

TE'S RAYCHEM SCREENED SEPARABLE ELBOW CONNECTION SYSTEM ELBC

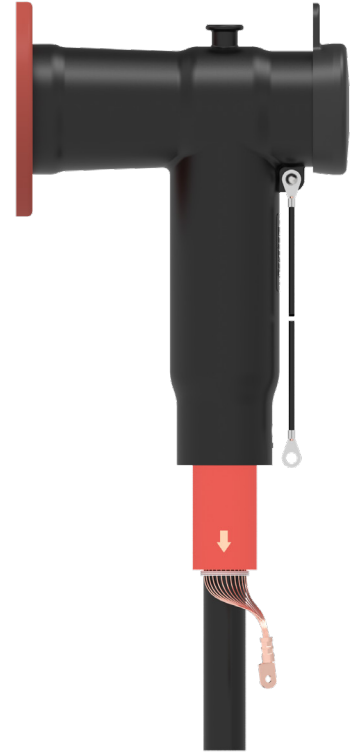
FOR INTERFACE C (EN 50180/EN 50181) 630 A, UP TO 24 KV

RAYCHEM SCREENED SEPARABLE ELBOW CONNECTION SYSTEM ELBC FOR INTERFACE C (EN 50180/EN 50181): 630 A, UP TO 24 KV

TE Connectivity's (TE) Raychem Screened Separable Elbow Connection System ELBC are designed to connect polymeric cables to medium voltage gas insulated switchgears, transformers, motors which are using bushings type "C" according to EN 50180/EN 50181 specified for 630 A continuous current.

The ELBC connectors are compliant with CENELEC HD 629.1 S3 and tested for a maximum system voltage up to 24 kV. The new hybrid ELBC combines the material advantages of both EPDM and silicone rubber materials and therefore, provides a long service life and easy installation. A durable EPDM insulation body provides a hard-wearing as well as weather-resistant performance, not only for indoor but also for outdoor applications in harsh environments. A silicone stress cone adapter ensures a fast and easy installation even on larger cable cross sections, and the hard body of ELBC eases the handling during push-on and connection procedure.

TE's ELBC connector provides a capacitive Voltage Detection (VD) point to determine the presence of voltage in the cable network and therefore, helps avoid possible injury during operation and maintenance.

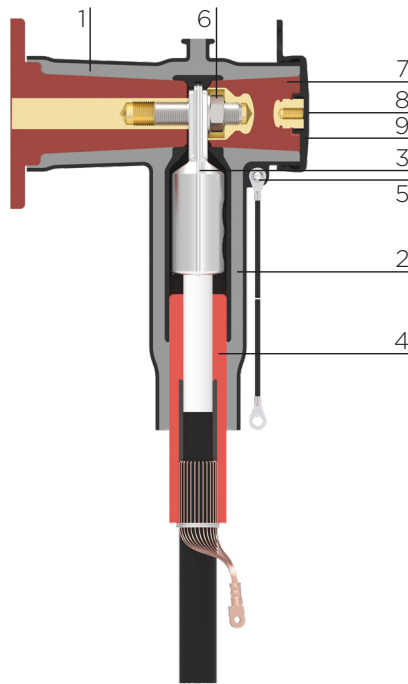


PRODUCT FEATURES

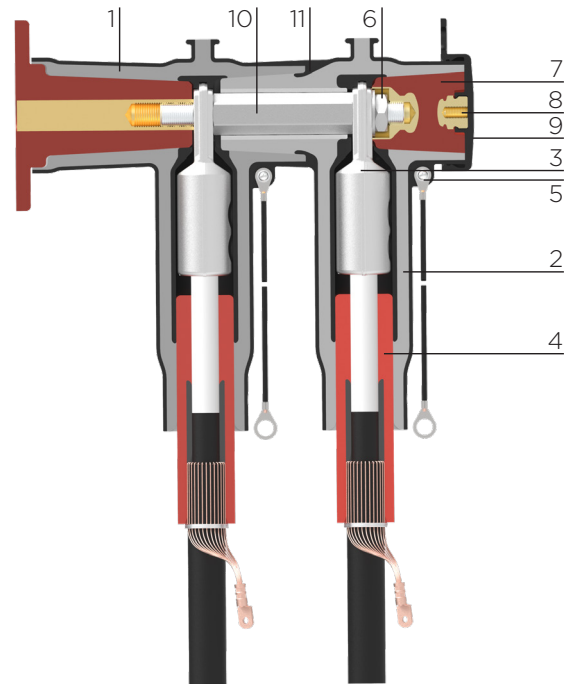
- Hybrid material design: Flexible silicone cable adapter and rugged EPDM body
- Reliable operation even under harsh environmental conditions
- Easy installation due to flexible silicone cable adapter
- Screened connector body for improved safety and protect the connection system against accidental contact
- Easily accessible capacitive test point for Voltage Detection System (VDS)
- Shield-break design (oversheath-testing without disconnection of connector)
- Wide application range covers from 35 to 300mm² with only two cable adaptors
- Mechanical lugs designed to accept aluminium and copper conductors.



DESIGN AND CONSTRUCTION:



Base Connector



Base Connector + Coupling Connector

1. Base connector

Sandwich-molded screened EPDM body is long lasting and weather-resistant for outdoor applications.

2. Inner screen

A conductive inner layer, as a faraday cage around the compression or mechanical lug, prevents corona at rated voltage.

3. Mechanical lugs

Mechanical lugs with shear bolts for connecting either aluminium or copper conductor cables.

4. Stress cone adapter

Relieves electrical stress at the point where the cable screen is cut. The insulated section, extending beyond the wire shielding, provides a convenient point for oversheath testing.

5. Earthing eye and ground lead

Provides a connection point for earthing the screen.

6. Threaded pin set

A threaded pin together with a combi-nut ensure high-performance electrical and mechanical contact with the bushing.

7. Rear plug with test point

Removable rear plug with capacitive test point.

8. Test point

The test point is used to determine whether the circuit is energised; alternatively it can be used for phasing.

9. Conductive end cap

Electrical screen and protection of the rear end of the separable connector.

10. Coupling bolt

Together with threaded pin, combi-nut ensure high electrical and mechanical performance with the previously installed base connector.

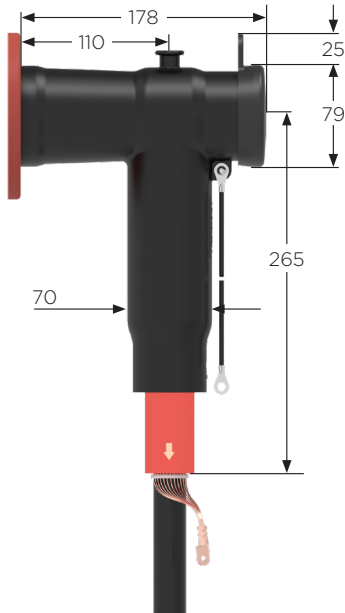
11. Coupling Connector

Sandwich-molded screened EPDM body is long lasting and weather-resistant for outdoor applications.

APPLICATIONS

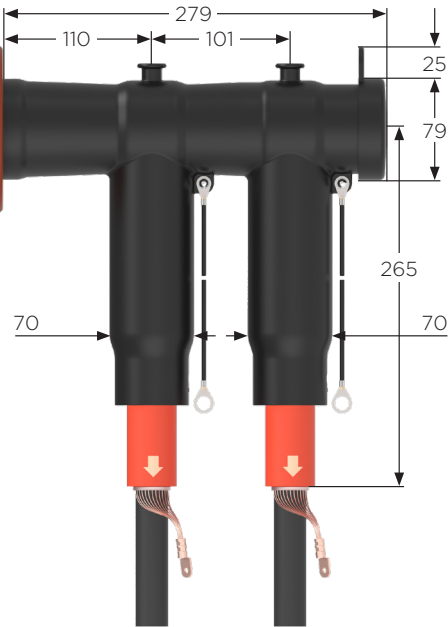
SINGLE CONNECTION

Items required for 3 phases:
1 x ELBC-58xx (Basic kit)



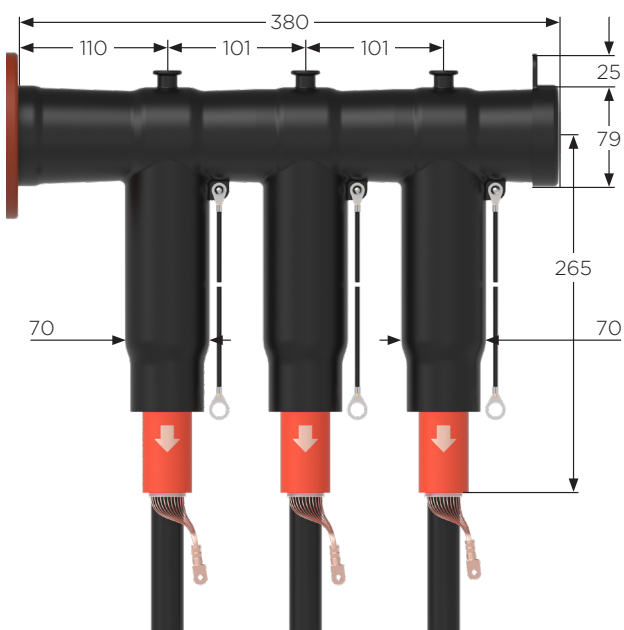
DOUBLE CONNECTION

Items required for 3 phases:
1 x ELBC-58xx (Basic kit)
1 x ELBC-CC-58xx (Coupling connector kit)



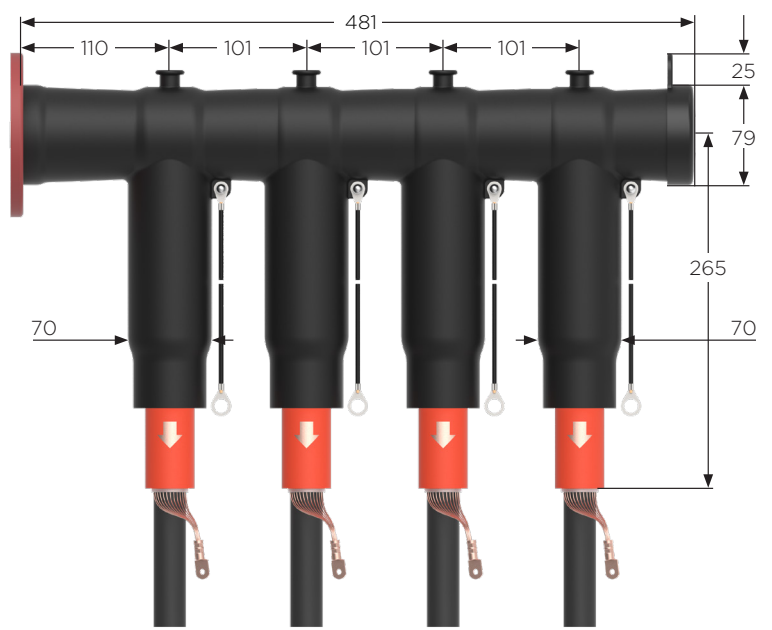
TRIPLE CONNECTION

Items required for 3 phases:
1 x ELBC - 58xx (Basic Kit)
2 x ELBC - CC - 58xx (Coupling Connector Kit)



QUADRUPLE CONNECTION

Items required for 3 Phases
1 x ELBC - 58xx (Basic Kit)
3 x ELBC - CC - 58xx (Coupling Connector Kit)



ELBC CONNECTION SYSTEM - TECHNICAL DATA

| Technical Data for ELBC | |
|---------------------------------------|--------------------------|
| Diameter over insulation | 16.2 - 34.6 mm |
| Conductor cross section Range | 35 - 300 mm ² |
| Maximum system voltage | 24 kV |
| Continuous current rating | 630 A |
| Basic impulse level | 125 kV |
| Partial Discharge at 2 U ₀ | < 2 pC |
| AC Voltage Withstand (5 min) | 57 kV |
| Thermal short circuit (1 sec) | 22.5 kA |

| Voltage Class (kV) | Cross Section (mm ²) | Diameter Over Insulation (mm) | ELBC Kit | ELBC-CC Kit |
|--------------------|----------------------------------|-------------------------------|-----------|--------------|
| 12 kV | 70 - 95 | 16.2 - 22.8 | ELBC-5851 | ELBC-CC-5851 |
| | 95 - 240 | 18.6 - 28.4 | ELBC-5853 | ELBC-CC-5853 |
| | 150 - 300 | 21.6 - 30.4 | ELBC-5855 | ELBC-CC-5855 |
| 17.5 kV | 35 - 95 | 17.0 - 23.1 | ELBC-5851 | ELBC-CC-5851 |
| | 95 - 185 | 21.6 - 27.8 | ELBC-5853 | ELBC-CC-5853 |
| | 120 - 300 | 23.0 - 32.3 | ELBC-5855 | ELBC-CC-5855 |
| 24 kV | 35 - 70 | 17.9 - 23.4 | ELBC-5851 | ELBC-CC-5851 |
| | 95 - 185 | 21.9 - 30.1 | ELBC-5853 | ELBC-CC-5853 |
| | 95 - 300 | 24.3 - 34.6 | ELBC-5855 | ELBC-CC-5855 |

TE's ELBC separable connectors meet CENELEC HD 629.1 S3 requirements and pass a 100% routine test procedure including: AC Voltage Withstand and Partial Discharge Test.

ACCESSORIES

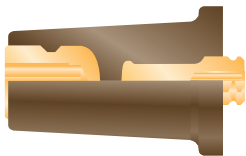
TEST ROD

Ref. no.:
 RSTI-68TR; Length: 310 mm (3 pcs)
 RSTI-68TRL; Length: 460 mm (3 pcs)
 RSTI-68TRA; Kit includes 2 short and 1 long test rods
 RSTI-68TRB; Kit includes 1 short and 2 long test rods



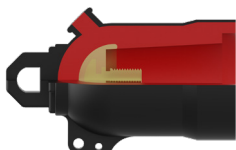
TERMINATING PLUG

Ref. no.: RSTI-68TP (3 pcs)



INSULATING CAP

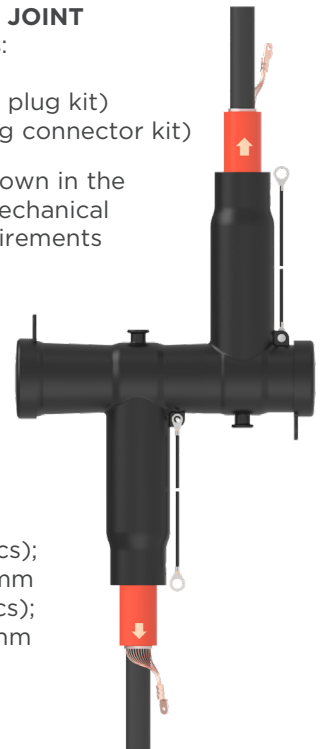
Ref. no.: RSTI-68RC (1 pc)
 One piece per set



DISCONNECTABLE INLINE JOINT

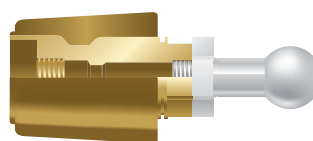
Items required for 3 phases:
 1 x ELBC-58xx (Basic kit)
 1 x RSTI-68TP (Terminating plug kit)
 1 x ELBC-CC-58xx (Coupling connector kit)

Note: All applications as shown in the brochure need to have a mechanical support, based on the requirements for dynamic short circuit.



EARTHING ADAPTER

Ref. no.: RSTI-68EA20 (3 pcs);
 Ball diameter: 20 mm
 RSTI-68EA25 (3 pcs);
 Ball diameter: 25 mm



VOLTAGE DETECTOR FOR ELBC

- Continuous monitoring of voltage presence, and indication of insulation problems
- Alarm indication of high partial discharge activities within switchgears and equipment (R5 version)
- Patented self-test function for max. safety, allowing to distinguish between voltage absence and defect device/connections
- Maintenance free; no battery or external power required
- Integrated 3-phase test point for phase comparison and sequence test
- Easy interface for communication and remote monitoring with dry relay contact
- Adjustable capacitance module to suit different applications and voltage levels



Assembly of CAPDIS to ELBC



Connections to CAPDIS

| Product | | Part Description | Part number |
|------------------|-----------------------------------|---------------------------|-------------|
| CAPDIS | CAPDIS S1 R4.5 | CAPDIS-S1+R4.5 + C2M-M | ER3563-000 |
| | CAPDIS S2 R4.5 | CAPDIS-S2+R4.5 + C2M-M | ER3564-000 |
| | CAPDIS S1 R5 | CAPDIS-S1_55 (R5) + C2M-M | ER3566-000 |
| | CAPDIS S2 R5 | CAPDIS-S2_55 (R5) + C2M-M | ER3567-000 |
| Connecting Cable | 3x phase 2,5-meter unscreened | EXRM-2101-CCS-01 | EN5240-000 |
| | 3x phase 3-meter screened (coax.) | EXRM-2101-CCS-COAX-01 | ER5246-000 |
| Adapter set | Adapter set ELBC | ADAPT-CAPDIS-ELBC | On request |

Learn more: [TE.com/energy](https://www.te.com/energy)

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