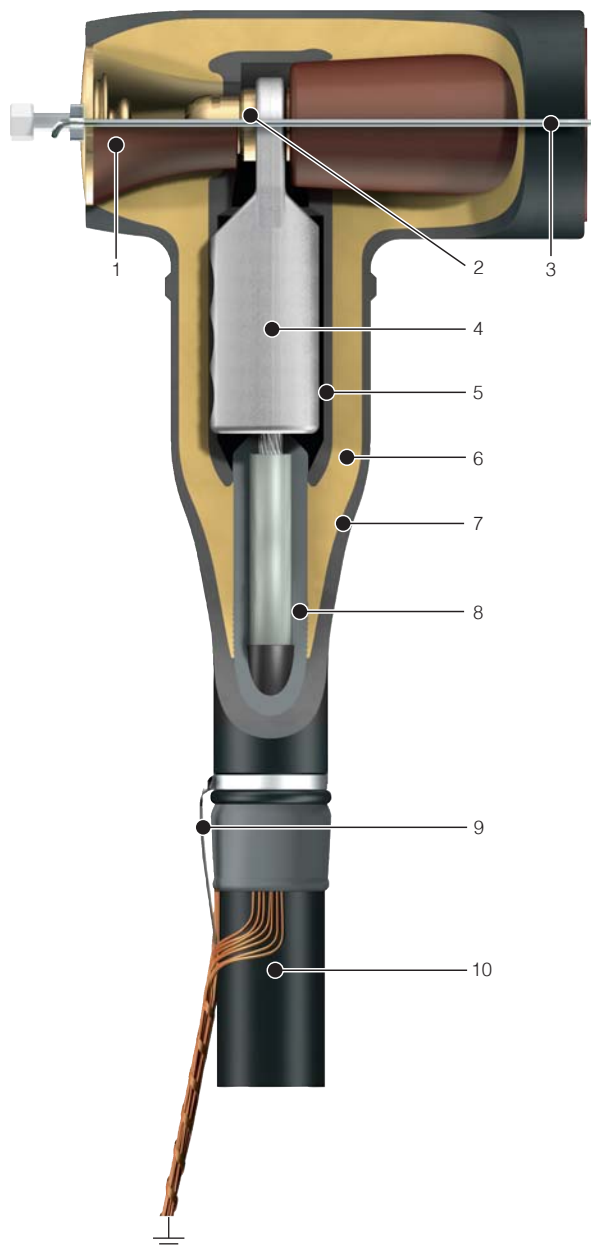


Premoulded screened separable connectors Type SOC 400

Kabeldon Cable Accessories 12-24 kV



Kabeldon premoulded screened Separable Connectors, 400 A



1. Insulating plug

Made of epoxy with embedded brass parts. The outer brass plate comes into contact with the conductive layer for a fully screened connection. Also available with insulation in between and a separate contact spring for capacitive testing.

2. Pin contact

See opposite page.

3. Bail restraint

A stainless steel frame holds the connector on the place by means of a pressure plate and a bolt.

4. Cable lug

Bolted type, tested and approved in accordance with IEC 61238-1. The cable lug is made of aluminium alloy and is tin-plated. Can be installed on aluminium as well as copper conductors, as the connection is encapsulated inside the connector and is not subjected to humid conditions.

5. Inner conductive layer

Creates a Faraday cage around the connector. This ensures a stable electrical potential and eliminates the need for filling material in cavities and between the conductor and cable lug.

6. Insulating layer

High electrical strength, a thickness of min 10 mm and the elasticity of the material ensures the function with active pressure on all interfaces. Premoulded together with the inner and outer conductive layer. Electrical properties are ensured by routine test.

7. Outer conductive layer

UV-, ozone- and tracking-resistant. UV-resistance tested for 3000 h in a Xenon radiator. Thickness 2 mm on it's thinnest part. When connected to the cable screen, the connector meets international requirements for a fully screened system.

8. Adapter

Made of flexible insulating rubber with an integrated resistive stress control part.

9. Earth connection

The conductive layer is connected to the cable screen via a stainless steel band strip. The band strip can temporarily be removed from the cable screen, which makes it possible to perform cable sheath tests without disconnecting the connector from the bushing.

10. Designed for polymeric insulated cables

SOC screened connectors can be installed on XLPE as well as EPR (flexible rubber) insulated cables.

Routine test

All connectors are routinely tested with respect to

Pd <	5 pC at 22 kV
AC	45 kV for one minute
Visual inspection	

Technical data

Rated voltage IEC (U_m)	24 kV
Rated phase to earth voltage IEC (U_0)	12.7 kV
Lightning impulse withstand	125 kV
Interface standard for bushing	EN 50180 & EN 50181
Current-carrying capacity	400 A
Cable conductor size	50 - 300 mm ²
Cable insulation diameter	15.0 - 34,9 mm



Pin contact SOC 400

The pin contact is made of copper and is silver-plated. An expansion ring installed with a torque wrench keeps the pin in contact with the cable lug. The whole connector is secured to the bushing by means of a bail restrain.

Type test according to CENELEC HD 628.1 and 629.1 test sequence D1 and D2

The screened separable connectors have been tested and approved in accordance with this international standard.

Test sequence D1

Test sequence D1	Requirements
1. DC voltage withstand test at 76 kV negative polarity for 15 min	No breakdown or flashover
2. AC voltage withstand test at 57 kV for 5 minutes	No breakdown or flashover
3. Pd measurement at ambient temperature at 24 kV	Discharge level <10 pC
4. Lightning impulse voltage test at 95°C with peak values 125 kV, 10 positive and 10 negative impulses	No breakdown or flashover
5. Load cycling in air 3 x 8 h at 32 kV	No breakdown or flashover
6. Pd measurement at elevated and ambient temperature at 24 kV	Discharge level <10 pC
7. Load cycling in air 60 x 8 h at 32 kV	No breakdown or flashover
8. Load cycling under 1 m water 63 x 8 h at 32 kV	No breakdown or flashover
9. Disconnection / connection 5 complete operations	No visible damage to contacts
10. Pd measurement at elevated and ambient temperature at 24 kV	Discharge level <10 pC
11. Lightning impulse voltage test at ambient temperature with peak values 125 kV, 10 positive and 10 negative impulses	No breakdown or flashover
12. AC voltage withstand test at 32 kV for 15 minutes	No breakdown or flashover

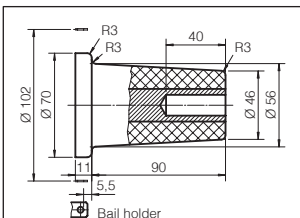
Test sequence D2

Test sequence D2	Requirements
13. Thermal short circuit test for 1 sec to reach a conductor temperature of 250°C	No visible signs of damage
14. Lightning impulse voltage test at ambient temperature with peak values 125 kV, 10 positive and 10 negative impulses	No breakdown or flashover
15. AC voltage withstand test at 32 kV for 15 minutes	No breakdown or flashover
16. Examination	For information only

Tests Nos. 17 - 19 are carried out on separate test objects

17. Screen resistance measurement before and after ageing	Resistance <5000
18. Leakage current measurement	Leakage current <0.5 mA at 24 kV
19. Screen fault current initiation	Fault current should flow continuously

Bushings as per EN 50181 & EN 50181



400 series, 400 A
Contact type: sliding Ø14
Interface type: B

Type test according to Class A in IEC 61238-1: Compression and mechanical connectors for power cables with copper or aluminium conductors

Screw cable lugs included in SOC 400 have been tested and approved according to this international standard.

Electrical test. The current cycling test was performed with a 300 mm² aluminium conductor.

Test sequence	Requirements
1. The first and second cycle are used to determine the reference conductor temperature and the heat cycle duration used on the test loop for all subsequent heat cycles. Reference conductor 122.1°C, total cycle time 1 h 30 min.	
2. 200 heat cycles performed	
3. Six short-circuits to reach a conductor temperature of 250 - 270°C with cooling to a temperature 35°C after each short circuit. Short circuit current 25 kA for 2.4 seconds.	
4. Another 800 heat cycles are performed, 1000 cycles in total	

Test result for the electrical test with resistance measurement

A Initial scatter, prior to heat cycling	0.3
B Mean scatter, over the last 11 resistance measurement intervals	0.3
C Change in resistance factor D, for each of the six connectors	0.15
D Resistance factor ratio, for each of the six connectors	1.5
E Maximum temperature max of test objects	Reference conductor (122.1°C)

Mechanical test

Tensile force during 1 min. Requirement aluminium 40 N x A and copper 60 N x A. Maximum force 20 kN.	
A = Nominal conductor cross-section in mm ² . Test performed with the following conductor sizes:	
Aluminium 150 mm ²	6 kN
Aluminium 185 mm ²	7.4 kN
Aluminium 300 mm ²	12 kN
Copper 150 mm ²	9 kN

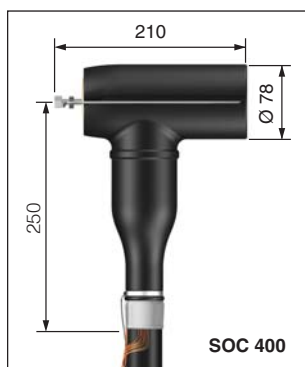




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