

Rapier SAX

Air Break Switch Disconnector Up to 36 kV



engineering intelligent solutions

Introduction to Rapier SAX

The Rapier AX Solid Blade air break switch disconnector is an evolution of the existing Rapier RX and AX air break switch disconnector.

The tin plated multiple copper laminate strips have been replaced with 2 plated copper bars which form the main current path and also the moving female contact, this complete air break switch disconnector normally comprises of 3 single phase units ganged together with a common operating mechanism ensuring that all phases open and close at the same time.

The mounting base is common across all three voltage ranges – 12/15.5, 24 and 36 kV making design of mounting steelwork simpler.

Features

- Designed and manufactured to meet or exceed the requirements of IEC 62271
- Accommodates many customer specific requirements where they differ from IEC
- Silicone insulators with minimum of 25mm/kV creepage
- Plated HDHC copperwork for longevity of life
- Available in 12/15.5 kV, 24 kV and 36 kV voltage ranges
- Standard current ratings of up to 1250 A
- Short time withstand current of 25 kA rms for 3 seconds with 62.5 kA peak
- Standard fault make capacity of 3 kA rms with 7.5 kA peak
- Compact and robust construction
- Suitable for horizontal and vertical mounting
- Suitable for mounting pole top (above the line) or underslung (below the line)



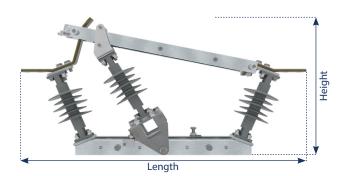
Accessories

- Low level operating handle, high level hookstick mechanism or Independent Manual Spring (IMS) operating mechanism
- 10k A rms 25k A peak fault make capacity when combined with IMS mechanism
- Load break devices with breaking capacity of 630 A for on-load use
- Can be fitted with motor drive/RTU for remote operation
- Earth blades rated at 25 kA 3 sec for fitting to either side
- Self-latching shootbolt on hookstick mechanism can be fitted with safety lock flap for lockoff and point of isolation
- Mounting steelwork to suit single or double pole construction
- Can be fitted with drop out expulsion fuses to form a combination switch fuse

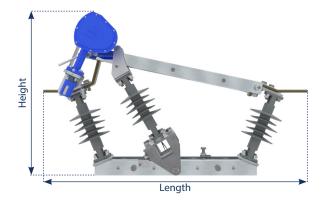


Technical details

Dimensions (mm)



	Height	Length	Width	
12/15.5 kV	445	865	125	
24 kV	510	925	125	
38 kV	625	1025	125	



	Height	Length	Width
12/15.5 kV	580	865	175
24 kV	640	925	175
38 kV	940	1025	175

Electrical performance

Rated voltage kV $12/15.5$ 24 kV 36 kV Frequency Hz $50/60$ $50/60$ $50/60$ Rated normal current A 63.720 $630/120$ Power frequency withstand voltage (rms) Common wet/dry kV 45.75 $60/70$ $80/95$ Isolating distance wet/dry kV 50.75 $66/70$ $80/95$ Lightning Impulse Withstand Voltage (pewer $66/70$ $80/95$ $66/70$ $80/95$ Solating distance wet/dry kV 50.75 $66/70$ $80/95$ Isolating distance kV 11.7 150 200 Isolating distance kV 1.75 250 250 Rated short time withstand current kA 3.75 3.3 3.3 Rated peak making current kA 3.75 7.55 7.55 7.55 Optional - rated peak making current kA 32.75 25.5 25.5 Bracking Current KA 32.75	Technical Data								
Rated normal current A $630/800$ $630/800$ $630/800$ Power frequency withstand voltage (rms) KV $45/5$ $60/70$ $80/95$ Common wet/dry kV $45/5$ $60/70$ $80/95$ Isolating distance wet/dry kV $50/5$ $66/70$ $80/95$ Lightning Impulse Withstand Voltage (peak) KV $50/5$ $66/70$ $80/95$ Common kV 11^{-1} 150 200 200 Isolating distance kV 11^{-1} 150 200 200 Isolating distance kV 11^{-1} 150 200 200 Rated short time withstand current kA 2^{-2} 25 25 25 Rated peak withstand current kA 3^{-2} 33 3 3 Rated peak making current kA 32.7^{-1} 7.5 7.5 7.5 Optional - rated peak making current kA 32.7^{-1} 10 10 10 Detaking Current KA 32.7^{-1} 25 25 25	Rated voltage	kV	12/15.5		24 kV	36 kV			
Power frequency withstand voltage (rms)Vert With Stand Voltage (rms)Common wet/drykV $45/5$ $60/70$ $80/95$ Isolating distance wet/drykV $50/5^{-5}$ $66/77$ $88/105$ Lightning Impulse Withstand Voltage (peak)CommonkV 1^{-1} 150 200 Isolating distancekV 1^{-1} 150 200 Isolating distancekV 1^{-2} 165 220 Rated short time withstand currentkA 2^{-2} 25 25 Rated peak withstand currentkA 62.5 3.3 3 Rated peak making currentkA 3.7 3.3 3 Rated peak making currentkA 13.1 10 10 Optional - rated peak making currentkA 32.75 25 25 Breaking CurrentkA 32.75 25 25	Frequency	Hz	50/60		50/60	50/60			
Common wet/drykV $45/50$ $660/70$ $80/95$ Isolating distance wet/drykV $50/5^ 66/77$ $88/105$ Lightning Impulse Withstand Voltage (pex///CommonkV $110^ 150$ 200 Isolating distancekV $12^ 165$ 220 Rated short time withstand currentkA $2^ 25$ 25 Rated duration of short circuitsec $3^ 3$ 3 Rated peak withstand currentkA $62.5^ 62.5$ 62.5 Rated peak making currentkA $3.7^ 7.5$ 7.5 Optional - rated making currentkA $32.75^ 25$ 25 Breaking CurrentkA $32.75^ 25$ 25	Rated normal current	А	630/800		630/800	630/1250			
Isolating distance wet/drykV $50/5$ $66/77$ $88/105$ Lightning Impulse Withstand Voltage (peak)CommonkV 11^{-1} 150200Isolating distancekV 12^{-5} 165220Rated short time withstand currentkA 2^{-5} 2525Rated duration of short circuitsec 3^{-3} 33Rated peak withstand currentkA 62^{-5} 62.562.5Rated peak making currentkA 13.1 33Rated peak making currentkA 13.1 1010Optional - rated peak making currentkA 32.75 2525Breaking CurrentkA 32.75 2525Breaking CurrentkA 32.75 2525	Power frequency withstand voltage (rms)								
Lightning Impulse Withstand Voltage (peak//CommonkV110150200Isolating distancekV12 \cdot 165220Rated short time withstand currentkA25 \cdot 2525Rated duration of short circuitsec3 \cdot 33Rated peak withstand currentkA62 \cdot 62.562.5Rated peak making currentkA3 \cdot 33Rated peak making currentkA13.11010Optional - rated peak making currentkA32.752525Breaking CurrentkA32.752525Breaking CurrentkA13.11010	Common wet/dry	kV	45/50		60/70	80/95			
CommonkV110150200Isolating distancekV 12^{-5} 165220Rated short time withstand currentkA 2^{-5} 2525Rated duration of short circuitsec 3^{-5} 33Rated peak withstand currentkA 6^{-5} 62.562.5Rated peak making currentkA 3^{-5} 7.57.5Optional - rated peak making currentkA13.11010Optional - rated peak making currentkA32.752525Breaking CurrentkA13.1101010	Isolating distance wet/dry	kV	50/55		66/77	88/105			
Item Problem Item Problem <t< td=""><td colspan="9">Lightning Impulse Withstand Voltage (peak)</td></t<>	Lightning Impulse Withstand Voltage (peak)								
Rated short time withstand currentkA 25 25 25 Rated duration of short circuitsec 3 3 3 Rated peak withstand currentkA 62.5 62.5 62.5 Rated peak making currentkA 3 3 3 Rated peak making currentkA 7.5 7.5 7.5 Optional - rated making currentkA 13.1 10 10 10 Optional - rated peak making currentkA 32.75 25 25 25 Breaking Current KA 32.75 25 25 25	Common	kV	110		150	200			
Rated duration of short circuitsec 3 3Rated peak withstand currentkA 62.5 62.5 Rated peak making currentkA 3 3 Rated peak making currentkA 7.5 7.5 Optional - rated making currentkA 13.1 10 10 Optional - rated peak making currentkA 32.75 25 25 Breaking Current 62.75 62.51 62.51	Isolating distance	kV	125		165	220			
Rated peak withstand current kA 62.5 62.5 Rated peak making current kA 3 3 Rated peak making current kA 7.5 7.5 Optional - rated making current kA 13.1 10 10 Optional - rated peak making current kA 32.75 25 25	Rated short time withstand current	kA	25		25	25			
Rated peak making current kA J J Rated peak making current kA 7.5 7.5 Optional - rated making current kA 13.1 10 10 Optional - rated peak making current kA 32.75 25 25 Breaking Current V V V V	Rated duration of short circuit	sec	3		3	3			
Rated peak making current kA 7.5 7.5 Optional - rated making current kA 13.1 10 10 Optional - rated peak making current kA 32.75 25 25 Breaking Current kA 10 10 10	Rated peak withstand current	kA	62.5		62.5	62.5			
Optional - rated making current kA 13.1 10 10 Optional - rated making current kA 32.75 25 25 Breaking Current	Rated peak making current	kA	3		3	3			
Optional - rated peak making current kA 32.75 25 25 Breaking Current	Rated peak making current	kA	7.5		7.5	7.5			
Breaking Current	Optional - rated making current	kA	13.1	10	10	10			
	Optional - rated peak making current	kA	32.75	25	25	25			
Mainly active load A 20 10 10	Breaking Current								
	Mainly active load	А	20		10	10			
Closed loop A 300 300 300	Closed loop	А	300		300	300			
Mainly active load (optional) A 630 630 630	Mainly active load (optional)	А	630		630	630			
Closed loop (optional) A 630 630 630	Closed loop (optional)	А	630		630	630			
Insulator type Silicone rubber with alternated sheds	Insulator type		Silicone rubber wit		er with alternat	with alternated sheds			
Creepage distance 25mm/kV minimum	Creepage distance		25mm/kV minimum						
Mechanical endurance class M1 (2,000 operations)	Mechanical endurance class	chanical endurance class M1 (2,000 operations))				
Electrical endurance class (load break) E1 (10 operations)	Electrical endurance class (load break)	endurance class (load break) E1 (10 operations)							
Electrical endurance class (earth switch) E1 (2 operations)	Electrical endurance class (earth switch)		E1 (2 operations)						

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