RMU

17.5kV SF6

INSULATED

Green Energy Electrical Industry Co., Ltd
Email: sales@green-energy-elec.com
Mobile/Whatsapp: +8613396988128

Address:Floor No.3,The Union Building A, Jiangbin Road,
Lucheng District, Wenzhou City,Zhejiang Province, China

https://www.green-energy-elec.com

Green Energy Electrical Industry Co., Ltd

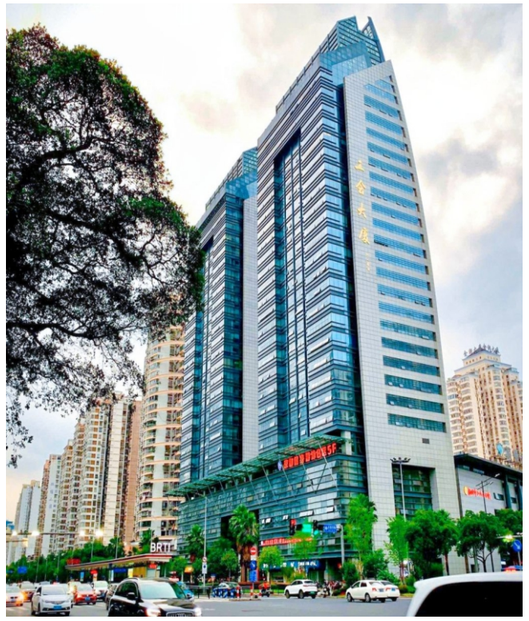
Our Headquaters

Located in electrical city of China, Green Energy Electrical is a professional exporter, invested by five experienced factories. It has a history of more than ten years in the power and electrical industry, some of which have a history of more than 30 years.

We supplies power electrical products and OEM/ODM services across MV switching devices, switchgears and its components & accessories, insulation products, cooper machining products. All five factories have ISO9001,ISO14001certificates.

The company aims to make green electrical supply more safe and efficient.

Meanwhile, we became Official Authorized Distributor of Eaton Electrical,QRE transformers from 2022.



Our Factories

Catalog

1. Product Overview

The SS series gas-fully insulated compact ring main unit is SF6 gas-insulated medium-voltage switchgear independently developed by Gee and 7S. The product adopts a modular design that can be arbitrarily arranged according to different design schemes and is a perfect combination of a common box unit and an extended unit, which can satisfy the needs of various secondary substations for the flexible use of compact switchgear.

The SS series switchgear devices are fully sealed systems, with all live parts and switches enclosed within stainless steel enclosures. They are immune to environmental influences and provide reliable operation. The products are characterized by compact structure, maintenance-free operation, and long lifespan, meeting the requirements for both indoor and outdoor operation. The products have passed the type test certification of the national-level High Voltage Apparatus Testing Center and are widely used in various fields including distribution substations, box-type switchgear, industrial and mining enterprises, airports, railways, commercial areas, high-rise buildings, highways, subways, tunnels, and harsh environmental conditions.

Cable Test Port

The cable grounding and test port is an optional feature on load switches and circuit breakers and is available for different voltage levels such as 12kV, 17.5kV and 24kV. It is located at the front of the unit for easy access. The facility is primarily used for testing cable insulation and locating circuit faults without the need to remove the mains cable from the cable compartment. This not only improves operational efficiency but also increases operator safety. To ensure safety, the cable test access cover is fully interlocked and can only be opened when the load switch or circuit breaker switch is in the ground position. This interlocking mechanism prevents accidental access to the test access during operation. The test sleeves in the facility are grounded using a grounding rod, which needs to be removed to isolate the test sleeve from the ground connection prior to performing cable testing. Test ports can be used for cable testing and fault location without removing cables and reducing power system downtime.

2. Reference Standard

GB 1984 High voltage AC circuit breaker

(IEC 62271-100: 2001, MOD)

GB 1985 High voltage AC isolating switch and grounding switch

(IEC 62271-102: 2002, MOD)

GB 3804 3.6kV~40.5kV AC high voltage load switch

(IEC 60265-1-1998, MOD)

GB 3906 3.6kV~40.5kV AC metal-enclosed switchgear and control gear

(IEC 62271-200-2003, MOD)

GB 4208 Protection grade of enclosure (IP code)

(IEC 60529-2001, IDT)

GB/T 7354 Partial discharge measurement

(IEC 60270-2000, IDT)

GB/T 11022 General technical requirements of high voltage switchgear and control gear standards

GB/T 12022 Industrial sulfur hexafluoride

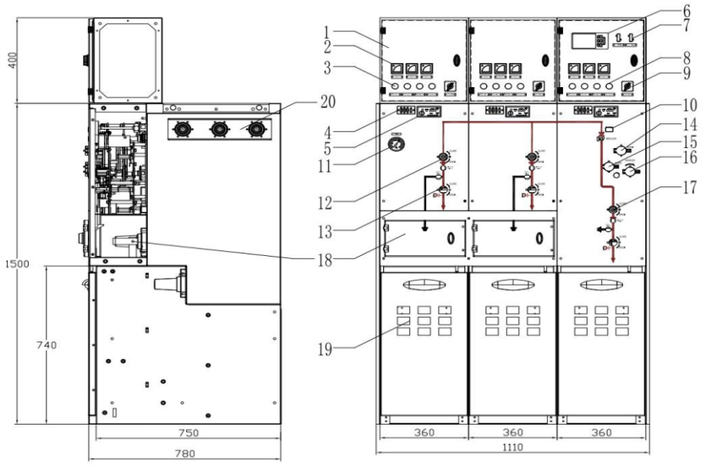
(IEC 376, 376A, 376B, MOD)

GB 16926 High voltage AC load switch fuse combination electrical equipment

(IEC 6227-105-2002, MOD)

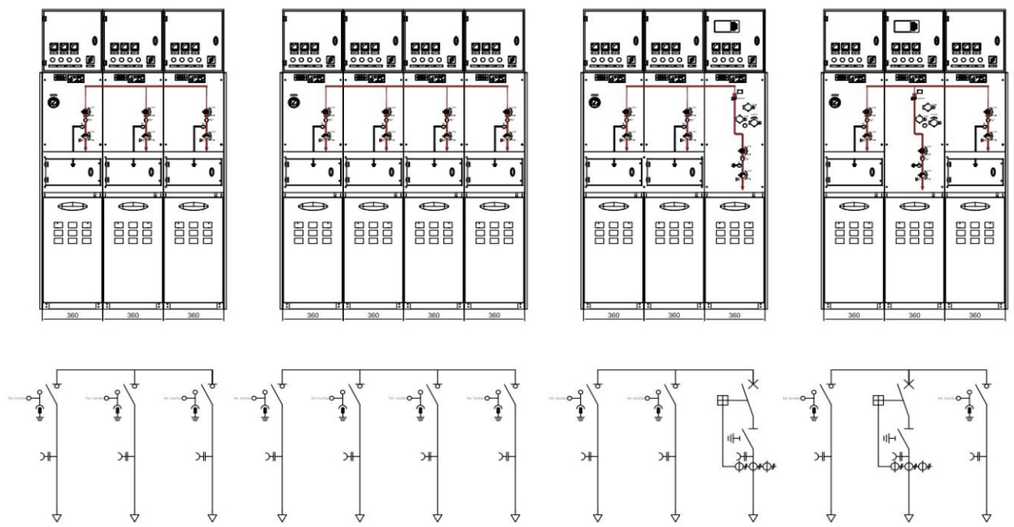
3. Product Structure & Reference Program

Structural schematic



1.Instrument Room
2.Ammeter
3.Combination Indicator
4.Live Indicator
5.Fault Indicator
6.Microcomputer protection device
7.Protection Plate
8.Electric control button
9.Remote local knob
10.Counter
11.Air pressure gauge
12.Load switch operating hole
13.Earthing switch operating hole
14.Opening button
15.Closing button
16.Energy storage operating hole
17.Isolating switch operation hole
18.Test interface observation window
19.Expansion connector

Reference Program



4. Technical Parameter

- **Normal environmental conditions**

The SS series is generally operated/served under normal environmental conditions, complying with IEC standard.

- **Environmental temperature**

- Max. temperature +50°C
- Max. temperature (24-hour average) +35°C
- Min. temperature -40°C Note 2)

- **Humidity**

- Max. average relative humidity
- 24 hours measurement ≤95%
- 1 month measurement ≤90%

- **Installation altitude**

- **Gas pressure**

0.135MPa at 20℃. (at standard inflation pressure)

- **Arcing test**

21 kA 1s

- **Color**

- Switchgear front panel (can be customized according to customers)

- **Special conditions**

Note 1): Please consult when the electrical equipment is installed at an altitude of 2000m or more.
Note 2): When it is lower than -25 degrees, you need to inform.

Main technical parameters

Dielectric	Rated Voltage	17.5 kV
	Lightning Impulse Withstand Voltage	95/110 kV peak
	Power Frequency Withstand Voltage	42/48 kV rms
Rated Current	Busbar	630 A
	Ring Switch	630 A
	Tee-off Feeder	400 A
Rated Frequency		60 Hz
Short Time Withstand Current		21 kA/1 sec
		21 kA/3 sec
Electrical Class	Switch-Disconnector/Earting Switch	E3/E1
	TEE-OFF(CB)	E3
Mechanical Class	Switch-Disconnector	M1
	TEE-OFF(CB)	M1
Short-Circuit Making Current		54.6 kA peak
Short-Circuit Breaking Current	TEE-OFF(CB)	21 kA
SF6 Gas Level (Relative	Rated Filling	0.13 Mpa
	Minimum operation-switching level	0.12 Mpa
IP class	Tank of SF6	IP67
	Enclosure	IP54
FANOX: Selfpower protection relay		220 VAC
Control coils and Motors(Smart/Automated RMU)		24VDC
Internal Arc Classification		21kA/1s

5. Product Feature

SF_6 insulating medium

SF6 is very suitable for insulation and arc extinguishing medium because of its very high heat dissipation capacity, which can quickly disperse the heat during arc ignition, high thermal conductivity at zero current, which can make the arc cool and other superior characteristics.

Good sealing

The gas tank is made of 3mm stainless steel molded and then welded, and the bearing on the stainless steel switch shaft adopts a special double-layer sealing structure, which ensures that the gas tank has a very good air tightness.The annual leakage rate of SF6 gas is ≤0.01%. Ensure that the life of the equipment is more than 30 years.

Compact and maintenance-free

The product adopts modular design, compact structure, small footprint, easy installation and maintenance-free.

Automation interfaces

The switch of the motor-drive unit is reserved for the interface of distribution network automation, and the connection with DTU is simple and convenient. The position for installing DTU is reserved in the cabinet.

Advanced Processes

Gas tank manufacturing precision, the use of laser cutting and CNC punching, reducing, folding and other equipment to ensure that the dimensional accuracy of the gas tank parts processing, the use of welding robots, automatic welding process to ensure high welding efficiency, stable quality of the gas tank, weld seam beautiful, to prevent gas leakage in the gas tank and the invasion of moisture from the outside, to maximize the protection of SSU series of inflatable cabinets, the performance of the stability of the cabinet.

Busbar connection method

The inner cone casing is set on the side of the switchgear cabinet, using silicone rubber as the insulating material, and is used to realize the use of the same type of ring main unit with different common box units or single gas chamber through the busbar connector to put together the cabinet.

Explosion-proof devices

Each tank is fitted with an explosion-proof membrane rated above 0.2MPa to relieve pressure in the event of a malfunction. The flameproof membrane can be positioned at the bottom or top of the tank.

6. Optional Configuration

Fault Indicator

Fault indicators are widely used in various ring main unit, high-voltage switchgear and cable branch box of power system, which can accurately and reliably detect the fault section and fault type of the power grid. The use of cable short-circuit ground fault indicator is an efficient way to find cable faults, is an effective way to improve the operation level of the distribution network and the efficiency of accident handling. Low power consumption design, high-capacity lithium battery or external power supply, long battery life; external structure using card-type design, the whole machine is simple and convenient loading and unloading.

Microcomputer Protection Device

Self-powered microcomputer protection device has the advantages of high integration, complete protection configuration, strong anti-interference ability, low power consumption, resistance to harsh environments, etc. It is especially suitable for direct decentralized installation in the switchgear cabinet to realize the measurement, monitoring, control, protection, communication and other functions of the circuit breaker unit. Self-powered microcomputer protection and active microcomputer can be selected according to the actual needs, and our company will provide multi-brand options.

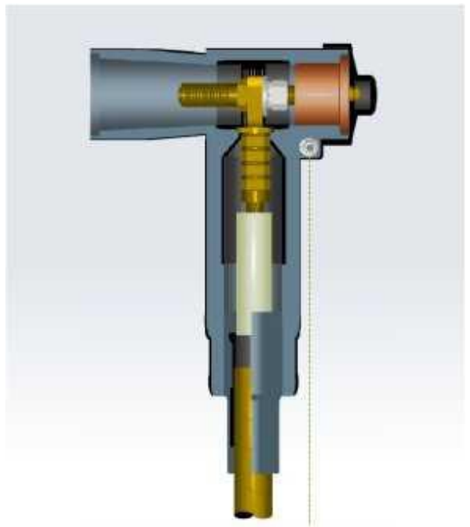
Current Transformer

Current transformer based on the principle of electromagnetic induction will be the primary side of the large current into the secondary side of the small current for power measurement, relay protection, automatic control and other devices to provide signals for power equipment, play a role in the protection and monitoring of primary equipment, the reliability of its work on the safe operation of the entire power system is of great significance.

Cable Accessories

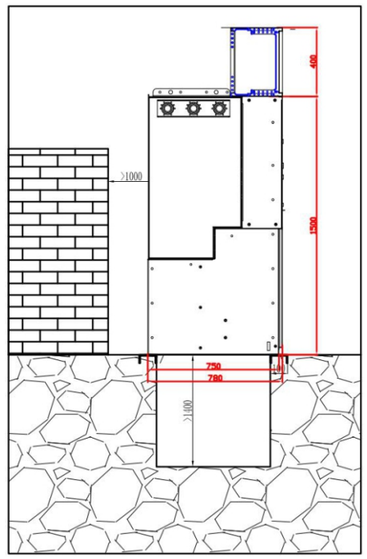
6-35kV cable connectors for different cable cross-sections from 25mm² to 500mm².

Test item	Unit	Test result		
		12kV	24kV	35kV
Industrial Frequency Withstand Voltage	kV/5min	39	54	117
Partial Discharging	PC	WIO/15kV	0/20kV	0/45kV
Load Cycle Test	kV500h	23	30	19/36
Impulse Voltage Withstand	kV	95	125	200
DC voltage withstand	kV/15min	35	48	104



7. Equipment Installation

Indoor Installation Base



Outdoor Installation Base