

GreenPower

Medium Voltage Switchgear and Components

LIGHTS UP THE WAY
TO THE FUTURE





About Us»

GreenPower promotes environmental awareness, and aims to create unprecedented happiness and wealth for our investors, employees, clients and partners. By focusing in the mid-to-high voltage and low voltage eld, and professionally working on R&D, manufacturing, marketing and service of high-end green intelligent switchgears, equipments and products.GreenPower sets to become a well-respected global company in the power industry.

GreenPower, is jointly established by a number of state-owned excellent industrial electrical professional manufacturers, we committed to meet the procurement needs of clients. It is a professional procurement service provider with entity of industrial electrical.

GreenPower provides ONE-STOP solutions service for all customers in the International area. It is located in the time-honored electrical industrial city, a collection of worldclass brand of industrial electrical products,excellent brand of domestic electrical products as the basis.

Innovative business philosophy, strong professional supply team, expert technical guidance, advanced Information network management platform, fast logistics, which makes GreenPower as your procurement expert by your side.

GreenPower adheres to its own brand and multi-brand integration, marketing dierentiated development strategy. The products involving low voltage, medium voltage and high voltage transmission and distribution products and industrial automation products.

It covering all aspects of distribution, logistics, warehousing, professional and technical engineering services, systems integration and complete sets of manufacturing. Stable business foundation for cooperation with customers and suppliers, and has established a good reputation to maintain its leading position in the market competition.

Human quests for transcendence, with transcendence we make progress, when the pursuit of unlimited become a belief, our dream began to realize.

Hard-working, dedicated GreenPower people, will be adhering to its past glory, beginners mind, let go sailing, to face the fierce competition in the future, and always help customers make the best choice, and strive to become the best and most reliable procurement service provider in the eld of industrial electrical.

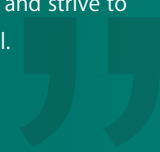




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01 GPN2S/GPN2E-40.5kV Cubicle Type Gas Insulated Switchgear

■ Summary

Cubicle type gas insulated switchgear (CGIS) is an indoor, factory-assembled, metal-enclosed, cubicle type gas-insulated switchgear for single busbar applications, including "Green Type" GPN2E-40.5, GPN2N-40.5 and "Standard Type" GPN2S-40.5.

The "Green type" GPN2N-40.5 is innovated to use pure nitrogen as insulation gas for the series product with Non-SF₆ gas insulation technology, which has brought the genuine green environmental protection of gas insulated switchgear.

The "Green type" GPN2E-40.5 incorporates the advanced technologies of mixed gas-insulated (SF₆+N₂) and vacuum breakers, allowing the equipment to operate in a more reliable and environmentally friendly manner.

The "Standard type" GPN2S-40.5 is of 100% SF₆ insulated, high performance and easy use.

With modern digital manufacturing and automatic testing coupled with sensor, monitor and protection technology, CGIS is ideal fit for power distribution demands. CGIS is particularly suited to industries with high reliability requirements such as Power Networks, Mining, Rail Transportation, Petrochemical Plants, Wind Farms and Metropolitan Rail Systems.

Normal operating conditions

The switchgear is fundamentally designed for the normal service conditions for indoor switchgear to GB 3906, DL/T404 and IEC 62271-200. The following limit values, among others, apply:

■ Ambient air temperature

Maximum air temperature: +45°C

Minimum air temperature: -25°C

Daily average maximum temperature: +35°C

Humidity:

Daily average value of relative humidity: ≤ 95%

Monthly average value of relative humidity: ≤ 90%

Daily average value of water vapor pressure: ≤ 2.2×10⁻³MPa

Monthly average value of water vapor pressure: ≤ 1.8×10⁻³MPa

Altitude: ≤ 1000m

The ambient air is not significantly polluted by dust, smoke, corrosive and/or flammable gases, vapours or salt.

■ Special service conditions

The product can also be applied for many special service conditions.

In case the service conditions exceed the normal service conditions, which are out of the standard GB 11022 and IEC 62271-1, please consult with GP in advance for confirmation:

Altitude higher than 1000m.

Higher environmental temperature.

Lower environmental temperature.

Others special environmental conditions.



■ Reduce greenhouse gas emissions

CGIS incorporates the advanced technologies of pure Nitrogen or mixed gas-insulated (SF₆+N₂) and vacuum breakers, a fundamental choice made by GP to assist in reducing the greenhouse effect. SF₆ (sulphur-hexafluoride) is on the list of greenhouse gases in the Kyoto Protocol, with a Global Warming Potential (GWP) of 23,000. Many other medium voltage switchgear systems use SF₆ gas as the only insulating medium. Leakage of SF₆ gas from switchgear contributes to the threat of the greenhouse effect and associated climate change.

With our commitment to protection of the environment, CGIS helps reduce greenhouse gas emissions by utilising mixed gas-insulated technology together with vacuum switching technology.

A 100% or 50% reduction in SF₆ is achieved by using Nitrogen (N₂) mixed gas-insulated breakers. Nitrogen is the largest component of air and its arc decomposition product is non-toxic. Joined together by plug-in connectors and the modular nature of the panels ensures ease of installation and extension without the need for extra gas handling activities on-site.

■ Advantage

● Maximum safety for operator and equipment

The minimum functional pressure of the cubicle is 0.00MPa(20°C). That means, even under such severe conditions, it still maintains the rated insulation level and keeps all its rated functionality. Thanks to the low pressure of gas, even if gas is escaping from the switchgear, the cubicle can still continue to be energized. Reliable electrical and mechanical interlocks are designed between the circuit breaker and three-position switch to prevent misoperation.

● 70% Reduction in switchroom size

An optimized electric field design combined with excellent insulating performance, results in a compact switchgear product that operates safely and reliably.

Save 70% space compared with air-insulated switchgear.

Retrofitting into existing switchroom is easy.

Reduce cost of substation land.

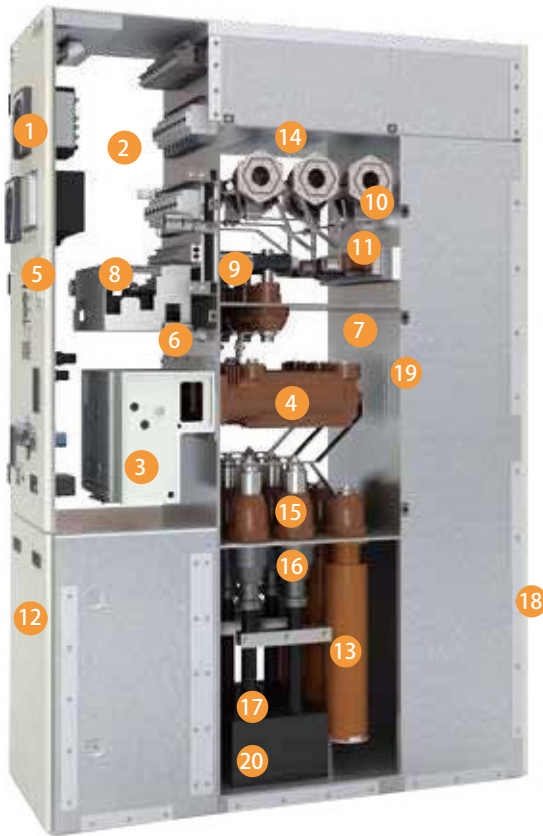
● Easy installation / Low operation and maintenance cost

Panels in the middle can easily be removed for maintenance without moving neighbouring panels, increasing availability.

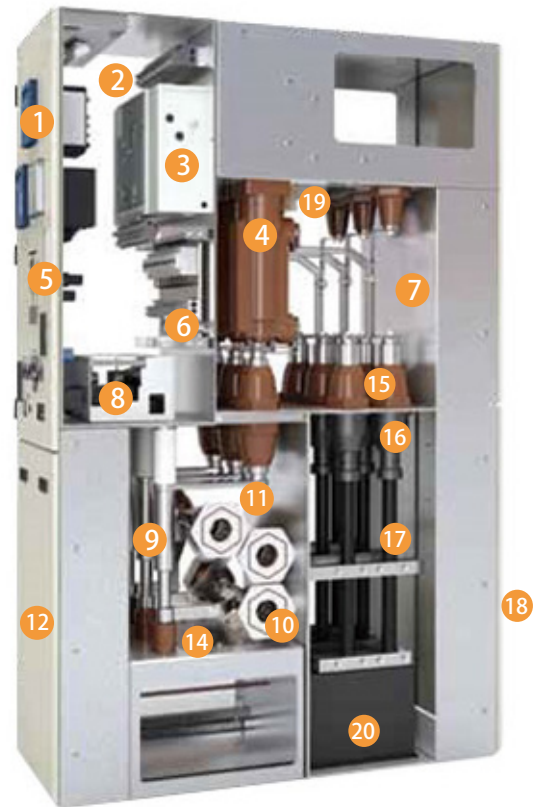
■ Technical parameters

General		Unit	Standard type GPN2S-40.5	Green Type GPN2E-40.5	Green Type GPN2N-40.5
Rated voltage		kV	36/38/40.5	36/38/40.5	36/38/40.5
Rated power frequency withstand voltage (1min)	To earth/phase to phase	kV	95	95	95
	Across isolating distance	kV	118	118	118
	To earth/phase to phase	kV	185	185	185
	Across isolating distance	kV	215	215	215
Rated frequency		Hz	50/60	50/60	50/60
Rated current		A	1250, 2500, 3150	1250, 2500	1250, 2500
Single capacitor bank breaking capacity		A	400/400	400/400	400/400
Rated cable charging breaking current		A	50	50	50
Rated shortcircuit breaking current		kA	20/25/31.5	20/25/31.5	31.5
Rated short circuit making current(peak)		kA	50/63/80	50/63/80	80
Rated short time withstand current and endurance time		kA/s	20/3, 25/3, 31.5/3s	20/3, 25/3, 31.5/3s	31.5/3s
Rated peak withstand current		kA	50/63/ 80	50/63/ 80	80
Operating sequence			O-0.3s-CO-180s-CO	O-0.3s-CO-180s-CO	O-0.3s-CO-180s-CO
Gas system insulated gas			100%SF ₆	50%SF ₆ +50%N ₂	100%N ₂
Annual leakage rate		%/Y	≤ 0.1	≤ 0.1	≤ 0.1
Rated gas pressure (abs, 20°C)		MPa	0.12	0.12	0.12
Alarm pressure (abs, 20°C)		MPa	0.11	0.11	0.11
Minimum operating pressure (abs, 20°C)		MPa	0.10	0.10	0.10
Degree of Protection					
Gas tank			IP65	IP65	IP65
Enclosure			IP4X	IP4X	IP4X
Motor and trip coil					
Circuit breaker charging motor		W	90	90	90
Rated power of closing coil		W	220	220	220
Rated power of opening coil		W	220	220	220
Rated voltage of auxiliary circuit		V	DC 24, 48, 110, 220; AC220	DC 24, 48, 110, 220; AC220	DC 24, 48, 110, 220; AC220
1 min power frequency withstand voltage of auxiliary circuit		kV	2	2	2
Dimensions and Weight					
Dimension (W × D × H) 1250A		mm	600 × 1600 × 2400	600 × 1500 × 2400	800 × 1700 × 2300
Dimension (W × D × H) 2500A		mm	800 × 1600 × 2400	800 × 1500 × 2400	900 × 1700 × 2300
Weight 1250A		kg	800 ~ 1000	800 ~ 1000	800 ~ 1000
Weight 2500A		kg	1100 ~ 1400	1100 ~ 1400	1100 ~ 1400

■ Structure of the standard type GPN2S-40.5 and green type GPN2E-40.5



Standard type GPN2S-40.5kV

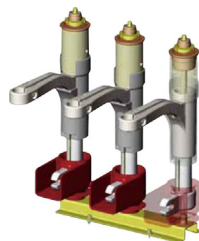


Green type GPN2E-40.5kV

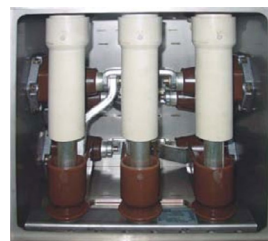
- | | | |
|---|--|--|
| 1. Protection and control Unit | 8. 3-position switch mechanism | 15. Inner-cone cable bushing |
| 2. Low voltage compartment | 9. 3-position switch | 16. Cable terminal |
| 3. VCB mechanism | 10. Main busbar | 17. Cables |
| 4. Embedded pole vacuum circuit breaker | 11. Main busbar gas tank | 18. Rear cover |
| 5. Low voltage compartment door | 12. Front cover | 19. Pressure relief device of VCB gas tank |
| 6. Gas density indicator | 13. Surge arrester | 20. CT |
| 7. VCB gas tank | 14. Pressure relief device of main busbar gas tank | |



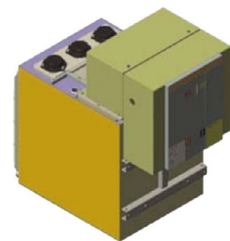
Standard type:
GPN2S-40.5 VCB



IST 3-position mechanism

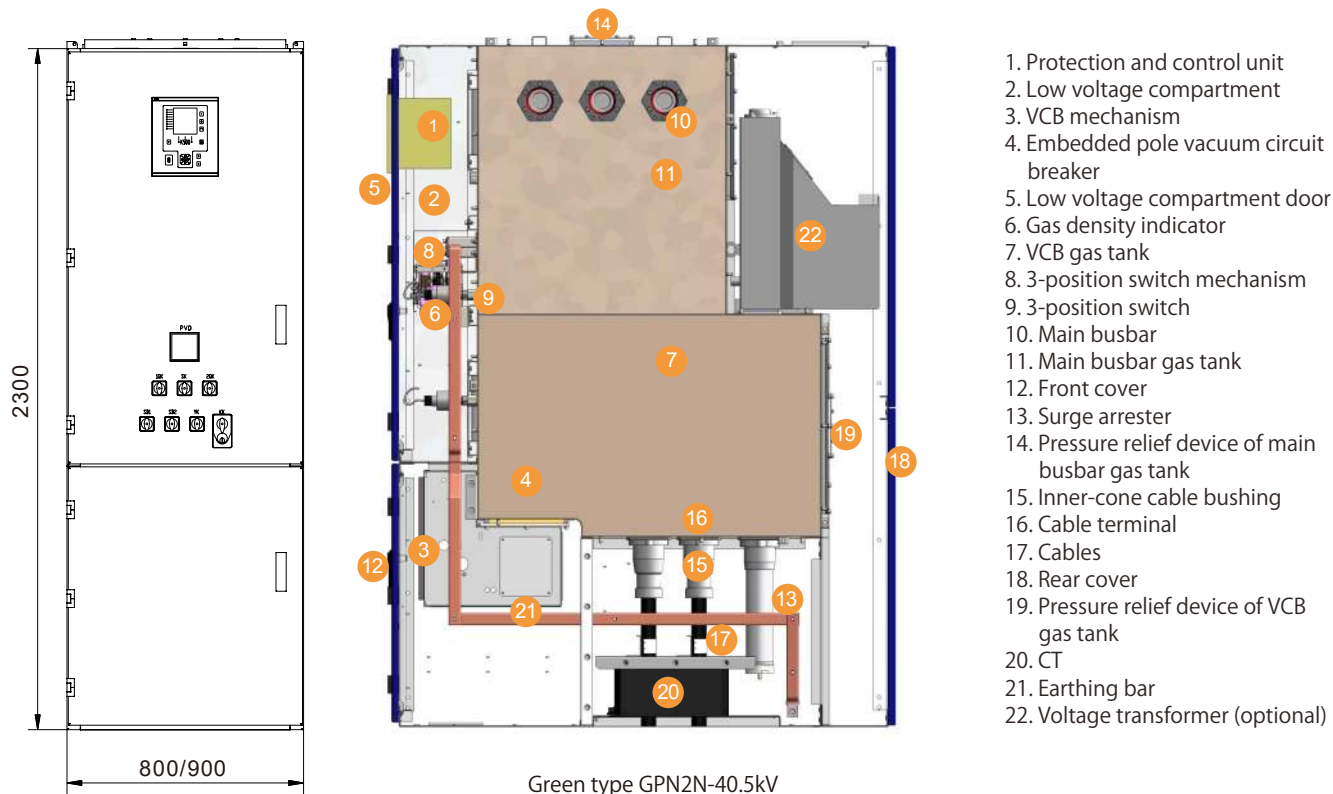


IST 3-position switch



GPN2S VCB gas tank

■ Structure of the GPN2N green type (No-SF₆)



Vacuum circuit breaker is fixed mounted, while its three-phase embedded poles are arranged vertically into the circuit breaker gas tank.

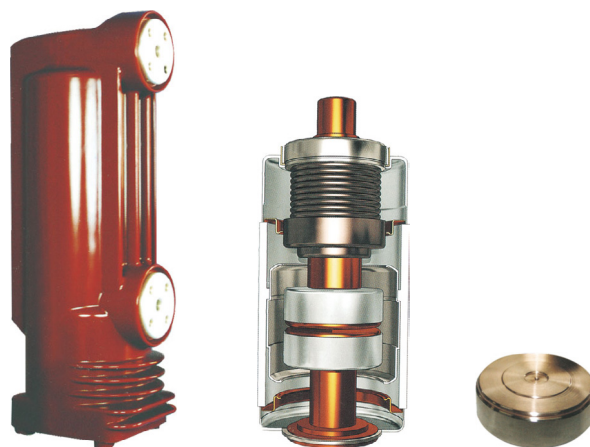
Due to the vacuum switching technology, an arc is limited in the vacuum interrupter, reducing the exhaust volume of insulation gas. Vacuum switching is of high performance in frequent short-circuit and numerous on-load switching applications.



PT installation



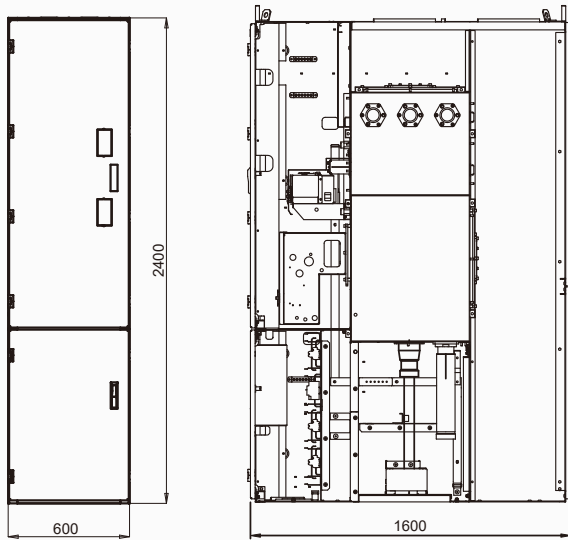
CT in cable compartment



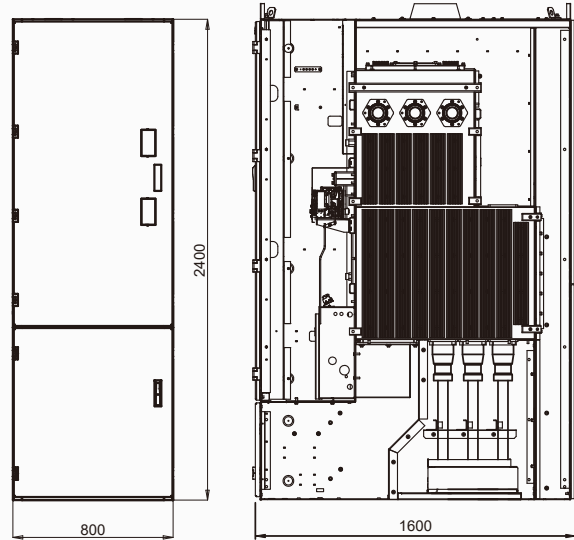
The vacuum interrupter of the VCB is of an optimized design, the ceramic insulator is compact with high insulation level and a high current breaking capability. The contacts are made of Copper-Chromium, with excellent abrasion resistance, long electrical endurance, and high short circuit breaking capacity.

The embedded poles are assembled on the flange plate of the frame. The vacuum interrupter and terminals are fixed inside the embedded pole by APG epoxy molding process.

■ Outline dimension of GPN2S-40.5kV standard type

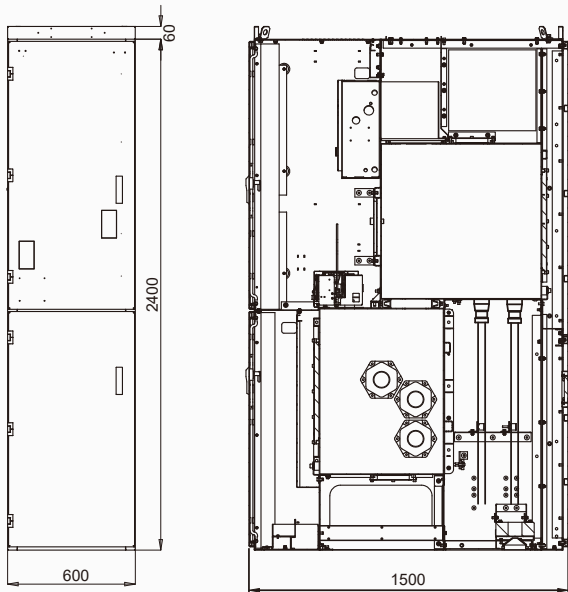


GPN2S-40.5kV-1250A Standard type

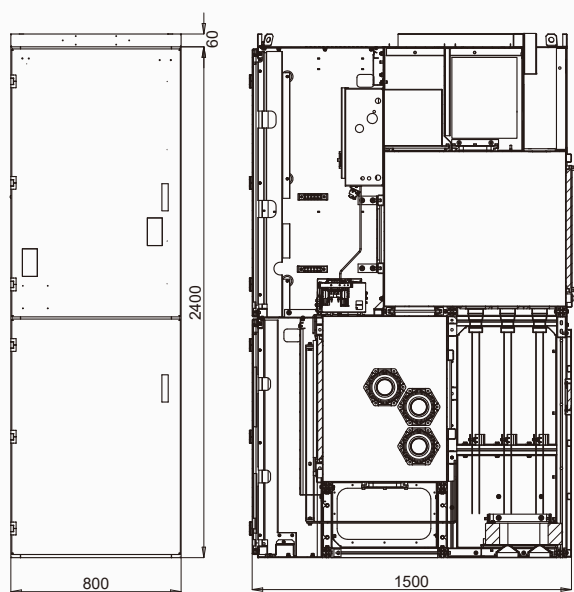


GPN2S-40.5kV-2500A~3150A Standard type

■ Outline dimension of GPN2E-40.5kV green type



GPN2E-40.5kV-1250A Green type



GPN2E-40.5kV-2500A Green type

02 GPN1 □ - 40.5kV Removable AC Metal-clad Enclosed Switchgear

■ Summary

GPN1-40.5kV removable AC metal-clad switchgear (short for switchgear as below) applies to 40.5kV, 3 phase, AC and 50/60Hz electrical power network for receiving and distributing power energy and also for control, monitor and protection. It is applicable in general power system and occasions with frequent operation. The product conforms to GB 3906 "3~35kV AC Metal Enclosed Switchgear", GB/T 11022 "The common technical clauses of High Voltage Switchgear and controlgear Standard", DL/T 404-1997 "Order Technical term of Indoor AC High Voltage Switchgear" and IEC-298 "1~52kV AC Metal Enclosed Switchgear and Controlgear standard".



■ Ambient condition

Ambient temperature: -25℃ ~ +45℃ , daily average: ≤ 35℃
 Altitude: 1000m(Standard); can up to 4500m for special ordering;
 Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;
 Earthquake intensity: ≤ 8 degree;
 Applicable occasions should be free from corrosives, inflammables and vapor.

■ Model and its meaning

GP	N	1	□	-	40.5	/	T	2000	-	31.5	
											Rated short circuit breaking current (kA)
											Rated current (A)
											Spring operating mechanism
											Rated voltage (kV)
											A: Middle-plated; B: floor type; C: VD4/HD4 type
											Air insulated
											Indoor removable metal-clad
											Company feature code

■ Product feature

The switchgear is an assembly unit and the circuit breaker adopts handcart floor model. It owns simply change and well exchange after equipping with advanced composite insulation vacuum circuit breaker. Lead screw nut propulsion mechanism is installed in the handcart frame for preventing from fault operating and damaging propulsion mechanism, the handcart can be remove easily; All of the operation steps can be carried out at closing condition; It is compulsory locking among main switch, handcart and panel door to meet five protection; wide space for connecting several cables in cable cubicle. Earthing switch is used in earthing and loop short circuit, protection degree of enclosure is IP3X, IP2X under opening condition.

■ Technical specification

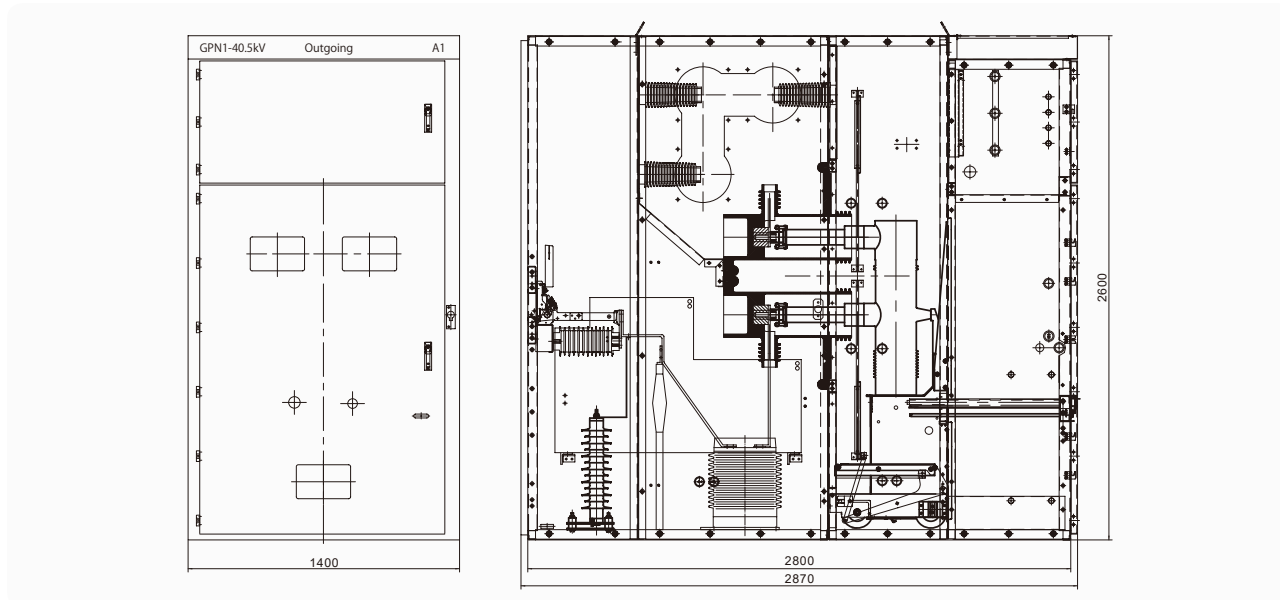
No.	Item		Unit	Data
1	Rated voltage		kV	36/38/40.5
2	Rated current		A	1250, 1600, 2000, 2500
3	Rated frequency		Hz	50/60
4	Rated short circuit breaking current		kA	25, 31.5
5	4s rated short time withstand current		kA	25, 31.5
6	Rated short circuit making current (peak)		kA	63, 80
7	Rated peak withstand current(peak)		kA	63, 80
8	Insulation level	Rated lightning impulse withstand voltage	kV	185 (across open contacts: 215)
		Main circuit 1min power frequency withstand voltage	kV	95 (across open contacts: 110)
		Auxiliary circuit 1min power frequency withstand voltage	kV	2
9	Outline dimension(W)*(D)*(H)		mm	1400/2800/2600 (GPN1 type) 1200/2600/2400 (for VD4/HD4 type)
10	Protection degree			IP3X (compartment IP2X)
11	Weight		kg	1000-1850 (GPN1 type) 850-1850 (For VD4/HD4 type)

■ Structure feature

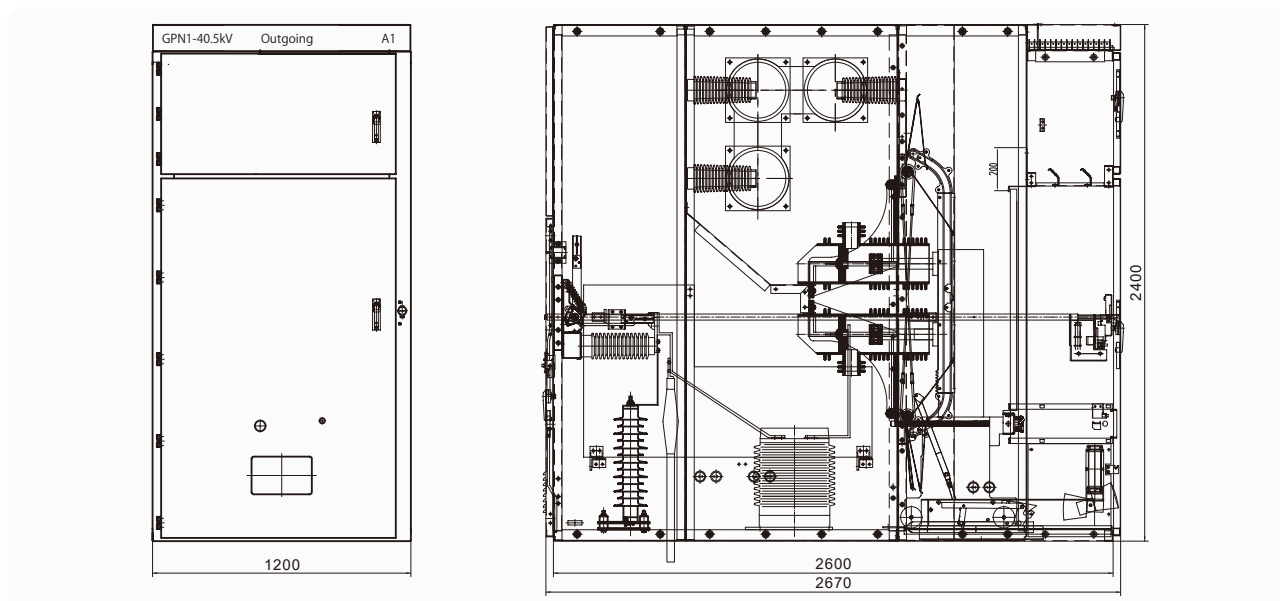
The switchgear divides into enclosure and handcart, the enclosure is made of aluminum-zinc plated steel sheet after processed by CNC machine and multi-bending, then is assembled with bolts. So it has strong mechanical strength and can guarantee the neatness and good appearance. It consist of relay compartment, handcart compartment, cable compartment, protection degree is IP2X when CB handcart is on opening and testing position.

The switchgear is metal-clad removable type, main circuit adopts composite insulation processing, emergency spreading to other parts. CT and earthing switch are mounted in cable compartment and busbar compartment. The protection degree of enclosure is IP3X, the protection and large space for several cables. The structural design of new completely insulated VCB or SF₆ CB and spring operating mechanism is integrated console model with such excellence of well exchange and simply change.

■ Outline dimension of the switchgear



GPN1-40.5 Structure drawing of standard type



GPN1(C)-40.5 Structure drawing for VD4/VH4 type

Note:

1. Motorized feeding for the VCB is available. Any special additional requirement of application, please contact us for technical disclosure.
2. Here only show the outgoing schematic for reference. For the other schematic, Please consult with GP for more details.

03 GPVN-40.5kV Indoor AC High Voltage Vacuum Circuit Breaker

Summary

GPVN-40.5kV indoor vacuum circuit breaker is a product designed and produced by our company and Xi'an High-voltage Electric Apparatus Institute. The VCB is of rated voltage 40.5kV, three-phase and AC 50/60Hz. It applies to mining firms, power house and substation acting as protection and control electric apparatus. It is also applicable in occasions with frequent operation.

Ambient condition

Altitude: 1000m(Standard); can up to 4500m for special ordering;
Ambient temperature: -25°C ~ +45°C ;
Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;
Earthquake intensity: ≤ 8 degree;
Applicable occasions should free from inflammables, explosives, corrosives and severe vibration.



Model and its meaning

GP VN - 40.5 □ / 1250 - 31.5

Rated short-circuit breaking current (kA)
Rated current (A)
Blank: for insulating sleeve type; E: Embedded type;
M: Permanent Magnet type
Rated voltage (kV)
Indoor vacuum circuit breaker
Company feature code

Structure feature

- The arc-extinguish chamber is on the upper part and the mechanism is on the lower part. This structure is convenient for debug.
- Complex insulating structure using air and organic material; Compact dimension and small weight.
- Vacuum arc-extinguish chamber of Cutler-Hammer Company (USA) and domestic ZMD are both applicable for the VCB. Both two kinds of chambers extinguish arc by vertical magnetic field and featuring with low cut-off and good on-off capability with asymmetry.
- Simple spring operation mechanism is free from maintenance within 10000 times of operations.
- Lead-screw propeller, easy and stable operation and good self-locking capability.

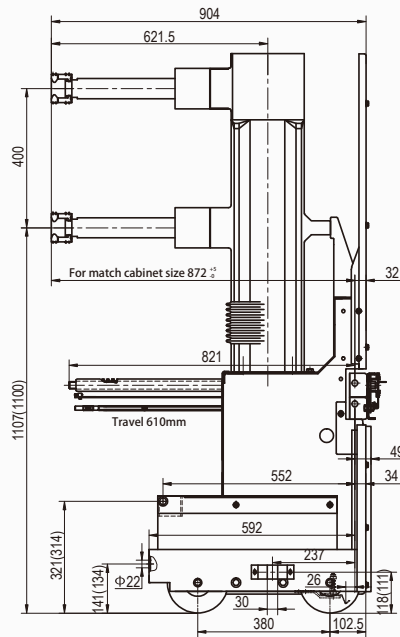
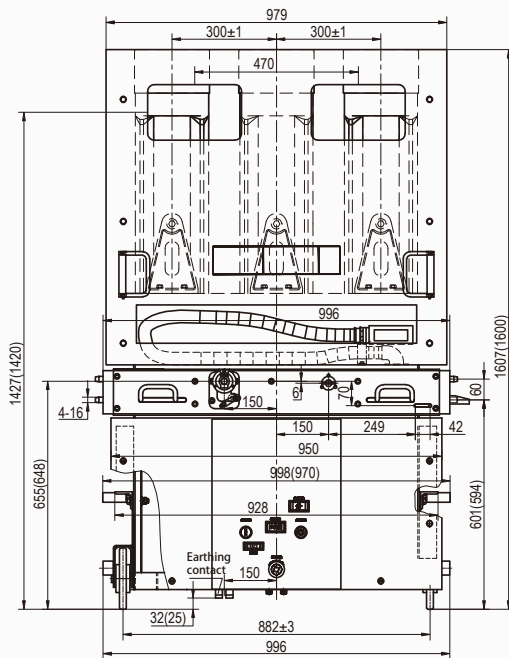
Technical specification

No.	Item	Unit	Data
1	Rated voltage	kV	36/38/40.5
2	Power frequency withstand voltage (1min)	kV	95 (118, isolating distance)
3	Lightning impulse withstand voltage (peak)	kV	185 (215, isolating distance)
4	Rated current	A	630, 1250, 1600, 2000, 2500
5	Rated short-circuit breaking current	kA	20, 25, 31.5
6	Rated short-circuit making current (peak)	kA	50, 63, 80
7	4s Rated short-time withstand current	kA	20, 25, 31.5
8	Rated peak withstand current	kA	50, 63, 80
9	Rated operation sequence		O-0.3s-CO -180s-CO
10	Breaking times of rated short circuit breaking current	times	30
11	Mechanical life	times	10000; 20000 (for magnet type)
12	Rated frequency	Hz	50/60
13	Rated breaking current of capacitor bank	A	400

Technical specification of storage motor of operating mechanism

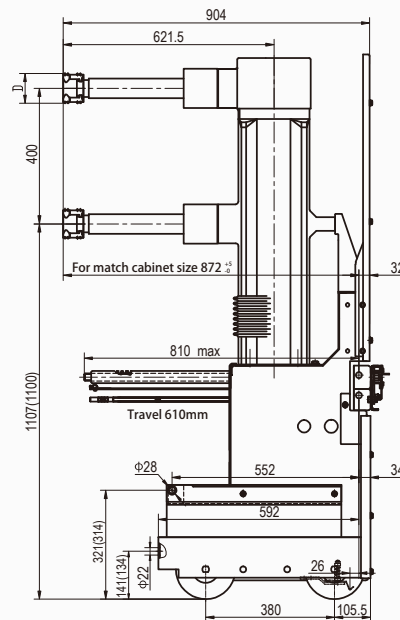
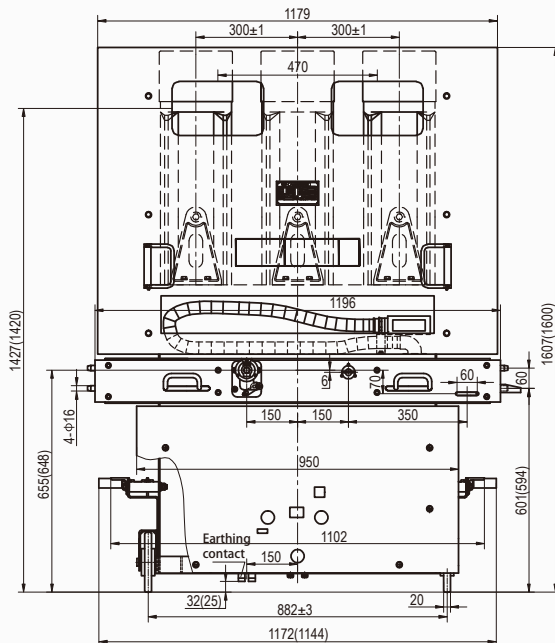
No.	Rated voltage	Rated output power	Normal operate voltage
HDZ-22301B	DC110V AC110V	DC220V AC220V	≤ 230W
			85%-110% rated voltage

■ Outline and dimension of installation



Rated current	Matching fixed contact
1250A	Φ 49
1600A	Φ 55
2000A	Φ 79
2500A	Φ 109

GPVN-40.5kV VCB handcart outline dimension for GPN1-40.5kV

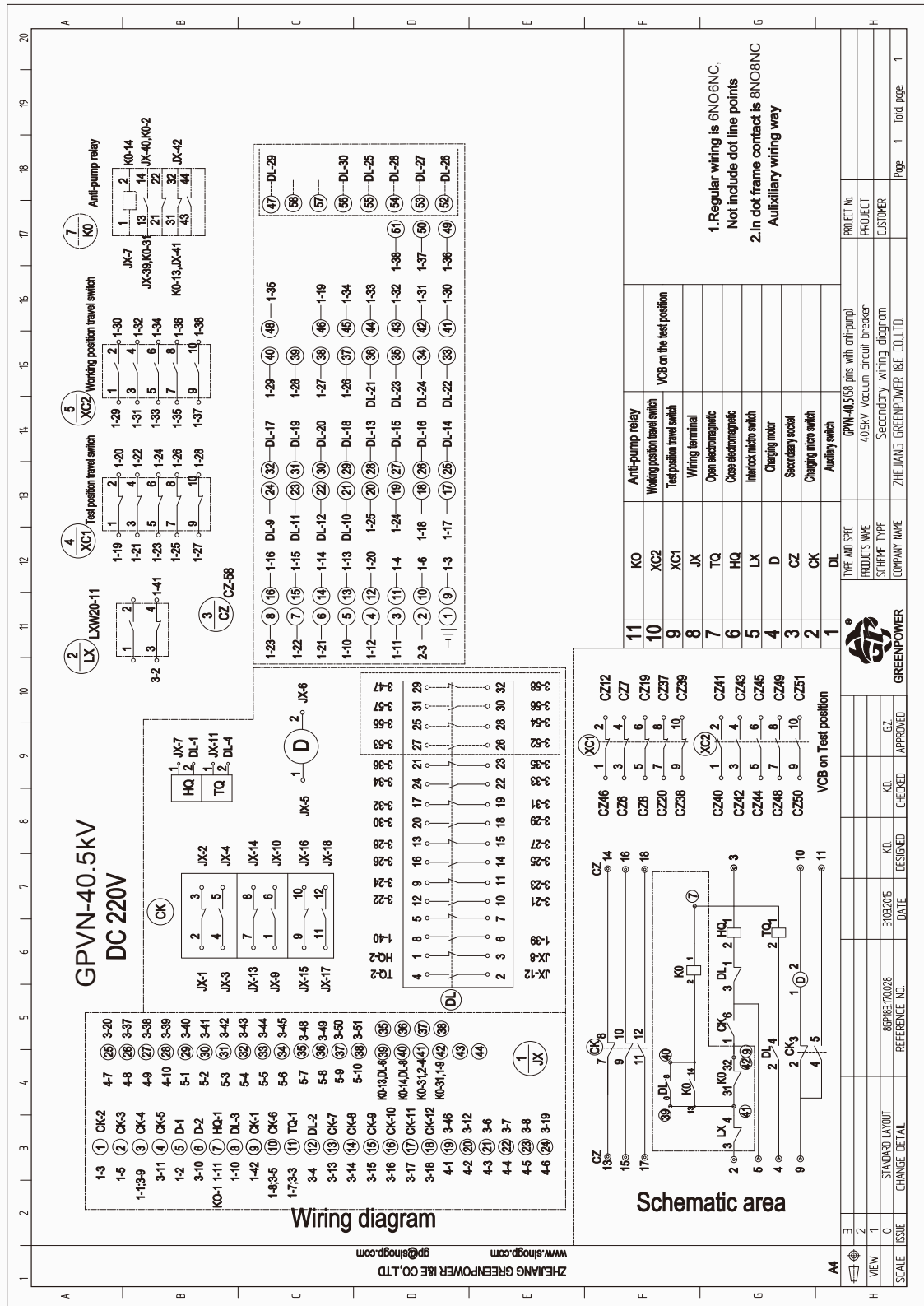


Rated current	Matching fixed contact	D
1250A	Φ 49	Φ 89
1600A	Φ 55	Φ 94
2000A	Φ 79	Φ 129
2500A	Φ 109	Φ 159

GPVN-40.5kV VCB handcart outline dimension

Note: 1. Motorized feeding for the VCB is available. Any special additional requirement of application, please contact us for technical disclosure.
2. Here only VCB schematic for reference. For the PT truck, Bus truck, fuse truck, etc. Please consult with GP for more details.

■ Secondary diagram



04 GPN1-24kV Removable AC Metal-clad Enclosed Switchgear

■ Summary

GPN1-24kV removable AC metal-clad switchgear (short for panel as below) is a new product, designed and developed by us, based on the introduction of advanced foreign design and manufacturing technology. The panel applies to 3.6~24kV, 3phase AC 50Hz or 60Hz network for receiving and distributing power energy and also for control, monitor and protection. It can be arranged for single busbar, single busbar sectionalizing system. It accords to IEC298 "AC Metal Enclosed Switch and Control Equipment above 1kV and below 52kV" IEC 694 "Standard Common Clauses for High Voltage Switchgear", GB3906 "3~35kV AC Metal Enclosed Switchgear" DL404 "Order Specification for Indoor AC High Voltage Switchgear", DIN, VDE0670 "AC Switchgear at Rated Voltage Over 1kV" and so on. It has perfect and reliable prevention function against false operation.

■ Ambient condition

Ambient temperature: -25℃ ~ +45℃ , daily average: ≤ 35℃

Altitude: 1000m(Standard); can up to 4500m for special ordering;

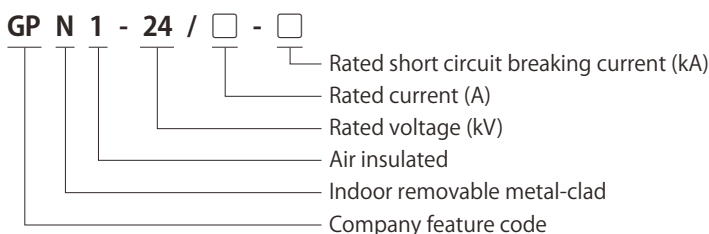
Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;

Earthquake intensity: ≤ 8 degree;

Applicable occasions should be free from inflammables, explosives, corrosives and severe vibration.



■ Model and its meaning



Note: Suitable for ABB/ Siemens, Schneider etc. brands of vacuum circuit breakers.

■ Structure feature

The enclosure is complete made of aluminum-zinc plated steel sheet by CNC machine and multi-bending, high precise dimension, short production cycle, good mechanical strength and nice appearance. The handcart frame can sort into CB handcart, PT handcart, measuring handcart and so on. The handcart has isolating/testing position and working position in cubicle, each position is equipped with a locating device to ensure that the handcart will not move at random when in specified position. A special guide rail is installed in CB compartment for the handcart to move between isolating/testing position and working position. The movable curtain plate made of insulating sheet is installed on the back wall of handcart compartment. The busbar is led from one cubicle into another cubicle under the supporting of insulation bushing, and connects with the fixed contact box through the branch bus. The main busbar and inter busbar are round copper bars with rectangular section. Current transformer and the earthing switch can be mounted on the back wall of cable compartment. Potential transformer and the lightning arrester can be mounted inside it. The meter compartment includes relay components, meters electrified indicator and specified secondary equipments. The control circuits are laid in the neck grave with sufficient space and metal cover plate.

■ Technical specification

Item		Unit	Data
Rated voltage		kV	24
Rated frequency		Hz	50/60
Rated current		A	630, 1250, 1600, 2500, 3150, 4000
Rated insulation level	1min Power frequency (phase to earth / across open contacts)	kV	65
	Lightning impulse withstand voltage (phase to earth / across open contacts)	kV	125
Rated short time withstand current (4s)		kA	20, 25, 31.5
Rated peak withstand current		kA	50, 63, 80

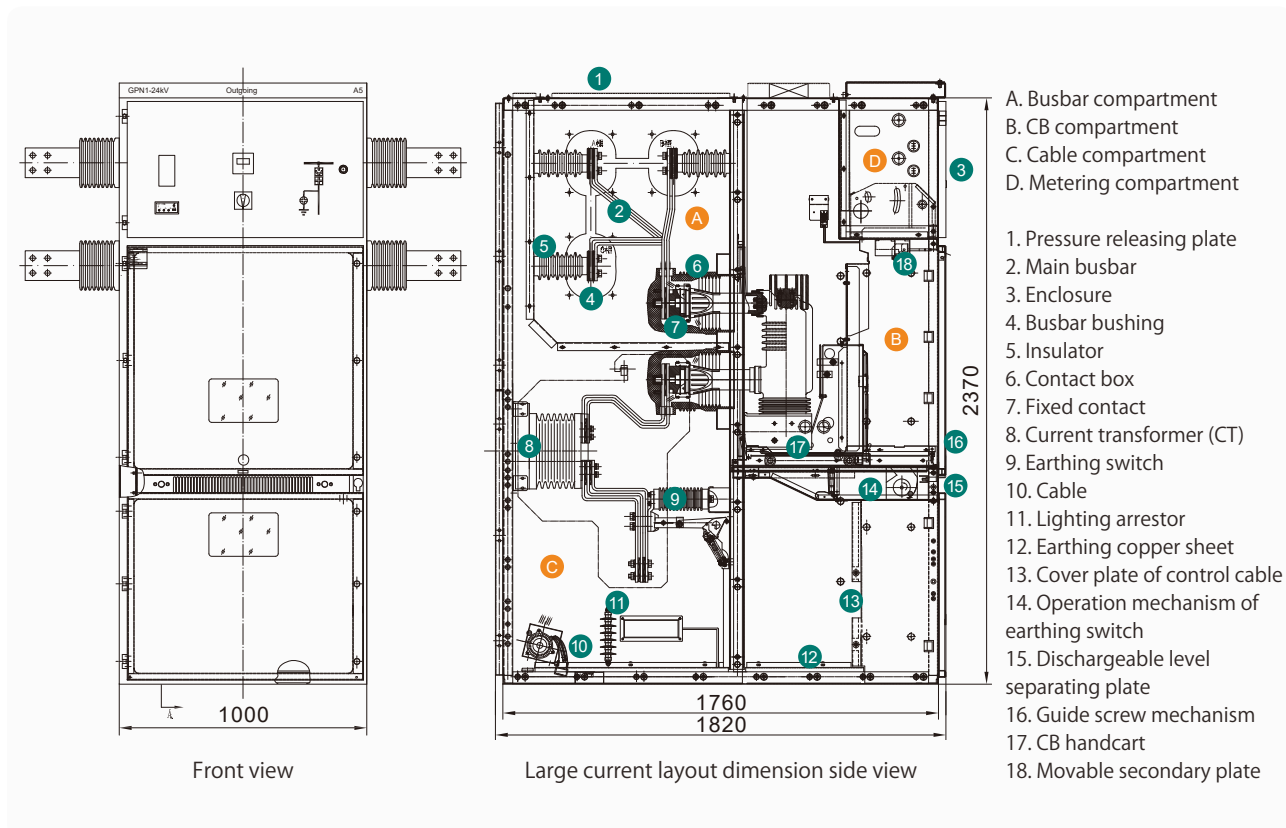
Protection degree		Enclosure: IP4X, door open: IP2X
Outline dimension (width × depth × height)	mm	1000 (800) × 1820 (1500) × 2430 (2300)
Weight	kg	1200~1500

1. The short circuit capacity of CT shall be separately considered;
2. The diagram of back overhead outgoing line should have additional cubicle.

■ Technical specification of GPNV-24kV vacuum circuit breaker

Item		Unit	Data
Rated voltage		kV	24
Rated frequency		Hz	50/60
Rated current		A	630, 1250, 1600, 2500, 3150, 4000
Rated insulation level	1min Power frequency (phase to earth / across open contacts)	kV	65
	Lightning impulse withstand voltage (phase to earth / across open contacts)	kV	125
Rated short time withstand current(4s)		kA	20, 25, 31.5
Rated peak withstand current		kA	50, 63, 80
Rated symmetrical short-time breaking current		kA	20, 25, 31.5
Rated operating sequence			O-0.3s-CO-180s-CO
Opening time		ms	60
Arcing time		ms	15
Breaking time		ms	65
Control voltage		V	~110~220

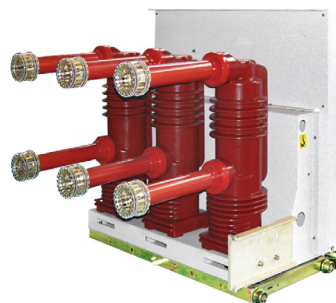
■ Structure schematic drawing of GPN1-24kV section drawing of feeder panel



05 GPVN-24 □ Indoor AC High Voltage Vacuum Circuit Breaker

■ Summary

GPVN-24kV indoor AC High Voltage vacuum circuit breaker is a type of holistic sealed High Voltage switchgear with small volume and compact structure. It applies to power system of rated voltage 24kV, three-phase AC 50/60Hz, and used to control and protect electric apparatus and circuit with frequent operations. This product conforms to IEC62271-100 & GB1984, JB3855 and DL403.



■ Ambient condition

Ambient temperature: -25℃ ~ +45℃ , daily average: ≤ 35℃

Altitude: 1000m; can up to 4500m for special ordering;

Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;

Earthquake intensity: ≤ 8 degree;

Applicable occasions should be free from inflammables, explosives, corrosives and severe vibration.

■ Model and its meaning

GP VN - 24 □ / 630 - 25

Rated short-circuit breaking current (kA)

Rated current (A)

Blank: Insulating sleeve type; E: Embedded type

Rated voltage (kV)

Indoor vacuum circuit breaker

Company feature code

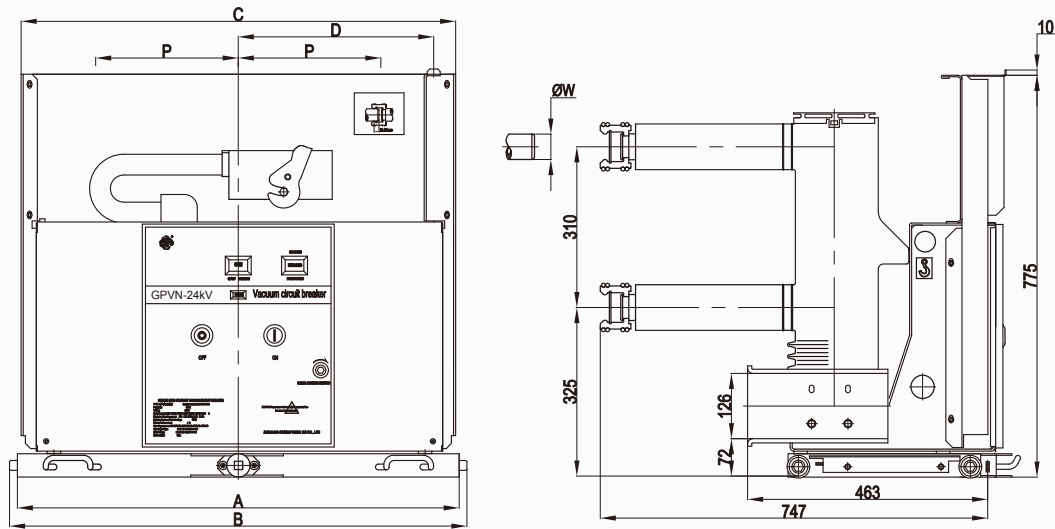
■ Product feature

- 1) Holistic structure
- 2) Sealed arc-extinguishing chamber
- 3) High quality vacuum arc-extinguishing
- 4) Sound mechanical feature
- 5) Various mounting methods

■ Technical specification

No.	Item	Unit	Data			
1	Rated voltage	kV	24			
2	Rated frequency	Hz	50/60			
3	Rated current	A	630, 1250, 1600, 2000, 2500, 3150, 4000			
4	Rated short-circuit breaking current	kA	20	25	31.5	31.5
5	Rated short-circuit making current	kA	50	63	80	80
6	Rated short-circuit withstand current(4s)	kA	20	25	31.5	31.5
7	Rated peak withstand current	kA	50	63	80	80
8	Rated out-of-step breaking current	kA			12.6	12.6
9	Rated breaking current of out-of-phase earth fault	kA	17.4	21.7	27.4	27.4
10	Rated breaking times of short-circuit breaking current	times	50			
11	Rated operating sequence		O-0.3s-CO-180s-CO			
12	Rated breaking current of single capacitor bank	A	630			
13	Rated breaking current of back-to-back capacitor bank	A	400			
14	1min. Power frequency withstand voltage	kV	50			
15	Lightning impulse withstand voltage	kV	125			
16	Mechanical life	times	20000			
17	Closing time	ms	75			
18	Opening time	ms	60			
19	Storage time under rated voltage	s	10			

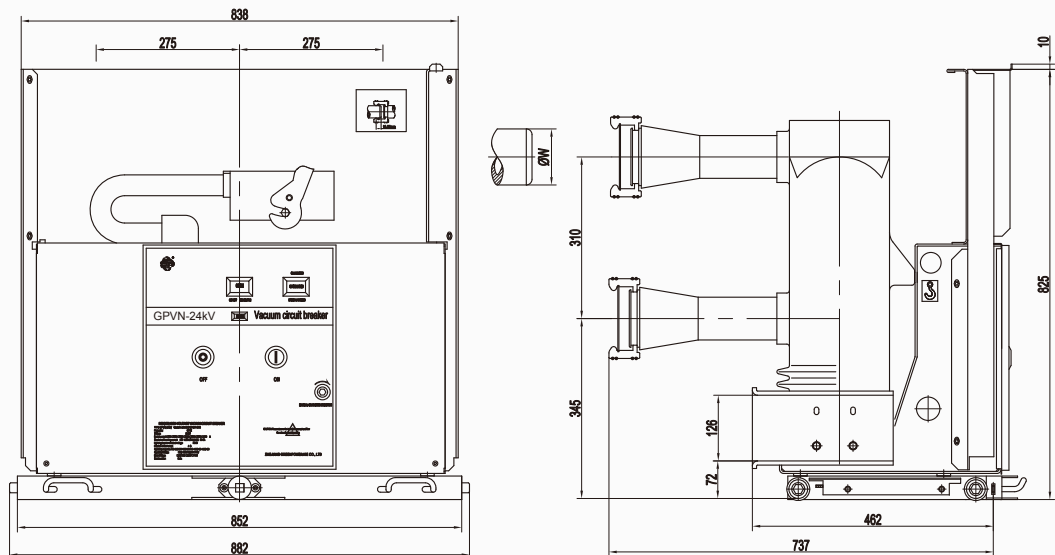
■ Dimension of GPVN-24/630A~1250A(275/210)



Rated current	P	A	B	C	D	W
630A	210	652	682	638	277	Φ 35
1250A	210	652	682	638	277	Φ 49
630A	275	852	882	838	377	Φ 35
1250A	275	852	882	838	377	Φ 49
1600A	275	852	882	838	377	Φ 55

Note:
Fixed type and motorized type breaker are available.

■ Dimension of GPVN-24/1600A~3150A(275)

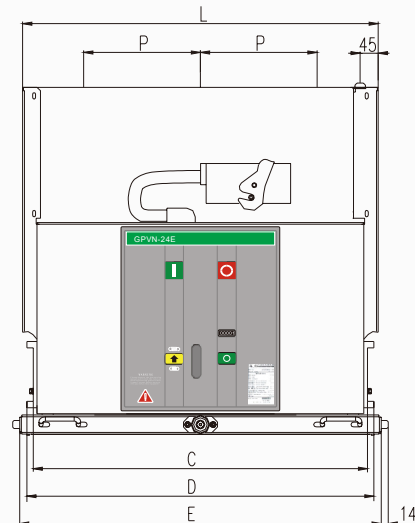
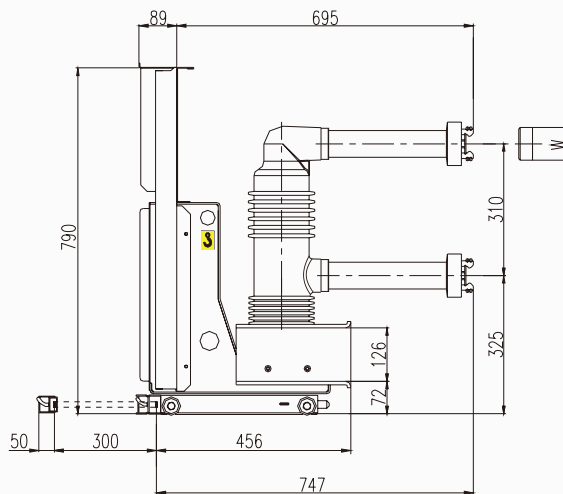


Rated current	P	W
1600A	275	Φ 79
2000A	275	Φ 79
2500A	275	Φ 109
3150A	275	Φ 109

Note:

1. Fixed type and motorized type breaker are available.
2. Here only VCB schematic for reference. For the PT truck, Bus truck, fuse truck, etc. Please consult with GP for more details.

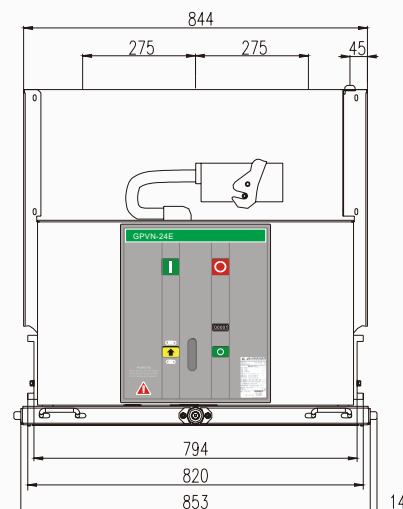
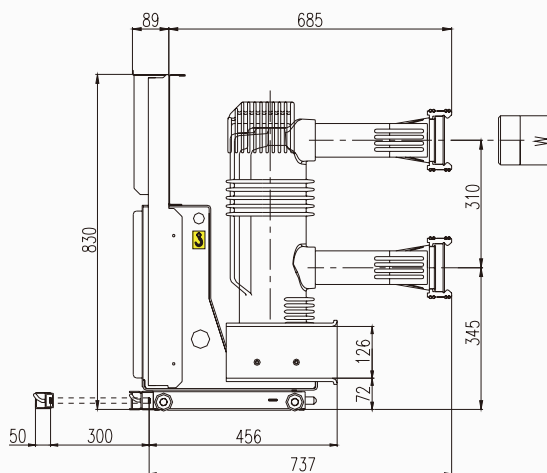
■ Dimension of GPVN-24E/(630~1250A) breakers



Rated current	P	C	D	E	L	W
630A	210	612	638	653	648	Φ 35
1250A	210	612	638	653	648	Φ 49
630	275	794	820	853	844	Φ 35
1250A	275	794	820	853	844	Φ 49

Note:
Fixed type and motorized type breaker are available.

i. Dimension of GPVN-24E/(1600~3150A) breakers



Rated current	W
1600A	Φ 79
2000A	Φ 79
2500A	Φ 109
3150A	Φ 109

Note:
1. Fixed type and motorized type breaker are available.
2. Here only VCB schematic for reference. For the PT truck, Bus truck, fuse truck, etc. Please consult with GP for more details.

06 GPN1-17.5kV Removable Switchgear

■ Summary of GPN1-17.5kV removable AC metal-clad enclosed switchgear

GPN1-17.5kV removable AC metal-clad switchgear (short for panel as below) is specially designed and developed by us, based on the introduction of advanced foreign design and manufacturing technology. The panel applies to 13.8kV~17.5kV 3 phase AC 50/60Hz network for receiving and distributing power energy and also for control, monitor and protection. It can be arranged for single busbar, single busbar sectionalizing system or double busbar. It accords with IEC298 "AC Metal Enclosed Switch and Control Equipment above 1kV and below 52kV "IEC 694 "Standard Common Clauses for HV Switchgear ", DIN. VDE " AC Switchgear at Rated Voltage Above 1kV ", GB 3906 " 3~35kV AC Metal Enclosed Switchgear " and so on. It has perfect and reliable prevention function against misoperation.

■ Ambient condition

Ambient temperature: -25℃ ~ 45℃ , daily average: ≤ 35℃

Altitude: 1000m(Standard); can up to 4500m for special ordering;

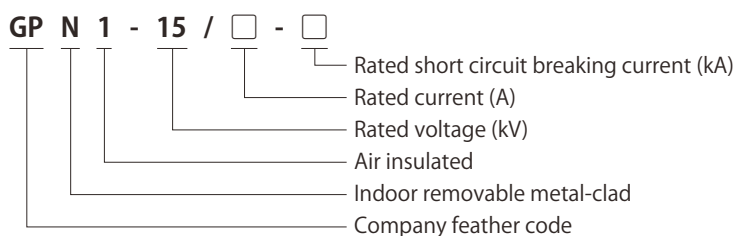
Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;

Earthquake intensity: ≤ 8 degree;

Applicable occasions should be free from inflammables, explosives, corrosives and severe vibration.



■ Model and its meaning



Note: Suitable for ABB/ Siemens, Schneider etc. brands of vacuum circuit breakers.

■ Main technical parameters table for 17.5kV switchgear and cabinet

No.	Item		Unit	Data
1	Rated voltage		kV	15/17.5
2	Rated insulation level	1 min Power frequency withstand voltage (RMS)	kV	50
		Lighting impulse withstand voltage (peak)		95
3	Rated current		A	630~4000
4	Rated short-circuit opening current		kA	50
5	Rated power frequency		Hz	50/60
6	Rated short-circuit making current (peak)		kA	130
7	Rated peak withstand current		kA	130
8	Rated short-time withstand current		kA	50
9	Electrical life		times	20
10	Rated short-circuit current duration		s	4
11	Mechanical life of VCB		times	10000
12	Protection degree of cubicle			Enclosure IP4X, IP2X (VCB door opened)
13	Outline dimension (W × D × H)		mm	800/1000 × 1500/1670 × 2300
14	Weight		kg	500~1200

07 GPVN-17.5kV Indoor AC High Voltage Vacuum Circuit Breaker

Summary

GPVN -15/17.5kV indoor AC high voltage vacuum circuit breaker is a type of holistic and completely sealed high voltage switchgear, it has compact dimension and small volume. The VCB applies to power system of rated voltage 13.8~17.5kV, three-phase and AC 50/60Hz. It is applicable in occasions with frequent operations, acting to protect and control line and electric apparatus. The product conforms to IEC62271-200, GB1984, JB3855 and DL1403 and passes type test.

Ambient condition

Ambient temperature: -25°C ~ 45°C , daily average: ≤ 35°C

Altitude: 1000m(Standard); can up to 4500m for special ordering;

Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;

Earthquake intensity: ≤ 8 degree;

Applicable occasions should be free from inflammables, explosives, corrosives and severe vibration.



Model and its meaning

GP VN - 15 □ / 630 - 25

Rated short-circuit breaking current (kA)

Rated current (A)

Blank: Insulating sleeve type; E: Embedded type

Rated voltage (kV)

Indoor vacuum circuit breaker

Company feather code

Product feature

- 1) Holistic structure
- 2) Sealed spark chamber
- 3) Effective vacuum arc-extinguish
- 4) Good mechanical behavior
- 5) Various mounting approach

Main technical parameters table for 17.5kV vacuum circuit breaker

No.	Name		Unit	Data
1	Rated voltage		kV	15/17.5
2	Rated frequency		Hz	50/60
3	Rated current		kA	630~4000
4	Rated short-circuit opening current		kA	50
5	Rated short-circuit making current (peak)		kA	130
6	Rated peak withstand current		kA	130
7	Rated short-time withstand current		kA	50
8	Electrical life		times	20
9	Rated short-time withstand current		s	4
10	Rated operating sequence			O-180s-CO-180s-CO
11	Rated insulation level	1 min Power frequency withstand voltage (RMS)	kV	38
		Lighting impulse withstand voltage (peak)	kV	95
12	Mechanical life		times	10000
13	Weight		kg	110~170

08 GPN1-12kV Removable AC Metal-clad Enclosed Switchgear

■ Summary

GPN1-12kV removable AC metal-clad switchgear (short for panel as below) is a new product, designed and developed by us, based on the introduction of advanced foreign design and manufacturing technology. The panel applies to 3.6~12kV 3phase AC 50Hz network for receiving and distributing power energy and also for control, monitor and protection. It can be arranged for single busbar, single busbar sectionalizing system or double busbar. It accords with IEC298 "AC Metal Enclosed Switch and Control Equipment above 1kV and below 52kV "IEC 694 Standard Common Clauses for High Voltage Switchgear", DIN. VDE "AC Switchgear at Rated Voltage Above 1kV", GB 3906 "3~35kV AC Metal Enclosed Switchgear and so on. It has perfect and reliable prevention function against misoperation.



■ Ambient condition

Ambient temperature: -25℃ ~ +45℃, daily average: ≤ 35℃

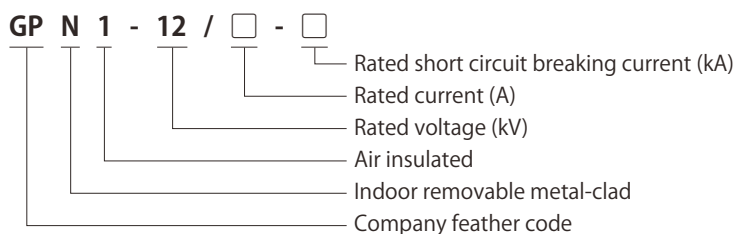
Altitude: 1000m(Standard); can up to 4500m for special ordering;

Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;

Earthquake intensity: ≤ 8 degree;

Applicable occasions should be free from inflammables, explosives, corrosives and severe vibration.

■ Model and its meaning



Note: Suitable for ABB/ Siemens, Schneider etc. brands of vacuum circuit breakers.

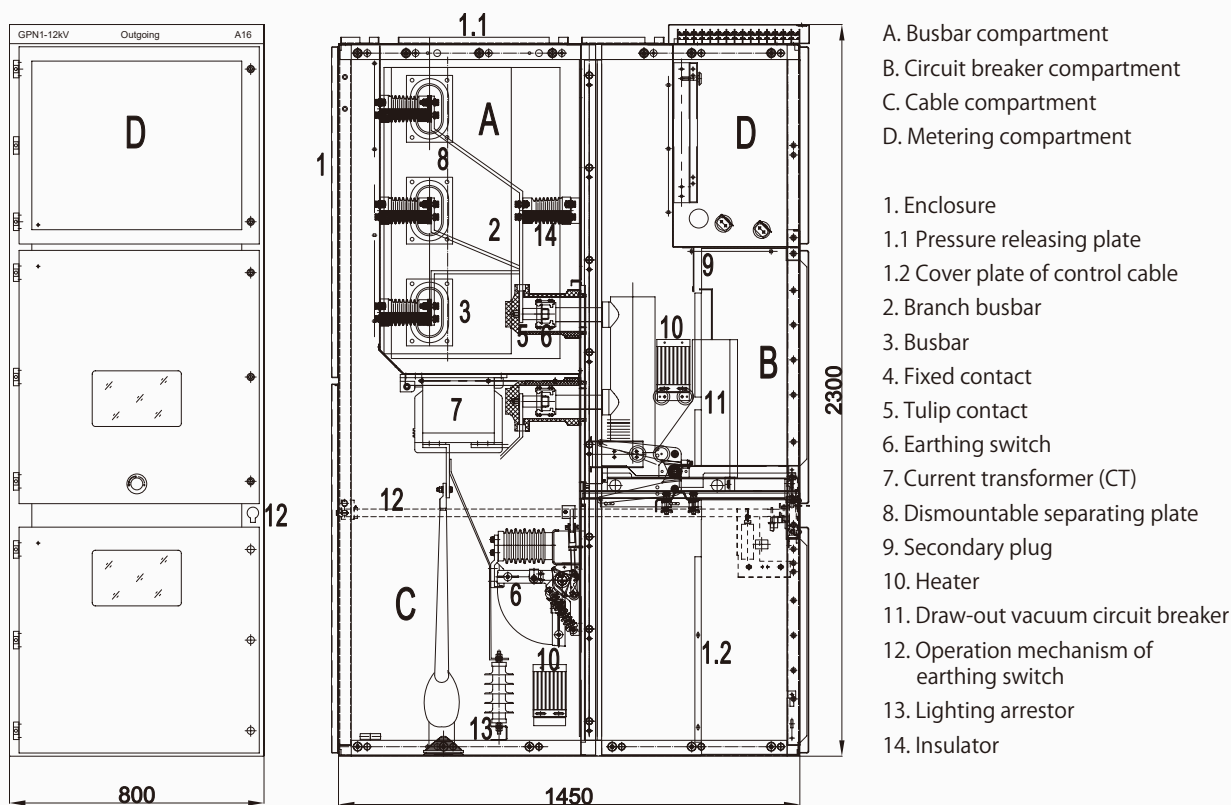
■ Products feature

- 1) This product is applicable for our own made GPNV-12kV embedded or insulating sleeve vacuum circuit breaker or ABB's VD4 vacuum circuit breaker.
- 2) Our production configuration GPVC vacuum contactor - fuse combination or ABB company's VC vacuum contactors, which can be composed of F-C loop cubicle, to meet the electricity system of power plants and demand of other industrial and mining enterprises.
- 3) Using excellent aluminum-zinc clad steel plate by precision CNC machining equipment assembled into the cabinet, and the use of double bending process, greatly improve the strength of the cabinet.
- 4) Door surface by epoxy resin electrostatic powder spray process, resistance of corrosion, oxidation, impact and strong adhesion.
- 5) Cabinet fully enclosed structure is realized fully armored, the functional units are completely separated. When the door is closed, it can achieve the operation of circuit breaker and earthing switch.
- 6) Precision screw drive mechanism, ensure the trolley with good interchangeability.
- 7) Perfect primary plan to meet the various needs of users, and enables double trolley plan.
- 8) Fast earthing switch for earthing and short circuits, and to achieve electric (Motorized) operation.
- 9) Simple and effective "Five Safety" interlock mechanism can reliably prevent misuse and ensure operator's safety.
- 10) Switchgear is belonging to Arc-proof type, on the top of bus compartment, Vacuum circuit breaker compartment, and cable terminal compartment are equipped with pressure relief devices.
- 11) Cable compartment has ample space, can be easily connected to a plurality of cables, and make sure the installation height of the cable plug.
- 12) Strict protection rating (IP4X), to effectively prevent foreign matter or pest invasion.
- 13) Optional secondary system following the security monitoring device has a self-diagnostic function and data communication, intelligent integrated computer, to achieve remote control, remote telemetry, remote viewing, remote adjustment.
- 14) Meet GB3906, GB / T11022, DL404 and IEC60298, IEC62271-1 standards, and through a comprehensive test type test and plateau test (3000 m).
- 15) Passed electromagnetic compatibility tests in the high voltage equipment test laboratory.

■ Technical specification

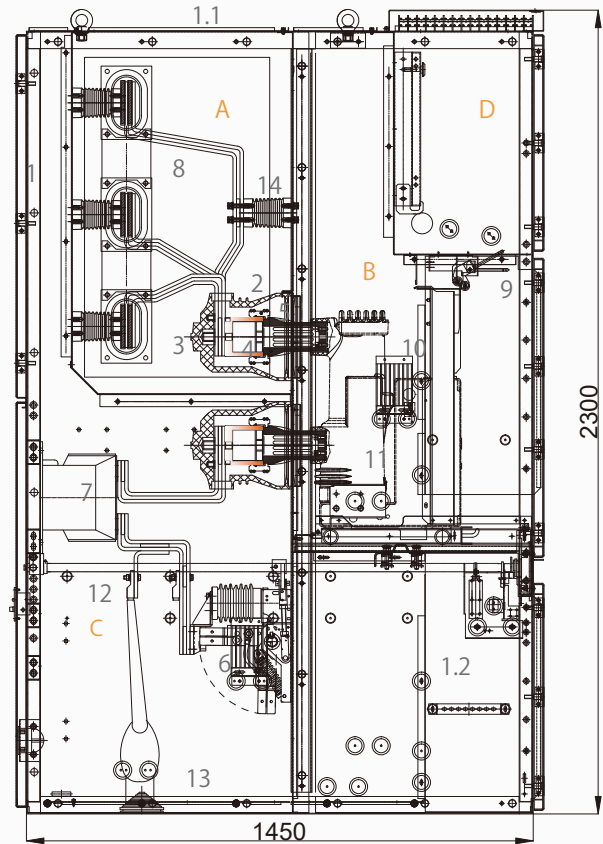
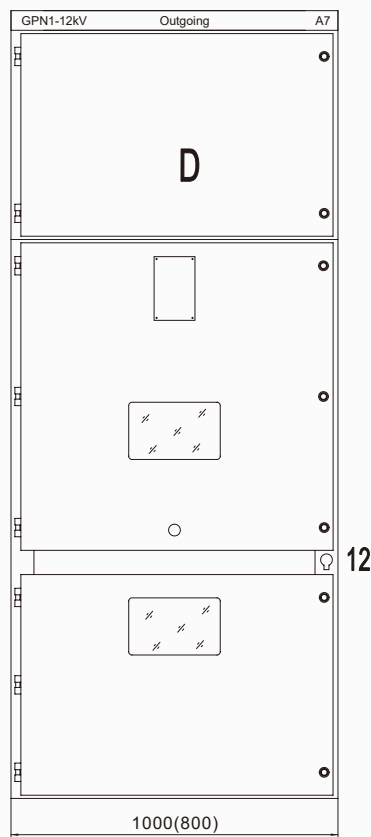
Item		Unit	Data
Rated voltage		kV	6~12
Rated frequency		Hz	50/60
Rated current		A	630~4000
Rated insulation level	1min Power frequency (Phase to earth / across open contacts)	kV	42/48
	Lightning impulse withstand voltage (Phase to earth/across open contacts)	kV	75/85
Main busbar rated current		A	1250, 1600, 2000, 2500, 4000
Sub-busbar rated current		A	630, 1250, 1600, 2000, 2500, 3150
Rated short time withstand current (4s)		kA	16, 20, 25, 31.5, 40, 50
Rated peak withstand current		kA	40, 50, 63, 80, 100, 125
Protection degree			Enclosure IP4X, IP2X (VCB door opened)
Outline dimension (width/depth/height)		mm	650 (800, 1000) / 1500 (1300, 1670, 2000) / 2300
Weight		kg	500~1200

■ Structure drawing of cubicle 630A~1250A



Note: here only show the outgoing schematic for reference. For the other schematic, Please consult with GP for more details.

■ Structure drawing of cubicle 1600A~4000A



A. Busbar compartment
B. Circuit breaker compartment
C. Cable compartment
D. Metering compartment

1. Enclosure
1.1 Pressure releasing plate

1.2 Cover plate of control cable
2. Branch busbar
3. Busbar
4. Fixed contact
5. Tulip contact
6. Earthing switch
7. Current transformer(CT)

8. Dismountable separating plate
9. Secondary plug
10. Heater
11. Draw-out vacuum circuit breaker
12. Operation mechanism of earthing switch
13. Lighting arrestor
14. Insulator

Note: here only show the outgoing schematic for reference. For the other schematic, Please consult with GP for more details.

■ Vacuum circuit breaker plan

Rating current of Branch bus (Ie)	Width (W)	Depth (D)	Height (H)
Ie≤1250A	650	1350 or 1450 or 1550 or 1610	2300
	800		
Ie≤1600A	800	1550 or 1610	2300
1600A≤Ie≤4000A	1000	1550 or 1610	2300

■ Vacuum contactor plan

Rating current of Branch bus (Ie)	Width (W)	Depth (D)	Height (H)
Ie ≤ 400A	650	1400 or 1500 or 1600 or 1660	2300

Note: See page 26/27 for more information of F-C circuit plan.

09 GPVN -12kV Indoor AC High Voltage Vacuum Circuit Breaker

Summary

GPVN -12kV indoor AC high voltage vacuum circuit breaker is a type of holistic and completely sealed High Voltage switchgear, it has compact dimension and small volume. The VCB applies to power system of rated voltage 7.2~12kV, three-phase and AC 50/60Hz. It is applicable in occasions with frequent operations, acting to protect and control line and electric apparatus. The product conforms to IEC62271-100, GB1984, JB3855 and DL1403 and passes type test.

Ambient condition

Ambient temperature: -25°C ~ +45°C , daily average: ≤ 35°C
Altitude: 1000m(Standard); can up to 4500m for special ordering;
Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;
Earthquake intensity: ≤ 8 degree;
Applicable occasions should be free from inflammables, explosives, corrosives and severe vibration.



Model and its meaning

GP VN - 12 □ / 630 - 31.5

GP: Company feather code
VN: Indoor vacuum circuit breaker
12: Rated voltage (kV)
□: Blank: Insulating sleeve type; E: Embedded type
630: Rated current (A)
31.5: Rated short-circuit breaking current (kA)

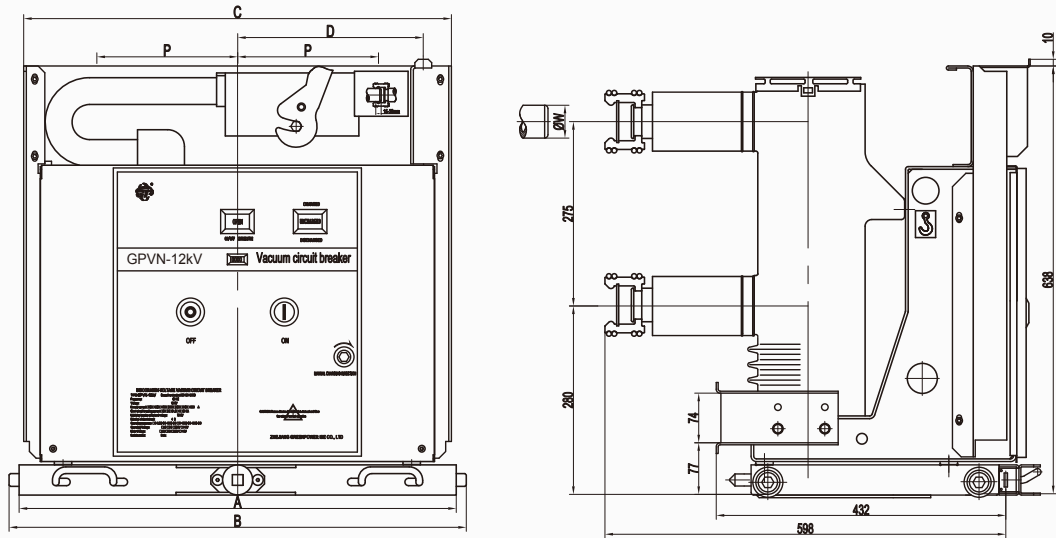
Product feature

- 1) Holistic structure
- 2) Sealed spark chamber
- 3) Effective vacuum arc-extinguish
- 4) Good mechanical behavior
- 5) Various mounting approach

Technical specifications

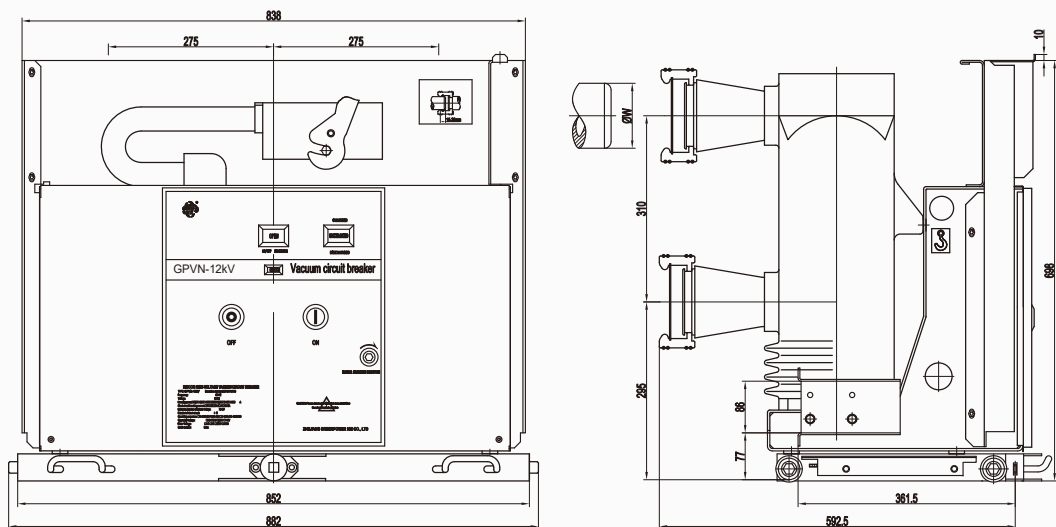
No.	Item	Unit	Data						
1	Rated voltage	kV	7.2~12						
2	Rated frequency	Hz	50/60						
3	Rated current	A	630, 1000, 1250		1600	2000, 2500, 3150		4000	
4	Rated short-circuit breaking current	kA	20	25	31.5	31.5	40	40	50
5	Rated short-circuit making current	kA	50	63	80	80	100	100	125
6	Rated short-time withstand current	kA	20	25	31.5	31.5	40	40	50
7	Rated peak withstand current	kA	50	63	80	80	100	100	125
8	Rated pull-out breaking current	kA			12.6	12.6	16	16	20
9	Rated out-of-phase earthing fault breaking current	kA	17.4	21.7	27.4	27.4	34.7	34.7	43.5
10	Rated short-circuit breaking current breaking time	times	50				30	30	12
11	Rated operation sequence		O-0.3s-CO-180s-CO				O-180s-CO-180s-CO		
12	Rated breaking current of single capacitor bank	A	630						
13	Rated breaking current of back to back capacitor bank	A	400						
14	1 min Power frequency withstand voltage	kV	Phase to phase/ to earth: 42, across open contacts: 48						
15	Lightning impulse withstand voltage	kV	Phase to phase/ to earth: 75, across open contacts: 85						
16	Mechanical life	times	20000						
17	Closing time	ms	≤ 75						
18	Opening time	ms	≤ 60						
19	Power storage time under rated voltage	s	≤ 10						

■ Outline dimension of GPVN-12kV



Rated current	Rated Short Circuit Breaking Current	P	A	B	L	D	W
630A	25kA/31.5kA	150	502	532	490	202	Φ 35
		210	652	682	638	277	
1250A	25kA/31.5kA	150	502	532	490	202	Φ 49
		210	652	682	638	277	
		275	852	882	838	377	
1600A	31.5kA/40kA	210	652	682	638	277	Φ 55
		275	852	882	838	377	

Note: Fixed type and motorized type breaker are available.

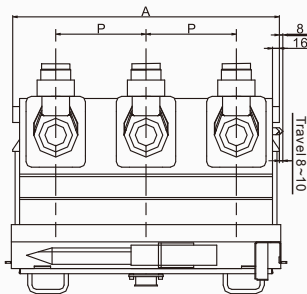
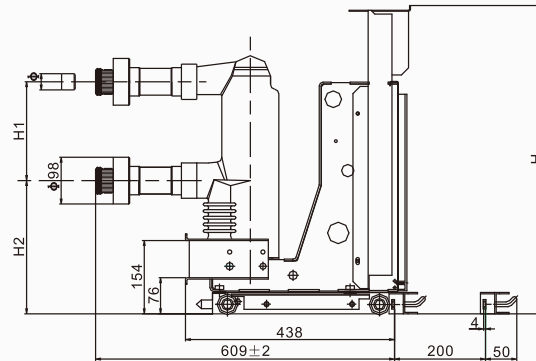
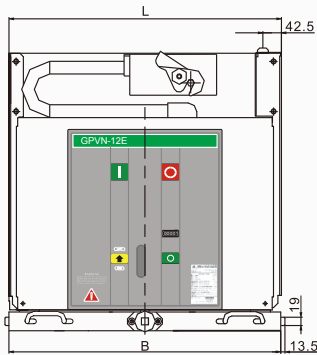


Rated current	Rated short Circuit breaking current	P	W
1600A, 2000A	31.5kA, 40kA	275	Φ 79
2500A, 3150A			Φ 109
4000A			Φ 109

Note:

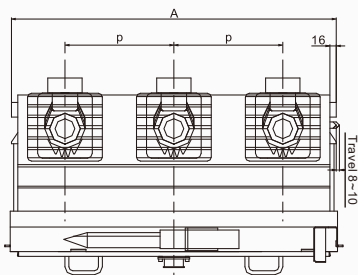
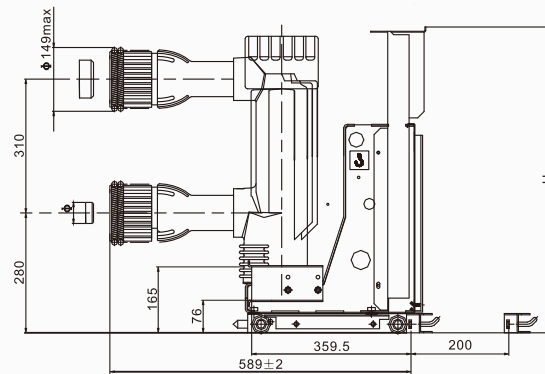
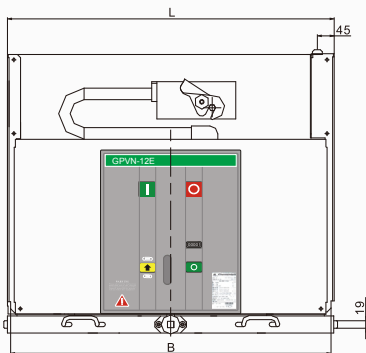
1. Fixed type and motorized type breaker are available.
2. Here only VCB schematic for reference. For the PT truck, Bus truck, fuse truck, etc. Please consult with GP for more details.

■ Outline dimension of GPVN-12E



Rated current	Rated short circuit breaking current	P	H1	H2	A	B	L	Φ	H	Applicable cabinet width
630~1250A	20-31.5kA	150	205	260	502	502	492	35	618	650
		210	205	260	650	652	648	35		800
630A		210	275	280	650	652	648	35	637	800
		150	275	280	502	502	492	35		650
1250A		210	275	280	650	652	648	49		800
		150	275	280	502	502	492	49		650

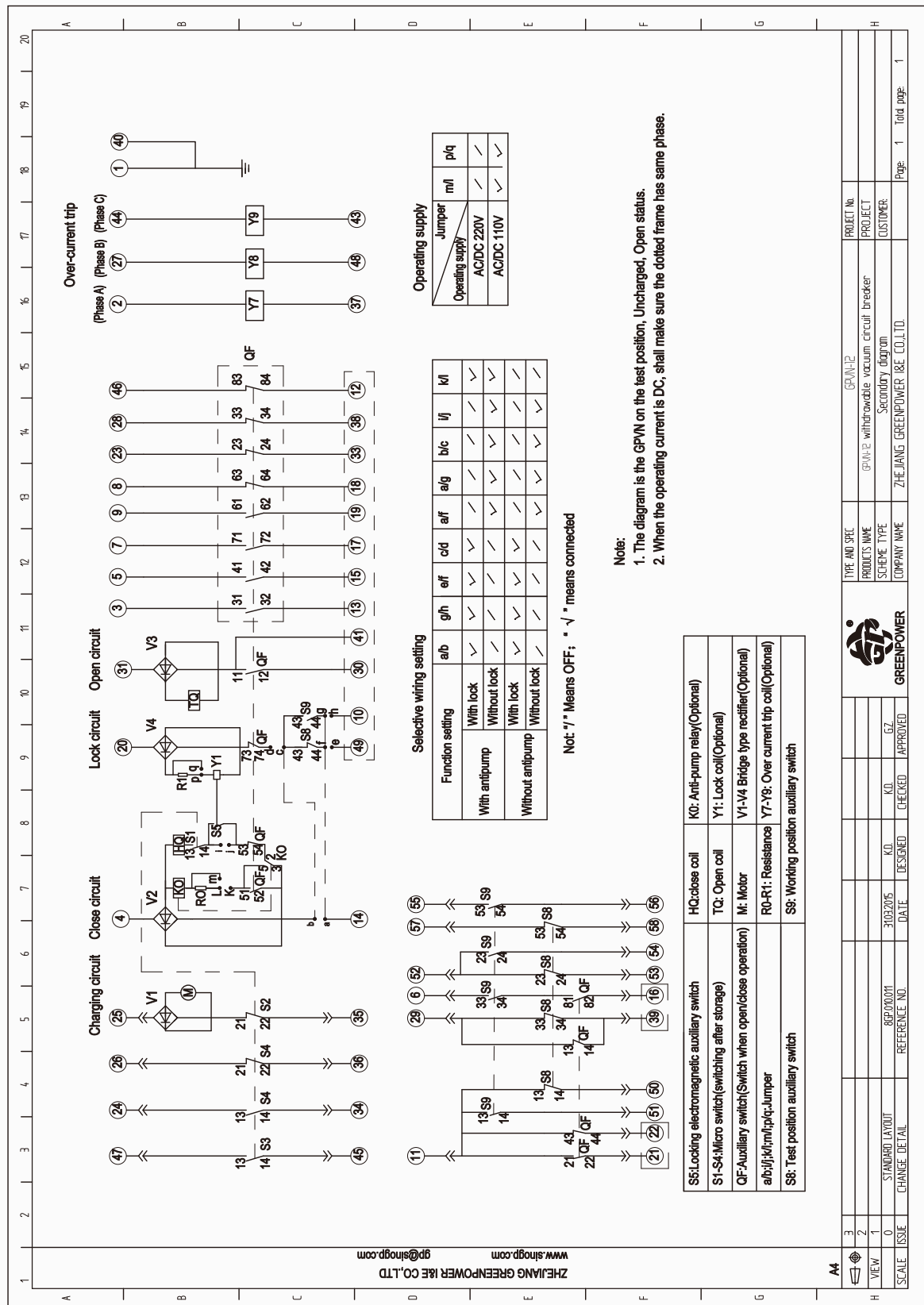
Note: Fixed type and motorized type breaker are available.



Specification	P	A	B	L	Φ	H	Applicable cabinet width
1600A 31.5kA/40kA	275	850	852	844	55	694	1000
2000A 31.5kA/40kA	275	850	852	844	79	694	
2500~3150A 31.5kA/40kA	275	850	852	844	109	735	
4000A* 40kA	275	850	852	844	109	735	

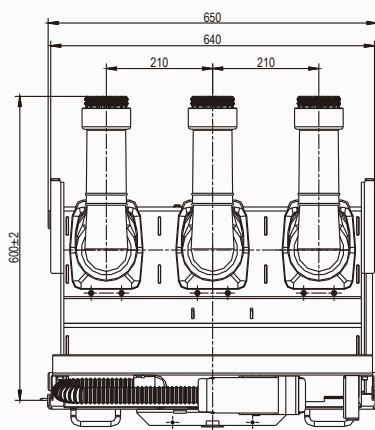
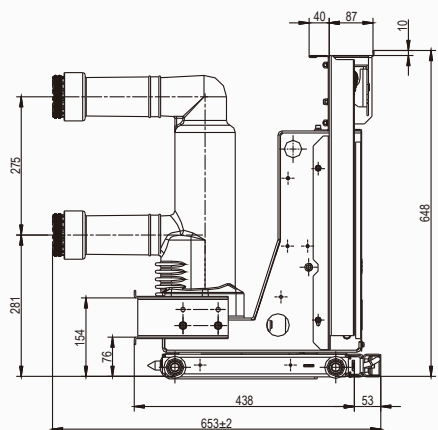
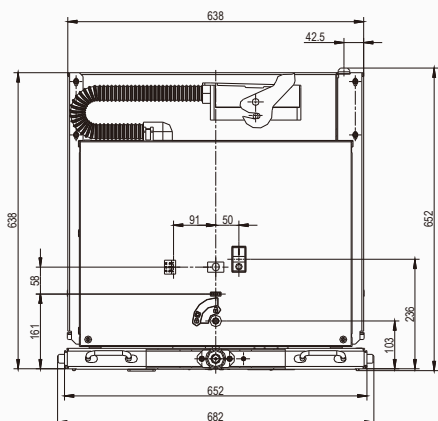
Note: 1. Fixed type and motorized type breaker are available.
 2. Rated current upper than 2500A, breaker must with heat shield
 3. * Use forced air cooling, rated current can up to 4000A
 4. Here only VCB schematic for reference. For the PT truck, Bus truck, fuse truck, etc. Please consult with GP for more details.

■ Secondary diagram



10 12/17.5kV Embedded-Pole Permanent Magnet Circuit Breaker

■ Dimension of GPVN-12/M1250-31.5



■ Main parameters of GPVN-12/M1250-31.5

Item	Unit	Data 1	Data 2
Rated Voltage	kV	12	17.5
Rated current	A	1250	1250
Rated Power frequency withstand voltage	kV	42	38
Rated impulse withstand voltage	kV	75	95
Rated short-circuit breaking current	kA	31.5	31.5
Rated short-circuit close peak current	kA	80	80
Rated short-time withstand current	kA	31.5	31.5
Rated short-time withstand time	s	4	4
Rated frequency	Hz	50/60	50/60
Mechanical life	times	50000	50000
Close-open operation circle under rated current	times	30	30
Close time, not more than	ms	<25	<25
Open time, not more than, include	ms	<15	<15
Bound time	ms	0	0
Open jump		<1/5 open distance	<1/5 open distance
Rated operation circle	kg	105	105
Auxiliary switch		6NO+6NC	6NO+6NC

11 GPVC Vacuum Contactor - Fuse Combination Apparatus

■ Main features of GPVC vacuum contactor - fuse combination apparatus (F-C circuit).

- 1) APG process solid epoxy resin sealing technology.
- 2) Modular, streamlined design.
- 3) Frequent operation, long life, maintenance-free.
- 4) Limiting role of the fuse can be save cost mostly.
- 5) Products through the entire type test and plateau test (3000 m)
- 6) It can be equipped with fuse in a variety of sizes.
- 7) GPVC handcart fitted directly to the middle placed metal clad switchgear;
- 8) Widely used in thermal power plants, metallurgical, petrochemical, mines and other industrial and mining enterprises
- 9) Products meet GB / T 14808, GB / T 11022, IEC 60470 and other standards.



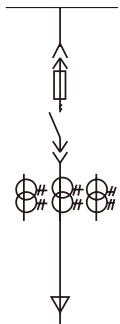
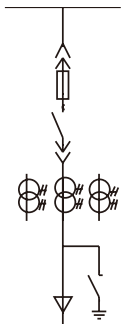
■ Ambient condition

- 1) Ambient temperature: -25℃ ~ +45℃ , daily average: ≤ 35℃
- 2) Altitude: 1000m(Standard); can up to 4500m for special ordering;
- 3) Relative humidity: Daily average ≤ 95%, monthly average ≤ 90%;
- 4) Earthquake intensity: ≤ 8 degree;
- 5) Applicable occasions should be free from inflammables, explosives, corrosives and severe vibration.

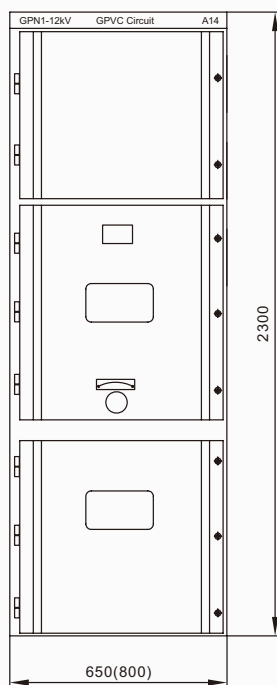
■ Main technical parameters of GPVC vacuum contactor - fuse combination apparatus

Item		Unit	Data		
Rated Voltage		kV	3.6	7.2	12
1min Power frequency withstand voltage		kV	20	32	42
Lighting impulse withstand voltage		kV	46	60	75
Rated current		A	400	315	200
Rated short-time withstand current (4s)		kA	4		
Rated peak withstand current		kA	10		
Expected short-circuit breaking current		kA	50		
Expected short-circuit close current		kA	130		
Main circuit resistance		uΩ	≤ 250+RFuse		
Max. transfer current		A	4000	4000	3200
Rated current breaking times		times	250,000		
Mechanical life	Mechanical hold-type	times	300,000		
	Electrical hold-type	times	500,000		
Main circuit resistance		uΩ	≤ 150		

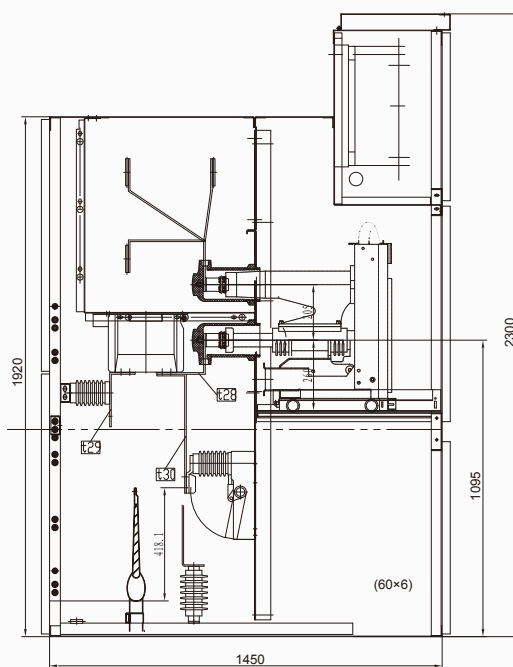
■ Plan of the GPVC vacuum contactor-fuse combination

Plan number		Plan - 1	Plan - 2
Primary plan			
Rated current (A)		~400	~400
Main components	Vacuum contactor-Fuse combination - GPVC	1	1
	Current transformer LZBJ	3	3
	Voltage transformer JDZ10 or JDZX10		
	High voltage fuse XRNM-10	3	3
	Earthing switch GPJN15-12		1
Voltage monitor device		As Users requirement	As Users requirement
Remarks		Motor driving	Motor driving

■ Outline dimension of GPVC installed switchgear



Front view



Side view

12 GPR1 Series Gas Insulated Ring Main Unit

■ Summary

GPR1 ring main unit uses SF₆ gas as the insulation medium. SF₆ gas has strong electronegativity, high dielectric strength, and insulation strength 2~3 times that of air. It is non-toxic, odorless, non flammable, and non explosive. It has excellent arc extinguishing and insulation performance, allowing the load switch/circuit breaker to quickly extinguish the arc after breaking the current. Its internal design has a compact structure and small volume, saving space and resources. The gas tank adopts a stainless steel welded fully sealed structure. The operating mechanism adopts a spring type, with a simple structure and flexible operation, and the operating speed is not affected by the size of manpower. The mechanism has complete mechanical locking and reliable interlocking. Adopting modular design, it can be flexibly combined into various distribution schemes to meet the diverse needs of different occasions and users.

GPR1 ring main unit is suitable for the 3.6~12kV three-phase AC 50/60Hz power system as a means of receiving and distributing electrical energy. It is widely used in oil-free, safe and reliable small distribution stations, switching stations, urban residential communities, airports, railways, tunnels, and high-rise buildings. Especially suitable for various places with harsh environmental conditions and polluted environments such as industrial and mining enterprises, mountainous areas, plateaus, and coastal areas.

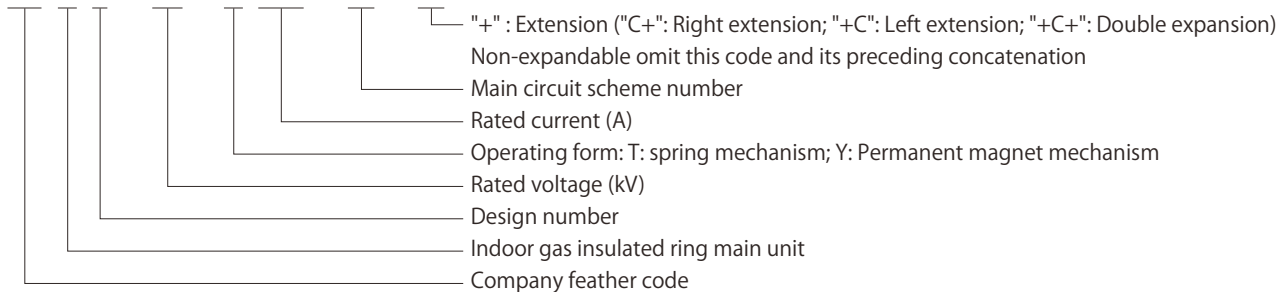


■ Ambient condition

- 1) Altitude: not exceeding 3000m
- 2) Ambient temperature: -25 °C ~ +40 °C
- 3) Earthquake intensity: ≤ 8 degree
- 4) Places without fire, explosion hazards, severe pollution, chemical corrosion, and severe vibration, capable of dust prevention, moisture prevention, and short-term immersion.
- 5) Note: When the actual usage environmental conditions do not match the above conditions, please consult with our company.

■ Model and its meaning

GP R 1 - 12 / T 630 - □ - □



Note: When the actual usage environmental conditions do not match the above conditions, please consult with our company.

■ Standards and specifications

This switchgear complies with the following standards and specifications:

- IEC 60265-1:1998 High Voltage Load Switches Part 1: Load Switches with Rated Voltages Above 1kV and Below 52kV
- IEC 60298:1990 AC Metal Enclosed Switchgear and Controlgear Above 1kV and Below 52kV
- IEC 60694:2002 Common Technical Requirements for High Voltage Switchgear and Controlgear Standards
- IEC 62271-100:2012 High Voltage AC Circuit Breaker
- IEC 62271-102:2012 High Voltage AC Isolation Switch and Earthing Switch
- GB/T 3906-2006 3.6kV~40.5kV AC Metal Enclosed Switchgear and Controlgear
- GB/T 3804-2017 3.6kV~40.5kV High Voltage AC Load Switch
- GB/T 1984-2014 High Voltage AC Circuit Breaker
- GB/T 1985-2014 High Voltage AC Isolation Switch and Earthing Switch
- GB/T 11022-2011 Common Technical Requirements for High Voltage Switchgear and Controlgear Standards
- GB/T 16926-2009 AC High Voltage Load Switch - Fuse Combination Electrical Appliances

■ Advanced technology

- The main components and springs of the mechanism are made of imported materials to ensure reliable operation. The operating life of the load switch reaches 5000 times, and the operating life of the circuit breaker reaches 10000 times.
- The processing technology of injection molded parts and sealing parts is advanced and strictly tested, with a service life of ≥ 30 years.
- Adopting advanced equipment such as ABB automatic welding robots and Leybold helium leak detection system, ensuring an annual relative leakage rate of SF₆ gas of $\leq 0.05\%$.
- By using vacuum dehumidification technology, the micro water content of SF₆ gas can be controlled to ≤ 150 ppm.
- The inflation pressure is low, and under zero gauge pressure conditions, the switchgear can operate normally and achieve rated current opening and closing.
- The harmonious unity of fixed and flexible expansion allows for the configuration of multiple modules in the same SF₆ insulated gas chamber, or the use of extended busbars to connect the switchgear, achieving a semi modular structure.

■ Sealed gas insulation system

In the GPR1 ring main unit, dry air is used as the insulation medium in the sealed stainless steel box.

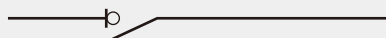
- Stainless steel metal gas tank with good earthing device to ensure the safety of operators.
- Advanced automatic welding equipment ensures the sealing performance of the gas tank during operation.
- The airtightness of the air chamber is strictly inspected before leaving the factory, ensuring reliable performance and a service life of over 30 years.
- All components in the gas tank are maintenance free within a 30 year service life.

■ Function selection

GPR1 ring main unit can provide 1~5 functions for users to choose from, forming a RMU, and can also serve as a transformer feed switch.

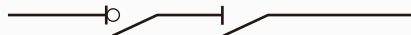
● Load switch

C



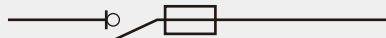
● Vacuum load switch

C



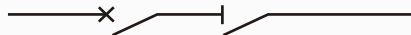
● Load switch - fuse combination appliance

B



● Vacuum circuit breaker

D



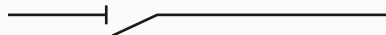
● Connection unit

F



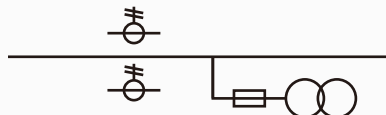
● Disconnecter switch

G



● Metering unit

JL



■ Technical parameters of GPR1 RMU

No.	Item		Unit	Data		
				Load switch	Combination appliance	Circuit breaker
1	Rated voltage		kV	12		
2	Rated frequency		Hz	50/60		
3	Rated current of main busbar		A	630		
4	Rated current		A	630	125 *	200
						630
5	Rated short-circuit breaking current		kA		31.5 *	20/25
6	Rated transfer current		A		1750	
7	Rated short-circuit duration		s	4		4
8	Rated short-time withstand current (effective value)		kA	20/25		20/25
9	Rated peak withstand current		kA	50/63		50/63
10	Rated short-circuit making current (peak) of load switch and earthing switch		kA	50/63	80	50/63
11	1min Power frequency withstand voltage	Phase to phase, phase to earth	kV	42		
		Across the isolating distance	kV	48		
12	Lightning impulse withstand voltage	Phase to phase, phase to earth	kV	75		
		Across the isolating distance	kV	85		
13	Auxiliary circuit and control circuit (1min power frequency withstand voltage)		kV	2		
14	Rated active load breaking current		A	630		
15	Rated closed loop breaking current		A	630		
16	Rated no-load transformer breaking current		A	16		
17	Rated cable-charging breaking current		A	30		
18	Mechanical life		times	5000, 10000	5000	10000
19	Rated pressure of SF ₆ gas (20°C gauge pressure)		MPa	0.02 or 0.045 (During SF ₆ arc extinguishing)		
20	Annual leakage rate of SF ₆ gas		%	≤ 0.05		
21	Moisture content of inflatable compartments (20°C)		ppm (μ L/L)	≤ 150		

Note:

* The rated current and rated short-circuit breaking current of the combination appliance unit are determined by the equipped fuse; The selection of technical parameters in "()" should be specifically noted during ordering.

13 GPR1.1 Series Dry Air Insulated Ring Main Unit (Environmentally friendly and intelligent)

■ Summary

GPR1.1 series atmospheric pressure sealed dry air insulated ring main unit switchgear (hereinafter referred to as GPR1.1 ring main unit) is a new generation of intelligent and environmentally friendly ring main unit independently developed by our company according to the needs of the new era of distribution network construction and transformation, with international level. Its technology draws on the technical advantages of domestic and foreign sulfur hexafluoride fully insulated ring main unit Through electromagnetic field simulation analysis, dry air is used as the insulation medium, combined with vacuum arc extinguishing technology, completely replacing sulfur hexafluoride gas, retaining the technical advantages of sulfur hexafluoride fully insulated ring main unit, achieving zero emission of sulfur hexafluoride, and is a new generation of green and environmentally friendly products.

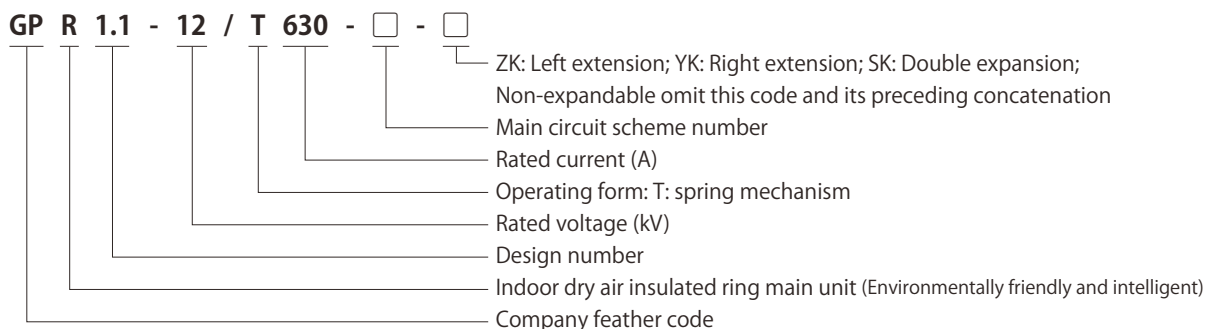
GPR1.1 ring main unit is suitable for the 3.6~12kV three-phase AC 50/60Hz power system, as a means of receiving and distributing electrical energy. It is widely used in oil-free, safe and reliable small distribution stations, switching stations, urban residential areas, airports, power plants, power grids, petrochemical, metallurgical, railway, tunnels, and high-rise buildings, especially in industrial and mining enterprises, mountainous areas, plateaus, etc. various places with harsh environmental conditions such as coastal areas and dirty environments.



■ Ambient condition

- 1) Altitude: not exceeding 3000m
- 2) Ambient temperature: -25 °C ~ +40 °C , daily average temperature not exceeding +35 °C
- 3) Relative humidity: The average daily relative humidity does not exceed 95%;
and the average monthly relative humidity does not exceed 90%
- 4) Earthquake intensity: ≤ 8 degree
- 5) Places without fire, explosion hazards, severe pollution, chemical corrosion, and severe vibration, capable of dust prevention, moisture prevention, and short-term immersion.

■ Model and its meaning



Note: When the actual usage environmental conditions do not match the above conditions, please consult with our company.

■ Standards and specifications

This switchgear complies with the following standards and specifications:

- IEC 60265-1:1998 High Voltage Load Switches Part 1: Load Switches with Rated Voltages Above 1kV and Below 52kV
- IEC 60298:1990 AC Metal Enclosed Switchgear and Controlgear Above 1kV and Below 52kV
- IEC 60694:2002 Common Technical Requirements for High Voltage Switchgear and Controlgear Standards
- IEC 62271-100:2012 High Voltage AC Circuit Breaker
- IEC 62271-102:2012 High Voltage AC Isolation Switch and Earthing Switch
- GB/T 3906-2006 3.6kV~40.5kV AC Metal Enclosed Switchgear and Controlgear
- GB/T 3804-2017 3.6kV~40.5kV High Voltage AC Load Switch
- GB/T 1984-2014 High Voltage AC Circuit Breaker
- GB/T 1985-2014 High Voltage AC Isolation Switch and Earthing Switch
- GB/T 11022-2011 Common Technical Requirements for High Voltage Switchgear and Controlgear Standards

■ Advanced technology

- Non pollution: Using specially treated dry air as insulation medium, green and environmentally friendly.
- Miniaturization: Small and compact, with less than a quarter of the footprint of traditional products, saving land.
- Visualization: There is a visual window corresponding to the three station isolation and earthing switch, which can visually observe the isolation fracture and earthing status, improving the safety of use.
- Zero gauge pressure: The internal dry air pressure is consistent with atmospheric pressure, and there is no gas pressure on the gas tank, greatly reducing the risk of air leakage.
- High performance: The internal electromagnetic field balancing technology is used to evenly distribute the electric field inside the gas tank, achieving stable operation and ensuring electrical performance in dry air.
- Safety: Adopting mechanical interlocking device with "five prevention" locking function; Install a pressure relief device at the bottom of the gas tank to protect the safety of operators in front of the cabinet.
- Maintenance free: The interior of the switchgear is filled with dry air, and the gas pressure is at atmospheric pressure. The components inside the gas tank are maintenance free for 30 years, greatly reducing the cost of comprehensive investment and having great economic benefits.

■ Sealed gas insulation system

In the GPR1.1 ring main unit, dry air is used as the insulation medium in the sealed stainless steel box.

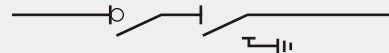
- Stainless steel metal gas tank with good earthing device to ensure the safety of operators.
- Advanced automatic welding equipment ensures the sealing performance of the gas tank during operation.
- The airtightness of the air chamber is strictly inspected before leaving the factory, ensuring reliable performance and a service life of over 30 years.
- All components in the gas tank are maintenance free within a 30 year service life.

■ Function selection

GPR1.1 ring main unit can provide 1~4 functions for users to choose from, forming a RMU, and can also serve as a transformer feed switch.

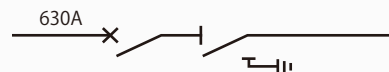
● Load switch

K



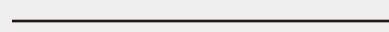
● 630A Circuit Breaker

V



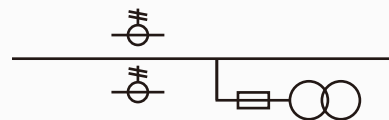
● Connection unit

F



● Metering unit

JL



■ Technical parameters of GPR1.1 RMU

No.	Item			Unit	Data	
					Load switch	Circuit breaker
1	Rated voltage			kV	12	
2	Rated frequency			Hz	50/60	
3	Rated current of main busbar			A	630	
4	Rated current			A	630	
5	Rated breaking current			kA	/	20
6	Rated short-circuit making current (peak)			kA	50	
7	Rated short-time withstand current (effective value)			kA	20	
8	Rated short-circuit duration			s	4	
9	Rated peak withstand current			kA	50	
10	Rated active load breaking current			A	630	/
11	Rated closed-loop breaking current			A	630	/
12	Rated short-circuit cable charging breaking current			A	30	/
13	Rated insulation level	1min Power frequency withstand voltage	Phase to phase, phase to earth	kV	42	
			Across open contacts	kV	48	
		Lightning impulse withstand voltage	Phase to phase, phase to earth	kV	75	
			Across the open switching device	kV	85	
			Across the isolating distance	kV	85	
14	Auxiliary circuit and control circuit (1min power frequency withstand voltage)			kV	2	
15	Rated gas pressure (20 ℃ gauge pressure)			MPa	0	
16	Pressure tolerance level of gas filled compartment			MPa	0.039	
17	Gas medium				Dry air *	
18	Moisture content of gas filled compartment (20 ℃)			ppm (μ L/L)	≤ 150	
19	Annual leakage rate of 0.02MPa (relative air pressure)			%	≤ 0.05	
20	Gas tank maintenance cycle			year	30 (Maintenance free)	
21	Rated operating sequence					O-0.3s-CO-180s-CO
22	Mechanical life		Circuit breaker switch	times	≥ 10000	
			Load switch		≥ 10000	
			Isolation switch		≥ 3000	
			Earthing switch		≥ 3000	

Note:

* Other insulation gases can be filled according to customer requirements, which will significantly improve the internal insulation capacity.

14 GPR2 Series Gas Insulated Ring Main Unit

■ Summary

GPR2 ring main unit adopts SF₆ gas as insulation and arc extinguishing medium. SF₆ gas has strong electronegativity, high dielectric strength, and the dielectric strength is 2~3 times that of air. It is non-toxic, odorless, non-flammable, non-explosive, and has excellent arc extinguishing and insulation properties, making the load switch/circuit breaker extinguish the arc quickly after breaking the current. Its internal design is compact and small, saving space and resources. The gas tank is welded with stainless steel and has a fully sealed structure. The operating mechanism adopts spring type, with simple structure and flexible operation, and the operating speed is not affected by the human strength. The mechanism has perfect mechanical locking and reliable interlocking. The modular design can be flexibly combined into various power distribution schemes to meet the various needs of different occasions and different users.

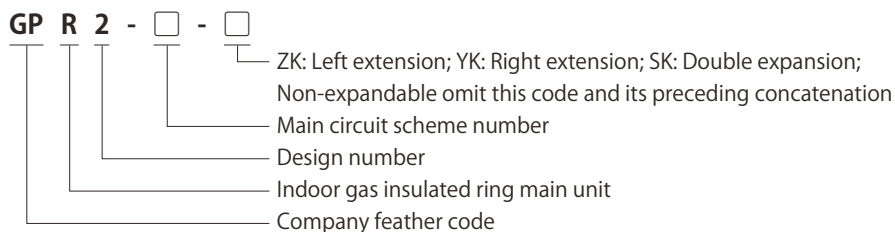
GPR2 ring main unit is suitable for 3.6~24kV three-phase AC 50/60Hz power system, as the use of receiving and distributing electric energy. It is widely used in oil-free, high-safety and reliable small power distribution stations, opening and closing stations, urban residential quarters, airports, railways, tunnels and high-rise buildings, etc. It is especially suitable for various places with harsh or dirty environmental conditions such as industrial and mining enterprises, mountainous areas, plateaus, and coastal areas.



■ Ambient condition

- 1) Altitude: not exceeding 3000m
- 2) Ambient temperature: -25 °C ~ +40 °C , daily average temperature not exceeding +35 °C
- 3) Earthquake intensity: ≤ 8 degree
- 4) Places without fire, explosion hazards, severe pollution, chemical corrosion, and severe vibration, capable of dust prevention, moisture prevention, and short-term immersion.
- 5) Note: When the actual usage environmental conditions do not match the above conditions, please consult with our company.

■ Model and its meaning



■ Standards and specifications

This switchgear complies with the following standards and specifications:

- IEC 62271-100:2012 High Voltage AC Circuit Breaker
- IEC 62271-102:2012 High Voltage AC Isolating Switch and Earthing Switch
- IEC 62271-200 High Voltage Switchgear and Controlgear
- IEC 60694:2002 Standard Common Technical Requirements for High Voltage Switchgear and Controlgear
- IEC 60298:1990 AC Metal-enclosed Switchgear and Controlgear Above 1kV and Below 52kV
- IEC 60265-1:1998 High Voltage Load Switch Part 1: Load Switch with Rated Voltage Above 1kV and Below 52kV
- GB 3906-2006 3.6kV~40.5kV AC Metal-enclosed Switchgear and Controlgear
- GB 3804-2004 3.6kV~40.5kV High Voltage AC Load Switch
- GB 1984-2003 High Voltage AC Circuit Breaker
- GB 16926-2009 AC High Voltage Load Switch - Fuse Combination Electrical Appliance
- GB 1985-2004 High Voltage AC Isolating Switch and Earthing Switch
- GB 3309-1989 Mechanical Test of High Voltage Switchgear at Normal Temperature
- GB/T 11022-2011 Standard Common Technical Requirements for High Voltage Switchgear and Controlgear
- DL/T 791-2011 Selection Guide for Indoor AC Inflatable Switchgear

■ Advanced technology

- The main parts and springs of the mechanism are imported materials to ensure reliable operation, and the operating lifetime of the load switch and circuit breaker can reach 5000 times.
- The injection molding parts and sealing parts have advanced processing technology, and have been strictly tested, and the service lifetime is ≥ 30 years.
- Advanced equipment such as ABB automatic welding robot and Leybold helium leak detection system are used to ensure that the annual relative leakage rate of SF_6 gas is less than or equal to 0.1%.
- Using vacuum dehumidification technology, the micro-water content of SF_6 gas can be controlled to be less than or equal to 150ppm.
- The three-position straight cylinder blowing load switch can easily break the 2200A transfer current in the application of the combined electrical unit.
- The inflation pressure is low, only the gauge pressure is 0.02MPa. And under the rated working condition of zero gauge pressure, the switchgear can operate normally and can realize 10 times of rated current switching.
- The circuit breaker adopts a three-position gas blowing arc extinguishing and magnetic swirl arc extinguishing integrated arc extinguishing chamber, and the breaking and isolation functions are performed synchronously.
- User-friendly, visual grounding system. The opening and closing status of the grounding switch can be clearly observed through the transparent observation window.

■ Sealed gas insulation system

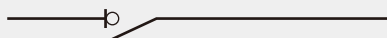
In the GPR2 ring main unit, the sealed stainless steel box is filled with SF_6 gas of rated pressure as insulation and arc extinguishing medium.

- SF_6 gas has strong electronegativity, high dielectric strength, and the dielectric strength is 2~3 times that of air. It has excellent arc extinguishing and insulating properties, ensuring that the switchgear can quickly extinguish the arc after breaking the current.
- The stainless steel metal gas tank is equipped with a good grounding device to ensure the safety of the operator.
- Advanced automatic welding equipment ensures the sealing performance of the gas tank when it is working.
- The gas tightness of the gas chamber is strictly inspected before leaving the factory, and the performance is reliable and the service lifetime of more than 30 years is guaranteed.
- All components in the gas tank are maintenance-free within 30 years of service lifetime.

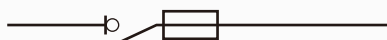
■ Function selection

GPR2 ring main unit can provide 1~5 functions for users to choose from, forming a RMU, and can also serve as a transformer feed switch.

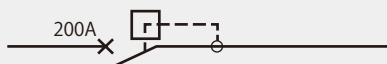
● Load switch



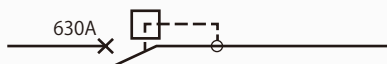
● Load switch-fuse combination electrical appliance



● 200A Circuit Breaker



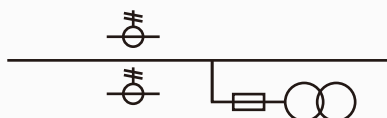
● 630A Circuit Breaker



● Connection unit



● Metering unit



■ Technical parameters of GPR2 RMU

No.	Item		Unit	Technical parameter					
				Load switch	Combination electrical appliance	Breaker	Load switch	Combination electrical appliance	Breaker
1	Rated voltage		kV	12			24		
2	Rated frequency		Hz	50/60					
3	Main busbar rated current		A	630					
4	Rated current		A	630	125 *	200	630	125 *	200
						630			630
5	Rated short-circuit breaking current		kA		31.5 *	20		31.5 *	16
6	Rated transfer current		A		2200			1400	
7	Rated short circuit duration		s	3					
8	Rated short-time withstand current (RMS)		kA	20		20	20		20
9	Rated peak withstand current		kA	20		50	50		50
10	Load switch and earthing switch rated short-circuit close current (peak)		kA	50		50	50		50
11	Power frequency withstand voltage (1min)	Phase to phase/ earth	kV	42			50 (65)		
		Across the isolation distance		48			64 (79)		
12	Lightning impulse withstand voltage	Phase to phase/ earth	kV	75			95 (125)		
		Across the isolation distance		85			110 (145)		
13	Rated active load breaking current		A	630					
14	Rated closed loop breaking current		A	630					
15	Rated no-load transformer breaking current		A	16					
16	Rated cable charging breaking current		A	30					
17	Mechanical endurance		times	5000					
18	SF ₆ gas rated pressure (20℃ gauge pressure)		MPa	0.02~0.03					
19	Annual leakage rate of SF ₆ gas		%	≤ 0.1					

Note:

* The rated current and rated short-circuit breaking current of the combination electrical appliance unit are determined according to the fuses provided;

The selection of technical parameters in "()" should be specified when ordering.

15 GP-NER Series 10~40.5kV Neutral Earthing Resistors Device

■ Summary

GP-NER series neutral earthing resistors are applied to city electric power customer such as large-scale industrial enterprise, airport, harbor, metro ect., large generators and service power supply system in power plant, others.

The components of GP-NER series neutral earthing resistors are made of special stainless steel electric-heat metal imported from US. They are with outstanding characters such as high temperature-resistant capability, excellent anti-oxidation performance, strong tensile characteristics, high resistivity and stable resistance value, what's more, it can sustain electric and thermodynamic performance even under 1000°C , which enables safe and reliable operation.

According to different connection mode or various customer requests, are can provide epoxy resin to cast dry type transformer, zero sequence current transformers, single-phase disconnecting switches. Heater and thermo/humidity controllers etc.



■ Performance features

GP-NER series neutral earthing resistor components are made of stainless steel alloy that is composed of special composition and used specially for neutral earthing resistor. The primary characteristics are as follow:

- High temperature-resistant: The melting point is at 1375~1500 °C , and its max working temperature is 1000°C .
- Strong capacity of tensile strength: the intensity is at 700 Mpa, and mechanical intensity keeps constant at the high temperature of 900~1000°C .
- High resistivity: The resistivity is 1.25 Ω .m, which is propitious to reduce the size of resistor component.
- Stable resistance value: The resistance temperature coefficient is 1.05x10⁻² Ω /°C , resistance value increase at high temperature is little, that is good for the sensitivity of protection.
- High anti-oxidation performance: Resistance also has a high anti-oxidation performance even at the temperature of 1000°C , which is deeply suitable for seriously contaminative environment.
- High tenacity: Resistor elements can keep high tenacity when the temperature changes acutely.
- Various type: According resistor's current, there are several kinds of elements such as strap, grid, Spiral Wound, Ribbed Wound, smooth winding types etc.
- Resistor modularized: each type resistor are made of standard components, by series connection or parallel connection to achieve kinds of parameters, elements can be replaced easily.
- Optimal heat-dissipation design: the cabinet structure possess the optimal cooling air current passageway. The effect of heat dissipation is very good and there are no local overheat spots and burn spots.
- Long operation life: The guarantee life is 30 years. Some resistors have operated for more than 50 years.

■ Standards and specifications

DL/T780-2001 Neutral Earthing Resistors in Electrical Power Distribution System

GB6450 Dry Type Electrical Transformer

IEE32-1972 Technology Terms and Test of Neutral Earthing Resistors

GB/T11022-1999 Electrical Equipment Delivery Testing Criterion of Electric Device Installation Other National Criterion and Electric Power Industry Standards.

■ Parameters of products

Voltage: 0.4kV~110kV;

Rated current: optional;

Nominal resistance: optional;

Current duration: 10s, 30s, 60s, 10mins, continuous;

Incoming and outgoing line: top in bottom out, bottom in and out, side in and out, side in bottom out, etc;

Installation site: indoor / outdoor;

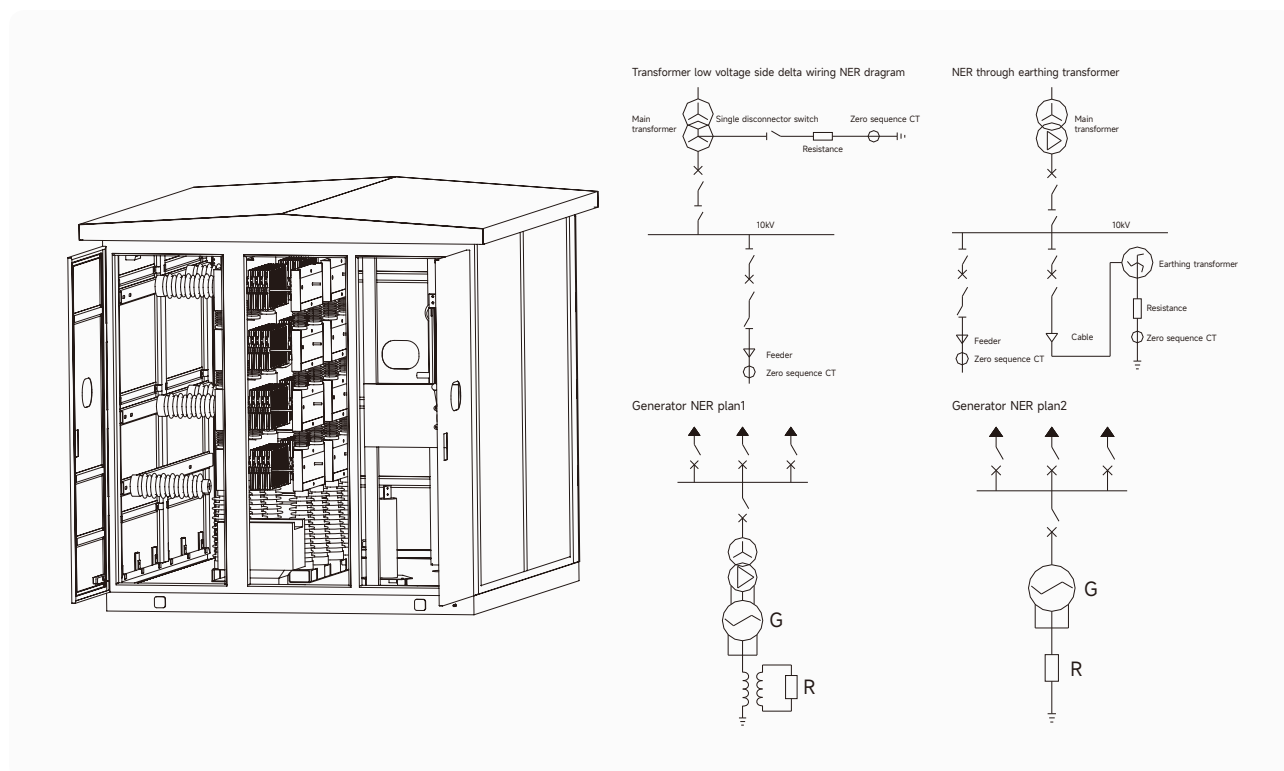
Allowable temperature rise: 760 °C for 10s, 30s, 60s and 610°C for 10min and 385°C for continuous

Zero sequence current transformer: Optional.

■ Main technical parameters

Model	System voltage (kV)	Resistor rated voltage (kV)	Short-time allowed through-flow (s)	Short-time through-flow time (s)	Normal resistance value	Outline dimension W × D × H (mm)	Weight (kg)
GP-NER-6.3/100-10	6.3	3.64	100	10	36.4	920 × 1050 × 1650	200
GP-NER-6.3/200-10	6.3	3.64	200	10	18.2		250
GP-NER-6.3/400-10	6.3	3.64	400	10	9.09		300
GP-NER-6.3/600-10	6.3	3.64	600	10	6.06	920 × 1050 × 1800	350
GP-NER-6.3/1000-10	6.3	3.64	1000	10	3.64		400
GP-NER-10/100-10	10	5.77	100	10	57.7		400
GP-NER-10/200-10	10	5.77	200	10	28.9	920 × 1300 × 1900 (with disconnect switch)	450
GP-NER-10/400-10	10	5.77	400	10	14.4		500
GP-NER-10/600-10	10	5.77	600	10	9.62		550
GP-NER-10/1000-10	10	5.77	1000	10	5.77	1400 × 1800 × 2400	600
GP-NER-20/400-10	20	11.5	400	10	28.7		1500
GP-NER-20/600-10	20	11.5	600	10	19.2		1500
GP-NER-35/200-10	35	20.2	200	10	101	1600 × 2600 × 2400 (indoor)	2000
GP-NER-35/400-10	35	20.2	400	10	50.5		2000
GP-NER-35/600-10	35	20.2	600	10	33.7		2000
GP-NER-35/1000-10	35	20.2	1000	10	20.2	1600 × 2600 × 2540 (outdoor)	2000
GP-NER-35/1300-10	35	20.2	1300	10	15.5		2500
GP-NER-35/2000-10	35	20.2	2000	10	10.1		2500

■ Outline view and primary diagram



16 GPJ-Z High Voltage Tester Kit Equipment

Summary

Oil-immersed Light type is a new high voltage test transformer equipment, this series of products using CD core devices improve shock tolerance, high voltage primary winding and secondary winding coaxial wound on the core, thereby reducing leakage flux, increasing the coupling between windings, the product has compact structure, versatility, easy to carry. It is suitable for power systems and power users in the field for testing of various insulating properties of high voltage electrical equipment, electrical equipment testing and is necessary for preventive test transformer.

GPJ series light except for the exchange of high-voltage test transformer frequency voltage withstand test, if with the same voltage level and the same capacity capacitors, high voltage silicon stack and DC micro-ammeter, can be assembled into a DC high voltage test device that can measure high voltage DC leakage current test.



Technical features

- Excellent selection, reliable quality, good Stability
- A large voltage margin, small power sound, small Partial Discharge
- Volume very light

Note: Any special technical requirement, please consult with GP for more details.

No.	Item	Data
1	Supply	220-240V / 50-65Hz (Frequency)
2	Capacity	6050VA
3	AC Voltage/Current	110kV/55mA
4	DC Voltage/Current	150kV/18mA
5	Voltage accuracy	2.5%
6	Current accuracy	2.5%
7	Temperature	Working temperature: 0~50°C Stocking temperature: -20~60°C
8	Equipment List:	1. Test transformer
		2. Control box
		3. Micro ammeter
		4. Limited current resistance
		5. Discharging bar
		6. Testing line
		7. Inner silicon core

GPJ-Z-75/25 Technical specifications and data sheet

No.	Item	Data
1	Supply	220-240V / 45-65Hz (Frequency)
2	Capacity	1870VA
3	AC Voltage/Current	75kV/25mA
4	DC Voltage/Current	110kV/10mA
5	Voltage accuracy	2.5%
6	Current accuracy	2.5%
7	Temperature	Working temperature: 0~50°C Stocking temperature: -20~60°C
8	Equipment List:	1. Test transformer
		2. Control box
		3. Micro ammeter
		4. Limited current resistance
		5. Discharging bar
		6. Testing line
		7. Inner silicon core

17 GP8671D Insulation Tester 500/1000/2500/5000V

■ Technical data

No.	Item	Data
1	Rated voltage	500V, 1000V, 2500V, 5000V
2	Test range	0~19999mΩ
3	Relative tolerance	≤ 4%+1d
4	Resolution	0.01mΩ, 0.1mΩ, 10.0mΩ
5	Voltage loading	1000V/20mΩ
6	Voltage drop	drop about 10%
7	Supply	Single 3k battery R6P(1.5V)*6 or AC220V/50Hz



18 GPVA-404 CT/PT Analyzer

■ Technical data

Test standard according to	IEC60044-1, IEC60044-2, IEC60044-5, IEC60044-6, GB1207, GB1208, GB16847, GB14703, C57.13
Input supply voltage	AC220V±10%, 50Hz/60Hz±10%
Output voltage	0.1~180V (AC)
Output current	0.001~5A (RMS)
Output power	500VA



Max The highest equivalent turning point voltage	45kV
Current range	0~10A (Auto range: 0.1/0.4/2/10A) Tolerance < ±0.1%+0.01%FS
Voltage range	0~200V (Auto range: 1/10/70/200V) Tolerance < ±0.1%+0.01%FS
Turns ratio measurement range	1~35000, 1~2000 Tolerance < 0.05%; 2000~35000 Tolerance < 0.1%
Phase position measurement	Accuracy ±2min, Resolution: 0.01min
Secondary winding resistance measurement range	0~8kΩ (Auto range: 2/20/80Ω/800Ω/8kΩ) Tolerance < 0.2%RDG+0.02%FS, Max resolution: 0.1mΩ
Temperature measure	-50~100℃, Tolerance <3℃
CT Secondary loading measurement	0~160ohm (2/20/80ohm/160ohm) Tolerance: 0.2%RDG+0.02%FS, Max resolution: 0.001ohm
PT Secondary loading measurement	0~80kohm (800ohm/8kohm/80kohm) Tolerance: 0.2%RDG+0.02%FS, Max resolution: 0.1ohm
PT Turns ratio measurement	1~30000; 1~5000 Tolerance < 0.2%; 5000~30000 Tolerance < 0.5%
Can be selected according to the standard, automatic evaluation of the test results to determine eligibility of the transformers	
Can test difference and the angle difference of current transformer under the rated loading and under operating loading in the same time.	
Having a function to automatically generate WORD format test reports	
It has the function of mass production test reports in WORD format, all test documents can be selected into a WORD format specification report in one time.	
Can automatically compare Excitation curve and the historical stored curve.	
Data storage group	Larger than 1000 groups
Working condition	temperature: -10℃ ~ 50℃, humidity: ≤ 90%
Dimension	485mm × 356mm × 183mm
Weight	15kg

E2-GP-202310

Zhejiang Greenpower Electric Co., Ltd
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Professional Power Equipment Provider

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