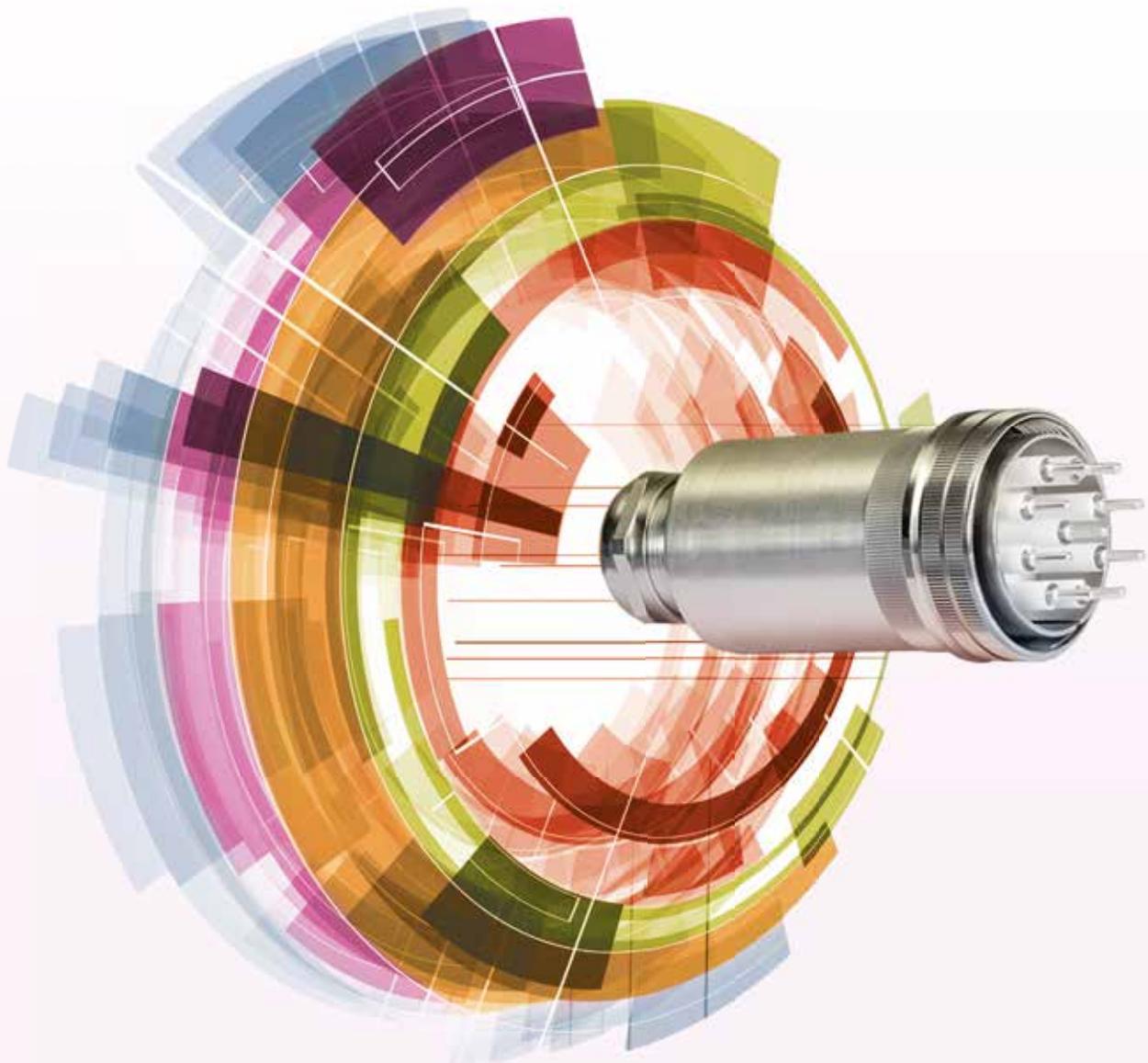


# GES

**We connect High Voltage**

*Catalogue High Voltage Connectors*





GES Electronic & Service GmbH has a certified quality management system according 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 ISO 14001.

## 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 proviso 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 the mounting type of the connector. The connectors may be used only within the technical ratings. Please be aware that design, installation and inspection of machinery and devices carrying high voltage urgently require accordingly 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 atmospheric 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. When connectors are used in an adverse environment, other than stated - such as high temperature, humidity, pollution content, extreme mechanical exposure etc. – the connector should be derated.

## © Copyright

The indicated dimension 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.: 16.01

# **Index:**



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Single pin:  
10 - 40 KVDC

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## **Series**

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## **Series**

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## **Series**

Multi pin:  
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## **Series**

Full plastic:  
1 - 3 pins, 8 - 13 KVDC

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## **Glossary**

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## **Series**

Multi pin:  
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## **Part numbers**

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## **Series**

Multi pin:  
2 - 5 pins up to 10 (15) KVDC

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## About us

GES Electronic & Service GmbH is a German manufacturer near Munich specialized in High Voltage Interconnection technologies. We design and merchandise circular High Voltage Connectors in various configurations for performances from 10 - 100 kVDC as well as modular HV-Connector Systems combinable with pneumatic-, power-, signal- and data-transmission for more complex applications. GES Electronic & Service has been a reliable partner and OEM-supplier to customers throughout Europe, the United States and worldwide for more than twenty years.

Specialized in instrumental HV-Interconnections we focus on DC applications and offer a wide performance variety from 10 - 100 kVDC in single-pin, multi-pin and modular configurations and deliver rapidly and worldwide.



## Applications

GES connectors are used in a wide range of applications such as high voltage test equipment and power supplies, lasers, ultrasonic devices and electrostatic chargers.



### Material- & Testing Technology

- thickness measurement
- cable testing
- high voltage testing
- hipot tester



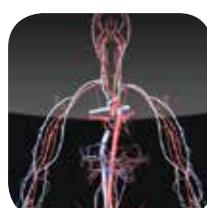
### Semiconductors & Microelectronics

- EUV lithography
- ion implantation
- coating processes
- et al.



### Analysis & Inspection

- mass spectrometry
- industrial x-ray devices
- x-ray spectroscopy
- electron microscopy



### Medical- & Biotechnology

- mammography
- e-beam sterilization
- defibrillator



### Particle- & Nuclearphysics

- electron beams
- linear collider
- magnetrons
- electrostatic filters

# **High Voltage ... is not just higher voltage.**

## **Products**

### **High Voltage needs accuracy.**

High Voltage engineering is an unconventional and unforgiving discipline. It absolutely demands manufacturing competence and detailed awareness of the unusual properties of components under High Voltage potential. Reliable high voltage solutions do not belong to the usual design repertoire of electrical engineering since the world above 1000 Volts applies to different rules.

It is our aim to provide our customers an ideal solution – not the cheapest!

- wide range of connector types
- best electrical properties
- robust housings
- wide temperature range
- optimized mating cycles

## **Service**

### **High Voltage is different.**

At elevated power levels, insulators can become conductors and creeping current, sparkover voltage, corona, plasma and ozone-gas are common side effects to deal with. Even „simple“ components like connectors become critical and contribute enormously to operation safety and damage avoidance.

- personal advice
- 3D design
- samples possible
- cable assembly
- customized versions
- customized development



## **Quality**

### **High Voltage involves risks.**

The reliability of high voltage connectors strongly depends on the quality of the components and materials used for the connector. GES Electronic & Service therefore focuses its product policy on uncompromised quality requirements for materials and processing, rugged mechanical designs, durability, best electrical properties and application safety.

- high quality materials
- rugged mechanical design
- certified after ISO 9001 and ISO 14001
- RoHS compliant
- established quality control
- mission approved

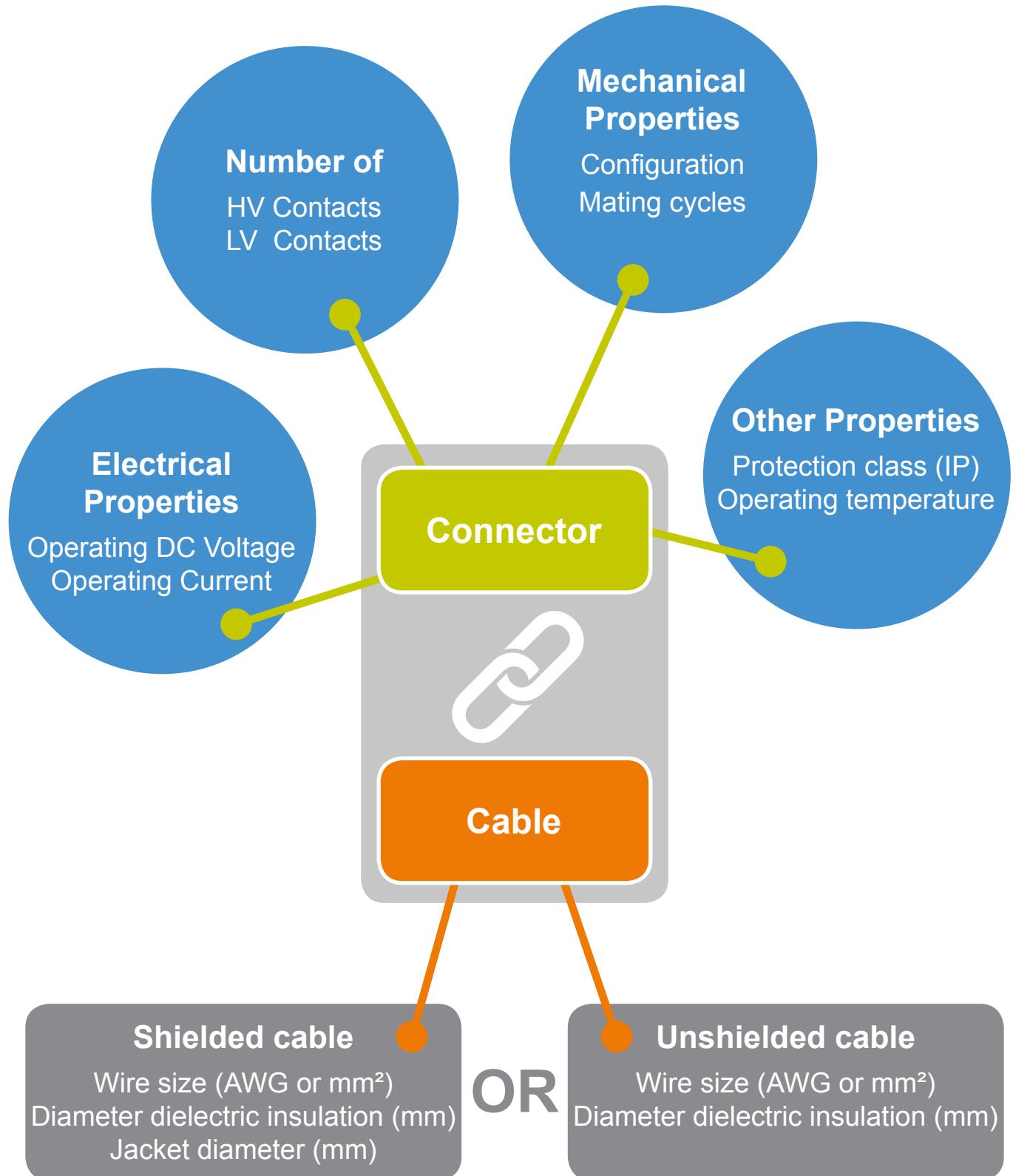
## **Reliability**

### **High Voltage is exotic and requires intensive advice.**

GES Electronic & Service is committed to customer relationships. We seek an open communication policy in order to provide customers with best solutions and to establish long-term relation- and partnerships. It is our aim to provide our customers with solutions for a higher producing income and technological advantage towards their competitors.

- quick delivery
- fast and smooth order processing
- flexible processes

## Product Finder – Checklist



# Product Overview High Voltage Connectors

## **Single pin connectors**

	Series S	Series 100
Operating voltage (DC)	10 – 40 kV	10 – 100 kV
Operating current	30 A	30 / 80 A
Max. diameter of dielectric cable insulation	5.0 mm	10.0 mm
Max. jacket diameter of cable	6.5 mm	14.0 mm
Wire sizes	AWG 22 – 14	AWG 22 – 8

## **VarioPro full plastic connectors**

	VarioPro CL	VarioPro Basic	VarioPro SB10
Operating voltage DC	13 kV	8 kV	10 kV
Operating current	13 A	13 A	30 A
Number of poles	1 – 3	1 – 2	1
Max. diameter of dielectric cable insulation	4.2 mm	4.2 mm	7.2 mm
Wire sizes	AWG 26 – 14	AWG 26 – 14	AWG 14

## **Multi pin circular connectors**

	Series MCS	Series MC	Series M
Operating voltage (DC)	5 kV	10 – 15 kV	12 kV
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	AWG 26 – 22	AWG 26 – 14	AWG 22 – 14

## **Multi pin modular connectors**

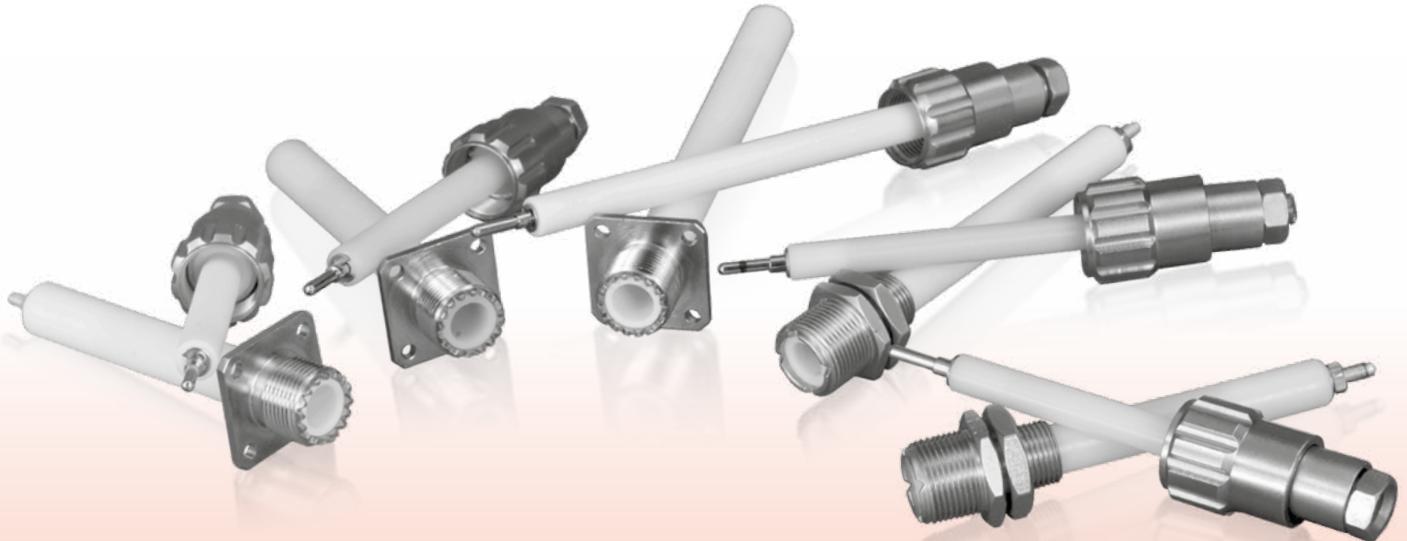
	MOD-HP	MOD-T
Operating voltage (DC)	12 kV	12 kV
Operating current	25 A	30 A
Number of pins	2 - 14	2 - 14
Max. diameter of dielectric cable insulation	6.2 mm	7.0 mm
Wire sizes	AWG 20 – 12	AWG 22 – 14

# Overview Single Pin Connectors

## Operating Voltages / Connector Types

Series	Type	Page	10 kVDC	20 kVDC	30 kVDC	40 kVDC	50 kVDC	60 kVDC	100 kVDC
	HSB10	11	●						
	HSB11	12	●						
	HSB20	13		●					
	HSB21	14		●					
	HSB30	15			●				
	HSB31	16			●				
	HSB40	17				●			
	SB110	27	●						
	SB115	28	●						
	SB120	29		●					
	SB125	30-31		●					
	SB130	32			●				
	SB135	33			●				
	SB150	34				●	●		
	SB155	35				●	●		
	SB160	36						●	
	SB165	37						●	
	SB1100	38							●

# Series S



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

# General characteristics and technical data Series S

<b>Housing</b>	
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

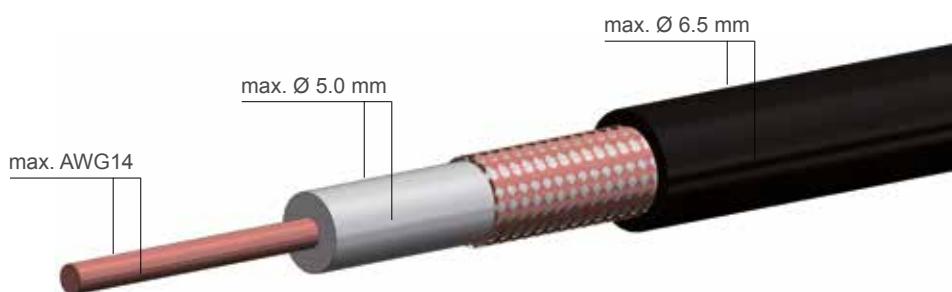
  

<b>Contacts</b>	
Termination method	solder / screw
Rated current	30 A
Max. operating current	40 A
Pulse current	3000 A
Contact resistance	300 µΩ
Contact diameter	2.5 mm
Max. wire size	AWG 14 / 2.5 mm <sup>2</sup>
Contact material	brass (CuZn)
Contact plating	silver (Ag) / gold (Au)
Insertion / Withdrawal force	5.5 N / 4.0 N
Mating cycles	100 k
Rated temperature	+120 °C

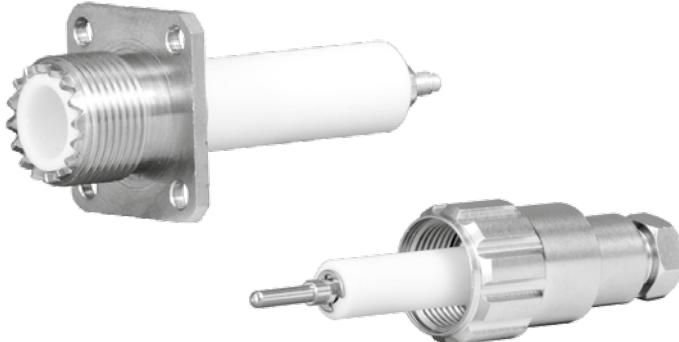
  

<b>Insulation inserts</b>	
Number of contacts	1
Insulation material	PTFE or POM
Flammability class PTFE	UL94 V-0
Flammability class POM	UL94 HB
CTI value	600
Operating temperature PTFE	-50 °C to +200 °C
Operating temperature POM	-30 °C to +120 °C
Insulating material group PTFE / POM	I (DIN IEC 60664)

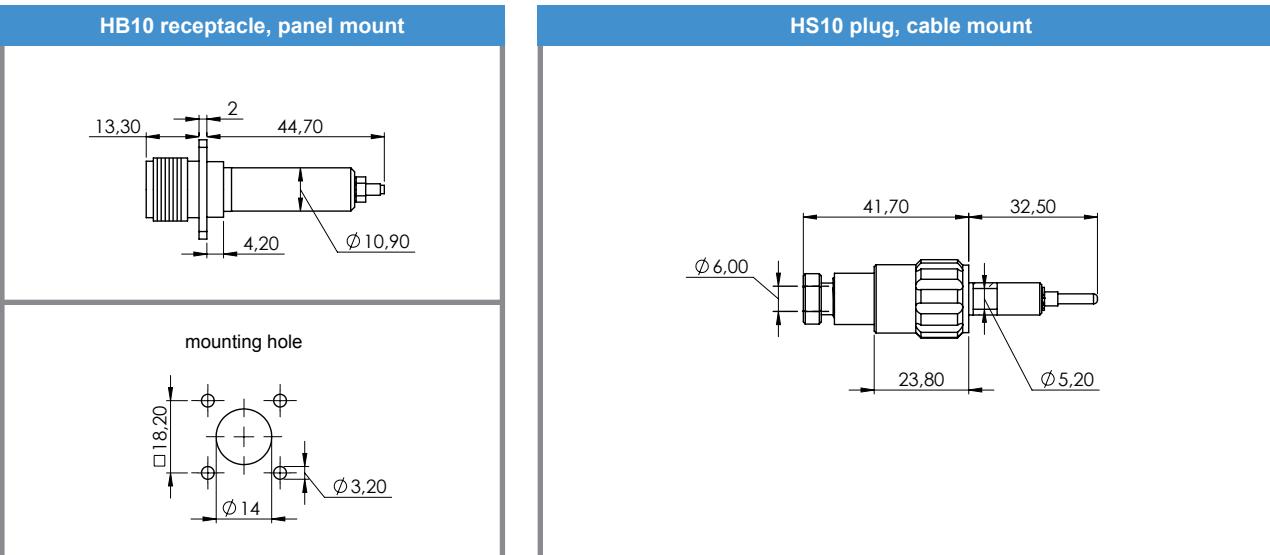
## Suitable cable dimensions



Electrical values	
Operating voltage (DC)	10 kV
Test voltage (DC)	15 kV
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



drawing - dimensions in mm

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		•		•

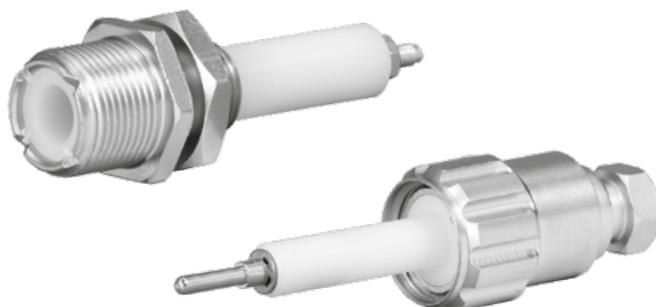
**Suitable HV cable, shielded**

Part No.	Operating Voltage	Wire size	Outer diameter	Min. bend radius	Temperature range
3330007	30 kVDC	AWG22 (0,35mm <sup>2</sup> )	5.40 mm	54 mm	-25° / +90° C

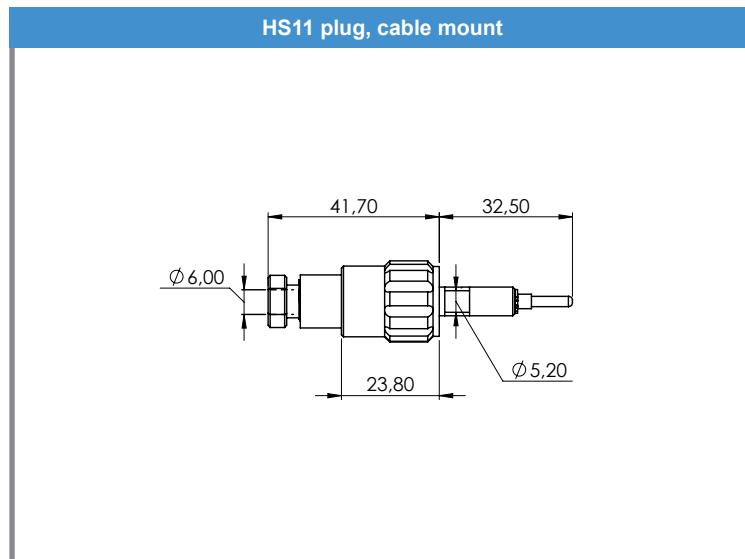
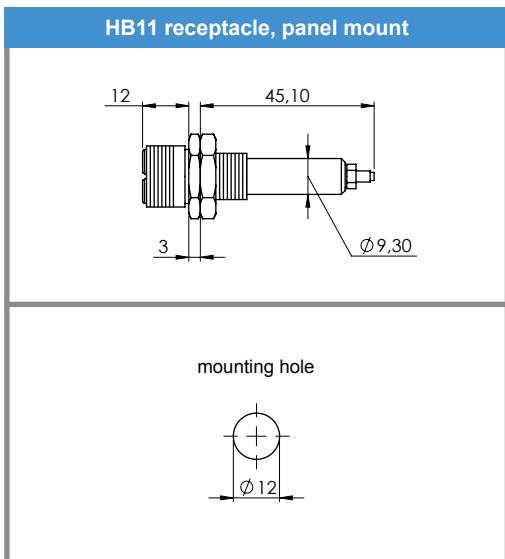


For more information please see page 23

Electrical Values	
Operating Voltage (DC)	10 kV
Test voltage (DC)	15 kV
Rated current	30 A
Maximum operating current	40 A
Pulse current	3000 A
Characteristics	
Insulation material	PTFE
Mounting type receptacle	roundflange
Contact plating	silver (Ag) or gold (Au)



HB11 receptacle, panel mount      HS11 plug, cable mount



drawing - dimensions in mm

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		•		•

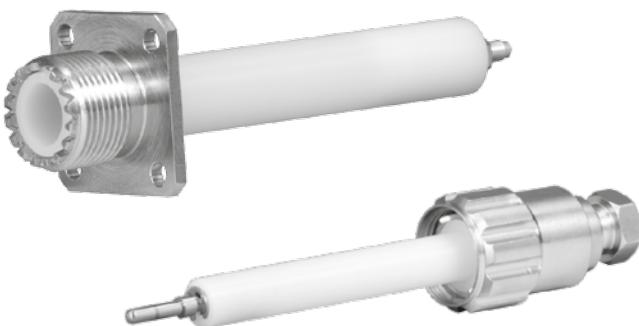
### Suitable HV cable, shielded

Part No.	Operating Voltage	Wire size	Outer diameter	Min. bend radius	Temperature range
3330007	30 kVDC	AWG22 (0,35mm <sup>2</sup> )	5.40 mm	54 mm	-25° / +90° C



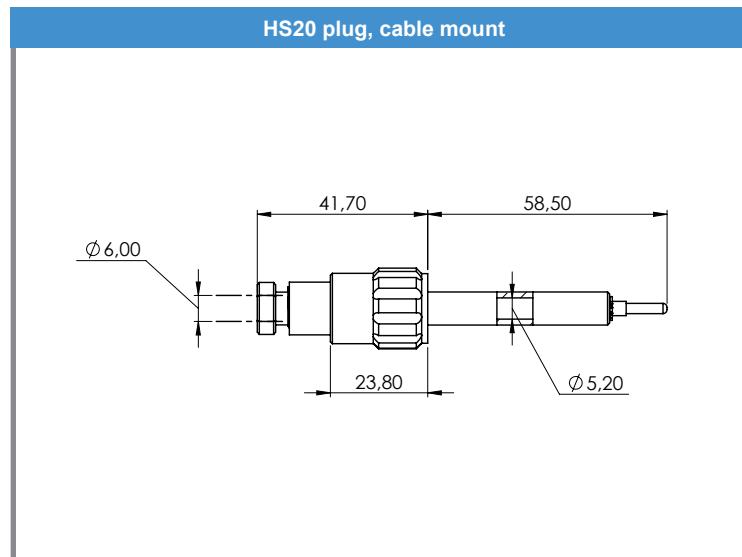
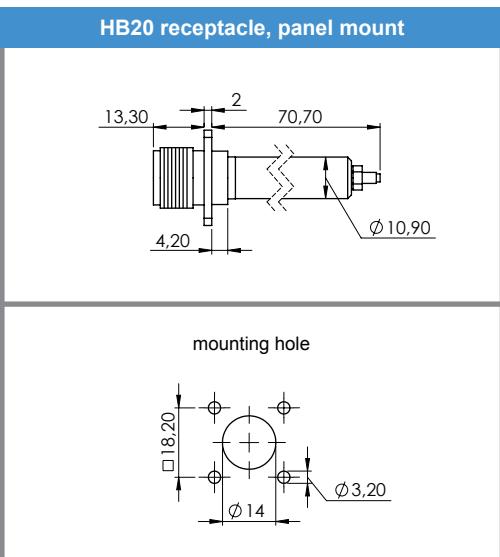
For more information please see page 23

Electrical Values	
Operating Voltage (DC)	20 kV
Test voltage (DC)	30 kV
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



drawing - dimensions in mm

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		•		•

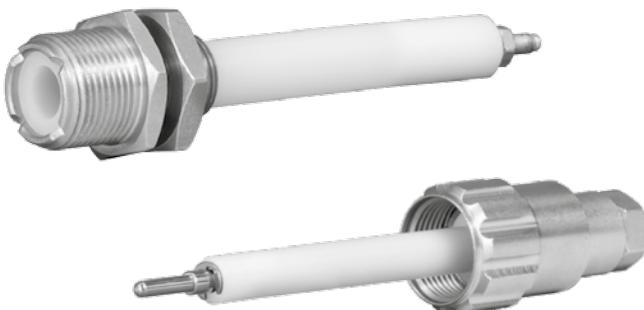
**Suitable HV cable, shielded**

Part No.	Operating Voltage	Wire size	Outer diameter	Min. bend radius	Temperature range
3330007	30 kVDC	AWG22 (0,35mm <sup>2</sup> )	5.40 mm	54 mm	-25° / +90° C



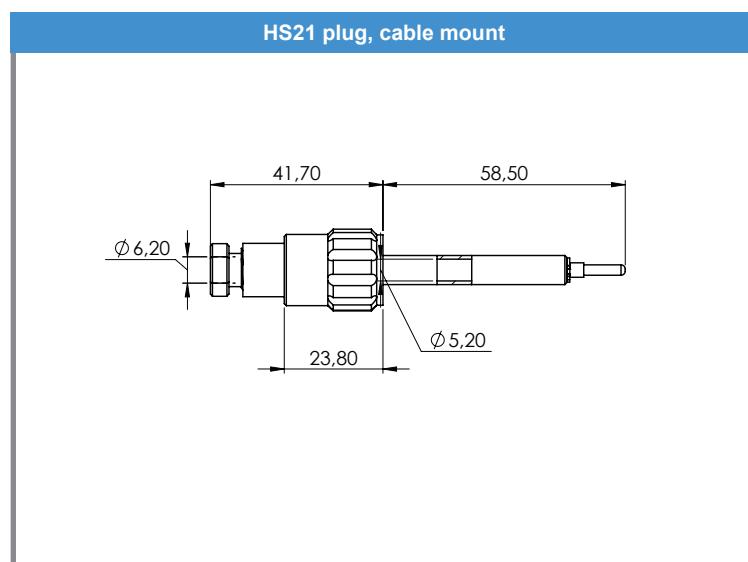
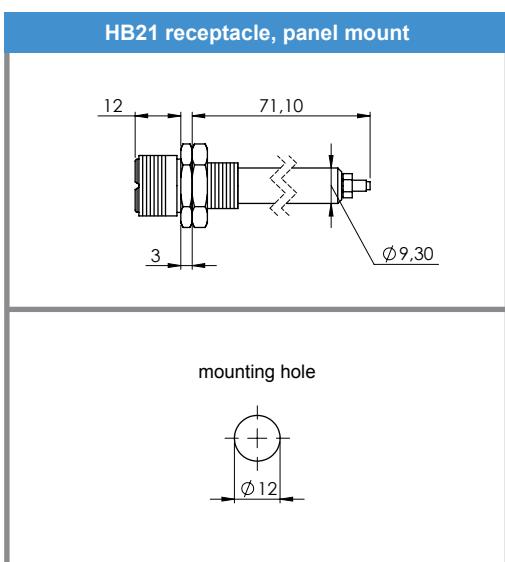
For more information please see page 23

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



HB21 receptacle, panel mount

HS21 plug, cable mount



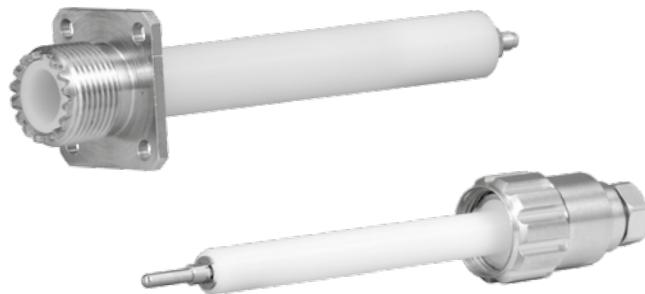
drawing - dimensions in mm

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		•	•			•

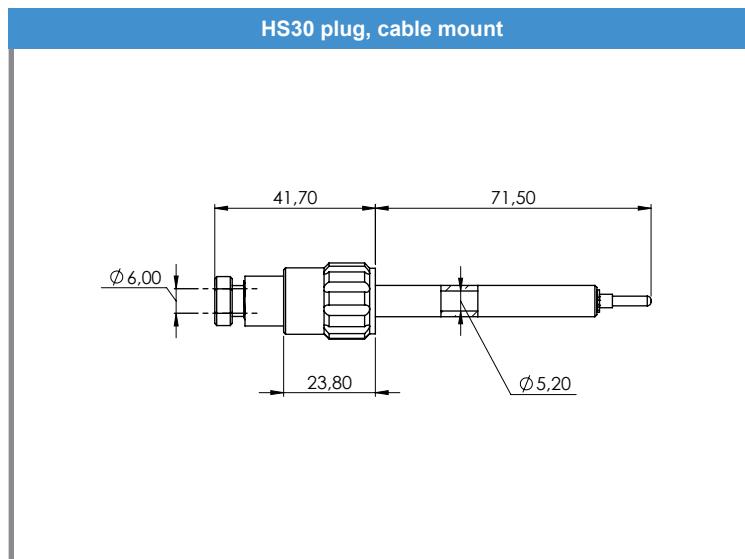
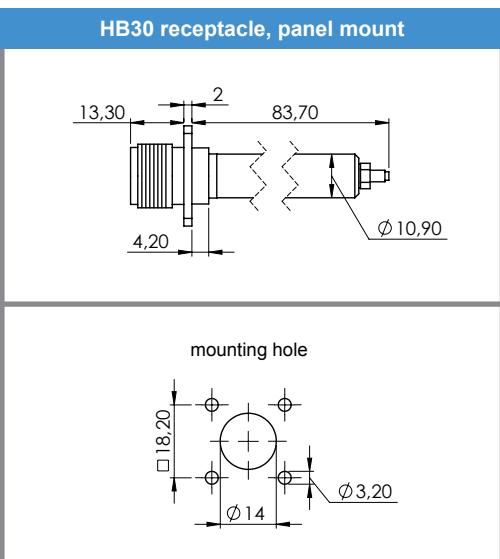
### Suitable HV cable, shielded

Part No.	Operating Voltage	Wire size	Outer diameter	Min. bend radius	Temperature range
3330007	30 kVDC	AWG22 (0,35mm <sup>2</sup> )	5.40 mm	54 mm	-25° / +90° C

Electrical values	
Operating voltage (DC)	30 kV
Test voltage (DC)	45 kV
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



drawing - dimensions in mm

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		•		•

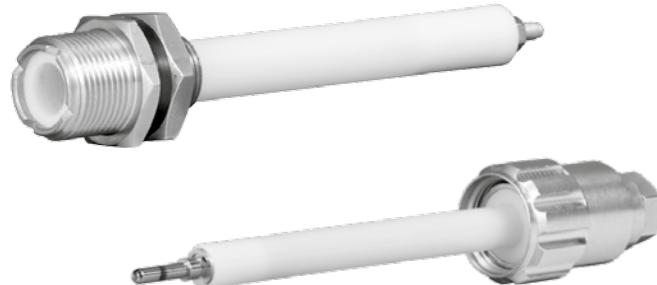
**Suitable HV cable, shielded**

Part No.	Operating Voltage	Wire size	Outer diameter	Min. bend radius	Temperature range
3330007	30 kVDC	AWG22 (0,35mm²)	5.40 mm	54 mm	-25° / +90° C



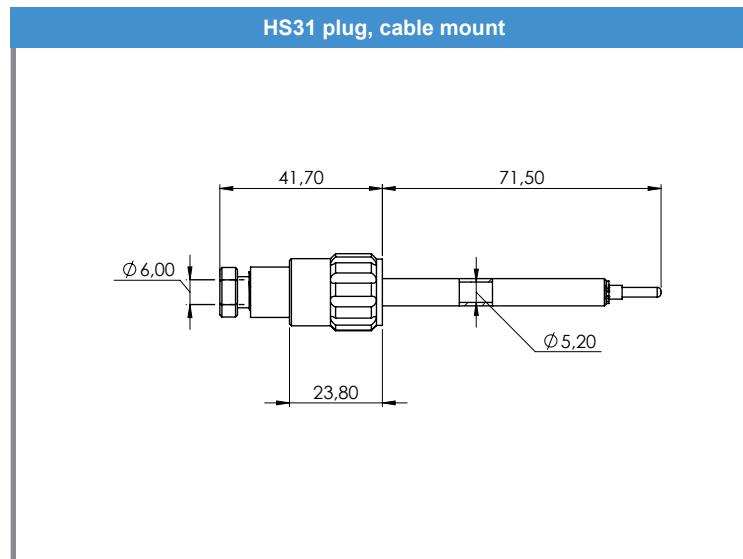
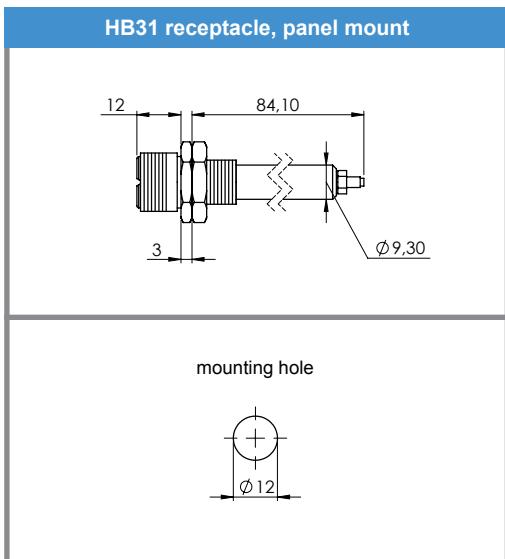
For more information please see page 23

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



HB31 receptacle, panel mount

HS31 plug, cable mount



drawing - dimensions in mm

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 kVDC	AWG22 (0,35mm <sup>2</sup> )	5.40 mm	54 mm	-25° / +90° C



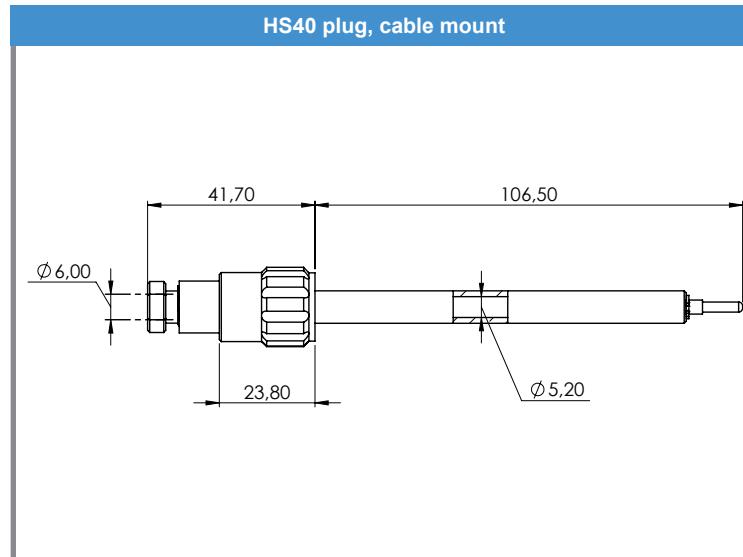
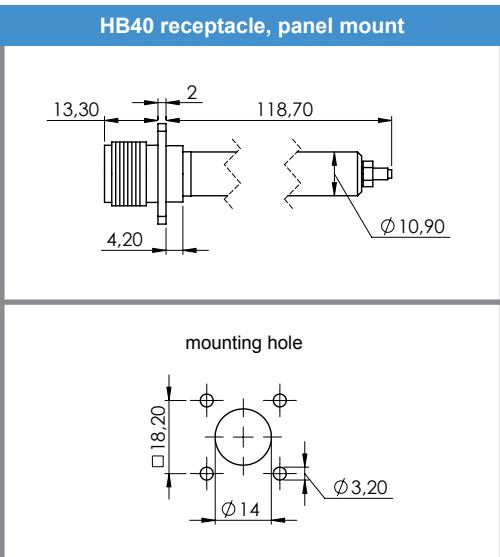
For more information please see page 23

Electrical values	
Operating voltage (DC)	40 kV
Test voltage (DC)	60 kV
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



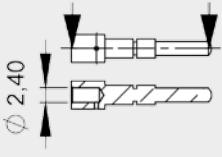
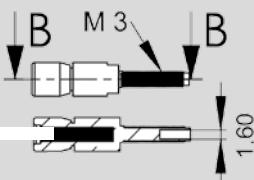
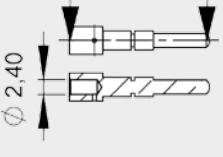
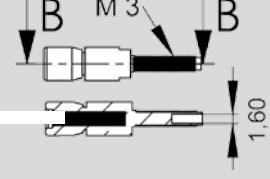
drawing - dimensions in mm

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		•		•



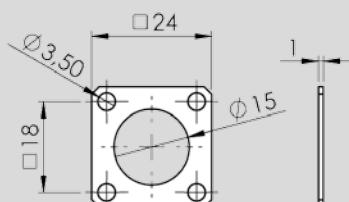
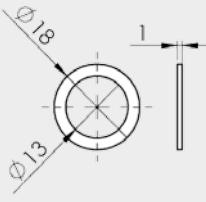
For more information please see page 23

## Contacts

Part No.	Description	Drawing
6572001	male contact 2.5 mm silver plated (Ag)	
6572005	female contact 2.5 mm silver plated (Ag)	
6571025	male contact 2.5 mm gold plated (Au)	
6571027	female contact 2.5 mm gold plated (Au)	

drawing - dimensions in mm

## Gaskets

Part No.	Description	Drawing
6572092	flat gasket, 4-hole mount, NBR, black, for receptacle types HBx0	
6572093	flat gasket, roundflange, NBR, black, for receptacle types HBx1	

drawing - dimensions in mm

**1.**

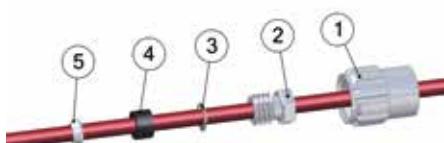
Part as supplied

**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**

Loose snap ring (7) and take out male contact (8)

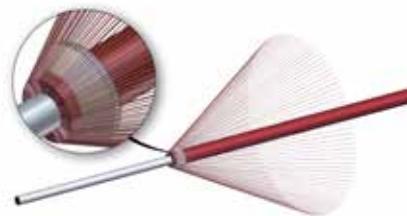
**4.****Place screw joint (1), screw (2), washer (3), clamping rubber (4), outer cone (5) on cable**

 Respect correct order of parts (see picture)

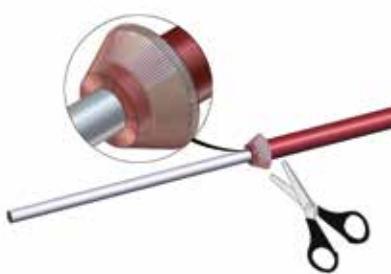
**5.****Remove cable jacket**

Type	L1 [mm]
HS 10/11	31
HS 20/21	56
HS 30/31	69
HS 40	104

 Do not damage metal shield. Do not damage dielectric insulation. Respect 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 break down

**9.****Remove dielectric insulation (L2 = 5mm)****10.****Solder contact (8) on conductor**

 Tin-solder must not remain on contact surface

# Assembly instructions HS (plug, cable mount)

Series 

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)



**Note – important!**

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

15.



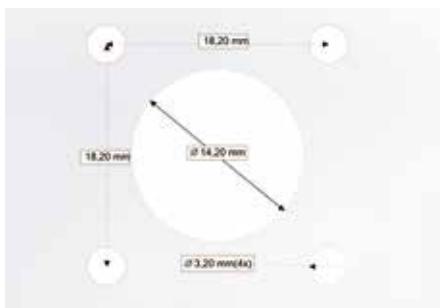
Assembly finished

**1.**

Part as supplied

**5.****Solder contact (8) on conductor**

 Tin-solder must not remain on contact surface

**2.**

Panel cut out

**6.**

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

**3.**

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

**Note – important!**

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

**4.**

Remove dielectric insulation

# Cable assemblies - plugs



Cable characteristics:		Values
Operating voltage		30 kVDC
Wire size		AWG 22 (0.35mm <sup>2</sup> )
Conductor construction		tinned copper
Shield construction		tinned copper braid
Operating temperature		-25°C to +90°C
Outer diameter		5.40 mm
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 ( <i>length</i> ) mm	(xxxxx)	•	
7310003.007.xxxxx	HSC10-007/Au PTFE ( <i>length</i> ) 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 ( <i>length</i> ) mm	(xxxxx)	•	
7310021.007.xxxxx	HSC11-007/Au PTFE ( <i>length</i> ) 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 ( <i>length</i> ) mm	(xxxxx)	•	
7320006.007.xxxxx	HSC20-007/Au PTFE ( <i>length</i> ) 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 ( <i>length</i> ) mm	(xxxxx)	•	
7320013.007.xxxxx	HSC21-007/Au POM ( <i>length</i> ) mm	(xxxxx)	•	
7320020.007.xxxxx	HSC21-007 PTFE ( <i>length</i> ) mm	(xxxxx)		•
7320023.007.xxxxx	HSC21-007/Au PTFE ( <i>length</i> ) 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 ( <i>length</i> ) mm	(xxxxx)	•	
7321150.007.xxxxx	HSC30-007/Au PTFE ( <i>length</i> ) 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 ( <i>length</i> ) mm	(xxxxx)	•	
7331152.007.xxxxx	HSC31-007/Au PTFE ( <i>length</i> ) mm	(xxxxx)		•



Cross section



Cable construction

**HV cable for connector types HSB10 – HSB31 (10 – 30 kVDC)**

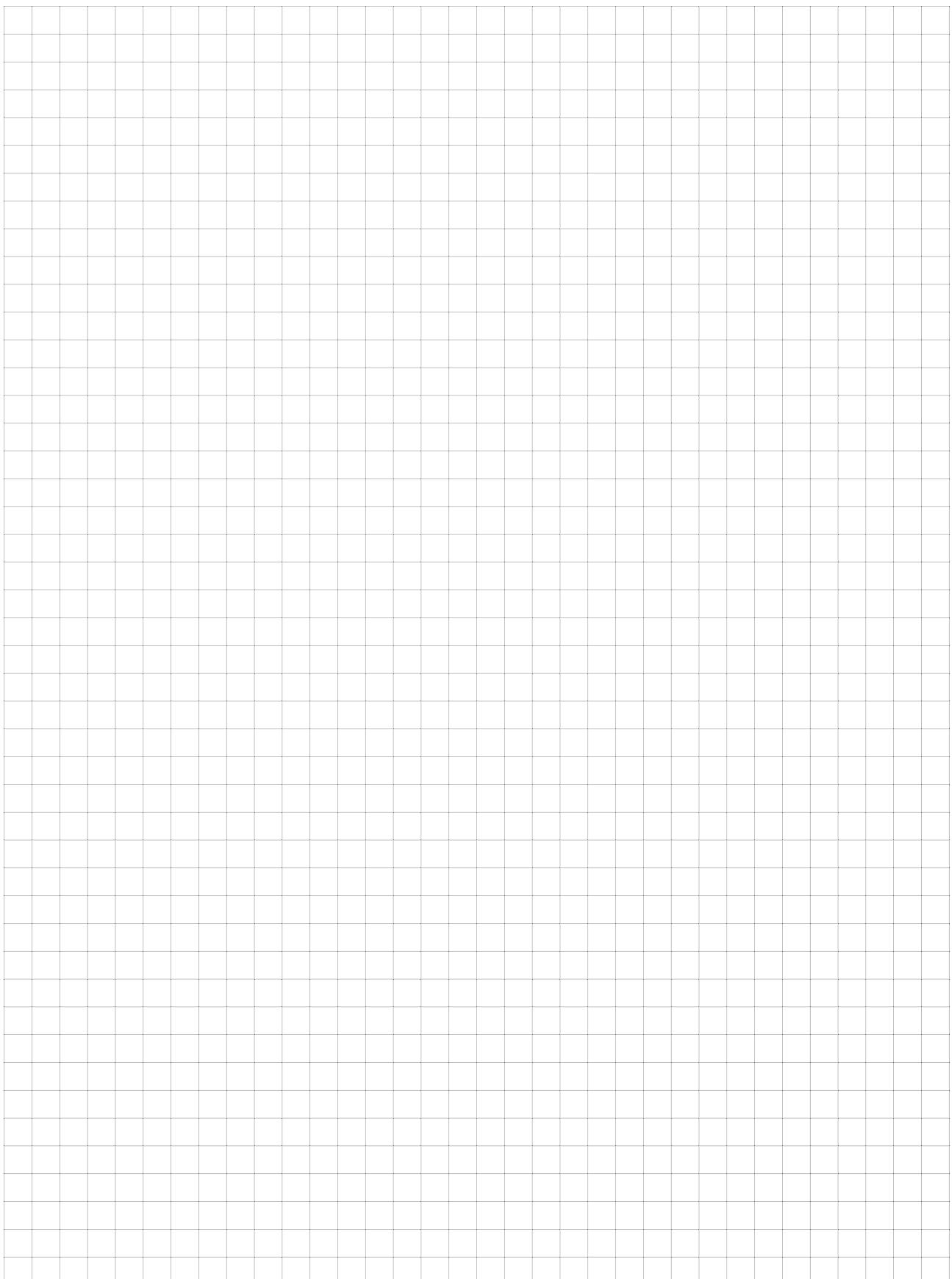
Part No. 3330007	
Description	HV cable 30 kVDC, coaxial cable
Operating voltage	30 kVDC
Test voltage	60 kVDC
Capacitance	82.7 pF/m
Conductor resistance	58.7 Ω/km
Insulation resistance	5,000 MΩ x km
Temperature	-25°C to +90°C

Dimensions	
Wire size	AWG22 (0.35 mm <sup>2</sup> )
Wire material	CuSn
Wire structure	7 x 0.25 mm
Dielectric insulation material	PE, red
- diameter	3.9 mm
Screen material	CuSn
- diameter	4.4 mm
Jacket material	PVC, red
- diameter	5.4 mm

## Notes

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Series - S



# Series 100



- ***Operating voltage up to 100 kVDC***
- ***Operating current up to 80 Amps***
- ***Advanced contact technology***
- ***Oil tight receptacles available***
- ***High performance insulation materials PTFE and POM***

# General characteristics and technical data Series 100

Series **100**

Housing	
Locking system	threaded coupling
Mounting type (panel mount connector)	round flange
Housing material	aluminium (Al)
Surface plating	nickel (Ni)
Protection class (mated connector)	IP50
Operating temperature	-30 °C to +80 °C

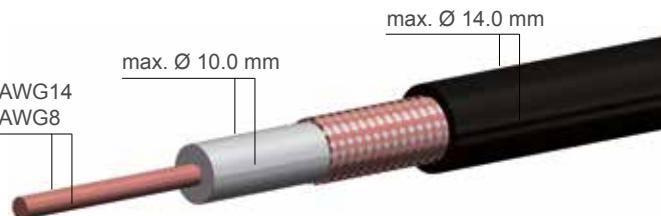
Contacts 2.5 mm (connector types SB1x0)	
Termination method	solder (male contact), solder / screw (female contact)
Rated current	30 A
Max. operating current	40 A
Pulse current	3000 A
Contact resistance	300 µΩ
Contact diameter	2.5 mm
Max. wire size	AWG 14 / 2.5 mm <sup>2</sup>
Contact material	brass (CuZn)
Contact plating	silver (Ag) / gold (Au)
Insertion / Withdrawal force	5.5 N / 4.0 N
Mating cycles	100000
Rated temperature	+120 °C

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 µΩ
Contact diameter	5 mm
Max. wire size	AWG 8 / 10 mm <sup>2</sup>
Contact material	brass (CuZn)
Contact plating	silver (Ag)
Insertion / Withdrawal force	15 N / 10 N
Mating cycles	100000
Rated temperature	+120 °C

Insulation inserts	
Number of contacts	1
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
Operating temperature POM	-30 °C to +120 °C
Insulating material group PTFE / POM	I (DIN IEC 60664)

## Suitable cable dimensions

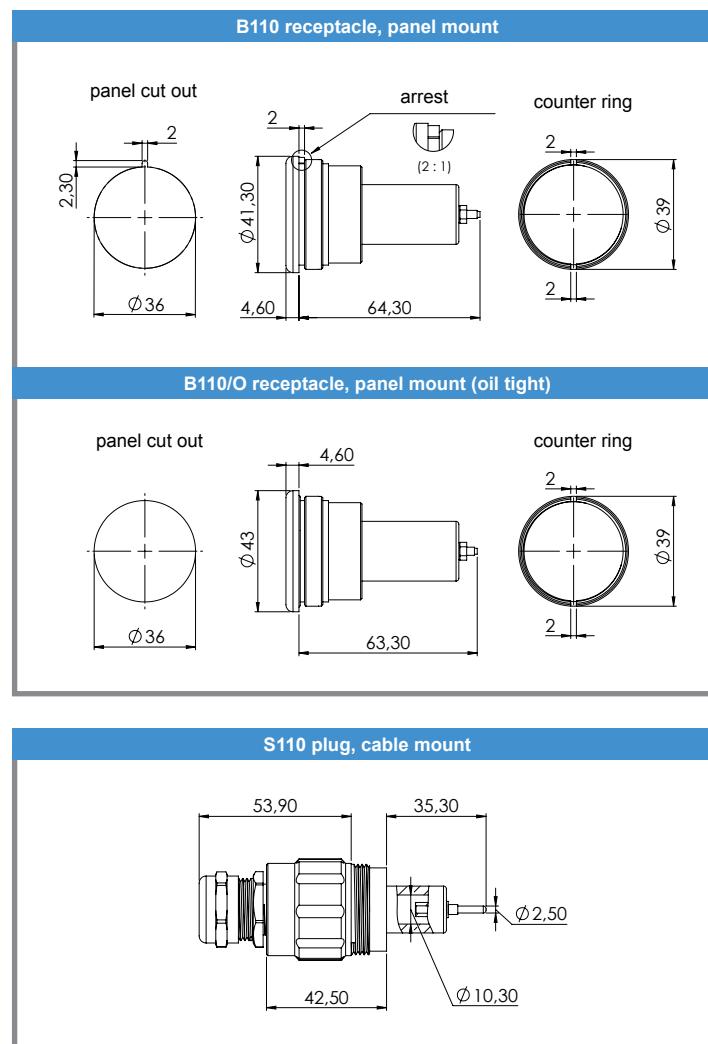
type 1x0: max. AWG14  
type 1x5: max. AWG8





B110 receptacle, panel mount  
S110 plug, cable mount

Electrical values	
Operating voltage (DC)	10 kV
Test voltage (DC)	15 kV
Rated current	30 A
Maximum operating current	40 A
Pulse current	3000 A
Characteristics	
Contact size	2.5 mm
Insulation material	PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 - 10 mm	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7212000	S110/A PTFE	•			•		
7212001	S110/B PTFE	•				•	
7212004	S110/E PTFE	•		•			
7213000	B110 PTFE		•				
7213001	B110/O PTFE		•				•

\*KV = screwed cable gland

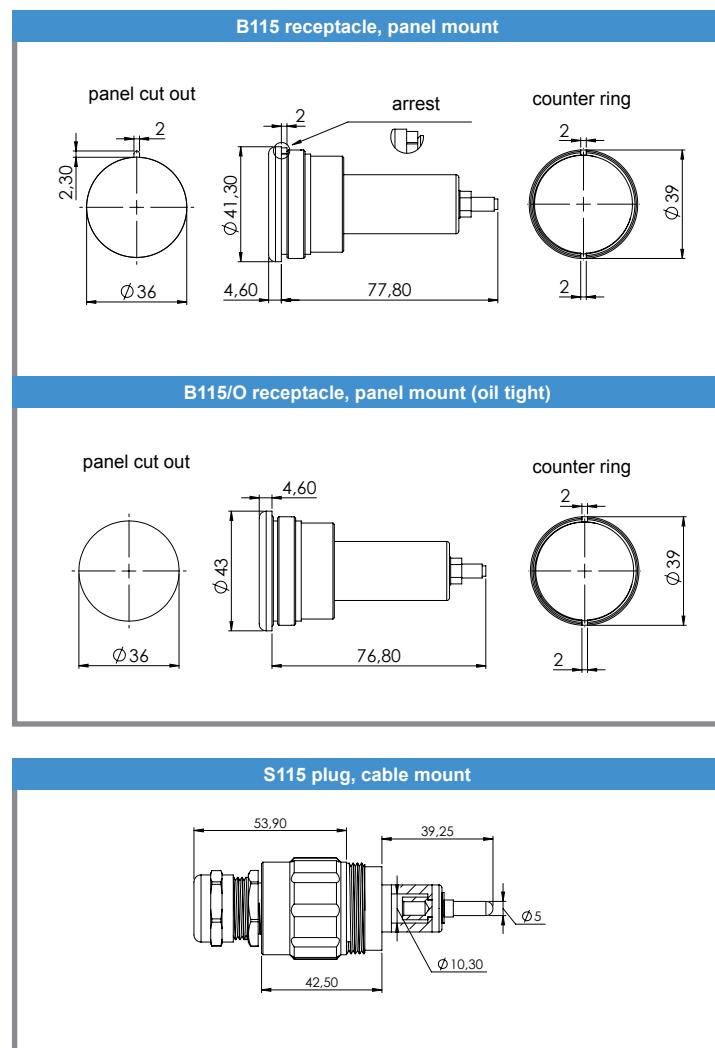


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B115 receptacle, panel mount  
S115 plug, cable mount

Electrical values	
Operating voltage (DC)	10 kV
Test voltage (DC)	15 kV
Rated current	80 A
Maximum operating current	110 A
Pulse current	10000 A
Characteristics	
Contact size	5 mm
Insulation material	PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 - 10 mm	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7215004	S115/C PTFE	•		•			
7217000	S115/A PTFE	•			•		
7217001	S115/B PTFE	•				•	
7218000	B115 PTFE		•				
7218001	B115/O PTFE		•				•

\*KV = screwed cable gland

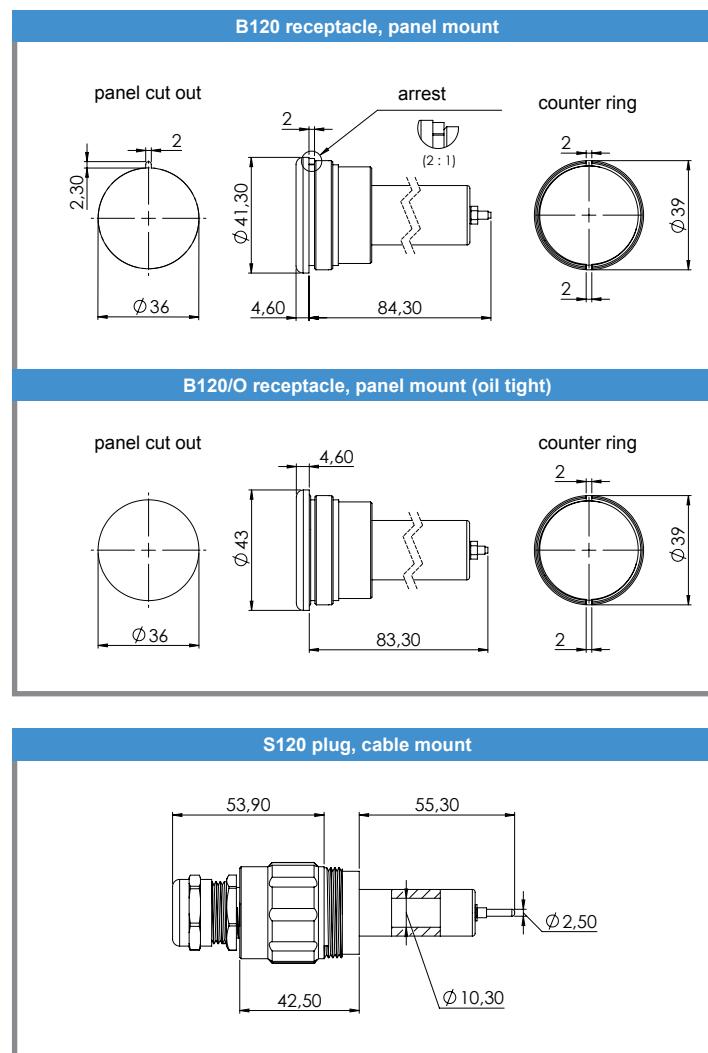


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B120 receptacle, panel mount  
S120 plug, cable mount

Electrical values	
Operating voltage (DC)	20 kV
Test voltage (DC)	30 kV
Rated current	30 A
Maximum operating current	40 A
Pulse current	3000 A
Characteristics	
Contact size	2.5 mm
Insulation material	PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)



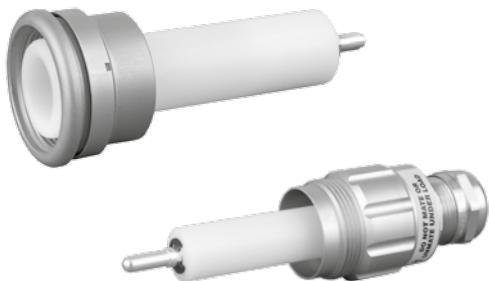
drawing - dimensions in mm

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 - 10 mm	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7222000	S120/A PTFE	•			•		
7222002	S120/B PTFE	•				•	
7222003	S120/E PTFE	•		•			
7223000	B120 PTFE		•				
7223001	B120/O PTFE		•				•

\*KV = screwed cable gland

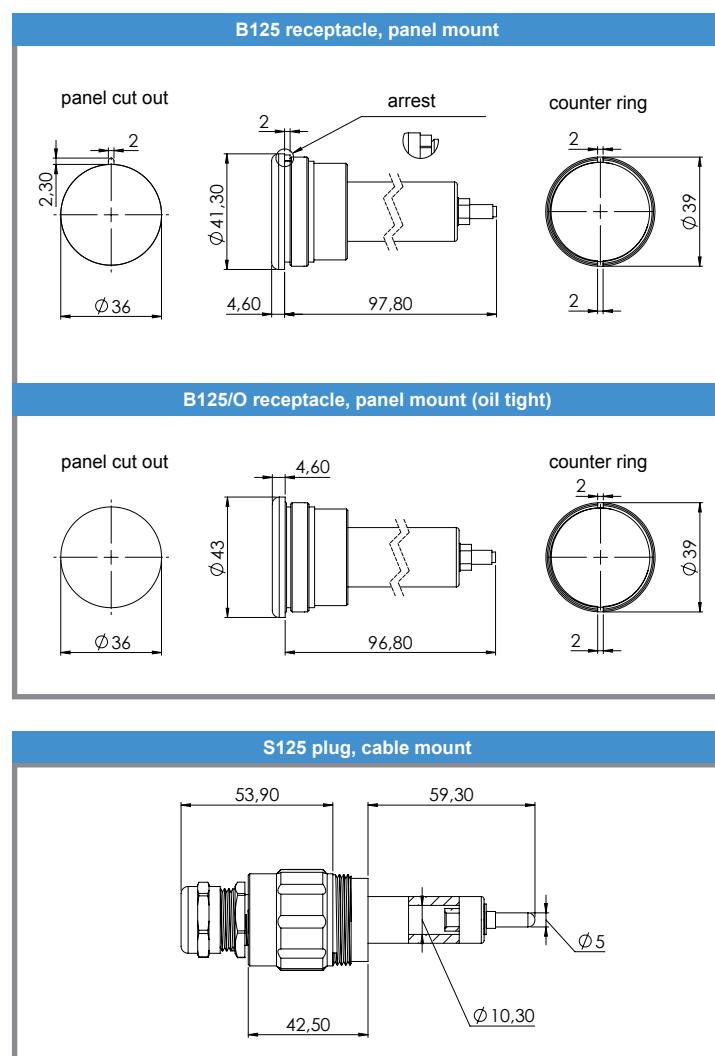


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B125 receptacle, panel mount  
S125 plug, cable mount

Electrical values	
Operating voltage (DC)	20 kV
Test voltage (DC)	30 kV
Rated current	80 A
Maximum operating current	110 A
Pulse current	10000 A
Characteristics	
Contact size	5 mm
Insulation material	PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 - 10 mm	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7227000	S125/A PTFE	•			•		
7227001	S125/B PTFE	•				•	
7227002	S125/E PTFE	•		•			
7228000	B125 PTFE		•				
7228002	B125/O PTFE		•				•

\*KV = screwed cable gland

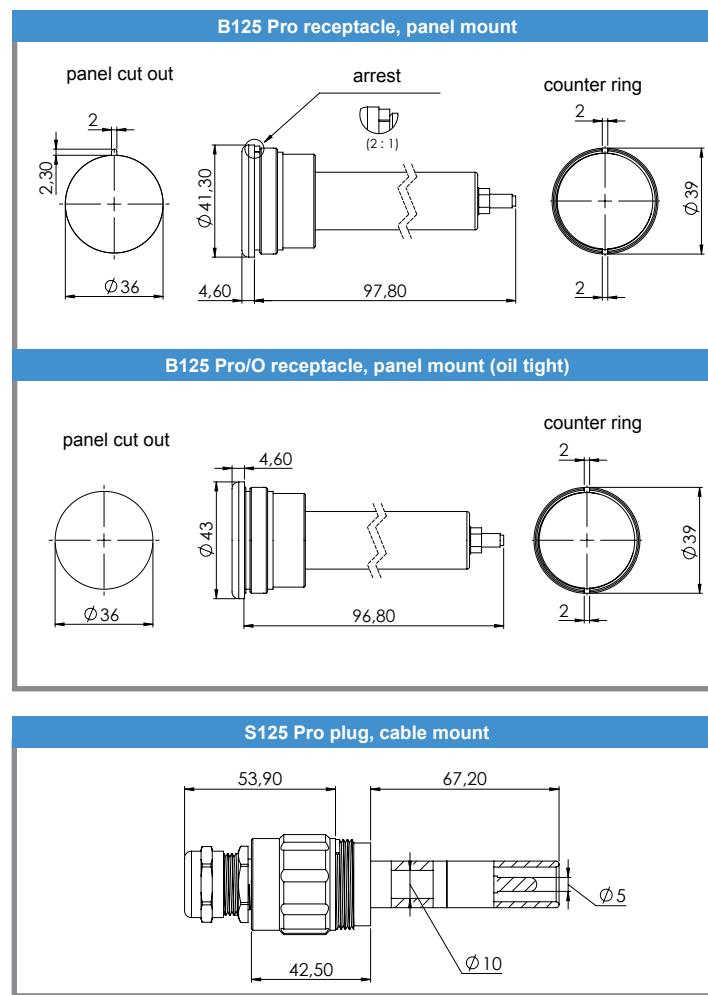


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B125 Pro receptacle, panel mount  
S125 Pro plug, cable mount

Electrical values	
Operating voltage (DC)	20 kV
Test voltage (DC)	30 kV
Rated current	80 A
Maximum operating current	110 A
Pulse current	10000 A
Characteristics	
Contact size	5 mm
Male contact (plug)	finger-proof
Insulation material	PTFE
Mounting type receptacle	round flange



drawing - dimensions in mm

Insulation material PTFE

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 - 10 mm	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7225005	S125/A Pro POM	•			•		
7225006	S125/B Pro POM	•				•	
7225004	S125/E Pro POM	•		•			
7226001	B125 Pro POM		•				
7226002	B125/O Pro POM		•				•

\*KV = screwed cable gland



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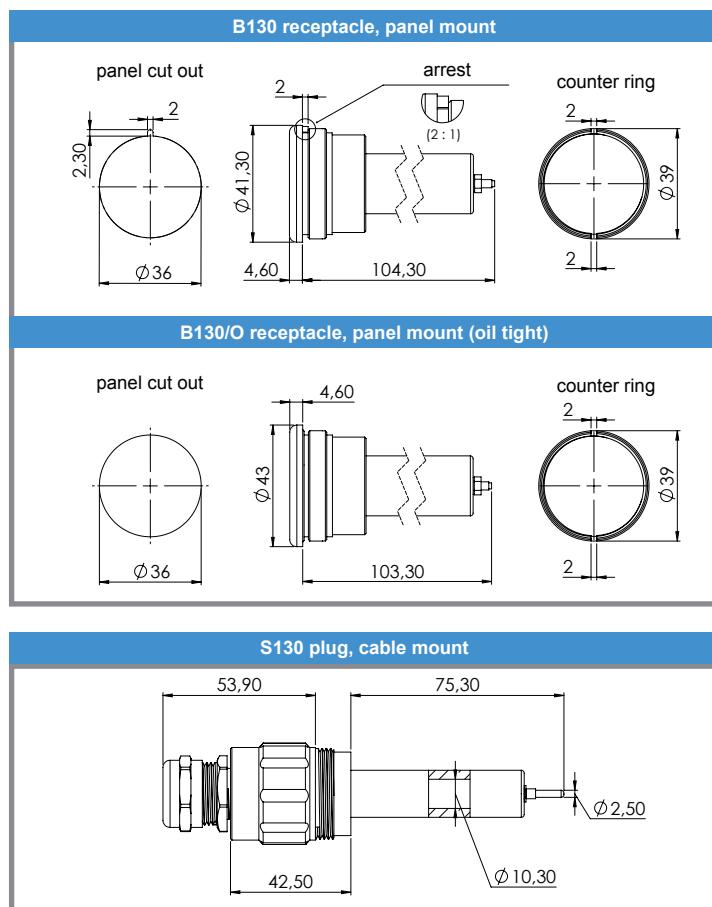
B130 receptacle, panel mount  
S130 plug, cable mount

### Electrical values

Operating voltage (DC)	30 kV
Test voltage (DC)	45 kV
Rated current	30 A
Maximum operating current	40 A
Pulse current	3000 A

### Characteristics

Contact size	2.5 mm
Insulation material	PTFE
Mounting type receptacle	round flange
Contact plating	Silber (Ag)



drawing - dimensions in mm

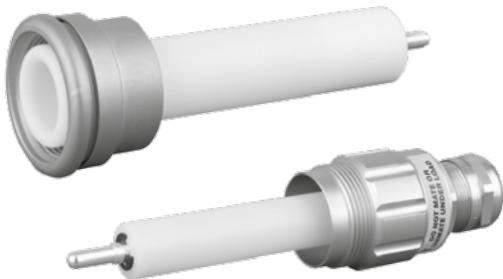
Insulation material PTFE

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 -10 mm	KV* for cable O.D. 7 -12 mm	KV* for cable O.D. 10 -14 mm	oil tight version
7232000	S130/A PTFE	•			•		
7232001	S130/B PTFE	•				•	
7232007	S130/E PTFE	•		•			
7233000	B130 PTFE		•				
7233002	B130/O PTFE		•				•

\*KV = screwed cable gland



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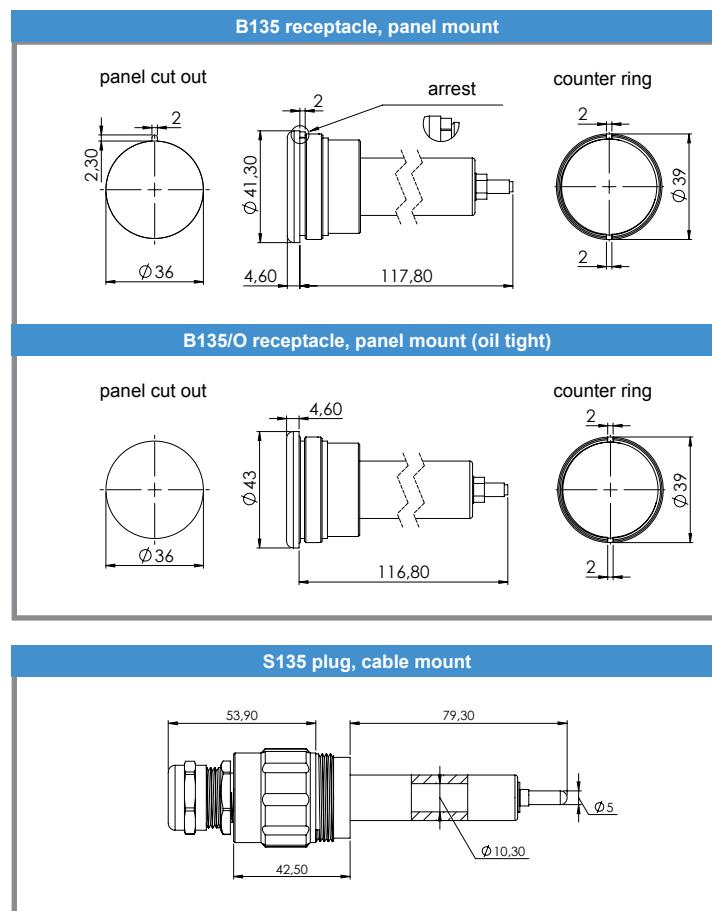
B135 receptacle, panel mount  
S135 plug, cable mount

#### Electrical values

Operating voltage (DC)	30 kV
Test voltage (DC)	45 kV
Rated current	80 A
Maximum operating current	110 A
Pulse current	10000 A

#### Characteristics

Contact size	5 mm
Insulation material	POM / PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm

#### Insulation material POM

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7235000	S135/A POM	•		•		
7235001	S135/B POM	•			•	
7236000	B135 POM		•			
7236001	B135/O POM		•			•

#### Insulation material PTFE

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7237000	S135/A PTFE	•		•		
7237001	S135/B PTFE	•			•	
7238000	B135 PTFE		•			
7238001	B135/O PTFE		•			•

\*KV = screwed cable gland



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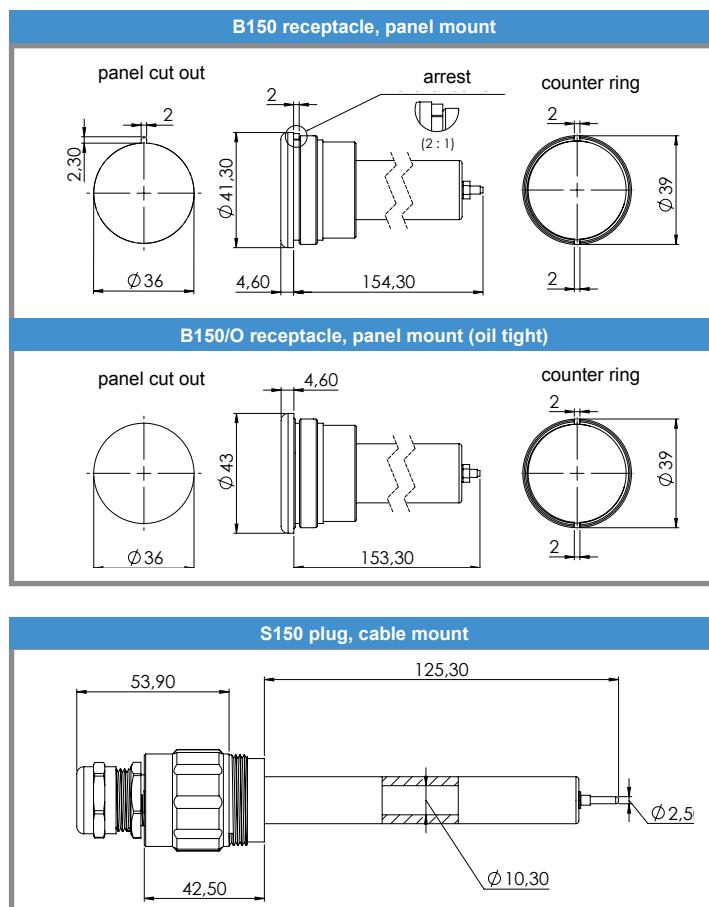
B150 receptacle, panel mount  
S150 plug, cable mount

### Electrical values

Operating voltage (DC)	50 kV
Test voltage (DC)	75 kV
Rated current	30 A
Maximum operating current	40 A
Pulse current	3000 A

### Characteristics

Contact size	2.5 mm
Insulation material	POM / PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm

### Insulation material POM

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 - 10 mm	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7250000	S150/A POM	•			•		
7250001	S150/B POM	•				•	
7250004	S150/E POM	•		•			
7251000	B150 POM		•				
7251001	B150/O POM		•				•

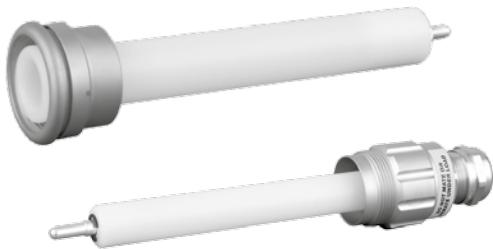
### Insulation material PTFE

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 - 10 mm	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7252000	S150/A PTFE	•			•		
7252001	S150/B PTFE	•				•	
7252004	S150/E PTFE	•		•			
7253000	B150 PTFE		•				
7253001	B150/O PTFE		•				•

\*KV = screwed cable gland



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B155 receptacle, panel mount

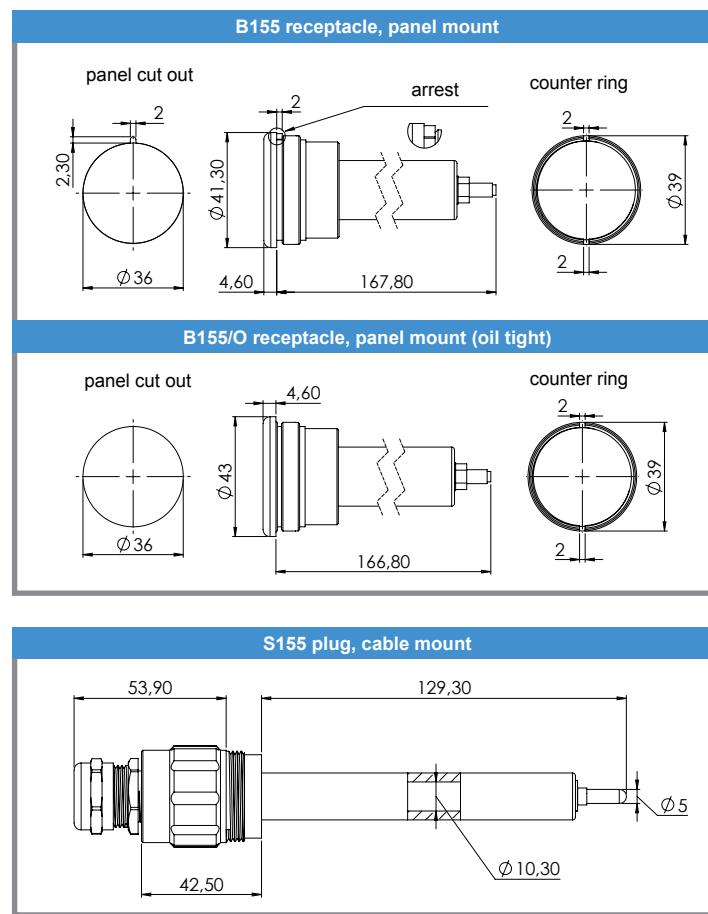
S155 plug, cable mount

**Electrical values**

Operating voltage (DC)	50 kV
Test voltage (DC)	75 kV
Rated current	80 A
Maximum operating current	110 A
Pulse current	10000 A

**Characteristics**

Contact size	5 mm
Insulation material	PTFE / POM
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm

**Insulation material POM**

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7255000	S155/A POM	•		•		
7255001	S155/B POM	•			•	
7256000	B155 POM		•			
7258002	B155/O POM		•			•

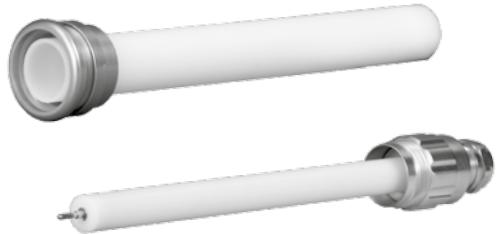
**Insulation material PTFE**

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7257001	S155/A PTFE	•		•		
7257000	S155/B PTFE	•			•	
7258000	B155 PTFE		•		•	
7258001	B155/O PTFE		•			•

\*KV = screwed cable gland



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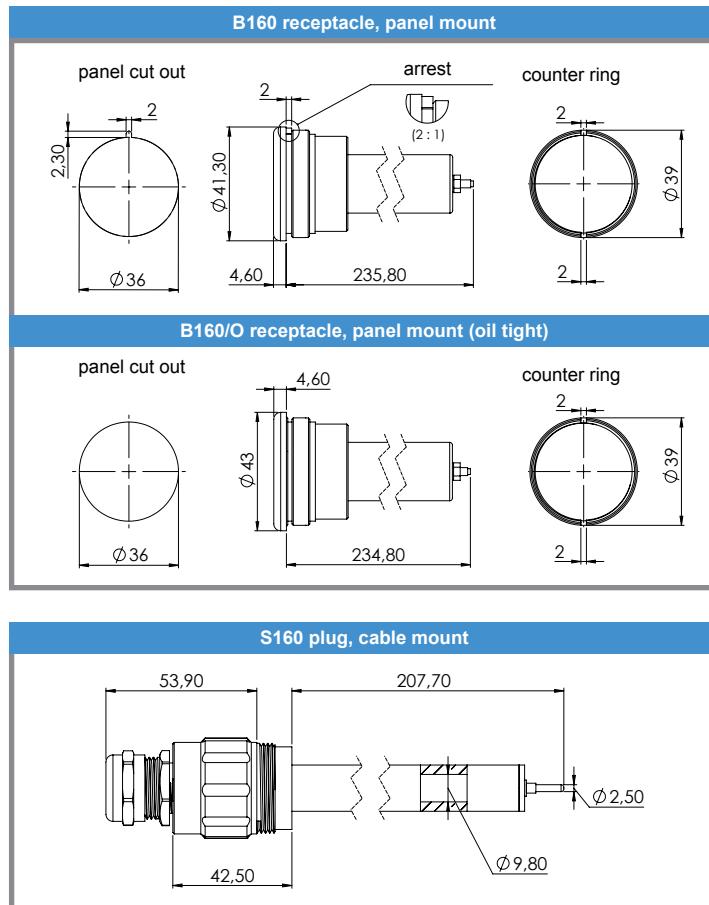
B160 receptacle, panel mount  
S160 plug, cable mount

### Electrical values

Operating voltage (DC)	60 kV
Test voltage (DC)	90 kV
Rated current	30 A
Maximum operating current	40 A
Pulse current	3000 A

### Characteristics

Contact size	2.5 mm
Insulation material	POM / PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm

### Insulation material POM

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 - 10 mm	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7280000	S160/A POM	•			•		
7280001	S160/B POM	•				•	
7280003	S160/E POM	•		•			
7280100	B160 POM		•				
7280150	B160/O POM		•				•

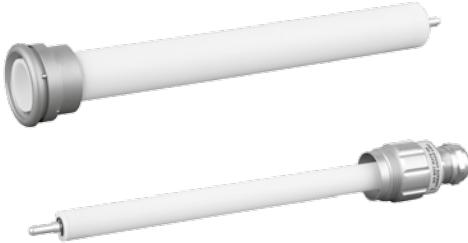
### Insulation material PTFE

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 5 - 10 mm	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7280200	S160/A PTFE	•			•		
7280201	S160/B PTFE	•				•	
7280300	B160 PTFE		•				
7280350	B160/O PTFE		•				•

\*KV = screwed cable gland



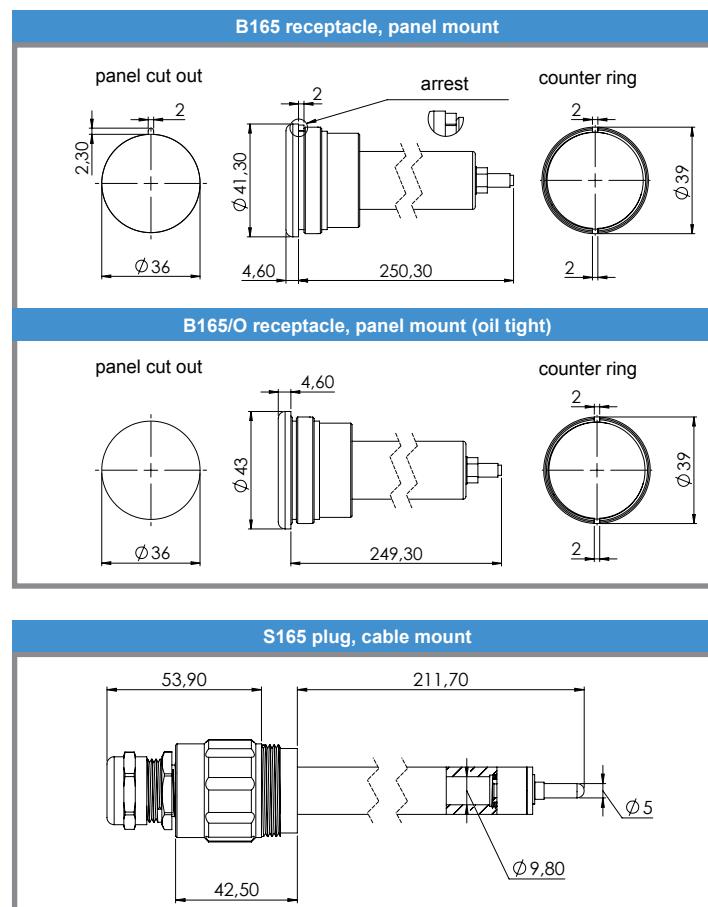
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B165 receptacle, panel mount  
S165 plug, cable mount

#### Electrical values

Operating voltage (DC)	60 kV
Test voltage (DC)	90 kV
Rated current	80 A
Maximum operating current	110 A
Pulse current	10000 A
<b>Characteristics</b>	
Contact size	5 mm
Insulation material	POM / PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm

#### Insulation material POM

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7280410	S165/A POM	•		•		
7280411	S165/B POM	•			•	
7280460	B165 POM		•			
7280461	B165/O POM		•			•

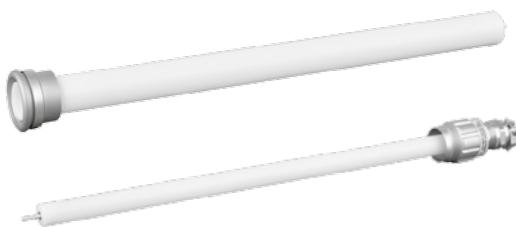
#### Insulation material PTFE

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7280400	S165/A PTFE	•		•		
7280415	S165/B PTFE	•				
7280450	B165 PTFE		•		•	
7280462	B165/O PTFE		•			•

\*KV = screwed cable gland



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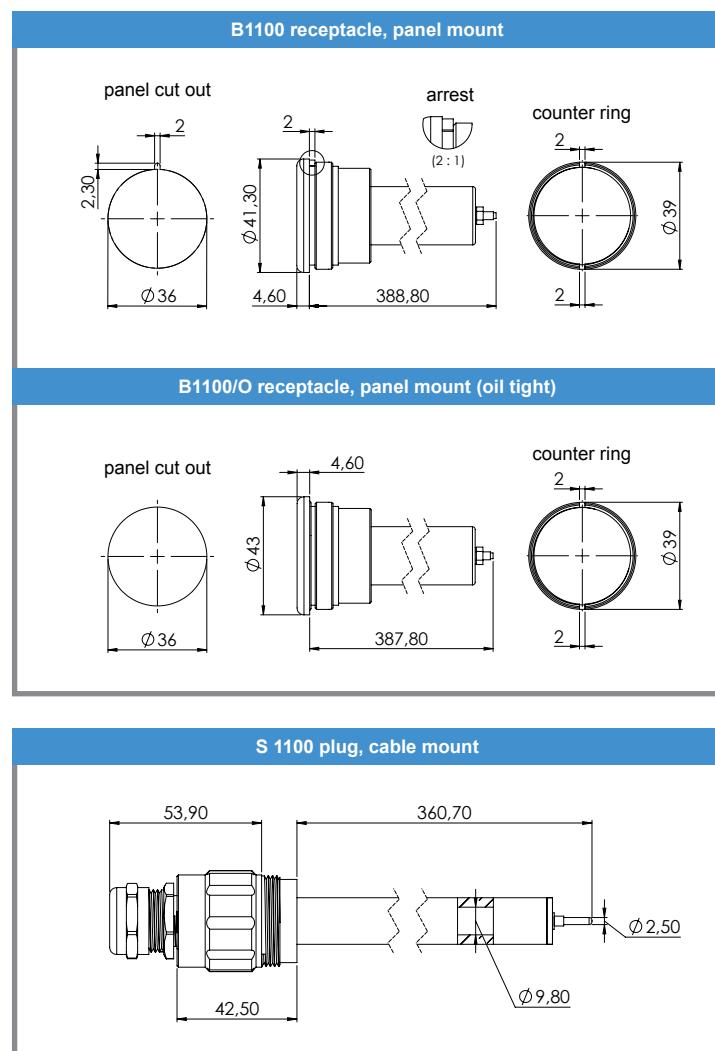
B1100 receptacle, panel mount  
S1100 plug, cable mount

### Electrical values

Operating voltage (DC)	100 kV
Test voltage (DC)	150 kV
Rated current	30 A
Maximum operating current	40 A
Pulse current	3000 A

### Characteristics

Contact size	2.5 mm
Insulation material	POM
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm

P/N	Description	Plug, cable mount	Receptacle, panel mount	KV* for cable O.D. 7 - 12 mm	KV* for cable O.D. 10 - 14 mm	oil tight version
7392000	S1100/A POM	•		•		
7392001	S1100/B POM	•			•	
7392003	B1100 POM		•			
7392004	B1100/O POM		•			•

\*KV = screwed cable gland

Accessories - page 39  
Mounting instructions - page 40-44  
Cables - page 45



**Contacts**

P/N	Description	Drawing
6572001	male contact 2.5 mm silver plated (Ag)	
6572005	female contact 2.5 mm silver plated (Ag)	
6672050	male contact 5 mm silver plated (Ag)	
6572007	female contact 5 mm silver plated (Ag)	

**Covering**

P/N	Description
6671011	Threaded covering with chain for receptacles Series 100
<b>Drawing</b>	
	 length of chain approx. 135 mm

drawing - dimensions in mm

# Assembly Instructions Series 100 (plug, cable mount)

Series **100**

**1.**



Part as delivered

**2.**



Remove cap (1) and take out sealing insert (2) from housing (3)

**3.**



Remove snap ring (5), take out male contact (6) from insulation part (4)

**5.**



Remove cable jacket

**⚠** Do not damage shield braid

Types	min. L1 [mm]
S110 / S115	53
S120 / S125 / S125 Pro	73
S130 / S135	93
S150 / S155	143
S160 / S165	226
S1100 / S1105	379

**⚠** The stated lengths in the table are only valid for types „/A“ (i.e. S125/A) and „/B“ (i.e. S150/B)

**6.**



Fold back shield braid over jacket

**4.**



Place cap (1) and sealing insert (2) on cable

**⚠** Respect correct order of parts (see picture)

**7.**



Cut shield braid roughly about 30 mm (=L2)

**⚠** Carefully remove shield parts. Loose shield parts can cause electrical break down

**8.**



Remove dielectric insulation

Types	min. L3 [mm]
S 110/120/130/150/160/1100	5
S 115/125/125 Pro/135/155/165	8

**⚠** Do not damage conductor

**9.**



Solder contact (6) on conductor

**⚠** Tin-solder must not remain on contact surface

**12.**



Cut overlapping shield braid

**⚠** Carefully remove shield parts. Loose shield parts can cause electrical break down

**13.**



Screw cap (1) onto housing (3)

**⚠** Wrench size: 24 / tightening torque 10 Nm

**10.**



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

**14.**



Secure contact (6) with snap ring (5)

**11.**



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

**15.**



Assembly finished

# Assembly Instructions Series 100 (receptacle, panel mount)

Series **100**

**1.**



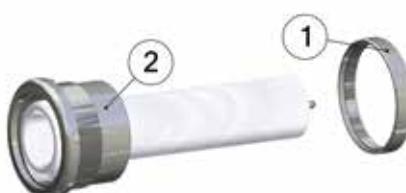
Part as supplied

**4.**



Place counter ring (1) on cable

**2.**



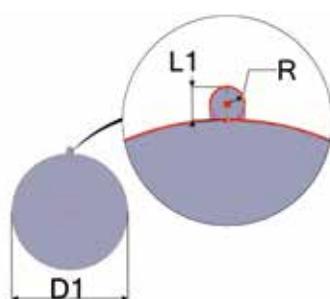
Remove counter ring (1)

**5.**



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

**3a.**



Panel cut out – standard receptacle

Type	min. L2 [mm]
B 110 / 115	40
B 120 / 125	80
B 130 / 135	120
B 150 / 155	200
B 160 / 165	240
B 1100 / 1105	400

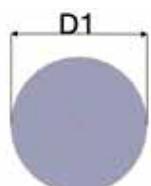
**⚠ Do not damage shield braid**

**6.**



Fold back shield braid over jacket

**3b.**



Panel cut out – oil tight receptacle

Dimension	Value [mm]
D1	36.50

**7.**



Remove dielectric insulation

Type	min. L3 [mm]
B 110 / 120 / 130 / 150 / 160 / 1100	5
B 115 / 125 / 135 / 155 / 165 / 1105	8

 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.**



Assembly finished



#### **Note – important!**

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

# Stripping lengths for shielded cables

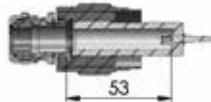
Series **100**

Series - 100

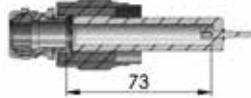
## PLEASE NOTICE:

Stated stripping lengths are referring ONLY  
to jackets of shielded cables !!

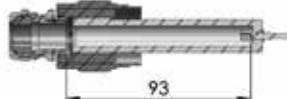
**S110  
S115**



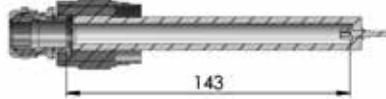
**S120  
S125**



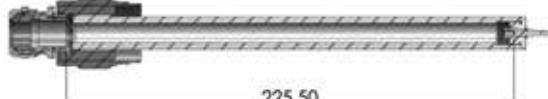
**S130  
S135**



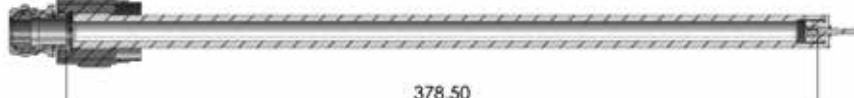
**S150  
S155**



**S160  
S165**



**S1100**

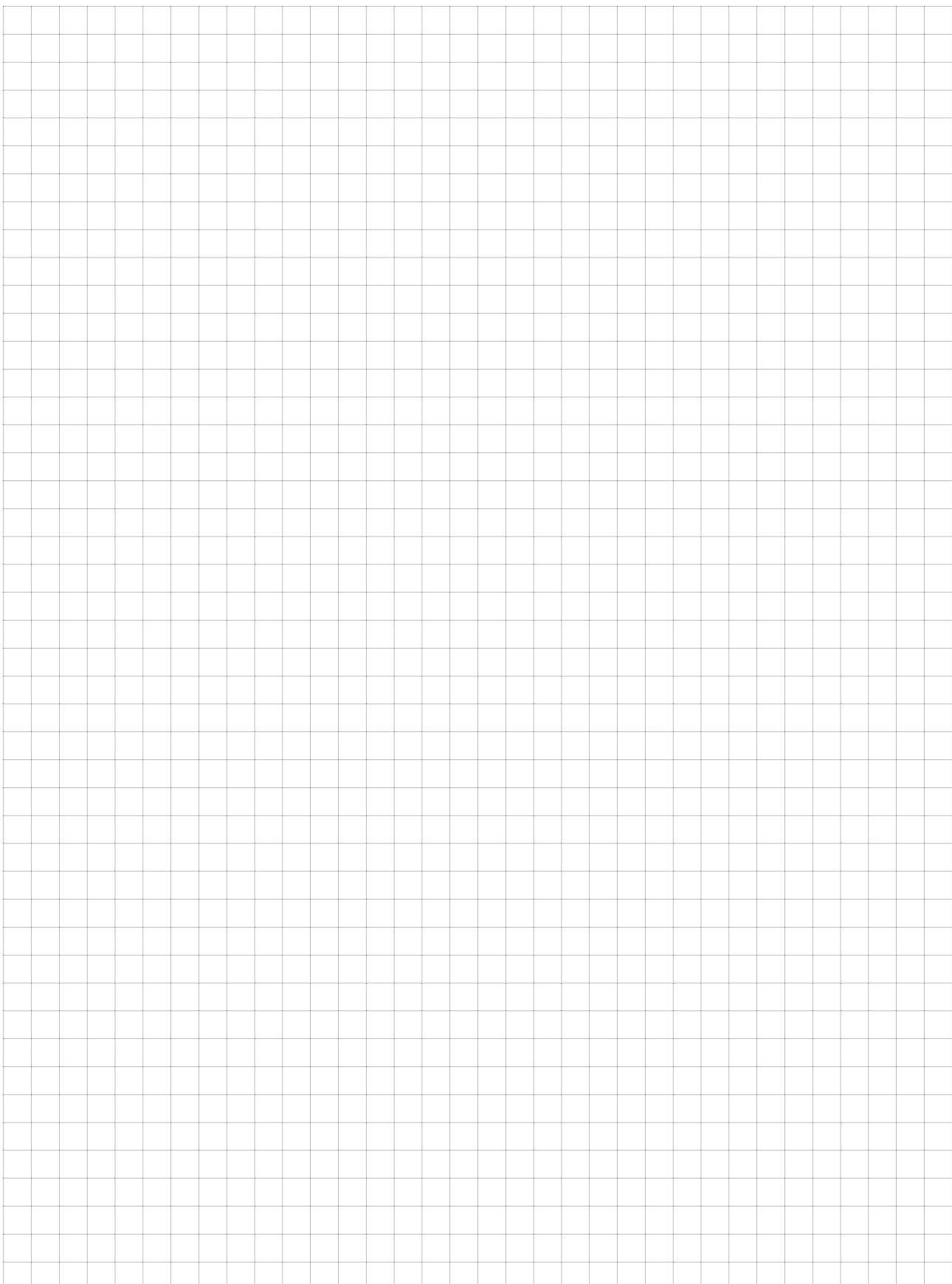


Type	"Screwed cable gland clamping range 5 - 10 mm"	"Screwed cable gland clamping range 7 - 12 mm"	"Screwed cable gland clamping range 10 - 14 mm"
	Stripping length in mm		
S110	56.5	53	53
S115	56.5	53	53
S120	76.5	73	73
S125	76.5	73	73
S125 Pro	76.5	73	73
S130	96.5	93	93
S135	96.5	93	93
S150	143.5	143	143
S155	143.5	143	143
S160	226	225.5	225.5
S165	226	225.5	225.5
S1100	382	378.5	378.5

	Part No. 3330049	Part No. 3330050	Part No. 3330058
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Operating voltage DC	100 kVDC	100 kVDC	60 kVDC
Operating voltage AC rms	30 kVAC		20 kVAC
Conductor size			
AWG	AWG 16	AWG 16	AWG 18
Strands	19 x AWG 29	19 x AWG 29	19 x AWG 30
Cross section	1.2 mm <sup>2</sup>	1.2 mm <sup>2</sup>	0.97 mm <sup>2</sup>
Diameter	1.25 mm	1.25 mm	1.11 mm
Semicon	YES	YES	YES
Diameter	2.5 mm	2.5 mm	2.0 mm
Material	Semiconductive PE	Semiconductive PE	Semiconductive PE
Dielectric			
Diameter	9.4 mm ( $\pm 0.25$ mm)	9.4 mm ( $\pm 0.25$ mm)	5.8 mm ( $\pm 0.25$ mm)
Material	LDHMW PE	LDHMW PE	LDHMW PE
Screen (Shield)	NO	YES	NO
Diameter		9.8 mm	
Material		Cu/Sn (AWG 34 t.p.c.) 90% coverage	
Jacket			
Diameter		11.2 mm ( $\pm 0.25$ mm)	
Material		PVC	
Impedance		61 $\Omega$	
Capacitance		98 pF/m	
Min. bend radius	127 mm (fixed)	152 mm (fixed)	64 mm (fixed)
Temperature range	-51° C to +60° C	-51° C to +60° C	-51° C to +60° C
Weight	0.075 kg/m	0.149 kg/m	0.03 kg/m
Color	natural	black	natural
Fits connector types	SB110 SB115 SB120 SB125 SB125Pro SB130 SB135 SB150 SB155 SB160 SB165 SB1100	SB110 SB115 SB120 SB125 SB125Pro SB130 SB135 SB150 SB155 SB160 SB165 SB1100	SB110 SB115 SB120 SB125 SB125Pro SB130 SB135 SB150 SB155 SB160 SB165





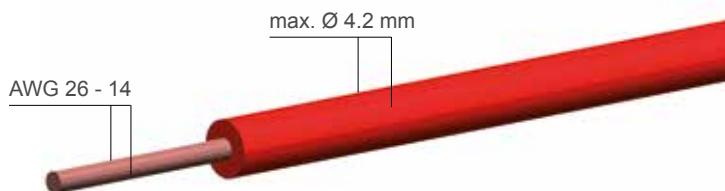
- **Operating voltages up to 13 kVDC**
- **Operating current 13 Amps / 30 Amps**
- **Ideal for internal cabling**
- **Quick assembly**
- **Several mounting options offering enhanced flexibility**

# General characteristics and technical data Series VarioPro CL

Series 

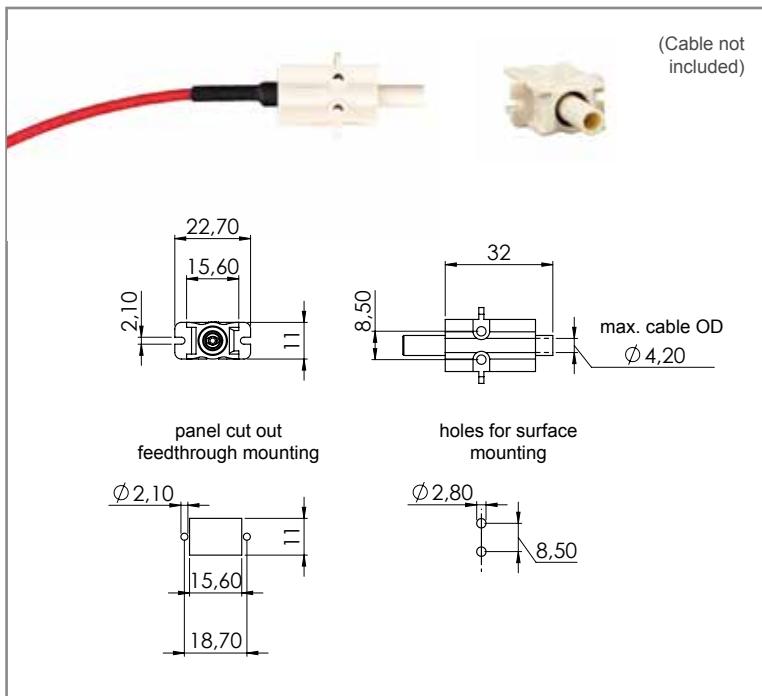
Electrical values	
Operating voltage (DC)	13 kV
Test voltage (DC)	20 kV
Housing	
Number of HV contacts	1 - 3
Insulation material	PBT
Flammability class	UL94 V-0
Operating temperature	-40 °C bis +150 °C
Insulating material group	I (DIN IEC 60664)
Contacts 1.6 mm	
Termination method	crimp
Rated current	13 A
Contact resistance	≤ 5 mΩ
Contact diameter	1.6 mm
Wire size (AWG / cross section)	AWG 26 - 14 (0.14 - 2.5 mm <sup>2</sup> )
Contact material	brass (CuZn)
Contact plating	silver (Ag), gold (Au)
Mating cycles	≥ 1,000
Rated temperature	+120 °C

## Suitable cable dimensions

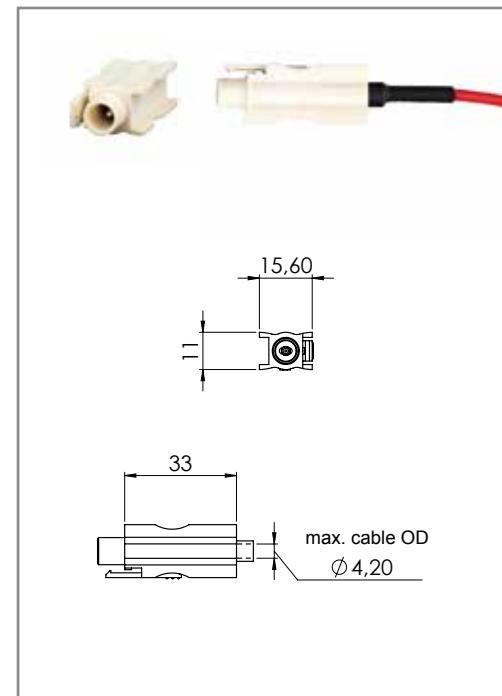


**VarioPro CL1 - receptacle**

Drawing

**VarioPro CL1 - plug**

Drawing



drawing - dimensions in mm

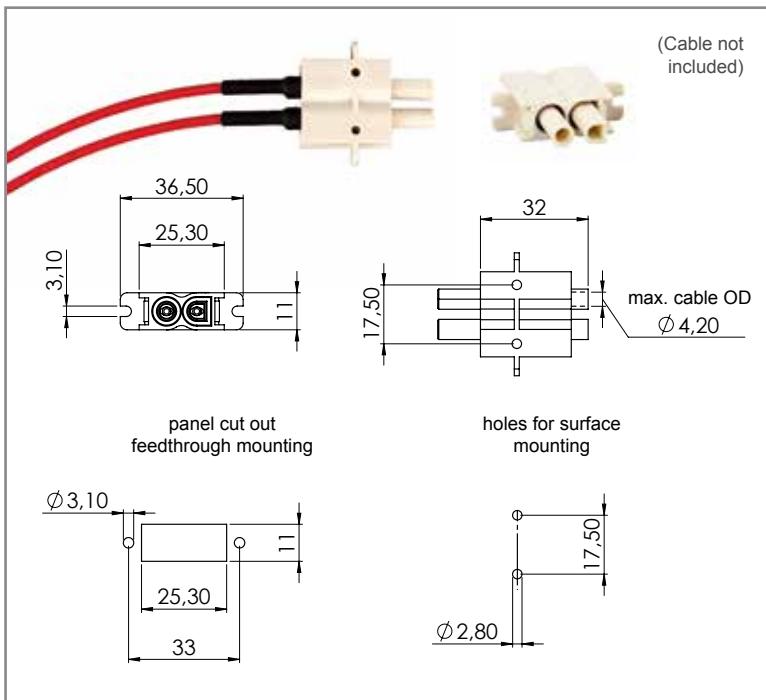
P/N	Description	Plug male contact	Receptacle female contact	Number of contacts	Including contacts	Contacts silver plated	Contacts gold plated
5000440	VP-CL-1HV-BU AWG 26 - 22 Ag		•	1	•	•	
5000441	VP-CL-1HV-BU AWG 20 Ag		•	1	•	•	
5000442	VP-CL-1HV-BU AWG 20 - 16 Ag		•	1	•	•	
5000443	VP-CL-1HV-BU AWG 16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



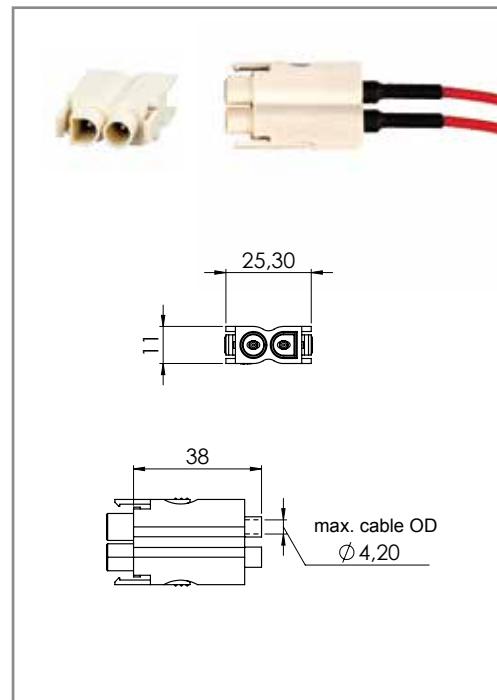
For cables and tools - please see page 65

**2-pole 13 kVDC****VarioPro CL2 - receptacle**

Drawing

**VarioPro CL2 - plug**

Drawing



drawing - dimensions in mm

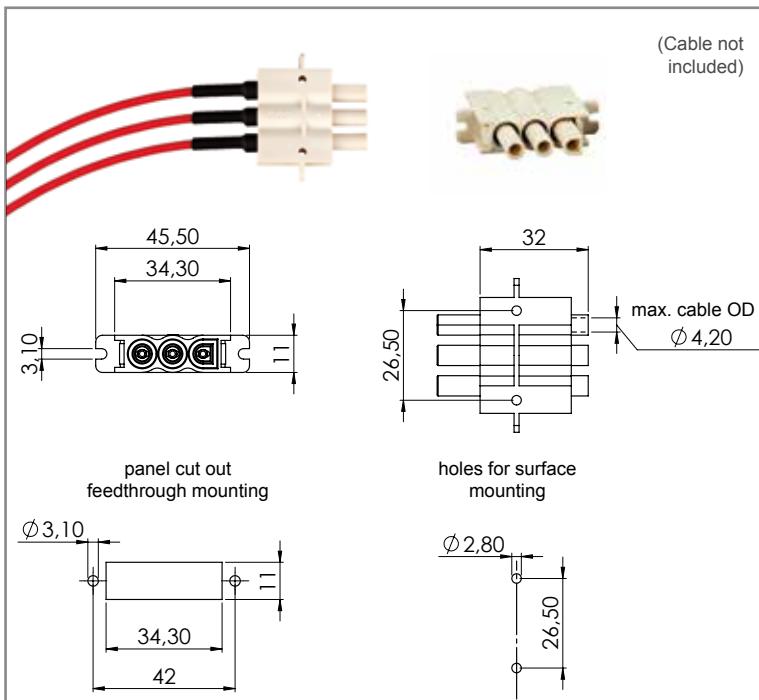
P/N	Description	Plug male contact	Receptacle female contact	Number of contacts	Including contacts	Contacts silver plated	Contacts gold plated
5000460	VP-CL-2HV-BU AWG 26 - 22 Ag		•	2	•	•	
5000461	VP-CL-2HV-BU AWG 20 Ag		•	2	•	•	
5000462	VP-CL-2HV-BU AWG 20 - 16 Ag		•	2	•	•	
5000463	VP-CL-2HV-BU AWG 16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



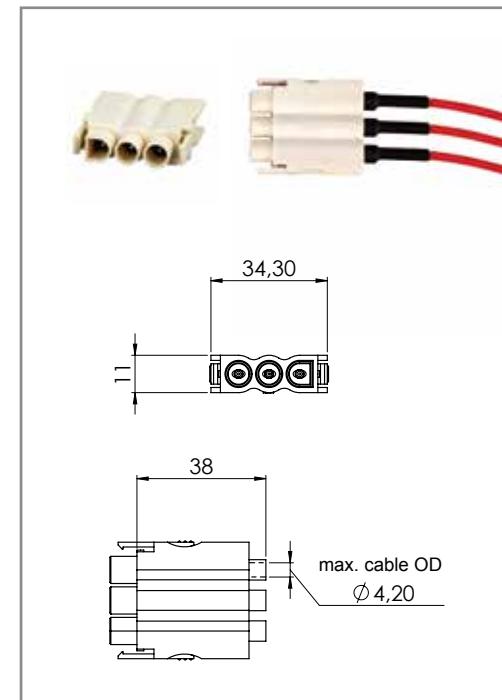
For cables and tools - please see page 65

**VarioPro CL3 - receptacle**

Drawing

**VarioPro CL3 - plug**

Drawing



drawing - dimensions in mm

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 AWG 26 - 22 Ag		•	3	•	•	
5000481	VP-CL-3HV-BU AWG 20 Ag		•	3	•	•	
5000482	VP-CL-3HV-BU AWG 20 - 16 Ag		•	3	•	•	
5000483	VP-CL-3HV-BU AWG 16 - 15 Ag		•	3	•	•	
5000484	VP-CL-3HV-BU AWG 14 Ag		•	3	•	•	
5000485	VP-CL-3HV-BU AWG 26 - 22 Au	•	3	•			•
5000486	VP-CL-3HV-BU AWG 20 Au	•	3	•			•
5000487	VP-CL-3HV-BU AWG 20 - 16 Au	•	3	•			•
5000488	VP-CL-3HV-BU AWG 16 - 15 Au	•	3	•			•
5000489	VP-CL-3HV-BU AWG 14 Au	•	3	•			•
5000490	VP-CL-3HV-ST AWG 26 - 22 Ag	•	3	•	•	•	
5000491	VP-CL-3HV-ST AWG 20 Ag	•	3	•	•	•	
5000492	VP-CL-3HV-ST AWG 20 - 16 Ag	•	3	•	•	•	
5000493	VP-CL-3HV-ST AWG 16 - 15 Ag	•	3	•	•	•	
5000494	VP-CL-3HV-ST AWG 14 Ag	•	3	•	•	•	
5000495	VP-CL-3HV-ST AWG 26 - 22 Au	•	3	•			•
5000496	VP-CL-3HV-ST AWG 20 Au	•	3	•			•
5000497	VP-CL-3HV-ST AWG 20 - 16 Au	•	3	•			•
5000498	VP-CL-3HV-ST AWG 16 - 15 Au	•	3	•			•
5000499	VP-CL-3HV-ST AWG 14 Au	•	3	•			•

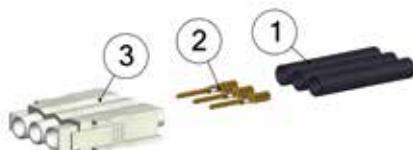


For cables and tools - please see page 65

# Assembly Instructions Series VP ClipLock - plug

Series  VP

1.



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

5.



Slide contact (2) completely into connector shell (3) until contact snaps  
 Pull gently to check that contact is correctly located and remains in position

2.



Place shrinking tube (1) on cable

6.



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

3.



Remove dielectric insulation (L5 = 5-8mm)

7.



Shrink tube - shrinking temperature 110° C

4.



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

8.



Assembly finished



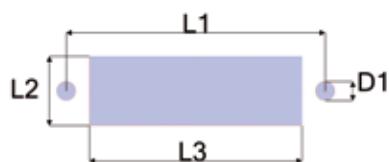
**Note – important!**

1. Please carefully read assembly instructions before cable assembly.

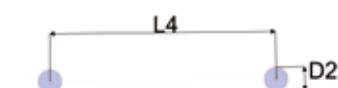
2. Cable assembly must only be done by trained and qualified personnel.

**1.****Part as supplied**

Shrinking tube (1), female contact (2),  
connector shell (3)

**2.****Panel cut out – feedthrough mounting**

Type	D1 [mm]	L1 [mm]	L2 [mm]	L3 [mm]
VP-CL-1HV-BU	2.10	18.70	11.20	15.80
VP-CL-2HV-BU	3.10	33.00	11.20	25.50
VP-CL-3HV-BU	3.10	42.00	11.20	34.50

**3.****Panel cut out – surface mounting**

Type	D2 [mm]	L4 [mm]
VP-CL-1HV-BU	2.80	8.50
VP-CL-2HV-BU	2.80	17.50
VP-CL-3HV-BU	2.80	26.50

**4.****Place shrinking tube (1) on cable****5.****Remove dielectric insulation (L5 = 5-8mm)****Note – important!**

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

**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 that contact is correctly located and remains in position

**8.****Slide shrinking tube (1) on connector shell (3)****9.**

Shrink tubes - shrinking temperature 110°C

**10.**

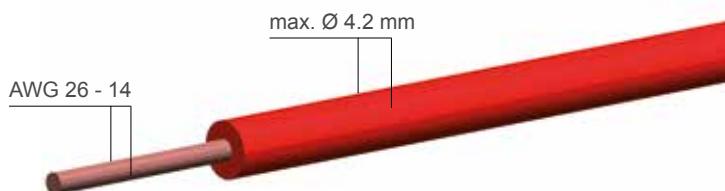
Assembly finished

# General characteristics and technical data Series VarioPro Basic

Series 

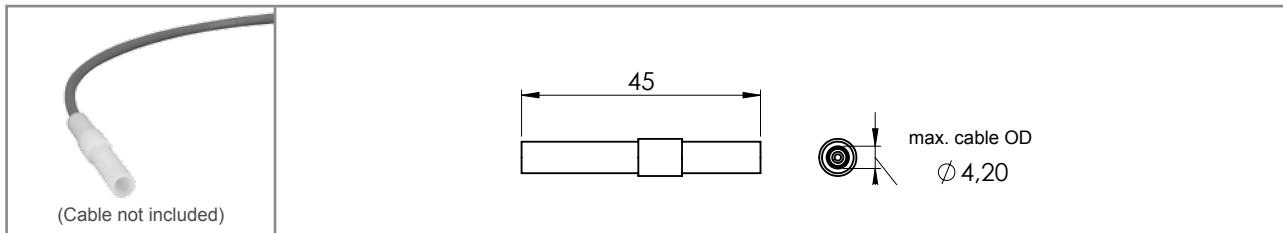
Electrical values	
Operating voltage (DC)	8 kV
Test voltage (DC)	12 kV
Housing	
Number of HV-contacts	1 - 2
Insulation material	POM
Flammability class	UL94 HB
Operating temperature	-30 °C to +120 °C
Insulating material group	I (DIN IEC 60664)
Contacts 1.6 mm	
Termination method	crimp
Rated current	13 A
Contact resistance	≤ 5 mΩ
Contact diameter	1.6 mm
Wire size (AWG / cross section)	0.14 - 2.5 mm <sup>2</sup> (AWG 26 - 14)
Contact material	brass (CuZn)
Contact plating	silver (Ag)
Mating cycles	≥ 1,000
Rated temperature	+120 °C

## Suitable cable dimensions



**VarioPro Basic - receptacle, single pole (VP-1HV-BU)**

Drawing

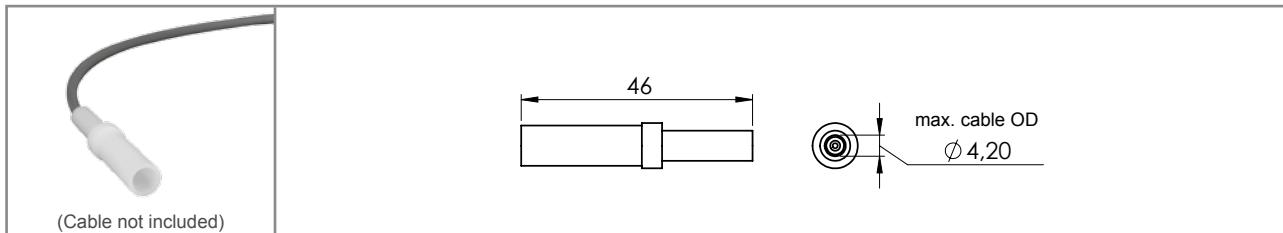


drawing - dimensions in mm

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

**VarioPro Basic - plug, single pole (VP-1HV-ST)**

Mechanical drawing



drawing - dimensions in mm

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



For cables and tools - please see page 65

# Assembly Instructions Series VP

## Basic - plug

Series 

1.



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

5.



Slide contact (2) completely into connector shell (3) until contact snaps  
 Pull gently to check that contact is correctly located and remains in position

2.



Place shrinking tube (1) on cable.

6.



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

3.



Remove dielectric insulation (L5 = 5-8mm)

7.



Shrink tube - shrinking temperature 110° C

4.



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

8.



Assembly finished

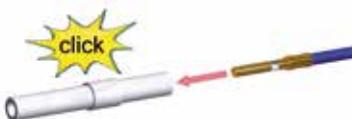


### Note – Important!

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

**1.**

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

**5.**

**Slide contact (2) completely into connector shell (3) until contact snaps**  
Pull gently to check that contact is correctly located and remains in position

**2.**

Place shrinking tube (1) on cable.

**6.**

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

**3.**

Remove dielectric insulation (L5 = 5-8mm)

**7.**

Shrink tube - shrinking temperature 110° C

**4.**

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

**8.**

Assembly finished



### Note – important!

1. Please carefully read assembly instructions before cable assembly.

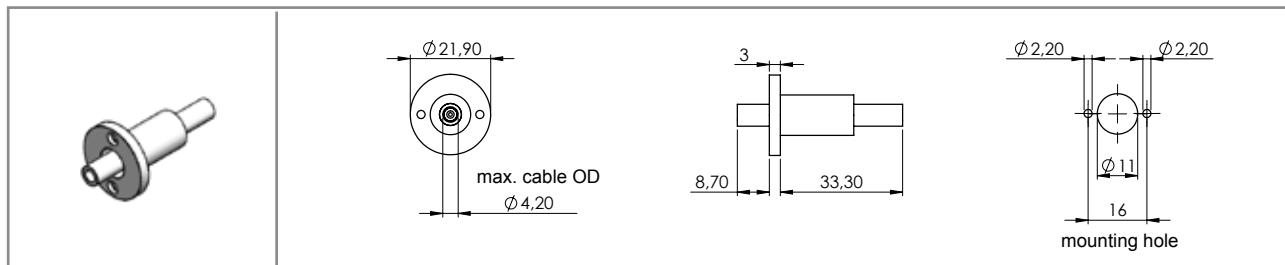
2. Cable assembly must only be done by trained and qualified personnel.

# Type VarioPro Basic DF 1-pole 8 kVDC

**Series** 

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

### Drawing

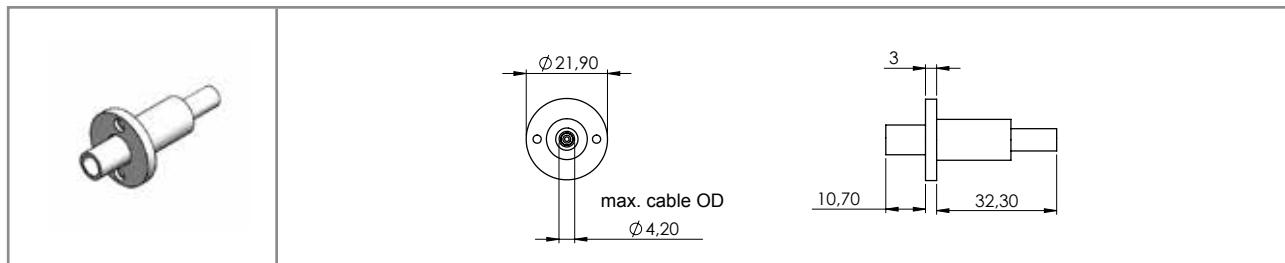


drawing - dimensions in mm

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

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

### Mechanical drawing



drawing - dimensions in mm

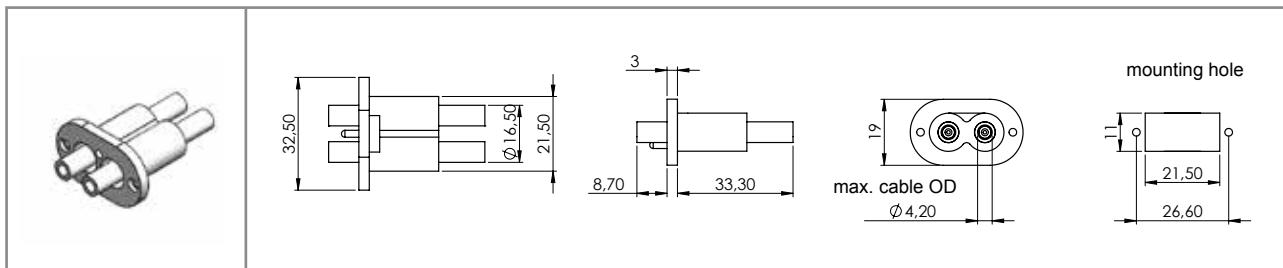
P/N	Description	Plug	Number of contacts	Including contacts	Panel mount
5000210	VP-DF-1HV-ST POM AWG 20 Ag	•	1	•	•
5000211	VP-DF-1HV-ST POM AWG 20 - 16 Ag	•	1	•	•
5000212	VP-DF-1HV-ST POM AWG 26 - 22 Ag	•	1	•	•
5000213	VP-DF-1HV-ST POM AWG 16 - 15 Ag	•	1	•	•
5000214	VP-DF-1HV-ST POM AWG 14 Ag	•	1	•	•

### Possible combinations



**VarioPro Basic DF (feedthrough) - receptacle, 2-pole (VP-DF-2HV-BU)**

## Drawing

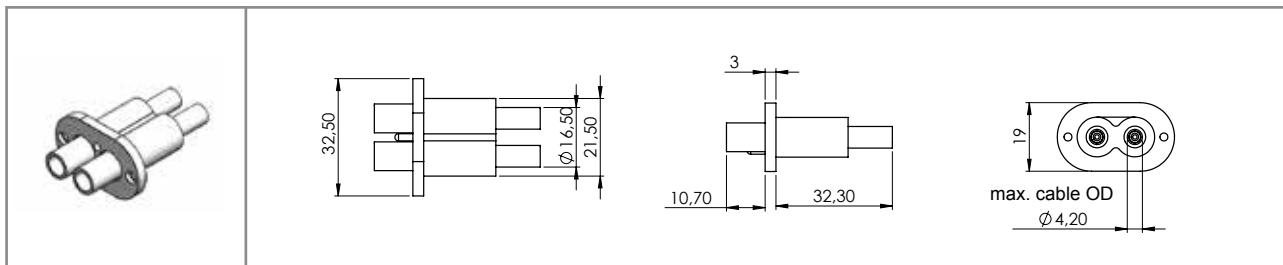


drawing - dimensions in mm

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

**VarioPro Basic DF (feedthrough) - plug, 2-pole (VP-DF-2HV-ST)**

## Drawing



drawing - dimensions in mm

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



For cables and tools - please see page 65

# Assembly Instructions Series-VP

## Basic Feedthrough - plug

Series 

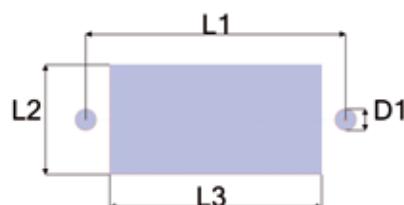
1.



### Part as supplied

Shrinking tube (1), male contact (2), connector shell (3)

2.



### Panel cut out

Type	D1 [mm]	L1 [mm]	L2 [mm]	L3 [mm]
VP-DF-2HV-ST	2.20	26.60	11.20	21.70

3.



Place shrinking tube (1) on cable

4.



Remove dielectric insulation (L5 = 5-8mm)

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 that contact is correctly located and remains in position

7.



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

8.



Shrink tubes - shrinking temperature 110° C

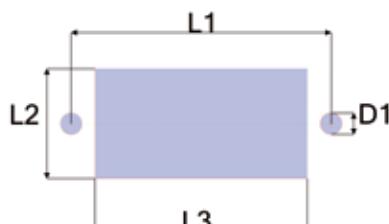
9.



Assembly finished

**1.****Part as supplied**

Shrinking tube (1), female contact (2),  
connector shell (3)

**2.****Panel cut out**

Type	D1 [mm]	L1 [mm]	L2 [mm]	L3 [mm]
VP-DF-2HV-BU	2.20	26.60	11.20	21.70

**3.****Place shrinking tube (1) on cable****4.****Remove dielectric insulation (L5 = 5-8mm)****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 that contact is correctly located and remains in position

**7.****Slide shrinking tube (1) on connector shell (3)****8.****Shrink tubes - shrinking temperature 110° C****9.**

# General characteristics and technical data Series VarioPro SB10

Series 

## Electrical values

Operating voltage (DC)	10 kV
Test voltage (DC)	15 kV

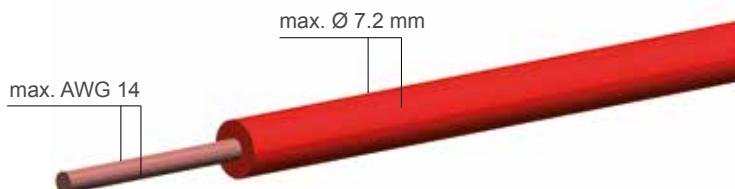
## Housing

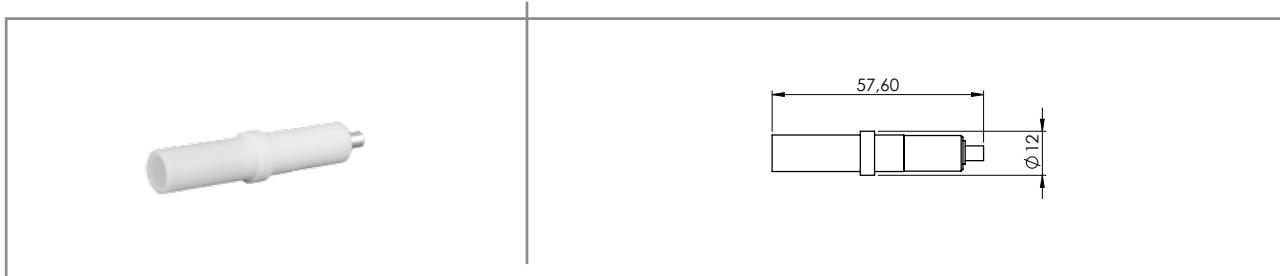
Number of HV-contacts	1
Insulation material	POM / PTFE
Flammability class POM	UL94 HB
Flammability class PTFE	UL94 V-0
Operating temperature POM	-30 °C to +120 °C
Operating temperature PTFE	-50 °C to +200 °C
Insulating material group	I (DIN IEC 60664)

## Contacts 2.7 mm

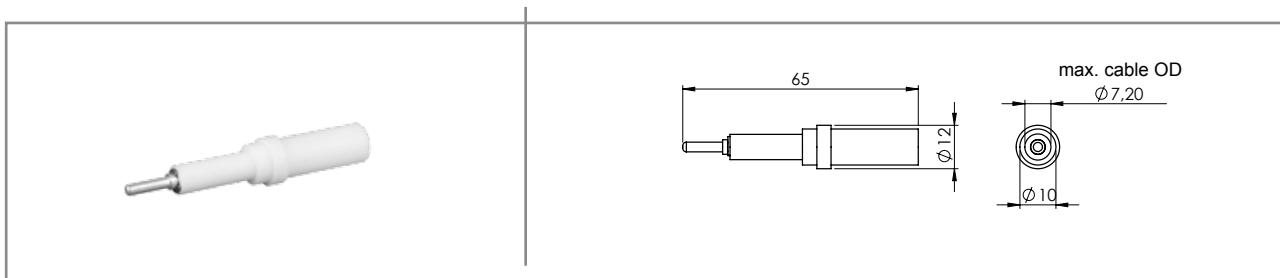
Termination method	solder
Rated current	30 A
Contact resistance	≤ 300 mΩ
Contact diameter	2.7 mm
Wire size (AWG / cross section)	2.5 mm <sup>2</sup> (AWG 14)
Contact material	brass (CuZn)
Contact plating	silver (Ag)
Mating cycles	≥ 100,000
Rated temperature	+120 °C

## Suitable cable dimensions



**VarioPro Basic B10 - receptacle****Drawing**

drawing - dimensions in mm

**VarioPro Basic S10 - plug****Drawing**

drawing - dimensions in mm

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	•	•

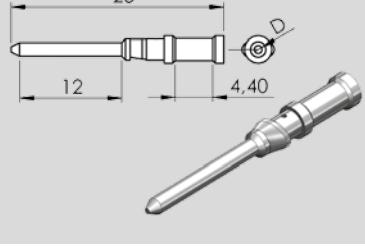
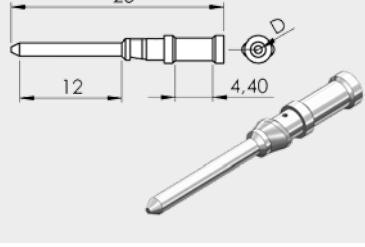
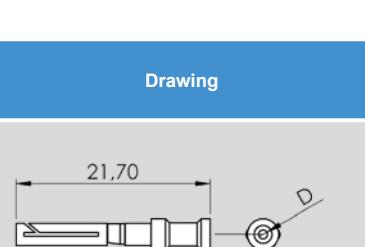
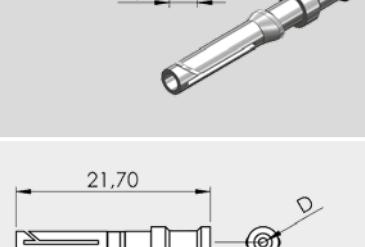
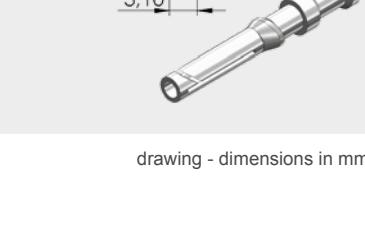


For cables and tools - please see page 65

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

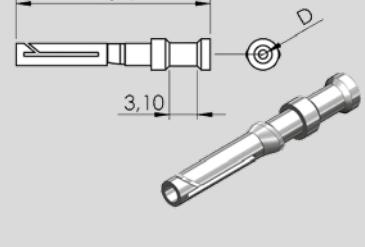
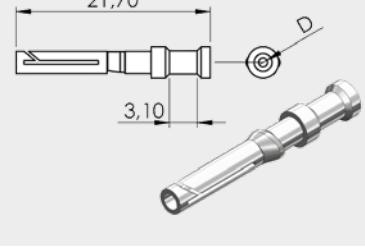
Series 

## Male contacts 1.6 mm

P/N	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Silver plated	Gold plated	Drawing
6575085	male contact 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22	•		
6575086	male contact 1.6 mm / AWG 20	0.5	20	•		
6575088	male contact 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16	•		
6575090	male contact 1.6 mm / AWG 16 - 15	1.5	16 - 15	•		
6575083	male contact 1.6 mm / AWG 14	2.5	14	•		
6575118	male contact AU 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22		•	
6575121	male contact AU 1.6 mm / AWG 20	0.5	20		•	
6575116	male contact AU 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16		•	
6575124	male contact AU 1.6 mm / AWG 16 - 15	1.5	16 - 15		•	
6575125	male contact AU 1.6 mm / AWG 14	2.5	14		•	

drawing - dimensions in mm

## Female contacts 1.6 mm

P/N	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Silver plated	Gold plated	Drawing
6575095	female contact 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22	•		
6575107	female contact 1.6 mm / AWG 20	0.5	20	•		
6575098	female contact 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16	•		
6575100	female contact 1.6 mm / AWG 16 - 15	1.5	16 - 15	•		
6575084	female contact 1.6 mm / AWG 14	2.5	14	•		
6575127	female contact AU 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22		•	
6575131	female contact AU 1.6 mm / AWG 20	0.5	20		•	
6575117	female contact AU 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16		•	
6575132	female contact AU 1.6 mm / AWG 16 - 15	1.5	16 - 15		•	
6575133	female contact AU 1.6 mm / AWG 14	2.5	14		•	

drawing - dimensions in mm

**Suitable cables for Series VP**

Part No.	3330090	3330091	3330092	3330093	3330094	3330095	3330020
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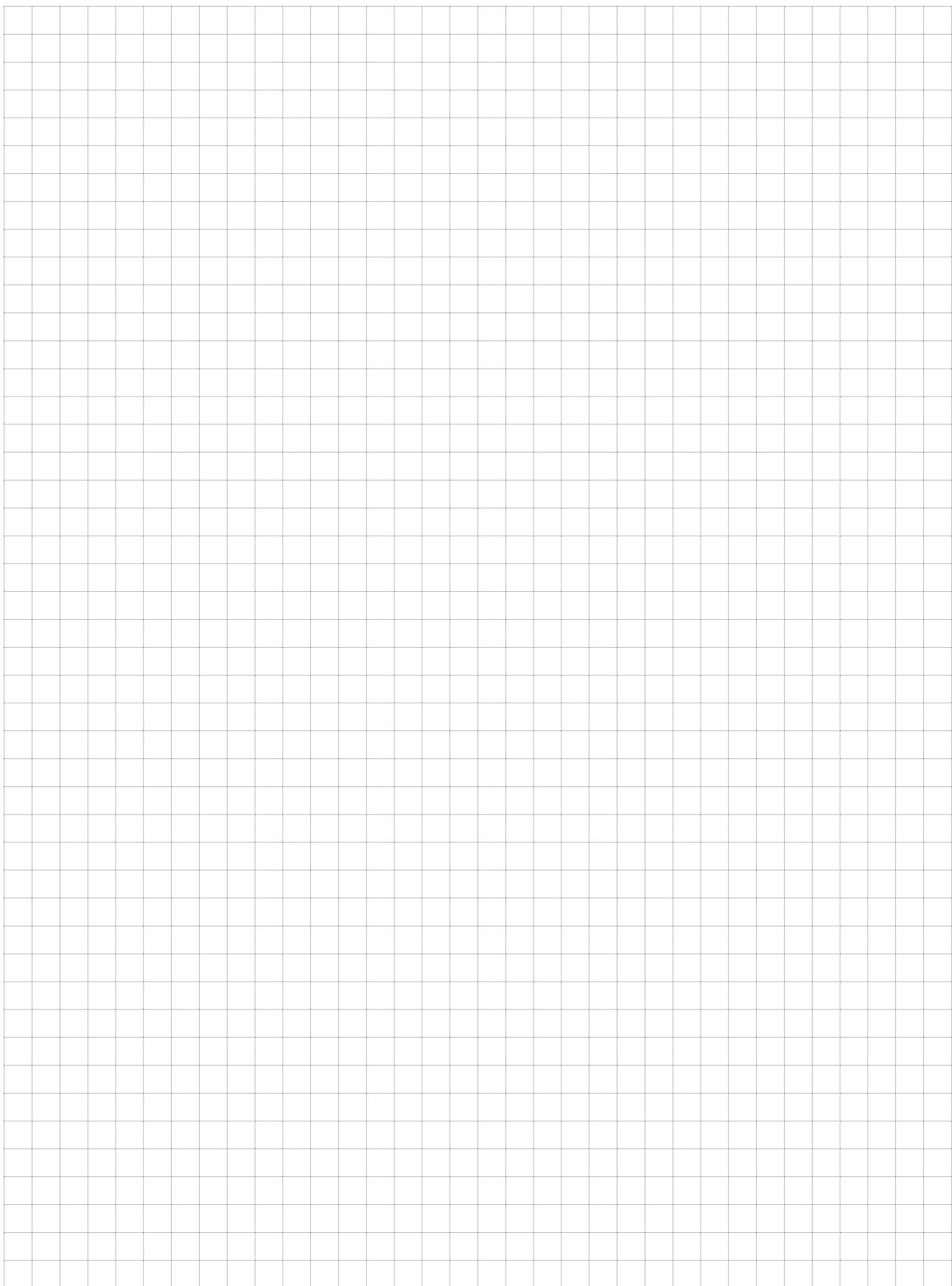


Operating voltage DC	15 kVDC						10 kVDC
Operating voltage AC rms	-						-
Conductor size							
AWG	AWG 24	AWG 22	AWG 20	AWG 18	AWG 16	AWG 14	AWG 14
Strands	19 x AWG 36	7 x AWG 30	10 x AWG 30	16 x AWG 30	26 x AWG 30	41 x AWG 30	50 x 0.25 mm
Cross section	0.24 mm <sup>2</sup>	0.36 mm <sup>2</sup>	0.51 mm <sup>2</sup>	0.81 mm <sup>2</sup>	1.32 mm <sup>2</sup>	2.08 mm <sup>2</sup>	2.5 mm <sup>2</sup>
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						-20°C to +180°C
Color	red*						black
Fits connector types	VarioPro Clip Lock 1-, 2-, and 3-pole VarioPro Basic VarioPro Basic Feedthroughs 1-, and 2-pole						

\* 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 incl. pliers, contact holder and crimping cheeks	VP ClipLock, VP Basic





- ***Operating voltage up to 5 kVDC***
- ***Operating current up to 4,5 A***
- ***2 - 6 high voltage contacts***
- ***Quick and easy assembling***
- ***Protection class IP68 acc. DIN EN 60529***

# General characteristics and technical data Series MCS

Series 

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

Contacts 0.7 mm	
Termination method	solder / crimp
Rated current	4.5 A
Contact resistance	< 0.7 mΩ
Contact diameter	0.7 mm
Wire size	0.15-0.38 mm² (AWG 26 - 22)
Contact material	brass (CuZn)
Contact plating	gold (Au)
Mating cycles	≥ 5000

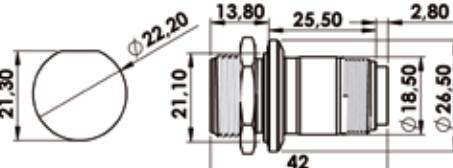
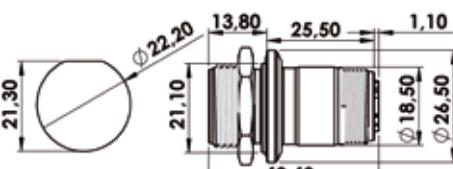
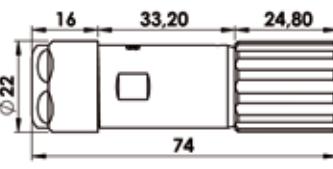
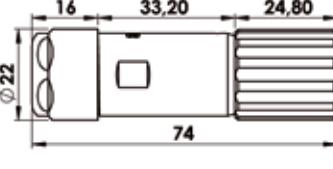
Insulation inserts	
Number of contacts	2, 4, 6
Insulation material	PBT
Flammability class	UL94 V-0
Operating temperature	-40°C to +150°C
CTI value	600
Insulation material group	I (DIN IEC 60664)
Max. diameter of dielectric cable insulation	1.6 mm

Configurations			
Type	205	405	605
Receptacle			
Plug			

Electrical Values	
Operating Voltage (DC)	5 kV
Test Voltage (DC)	8 kV
Rated Current	4.5 A

Characteristics	
Number of pins	2
Insulation material	PBT

Type / Version / Description	Drawing
<b>GB-MCS205</b> Receptacle, panel mount incl. female contacts 0.7mm	 
<b>GS-MCS205</b> plug, panel mount incl. male contacts 0.7mm	 
<b>KS-MCS205</b> plug, cable mount incl. male contacts 0.7mm	 
<b>KB-MCS205</b> Receptacle, cable mount incl. female contacts 0.7mm	 

drawings – dimensions in mm

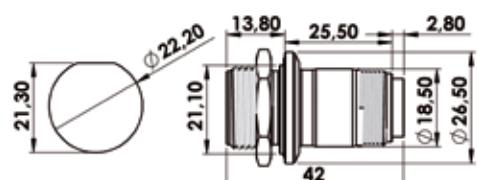
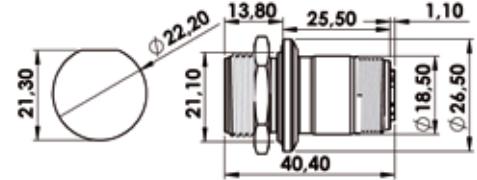
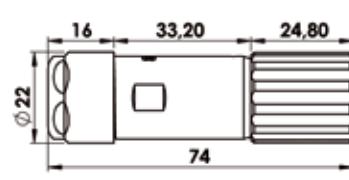
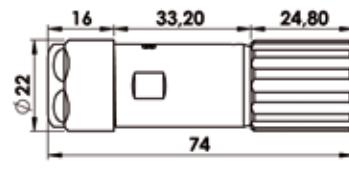
Part no.	Description	Plug	Receptacle	Cable mount	Panel mount	Clamping range (in mm) Screwed cable gland
5001200	GB-MCS205		•		•	
5001205	GS-MCS205	•			•	
5001210	KS-MCS205 6.5 – 4.0	•		•		6.5 – 4.0
5001211	KS-MCS205 8.0 – 5.0	•		•		8.0 – 5.0
5001212	KS-MCS205 9.5 – 6.5	•		•		9.5 – 6.5
5001213	KS-MCS205 10.5 – 7.0	•		•		10.5 – 7.0
5001220	KB-MCS205 6.5 – 4.0		•	•		6.5 – 4.0
5001221	KB-MCS205 8.0 – 5.0		•	•		8.0 – 5.0
5001222	KB-MCS205 9.5 – 6.5		•	•		9.5 – 6.5
5001223	KB-MCS205 10.5 – 7.0		•	•		10.5 – 7.0



Accessories - page 72  
2-core cable - page 76

Electrical Values	
Operating Voltage (DC)	5 kV
Test Voltage (DC)	8 kV
Rated Current	4.5 A

Characteristics	
Number of pins	4
Insulation material	PBT

Type / Version / Description	Mechanical drawing
<b>GB-MCS405</b> Receptacle, panel mount incl. female contacts 0.7mm	 
<b>GS-MCS405</b> Plug, panel mount incl. male contacts 0.7mm	 
<b>KS-MCS405</b> Plug, cable mount incl. male contacts 0.7mm	 
<b>KB-MCS405</b> Receptacle, cable mount incl. female contacts 0.7mm	 

drawings – dimensions in mm

Part no.	Description	Plug	Receptacle	Cable mount	Panel mount	Clamping range (in mm) Screwed cable gland
5001400	GB-MCS405		•		•	
5001405	GS-MCS405	•			•	
5001410	KS-MCS405 6.5 – 4.0	•		•		6.5 – 4.0
5001411	KS-MCS405 8.0 – 5.0	•		•		8.0 – 5.0
5001412	KS-MCS405 9.5 – 6.5	•		•		9.5 – 6.5
5001413	KS-MCS405 10.5 – 7.0	•		•		10.5 – 7.0
5001420	KB-MCS405 6.5 – 4.0		•	•		6.5 – 4.0
5001421	KB-MCS405 8.0 – 5.0		•	•		8.0 – 5.0
5001422	KB-MCS405 9.5 – 6.5		•	•		9.5 – 6.5
5001423	KB-MCS405 10.5 – 7.0		•	•		10.5 – 7.0



Accessories - page 72  
4-core cable - page 76

Electrical Values	
Operating Voltage (DC)	5 kV
Test Voltage (DC)	8 kV
Rated Current	4.5 A

Characteristics	
Number of pins	6
Insulation material	PBT

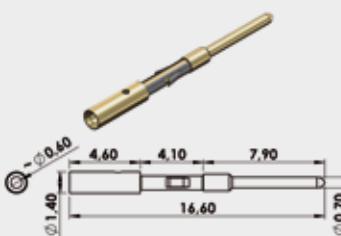
Type / Version / Description	Mechanical drawing
<b>GB-MCS605</b> Receptacle, panel mount incl. female contacts 0.7mm	
<b>GS-MCS605</b> plug, panel mount incl. male contacts 0.7mm	
<b>KS-MCS605</b> plug, cable mount incl. male contacts 0.7mm	
<b>KB-MCS605</b> Receptacle, cable mount incl. female contacts 0.7mm	

drawings – dimensions in mm

Part no.	Description	Plug	Receptacle	Cable mount	Panel mount	Clamping range (in mm) Screwed cable gland
5001600	GB-MCS605		•		•	
5001605	GS-MCS605	•			•	
5001610	KS-MCS605 6.5 – 4.0	•		•		6.5 – 4.0
5001611	KS-MCS605 8.0 – 5.0	•		•		8.0 – 5.0
5001612	KS-MCS605 9.5 – 6.5	•		•		9.5 – 6.5
5001613	KS-MCS605 10.5 – 7.0	•		•		10.5 – 7.0
5001620	KB-MCS605 6.5 – 4.0		•	•		6.5 – 4.0
5001621	KB-MCS605 8.0 – 5.0		•	•		8.0 – 5.0
5001622	KB-MCS605 9.5 – 6.5		•	•		9.5 – 6.5
5001623	KB-MCS605 10.5 – 7.0		•	•		10.5 – 7.0

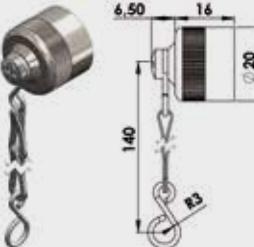
Accessories - page 72  
6-core cable - page 76

## Contacts

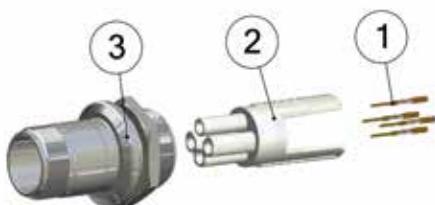
Part no.	Description	Cross section In mm <sup>2</sup> (D)	AWG (D)	Mechanical drawing
6575150	Male contact 0.7mm	0.15 – 0.38	26 - 22	
6575160	Female contact 0.7mm	0.15 – 0.38	26 - 22	

drawings – dimensions in mm

## Coverings with thread

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

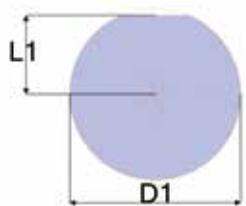
drawings – dimensions in mm

**1.**

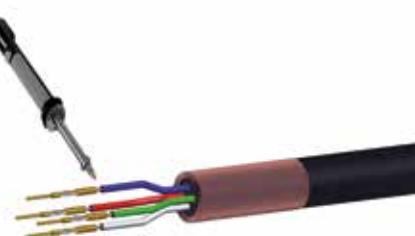
**Part as delivered**  
contacts (1), insulation part (2), housing (3)

**6.**

**Remove dielectric insulation of single wires ( $L3 = 5\text{mm}$ )**

**2.****Panel cut out**

D1 [mm]	L1 [mm]
22.20	10.10

**7.**

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

**3.**

**Carefully remove cable jacket ( $L2 = \text{min. } 30\text{mm}$ )**

⚠ Do not damage metal shield.

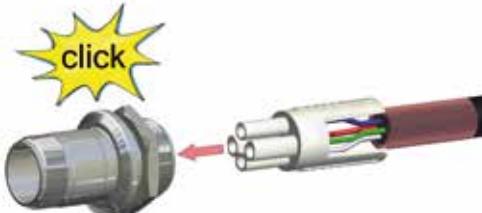
**8.**

**Slide contacts (1) completely into insulation part (2) until contacts snap**

💡 Put in all contacts at the same time

**4.**

**Fold back shield**

**9.**

**Put insulation part (2) into housing (3)**

⚠ Pay attention to notches.

**5.**

**Remove any filling elements from cable**

**10.**

**Assembly finished**

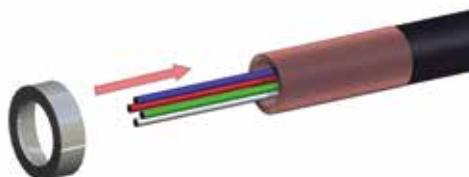
**1.**



**Part as delivered**

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

**6.**



Place inner cone (4) on cable

**2.**



Place cap (1), clamping rubber (2) and outer cone (3) on cable

**⚠ Respect correct order of parts (see picture).**

**7.**



Remove dielectric insulation of single wires ( $L2 = 5\text{mm}$ )

**⚠ Do not damage conductor.**

**3.**

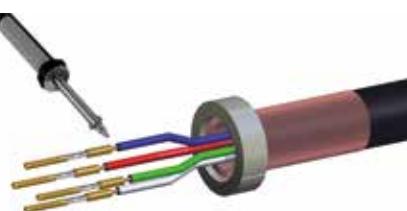


Carefully remove cable jacket ( $L1 = 28\text{mm}$ )

**⚠ Do not damage metal shield.**

Do not damage dielectric insulation.

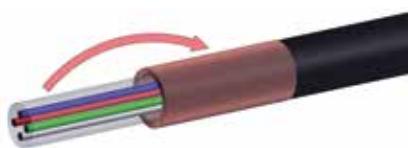
**8.**



Crimp or solder one contact (5) each on every conductor

**⚠ Tin-solder must not remain on contact surface!**

**4.**



Fold back shield braid over jacket

**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)

**5.**



Remove any filling elements from cable

**10.**



Cut overlapping shield braid

**⚠ Carefully remove loose shield parts. Loose shield parts can cause electrical break down.**

**11.**

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

⚠ Insert all contacts at the same time. Pull gently to check that contacts are correctly located and remain in position.

**13.**

Put on cap

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

**12.**

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

⚠ Use notches for correct position of insulation part.

**14.**

Assembly finished

**Note – important!**

1. Please carefully read assembly instructions before cable assembly.

2. Cable assembly must only be done by trained and qualified personnel.

# Suitable cables for Series MCS

Series 

	Part No. 3330082	Part No. 3330084	Part No. 3330086
			
Operating voltage DC		5 kVDC	
Test voltage DC		7.5 kVDC	
Number of wires	2	4	6
Construction	2 wires stranded	4 wires stranded	6 wires stranded
Single wire - conductor			
AWG		AWG 26	
Strands		7 x 0.16 mm	
Cross section		0.14 mm <sup>2</sup>	
Conductor diameter		0.42 mm	
Conductor material		tinned copper	
Single wire - dielectric			
Diameter		1.6 mm ( $\pm 0.1$ 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 ( $\pm 0.3$ mm)	6.9 mm ( $\pm 0.3$ mm)	7.9 mm ( $\pm 0.3$ mm)
Material		Silicone	
Color		red	
Temperature range		-30° C to +180° C	
Fits connector types	MCS205	MCS405	MCS605

# Series MC



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

# Overview Series MC

**Series** 

P/N	Description	Plug	Receptacle	Cable mount	Panel mount	Coupling	HV-pins
5002010	GB-MC 207 POM		•		•		2
5002020	GS-MC 207 POM	•			•		2
5002030	KS-MC 207 POM	•		•			2
5002040	KB-MC 207 POM		•	•			2
5002041	KBI-MC 207 POM		•	•		•	2
5003010	GB-MC 307 POM		•		•		3
5003020	GS-MC 307 POM	•			•		3
5003030	KS-MC 307 POM	•		•			3
5003040	KB-MC 307 POM		•	•			3
5003041	KBI-MC 307 POM		•	•		•	3
5004010	GB-MC 407 POM		•		•		4
5004020	GS-MC 407 POM	•			•		4
5004030	KS-MC 407 POM	•		•			4
5004040	KB-MC 407 POM		•	•			4
5004042	KBI-MC 407 POM		•	•		•	4
5005010	GB-MC 507 POM		•		•		5
5005020	GS-MC 507 POM	•			•		5
5005030	KS-MC 507 POM	•		•			5
5005040	KB-MC 507 POM		•	•			5
5005041	KBI-MC 507 POM		•	•		•	5
5005115	GB-MC 520 PTFE		•		•		5
5005125	GS-MC 520 PTFE	•			•		5
5005135	KS-MC 520 PTFE	•		•			5
5005145	KB-MC 520 PTFE		•	•			5
5005146	KBI-MC 520 PTFE		•	•		•	5

Steps	Parts				
<b>1 Choose connector type</b>  Example: 2-pole  (page 53-57)	receptacle, panel mount	plug, panel mount	receptacle, cable mount	plug, cable mount	coupling, cable mount
<b>2 Choose contacts</b>  (page 58)	female contact	male contact	female contact	male contact	female contact
<b>3 Choose screwed cable gland</b>  (page 59)	<i>No cable glands for panel mount connectors</i>				
<b>4 Finished</b>	receptacle, panel mount	plug, panel mount	receptacle, cable mount	plug, cable mount	coupling, cable mount
<b>5 Choose accessories (optional)</b>  (page 59-60)	gaskets coverings				

# General characteristics and technical data Series MC

**Series MC**

<b>Housing</b>	
Locking system	threaded coupling
Mounting type (panel mount connector)	4-hole flange
Housing material basis / adapter	aluminium (Al) / brass (CuZn)
Surface plating	nickel (Ni)
Protection class (mated connector)	IP54
Operating temperature	-30 °C to +80 °C

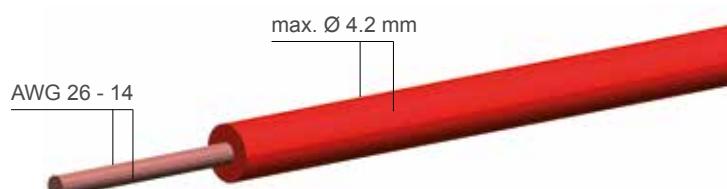
  

<b>Contacts 1.6 mm</b>	
Termination method	solder / crimp
Rated current	13 A
Contact resistance	≤ 5 mΩ
Contact diameter	1.6 mm
Wire size (AWG / cross section)	AWG 26-14 / 0.14 mm <sup>2</sup> - 2.5 mm <sup>2</sup>
Contact material	brass (CuZn)
Contact plating	silver (Ag) / gold (Au)
Mating cycles	≥ 1,000

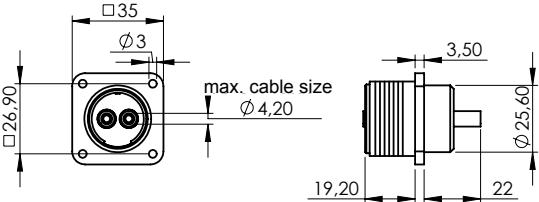
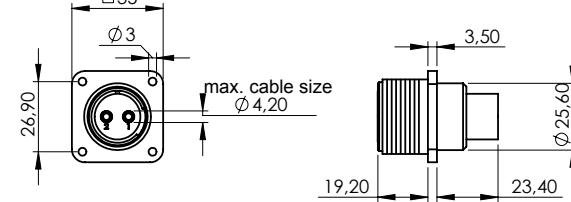
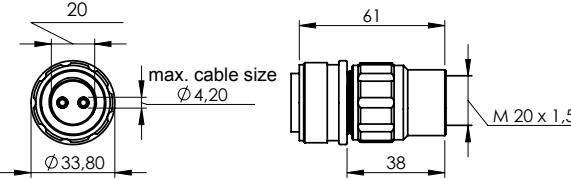
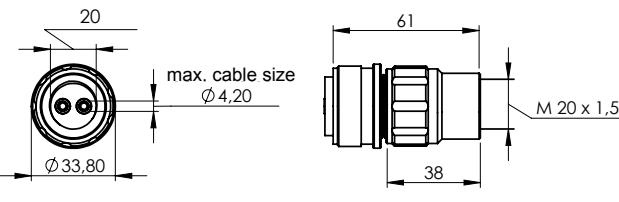
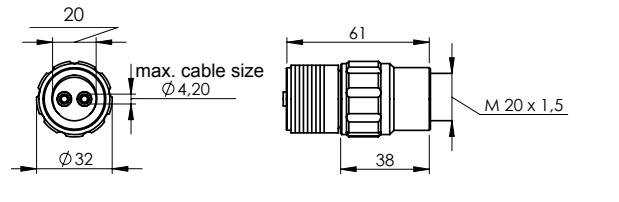
<b>Insulation inserts</b>	
Number of contacts	2, 3, 4, 5
Insulation material	PTFE / POM
CTI value	600
Flammability class PTFE	UL94 V-0
Flammability class POM	UL94 HB
Operating temperature PTFE	-50 °C to +200 °C
Operating temperature POM	-30 °C bis +120 °C
Insulating material group PTFE / POM	I (DIN IEC 60664)

## Suitable cable dimensions (single wire)



Electrical values	
Operating voltage (DC)	10 kV
Test voltage (DC)	15 kV
Rated current	13 A

Characteristics	
Number of pins	2
Insulation material	POM

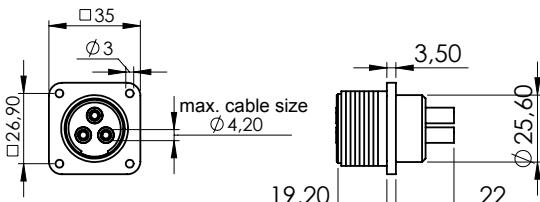
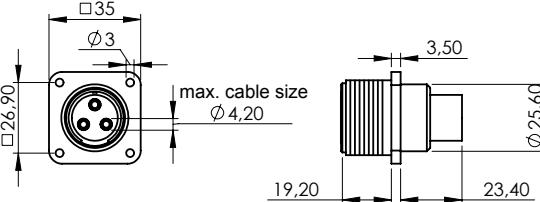
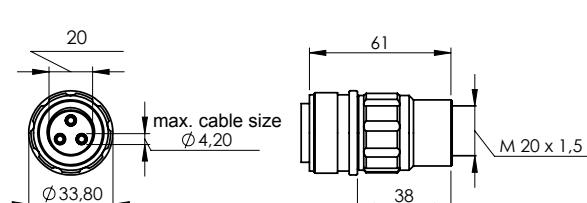
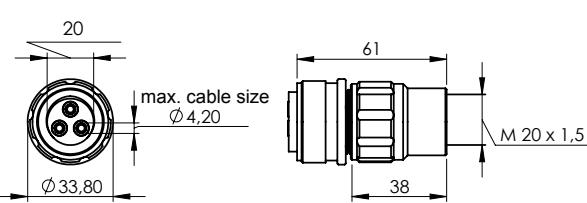
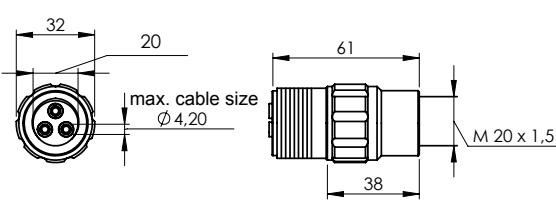
Type / Version / Part number	Drawing
<b>GB-MC207</b> Receptacle, panel mount for female contacts Part no. 5002010  (For female contacts go to page 58)	 
<b>GS-MC207</b> Plug, panel mount for male contacts Part no. 5002020  (For male contacts go to page 58)	 
<b>KS-MC207</b> Plug, cable mount for male contacts Part no. 5002030  (for male contacts and cable glands go to page 58/59)	 
<b>KB-MC207</b> Receptacle, cable mount for female contacts Part no. 5002040  (for female contacts and cable glands go to page 58/59)	 
<b>KBI-MC207</b> Receptacle, coupling, cable mount for female contacts Part no. 5002041  (for female contacts and cable glands go to page 58/59)	 



Contacts, cable glands and accessories on pages 86-88  
Mounting instructions on pages 89-100

drawing - dimensions in mm

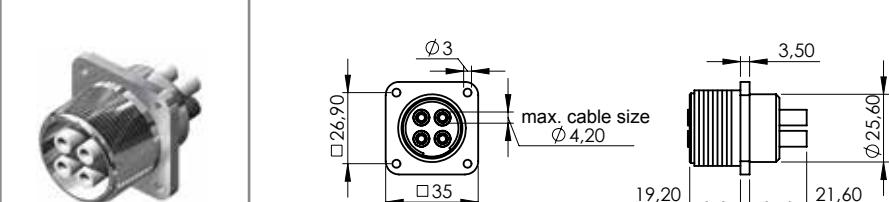
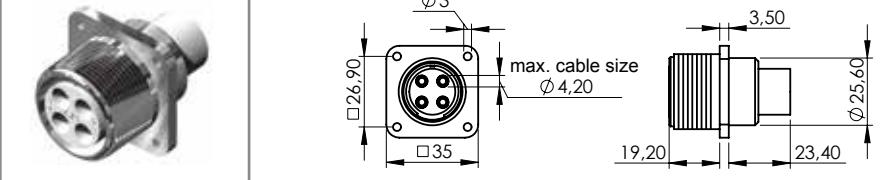
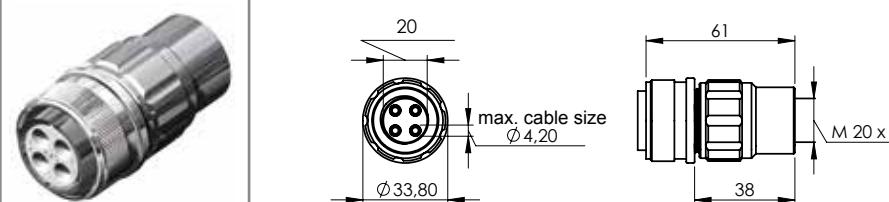
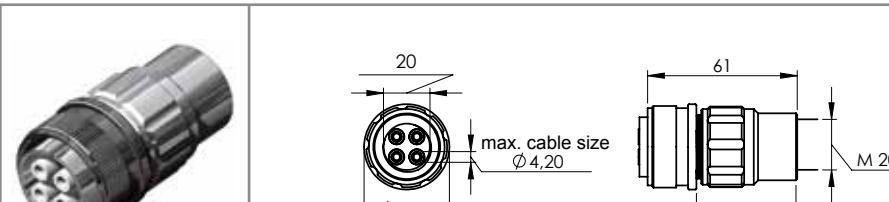
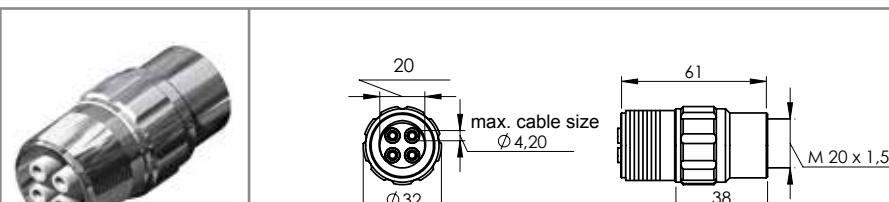
Electrical values		Characteristics	
Operating voltage (DC)	10 kV	Number of pins	3
Test voltage (DC)	15 kV	Insulation material	POM
Rated current	13 A		

Type / Version / Part number	Drawing
<b>GB-MC307</b> Receptacle, panel mount for female contacts  Part no. 5003010  (For female contacts go to page 58)	
<b>GS-MC307</b> Plug, panel mount for male contacts  Part no. 5003020  (For male contacts go to page 58)	
<b>KS-MC307</b> Plug, cable mount for male contacts  Part no. 5003030  (for male contacts and cable glands go to page 58/59)	
<b>KB-MC307</b> Receptacle, cable mount for female contacts  Part no. 5003040  (for female contacts and cable glands go to page 58/59)	
<b>KBI-MC307</b> Receptacle, coupling, cable mount for female contacts  Part no. 5003041  (for female contacts and cable glands go to page 58/59)	

→ Contacts, cable glands and accessories on pages 86-88  
Mounting instructions on pages 89-100

drawing - dimensions in mm

Electrical values		Characteristics	
Operating voltage (DC)	10 kV	Number of pins	4
Test voltage (DC)	15 kV	Insulation material	POM
Rated current	13 A		

Type / Version / Part number	Drawing
<b>GB-MC407</b> Receptacle, panel mount for female contacts  Part no. 5004010  (For female contacts go to page 58)	 Front view: Ø3, 26.90, □35, max. cable size Ø4,20. Cross-section: Ø3, 26.90, □35, max. cable size Ø4,20, 19.20, 21.60, 3.50, Ø25,60.
<b>GS-MC407</b> Plug, panel mount for male contacts  Part no. 5004020  (For male contacts go to page 58)	 Front view: Ø3, 26.90, □35, max. cable size Ø4,20. Cross-section: Ø3, 26.90, □35, max. cable size Ø4,20, 19.20, 23.40, 3.50, Ø25,60.
<b>KS-MC407</b> Plug, cable mount for male contacts  Part no. 5004030  (for male contacts and cable glands go to page 58/59)	 Front view: 20, Ø33,80, max. cable size Ø4,20. Cross-section: 20, Ø33,80, max. cable size Ø4,20, 61, 38, M 20 x 1,5.
<b>KB-MC407</b> Receptacle, cable mount for female contacts  Part no. 5004040  (for female contacts and cable glands go to page 58/59)	 Front view: 20, Ø33,80, max. cable size Ø4,20. Cross-section: 20, Ø33,80, max. cable size Ø4,20, 61, 38, M 20 x 1,5.
<b>KBI-MC407</b> Receptacle, coupling, cable mount for female contacts  Part no. 5004042  (for female contacts and cable glands go to page 58/59)	 Front view: 20, Ø32, max. cable size Ø4,20. Cross-section: 20, Ø32, max. cable size Ø4,20, 61, 38, M 20 x 1,5.

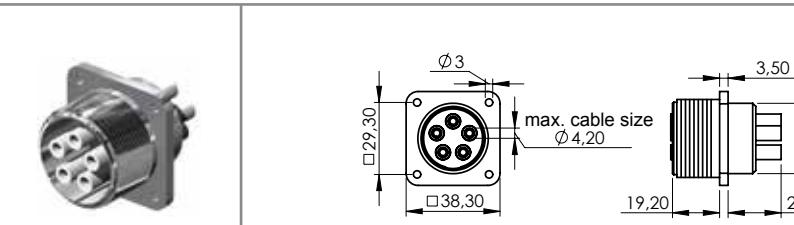
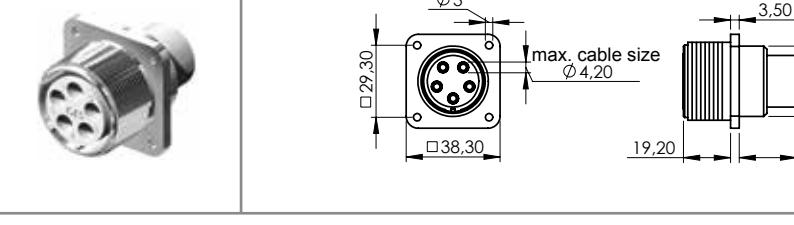
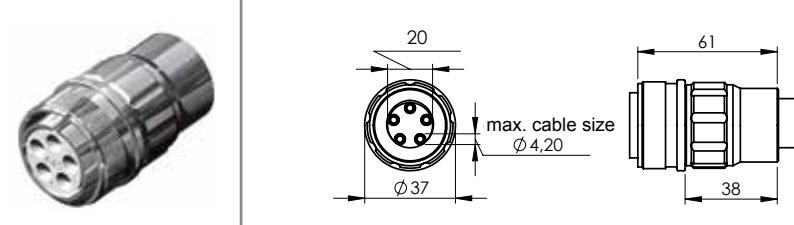
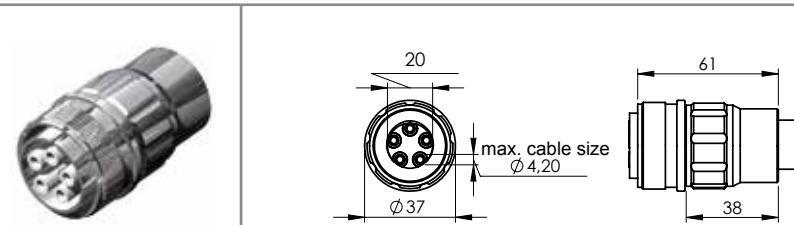
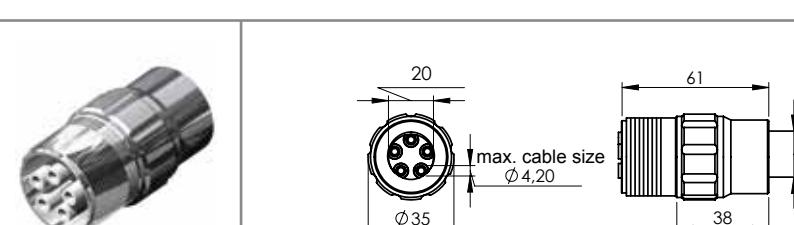


Contacts, cable glands and accessories on pages 86-88  
Mounting instructions on pages 89-100

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	10 kV
Test voltage (DC)	15 kV
Rated current	13 A

Characteristics	
Number of pins	5
Insulation material	POM

Type / Version / Part number	Drawing
<b>GB-MC507</b> Receptacle, panel mount for female contacts Part no. 5005010  (For female contacts go to page 58)	 Front view: Ø3, 29.30, 38.30, max. cable size Ø4.20. Cross-section: Ø3, 29.30, 38.30, max. cable size Ø4.20, 19.20, 22, 3.50, Ø28.70.
<b>GS-MC507</b> Plug, panel mount for male contacts Part no. 5005020  (For male contacts go to page 58)	 Front view: Ø3, 29.30, 38.30, max. cable size Ø4.20. Cross-section: Ø3, 29.30, 38.30, max. cable size Ø4.20, 19.20, 23.40, 3.50, Ø28.70.
<b>KS-MC507</b> Plug, cable mount for male contacts Part no. 5005030  (for male contacts and cable glands go to page 58/59)	 Front view: 20, Ø37, max. cable size Ø4.20. Cross-section: 20, Ø37, max. cable size Ø4.20, 61, 38, M20 x 1.5.
<b>KB-MC507</b> Receptacle, cable mount for female contacts Part no. 5005040  (for female contacts and cable glands go to page 58/59)	 Front view: 20, Ø37, max. cable size Ø4.20. Cross-section: 20, Ø37, max. cable size Ø4.20, 61, 38, M20 x 1.5.
<b>KBI-MC507</b> Receptacle, coupling, cable mount for female contacts Part no. 5005041  (for female contacts and cable glands go to page 58/59)	 Front view: 20, Ø35, max. cable size Ø4.20. Cross-section: 20, Ø35, max. cable size Ø4.20, 61, 38, M20 x 1.5.

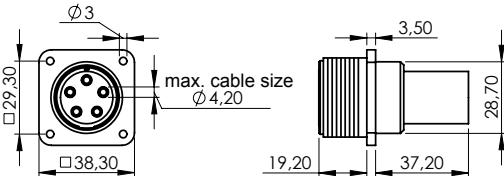
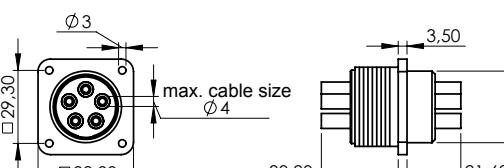
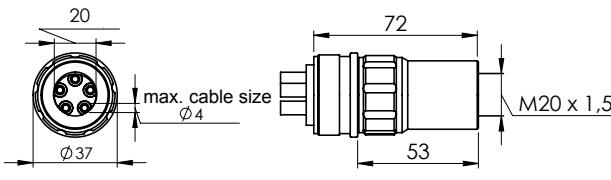
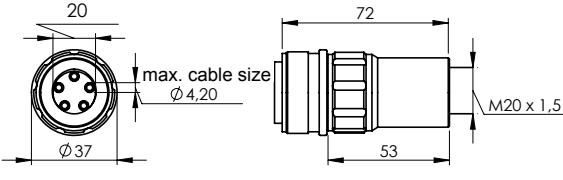
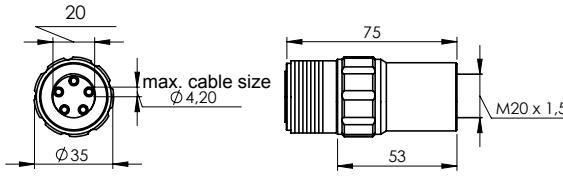


Contacts, cable glands and accessories on pages 86-88  
Mounting instructions on pages 89-100

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	15 kV
Test voltage (DC)	23 kV
Rated current	13 A

Characteristics	
Number of pins	5
Insulation material	PTFE

Type / Version / Part number	Drawing
<b>GB-MC520</b> Receptacle, panel mount for female contacts Part no. 5005115  (For female contacts go to page 58 )	 
<b>GS-MC520</b> Plug, panel mount for male contacts Part no. 5005125  (For male contacts go to page 58 )	 
<b>KS-MC520</b> Plug, cable mount for male contacts Part no. 5005135  (for male contacts and cable glands go to page 58/59)	 
<b>KB-MC520</b> Receptacle, cable mount for female contacts Part no. 5005145  (for female contacts and cable glands go to page 58/59)	 
<b>KBI-MC520</b> Receptacle, coupling, cable mount for female contacts Part no. 5005146  (for female contacts and cable glands go to page 58/59)	 



Contacts, cable glands and accessories on pages 86-88  
Mounting instructions on pages 89-100

drawing - dimensions in mm

## Male contacts 1.6 mm

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG	Silver plated	Gold plated	Drawing
6575085	male contact 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22	•		
6575086	male contact 1.6 mm / AWG 20	0.5	20	•		
6575088	male contact 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16	•		
6575090	male contact 1.6 mm / AWG 16 - 15	1.5	16 - 15	•		
6575083	male contact 1.6 mm / AWG 14	2.5	14	•		
6575118	male contact AU 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22		•	
6575121	male contact AU 1.6 mm / AWG 20	0.5	20		•	
6575116	male contact AU 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16		•	
6575124	male contact AU 1.6 mm / AWG 16 - 15	1.5	16 - 15		•	
6575125	male contact AU 1.6 mm / AWG 14	2.5	14		•	

## Male contact 1.6 mm interlock for safety interlock circle

drawing - dimensions in mm

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG	Silver plated	Gold plated	Drawing
6575079	male contact interlock 1.6 mm / AWG 14 <i>Short version for safety interlock circle</i>	2.5	14	•		

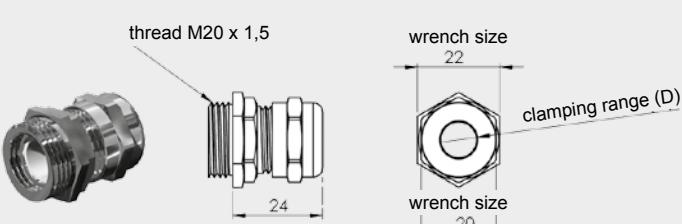
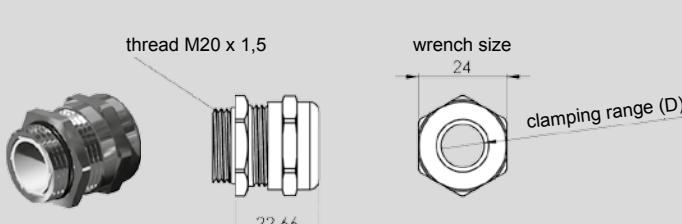
## Female contacts 1.6 mm

drawing - dimensions in mm

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG	Silver plated	Gold plated	Drawing
6575095	female contact 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22	•		
6575107	female contact 1.6 mm / AWG 20	0.5	20	•		
6575098	female contact 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16	•		
6575100	female contact 1.6 mm / AWG 16 - 15	1.5	16 - 15	•		
6575084	female contact 1.6 mm / AWG 14	2.5	14	•		
6575127	female contact AU 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22		•	
6575131	female contact AU 1.6 mm / AWG 20	0.5	20		•	
6575117	female contact AU 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16		•	
6575132	female contact AU 1.6 mm / AWG 16 - 15	1.5	16 - 15		•	
6575133	female contact AU 1.6 mm / AWG 14	2.5	14		•	

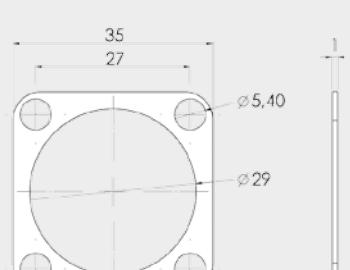
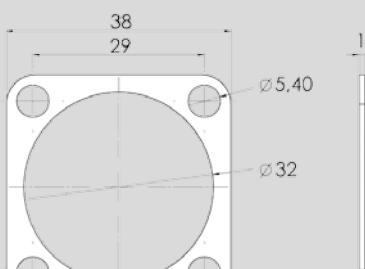
drawing - dimensions in mm

**Screwed cable glands M20 x 1.5**

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		

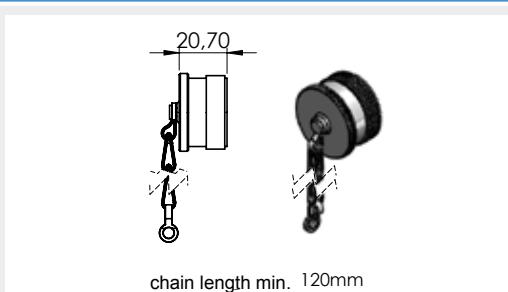
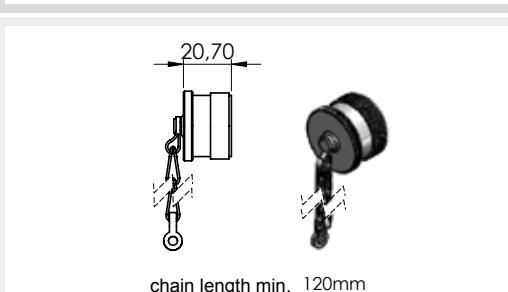
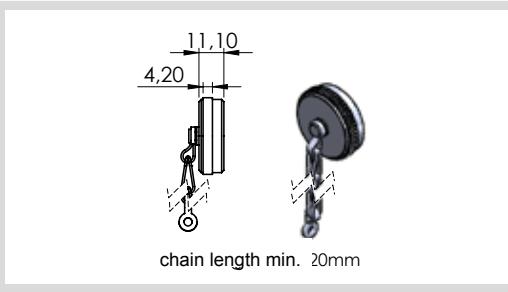
drawing - dimensions in mm

**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

## Coverings with thread

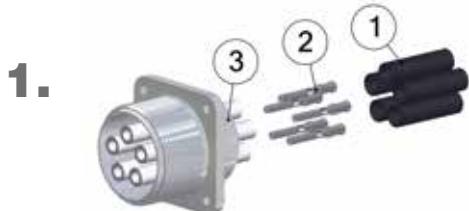
P/N	Description	Mechanical drawing
1672070	Covering for types KS/KB 507	 <p>chain length min. 120mm</p>
1672071	Covering for types GS/GB/KBI 507	 <p>chain length min. 120mm</p>
1672072	Covering for types KS/KB 207 - 407	 <p>chain length min. 120mm</p>
1672073	Covering for types GS/GB/KBI 207 - 407	 <p>chain length min. 20mm</p>

drawing - dimensions in mm

## 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

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



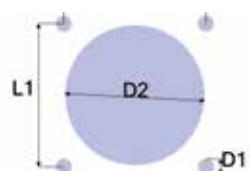
**1.**



Part as supplied

Shrinking tubes (1), female contacts (2),  
connector housing (3)

**2.**



Panel cut out

Type	L1 [mm]	D1 [mm]	D2 [mm]
GB 207/ 307/ 407	26.90	3.00	25.60
GB 507	29.30	3.00	28.70

**3.**



Carefully remove cable jacket

Type	L2 [mm]
GB 207/ 307/ 407/ 507	min. 45

**⚠** 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 - 8mm)

**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 that contacts are correctly located and remain in position

**10.**



Shrink tubes - shrinking temperature 110° C

**11.**



Assembly finished

# Assembly Instructions

## Series MC - type 207- 507

### plug, panel mount

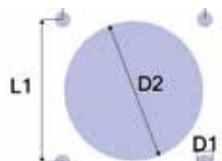
Series 

1.



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

2.



**Panel cut out**

Type	L1 [mm]	D1 [mm]	D2 [mm]
GS 207/ 307/ 407	26.90	3.00	25.60
GS 507	29.30	3.00	28.70

3.



**Carefully remove cable jacket**

Type	L2 [mm]
GS 207/ 307/ 407/ 507	min. 45

 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 - 8mm)**

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 that contacts are correctly located and remain in position

9.



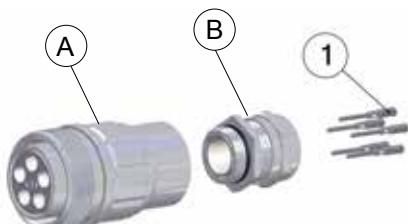
**Assembly finished.**

# Assembly Instructions

## Series MC - type 207- 507

### plug, cable mount

**1.**



**Part as supplied**

Connector housing (A), male contacts (1)  
Optional: Screwed cable gland (B)

**2.**



**Components**

Screwed cable gland (B): Cap (2), sealing insert (3), cable gland basis (4)

Connector housing (A): housing adapter (5), housing basis (6)

**3.**



Screw cable gland basis (4) to housing adapter (5)

Screwed cable gland	Clamping range	SW 1	Tightening torque [Nm]
M20 (M16)	5 - 10	22 (20)	10 (7)
M20	7 - 12	24	10
M20	10 - 14	24	10

**4.**



Place cap (2), sealing insert (3) and housing adapter (5) on cable.

**⚠** Respect correct order of parts (see picture)

**5.**



Remove cable jacket

Type	L1 [mm]
KS 207 / 307 / 407 / 507	35 - 40

**⚠** Do not damage metal shield braid

**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. 5mm)

# Assembly Instructions

## Series MC - type 207- 507

### plug, cable mount

**Series** MC

**10.**



Crimp or solder male contacts on conductor  
**⚠** For solder: Tin-solder must not remain on contact surface

**11.**



Slide contacts completely into housing basis until contacts snap into place  
**💡** Pull gently to check that contacts are correctly located and remain in position

**12.**



Screw adapter to housing basis

**13.**



Remove tape

**14.**



Completely widen shield braid.

**15.**



Completely slide seal insert under shield braid into cable gland basis

**16.**



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

**17.**



Screw cable gland cap to cable gland basis

Screwed cable gland	Clamping range	SW 1	SW 2	Tightening torque [Nm]
M20 (M16)	5 - 10	22 (20)	20	5
M20	7 - 12	24	24	8
	10 - 14	24	24	8

**18.**



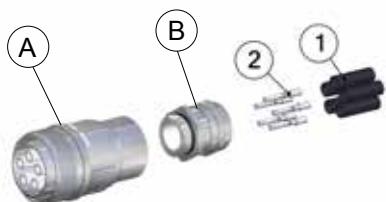
Assembly finished.

# Assembly Instructions

## Series MC - type 207- 507

### receptacle cable mount

**1.**



**Part as supplied**

Connector housing (A), shrinking tubes (1),  
female contacts (2)  
Optional: Screwed cable gland (B)

**2.**



**Components**

Screwed cable gland (B): Cap (3), sealing  
insert (4), cable gland basis (5)

Connector housing (A): housing adapter (6),  
housing basis (7)

**3.**



Screw cable gland basis (5) to housing  
adapter (6)

Screwed cable gland	Clamping range	SW 1	Tightening torque [Nm]
M20 (M16)	5 - 10	22 (20)	10 (7)
M20	7 - 12	24	10
M20	10 - 14	24	10

**4.**



Place cap (3), sealing insert (4) and housing  
adapter (6) on cable

**⚠** Respect correct order of parts (see picture)

**5.**



Remove cable jacket

Type	L1 [mm]
MC 207 / 307 / 407 / 507	35 - 40

**⚠** Do not damage metal shield braid

**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. 5mm)

**10.**



Crimp or solder female contacts (2) on conductor

**⚠** For soldering: Tin-solder must not remain on contact surface

# Assembly Instructions

## Series MC - type 207- 507 receptacle, cable mount

Series 

**11.**



Slide shrinking tubes (1) on insulation tubes on rear side of housing basis (7)

**12.**



Slide female contacts completely into insulation tubes until contacts snap into place

 Pull gently to check that contacts are correctly located and remain in position

**13.**



Shrink tubes - shrinking temperature 110° C

**14.**



Screw housing adapter to housing basis

**15.**



Remove tape

**16.**



Completely widen shield braid.

**17.**



Completely slide seal insert under shield braid into cable gland basis

**18.**



Cut overlapping shield braid

 Carefully remove shield strands. Loose strands can cause electrical break down

**19.**



Screw cable gland cap to cable gland basis

Cable gland type	Clamping range	SW 1	SW 2	Tightening torque [Nm]
M20 (M16)	5 - 10	22 (20)	20	5
M20	7 - 12	24	24	8
M20	10 - 14	24	24	8

**20.**



Assembly finished.

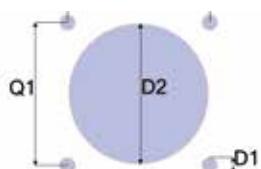
# Assembly Instructions

## Series MC - type 520

### receptacle, panel mount

**1.**

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

**2.**

**Panel cut out**

Type	Q1 [mm]	D1 [mm]	D2 [mm]
GB 520	29.30	3.00	28.70

**3.**

**Carefully remove cable jacket**

Type	L2 [mm]
GB 520	min. 60

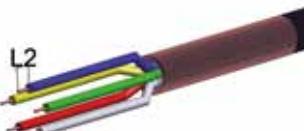
**⚠** Do not damage metal shield braid

**4.**

**Fold back shield braid.**

**5.**

**Remove any filling elements from cable**

**6.**

**Remove dielectric insulation of single wires (L2 = 5 - 8mm)**

**7.**

**Crimp or solder one male 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 that contacts are correctly located and remain in position

**9.**

**Assembly finished.**

# Assembly Instructions

## Series MC - type 520

### plug, panel mount

Series 

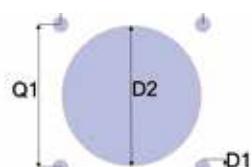
1.



Part as supplied

Shrinking tubes (1), male contacts (2), connector housing (3)

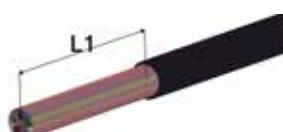
2.



Panel cut out

Type	Q1 [mm]	D1 [mm]	D2 [mm]
GS 520	29.30	3.00	28.70

3.



Carefully remove cable jacket

Type	L1 [mm]
GS 520	min. 60

 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 - 8mm)

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 that contacts are correctly located and remain in position

10.



Shrink tubes - shrinking temperature 110° C

11.

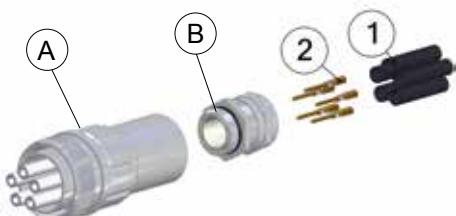


Assembly finished

# Assembly Instructions

## Series MC - type 520 plug, cable mount

**1.**



**Part as supplied**

Connector housing (A), shrinking tubes (1),  
male contacts (2)  
Optional: Screwed cable gland (B)

**2.**



**Components**

Screwed cable gland (B): cap (3), sealing  
insert (4), cable gland basis (5)

Connector housing (A): housing adapter (6),  
housing basis (7)

**3.**



Screw cable gland basis (5) to housing  
adapter (6)

screwed cable gland	clamping range	SW 1	tightening torque [Nm]
M20 (M16)	5 - 10	22 (20)	10 (7)
M20	7 - 12	24	10
M20	10 - 14	24	10

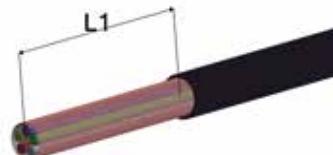
**4.**



Place cap (3), sealing insert (4) and housing  
adapter (6) on cable

**⚠** Respect correct order of parts (see picture)

**5.**

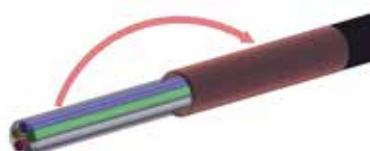


Remove cable jacket

Type	L1 [mm]
KS 520	65 - 70

**⚠** Do not damage metal shield braid

**6.**



Fold back shield braid over jacket

**7.**



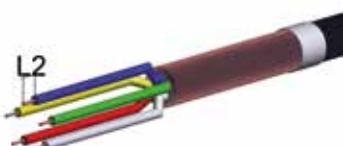
Fix shield braid with tape

**8.**



Remove any filling elements from cable

**9.**



Remove dielectric insulation  
(L2 = min. 5 mm)

**10.**



Crimp or solder male contacts (2) on conductor

**⚠** For soldering: Tin-solder must not remain on contact surface

# Assembly Instructions

## Series MC - type 520

### plug, cable mount

Series 

**11.**



Slide shrinking tubes (1) on insulation tubes on rear side of housing basis (7)

**12.**



Slide male contacts (2) completely into insulation tubes until contacts snap into place  
■ Pull gently to check that contacts are correctly located and remain in position

**13.**



Shrink tubes - shrinking temperature 110° C

**14.**



Screw housing adapter (6) to housing basis (7)

**15.**



Remove tape

**16.**



Completely widen shield braid.

**17.**



Completely slide seal insert (3) under shield braid into cable gland basis (4)

**18.**



Cut overlapping shield braid

⚠ Carefully remove shield strands. Loose strands can cause electrical break down

**19.**



Screw cable gland cap (3) to cable gland basis (4)

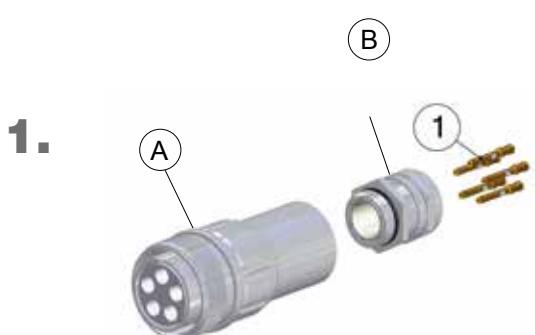
Cable gland type	Clamping range	SW 1	SW 2	Tightening torque [Nm]
M20 (M16)	5 - 10	22 (20)	20	5
M20	7 - 12	24	24	8
M20	10 - 14	24	24	8

**20.**



Assembly finished.

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



**Part as supplied**  
Connector housing (A), female contacts (1)  
Optional: Screwed cable gland (B)



**Components**  
Screwed cable gland (B): Cap (2), sealing insert (3), cable gland basis (4)  
  
Connector housing (A): housing adapter (5), housing basis (6)



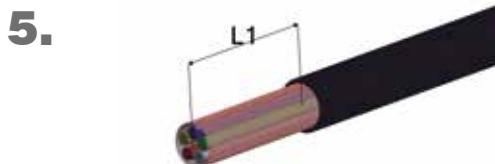
Screw cable gland basis (4) to housing adapter (5)

screwed cable gland	clamping range	SW 1	tightening torque [Nm]
M20 (M16)	5 - 10	22 (20)	7
M20	7 - 12	24	10
M20	10 - 14	24	10



Place cap (2), sealing insert (3) and housing adapter (5) on cable.

**⚠** Respect correct order of parts (see picture)



Remove cable jacket

Type	L1 [mm]
KB 520	35 - 40

**⚠** Do not damage metal shield braid



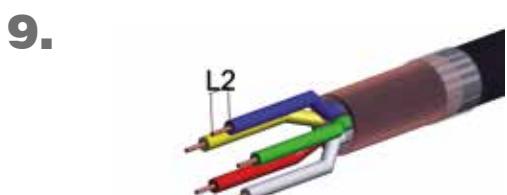
Fold back shield braid over jacket



Fix shield braid with tape



Remove any filling elements from cable



Remove dielectric insulation (L2 = min. 5 mm)



Crimp or solder female contacts (1) on conductor

**⚠** For soldering: Tin-solder must not remain on contact surface

# Assembly Instructions

## Series MC - type 520

### receptacle, cable mount

Series 

**11.**



Slide female contacts (1) completely into housing basis (6) until contacts snap into place  
⚠ Pull gently to check that contacts are correctly located and remain in position

**12.**



Screw adapter (5) to housing basis (6)

**13.**



Remove tape

**14.**



Completely widen shield braid.

**15.**



Completely slide seal insert (3) under shield braid into cable gland basis (4)

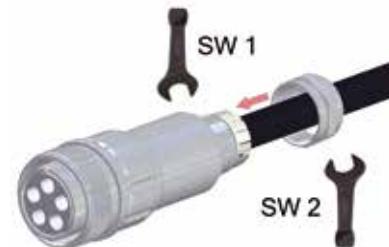
**16.**



Cut overlapping shield braid

⚠ Carefully remove shield strands. Loose strands can cause electrical break down

**17.**



Screw cable gland cap (2) to cable gland basis (4)

Cable gland type	Clamping range	SW 1	SW 2	Tightening torque [Nm]
M20 (M16)	5 - 10	22 (20)	20	5
M20	7 - 12	24	24	8
M20	10 - 14	24	24	8

**18.**



Assembly finished



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

**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  
127-128. You can also use own cable glands.

# General characteristics and technical data Series M

Housing	
Locking system	threaded coupling
Mounting type (panel mount connector)	4-hole flange
Housing material	aluminium (Al)
Surface plating	nickel (Ni)
Protection class (mated connector)	IP54
Operating temperature	- 30 °C to +80 °C

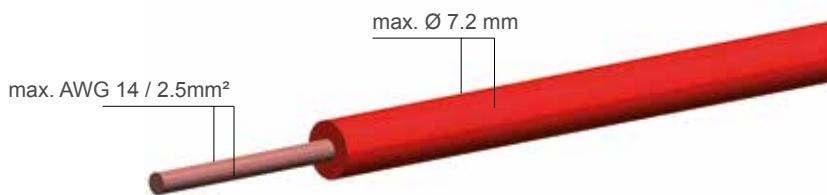
HV-Contact 2.7 mm	
Termination method	solder
Rated current	30 A
Max. operating current	40 A
Pulse current	3000 A
Contact resistance	300 µΩ
Contact diameter	2.7 mm
Wire size (AWG / cross section)	AWG 14 / 2.5 mm <sup>2</sup>
Contact material	brass (CuZn)
Contact plating	silver (Ag)
Insertion / Withdrawal force	5.5 N / 4.0 N
Mating cycles	≥ 100,000
Rated temperature	+120 °C

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 µΩ
Contact diameter	1.5 mm
Wire size (AWG / cross section)	AWG 16 / 1.5 mm <sup>2</sup>
Contact material	brass (CuZn)
Contact plating	silver (Ag)
Insertion / Withdrawal force	2 N / 1.5 N
Mating cycles	≥ 100,000
Rated temperature	+120 °C

E-Contact (LV) 2.5 mm	
Termination method	solder
Rated current	30 A
Max. operating current	40 A
Pulse current	3000 A
Contact resistance	300 µΩ
Contact diameter	2.5 mm
Wire size (AWG / cross section)	AWG 14 / 2.5 mm <sup>2</sup>
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

Insulation inserts	
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
Operating temperature POM	-30 °C to +120 °C
Insulating material group PTFE / POM	I (DIN IEC 60664)

## Suitable cable dimensions (single wire)



Housing size	Contact arrangements						
M3							
M5							
M7							
M9							

## Overview size M3

P/N	Type / Description	Plug	Receptacle	Cable Mount		Panel mount	Insulation material	Number of contacts			
				Standard housing connecting thread M20	Symmetric cable gland		POM	PTFE	HV 2.7mm	LV 1.5mm	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

\*HV = High Voltage  
\*LV = Low Voltage

# M3

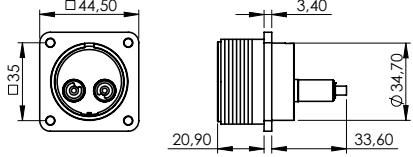
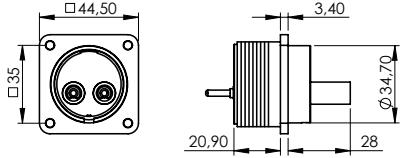
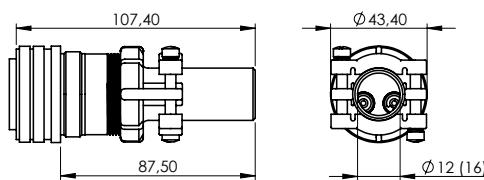
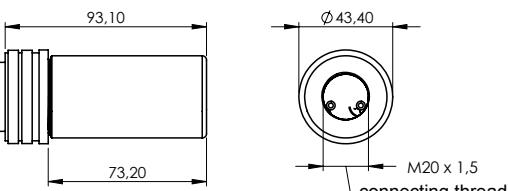
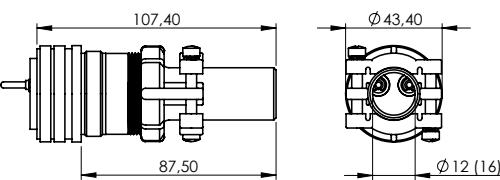
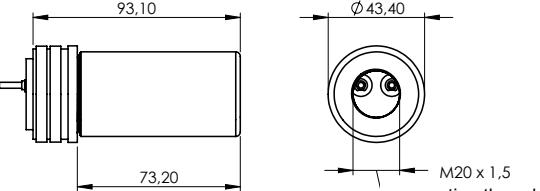
**Series M**

## Overview size M3

Part No.	Type / Description	Plug	Receptacle	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

Electrical values		Characteristics		Layout
Operating voltage (DC)	12 kV	Number of pins high voltage (HV)	2	
Test voltage (DC)	18 kV	Number of pins E-contact 2.5 mm (LV)	-	
Rated current	30 A	Number of pins I-contact 1.5 mm (LV)	-	
		Insulation material	POM or PTFE	

Type / Version / Part number	Drawing
Type: receptacle, panel mount  Version: GB 215/POM Part no. 7743051  Version: GB 215 PTFE Part no. 7743071	 
Type: plug, panel mount  Version: GS 215/POM Part no. 7743041  Version: GS 215/PTFE Part no. 7743077	 
Type: receptacle, cable mount, with symmetric cable gland  Version: KB 215 POM/Sym KV Part no. 7743038  Version: KB 215 PTFE/Sym KV Part no. 7743078	 
Type: receptacle, cable mount, without cable gland  Version: KB 215/M20/POM Part no. 7743072  Version: KB 215/M20/PTFE Part no. 7743079  (order cable gland separately)	 
Type: plug, cable mount, with symmetric cable gland  Version: KS 215/POM/Sym KV Part no. 7743021  Version: KS 215/PTFE/Sym KV Part no. 7743022	 
Type: plug, cable mount, without cable gland  Version: KS 215/M20/POM Part no. 7743023  Version: KS 215/M20/PTFE Part no. 7743069  (order cable gland separately)	 



Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

# Type M215/1E 2(+1) Pole 12 kVDC

Series **M**

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
<p>Type: receptacle, panel mount</p> <p>Version: GB 215/1E/POM Part no. 7743053</p> <p>Version: GB 215/1E/PTFE Part no. 7743094</p>	
<p>Type: plug, panel mount</p> <p>Version: GS 215/1E/POM Part no. 7743055</p> <p>Version: GS 215/1E/PTFE Part no. 7743048</p>	
<p>Type: receptacle, cable mount, with symmetric cable gland</p> <p>Version: KB 215/1E/POM/Sym KV Part no. 7743056</p> <p>Version: KB 215/1E/PTFE/Sym KV Part no. 7743095</p>	
<p>Type: receptacle, cable mount, without cable gland</p> <p>Version: KB 215/1E/M20/POM Part no. 7743076</p> <p>Version: KB 215/1E/M20/PTFE Part no. 7743096</p> <p>(order cable gland separately)</p>	
<p>Type: plug, cable mount, with symmetric cable gland</p> <p>Version: KS 215/1E/POM/Sym KV Part no. 7743054</p> <p>Version: KS 215/1E/PTFE/Sym KV Part no. 7743097</p>	
<p>Type: plug, cable mount, without cable gland</p> <p>Version: KS 215/1E/M20/POM Part no. 7743073</p> <p>Version: KS 215/1E/M20/PTFE Part no. 7743064</p> <p>(order cable gland separately)</p>	

drawing - dimensions in mm



Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
<p>Type: receptacle, panel mount</p> <p>Version: GB 215/2I/1E/POM Part no. 7743052</p> <p>Version: GB 215/2I/1E/PTFE Part no. 7743070</p>	
<p>Type: plug, panel mount</p> <p>Version: GS 215/2I/1E/POM Part no. 7743057</p> <p>Version: GS 215/2I/1E/PTFE Part no. 7743075</p>	
<p>Type: receptacle, cable mount, with symmetric cable gland</p> <p>Version: KB 215/2I/1E/POM/Sym KV Part no. 7743098</p> <p>Version: KB 215/2I/1E/PTFE/Sym KV Part no. 7743101</p>	
<p>Type: receptacle, cable mount, without cable gland</p> <p>Version: KB 215/2I/1E/M20/POM Part no. 7743058</p> <p>Version: KB 215/2I/1E/M20/PTFE Part no. 7743080</p> <p>(order cable gland separately)</p>	
<p>Type: plug, cable mount, with symmetric cable gland</p> <p>Version: KS 215/2I/1E/POM/Sym KV Part no. 7743099</p> <p>Version: KS 215/2I/1E/PTFE/Sym KV Part no. 7743100</p>	
<p>Type: plug, cable mount, without cable gland</p> <p>Version: KS 215/2I/1E/M20/POM Part no. 7743059</p> <p>Version: KS 215/2I/1E/M20/PTFE Part no. 7743085</p> <p>(order cable gland separately)</p>	

drawing - dimensions in mm

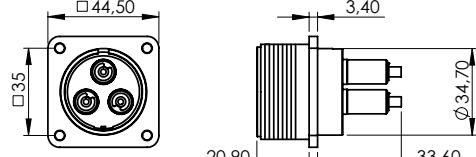
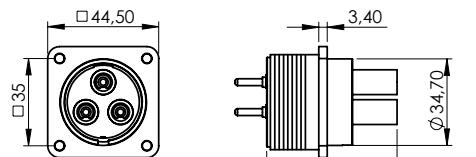
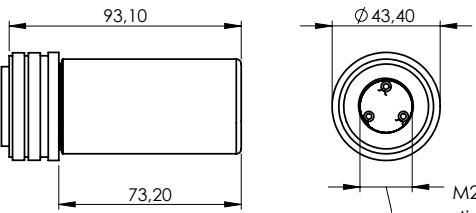
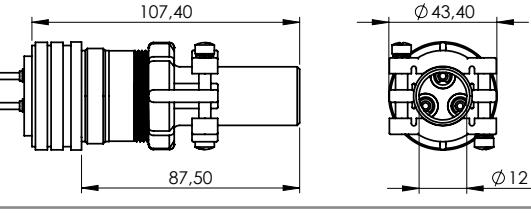


Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

# Type M315 3 Pole 12 kVDC

Series **M**

Electrical values		Characteristics		Layout
Operating voltage (DC)	12 kV	Number of pins high voltage (HV)	3	
Test voltage (DC)	18 kV	Number of pins E-contact 2.5 mm (LV)	-	
Rated current	30 A	Number of pins I-contact 1.5 mm (LV)	-	
		Insulation material	POM or PTFE	

Type / Version / Part number	Drawing
<b>Type: receptacle, panel mount</b> Version: GB 315/POM Part no. 7430100  Version: GB 315/PTFE Part no. 7430600	 
<b>Type: plug, panel mount</b> Version: GS 315/POM Part no. 7430200  Version: GS 315/PTFE Part no. 7430700	 
<b>Type: receptacle, cable mount, without cable gland</b> Version: KB 315/M20/POM Part no. 7430310  Version: KB 315/M20/PTFE Part no. 7430810  <i>(order cable gland separately)</i>	 
<b>Type: plug, cable mount, with symmetric cable gland</b> Version: KS 315/POM/Sym KV Part no. 7430400  Version: KS 315/PTFE/Sym KV Part no. 7430900	 
<b>Type: plug, cable mount, without cable gland</b> Version: KS 315/M20/POM Part no. 7430410  Version: KS 315/M20/PTFE Part no. 7430910  <i>(order cable gland separately)</i>	 



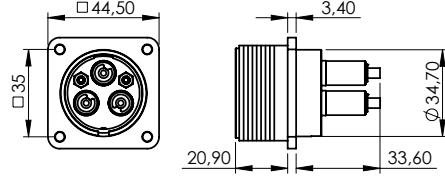
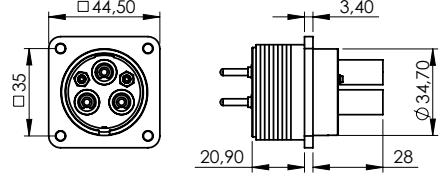
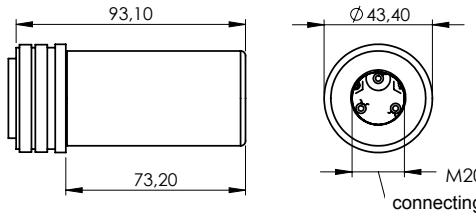
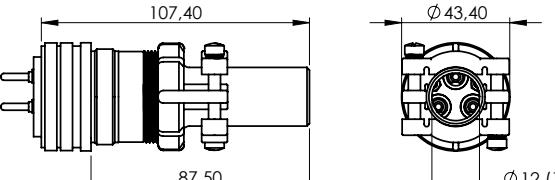
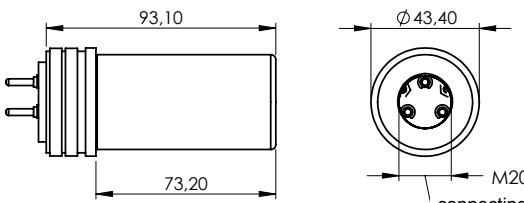
Contacts, cable glands and accessories on pages 125-128  
 Mounting instructions on pages 129-134

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
Type: receptacle, panel mount Version: GB 315/2E/POM Part no. 7743060	 
Type: plug, panel mount Version: GS 315/2E/POM Part no. 7743061	 
Type: receptacle, cable mount, without cable gland Version: KB 315/2E/M20/POM Part no. 7743033 (order cable gland separately)	 
Type: plug, cable mount, with symmetric cable gland Version: KS 315/2E/POM/Sym KV Part no. 7743034	 
Type: plug, cable mount, without cable gland Version: KS 315/2E/M20 /POM Part no. 7743102 (order cable gland separately)	 



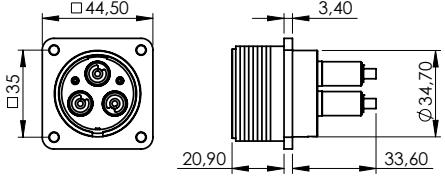
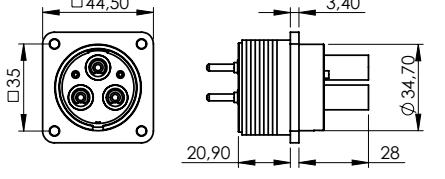
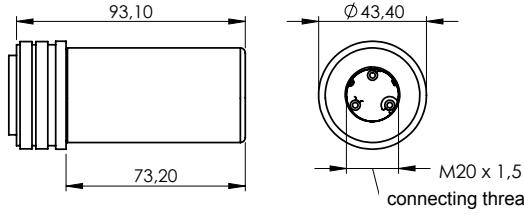
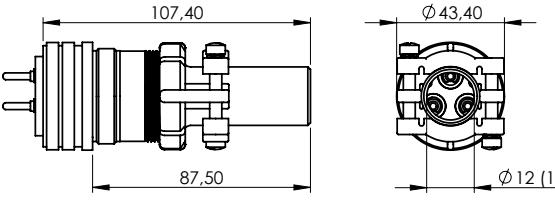
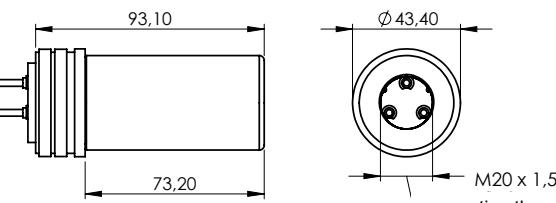
Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
Type: receptacle, panel mount Version: GB 315/2I/POM Part no. 7743036	 
Type: plug, panel mount Version: GS 315/2I/POM Part no. 7743043	 
Type: receptacle, cable mount, without cable gland Version: KB 315/2I/M20/POM Part no. 7743042 <i>(order cable gland separately)</i>	 
Type: plug, cable mount, with symmetric cable gland Version: KS 315/2I/POM/Sym KV Part no. 7743035	 
Type: plug, cable mount, without cable gland Version: KS 315/2I/M20 /POM Part no. 7743103 <i>(order cable gland separately)</i>	 

→ Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

## Overview size M5

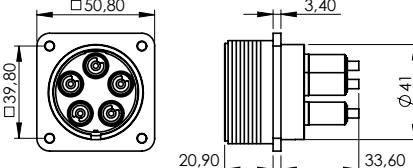
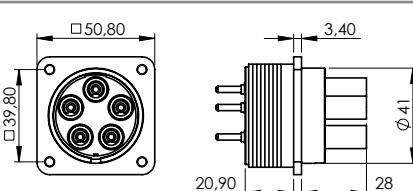
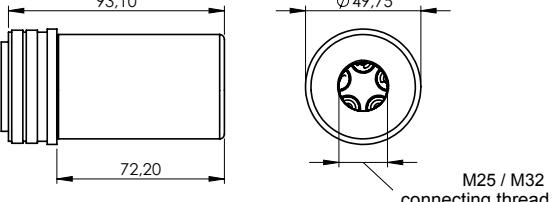
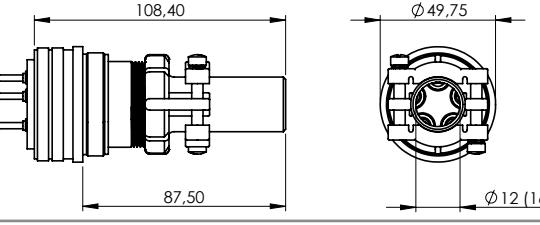
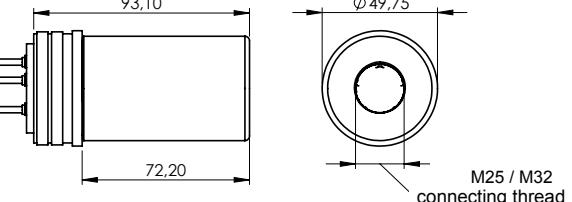
Part no.	Type / Description	Plug	Receptacle	Cable Mount			Panel mount	Insulation material	Number of contacts		
				Standard housing connecting thread M25	Standard housing connecting thread M32	Symmetric cable gland		POM PTFE	HV standard 2.7 mm	HV interlock 2.7 mm	LV 2.5 mm
7450100	GB 515 POM		•				•	•	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

# Type M515 5 Pole 12 kVDC

Series **M**

Electrical values		Characteristics		Layout
Operating voltage (DC)	12 kV	Number of pins high voltage (HV)	5	
Test voltage (DC)	18 kV	Number of pins E-contact 2.5 mm (LV)	-	
Rated current	30 A	Number of pins I-contact 1.5 mm (LV)	-	
		Insulation material	POM or PTFE	

Type / Version / Part number	Drawing
<p>Type: receptacle, panel mount Version: GB 515/POM Part no. 7450100</p> <p>Version: GB 515/PTFE Part no. 7450600</p>	 
<p>Type: plug, panel mount Version: GS 515/POM Part no. 7450200</p> <p>Version: GS 515/PTFE Part no. 7450700</p>	 
<p>Type: receptacle, cable mount, without cable gland Version: KB 515/M25/POM Part no. 7450312</p> <p>Version: KB 515/M32/POM Part no. 7450313</p> <p>Version: KB 515/M25/PTFE Part no. 7450821</p> <p>Version: KB 515/M32/PTFE Part no. 7450819</p> <p>(order cable gland separately)</p>	 
<p>Type: plug, cable mount, with symmetric cable gland Version: KS 515/POM/Sym KV Part no. 7450400</p> <p>Version: KS 515/PTFE/Sym KV Part no. 7450900</p>	 
<p>Type: plug, cable mount, without cable gland Version: KS 515/M25/POM Part no. 7450419</p> <p>Version: KS 515/M32/POM Part no. 7450414</p> <p>Version: KS 515/M25/PTFE Part no. 7450914</p> <p>Version: KS 515/M32/PTFE Part no. 7450916</p> <p>(order cable gland separately)</p>	 



Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
Type: receptacle, panel mount Version: GB 515/1E/PTFE Part no. 7745011	
Type: plug, panel mount Version: GS 515/1E/PTFE interlock Part no. 7745010	
Type: receptacle, cable mount, without cable gland Version: KB 515/1E/M25/PTFE Part no. 7745027  Version: KB 515/1E/M32/PTFE Part no. 7745028  (order cable gland separately)	
Type: plug, cable mount, with symmetric cable gland Version: KS 515/1E/PTFE/ Sym KV interlock Part no. 7745025	
Type: plug, cable mount, without cable gland Version: KS 515/1E/M25/ PTFE interlock - Part no. 7745029  Version: KS 515/1E/M32/ PTFE interlock - Part no. 7745032  (order cable gland separately)	



Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

## 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

Electrical values		Characteristics		Layout
Operating voltage (DC)	12 kV	Number of pins high voltage (HV)	7	
Test voltage (DC)	18 kV	Number of pins E-contact 2.5 mm (LV)	-	
Rated current	30 A	Number of pins I-contact 1.5 mm (LV)	-	
		Insulation material	PTFE	

Type / Version / Part number	Drawing
Type: receptacle, panel mount Version: GB 715/PTFE Part no. 7470600	 
Type: plug, panel mount Version: GS 715/PTFE Part no. 7470200	 
Type: receptacle, cable mount, without cable gland Version: KB 715/M25/PTFE Part no. 7470812 (order cable gland separately)	 
Type: plug, cable mount, symmetric cable gland Version: KS 715/PTFE/Sym KV Part no. 7470411	 
Type: plug, cable mount, without cable gland Version: KS 715/M25/PTFE Part no. 7470414 (order cable gland separately)	 



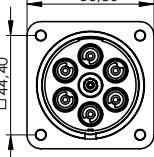
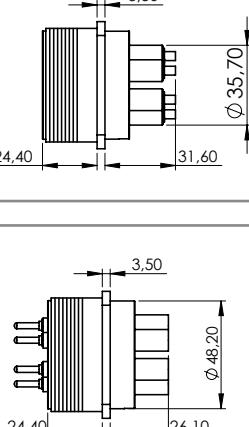
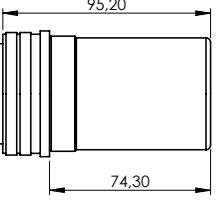
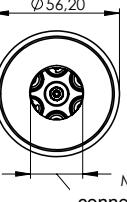
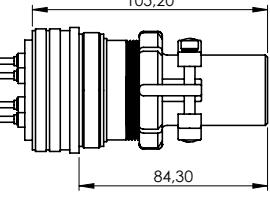
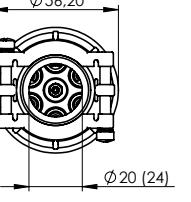
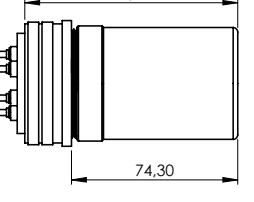
Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
<p>Type: receptacle, panel mount Version: GB 715/1E/PTFE Part no. 7747011</p>	 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Front view</p> </div> <div style="text-align: center;">  <p>Side view</p> </div> </div>
<p>Type: plug, panel mount Version: GS 715/1E/PTFE Part no. 7470701</p>	 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Front view</p> </div> <div style="text-align: center;">  <p>Side view</p> </div> </div>
<p>Type: receptacle, cable mount, without cable gland Version: KB 715/1E/M25/PTFE Part no. 7747022 (order cable gland separately)</p>	 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Front view</p> </div> <div style="text-align: center;">  <p>Top view</p> </div> </div>
<p>Type: plug, cable mount, symmetric cable gland Version: KS 715/1E/PTFE/Sym KV Part no. 7470417</p>	 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Front view</p> </div> <div style="text-align: center;">  <p>Top view</p> </div> </div>
<p>Type: plug, cable mount, without cable gland Version: KS 715/1E/M25/PTFE Part no. 7470416 (order cable gland separately)</p>	 <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Front view</p> </div> <div style="text-align: center;">  <p>Top view</p> </div> </div>

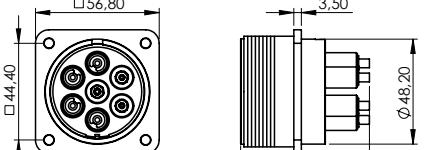
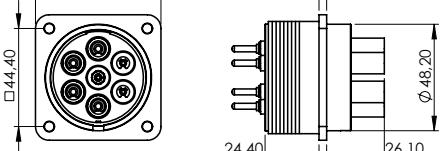
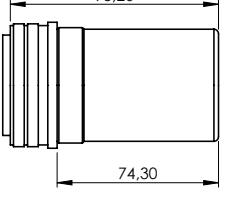
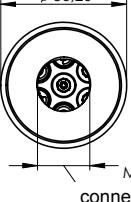
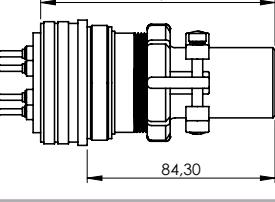
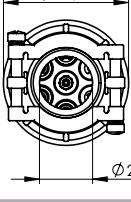
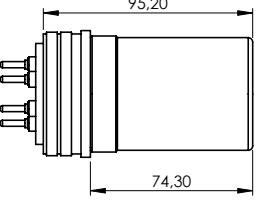
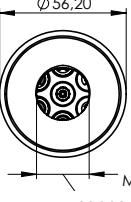
→ Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
<p>Type: receptacle, panel mount Version: GB 715/2I/1E/PTFE Part no. 7470707</p>	 <div style="display: flex; justify-content: space-around;">   </div>
<p>Type: plug, panel mount Version: GS 715/2I/1E/PTFE Part no. 7470702</p>	 <div style="display: flex; justify-content: space-around;">   </div>
<p>Type: receptacle, cable mount, without cable gland Version: KB 715/2I/1E/M25/PTFE Part no. 7470705 (order cable gland separately)</p>	 <div style="display: flex; justify-content: space-around;">    </div>
<p>Type: plug, cable mount, symmetric cable gland Version: KS 715/2I/1E/PTFE/Sym KV Part no. 7470706</p>	 <div style="display: flex; justify-content: space-around;">    </div>
<p>Type: plug, cable mount, without cable gland Version: KS 715/2I/1E/M25/PTFE Part no. 7470704 (order cable gland separately)</p>	 <div style="display: flex; justify-content: space-around;">    </div>



Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

# M9

**Series M**

## Overview size M9

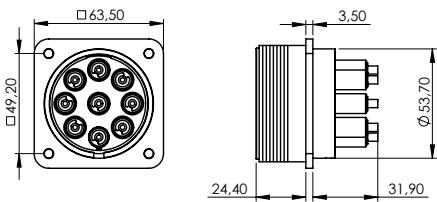
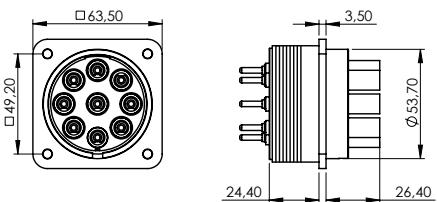
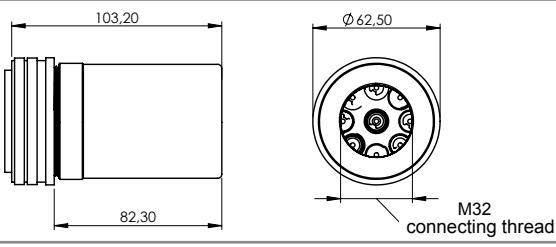
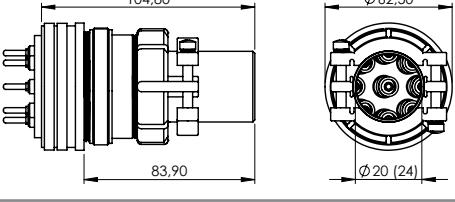
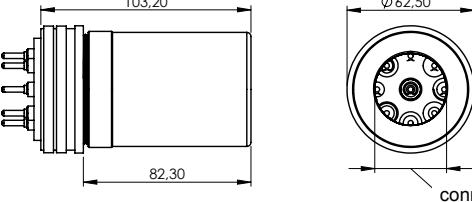
Part no.	Type / Description	Plug	Receptacle	Cable Mount	Panel mount	Number of contacts		
				Standard housing M32	Symmetric cable gland		HV 2.7 mm	LV 1.5 mm
7490600	GB 915 PTFE		●			●	9	-
7490200	GS 915 PTFE	●				●	9	-
7490811	KB 915/M32 PTFE		●	●			9	-
7490400	KS 915 PTFE Sym KV	●			●		9	-
7490416	KS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

\*HV = High Voltage  
\*LV = Low Voltage

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
Type: receptacle, panel mount Version: GB 915/PTFE Part no. 7490600	 
Type: plug, panel mount Version: GS 915/PTFE Part no. 7490200	 
Type: receptacle, cable mount, without cable gland Version: KB 915/M32/PTFE Part no. 7490811 (order cable gland separately)	 
Type: plug, cable mount, symmetric cable gland Version: KS 915/PTFE/Sym KV Part no. 7490400	 
Type: plug, cable mount, without cable gland Version: KS 915/M32/PTFE Part no. 7490416 (order cable gland separately)	 



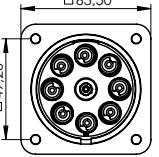
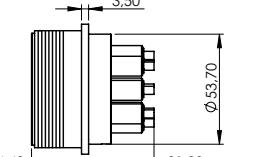
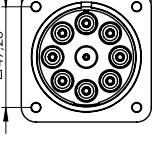
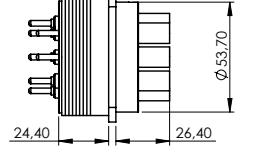
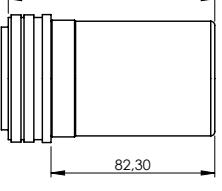
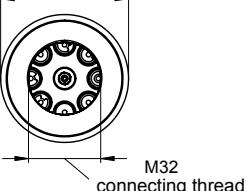
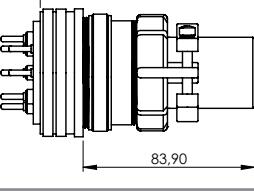
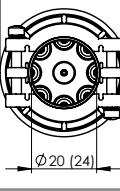
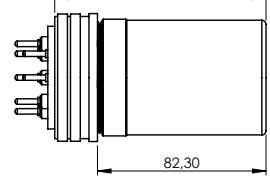
Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
<p>Type: receptacle, panel mount Version: GB 915/1E/PTFE Part no. 7749011</p>	 <div style="display: flex; justify-content: space-around;">    </div>
<p>Type: plug, panel mount Version: GS 915/1E/PTFE interlock Part no. 7749010</p>	 <div style="display: flex; justify-content: space-around;">    </div>
<p>Type: receptacle, cable mount, without cable gland Version: KB 915/1E/M32/PTFE Part no. 7749023 (order cable gland separately)</p>	 <div style="display: flex; justify-content: space-around;">    </div>
<p>Type: plug, cable mount, symmetric cable gland Version: KS 915/1E/PTFE/Sym KV Part no. 7490417</p>	 <div style="display: flex; justify-content: space-around;">    </div>
<p>Type: plug, cable mount, without cable gland Version: KS 915/1E/M32/PTFE Part no. 7490415 (order cable gland separately)</p>	 <div style="display: flex; justify-content: space-around;">    </div>

drawing - dimensions in mm

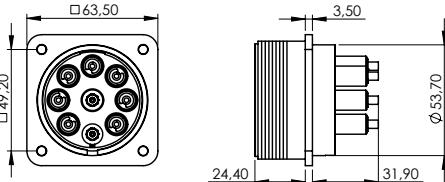
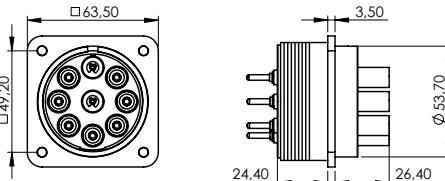
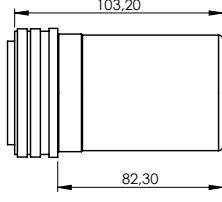
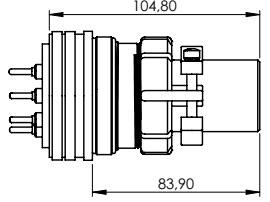
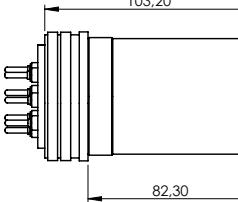


Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
Type: receptacle, panel mount Version: GB 915/2I/PTFE Part no. 7749088	 
Type: plug, panel mount Version: GS 915/2I/PTFE Part no. 7749082	 
Type: receptacle, cable mount, without cable gland Version: KB 915/2I/M32/PTFE Part no. 7749057 (order cable gland separately)	 
Type: plug, cable mount, symmetric cable gland Version: KS 915/2I/PTFE/Sym KV Part no. 7749053	 
Type: plug, cable mount, without cable gland Version: KS 915/2I/M32/PTFE Part no. 7749058 (order cable gland separately)	 



Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

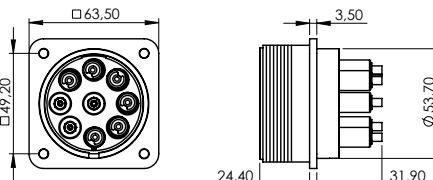
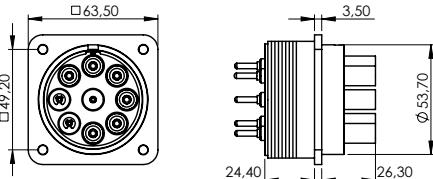
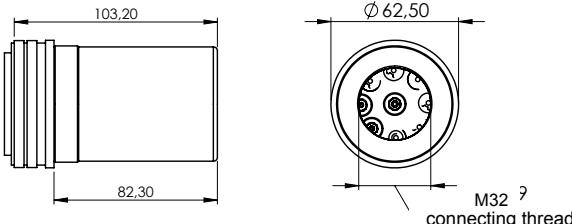
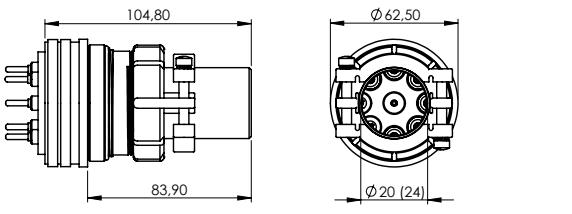
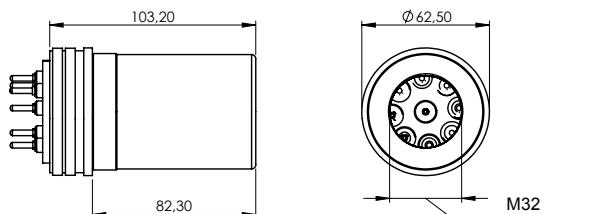
# Type M915/2I/1E 6(+3) Pole 12 kVDC

Series **M**

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV
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



Type / Version / Part number	Drawing
Type: receptacle, panel mount Version: GB 915/2I/1E/PTFE Part no. 7749070	 
Type: receptacle, panel mount Version: GS 915/2I/1E/PTFE Part no. 7749080	 
Type: receptacle, cable mount, without cable gland Version: KB 915/2I/1E/M32/PTFE Part no. 7749059 <i>(order cable gland separately)</i>	 
Type: plug, cable mount, symmetric cable gland Version: KS 915/2I/1E/PTFE/Sym KV Part no. 7749087	 
Type: plug, cable mount, without cable gland Version: KS 915/2I/1E/M32/PTFE Part no. 7749090 <i>(order cable gland separately)</i>	 

→ Contacts, cable glands and accessories on pages 125-128  
Mounting instructions on pages 129-134

drawing - dimensions in mm

## Contacts

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

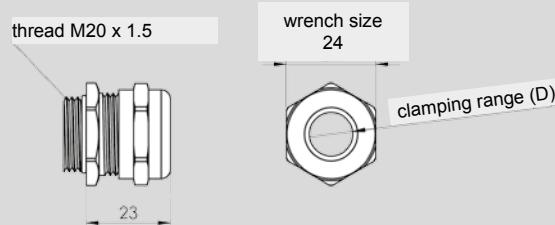
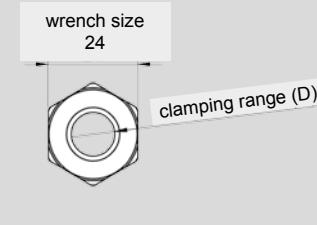
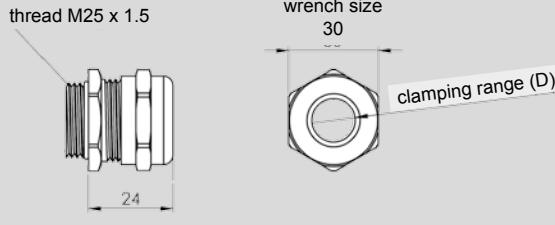
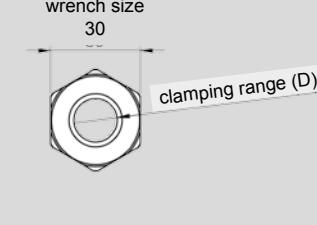
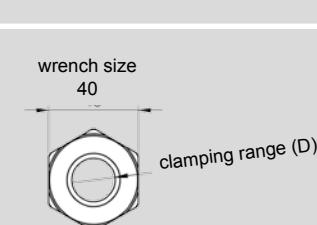
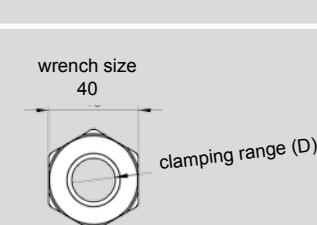
drawing - dimensions in mm

## Gaskets

Part no.	Description	Drawing
6572050	flat gasket Size M3	
6572051	flat gasket Size M5	
6572052	flat gasket Size M7	
6572053	flat gasket Size M9	

drawing - dimensions in mm

**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	 <p>thread M20 x 1.5</p> <p>wrench size 24</p> <p>clamping range (D)</p> <p>23</p>
1674110	screwed cable gland M20 x 1.5, 10-14 mm	10-14	 <p>thread M25 x 1.5</p> <p>wrench size 30</p> <p>clamping range (D)</p>
1674119	screwed cable gland M25 x 1.5, 9-16 mm	9-16	 <p>thread M25 x 1.5</p> <p>wrench size 40</p> <p>clamping range (D)</p> <p>24</p>
1674117	screwed cable gland M25 x 1.5, 13-18 mm	13-18	 <p>thread M32 x 1.5</p> <p>wrench size 40</p> <p>clamping range (D)</p> <p>29</p>
1674082	screwed cable gland M32 x 1.5, 13-20 mm	13-20	 <p>thread M32 x 1.5</p> <p>wrench size 40</p> <p>clamping range (D)</p>
1674078	screwed cable gland M32 x 1.5, 18-25 mm	18-25	 <p>thread M32 x 1.5</p> <p>wrench size 40</p> <p>clamping range (D)</p> <p>29</p>

drawing - dimensions in mm

### **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**

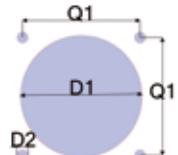
Part no.	Description
1674062	Extension PG21 to PG29
1674106	Extension M20 to M25
1674108	Extension M25 to M32

1.



Part as supplied

2.



Panel cut out

Connector size	Q1 [mm]	D1 [mm]	D2 [mm]
M3	34.90	35.90	3.75
M5	39.65	42.20	3.75
M7	44.45	49.30	4.40
M9	49.25	54.90	4.40

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  
⚠ Do not damage dielectric insulations

6.



Remove dielectric insulation of single wires  
(L2 = 5mm)

⚠ 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

10.



Assembly finished.

# Assembly Instructions Series M (plug, panel mount)

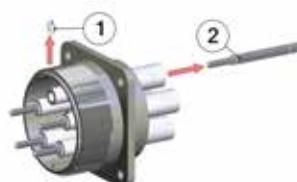
Series **M**

**1.**



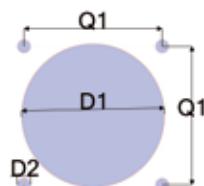
Part as supplied

**2.**



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

**3.**



Panel cut out

Connector size	Q1 [mm]	D1 [mm]	D2 [mm]
M3	34.90	35.90	3.75
M5	39.65	42.20	3.75
M7	44.45	49.30	4.40
M9	49.25	54.90	4.40

**4.**



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

**5.**



Fold back shield braid.

**6.**



Remove any filling elements from cable  
⚠ Do not damage dielectric insulations

**7.**



Remove dielectric insulation of single wires (L2 = 5mm)  
⚠ Do not damage conductors

**8.**



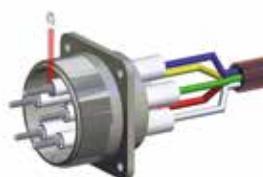
Solder one male contact (2) on each conductor

**9.**



Slide single wires completely into insulation tubes

**10.**



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

**11.**



Assembly finished.

1.



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

5.



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

Connector size	L1 [mm]
M3 / M5 / M7	45
M9	60

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)

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)

10.



Place shrinking tubes on single wires.

# Assembly Instructions Series M (receptacle, cable mount)

Series **M**

**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. Shrink temperature 100° C

**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 break down

**18.**



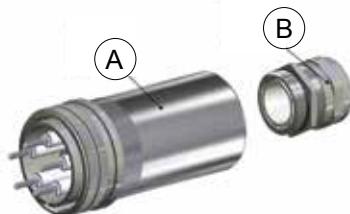
Screw cable gland cap (1) to cable gland basis (3)  
 SW

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

**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
M9	85

**7.**

Fold back shield braid over jacket

**8.**

Shorten shield braid to length L2 = 40 mm

**9.**

Fix shield braid with tape

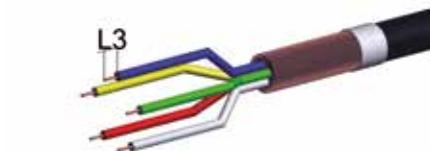
**10.**

Remove any filling elements from cable

# Assembly Instructions Series M (plug, cable mount)

Series **M**

**11.**



Remove dielectric insulation  
(L3 = min. 5mm)

**12.**



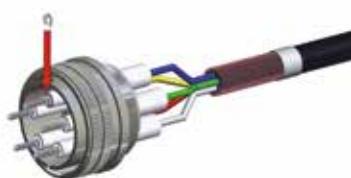
Solder male contacts (7) on conductor  
⚠ Tin-solder must not remain on contact surface

**13.**



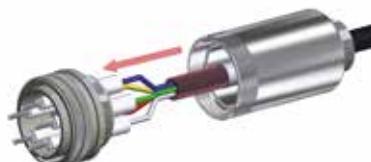
Slide contacts (7) completely into insulation tubes (5)

**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 break down

**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



- **Operating voltage up to 12 kVDC**
- **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)**

## 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

### Contacts type MOD-HP

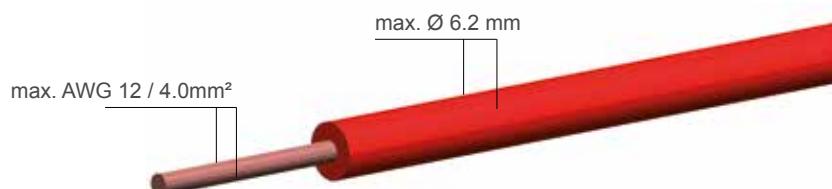
Termination method	crimp / solder
Rated current (at +23°C)	25 A
Contact resistance	≤ 2 mΩ
Contact diameter	2.5 mm
Wire size (AWG / cross section)	AWG 20-12 (0.5 - 4.0 mm²)
Contact material	copper alloy
Contact plating	silver (Ag)
Mating cycles	≥ 500

Contacts not included. Choose contacts from page 164.

### Module type MOD-HP

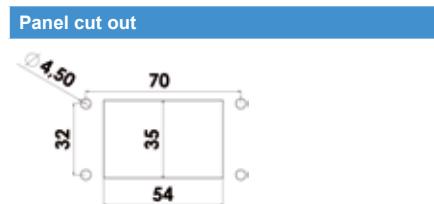
Number of pins	2
Material	PA 6.6 GF
Flammability class	UL94 V-0
Operating temperature	-40°C to +125°C
CTI-Value	600
Insulating material group	I (DIN IEC 60664)
Max. diameter of dielectric cable insulation (single wire)	6.2 mm

### Suitable cable dimensions (single wire)

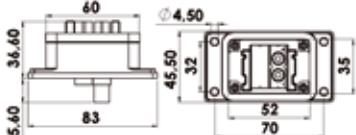
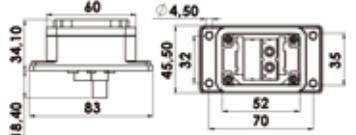
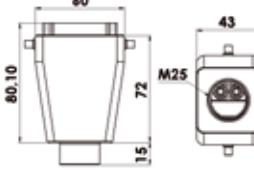
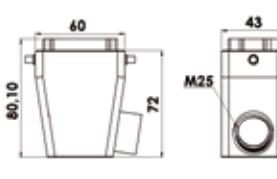
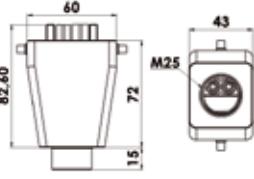
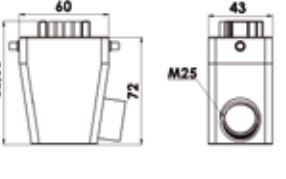


Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	2
Insulation material	PA 6.6 GF



Contacts not included. Choose contacts from page 164

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

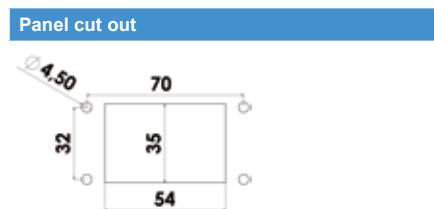


Choose contacts from page 164  
Cable glands and tools on page 173

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	4
Insulation material	PA 6.6 GF



Contacts not included. Choose contacts from page 164

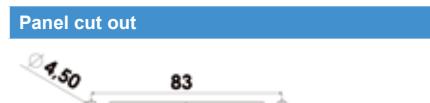
Type / Version / Part number	Picture / Drawing
Receptacle, panel mount <b>GBR 2HP/2M</b> Part no. 9022300	
Plug, panel mount <b>GSR 2HP/2M</b> Part no. 9022350	
Plug, cable mount, cable entry top M25 <b>KSR 2HP/AO/2M</b> Part no. 9022100	
Plug, cable mount, cable entry side 90° M25 <b>KSR 2HP/AS/2M</b>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

Choose contacts from page 164  
Cable glands and tools on page 173

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	6
Insulation material	PA 6.6 GF



Contacts not included. Choose contacts from page 164

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

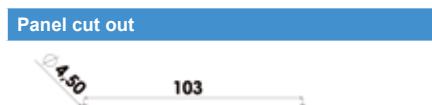


Choose contacts from page 164  
Cable glands and tools on page 173

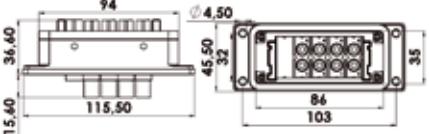
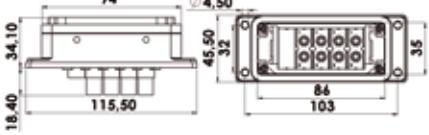
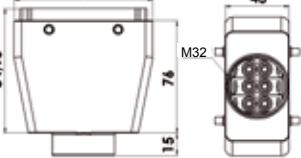
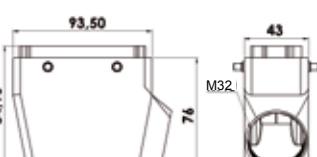
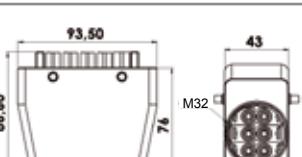
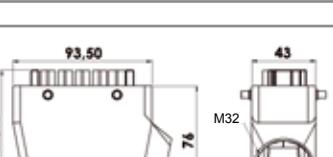
drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	8
Insulation material	PA 6.6 GF



Contacts not included. Choose contacts from page 164

Type / Version / Part number	Picture / Drawing
Receptacle, panel mount <b>GBR 4HP/5M</b> Part no. 9054300	 
Plug, panel mount <b>GSR 4HP/5M</b> Part no. 9054350	 
Plug, cable mount, cable entry top M32 <b>KSR 4HP/AO/5M</b> Part no. 9054100	 
Plug, cable mount, cable entry side 90° M32 <b>KSR 4HP/AS/5M</b> Part no. 9054200	 
Receptacle, cable mount, cable entry top M32 <b>KBR 4HP/AO/5M</b> Part no. 9054150	 
Receptacle, cable mount, cable entry side 90° M32 <b>KBR 4HP/AS/5M</b> Part no. 9054250	 

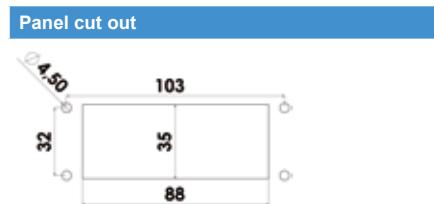


Choose contacts from page 164  
Cable glands and tools on page 173

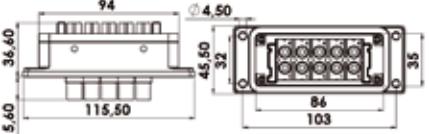
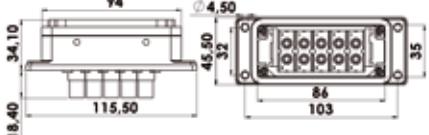
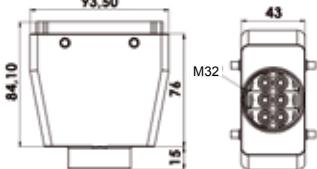
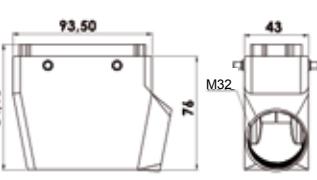
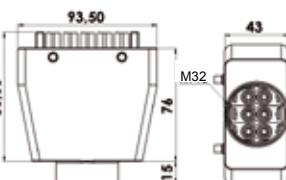
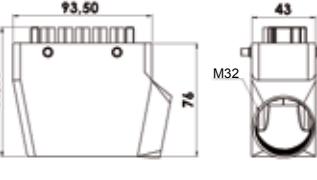
drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	10
Insulation material	PA 6.6 GF



Contacts not included. Choose contacts from page 164

Type / Version / Part number	Picture / Drawing
Receptacle, panel mount <b>GBR 5HP/5M</b> Part no. 9055300	 
Plug, panel mount <b>GSR 5HP/5M</b> Part no. 9055350	 
Plug, cable mount, cable entry top M32 <b>KSR 5HP/AO/5M</b> Part no. 9055100	 
Plug, cable mount, cable entry side 90° M32 <b>KSR 5HP/AS/5M</b> Part no. 9055200	 
Receptacle, cable mount, cable entry top M32 <b>KBR 5HP/AO/5M</b> Part no. 9055150	 
Receptacle, cable mount, cable entry side 90° M32 <b>KBR 5HP/AS/5M</b> Part no. 9055250	 

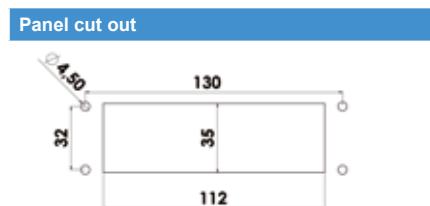


Choose contacts from page 164  
Cable glands and tools on page 173

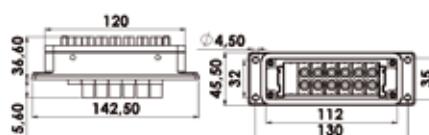
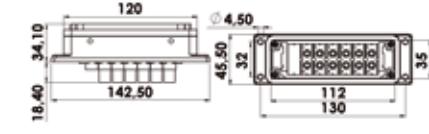
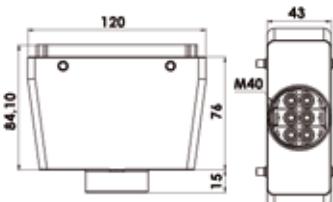
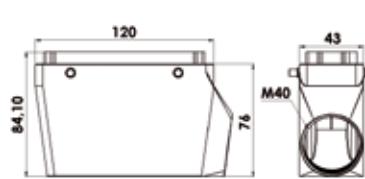
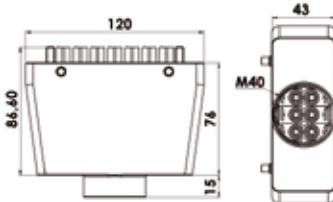
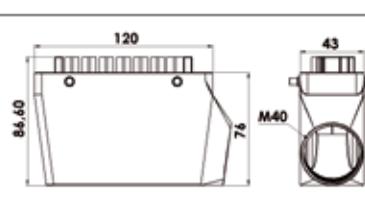
drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	12
Insulation material	PA 6.6 GF



Contacts not included. Choose contacts from page 164

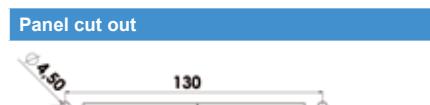
Type / Version / Part number	Picture / Drawing
Receptacle, panel mount <b>GBR 6HP/7M</b> Part no. 9076300	 
Plug, panel mount <b>GSR 6HP/7M</b> Part no. 9076350	 
Plug, cable mount, cable entry top M40 <b>KSR 6HP/AO/7M</b> Part no. 9076100	 
Plug, cable mount, cable entry side 90° M40 <b>KSR 6HP/AS/7M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

Choose contacts from page 164  
Cable glands and tools on page 173

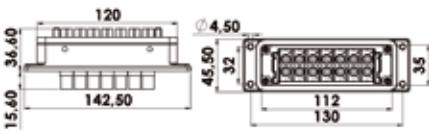
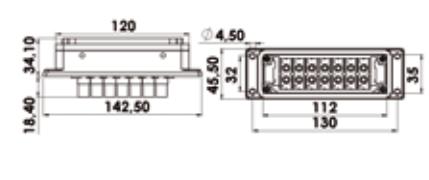
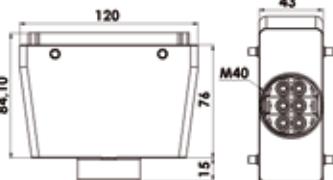
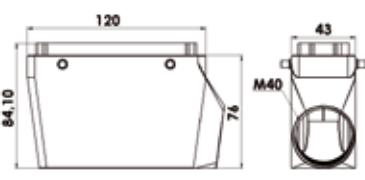
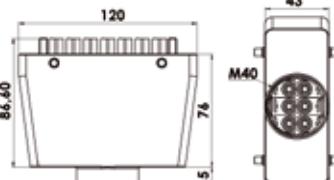
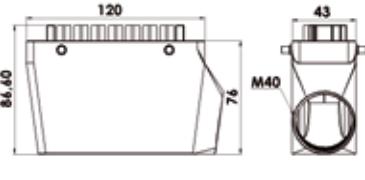
drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	14
Insulation material	PA 6.6 GF



Contacts not included. Choose contacts from page 164

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



Choose contacts from page 164  
Cable glands and tools on page 173

drawing - dimensions in mm

# Overview Series MOD-HP

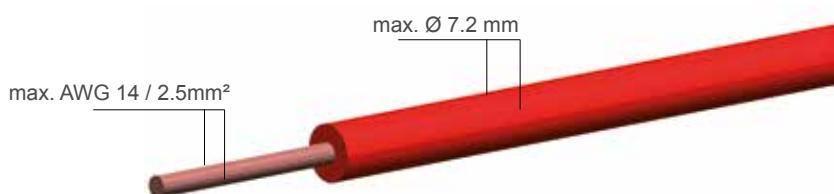
Part no.	Description	HV contacts	Plug	Receptacle	Cable mount	Connecting thread	Panel mount	Page
9021300	GBR 1HP/2M	2		●			●	137
9021350	GSR 1HP/2M	2	●				●	137
9021010	KSR 1HP/AO/2M	2	●		●	M25		137
9021200	KSR 1HP/AS/2M	2	●		●	M25		137
9021150	KBR 1HP/AO/2M	2		●	●	M25		137
9021250	KBR 1HP/AS/2M	2		●	●	M25		137
9022300	GBR 2HP/2M	4		●			●	138
9022350	GSR 2HP/2M	4	●				●	138
9022100	KSR 2HP/AO/2M	4	●		●	M25		138
9022200	KSR 2HP/AS/2M	4	●		●	M25		138
9022150	KBR 2HP/AO/2M	4		●	●	M25		138
9022250	KBR 2HP/AS/2M	4		●	●	M25		138
9033300	GBR 3HP/3M	6		●			●	139
9033350	GSR 3HP/3M	6	●				●	139
9033100	KSR 3HP/AO/3M	6	●		●	M32		139
9033200	KSR 3HP/AS/3M	6	●		●	M32		139
9033150	KBR 3HP/AO/3M	6		●	●	M32		139
9033250	KBR 3HP/AS/3M	6		●	●	M32		139
9054300	GBR 4HP/5M	8		●			●	140
9054350	GSR 4HP/5M	8	●				●	140
9054100	KSR 4HP/AO/5M	8	●		●	M40		140
9054200	KSR 4HP/AS/5M	8	●		●	M40		140
9054150	KBR 4HP/AO/5M	8		●	●	M40		140
9054250	KBR 4HP/AS/5M	8		●	●	M40		140
9055300	GBR 5HP/5M	10		●			●	141
9055350	GSR 5HP/5M	10	●				●	141
9055100	KSR 5HP/AO/5M	10	●		●	M40		141
9055200	KSR 5HP/AS/5M	10	●		●	M40		141
9055150	KBR 5HP/AO/5M	10		●	●	M40		141
9055250	KBR 5HP/AS/5M	10		●	●	M40		141
9076300	GBR 6HP/7M	12		●			●	142
9076350	GSR 6HP/7M	12	●				●	142
9076100	KSR 6HP/AO/7M	12	●		●	M40		142
9076200	KSR 6HP/AS/7M	12	●		●	M40		142
9076150	KBR 6HP/AO/7M	12		●	●	M40		142
9076250	KBR 6HP/AS/7M	12		●	●	M40		142
9077300	GBR 7HP/7M	14		●			●	143
9077350	GSR 7HP/7M	14	●				●	143
9077100	KSR 7HP/AO/7M	14	●		●	M40		143
9077200	KSR 7HP/AS/7M	14	●		●	M40		143
9077150	KBR 7HP/AO/7M	14		●	●	M40		143
9077250	KBR 7HP/AS/7M	14		●	●	M40		143

<b>Housings</b>	
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

<b>Contacts type MOD-T</b>	
Termination method	solder
Rated current (at +23°C)	30 A
Contact resistance	300µΩ
Contact diameter	2.7 mm
Wire size (AWG / cross section)	AWG 14 / 2.5 mm <sup>2</sup>
Contact material	brass (CuZn)
Contact plating	silver (Ag)
Mating cycles	≥ 100.000

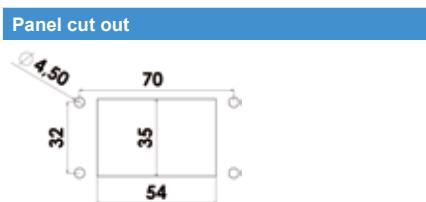
**Contacts included**

<b>Module type MOD-T</b>	
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
Operating temperature insulation parts	-50°C to +260°C
CTI-Value	600
Insulating material group	I (DIN IEC 60664)
Max. diameter of dielectric cable insulation (single wire)	7.2 mm

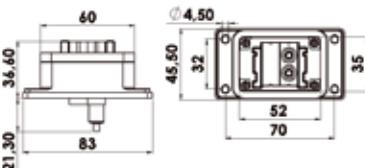
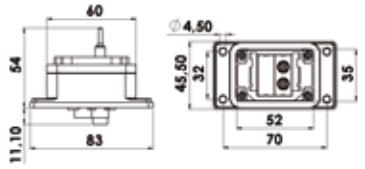
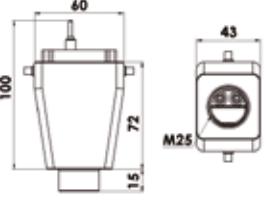
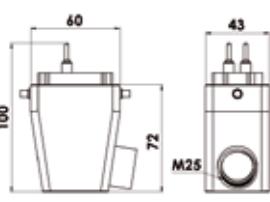
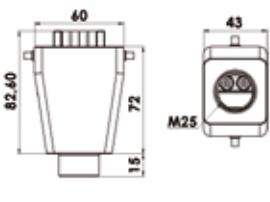
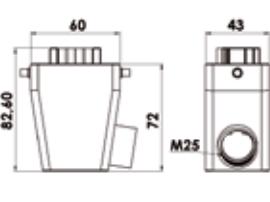
**Suitable cable dimensions (single wire)**

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	2
Insulation material	PTFE



Contacts included.

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



Cable glands and tools on page 173

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	4
Insulation material	PTFE



Contacts included.

Type / Version / Part number	Picture / Drawing
Receptacle, panel mount <b>GBR 2T2/2M</b> Part no. 9022305	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Front view</p> </div> <div style="text-align: center;"> <p>Side view</p> </div> </div>
Plug, panel mount <b>GSR 2T2/2M</b> Part no. 9022355	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Front view</p> </div> <div style="text-align: center;"> <p>Side view</p> </div> </div>
Plug, cable mount, cable entry top M25 <b>KSR 2T2/AO/2M</b> Part no. 9022105	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Front view</p> </div> <div style="text-align: center;"> <p>Side view</p> </div> </div>
Plug, cable mount, cable entry side 90° M25 <b>KSR 2T2/AS/2M</b> Part no. 9022205	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Front view</p> </div> <div style="text-align: center;"> <p>Side view</p> </div> </div>
Receptacle, cable mount, cable entry top M25 <b>KBR 2T2/AO/2M</b> Part no. 9022155	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Front view</p> </div> <div style="text-align: center;"> <p>Side view</p> </div> </div>
Receptacle, cable mount, cable entry side 90° M25 <b>KBR 2T2/AS/2M</b> Part no. 9022255	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Front view</p> </div> <div style="text-align: center;"> <p>Side view</p> </div> </div>

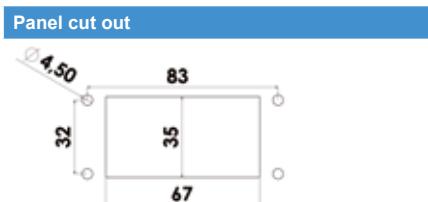


Cable glands and tools on page 173

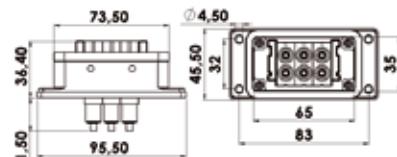
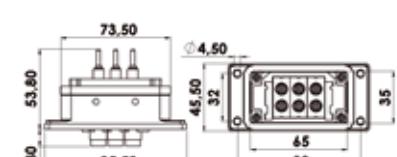
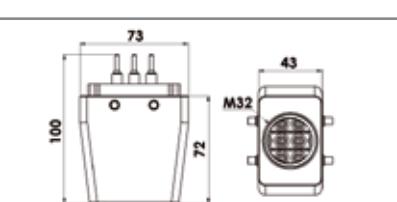
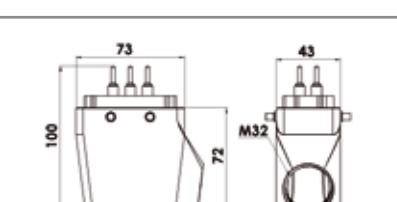
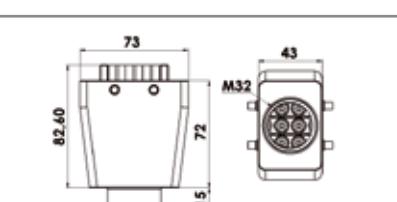
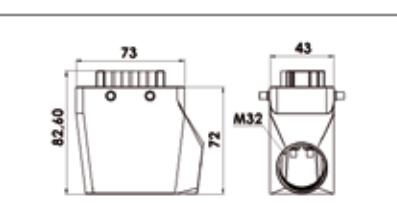
drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	6
Insulation material	PTFE



Contacts included.

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

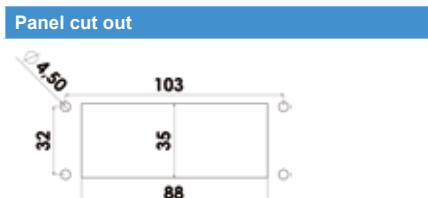


Cable glands and tools on page 173

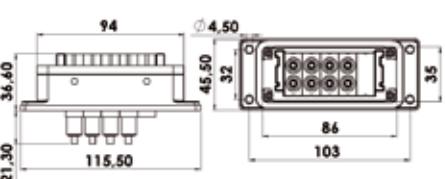
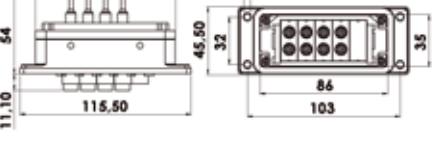
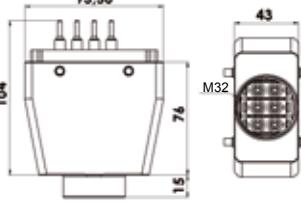
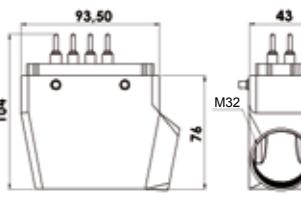
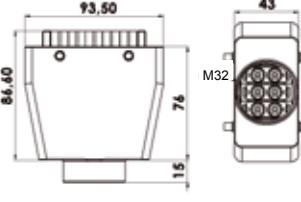
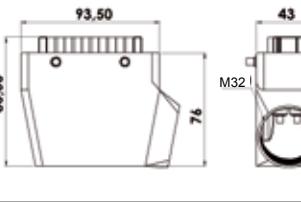
drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	8
Insulation material	PTFE



Contacts included.

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

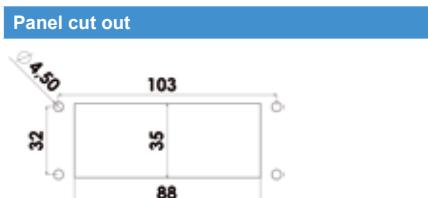


Cable glands and tools on page 173

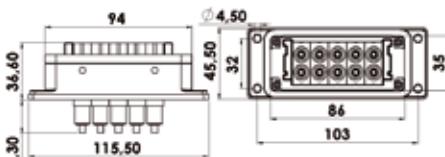
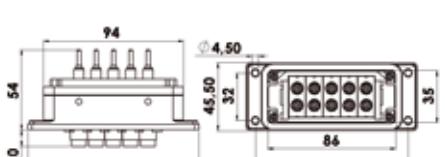
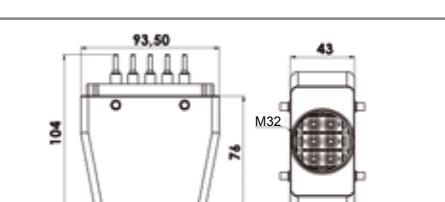
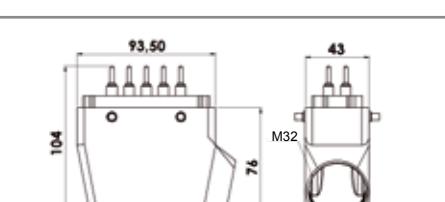
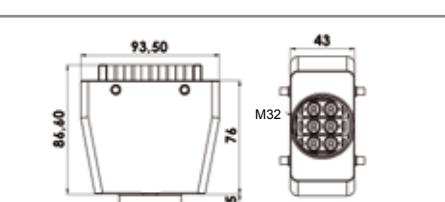
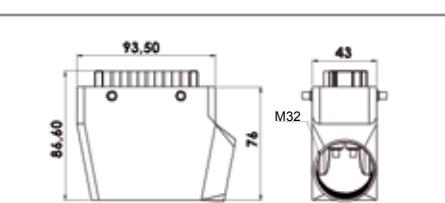
drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	10
Insulation material	PTFE



Contacts included.

Type / Version / Part number	Picture / Drawing
Receptacle, panel mount <b>GBR 5T2/5M</b> Part no. 9055305	 
Plug, panel mount <b>GSR 5T2/5M</b> Part no. 9055355	 
Plug, cable mount, cable entry top M32 <b>KSR 5T2/AO/5M</b> Part no. 9055105	 
Plug, cable mount, cable entry side 90° M32 <b>KSR 5T2/AS/5M</b> Part no. 9055205	 
Receptacle, cable mount, cable entry top M32 <b>KBR 5T2/AO/5M</b> Part no. 9055155	 
Receptacle, cable mount, cable entry side 90° M32 <b>KBR 5T2/AS/5M</b> Part no. 9055255	 

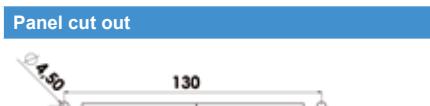


Cable glands and tools on page 173

drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	12
Insulation material	PTFE



Contacts included.

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

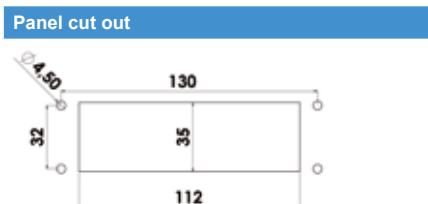


Cable glands and tools on page 173

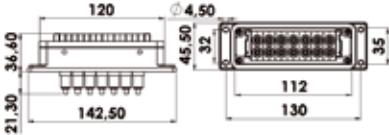
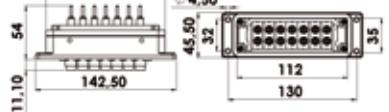
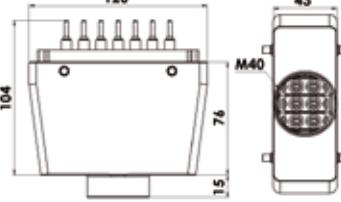
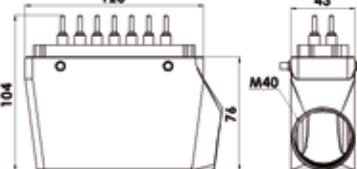
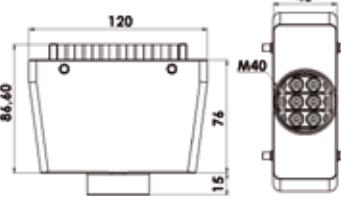
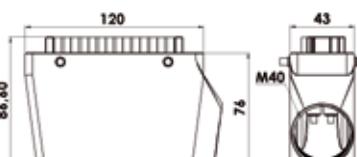
drawing - dimensions in mm

Electrical values	
Operating voltage (DC)	12 kV
Test voltage (DC)	18 kV

Characteristics	
Number of pins	14
Insulation material	PTFE



Contacts included.

Type / Version / Part number	Picture / Drawing
Receptacle, panel mount <b>GBR 7T2/7M</b> Part no. 9077305	 
Plug, panel mount <b>GSR 7T2/7M</b> Part no. 9077355	 
Plug, cable mount, cable entry top M40 <b>KSR 7T2/AO/7M</b> Part no. 9077105	 
Plug, cable mount, cable entry side 90° M40 <b>KSR 7T2/AS/7M</b> Part no. 9077205	 
Receptacle, cable mount, cable entry top M40 <b>KBR 7T2/AO/7M</b> Part no. 9077155	 
Receptacle, cable mount, cable entry side 90° M40 <b>KBR 7T2/AS/7M</b> Part no. 9077255	 



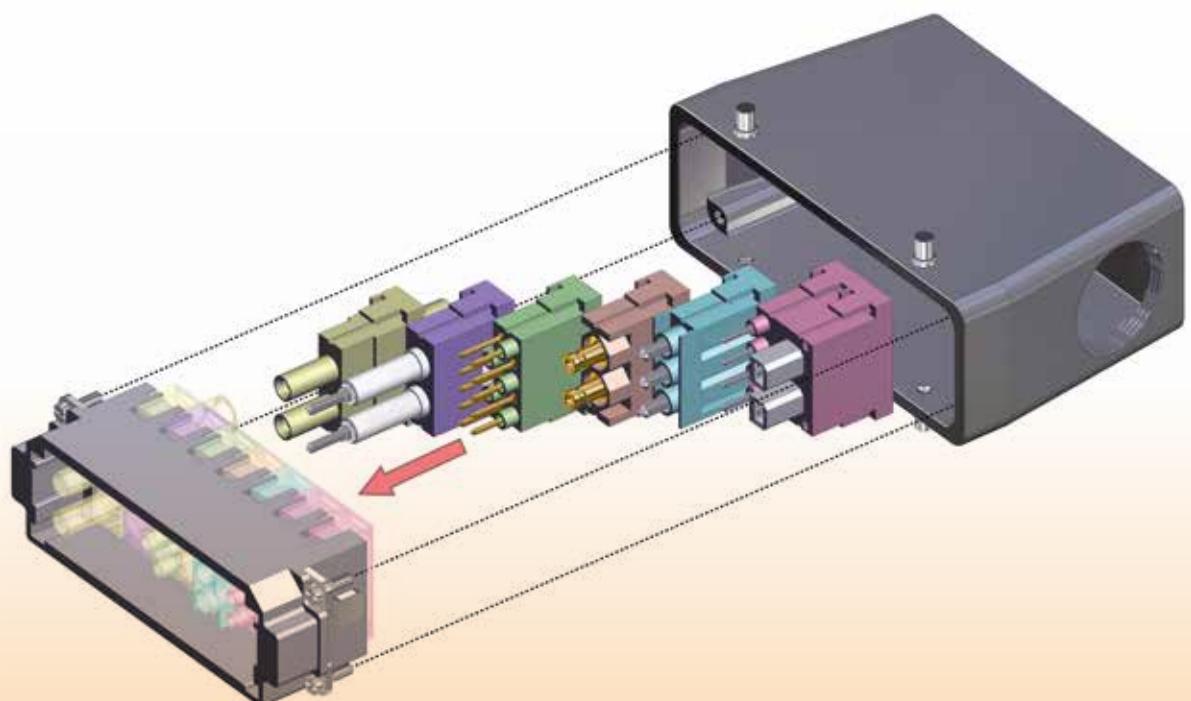
Cable glands and tools on page 173

drawing - dimensions in mm

## Overview Series MOD-T

Part no.	Description	HV contacts	Plug	Receptacle	Cable mount	Connecting thread	Panel mount	Page
9021305	GBR 1T2/2M	2		•			•	146
9021355	GSR 1T2/2M	2	•				•	146
9021015	KSR 1T2/AO/2M	2	•		•	M25		146
9021205	KSR 1T2/AS/2M	2	•		•	M25		146
9021155	KBR 1T2/AO/2M	2		•	•	M25		146
9021255	KBR 1T2/AS/2M	2		•	•	M25		146
9022305	GBR 2T2/2M	4		•			•	147
9022355	GSR 2T2/2M	4	•				•	147
9022105	KSR 2T2/AO/2M	4	•		•	M25		147
9022205	KSR 2T2/AS/2M	4	•		•	M25		147
9022155	KBR 2T2/AO/2M	4		•	•	M25		147
9022255	KBR 2T2/AS/2M	4		•	•	M25		147
9033305	GBR 3T2/3M	6		•			•	148
9033355	GSR 3T2/3M	6	•				•	148
9033105	KSR 3T2/AO/3M	6	•		•	M32		148
9033205	KSR 3T2/AS/3M	6	•		•	M32		148
9033155	KBR 3T2/AO/3M	6		•	•	M32		148
9033255	KBR 3T2/AS/3M	6		•	•	M32		148
9054305	GBR 4T2/5M	8		•			•	149
9054355	GSR 4T2/5M	8	•				•	149
9054105	KSR 4T2/AO/5M	8	•		•	M40		149
9054205	KSR 4T2/AS/5M	8	•		•	M40		149
9054155	KBR 4T2/AO/5M	8		•	•	M40		149
9054255	KBR 4T2/AS/5M	8		•	•	M40		149
9055305	GBR 5T2/5M	10		•			•	150
9055355	GSR 5T2/5M	10	•				•	150
9055105	KSR 5T2/AO/5M	10	•		•	M40		150
9055205	KSR 5T2/AS/5M	10	•		•	M40		150
9055155	KBR 5T2/AO/5M	10		•	•	M40		150
9055255	KBR 5T2/AS/5M	10		•	•	M40		150
9076305	GBR 6T2/7M	12		•			•	151
9076355	GSR 6T2/7M	12	•				•	151
9076105	KSR 6T2/AO/7M	12	•		•	M40		151
9076215	KSR 6T2/AS/7M	12	•		•	M40		151
9076155	KBR 6T2/AO/7M	12		•	•	M40		151
9076255	KBR 6T2/AS/7M	12		•	•	M40		151
9077305	GBR 7T2/7M	14		•			•	152
9077355	GSR 7T2/7M	14	•				•	152
9077105	KSR 7T2/AO/7M	14	•		•	M40		152
9077205	KSR 7T2/AS/7M	14	•		•	M40		152
9077155	KBR 7T2/AO/7M	14		•	•	M40		152
9077255	KBR 7T2/AS/7M	14		•	•	M40		152





- **Modules**
- **Module frames**
- **Industrial connector housings**
- **Contacts**
- **Screwed cable glands**
- **Tools**

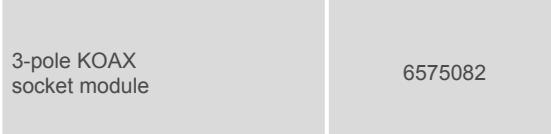
## High voltage modules

Picture	Description	Part Number	Operating voltage	Contact size	Wire size
	HiPro HV module plug, 2-pole	6111111	12 kVDC	2.5 mm choose contacts from page 31	AWG 20 – 12 0.5 – 4.0 mm <sup>2</sup>
	HiPro HV module socket, 2-pole	6111112			
	PTFE-1 module plug, 1-pole	6580000	12 kVDC	2.7 mm contacts included	AWG 12 2.5 mm <sup>2</sup>
	PTFE-1 module socket, 1-pole	6580100			
	PTFE-2 module plug, 2-pole	6580010	12 kVDC	2.7 mm contacts included	AWG 12 2.5 mm <sup>2</sup>
	PTFE-2 module socket, 2-pole	6580110			

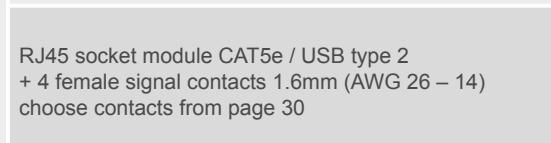
## Low voltage modules

Picture	Description	Part Number	Operating voltage	Contact size	Wire size
	20-pole plug module	6575051	63 V	1.0 mm choose contacts from page 29	AWG 28 – 20 0.09 – 0.5 mm <sup>2</sup>
	20-pole socket module	6575061			
	10-pole plug module	6575070	400 V	1.6 mm choose contacts from page 30	AWG 26 - 14 0.14 – 2.5 mm <sup>2</sup>
	10-pole socket module	6575080			
	5-pole plug module	6575065	400 V	2.5 mm choose contacts from page 31	AWG 20 - 12 0.5 – 4.0 mm <sup>2</sup>
	5-pole socket module	6575075			
	3-pole plug module	6575062	630 V	3.6 mm choose contacts from page 32	AWG 16 – 8 1.5 – 10.0 mm <sup>2</sup>
	3-pole socket module	6575063			

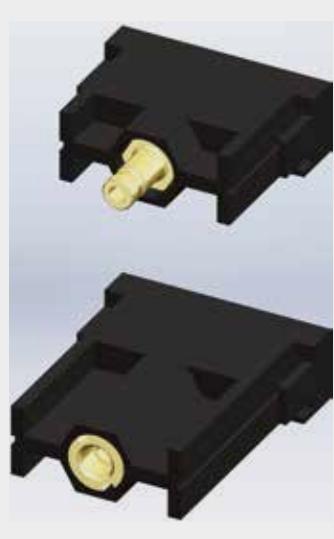
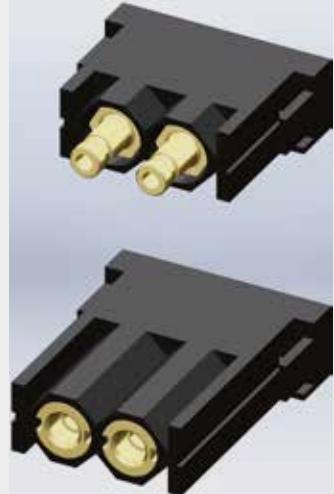
## KOAX module

Picture	Description	Part Number	Operating voltage	Wire size
	3-pole KOAX plug module	6575072	250 V	RG 58, 174 179, 316
	3-pole KOAX socket module			

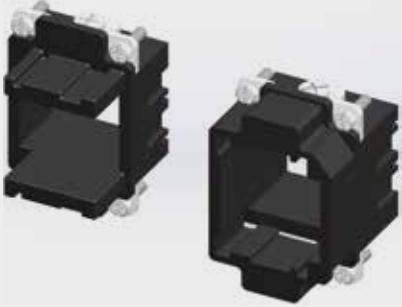
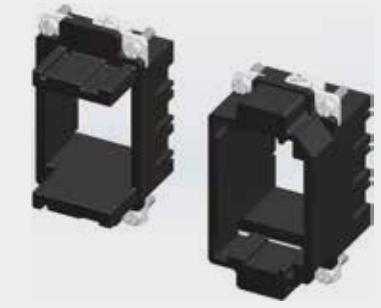
## RJ module

Picture	Description	Part Number
	RJ45 plug module CAT5e / USB type 2 + 4 male signal contacts 1.6mm (AWG 26 – 14) choose contacts from page 30	4100007
	RJ45 socket module CAT5e / USB type 2 + 4 female signal contacts 1.6mm (AWG 26 – 14) choose contacts from page 30	4200007

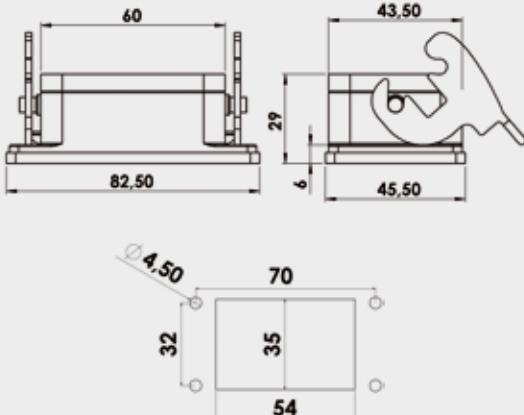
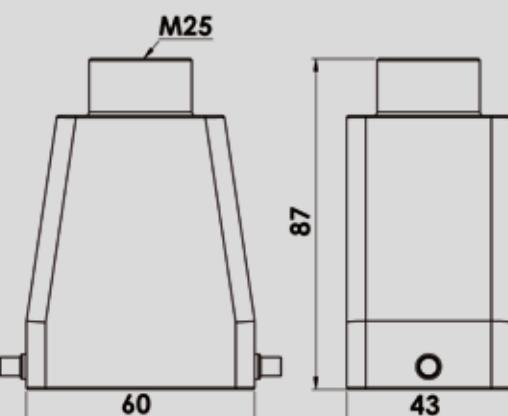
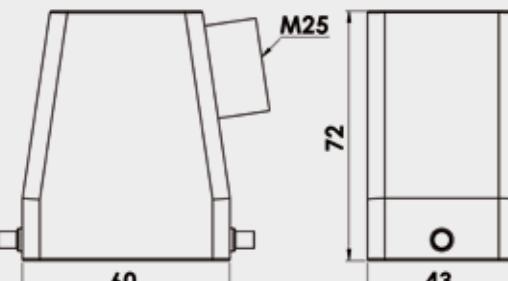
## Pneumatic modules - single shut-off

Picture	Description	Part Number	Number of contacts
	Pneumatic plug module ST-1PN-M hose size 2.5 mm	6580201	1
	Pneumatic socket module BU-1PN-M hose size 2.5 mm – with shut-off	6580251	
	Pneumatic plug module ST-1PN-M hose size 4.0 mm	6580204	
	Pneumatic socket module BU-1PN-M hose size 4.0 mm – with shut-off	6580254	
	Pneumatic plug module ST-2PN-M hose size 2.5 mm	6580202	2
	Pneumatic socket module BU-2PN-M hose size 2.5 mm – with shut-off	6580252	
	Pneumatic plug module ST-2PN-M hose size 4.0 mm	6580205	
	Pneumatic socket module BU-2PN-M hose size 4.0 mm – with shut-off	6580255	

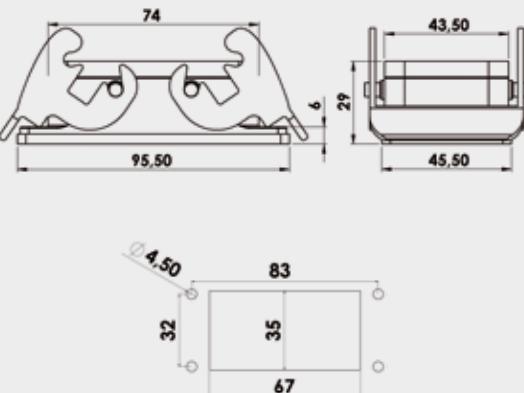
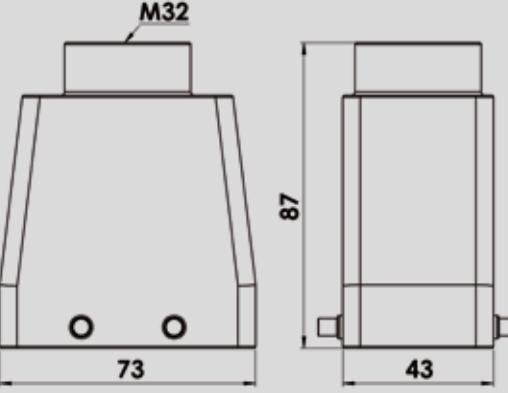
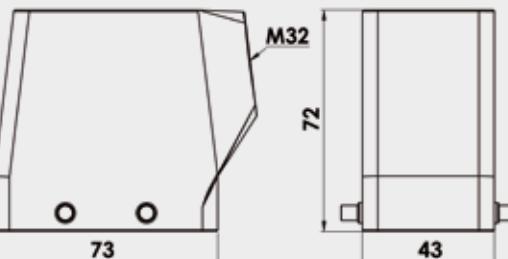
**Frames for plug and socket modules**

Picture	Description	Part Number
	Module frame for plug modules Size: 2 modules	6575043
	Module frame for receptacle modules Size: 2 modules	6575033
	Module frame for plug modules Size: 3 modules	6575042
	Module frame for receptacle modules Size: 3 modules	6575032
	Module frame for plug modules Size: 5 modules	6575040
	Module frame for receptacle modules Size: 5 modules	6575030
	Module frame for plug modules Size: 7 modules	6575045
	Module frame for receptacle modules Size: 7 modules	6575035

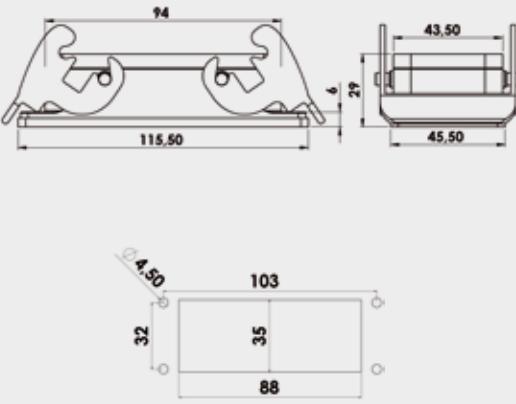
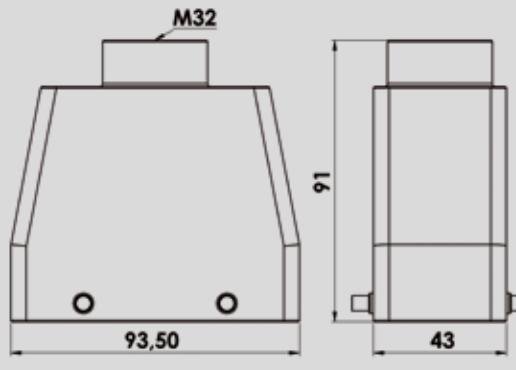
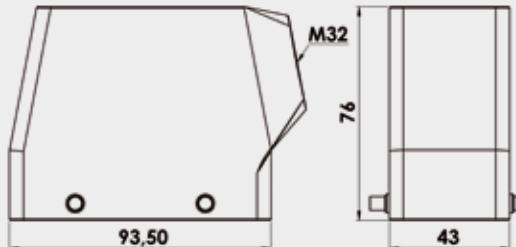
## Housings for 2 module frames

Picture	Description / Part Number	Drawing
	<p>Panel mount housing 2M/ LB for 2 modules frame 1-lever-locking system Part no. 6575158</p>	
	<p>Hood, top entry 2M/ HB/ AO/ M25/ LB for 2 modules frame cable top entry connecting thread M25 1-lever-locking system Part no. 6574931 choose screwed cable gland from page 33</p>	
	<p>Hood, side entry 2M/ HB/ AS/ M25/ LB for 2 modules frame cable side entry 90° connecting thread M25 1-lever-locking system Part no. 6574930 choose screwed cable gland from page 33</p>	

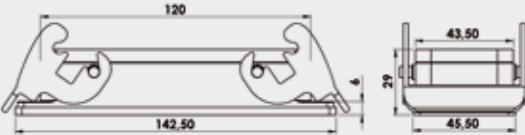
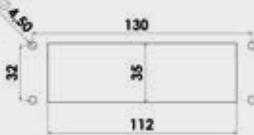
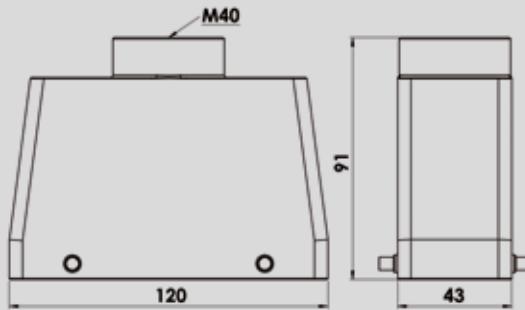
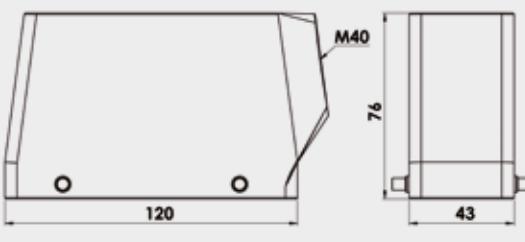
**Housings for 3 module frames**

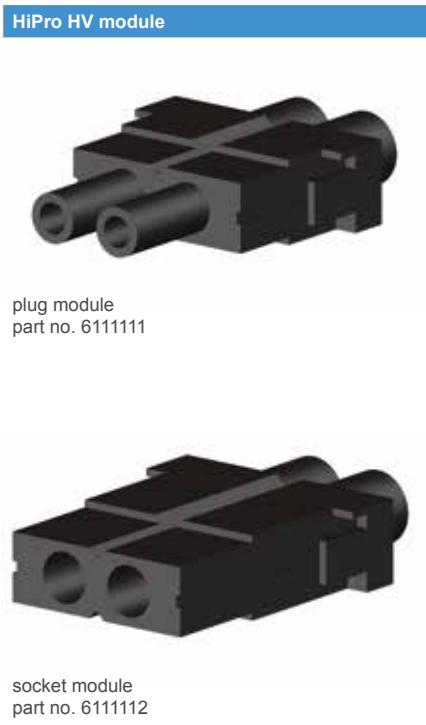
Picture	Description / Part Number	Drawing
	<p>Panel mount housing 3M/QB for 3 modules frame 2-lever-locking system Part no. 6575159</p>	
	<p>Hood, top entry 3M/ HB/ AO/ M32/ QB for 3 modules frame cable top entry connecting thread M32 2-lever-locking system Part no. 6574802 choose screwed cable gland from page 33</p>	
	<p>Hood, side entry 3M/ HB/ AS/ M32/ QB for 3 modules frame cable side entry 90° connecting thread M32 2-lever-locking system Part no. 6574807 choose screwed cable gland from page 33</p>	

## Housings for 5 module frames

Picture	Description / Part Number	Drawing
	<p>Panel mount housing 5M/ QB</p> <p>for 5 modules frame 2-lever-locking system</p> <p>Part no. 6575161</p>	
	<p>Hood, top entry 5M/ HB/ AO/ M32/ QB</p> <p>for 5 modules frame cable top entry connecting thread M32 2-lever-locking system</p> <p>Part no. 6575147 choose screwed cable gland from page 33</p>	
	<p>Hood, side entry 5M/ HB/ AS/ M32/ QB</p> <p>for 5 modules frame cable side entry 90° connecting thread M32 2-lever-locking system</p> <p>Part no. 6574833 choose screwed cable gland from page 33</p>	

**Housings for 7 module frames**

Picture	Description / Part Number	Drawing
	<p>Panel mount housing 7M/ QB</p> <p>for 7 modules frame 2-lever-locking system</p> <p>Part no. 6575162</p>	 
	<p>Hood, top entry 7M/ HB/ AO/ M40/ QB</p> <p>for 7 modules frame cable top entry connecting thread M40 2-lever-locking system</p> <p>Part no. 6575163 choose screwed cable gland from page 33</p>	
	<p>Hood, side entry 7M/ HB/ AS/ M40/ QB</p> <p>for 7 modules frame cable side entry 90° connecting thread M40 2-lever-locking system</p> <p>Part no. 6574829 choose screwed cable gland from page 33</p>	



General characteristics	Value
Number of contacts	2
Termination method	crimp / solder
Wire size	AWG 20 – 12 (0.5 – 4.0 mm <sup>2</sup> )
Flammability	UL94 V-0
Electrical characteristics	Value
Rated voltage	12 kV DC
Pollution degree	1
Material group	1
Test voltage	18 kV DC
Contact resistance	≤ 2 mΩ
Insulation resistance	≥ 10 <sup>10</sup> Ω
Climatical characteristics	Value
Rated temperature	- 40°C to + 125°C
Mechanical characteristics	Value
Mating cycles	≥ 500
Materials	
Insert (module)	PA 6.6 GF
Contacts	CuZn (brass)
Contacts surface plating	Ag (silver)

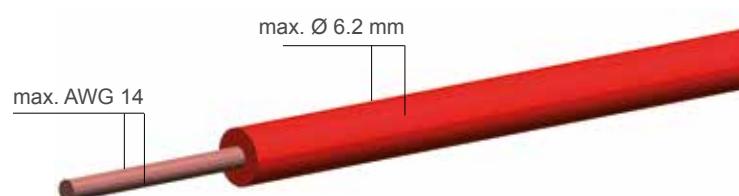
### Male contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Picture / Drawing
6575087	male contact 2.5 mm / AWG 20	0.5	20	
6575089	male contact 2.5 mm / AWG 18	0.75 - 1.0	18	
6575092	male contact 2.5 mm / AWG 16	1.5	16	
6575094	male contact 2.5 mm / AWG 14	2.5	14	
6575091	male contact 2.5 mm / AWG 12	4.0	12	

### Female contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Picture / Drawing
6575108	female contact 2.5 mm / AWG 20	0.5	20	
6575111	female contact 2.5 mm / AWG 18	0.75 - 1.0	18	
6575102	female contact 2.5 mm / AWG 16	1.5	16	
6575104	female contact 2.5 mm / AWG 14	2.5	14	
6575113	female contact 2.5 mm / AWG 12	4.0	12	

### Suitable cable dimensions (single wire)



## PTFE HV module 1-pole

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	AWG 14 (2.5 mm <sup>2</sup> )
Contact diameter	2.7 mm
Flammability	UL94 V-0

## Electrical characteristics

## Value

Rated voltage	12 kV DC
Pollution degree	1
Material group	1
Test voltage	18 kV DC
Contact resistance	300 µΩ

## Climatical characteristics

## Value

Rated temperature	- 40°C to + 125°C
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## Mechanical characteristics

## Value

Mating cycles	≥ 100,000
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## Materials

Insert (module)	PA 6.6 GF
Insulator	PTFE
Contacts	CuZn (brass)
Contacts surface plating	Ag (silver)

## PTFE HV module 2-pole

plug module  
part no. 6580010



socket module  
part no. 6580110



## General characteristics

## Value

Number of contacts	2
Termination method	solder
Termination size	AWG 14 (2.5 mm <sup>2</sup> )
Contact diameter	2.7 mm
Flammability	UL94 V-0

## Electrical characteristics

## Value

Rated voltage	12 kV DC
Pollution degree	1
Material group	1
Test voltage	18 kV DC
Contact resistance	300 µΩ

## Climatical characteristics

## Value

Rated temperature	- 40°C to + 125°C
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## Mechanical characteristics

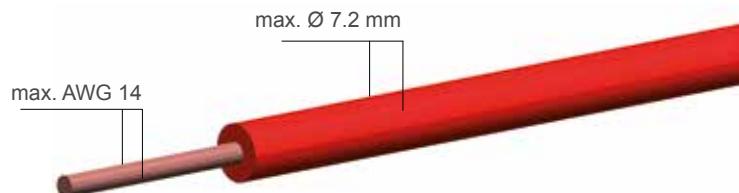
## Value

Mating cycles	≥ 100,000
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## Materials

Insert (module)	PA 6.6 GF
Insulator	PTFE
Contacts	CuZn (brass)
Contacts surface plating	Ag (silver)

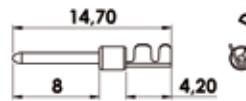
## Suitable cable dimensions (single wire)



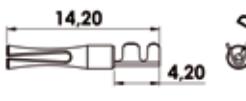
20-pole module	
	
plug module part no. 6575051	
	
socket module part no. 6575061	

General characteristics	Value
Number of contacts	20
Termination method	crimp / solder
Termination size	AWG 28 – 20 (0.09 – 0.5 mm <sup>2</sup> )
Flammability	UL94 V-0
Electrical characteristics	Value
Rated voltage	63 V
Pollution degree	3
Overshoot category	III
Material group	II
Rated impulse withstand voltage	4 kV
Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 10 <sup>12</sup> Ω
Climatic characteristics	Value
Rated temperature	- 40°C to + 125°C
Mechanical characteristics	Value
Mating cycles	≥ 500
Materials	
Insert (module)	PA 6.6 GF
Male contacts	CuZn (brass)
Female contacts	CuSn (bronze)
Contacts surface plating	Au (gold)

### Male contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Picture / Drawing
6575114	male contact AU 1.0 mm / AWG 28 - 24	0.09 - 0.25	28 - 24	
6575137	male contact AU 1.0 mm / AWG 24 - 20	0.25 – 0.5	24 - 20	 14,70 8 4,20

### Female contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Picture / Drawing
6575115	female contact AU 1.0 mm / AWG 28 - 24	0.09 - 0.25	28 - 24	
6575136	female contact AU 1.0 mm / AWG 24 - 20	0.25 – 0.5	24 - 20	 14,20 4,20

## 10-pole module



plug module  
part no. 6575070



socket module  
part no. 6575080

General characteristics	Value
Number of contacts	10
Termination method	crimp / solder
Termination size	AWG 26 – 14 (0.14 – 2.5 mm <sup>2</sup> )
Flammability	UL94 V-0
Electrical characteristics	Value
Rated voltage	400 V
Pollution degree	3
Overshoot category	III
Material group	II
Rated impulse withstand voltage	6 kV
Contact resistance	≤ 5 mΩ
Insulation resistance	≥ 10 <sup>10</sup> Ω
Climatical characteristics	Value
Rated temperature	- 40°C to + 100°C
Mechanical characteristics	Value
Mating cycles	≥ 500
Materials	
Insert (module)	PA 6.6 GF
Contacts	CuZn (brass)
Contacts surface plating	Ag (silver) / Au (gold)

## Male contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Silver plated	Gold plated	Picture / Drawing
6575085	male contact 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22	•		
6575086	male contact 1.6 mm / AWG 20	0.5	20	•		
6575088	male contact 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16	•		
6575090	male contact 1.6 mm / AWG 16 - 15	1.5	16 - 15	•		
6575083	male contact 1.6 mm / AWG 14	2.5	14	•		
6575118	male contact AU 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22		•	
6575121	male contact AU 1.6 mm / AWG 20	0.5	20		•	
6575116	male contact AU 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16		•	
6575124	male contact AU 1.6 mm / AWG 16 - 15	1.5	16 - 15		•	
6575125	male contact AU 1.6 mm / AWG 14	2.5	14		•	

## Female contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Silver plated	Gold plated	Picture / Drawing
6575095	female contact 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22	•		
6575107	female contact 1.6 mm / AWG 20	0.5	20	•		
6575098	female contact 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16	•		
6575100	female contact 1.6 mm / AWG 16 - 15	1.5	16 - 15	•		
6575084	female contact 1.6 mm / AWG 14	2.5	14	•		
6575127	female contact AU 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22		•	
6575131	female contact AU 1.6 mm / AWG 20	0.5	20		•	
6575117	female contact AU 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16		•	
6575132	female contact AU 1.6 mm / AWG 16 - 15	1.5	16 - 15		•	
6575133	female contact AU 1.6 mm / AWG 14	2.5	14		•	

## 5-pole module

plug module  
part no. 6575065socket module  
part no. 6575075

## General characteristics

## Value

Number of contacts	5
Termination method	crimp / solder
Termination size	AWG 20 – 12 (0.5 – 4.0 mm <sup>2</sup> )
Flammability	UL94 V-0

## Electrical characteristics

## Value

Rated voltage	400 V
Pollution degree	3
Overshoot category	III
Material group	II
Rated impulse withstand voltage	6 kV
Contact resistance	≤ 2 mΩ
Insulation resistance	≥ 10 <sup>10</sup> Ω

## Climatic characteristics

## Value

Rated temperature	- 40°C to + 125°C
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## Mechanical characteristics

## Value

Mating cycles	≥ 500
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## Materials

Insert (module)	PA 6.6 GF
Contacts	CuZn (brass)
Contacts surface plating	Ag (silver)

## Male contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Picture / Drawing
6575087	male contact 2.5 mm / AWG 20	0.5	20	
6575089	male contact 2.5 mm / AWG 18	0.75 - 1.0	18	
6575092	male contact 2.5 mm / AWG 16	1.5	16	
6575094	male contact 2.5 mm / AWG 14	2.5	14	
6575091	male contact 2.5 mm / AWG 12	4.0	12	

## Female contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Picture / Drawing
6575108	female contact 2.5 mm / AWG 20	0.5	20	
6575111	female contact 2.5 mm / AWG 18	0.75 - 1.0	18	
6575102	female contact 2.5 mm / AWG 16	1.5	16	
6575104	female contact 2.5 mm / AWG 14	2.5	14	
6575113	female contact 2.5 mm / AWG 12	4.0	12	

## 3-pole module

plug module  
part no. 6575062socket module  
part no. 6575063

General characteristics	Value
Number of contacts	3
Termination method	crimp / solder
Termination size	AWG 16 – 8 (1.5 – 10.0 mm <sup>2</sup> )
Flammability	UL94 V-0
Electrical characteristics	Value
Rated voltage	630 V
Pollution degree	3
Overshoot category	III
Material group	II
Rated impulse withstand voltage	8 kV
Contact resistance	≤ 1 mΩ
Insulation resistance	≥ 10 <sup>10</sup> Ω
Climatical characteristics	Value
Rated temperature	- 40°C to + 125°C
Mechanical characteristics	Value
Mating cycles	≥ 500
Materials	
Insert (module)	PA 6.6 GF
Contacts	CuZn (brass)
Contacts surface plating	Ag (silver)

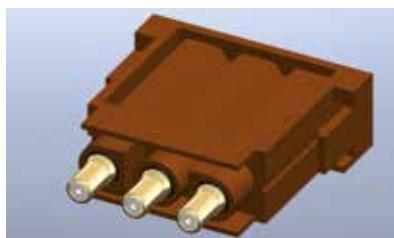
## Male contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Picture / Drawing
6575099	male contact 3.6 mm / AWG 16	1.5	16	
6575106	male contact 3.6 mm / AWG 14	2.5	14	
6575093	male contact 3.6 mm / AWG 12	4.0	12	
6575139	male contact 3.6 mm / AWG 10	6.0	10	
6575096	male contact 3.6 mm / AWG 8	10.0	8	A technical drawing of a male contact showing its profile. It has a cylindrical body with a flared base. Dimensions labeled are: total length 30.80, distance from base to shoulder 12.20, and shoulder diameter 4.70. A small circle with a dot is at the top of the shaft.

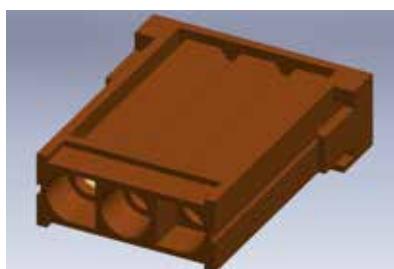
## Female contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG (D)	Picture / Drawing
6575109	female contact 3.6 mm / AWG 16	1.5	16	
6575105	female contact 3.6 mm / AWG 14	2.5	14	
6575103	female contact 3.6 mm / AWG 12	4.0	12	
6575138	female contact 3.6 mm / AWG 10	6.0	10	
6575097	female contact 3.6 mm / AWG 8	10.0	8	A technical drawing of a female contact showing its profile. It has a cylindrical body with a flared base. Dimensions labeled are: total length 28.30, distance from base to shoulder 4.70. A small circle with a dot is at the top of the shaft.

## KOAX module



plug module  
part no. 6575072



socket module  
part no. 6575082

General characteristics	Value
Number of contacts	3
Termination method	crimp, solder
Termination size	RG 58, 174, 179, 316
Flammability	UL94 V-0
Electrical characteristics	Value
Rated voltage	250 V
Pollution degree	3
Overshoot category	III
Material group	II
Impedance	50 Ω
Frequency range	2 GHz
Climatical characteristics	Value
Rated temperature	- 40°C to + 125°C
Mechanical characteristics	Value
Mating cycles	≥ 500
Materials	
Insert (module)	PA 6.6 GF
Module color	russet
Contacts surface plating	Au (gold)

## 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 male / female contact	Drawing cable
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		

## RJ45 module

plug module  
part no. 4100007socket module  
part no. 4200007

General characteristics	Value RJ45 contacts	Value power contacts
Number of contacts	8 + shield	4
Termination method	plug	crimp
Termination size		AWG 26 – 14 (0.14 – 2.5 mm <sup>2</sup> )
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
Mechanical characteristics	Value	
Mating cycles		≥ 500
Materials		
Insert (module)	PA 6.6 GF	
Contacts		CuZn (brass)
Contacts surface plating		Ag (silver) / Au (gold)

## Male contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG	silver plated	gold plated	Picture / Drawing
6575085	male contact 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22	•		
6575086	male contact 1.6 mm / AWG 20	0.5	20	•		
6575088	male contact 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16	•		
6575090	male contact 1.6 mm / AWG 16 - 15	1.5	16 - 15	•		
6575083	male contact 1.6 mm / AWG 14	2.5	14	•		
6575118	male contact AU 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22		•	
6575121	male contact AU 1.6 mm / AWG 20	0.5	20		•	
6575116	male contact AU 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16		•	
6575124	male contact AU 1.6 mm / AWG 16 - 15	1.5	16 - 15		•	
6575125	male contact AU 1.6 mm / AWG 14	2.5	14		•	

## Female contacts

Part no.	Description	Cross section in mm <sup>2</sup> (D)	AWG	silver plated	gold plated	Picture / Drawing
6575095	female contact 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22	•		
6575107	female contact 1.6 mm / AWG 20	0.5	20	•		
6575098	female contact 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16	•		
6575100	female contact 1.6 mm / AWG 16 - 15	1.5	16 - 15	•		
6575084	female contact 1.6 mm / AWG 14	2.5	14	•		
6575127	female contact AU 1.6 mm / AWG 26 - 22	0.14 - 0.37	26 - 22		•	
6575131	female contact AU 1.6 mm / AWG 20	0.5	20		•	
6575117	female contact AU 1.6 mm / AWG 20 - 16	0.75 - 1.0	20 - 16		•	
6575132	female contact AU 1.6 mm / AWG 16 - 15	1.5	16 - 15		•	
6575133	female contact AU 1.6 mm / AWG 14	2.5	14		•	

## Pneumatic modules for hose size 2.5 mm

Pneumatic module		General characteristics	Value
plug module part no. 6580201		Number of contacts	1, 2
socket module part no. 6580251		Termination method	hose connection
plug module part no. 6580202		Hose size (inner diameter)	2.5 mm
socket module part no. 6580252		Flammability	UL94 V-0
Technical characteristics		Value	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	Value
Rated temperature		- 20°C to + 100°C	
Mechanical characteristics		Value	Value
Mating cycles		≥ 5000	
Materials		Insert (module)	PA 6.6 GF
Contacts		Contacts	CuZn (brass)

## Pneumatic modules for hose size 4.0 mm

Pneumatic module		General characteristics	Value
plug module part no. 6580204		Number of contacts	1, 2
socket module part no. 6580254		Termination method	hose connection
plug module part no. 6580205		Hose size (inner diameter)	4.0 mm
socket module part no. 6580255		Flammability	UL94 V-0
Technical characteristics		Value	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	Value
Rated temperature		- 20°C to + 100°C	
Mechanical characteristics		Value	Value
Mating cycles		≥ 5000	
Materials		Insert (module)	PA 6.6 GF
Contacts		Contacts	CuZn (brass)

## Screwed cable glands

Picture / Dimensions	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

# 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 electrical, 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  $CTI \geq 600$
- Insulation material group II  $400 \leq CTI < 600$
- Insulation material group IIIa  $175 \leq CTI < 400$
- Insulation material group IIIb  $100 \leq CTI < 175$

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 (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.

# Glossary

For all rated voltages stated for the parts shown in this catalogue "Pollution degree 1" is the basis of assessment. Every customer or user has to define the pollution degree of his 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 continuously and causes a temperature rise of 45 °C (e.g. from 23 °C to 68 °C). Current values listed in this catalogue refer to environmental temperatures of +20 °C.

## 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.

## 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 mm<sup>2</sup>/AWG

AWG	mm <sup>2</sup> (exakt value)	mm <sup>2</sup> (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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1672071	Covering for types GS/GB/KBI 507	88
1672072	Covering for types KS/KB 207 - 407	88
1672073	Covering for types GS/GB/KBI 207 - 407	88
1672118	Covering (inside thread) for types GS / GB 205 - 605	72
1672119	Covering (outside thread) for types KS / KB 205 - 605	72
1674045	Reduction PG29 to PG21	128
1674046	Reduction PG29 to PG16	128
1674047	Reduction M25 to M20	128
1674057	Reduction M32 to M25	128
1674058	screwed cable gland M20x1.5, 5-10 mm	87
1674062	Extension PG21 to PG29	128
1674063	Reduction M25 to M16	128
1674072	screwed cable gland M40 x 1.5, 20-26 mm	173
1674078	screwed cable gland M32 x 1.5, 18-25 mm	127, 173
1674082	screwed cable gland M32 x 1.5, 13-20 mm	127, 173
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1674119	screwed cable gland M25 x 1.5, 9-16 mm	127, 173
3000000	Extracting tool for contacts 1.0 mm	173
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3000003	Extracting tool for contacts 2.5 mm	173
3000004	Extracting tool for contacts 3.6 mm	173
3000006	Removal tool for modules	173
3000015	Crimping tool for contacts 1.6 mm	65, 88, 173
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3330020	HV cable 10 kVDC AWG14, unshielded	65
3330049	HV cable 100 kVDC, 30 KVAC, AWG16, unshielded	45
3330050	HV cable 100 kVDC, AWG16, shielded	45
3330058	HV cable 60 kVDC, 20 KVAC, AWG18, unshielded	45
3330082	2-core HV-cable, 5 kVDC, AWG26, shielded	76
3330084	4-core HV-cable, 5 kVDC, AWG26, shielded	76
3330086	6-core HV-cable, 5 kVDC, AWG26, shielded	76
3330090	HV cable 15 kVDC AWG24, unshielded	65
3330091	HV cable 15 kVDC AWG22, unshielded	65
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5000012	VP-1HV-BU POM AWG 20 - 16	55
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5000014	VP-1HV-BU POM AWG 14	55
5000020	VP-1HV-ST POM AWG 26 - 22	55
5000021	VP-1HV-ST POM AWG 20	55
5000022	VP-1HV-ST POM AWG 20 - 16	55
5000023	VP-1HV-ST POM AWG 16 - 15	55
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5000200	VP-DF-1HV-BU POM AWG 20 Ag	58
5000201	VP-DF-1HV-BU POM AWG 20 - 16 Ag	58
5000202	VP-DF-1HV-BU POM AWG 26 - 22 Ag	58
5000203	VP-DF-1HV-BU POM AWG 16 - 15 Ag	58
5000204	VP-DF-1HV-BU POM AWG 14 Ag	58
5000210	VP-DF-1HV-ST POM AWG 20 Ag	58
5000211	VP-DF-1HV-ST POM AWG 20 - 16 Ag	58
5000212	VP-DF-1HV-ST POM AWG 26 - 22 Ag	58
5000213	VP-DF-1HV-ST POM AWG 16 - 15 Ag	58
5000214	VP-DF-1HV-ST POM AWG 14 Ag	58
5000220	VP-DF-2HV-BU POM AWG 26 - 22 Ag	59
5000221	VP-DF-2HV-BU POM AWG 20 Ag	59
5000222	VP-DF-2HV-BU POM AWG 20 - 16 Ag	59
5000223	VP-DF-2HV-BU POM AWG 16 - 15 Ag	59
5000224	VP-DF-2HV-BU POM AWG 14 Ag	59
5000230	VP-DF-2HV-ST POM AWG 26 - 22 Ag	59
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5000232	VP-DF-2HV-ST POM AWG 20 - 16 Ag	59
5000233	VP-DF-2HV-ST POM AWG 16 - 15 Ag	59
5000234	VP-DF-2HV-ST POM AWG 14 Ag	59
5000440	VP-CL-1HV-BU AWG 26 - 22 Ag	49
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5000442	VP-CL-1HV-BU AWG 20 - 16 Ag	49
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5000460	VP-CL-2HV-BU AWG 26 - 22 Ag	50
5000461	VP-CL-2HV-BU AWG 20 Ag	50
5000462	VP-CL-2HV-BU AWG 20 - 16 Ag	50
5000463	VP-CL-2HV-BU AWG 16 - 15 Ag	50
5000464	VP-CL-2HV-BU AWG 14 Ag	50
5000465	VP-CL-2HV-BU AWG 26 - 22 Au	50
5000466	VP-CL-2HV-BU AWG 20 Au	50
5000467	VP-CL-2HV-BU AWG 20 - 16 Au	50
5000468	VP-CL-2HV-BU AWG 16 - 15 Au	50
5000469	VP-CL-2HV-BU AWG 14 Au	50
5000470	VP-CL-2HV-ST AWG 26 - 22 Ag	50
5000471	VP-CL-2HV-ST AWG 20 Ag	50
5000472	VP-CL-2HV-ST AWG 20 - 16 Ag	50
5000473	VP-CL-2HV-ST AWG 16 - 15 Ag	50
5000474	VP-CL-2HV-ST AWG 14 Ag	50
5000475	VP-CL-2HV-ST AWG 26 - 22 Au	50
5000476	VP-CL-2HV-ST AWG 20 Au	50
5000477	VP-CL-2HV-ST AWG 20 - 16 Au	50
5000478	VP-CL-2HV-ST AWG 16 - 15 Au	50
5000479	VP-CL-2HV-ST AWG 14 Au	50
5000480	VP-CL-3HV-BU AWG 26 - 22 Ag	51
5000481	VP-CL-3HV-BU AWG 20 Ag	51
5000482	VP-CL-3HV-BU AWG 20 - 16 Ag	51
5000483	VP-CL-3HV-BU AWG 16 - 15 Ag	51
5000484	VP-CL-3HV-BU AWG 14 Ag	51
5000485	VP-CL-3HV-BU AWG 26 - 22 Au	51
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5000494	VP-CL-3HV-ST AWG 14 Ag	51
5000495	VP-CL-3HV-ST AWG 26 - 22 Au	51
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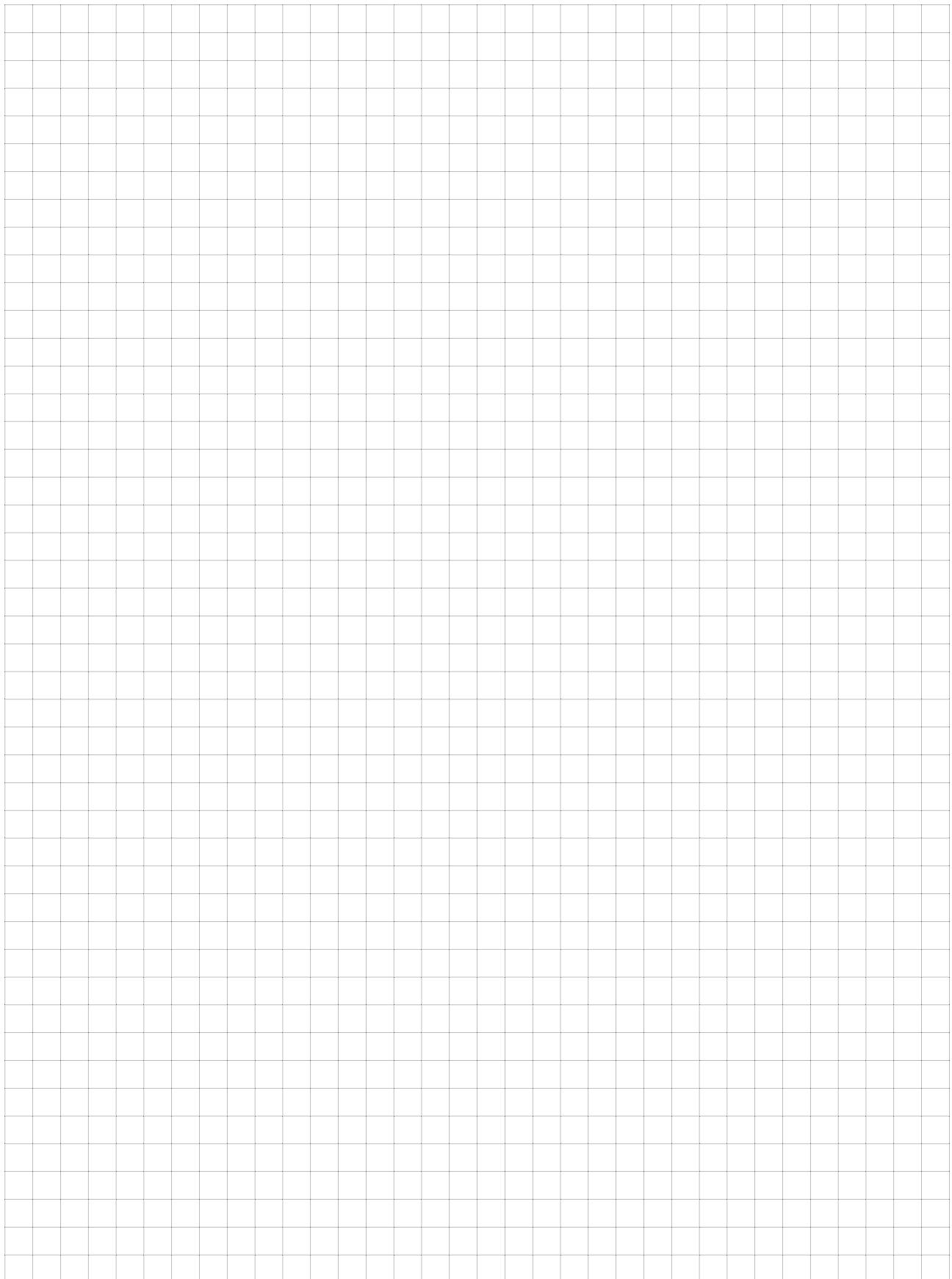
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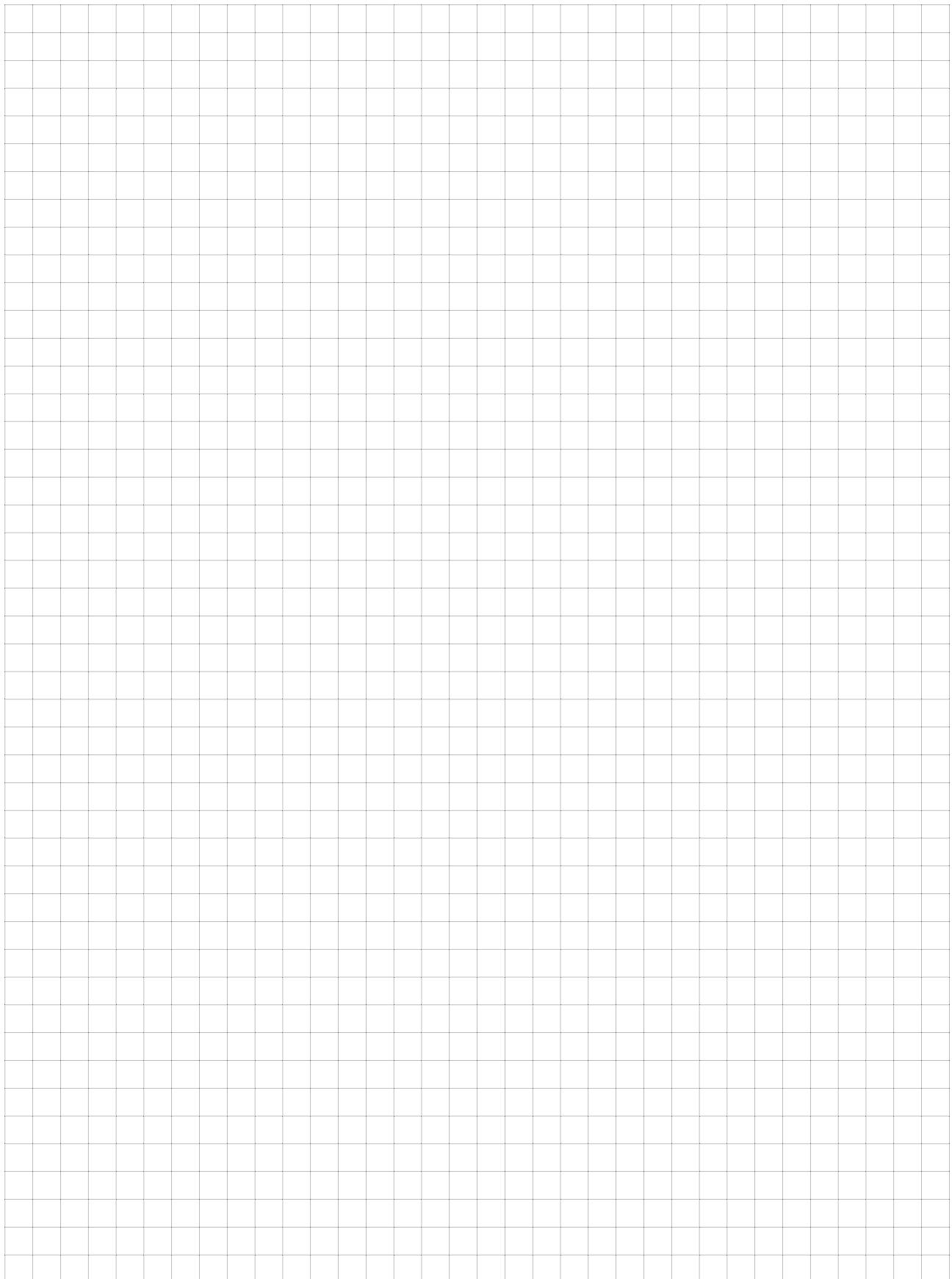
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## Notes

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## Notes

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