



# TE'S RAYCHEM SCREENED SEPARABLE ELBOW CONNECTION SYSTEM ELBC

FOR INTERFACE C (EN 50180/EN 50181) 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 is 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.

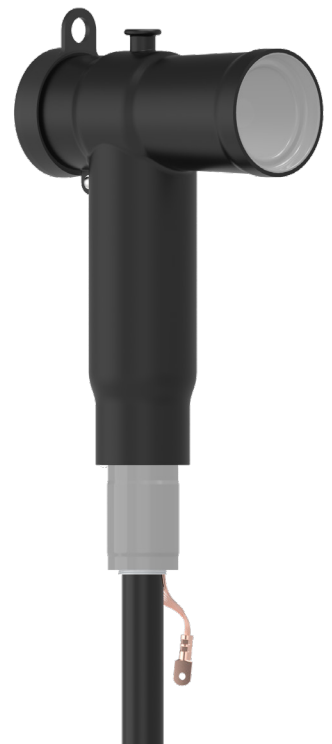
The ELBC connector is compliant with CENELEC HD 629.1 S3 and tested for a maximum system voltage up to 24 kV. Its design is made of EPDM, providing a long service life and enabling easy installation. A durable EPDM insulation body provides a hard-wearing as well as weather-resistant performance, not only for indoor but also for outdoor applications in harsh environments. The stress cone adapters ensure 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 safety risk during operation and maintenance.

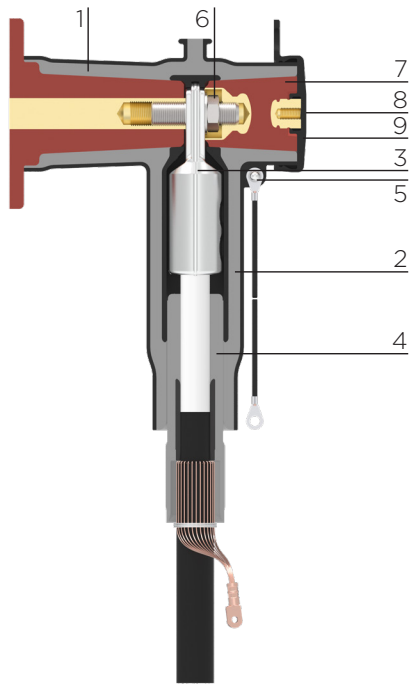


### PRODUCT FEATURES

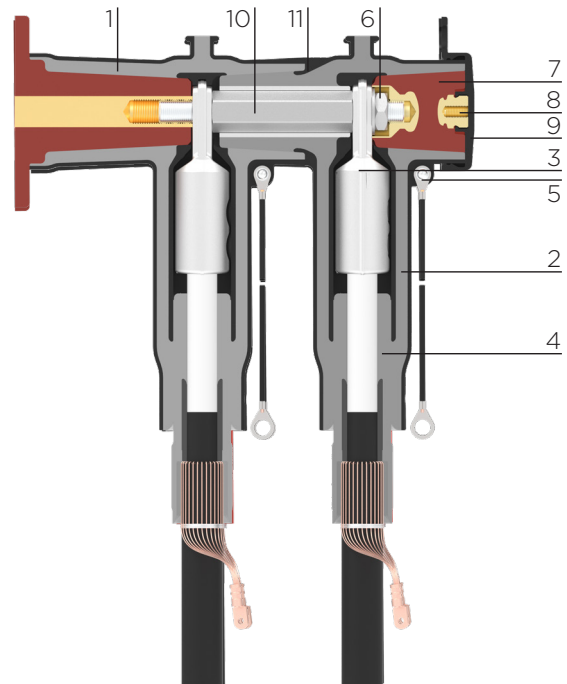
- Full EPDM material design: Multiple cable adapters for various cable sizes
- Reliable operation even under harsh environmental conditions
- Easy installation due to variable silicone cable adapters
- Screened connector body for improved safety and protect the connection system against accidental contact
- Easily accessible capacitive test point for Voltage Detection System (VDS)
- Shield-break design (oversheath-testing without disconnection of connector)
- Wide application range covers from 25 to 500sq mm
- Mechanical lugs designed to accept aluminium and copper conductors.
- Crimping lugs are available as request.



## 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. Lugs

Mechanical lugs with shear bolts for connecting either aluminium or copper conductor cables. Crimping lugs is also available as an option.

### 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 nut and washer 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, nut and washer ensure high electrical and mechanical performance with the previously installed base connector.

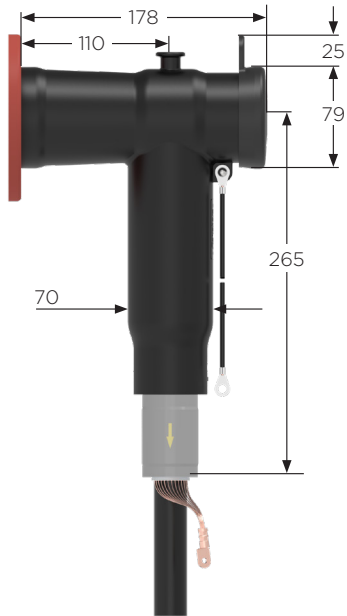
### 11. Coupling Connector

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

## APPLICATIONS

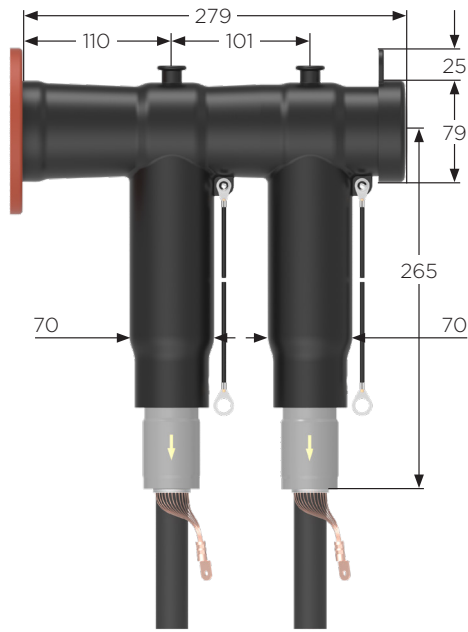
### SINGLE CONNECTION

Items required for 3 phases:  
1 x ELBC-824 (Basic kit)



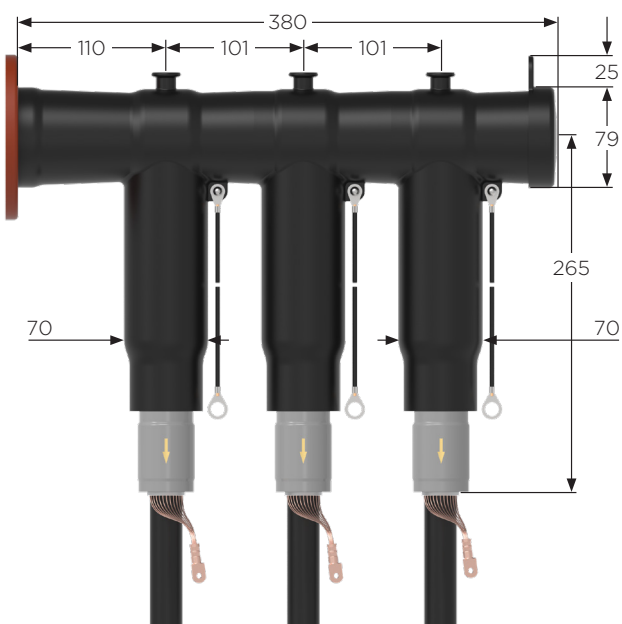
### DOUBLE CONNECTION

Items required for 3 phases:  
1 x ELBC-824 (Basic kit)  
1 x ELBC-CC-824 (Coupling connector kit)



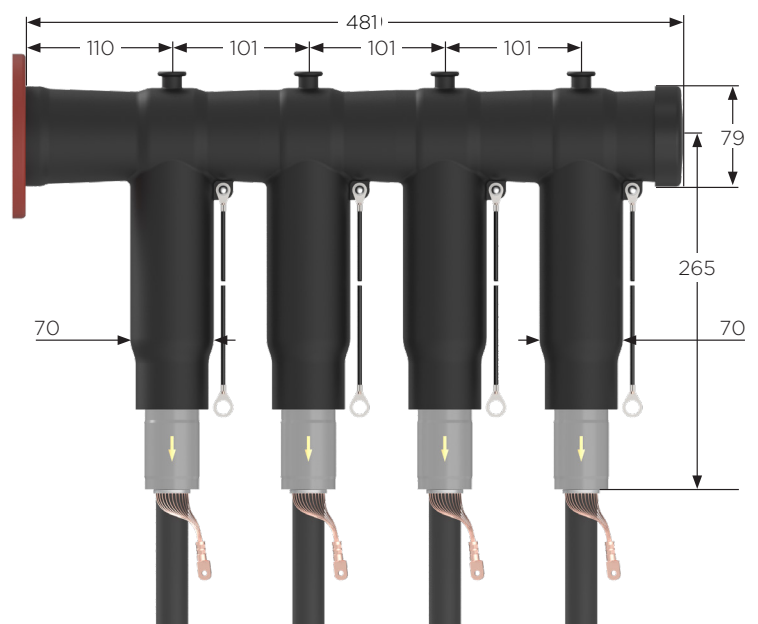
### TRIPLE CONNECTION

Items required for 3 phases:  
1 x ELBC-824 (Basic Kit)  
2 x ELBC-CC-824 (Coupling Connector Kit)



### QUADRUPLE CONNECTION

Items required for 3 Phases  
1 x ELBC-824 (Basic Kit)  
3 x ELBC-CC-824 (Coupling Connector Kit)



Note: For cable sizes of 400 and 500sq mm, the elbow connector dimensions can vary, please contact us for accurate information..

## ELBC CONNECTION SYSTEM - TECHNICAL DATA

Technical Data for ELBC	
Diameter over insulation	13.2 - 38.3 mm
Conductor cross section Range	25 - 500 sqmm
Maximum system voltage	24 kV
Continuous current rating	630 A
Basic impulse level	125 kV
Partial Discharge at 2 U <sub>0</sub>	< 10 pC
AC Voltage Withstand (5 min)	57 kV
Thermal short circuit ( 1 sec)	22.5 kA

Base Connector Part Description	Coupling Connector Part Description	Cable Voltage Rating	Cable Cross Section (sq mm)	Diameter Over Cable Insulation Range (mm)
ELBC-824-S1M1	ELBC-CC-824-S1M1	12kV	25 - 50	13.2 - 17.5
ELBC-824-S2M1	ELBC-CC-824-S2M1	12kV	50 - 70	15.6 - 19.5
		24kV	25	
ELBC-824-S3M1	ELBC-CC-824-S3M1	24kV	35 - 95	18.6 - 24.8
ELBC-824-S3M2	ELBC-CC-824-S3M2	12kV	95 - 150	
ELBC-824-S4M2	ELBC-CC-824-S4M2	12kV	185 - 240	22.8 - 28.5
		24kV	95 - 150	
ELBC-824-S5M2	ELBC-CC-824-S5M2	12kV	300	27.4 - 34.6
		24kV	185 - 300	
ELBC-824-S6M3	ELBC-CC-824-S6M3	12kV	400 - 500	31.2 - 38.3
		24kV	400 - 500	

Kits with crimping lugs is available by request.

\* The selection table is based on IEC standard cable sizes, if there is any conflict, the diameter over cable insulation is more important.

## ACCESSORIES

### TEST ROD

Ref. no.:

RSTI-68TR; Length: 310 mm (3 pcs)

RSTI-68TRL; Length: 460 mm (3 pcs)

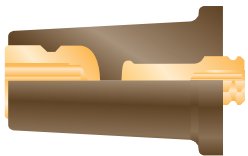
RSTI-68TRA; Kit includes 2 short and 1 long test rods

RSTI-68TRB; Kit includes 1 short and 2 long test rods



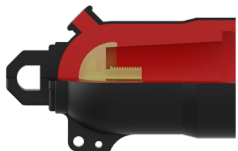
### TERMINATING PLUG

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



### INSULATING CAP

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



### DISCONNECTABLE INLINE JOINT

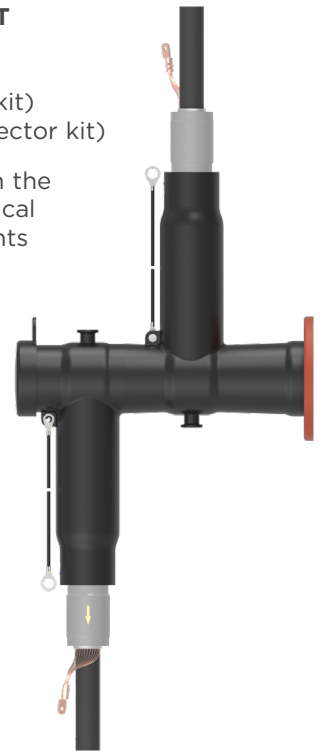
Items required for 3 phases:

1 x ELBC-824 (Basic kit)

1 x RSTI-68TP (Terminating plug kit)

1 x ELBC-CC-824 (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.



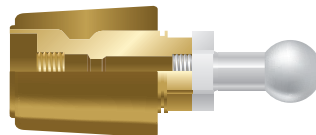
### EARTHING ADAPTER

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)

© 2022 TE Connectivity. All Rights Reserved. CA-BRO-20-ELBC SWITCHGEAR CONNECT ROA-04-23-EN

TE, TE Connectivity, TE connectivity (logo), EVERY CONNECTION COUNTS, Raychem are trademarks owned or licensed by TE Connectivity. Other logos, product and company names mentioned herein may be trademarks of their respective owners. While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions, specifications, and/or information contained herein are for reference purposes only and are subject to change without notice. Consult TE for the latest dimensions, specifications, and/or information. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

Connect with us:

[TE.com/energy-contact](https://www.te.com/energy-contact)