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Crompton Greaves Limited

12kV Indoor Vacuum Circuit Breaker



VCB Panel



Calix Truck

Product Overview

The 'Calix' series was designed to provide compact, reliable switching & protection solutions for MV distribution network. With over 50,000 VCB's in operation globally, this time tested product is in service from 1986. Needless to mention, the product had several design upgrades & comply to the quality standards as per IEC 62271 - 100, 200.

The Calix truck is of same pedigree for the entire range that ensures standardisation & ease for operator. The performance & reliability of the VCB has increased many folds with the compliance of M2 Class - extended mechanical endurance. The aesthetically designed & compact product guarantees maximum operator safety, with a combination of mechanical & electrical interlocks.

Vacuum Contactor

When the application demands for frequent switching operation, Vacuum contactors are used in place of VCB Truck. These can be used for protection & control of Motor feeders & Capacitor bank.

Salient Features

- ▶ Floor rolling type breaker with horizontal isolation & horizontal draw-out.
- ▶ Inaccessible live parts & rack in/out with door closed condition ensures operator safety.

- ▶ Compartmentalized Panel with built in base frame & ramp.
- ▶ CG make highly reliable vacuum interrupters & protection relays.
- ▶ Type tested for extended mechanical endurance of M2 class as per IEC 62271 – 100, ensuring 10,000 operating sequences.
- ▶ Stringent Electrical parameter compliance (E2 & C2) can be provided on demand.
- ▶ Tested for rapid auto reclosing duty with SCADA compatible control system.
- ▶ The optional features like draw-out type PT, Powerpack, Integral earth switch, series trip arrangement for unmanned substation (without auxiliary supply) can be provided.
- ▶ Internal arc tested as per IEC 62271-200.
- ▶ Fully type tested product at renowned testing laboratories like KEMA - Netherlands, KERI – Korea, CPRI / ERDA - India.

Earthing Device

The following variants are available:

- ▶ Integral Earth Switch
- ▶ Portable earthing truck

Indoor Circuit Breaker

12 kV Vacuum Circuit Breaker

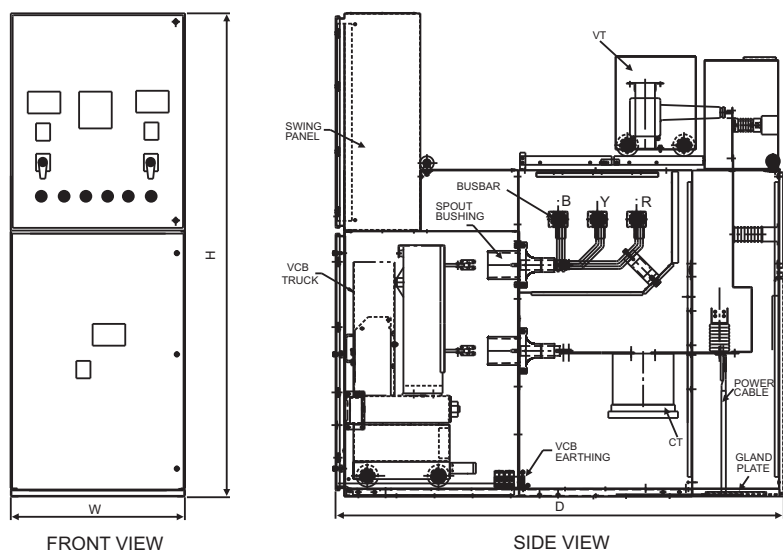
Technical Data

Characteristics	Units	VCB					
Rated Voltage	kV	Upto 12 (Calix)*					
Rated Current	Amp	Upto 800	Upto 1250	Upto 2000	Upto 2500	Upto 3150	Upto 4000
No of poles	nos	3					
Frequency	Hz	50/60					
Symmetrical Breaking Capacity	kA rms for 3sec	13.1	20	26.3	31.5	40	50
Making Capacity	kA _{pk}	32.75	50	65.75	78.75	100	125
Power Frequency Withstand Voltage	kV rms	28 (std) / 35 (optional)					
Impulse Withstand	kV _{pk}	75 (std) / 95 (optional)					
Operating Duty	cycles	O-0.3sec-CO-3min-CO (Rapid Autoreclosing Duty)					
Total Break Time	cycles	3				3.5	
Make Time	cycles	3					
DC Component	%	< 50%					
Degree of protection		IP 4X (std) / IP 5X (optional)					
Applicable Standard		IS 13118, IEC 62271-100 / 200					
* Rated Voltage : 15 / 17.5 kV available for export market							

Technical data for Vacuum Contactor

Parameters	Value	
Rated Voltage kV	Upto 7.2	12
Rated Current A	400	400
Short Time Current kA *	9	9
Rated P.F withstand Voltage	20	28
Impulse Withstand	60	75
* For higher kA level suitable HT HRC Fuses can be provided		

General Arrangement Drawing



Dimensions

CB Type	Variant	W x D x H (mm)
Calix	Fault Level: upto 26.3 kA, Rated Current : upto 1250 A BIL: 28/75 kV/kVp	705 x 1805 x 1830 (NX)
	Fault Level: 26.3 to 31.5 kA, Rated Current : upto 1250 A BIL: 35/95 kV/kVp	650 x 2060 x 2220
	Fault Level: Upto 50 kA Rated Current : 1600 to 4000 A	800 x 2060 x 2220

Indoor Circuit Breaker

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Ordering Information

Please furnish the following details while making an enquiry / order

Parameters	Value
Application	Feeder / Transformer / Motor / Capacitor / Generator Protection
Site Conditions	Altitude / Pollution / Reference ambient temperature
Rated Voltage	(Range: 3.6 to 12 kV)
Symmetrical Breaking Capacity	(Range: 13.1 to 50 kA)
Rated current	(Range: 400 to 4000 A)
Frequency	50/60 Hz
System Earthing	Effectively Earthed/ Unearthed/ Non effectively Earthed
Bus bar Type	Copper / Aluminium
CT Details	Ratio / Burden / Class Accuracy
PT Details	Ratio / Burden / Class Accuracy / Fixed or Draw-out type
Protection Relay	Function - Provide ANSI code
	Electromechanical / Numerical
	If Communicable, please provide protocol
Meters	A / V / F / PF / kWh / TVM etc.
Control Supply Voltage	24/30/48/110/220 V or Power Pack
Note: All other accessories shall be provided as per our standard. Please specify for any specific accessory requirement.	

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