180/8-9,5 PTFE | • | | | • | | | | |
| 7200802 | KS180/9,5-11 PTFE | • | | | | • | | | |
| 7200803 | KS180/11-12,5 PTFE | • | | | | | • | | |
| 7200804 | KS180/12,5-14 PTFE | • | | | | | | • | |
| 7200805 | KS180/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200806 | KS180/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200807 | GB180 PTFE | | • | | | | | | |
| 7200808 | GB180/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*



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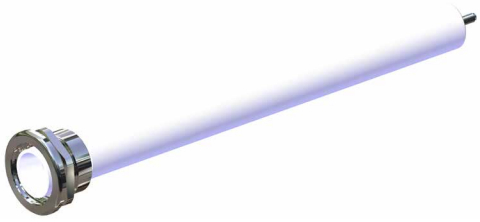
# Type SB185 80 kV DC

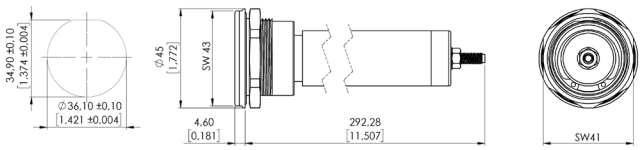


GB185 receptacle, panel mount

KS185 plug, cable mount

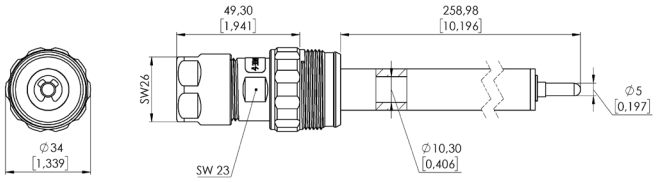
| Electrical values | |
|---|---|
| Operating voltage | 80 kV DC |
| Test voltage | 120 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

**GB185 recaptacle, panel mount (standard / oil tight)**



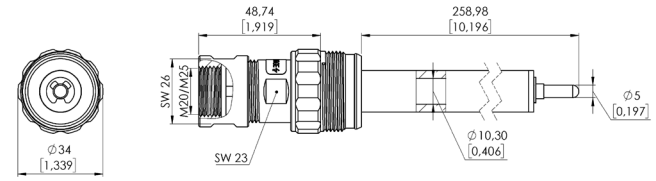

panel cut out rear view

**KS185 plug, cable mount, with integrated cable gland**




front view

**KS185 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7200850 | KS185/6,5-8 PTFE | • | | • | | | | | |
| 7200851 | KS185/8-9,5 PTFE | • | | | • | | | | |
| 7200852 | KS185/9,5-11 PTFE | • | | | | • | | | |
| 7200853 | KS185/11-12,5 PTFE | • | | | | | • | | |
| 7200854 | KS185/12,5-14 PTFE | • | | | | | | • | |
| 7200855 | KS185/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7200856 | KS185/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7200857 | GB185 PTFE | | • | | | | | | |
| 7200858 | GB185/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*

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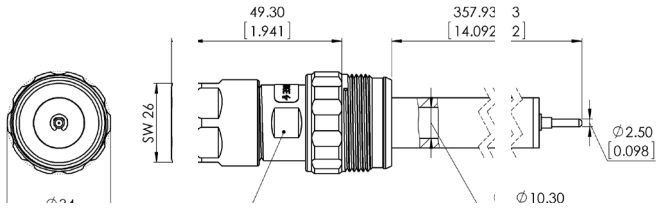
GB1100 receptacle, panel mount

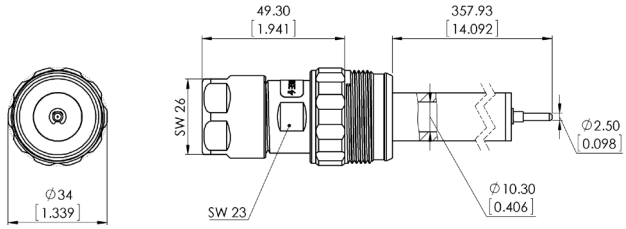
KS1100 plug, cable mount

**GB1100 receptacle, panel mount (standard / oil tight)**



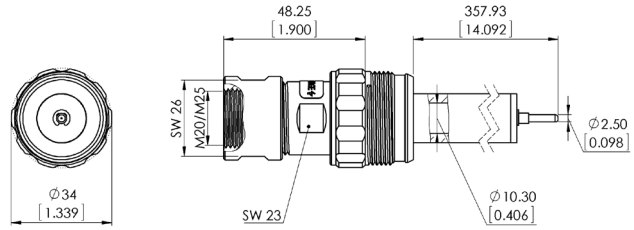

panel cut out rear view

**KS1100 plug, cable mount, with integrated cable gland**




front view

**KS1100 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 100 kV DC |
| Test voltage | 150 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 2.5 mm [.173"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7201001 | KS1100/6.5-8 PTFE | • | | • | | | | | |
| 7201000 | KS1100/8-9.5 PTFE | • | | | • | | | | |
| 7201002 | KS1100/9.5-11 PTFE | • | | | | • | | | |
| 7201004 | KS1100/11-12.5 PTFE | • | | | | | • | | |
| 7201003 | KS1100/12.5-14 PTFE | • | | | | | | • | |
| 7201005 | KS1100/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7201006 | KS1100/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7201007 | GB1100 PTFE | | • | | | | | | |
| 7201008 | GB1100/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

***Accessories:*** *Page 44*
***Mounting instructions:*** *Pages 46-49*
***Cables:*** *Pages 50-51*



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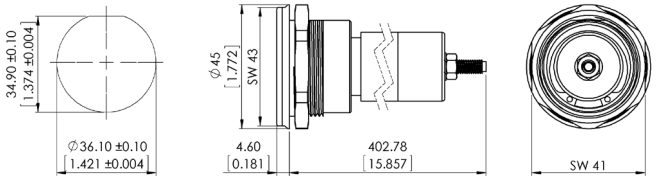
# Type SB1105 100 kV DC

GB1105 receptacle, panel mount

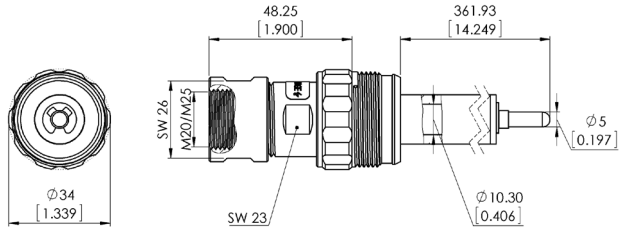
KS1105 plug, cable mount

**GB1105 receptacle, panel mount (standard / oil tight)**



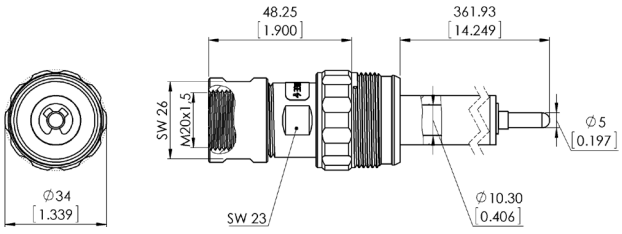

panel cut out — rear view

**KS1105 plug, cable mount, with integrated cable gland**




front view

**KS1105 plug, cable mount, with M20/M25 adapter for external cable gland**




front view

drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 100 kV DC |
| Test voltage | 150 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 5.0 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | clamping range for cables Ø 6.5 - 8 mm [.256" - .315"] | clamping range for cables Ø 8 - 9.5 mm [.315" - .374"] | clamping range for cables Ø 9.5 - 11 mm [.374" - .433"] | clamping range for cables Ø 11 - 12.5 mm [.433" - .492"] | clamping range for cables Ø 12.5 - 14 mm [.492" - .551"] | oil tight version |
|---|---|---|---|---|---|---|---|---|---|
| 7201051 | KS1105/6.5-8 PTFE | • | | • | | | | | |
| 7201050 | KS1105/8-9.5 PTFE | • | | | • | | | | |
| 7201052 | KS1105/9.5-11 PTFE | • | | | | • | | | |
| 7201054 | KS1105/11-12.5 PTFE | • | | | | | • | | |
| 7201053 | KS1105/12.5-14 PTFE | • | | | | | | • | |
| 7201055 | KS1105/M20 PTFE | • | | with adapter M20x1.5 for external cable gland | | | | | |
| 7201056 | KS1105/M25 PTFE | • | | with adapter M25x1.5 for external cable gland | | | | | |
| 7201057 | GB1105 PTFE | | • | | | | | | |
| 7201058 | GB1105/Ö PTFE | | • | | | | | | • |

*KV = screwed cable gland

**Accessories:** *Page 44*
**Mounting instructions:** *Pages 46-49*
**Cables:** *Pages 50-51*

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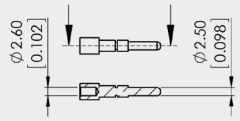
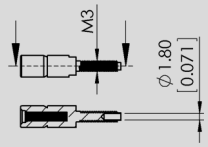
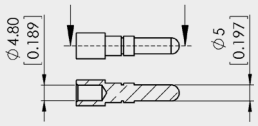
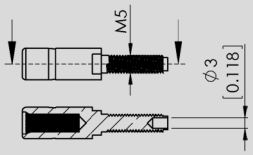
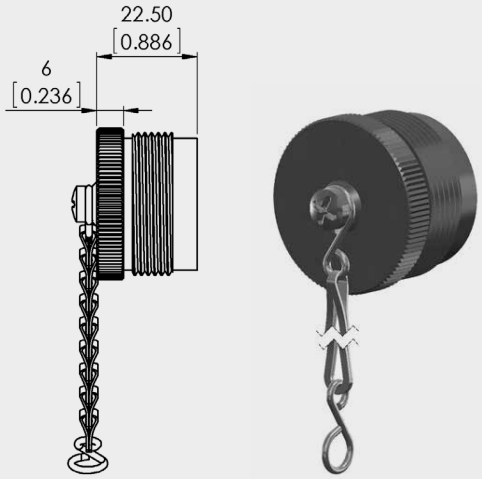
## Contacts

| P/N | Description | Drawing |
|---|---|---|
| 6572001 | Male contact<br>2.5 mm<br>silver plated (Ag) |  |
| 6572005 | Female contact<br>2.5 mm<br>silver plated (Ag) |  |
| 6672050 | Male contact<br>5 mm<br>silver plated (Ag) |  |
| 6572177 | Female contact<br>5 mm<br>silver plated (Ag) |  |

## Covering

| P/N | Description |
|---|---|
| 6671011 | Threaded covering with chain for receptacles Series 100 |

**Drawing**




length of chain approx. 135 mm

drawing - dimensions in mm [inch]

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# Assembly Instructions Series 100 (plug, cable mount)





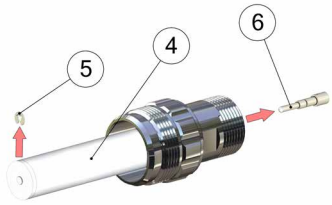
## 1.

**Part as delivered.**

## 2.

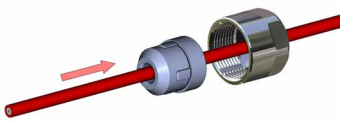
**Components.**
**Cap (1), sealing insert (2), housing (3), insulator (4).**

## 3.



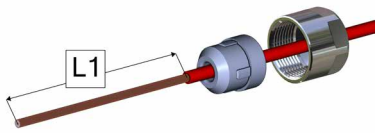

**Remove snap ring (5) and take out male contact (6).**

## 4.



**Place cap (1) and sealing insert (2) on cable.**
⚠ Respect correct order of parts (see picture).

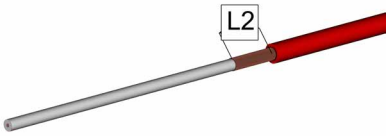
## 5.




**Remove cable jacket.**
⚠ Do not damage shield braid.

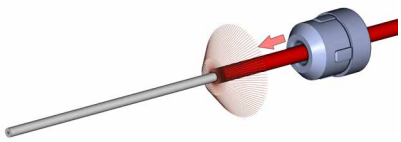
| Types | min. L1 mm [inch] |
|---|---|
| S110 / S115 | 52 [2.037"] |
| S120 / S125 / S125 Pro | 72 [2.824"] |
| S130 / S135 | 92 [3.611"] |
| S150 / S155 | 142 [5.580"] |
| S160 / S165 | 224 [8.828"] |
| S1100 / S1105 | 377 [14.852"] |

## 6.




**Cut shield braid roughly about 30 mm [1.181"] (=L2)**
⚠ Carefully remove shield parts. Loose shield parts can cause electrical breakdown.

## 7.



**Completely widen shield braid. Push seal insert (2) under shield braid.**

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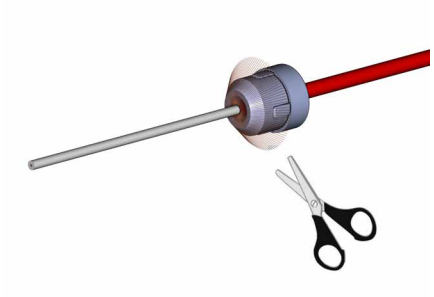
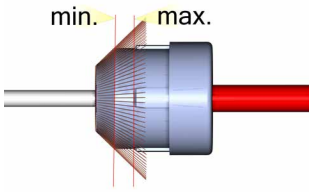
# Assembly Instructions Series 100 (plug, cable mount)

## 8.



**Cut shield to length.**
⚠ For length see step 9.

## 9.




**Make sure shield length is between min. and max. mark.**

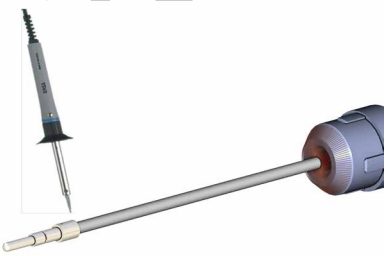
## 10.

**Remove dielectric insulation.**

| Types | min. L3 mm [inch] |
|---|---|
| KS 110/120/130/150/160/1100 | 5 [.197"] |
| KS 115/125/125 Pro/135/155/165/1105 | 8 [.315"] |

⚠ Do not damage conductor.

## 11.

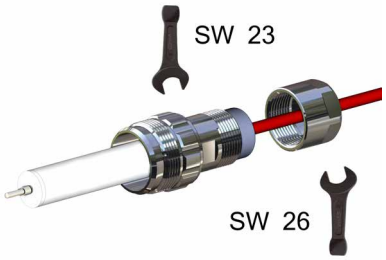


**Solder contact (6) on conductor.**
⚠ Tin-solder must not remain on contact surface.

## 12.

**Completely insert cable in insulation part (4) until seal insert (2) plugs in housing (3).**

## 13.




**Screw cap (1) onto housing (3).**
⚠ Wrench size housing SW23, Wrench size cap SW26, tightening torque 10 Nm.

## 14.

**Secure contact (6) with snap ring (5).**

## 15.

**Assembly finished.**

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# Assembly Instructions Series 100 (receptacle, panel mount)

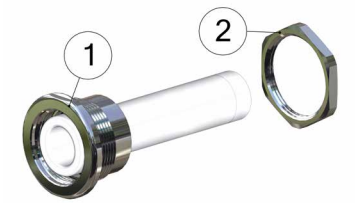




**1.**

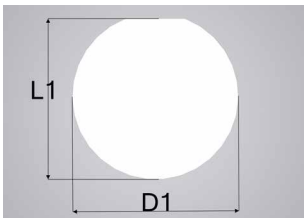
**Part as supplied.**

**2.**




**Remove counter nut (1) from housing (2).**

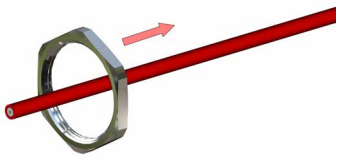
**3.**




**Panel cut out.**

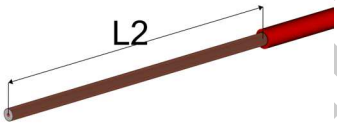
| Dimension | Value mm [inch] |
|---|---|
| D1 | 36.10 [1.421"] |
| L1 | 34.90 [1.374"] |

**4.**



**Place counter nut (1) on cable.**

**5.**

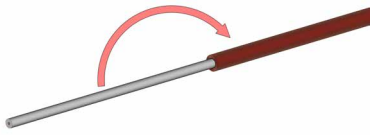



⚠ ONLY when using shielded cable:
**Remove cable jacket.**

| Type | min. L2 mm [inch] |
|---|---|
| B 110 / 115 | 40 [1.575"] |
| B 120 / 125 | 80 [3.150"] |
| B 130 / 135 | 120 [4.724"] |
| B 150 / 155 | 200 [7.874"] |
| B 160 / 165 | 240 [9.449"] |
| B 1100 / 1105 | 400 [15.748"] |

⚠ Do not damage shield braid.

**6.**



**Fold back shield braid over jacket.**

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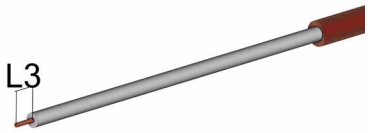
# Assembly Instructions Series 100 (receptacle, panel mount)

## 7.




**Remove dielectric insulation.**

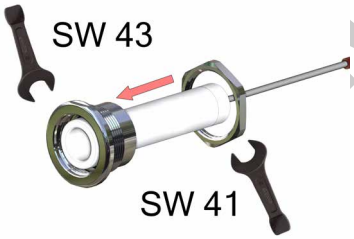
| Type | min. L3 mm [inch] |
|---|---|
| B 110 / 120 / 130 / 150 / 160 / 1100 | 5 [.197"] |
| B 115 / 125 / 135 / 155 / 165 / 1105 | 8 [.315"] |

⚠ Do not damage conductor.

## 8.

**Solder conductor on female contact or use a cable lug to connect conductor with contact.**
⚠ Tin-solder must not remain on contact surface.

## 9.




**Screw on counter nut and tighten.**

## 10.

**Assembly finished.**

### *Note – important!*

1. **Please read the assembly instructions carefully before assembling the cable.**
2. **Cable assemble must be done by trained and qualified personnel only.**

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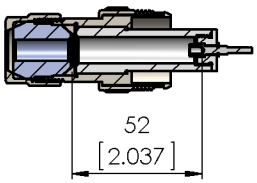
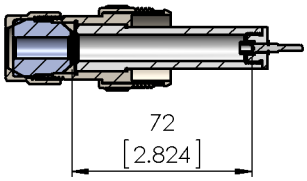
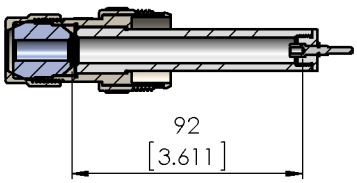
# Stripping lengths for shielded cables

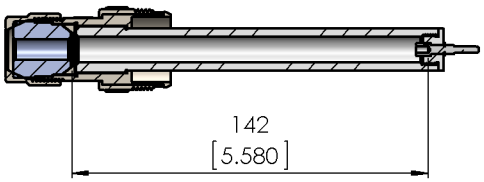
**IMPORTANT – PLEASE NOTE:**

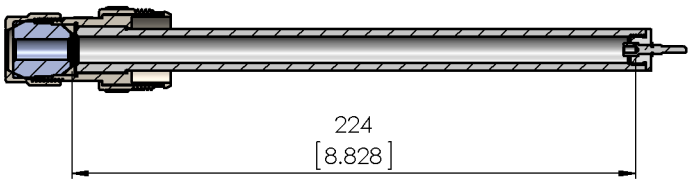
**The stated stripping lengths refer ONLY to the jackets of shielded cables!**

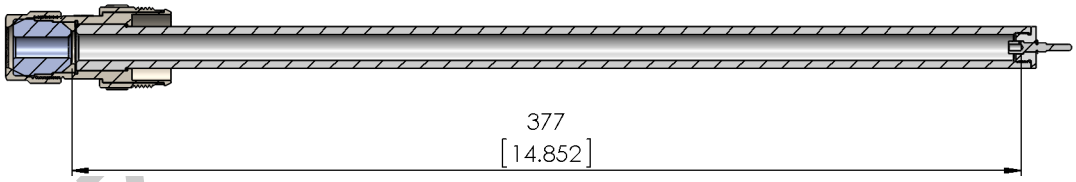
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# Suitable cables for Series 100

| | Part No. 3330039 | Part No. 3330049 | Part No. 3330050 |
|---|---|---|---|
| Operating voltage | 60 kV DC | 100 kV DC | 100 kV DC |
| Operating voltage AC rms | 20 kV AC | 30 kV AC | |
| Conductor size | | | |
| AWG | 18 AWG | 16 AWG | 16 AWG |
| Strands | 19 x 30 AWG | 19 x 29 AWG | 19 x 29 AWG |
| Cross section | 0.97 mm² | 1.2 mm² | 1.2 mm² |
| Diameter | 1.24 mm [.049"] | 1.25 mm [.049"] | 1.25 mm [.049"] |
| Semicon | YES | YES | YES |
| Diameter | 2.0 mm [.079"] | 2.5 mm [.098"] | 2.5 mm [.098"] |
| Material | Semiconductive PE | Semiconductive PE | Semiconductive PE |
| Dielectric | | | |
| Diameter | 5.8 mm [.228"] (± 0.25 mm) | 9.4 mm [.370"] (± 0.25 mm) | 9.4 mm [.370"] (± 0.25 mm) |
| Material | LDHMW PE | LDHMW PE | LDHMW PE |
| Screen (Shield) | YES | NO | YES |
| Diameter | 6.9 mm [.272"] | x | 9.8 mm [.386"] |
| Material | Cu/Sn (34 AWG t.p.c.)<br>85% coverage | x | Cu/Sn (34 AWG t,p,c,)<br>90% coverage |
| Jacket | | | |
| Diameter | 7.7 mm [.303"] (± 0.3 mm) | x | 11.2 mm [.441"] (± 0.25 mm) |
| Material | TPE-U | x | PVC |
| Impedance | x | x | 61 Ω |
| Capacitance | typ. 121pF/m | x | 98 pF/m |
| Min. bend radius | 90 mm [3.543"] (fixed) | 127 mm [5"] (fixed) | 152 mm [5.984"] (fixed) |
| Temperature range | -40°C to +60°C [-40°F to +140°F] | -51°C to +60°C [-60°F to +140°F] | -51°C to +60°C [-60°F to +140°F] |
| Weight | 0.077 kg/m | 0.075 kg/m | 0.149 kg/m |
| Color | red | transparent | black |
| Fits connector types | SB110<br>SB115<br>SB120<br>SB125<br>SB125Pro<br>SB130<br>SB135<br>SB150<br>SB155<br>SB160<br>SB165 | SB110<br>SB115<br>SB120<br>SB125<br>SB125Pro<br>SB130<br>SB135<br>SB150<br>SB155<br>SB160<br>SB165<br>SB1100<br>SB1105 | SB110<br>SB115<br>SB120<br>SB125<br>SB125Pro<br>SB130<br>SB135<br>SB150<br>SB155<br>SB160<br>SB165<br>SB1100<br>SB1105 |



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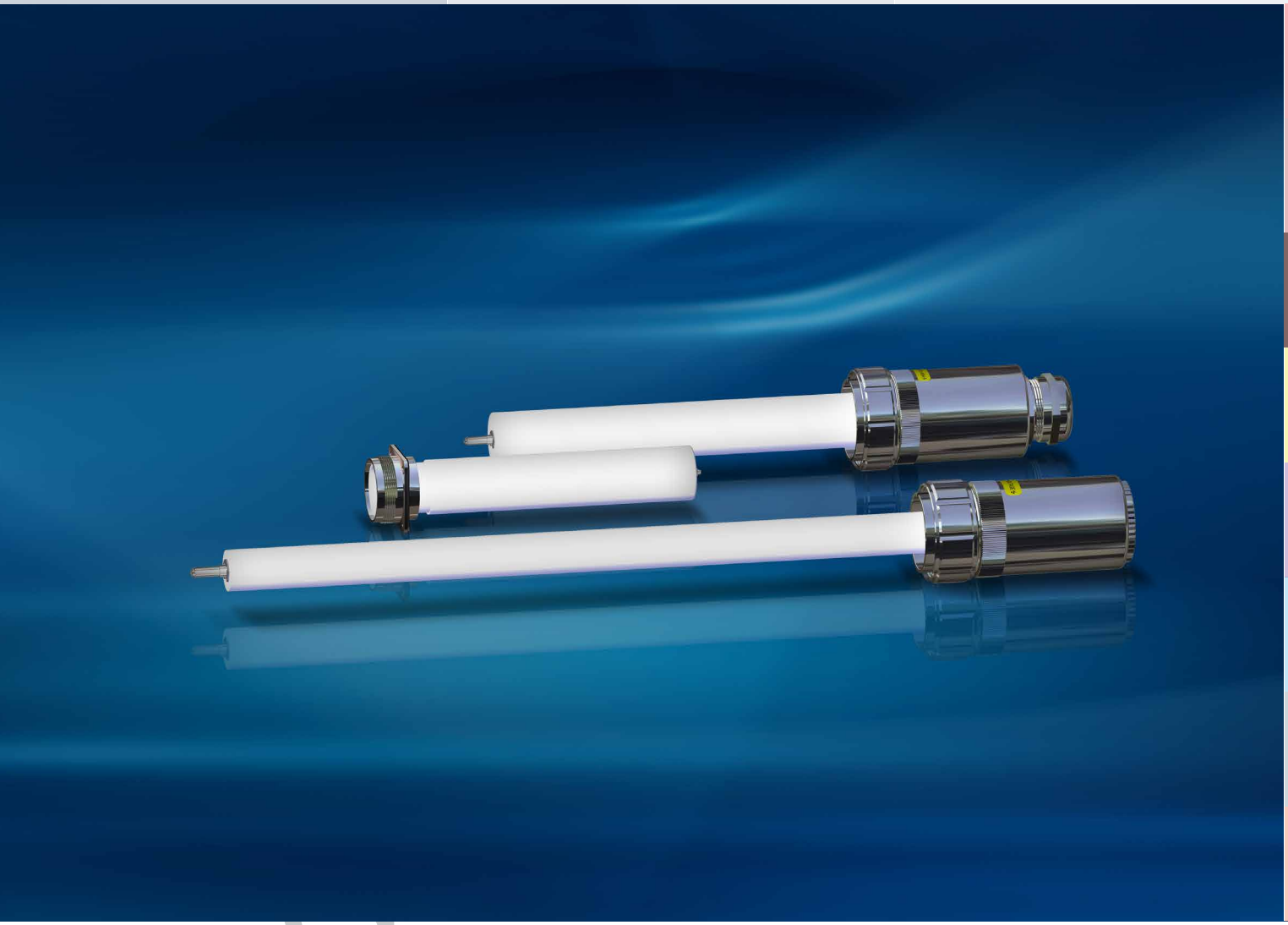
# 200 Series





- Operating voltage up to 100 kV DC
- Operating current up to 80 Amps
- Advanced contact technology
- Oil tight receptacles
- High performance insulation materials thermoplastic

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# General characteristics and technical data Series 200



| Housing | |
|---|---|
| Locking system | Threaded coupling |
| Mounting type (panel mount connector) | Round flange |
| Housing material | Brass (CuZn) |
| Surface plating | Nickel (Ni) |
| Protection class (mated connector) | IP54 |
| Operating temperature | -30°C to +80°C [-22°F to +176°F] |

| Contacts 2.5 mm (connector types SB1x0) | |
|---|---|
| Termination method | Solder (male contact), solder / screw (female contact) |
| Rated current | 30 A |
| Max. operating current | 40 A |
| Pulse current | 3000 A |
| Contact resistance | 300 $\mu\Omega$ |
| Contact diameter | 2.5 mm [.173"] |
| Contact diameter | 2.5 mm² [14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Insertion / Withdrawal force | 5.5 N / 4.0 N |
| Mating cycles | 100000 |
| Rated temperature | +120°C [+248°F] |

| Contacts 5 mm (connector types SB1x5) | |
|---|---|
| Termination method | Solder (male contact), solder / screw (female contact) |
| Rated current | 80 A |
| Max. operating current | 110 A |
| Pulse current | 10000 A |
| Contact resistance | 150 $\mu\Omega$ |
| Contact diameter | 5 mm [.197"] |
| Max. wire size | 10 mm² [8 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Insertion / Withdrawal force | 15 N / 10 N |
| Mating cycles | 100000 |
| Rated temperature | +120°C [+248°F] |

| Insulator | |
|---|---|
| Number of contacts | 1 |
| Insulation material | Thermoplastic |
| CTI value | 600 |
| Flammability class thermoplastic | UL94 V-0 |
| Operating temperature thermoplastic | -50°C to +200°C [-58°F to +392°F] |
| Insulating material group thermoplastic / POM | I (DIN IEC 60664) |

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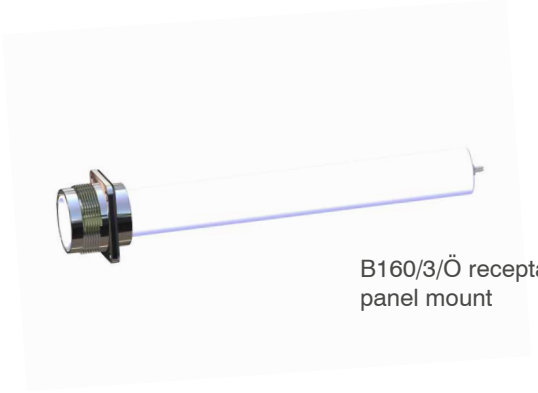
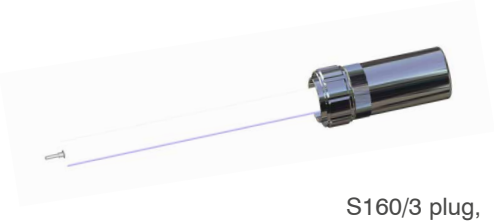
# Type SB160/3 60 kV DC

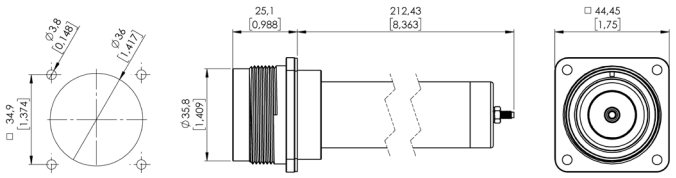


B160/3/Ö receptacle, panel mount



S160/3 plug, cable mount

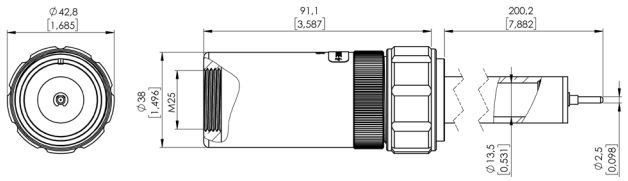
**B160/3/Ö recaptacle, panel mount (oil tight)**




panel cut out

rear view

**S160/3 plug, cable mount. with M25 adapter for external cable gland**




front view

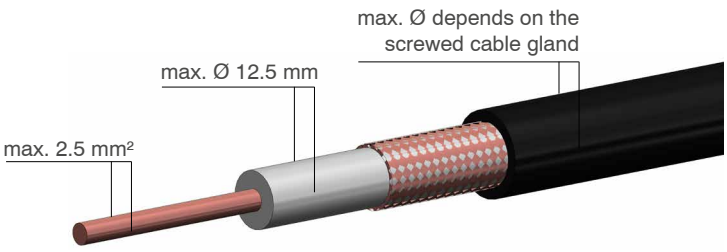
drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 60 kV DC |
| Test voltage | 90 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 2.5 mm [.173"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | Cable entry M25 for ext. KV | Oil tight |
|---|---|---|---|---|---|
| 7391993 | S160/3/PTFE/M25 | • | | • | |
| 7391991 | B160/3/Ö PTFE | | • | | • |

*KV = screwed cable gland

## Suitable cable dimensions

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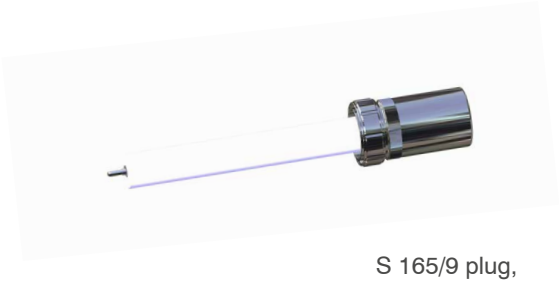
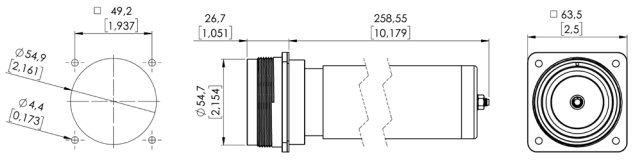
B 165/9 receptacle, panel mount



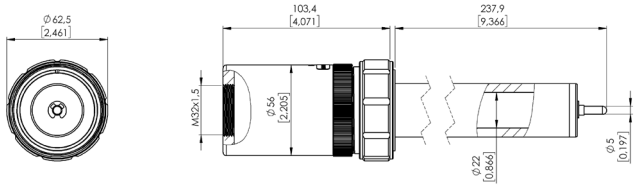
S 165/9 plug, cable mount

**B165/9 recaptacle, panel mount (oil tight)**




panel cut out rear view

**S165/9 plug, cable mount. with M32 adapter for external cable gland**




front view

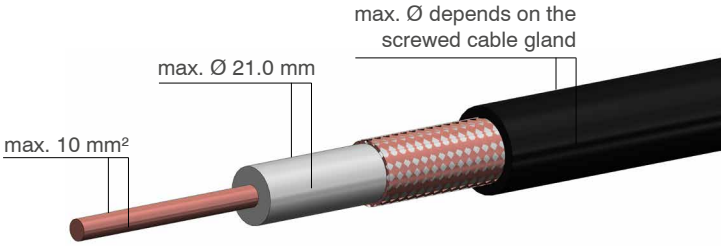
drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 60 kV DC |
| Test voltage | 90 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | Cable entry M25 for ext. KV | Oil tight |
|---|---|---|---|---|---|
| 7392074 | S165/9/PTFE/M32 | • | | • | |
| 7392028 | B165/9/Ö PTFE | | • | | • |

*KV = screwed cable gland

## *Suitable cable dimensions*

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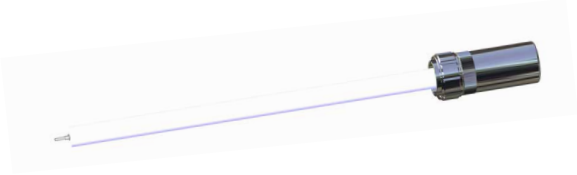
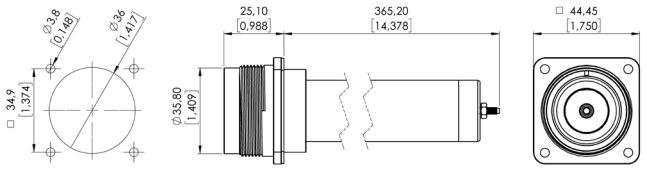
# Type SB1100/3 100 kV DC

B1100/3 receptacle, panel mount



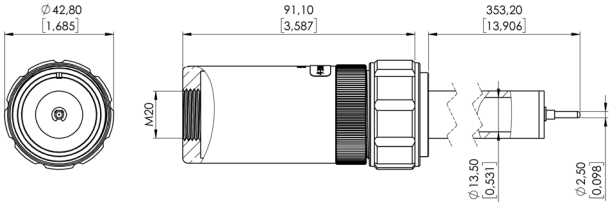
S1100/3 plug, cable mount

**B1100/3 recaptacle, panel mount (oil tight)**




panel cut out rear view

**S1100/3 plug, cable mount. with M20 adapter for external cable gland**




front view

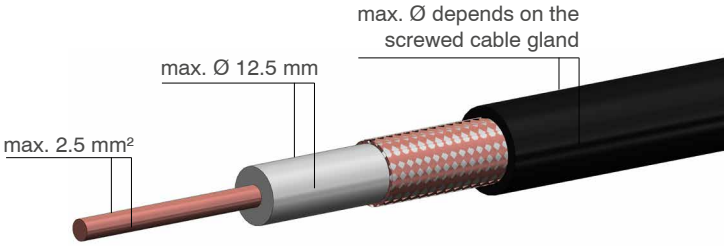
drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 100 kV DC |
| Test voltage | 150 kV DC |
| Rated current | 30 A |
| Maximum operating current | 40 A |
| Pulse current | 3000 A |
| **Characteristics** | |
| Contact size | 2.5 mm [.173"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | Cable entry M25 for ext. KV | Oil tight |
|---|---|---|---|---|---|
| 7392005 | S1100/3/PTFE/M20 | • | | • | |
| 7392006 | B1100/3/Ö PTFE | | • | | • |

*KV = screwed cable gland

## Suitable cable dimensions

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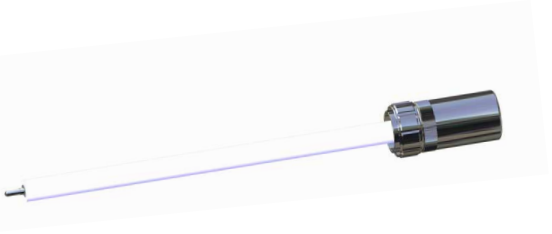
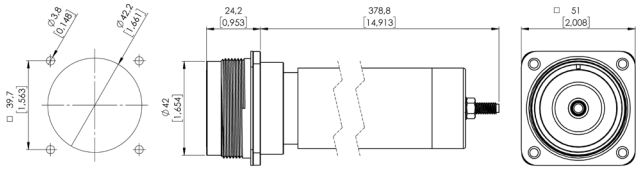
B1105/5 receptacle, panel mount



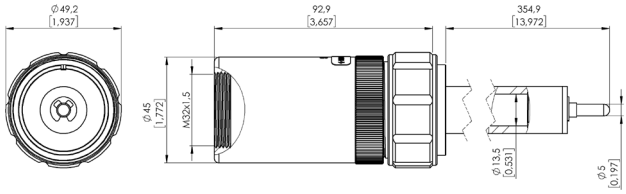
S1105/5 plug, cable mount

**GB125 receptacle, panel mount (standard / oil tight)**




panel cut out rear view

**KS125 plug, cable mount, with integrated cable gland**




front view

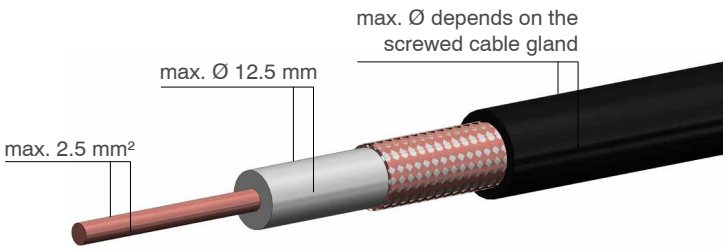
drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 100 kV DC |
| Test voltage | 150 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | Cable entry M32 for ext. KV | Oil tight |
|---|---|---|---|---|---|
| 7392084 | S1105/5/PTFE/M32 | • | | • | |
| 7392041 | B1105/5/Ö PTFE | | • | | • |

*KV = screwed cable gland

## *Suitable cable dimensions*



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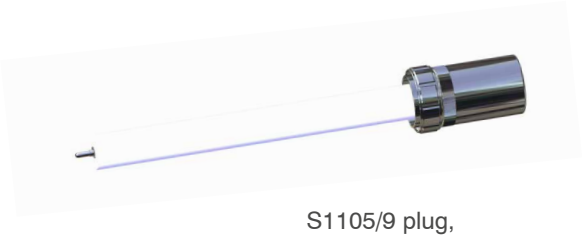
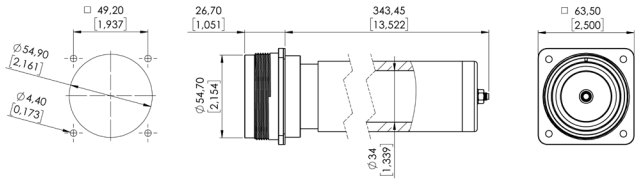
# Type SB1105/9 **100 kV DC**

B1105/9 receptacle, panel mount



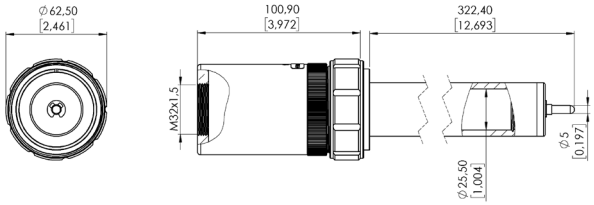
S1105/9 plug, cable mount

**B1105/9 recaptacle, panel mount (oil tight)**




panel cut out rear view

**S1105/9 plug, cable mount, with M32 adapter for external cable gland**




front view

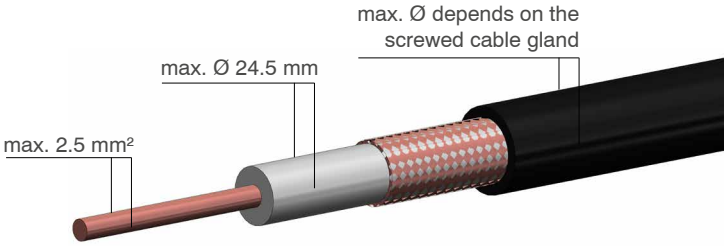
drawing - dimensions in mm [inch]

| Electrical values | |
|---|---|
| Operating voltage | 100 kV DC |
| Test voltage | 150 kV DC |
| Rated current | 80 A |
| Maximum operating current | 110 A |
| Pulse current | 10000 A |
| **Characteristics** | |
| Contact size | 5 mm [.197"] |
| Insulation material | Thermoplastic |
| Mounting type receptacle | Round flange |
| Contact plating | Silver (Ag) |

| P/N | Description | Plug, cable mount | Receptacle, panel mount | Cable entry M32 for ext. KV | Oil tight |
|---|---|---|---|---|---|
| 7392085 | S1105/5/PTFE/M32 | • | | • | |
| 7392039 | B1105/5/Ö PTFE | | • | | • |

*KV = screwed cable gland

## *Suitable cable dimensions*

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# VP Series

- Operating voltages up to 13 kV DC
- Operating current 13 Amps / 30 Amps
- Ideal for internal cabling
- Quick assembly
- Several mounting options offering enhanced flexibility

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# General characteristics and technical data Series VarioPro CL / 1.6 mm contacts

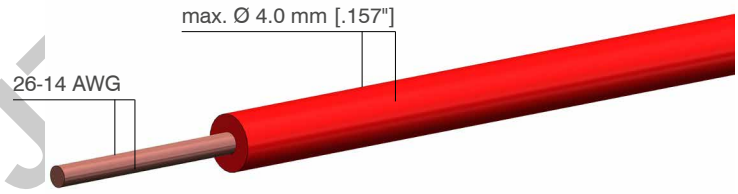


| Electrical values | |
|---|---|
| Operating voltage | 13 kV DC |
| Test voltage | 20 kV DC |

| Housing | |
|---|---|
| Number of HV contacts | 1 - 3 |
| Insulation material | Thermoplastic |
| Flammability class | UL94 V-0 |
| Operating temperature | -40°C to +150°C [-40°F to +302°F] |
| Insulating material group | I (DIN IEC 60664) |

| Contacts 1.6 mm | |
|---|---|
| Termination method | Crimp |
| Rated current | 13 A |
| Contact resistance | ≤ 5 mΩ |
| Contact diameter | 1.6 mm [.063"] |
| Wire size | 0.14-2.5 mm² [26-14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag), Gold (Au) |
| Mating cycles | ≥ 1,000 |
| Rated temperature | +120°C [+248°F] |

## Suitable cable dimensions

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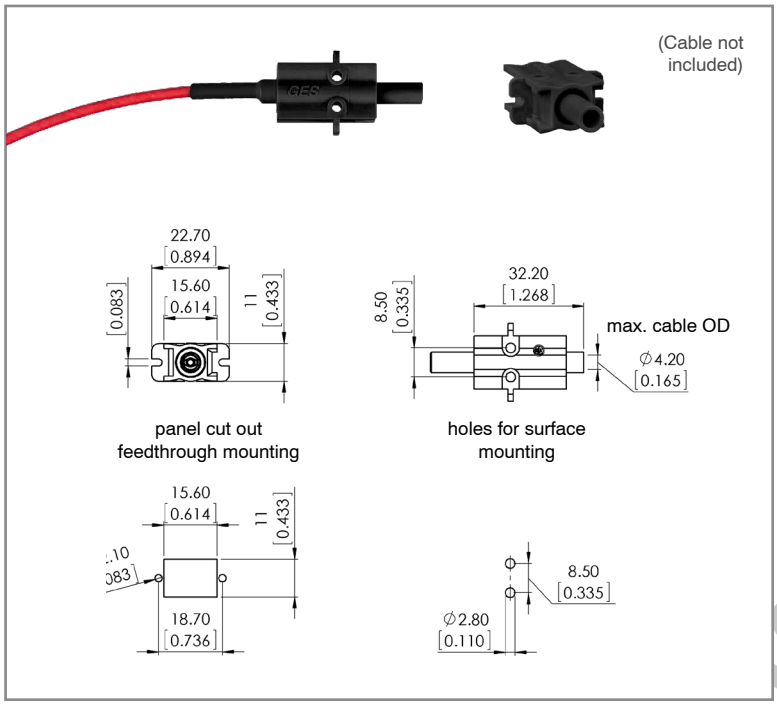
# 1-pin 13 kV DC/1.6 mm contacts

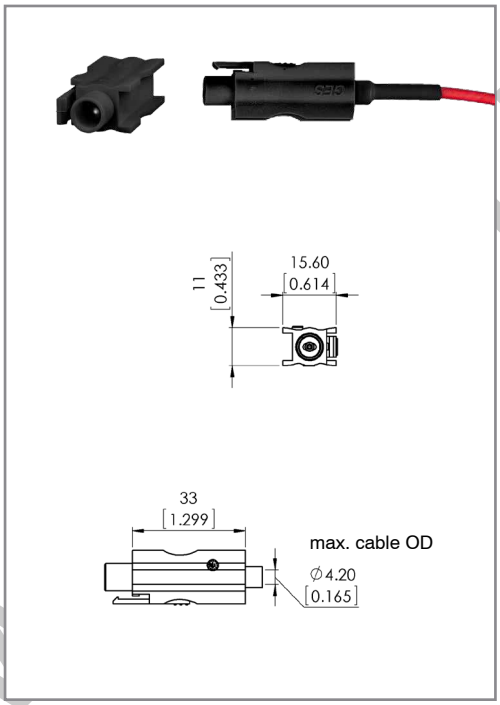
## VarioPro CL1 - receptacle

### Drawing




## VarioPro CL1 - plug

### Drawing




drawing - dimensions in mm [inch]

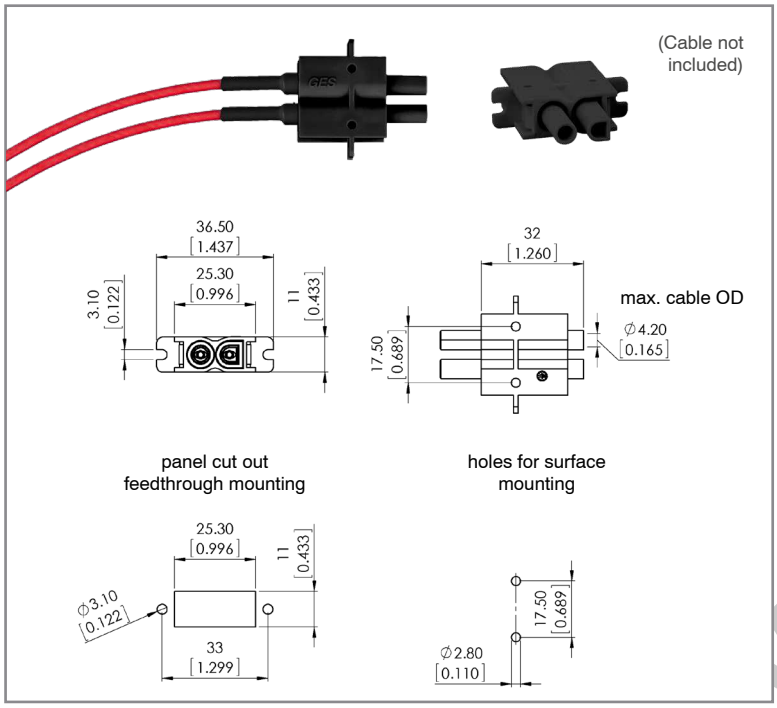
| P/N | Description | Plug male contact | Receptacle female contact | Number of contacts | Including contacts | Contacts silver plated | Contacts gold plated |
|---|---|---|---|---|---|---|---|
| 5000440 | VP-CL-1HV-BU 26-22 AWG Ag | | • | 1 | • | • | |
| 5000441 | VP-CL-1HV-BU 20 AWG Ag | | • | 1 | • | • | |
| 5000442 | VP-CL-1HV-BU 20-16 AWG Ag | | • | 1 | • | • | |
| 5000443 | VP-CL-1HV-BU 16-15 AWG Ag | | • | 1 | • | • | |
| 5000444 | VP-CL-1HV-BU 14 AWG Ag | | • | 1 | • | • | |
| 5000445 | VP-CL-1HV-BU 26-22 AWG Au | | • | 1 | • | | • |
| 5000446 | VP-CL-1HV-BU 20 AWG Au | | • | 1 | • | | • |
| 5000447 | VP-CL-1HV-BU 20-16 AWG Au | | • | 1 | • | | • |
| 5000448 | VP-CL-1HV-BU 16-15 AWG Au | | • | 1 | • | | • |
| 5000449 | VP-CL-1HV-BU 14 AWG Au | | • | 1 | • | | • |
| 5000450 | VP-CL-1HV-ST 26-22 AWG Ag | • | | 1 | • | • | |
| 5000451 | VP-CL-1HV-ST 20 AWG Ag | • | | 1 | • | • | |
| 5000452 | VP-CL-1HV-ST 20-16 AWG Ag | • | | 1 | • | • | |
| 5000453 | VP-CL-1HV-ST 16-15 AWG Ag | • | | 1 | • | • | |
| 5000454 | VP-CL-1HV-ST 14 AWG Ag | • | | 1 | • | • | |
| 5000455 | VP-CL-1HV-ST 26-22 AWG Au | • | | 1 | • | | • |
| 5000456 | VP-CL-1HV-ST 20 AWG Au | • | | 1 | • | | • |
| 5000457 | VP-CL-1HV-ST 20-16 AWG Au | • | | 1 | • | | • |
| 5000458 | VP-CL-1HV-ST 16-15 AWG Au | • | | 1 | • | | • |
| 5000459 | VP-CL-1HV-ST 14 AWG Au | • | | 1 | • | | • |

**Contact pins:** Page 82
**Cables and tools:** Page 84

# 2-pin 13 kV DC/1.6 mm contacts

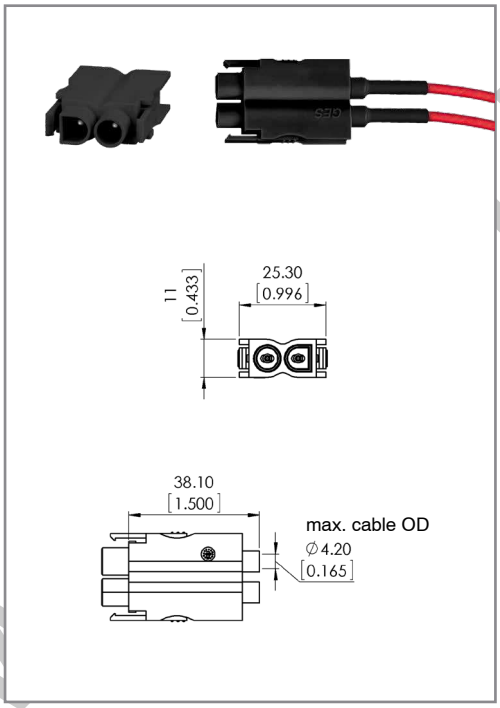
## VarioPro CL2 - receptacle

Drawing




## VarioPro CL2 - plug

Drawing




drawing - dimensions in mm [inch]

| P/N | Description | Plug male contact | Receptacle female contact | Number of contacts | Including contacts | Contacts silver plated | Contacts gold plated |
|---|---|---|---|---|---|---|---|
| 5000460 | VP-CL-2HV-BU 26-22 AWG Ag | | • | 2 | • | • | |
| 5000461 | VP-CL-2HV-BU 20 AWG Ag | | • | 2 | • | • | |
| 5000462 | VP-CL-2HV-BU 20-16 AWG Ag | | • | 2 | • | • | |
| 5000463 | VP-CL-2HV-BU 16-15 AWG Ag | | • | 2 | • | • | |
| 5000464 | VP-CL-2HV-BU 14 AWG Ag | | • | 2 | • | • | |
| 5000465 | VP-CL-2HV-BU 26-22 AWG Au | | • | 2 | • | | • |
| 5000466 | VP-CL-2HV-BU 20 AWG Au | | • | 2 | • | | • |
| 5000467 | VP-CL-2HV-BU 20-16 AWG Au | | • | 2 | • | | • |
| 5000468 | VP-CL-2HV-BU 16-15 AWG Au | | • | 2 | • | | • |
| 5000469 | VP-CL-2HV-BU 14 AWG Au | | • | 2 | • | | • |
| 5000470 | VP-CL-2HV-ST 26-22 AWG Ag | • | | 2 | • | • | |
| 5000471 | VP-CL-2HV-ST 20 AWG Ag | • | | 2 | • | • | |
| 5000472 | VP-CL-2HV-ST 20-16 AWG Ag | • | | 2 | • | • | |
| 5000473 | VP-CL-2HV-ST 16-15 AWG Ag | • | | 2 | • | • | |
| 5000474 | VP-CL-2HV-ST 14 AWG Ag | • | | 2 | • | • | |
| 5000475 | VP-CL-2HV-ST 26-22 AWG Au | • | | 2 | • | | • |
| 5000476 | VP-CL-2HV-ST 20 AWG Au | • | | 2 | • | | • |
| 5000477 | VP-CL-2HV-ST 20-16 AWG Au | • | | 2 | • | | • |
| 5000478 | VP-CL-2HV-ST 16-15 AWG Au | • | | 2 | • | | • |
| 5000479 | VP-CL-2HV-ST 14 AWG Au | • | | 2 | • | | • |

**Contact pins:** Page 82
**Cables and tools:** Page 84



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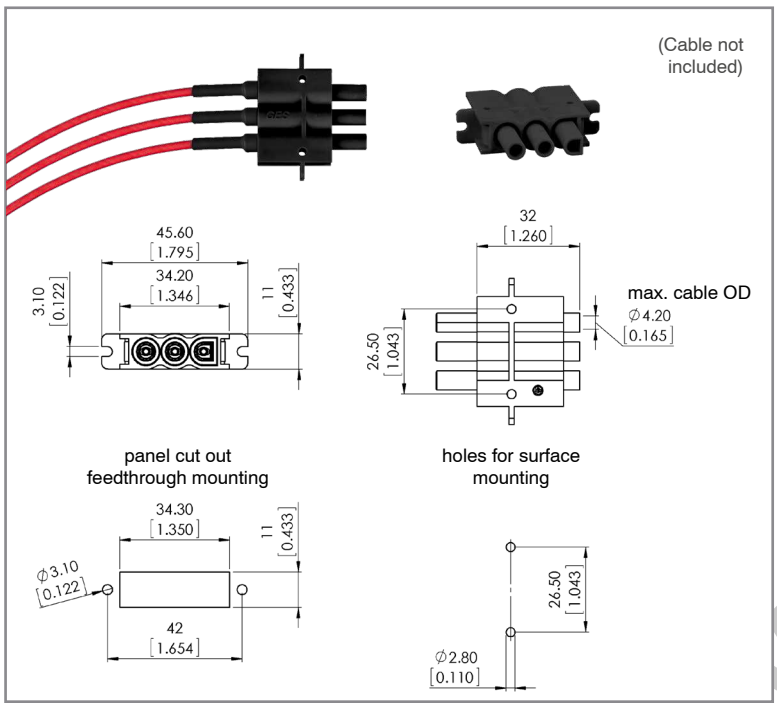
# 3-pin 13 kV DC/1.6 mm contacts

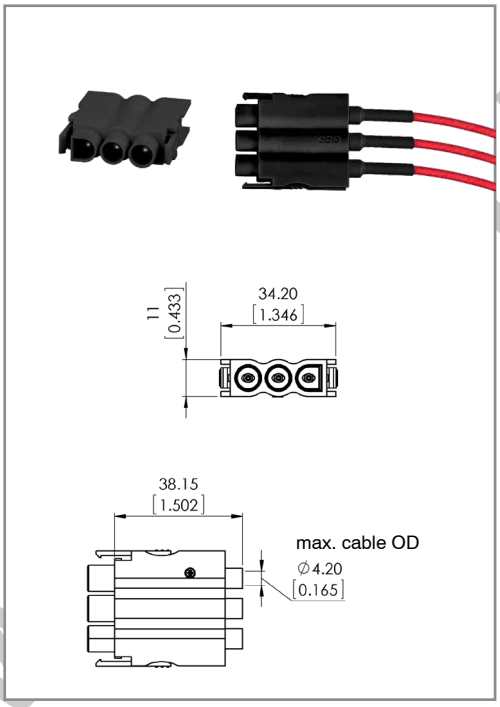
## VarioPro CL3 - receptacle

**Drawing**




## VarioPro CL3 - plug

**Drawing**




drawing - dimensions in mm [inch]

| P/N | Description | Plug male contact | Receptacle female contact | Number of contacts | Including contacts | Contacts silver plated | Contacts gold plated |
|---|---|---|---|---|---|---|---|
| 5000480 | VP-CL-3HV-BU 26-22 AWG Ag | | • | 3 | • | • | |
| 5000481 | VP-CL-3HV-BU 20 AWG Ag | | • | 3 | • | • | |
| 5000482 | VP-CL-3HV-BU 20-16 AWG Ag | | • | 3 | • | • | |
| 5000483 | VP-CL-3HV-BU 16-15 AWG Ag | | • | 3 | • | • | |
| 5000484 | VP-CL-3HV-BU 14 AWG Ag | | • | 3 | • | • | |
| 5000485 | VP-CL-3HV-BU 26-22 AWG Au | | • | 3 | • | | • |
| 5000486 | VP-CL-3HV-BU 20 AWG Au | | • | 3 | • | | • |
| 5000487 | VP-CL-3HV-BU 20-16 AWG Au | | • | 3 | • | | • |
| 5000488 | VP-CL-3HV-BU 16-15 AWG Au | | • | 3 | • | | • |
| 5000489 | VP-CL-3HV-BU 14 AWG Au | | • | 3 | • | | • |
| 5000490 | VP-CL-3HV-ST 26-22 AWG Ag | • | | 3 | • | • | |
| 5000491 | VP-CL-3HV-ST 20 AWG Ag | • | | 3 | • | • | |
| 5000492 | VP-CL-3HV-ST 20-16 AWG Ag | • | | 3 | • | • | |
| 5000493 | VP-CL-3HV-ST 16-15 AWG Ag | • | | 3 | • | • | |
| 5000494 | VP-CL-3HV-ST 14 AWG Ag | • | | 3 | • | • | |
| 5000495 | VP-CL-3HV-ST 26-22 AWG Au | • | | 3 | • | | • |
| 5000496 | VP-CL-3HV-ST 20 AWG Au | • | | 3 | • | | • |
| 5000497 | VP-CL-3HV-ST 20-16 AWG Au | • | | 3 | • | | • |
| 5000498 | VP-CL-3HV-ST 16-15 AWG Au | • | | 3 | • | | • |
| 5000499 | VP-CL-3HV-ST 14 AWG Au | • | | 3 | • | | • |

**Contact pins:** Page 82
**Cables and tools:** Page 84

# General characteristics and technical data Series VarioPro CL / 2.5 mm contacts

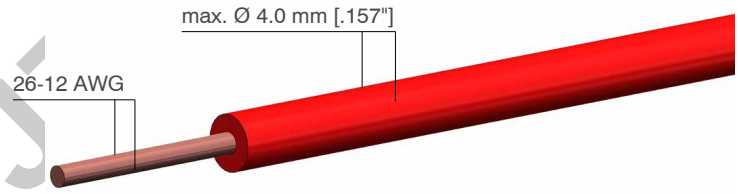


| Electrical values | |
|---|---|
| Operating voltage | 13 kV DC |
| Test voltage | 20 kV DC |

| Housing | |
|---|---|
| Number of HV contacts | 1 - 3 |
| Insulation material | Thermoplastic |
| Flammability class | UL94 V-0 |
| Operating temperature | -40°C to +150°C [-40°F to +302°F] |
| Insulating material group | I (DIN IEC 60664) |

| Contacts 1.6 mm | |
|---|---|
| Termination method | Crimp |
| Rated current | 20 A |
| Contact resistance | ≤ 5 mΩ |
| Contact diameter | 2.5 mm [.063"] |
| Wire size | 0.5-4 mm² [26-12 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Mating cycles | ≥ 1,000 |
| Rated temperature | +120°C [+248°F] |

## Suitable cable dimensions

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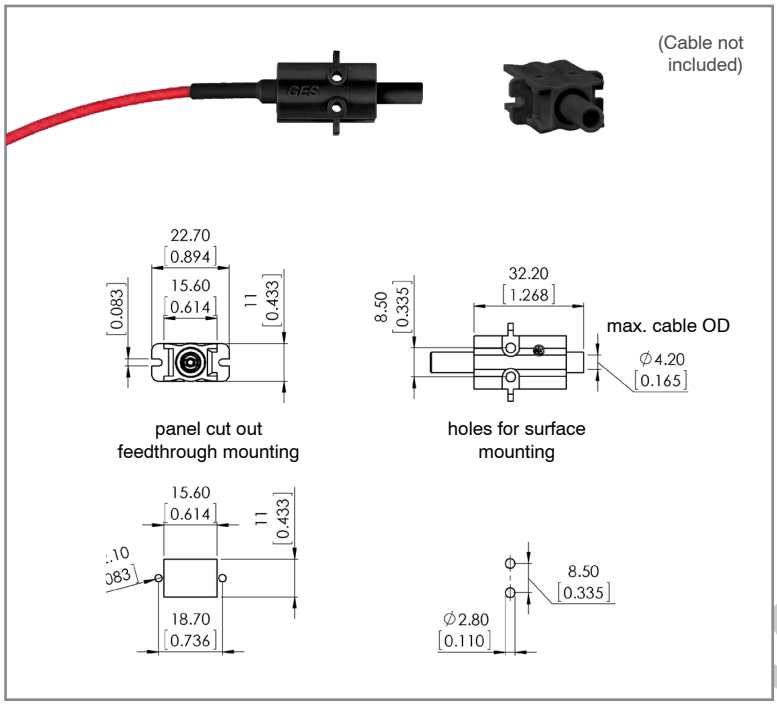
# 1-pin 13 kV DC/2.5 mm contacts

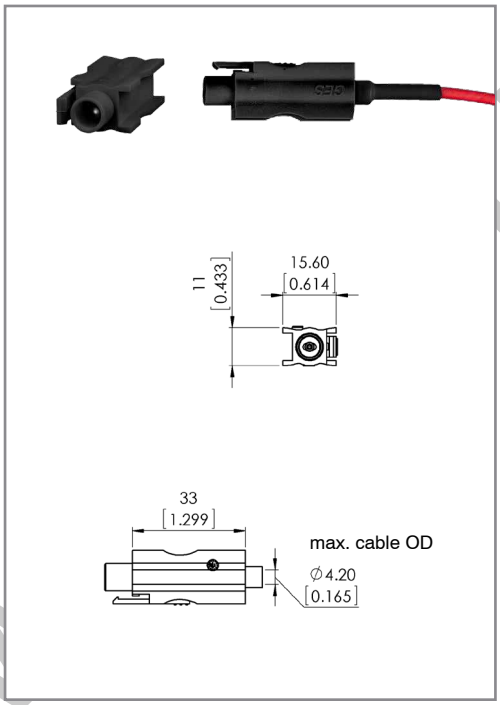
## VarioPro CL1-B - receptacle

### Drawing




## VarioPro CL1-B - plug

### Drawing




drawing - dimensions in mm [inch]

| P/N | Description | Plug male contact | Receptacle female contact | Number of contacts | Including contacts | Contacts silver plated | Contacts gold plated |
|---|---|---|---|---|---|---|---|
| 5000540 | VP-CL-B-1HV-BU 0,5 mm² | | • | 1 | • | • | |
| 5000541 | VP-CL-B-1HV-BU 0,75-1 mm² | | • | 1 | • | • | |
| 5000542 | VP-CL-B-1HV-BU 1,5 mm² | | • | 1 | • | • | |
| 5000543 | VP-CL-B-1HV-BU 2,5 mm² | | • | 1 | • | • | |
| 5000544 | VP-CL-B-1HV-BU 4 mm² | | • | 1 | • | • | |
| 5000550 | VP-CL-B-1HV-ST 0,5 mm² | • | | 1 | • | • | |
| 5000551 | VP-CL-B-1HV-ST 0,75-1 mm² | • | | 1 | • | • | |
| 5000552 | VP-CL-B-1HV-ST 1,5 mm² | • | | 1 | • | • | |
| 5000553 | VP-CL-B-1HV-ST 2,5 mm² | • | | 1 | • | • | |
| 5000554 | VP-CL-B-1HV-ST 4 mm² | • | | 1 | • | • | |

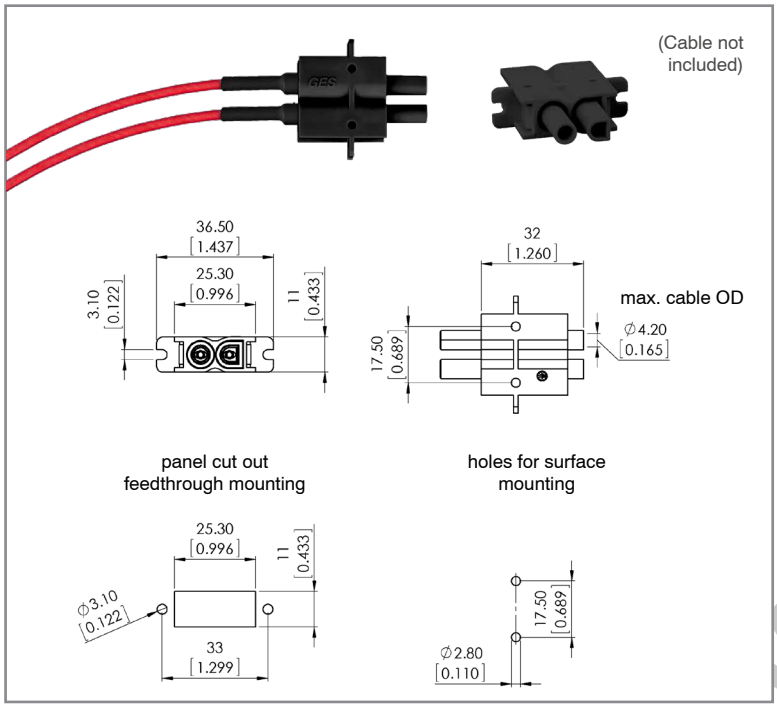
**Contact pins:** Page 82
**Cables and tools:** Page 84

WWW.DZ

# 2-pin 13 kV DC/2.5 mm contacts

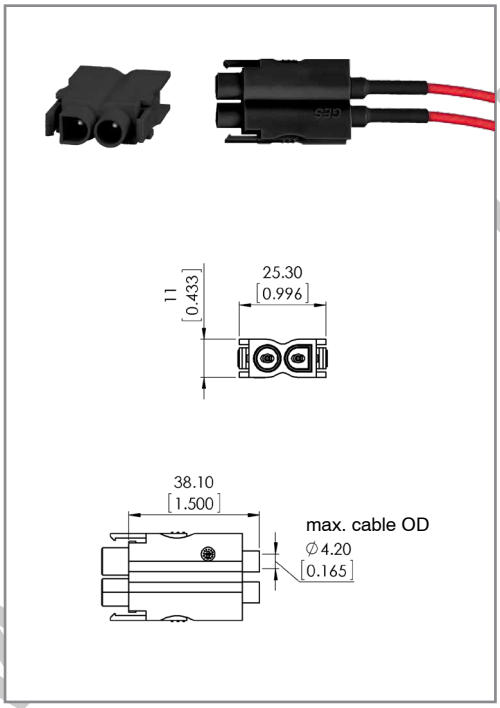
## VarioPro CL2-B - receptacle

Drawing




## VarioPro CL2-B - plug

Drawing




drawing - dimensions in mm [inch]

| P/N | Description | Plug male contact | Receptacle female contact | Number of contacts | Including contacts | Contacts silver plated | Contacts gold plated |
|---|---|---|---|---|---|---|---|
| 5000560 | VP-CL-B-2HV-BU 0,5 mm² | | • | 2 | • | • | |
| 5000561 | VP-CL-B-2HV-BU 0,75-1 mm² | | • | 2 | • | • | |
| 5000562 | VP-CL-B-2HV-BU 1,5 mm² | | • | 2 | • | • | |
| 5000563 | VP-CL-B-2HV-BU 2,5 mm² | | • | 2 | • | • | |
| 5000564 | VP-CL-B-2HV-BU 4 mm² | | • | 2 | • | • | |
| 5000570 | VP-CL-B-2HV-ST 0,5 mm² | • | | 2 | • | • | |
| 5000571 | VP-CL-B-2HV-ST 0,75-1 mm² | • | | 2 | • | • | |
| 5000572 | VP-CL-B-2HV-ST 1,5 mm² | • | | 2 | • | • | |
| 5000573 | VP-CL-B-2HV-ST 2,5 mm² | • | | 2 | • | • | |
| 5000574 | VP-CL-B-2HV-ST 4 mm² | • | | 2 | • | • | |

**Contact pins:** Page 82
**Cables and tools:** Page 84



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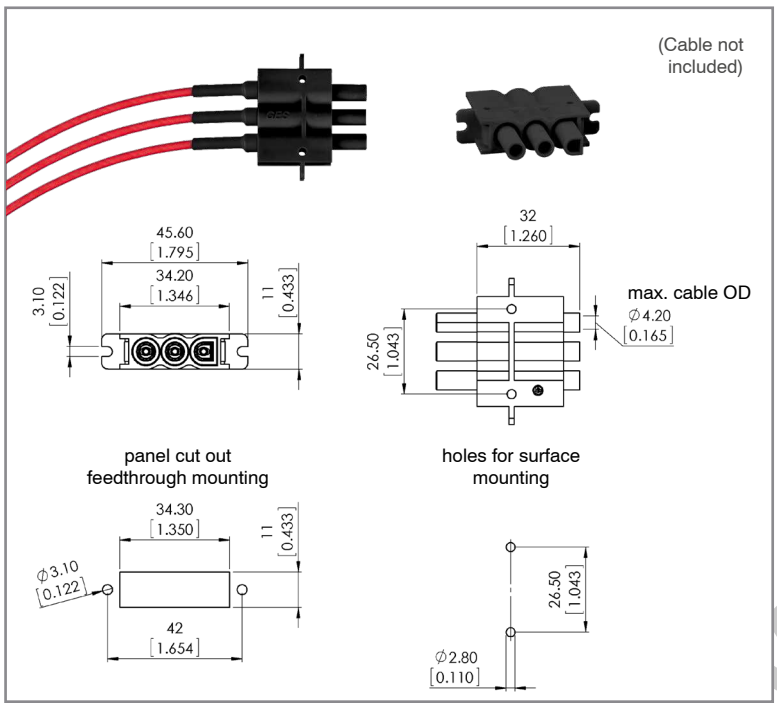
# 3-pin 13 kV DC/2.5 mm contacts

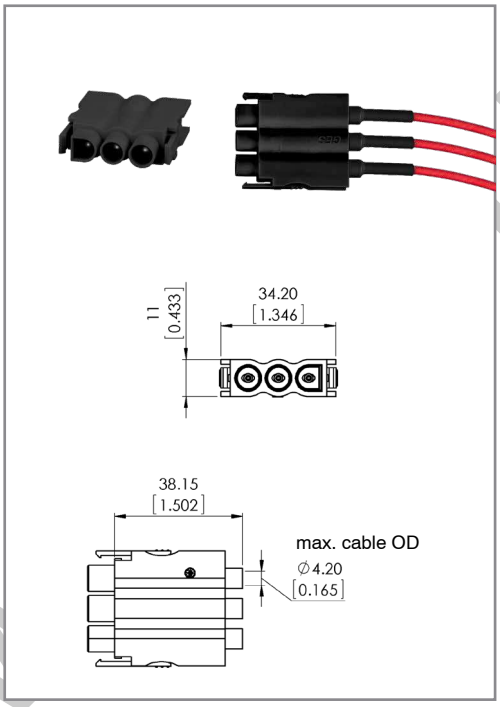
## VarioPro CL3-B - receptacle

**Drawing**




## VarioPro CL3-B - plug

**Drawing**




drawing - dimensions in mm [inch]

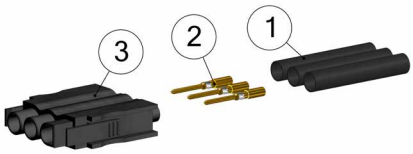
| P/N | Description | Plug male contact | Receptacle female contact | Number of contacts | Including contacts | Contacts silver plated | Contacts gold plated |
|---|---|---|---|---|---|---|---|
| 5000580 | VP-CL-B-3HV-BU 0,5 mm² | | • | 3 | • | • | |
| 5000581 | VP-CL-B-3HV-BU 0,75-1 mm² | | • | 3 | • | • | |
| 5000582 | VP-CL-B-3HV-BU 1,5 mm² | | • | 3 | • | • | |
| 5000583 | VP-CL-B-3HV-BU 2,5 mm² | | • | 3 | • | • | |
| 5000584 | VP-CL-B-3HV-BU 4 mm² | | • | 3 | • | • | |
| 5000590 | VP-CL-B-3HV-ST 0,5 mm² | • | | 3 | • | • | |
| 5000591 | VP-CL-B-3HV-ST 0,75-1 mm² | • | | 3 | • | • | |
| 5000592 | VP-CL-B-3HV-ST 1,5 mm² | • | | 3 | • | • | |
| 5000593 | VP-CL-B-3HV-ST 2,5 mm² | • | | 3 | • | • | |
| 5000594 | VP-CL-B-3HV-ST 4 mm² | • | | 3 | • | • | |

**Contact pins:** Page 82
**Cables and tools:** Page 84

# Assembly Instructions Series VP
# ClipLock - plug

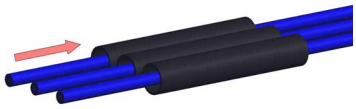


## 1.




**Part as supplied.**
Shrinking tube (1), male contact (2), connector shell (3).

## 2.

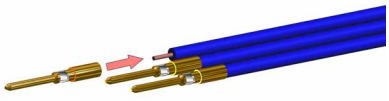


**Place shrinking tube (1) on cable.**

## 3.

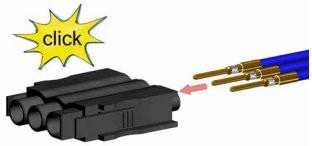
**Remove dielectric insulation (L1 = 5-8 mm).**

## 4.



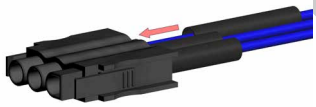
**Solder or crimp contact (2) on conductor.**
⚠ Please notice for soldering: Tin-solder must not remain on contact surface.

## 5.




**Slide contact (2) completely into connector shell (3) until contact snaps.**
Pull gently to check if the contacts are correctly fixed to their positions.

## 6.



**Slide shrinking tube (1) on connector shell (3).**

## 7.

**Shrink tube - shrinking temperature 110°C [+230°F].**

## 8.

**Assembly finished.**

***Note – important!***

1. **Please read the assembly instructions carefully before assembling the cable.**
2. **Cable assemble must be done by trained and qualified personnel only.**



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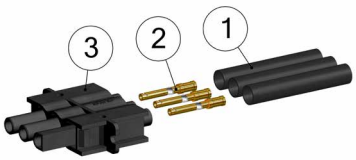
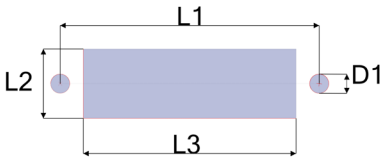
# Assembly Instructions Series VP
# ClipLock - receptacle

**1.**




**Part as supplied.**
Shrinking tube (1), female contact (2), connector shell (3).

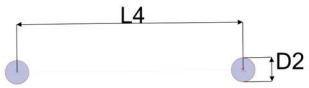
**2.**




**Panel cut out – feedthrough mounting**

| Type | D1 mm [inch] | L1 mm [inch] | L2 mm [inch] | L3 mm [inch] |
|---|---|---|---|---|
| VP-CL-1HV-BU | 2.10 [.083"] | 18.70 [.736"] | 11.20 [.441"] | 15.80 [.622"] |
| VP-CL-2HV-BU | 3.10 [.122"] | 33.00 [1.299"] | 11.20 [.441"] | 25.50 [1.004"] |
| VP-CL-3HV-BU | 3.10 [.122"] | 42.00 [1.654"] | 11.20 [.441"] | 34.50 [1.358"] |

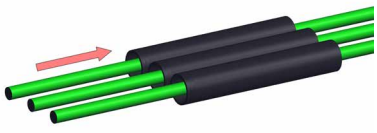
**3.**




**Panel cut out – surface mounting**

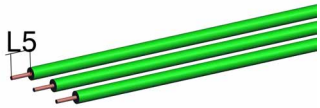
| Type | D2 mm [inch] | L4 mm [inch] |
|---|---|---|
| VP-CL-1HV-BU | 2.80 [.110"] | 8.50 [.335"] |
| VP-CL-2HV-BU | 2.80 [.110"] | 17.50 [.689"] |
| VP-CL-3HV-BU | 2.80[.110"] | 26.50 [1.043"] |

**4.**



**Place shrinking tube (1) on cable.**

**5.**

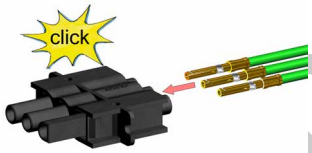



**Remove dielectric insulation (L5 = 5-8 mm [.197" - .315"]).**

**6.**

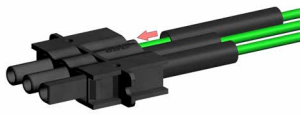
**Solder or crimp contact (2) on conductor.**
⚠ Please notice for soldering: Tin-solder must not remain on contact surface.

**7.**




**Slide contact (2) completely into connector shell (3) until contact snaps.**
💬 Pull gently to check if the contacts are correctly fixed to their positions.

**8.**



**Slide shrinking tube (1) on connector shell (3).**

**9.**

**Shrink tubes - shrinking temperature 110°C [+230°F].**

**10.**

**Assembly finished.**

**Note – important!**

1. **Please read the assembly instructions carefully before assembling the cable.**
2. **Cable assemble must be done by trained and qualified personnel only.**

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# General characteristics and technical data Series VarioPro Basic

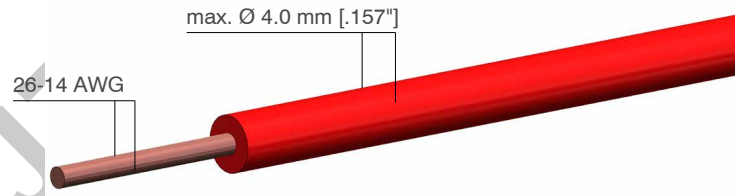


| Electrical values | |
|---|---|
| Operating voltage | 8 kV DC |
| Test voltage | 12 kV DC |

| Housing | |
|---|---|
| Number of HV-contacts | 1 - 2 |
| Insulation material | POM |
| Flammability class | UL94 HB |
| Operating temperature | -30°C to +120°C [-22°F to +248°F] |
| Insulating material group | I (DIN IEC 60664) |

| Contacts 1.6 mm | |
|---|---|
| Termination method | Crimp |
| Rated current | 13 A |
| Contact resistance | ≤ 5 mΩ |
| Contact diameter | 1.6 mm [.063"] |
| Wire size | 0.14-2.5 mm² [26-14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Mating cycles | ≥ 1,000 |
| Rated temperature | +120°C [+248°F] |

## Suitable cable dimensions

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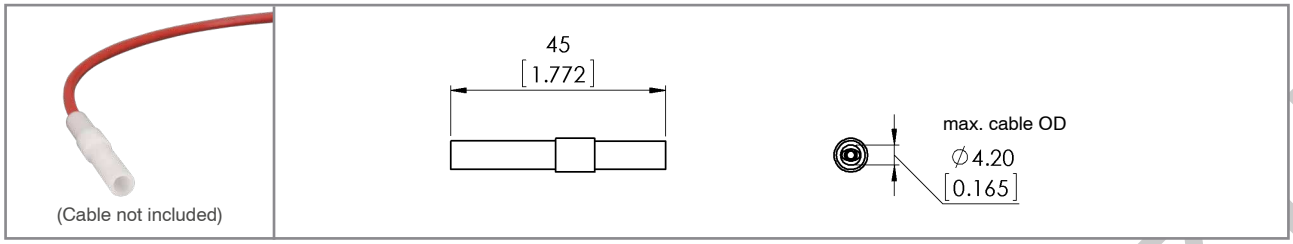
## VarioPro Basic - receptacle, single pin (VP-1HV-BU)

**Picture / Drawing**

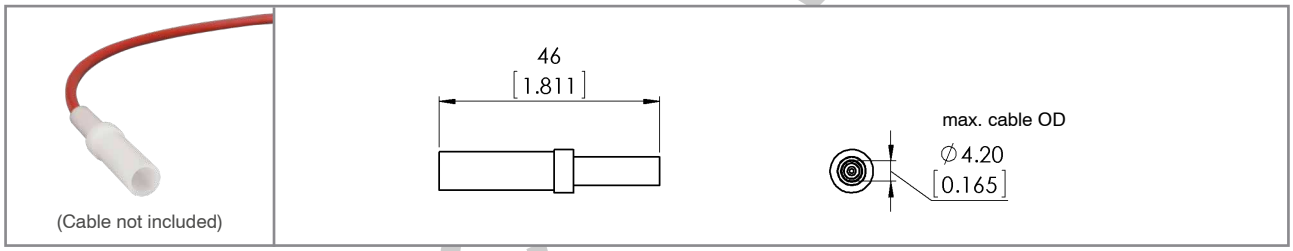



drawing - dimensions in mm [inch]

| P/N | Description | Receptacle | Number of contacts | Including contacts | Panel mount |
|---|---|---|---|---|---|
| 5000010 | VP-1HV-BU POM 26-22 AWG | • | 1 | • | • |
| 5000011 | VP-1HV-BU POM 20 AWG | • | 1 | • | • |
| 5000012 | VP-1HV-BU POM 20-16 AWG | • | 1 | • | • |
| 5000013 | VP-1HV-BU POM 16-15 AWG | • | 1 | • | • |
| 5000014 | VP-1HV-BU POM 14 AWG | • | 1 | • | • |

## VarioPro Basic - plug, single pin (VP-1HV-ST)

**Picture / Drawing**




drawing - dimensions in mm [inch]

| P/N | Description | Plug | Number of contacts | Including contacts | Panel mount |
|---|---|---|---|---|---|
| 5000020 | VP-1HV-ST POM 26-22 AWG | • | 1 | • | • |
| 5000021 | VP-1HV-ST POM 20 AWG | • | 1 | • | • |
| 5000022 | VP-1HV-ST POM 20-16 AWG | • | 1 | • | • |
| 5000023 | VP-1HV-ST POM 16-15 AWG | • | 1 | • | • |
| 5000024 | VP-1HV-ST POM 14 AWG | • | 1 | • | • |

*Contact pins:* Page 82
*Cables and tools:* Page 84



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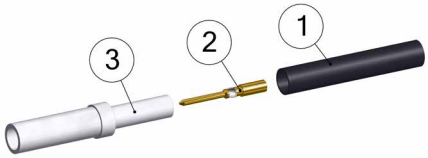
# Assembly Instructions Series VP
# Basic - plug



## 1.




**Part as supplied.**
Shrinking tube (1), male contact (2), connector shell (3).

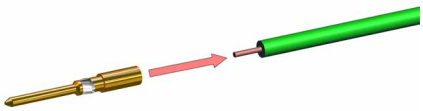
## 2.

**Place shrinking tube (1) on cable.**

## 3.

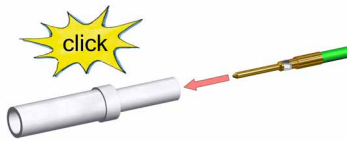
**Remove dielectric insulation (L1 = 5-8 mm [.197" - .315"]).**

## 4.



**Solder or crimp contact (2) on conductor.**
⚠ Please notice for soldering: Tin-solder must not remain on contact surface.

## 5.




**Slide contact (2) completely into connector shell (3) until contact snaps.**
Pull gently to check if the contacts are correctly fixed to their positions.

## 6.

**Slide shrinking tube (1) on connector shell (3).**

## 7.

**Shrink tube - shrinking temperature 110°C [+230°F].**

## 8.

**Assembly finished.**

***Note – important!***

1. **Please read the assembly instructions carefully before assembling the cable.**
2. **Cable assemble must be done by trained and qualified personnel only.**

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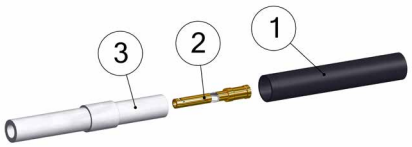
# Assembly Instructions Series-VP
# Basic - receptacle

**1.**




**Part as supplied.**
Shrinking tube (1), female contact (2), connector shell (3).

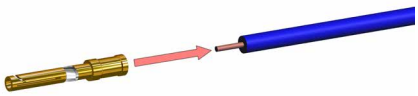
**2.**

**Place shrinking tube (1) on cable.**

**3.**

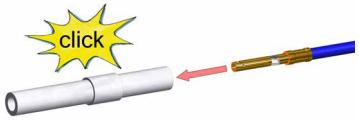
**Remove dielectric insulation (L1 = 5-8 mm) [.197" - .315"].**

**4.**



**Solder or crimp contact (2) on conductor.**
⚠ Please notice for soldering: Tin-solder must not remain on contact surface.

**5.**




**Slide contact (2) completely into connector shell (3) until contact snaps.**
Pull gently to check if the contacts are correctly fixed to their positions.

**6.**

**Slide shrinking tube (1) on connector shell (3).**

**7.**

**Shrink tube - shrinking temperature 110°C [+230°F].**

**8.**

**Assembly finished.**

***Note – important!***

1. **Please read the assembly instructions carefully before assembling the cable.**
2. **Cable assemble must be done by trained and qualified personnel only.**

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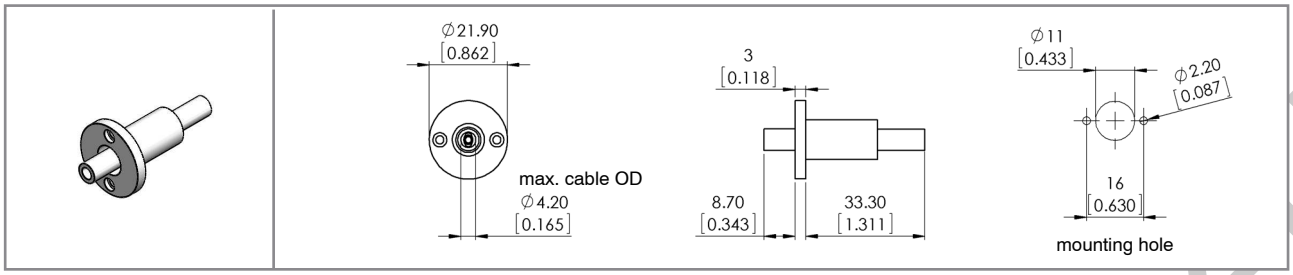
## VarioPro Basic DF (feedthrough) - receptacle, single pin (VP-DF-1HV-BU)

**Drawing**

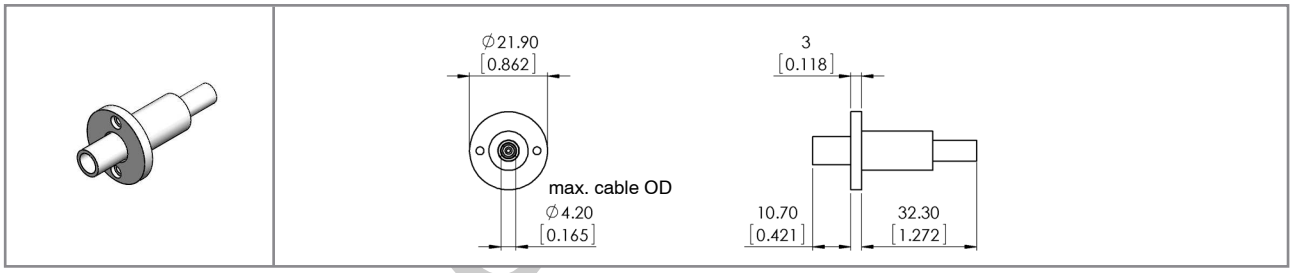



drawing - dimensions in mm [inch]

| P/N | Description | Receptacle | Number of contacts | Including contacts | Panel mount |
|---|---|---|---|---|---|
| 5000200 | VP-DF-1HV-BU POM 20 AWG Ag | • | 1 | • | • |
| 5000201 | VP-DF-1HV-BU POM 20-16 AWG Ag | • | 1 | • | • |
| 5000202 | VP-DF-1HV-BU POM 26-22 AWG Ag | • | 1 | • | • |
| 5000203 | VP-DF-1HV-BU POM 16-15 AWG Ag | • | 1 | • | • |
| 5000204 | VP-DF-1HV-BU POM 14 AWG Ag | • | 1 | • | • |

## VarioPro Basic DF (feedthrough) - plug, single pin (VP-DF-1HV-ST)

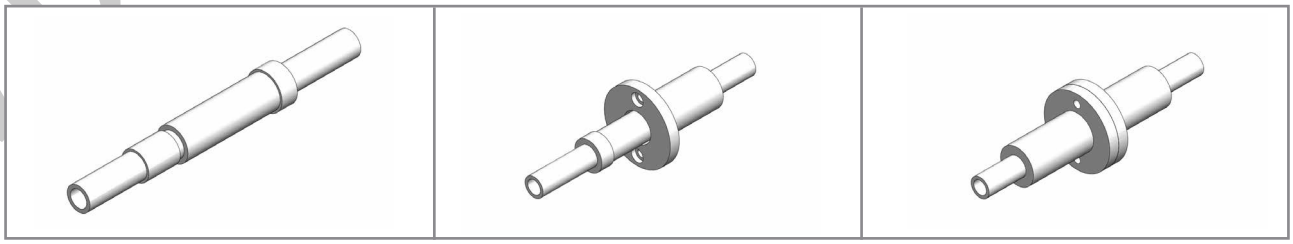
**Drawing**




drawing - dimensions in mm [inch]

| P/N | Description | Plug | Number of contacts | Including contacts | Panel mount |
|---|---|---|---|---|---|
| 5000210 | VP-DF-1HV-ST POM 20 AWG Ag | • | 1 | • | • |
| 5000211 | VP-DF-1HV-ST POM 20-16 AWG Ag | • | 1 | • | • |
| 5000212 | VP-DF-1HV-ST POM 26-22 AWG Ag | • | 1 | • | • |
| 5000213 | VP-DF-1HV-ST POM 16-15 AWG Ag | • | 1 | • | • |
| 5000214 | VP-DF-1HV-ST POM 14 AWG Ag | • | 1 | • | • |

## Possible combinations







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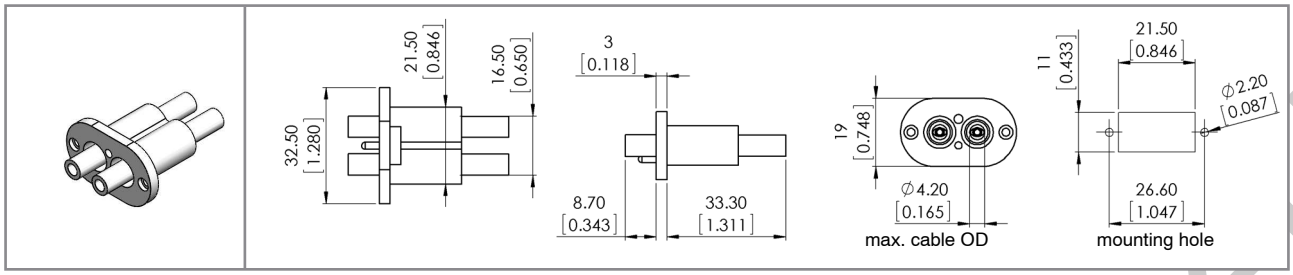
# 2-pin 8 kV DC

## VarioPro Basic DF (feedthrough) - receptacle, 2-pin (VP-DF-2HV-BU)

**Drawing**

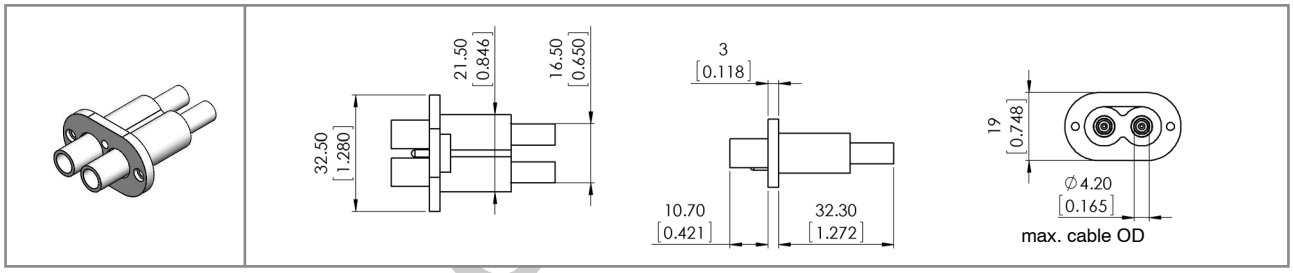



drawing - dimensions in mm [inch]

| P/N | Description | Receptacle | Number of contacts | Including contacts | Panel mount |
|---|---|---|---|---|---|
| 5000220 | VP-DF-2HV-BU POM 26-22 AWG Ag | • | 2 | • | • |
| 5000221 | VP-DF-2HV-BU POM 20 AWG Ag | • | 2 | • | • |
| 5000222 | VP-DF-2HV-BU POM 20-16 AWG Ag | • | 2 | • | • |
| 5000223 | VP-DF-2HV-BU POM 16-15 AWG Ag | • | 2 | • | • |
| 5000224 | VP-DF-2HV-BU POM 14 AWG Ag | • | 2 | • | • |

## VarioPro Basic DF (feedthrough) - plug, 2-pin (VP-DF-2HV-ST)

**Drawing**




drawing - dimensions in mm [inch]

| P/N | Description | Plug | Number of contacts | Including contacts | Panel mount |
|---|---|---|---|---|---|
| 5000230 | VP-DF-2HV-ST POM 26-22 AWG Ag | • | 2 | • | • |
| 5000231 | VP-DF-2HV-ST POM 20 AWG Ag | • | 2 | • | • |
| 5000232 | VP-DF-2HV-ST POM 20-16 AWG Ag | • | 2 | • | • |
| 5000233 | VP-DF-2HV-ST POM 16-15 AWG Ag | • | 2 | • | • |
| 5000234 | VP-DF-2HV-ST POM 14 AWG Ag | • | 2 | • | • |

*Contact pins:* Page 82
*Cables and tools:* Page 84



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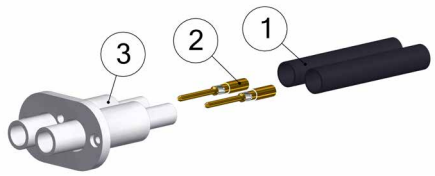
# Assembly Instructions Series-VP
# Basic Feedthrough - plug

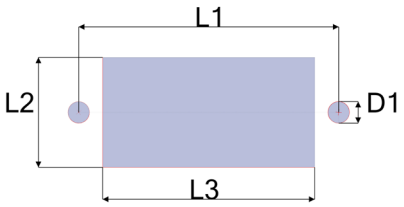


**1.**




**Part as supplied.**
Shrinking tube (1), male contact (2), connector shell (3).

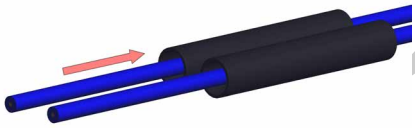
**2.**




**Panel cut out**

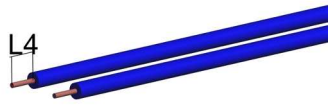
| Type | D1 mm [inch] | L1 mm [inch] | L2 mm [inch] | L3 mm [inch] |
|---|---|---|---|---|
| VP-DF-2HV-ST | 2.20 [.087"] | 26.60 [1.047"] | 11.20 [.441"] | 21.70 [.854"] |

**3.**



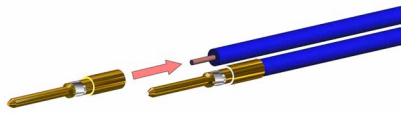
**Place shrinking tube (1) on cable.**

**4.**




**Remove dielectric insulation (L4 = 5-8 mm) [.197" - .315"].**

**5.**

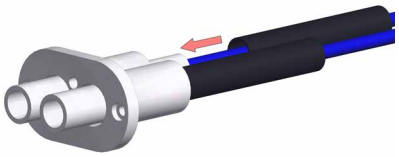


**Solder or crimp contact (2) on conductor.**
⚠ Please notice for soldering: Tin-solder must not remain on contact surface.

**6.**

**Slide contact (2) completely into connector shell (3) until contact snaps.**
Pull gently to check if the contacts are correctly fixed to their positions.

**7.**



**Slide shrinking tube (1) on connector shell (3).**

**8.**

**Shrink tubes - shrinking temperature 110°C [+230°F].**

**9.**

**Assembly finished.**



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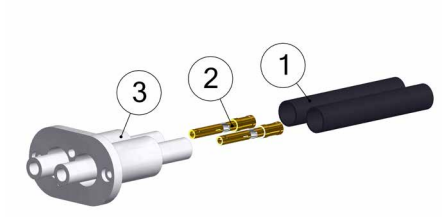
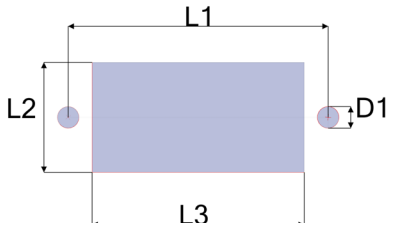
# Assembly Instructions Series-VP
# Basic Feedthrough - receptacle

**1.**




**Part as supplied.**
Shrinking tube (1), female contact (2), connector shell (3).

**2.**



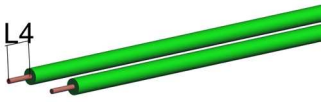

**Panel cut out**

| Type | D1 mm [inch] | L1 mm [inch] | L2 mm [inch] | L3 mm [inch] |
|---|---|---|---|---|
| VP-DF-2HV-BU | 2.20 [.087"] | 26.60 [1.047"] | 11.20 [.441"] | 21.70 [.854"] |

**3.**

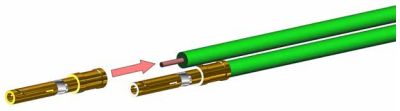
**Place shrinking tube (1) on cable.**

**4.**




**Remove dielectric insulation (L4 = 5-8 mm) [.197" - .315"].**

**5.**

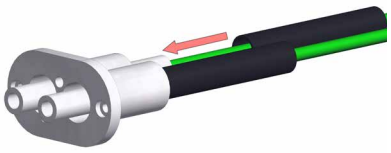


**Solder or crimp contact (2) on conductor.**
⚠ Please notice for soldering: Tin-solder must not remain on contact surface.

**6.**

**Slide contact (2) completely into connector shell (3) until contact snaps.**
Pull gently to check if the contacts are correctly fixed to their positions.

**7.**



**Slide shrinking tube (1) on connector shell (3).**

**8.**

**Shrink tubes - shrinking temperature 110°C [+230°F].**

**9.**

**Assembly finished.**

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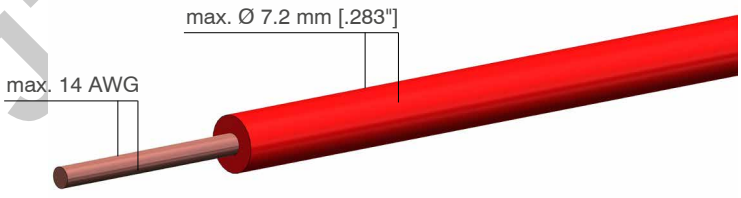
# General characteristics and technical data Series VarioPro SB10

| Electrical values | |
|---|---|
| Operating voltage | 10 kV DC |
| Test voltage | 15 kV DC |

| Housing | |
|---|---|
| Number of HV-contacts | 1 |
| Insulation material | POM / PTFE |
| Flammability class POM | UL94 HB |
| Flammability class PTFE | UL94 V-0 |
| Operating temperature POM | -30°C to +120°C [-22°F to +248°F] |
| Operating temperature PTFE | -50°C to +200°C [-58°F to +392°F] |
| Insulating material group | I (DIN IEC 60664) |

| Contacts 2.7 mm | |
|---|---|
| Termination method | Solder |
| Rated current | 30 A |
| Contact resistance | ≤ 300 mΩ |
| Contact diameter | 2.7 mm [.106"] |
| Wire size | 2.5 mm² [14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Mating cycles | ≥ 100,000 |
| Rated temperature | +120°C [+248°F] |

## Suitable cable dimensions

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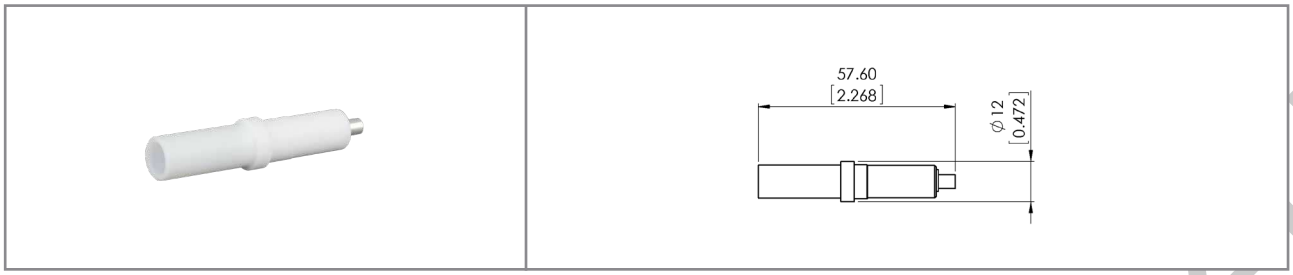
# Type VarioPro SB10
# 1-pin 10 kV DC

## VarioPro Basic B10 - receptacle

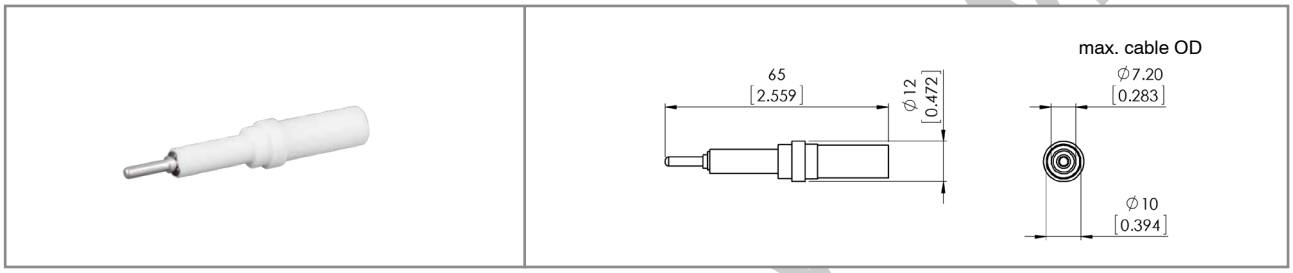
**Picture / Drawing**




drawing - dimensions in mm [inch]

## VarioPro Basic S10 - plug

**Picture / Drawing**




drawing - dimensions in mm [inch]

| P/N | Description | Plug | Receptacle | Number of contacts | Including contacts | Contacts, silver plated |
|---|---|---|---|---|---|---|
| 7100000 | S10 POM | • | | 1 | • | • |
| 7101000 | B10 POM | | • | 1 | • | • |
| 7102000 | S10 PTFE | • | | 1 | • | • |
| 7103000 | B10 PTFE | | • | 1 | • | • |

*Contact pins:* Page 82
*Cables and tools:* Page 84

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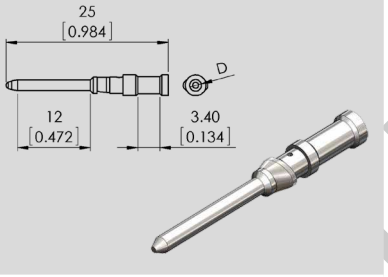
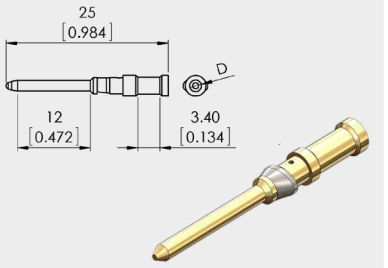
# Single parts / Contacts for types VarioPro Clip Lock, Basic and Basic Feedthrough

VP Series

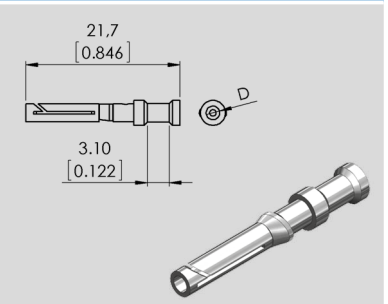
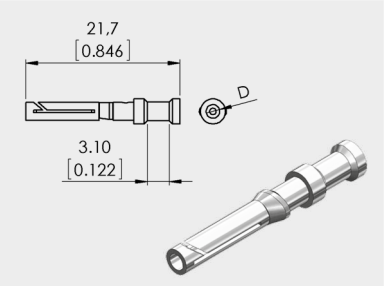
## Male contacts 1.6 mm

| P/N | Description | Cross section in mm² (D) | AWG (D) | Silver plated | Gold plated | Drawing |
|---|---|---|---|---|---|---|
| 6575085 | Male contact 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | • | |  |
| 6575086 | Male contact 1.6 mm / 20 AWG | 0.5 | 20 | • | | |
| 6575088 | Male contact 1.6 mm / 20-16 AWG | 0.75 -1.0 | 20-16 | • | | |
| 6575090 | Male contact 1.6 mm / 16-15 AWG | 1.5 | 16-15 | • | | |
| 6575083 | Male contact 1.6 mm / 14 AWG | 2.5 | 14 | • | | |
| 6575118 | Male contact AU 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | | • |  |
| 6575121 | Male contact AU 1.6 mm / 20 AWG | 0.5 | 20 | | • | |
| 6575116 | Male contact AU 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | | • | |
| 6575124 | Male contact AU 1.6 mm / 16-15 AWG | 1.5 | 16-15 | | • | |
| 6575125 | Male contact AU 1.6 mm / 14 AWG | 2.5 | 14 | | • | |



drawing - dimensions in mm [inch]

## Female contacts 1.6 mm

| P/N | Description | Cross section in mm² (D) | AWG (D) | Silver plated | Gold plated | Drawing |
|---|---|---|---|---|---|---|
| 6575095 | Female contact 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | • | |  |
| 6575107 | Female contact 1.6 mm / 20 AWG | 0.5 | 20 | • | | |
| 6575098 | Female contact 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | • | | |
| 6575100 | Female contact 1.6 mm / 16-15 AWG | 1.5 | 16-15 | • | | |
| 6575084 | Female contact 1.6 mm / 14 AWG | 2.5 | 14 | • | | |
| 6575127 | Female contact AU 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | | • |  |
| 6575131 | Female contact AU 1.6 mm / 20 AWG | 0.5 | 20 | | • | |
| 6575117 | Female contact AU 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | | • | |
| 6575132 | Female contact AU 1.6 mm / 16-15 AWG | 1.5 | 16-15 | | • | |
| 6575133 | Female contact AU 1.6 mm / 14 AWG | 2.5 | 14 | | • | |



drawing - dimensions in mm [inch]





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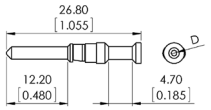
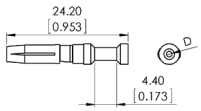
## Male contacts 2.5 mm

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575087 | Male contact 2.5 mm / 20 AWG | 0.5 | 20 | |
| 6575089 | Male contact 2.5 mm / 18 AWG | 0.75-1.0 | 18 | |
| 6575092 | Male contact 2.5 mm / 16 AWG | 1.5 | 16 | |
| 6575094 | Male contact 2.5 mm / 14 AWG | 2.5 | 14 |   |
| 6575091 | Male contact 2.5 mm / 12 AWG | 4.0 | 12 | |

## Female contacts 2.5 mm

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575108 | Female contact 2.5 mm / 20 AWG | 0.5 | 20 | |
| 6575111 | Female contact 2.5 mm / 18 AWG | 0.75-1.0 | 18 | |
| 6575102 | Female contact 2.5 mm / 16 AWG | 1.5 | 16 | |
| 6575104 | Female contact 2.5 mm / 14 AWG | 2.5 | 14 |   |
| 6575113 | Female contact 2.5 mm / 12 AWG | 4.0 | 12 | |

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## Suitable cables for Series VP

| Part No. | 3330090 | 3330091 | 3330092 | 3330093 | 3330094 | 3330095 | 3330020 |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| Operating voltage DC | 15 kV DC | | | | | | 10 kV DC |
| Operating voltage AC rms | - | | | | | | - |
| Conductor size | | | | | | | |
| AWG | 24 AWG | 22 AWG | 20 AWG | 18 AWG | 16 AWG | 14 AWG | 14 AWG |
| Strands | 19 x 36 AWG | 7 x 30 AWG | 10 x 30 AWG | 16 x 30 AWG | 26 x 30 AWG | 41 x 30 AWG | 50 x 0.25 mm |
| Cross section | 0.24 mm² | 0.36 mm² | 0.51 mm² | 0.81 mm² | 1.32 mm² | 2.08 mm² | 2.5 mm² |
| Diameter | 0.55 mm | 0.68 mm | 0.81 mm | 1.02 mm | 1.30 mm | 1.63 mm | 1.78 mm |
| Dielectric insulation | | | | | | | |
| Diameter | 2.7 mm | 2.9 mm | 3.0 mm | 3.3 mm | 3.5 mm | 3.9 mm | 3.8 mm |
| Material | Silicone | | | | | | Silicone |
| Ozone and corona resistant | YES | | | | | | - |
| UL | AWM Style 3239 | | | | | | - |
| Temperature rating | max. 150°C [+302°F] | | | | | | -20°C to +180°C [-4°F to +356°F] |
| Color | red* | | | | | | black |
| Fits connector types | VarioPro Clip Lock 1-, 2-, and 3-pin<br>VarioPro Basic<br>VarioPro Basic Feedthroughs 1-, and 2-pin | | | | | | |

*Different colors available on request

## Tools

| Part No. | Description | Connector types |
|---|---|---|
| 3000001 | Extracting tool for contacts 1.6 mm - male and female | VP ClipLock, VP Basic |
| 3000015 | Crimping tool for contacts 1.6 mm - male and female<br>incl. pliers, contact holder and crimping cheeks | VP ClipLock, VP Basic |





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# MCS Series

- Operating voltage up to 5 kV DC
- Operating current up to 4.5 A
- 2 - 6 high voltage contacts
- Quick and easy assembling
- Protection class IP68 acc. DIN EN 60529

www.bzy

# General characteristics and technical data Series MCS



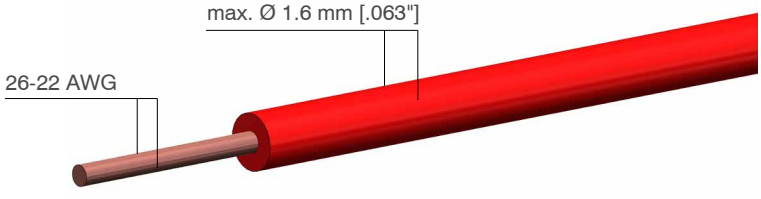
| Housing | |
|---|---|
| Locking system | Threaded coupling |
| Panel mount type | Round flange |
| Housing material | Brass (CuZn) |
| Surface plating | Nickel (Ni) |
| Protection class acc. DIN EN 60529 (mated connector) | IP68 |
| Operating temperature | -30°C to +80°C [-22°F to +176°F] |

| Contacts 0.7 mm | |
|---|---|
| Termination method | Solder / crimp |
| Rated current | 4.5 A |
| Contact resistance | < 0,7 mΩ |
| Contact diameter | 0.7 mm [.028"] |
| Wire size | 0.15-0.38 mm² [26-22 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Gold (Au) |
| Mating cycles | ≥ 5000 |

| Insulation inserts | |
|---|---|
| Number of contacts | 2, 4, 6 |
| Insulation material | PBT |
| Flammability class | UL94 V-0 |
| Operating temperature | -40°C to +150°C [-40°F to +302°F] |
| CTI value | 600 |
| Insulation material group | I (DIN IEC 60664) |
| Max. diameter of dielectric cable insulation | 1.6 mm |

| Configurations | | | |
|---|---|---|---|
| Type | 205 | 405 | 605 |
| Receptacle | | | |
| Plug | | | |

## Suitable cable dimensions (single wire)

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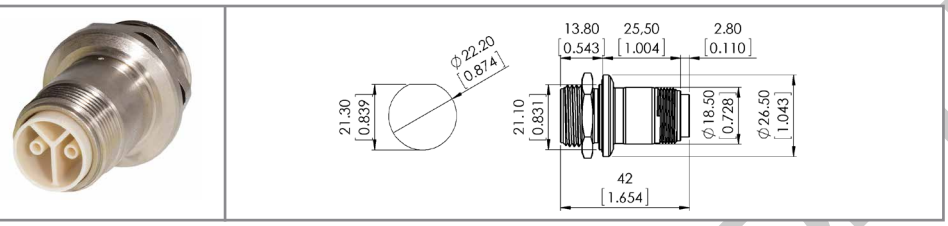
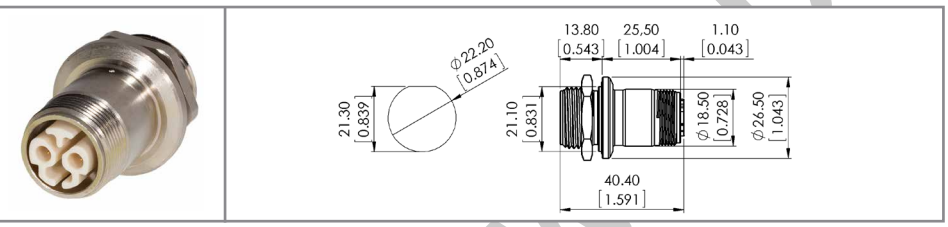
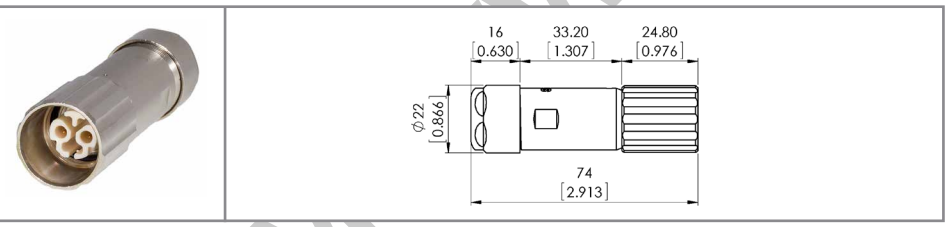
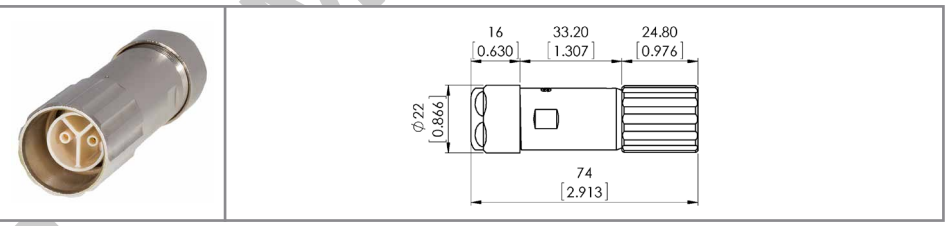
# Type MCS205 2-pin 5 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 5 kV DC |
| Test voltage | 8 kV DC |
| Rated current | 4.5 A |

| Characteristics | |
|---|---|
| Number of pins | 2 |
| Insulation material | PBT |

| Type / Version / Description | Picture / Drawing |
|---|---|
| **GB-MCS205**<br>**Receptacle, panel mount incl. female contacts 0.7 mm** |  |
| **GS-MCS205**<br>**Plug, panel mount incl. male contacts 0.7 mm** |  |
| **KS-MCS205**<br>**Plug, cable mount incl. male contacts 0.7 mm** |  |
| **KB-MCS205**<br>**Receptacle, cable mount incl. female contacts 0.7 mm** |  |

drawing - dimensions in mm [inch]

| Part no. | Description | Plug | Receptacle | Cable mount | Panel mount | Clamping range (in mm [inch]) Screwed cable gland |
|---|---|---|---|---|---|---|
| 5001200 | GB-MCS205 | | • | | • | |
| 5001205 | GS-MCS205 | • | | | • | |
| 5001210 | KS-MCS205 6.5 – 4.0 | • | | • | | 6.5 – 4.0 [.256" - .157"] |
| 5001211 | KS-MCS205 8.0 – 5.0 | • | | • | | 8.0 – 5.0 [.315" - .197"] |
| 5001212 | KS-MCS205 9.5 – 6.5 | • | | • | | 9.5 – 6.5 [.374" - .256"] |
| 5001213 | KS-MCS205 10.5 – 7.0 | • | | • | | 10.5 – 7.0 [.413" - .276"] |
| 5001220 | KB-MCS205 6.5 – 4.0 | | • | • | | 6.5 – 4.0 [.256" - .157"] |
| 5001221 | KB-MCS205 8.0 – 5.0 | | • | • | | 8.0 – 5.0 [.315" - .197"] |
| 5001222 | KB-MCS205 9.5 – 6.5 | | • | • | | 9.5 – 6.5 [.374" - .256"] |
| 5001223 | KB-MCS205 10.5 – 7.0 | | • | • | | 10.5 – 7.0 [.413" - .276"] |

**Accessories:** *Page 90*
**2-core cable:** *Page 94*

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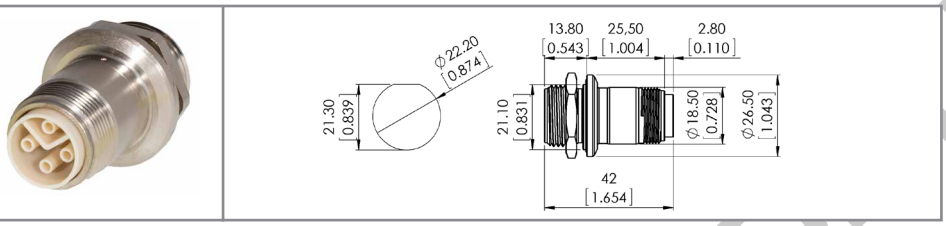
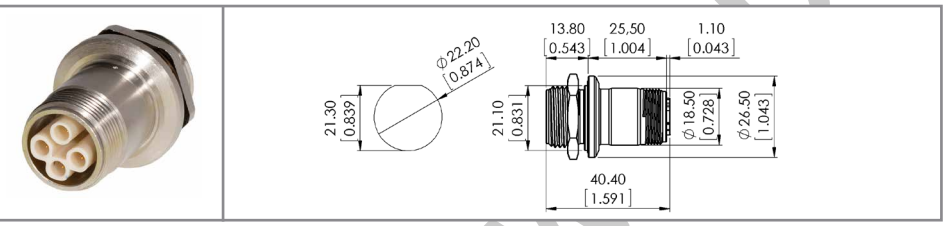
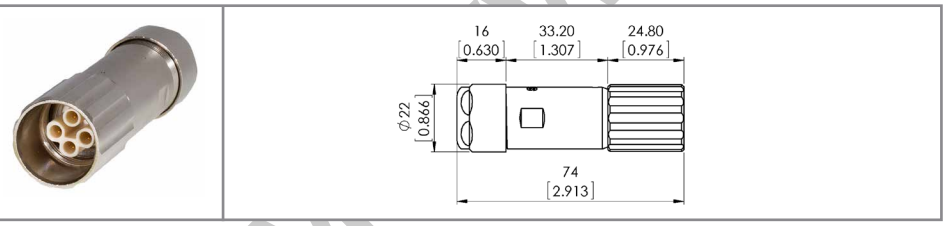
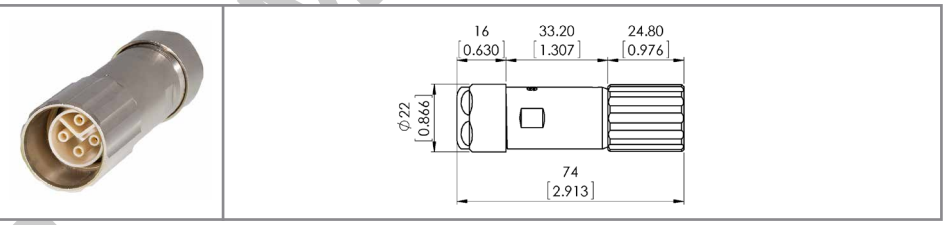
# Type MCS405 **4-pin 5 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 5 kV DC |
| Test voltage | 8 kV DC |
| Rated current | 4.5 A |

| Characteristics | |
|---|---|
| Number of pins | 4 |
| Insulation material | PBT |

| Type / Version / Description | Picture / Drawing |
|---|---|
| **GB-MCS405**<br>**Receptacle, panel mount incl. female contacts 0.7 mm** |  |
| **GS-MCS405**<br>**Plug, panel mount incl. male contacts 0.7 mm** |  |
| **KS-MCS405**<br>**Plug, cable mount incl. male contacts 0.7 mm** |  |
| **KB-MCS405**<br>**Receptacle, cable mount incl. female contacts 0.7 mm** |  |

drawing - dimensions in mm [inch]

| Part no. | Description | Plug | Receptacle | Cable mount | Panel mount | Clamping range (in mm [inch]) Screwed cable gland |
|---|---|---|---|---|---|---|
| 5001400 | GB-MCS405 | | • | | • | |
| 5001405 | GS-MCS405 | • | | | • | |
| 5001410 | KS-MCS405 6.5 – 4.0 | • | | • | | 6.5 – 4.0 [.256" - .157"] |
| 5001411 | KS-MCS405 8.0 – 5.0 | • | | • | | 8.0 – 5.0 [.315" - .197"] |
| 5001412 | KS-MCS405 9.5 – 6.5 | • | | • | | 9.5 – 6.5 [.374" - .256"] |
| 5001413 | KS-MCS405 10.5 – 7.0 | • | | • | | 10.5 – 7.0 [.413" - .276"] |
| 5001420 | KB-MCS405 6.5 – 4.0 | | • | • | | 6.5 – 4.0 [.256" - .157"] |
| 5001421 | KB-MCS405 8.0 – 5.0 | | • | • | | 8.0 – 5.0 [.315" - .197"] |
| 5001422 | KB-MCS405 9.5 – 6.5 | | • | • | | 9.5 – 6.5 [.374" - .256"] |
| 5001423 | KB-MCS405 10.5 – 7.0 | | • | • | | 10.5 – 7.0 [.413" - .276"] |

*Accessories:* Page 90
*4-core cable:* Page 94



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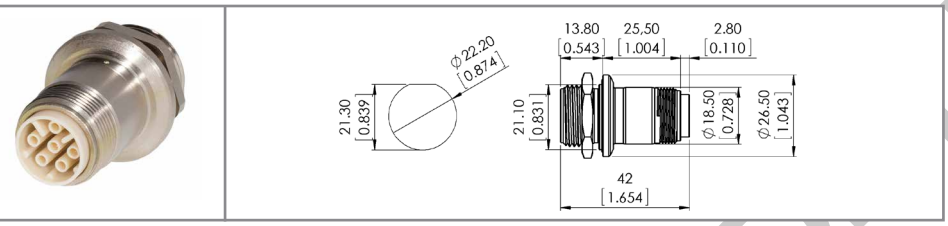
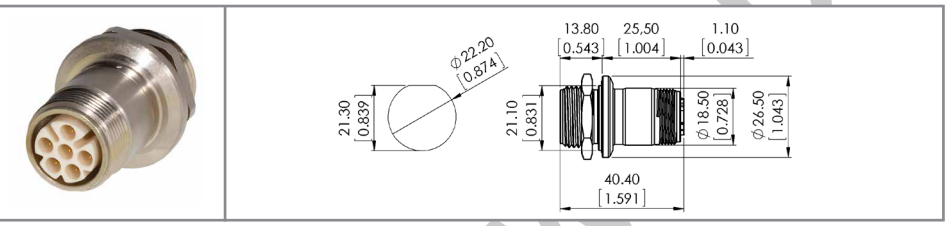
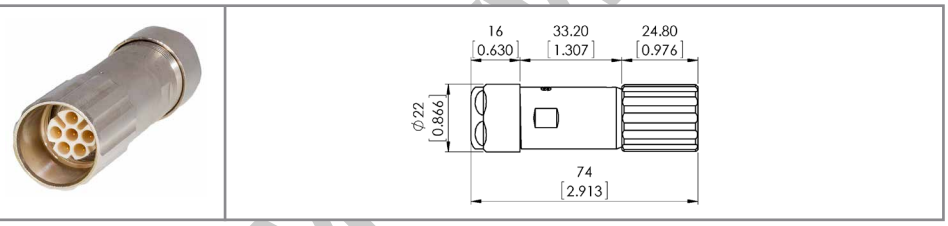
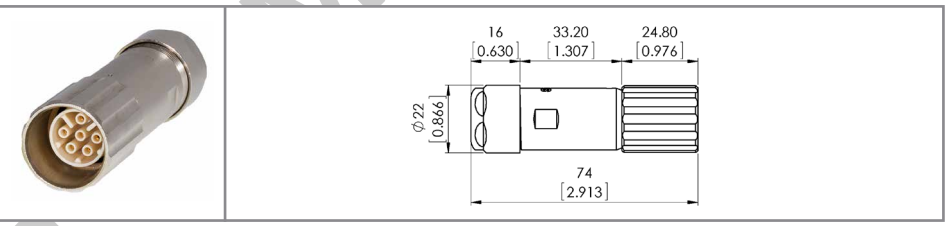
# Type MCS605 6-pin 5 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 5 kV DC |
| Test voltage | 8 kV DC |
| Rated current | 4.5 A |

| Characteristics | |
|---|---|
| Number of pins | 6 |
| Insulation material | PBT |

| Type / Version / Description | Picture / Drawing |
|---|---|
| **GB-MCS605**<br>**Receptacle, panel mount incl. female contacts 0.7 mm** |  |
| **GS-MCS605**<br>**Plug, panel mount incl. male contacts 0.7 mm** |  |
| **KS-MCS605**<br>**Plug, cable mount incl. male contacts 0.7 mm** |  |
| **KB-MCS605**<br>**Receptacle, cable mount incl. female contacts 0.7 mm** |  |

drawing - dimensions in mm [inch]

| Part no. | Description | Plug | Receptacle | Cable mount | Panel mount | Clamping range (in mm [inch]) Screwed cable gland |
|---|---|---|---|---|---|---|
| 5001600 | GB-MCS605 | | • | | • | |
| 5001605 | GS-MCS605 | • | | | • | |
| 5001610 | KS-MCS605 6.5 – 4.0 | • | | • | | 6.5 – 4.0 [.256" - .157"] |
| 5001611 | KS-MCS605 8.0 – 5.0 | • | | • | | 8.0 – 5.0 [.315" - .197"] |
| 5001612 | KS-MCS605 9.5 – 6.5 | • | | • | | 9.5 – 6.5 [.374" - .256"] |
| 5001613 | KS-MCS605 10.5 – 7.0 | • | | • | | 10.5 – 7.0 [.413" - .276"] |
| 5001620 | KB-MCS605 6.5 – 4.0 | | • | • | | 6.5 – 4.0 [.256" - .157"] |
| 5001621 | KB-MCS605 8.0 – 5.0 | | • | • | | 8.0 – 5.0 [.315" - .197"] |
| 5001622 | KB-MCS605 9.5 – 6.5 | | • | • | | 9.5 – 6.5 [.374" - .256"] |
| 5001623 | KB-MCS605 10.5 – 7.0 | | • | • | | 10.5 – 7.0 [.413" - .276"] |

**Accessories:** *Page 90*
**6-core cable:** *Page 94*

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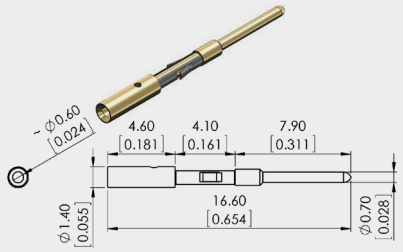
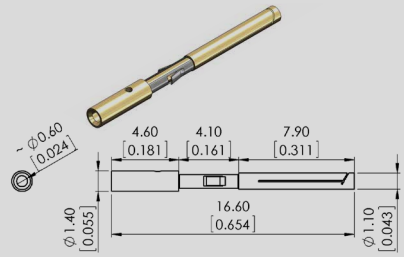
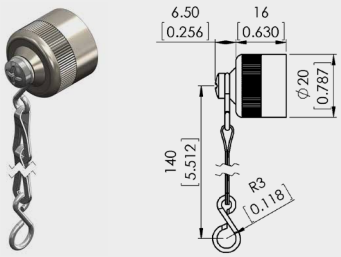
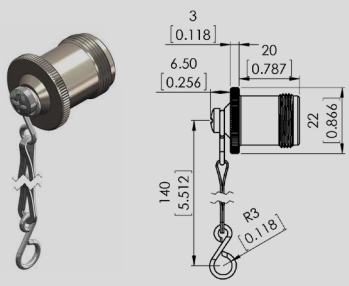
## Contacts

| Part no. | Description | Cross section In mm² (D) | AWG (D) | Mechanical drawing |
|---|---|---|---|---|
| 6575150 | Male contact 0.7 mm | 0.15 – 0.38 | 26-22 |  |
| 6575160 | Female contact 0.7 mm | 0.15 – 0.38 | 26-22 |  |

drawing - dimensions in mm [inch]

## Coverings with thread

| Part no. | Description | Mechanical drawing |
|---|---|---|
| 1672118 | Covering (inside thread)<br>for types GS / GB 205 - 605 |  |
| 1672119 | Covering (outside thread)<br>for types KS / KB 205 - 605 |  |

drawing - dimensions in mm [inch]

## Ejector tool / Crimping tool

| Part no. | Description |
|---|---|
| 3000016 | Extracting tool for 0.7 mm crimping contacts |
| 3000024 | Crimping tool fro 0.7 mm crimping contacts incl. pliers, contact holder and crimping cheeks |



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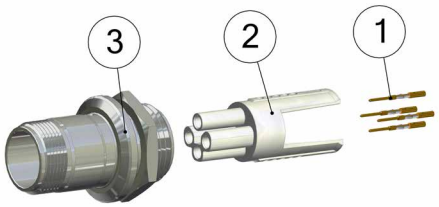
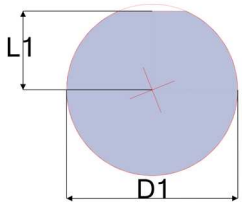
# Assembly instructions (GB/GS)

**1.**




**Part as delivered.**
contacts (1), insulation part (2), housing (3).

**2.**




| Panel cut out | |
|---|---|
| D1 mm [inch] | L1 mm [inch] |
| 22.20 [.874"] | 10.10 [.398"] |

**3.**

**Carefully remove cable jacket (L2 = min. 30 mm [1.181"]).**
⚠ Do not damage metal shield.

**4.**

**Fold back shield.**

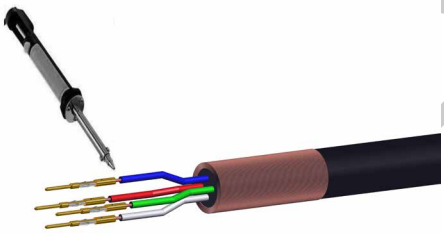
**5.**

**Remove any filling elements from cable.**

**6.**

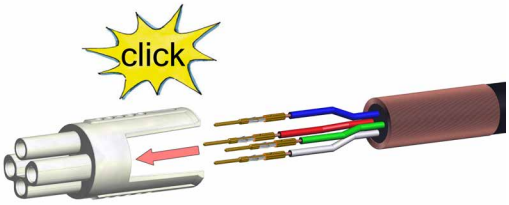
**Remove dielectric insulation of single wires (L3 = 4 mm [.157"]).**
⚠ Do not damage conductor.

**7.**



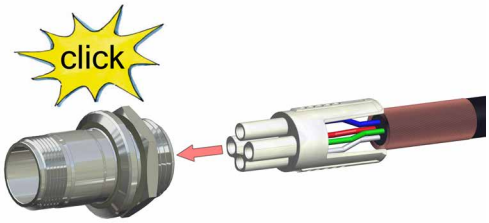
**Crimp or solder one contact (1) each on every conductor.**
⚠ Tin-solder must not remain on contact surface!

**8.**



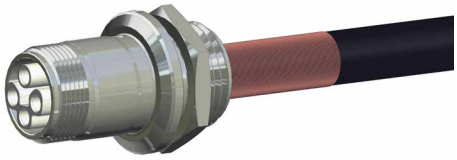

**Slide contacts (1) completely into insulation part (2) until contacts snap.**
💬 Insert all contacts at once.

**9.**




**Put insulation part (2) into housing (3)**
💬 Pay attention to notches.

**10.**



**Assembly finished.**

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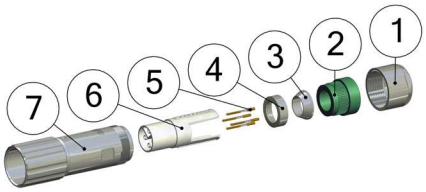
**1.**

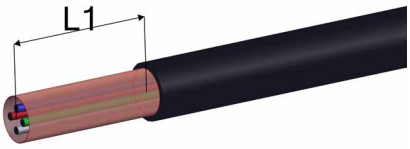



**Part as delivered.**
cap (1), clamping rubber (2), outer cone (3), inner cone (4), contacts (5), insulation part (6), housing (7).

**2.**

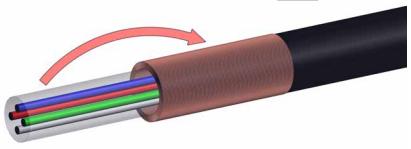
**Place cap (1), clamping rubber (2) and outer cone (3) on cable.**
⚠ Respect correct order of parts (see picture).

**3.**



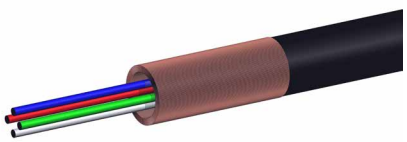

**Carefully remove cable jacket (L1 = 28 mm [1.102"]).**
⚠ Do not damage metal shield.
Do not damage dielectric insulation.

**4.**



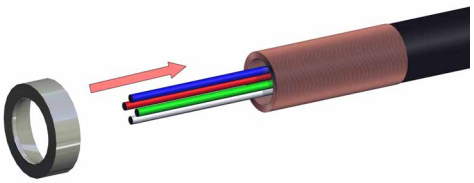
**Fold back shield braid over jacket.**

**5.**



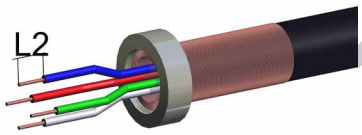
**Remove any filling elements from cable.**

**6.**



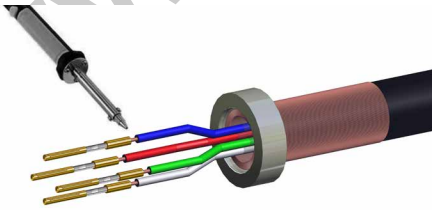
**Place inner cone (4) on cable.**

**7.**



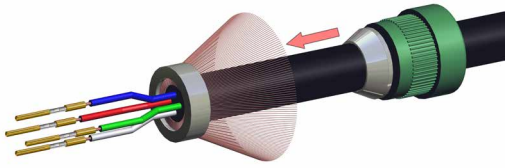

**Remove dielectric insulation of single wires (L2 = 4 mm [.157"]).**
⚠ Do not damage conductor.

**8.**



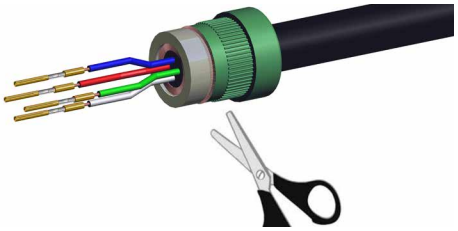
**Crimp or solder one contact (5) each on every conductor.**
⚠ Tin-solder must not remain on contact surface!

**9.**



**Completely widen shield braid. Push outer cone (3) and clamping rubber (2) under shield braid against inner cone (4) until shield braid clamps between outer cone (3) and inner cone (4).**

**10.**



**Cut overlapping shield braid.**
⚠ Carefully remove loose shield parts. Loose shield parts can cause electrical breakdown.

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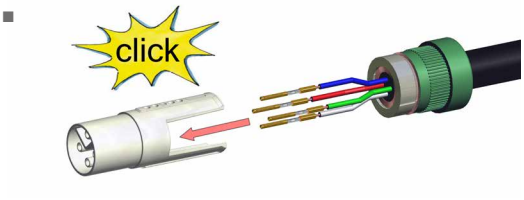
# Assembly instructions (KB/KS)

## 11.




**Slide contacts (5) completely into insulation part (6) until contacts snap.**

Insert all contacts at the same time. Pull gently to check if the contacts are correctly fixed to their positions.

## 12.

**Slide insulation part (6) into housing (7) until insulation part snap in.**

Use notches for correct positioning of the insulation part.

## 13.

**Put on cap.**

| Wrench size cap | Wrench size housing | Tightening torque [Nm] |
|---|---|---|
| 20 | 19 | 5 |

## 14.

**Assembly finished.**

### *Note – important!*

1. **Please read the assembly instructions carefully before assembling the cable.**
2. **Cable assemble must be done by trained and qualified personnel only.**

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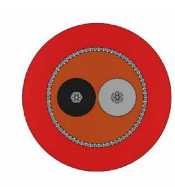
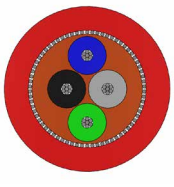
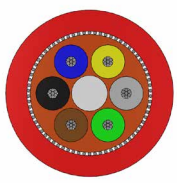
# Suitable cables for Series MCS

| | Part No. 3330082 | Part No. 3330084 | Part No. 3330086 |
|---|---|---|---|
| |  |  |  |
| Operating voltage | 5 kV DC | | |
| Test voltage | 7.5 kV DC | | |
| Number of wires | 2 | 4 | 6 |
| Construction | 2 wires stranded | 4 wires stranded | 6 wires stranded |
| **Conductor** | | | |
| AWG | 26 AWG | | |
| Strands | 7 x 0.16 mm | | |
| Cross section | 0.14 mm² | | |
| Conductor diameter | 0.42 mm | | |
| Conductor material | Tinned copper | | |
| **Dielectric** | | | |
| Diameter | 1.6 mm [.063"] (± 0.1 mm) | | |
| Material | FEP | | |
| Encoding | grey, black | grey, black, blue, green | grey, black, blue, green, yellow, brown |
| **Screen (Shield)** | YES | | |
| Coverage | about 85 % | | |
| Material | Tinned copper | | |
| **Jacket** | | | |
| Diameter | 6.2 mm [.244"] (± 0.3 mm) | 6.9 mm [.272"] (± 0.3 mm) | 7.9 mm [.311"] (± 0.3 mm) |
| Material | Silicone | | |
| Color | red | | |
| Temperature range | -30°C to +180°C [-22°F to 356°F] | | |
| Fits connector types | MCS205 | MCS405 | MCS605 |

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# MC Series

- Operating voltage from 10 kV DC to 15 kV DC
- Operating current up to 13 A
- 2 - 5 HV contacts
- For cable sizes 26-14 AWG

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| P/N | Description | Plug | Receptacle | Cable mount | Panel mount | Coupling | Adapter | HV-pins |
|---|---|---|---|---|---|---|---|---|
| 5002010R | GB-MC207 POM | | • | | • | | | 2 |
| 5002020R | GS-MC207 POM | • | | | • | | | 2 |
| 5002030A | KS-MC207/6.5-8 POM | • | | • | | | | 2 |
| 5002030B | KS-MC207/8-9.5 POM | • | | • | | | | 2 |
| 5002030C | KS-MC207/9.5-11 POM | • | | • | | | | 2 |
| 5002030D | KS-MC207/11-12.5 POM | • | | • | | | | 2 |
| 5002030E | KS-MC207/12.5-14 POM | • | | • | | | | 2 |
| 5002030M | KS-MC207/M20 POM | • | | • | | | • | 2 |
| 5002030N | KS-MC207/M25 POM | • | | • | | | • | 2 |
| 5002040A | KB-MC207/6.5-8 POM | | • | • | | | | 2 |
| 5002040B | KB-MC207/8-9.5 POM | | • | • | | | | 2 |
| 5002040C | KB-MC207/9.5-11 POM | | • | • | | | | 2 |
| 5002040D | KB-MC207/11-12.5 POM | | • | • | | | | 2 |
| 5002040E | KB-MC207/12.5-14 POM | | • | • | | | | 2 |
| 5002040M | KB-MC207/M20 POM | | • | • | | | • | 2 |
| 5002040N | KB-MC207/M25 POM | | • | • | | | • | 2 |
| 5002041A | KBI-MC207/6.5-8 POM | | • | • | | • | | 2 |
| 5002041B | KBI-MC207/8-9.5 POM | | • | • | | • | | 2 |
| 5002041C | KBI-MC207/9.5-11 POM | | • | • | | • | | 2 |
| 5002041D | KBI-MC207/11-12.5 POM | | • | • | | • | | 2 |
| 5002041E | KBI-MC207/12.5-14 POM | | • | • | | • | | 2 |
| 5002041M | KBI-MC207/M20 POM | | • | • | | • | • | 2 |
| 5002041N | KBI-MC207/M25 POM | | • | • | | • | • | 2 |
| 5003010R | GB-MC307 POM | | • | | • | | | 3 |
| 5003020R | GS-MC307 POM | | | | • | | | 3 |
| 5003030A | KS-MC307/6.5-8 POM | • | | • | | | | 3 |
| 5003030B | KS-MC307/8-9.5 POM | • | | • | | | | 3 |
| 5003030C | KS-MC307/9.5-11 POM | • | | • | | | | 3 |
| 5003030D | KS-MC307/11-12.5 POM | • | | • | | | | 3 |
| 5003030E | KS-MC307/12.5-14 POM | • | | • | | | | 3 |
| 5003030M | KS-MC307/M20 POM | • | | • | | | • | 3 |
| 5003030N | KS-MC307/M25 POM | • | | • | | | • | 3 |
| 5003040A | KB-MC307/6.5-8 POM | • | • | • | | | | 3 |
| 5003040B | KB-MC307/8-9.5 POM | | • | • | | | | 3 |
| 5003040C | KB-MC307/9.5-11 POM | | • | • | | | | 3 |
| 5003040D | KB-MC307/11-12.5 POM | | • | • | | | | 3 |
| 5003040E | KB-MC307/12.5-14 POM | | • | • | | | | 3 |
| 5003040M | KB-MC307/M20 POM | | • | • | | | • | 3 |
| 5003040N | KB-MC307/M25 POM | | • | • | | | • | 3 |
| 5003041A | KBI-MC307/6.5-8 POM | | • | • | | • | | 3 |
| 5003041B | KBI-MC307/8-9.5 POM | | • | • | | • | | 3 |
| 5003041C | KBI-MC307/9.5-11 POM | | • | • | | • | | 3 |
| 5003041D | KBI-MC307/11-12.5 POM | | • | • | | • | | 3 |
| 5003041E | KBI-MC307/12.5-14 POM | | • | • | | • | | 3 |
| 5003041M | KBI-MC307/M20 POM | | • | • | | • | • | 3 |
| 5003041N | KBI-MC307/M25 POM | | • | • | | • | • | 3 |
| 5004010R | GB-MC407 POM | | • | | • | | | 4 |
| 5004020R | GS-MC407 POM | • | | | • | | | 4 |
| 5004030A | KS-MC407/6.5-8 POM | • | | • | | | | 4 |
| 5004030B | KS-MC407/8-9.5 POM | • | | • | | | | 4 |
| 5004030C | KS-MC407/9.5-11 POM | • | | • | | | | 4 |
| 5004030D | KS-MC407/11-12.5 POM | • | | • | | | | 4 |
| 5004030E | KS-MC407/12.5-14 POM | • | | • | | | | 4 |
| 5004030M | KS-MC407/M20 POM | • | | • | | | • | 4 |
| 5004030N | KS-MC407/M25 POM | • | | • | | | • | 4 |
| 5004040A | KB-MC407/6.5-8 POM | | • | • | | | | 4 |
| 5004040B | KB-MC407/8-9.5 POM | | • | • | | | | 4 |
| 5004040C | KB-MC407/9.5-11 POM | | • | • | | | | 4 |
| 5004040D | KB-MC407/11-12.5 POM | | • | • | | | | 4 |
| 5004040E | KB-MC407/12.5-14 POM | | • | • | | | | 4 |
| 5004040M | KB-MC407/M20 POM | | • | • | | | • | 4 |
| 5004040N | KB-MC407/M25 POM | | • | • | | | • | 4 |
| 5004042A | KBI-MC407/6.5-8 POM | | • | • | | • | | 4 |
| 5004042B | KBI-MC407/8-9.5 POM | | • | • | | • | | 4 |
| 5004042C | KBI-MC407/9.5-11 POM | | • | • | | • | | 4 |
| 5004042D | KBI-MC407/11-12.5 POM | | • | • | | • | | 4 |
| 5004042E | KBI-MC407/12.5-14 POM | | • | • | | • | | 4 |
| 5004042M | KBI-MC407/M20 POM | | • | • | | • | • | 4 |
| 5004042N | KBI-MC407/M25 POM | | • | • | | • | • | 4 |





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| P/N | Description | Plug | Receptacle | Cable mount | Panel mount | Coupling | Adapter | HV-pins |
|---|---|---|---|---|---|---|---|---|
| 5005010R | GB-MC507 POM | | • | | • | | | 5 |
| 5005020R | GS-MC507 POM | • | | | • | | | 5 |
| 5005030A | KS-MC507/6.5-8 POM | • | | • | | | | 5 |
| 5005030B | KS-MC507/8-9.5 POM | • | | • | | | | 5 |
| 5005030C | KS-MC507/9.5-11 POM | • | | • | | | | 5 |
| 5005030D | KS-MC507/11-12.5 POM | • | | • | | | | 5 |
| 5005030E | KS-MC507/12.5-14 POM | • | | • | | | | 5 |
| 5005030M | KS-MC507/M20 POM | • | | • | | | • | 5 |
| 5005030N | KS-MC507/M25 POM | • | | • | | | • | 5 |
| 5005040A | KB-MC507/6.5-8 POM | | • | • | | | | 5 |
| 5005040B | KB-MC507/8-9.5 POM | | • | • | | | | 5 |
| 5005040C | KB-MC507/9.5-11 POM | | • | • | | | | 5 |
| 5005040D | KB-MC507/11-12.5 POM | | • | • | | | | 5 |
| 5005040E | KB-MC507/12.5-14 POM | | • | • | | | | 5 |
| 5005040M | KB-MC507/M20 POM | | • | • | | | • | 5 |
| 5005040N | KB-MC507/M25 POM | | • | • | | | • | 5 |
| 5005042A | KBI-MC507/6.5-8 POM | | • | • | | • | | 5 |
| 5005042B | KBI-MC507/8-9.5 POM | | • | • | | • | | 5 |
| 5005042C | KBI-MC507/9.5-11 POM | | • | • | | • | | 5 |
| 5005042D | KBI-MC507/11-12.5 POM | | • | • | | • | | 5 |
| 5005042E | KBI-MC507/12.5-14 POM | | • | • | | • | | 5 |
| 5005042M | KBI-MC507/M20 POM | | • | • | | • | • | 5 |
| 5005042N | KBI-MC507/M25 POM | | • | • | | • | • | 5 |
| 5005115R | GB-MC520 PTFE | | • | | • | | | 5 |
| 5005125R | GS-MC520 PTFE | • | | | • | | | 5 |
| 5005135A | KS-MC520/6.5-8 PTFE | • | | • | | | | 5 |
| 5005135B | KS-MC520/8-9.5 PTFE | • | | • | | | | 5 |
| 5005135C | KS-MC520/9.5-11 PTFE | • | | • | | | | 5 |
| 5005135D | KS-MC520/11-12.5 PTFE | • | | • | | | | 5 |
| 5005135E | KS-MC520/12.5-14 PTFE | • | | • | | | | 5 |
| 5005135M | KS-MC520/M20 PTFE | • | | • | | | • | 5 |
| 5005135N | KS-MC520/M25 PTFE | • | | • | | | • | 5 |
| 5005145A | KB-MC520/6.5-8 PTFE | | • | • | | | | 5 |
| 5005145B | KB-MC520/8-9.5 PTFE | | • | • | | | | 5 |
| 5005145C | KB-MC520/9.5-11 PTFE | | • | • | | | | 5 |
| 5005145D | KB-MC520/11-12.5 PTFE | | • | • | | | | 5 |
| 5005145E | KB-MC520/12.5-14 PTFE | | • | • | | | | 5 |
| 5005145M | KB-MC520/M20 PTFE | | • | • | | | • | 5 |
| 5005145N | KB-MC520/M25 PTFE | | • | • | | | • | 5 |
| 5005146A | KBI-MC520/6.5-8 PTFE | | • | • | | • | | 5 |
| 5005146B | KBI-MC520/8-9.5 PTFE | | • | • | | • | | 5 |
| 5005146C | KBI-MC520/9.5-11 PTFE | | • | • | | • | | 5 |
| 5005146D | KBI-MC520/11-12.5 PTFE | | • | • | | • | | 5 |
| 5005146E | KBI-MC520/12.5-14 PTFE | | • | • | | • | | 5 |
| 5005146M | KBI-MC520/M20 PTFE | | • | • | | • | • | 5 |
| 5005146N | KBI-MC520/M25 PTFE | | • | • | | • | • | 5 |

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| Steps | Parts | | | | |
|---|---|---|---|---|---|
| **1** Choose connector type<br>Example: 2-pin<br>*(page 100-109)* | Receptacle, panel mount | Plug, panel mount | Receptacle, cable mount | Plug, cable mount | Coupling, cable mount |
| | | | | | |
| **2** Choose contacts<br>*(page 110)* | Female contact | Male contact | Female contact | Male contact | Female contact |
| | | | | | |
| **3** Choose accessories (optional)<br>*(page 111-112)* | Gaskets<br>Coverings | | | | |

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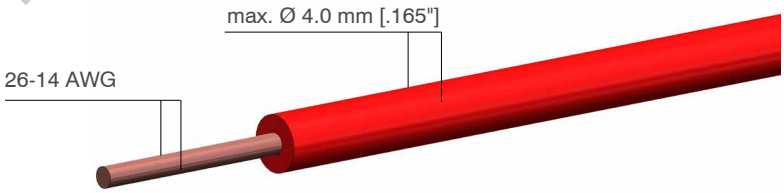
# General characteristics and technical data Series MC

| Housing | |
|---|---|
| Locking system | Threaded coupling |
| Mounting type (panel mount connector) | 4-hole flange |
| Housing material basis / adapter | Brass (CuZn) |
| Surface plating | Nickel (Ni) |
| Protection class (mated connector) | IP60 (IP65 on request) |
| Operating temperature | -30°C to +80°C [-22°F to +176°F] |

| Contacts 1.6 mm | |
|---|---|
| Termination method | Solder / crimp |
| Rated current | 13 A |
| Contact resistance | ≤ 5 mΩ |
| Contact diameter | 1.6 mm [.063"] |
| Wire size | 0.14 mm²-2.5 mm² [26-14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) / gold (Au) |
| Mating cycles | ≥ 1,000 |

| Insulator | |
|---|---|
| Number of contacts | 2, 3, 4, 5 |
| Insulation material | PTFE / POM |
| CTI value | 600 |
| Flammability class PTFE | UL94 V-0 |
| Flammability class POM | UL94 HB |
| Operating temperature PTFE | -50°C to +200°C [-58°F to +392°F] |
| Operating temperature POM | -30°C to +120°C [-22°F to +248°F] |
| Insulating material group PTFE / POM | I (DIN IEC 60664) |

## Suitable cable dimensions (single wire)



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# Type MC207 **2-pin 10 kV DC**

## *Plug, cable mount / Receptacle, panel mount / Receptacle, coupling, cable mount*

| Electrical values | |
|---|---|
| Operating voltage | 10 kV DC |
| Test voltage | 15 kV DC |
| Rated current | 13 A |

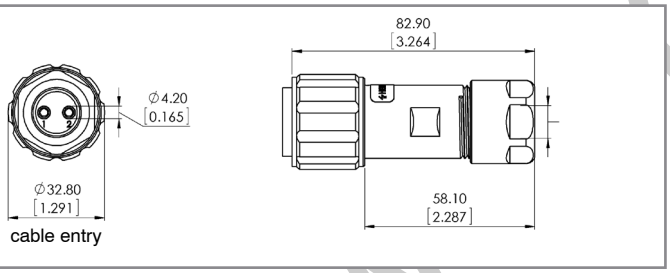
| Characteristics | |
|---|---|
| Number of pins | 2 |
| Insulation material | POM |

| Type / Version / Part number | Picture / Drawing |
|---|---|

### KS-MC207

**Plug, cable mount with integrated cable gland**

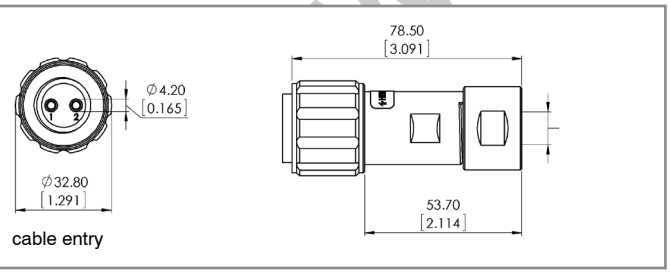
| Part no. | Clamping range |
|---|---|
| 5002030A | 6.5 - 8 mm [.256" - .315"] |
| 5002030B | 8 - 9.5 mm [.315" - .374"] |
| 5002030C | 9.5 - 11 mm [.374" - .433"] |
| 5002030D | 11 - 12.5 mm [.433" - .492"] |
| 5002030E | 12.5 - 14 mm [.492" - .551"] |




### KS-MC207

**Plug, cable mount with adapter M20/M25 for external cable gland**

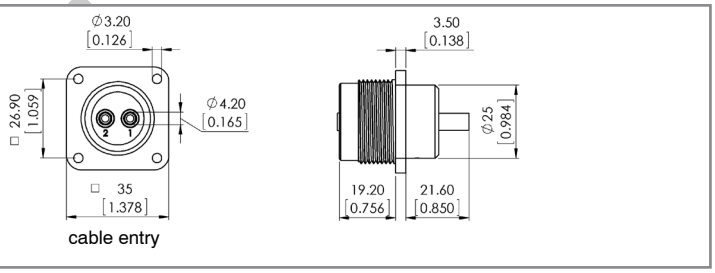
| Part no. | Connecting thread |
|---|---|
| 5002030M | M20 x 1.5 |
| 5002030N | M25 x 1.5 |




### GB-MC207

**Receptacle, panel mount**

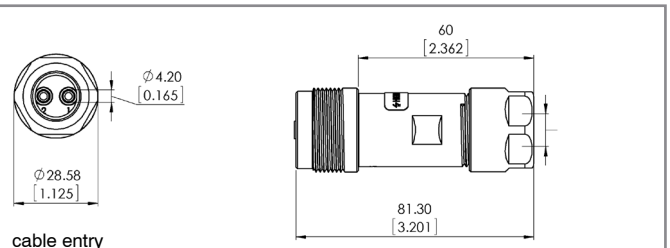
**Part no. 5002010R**




### KBI-MC207

**Receptacle, coupling, cable mount with integrated cable gland**

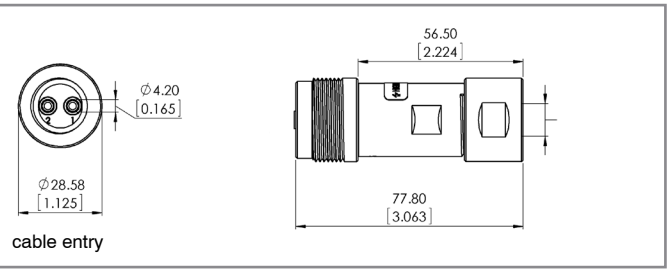
| Part no. | Clamping range |
|---|---|
| 5002041A | 6.5 - 8 mm [.256" - .315"] |
| 5002041B | 8 - 9.5 mm [.315" - .374"] |
| 5002041C | 9.5 - 11 mm [.374" - .433"] |
| 5002041D | 11 - 12.5 mm [.433" - .492"] |
| 5002041E | 12.5 - 14 mm [.492" - .551"] |




### KBI-MC207

**Receptacle, coupling, cable mount with adapter M20/M25 for external cable gland**

| Part no. | Connecting thread |
|---|---|
| 5002041M | M20 x 1.5 |
| 5002041N | M25 x 1.5 |




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*



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# Type MC207 **2-pin 10 kV DC**

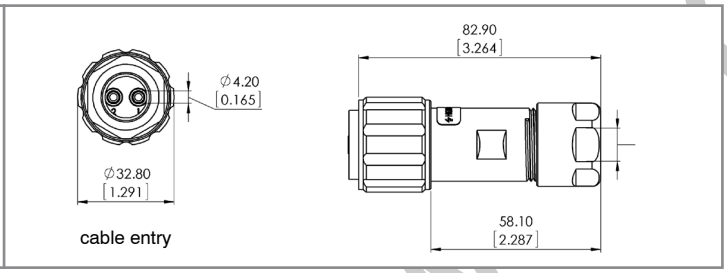
*Receptacle, cable mount / Plug, panel mount*

| Type / Version / Part number | Picture / Drawing |
|---|---|

## KB-MC207

**Receptacle, cable mount with integrated cable gland**

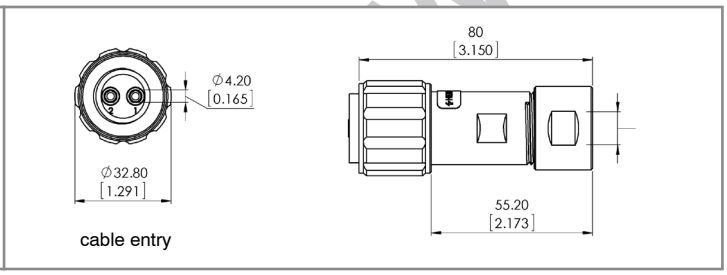
| Part no. | Clamping range |
|---|---|
| 5002040A | 6.5 - 8 mm [.256" - .315"] |
| 5002040B | 8 - 9.5 mm [.315" - .374"] |
| 5002040C | 9.5 - 11 mm [.374" - .433"] |
| 5002040D | 11 - 12.5 mm [.433" - .492"] |
| 5002040E | 12.5 - 14 mm [.492" - .551"] |




## KB-MC207

**Receptacle, cable mount with adapter M20/M25 for external cable gland**

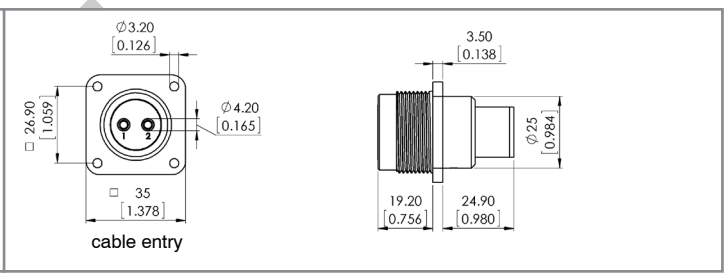
| Part no. | Connecting thread |
|---|---|
| 5002040M | M20 x 1.5 |
| 5002040N | M25 x 1.5 |




## GS-MC207

**Plug, panel mount**

**Part no. 5002020R**




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*

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# Type MC307 **3-pin 10 kV DC**

## *Plug, cable mount / Receptacle, panel mount / Receptacle, coupling, cable mount*

| Electrical values | |
|---|---|
| Operating voltage | 10 kV DC |
| Test voltage | 15 kV DC |
| Rated current | 13 A |

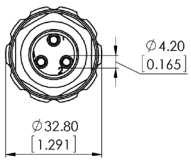
| Characteristics | |
|---|---|
| Number of pins | 3 |
| Insulation material | POM |

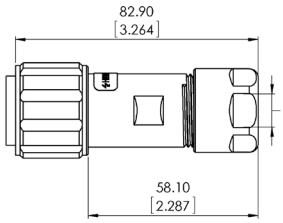
| Type / Version / Part number | Picture / Drawing |
|---|---|

### KS-MC307

**Plug, cable mount with integrated cable gland**

| Part no. | Clamping range |
|---|---|
| 5003030A | 6.5 - 8 mm [.256" - .315"] |
| 5003030B | 8 - 9.5 mm [.315" - .374"] |
| 5003030C | 9.5 - 11 mm [.374" - .433"] |
| 5003030D | 11 - 12.5 mm [.433" - .492"] |
| 5003030E | 12.5 - 14 mm [.492" - .551"] |

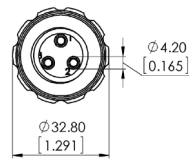


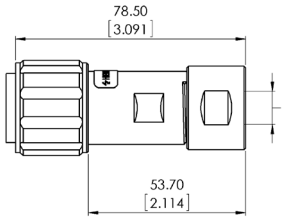




### KS-MC307

**Plug, cable mount with adapter M20/M25 for external cable gland**

| Part no. | Connecting thread |
|---|---|
| 5003030M | M20 x 1.5 |
| 5003030N | M25 x 1.5 |

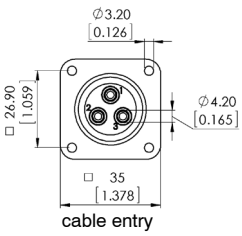


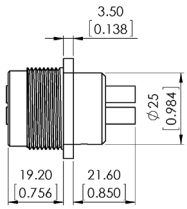




### GB-MC307

**Receptacle, panel mount**

**Part no. 5003010R**

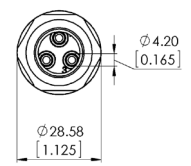


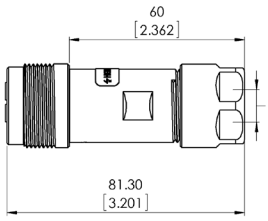




### KBI-MC307

**Receptacle, coupling, cable mount with integrated cable gland**

| Part no. | Clamping range |
|---|---|
| 5003041A | 6.5 - 8 mm [.256" - .315"] |
| 5003041B | 8 - 9.5 mm [.315" - .374"] |
| 5003041C | 9.5 - 11 mm [.374" - .433"] |
| 5003041D | 11 - 12.5 mm [.433" - .492"] |
| 5003041E | 12.5 - 14 mm [.492" - .551"] |

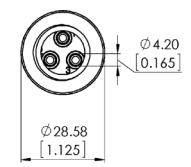


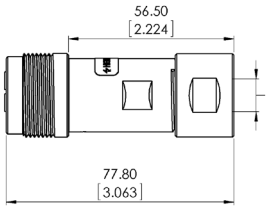




### KBI-MC307

**Receptacle, coupling, cable mount with adapter M20/M25 for external cable gland**

| Part no. | Connecting thread |
|---|---|
| 5003041M | M20 x 1.5 |
| 5003041N | M25 x 1.5 |




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*



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# Type MC307 **3-pin 10 kV DC**

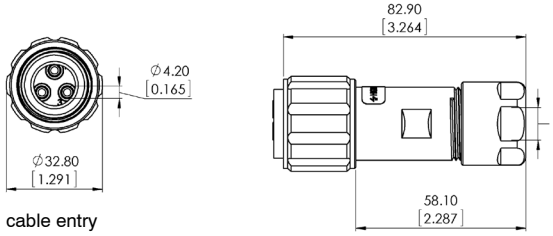
*Receptacle, cable mount / Plug, panel mount*

| Type / Version / Part number | Picture / Drawing |
|---|---|

### KB-MC307

**Receptacle, cable mount with integrated cable gland**

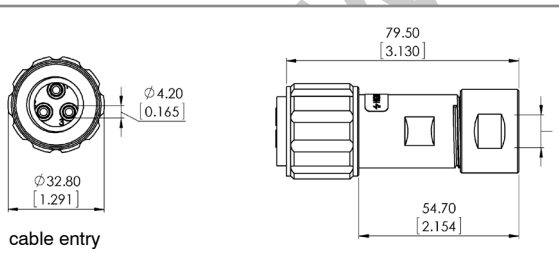
| Part no. | Clamping range |
|---|---|
| 5003040A | 6.5 - 8 mm [.256" - .315"] |
| 5003040B | 8 - 9.5 mm [.315" - .374"] |
| 5003040C | 9.5 - 11 mm [.374" - .433"] |
| 5003040D | 11 - 12.5 mm [.433" - .492"] |
| 5003040E | 12.5 - 14 mm [.492" - .551"] |




### KB-MC307

**Receptacle, cable mount with adapter M20/M25 for external cable gland**

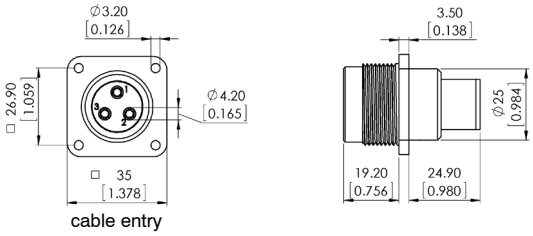
| Part no. | Connecting thread |
|---|---|
| 5003040M | M20 x 1.5 |
| 5003040N | M25 x 1.5 |




### GS-MC307

**Plug, panel mount**

**Part no. 5003020R**




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*

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# Type MC407 **4-pin 10 kV DC**

## *Plug, cable mount / Receptacle, panel mount / Receptacle, coupling, cable mount*

| Electrical values | |
|---|---|
| Operating voltage | 10 kV DC |
| Test voltage | 15 kV DC |
| Rated current | 13 A |

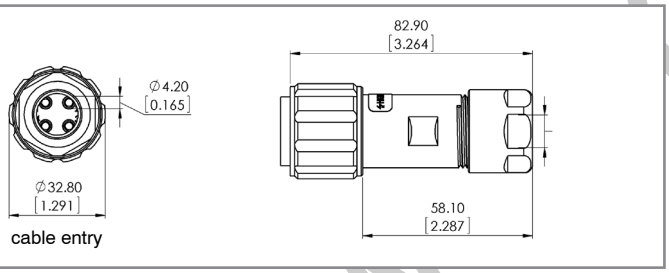
| Characteristics | |
|---|---|
| Number of pins | 4 |
| Insulation material | POM |

| Type / Version / Part number | Picture / Drawing |
|---|---|

### KS-MC407

**Plug, cable mount with integrated cable gland**

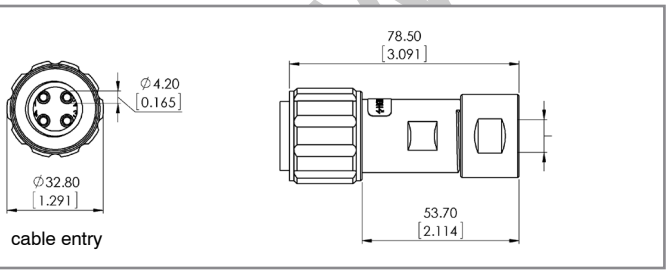
| Part no. | Clamping range |
|---|---|
| 5004030A | 6.5 - 8 mm [.256" - .315"] |
| 5004030B | 8 - 9.5 mm [.315" - .374"] |
| 5004030C | 9.5 - 11 mm [.374" - .433"] |
| 5004030D | 11 - 12.5 mm [.433" - .492"] |
| 5004030E | 12.5 - 14 mm [.492" - .551"] |




### KS-MC407

**Plug, cable mount with adapter M20/M25 for external cable gland**

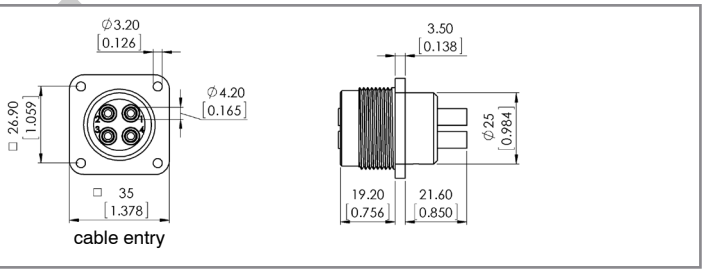
| Part no. | Connecting thread |
|---|---|
| 5004030M | M20 x 1.5 |
| 5004030N | M25 x 1.5 |




### GB-MC407

**Receptacle, panel mount**

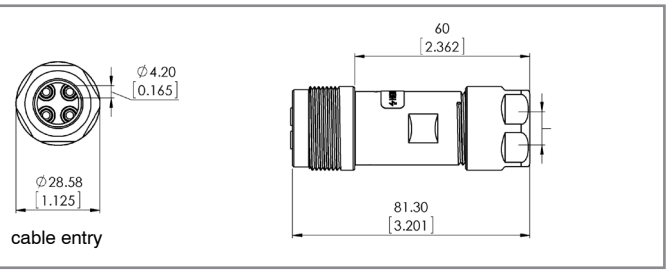
**Part no. 5004010R**




### KBI-MC407

**Receptacle, coupling, cable mount with integrated cable gland**

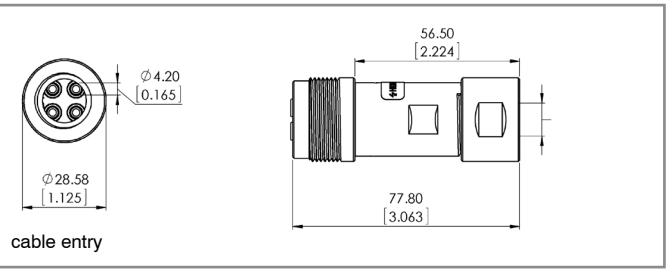
| Part no. | Clamping range |
|---|---|
| 5004042A | 6.5 - 8 mm [.256" - .315"] |
| 5004042B | 8 - 9.5 mm [.315" - .374"] |
| 5004042C | 9.5 - 11 mm [.374" - .433"] |
| 5004042D | 11 - 12.5 mm [.433" - .492"] |
| 5004042E | 12.5 - 14 mm [.492" - .551"] |




### KBI-MC407

**Receptacle, coupling, cable mount with adapter M20/M25 for external cable gland**

| Part no. | Connecting thread |
|---|---|
| 5004042M | M20 x 1.5 |
| 5004042N | M25 x 1.5 |




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*



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# Type MC407 **4-pin 10 kV DC**

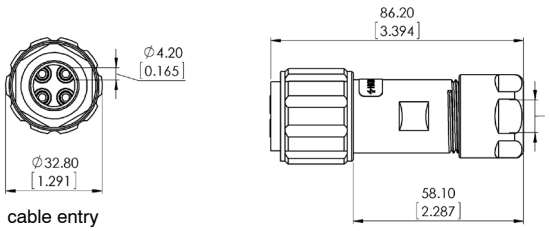
## *Receptacle, cable mount / Plug, panel mount*

| Type / Version / Part number | Picture / Drawing |
|---|---|

### KB-MC407

**Receptacle, cable mount with integrated cable gland**

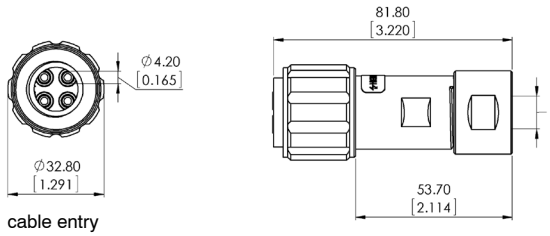
| Part no. | Clamping range |
|---|---|
| 5004040A | 6.5 - 8 mm [.256" - .315"] |
| 5004040B | 8 - 9.5 mm [.315" - .374"] |
| 5004040C | 9.5 - 11 mm [.374" - .433"] |
| 5004040D | 11 - 12.5 mm [.433" - .492"] |
| 5004040E | 12.5 - 14 mm [.492" - .551"] |




### KB-MC407

**Receptacle, cable mount with adapter M20/M25 for external cable gland**

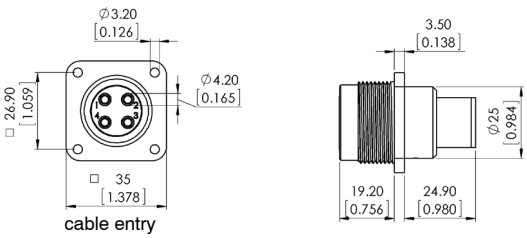
| Part no. | Connecting thread |
|---|---|
| 5004040M | M20 x 1.5 |
| 5004040N | M25 x 1.5 |




### GS-MC407

**Plug, panel mount**

**Part no. 5004020R**




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*

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# Type MC507 **5-pin 10 kV DC**

## *Plug, cable mount / Receptacle, panel mount / Receptacle, coupling, cable mount*

| Electrical values | |
|---|---|
| Operating voltage | 10 kV DC |
| Test voltage | 15 kV DC |
| Rated current | 13 A |

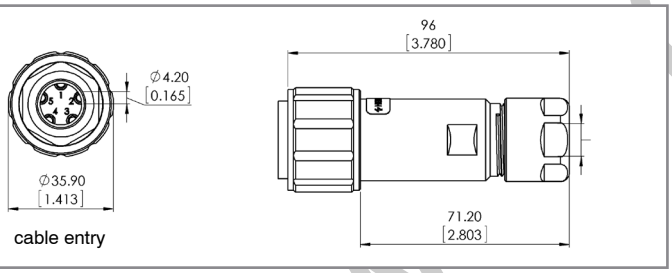
| Characteristics | |
|---|---|
| Number of pins | 5 |
| Insulation material | POM |

| Type / Version / Part number | Picture / Drawing |
|---|---|

### KS-MC507

**Plug, cable mount with integrated cable gland**

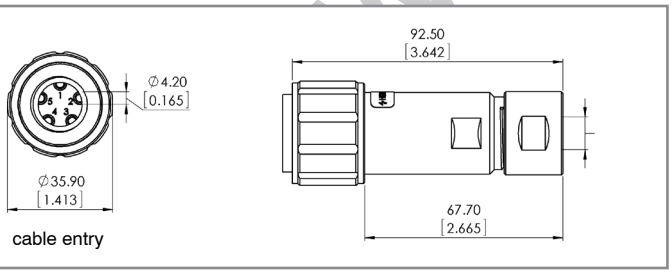
| Part no. | Clamping range |
|---|---|
| 5005030A | 6.5 - 8 mm [.256" - .315"] |
| 5005030B | 8 - 9.5 mm [.315" - .374"] |
| 5005030C | 9.5 - 11 mm [.374" - .433"] |
| 5005030D | 11 - 12.5 mm [.433" - .492"] |
| 5005030E | 12.5 - 14 mm [.492" - .551"] |




### KS-MC507

**Plug, cable mount with adapter M20/M25 for external cable gland**

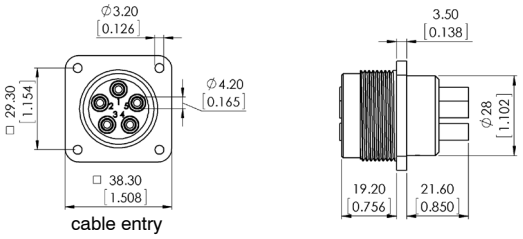
| Part no. | Connecting thread |
|---|---|
| 5005030M | M20 x 1.5 |
| 5005030N | M25 x 1.5 |




### GB-MC507

**Receptacle, panel mount**

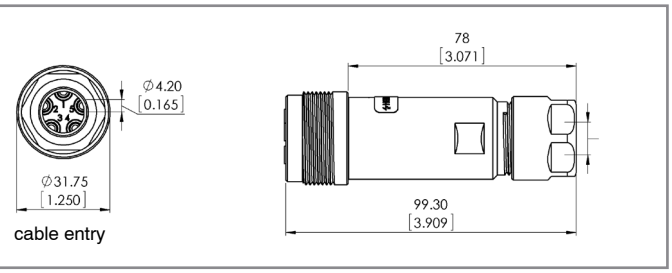
**Part no. 5005010R**




### KBI-MC507

**Receptacle, coupling, cable mount with integrated cable gland**

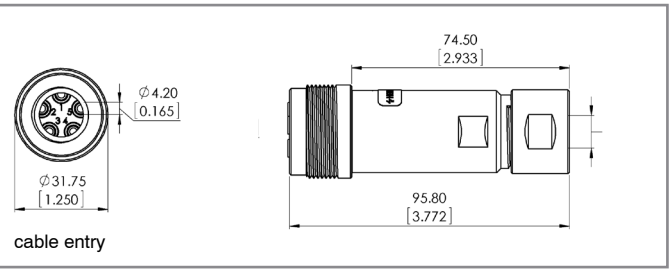
| Part no. | Clamping range |
|---|---|
| 5005042A | 6.5 - 8 mm [.256" - .315"] |
| 5005042B | 8 - 9.5 mm [.315" - .374"] |
| 5005042C | 9.5 - 11 mm [.374" - .433"] |
| 5005042D | 11 - 12.5 mm [.433" - .492"] |
| 5005042E | 12.5 - 14 mm [.492" - .551"] |




### KBI-MC507

**Receptacle, coupling, cable mount with adapter M20/M25 for external cable gland**

| Part no. | Connecting thread |
|---|---|
| 5005042M | M20 x 1.5 |
| 5005042N | M25 x 1.5 |




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*



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# Type MC507 **5-pin 10 kV DC**

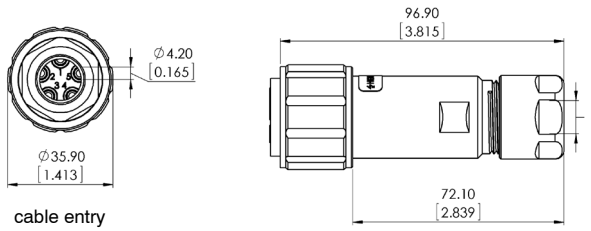
## *Receptacle, cable mount / Plug, panel mount*

| Type / Version / Part number | Picture / Drawing |
|---|---|

### KB-MC507

**Receptacle, cable mount with integrated cable gland**

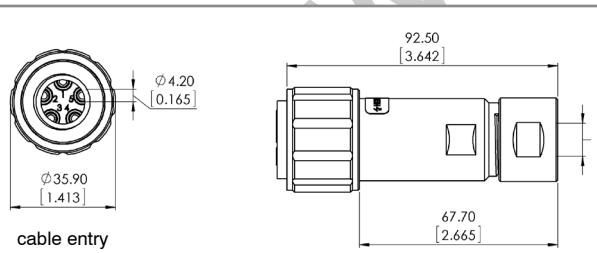
| Part no. | Clamping range |
|---|---|
| 5005040A | 6.5 - 8 mm [.256" - .315"] |
| 5005040B | 8 - 9.5 mm [.315" - .374"] |
| 5005040C | 9.5 - 11 mm [.374" - .433"] |
| 5005040D | 11 - 12.5 mm [.433" - .492"] |
| 5005040E | 12.5 - 14 mm [.492" - .551"] |




### KB-MC507

**Receptacle, cable mount with adapter M20/M25 for external cable gland**

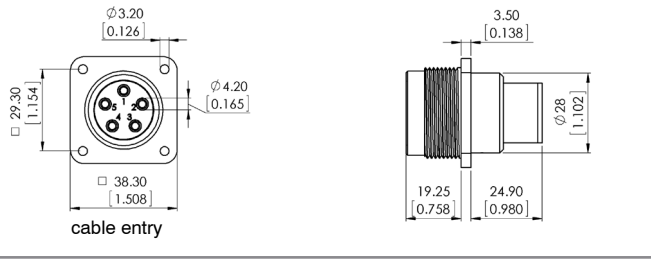
| Part no. | Connecting thread |
|---|---|
| 5005040M | M20 x 1.5 |
| 5005040N | M25 x 1.5 |




### GS-MC507

**Plug, panel mount**

**Part no. 5005020R**




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*

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# Type MC520 **5-pin 15 kV DC**

## *Plug, cable mount / Receptacle, panel mount / Receptacle, coupling, cable mount*

| Electrical values | |
|---|---|
| Operating voltage | 15 kV DC |
| Test voltage | 23 kV DC |
| Rated current | 13 A |

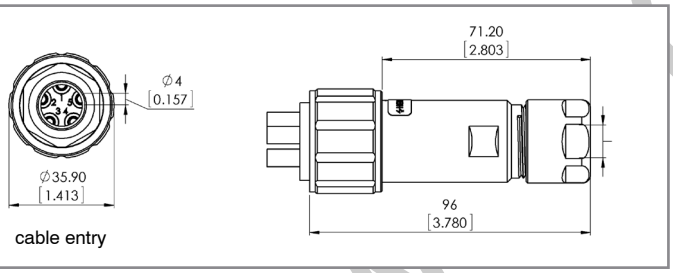
| Characteristics | |
|---|---|
| Number of pins | 5 |
| Insulation material | PTFE |

| Type / Version / Part number | Picture / Drawing |
|---|---|

### KS-MC520

**Plug, cable mount with integrated cable gland**

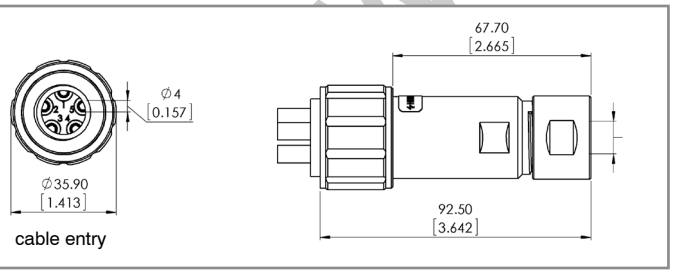
| Part no. | Clamping range |
|---|---|
| 5005135A | 6.5 - 8 mm [.256" - .315"] |
| 5005135B | 8 - 9.5 mm [.315" - .374"] |
| 5005135C | 9.5 - 11 mm [.374" - .433"] |
| 5005135D | 11 - 12.5 mm [.433" - .492"] |
| 5005135E | 12.5 - 14 mm [.492" - .551"] |




### KS-MC520

**Plug, cable mount with adapter M20/M25 for external cable gland**

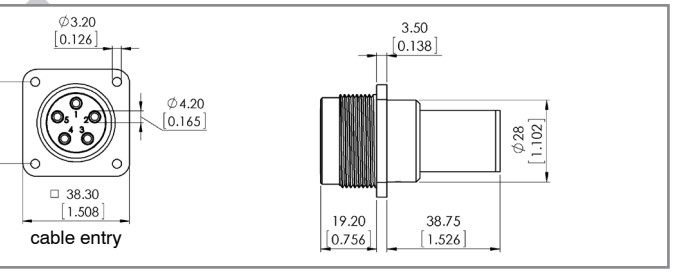
| Part no. | Connecting thread |
|---|---|
| 5005135M | M20 x 1.5 |
| 5005135N | M25 x 1.5 |




### GB-MC520

**Receptacle, panel mount**

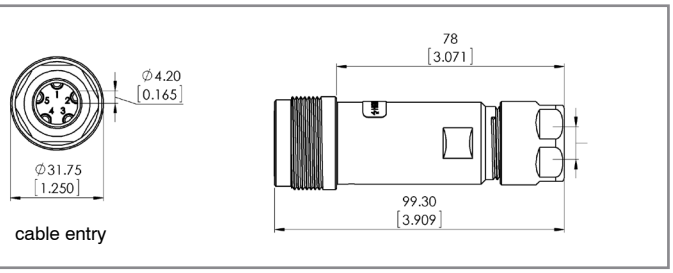
**Part no. 5005115R**




### KBI-MC520

**Receptacle, coupling, cable mount with integrated cable gland**

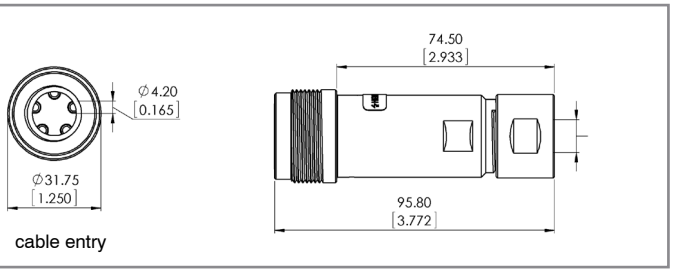
| Part no. | Clamping range |
|---|---|
| 5005146A | 6.5 - 8 mm [.256" - .315"] |
| 5005146B | 8 - 9.5 mm [.315" - .374"] |
| 5005146C | 9.5 - 11 mm [.374" - .433"] |
| 5005146D | 11 - 12.5 mm [.433" - .492"] |
| 5005146E | 12.5 - 14 mm [.492" - .551"] |




### KBI-MC520

**Receptacle, coupling, cable mount with adapter M20/M25 for external cable gland**

| Part no. | Connecting thread |
|---|---|
| 5005146M | M20 x 1.5 |
| 5005146N | M25 x 1.5 |




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*



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# Type MC520 **5-pin 15 kV DC**

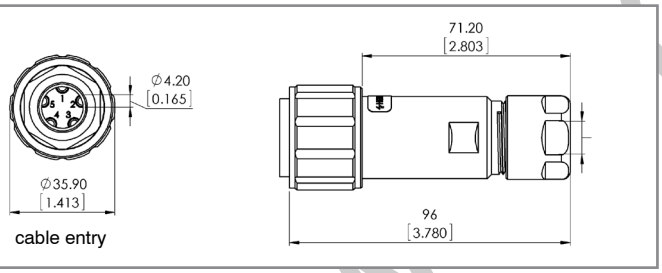
*Receptacle, cable mount / Plug, panel mount*

| Type / Version / Part number | Picture / Drawing |
|---|---|

### KB-MC520

**Receptacle, cable mount with integrated cable gland**

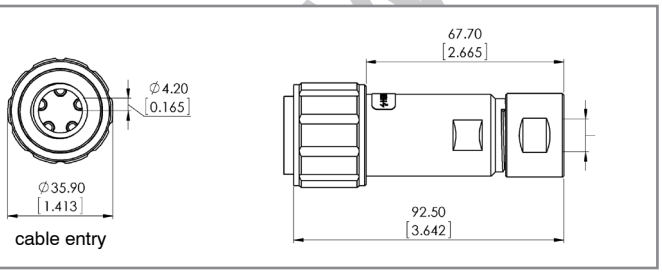
| Part no. | Clamping range |
|---|---|
| 5005145A | 6.5 - 8 mm [.256" - .315"] |
| 5005145B | 8 - 9.5 mm [.315" - .374"] |
| 5005145C | 9.5 - 11 mm [.374" - .433"] |
| 5005145D | 11 - 12.5 mm [.433" - .492"] |
| 5005145E | 12.5 - 14 mm [.492" - .551"] |




### KB-MC520

**Receptacle, cable mount with adapter M20/M25 for external cable gland**

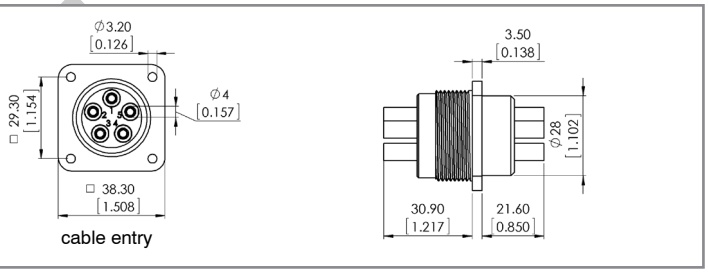
| Part no. | Connecting thread |
|---|---|
| 5005145M | M20 x 1.5 |
| 5005145N | M25 x 1.5 |




### GS-MC520

**Plug, panel mount**

**Part no. 5005125R**




drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 110-112*
***Mounting instructions:*** *Pages 113-124*

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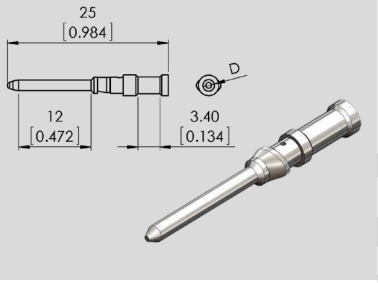
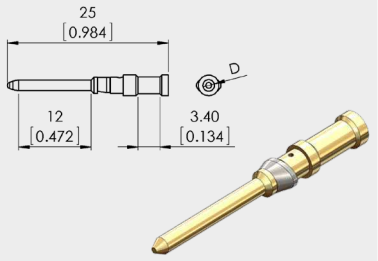
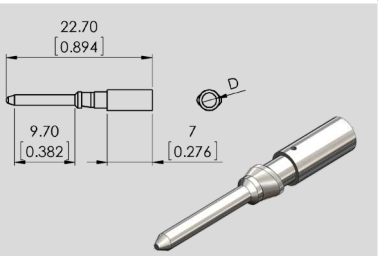
## Male contacts 1.6 mm

| Part no. | Description | Cross section in mm² (D) | AWG | Silver plated | Gold plated | Drawing |
|---|---|---|---|---|---|---|
| 6575085 | Male contact 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | • | |  |
| 6575086 | Male contact 1.6 mm / 20 AWG | 0.5 | 20 | • | | |
| 6575088 | Male contact 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | • | | |
| 6575090 | Male contact 1.6 mm / 16-15 AWG | 1.5 | 16-15 | • | | |
| 6575083 | Male contact 1.6 mm / 14 AWG | 2.5 | 14 | • | | |
| 6575118 | Male contact AU 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | | • |  |
| 6575121 | Male contact AU 1.6 mm / 20 AWG | 0.5 | 20 | | • | |
| 6575116 | Male contact AU 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | | • | |
| 6575124 | Male contact AU 1.6 mm / 16-15 AWG | 1.5 | 16-15 | | • | |
| 6575125 | Male contact AU 1.6 mm / 14 AWG | 2.5 | 14 | | • | |

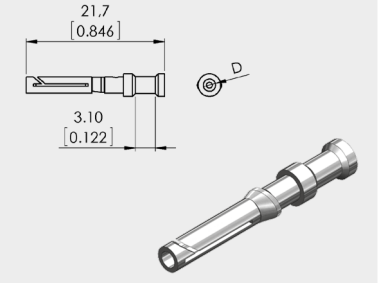
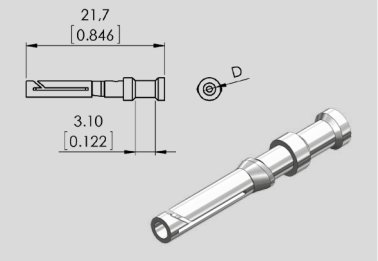
drawing - dimensions in mm [inch]

## Male contact 1.6 mm interlock
### for safety interlock circle

| Part no. | Description | Cross section in mm² (D) | AWG | Silver plated | Gold plated | Drawing |
|---|---|---|---|---|---|---|
| 6575079 | Male contact interlock 1.6 mm / 14 AWG<br>*Short version for safety interlock circle* | 2.5 | 14 | • | |  |

drawing - dimensions in mm [inch]

## Female contacts 1.6 mm

| Part no. | Description | Cross section in mm² (D) | AWG | Silver plated | Gold plated | Drawing |
|---|---|---|---|---|---|---|
| 6575095 | Female contact 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | • | |  |
| 6575107 | Female contact 1.6 mm / 20 AWG | 0.5 | 20 | • | | |
| 6575098 | Female contact 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | • | | |
| 6575100 | Female contact 1.6 mm / 16-15 AWG | 1.5 | 16-15 | • | | |
| 6575084 | Female contact 1.6 mm / 14 AWG | 2.5 | 14 | • | | |
| 6575127 | Female contact AU 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | | • |  |
| 6575131 | Female contact AU 1.6 mm / 20 AWG | 0.5 | 20 | | • | |
| 6575117 | Female contact AU 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | | • | |
| 6575132 | Female contact AU 1.6 mm / 16-15 AWG | 1.5 | 16-15 | | • | |
| 6575133 | Female contact AU 1.6 mm / 14 AWG | 2.5 | 14 | | • | |

drawing - dimensions in mm [inch]



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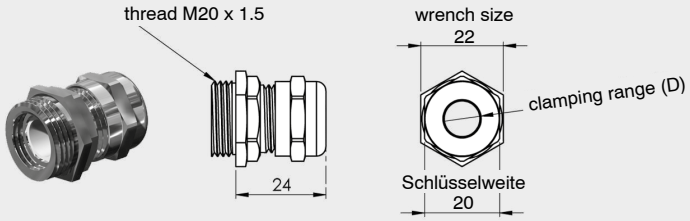
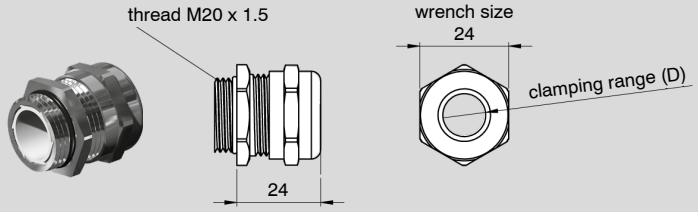
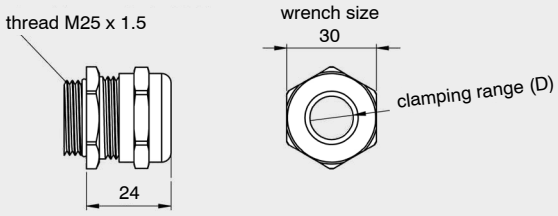
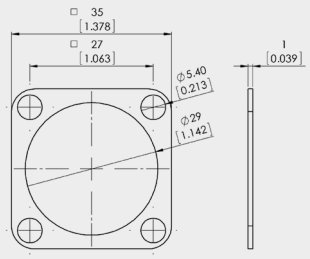
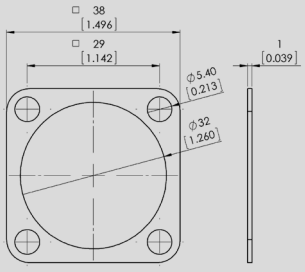
# Screwed cable glands / Gaskets

## For adapter versions: Screwed cable glands M20 / M25

| Part no. | Description | Clamping range in mm (D) | Drawing |
|---|---|---|---|
| 1674058 | Screwed cable gland M20x1.5, 5-10 mm | 5-10 |  |
| 1674110 | Screwed cable gland M20x1.5, 10-14 mm | 10-14 |  |
| 1674111 | Screwed cable gland M20x1.5, 7-12 mm | 7-12 | |
| 1674117 | Screwed cable gland M25 x 1.5, 13-18 mm | 13-18 |  |
| 1674119 | Screwed cable gland M25 x 1.5, 9-16 mm | 9-16 | |

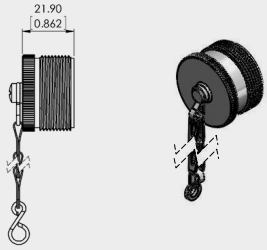
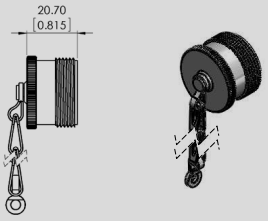
drawing - dimensions in mm [inch]

## Gaskets

| Part no. | Description | Drawing |
|---|---|---|
| 6572081 | Flat gasket for types GS/GB 207 - 407 (Size 18) |  |
| 6572054 | Flat gasket for types GS/GB 507/520 (Size 20) |  |

drawing - dimensions in mm [inch]

## Coverings with thread

| P/N | Description | Mechanical drawing |
|---|---|---|
| 1672070 | Covering for types KS/KB 507 |   chain length min. 120 mm |
| 1672072 | Covering for types KS/KB 207 - 407 |   chain length min. 120 mm |

drawing - dimensions in mm [inch]

## Tools

| Part No. | Description | Connector types |
|---|---|---|
| 3000001 | Extracting tool for contacts 1.6 mm - male and female | MC 207 - 507 |
| 3000015 | Crimping tool for contacts 1.6 mm - male and female incl. pliers, contact holder and crimping cheeks | MC 207 - 507, MC 520 |
| 3000050 | Screwdriver for threaded pin size M3 | MC 207 - 507, MC 520 |



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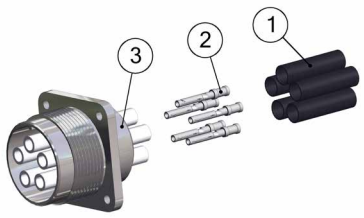
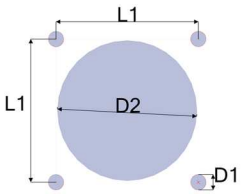
# Assembly Instructions Series MC - type 207-507 receptacle, panel mount

**1.**




**Part as supplied.**
Shrinking tubes (1), female contacts (2), connector housing (3).

**2.**




**Panel cut out**

| Type | L1 mm [inch] | D1 mm [inch] | D2 mm [inch] |
|---|---|---|---|
| GB 207 / 307 / 407 | 26.90 [1.059"] | 3.00 [.118"] | 26.00 [1.024"] |
| GB 507 | 29.30 [1.154"] | 3.00 [.118"] | 29.00 [1.142"] |

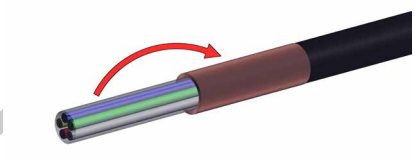
**3.**

**Carefully remove cable jacket.**

| Type | L2 mm [inch] |
|---|---|
| GB 207 / 307 / 407 / 507 | min. 45 [1.772"] |

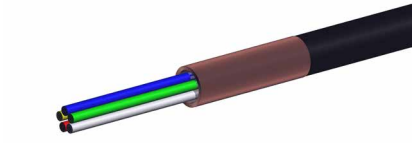
⚠ Do not damage metal shield braid.

**4.**



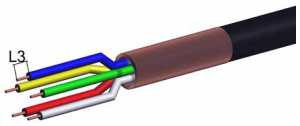
**Fold the shield braid back.**

**5.**



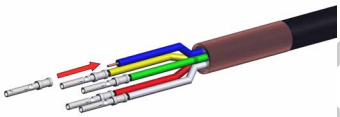
**Remove any filling elements from cable.**

**6.**




**Remove dielectric insulation of single wires (L3 = 5 - 8 mm [.197" - .315"]).**

**7.**



**Crimp or solder one female contact (2) on each conductor.**
⚠ For soldering: Tin-solder must not remain on contact surface!

**8.**

**Put shrinking tubes (1) on insulation tubes on rear side of connector housing (3).**

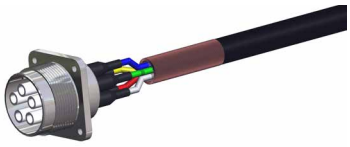
**9.**

**Slide contacts (2) completely into insulation tubes until contacts snap into place.**
💬 Pull gently to check if the contacts are correctly fixed to their positions.

**10.**

**Shrink tubes - shrinking temperature 110°C [+230°F].**

**11.**



**Assembly finished.**

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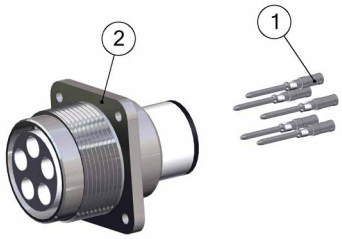
# Assembly Instructions Series MC - type 207-507 plug, panel mount

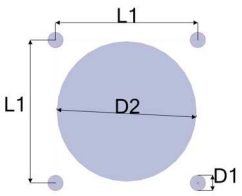


## 1.




**Part as supplied.**
Male contacts (1), connector housing (2).

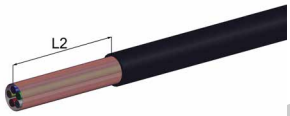
## 2.




**Panel cut out**

| Type | L1 mm [inch] | D1 mm [inch] | D2 mm [inch] |
|---|---|---|---|
| GS 207 / 307 / 407 | 26.90 [1.059"] | 3.00 [.118"] | 26.00 [1.024"] |
| GS 507 | 29.30 [1.154"] | 3.00 [.118"] | 29.00 [1.142"] |

## 3.

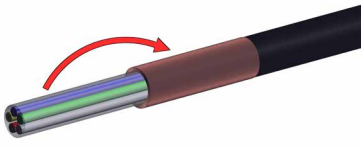



**Carefully remove cable jacket.**

| Type | L2 mm [inch] |
|---|---|
| GS 207 / 307 / 407 / 507 | min. 45 [1.772"] |

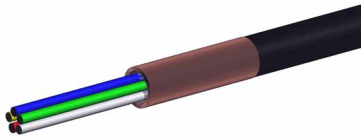
⚠ Do not damage metal shield braid.

## 4.



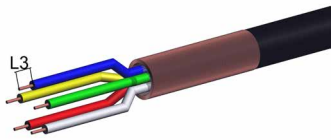
**Fold back shield braid.**

## 5.



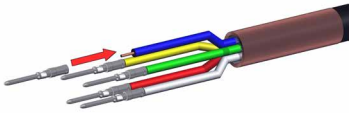
**Remove any filling elements from cable.**

## 6.



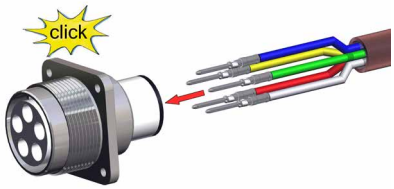

**Remove dielectric insulation of single wires (L3 = 5 - 8 mm [.197" - .315"]).**

## 7.



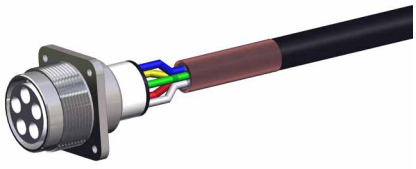
**Crimp or solder one male contact (1) on each conductor.**
⚠ For soldering: Tin-solder must not remain on contact surface!

## 8.




**Slide contacts (1) completely into connector shell (2) until contacts snap into place.**
Pull gently to check if the contacts are correctly fixed to their positions.

## 9.



**Assembly finished.**

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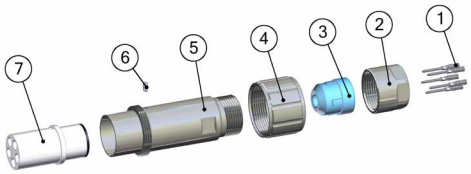
# Assembly Instructions Series MC - type 207-507 plug, cable mount

**1.**

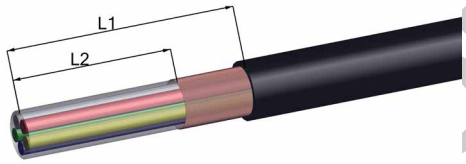



**Part as supplied**
Male contacts (1), cap (2), sealing insert (3), screw joint (4), basis (5), threaded pin (6), insulation insert (7).

**2.**

**Place cap (2), sealing insert (3), screw joint (4) and basis (5) onto cable.**

**3.**

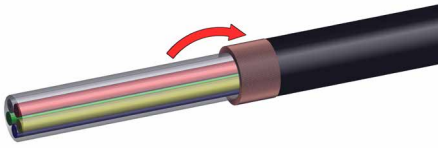



**Remove cable jacket.**

| Type | L1 mm [inch] | L2 mm [inch] |
|---|---|---|
| KS 207 / 307 / 407 / 507 | 50 [1.968"] | 35 [1.377"] |

⚠ Do not damage metal shield braid.

**4.**



**Fold back shield braid over jacket.**

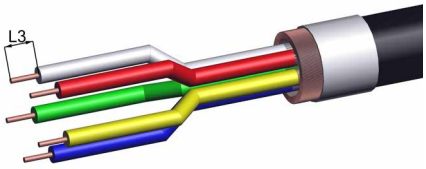
**5.**

**Fix shield braid with tape.**

**6.**

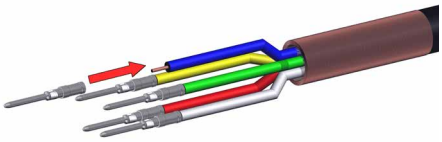
**Remove any filling elements from cable.**

**7.**




**Remove dielectric insulation (L3 = 5-8 mm [.197" - .315"]).**

**8.**



**Crimp or solder male contacts (1) on conductor.**
⚠ For soldering: Tin-solder must not remain on contact surface.

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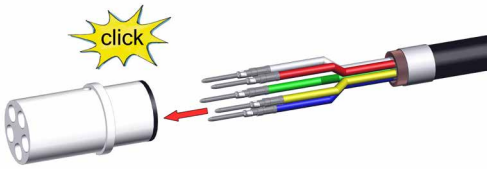
# Assembly Instructions Series MC - type 207-507 plug, cable mount

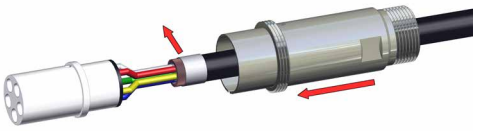
## 9.




**Slide contacts completely into insulation insert (7) until contacts snap into place.**

Pull gently to check if the contacts are correctly fixed to their positions.

## 10.



**Remove tape and place basis (5) onto insulation insert (7).**

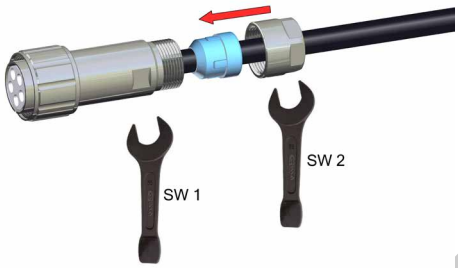
## 11.

**Secure insulation insert (7) with threaded pin (6), then screw joint (4) onto basis (5).**

## 12.

**Widen shield braid.**

## 13.




**Insert sealing (3) completely and screw cap (2) onto basis (5).**

| Cable gland type | SW 1 | SW 2 |
|---|---|---|
| KS 207 / 307 / 407 | 23 | 26 |
| KS 507 | 26 | 26 |

Tightening torque is 7 Nm.

## 14.

**Assembly finished.**





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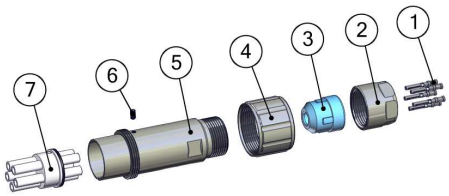
# Assembly Instructions
# Series MC - type 207-507
# receptacle cable mount & coupling

**1.**

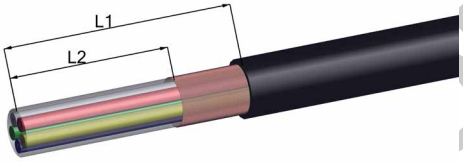



**Part as supplied.**
Female contacts (1), cap (2), sealing insert (3), screw joint (4), basis (5), threaded pin (6), insulation insert (7).

**2.**

**Place cap (2), sealing insert (3), screw joint (4) and basis (5) onto cable.**

**3.**

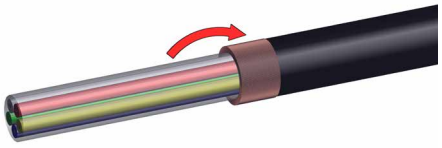



**Remove cable jacket.**

| Type | L1 mm [inch] | L2 mm [inch] |
|---|---|---|
| KS 207 / 307 / 407 / 507 | 50 [1.968"] | 35 [1.377"] |

⚠ Do not damage metal shield braid.

**4.**



**Fold back shield braid over jacket.**

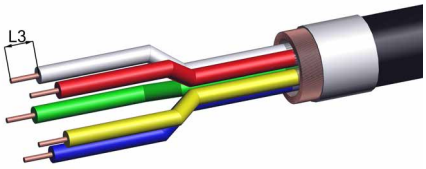
**5.**

**Fix shield braid with tape.**

**6.**

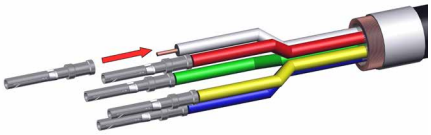
**Remove any filling elements from cable.**

**7.**




**Remove dielectric insulation (L3 = 5-8 mm [.197" - .315"]).**

**8.**



**Crimp or solder female contacts (1) on conductor.**
⚠ For soldering: Tin-solder must not remain on contact surface.



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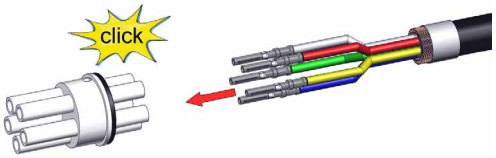
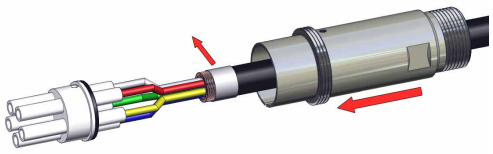
# Assembly Instructions
# Series MC - type 207-507
# receptacle cable mount & coupling

**9.**



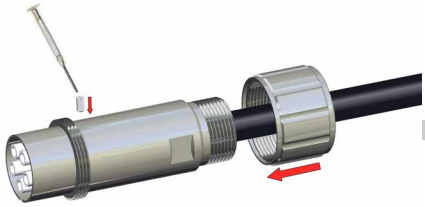

**Slide female contacts completely into insulation insert until contacts snap into place.**
Pull gently to check if the contacts are correctly fixed to their positions.

**10.**



**Remove tape and place basis (5) onto insulation insert (7).**

**11.**

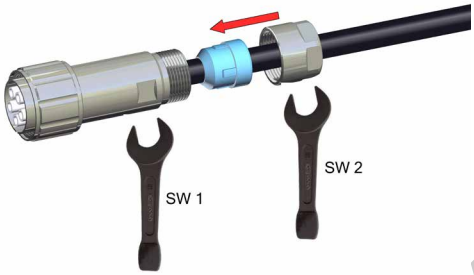


**Secure insulation insert (7) with threaded pin (6), then screw joint (4) onto basis (5).**

**12.**

**Widen shield braid.**

**13.**




**Insert sealing (3) completely and screw cap (2) onto basis (5).**

| Cable gland type | SW 1 | SW 2 |
|---|---|---|
| KB 207 / 307 / 407 | 23 | 26 |
| KB 507 | 26 | 26 |

Tightening torque is 7 Nm.

**14.**

**Assembly finished.**

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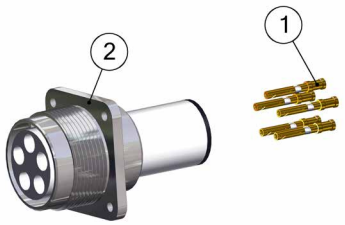
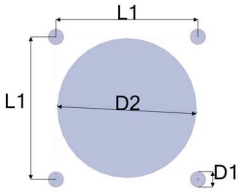
# Assembly Instructions Series MC - type 520 receptacle, panel mount

## 1.




**Part as supplied.**
Female contacts (1), connector housing (2).

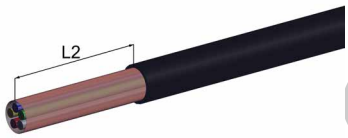
## 2.




**Panel cut out**

| Type | L1 mm [inch] | D1 mm [inch] | D2 mm [inch] |
|---|---|---|---|
| GB 520 | 29.30 [1.154"] | 3.00 [.118"] | 28.70 [1.142"] |

## 3.

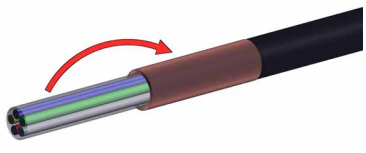



**Carefully remove cable jacket.**

| Type | L2 mm [inch] |
|---|---|
| GB 520 | min. 60 [2.362"] |

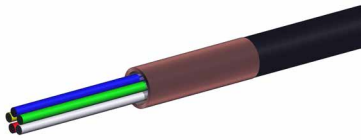
⚠ Do not damage metal shield braid.

## 4.



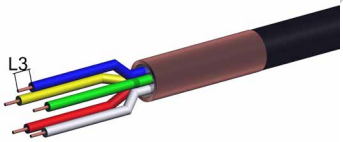
**Fold back shield braid.**

## 5.



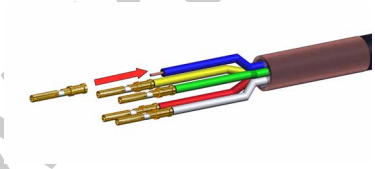
**Remove any filling elements from cable.**

## 6.



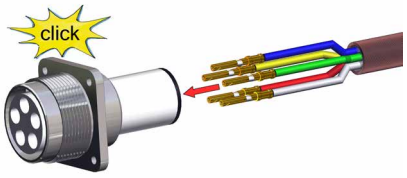

**Remove dielectric insulation of single wires (L3 = 5-8 mm [.197" - .315"]).**

## 7.



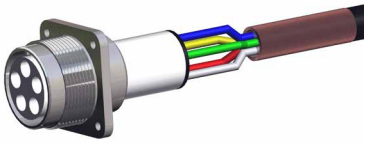
**Crimp or solder one female contact (1) each on every conductor.**
⚠ For soldering: Tin-solder must not remain on contact surface!

## 8.




**Slide contacts completely into connector shell until contacts snap into place.**
Pull gently to check if the contacts are correctly fixed to their positions.

## 9.



**Assembly finished.**

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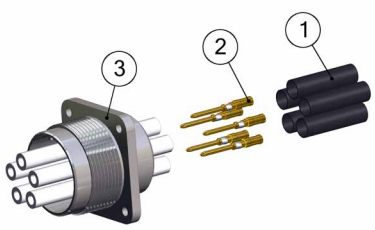
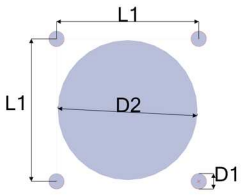
# Assembly Instructions Series MC - type 520 plug, panel mount

**1.**




**Part as supplied.**
Shrinking tubes (1), male contacts (2), connector housing (3).

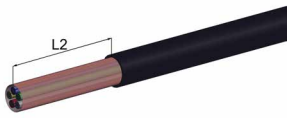
**2.**




**Panel cut out**

| Type | L1 mm [inch] | D1 mm [inch] | D2 mm [inch] |
|---|---|---|---|
| GS 520 | 29.30 [1.154"] | 3.00 [.118"] | 29.00 [1.142"] |

**3.**

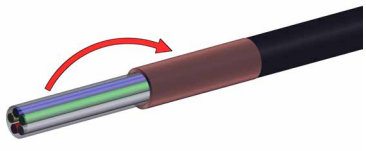



**Carefully remove cable jacket.**

| Type | L2 mm [inch] |
|---|---|
| GS 520 | min. 60 [2.362"] |

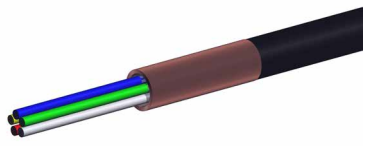
⚠ Do not damage metal shield braid.

**4.**



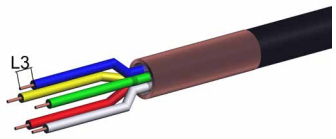
**Fold back shield braid.**

**5.**



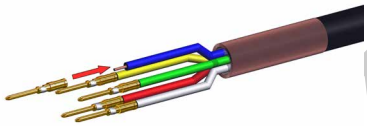
**Remove any filling elements from cable.**

**6.**




**Remove dielectric insulation of single wires (L3 = 5-8 mm [.197" - .315"]).**

**7.**

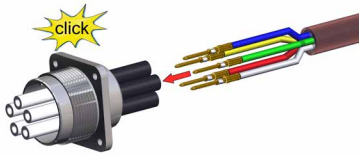


**Crimp or solder one male contact (1) each on every conductor.**
For soldering: Tin-solder must not remain on contact surface!

**8.**

**Put shrinking tubes on insulation tubes on back of connector housing.**

**9.**

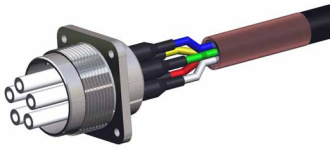



**Slide contacts completely into insulation tubes until contacts snap into place.**
Pull gently to check if the contacts are correctly fixed to their positions.

**10.**

**Shrink tubes - shrinking temperature 110°C [+230°F].**

**11.**



**Assembly finished.**

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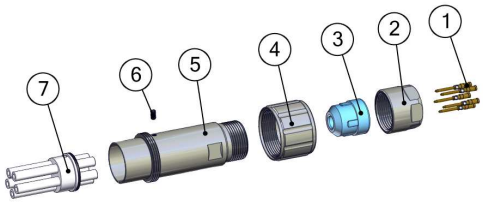
# Assembly Instructions Series MC - type 520 plug, cable mount

## 1.

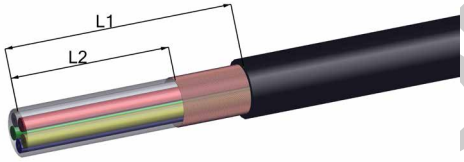



**Part as supplied.**
Male contacts (1), cap (2), sealing insert (3), screw joint (4), basis (5), threaded pin (6), insulation insert (7).

## 2.

**Place cap (2), sealing insert (3), screw joint (4) and basis (5) onto cable.**

## 3.

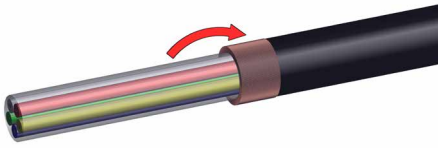



**Remove cable jacket.**

| Type | L1 mm [inch] | L2 mm [inch] |
|---|---|---|
| KS 520 | 60 [2.362"] | 45 [1.772"] |

⚠ Do not damage metal shield braid.

## 4.



**Fold back shield braid over jacket.**

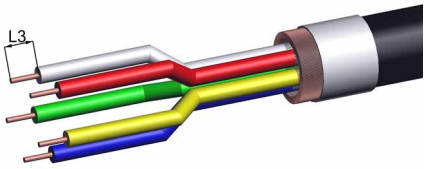
## 5.

**Fix shield braid with tape.**

## 6.

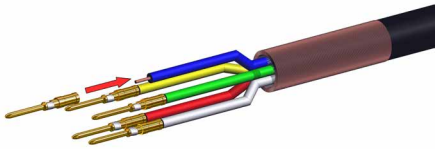
**Remove any filling elements from cable.**

## 7.




**Remove dielectric insulation (L3 = 5-8 mm [.197" - .315"]).**

## 8.



**Crimp or solder male contacts (1) on conductor.**
⚠ For soldering: Tin-solder must not remain on contact surface.



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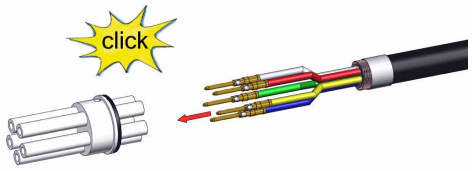
# Assembly Instructions Series MC - type 520 plug, cable mount

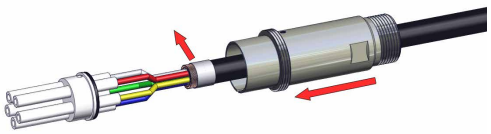
## 9.




**Slide male contacts (1) completely into insulation tubes (7) until contacts snap into place.**

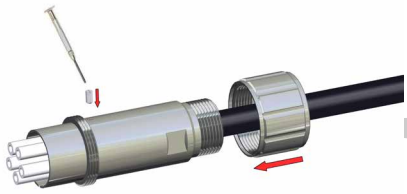
Pull gently to check if the contacts are correctly fixed to their positions.

## 10.



**Remove tape and place basis (5) onto insulation insert (7).**

## 11.

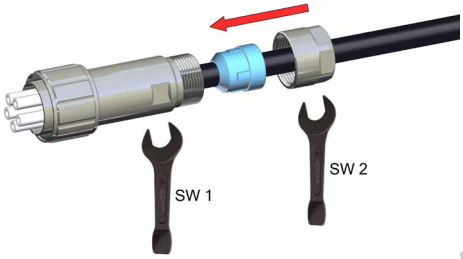


**Secure insulation insert (7) with threaded pin (6), then screw joint (4) onto basis (5).**

## 12.

**Widen shield braid.**

## 13.




**Insert sealing (3) completely and screw cap (2) onto basis (5).**

| Cable gland type | SW 1 | SW 2 |
|---|---|---|
| KS 520 | 26 | 26 |

Tightening torque is 7 Nm.

## 14.

**Assembly finished.**

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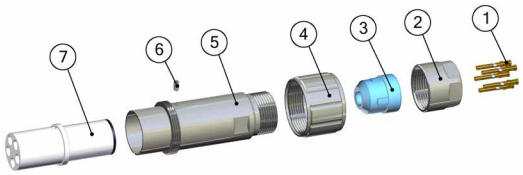
# Assembly Instructions
# Series MC - type 520
# receptacle, cable mount & coupling

**1.**

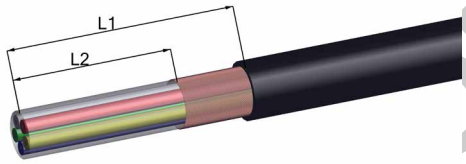



**Part as supplied.**
Female contacts (1), cap (2), sealing insert (3), screw joint (4), basis (5), threaded pin (6), insulation insert (7).

**2.**

**Place cap (2), sealing insert (3), screw joint (4) and basis (5) onto cable.**

**3.**

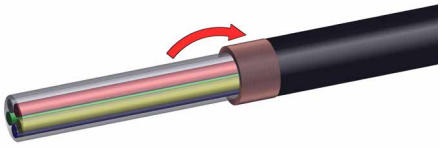



**Remove cable jacket.**

| Type | L1 mm [inch] | L2 mm [inch] |
|---|---|---|
| KB 520 | 50 [1.968"] | 35 [1.377"] |

⚠ Do not damage metal shield braid.

**4.**



**Fold back shield braid over jacket.**

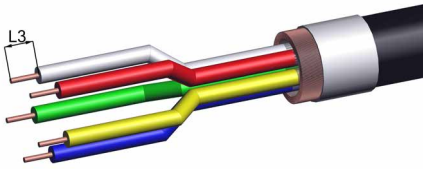
**5.**

**Fix shield braid with tape.**

**6.**

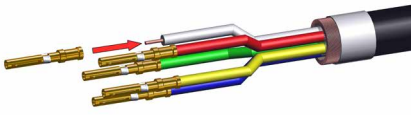
**Remove any filling elements from cable.**

**7.**




**Remove dielectric insulation (L3 = 5-8 mm [.197" - .315"]).**

**8.**



**Crimp or solder female contacts (1) on conductor.**
⚠ For soldering: Tin-solder must not remain on contact surface.



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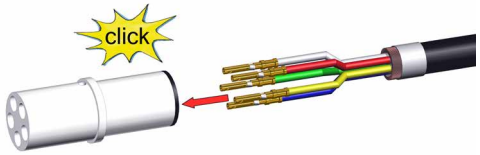
# Assembly Instructions
# Series MC - type 520
# receptacle, cable mount & coupling

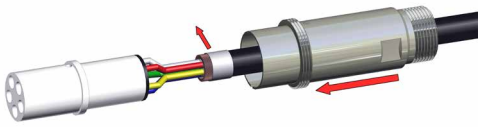
**9.**




**Slide female contacts (1) completely into housing basis (7) until contacts snap into place.**

Pull gently to check if the contacts are correctly fixed to their positions.

**10.**



**Remove tape and place basis (5) onto insulation insert (7).**

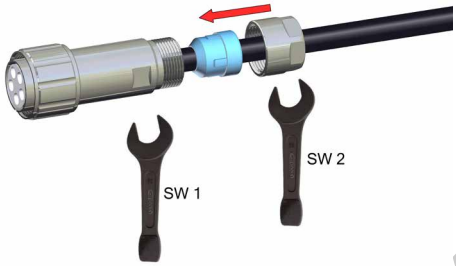
**11.**

**Secure insulation insert (7) with threaded pin (6), then screw joint (4) onto basis (5).**

**12.**

**Widen shield braid.**

**13.**




**Insert sealing (3) completely and screw cap (2) onto basis (5).**

| Cable gland type | SW 1 | SW 2 |
|---|---|---|
| KB 520 | 26 | 26 |

Tightening torque is 7 Nm.

**14.**

**Assembly finished.**

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# M Series

- Operating voltages up to 12 kV DC
- New type for voltages up to 30 kV DC
- Operating current 30 A
- Up to 9 HV contacts
- Configurations with LV contacts available
- Versions available with contacts in lead for safety interlock circles

WWW.DZY

1 *Series-M connectors already include contacts.*

2 *We offer two types of cable mount connectors:*

*1) with symmetric cable gland included*

*2) with an open connecting thread for individual use such as screwed cable glands (not included) et al.*

3 *Suitable screwed cable glands and adapters on page 152/153. Customers can also use their own cable glands.*

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# General characteristics and technical data Series M

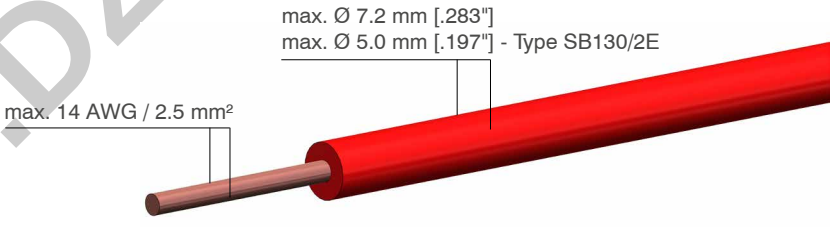
| Housing | |
|---|---|
| Locking system | Threaded coupling |
| Mounting type (panel mount connector) | 4-hole flange |
| Housing material | Brass (CuZn) |
| Surface plating | Nickel (Ni) |
| Protection class (mated connector) | IP54 |
| Operating temperature | -30°C to +80°C [-22°F to +176°F] |

| HV-Contact 2.7 mm | |
|---|---|
| Termination method | Solder |
| Rated current | 30 A |
| Max. operating current | 40 A |
| Pulse current | 3000 A |
| Contact resistance | 300 $\mu\Omega$ |
| Contact diameter | 2.7 mm [.106"] |
| Wire size | 2.5 mm² [14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Insertion / Withdrawal force | 5.5 N / 4.0 N |
| Mating cycles | ≥ 100,000 |
| Rated temperature | +120°C [+248°F] |

| I-Contact (LV) 1.5 mm | |
|---|---|
| Termination method | Solder |
| Rated current | 25 A |
| Max. operating current | 35 A |
| Pulse current | 1500 A |
| Contact resistance | 500 $\mu\Omega$ |
| Contact diameter | 1.5 mm [.059"] |
| Wire size | 1.5 mm² [16 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Insertion / Withdrawal force | 2 N / 1.5 N |
| Mating cycles | ≥ 100,000 |
| Rated temperature | +120°C [+248°F] |

| Insulator | |
|---|---|
| Number of HV-contacts | 2, 3, 5, 7, 9 |
| Number of LV-contacts 1.5mm (optional) | 0, 1, 2 |
| Number of Earthing contacts (optional) | 0, 1 |
| Insulation material | PTFE / POM |
| Flammability class PTFE | UL94 V-0 |
| Flammability class POM | UL94 HB |
| Operating temperature PTFE | -50°C to +200°C [-58°F to +392°F] |
| Operating temperature POM | -30°C to +120°C [-22°F to +248°F] |
| Insulating material group PTFE / POM | I (DIN IEC 60664) |

## Suitable cable dimensions (single wire)

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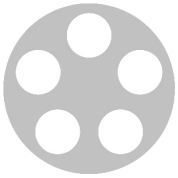
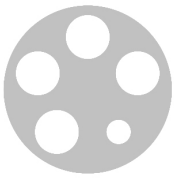
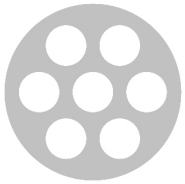
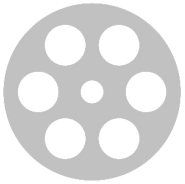
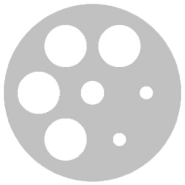
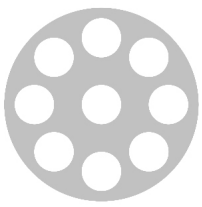
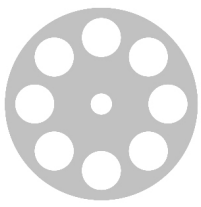
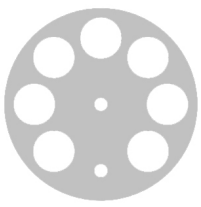
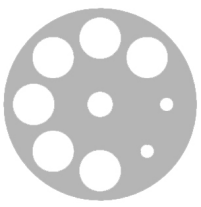
| Housing size | Contact arrangements |
|---|---|
| M2 | M130/2E *Page 131* |
| M3 | M215 *Page 132*<br> M215/1E *Page 133*<br> M215/2I/1E *Page 134*<br> M315 *Page 135*<br> M315/2E *Page 136*<br> M315/2I *Page 137* |
| M5 |  M515 *Page 139*<br>  M515/1E *Page 140* |
| M7 |  M715 *Page 142*<br>  M715/1E *Page 143*<br>  M715/1I/1E *Page 144* |
| M9 |  M915 *Page 146*<br>  M915/1E *Page 147*<br>  M915/2I *Page 148*<br>  M915/2I/1E *Page 149* |



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# M2 / M3

## Overview sizes M2 / M3

### Size M2

| P/N | Type / Description | Plug | Recep-tacle | Cable Mount | | Panel mount | Insulation material | | Number of contacts | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Standard housing con-necting thread M20 | Symmetric cable gland | | POM | PTFE | HV 2.7 mm | LV 1.5 mm | LV 2.5 mm |
| 7743005 | S130/2E POM | • | | • | | | • | | 1 | | 2 |
| 7743010 | B130/2E M20 POM 5-10 mm | | • | | | • | • | | 1 | | 2 |

### Size M3

| P/N | Type / Description | Plug | Recep-tacle | Cable Mount | | Panel mount | Insulation material | | Number of contacts | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Standard housing con-necting thread M20 | Symmetric cable gland | | POM | PTFE | HV 2.7 mm | LV 1.5 mm | LV 2.5 mm |
| 7743051 | GB 215 POM | | • | | | • | • | | 2 | | |
| 7743041 | GS 215 POM | • | | | | • | • | | 2 | | |
| 7743038 | KB 215 POM Sym KV | | • | | • | | • | | 2 | | |
| 7743072 | KB 215/M20 POM | | • | • | | | • | | 2 | | |
| 7743021 | KS 215 POM Sym KV | • | | | • | | • | | 2 | | |
| 7743023 | KS 215/M20 POM | • | | • | | | • | | 2 | | |
| 7743071 | GB 215 PTFE | | • | | | • | | • | 2 | | |
| 7743077 | GS 215 PTFE | • | | | | • | | • | 2 | | |
| 7743078 | KB 215 PTFE Sym KV | | • | | • | | | • | 2 | | |
| 7743079 | KB 215/M20 PTFE | | • | • | | | | • | 2 | | |
| 7743022 | KS 215 PTFE Sym KV | • | | | • | | | • | 2 | | |
| 7743069 | KS 215/M20 PTFE | • | | • | | | | • | 2 | | |
| 7743053 | GB 215/1E POM | | • | | | • | • | | 2 | | 1 |
| 7743055 | GS 215/1E POM | • | | | | • | • | | 2 | | 1 |
| 7743056 | KB 215/1E POM Sym KV | | • | | • | | • | | 2 | | 1 |
| 7743076 | KB 215/1E/M20 POM | | • | • | | | • | | 2 | | 1 |
| 7743054 | KS 215/1E POM Sym KV | • | | | • | | • | | 2 | | 1 |
| 7743073 | KS 215/1E/M20 POM | • | | • | | | • | | 2 | | 1 |
| 7743094 | GB 215/1E PTFE | | • | | | • | | • | 2 | | 1 |
| 7743048 | GS 215/1E PTFE | • | | | | • | | • | 2 | | 1 |
| 7743095 | KB 215/1E PTFE Sym KV | | • | | • | | | • | 2 | | 1 |
| 7743096 | KB 215/1E/M20 PTFE | | • | • | | | | • | 2 | | 1 |
| 7743097 | KS 215/1E PTFE Sym KV | • | | | • | | | • | 2 | | 1 |
| 7743064 | KS 215/1E/M20PTFE | • | | • | | | | • | 2 | | 1 |
| 7743052 | GB 215/2I/1E POM | | • | | | • | • | | 2 | 2 | 1 |
| 7743057 | GS 215/2I/1E POM | • | | | | • | • | | 2 | 2 | 1 |
| 7743098 | KB 215/2I/1E POM Sym KV | | • | | • | | • | | 2 | 2 | 1 |
| 7743058 | KB 215/2I/1E/M20 POM | | • | • | | | • | | 2 | 2 | 1 |
| 7743099 | KS 215/2I/1E POM Sym KV | • | | | • | | • | | 2 | 2 | 1 |
| 7743059 | KS 215/2I/1E/M20 POM | • | | • | | | • | | 2 | 2 | 1 |
| 7743070 | GB 215/2I/1E PTFE | | • | | | • | | • | 2 | 2 | 1 |
| 7743075 | GS 215/2I/1E PTFE | • | | | | • | | • | 2 | 2 | 1 |
| 7743101 | KB 215/2I/1E PTFE Sym KV | | • | | • | | | • | 2 | 2 | 1 |
| 7743080 | KB 215/2I/1E/M20 PTFE | | • | • | | | | • | 2 | 2 | 1 |
| 7743100 | KS 215/2I/1E PTFE Sym KV | • | | | • | | | • | 2 | 2 | 1 |
| 7743085 | KS 215/2I/1E/M20 PTFE | • | | • | | | | • | 2 | 2 | 1 |

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*HV = High Voltage
*LV = Low Voltage

# M3

## Overview size M3

| P/N | Type / Description | Plug | Recep-tacle | Cable Mount | | Panel mount | Insulation material | | Number of contacts | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Standard housing connecting thread M20 | Symmetric cable gland | | POM | PTFE | HV 2.7 mm | LV 1.5 mm | LV 2.5 mm |
| 7430100 | GB 315 POM | | • | | | • | • | | 3 | | |
| 7430200 | GS 315 POM | • | | | | • | • | | 3 | | |
| 7430310 | KB 315/M20 POM | | • | • | | | • | | 3 | | |
| 7430400 | KS 315 POM Sym KV | • | | | • | | • | | 3 | | |
| 7430410 | KS 315/M20 POM | • | | • | | | • | | 3 | | |
| 7430600 | GB 315 PTFE | | • | | | • | | • | 3 | | |
| 7430700 | GS 315 PTFE | • | | | | • | | • | 3 | | |
| 7430810 | KB 315/M20 PTFE | | • | • | | | | • | 3 | | |
| 7430900 | KS 315 PTFE Sym KV | • | | | • | | | • | 3 | | |
| 7430910 | KS 315/M20 PTFE | • | | • | | | | • | 3 | | |
| 7743060 | GB 315/2E POM | | • | | | • | • | | 3 | | 2 |
| 7743061 | GS 315/2E POM | • | | | | • | • | | 3 | | 2 |
| 7743033 | KB 315/2E/M20 POM | | • | • | | | • | | 3 | | 2 |
| 7743034 | KS 315/2E POM Sym KV | • | | | • | | • | | 3 | | 2 |
| 7743102 | KS 315/2E/M20 POM | • | | • | | | • | | 3 | | 2 |
| 7743036 | GB 315/2I POM | | • | | | • | • | | 3 | 2 | |
| 7743043 | GS 315/2I POM | • | | | | • | • | | 3 | 2 | |
| 7743042 | KB 315/2I/M20 POM | | • | • | | | • | | 3 | 2 | |
| 7743035 | KS 315/2I POM Sym KV | • | | | • | | • | | 3 | 2 | |
| 7743103 | KS 315/2I/M20 POM | • | | • | | | • | | 3 | 2 | |

*HV = High Voltage
*LV = Low Voltage

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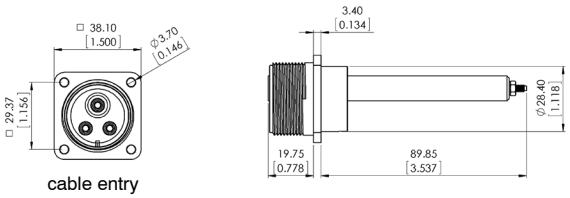
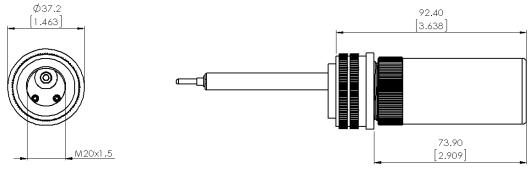
# Type M130/2E **1(+2) Pin 30 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 30 kV DC |
| Test voltage | 45 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 1 |
| Number of pins E-contact 2.5 mm (LV) | 2 |
| Insulation material | POM |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount<br>female contacts included**<br><br>**GB 130/2E/POM<br>Part no. 7743010** |   cable entry |
| **Type: plug, cable mount<br>male contacts included**<br><br>**KS 130/2E/M20/POM<br>Part no. 7743006** |   cable entry |

drawing - dimensions in mm [inch]

| E-Contact (LV) 2.5 mm and HV-Contact 2.5 mm for Type M130/2E | |
|---|---|
| E-Contact (LV) 2.5 mm | Solder |
| Rated current | 30 A |
| Max. operating current | 40 A |
| Pulse current | 3000 A |
| Contact resistance | 300 µΩ |
| Contact diameter | 2.5 mm [.098"] |
| Wire size | 2.5 mm² [14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Insertion / Withdrawal force | 5.5 N / 4.0 N |
| Mating cycles | ≥ 100,000 |
| Rated temperature | +120°C [+248°F] |

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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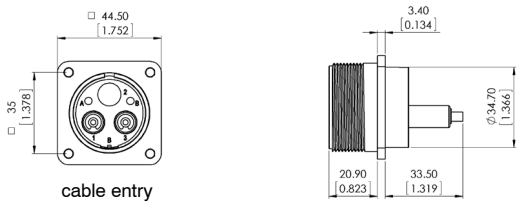
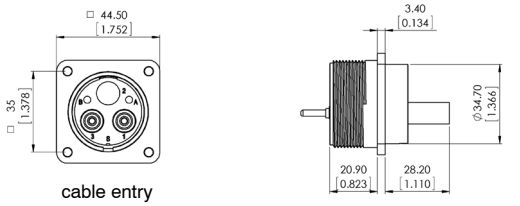
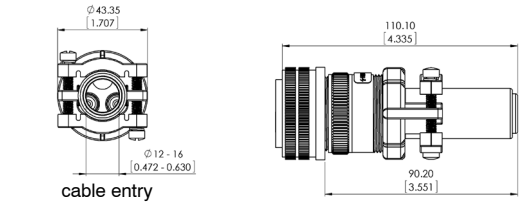
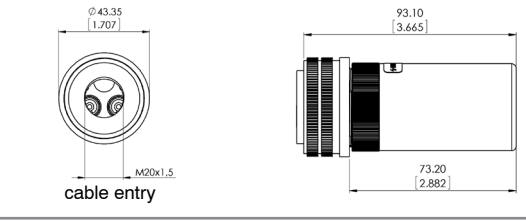
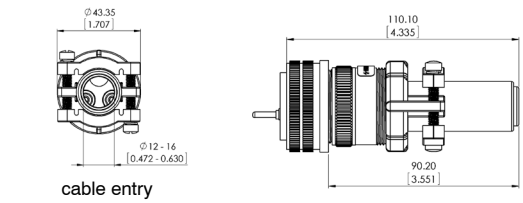
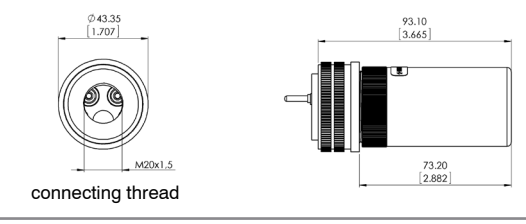
# Type M215 **2 Pin 12 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 2 |
| Number of pins E-contact 2.5 mm (LV) | - |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | POM or PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 215/POM**<br>**Part no. 7743051**<br>**Version: GB 215 PTFE**<br>**Part no. 7743071** |   |
| **Type: plug, panel mount**<br>**Version: GS 215/POM**<br>**Part no. 7743041**<br>**Version: GS 215/PTFE**<br>**Part no. 7743077** |   |
| **Type: receptacle, cable mount, with symmetric cable gland**<br>**Version: KB 215 POM/Sym KV**<br>**Part no. 7743038**<br>**Version: KB 215 PTFE/Sym KV**<br>**Part no. 7743078** |   |
| **Type: receptacle, cable mount, connecting thread M20**<br>**Version: KB 215/M20/POM**<br>**Part no. 7743072**<br>**Version: KB 215/M20/PTFE**<br>**Part no. 7743079**<br>*(for cable glands see page 152)* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 215/POM/Sym KV**<br>**Part no. 7743021**<br>**Version: KS 215/PTFE/Sym KV**<br>**Part no. 7743022** |   |
| **Type: plug, cable mount, connecting thread M20**<br>**Version: KS 215/M20/POM**<br>**Part no. 7743023**<br>**Version: KS 215/M20/PTFE**<br>**Part no. 7743069**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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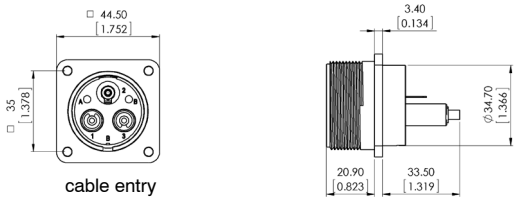
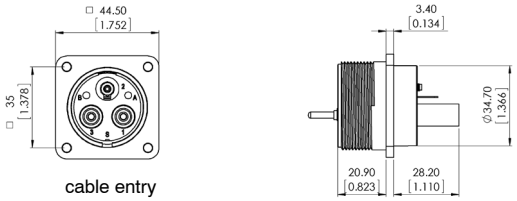
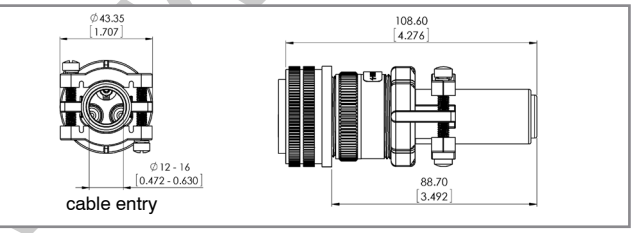
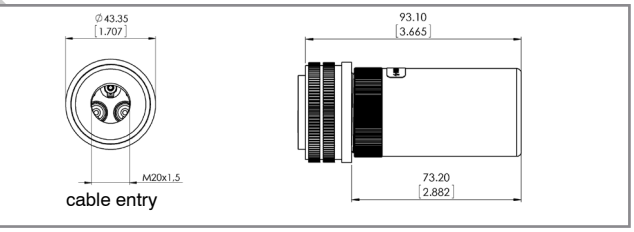
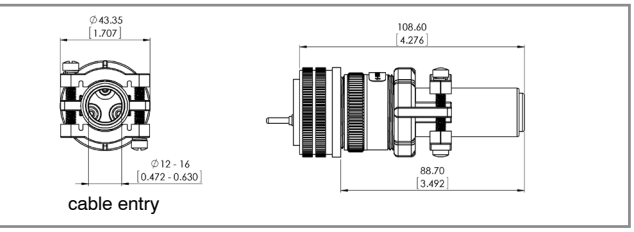
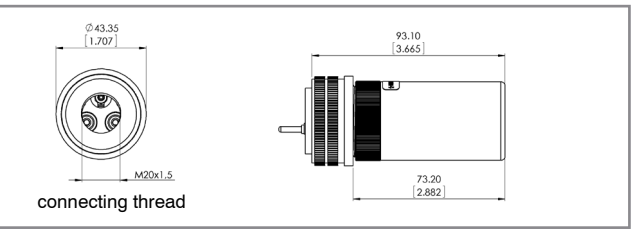
# Type M215/1E **2(+1) Pin 12 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 2 |
| Number of pins E-contact 2.5 mm (LV) | 1 |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | POM or PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 215/1E/POM**<br>**Part no. 7743053**<br>**Version: GB 215/1E/PTFE**<br>**Part no. 7743094** |   |
| **Type: plug, panel mount**<br>**Version: GS 215/1E/POM**<br>**Part no. 7743055**<br>**Version: GS 215/1E/PTFE**<br>**Part no. 7743048** |   |
| **Type: receptacle, cable mount, with symmetric cable gland**<br>**Version: KB 215/1E/POM/Sym KV**<br>**Part no. 7743056**<br>**Version: KB 215/1E/PTFE/Sym KV**<br>**Part no. 7743095** |   |
| **Type: receptacle, cable mount, connecting thread M20**<br>**Version: KB 215/1E/M20/POM**<br>**Part no. 7743076**<br>**Version: KB 215/1E/M20/PTFE**<br>**Part no. 7743096**<br>*(for cable glands see page 152)* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 215/1E/POM/Sym KV**<br>**Part no. 7743054**<br>**Version: KS 215/1E/PTFE/Sym KV**<br>**Part no. 7743097** |   |
| **Type: plug, cable mount, connecting thread M20**<br>**Version: KS 215/1E/M20/POM**<br>**Part no. 7743073**<br>**Version: KS 215/1E/M20/PTFE**<br>**Part no. 7743064**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*

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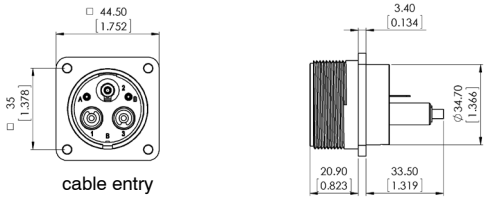
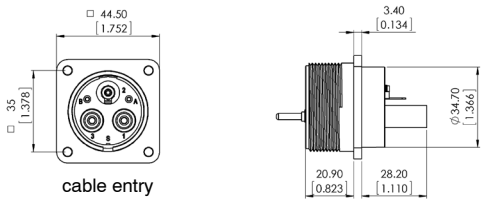
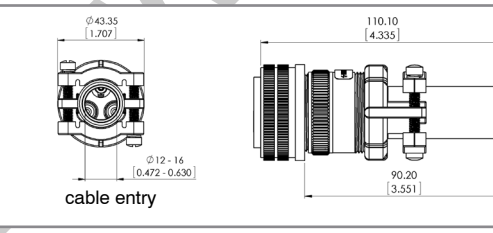
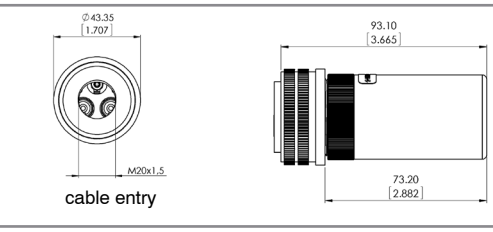
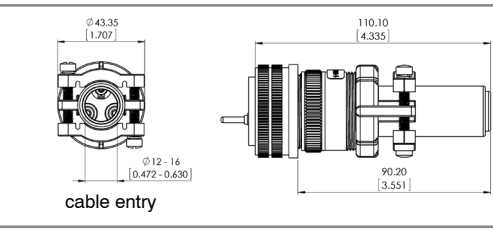
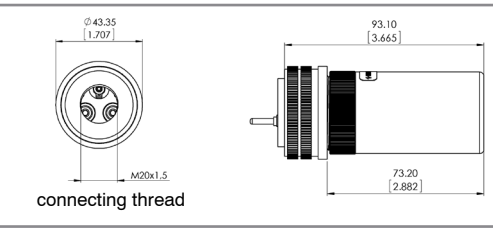
# Type M215/2I/1E **2(+3) Pin 12 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 2 |
| Number of pins E-contact 2.5 mm (LV) | 1 |
| Number of pins I-contact 1.5 mm (LV) | 2 |
| Insulation material | POM or PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 215/2I/1E/POM**<br>**Part no. 7743052**<br>**Version: GB 215/2I/1E/PTFE**<br>**Part no. 7743070** |   |
| **Type: plug, panel mount**<br>**Version: GS 215/2I/1E/POM**<br>**Part no. 7743057**<br>**Version: GS 215/2I/1E/PTFE**<br>**Part no. 7743075** |   |
| **Type: receptacle, cable mount, with symmetric cable gland**<br>**Version: KB 215/2I/1E/POM/Sym KV**<br>**Part no. 7743098**<br>**Version: KB 215/2I/1E/PTFE/Sym KV**<br>**Part no. 7743101** |   |
| **Type: receptacle, cable mount, connecting thread M20**<br>**Version: KB 215/2I/1E/M20/POM**<br>**Part no. 7743058**<br>**Version: KB 215/2I/1E/M20/PTFE**<br>**Part no. 7743080**<br>*(for cable glands see page 152)* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 215/2I/1E/POM/Sym KV**<br>**Part no. 7743099**<br>**Version: KS 215/2I/1E/PTFE/Sym KV**<br>**Part no. 7743100** |   |
| **Type: plug, cable mount, connecting thread M20**<br>**Version: KS 215/2I/1E/M20/POM**<br>**Part no. 7743059**<br>**Version: KS 215/2I/1E/M20/PTFE**<br>**Part no. 7743085**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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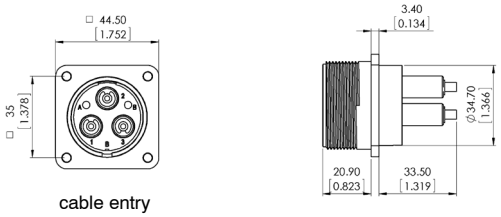
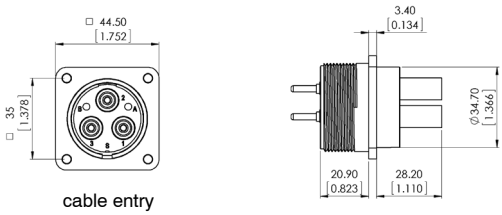
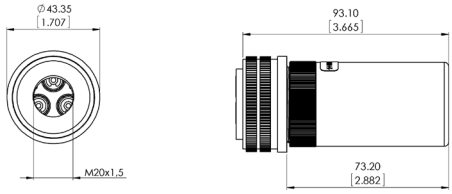
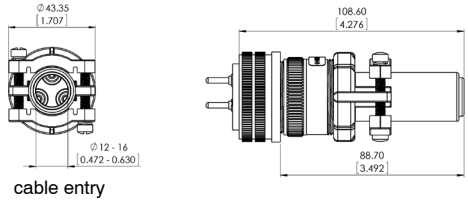
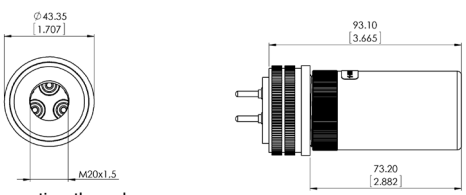
# Type M315 3 Pin 12 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 3 |
| Number of pins E-contact 2.5 mm (LV) | - |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | POM or PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 315/POM**<br>**Part no. 7430100**<br>**Version: GB 315/PTFE**<br>**Part no. 7430600** |   |
| **Type: plug, panel mount**<br>**Version: GS 315/POM**<br>**Part no. 7430200**<br>**Version: GS 315/PTFE**<br>**Part no. 7430700** |   |
| **Type: receptacle, cable mount, connecting thread M20**<br>**Version: KB 315/M20/POM**<br>**Part no. 7430310**<br>**Version: KB 315/M20/PTFE**<br>**Part no. 7430810**<br>*(for cable glands see page 152)* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 315/POM/Sym KV**<br>**Part no. 7430400**<br>**Version: KS 315/PTFE/Sym KV**<br>**Part no. 7430900** |   |
| **Type: plug, cable mount, connecting thread M20**<br>**Version: KS 315/M20/POM**<br>**Part no. 7430410**<br>**Version: KS 315/M20/PTFE**<br>**Part no. 7430910**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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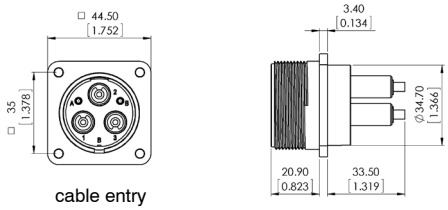
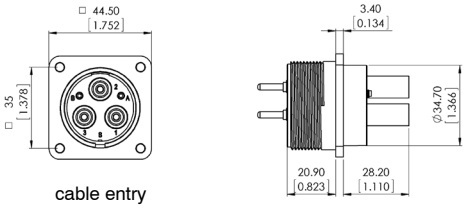
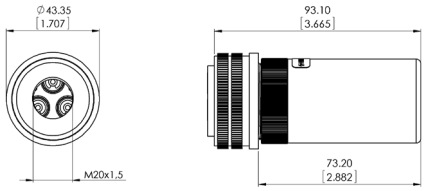
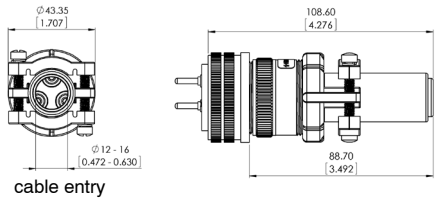
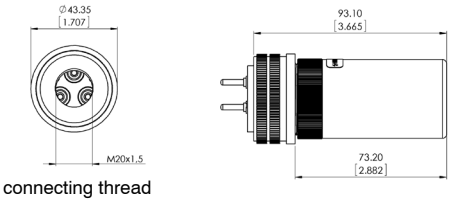
# Type M315/2E **3(+2) Pin 12 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 3 |
| Number of pins E-contact 2.5 mm (LV) | 2 |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | POM |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 315/2E/POM**<br>**Part no. 7743060** |   |
| **Type: plug, panel mount**<br>**Version: GS 315/2E/POM**<br>**Part no. 7743061** |   |
| **Type: receptacle, cable mount, connecting thread M20**<br>**Version: KB 315/2E/M20/POM**<br>**Part no. 7743033**<br>*(for cable glands see page 152)* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 315/2E/POM/Sym KV**<br>**Part no. 7743034** |   |
| **Type: plug, cable mount, connecting thread M20**<br>**Version: KS 315/2E/M20 /POM**<br>**Part no. 7743102**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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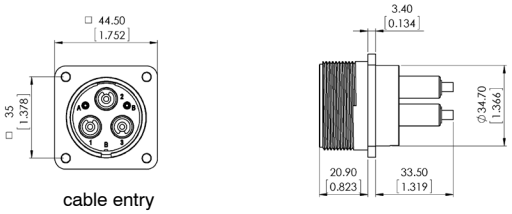
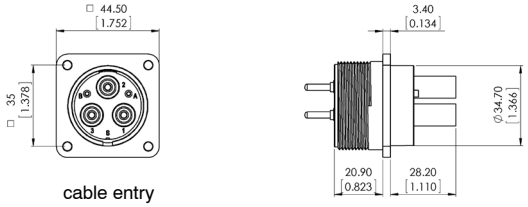
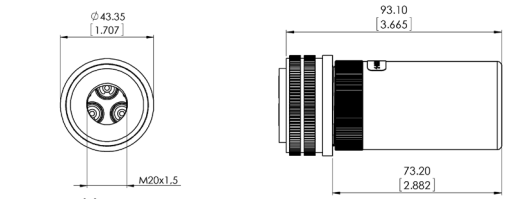
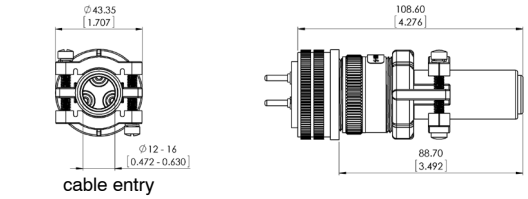
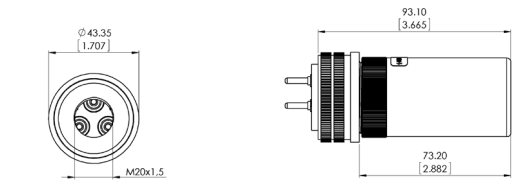
# Type M315/2I 3(+2) Pin 12 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 3 |
| Number of pins E-contact 2.5 mm (LV) | - |
| Number of pins I-contact 1.5 mm (LV) | 2 |
| Insulation material | POM |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 315/2I/POM**<br>**Part no. 7743036** |   |
| **Type: plug, panel mount**<br>**Version: GS 315/2I/POM**<br>**Part no. 7743043** |   |
| **Type: receptacle, cable mount, connecting thread M20**<br>**Version: KB 315/2I/M20/POM**<br>**Part no. 7743042**<br>*(for cable glands see page 152)* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 315/2I/POM/Sym KV**<br>**Part no. 7743035** |   |
| **Type: plug, cable mount, connecting thread M20**<br>**Version: KS 315/2I/M20 /POM**<br>**Part no. 7743103**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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# M5

## Overview size M5

| P/N | Type / Description | Plug | Receptacle | Cable Mount | | | Panel mount | Insulation material | | Number of contacts | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Standard housing connecting thread M25 | Standard housing connecting thread M32 | Symmetric cable gland | | POM | PTFE | HV Standard 2.7 mm | HV interlock 2.7 mm | LV 2.5 mm |
| 7450100 | GB 515 POM | | • | | | | • | • | | 5 | | |
| 7450200 | GS 515 POM | • | | | | | • | • | | 5 | | |
| 7450312 | KB 515/M25 POM | | • | • | | | | • | | 5 | | |
| 7450313 | KB 515/M32 POM | | • | | • | | | • | | 5 | | |
| 7450400 | KS 515 POM Sym KV | • | | | | • | | • | | 5 | | |
| 7450419 | KS 515/M25 POM | • | | • | | | | • | | 5 | | |
| 7450414 | KS 515/M32 POM | • | | | • | | | • | | 5 | | |
| 7450600 | GB 515 PTFE | | • | | | | • | | • | 5 | | |
| 7450700 | GS 515 PTFE | • | | | | | • | | • | 5 | | |
| 7450821 | KB 515/M25 PTFE | | • | • | | | | | • | 5 | | |
| 7450819 | KB 515/M32 PTFE | | • | | • | | | | • | 5 | | |
| 7450900 | KS 515 PTFE Sym KV | • | | | | • | | | • | 5 | | |
| 7450914 | KS 515/M25 PTFE | • | | • | | | | | • | 5 | | |
| 7450916 | KS 515/M32 PTFE | • | | | • | | | | • | 5 | | |
| 7745010 | GS 515/1E PTFE interlock | • | | | | | • | | • | 2 | 2 | 1 |
| 7745011 | GB 515/1E PTFE | | • | | | | • | | • | 4 | | 1 |
| 7745027 | KB 515/1E/M25 PTFE | | • | • | | | | | • | 4 | | 1 |
| 7745028 | KB 515/1E/M32 PTFE | | • | | • | | | | • | 4 | | 1 |
| 7745025 | KS 515/1E PTFE Sym KV interlock | • | | | | • | | | • | 2 | 2 | 1 |
| 7745029 | KS 515/1E/M25 PTFE interlock | • | | • | | | | | • | 2 | 2 | 1 |
| 7745032 | KS 515/1E/M32 PTFE interlock | • | | | • | | | | • | 2 | 2 | 1 |

*HV = High Voltage
*LV = Low Voltage



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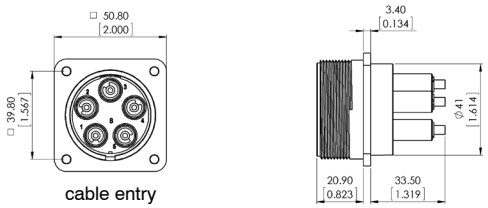
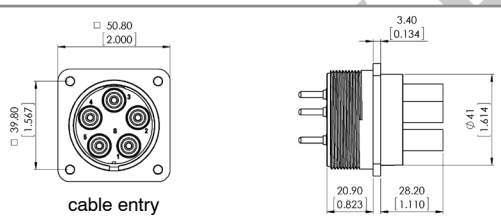
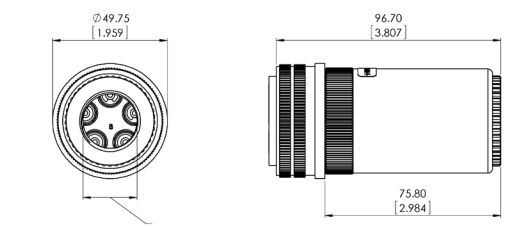
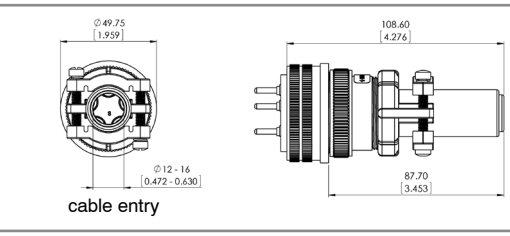
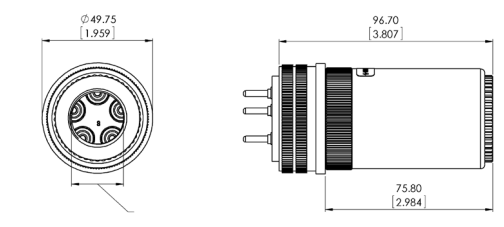
# Type M515 5 Pin 12 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 5 |
| Number of pins E-contact 2.5 mm (LV) | - |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | POM or PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 515/POM**<br>**Part no. 7450100**<br>**Version: GB 515/PTFE**<br>**Part no. 7450600** |   |
| **Type: plug, panel mount**<br>**Version: GS 515/POM**<br>**Part no. 7450200**<br>**Version: GS 515/PTFE**<br>**Part no. 7450700** |   |
| **Type: receptacle, cable mount, connecting thread M25**<br>**Version: KB 515/M25/POM**<br>**Part no. 7450312**<br>**Version: KB 515/M32/POM**<br>**Part no. 7450313**<br>**Version: KB 515/M25/PTFE**<br>**Part no. 7450821**<br>**Version: KB 515/M32/PTFE**<br>**Part no. 7450819**<br>*(for cable glands see page 152)* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 515/POM/Sym KV**<br>**Part no. 7450400**<br>**Version: KS 515/PTFE/Sym KV**<br>**Part no. 7450900** |   |
| **Type: plug, cable mount, connecting thread M25**<br>**Version: KS 515/M25/POM**<br>**Part no. 7450419**<br>**Version: KS 515/M32/POM**<br>**Part no. 7450414**<br>**Version: KS 515/M25/PTFE**<br>**Part no. 7450914**<br>**Version: KS 515/M32/PTFE**<br>**Part no. 7450916**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

**Contacts, cable glands and accessories:** *Pages 150-153*
**Mounting instructions:** *Pages 154-159*

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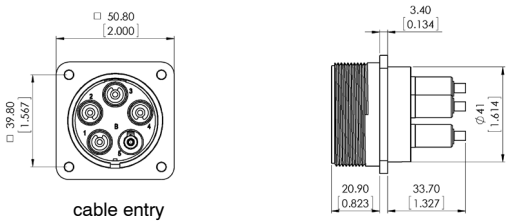
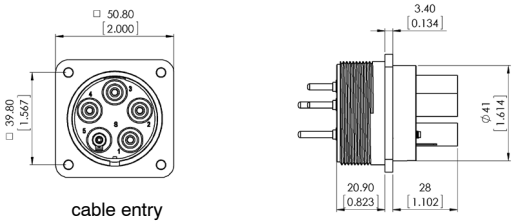
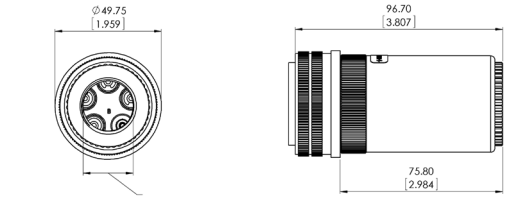
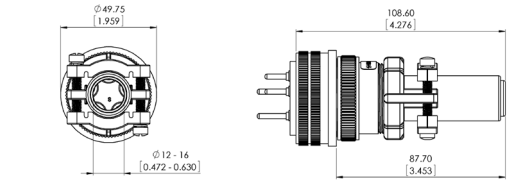
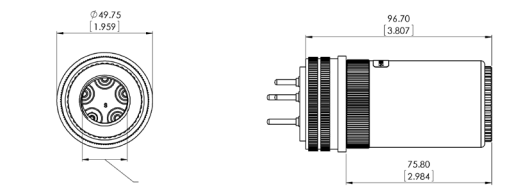
# Type M515/1E **4(+1) Pin 12 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 4 |
| Number of pins E-contact 2.5 mm (LV) | 1 |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 515/1E/PTFE**<br>**Part no. 7745011** |   |
| **Type: plug, panel mount**<br>**Version: GS 515/1E/PTFE interlock**<br>**Part no. 7745010** |   |
| **Type: receptacle, cable mount, connecting thread M25**<br>**Version: KB 515/1E/M25/PTFE Part no. 7745027**<br>**Version: KB 515/1E/M32/PTFE Part no. 7745028**<br>*(for cable glands see page 152* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 515/1E/PTFE/ Sym KV interlock**<br>**Part no. 7745025** |   |
| **Type: plug, cable mount, connecting thread M25**<br>**Version: KS 515/1E/M25/ PTFE interlock - Part no. 7745029**<br>**Version: KS 515/1E/M32/ PTFE interlock - Part no. 7745032**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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# M7

## Overview size M7

| Part no. | Type / Description | Plug | Recep-tacle | Cable Mount | | Panel mount | Insulation material | Number of contacts | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Standard housing connecting thread M25 | Symmetric cable gland | | PTFE | HV 2.7 mm | LV 1.5 mm | LV 2.5 mm |
| 7470411 | KS 715 PTFE Sym KV | • | | | • | | • | 7 | | |
| 7470414 | KS 715/M25 PTFE | • | | • | | | • | 7 | | |
| 7470812 | KB 715/M25 PTFE | | • | • | | | • | 7 | | |
| 7470600 | GB 715 PTFE | | • | | | • | • | 7 | | |
| 7470200 | GS 715 PTFE | • | | | | • | • | 7 | | |
| 7470416 | KS 715/1E/M25 PTFE | • | | | • | | • | 6 | | 1 |
| 7470417 | KS 715/1E PTFE Sym KV | • | | • | | | • | 6 | | 1 |
| 7747022 | KB 715/1E/M25 PTFE | | • | • | | | • | 6 | | 1 |
| 7747011 | GB 715/1E PTFE | | • | | | • | • | 6 | | 1 |
| 7470701 | GS 715/1E PTFE | • | | | | • | • | 6 | | 1 |
| 7470706 | KS 715/2I/1E PTFE Sym KV | • | | | • | | • | 4 | 2 | 1 |
| 7470704 | KS 715/2I/1E/M25 PTFE | • | | • | | | • | 4 | 2 | 1 |
| 7470705 | KB 715/2I/1E/M25 PTFE | | • | • | | | • | 4 | 2 | 1 |
| 7470707 | GB 715/2I/1E PTFE | | • | | | • | • | 4 | 2 | 1 |
| 7470702 | GS 715/2I/1E PTFE | • | | | | • | • | 4 | 2 | 1 |

*HV = High Voltage
*LV = Low Voltage

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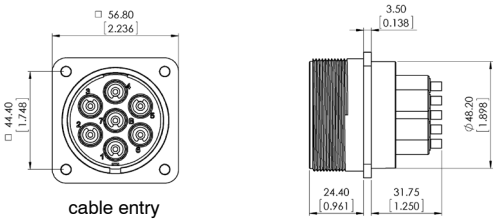
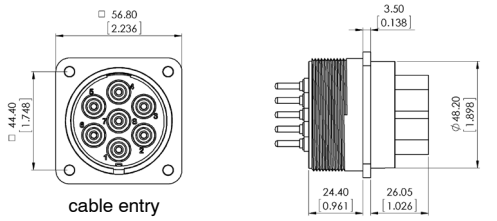
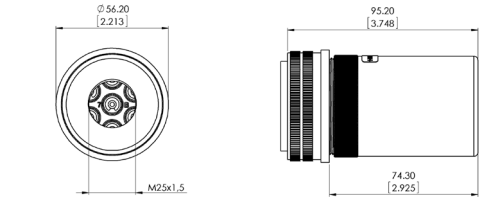
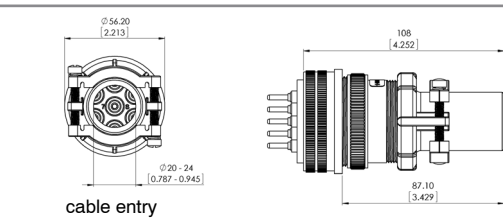
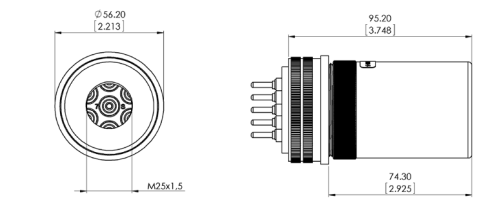
# Type M715 **7 Pin 12 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 7 |
| Number of pins E-contact 2.5 mm (LV) | - |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 715/PTFE**<br>**Part no. 7470600** |   cable entry |
| **Type: plug, panel mount**<br>**Version: GS 715/PTFE**<br>**Part no. 7470200** |   cable entry |
| **Type: receptacle, cable mount, connecting thread M25**<br>**Version: KB 715/M25/PTFE**<br>**Part no. 7470812**<br>*(for cable glands see page 152)* |   cable entry |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 715/PTFE/Sym KV**<br>**Part no. 7470411** |   cable entry |
| **Type: plug, cable mount, connecting thread M25**<br>**Version: KS 715/M25/PTFE**<br>**Part no. 7470414**<br>*(for cable glands see page 152)* |   connecting thread |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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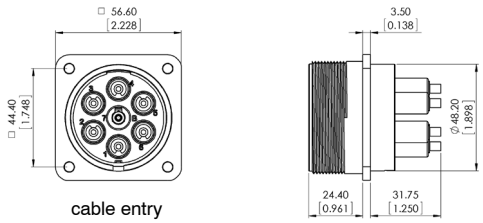
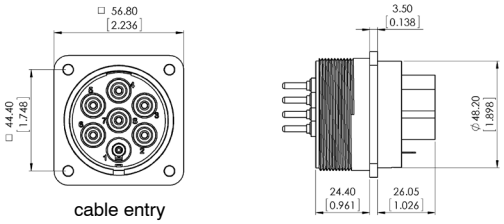
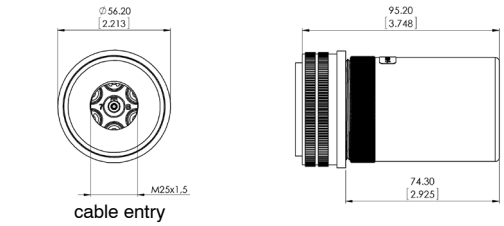
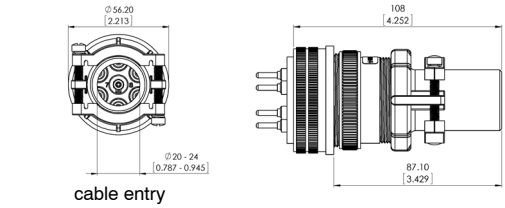
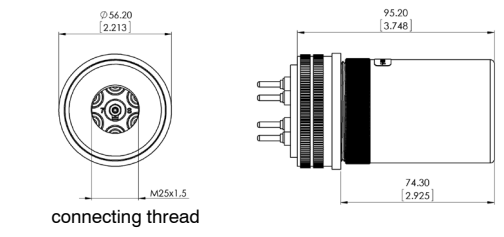
# Type M715/1E 6(+1) Pin 12 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 6 |
| Number of pins E-contact 2.5 mm (LV) | 1 |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version:**<br>**GB 715/1E/PTFE**<br>**Part no. 7747011** | <br>  |
| **Type: plug, panel mount**<br>**Version:**<br>**GS 715/1E/PTFE**<br>**Part no. 7470701** | <br>  |
| **Type: receptacle, cable mount, connecting thread M25**<br>**Version:**<br>**KB 715/1E/M25/PTFE**<br>**Part no. 7747022**<br>*(for cable glands see page 152)* | <br>  |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version:**<br>**KS 715/1E/PTFE/Sym KV**<br>**Part no. 7470417** | <br>  |
| **Type: plug, cable mount, connecting thread M25**<br>**Version:**<br>**KS 715/1E/M25/PTFE**<br>**Part no. 7470416**<br>*(for cable glands see page 152)* | <br>  |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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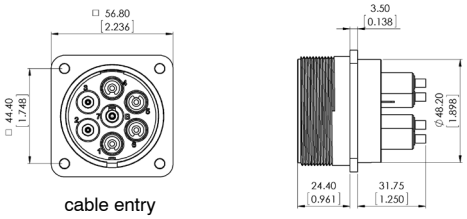
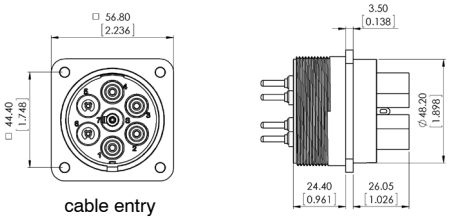
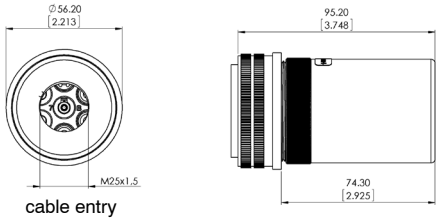
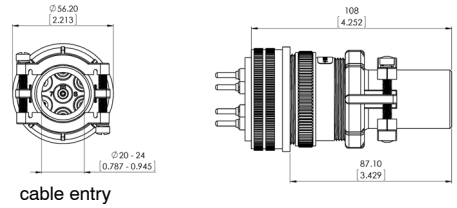
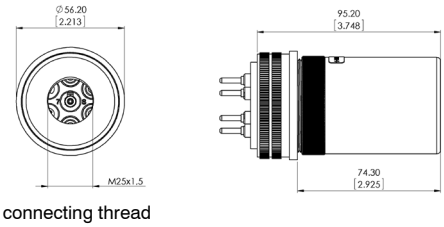
# Type M715/2I/1E **4(+3) Pin 12 kV DC**

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 4 |
| Number of pins E-contact 2.5 mm (LV) | 1 |
| Number of pins I-contact 1.5 mm (LV) | 2 |
| Insulation material | PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version:**<br>**GB 715/2I/1E/PTFE**<br>**Part no. 7470707** |   cable entry |
| **Type: plug, panel mount**<br>**Version:**<br>**GS 715/2I/1E/PTFE**<br>**Part no. 7470702** |   cable entry |
| **Type: receptacle, cable mount, connecting thread M25**<br>**Version:**<br>**KB 715/2I/1E/M25/PTFE**<br>**Part no. 7470705**<br>*(for cable glands see page 152)* |   cable entry |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version:**<br>**KS 715/2I/1E/PTFE/Sym KV**<br>**Part no. 7470706** |   cable entry |
| **Type: plug, cable mount, connecting thread M25**<br>**Version:**<br>**KS 715/2I/1E/M25/PTFE**<br>**Part no. 7470704**<br>*(for cable glands see page 152)* |   connecting thread |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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# M9

## Overview size M9

| Part no. | Type / Description | Plug | Recep-tacle | Cable Mount | | Panel mount | Number of contacts | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Standard housing M32 | Symmetric cable gland | | HV 2.7 mm | LV 1.5 mm | LV 2.5 mm |
| 7490600 | GB 915 PTFE | | • | | | • | 9 | - | - |
| 7490200 | GS 915 PTFE | • | | | | • | 9 | - | - |
| 7490811 | KB 915/M32 PTFE | | • | • | | | 9 | - | - |
| 7490400 | KS 915 PTFE Sym KV | • | | | • | | 9 | - | - |
| 7490416 | KS 915/M32 PTFE | • | | • | | | 9 | - | - |
| 7749011 | GB 915/1E PTFE | | • | | | • | 8 | - | 1 |
| 7749010 | GS 915/1E PTFE interlock | • | | | | • | 8 | - | 1 |
| 7749023 | KB 915/1E/M32 PTFE | | • | • | | | 8 | - | 1 |
| 7490417 | KS 915/1E PTFE Sym KV | • | | | • | | 8 | - | 1 |
| 7490415 | KS 915/1E/M32 PTFE | • | | • | | | 8 | - | 1 |
| 7749088 | GB 915/2I PTFE | | • | | | • | 7 | 2 | - |
| 7749082 | GS 915/2I PTFE | • | | | | • | 7 | 2 | - |
| 7749057 | KB 915/2I/M32 PTFE | | • | • | | | 7 | 2 | - |
| 7749053 | KS 915/2I PTFE Sym KV | • | | | • | | 7 | 2 | - |
| 7749058 | KS 915/2I/M32 PTFE | • | | • | | | 7 | 2 | - |
| 7749070 | GB 915/2I/1E PTFE | | • | | | • | 6 | 2 | 1 |
| 7749080 | GS 915/2I/1E PTFE | • | | | | • | 6 | 2 | 1 |
| 7749059 | KB 915/2I/1E/M32 PTFE | | • | • | | | 6 | 2 | 1 |
| 7749087 | KS 915/2I/1E PTFE Sym KV | • | | | • | | 6 | 2 | 1 |
| 7749090 | KS 915/2I/1E/M32 PTFE | • | | • | | | 6 | 2 | 1 |

*HV = High Voltage
*LV = Low Voltage



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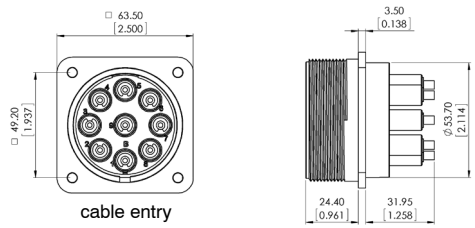
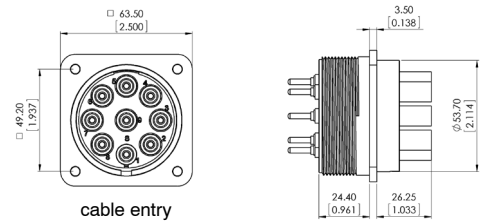
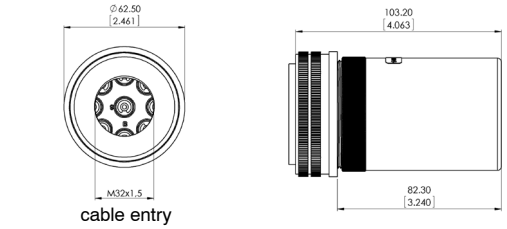
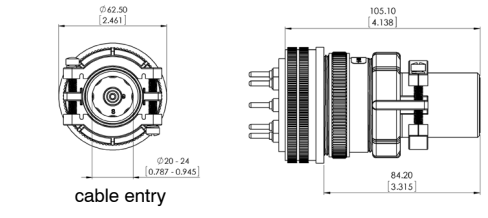
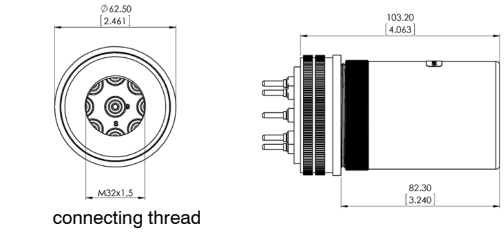
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 9 |
| Number of pins E-contact 2.5 mm (LV) | - |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 915/PTFE**<br>**Part no. 7490600** | <br>  |
| **Type: plug, panel mount**<br>**Version: GS 915/PTFE**<br>**Part no. 7490200** | <br>  |
| **Type: receptacle, cable mount, connecting thread M32**<br>**Version: KB 915/M32/PTFE**<br>**Part no. 7490811**<br>*(for cable glands see page 152)* | <br>  |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 915/PTFE/Sym KV**<br>**Part no. 7490400** | <br>  |
| **Type: plug, cable mount, connecting thread M32**<br>**Version: KS 915/M32/PTFE**<br>**Part no. 7490416**<br>*(for cable glands see page 152)* | <br>  |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*





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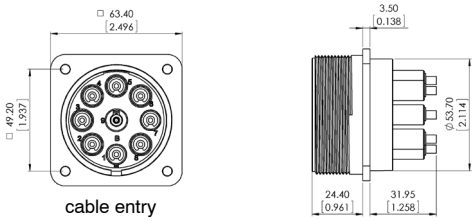
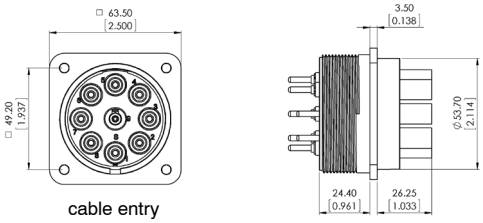
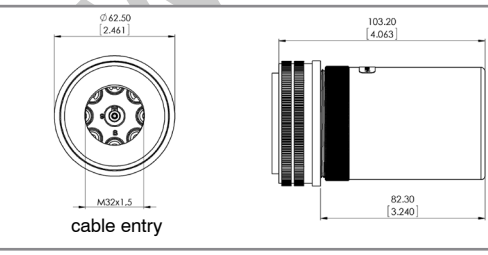
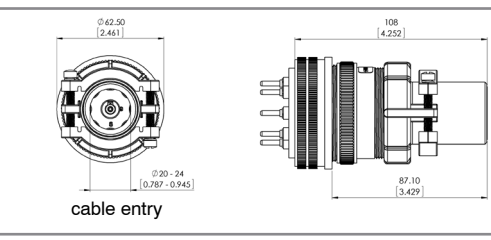
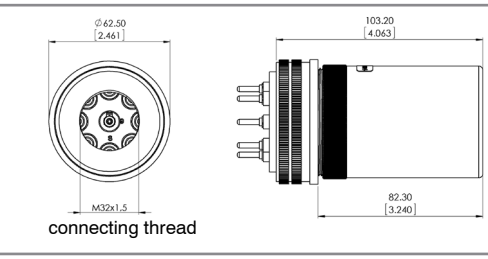
# Type M915/1E 8(+1) Pin 12 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 8 |
| Number of pins E-contact 2.5 mm (LV) | 1 |
| Number of pins I-contact 1.5 mm (LV) | - |
| Insulation material | PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 915/1E/PTFE**<br>**Part no. 7749011** |   |
| **Type: plug, panel mount**<br>**Version:**<br>**GS 915/1E/PTFE interlock**<br>**Part no. 7749010** |   |
| **Type: receptacle, cable mount, connecting thread M32**<br>**Version: KB 915/1E/M32/PTFE**<br>**Part no. 7749023**<br>*(for cable glands see page 152)* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version:**<br>**KS 915/1E/PTFE/Sym KV**<br>**Part no. 7490417** |   |
| **Type: plug, cable mount, connecting thread M32**<br>**Version:**<br>**KS 915/1E/M32/PTFE**<br>**Part no. 7490415**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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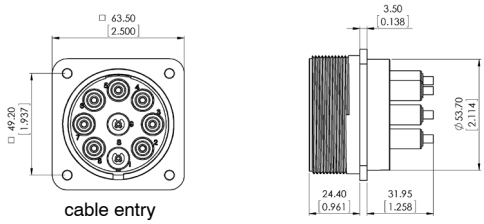
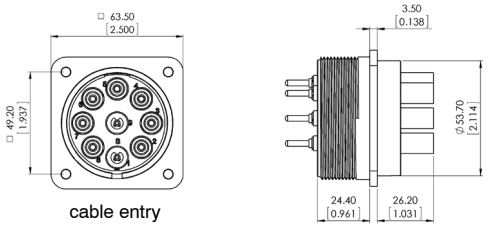
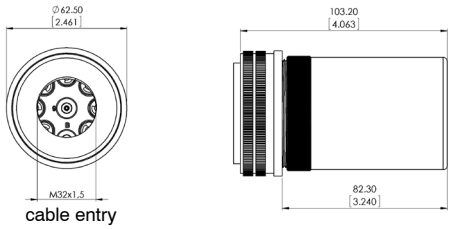
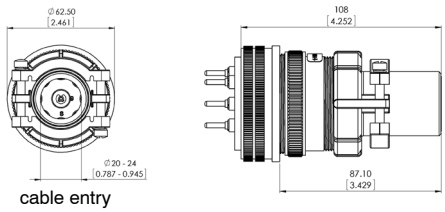
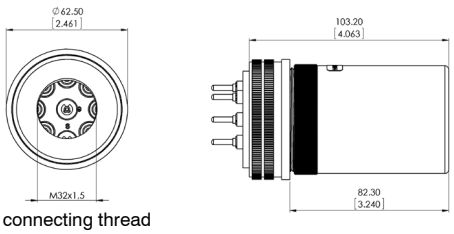
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 7 |
| Number of pins E-contact 2.5 mm (LV) | - |
| Number of pins I-contact 1.5 mm (LV) | 2 |
| Insulation material | PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 915/2I/PTFE**<br>**Part no. 7749088** |   cable entry |
| **Type: plug, panel mount**<br>**Version: GS 915/2I/PTFE**<br>**Part no. 7749082** |   cable entry |
| **Type: receptacle, cable mount, connecting thread M32**<br>**Version: KB 915/2I/M32/PTFE**<br>**Part no. 7749057**<br>*(for cable glands see page 152)* |   cable entry |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 915/2I/PTFE/Sym KV**<br>**Part no. 7749053** |   cable entry |
| **Type: plug, cable mount, connecting thread M32**<br>**Version: KS 915/2I/M32/PTFE**<br>**Part no. 7749058**<br>*(for cable glands see page 152)* |   connecting thread |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*





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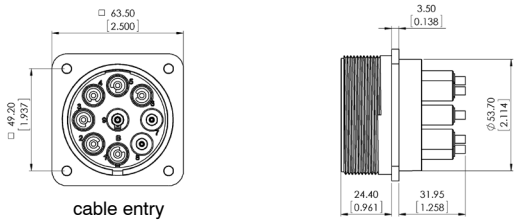
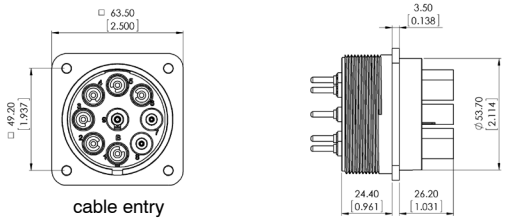
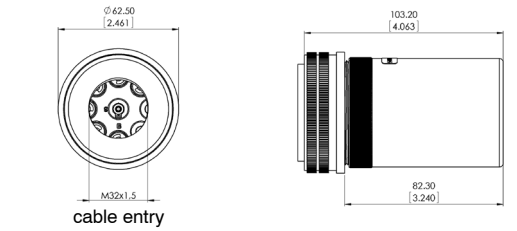
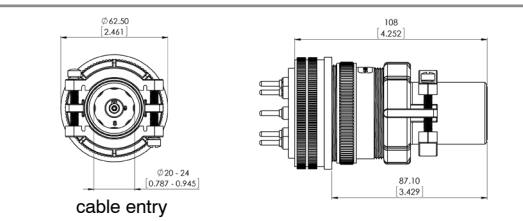
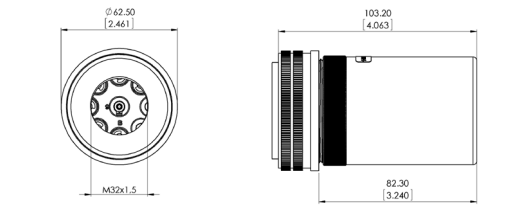
# Type M915/2I/1E 6(+3) Pin 12 kV DC

| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Rated current | 30 A |

| Characteristics | |
|---|---|
| Number of pins high voltage (HV) | 6 |
| Number of pins E-contact 2.5 mm (LV) | 1 |
| Number of pins I-contact 1.5 mm (LV) | 2 |
| Insulation material | PTFE |

**Layout**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Type: receptacle, panel mount**<br>**Version: GB 915/2I/1E/PTFE**<br>**Part no. 7749070** |   |
| **Type: plug, panel mount**<br>**Version: GS 915/2I/1E/PTFE**<br>**Part no. 7749080** |   |
| **Type: receptacle, cable mount, connecting thread M32**<br>**Version: KB 915/2I/1E/M32/PTFE**<br>**Part no. 7749059**<br>*(for cable glands see page 152)* |   |
| **Type: plug, cable mount, with symmetric cable gland**<br>**Version: KS 915/2I/1E/PTFE/Sym KV**<br>**Part no. 7749087** |   |
| **Type: plug, cable mount, connecting thread M32**<br>**Version: KS 915/2I/1E/M32/PTFE**<br>**Part no. 7749090**<br>*(for cable glands see page 152)* |   |

drawing - dimensions in mm [inch]

***Contacts, cable glands and accessories:*** *Pages 150-153*
***Mounting instructions:*** *Pages 154-159*



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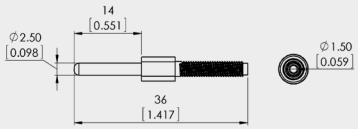
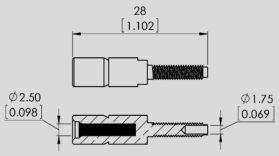
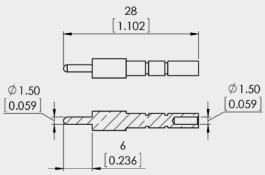
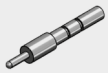
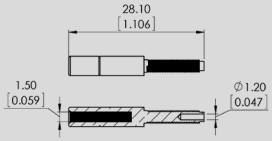
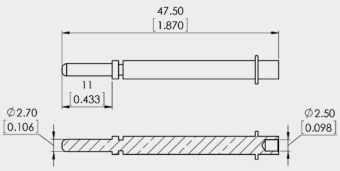
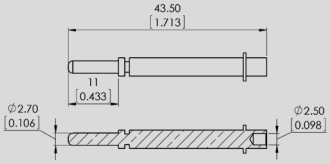
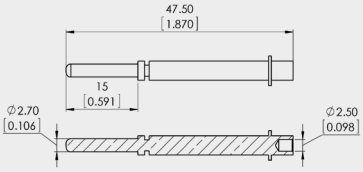
## Contacts

| Part no. | Description | Drawing | Picture |
|---|---|---|---|
| 6574015 | LV male contact<br>3/5 (E) 2.5 mm<br>nickel plated<br>for connector size M3 / M5 / M7 / M9 |  | |
| 6572005 | LV female contact<br>3/5 (E) 2.5 mm<br>nickel plated<br>for connector size M3 / M5 / M7 / M9 |  | |
| 6574020 | LV male contact<br>3/5 (I) 1.5 mm<br>nickel plated<br>for connector size M3 / M5 |  |  |
| 6574002 | LV female contact<br>3/5 (I) 1.5 mm<br>nickel plated<br>for connector size M3 / M5 |  | |
| 6571012 | HV male contact 2.7 mm standard for<br>connector size M7 / M9, silver plated |  | |
| 6571013 | HV standard male contact 2.7 mm<br>for connectors size M3 / M5,<br>male interlock contact for size M9<br>silver plated |  | |
| 6571014 | HV male interlock contact 2.7 mm for<br>connectors size M5, silver plated |  | |
| 6571002 | HV female contact 2.7 mm standard<br>for connectors size M3 / M5 / M7 / M9,<br>silver plated | | |

drawing - dimensions in mm [inch]



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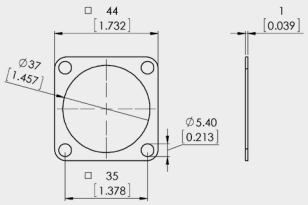
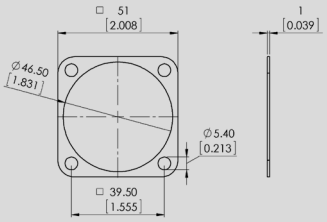
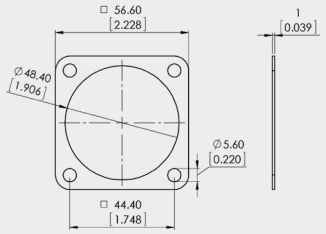
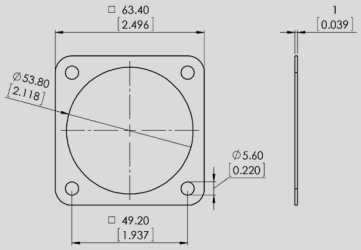
## Gaskets

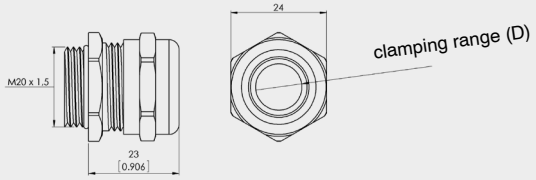
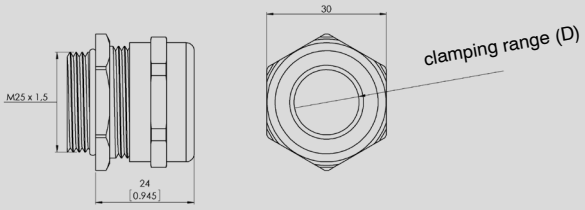
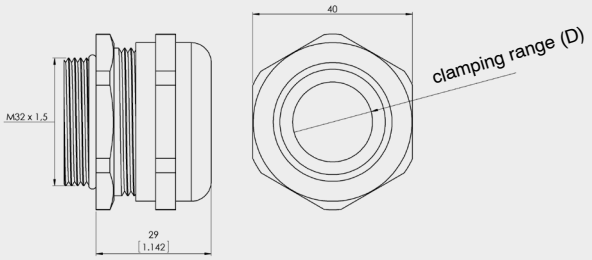
| Part no. | Description | Drawing |
|---|---|---|
| 6572050 | Flat gasket<br>Size M3 |  |
| 6572051 | Flat gasket<br>Size M5 |  |
| 6572052 | Flat gasket<br>Size M7 |  |
| 6572053 | Flat gasket<br>Size M9 |  |

drawing - dimensions in mm [inch]



WWW.DZYJZS

## Single parts / Screwed cable glands

| Part no. | Description | Clamping range (D) in mm | Drawing |
|---|---|---|---|
| 1674111 | Screwed cable gland M20 x 1.5, 7-12 mm | 7-12 |   |
| 1674110 | Screwed cable gland M20 x 1.5, 10-14 mm | 10-14 | |
| 1674119 | Screwed cable gland M25 x 1.5, 9-16 mm | 9-16 |   |
| 1674117 | Screwed cable gland M25 x 1.5, 13-18 mm | 13-18 | |
| 1674082 | Screwed cable gland M32 x 1.5, 13-20 mm | 13-20 |   |
| 1674078 | Screwed cable gland M32 x 1.5, 18-25 mm | 18-25 | |

drawing - dimensions in mm [inch]

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### Thread reductions

| Part no. | Description |
|---|---|
| 1674045 | Reduction PG29 to PG21 |
| 1674046 | Reduction PG29 to PG16 |
| 1674047 | Reduction M25 to M20 |
| 1674063 | Reduction M25 to M16 |
| 1674057 | Reduction M32 to M25 |
| 1674084 | Reduction M32 to M20 |

### Thread extensions

| Part no. | Description |
|---|---|
| 1674062 | Extension PG21 to PG29 |
| 1674106 | Extension M20 to M25 |
| 1674108 | Extension M25 to M32 |

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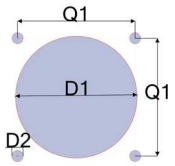
# Assembly Instructions Series M (receptacle, panel mount)



**1.**

Part as supplied.

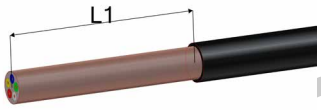
**2.**




Panel cut out

| Connector size | Q1 mm [inch] | D1 mm [inch] | D2 mm [inch] |
|---|---|---|---|
| M3 | 34.90 [1.374"] | 35.90 [1.413"] | 3.75 [.148"] |
| M5 | 39.65 [1.561"] | 42.20 [1.661"] | 3.75 [.148"] |
| M7 | 44.45 [1.750"] | 49.30 [1.941"] | 4.40 [.173"] |
| M9 | 49.25 [1.939"] | 54.90 [2.161"] | 4.40 [.173"] |

**3.**




**Carefully remove cable jacket (L1 = min. 65mm).**
⚠ Do not damage metal shield braid.

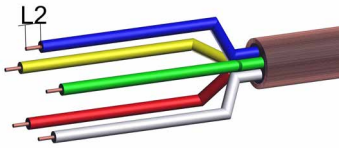
**4.**

**Fold back shield braid.**

**5.**

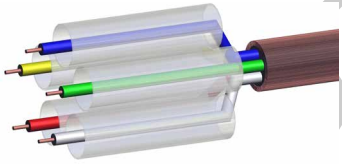
**Remove any filling elements from cable.**

**6.**




**Remove dielectric insulation of single wires (L2 = 5 mm [.197"]).**
⚠ Do not damage conductors.

**7.**

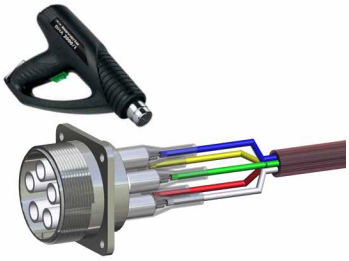


**Slide one shrinking tube on each single wire.**

**8.**

**Solder one conductor on each female contact.**

**9.**



**Slide shrinking tubes on insulation parts and shrink tubes - shrinking temperature 100°C [+230°F].**

**10.**

**Assembly finished.**

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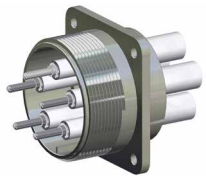
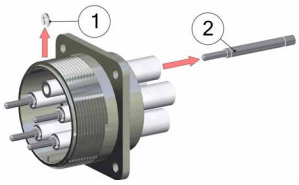
# Assembly Instructions Series M (plug, panel mount)

**1.**



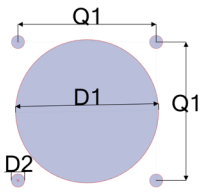
Part as supplied.

**2.**




Remove snap rings (1) and take out male contacts (2).

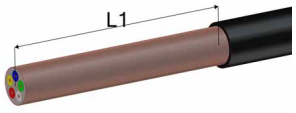
**3.**




Panel cut out

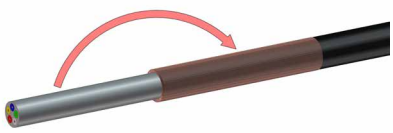
| Connector size | Q1 mm [inch] | D1 mm [inch] | D2 mm [inch] |
|---|---|---|---|
| M3 | 34.90 [1.374"] | 35.90 [1.413"] | 3.75 [.148"] |
| M5 | 39.65 [1.561"] | 42.20 [1.661"] | 3.75 [.148"] |
| M7 | 44.45 [1.750"] | 49.30 [1.941"] | 4.40 [.173"] |
| M9 | 49.25 [1.939"] | 54.90 [2.161"] | 4.40 [.173"] |

**4.**



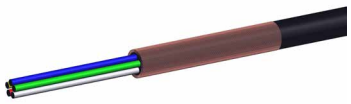

Carefully remove cable jacket (L1 = min. 65 mm).
⚠ Do not damage metal shield braid.

**5.**



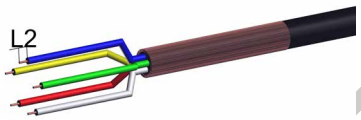
Fold back shield braid.

**6.**



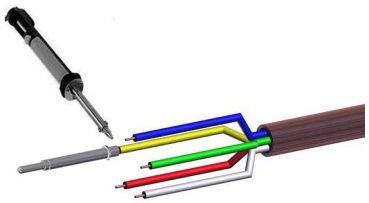
Remove any filling elements from cable.

**7.**



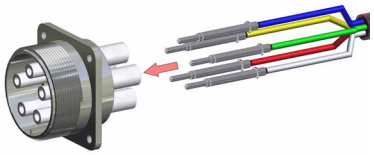

Remove dielectric insulation of single wires (L2 = 5 mm [.197"]).
⚠ Do not damage conductors.

**8.**



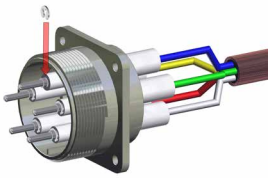
Solder one male contact (2) on each conductor.

**9.**



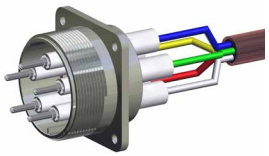
Slide single wires completely into insulation tubes.

**10.**



Fix male contacts (2) with snap rings (1).

**11.**



Assembly finished.

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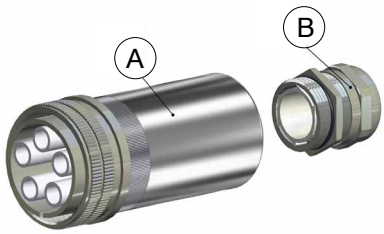
# Assembly Instructions Series M (receptacle, cable mount)

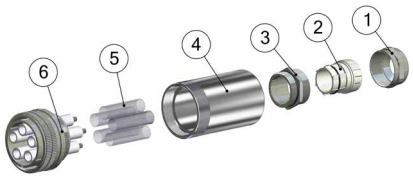


## 1.




**Part as supplied.**
Connector housing (A).
Optional: Screwed cable gland (B).

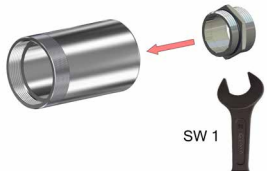
## 2.




**Components.**
Screwed cable gland (B): cap (1), sealing insert (2), cable gland basis (3).

Connector housing (A): housing adapter (4), shrinking tubes (5), housing basis (6).

## 3.



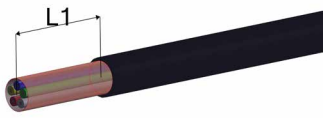

**Screw cable gland basis (3) to housing adapter (4).**

| Screwed cable gland size | Wrench size (SW 1) | Tightening torque [Nm] |
|---|---|---|
| M16 | 20 | 6 |
| M20 | 24 | 10 |
| M25 | 30 | 14 |
| M32 | 40 | 24 |

## 4.

**Place cap (1), sealing insert (2) and housing adapter (4) on cable.**
⚠ Respect correct order of parts (see picture).

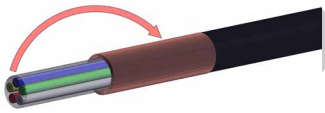
## 5.




**Remove cable jacket.**
⚠ Do not damage shield braid.

| Connector size | L1 mm [inch] |
|---|---|
| M3 / M5 / M7 | 45 [1.772"] |
| M9 | 60 [2.362"] |

## 6.



**Fold back shield braid over jacket.**

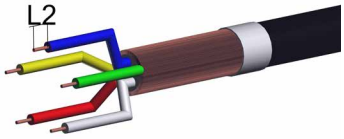
## 7.

**Fix shield braid with tape.**

## 8.

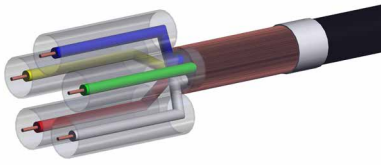
**Remove any filling elements from cable.**

## 9.




**Remove dielectric insulation (L2 = min. 5 mm [.197"]).**

## 10.



**Place shrinking tubes on single wires.**



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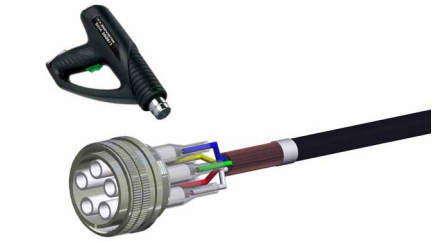
## 11.

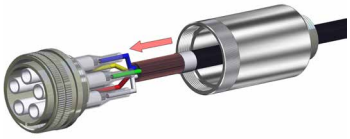
**Solder one conductor each on a female contact.**
⚠ Tin-solder should not remain on contact surface. Do not damage shrinking tubes.

## 12.



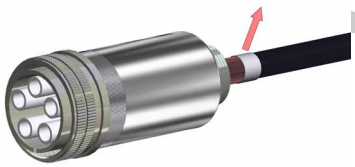
**Place shrinking tubes on insulators. Tubes shall cover both insulators and wires. Then shrink tubes. Shrinking temperature 100°C [+230°F].**

## 13.



**Screw adapter (4) to housing basis (6).**

## 14.

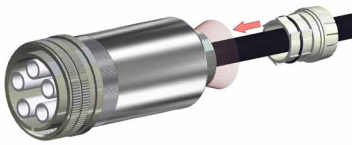


**Remove tape.**

## 15.

**Completely widen shield braid.**

## 16.

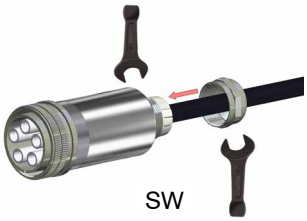


**Completely slide seal insert (2) under shield braid into cable gland basis (3).**

## 17.

**Cut overlapping shield braid.**
⚠ Carefully remove shield strands. Loose strands can cause electrical breakdown.

## 18.




**Screw cable gland cap (1) to cable gland basis (3).**

| Screwed cable gland size | Wrench size (SW) | Tightening torque [Nm] |
|---|---|---|
| M16 | 20 | 5 |
| M20 | 24 | 8 |
| M25 | 30 | 12 |
| M32 | 40 | 20 |

## 19.

**Assembly finished.**



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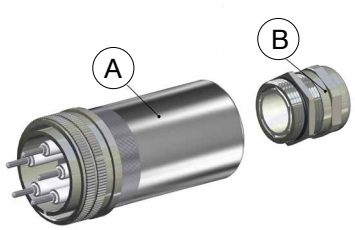
# Assembly Instructions Series M (plug, cable mount)

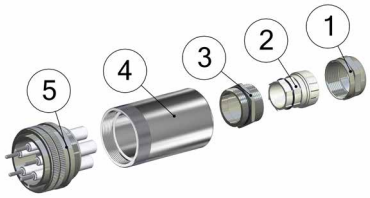


**1.**




**Part as supplied.**
Connector housing (A).
Optional: Screwed cable gland (B).

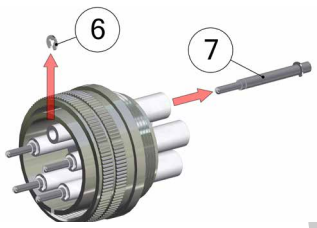
**2.**




**Components**
Screwed cable gland (B): cap (1), sealing insert (2), cable gland basis (3).

Connector housing (A): housing adapter (4), housing basis (5).

**3.**




**Remove contacts if supplied mounted.**
Remove snap rings (6) and take out male contacts (7).

**4.**

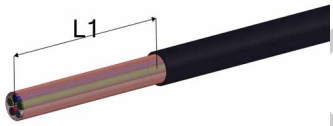
**Screw cable gland basis (3) to housing adapter (4).**

| Screwed cable gland size | Wrench size (SW 1) | Tightening torque [Nm] |
|---|---|---|
| M16 | 20 | 5 |
| M20 | 24 | 8 |
| M25 | 30 | 12 |
| M32 | 40 | 20 |

**5.**

**Place cap (1), sealing insert (2) and housing adapter (4) on cable.**
⚠ Respect correct order of parts (see picture).

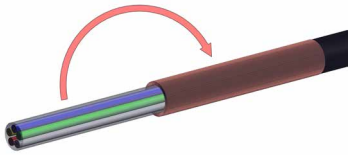
**6.**




**Fold back shield braid over jacket.**
⚠ Do not damage shield braid.

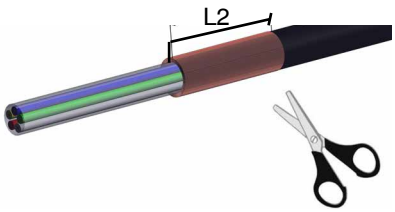
| Connector size | L1 [mm] |
|---|---|
| M3 / M5 / M7 | 70 [2.756"] |
| M9 | 85 [3.346"] |

**7.**



**Fold back shield braid over jacket.**

**8.**

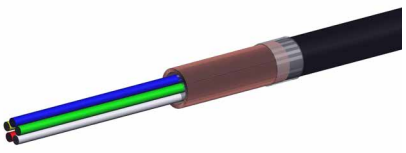



**Shorten shield braid to length L2 = 40 mm.**

**9.**

**Fix shield braid with tape.**

**10.**



**Remove any filling elements from cable.**

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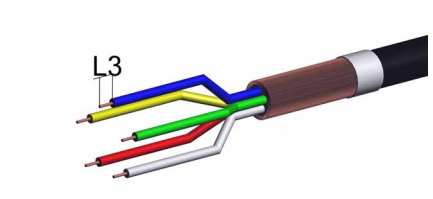
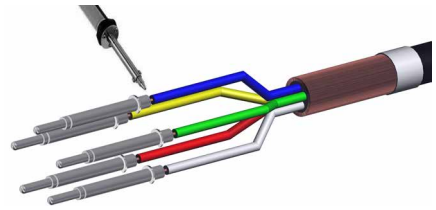
**11.**



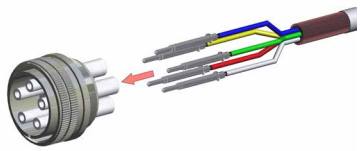

**Remove dielectric insulation (L3 = min. 5 mm [.197"]).**

**12.**



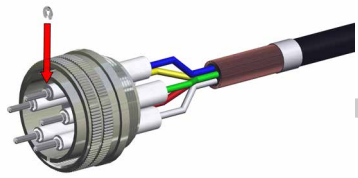
**Solder male contacts (7) on conductor.**
⚠ Tin-solder must not remain on contact surface.

**13.**



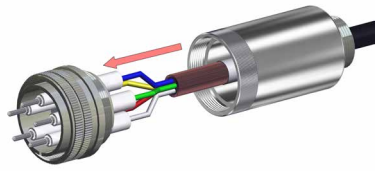
**Slide contacts (7) completely into insulation tubes (5).**

**14.**



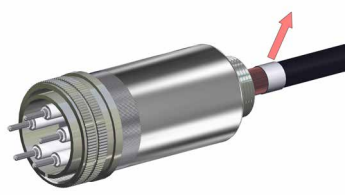
**Fix contacts (7) with snap rings (6).**

**15.**



**Screw adapter (4) to housing basis (5).**

**16.**



**Remove tape.**

**17.**

**Completely widen shield braid.**

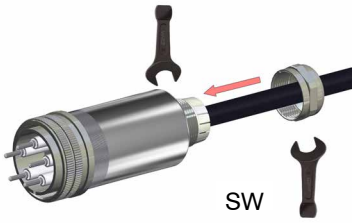
**18.**

**Completely slide seal insert (2) under shield braid into cable gland basis (3).**

**19.**

**Cut overlapping shield braid.**
⚠ Carefully remove shield strands. Loose strands can cause electrical breakdown.

**20.**




**Screw cable gland cap (1) to cable gland basis (3).**

| Screwed cable gland size | Wrench size (SW) | Tightening torque [Nm] |
|---|---|---|
| M16 | 20 | 5 |
| M20 | 24 | 8 |
| M25 | 30 | 12 |
| M32 | 40 | 20 |

**21.**

**Assembly finished.**

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# MOD Series

- Operating voltage up to 12 kV DC
- Operating current up to 25 A / 30 A
- Up to 14 high voltage contacts
- Robust industrial connector shells with lever locking system
- Combinable with modules for low voltage, signal transmission and pneumatic
- Protection class IP65 (mated connector)



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# General characteristics and technical data type MOD-HP

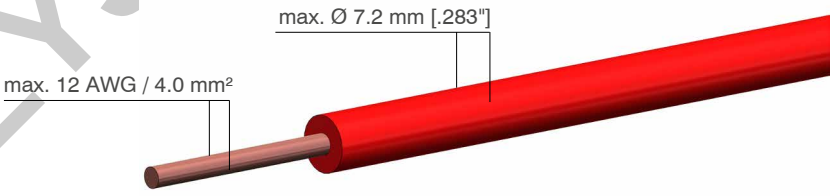
| Housings | |
|---|---|
| Number of module slots | 2, 3, 5, 7 |
| Locking system | Lever locking |
| Mounting type (panel mount connector) | 4-hole-flange |
| Housing material | Aluminium alloy |
| Surface plating | Epoxy powder coating |
| Protection class (mated connector) | IP65 acc. DIN EN 60529 |
| Operating temperature | -30°C to +80°C [-22°F to +176°F] |

| Contacts type MOD-HP | |
|---|---|
| Termination method | Crimp / solder |
| Rated current (at +23°C [73°F]) | 25 A |
| Contact resistance | ≤ 2 mΩ |
| Contact diameter | 2.5 mm |
| Wire size | 0.5 - 4.0 mm² [20-12 AWG] |
| Contact material | Copper alloy |
| Contact plating | Silver (Ag) |
| Mating cycles | ≥ 500 |

**Contacts not included. Choose contacts from page 190.**

| Module type MOD-HP | |
|---|---|
| Number of pins | 2 |
| Material | PA 6.6 GF |
| Flammability class | UL94 V-0 |
| Operating temperature | -40°C to +125°C [-40°F to +257°F] |
| CTI-Value | 600 |
| Insulating material group | I (DIN IEC 60664) |
| Max. diameter of dielectric cable insulation (single wire) | 7.2 mm |

## Suitable cable dimensions (single wire)

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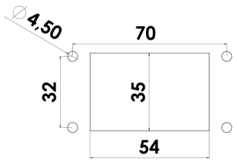
# Type MOD-HP Size 2M **2-Pin 12 kV DC**

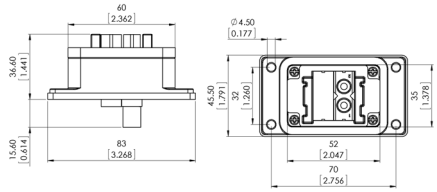
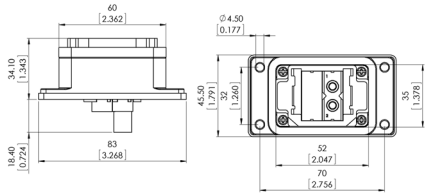
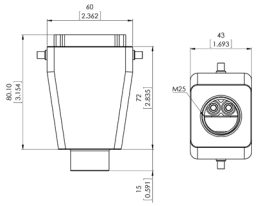
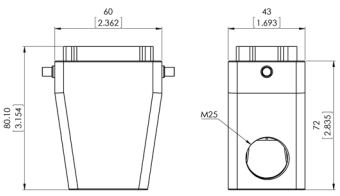
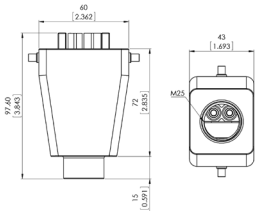
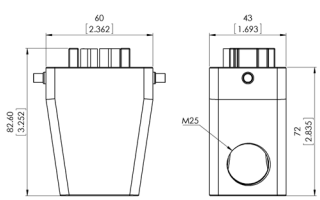
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 2 |
| Insulation material | PA 6.6 GF |

**Panel cut out**




**Suitable contacts on page 190**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 1HP/2M**<br>**Part no. 9021300** |  |
| **Plug, panel mount**<br>**GSR 1HP/2M**<br>**Part no. 9021350** |  |
| **Plug, cable mount, cable entry top M25**<br>**KSR 1HP/AO/2M**<br>**Part no. 9021010** |  |
| **Plug, cable mount, cable entry side 90° M25**<br>**KSR 1HP/AS/2M**<br>**Part no. 9021200** |  |
| **Receptacle, cable mount, cable entry top M25**<br>**KBR 1HP/AO/2M**<br>**Part no. 9021150** |  |
| **Receptacle, cable mount, cable entry side 90° M25**<br>**KBR 1HP/AS/2M**<br>**Part no. 9021250** |  |

drawing - dimensions in mm [inch]

***Contacts:*** *Pages 190-195*
***Cable glands and tools:*** *Page 199*

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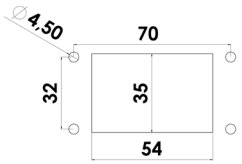
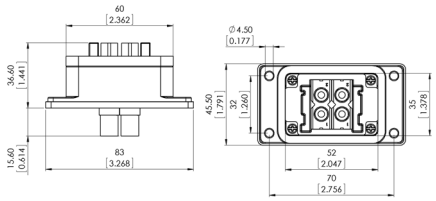
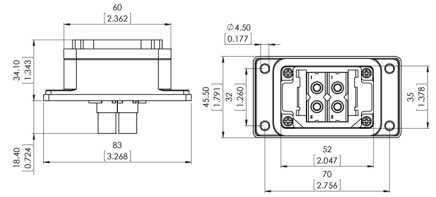
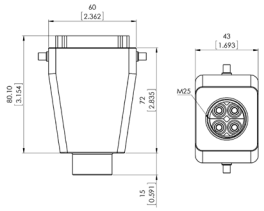
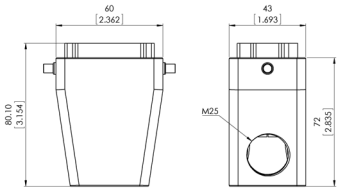
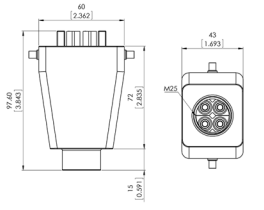
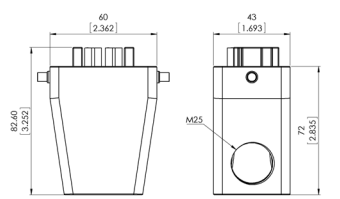
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 4 |
| Insulation material | PA 6.6 GF |

**Panel cut out**




**Suitable contacts on page 190**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 2HP/2M**<br>**Part no. 9022300** |  |
| **Plug, panel mount**<br>**GSR 2HP/2M**<br>**Part no. 9022350** |  |
| **Plug, cable mount, cable entry top M25**<br>**KSR 2HP/AO/2M**<br>**Part no. 9022100** |  |
| **Plug, cable mount, cable entry side 90° M25**<br>**KSR 2HP/AS/2M**<br>**Part no. 9022200** |  |
| **Receptacle, cable mount, cable entry top M25**<br>**KBR 2HP/AO/2M**<br>**Part no. 9022150** |  |
| **Receptacle, cable mount, cable entry side 90° M25**<br>**KBR 2HP/AS/2M**<br>**Part no. 9022250** |  |

drawing - dimensions in mm [inch]

***Contacts:*** *Pages 190-195*
***Cable glands and tools:*** *Page 199*



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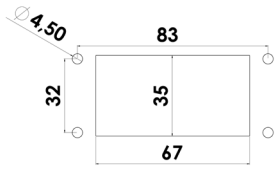
# Type MOD-HP Size 3M **6-Pin 12 kV DC**

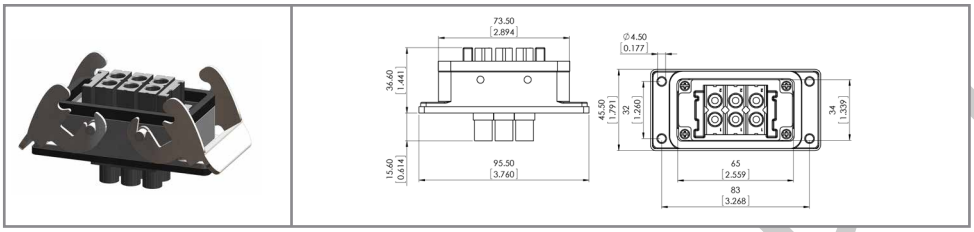
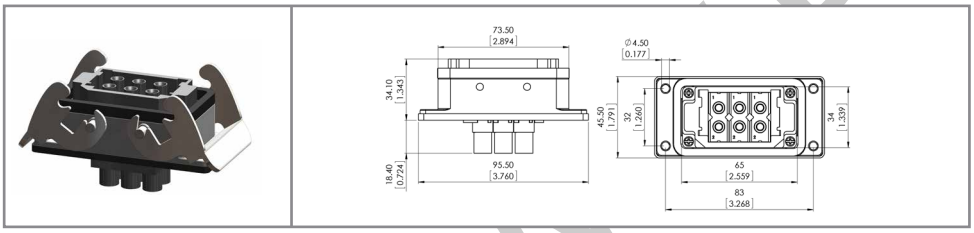
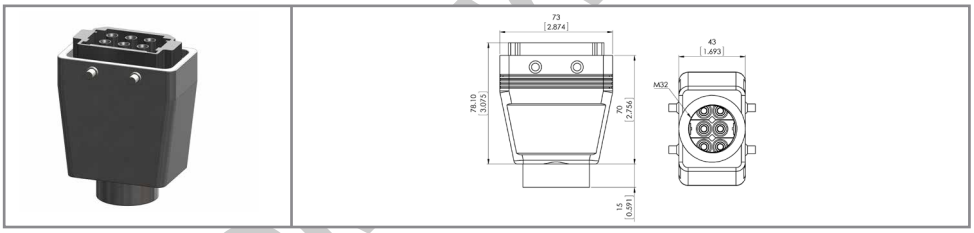
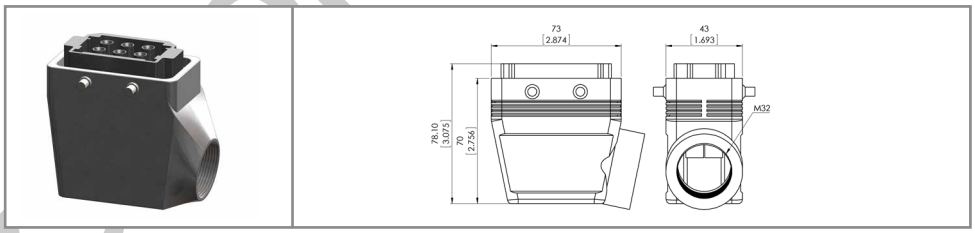
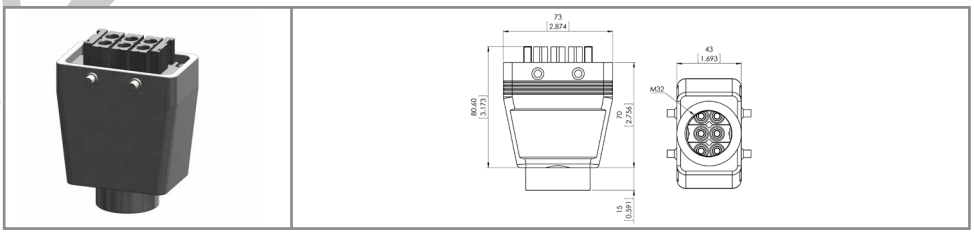
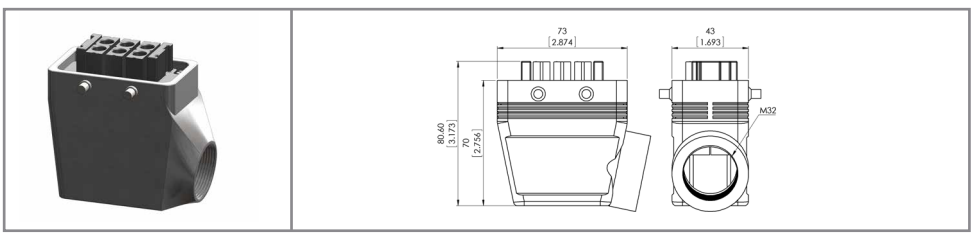
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 6 |
| Insulation material | PA 6.6 GF |

**Panel cut out**




**Suitable contacts on page 190**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 3HP/3M**<br>**Part no. 9033300** |  |
| **Plug, panel mount**<br>**GSR 3HP/3M**<br>**Part no. 9033350** |  |
| **Plug, cable mount,**<br>**Cable entry top M32**<br>**KSR 3HP/AO/3M**<br>**Part no. 9033100** |  |
| **Plug, cable mount,**<br>**cable entry side 90° M32**<br>**KSR 3HP/AS/3M**<br>**Part no. 9033200** |  |
| **Receptacle, cable mount,**<br>**cable entry top M32**<br>**KBR 3HP/AO/3M**<br>**Part no. 9033150** |  |
| **Receptacle, cable mount,**<br>**cable entry side 90° M32**<br>**KBR 3HP/AS/3M**<br>**Part no. 9033250** |  |

drawing - dimensions in mm [inch]

***Contacts:*** *Pages 190-195*
***Cable glands and tools:*** *Page 199*

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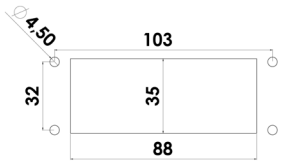
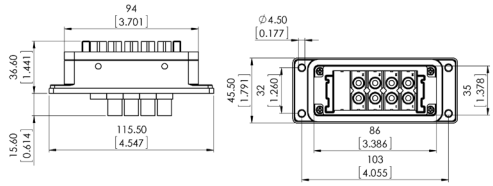
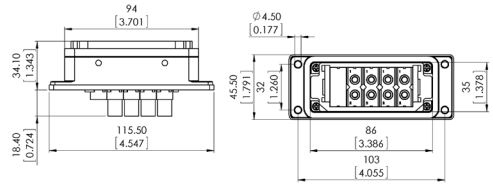
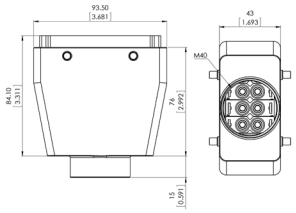
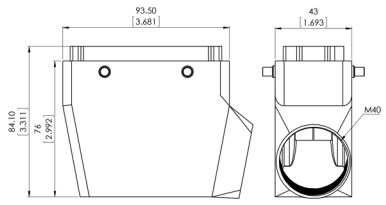
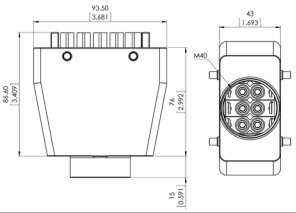
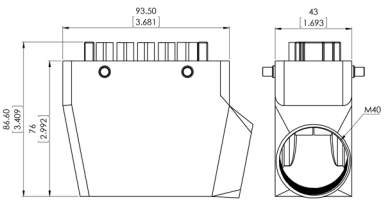
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 8 |
| Insulation material | PA 6.6 GF |

**Panel cut out**




**Suitable contacts on page 190**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 4HP/5M**<br>**Part no. 9054300** |  |
| **Plug, panel mount**<br>**GSR 4HP/5M**<br>**Part no. 9054350** |  |
| **Plug, cable mount, cable entry top M40**<br>**KSR 4HP/AO/5M**<br>**Part no. 9054100** |  |
| **Plug, cable mount, cable entry side 90° M40**<br>**KSR 4HP/AS/5M**<br>**Part no. 9054200** |  |
| **Receptacle, cable mount, cable entry top M40**<br>**KBR 4HP/AO/5M**<br>**Part no. 9054150** |  |
| **Receptacle, cable mount, cable entry side 90° M40**<br>**KBR 4HP/AS/5M**<br>**Part no. 9054250** |  |

drawing - dimensions in mm [inch]

***Contacts:*** *Pages 190-195*
***Cable glands and tools:*** *Page 199*



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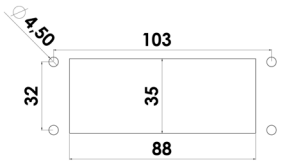
# Type MOD-HP Size 5M **10-Pin 12 kV DC**

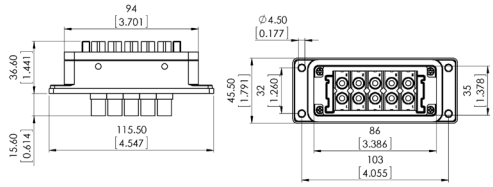
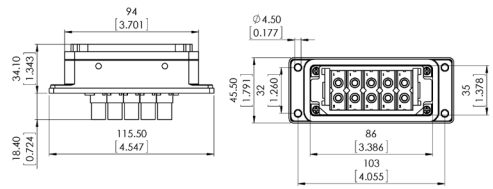
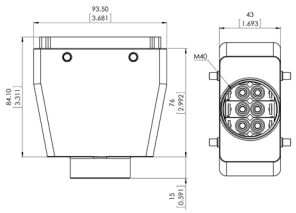
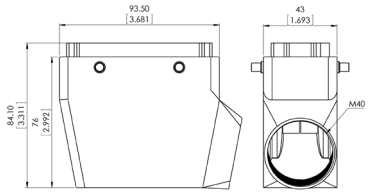
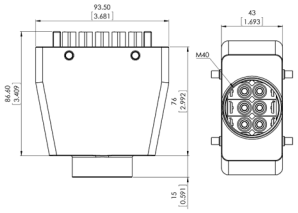
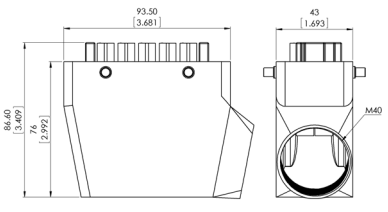
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 10 |
| Insulation material | PA 6.6 GF |

**Panel cut out**




**Suitable contacts on page 190**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 5HP/5M**<br>**Part no. 9055300** |  |
| **Plug, panel mount**<br>**GSR 5HP/5M**<br>**Part no. 9055350** |  |
| **Plug, cable mount, cable entry top M40**<br>**KSR 5HP/AO/5M**<br>**Part no. 9055100** |  |
| **Plug, cable mount, cable entry side 90° M40**<br>**KSR 5HP/AS/5M**<br>**Part no. 9055200** |  |
| **Receptacle, cable mount, cable entry top M40**<br>**KBR 5HP/AO/5M**<br>**Part no. 9055150** |  |
| **Receptacle, cable mount, cable entry side 90° M40**<br>**KBR 5HP/AS/5M**<br>**Part no. 9055250** |  |

drawing - dimensions in mm [inch]

***Contacts:*** *Pages 190-195*
***Cable glands and tools:*** *Page 199*

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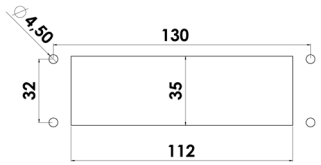
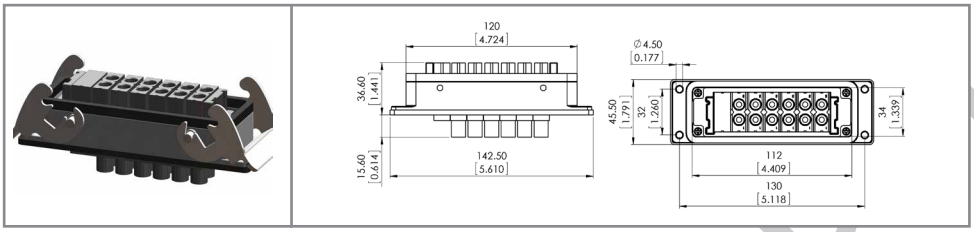
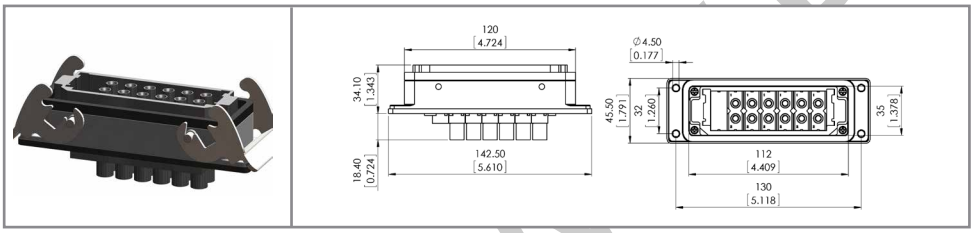
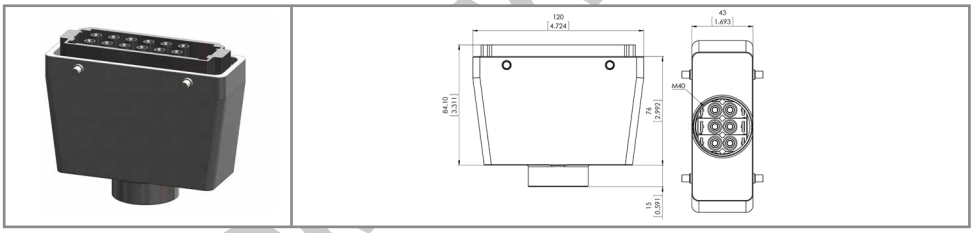
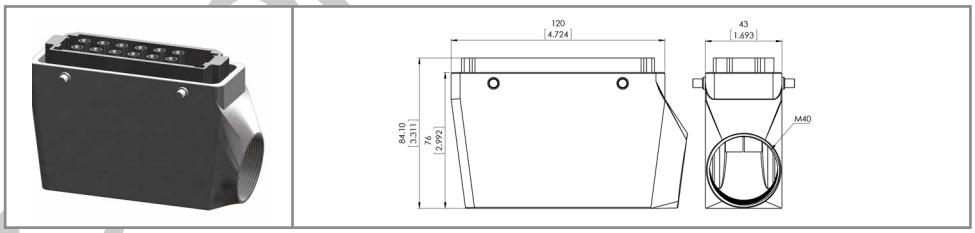
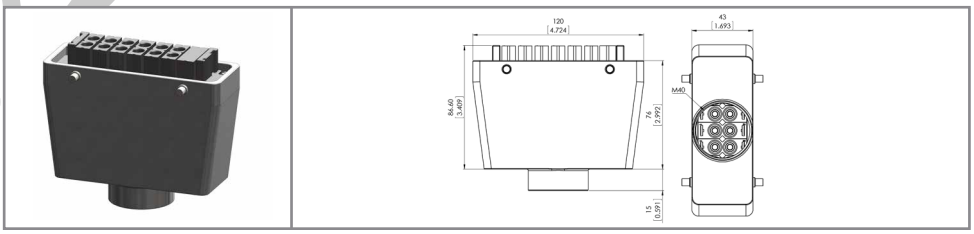
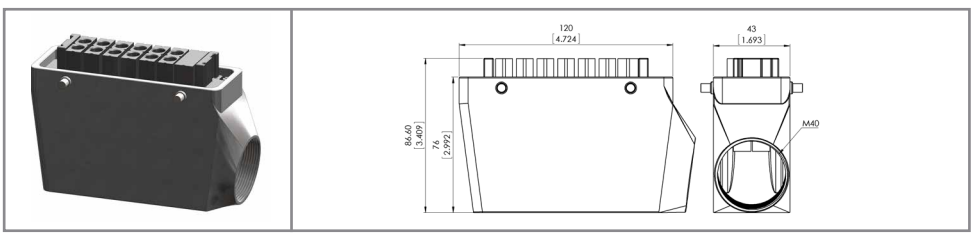
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 12 |
| Insulation material | PA 6.6 GF |

**Panel cut out**




**Suitable contacts on page 190**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 6HP/7M**<br>**Part no. 9076300** |  |
| **Plug, panel mount**<br>**GSR 6HP/7M**<br>**Part no. 9076350** |  |
| **Plug, cable mount, cable entry top M40**<br>**KSR 6HP/AO/7M**<br>**Part no. 9076100** |  |
| **Plug, cable mount, cable entry side 90° M40**<br>**KSR 6HP/AS/7M**<br>**Part no. 9076200** |  |
| **Receptacle, cable mount, cable entry top M40**<br>**KBR 6HP/AO/7M**<br>**Part no. 9076150** |  |
| **Receptacle, cable mount, cable entry side 90° M40**<br>**KBR 6HP/AS/7M**<br>**Part no. 9076250** |  |

drawing - dimensions in mm [inch]

***Contacts:*** *Pages 190-195*
***Cable glands and tools:*** *Page 199*



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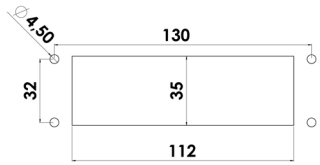
# Type MOD-HP Size 7M **14-Pin 12 kV DC**

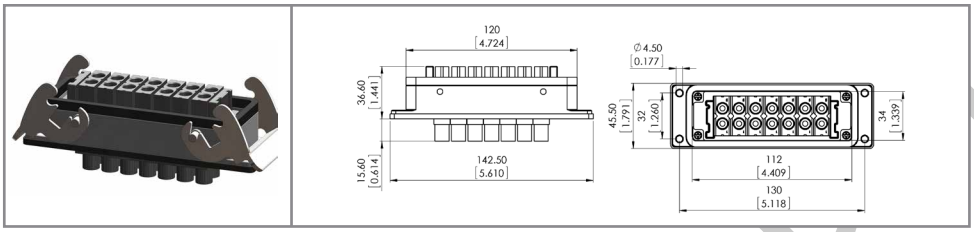
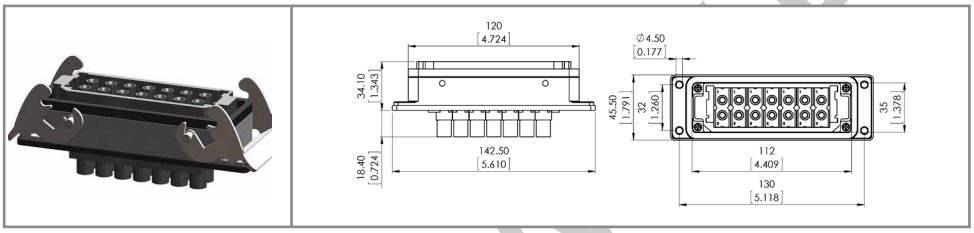
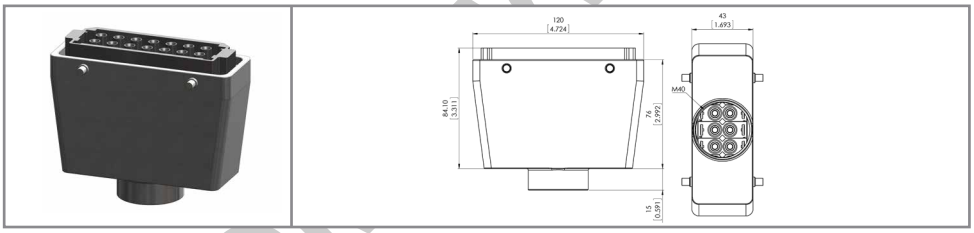
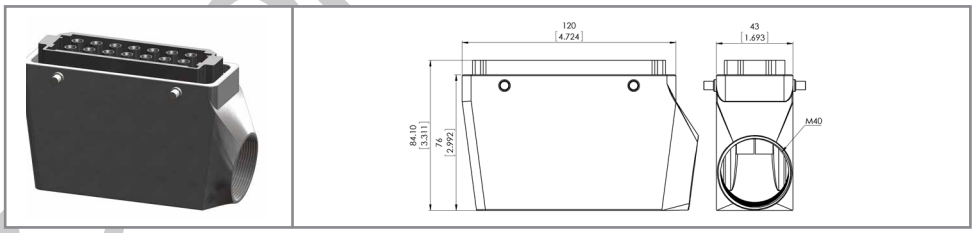
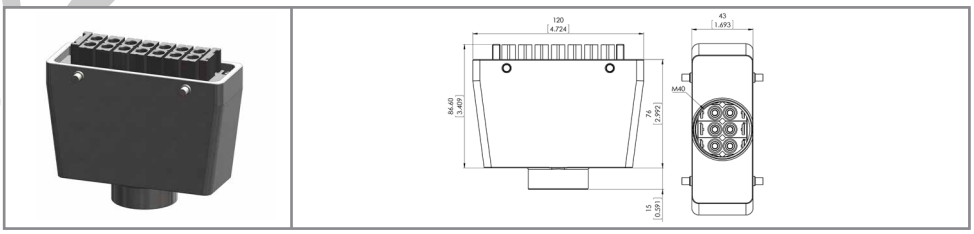
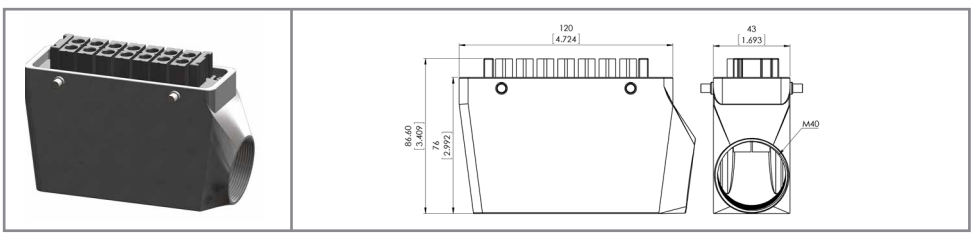
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 14 |
| Insulation material | PA 6.6 GF |

**Panel cut out**




**Suitable contacts on page 190**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 7HP/7M**<br>**Part no. 9077300** |  |
| **Plug, panel mount**<br>**GSR 7HP/7M**<br>**Part no. 9077350** |  |
| **Plug, cable mount, cable entry top M40**<br>**KSR 7HP/AO/7M**<br>**Part no. 9077100** |  |
| **Plug, cable mount, cable entry side 90° M40**<br>**KSR 7HP/AS/7M**<br>**Part no. 9077200** |  |
| **Receptacle, cable mount, cable entry top M40**<br>**KBR 7HP/AO/7M**<br>**Part no. 9077150** |  |
| **Receptacle, cable mount, cable entry side 90° M40**<br>**KBR 7HP/AS/7M**<br>**Part no. 9077250** |  |

drawing - dimensions in mm [inch]

***Contacts:*** *Pages 190-195*
***Cable glands and tools:*** *Page 199*

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# Overview Series MOD-HP

| Part no. | Description | HV contacts | Plug | Recepta-cle | Cable mount | Connecting thread | Panel mount | Page |
|---|---|---|---|---|---|---|---|---|
| 9021300 | GBR 1HP/2M | 2 | | • | | | • | 149 |
| 9021350 | GSR 1HP/2M | 2 | • | | | | • | 149 |
| 9021010 | KSR 1HP/AO/2M | 2 | • | | • | M25 | | 149 |
| 9021200 | KSR 1HP/AS/2M | 2 | • | | • | M25 | | 149 |
| 9021150 | KBR 1HP/AO/2M | 2 | | • | • | M25 | | 149 |
| 9021250 | KBR 1HP/AS/2M | 2 | | • | • | M25 | | 149 |
| 9022300 | GBR 2HP/2M | 4 | | • | | | • | 150 |
| 9022350 | GSR 2HP/2M | 4 | • | | | | • | 150 |
| 9022100 | KSR 2HP/AO/2M | 4 | • | | • | M25 | | 150 |
| 9022200 | KSR 2HP/AS/2M | 4 | • | | • | M25 | | 150 |
| 9022150 | KBR 2HP/AO/2M | 4 | | • | • | M25 | | 150 |
| 9022250 | KBR 2HP/AS/2M | 4 | | • | • | M25 | | 150 |
| 9033300 | GBR 3HP/3M | 6 | | • | | | • | 151 |
| 9033350 | GSR 3HP/3M | 6 | • | | | | • | 151 |
| 9033100 | KSR 3HP/AO/3M | 6 | • | | • | M32 | | 151 |
| 9033200 | KSR 3HP/AS/3M | 6 | • | | • | M32 | | 151 |
| 9033150 | KBR 3HP/AO/3M | 6 | | • | • | M32 | | 151 |
| 9033250 | KBR 3HP/AS/3M | 6 | | • | • | M32 | | 151 |
| 9054300 | GBR 4HP/5M | 8 | | • | | | • | 152 |
| 9054350 | GSR 4HP/5M | 8 | • | | | | • | 152 |
| 9054100 | KSR 4HP/AO/5M | 8 | • | | • | M40 | | 152 |
| 9054200 | KSR 4HP/AS/5M | 8 | • | | • | M40 | | 152 |
| 9054150 | KBR 4HP/AO/5M | 8 | | • | • | M40 | | 152 |
| 9054250 | KBR 4HP/AS/5M | 8 | | • | • | M40 | | 152 |
| 9055300 | GBR 5HP/5M | 10 | | • | | | • | 153 |
| 9055350 | GSR 5HP/5M | 10 | • | | | | • | 153 |
| 9055100 | KSR 5HP/AO/5M | 10 | • | | • | M40 | | 153 |
| 9055200 | KSR 5HP/AS/5M | 10 | • | | • | M40 | | 153 |
| 9055150 | KBR 5HP/AO/5M | 10 | | • | • | M40 | | 153 |
| 9055250 | KBR 5HP/AS/5M | 10 | | • | • | M40 | | 153 |
| 9076300 | GBR 6HP/7M | 12 | | • | | | • | 154 |
| 9076350 | GSR 6HP/7M | 12 | • | | | | • | 154 |
| 9076100 | KSR 6HP/AO/7M | 12 | • | | • | M40 | | 154 |
| 9076200 | KSR 6HP/AS/7M | 12 | • | | • | M40 | | 154 |
| 9076150 | KBR 6HP/AO/7M | 12 | | • | • | M40 | | 154 |
| 9076250 | KBR 6HP/AS/7M | 12 | | • | • | M40 | | 154 |
| 9077300 | GBR 7HP/7M | 14 | | • | | | • | 155 |
| 9077350 | GSR 7HP/7M | 14 | • | | | | • | 155 |
| 9077100 | KSR 7HP/AO/7M | 14 | • | | • | M40 | | 155 |
| 9077200 | KSR 7HP/AS/7M | 14 | • | | • | M40 | | 155 |
| 9077150 | KBR 7HP/AO/7M | 14 | | • | • | M40 | | 155 |
| 9077250 | KBR 7HP/AS/7M | 14 | | • | • | M40 | | 155 |





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# General characteristics and technical data type MOD-T

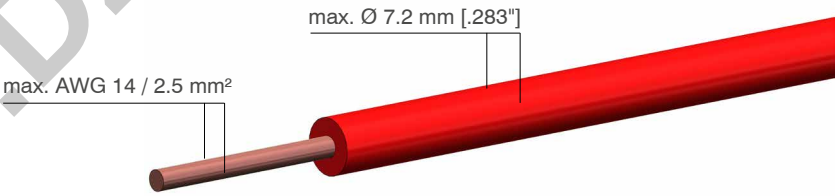
| Housings | |
|---|---|
| Number of module slots | 2, 3, 5, 7 |
| Locking system | Lever locking |
| Mounting type (panel mount connector) | 4-hole-flange |
| Housing material | Aluminium alloy |
| Surface plating | Epoxy powder coating |
| Protection class (in mated condition) | IP65 acc. DIN EN 60529 |
| Operating temperature | -30°C to +80°C [-22°F to +176°F] |

| Contacts type MOD-T | |
|---|---|
| Termination method | Solder |
| Rated current (at +23°C [+73°F]) | 30 A |
| Contact resistance | 300µΩ |
| Contact diameter | 2.7 mm |
| Wire size | 2.5 mm² [14 AWG] |
| Contact material | Brass (CuZn) |
| Contact plating | Silver (Ag) |
| Mating cycles | ≥ 100000 |

**Contacts included**

| Module type MOD-T | |
|---|---|
| Number of pins | 2 |
| Module material | PA 6.6 GF |
| Insulation material | PTFE |
| Flammability class | UL94 V-0 |
| Operating temperature modules | -40°C to +125°C [-40°F to +257°F] |
| Operating temperature insulation parts | -50°C to +260°C [-58°F to +500°F] |
| CTI-Value | 600 |
| Insulating material group | I (DIN IEC 60664) |
| Max. diameter of dielectric cable insulation (single wire) | 7.2 mm |

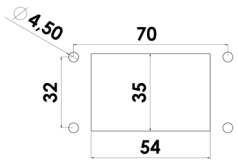
## Suitable cable dimensions (single wire)



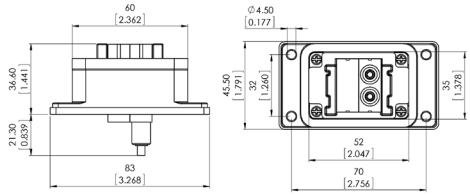
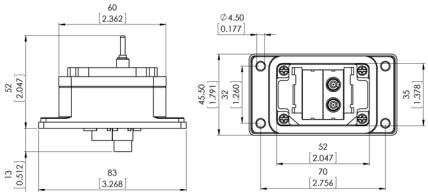
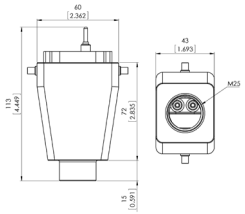
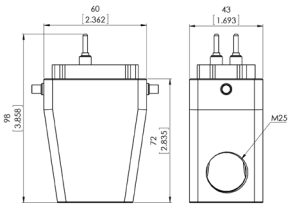
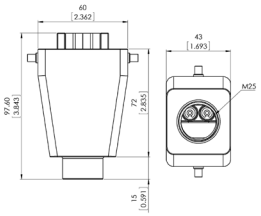
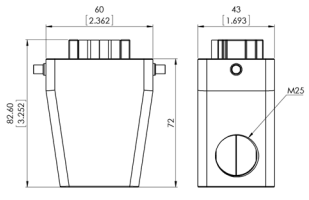
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 2 |
| Insulation material | PTFE |

**Panel cut out**




**Contacts included.**

| Type / Version / Part number | Picture / Drawing | |
|---|---|---|
| **Receptacle, panel mount**<br>**GBR 1T2/2M**<br>**Part no. 9021305** | |  |
| **Plug, panel mount**<br>**GSR 1T2/2M**<br>**Part no. 9021355** | |  |
| **Plug, cable mount, cable entry top M25**<br>**KSR 1T2/AO/2M**<br>**Part no. 9021015** | |  |
| **Plug, cable mount, cable entry side 90° M25**<br>**KSR 1T2/AS/2M**<br>**Part no. 9021205** | |  |
| **Receptacle, cable mount, cable entry top M25**<br>**KBR 1T2/AO/2M**<br>**Part no. 9021155** | |  |
| **Receptacle, cable mount, cable entry side 90° M25**<br>**KBR 1T2/AS/2M**<br>**Part no. 9021255** | |  |

drawing - dimensions in mm [inch]

*Cable glands and tools:* Page 199



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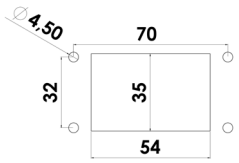
# Type MOD-T Size 2M **4-Pin 12 kV DC**

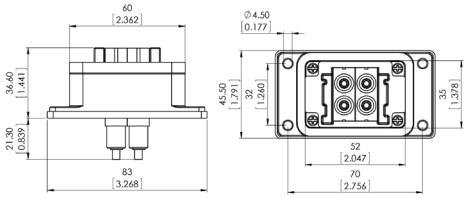
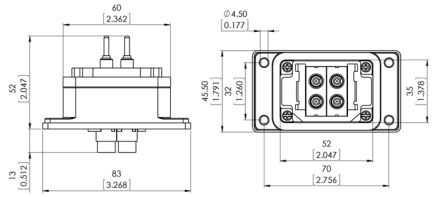
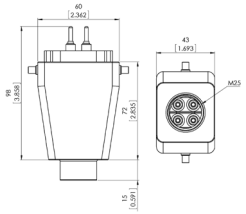
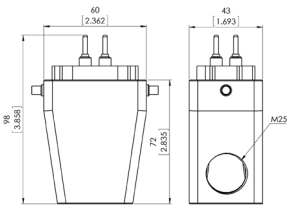
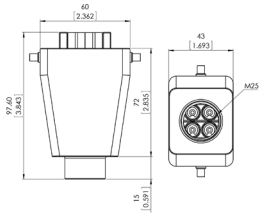
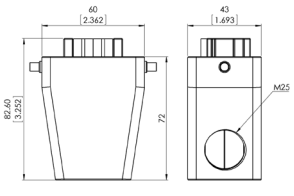
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 4 |
| Insulation material | PTFE |

**Panel cut out**




**Contacts included.**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 2T2/2M**<br>**Part no. 9022305** |  |
| **Plug, panel mount**<br>**GSR 2T2/2M**<br>**Part no. 9022355** |  |
| **Plug, cable mount, cable entry top M25**<br>**KSR 2T2/AO/2M**<br>**Part no. 9022105** |  |
| **Plug, cable mount, cable entry side 90° M25**<br>**KSR 2T2/AS/2M**<br>**Part no. 9022205** |  |
| **Receptacle, cable mount, cable entry top M25**<br>**KBR 2T2/AO/2M**<br>**Part no. 9022155** |  |
| **Receptacle, cable mount, cable entry side 90° M25**<br>**KBR 2T2/AS/2M**<br>**Part no. 9022255** |  |

drawing - dimensions in mm [inch]

*Cable glands and tools:* *Page 199*

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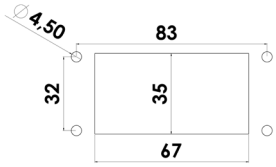
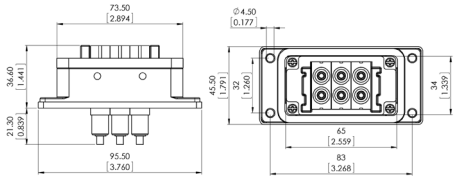
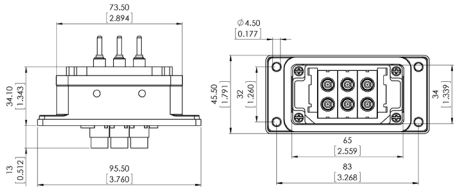
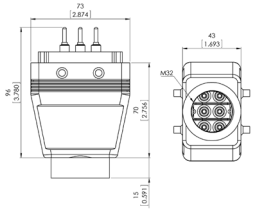
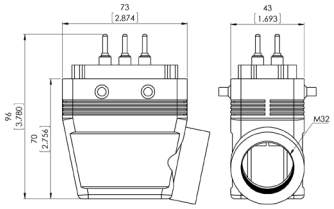
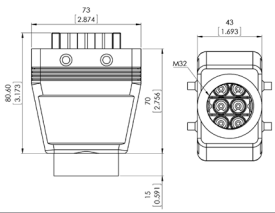
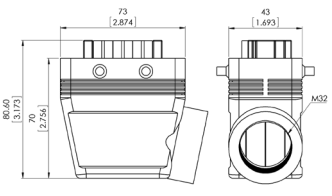
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 6 |
| Insulation material | PTFE |

**Panel cut out**




**Contacts included.**

| Type / Version / Part number | Picture / Drawing | |
|---|---|---|
| **Receptacle, panel mount**<br>**GBR 3T2/3M**<br>**Part no. 9033305** | |  |
| **Plug, panel mount**<br>**GSR 3T2/3M**<br>**Part no. 9033355** | |  |
| **Plug, cable mount, cable entry top M32**<br>**KSR 3T2/AO/3M**<br>**Part no. 9033105** | |  |
| **Plug, cable mount, cable entry side 90° M32**<br>**KSR 3T2/AS/3M**<br>**Part no. 9033205** | |  |
| **Receptacle, cable mount, cable entry top M32**<br>**KBR 3T2/AO/3M**<br>**Part no. 9033155** | |  |
| **Receptacle, cable mount, cable entry side 90° M32**<br>**KBR 3T2/AS/3M**<br>**Part no. 9033255** | |  |

drawing - dimensions in mm [inch]

*Cable glands and tools:* Page 199



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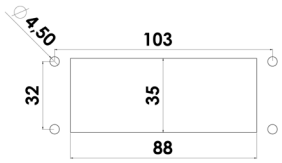
# Type MOD-T Size 5M **8-Pin 12 kV DC**

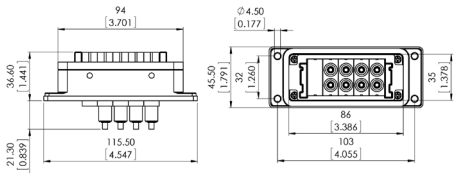
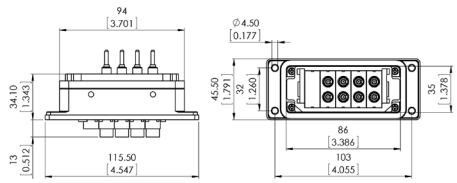
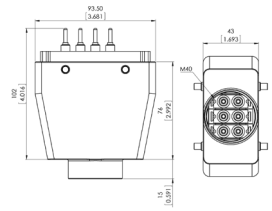
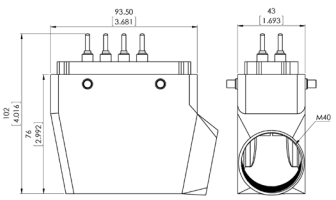
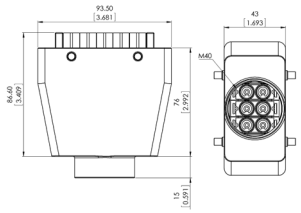
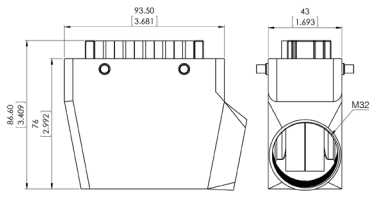
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 8 |
| Insulation material | PTFE |

**Panel cut out**




**Contacts included.**

| Type / Version / Part number | Picture / Drawing | |
|---|---|---|
| **Receptacle, panel mount**<br>**GBR 4T2/5M**<br>**Part no. 9054305** | |  |
| **Plug, panel mount**<br>**GSR 4T2/5M**<br>**Part no. 9054355** | |  |
| **Plug, cable mount, cable entry top M40**<br>**KSR 4T2/AO/5M**<br>**Part no. 9054105** | |  |
| **Plug, cable mount, cable entry side 90° M40**<br>**KSR 4T2/AS/5M**<br>**Part no. 9054205** | |  |
| **Receptacle, cable mount, cable entry top M40**<br>**KBR 4T2/AO/5M**<br>**Part no. 9054155** | |  |
| **Receptacle, cable mount, cable entry side 90° M32**<br>**KBR 4T2/AS/5M**<br>**Part no. 9054255** | |  |

drawing - dimensions in mm [inch]

*Cable glands and tools:* Page 199

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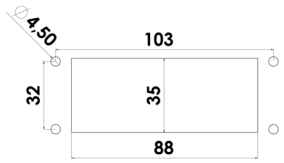
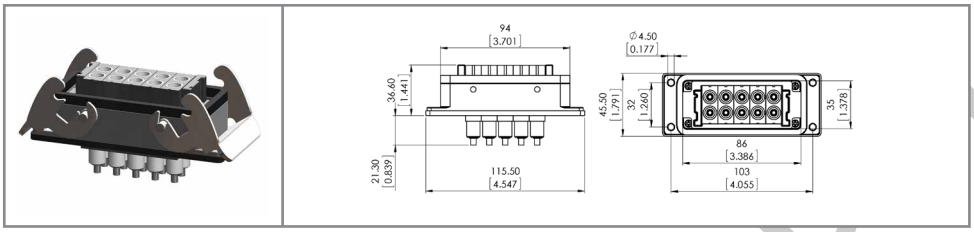
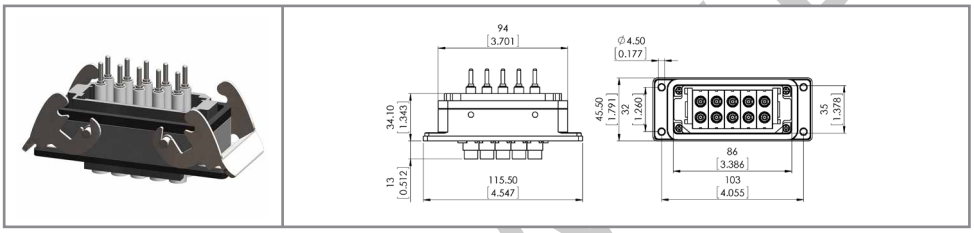
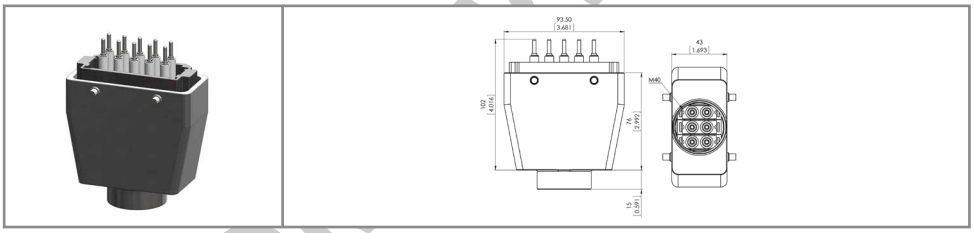
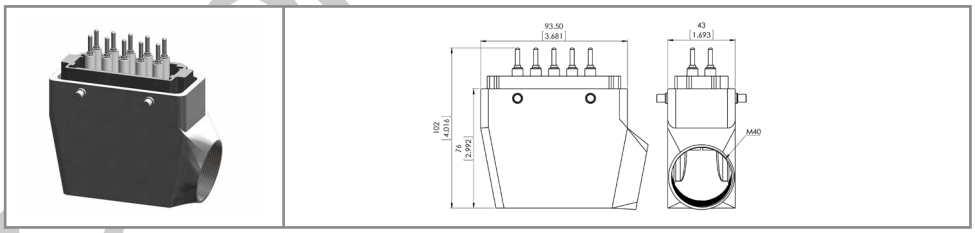
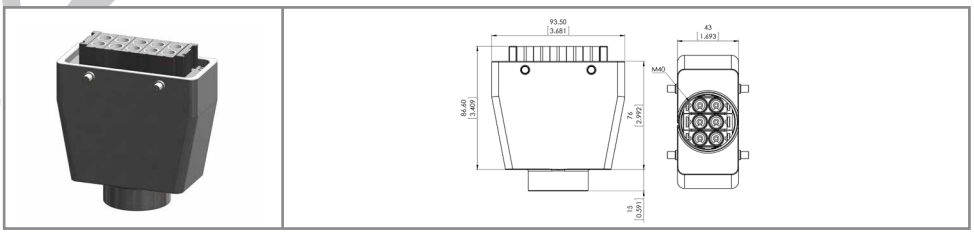
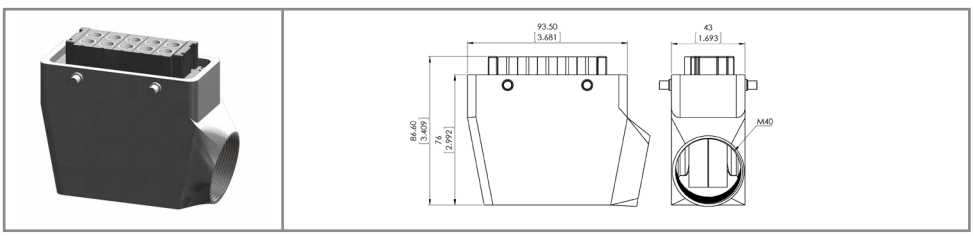
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 10 |
| Insulation material | PTFE |

**Panel cut out**




**Contacts included.**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 5T2/5M**<br>**Part no. 9055305** |  |
| **Plug, panel mount**<br>**GSR 5T2/5M**<br>**Part no. 9055355** |  |
| **Plug, cable mount, cable entry top M40**<br>**KSR 5T2/AO/5M**<br>**Part no. 9055105** |  |
| **Plug, cable mount, cable entry side 90° M40**<br>**KSR 5T2/AS/5M**<br>**Part no. 9055205** |  |
| **Receptacle, cable mount, cable entry top M40**<br>**KBR 5T2/AO/5M**<br>**Part no. 9055155** |  |
| **Receptacle, cable mount, cable entry side 90° M40**<br>**KBR 5T2/AS/5M**<br>**Part no. 9055255** |  |

drawing - dimensions in mm [inch]

*Cable glands and tools:* Page 199



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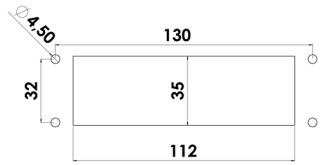
# Type MOD-T Size 7M **12-Pin 12 kV DC**

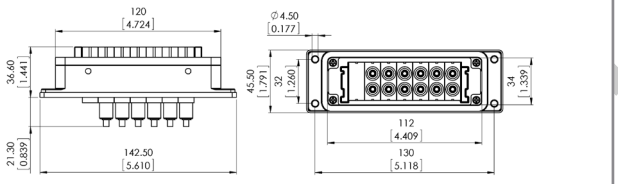
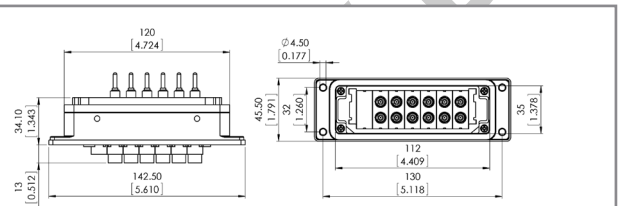
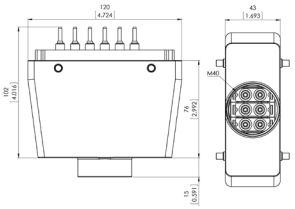
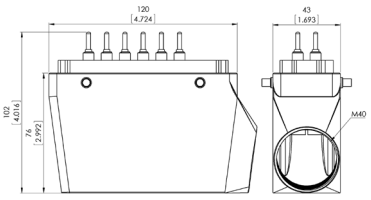
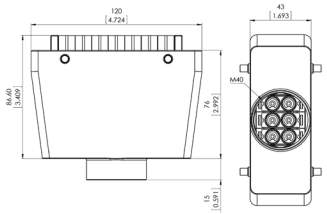
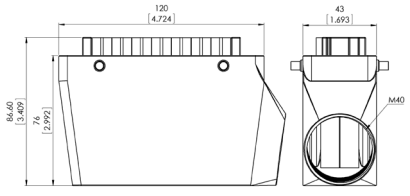
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 12 |
| Insulation material | PTFE |

**Panel cut out**




**Contacts included.**

| Type / Version / Part number | Picture / Drawing |
|---|---|
| **Receptacle, panel mount**<br>**GBR 6T2/7M**<br>**Part no. 9076305** |  |
| **Plug, panel mount**<br>**GSR 6T2/7M**<br>**Part no. 9076355** |  |
| **Plug, cable mount, cable entry top M40**<br>**KSR 6T2/AO/7M**<br>**Part no. 9076105** |  |
| **Plug, cable mount, cable entry side 90° M40**<br>**KSR 6T2/AS/7M**<br>**Part no. 9076215** |  |
| **Receptacle, cable mount, cable entry top M40**<br>**KBR 6T2/AO/7M**<br>**Part no. 9076155** |  |
| **Receptacle, cable mount, cable entry side 90° M40**<br>**KBR 6T2/AS/7M**<br>**Part no. 9076255** |  |

drawing - dimensions in mm [inch]

*Cable glands and tools:* Page 199

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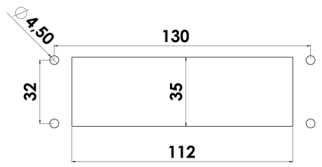
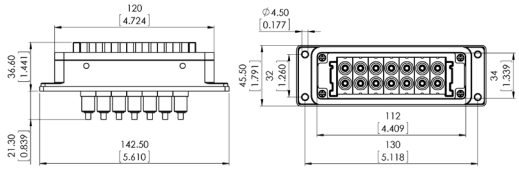
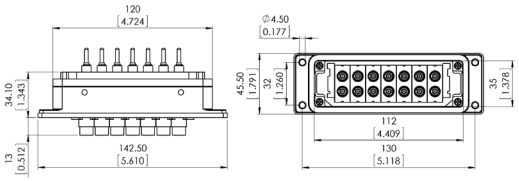
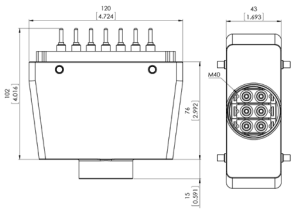
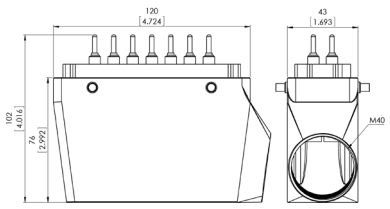
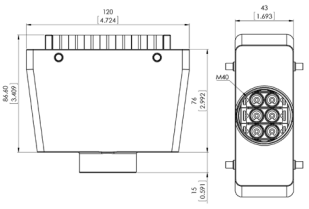
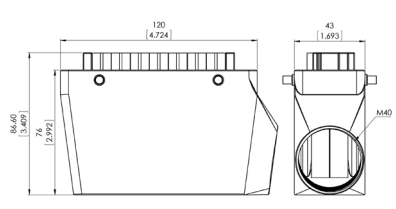
| Electrical values | |
|---|---|
| Operating voltage | 12 kV DC |
| Test voltage | 18 kV DC |

| Characteristics | |
|---|---|
| Number of pins | 14 |
| Insulation material | PTFE |

**Panel cut out**




**Contacts included.**

| Type / Version / Part number | Picture / Drawing | |
|---|---|---|
| **Receptacle, panel mount**<br>**GBR 7T2/7M**<br>**Part no. 9077305** | |  |
| **Plug, panel mount**<br>**GSR 7T2/7M**<br>**Part no. 9077355** | |  |
| **Plug, cable mount, cable entry top M40**<br>**KSR 7T2/AO/7M**<br>**Part no. 9077105** | |  |
| **Plug, cable mount, cable entry side 90° M40**<br>**KSR 7T2/AS/7M**<br>**Part no. 9077205** | |  |
| **Receptacle, cable mount, cable entry top M40**<br>**KBR 7T2/AO/7M**<br>**Part no. 9077155** | |  |
| **Receptacle, cable mount, cable entry side 90° M40**<br>**KBR 7T2/AS/7M**<br>**Part no. 9077255** | |  |

drawing - dimensions in mm [inch]

*Cable glands and tools:* Page 199



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| Part no. | Description | HV contacts | Plug | Recepta-cle | Cable mount | Connecting thread | Panel mount | Page |
|---|---|---|---|---|---|---|---|---|
| 9021305 | GBR 1T2/2M | 2 | | • | | | • | 172 |
| 9021355 | GSR 1T2/2M | 2 | • | | | | • | 172 |
| 9021015 | KSR 1T2/AO/2M | 2 | • | | • | M25 | | 172 |
| 9021205 | KSR 1T2/AS/2M | 2 | • | | • | M25 | | 172 |
| 9021155 | KBR 1T2/AO/2M | 2 | | • | • | M25 | | 172 |
| 9021255 | KBR 1T2/AS/2M | 2 | | • | • | M25 | | 172 |
| 9022305 | GBR 2T2/2M | 4 | | • | | | • | 173 |
| 9022355 | GSR 2T2/2M | 4 | • | | | | • | 173 |
| 9022105 | KSR 2T2/AO/2M | 4 | • | | • | M25 | | 173 |
| 9022205 | KSR 2T2/AS/2M | 4 | • | | • | M25 | | 173 |
| 9022155 | KBR 2T2/AO/2M | 4 | | • | • | M25 | | 173 |
| 9022255 | KBR 2T2/AS/2M | 4 | | • | • | M25 | | 173 |
| 9033305 | GBR 3T2/3M | 6 | | • | | | • | 174 |
| 9033355 | GSR 3T2/3M | 6 | • | | | | • | 174 |
| 9033105 | KSR 3T2/AO/3M | 6 | • | | • | M32 | | 174 |
| 9033205 | KSR 3T2/AS/3M | 6 | • | | • | M32 | | 174 |
| 9033155 | KBR 3T2/AO/3M | 6 | | • | • | M32 | | 174 |
| 9033255 | KBR 3T2/AS/3M | 6 | | • | • | M32 | | 174 |
| 9054305 | GBR 4T2/5M | 8 | | • | | | • | 175 |
| 9054355 | GSR 4T2/5M | 8 | • | | | | • | 175 |
| 9054105 | KSR 4T2/AO/5M | 8 | • | | • | M40 | | 175 |
| 9054205 | KSR 4T2/AS/5M | 8 | • | | • | M40 | | 175 |
| 9054155 | KBR 4T2/AO/5M | 8 | | • | • | M40 | | 175 |
| 9054255 | KBR 4T2/AS/5M | 8 | | • | • | M32 | | 175 |
| 9055305 | GBR 5T2/5M | 10 | | • | | | • | 176 |
| 9055355 | GSR 5T2/5M | 10 | • | | | | • | 176 |
| 9055105 | KSR 5T2/AO/5M | 10 | • | | • | M40 | | 176 |
| 9055205 | KSR 5T2/AS/5M | 10 | • | | • | M40 | | 176 |
| 9055155 | KBR 5T2/AO/5M | 10 | | • | • | M40 | | 176 |
| 9055255 | KBR 5T2/AS/5M | 10 | | • | • | M40 | | 176 |
| 9076305 | GBR 6T2/7M | 12 | | • | | | • | 177 |
| 9076355 | GSR 6T2/7M | 12 | • | | | | • | 177 |
| 9076105 | KSR 6T2/AO/7M | 12 | • | | • | M40 | | 177 |
| 9076215 | KSR 6T2/AS/7M | 12 | • | | • | M40 | | 177 |
| 9076155 | KBR 6T2/AO/7M | 12 | | • | • | M40 | | 177 |
| 9076255 | KBR 6T2/AS/7M | 12 | | • | • | M40 | | 177 |
| 9077305 | GBR 7T2/7M | 14 | | • | | | • | 178 |
| 9077355 | GSR 7T2/7M | 14 | • | | | | • | 178 |
| 9077105 | KSR 7T2/AO/7M | 14 | • | | • | M40 | | 178 |
| 9077205 | KSR 7T2/AS/7M | 14 | • | | • | M40 | | 178 |
| 9077155 | KBR 7T2/AO/7M | 14 | | • | • | M40 | | 178 |
| 9077255 | KBR 7T2/AS/7M | 14 | | • | • | M40 | | 178 |



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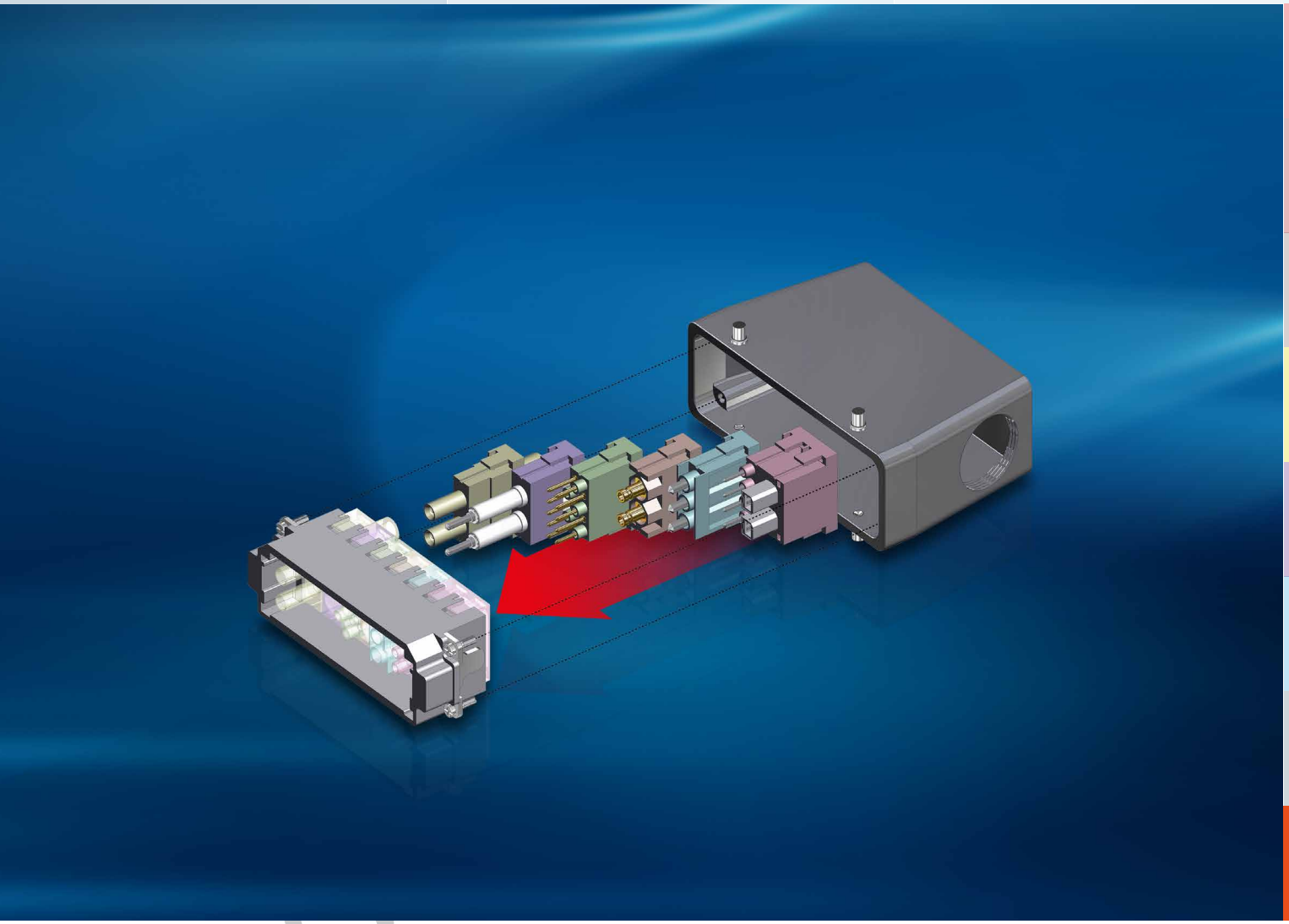
# MOD Serie

**System components**





- Modules
- Module frames
- Industrial connector housings
- Contacts
- Screwed cable glands
- Tools

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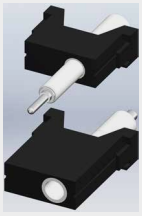
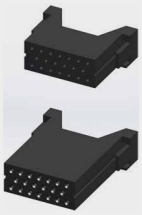
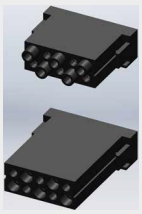
## High voltage modules

| Picture | Description | Part Number | Operating voltage | Contact size | Wire size |
|---|---|---|---|---|---|
| | HiPro HV module plug, 2-pin | 6111133 | 12 kV DC | 2.5 mm<br>choose contacts from page 190 | 0.5-4.0 mm²<br>20-12 AWG |
| | HiPro HV module socket, 2-pin | 6111134 | | | |
|  | PTFE-1 module plug, 1-pin | 6580000 | 12 kV DC | 2.7 mm<br>contacts included | 2.5 mm²<br>14 AWG |
| | PTFE-1 module socket, 1-pin | 6580100 | | | |
| | PTFE-2 module plug, 2-pin | 6580010 | 12 kV DC | 2.7 mm<br>contacts included | 2.5 mm²<br>14 AWG |
| | PTFE-2 module socket, 2-pin | 6580110 | | | |

## Low voltage modules

| Picture | Description | Part Number | Operating voltage | Contact size | Wire size |
|---|---|---|---|---|---|
|  | 20-pin plug module | 6575051 | 63 V | 1.0 mm<br>choose contacts from page 192 | 0.09-0.5 mm²<br>28-20 AWG |
| | 20-pin socket module | 6575061 | | | |
|  | 10-pin plug module | 6575070 | 400 V | 1.6 mm<br>choose contacts from page 193 | 0.14-2.5 mm²<br>26-14 AWG |
| | 10-pin socket module | 6575080 | | | |
| | 5-pin plug module | 6575065 | 400 V | 2.5 mm<br>choose contacts from page 194 | 0.5-4.0 mm²<br>20-12 AWG |
| | 5-pin socket module | 6575075 | | | |
| | 3-pin plug module | 6575062 | 630 V | 3.6 mm<br>choose contacts from page 195 | 1.5-10.0 mm²<br>16-8 AWG |
| | 3-pin socket module | 6575063 | | | |



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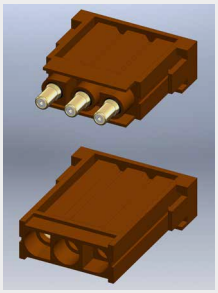
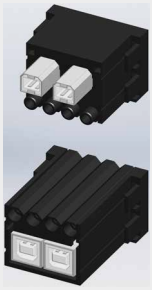
## KOAX module

| Picture | Description | Part Number | Operating voltage | Wire size |
|---|---|---|---|---|
|  | 3-pin KOAX<br>plug module | 6575072 | 250 V | RG 58, 174<br>179, 316 |
| | 3-pin KOAX<br>socket module | 6575082 | | |

Contacts: Page 196

## RJ45 module

| Picture | Description | Part Number |
|---|---|---|
|  | RJ45 plug module CAT5e / USB type 2<br>+ 4 male signal contacts 1.6 mm (26-14 AWG) | 4100007 |
| | RJ45 socket module CAT5e / USB type 2<br>+ 4 female signal contacts 1.6 mm (26-14 AWG) | 4200007 |

Contacts: Page 197

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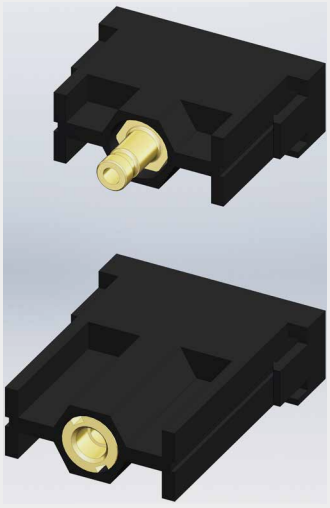
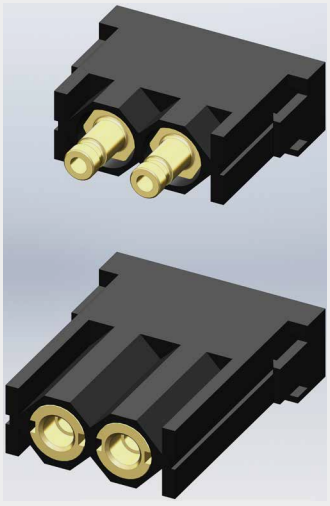
# Pneumatic modules - single shut-off

| Picture | Description | Part Number | Number of contacts |
|---|---|---|---|
|  | Pneumatic plug module ST-1PN-M<br>hose size 2.5 mm | 6580201 | 1 |
| | Pneumatic socket module BU-1PN-M<br>hose size 2.5 mm – with shut-off | 6580251 | |
| | Pneumatic plug module ST-1PN-M<br>hose size 4.0 mm | 6580204 | |
| | Pneumatic socket module BU-1PN-M<br>hose size 4.0 mm – with shut-off | 6580254 | |
|  | Pneumatic plug module ST-2PN-M<br>hose size 2.5 mm | 6580202 | 2 |
| | Pneumatic socket module BU-2PN-M<br>hose size 2.5 mm – with shut-off | 6580252 | |
| | Pneumatic plug module ST-2PN-M<br>hose size 4.0 mm | 6580205 | |
| | Pneumatic socket module BU-2PN-M<br>hose size 4.0 mm – with shut-off | 6580255 | |

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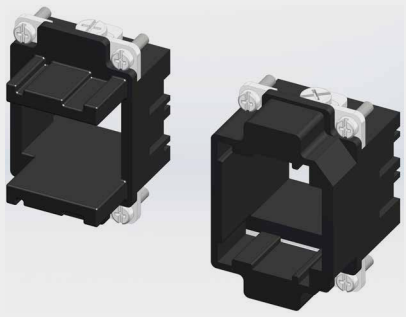
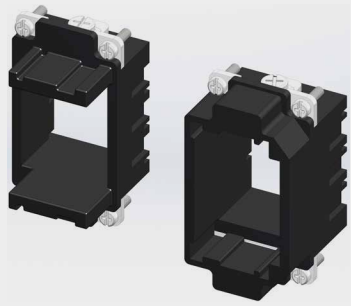
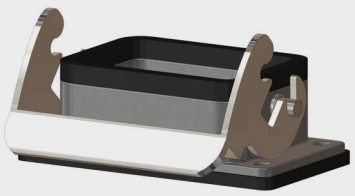
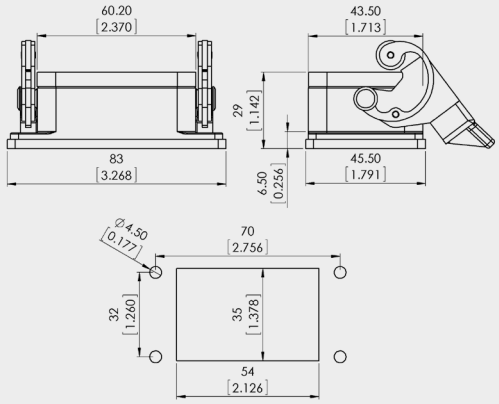
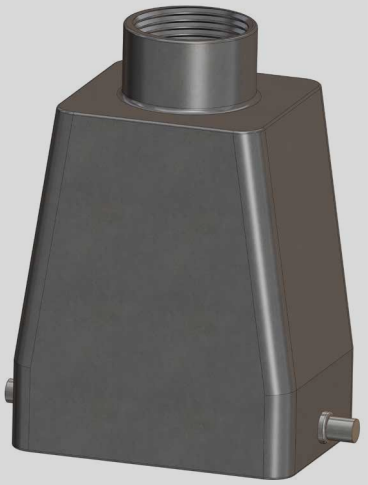
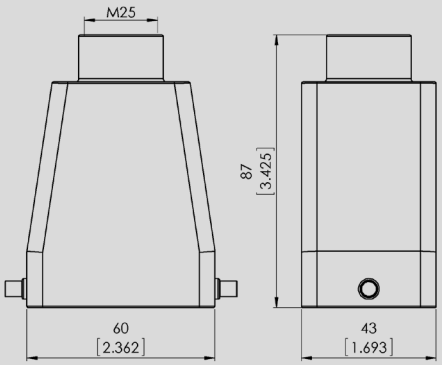
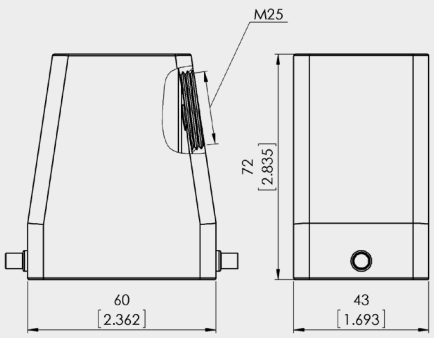
# Frames for plug and socket modules

| Picture | Description | Part Number |
|---|---|---|
|  | Module frame for plug modules<br>Size: 2 modules | 6575043 |
| | Module frame for receptacle modules<br>Size: 2 modules | 6575033 |
|  | Module frame for plug modules<br>Size: 3 modules | 6575042 |
| | Module frame for receptacle modules<br>Size: 3 modules | 6575032 |
| | Module frame for plug modules<br>Size: 5 modules | 6575040 |
| | Module frame for receptacle modules<br>Size: 5 modules | 6575030 |
| | Module frame for plug modules<br>Size: 7 modules | 6575045 |
| | Module frame for receptacle modules<br>Size: 7 modules | 6575035 |

# Housings for 2 module frames

| Picture | Description / Part Number | Drawing |
|---|---|---|
|  | Panel mount housing<br>2M/ LB<br><br>for 2 modules frame<br>1-lever-locking system<br><br>Part no. 6575158 |  |
|  | Hood, top entry<br>2M/ HB/ AO/ M25/ LB<br><br>for 2 modules frame<br>cable top entry<br>connecting thread M25<br>1-lever-locking system<br><br>Part no. 6574931<br><br>choose screwed cable gland<br>from page 199 |  |
| | Hood, side entry<br>2M/ HB/ AS/ M25/ LB<br><br>for 2 modules frame<br>cable side entry 90°<br>connecting thread M25<br>1-lever-locking system<br><br>Part no. 6574930<br><br>choose screwed cable gland<br>from page 199 |  |





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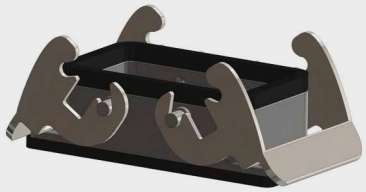
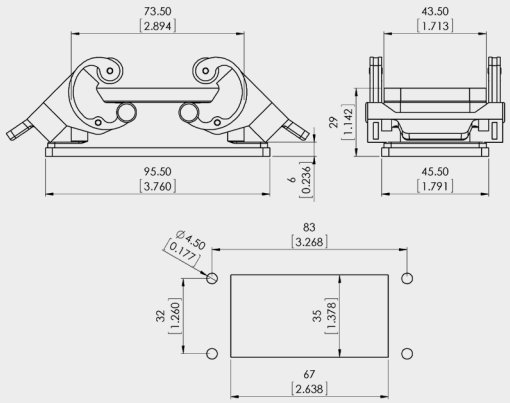
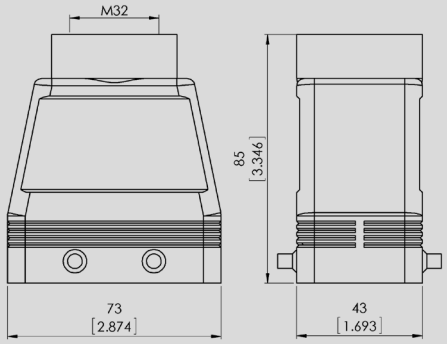
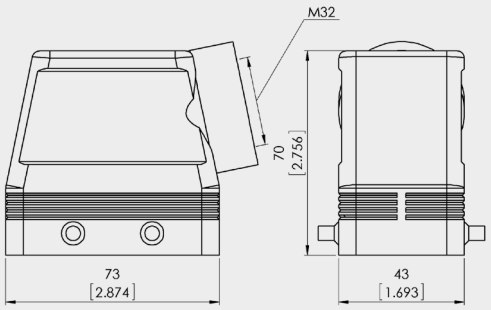
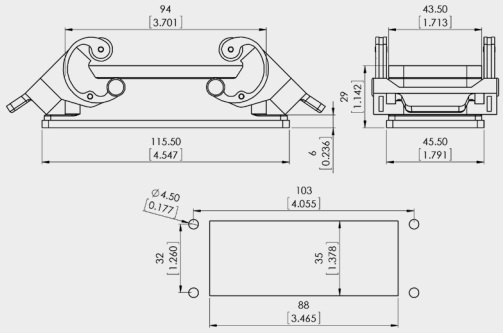
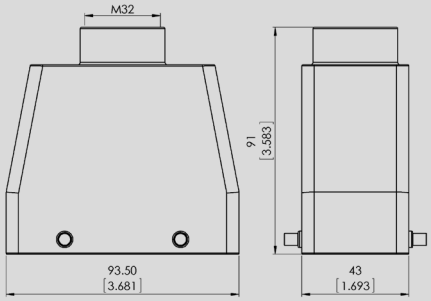
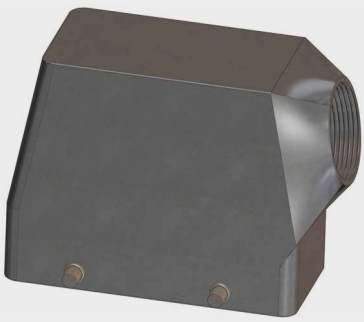
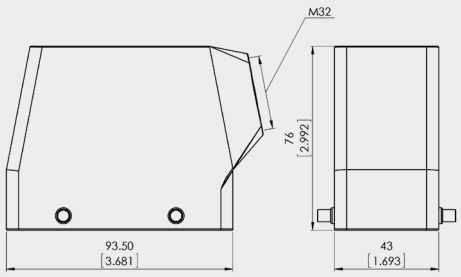
# Housings for 3 module frames

| Picture | Description / Part Number | Drawing |
|---|---|---|
|  | Panel mount housing<br>3M/QB<br><br>for 3 modules frame<br>2-lever-locking system<br><br>Part no. 6575159 |  |
| | Hood, top entry<br>3M/ HB/ AO/ M32/ QB<br><br>for 3 modules frame<br>cable top entry<br>connecting thread M32<br>2-lever-locking system<br><br>Part no. 6574802<br>choose screwed cable gland<br>from page 199 |  |
| | Hood, side entry<br>3M/ HB/ AS/ M32/ QB<br><br>for 3 modules frame<br>cable side entry 90°<br>connecting thread M32<br>2-lever-locking system<br><br>Part no. 6574807<br>choose screwed cable gland<br>from page 199 |  |

# Housings for 5 module frames

| Picture | Description / Part Number | Drawing |
|---|---|---|
| | Panel mount housing<br>5M/ QB<br><br>for 5 modules frame<br>2-lever-locking system<br><br>Part no. 6575161 |   |
| | Hood, top entry<br>5M/ HB/ AO/ M32/ QB<br><br>for 5 modules frame<br>cable top entry<br>connecting thread M32<br>2-lever-locking system<br><br>Part no. 6575147<br>choose screwed cable gland<br>from page 199 |   |
|  | Hood, side entry<br>5M/ HB/ AS/ M32/ QB<br><br>for 5 modules frame<br>cable side entry 90°<br>connecting thread M32<br>2-lever-locking system<br><br>Part no. 6574833<br>choose screwed cable gland<br>from page 199 |   |





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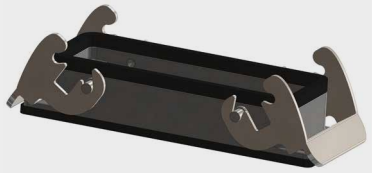
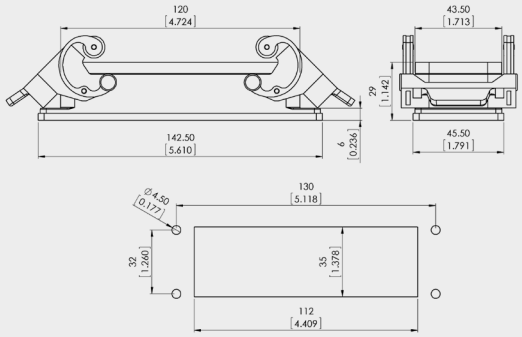
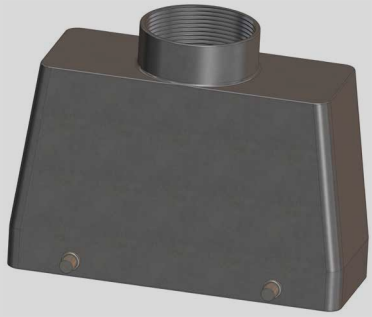
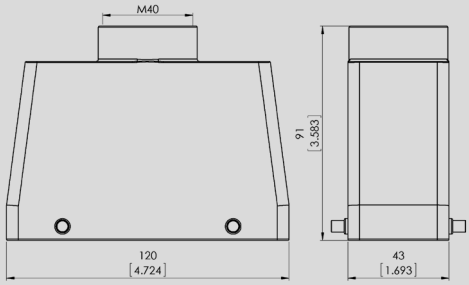
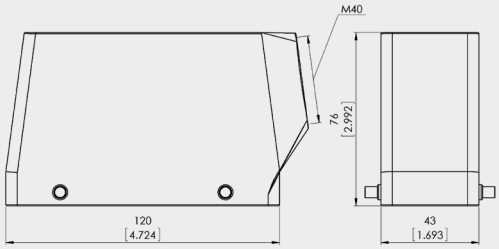
# Housings for 7 module frames

| Picture | Description / Part Number | Drawing |
|---|---|---|
|  | Panel mount housing<br>7M/ QB<br><br>for 7 modules frame<br>2-lever-locking system<br><br>Part no. 6575162 |  |
|  | Hood, top entry<br>7M/ HB/ AO/ M40/ QB<br><br>for 7 modules frame<br>cable top entry<br>connecting thread M40<br>2-lever-locking system<br><br>Part no. 6575163<br>choose screwed cable gland<br>from page 199 |  |
| | Hood, side entry<br>7M/ HB/ AS/ M40/ QB<br><br>for 7 modules frame<br>cable side entry 90°<br>connecting thread M40<br>2-lever-locking system<br><br>Part no. 6574829<br>choose screwed cable gland<br>from page 199 |  |

| HiPro HV module |
|---|

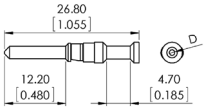
plug module
part no. 6111133

socket module
part no. 6111134

| General characteristics | Value |
|---|---|
| Number of contacts | 2 |
| Termination method | Crimp or solder |
| Wire size | 0.5-4.0 mm² [20-12 AWG] |
| Flammability | UL94 V-0 |
| **Electrical characteristics** | **Value** |
| Rated voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Pollution degree | 1 |
| Material group | 1 |
| Contact resistance | ≤ 2 mΩ |
| Insulation resistance | ≥ $10^{10}$ Ω |
| **Climatical characteristics** | **Value** |
| Rated temperature | -40°C to +125°C [-40°F to +257°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 500 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Contacts | Brass (CuZn) |
| Contacts surface plating | Silver (Ag) |

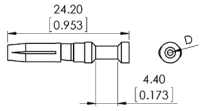
## Male contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575087 | Male contact 2.5 mm / 20 AWG | 0.5 | 20 | |
| 6575089 | Male contact 2.5 mm / 18 AWG | 0.75-1.0 | 18 | |
| 6575092 | Male contact 2.5 mm / 16 AWG | 1.5 | 16 | |
| 6575094 | Male contact 2.5 mm / 14 AWG | 2.5 | 14 | |
| 6575091 | Male contact 2.5 mm / 12 AWG | 4.0 | 12 | |

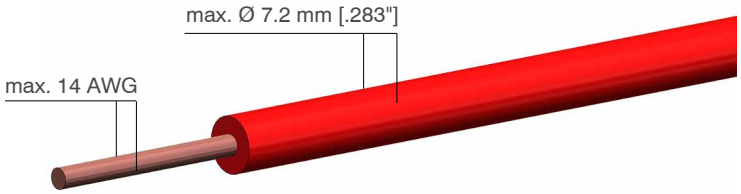



## Female contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575108 | Female contact 2.5 mm / 20 AWG | 0.5 | 20 | |
| 6575111 | Female contact 2.5 mm / 18 AWG | 0.75-1.0 | 18 | |
| 6575102 | Female contact 2.5 mm / 16 AWG | 1.5 | 16 | |
| 6575104 | Female contact 2.5 mm / 14 AWG | 2.5 | 14 | |
| 6575113 | Female contact 2.5 mm / 12 AWG | 4.0 | 12 | |




## Suitable cable dimensions (single wire)



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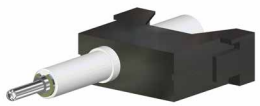
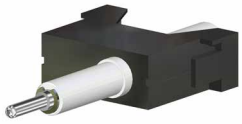
## PTFE HV module 1-pin

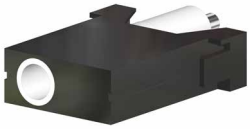
plug module
part no. 6580000



plug module
part no. 6580050



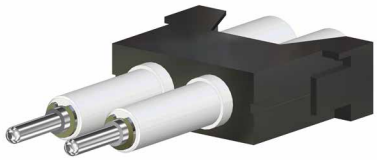
socket module
part no. 6580100



socket module
part no. 6580150

| General characteristics | Value |
|---|---|
| Number of contacts | 1 |
| Termination method | Solder |
| Termination size | 2.5 mm² [14 AWG] |
| Contact diameter | 2.7 mm |
| Flammability | UL94 V-0 |
| **Electrical characteristics** | **Value** |
| Rated voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Pollution degree | 1 |
| Material group | 1 |
| Contact resistance | 300 µΩ |
| **Climatical characteristics** | **Value** |
| Rated temperature | -40°C to +125°C [-40°F to +257°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 100,000 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Insulator | PTFE |
| Contacts | Brass (CuZn) |
| Contacts surface plating | Silver (Ag) |

## PTFE HV module 2-pin

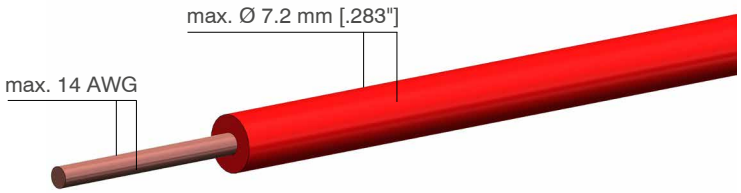


plug module
part no. 6580010

socket module
part no. 6580110

| General characteristics | Value |
|---|---|
| Number of contacts | 2 |
| Termination method | Solder |
| Termination size | 2.5 mm² [14 AWG] |
| Contact diameter | 2.7 mm |
| Flammability | UL94 V-0 |
| **Electrical characteristics** | **Value** |
| Rated voltage | 12 kV DC |
| Test voltage | 18 kV DC |
| Pollution degree | 1 |
| Material group | 1 |
| Contact resistance | 300 µΩ |
| **Climatical characteristics** | **Value** |
| Rated temperature | -40°C to +125°C [-40°F to +257°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 100,000 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Insulator | PTFE |
| Contacts | Brass (CuZn) |
| Contacts surface plating | Silver (Ag) |

## *Suitable cable dimensions (single wire)*



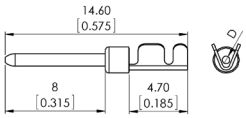
| 20-pin module |
|---|

plug module
part no. 6575051

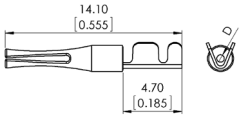
socket module
part no. 6575061

| General characteristics | Value |
|---|---|
| Number of contacts | 20 |
| Termination method | Crimp or solder |
| Termination size | 0.09-0.5 mm² [28-20 AWG] |
| Flammability | UL94 V-0 |
| **Electrical characteristics** | **Value** |
| Rated voltage | 63 V |
| Pollution degree | 3 |
| Overvoltage category | III |
| Material group | II |
| Rated impulse withstand voltage | 4 kV |
| Contact resistance | ≤ 5 mΩ |
| Insulation resistance | ≥ $10^{12}$ Ω |
| **Climatical characteristics** | **Value** |
| Rated temperature | -40°C to +125°C [-40°F to +257°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 500 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Male contacts | Brass (CuZn) |
| Female contacts | Bronze (CuSn) |
| Contacts surface plating | Gold (Au) |

## Male contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575114 | Male contact AU 1.0 mm / 28-24 AWG | 0.09-0.25 | 28-24 | |
| 6575137 | Male contact AU 1.0 mm / 24-20 AWG | 0.25-0.5 | 24-20 |   |

## Female contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575115 | Female contact AU 1.0 mm / 28-24 AWG | 0.09-0.25 | 28-24 | |
| 6575136 | Female contact AU 1.0 mm / 24-20 AWG | 0.25-0.5 | 24-20 |   |



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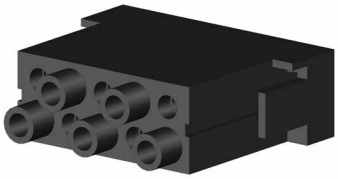
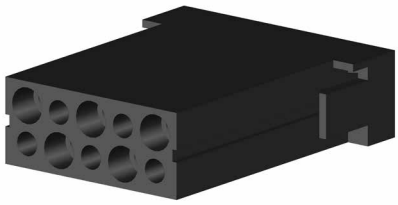
# 10-pin module – 400 V - contacts 1.6 mm

| 10-pin module |
|---|



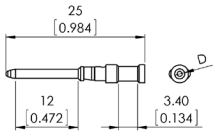
plug module
part no. 6575070



socket module
part no. 6575080

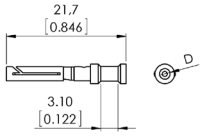
| General characteristics | Value |
|---|---|
| Number of contacts | 10 |
| Termination method | Crimp or solder |
| Termination size | 0.14-2.5 mm² [26-14 AWG] |
| Flammability | UL94 V-0 |
| **Electrical characteristics** | **Value** |
| Rated voltage | 400 V |
| Pollution degree | 3 |
| Overvoltage category | III |
| Material group | II |
| Rated impulse withstand voltage | 6 kV |
| Contact resistance | ≤ 5 mΩ |
| Insulation resistance | ≥ $10^{10}$ Ω |
| **Climatical characteristics** | **Value** |
| Rated temperature | -40°C to +100°C [-40°F to +212°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 500 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Contacts | Brass (CuZn) |
| Contacts surface plating | Silver (Ag) / gold (Au) |

## Male contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Silver plated | Gold plated | Picture / Drawing |
|---|---|---|---|---|---|---|
| 6575085 | Male contact 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | • | | |
| 6575086 | Male contact 1.6 mm / 20 AWG | 0.5 | 20 | • | | |
| 6575088 | Male contact 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | • | | |
| 6575090 | Male contact 1.6 mm / 16-15 AWG | 1.5 | 16-15 | • | | |
| 6575083 | Male contact 1.6 mm / 14 AWG | 2.5 | 14 | • | | |
| 6575118 | Male contact AU 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | | • |  |
| 6575121 | Male contact AU 1.6 mm / 20 AWG | 0.5 | 20 | | • | |
| 6575116 | Male contact AU 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | | • | |
| 6575124 | Male contact AU 1.6 mm / 16-15 AWG | 1.5 | 16-15 | | • | |
| 6575125 | Male contact AU 1.6 mm / 14 AWG | 2.5 | 14 | | • | |



## Female contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Silver plated | Gold plated | Picture / Drawing |
|---|---|---|---|---|---|---|
| 6575095 | Female contact 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | • | | |
| 6575107 | Female contact 1.6 mm / 20 AWG | 0.5 | 20 | • | | |
| 6575098 | Female contact 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | • | | |
| 6575100 | Female contact 1.6 mm / 16-15 AWG | 1.5 | 16-15 | • | | |
| 6575084 | Female contact 1.6 mm / 14 AWG | 2.5 | 14 | • | | |
| 6575127 | Female contact AU 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | | • |  |
| 6575131 | Female contact AU 1.6 mm / 20 AWG | 0.5 | 20 | | • | |
| 6575117 | Female contact AU 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | | • | |
| 6575132 | Female contact AU 1.6 mm / 16-15 AWG | 1.5 | 16-15 | | • | |
| 6575133 | Female contact AU 1.6 mm / 14 AWG | 2.5 | 14 | | • | |





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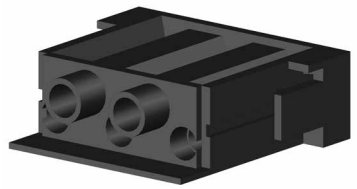
| 5-pin module |
|---|

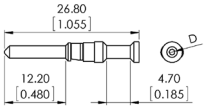


plug module
part no. 6575065

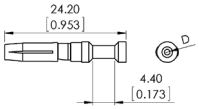
socket module
part no. 6575075

| General characteristics | Value |
|---|---|
| Number of contacts | 5 |
| Termination method | Crimp or solder |
| Termination size | 0.5-4.0 mm² [20-12 AWG] |
| Flammability | UL94 V-0 |
| **Electrical characteristics** | **Value** |
| Rated voltage | 400 V |
| Pollution degree | 3 |
| Overvoltage category | III |
| Material group | II |
| Rated impulse withstand voltage | 6 kV |
| Contact resistance | ≤ 2 mΩ |
| Insulation resistance | ≥ $10^{10}$ Ω |
| **Climatical characteristics** | **Value** |
| Rated temperature | -40°C to +125°C [-40°F to +257°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 500 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Contacts | Brass (CuZn) |
| Contacts surface plating | Silver (Ag) |

## Male contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575087 | Male contact 2.5 mm / 20 AWG | 0.5 | 20 | |
| 6575089 | Male contact 2.5 mm / 18 AWG | 0.75-1.0 | 18 | |
| 6575092 | Male contact 2.5 mm / 16 AWG | 1.5 | 16 | |
| 6575094 | Male contact 2.5 mm / 14 AWG | 2.5 | 14 |   |
| 6575091 | Male contact 2.5 mm / 12 AWG | 4.0 | 12 | |

## Female contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575108 | Female contact 2.5 mm / 20 AWG | 0.5 | 20 | |
| 6575111 | Female contact 2.5 mm / 18 AWG | 0.75-1.0 | 18 | |
| 6575102 | Female contact 2.5 mm / 16 AWG | 1.5 | 16 | |
| 6575104 | Female contact 2.5 mm / 14 AWG | 2.5 | 14 |   |
| 6575113 | Female contact 2.5 mm / 12 AWG | 4.0 | 12 | |



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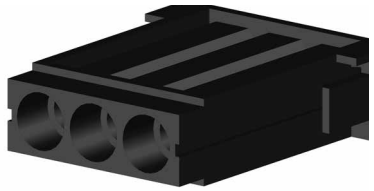
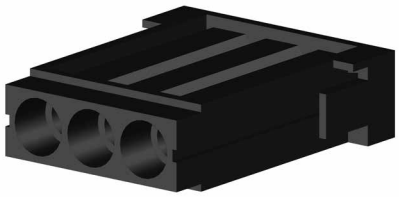
# 3-pin module – 630 V - contacts 3.6 mm

| 3-pin module |
|---|



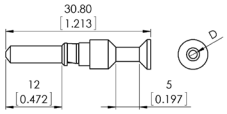
plug module
part no. 6575062



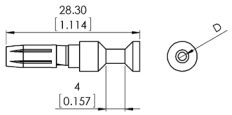
socket module
part no. 6575063

| General characteristics | Value |
|---|---|
| Number of contacts | 3 |
| Termination method | Crimp or solder |
| Termination size | 1.5-10.0 mm² [16-8 AWG] |
| Flammability | UL94 V-0 |
| **Electrical characteristics** | **Value** |
| Rated voltage | 630 V |
| Pollution degree | 3 |
| Overvoltage category | III |
| Material group | II |
| Rated impulse withstand voltage | 8 kV |
| Contact resistance | ≤ 1 mΩ |
| Insulation resistance | ≥ $10^{10}$ Ω |
| **Climatical characteristics** | **Value** |
| Rated temperature | -40°C to +125°C [-40°F to +257°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 500 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Contacts | Brass (CuZn) |
| Contacts surface plating | Silver (Ag) |

## Male contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575099 | Male contact 3.6 mm / 16 AWG | 1.5 | 16 | |
| 6575106 | Male contact 3.6 mm / 14 AWG | 2.5 | 14 | |
| 6575093 | Male contact 3.6 mm / 12 AWG | 4.0 | 12 | |
| 6575139 | Male contact 3.6 mm / 10 AWG | 6.0 | 10 |   |
| 6575096 | Male contact 3.6 mm / 8 AWG | 10.0 | 8 | |

## Female contacts

| Part no. | Description | Cross section in mm² (D) | AWG (D) | Picture / Drawing |
|---|---|---|---|---|
| 6575109 | Female contact 3.6 mm / 16 AWG | 1.5 | 16 | |
| 6575105 | Female contact 3.6 mm / 14 AWG | 2.5 | 14 | |
| 6575103 | Female contact 3.6 mm / 12 AWG | 4.0 | 12 | |
| 6575138 | Female contact 3.6 mm / 10 AWG | 6.0 | 10 |   |
| 6575097 | Female contact 3.6 mm / 8 AWG | 10.0 | 8 | |



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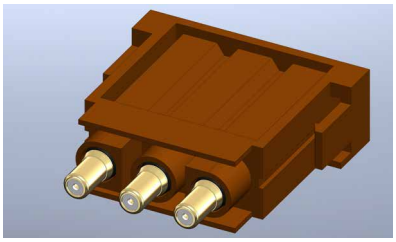
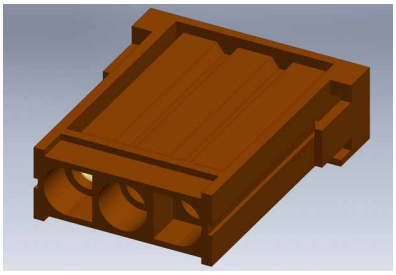
| KOAX module |
|---|



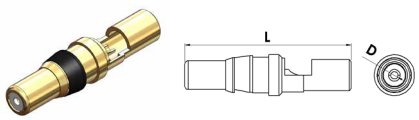
plug module
part no. 6575072



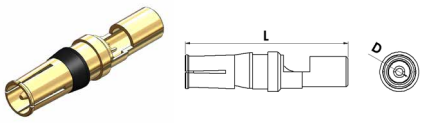
socket module
part no. 6575082

| General characteristics | Value |
|---|---|
| Number of contacts | 3 |
| Termination method | Crimp or solder |
| Termination size | RG 58, 174, 179, 316 |
| Flammability | UL94 V-0 |
| **Electrical characteristics** | **Value** |
| Rated voltage | 250 V |
| Pollution degree | 3 |
| Overvoltage category | III |
| Material group | II |
| Impedance | 50 Ω |
| Frequency range | 2 GHz |
| **Climatical characteristics** | **Value** |
| Rated temperature | -40°C to +125°C [-40°F to +257°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 500 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Module color | Russet |
| Contacts surface plating | Gold (Au) |

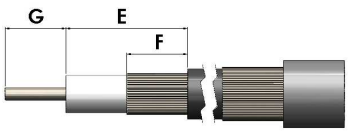
## Male contacts

| Part no. | Description | for cable size | Picture / Drawing |
|---|---|---|---|
| 6575141 | Male coax contact RG 58 | RG 58 |   |
| 6575110 | Male coax contact RG 174, 179, 316 | RG 174, 179, 316 | |

## Female contacts

| Part no. | Description | for cable size | Picture / Drawing |
|---|---|---|---|
| 6575142 | Female coax contact RG 58 | RG 58 |   |
| 6575112 | Female coax contact RG 174, 179, 316 | RG 174, 179, 316 | |

## Dimensions and stripping lengths

| Type | L [mm] | D [mm] | E [mm] | F [mm] | G [mm] | Drawing |
|---|---|---|---|---|---|---|
| Contacts (male/ female) for RG 58 | 26.3 | 3.2 | 9.5 | 7.9 | 2 |   |
| Contacts (male/ female) for RG 174, 179, 316 | 23.6 | 1.7 | 7.9 | 6.3 | 2 | |



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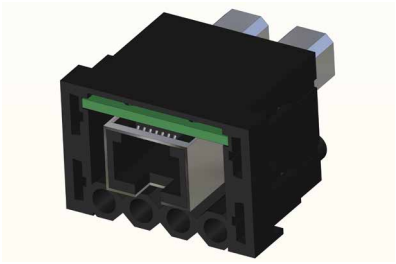
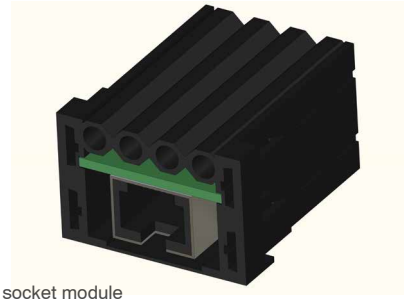
# RJ45 module – Cat 5e / 100 Mbit/s

| RJ45 module |
|---|



plug module
part no. 4100007

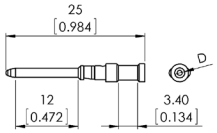


socket module
part no. 4200007

| General characteristics | Value RJ45 contacts | Value power contacts |
|---|---|---|
| Number of contacts | 8 + shield | 4 |
| Termination method | Plug | Crimp |
| Termination size | | 0.14-2.5 mm² [26-14 AWG] |
| Flammability | UL94 V-0 | |
| **Electrical characteristics** | **Value** | |
| Rated voltage | 30 V | 400 V |
| Rated current | 1 A | 10A |
| Data transmission rate | 100 Mbit/s | |
| Transfer response | In acc. with category 5 (CAT 5) | |
| **Climatical characteristics** | **Value** | |
| Rated temperature | -20°C to +80°C [-4°F to +176°F] | |
| **Mechanical characteristics** | **Value** | |
| Mating cycles | ≥ 500 | |
| **Material characteristics** | | |
| Insert (module) | PA 6.6 FR | |
| Contacts | | Brass (CuZn) |
| Contacts surface plating | | Silver (Ag) / gold (Au) |

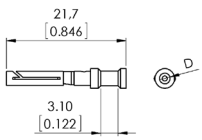
## Male contacts

| Part no. | Description | Cross section in mm² (D) | AWG | silver plated | gold plated | Picture / Drawing |
|---|---|---|---|---|---|---|
| 6575085 | Male contact 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | • | | |
| 6575086 | Male contact 1.6 mm / 20 AWG | 0.5 | 20 | • | | |
| 6575088 | Male contact 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | • | | |
| 6575090 | Male contact 1.6 mm / 16-15 AWG | 1.5 | 16-15 | • | | |
| 6575083 | Male contact 1.6 mm / 14 AWG | 2.5 | 14 | • | | |
| 6575118 | Male contact AU 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | | • | |
| 6575121 | Male contact AU 1.6 mm / 20 AWG | 0.5 | 20 | | • | |
| 6575116 | Male contact AU 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | | • | |
| 6575124 | Male contact AU 1.6 mm / 16-15 AWG | 1.5 | 16-15 | | • | |
| 6575125 | Male contact AU 1.6 mm / 14 AWG | 2.5 | 14 | | • | |




## Female contacts

| Part no. | Description | Cross section in mm² (D) | AWG | silver plated | gold plated | Picture / Drawing |
|---|---|---|---|---|---|---|
| 6575095 | Female contact 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | • | | |
| 6575107 | Female contact 1.6 mm / 20 AWG | 0.5 | 20 | • | | |
| 6575098 | Female contact 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | • | | |
| 6575100 | Female contact 1.6 mm / 16-15 AWG | 1.5 | 16-15 | • | | |
| 6575084 | Female contact 1.6 mm / 14 AWG | 2.5 | 14 | • | | |
| 6575127 | Female contact AU 1.6 mm / 26-22 AWG | 0.14-0.37 | 26-22 | | • | |
| 6575131 | Female contact AU 1.6 mm / 20 AWG | 0.5 | 20 | | • | |
| 6575117 | Female contact AU 1.6 mm / 20-16 AWG | 0.75-1.0 | 20-16 | | • | |
| 6575132 | Female contact AU 1.6 mm / 16-15 AWG | 1.5 | 16-15 | | • | |
| 6575133 | Female contact AU 1.6 mm / 14 AWG | 2.5 | 14 | | • | |



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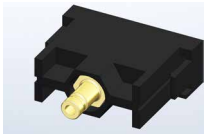
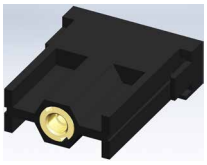
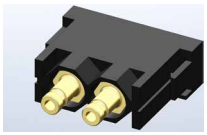
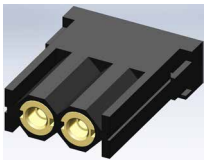
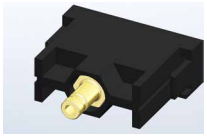
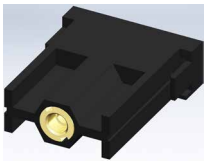
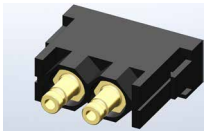
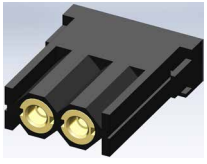
## Pneumatic modules for hose size 2.5 mm

| Pneumatic module | |
|---|---|
| plug module<br>part no. 6580201 |  |
| socket module<br>part no. 6580251 |  |
| plug module<br>part no. 6580202 |  |
| socket module<br>part no. 6580252 |  |

| General characteristics | Value |
|---|---|
| Number of contacts | 1, 2 |
| Termination method | Hose connection |
| Hose size (inner diameter) | 2.5 mm |
| Flammability | UL94 V-0 |
| **Technical characteristics** | **Value** |
| Operating pressure | 8 bar with PTFE hose |
| Contact travel (feed path) | 4 mm |
| Shut-off | One-sided (on socket module) |
| Recommended hose material | PTFE |
| **Climatical characteristics** | **Value** |
| Rated temperature | -20°C to +100°C [-4°F to +212°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 5000 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Contacts | Brass (CuZn) |

## Pneumatic modules for hose size 4.0 mm

| Pneumatic module | |
|---|---|
| plug module<br>part no. 6580204 |  |
| socket module<br>part no. 6580254 |  |
| plug module<br>part no. 6580205 |  |
| socket module<br>part no. 6580255 |  |

| General characteristics | Value |
|---|---|
| Number of contacts | 1, 2 |
| Termination method | Hose connection |
| Hose size (inner diameter) | 4.0 mm |
| Flammability | UL94 V-0 |
| **Technical characteristics** | **Value** |
| Operating pressure | 8 bar with PTFE hose |
| Contact travel (feed path) | 4 mm |
| Shut-off | One-sided (on socket module) |
| Recommended tube material | PTFE |
| **Climatical characteristics** | **Value** |
| Rated temperature | -20°C to +100°C [-4°F to +212°F] |
| **Mechanical characteristics** | **Value** |
| Mating cycles | ≥ 5000 |
| **Material characteristics** | |
| Insert (module) | PA 6.6 FR |
| Contacts | Brass (CuZn) |





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## Screwed cable glands

| Picture | Description | Part number | Clamping range in mm (D) |
|---|---|---|---|
| | KV M25x1.5, 9 – 16 mm | 1674119 | 9 – 16 |
| | KV M25x1.5, 13 – 18 mm | 1674117 | 13 – 18 |
| | KV M32x1.5, 13 – 20 mm | 1674082 | 13 – 20 |
| | KV M32x1.5, 18 – 25 mm | 1674078 | 18 – 25 |
| | KV M40x1.5, 20 – 26 mm | 1674072 | 20 – 26 |

## Tools

| Description | Part number |
|---|---|
| Extracting tool for contacts 1.0 mm | 3000000 |
| Extracting tool for contacts 1.6 mm | 3000001 |
| Extracting tool for contacts 2.5 mm | 3000003 |
| Extracting tool for contacts 3.6 mm | 3000004 |
| Removal tool for modules | 3000006 |
| Crimping tool for contacts 1.0 mm | 3000019 |
| Crimping tool for contacts 1.6 / 2.5 mm | 3000015 |
| Crimping tool for contacts 3.6 mm | 3000020 |



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# Glossary

**AC voltage / AC applications**
Connectors in this catalogue are only approved for DC voltages. GES cannot make any statements about the use with AC voltages. The use of the products in this catalogue with AC voltages needs approval by the customer under the elctrical, mechanical and environmental conditions of customer's application.

**Clearance**
The shortest distance in air between two conductive parts (see IEC 60664).

**Contact resistance**
The electrical resistance of a mated set of contacts under specified conditions. Tested according to tests IEC 60512-2.

**Creepage distance**
The shortest distance along the surface of the insulating material between two conductive parts. The longer the distance the less the risk of arc damage or tracking. Minimum creepage distances are specified according to the rated voltage and the applicable pollution degree and CTI.

**CTI-Value and Insulation material class**
CTI = Comparative Tracking Index. The CTI-Value defines the maximum leakage current on surfaces under a given set up. Leakage current is the current that occurs on surfaces of insulators. The higher the CTI-value the lower the leakage current. This is important for defining the necessary creepage distance for high voltage connections.

After the CTI-value materials are classified in insulation material classes.

DIN IEC 60664-1 distinguishes different insulation material groups:

- Insulation material group I CTI ≥ 600
- Insulation material group II 400 ≤ CTI < 600
- Insulation material group IIIa 175 ≤ CTI < 400
- Insulation material group IIIb 100 ≤ CTI < 175

GES only uses plastic Insulation material group I for shortest possible connectors.

**Housing**
The part of a connector into which the insert and the contacts are assembled. It may function as part of the locking mechanism.

**Insertion and withdrawal force**
The force required to fully insert or withdraw a set of mated connectors without the effect of coupling, locking or similar devices. The insertion force usually is greater than the withdrawal force.

**Insulation material group**
see "CTI-Value".

**Mating cycle**
One mating cycle comprises one insertion and one withdrawal operation. Term used in the definition of connector life.

**Operating current, maximal**
The current which causes a temperature rise to 120°C [+248°F] (VDE 0627).

**Operating temperature**
The temperature at which an electrical or mechanical device operates.

**Operating voltage**
see "Rated voltage"

**Plug, cable mount**
Plug (male contact) in cable mount housing.

**Pollution degree**
The pollution degree must be defined taking the expected pollution around the equipment into account. The pollution degree effects the dielectric strength of a connector and is one of the cause variables for calculation of clearance and creepage distances. According to DIN IEC 60664-1 there are four degrees of pollution:

- Pollution degree 1
  No pollution or only dry, non-conductive pollution occurs. The pollution has no influence.
- Pollution degree 2
  Only non-conductive pollution occurs except occasionally a temporary conductivity caused by condensation is to be expected.
- Pollution degree 3
  Conductive pollution occurs or dry non-conductive pollution occurs which becomes conductive due to condensation which is to be expected.
- Pollution degree 4
  The pollution generates persistent conductivity caused by conductive dust or by rain or snow.



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# Glossary

All the rated voltages stated for the parts in this catalogue are assessed based on “Pollution Degree 1”. Users need to define the pollution degree for their application.

**Pulse current**
Current load for no more than 10 ms.

**Rated Current**
A current value assigned by the manufacturer which the connector or PSD can carry continously and causes a temperature rise of 45°C [+113°F] (e.g. from 23°C to 68°C [+73°F to +154°F]).Current values listed in this catalogue refer to environmental temperatures of +20°C [+68°F].

**Rated Voltage**
The maximum voltage a connector can withstand in mated condition without losing its properties. All mentioned voltages are DC-voltages.

**Receptacle, panel mount**
Receptacle (female contact) in panel mount housing.

**Test Voltage**
Test voltages stated in this catalogue are minimum 1.5 times the rated voltages for the duration of 1 minute. The connectors must not be operated at test voltage levels.

**Wire size / AWG**
Is a measurement of how large a wire is, either in diameter, cross sectional area or AWG (American Wire Gauge).

→ **Conversion table mm²/AWG**

| AWG | mm² (exakt value) | mm² (nearest standard) |
|---|---|---|
| 22 | 0.324 | 0.4 |
| 20 | 0.519 | 0.5 |
| 18 | 0.823 | 0.75 |
| 16 | 1.13 | 1.5 |
| 14 | 2.08 | 2.5 |
| 12 | 3.31 | 4 |
| 10 | 5.261 | 6 |
| 8 | 8.367 | 10 |
| 6 | 13.30 | 16 |
| 4 | 21.15 | 25 |
| 3 | 26.67 | |
| 2 | 33.62 | 35 |
| 1 | 42.41 | |

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