



Energy Division

Raychem screened, separable  
surge arrester RSTI-SA-10  
up to 41 kV

# Raychem screened, separable surge arrester RSTI-SA-10 up to 41 kV

## Product Features:

- Tested in accordance with IEC60099-4 (May 2004)
- State of art - gapless design
- Excellent protection margins
- Low residual voltages
- Excellent short circuit performance
- Excellent TOV performance
- Maintenance free

The screened gapless surge arrester is a "T"-shaped product. It is designed for direct connection onto outer cone bushings in accordance to EN50180 or EN50181 with interface type "C" or for parallel connection mating to the rear entry of the base screened connector system RSTI designed for system voltage up to 41 kV.

The insulation of the screened surge arrester is made of a highly modified silicone rubber characterised by high tracking resistance, elongation at break and non-flammability.

A thin walled screen is permanently bonded onto the insulation and protects the connection system against unintentional contact.

The active part is a metal oxide arrester which meets the requirements of IEC-60099-4 for separable and dead-front arresters.

The combination of screened connector and surge arrester exceeds CENELEC HD 629.1 S2 requirements, which includes BS, VDE and other international specifications.

Easily accessible rear plug with capacitive test point.

Few accessories required for system test and earth connection.

Complete kit including screened surge arrester, threaded pin and ground lead for three phases facilitates installation and storage.

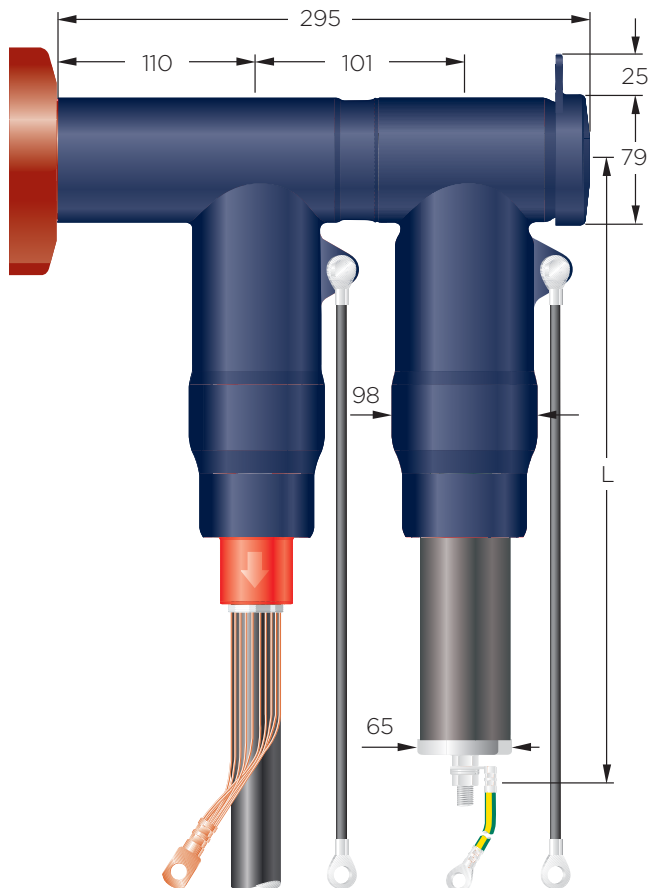
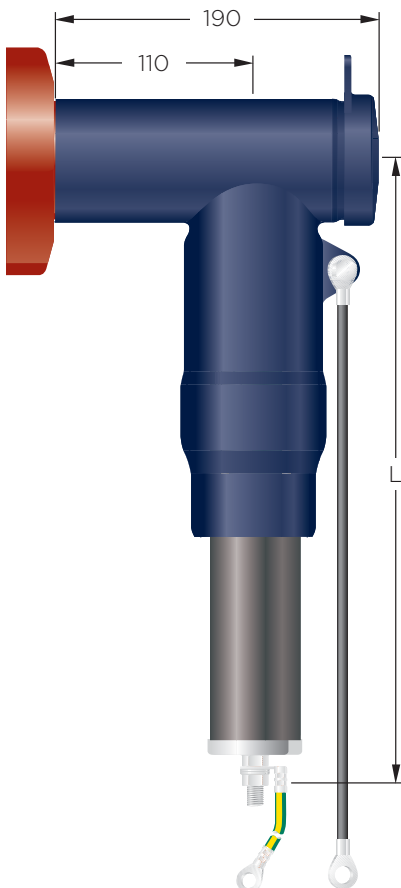
## Applications

### Single connection

Material requested for 3 phases:  
 1 x RSTI-68SAxx10  
 (Screened surge arrester kit for direct bushing connection)

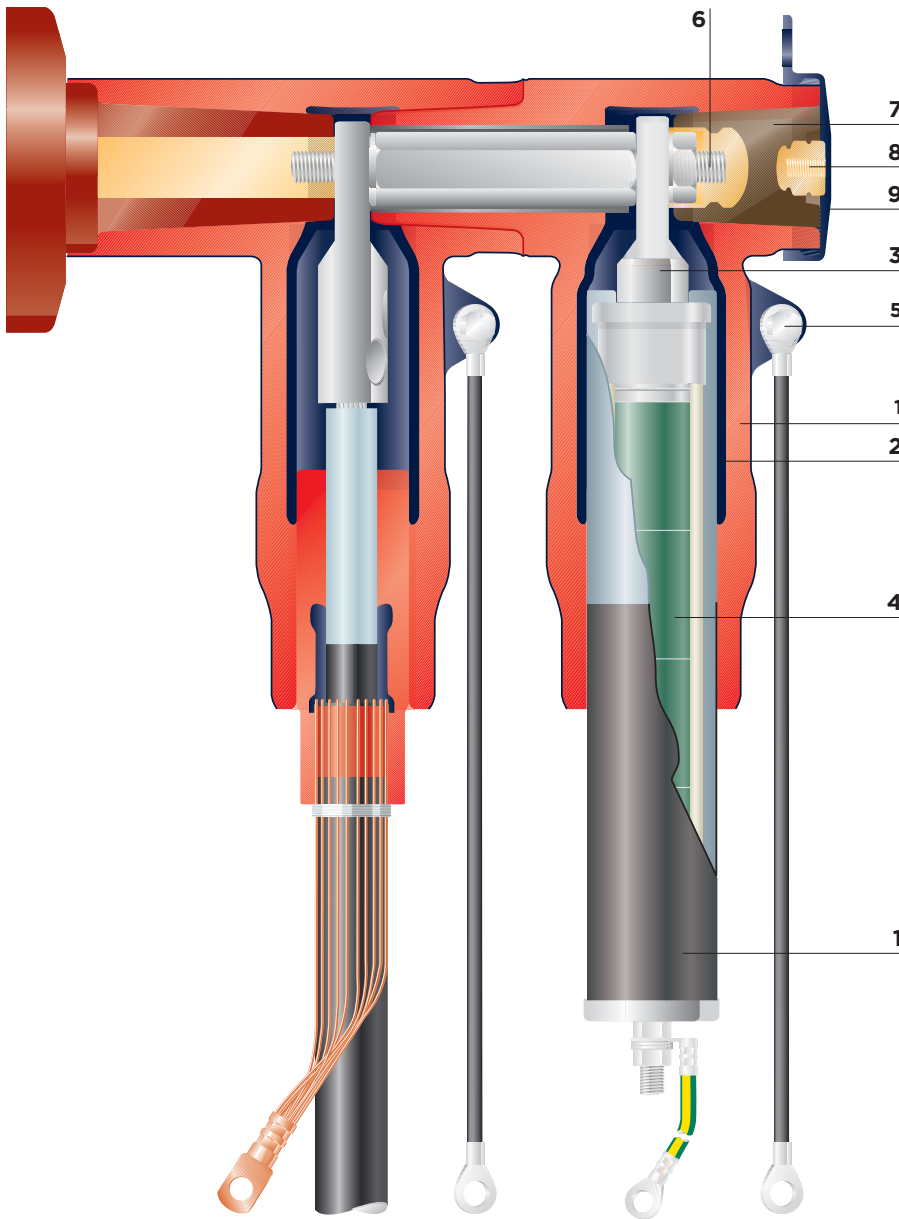
### Parallel connection

Material requested for 3 phases:  
 1 x RSTI-L58xx or RSTI-68xx (Base connector kit)  
 1 x RSTI-CC-68SAxx10  
 (Screened surge arrester kit with coupling connection)



Dimensions in mm

## Design and construction



### 1 Screened body

A thin walled conductive outer screen is permanently bonded to the silicone rubber insulating material.

### 2 Inner screen

A conductive inner layer, as a Faraday cage around the top end electrode prevents corona at rated voltage.

### 3 Threaded lug

Pre-installed threaded lug, specially designed, facilitates the connection of the surge arrester to the base connector or bushing.

### 4 Surge arrester core

Gapless surge arrester core assembly consisting of ZnO (Zinc Oxide) varistors and a mechanical robust structure.

### 5 Earthing eye and ground lead

Provides a connection point for earthing the screen.

### 6 Threaded pin

A threaded pin together with a spring washer and hex nut ensure a high performance electrical and mechanical contact with the base connector or 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 surge arrester.

## Accessories

### Test rod

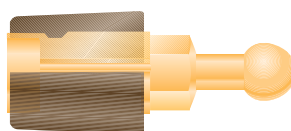
Ref. no.: RSTI-68TR; Length: 310 mm  
 RSTI-68TRL; Length: 460 mm  
 RSTI-68TRA; Kit includes  
 2 short and 1 long testrod



**Note:** When test rod is in use, surge arrester assembly must be removed.

### Earthing adapter

Ref. no.: RSTI-68EA20;  
 Ball diameter: 20 mm  
 RSTI-68EA25;  
 Ball diameter: 25 mm



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## Technical data and ordering information

### Technical data for single and parallel connection

Rated Discharge Current $I_N$	10 kA
Operating duty	
High current Impulse 4/10 $\mu$ s	100 kA
Short Circuit Current $I_S$	20 kA
Long duration current impulse (2ms)	212 A

### Residual Voltages (kV)

Continuous operating voltage $U_C$	12.0	18.0	24.0	30.0	33.0	36.0	39.0	41.0
Rated voltage $U_R$	15.0	22.5	30.0	37.5	41.3	45.0	48.8	51.3

### Lightning Current Impulse 8/20 $\mu$ s

5 kA	39.1	58.6	78.2	97.7	107.5	117.3	127.1	133.6
10 kA	41.5	62.2	83.0	103.7	114.0	124.5	134.9	141.8
20 kA	45.7	68.5	91.4	114.2	125.6	137.1	148.5	156.1

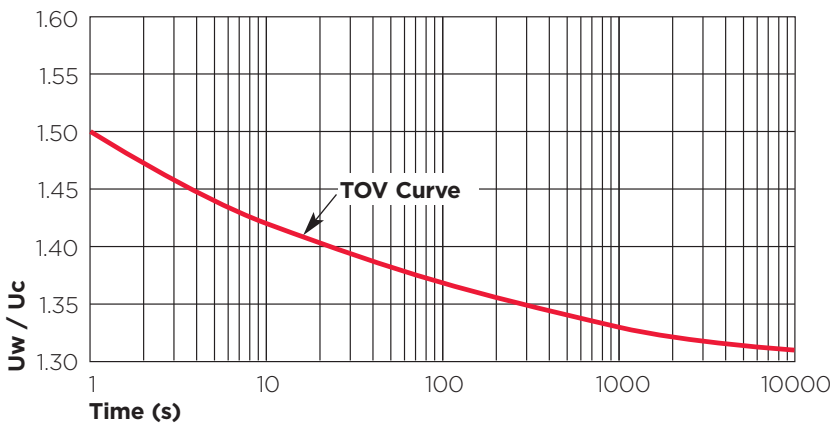
### Steep lightning current impulse 1/20 $\mu$ s

10 kA	43.9	65.8	87.8	109.8	120.8	131.7	142.7	150.0
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### Switching impulse 30/60 $\mu$ s

125 A	31.5	47.3	63.1	78.9	86.8	94.7	102.5	107.8
500 A	32.4	48.7	64.9	81.1	89.2	97.4	105.5	110.9

### TOV with 100kA single shot high current prior energy



Temperature of samples (pre-heated): 60° C according to IEC 60099-4, Ed 2.0 2004. TOV Curve applies to an arrester which has a pre-stress applied prior to TOV verification. This pre-stress is equivalent to one high current impulse of 100kA, 4/10 as per the switching surge operating duty test.

$U_w$  = TOV withstand voltage  
 $U_c$  = continuous operating voltage

### Ordering information

Voltage Class (kV)	12.0	18.0	24.0	30.0	33.0	36.0	39.0	41.0
Reference Number	RSTI-	RSTI-	RSTI-	RSTI-	RSTI-	RSTI-	RSTI-	RSTI-
Single connection	68SA1210	68SA1810	68SA2410	68SA3010	68SA3310	68SA3610	68SA3910	68SA4110
Reference Number	RSTI-CC-	RSTI-CC-	RSTI-CC-	RSTI-CC-	RSTI-CC-	RSTI-CC-	RSTI-CC-	RSTI-CC-
Parallel connection	68SA1210	68SA1810	68SA2410	68SA3010	68SA3310	68SA3610	68SA3910	68SA4110

### Dimension and Weight

Length L* (mm)	285.0	400.0	400.0	520.0	520.0	520.0	530.0	530.0
Weight (kg/pc)								
(68SA)	3.5	3.7	3.9	4.1	4.2	4.2	4.3	4.4
(-CC-68SA)	4.4	4.6	4.8	5.0	5.1	5.1	5.2	5.3

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