

RAYCHEM ASYMMETRIC COMPACT ELBOW CONNECTORS ELBA

600 AMP 35 kV CLASS



OUR COMPACT DESIGN REDUCES STACKING LENGTH, PROVIDING VALUABLE SPACE

KEY FEATURES

- Provide an extraordinary **40% shorter stacking length** from the standard double stack elbow connectors
- Lead-free peroxide-cured EPDM rubber ensures high dielectric strength
- 100% factory production tested for partial discharge and AC Hipot per IEEE 386-2016
- Capacitive test point option
- Same cable cutbacks and compatibility with existing standard elbow connectors

TE Connectivity's Raychem Asymmetric Compact Elbow Connectors ELBA are designed to terminate underground cables of 35 kV voltage class such as transformers and switchgear. They are molded with semi-conducting shields that provide ground shield continuity, and are designed for use on extruded XLPE or EPR solid dielectric cables. The conductor range is from 2 AWG to 1500 Kcmil for conductors with insulation diameters from 0.745 inches to 2.145 inches.

The elbow connectors are fully shielded, submersible and designed to connect to IEEE 386 interface 13 bushing, or for parallel connection and mating to the rear entry of the ELBA base connector. Our Raychem ELBA-CC connectors include a coupling bolt and are designed with a molded nose cone so they can easily be coupled to the base connector.

The shear bolt connectors are designed with an elongated connector head. They are range-taking mechanical connectors that will accommodate a conductor range from 2 AWG compact to 1500 kcmil, Class B.

The design of the shear bolt terminal incorporates shear bolt heads, which ensures the correct applied torque to each bolt. This allows the optimal contact force to be generated to minimize any connection resistance.

Our ELBA and ELBA-CC elbow connectors are available with a capacitive test point molded into the elbow body and work seamlessly with our Kries voltage detection system. This provides a means of sensing voltage and an attachment point for test point fault indicators.

APPLICATIONS

- Onshore and Offshore Wind Energy
- Data Center Power Systems
- Solar Farms
- Underground Power Networks

RELEVANT STANDARDS AND TESTING

- Compliant with IEEE 386-2016 interface 13 and EN 50181 interface E-5/8"

| DESIGN DATA | |
|-----------------------------|------------------------|
| Material Type | EPDM |
| Material Color | Black/Grey |
| Design Specification | IEEE 386 |
| Operating Temperature Range | 90°C (194°F) |
| Short Circuit Test | 10 kA 3s, 25 kA, 0.17s |

| RATINGS |
|--|
| Voltage Class 35 kV |
| Max Rating Phase-to-Ground 21.1 kV |
| BIL and Full Wave Crest 150 or 200 kV BIL |
| Continuous 600A rms |
| 24 Hours Overload 1,000A rms |
| Momentary: |
| 25,000A Symmetrical 10 cycles |
| 10,000A Symmetrical 3.00 sec |
| 100% Production Test |
| Partial Discharge Minimum Extinction Voltage: |
| 26 kV for 150 kV BIL 30 kV for 200 kV BIL |
| AC 1 Minute Withstand: |
| 50 kV for 150 kV BIL 70 kV for 200 kV BIL |

TE's Raychem Elbow Connectors meet the applicable requirements of IEEE 386 and IEEE 592

Ordering Formula Example:

The part number for a 35 kV Elbow 600 A with test point, an insulation diameter of 1.755", cable jacket outer diameter (OD) 2.25 inches and 750 kcmil stranded cable is ELBA-35-61OR-A2-CES3.

ELBA Kit Contents:

Elbow, Insulating Plug, Cable Adapter, Stud, Connector, Silicone Lubricant, Installation Instruction and Cable Grounding and/or Sealing kit (optional).

ELBA-CC Kit Contents:

Asymmetric coupling elbow, cable adaptor, connector, silicone lubricant, coupling bolt, installation instruction and Cable Grounding and/or Sealing kit (optional).

| Test Reports |
|-----------------------|
| EDR 5805 - 150 kV BIL |
| EDR 5785 - 200 kV BIL |

ORDERING FORMULA

| ELBA-35- | 1 | 2 | 3 | 4 | 5 |
|---------------------|-------------------|-----------|---------------------|-----------|-------------|
| 90°C | Rating/Test point | BIL Level | Cable Insulation OD | Connector | CES |
| =ELBA-35- | 61 | 0 | R | A2 | CES3 |
| =ELBA-CC-35- | 61 | 2 | R | A2 | CES3 |

| 1 | Current Rating Test Point Code |
|----|----------------------------------|
| 60 | 600 AMP WITHOUT test point |
| 61 | 600 AMP WITH test point |

| 2 | Code BIL (kV) |
|---|---------------|
| 0 | 150 |
| 2 | 200 |

| 3 | Cable Insulation O.D. Range | |
|------|-----------------------------|-------------|
| Code | Inches | mm |
| D | 0.745 - 0.985 | 18.9 - 25.0 |
| E | 0.930 - 1.040 | 23.6 - 26.4 |
| F | 0.980 - 1.115 | 24.9 - 28.3 |
| G | 1.040 - 1.175 | 26.4 - 29.8 |
| H | 1.095 - 1.240 | 27.8 - 31.5 |
| J | 1.160 - 1.305 | 29.5 - 33.1 |
| K | 1.220 - 1.375 | 31.0 - 34.9 |
| L | 1.285 - 1.395 | 32.6 - 35.4 |
| M | 1.355 - 1.520 | 34.4 - 39.0 |
| N | 1.485 - 1.595 | 37.7 - 40.5 |
| P | 1.530 - 1.640 | 38.9 - 41.7 |
| Q | 1.575 - 1.685 | 40.0 - 42.8 |
| R | 1.665 - 1.785 | 42.3 - 45.3 |
| S | 1.775 - 1.875 | 45.1 - 47.6 |
| T | 1.845 - 1.965 | 46.9 - 50.0 |
| U | 1.935 - 2.055 | 49.1 - 52.2 |
| V | 2.025 - 2.145 | 51.4 - 54.5 |

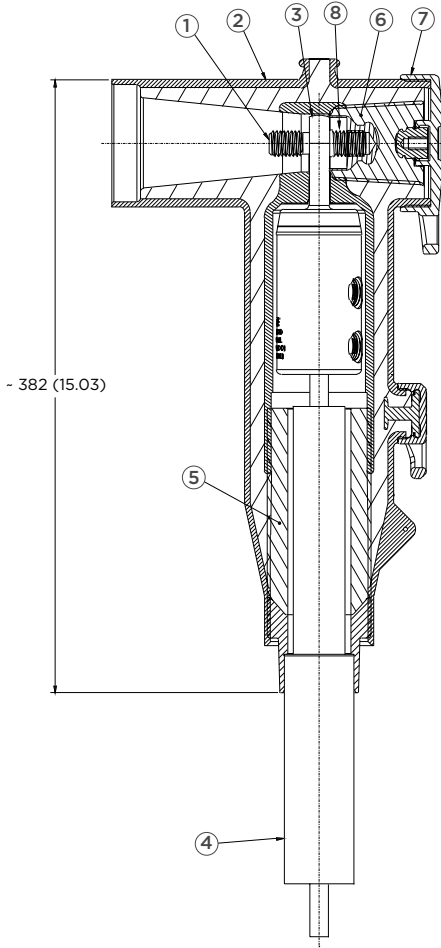
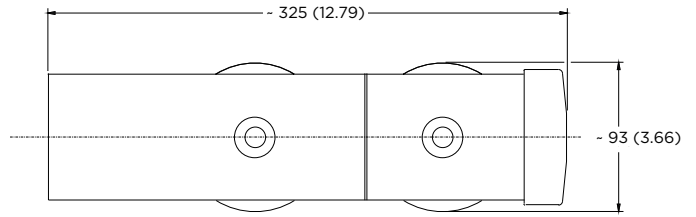
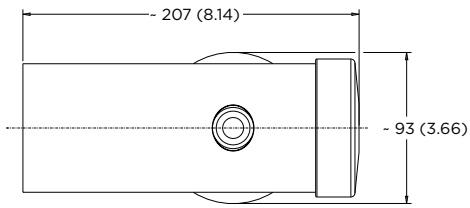
| 4 | Aluminum Shear Bolt & Conductor Size | |
|------|--------------------------------------|--|
| Code | Compression, Compact, Strand | |
| A1 | 2 - 4/0 | |
| A2 | 350 - 750 | |
| A3 | 600 - 1000 | |
| A4 | 1000 - 1250 | |
| A5 | 1500 | |

| 5 | Cable End Seal inch for neutral wire cable (mm) | |
|------|---|--------------|
| Code | Min Cable OD | Max Cable OD |
| CES1 | 0.85 (21.5) | 1.42 (36) |
| CES2 | 1.28 (32.5) | 2.13 (54) |
| CES3 | 1.61 (41.0) | 3.22 (82) |

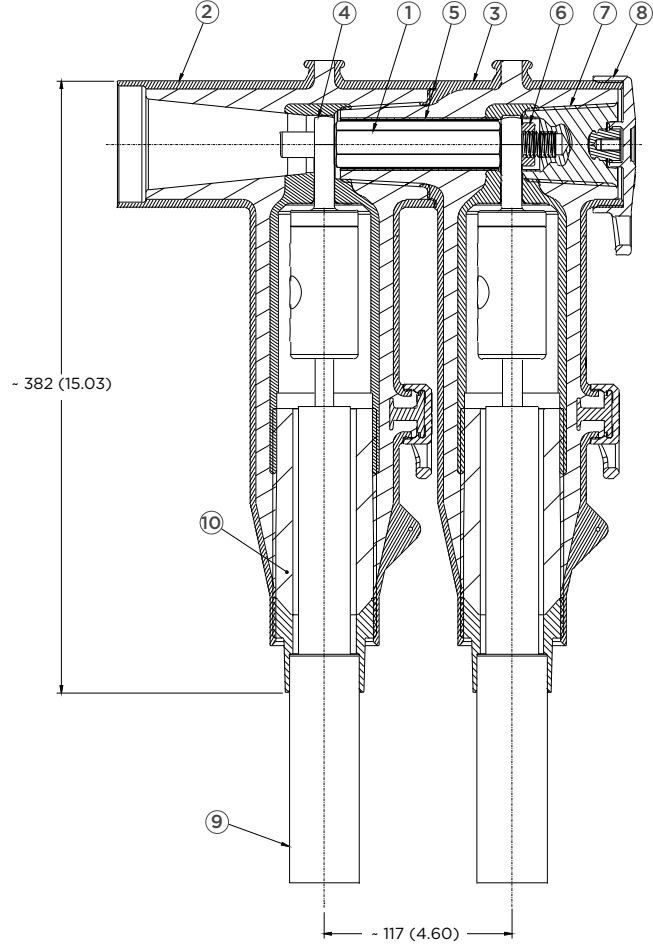
| Cable Shield Ground for tape shield cable (mm) | | |
|--|-----------------------|-------------------------|
| Code | Shield Diameter | Cable OD |
| CSG1 | 0.67 (17) - 1.18 (30) | 0.85 (21.5) - 1.42 (36) |
| CSG2 | 1.18 (30) - 1.57 (40) | 1.28 (32.5) - 2.13 (54) |
| CSG3 | 1.57 (40) - 2.36 (60) | 1.61 (41) - 3.22 (82) |

Note: CSG includes sealing kit and grounding kit

CUSTOMER DRAWINGS



SECTION B-B



SECTION A-A

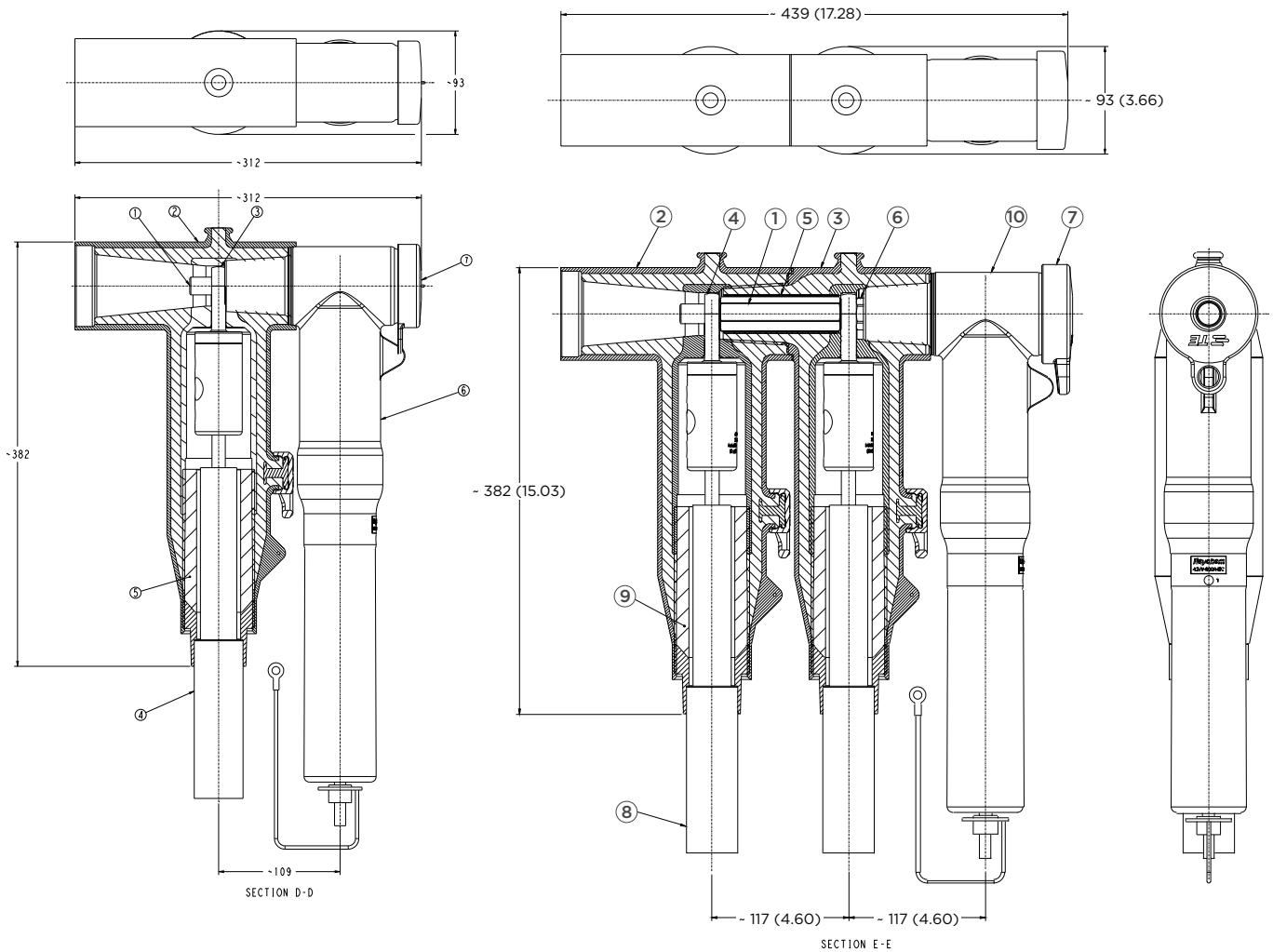
ELBA-35

| Item | Qty | Description |
|------|-----|--------------------|
| 1 | 1 | Stud |
| 2 | 1 | Assembly Main Body |
| 3 | 1 | Shear Bolt Lug |
| 4 | 1 | Cable |
| 5 | 1 | Assembly Adapter |
| 6 | 1 | Back Plug |
| 7 | 1 | Conductive Cap |
| 8 | 1 | Hexagon Nut |

ELBA-35 | ELBA-CC-35

| Item | Qty | Description |
|------|-----|-----------------------------|
| 1 | 1 | Coupling Bolt |
| 2 | 1 | Assembly Main Body |
| 3 | 1 | Assembly Coupling Connector |
| 4 | 2 | Shear Bolt Lug |
| 5 | 1 | Metal Tube |
| 6 | 1 | Hexagon Nut |
| 7 | 1 | Back Plug |
| 8 | 1 | Conductive Cap |
| 9 | 2 | Cable |
| 10 | 2 | Assembly Adapter |

All dimensions are in mm (inch)



ELBA-35 | ELBA-CC-35-SA

| Item | Qty | Description |
|------|-----|--------------------|
| 1 | 1 | Coupling Bolt |
| 2 | 1 | Assembly Main Body |
| 3 | 1 | Shear Bolt Lug |
| 4 | 1 | Cable |
| 5 | 1 | Assembly Adapter |
| 6 | 1 | Surge Arrestor |
| 7 | 1 | Conductive Cap |

ELBA-35 | ELBA-CC-35 | ELBA-CC-35-SA

| Item | Qty | Description |
|------|-----|-----------------------------|
| 1 | 1 | Coupling Bolt |
| 2 | 1 | Assembly Main Body |
| 3 | 1 | Assembly Coupling Connector |
| 4 | 2 | Shear Bolt Lug |
| 5 | 1 | Metal Tube |
| 6 | 1 | Hexagon Nut |
| 7 | 1 | Conductive Cap |
| 8 | 2 | Cable |
| 9 | 2 | Assembly Adapter |
| 10 | 1 | Surge Arrestor |

All dimensions are in mm (inch)

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

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