

GEIS

SecoVac VB2 Plus IEEE

GEIS Electrical Protection

Safer Smarter Greener



About GEIS

GEIS was established in 2019 following the spin-off of several businesses and assets that ABB had acquired from GE on July 1, 2018, include 3 manufacturing centers, Warehousing & Trading business at FTZ, China Technology Center.

- Components: Full range of circuit breakers up to 40.5kV: Medium voltage vacuum circuit breakers, LV circuit breakers: ACB, MCCB, MCB, RCD, RCBO: Control components.
- Equipment: MV switchgear (Air insulation and Gas Insulation Technology), LV switchgear, switchboard.
- Medium voltage cast coil dry type transformer.
- Medium voltage ATS system (Paralleling Switchgear).

After the separation, all the above product lines were rebranded as AEG for selected markets and GEIS for global markets.



Quality is Built-in

Vertical integrated Manufacturing Center

- Over 25 years of experience in localizing world-class products and manufacturing technologies, building strong expertise and a capable team.
- Consolidated most manufacturing processes under a single 60,000-square-meter facility in Shanghai.
- A strong R&D team dedicated to developing products that meet global standards and diverse applications.
- GEIS Thailand facility focuses on NEMA product lines.



GEIS deliver complete range of products for the evolving electrification needs:



SecoVac VCB



M-PACT Plus ACB



Elfa Series MCB/RCBO



EV Charger



SecoGear MV Switchgear



RMU Gas Insulated Switchgear



WaveCast Transformer



MLS LV Switchgear

Product Description

SecoVac

VB2 Plus

A proven solution for ANSI/IEEE medium voltage circuit protection



VB2 Plus-15

General Purpose Distribution VCB
15kV, 1200/2000/3000A, 31.5/40KA
IEEE C37 series

VB2 Plus-15G

Generator Protection VCB
15kV, 2500/3150/4000/5000A, 31.5/40/50kA
IEC/IEEE dual-standard for Generator Protection

Product Description

Overview

The GEIS SecoVac VB2 Plus-15 Vacuum Circuit Breaker is a state-of-the-art indoor VCB designed for AC power systems with a maximum rated voltage up to 40.5 kV (IEC). Engineered for high reliability, compact design, and ease of maintenance, the SecoVac VB2 Plus is well suited for industrial, mining, power plant, substation, and generator applications.

For IEEE applications, the SecoVac VB2 Plus-15 is rated for 15 kV class and below, operating at 50/60 Hz. The product range includes two series covering general-purpose distribution protection and generator protection, available in both withdrawable (draw-out) and fixed-mounted constructions to suit different switchgear configurations.

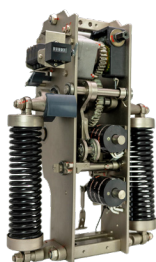
The SecoVac VB2 Plus-15 IEEE vacuum circuit breaker has been independently type tested in accordance with applicable IEEE standards, ensuring compliance with ANSI/IEEE performance and reliability requirements. It is equipped with the proven GAL spring-charging operating mechanism, offering a design life of up to 90,000 mechanical operations.

In addition, the SecoVac VB2 Plus-15 has successfully completed 60,000 mechanical endurance operations during type testing at XIHARI, based on a 1250 A, 31.5 kA rated VCB, demonstrating exceptional mechanical robustness and long-term reliability.



Vacuum Interrupter

The vacuum interrupter is designed and manufactured to effectively extinguish the arc within a sealed ceramic vacuum chamber. The specially engineered contact material minimizes chopping current to a very low level without affecting system performance. Its clean, maintenance-free operation and high reliability make the VCB an ideal choice for medium-voltage circuit breaker applications.



GAL Mechanism

The SecoVac VB2 Plus-15 vacuum circuit breaker has been independently type tested in accordance with applicable IEEE standards, ensuring compliance with ANSI/IEEE performance and reliability requirements. It is equipped with the proven GAL spring-charging operating mechanism, offering a design life of up to 90,000 mechanical operations.

In addition, the SecoVac VB2+ has successfully completed 60,000 mechanical endurance operations during type testing at XIHARI, based on a 1250 A, 31.5 kA rated VCB, demonstrating exceptional mechanical robustness and long-term reliability.

GAL mechanism is 100% inhouse made, modular design, heavy stainless steel structure, suitable for voltage range up to 40.5kV, 50kA short circuit breaker breaking capability.

VB2 Plus-15

ASP Recyclable Embedded Pole

The SecoVac VB2 Plus-15 general-purpose VCB incorporates GEIS-patented ASP embedded pole technology, manufactured using advanced materials and a highly controlled, sophisticated production process.

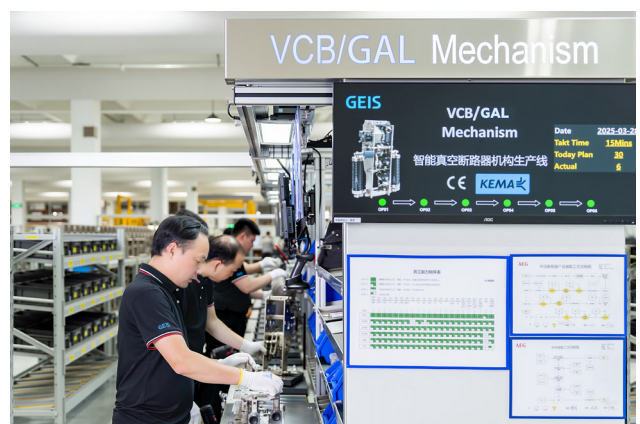
The ASP embedded pole design delivers enhanced performance in harsh operating environments, including high-altitude installations. By reducing internal electrical and mechanical stresses, the ASP pole structure improves dielectric strength and contributes to the long-term reliability of the circuit breaker.

Each ASP embedded pole is individually manufactured and rigorously tested, including partial discharge testing, prior to installation in the circuit breaker.

The SP embedded pole is fully recyclable, providing an environmentally responsible solution aligned with modern sustainability requirements.



The SecoVac VB2 Plus-15 is designed, tested, and certified in accordance with IEEE C37.04, IEEE C37.06, IEEE C37.09, and IEEE C37.20.2, covering requirements for rated continuous current, short-circuit performance, dielectric withstand, capacitive switching, and endurance. It is ideally suited for feeder, transformer, and bus protection in utility and industrial power systems.



VB2 Plus-15**Technical Data**

Number	Rated parameters		Unit	Parameter value	
1	Rated maximum voltage (Ur)		kV	15	
2	Rated insulation levels	Rated power-frequency withstand voltage 1min (Ud)	kV	Common value/Across the isolating distance: 36/40	
		Rated lightning impulse withstand voltage (Up)		Common value/Across the isolating distance: 95/105	
3	Rated power frequency (fr)		Hz	50/60	
4	Rated continuous current (Ir)		A	1200	1200/2000/3000
5	Rated short-time withstand current (Ik)		kA	31.5	40
6	Rated peak withstand current (Ik)		kA	82	104
7	Rated duration of short-circuit (tk)		s	2	
8	Rated short-circuit breaking current (Isc)		kA	31.5	40
9	Rated short-circuit making current		kA	82	104
10	Rated supply voltage of closing and opening devices and of auxiliary and control circuit (Ua)		V	DC: 250	
11	Rated operating sequence			O-0.3s-CO-180s-CO	
12	Transient recovery voltage		kV	25.7	
13	DC component			≤ 52%	
14	Double earth fault breaking current		kA	27.4	34.8
15	Rated cable-charging capacitor breaking current (CC)		A	25	
16	Rated capacitor bank breaking current (BC)		A	630	
17	Rated back-to-back capacitor bank breaking current		A	400	
18	Rated back-to-back capacitor bank transient peak inrush making current (Ibb)		kA	20	
19	Mechanical endurance		times	M2	
20	Electrical endurance			E2	
21	The class according to capacitive current switching capability		V	C2	

SecoVac main circuit resistor

Item	Unit	Value	
Rated current	A	1200	2000
Resistor	μΩ	45	40

Coil parameters

Rate Voltage (V)	Resistance Value (Ω)	Rated Current (A)	Maximum Power (W)
DC 48	6	8	384
DC 125	50	2.5	312.5
DC 250	170	1.5	375
AC 120	50	2.5	312.5
AC 240	170	1.5	375

Charging Motor Characteristics

Rate Voltage (V)	Normal Operation Voltage Range (%)	Charging Time at Rated Voltage (s)	Input Power (W)
DC 48	85-110	≤10	100
DC 125	85-110	≤10	100
DC 250	85-110	≤10	100
AC 120	85-110	≤10	100
AC 240	85-110	≤10	100

VB2 Plus-15G

VB2 Plus G Generator Circuit Breaker

The SecoVac VB2 Plus-15G is purpose-built for generator applications, serving power plants, mining operations, and standby / backup power systems, including genset installations for semiconductor manufacturing and data centers.

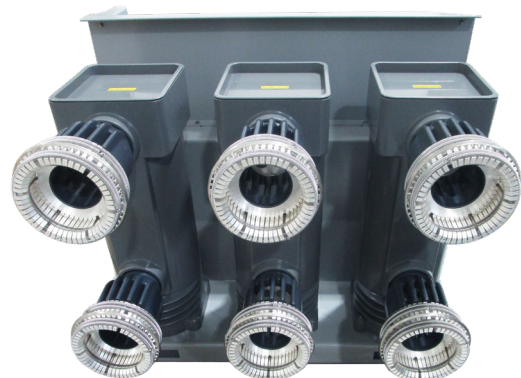
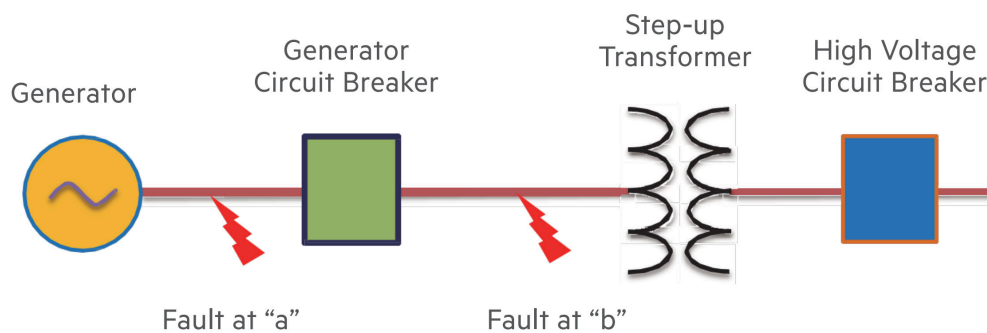
The VB2 Plus-15G is designed and tested in accordance with IEC/IEEE 62271-37-013, the dual-logo standard for generator circuit-breakers, ensuring full compliance with both IEC and IEEE generator application requirements.

Generator-Specific Performance

- Engineered to interrupt high DC component fault currents close to generators (75%)
- Capable of reliable operation under delayed current-zero conditions
- Withstands severe transient recovery voltage (TRV) stresses typical of generator circuits
- Suitable for generator-transformer unit connections and unit-connected generator systems



High-voltage switchgear and controlgear –
Part 37-013: Alternating current generator circuit-breakers



Technical Data

No.	Item		Unit	Value		
1	Rated voltage (U_n)		kV	15		
2	Rated frequency (f_r)		Hz	50/60		
3	Rated insulation levels	Rated power frequency withstand voltage (1 min) (U_d)	kV	38/42		
		Rated lightning impulse withstand voltage (U_p)		95/105		
4	Rated continuous current	I_r (Note: air cooling is not required)	A	1600, 2000, 2500, 3150	1600, 2000, 2500, 3150	1600, 2000, 2500, 3150
		I_{refc} (Note: air cooling is required)			4000, 5000	4000, 5000
5	Rated system supplied fault short-circuit breaking current (I_{sc})		kA	31.5	40	50
6	Asymmetry of rated system source short-circuit breaking current		%	75		
7	Rated short-circuit making current (peak) (I_{mc})		kA	86.3	110	137
8	Rated generator supplied fault short-circuit breaking current (I_{scg})		kA	15.8	25	25
9	Asymmetry of rated generator source short-circuit breaking current		%	130		
10	Rated out-of-step making and breaking current (I_d)		kA	15.8	20	25
11	Rated load switching current		A	1600, 2000, 2500, 3150	1600, 2000, 2500, 3150, 4000, 5000	2000, 2500, 3150, 4000, 5000
12	Rated short-time withstand current (I_k)		kA	31.5	40	50
13	Rated peak withstand current (I_p)		kA	86.3	110	137
14	Rated duration of short-circuit (t_k)		s	3		
15	Rated operating sequence			CO-30min-CO		
16	Mechanical endurance		times	10000		

4000A VCB is available using forced air cooling.

GEIS

GEIS Electric
Website: www.geis.tech
Hotline: +86 400-820-5234

This catalog may be subjected to revision without prior notice.
Version No.: GENCMVAF26V1

