

PRODUCT BROCHURE

 elastimold®

# Recloser

Smart. Light. Flexible.



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# The new standard in reclosers

## The recloser you want, all in one package

The need for automated reclosers has never been greater. Unfortunately, many of today's reclosers come with negatives. They weigh too much, and that makes them difficult to install. They aren't easy to upgrade, so you have to guess about what features to include in case you need them several years from now. What's more, if the recloser you stock doesn't come with superior technical support, service and built-in quality, you may find it worse than having no recloser at all.

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The Elastimold recloser addresses all of these issues, and more.

Weighing no more than 58 lbs. as a single-phase unit and 211 lbs. as a three-phase unit, the Elastimold recloser's light weight makes it easier and less costly to install. Modular design means smart grid sensors can be added quickly and simply. Our recloser is compatible with both Schweitzer Engineering Laboratories (SEL®) and Beckwith Electric controls. The ABB Elastimold experts' customer support, technical expertise and collaborative working relationships with customers mean that you will have the information you need, exactly when you need it.





Now, as the industry implements smart grid technologies, our world-class designs, engineering and quality-rated production facilities, combined with exceptional after-sale support and training, have been applied to the next-generation recloser.

**Support and service — best in the business**

The Elastimold brand is known for uncommon candor and fast, knowledgeable, user-oriented technical support. Lead times for the Elastimold recloser are short. From the first day you install it, no question is too small to receive our complete technical attention. If assistance is needed, our response will be swift, and often immediate.

We offer unmatched customer service to go with world-class technical support, top warranties and training in all phases of installation and operation. Your crews will know exactly what we know about the Elastimold recloser.

SEL controls are compatible with all configurations of the Elastimold recloser. Beckwith Electric controls are only compatible with three-phase and triple-single configurations.



## Elastimold recloser — MVR

### Smart, light and flexible

The Elastimold recloser is world-class by design. It responds to every hardware requirement that utilities want, and then some.

- **Smart** — Our recloser is smart grid ready with three integral load-side voltage sensors and provision to add source-side voltage sensors if desired. It is compatible with industry-leading controls from Schweitzer Engineering Laboratories and Beckwith Electric Co.
- **Light** — Weighing no more than 58 lbs. as a single-phase unit and 211 lbs. as a three-phase unit, the Elastimold recloser's light weight makes it easier and less costly to install. The simplicity of the mechanism design and the compactness of the encapsulated components contribute to making the Elastimold recloser easier to move and install.
- **Flexible** — The Elastimold recloser is modular, so field upgrades and retrofits are easy and fast. The single-phase recloser has a pole rotation mounting bracket for easier installation.
- **Made with your needs in mind** — We designed the Elastimold recloser only after extensive talks with electric utilities. Its characteristics, from easier-to-see open/close indicators to the many robust extra features that we consider "standard" are there because of you.



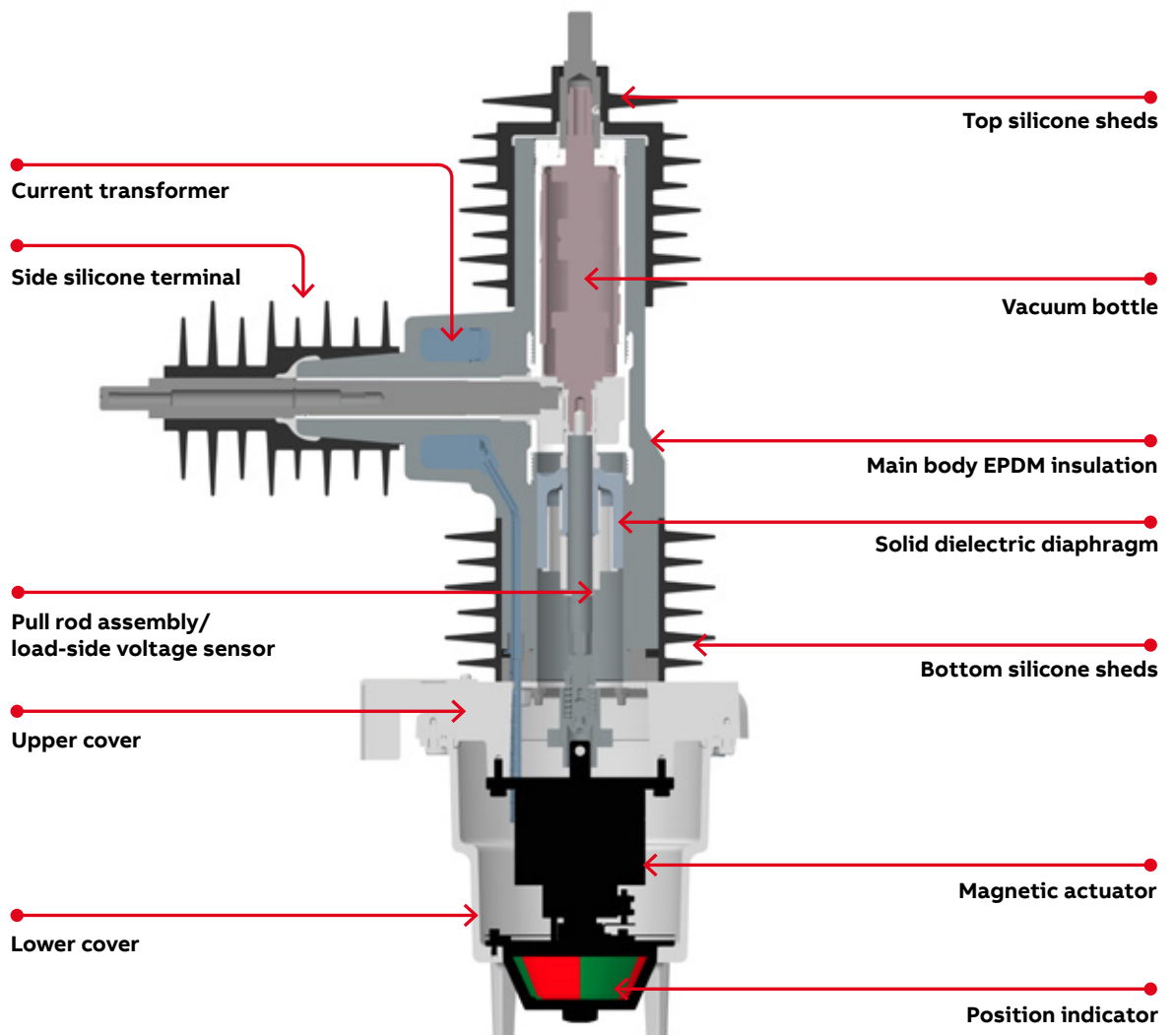


**Recloser operation**

The Elastimold molded vacuum recloser (MVR) operates electrically by energizing a magnetic actuator system with a completely sealed housing. Each pole contains a vacuum interrupter sealed in solid dielectric insulation for mechanical and high dielectric strength.

The combination of the molded vacuum recloser with microprocessor controls accurately detects a wide range of line disturbances and provides reliable, high-speed isolation for adverse conditions.

An open-closed position indicator provides a 360° view. An external manual trip assembly is located on the side; when in the down position, it maintains the recloser in a lockout position until it is manually restored. All electrical control connections are made through a sealed single-environment control cable connector on the side.



# Elastimold recloser — MVR

## Features and benefits

### Smart grid ready

Integral current transformer (CT) (1000:1/500:1 flexibility) and load-side voltage sensors; with provisions to add Elastimold source-side voltage sensors.

### Current sensor

### Pull rod assembly/ load-side voltage sensor

### Compatible with industry-leading controls:

#### SEL® controls

- SEL-351R
- SEL-351RS Kestrel®
- SEL-351R Falcon™
- SEL-651R-2

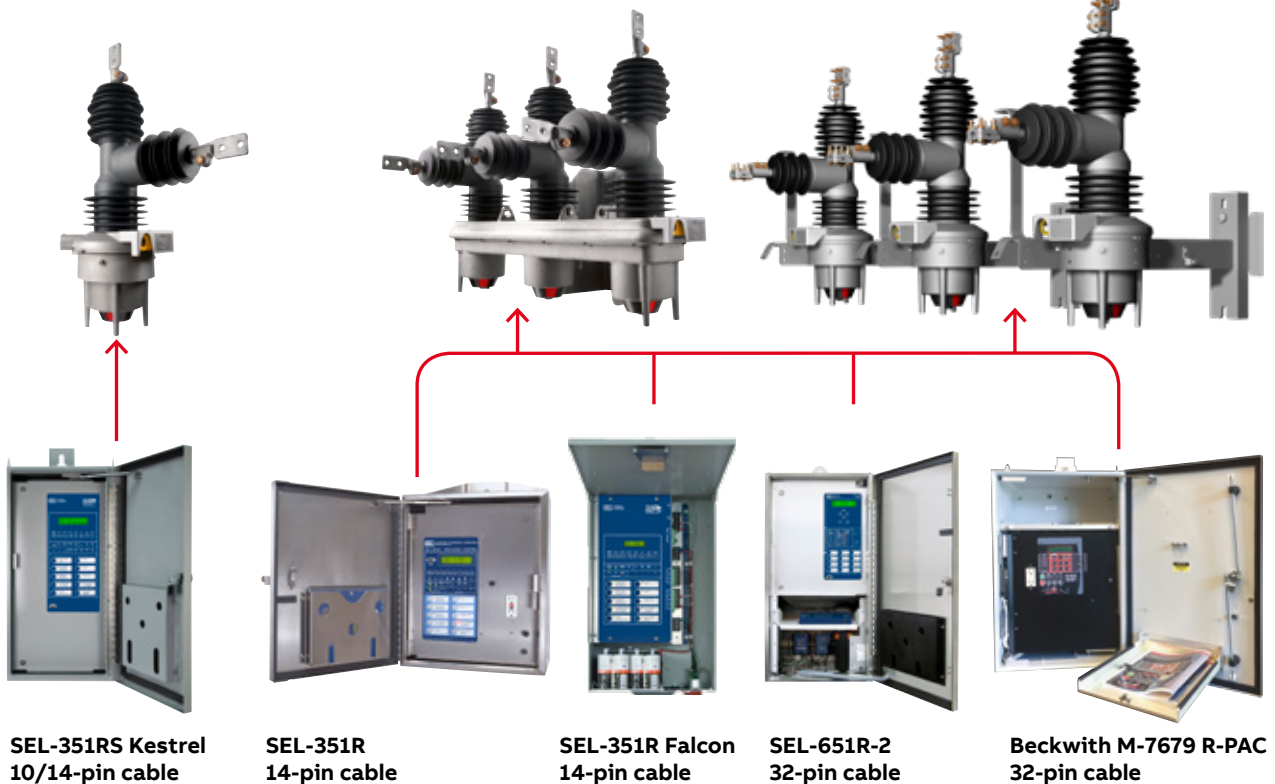
Notes: Use with the SEL-351R and SEL-351R Falcon requires connection via MVR power module.

The power module is connected to the recloser via a 6' 32-pin cable.

Voltage sensors require SEL-651R-2 control with six 8 V AC LEA inputs.

SEL is a registered trademark of Schweitzer Engineering Laboratories, Inc.

Smart



**Compatible with industry-leading controls:  
Beckwith recloser control M-7679 R-PAC**

- Embedded cyber security including:
  - Role-based security
  - Complex passwords
  - Individual user accounts with activity log
  - IPsec (VPN) tunnel
  - Compatible with Radius password management systems
  - IEEE 1686 compliant with additional features and functions to help customers with NERC CIP V5
- Compatible with both three-phase and triple-single reclosers
- Recloser status monitoring tool displays real-time reclosing sequence and fault clearing time
- Connects with 32-pin cable



**Typical control settings**

**A range of controls is available for the Elastimold recloser.**

**A typical control includes:**

- Overcurrent protection—fast and delay curves
- Sensitive earth fault
- Complete metering
- Recloser wear monitor
- Loop automation
- Fault locator
- Flexible control logic and integration
- Supervisory control and data acquisition (SCADA) ready—multiple communications protocols
- Load profile



# Elastimold recloser — MVR

## Features and benefits

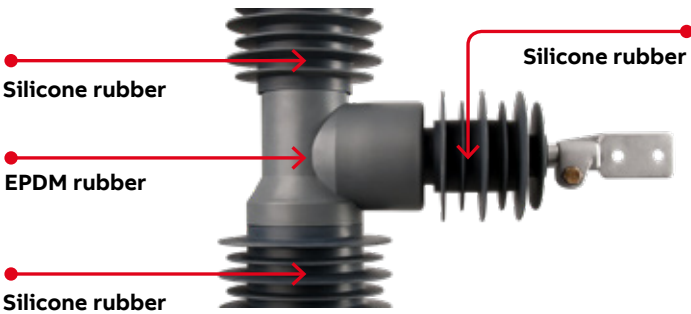
Light

**Lightweight**  
Internal diaphragm and silicone rubber sheds reduce weight.

**Proven solid dielectric insulation**  
Molded EPDM main body with overlapping silicone rubber sheds for improved dielectric weatherability and UV performance.

**Simplified mechanism**  
Translates into a lightweight device.

Weight	15 kV		27 kV		38 kV	
	Others standard	Elastimold standard	Others standard	Elastimold standard	Others standard	Elastimold standard
Single-phase	100 lb.	57 lb.	100 lb.	57 lb.	130 lb.	58 lb.
	45 kg	25.8 kg	45 kg	25.8 kg	60 kg	26.3 kg
Three-phase	333 lb.	208 lb.	333 lb.	208 lb.	430 lb.	211 lb.
	150 kg	94.3 kg	150 kg	94.3 kg	195 kg	95.7 kg





## Flexible

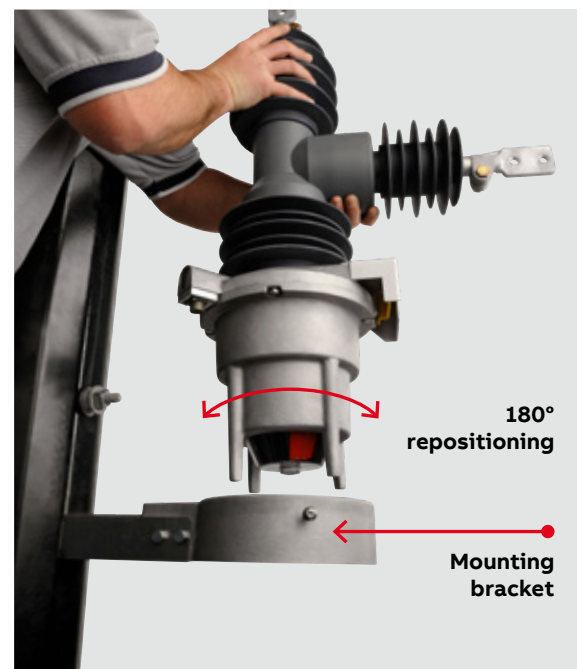
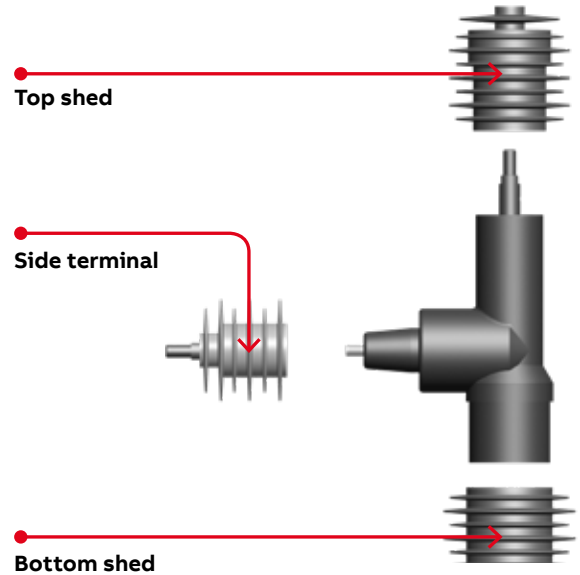
**Modular design**

Optimized modular design is lightweight and maintenance-free\*. Design is modular and allows for individual pole or shed replacement if ever required.

\*Because it uses no oil or gas to potentially leak and require monitoring and maintenance, the Elastimold recloser is considered maintenance-free.

**Pole rotation mount**

The single-phase recloser has a unique pole rotation mounting bracket for easier installation and 0° to 180° repositioning.



Note: PPE should be worn.

# Elastimold recloser — MVR

## Features and benefits

Innovative

### Easy-to-see position indicator

360° position indicator view with large color-coded reflective open/closed indicators on bottom of recloser for easy visibility from ground level.



Closed indication



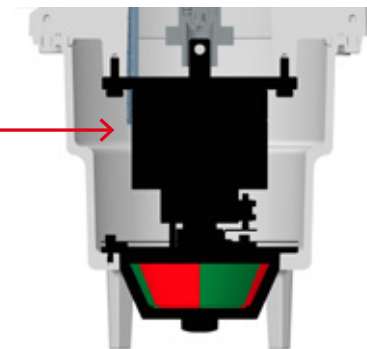
Open indication

### Reliable long-life mechanism

The state-of-the-art design of our magnetic actuator offers over 10,000 trip and close operations with no maintenance required.\*

\*Because it uses no oil or gas to potentially leak and require monitoring and maintenance, the Elastimold recloser is considered maintenance-free.

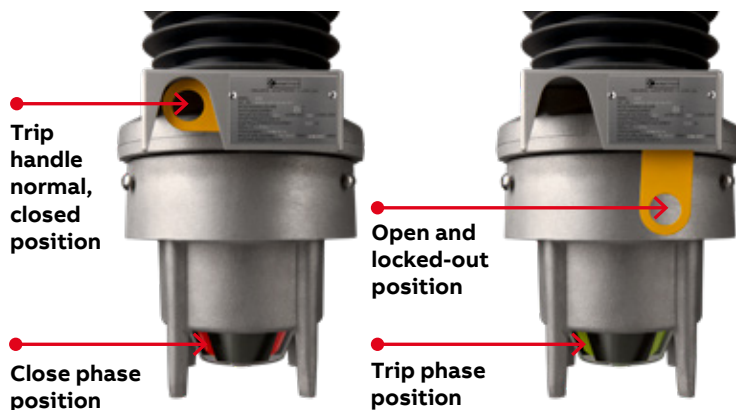
Magnetic actuator



### Single- and three-phase tripping capabilities

The fast and highly reliable electrically ganged operation provides flexibility of simultaneous three-phase tripping or single-phase tripping with three-phase lockout.

The manual trip lever is mechanically linked to trip and lock out all three phases simultaneously.



**Reduced inventory items**

Incorporating extra features and extended capabilities as standard can result in less stock on your floor.

	15 kV		27 kV		38 kV	
<b>Rated max. voltage</b>	<b>Others standard</b>	<b>Elastimold standard</b>	<b>Others standard</b>	<b>Elastimold standard</b>	<b>Others standard</b>	<b>Elastimold standard</b>
Continuous current (A)	630	800	630	800	630	800
BIL (kV)	95	150	125	150	150	170

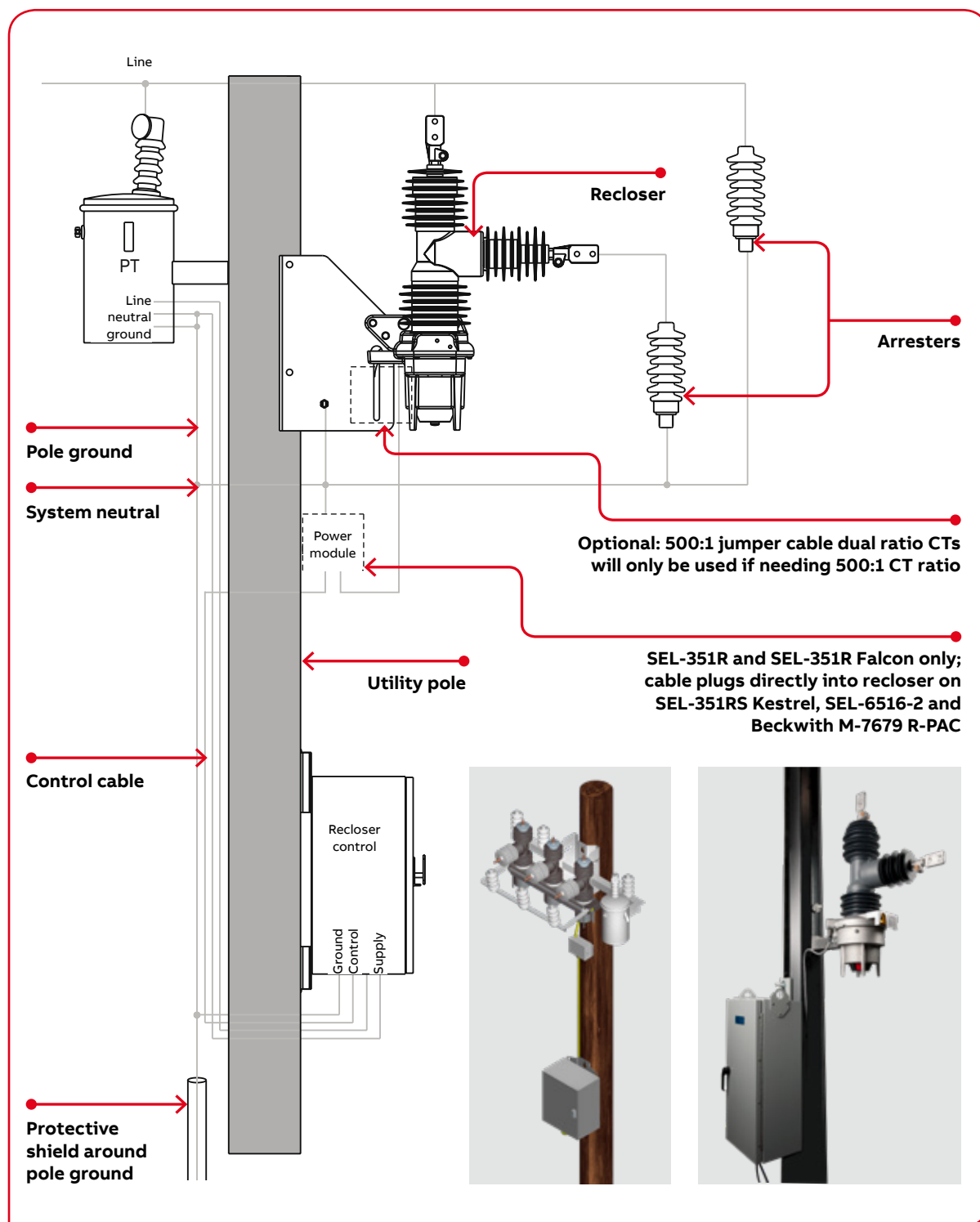
	15 kV		27 kV		38 kV	
<b>Pollution level</b>	<b>Required creep in. (mm)</b>	<b>Elastimold standard in. (mm)</b>	<b>Required creep in. (mm)</b>	<b>Elastimold standard in. (mm)</b>	<b>Required creep in. (mm)</b>	<b>Elastimold standard in. (mm)</b>
I – Light	9.8 (248)	—	17.0 (432)	—	23.9 (608)	—
II – Medium	12.2 (310)	—	21.3 (540)	—	30.0 (760)	—
III – Heavy	15.3 (388)	—	26.6 (675)	—	37.4 (950)	—
IV – Very heavy	18.9 (481)	41.5 (1054)	33.0 (837)	41.5 (1054)	46.4 (1178)	51.0 (1295)

## Elastimold recloser — MVR

### Installation

#### Typical recloser installation detail

Arresters are recommended to provide protection against overvoltage conditions. When arresters are installed, they should be mounted on the supplied arrester brackets or as close to the recloser as practical.

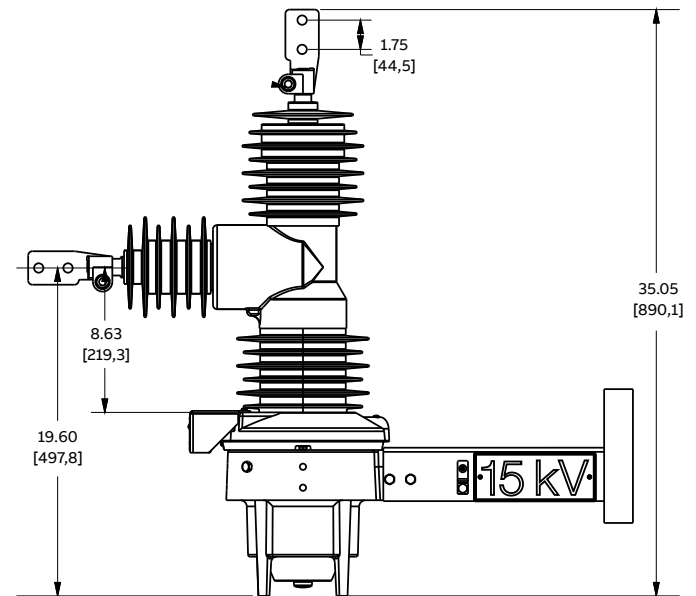
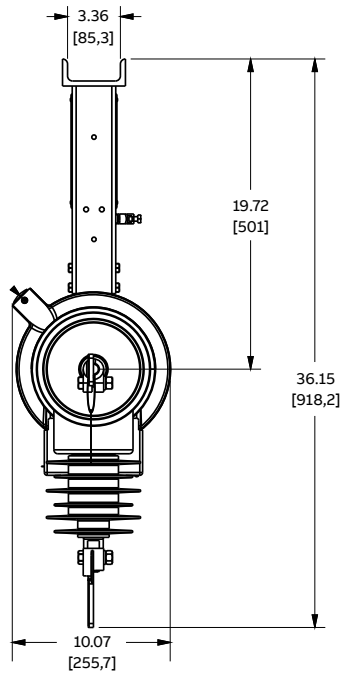




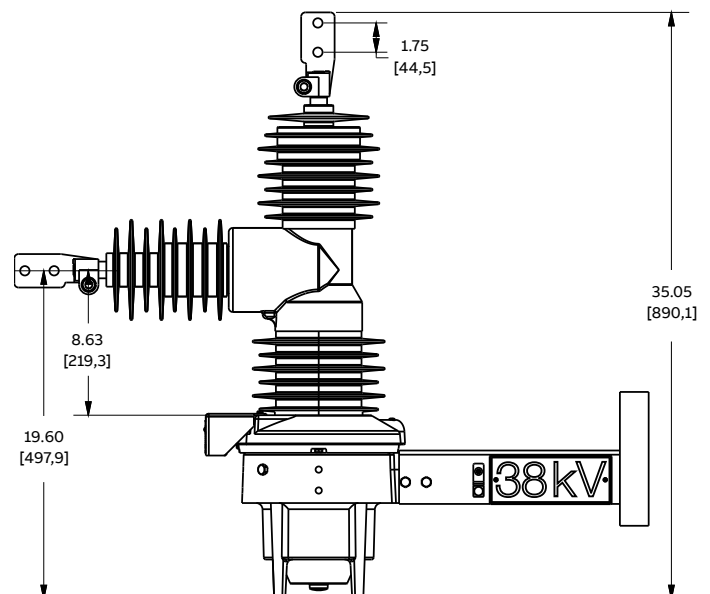
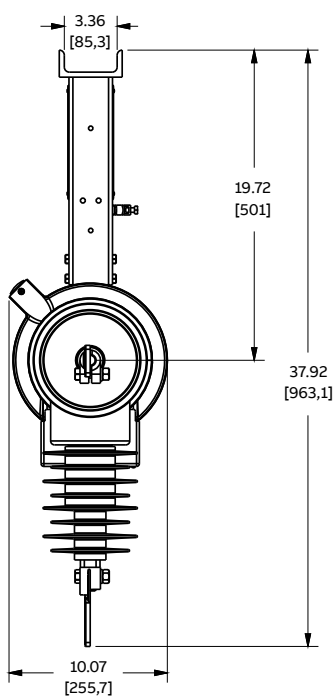
## Elastimold recloser — MVR

### Dimensions — single-phase reclosers

#### 15 kV and 27 kV single-phase reclosers



#### 38 kV single-phase recloser

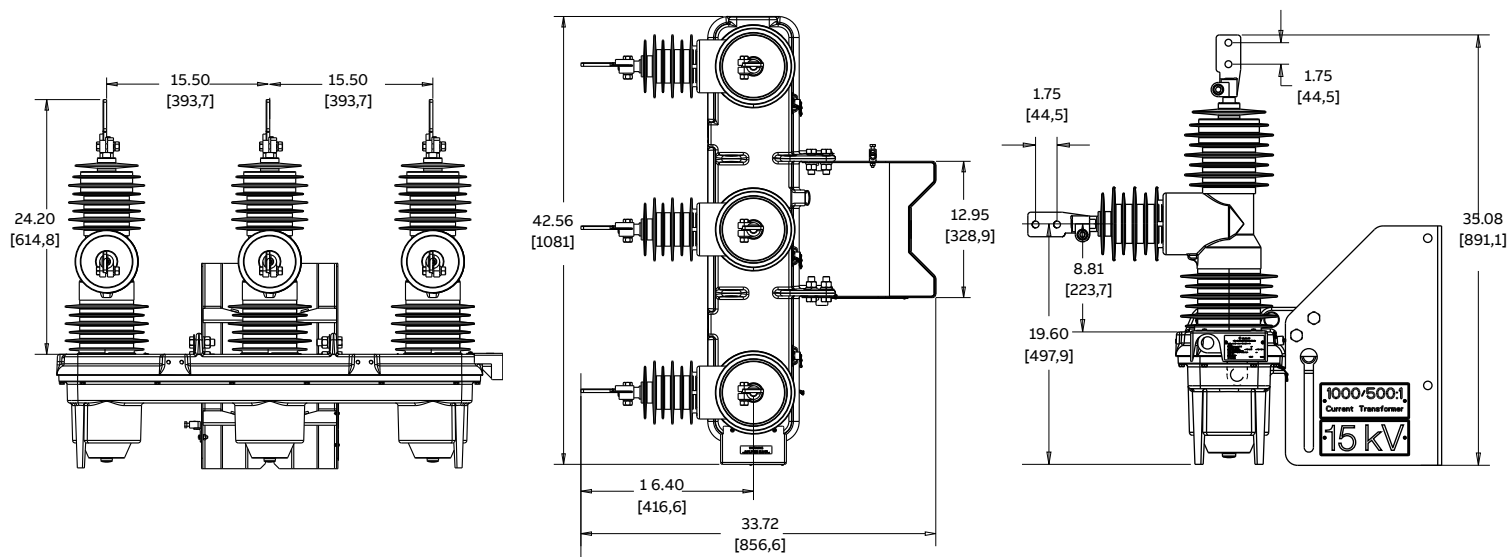


Note: All dimensions are shown in in. (mm).

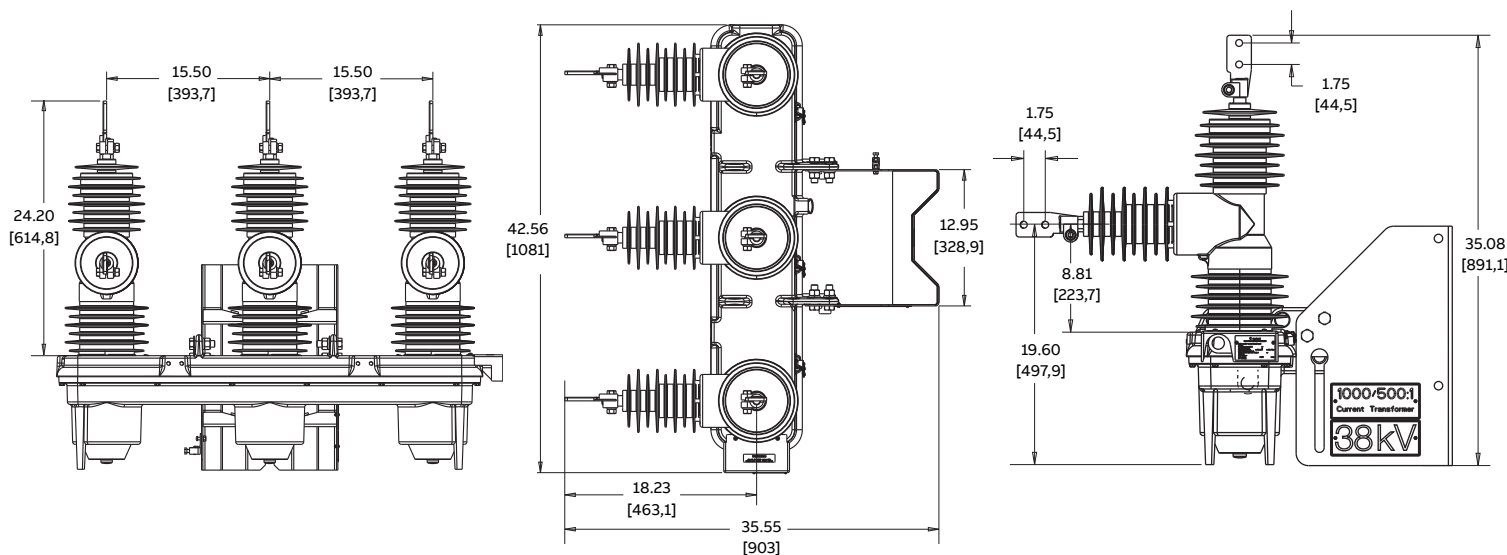
## Elastimold recloser — MVR

### Dimensions — three-phase reclosers

#### 15 kV and 27 kV three-phase reclosers



#### 38 kV three-phase recloser

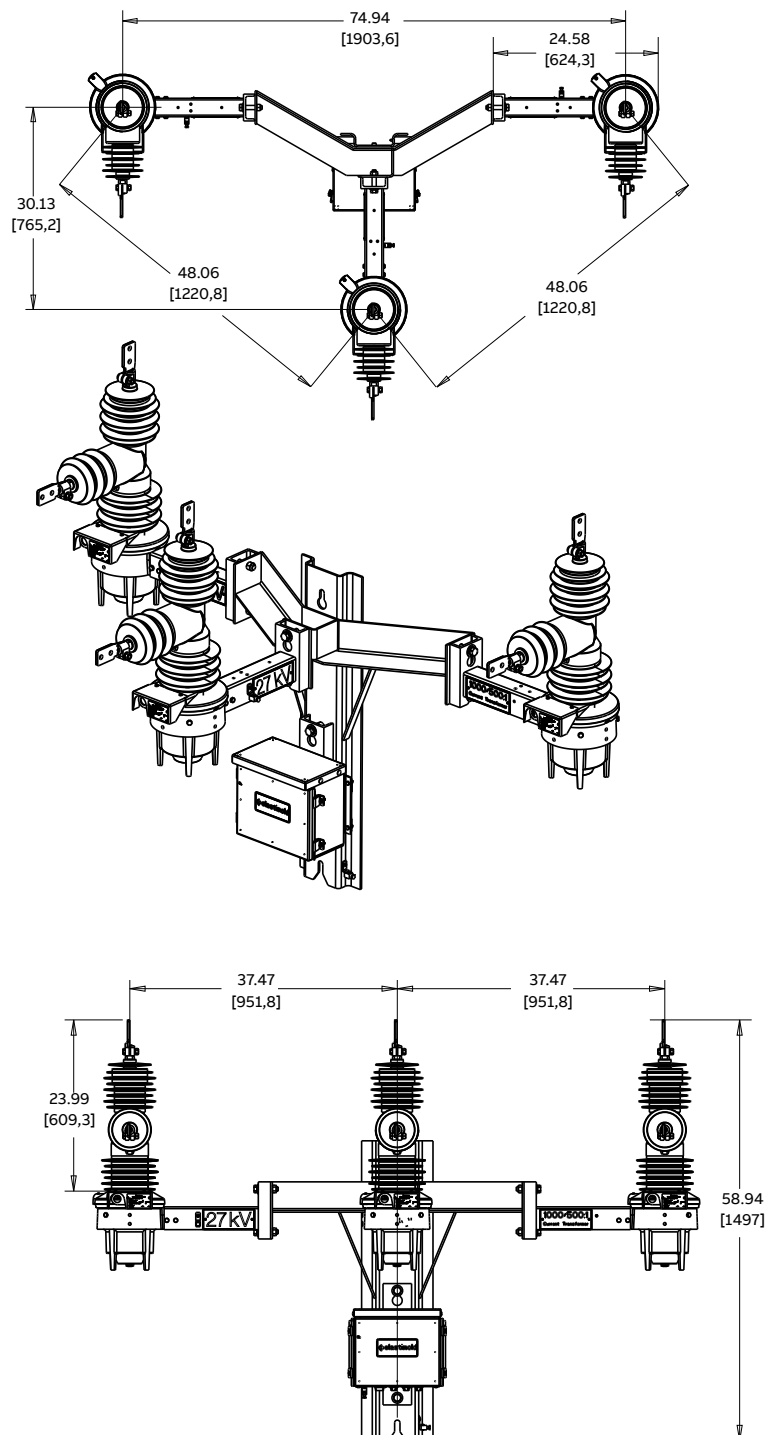


Note: All dimensions are shown in in. (mm).

## Typical pole installations

### Dimensions—triple-single cluster-mounting frame

#### 15 kV, 27 kV and 38 kV triple-single cluster-mounting frame

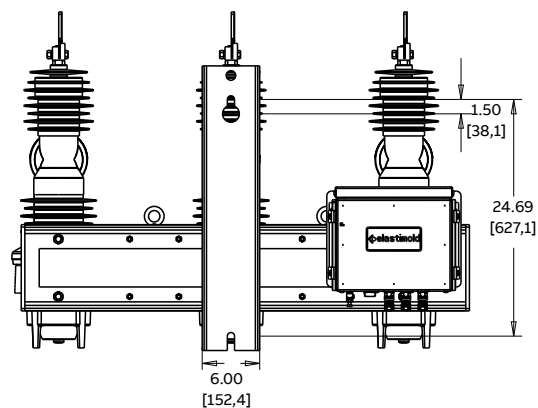
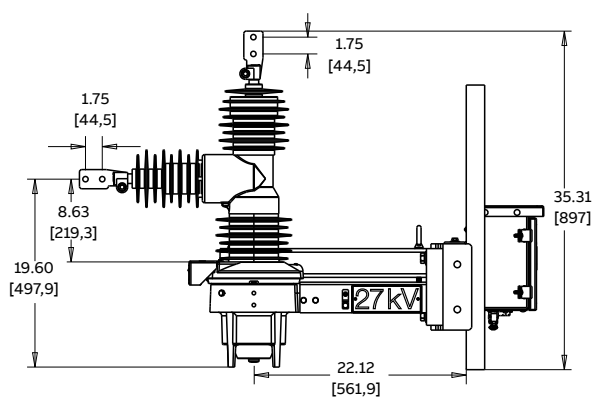
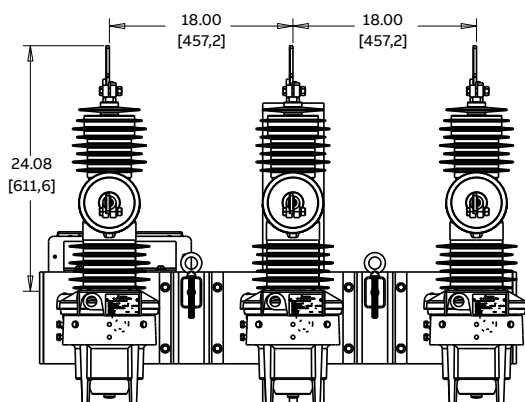
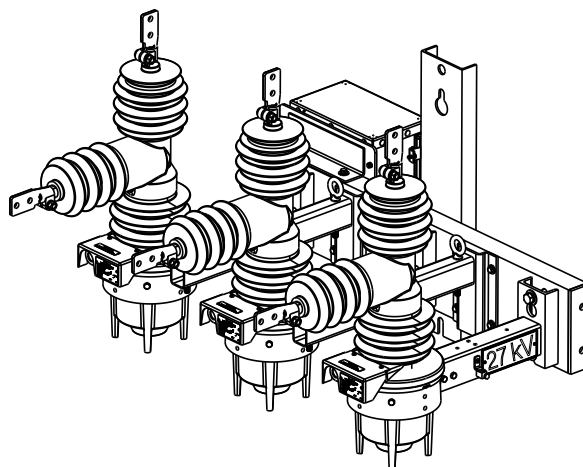
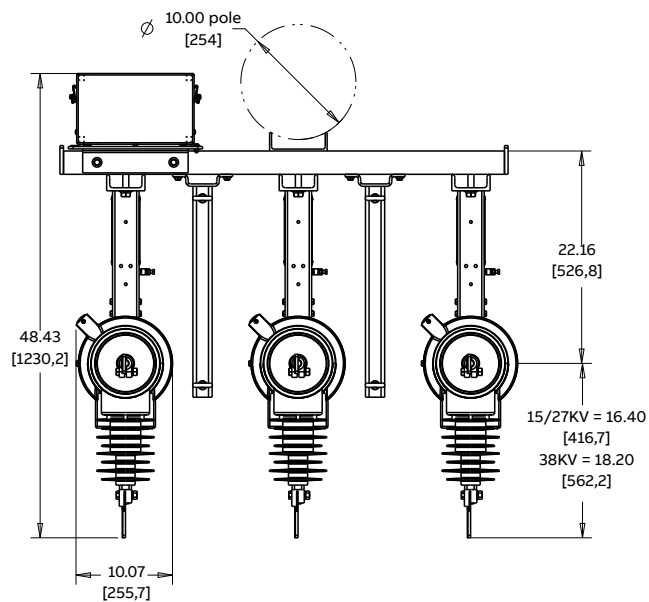


Note: All dimensions are shown in in. (mm).

## Typical pole installations

### Dimensions — triple-single pole-mounting frame

#### 15 kV, 27 kV and 38 kV triple-single pole-mounting frame



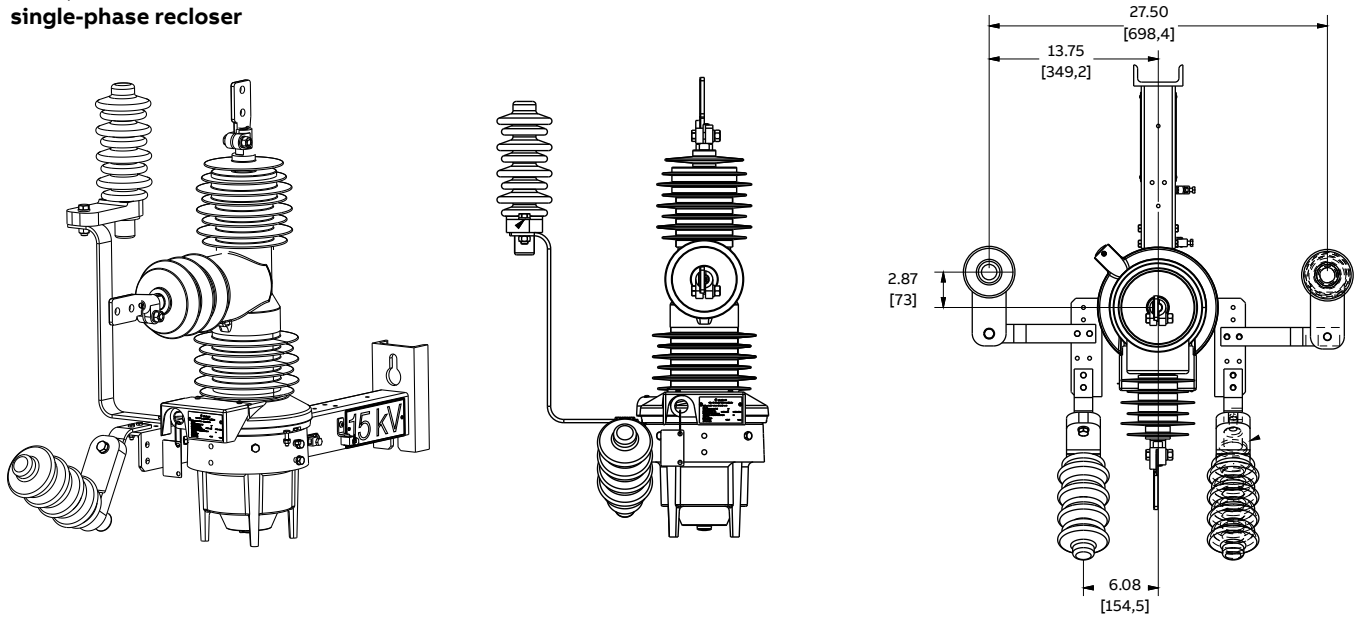
Note: All dimensions are shown in in. (mm).



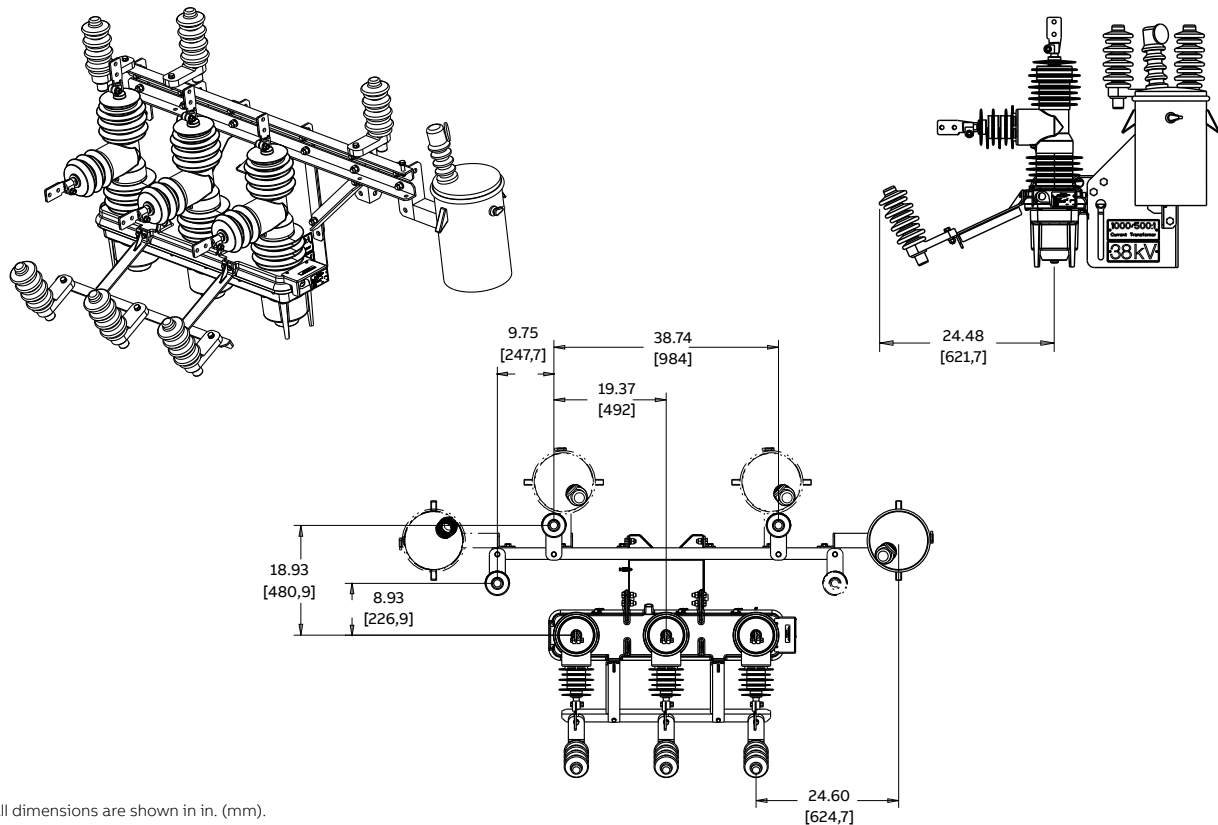
## Typical pole installations

Dimensions — single and three-phase reclosers

### 15 kV, 27 kV and 38 kV single-phase recloser



### 15 kV, 27 kV and 38 kV three-phase recloser



Note: All dimensions are shown in in. (mm).

## Typical pole installations

### Electrical characteristics

#### Ratings and specifications

Description	15 kV	27 kV	38 kV*
Nominal system voltage (kV RMS)	14.4	25	35
Rated maximum voltage (kV RMS)	17.1	29.3	38
Nominal frequency (Hz)	50 or 60	50 or 60	50 or 60
Phase spacing on 3-phase units (inches)	15.5	15.5	15.5
BIL (kV)	150	150	170
Power frequency withstand – dry (kV)	50	60	70
Power frequency withstand – wet (kV)	45	50	60
Continuous current (A RMS)	800	800	800
Eight-hour overload current (A RMS)	960	960	960
CT ratio	1000/500:1	1000/500:1	1000/500:1
Interrupting current (kA RMS symmetrical)	12.5	12.5	12.5
Making current (kA asymmetrical peak)	32.5	32.5	32.5
Creepage distances – inches (line to ground)	41.5	41.5	51
Arc-extinction medium	Vacuum	Vacuum	Vacuum
Insulation medium	EPDM/silicone rubber	EPDM/silicone rubber	EPDM/silicone rubber
Mechanical operations	10,000	10,000	10,000
Normal operating temperatures	-10 °C to 45 °C	-10 °C to 45 °C	-10 °C to 45 °C
Normal operating conditions voltage sensor accuracy (load/line)	±3%/1%	±3%/1%	±3%/1%
Extreme operating temperatures	-40 °C to 65 °C	-40 °C to 65 °C	-40 °C to 65 °C
Extreme operating conditions voltage sensor accuracy (load/line)	5%/1%	5%/1%	5%/1%
CT accuracy	Class 1	Class 1	Class 1
Weight (single-phase/three-phase)	57/208 lbs.	57/208 lbs.	58/211 lbs.

\* Single-phase 38 kV units are rated for use on grounded systems only. Three-phase 38 kV units can be used for single-phase tripping on grounded systems only. For ungrounded systems, three-phase tripping is required.

## Test data summary

Elastimold MVRs are tested under the requirements of ANSI C37.60-2003.  
This table highlights the testing covered in Elastimold Test Report #372-17-12010.

<b>C37.60-2003</b>	<b>15 kV MVR</b>	<b>27 kV MVR</b>	<b>38 kV MVR</b>
<b>Standard clause and description</b>	<b>compliance</b>	<b>compliance</b>	<b>compliance</b>
6.2 Insulation (dielectric) tests	✓	✓	✓
6.3 Switching tests	✓	✓	✓
6.4 Making current capability	✓	✓	✓
6.5 Operating duty tests	✓	✓	✓
6.6 Minimum tripping current tests	✓	✓	✓
6.7 Partial discharge (corona) tests	✓	✓	✓
6.10 Temperature rise tests	✓	✓	✓
6.11 Time-current tests	✓	✓	✓
6.12 Mechanical duty tests	✓	✓	✓
6.13 Surge withstand capability (SWC) tests	✓	✓	✓
Other testing UV/weathering tests	✓	✓	✓
Other testing IEC 62217 — salt fog spray test (1,000 hr)	✓	✓	✓

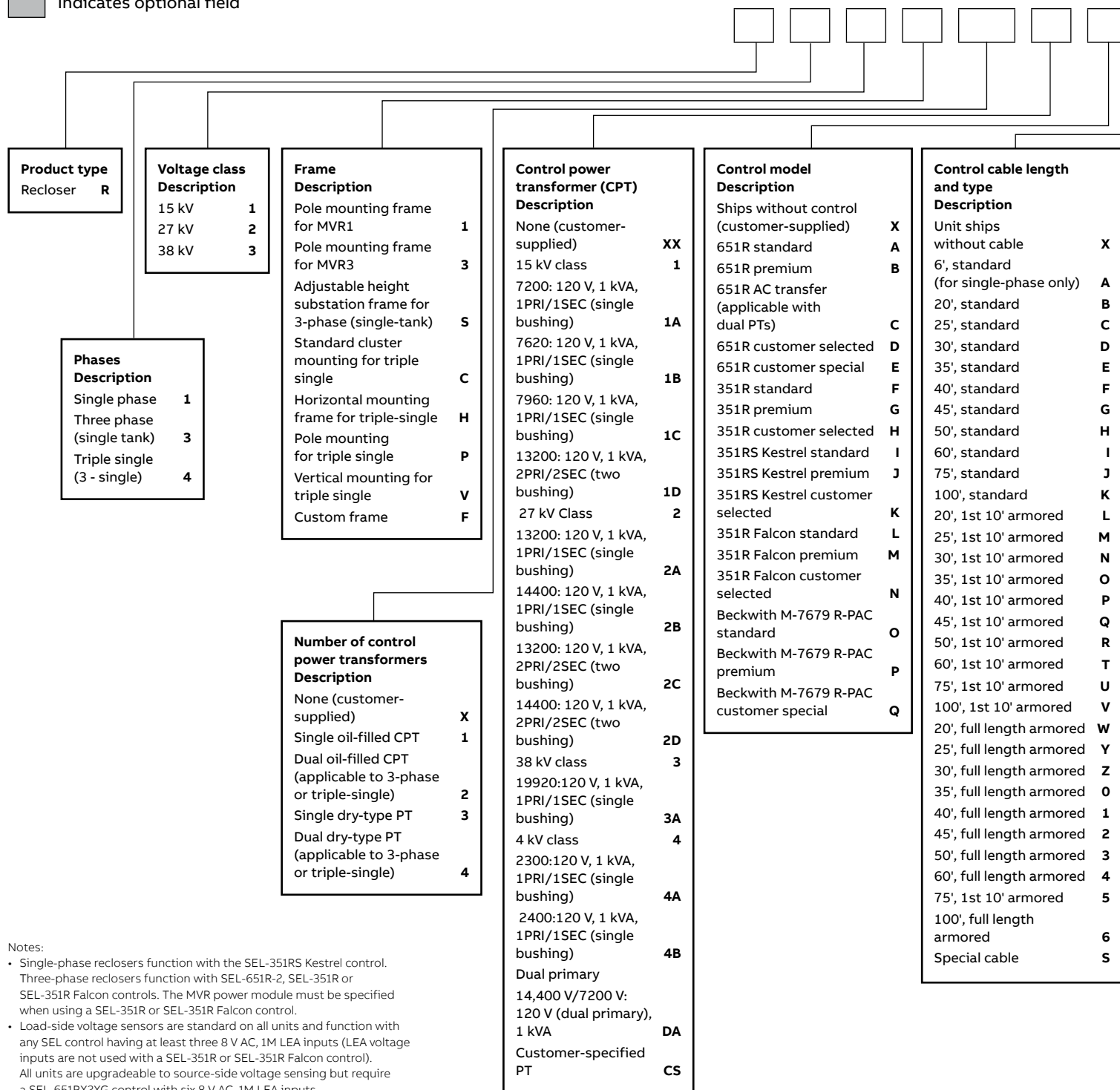
## Ordering information

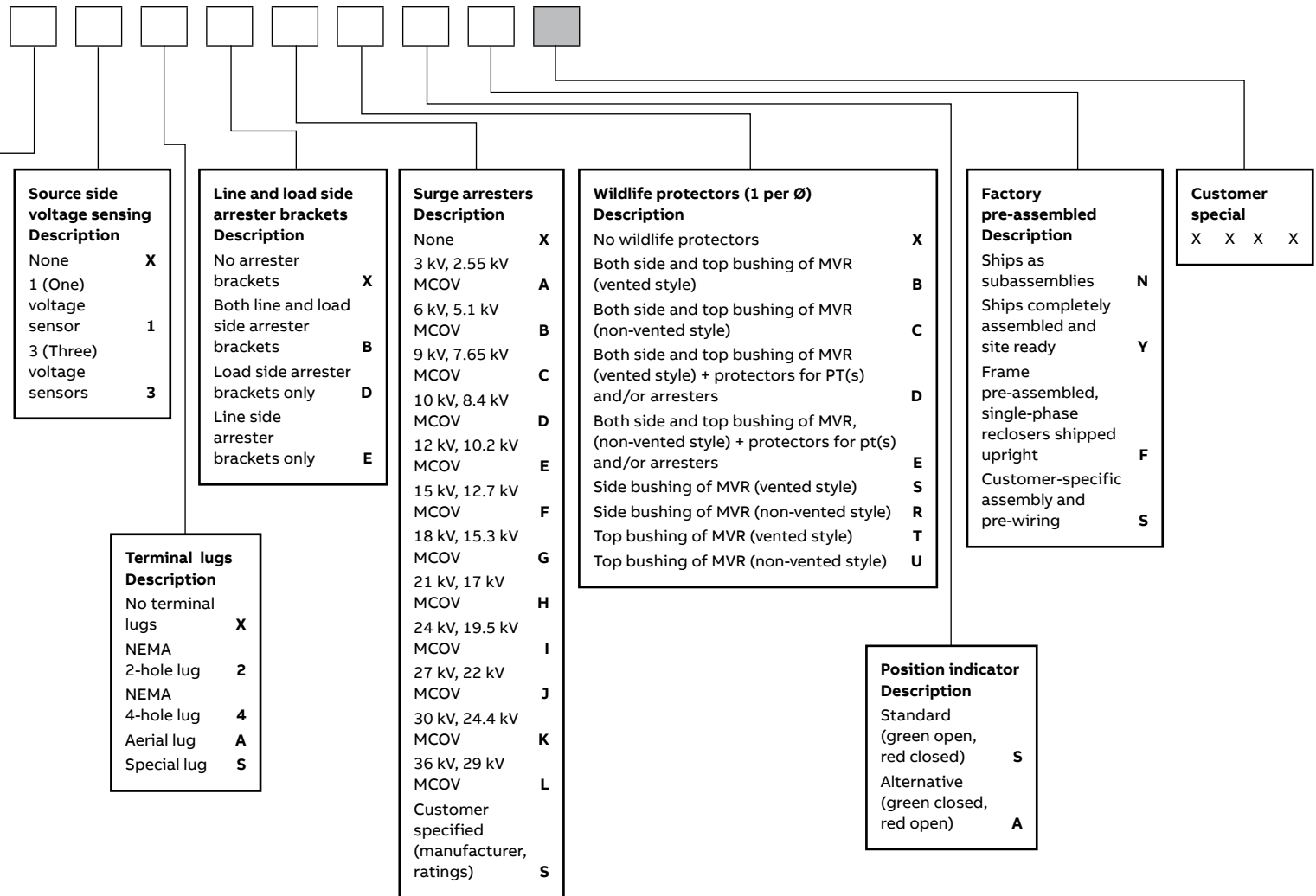
### Molded vacuum recloser catalog numbering system

The following diagram shows how to construct a catalog number for a molded vacuum recloser:

Indicates field that must be filled in to complete the full catalog number.

Indicates optional field





Control type	1-Phase	3-Phase	Triple-single
SEL-351RS Kestrel*	10/14-pin cable	X	X
SEL-351R	X	14-pin cable	X
SEL-351R Falcon	X	14-pin cable	X
SEL-651R-2	X	32-pin cable	32-pin cable
Beckwith M-7679 R-PAC	X	32-pin cable	32-pin cable

## Notes:

1. Use with the SEL-351R or SEL-351R Falcon control requires connection via MVR power module.

The power module is connected to the recloser via a 6 ft. 32-pin cable.

2. Voltage sensors require 8 V AC, 1M LEA inputs.

SEL is a registered trademark of Schweitzer Engineering Laboratories, Inc.

Ordering information

Accessories

Accessories

Description	Part number
Three-phase line-side arrester frame	3188D0120G1
Three-phase load-side arrester frame	3188D0121G2
Single-phase line-side arrester frame	3188C0122G1
Single-phase load-side arrester frame	3188C0123G1
Single-phase line and load-side arrester frame	3188C0474G1
Horizontal mounting frame	3188D0293G1
Cluster mounting frame	3188D0204G1
Wildlife protector top bushing (one per phase)	3070A1191P1
Wildlife protector side bushing (one per phase)	3070A1190P1
Source-side voltage sensors (one per phase)	3188C0075G1*
Substation mounting frame	3188D0119G1
NEMA 2-hole terminal lug kit	3188B0126G1
NEMA 4-hole pad	3180A0661P1
Aerial lug	3070B1302P1

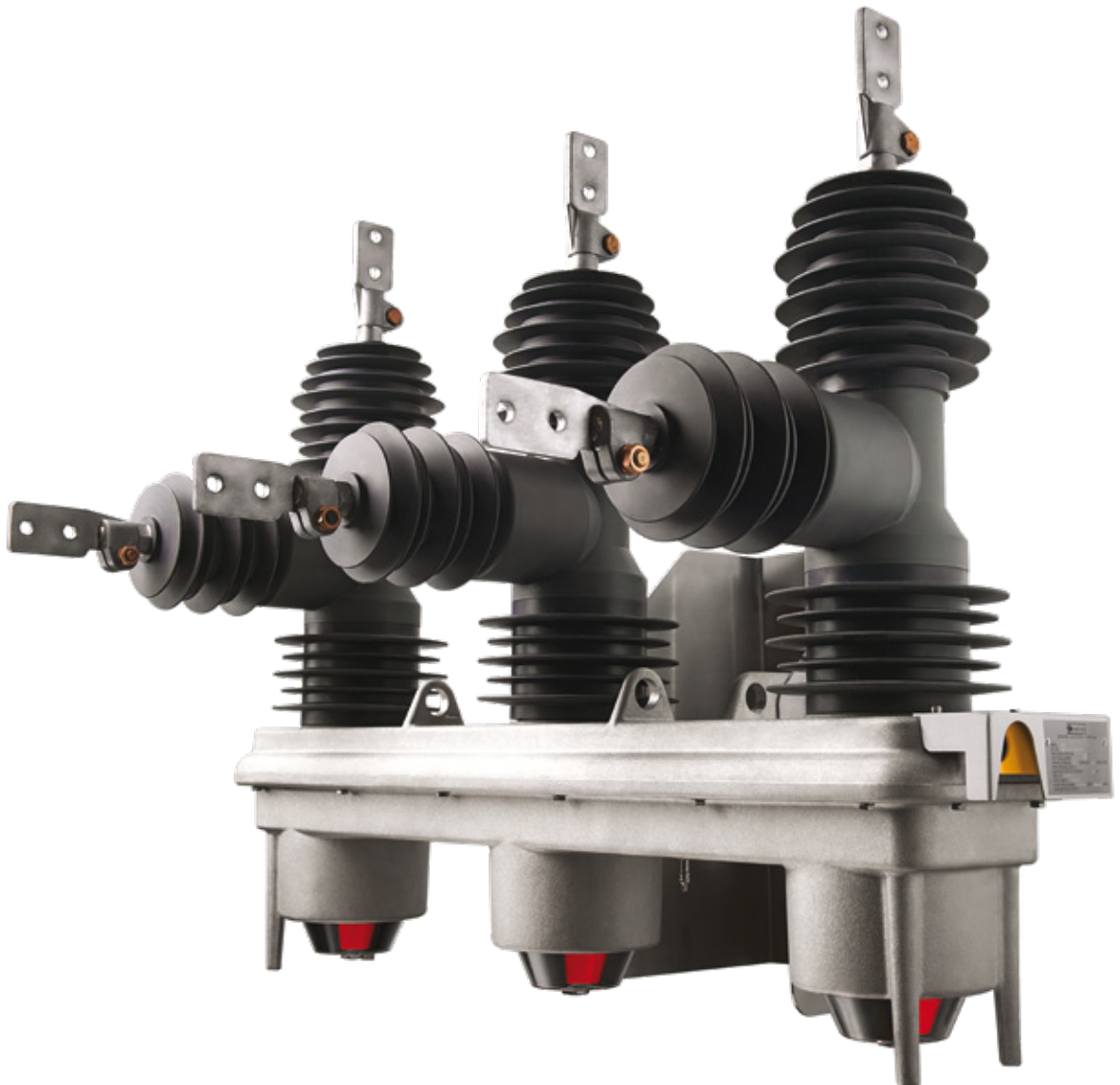
\* Source-side voltage sensors for triple-single applications require different cable lengths. Contact your ABB representative for part number.



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Ask us about the Elastimold recloser today.

The Elastimold recloser team is eager to further demonstrate the benefits of this premier product. For additional technical information and details, contact us today.





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## US

ABB Installation Products Inc.  
Electrification business  
860 Ridge Lake Blvd.  
Memphis, TN 38120  
+1 901-252-5000

**[tnb.abb.com](http://tnb.abb.com)**

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