



## **CapSwitcher<sup>®</sup>**

Capacitor  
Switching Device  
38 kV – 170 kV

### **Purpose specific device provides reliable, long-life performance.**

The need for quality power has never been greater. This has led to an increase in the use of capacitor banks to improve power factor. The Southern States **CapSwitcher<sup>®</sup>** high voltage capacitor switching device has been specifically developed to provide restrike free switching of capacitor banks. This reliable, long-life, special purpose SF<sub>6</sub> capacitor switch utilizes closing resistors for mitigating voltage transients and current inrush.

#### FEATURES

- Closing resistors minimize voltage and current transients
- Design virtually eliminates restrikes
- Simple, cost effective, mechanical design that provides repeatability
- Long Life (10,000 operations)
- Eliminates need for inrush reactors
- Interrupting rating allows use as protective device

#### SPECIFICATIONS

##### **Maximum Voltage Ratings**

38 kV – 170 kV

##### **Capacitive Current Switch Rating**

600 A (38 kV to 72.5 kV)

650 A (123 kV to 170 kV)

##### **Primary Interrupting Ratings**

25 kA RMS Sym (38 kV to 72.5 kV)

40 kA RMS Sym (123 kV to 170 kV)

##### **Short Time Withstand Ratings**

40 kA RMS Sym (1 sec)  
(38 kV to 72.5 kV)

63 kA RMS Sym (18 cycles)  
(123 kV to 170 kV)

##### **Application**

- Single Bank or Back-to-Back
- Grounded or Ungrounded

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## RATINGS

|                                   |  |      |      |  |     |     |
|-----------------------------------|--|------|------|--|-----|-----|
| Maximum Voltage Rating (kV)       | 38   | 48.3 | 72.5 | 123  | 145 | 170 |
| BIL (kV)                          | 200  | 250  | 350  | 550  | 650 | 750 |
| Continuous Current                | 600 A  |      |      | 650 A  |     |     |
| Primary Fault Interrupting Rating | 25 kA RMS *<br>18 kA (optional -50° C)                     |      |      | 40 kA RMS (standard)<br>25 kA RMS (optional -50° C)        |     |     |
| Short-Time Symmetrical Withstand  | 40 kA RMS (1 sec)  |      |      | 40 kA RMS (3 sec)<br>63 kA RMS (18 cycles)                 |     |     |
| Endurance Life                    | 10,000 operations  |      |      | 10,000 operations  |     |     |
| Ambient Temp Rating               | -40° C to +50° C (standard)<br>-50° C to +50° C (optional) |      |      | -40° C to +50° C (standard)<br>-50° C to +50° C (optional) |     |     |

\* 31.5 kA rating available (Max 3 full fault interruptions)

## Capacitor Switching Ratings (IEEE C37.09a-2005)

|   |   |      |      |                       |     |     |
|---|---|------|------|-----------------------|-----|-----|
| Maximum Voltage Rating (kV)             | 38  | 48.3 | 72.5 | 123                   | 145 | 170 |
| Capacitive Switching Current            | 600 A   |      |      | 650 A                 |     |     |
| High Frequency Transient Making Current | 18 kA peak at 4630 Hz                         |      |      | 20 kA peak at 4600 Hz |     |     |
| Closing Resistor Value                  | Matched to bank size for optimum performance* |      |      |                       |     |     |

\* See Application Guide Documents

## KEY ADVANTAGES

- Makes and breaks circuit in SF<sub>6</sub>
- Designed and tested for restrike-free performance
- Closing resistors provide reliable and consistently repeatable transient suppression
- Multiple resistor sizes allow performance optimization
- Closing resistor eliminates need for inrush reactors
- Common gas system with pressure gauge, density switch, low pressure alarm and trip on low gas pressure contacts provides both local visual and remote status indication
- Simple, easy erection minimizes field installation time
- Straight forward mechanical design insures long life, repeatable operation

### Rated Duty Cycle:

CO – 5 min – CO – 5 min – CO

Note: The 5 minutes is to allow the substation capacitor bank to discharge

The actual spring charge time is 15 seconds