

# **100** Series



S Series

100 Series

VP Series

MCS Series

MC Series

M Series

MOD Series

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

# General characteristics and technical data Series 100

**100** Series

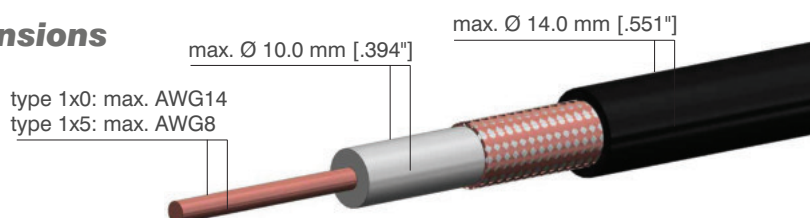
Housing	
Locking system	threaded coupling
Mounting type (panel mount connector)	round flange
Housing material	brass (CuZn)
Surface plating	nickel (Ni)
Protection class (mated connector)	IP67
Operating temperature	-30°C to +80°C

Contacts 2.5 mm (connector types SB1x0)	
Termination method	solder (male contact), solder / screw (female contact)
Rated current	30 A
Max. operating current	40 A
Pulse current	3000 A
Contact resistance	300 $\mu\Omega$
Contact diameter	2.5 mm [.173"]
Contact diameter	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	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 $\mu\Omega$
Contact diameter	5 mm [.197"]
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
CTI value	600
Flammability class PTFE	UL94 V-0
Operating temperature PTFE	-50°C to +200°C
Insulating material group PTFE / POM	I (DIN IEC 60664)

## Suitable cable dimensions



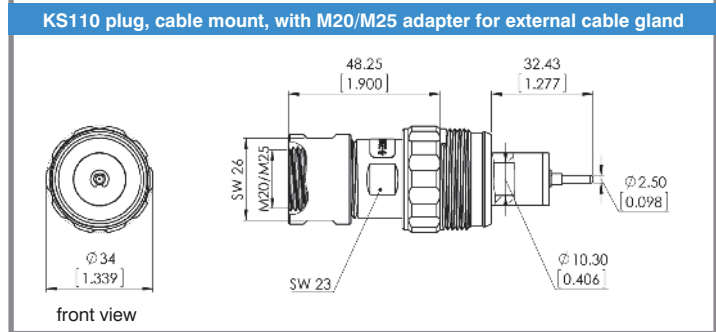
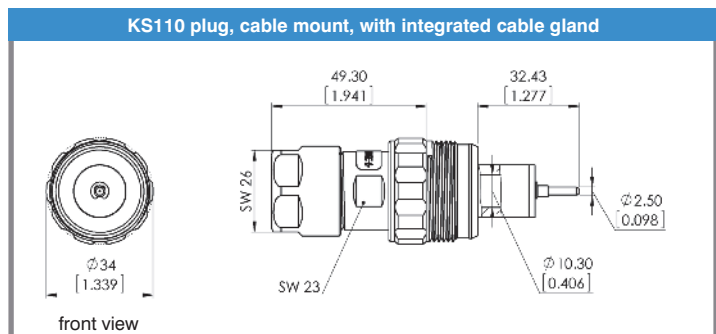
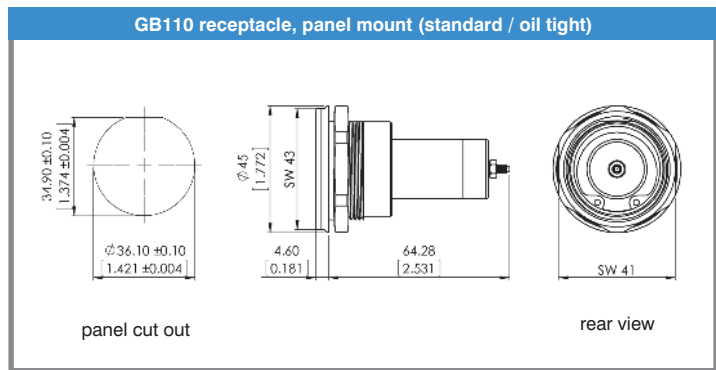


GB110 receptacle, panel mount



KS110 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 [.173"]
Insulation material	PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)



drawing - dimensions in mm [inch]

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

\*KV = screwed cable gland

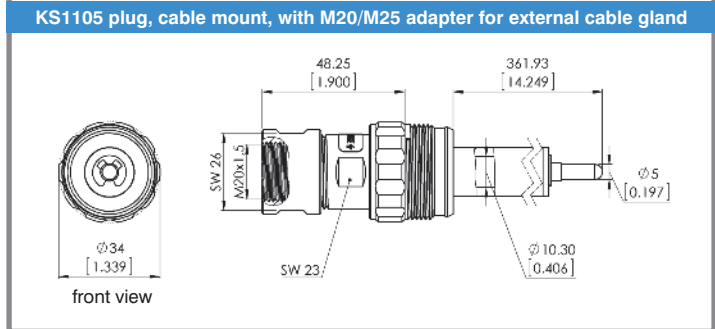
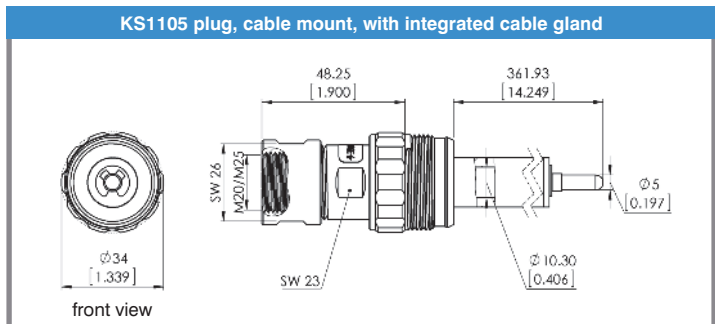
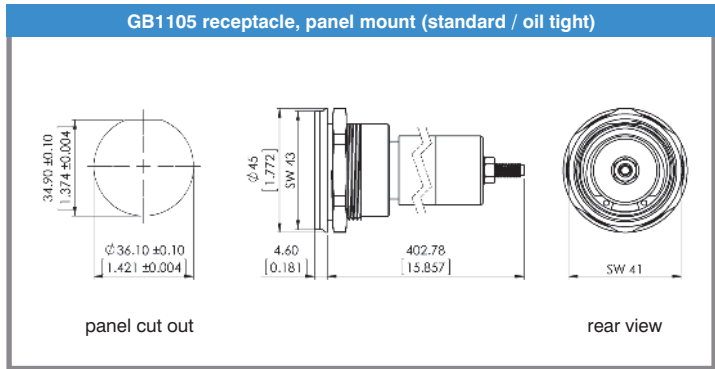
**Accessories:** page 42  
**Mounting instructions:** pages 44-47  
**Cables:** pages 48-49



GB1105 receptacle, panel mount



KS1105 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	5.0 mm [.197"]
Insulation material	PTFE
Mounting type receptacle	round flange
Contact plating	silver (Ag)

drawing - dimensions in mm [inch]

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

**Accessories:** page 42  
**Mounting instructions:** pages 44-47  
**Cables:** pages 48-49

\*KV = screwed cable gland

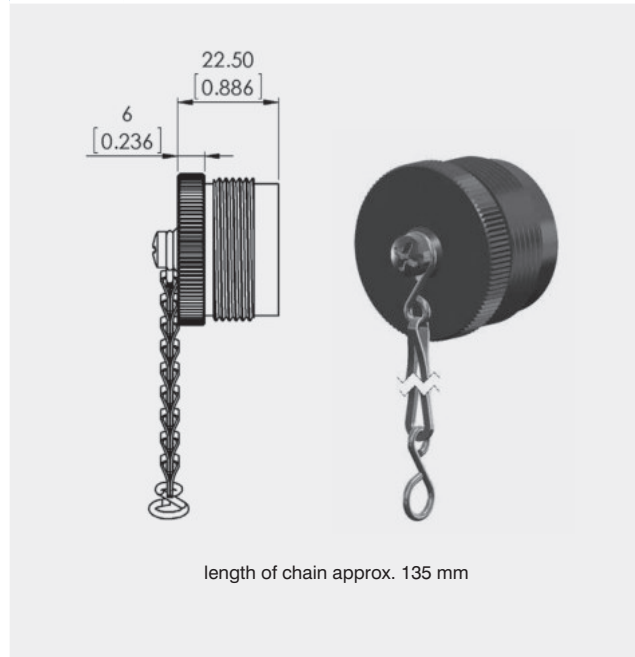
## Contacts

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

### Drawing



drawing - dimensions in mm [inch]

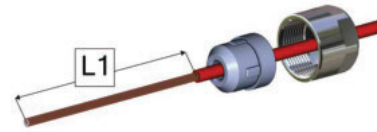
# Assembly Instructions Series 100 (plug, cable mount)

1.



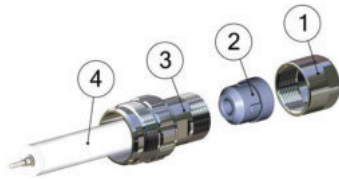
Part as delivered

5.



Remove cable jacket  
⚠ Do not damage shield braid

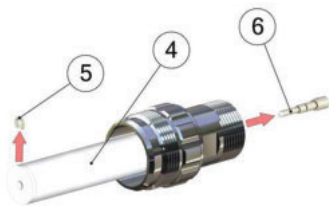
2.



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

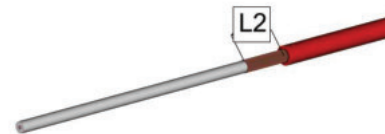
Types	min. L1 mm [inch]
S110 / S115	52 [2.037"]
S120 / S125 / S125 Pro	72 [2.824"]
S130 / S135	92 [3.611"]
S150 / S155	142 [5.580"]
S160 / S165	224 [8.828"]
S1100 / S1105	377 [14.852"]

3.



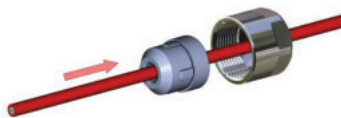
Remove snap ring (5) and take out male  
contact (6)

6.



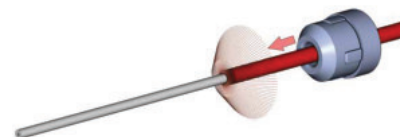
Cut shield braid roughly about 30 mm (=L2)  
⚠ Carefully remove shield parts. Loose shield  
parts can cause electrical break down

4.



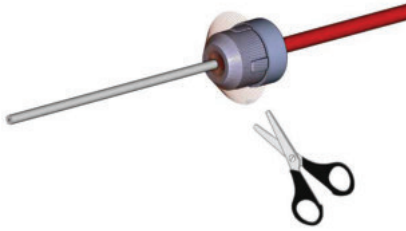
Place cap (1) and sealing insert (2) on cable  
⚠ Respect correct order of parts (see picture)

7.



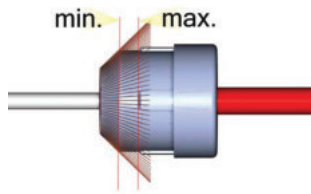
Completely widen shield braid. Push seal  
insert (2) under shield braid

8.



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

9.



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

10.

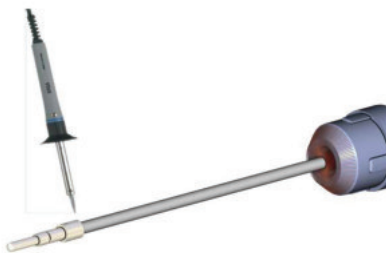


Remove dielectric insulation

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

⚠ Do not damage conductor

11.



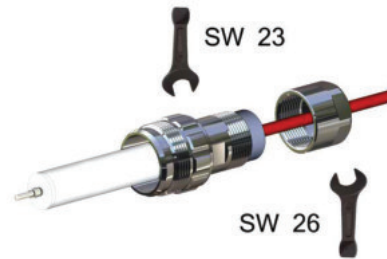
**Solder contact (6) on conductor**  
⚠ Tin-solder must not remain on contact surface

12.



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

13.



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

14.



Secure contact (6) with snap ring (5)

15.



Assembly finished

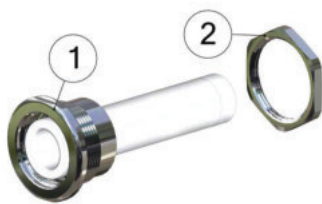
# Assembly Instructions Series 100 (receptacle, panel mount)

1.



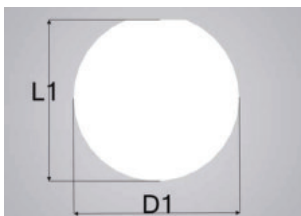
Part as supplied

2.



Remove counter nut (1) from housing (2)

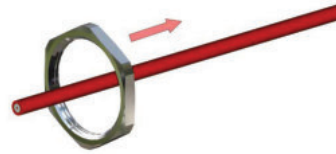
3.



Panel cut out

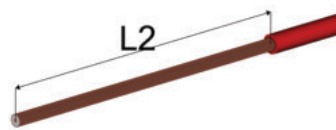
Dimension	Value mm [inch]
D1	36.10 [1.421"]
L1	34.90 [1.374"]

4.



Place counter nut (1) on cable

5.



⚠ ONLY when using shielded cable:  
Remove cable jacket

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

⚠ Do not damage shield braid

6.



Fold back shield braid over jacket



7.



Remove dielectric insulation

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

⚠ Do not damage conductor.

10.



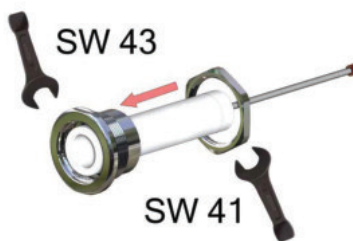
Assembly finished

8.



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

9.



Screw on counter nut and tighten

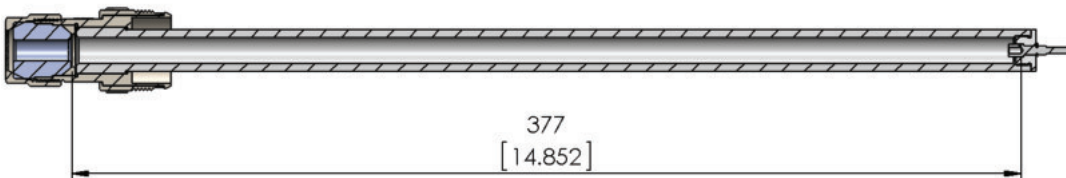
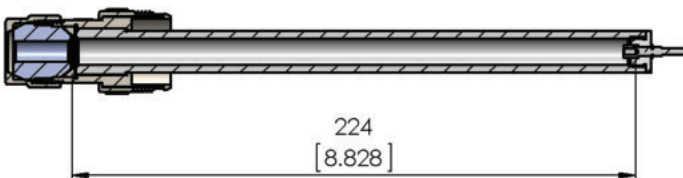
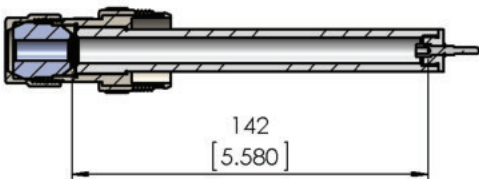
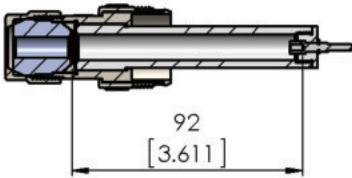
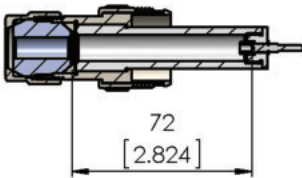
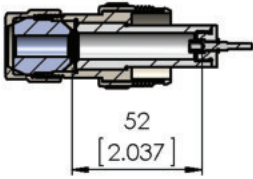


**Note – important!**

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

**IMPORTANT – PLEASE NOTE:**

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



	Part No. 3330039	Part No. 3330049	Part No. 3330050
Operating voltage DC	60 kVDC	100 kVDC	100 kVDC
Operating voltage AC rms	20 kVAC	30 kVAC	
Conductor size			
AWG	AWG 18	AWG 16	AWG 16
Strands	19 x AWG 30	19 x AWG 29	19 x AWG 29
Cross section	0.97 mm <sup>2</sup>	1.2 mm <sup>2</sup>	1.2 mm <sup>2</sup>
Diameter	1.24 mm [.049"]	1.25 mm [.049"]	1.25 mm [.049"]
Semicon	YES	YES	YES
Diameter	2.0 mm [.079"]	2.5 mm [.098"]	2.5 mm [.098"]
Material	Semiconductive PE	Semiconductive PE	Semiconductive PE
Dielectric			
Diameter	5.8 mm [.228"] (± 0.25 mm)	9.4 mm [.370"] (± 0.25 mm)	9.4 mm [.370"] (± 0.25 mm)
Material	LDHMMW PE	LDHMMW PE	LDHMMW PE
Screen (Shield)	YES	NO	YES
Diameter	6.9 mm [.272"]	x	9.8 mm [.386"]
Material	Cu/Sn (AWG 34 t.p.c.) 85% coverage	x	Cu/Sn (AWG 34 t.p.c.) 90% coverage
Jacket			
Diameter	7.7 mm [.303"] (± 0.3 mm)	x	11.2 mm [.441"] (± 0.25 mm)
Material	TPE-U	x	PVC
Impedance	x	x	61 Ω
Capacitance	typ. 121pF/m	x	98 pF/m
Min. bend radius	90 mm [3.543"] (fixed)	127 mm [5"] (fixed)	152 mm [5.984"] (fixed)
Temperature range	-40°C to +60°C	-51°C to +60°C	-51°C to +60°C
Weight	0.077 kg/m	0.075 kg/m	0.149 kg/m
Color	red	transparent	black
Fits connector types	SB110 SB115 SB120 SB125 SB125Pro SB130 SB135 SB150 SB155 SB160 SB165	SB110 SB115 SB120 SB125 SB125Pro SB130 SB135 SB150 SB155 SB160 SB165 SB1100 SB1105	SB110 SB115 SB120 SB125 SB125Pro SB130 SB135 SB150 SB155 SB160 SB165 SB1100 SB1105