

- **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

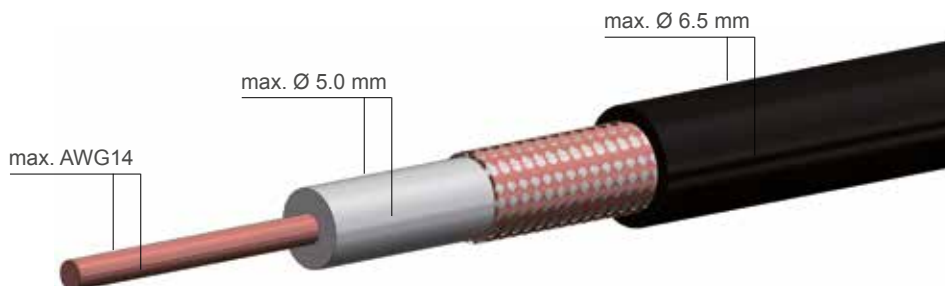
Series **S**

Housing	
Locking system	threaded coupling
Mounting type (panel mount connector)	round flange / 4-hole flange
Housing material	brass (CuZn)
Surface plating	nickel (Ni)
Protection class (mated connector)	IP50
Operating temperature	- 30 °C to +80 °C

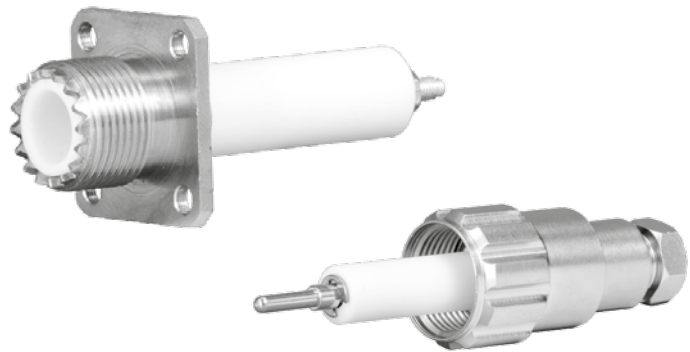
Contacts	
Termination method	solder / screw
Rated current	30 A
Max. operating current	40 A
Pulse current	3000 A
Contact resistance	300 $\mu\Omega$
Contact diameter	2.5 mm
Max. wire size	AWG 14 / 2.5 mm <sup>2</sup>
Contact material	brass (CuZn)
Contact plating	silver (Ag) / gold (Au)
Insertion / Withdrawal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

Insulation inserts	
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

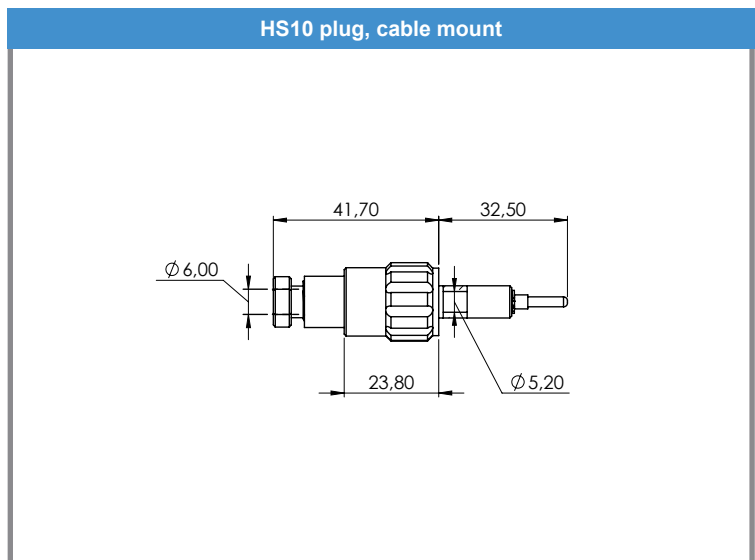
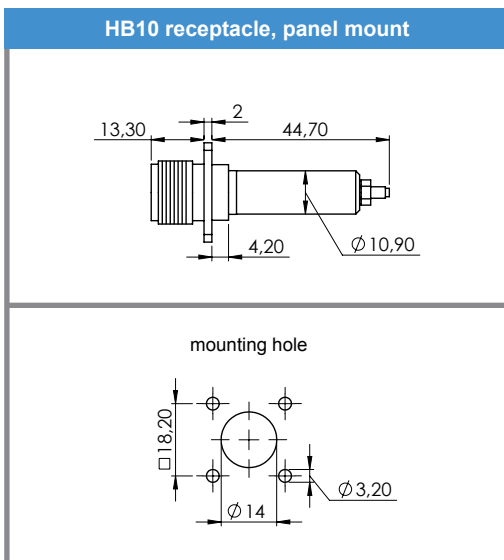


Electrical values	
Operating voltage (DC)	10 kV
Test voltage (DC)	15 kV
Rated current	30 A
Maximum operating current	40 A
Pulse current	3000 A
Characteristics	
Insulation material	PTFE
Mounting type receptacle	4-hole flange
Contact plating	silver (Ag) or gold (Au)



HB10 receptacle, panel mount    HS10 plug, cable mount

Series - S



drawing - dimensions in mm

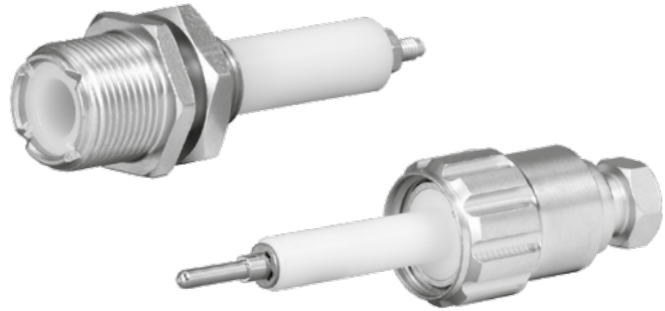
Part No.	Description	Plug, cable mount	Receptacle, panel mount	Contact silver plated	Contact gold plated
7310001	HS10 PTFE	•		•	
7310003	HS10/Au PTFE	•			•
7311001	HB10 PTFE		•	•	
7311003	HB10/Au PTFE		•		•

**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

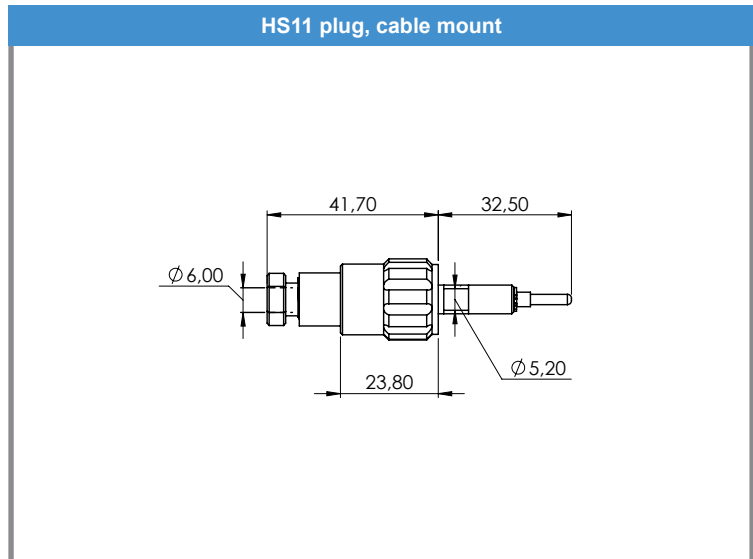
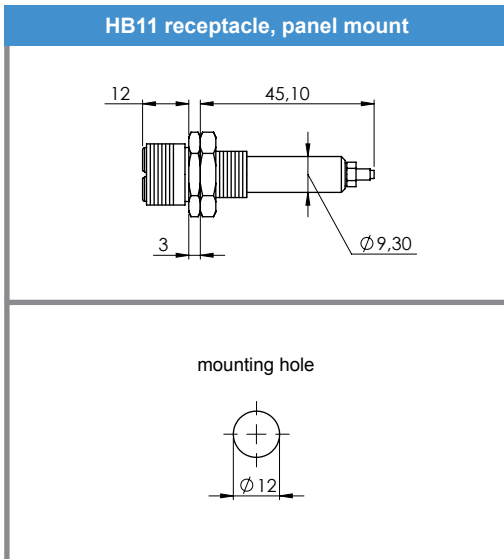
➔ For more information please see page 23

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

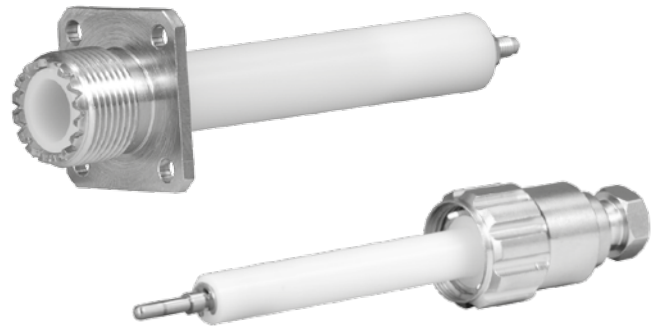
Part No.	Description	Plug, cable mount	Receptacle, panel mount	Contact silver plated	Contact gold plated
7310020	HS11 PTFE	•		•	
7310021	HS11/Au PTFE	•			•
7311020	HB11 PTFE		•	•	
7311021	HB11/Au PTFE		•		•

### Suitable HV cable, shielded

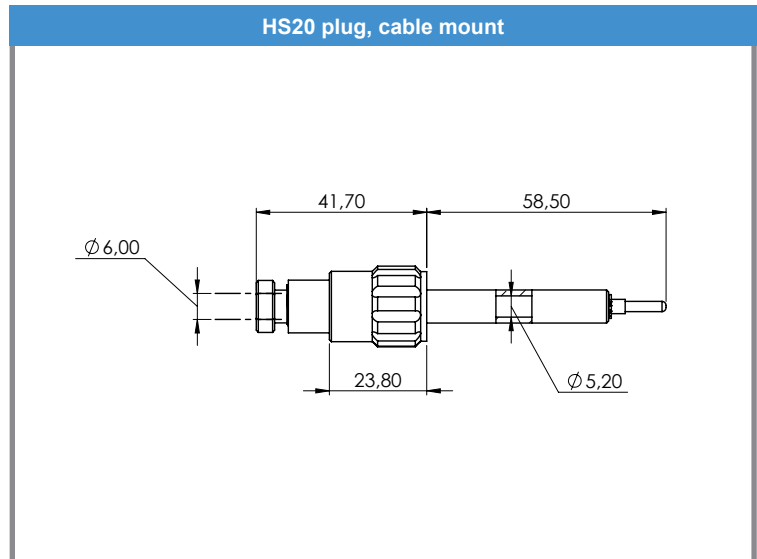
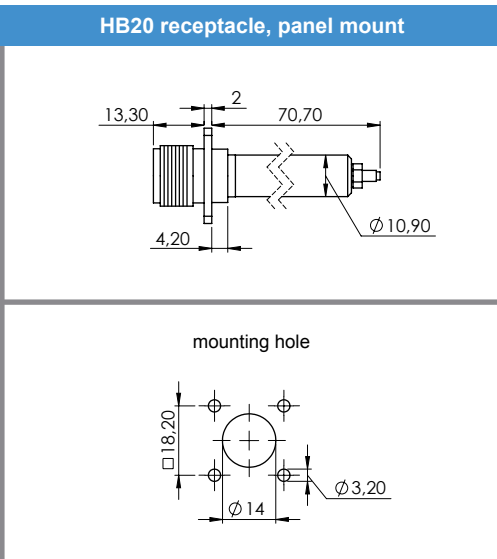
Part No.	Operating Voltage	Wire size	Outer diameter	Min. bend radius	Temperature range
3330007	30 kVDC	AWG22 (0,35mm <sup>2</sup> )	5.40 mm	54 mm	-25° / +90° C

➔ 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

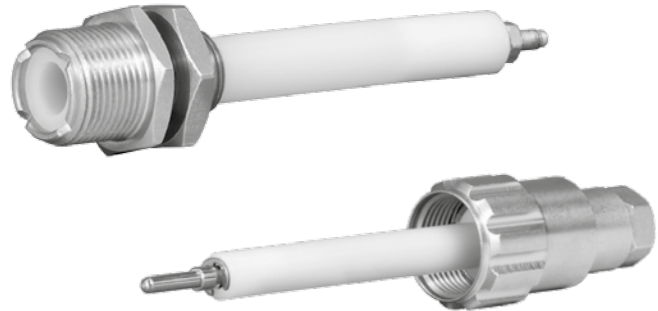
Part No.	Description	Plug, cable mount	Receptacle, panel mount	Contact silver plated	Contact gold plated
7320005	HS20 PTFE	•		•	
7320006	HS20/Au PTFE	•			•
7321005	HB20 PTFE		•	•	
7321006	HB20/Au PTFE		•		•

**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

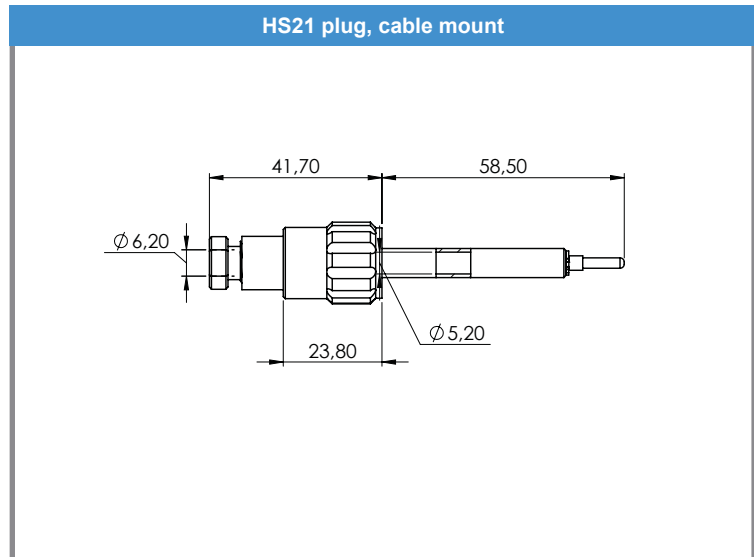
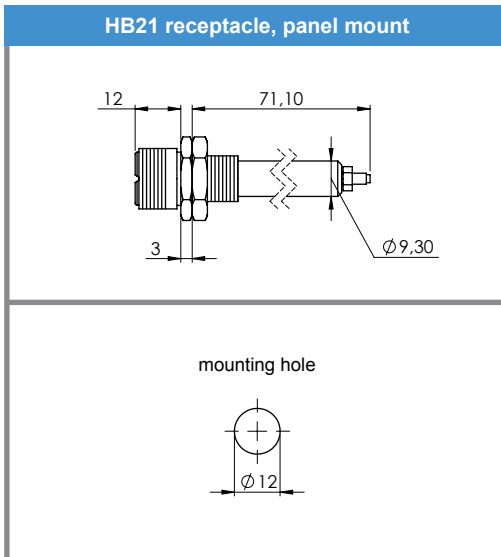
 For more information please see page 23

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



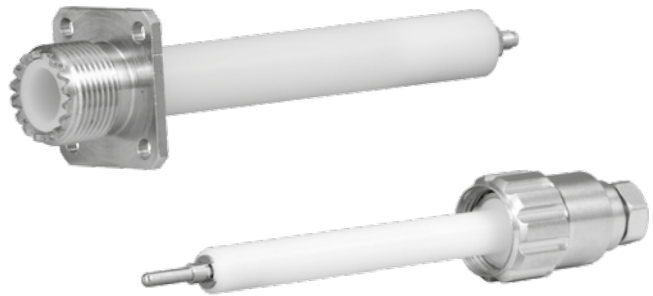
drawing - dimensions in mm

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		•	•			•

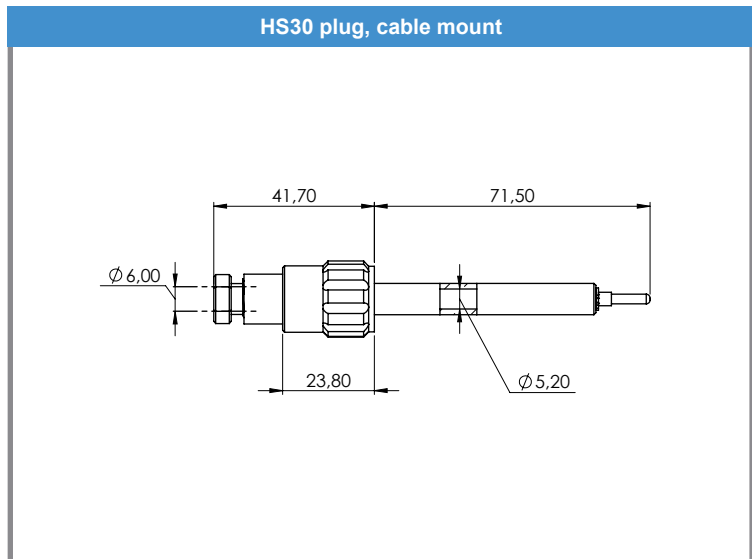
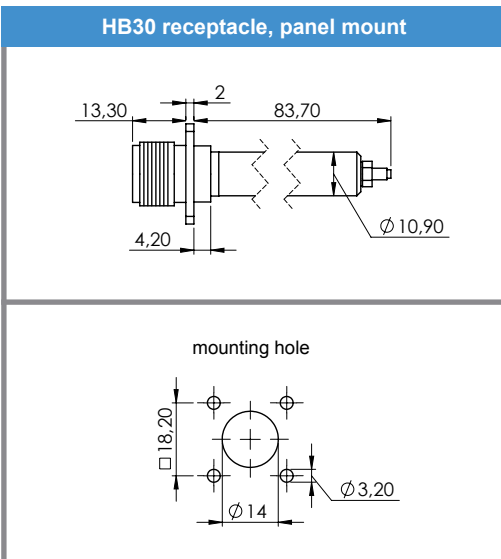
### Suitable HV cable, shielded

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

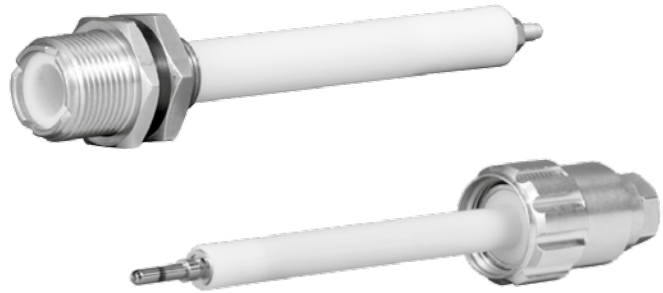
Part No.	Description	Plug, cable mount	Receptacle, panel mount	Contact silver plated	Contact gold plated
7331050	HS30 PTFE	•		•	
7331051	HB30 PTFE		•	•	
7331150	HS30/Au PTFE	•			•
7331151	HB30/Au PTFE		•		•

**Suitable HV cable, shielded**

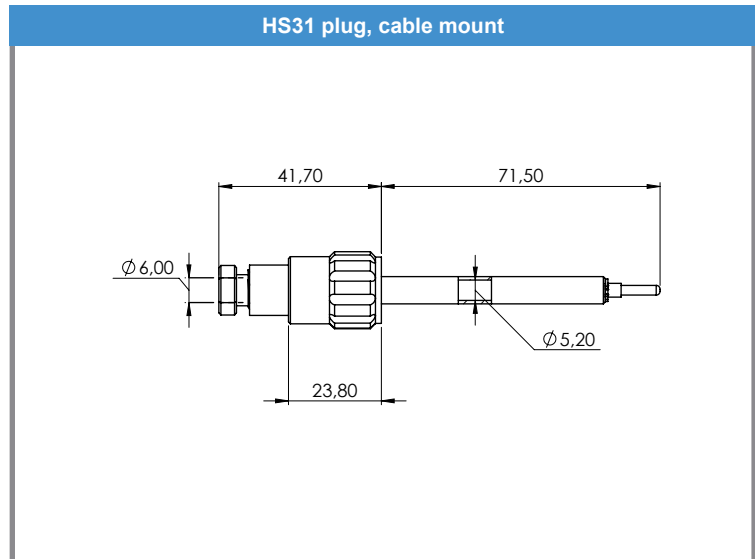
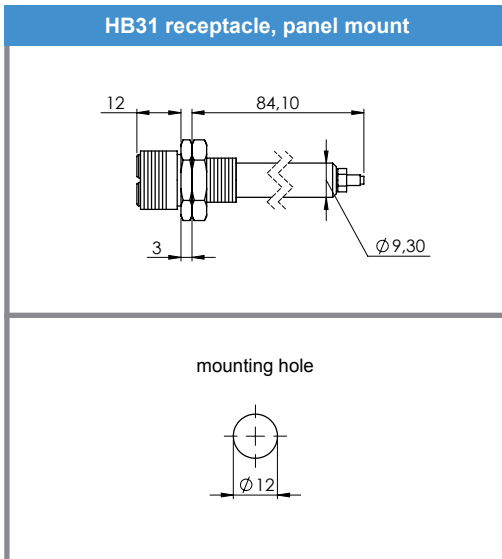
Part No.	Operating Voltage	Wire size	Outer diameter	Min. bend radius	Temperature range
3330007	30 kVDC	AWG22 (0,35mm <sup>2</sup> )	5.40 mm	54 mm	-25° / +90° C

 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



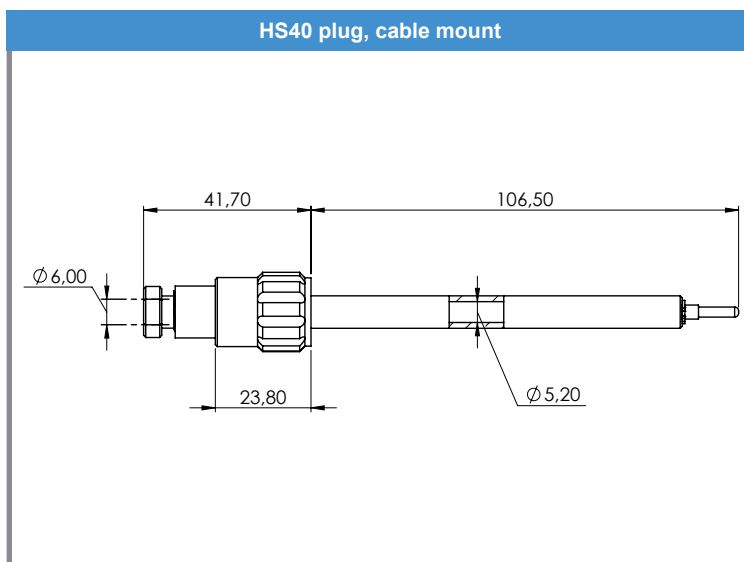
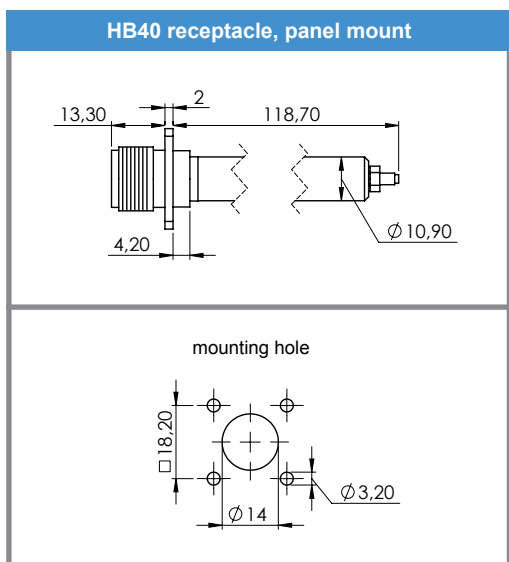
Electrical values	
Operating voltage (DC)	40 kV
Test voltage (DC)	60 kV
Rated current	30 A
Maximum operating current	40 A
Pulse current	3000 A
Characteristics	
Insulation material	PTFE
Mounting type receptacle	4-hole flange
Contact plating	silver (Ag) or gold (Au)



HB40 receptacle, panel mount

HS40 plug, cable mount

Series - S

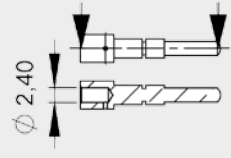
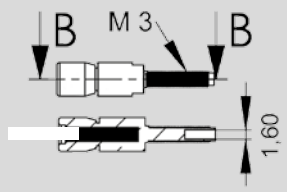
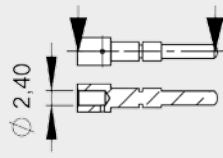
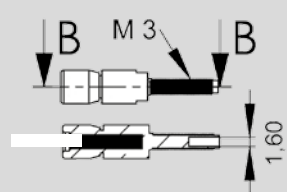


drawing - dimensions in mm

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		•		•

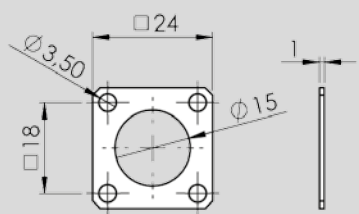
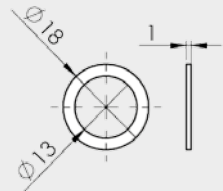
 For more information please see page 23

## 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)

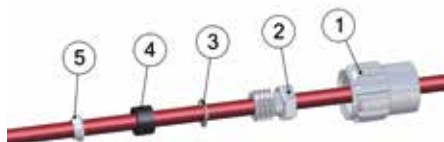
3.



**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 

Series - S

11.



Completely insert cable in basic part (6)

12.



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

13.



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

14.



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

15.



Assembly finished



## Note – important!

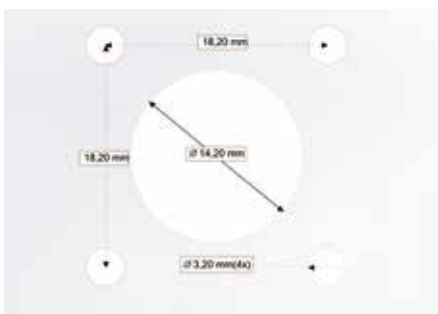
1. Please carefully read assembly instructions before cable assembly.
2. Cable assembly must only be done by trained and qualified personnel.

1.



Part as supplied

2.



Panel cut out

3.



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

4.



Remove dielectric insulation

5.



Solder contact (8) on conductor

⚠ Tin-solder must not remain on contact surface

6.



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



**Note – important!**




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

# 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

