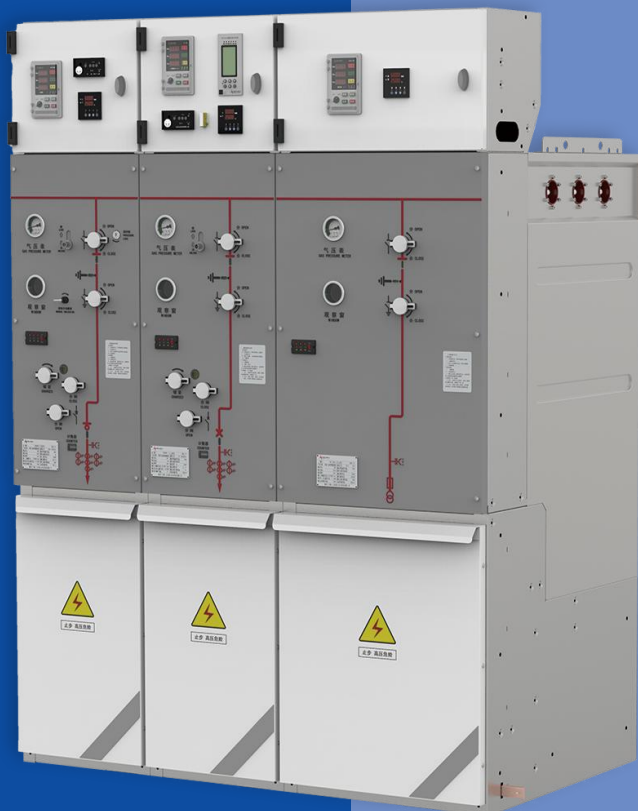
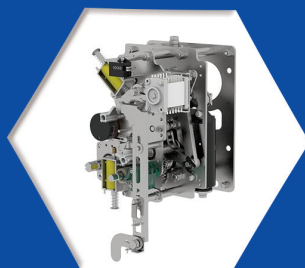
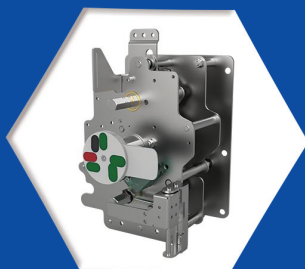
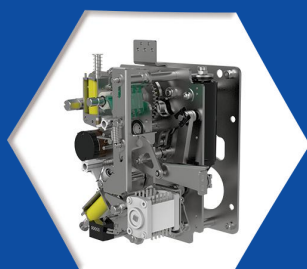


SSR-12 Series RMU

-12kV Eco-friendly Gas Insulated



- Metal-enclosed switchgear
- High-quality stainless steel shell
- Eco-friendly gas insulation

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7Stars 七星电气

Catalog

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1. Company Profile

Quanzhou Tianchi Electric Import and Export Trade Co., Ltd. is a subsidiary of Quanzhou Seven Star Electric Co., Ltd. to develop overseas markets and serve overseas customers more professionally. The company is located in Seven Stars Industrial Park, Jiangnan High-tech Development Zone, Licheng District, Quanzhou, FUJIAN. The company adheres to the business philosophy of "innovation, pragmatism, and win-win" and the service concept of "people-oriented" provide comprehensive and high-quality products for domestic and foreign enterprises.

Seven Stars Electric was established in 1995. It is a national high-tech enterprise dedicated to the research and development and production of power insulation products and high-voltage power transmission and distribution products. In 2012, it was restructured from a state-owned enterprise to a joint-stock enterprise. Jointly invested in the establishment of a subsidiary Quanzhou Seven Stars Electric Co., Ltd. The company's main products include Ring Main Units, smart grid software and hardware production and development (primary and secondary fusion column switches, intelligent station buildings, electric power clairvoyance, etc.), cable branch boxes, low-voltage complete sets of equipment, cable connectors, cold shrinkable cable accessories, insulators, lightning arresters, etc. The company's registered capital is 130 million yuan, fixed assets are 200 million yuan, and the company has more than 600 employees. In 2021, it will achieve a turnover of 810 million yuan and a tax revenue of nearly 30 million yuan. The annual output value in 2022 is expected to exceed 1 billion yuan. The company's products have Sold to Vietnam, Philippines, Brazil, South Africa, Singapore, Malaysia and other countries.

The company has three production bases with a total of more than 60,000 square meters of production plants, including high-voltage

insulation workshops, sheet metal processing workshops, power distribution switch workshops, and power electronics workshops; Fully equipped laboratories for low temperature and electromagnetic compatibility; a complete R&D, production and testing system for power insulation and high-voltage transmission and distribution products with a voltage level of 500kV and below has been formed. Among them, the German CNC punching machine, laser cutting machine, CNC bending machine, shearing machine and other sheet metal processing equipment imported from the power distribution product line, as well as Panasonic robot welding, helium (nitrogen) leak detection, pressure testing and other equipment. In addition to producing core components such as switches and operating mechanisms, it also assembles indoor and outdoor Ring Main Units, high and low voltage complete sets of equipment and other products; has the ability to assemble Ring Main Units, branch boxes, integrated distribution boxes, low-voltage branch boxes, and low-voltage reactive power compensation boxes. 100,000 The production capacity of the unit; the insulation product production line is 10-35kV cable accessories production line, which can produce 100,000 sets per year.



2. Product Overview

SSR series environmentally friendly gas insulated switchgear is based on our company's years of R & D and production of Ring Main Units. We have upgraded the gas insulated Ring Main Units and launched the corresponding SSR series of environmentally friendly gas insulated Ring Main Units with a voltage level of 12 kV. This product is mainly used in the indoor and outdoor ring network complete switchgear in the 12KV power grid distribution system. The product fully meets the technical requirements of distribution network standardization, and through careful design and layout in the early stage of design, the product has both upper and lower isolation schemes, and the upper and lower isolation schemes are the same set of parts and components, with high product stability and strong versatility.

SSR series environmentally friendly gas insulated switchgear is equipped with various unit cabinet schemes: load switch cabinet, circuit breaker cabinet, PT cabinet, etc., to meet the needs of different solutions of customers on the market. We have conducted a comprehensive test on these units/modules before delivery, and they can be installed and used after leaving the factory. The installation of the equipment does not require any special tools. Customers can select unit modules according to their needs and integrate them to form a complete set of equipment.

Features of SSR series products:

• High security and reliability

(1) Fully insulated and sealed structure, the body protection level is IP4X, including an airtight insulated air box, to meet the IP67 protection level, and all live parts and switch functions are placed in it. It can completely avoid operators and operation and maintenance personnel from touching the high-voltage parts, fully insulated and touchable, which is safer and ensures the personal safety of operation and maintenance personnel. At the same time, it can avoid moisture, dust and other harmful substances in the external environment from affecting the insulation level and operating life of the live parts, ensuring reliable operation of the equipment during the whole life cycle.

(2) The structure is simple, the operation is flexible, and the reliable mechanical and electrical interlocking can ensure the personal safety of the operator.

(3) Mechanical stability of circuit breaker and load switch mechanism ≥ 10000 times.

(4) Low gas leakage rate, and the gas pressure in the gas box can be monitored or transmitted remotely to ensure that the product works in a safe state.

(5) The perfect anti-arc design can prevent the high temperature and high pressure gas from harming personnel when a fault occurs inside the product.



• Compact product structure and maintenance-free design

(1) The SSR adopts a compact spacer unit, which allows the product to be installed on both sides of the road in the city, and can also be easily transported to the basement, helping customers save land use costs.

(2) The live parts are sealed in the air box, and these parts do not need maintenance during the entire life cycle. The maintenance-free design can help customers save operation and maintenance costs.

• Modular design, flexible function selection

The SSR adopts a modular design, and each functional unit can be flexibly combined according to project requirements. Each functional unit can be designed as a separate air box, or each functional unit can be designed as a common air box structure.

• Self-powered microcomputer protection device

The SSR circuit breaker module conforms to GB1984 and IEC62271-100, and has a microcomputer protection device and a current transformer. The self-powered microcomputer protection device is based on digital technology and does not require an external power source.

• Easy installation and maintenance-free

(1) These units/modules are factory-installed.

(2) All units/modules have been routinely tested before shipment.

(3) No special tools are required to install these devices.

(4) The product is easy to install and maintenance-free.

3. Technical Parameters

• Normal environmental conditions

The SSR is operated/served under normal environmental conditions and complies with IEC standards.

• Environmental temperature

- Max. temperature + 55°C
- Max. temperature (average of 24 hours) +35°C
- Min. temperature -40°C **Note 2)**

• Humidity

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

• Installation altitude

Generally ≤ 2000 meters Special > 2000 meters **Note 1)**

• Gas pressure

1.15 bar at 20°C. (at standard inflation pressure)

• Arcing test

20 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

Item	Explanation	Unit	Module K	Module V
			Load Switch	Circuit Breaker
Rated Voltage	Ur	KV	12	12
Rated Current	Ir	A	630	630
Rated Frequency	Fr	Hz	50/60	50/60
Temperature rise test			1.1Ir	1.1Ir
Insulation Level				
Industrial Frequency 50Hz/Min	Phase-to-phase	Ud	KV rms	42
	phase-to-earth			
	Across the interrupter	Ud	KV rms	48
	Across isolating distance			
Lightning Impulse Withstand	Phase-to-phase	Up	KV peak	75
	Phase-to-earth			
	Across the interrupter	Up	KV peak	85
	Across isolating distance			
Cubicle Internal Arc Withstand	IAC level		AFLR	AFLR
	Burning arc/time	KA/s	20/0.5	20/1

Note 1) Depends on the high voltage fuse

Item	Explanation	Unit	Module K	Module V
			load switch	Circuit Breaker
Breaking capacity				
Rated Short-Circuit Breaking Current	Isc	KA	-	20
Rated Short-Circuit Closing Current	Isc	KA peak	50	50
Short-Time Withstand Current	Ik	KA rms	20/4s	20/4s
Peak Withstand Current	Ip	KA	50	50
Protection level	Shell		IP41	
	Gas tank		IP67	
Mechanical Endurance	Circuit Breaker/Load switch	Freq	10000	10000
	Disconnect switch	Freq	3000	3000
	Earth switch	Freq	3000	3000
SF6 gas pressure/gauge pressure at 20°C		MPa	0.13	
order of operation Duty Cycle	O-t1-CO-t2-CO			

4. Function & configuration

main functional units

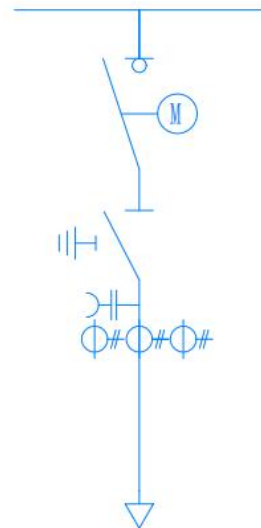
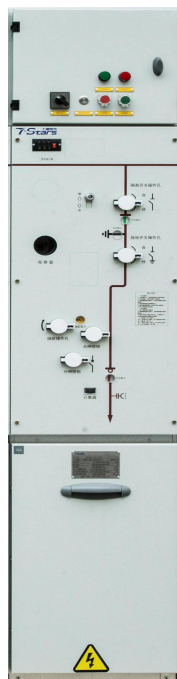
– Load switch unit

Standard configuration:

- 630A load switch
- 630A busbar
- Isolating switch
- pressure gauge
- Powered monitor
- Operating handle
- Cable bracket
- Five-proof interlock
- Cable viewing window

Optional configuration:

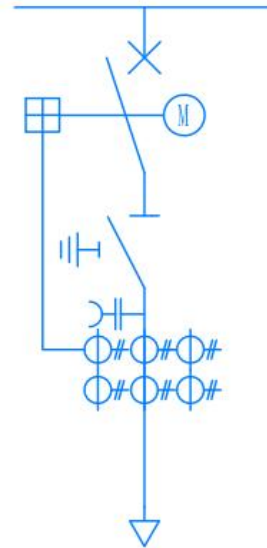
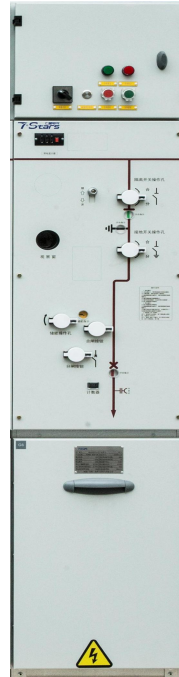
- Left outgoing lines
- Right outgoing lines
- Both sides outgoing lines
- Three cable outlet (deepen cabinet door)
- Electric operating mechanism
- Short circuit and earth fault indicators
- busbar connector



– Circuit breaker unit

Standard configuration:

- 630A circuit breaker
- 630A busbar
- Isolating switch
- pressure gauge
- Powered monitor
- Operating handle
- Five-proof interlock
- Closing and opening coil
- Current Transformer



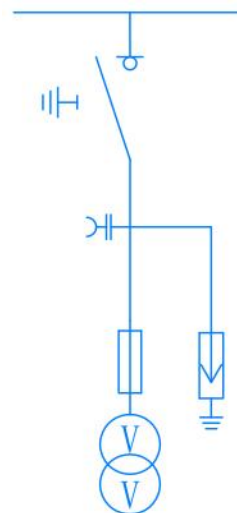
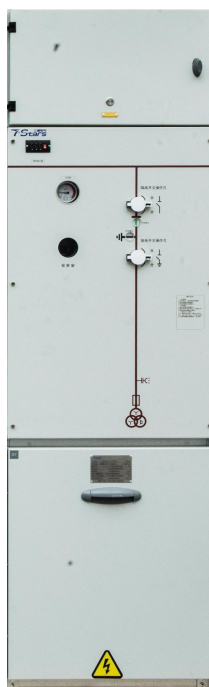
Optional configuration:

- Left outgoing lines
- Right outgoing lines
- Both sides outgoing lines
- Three cable outlet (deepen cabinet door)
- Electric operating mechanism
- Short circuit and earth fault indicators
- busbar connector

– Voltage transformer unit

standard configuration:

- 630A isolating switch
- 630A busbar
- Earthing switch
- pressure gauge
- Powered monitor
- Operating handle
- Voltage Transformer
- Five-proof interlock
- Cable viewing window
- Voltmeter



Optional configuration:

- Left outgoing lines
- Right outgoing lines
- Both sides outgoing lines
- Electric operating mechanism
- UPS power supply

Model specification size

- Conventional environmental protection gas Ring Main Unit

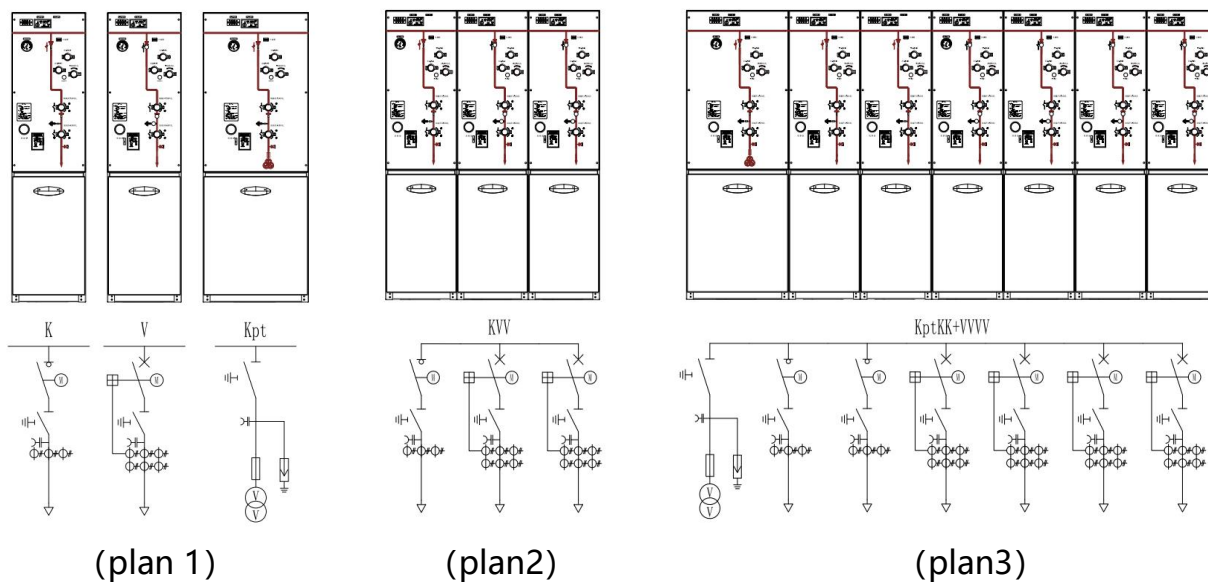
SSR-K Load switch unit (Size: 360*750*1500)

SSR-V Circuit breaker unit (Size: 420*750*1500)

SSR-Kpt PT unit with switch (Size: 500*750*1500)

Note: The above dimensions do not include the dimensions of the low voltage box.

Reference plan



5. Transport & Storage

Transportation and Handling

Weight of standard SSR series unit approx. 230 kg
These weights do not take into account additional accessories.

The SSR series is equipped with a lifting ring and can also be moved with a fork lift shovel.

Unpacking and Inspection

Check the following items after opening the box:
Before opening the box, the user should check whether the packaging of the Ring Main Unit and the transportation process is damaged or even damaged Ring Main Unit, open the box should be carried out in a dry place not subject to rain; when unpacking, pay attention to the protection of

products to avoid damage.

1. Random file:

- ① Product certificate
- ② Factory test report
- ③ Installation and Operation Guide
- ④ Primary System Diagram
- ⑤ Secondary schematic
- ⑥ Packing list

2. Operation handle 1 only

3. Check whether the accessories are consistent with the packing list, and make on-site records.

4. For the mechanical part to carry out functional tests. Any defects and omissions must be declared immediately to the supplier

5. Confirm the appearance, components have no damage, the product has no accumulation of water, condensation, mixed with foreign objects and other phenomena.

6. Whether the specifications and control voltage etc. indicated on the nameplate are consistent with the specified contents. If there is an error, you can contact our company.

7. Please confirm the specifications of the product and the environmental conditions of use before use.

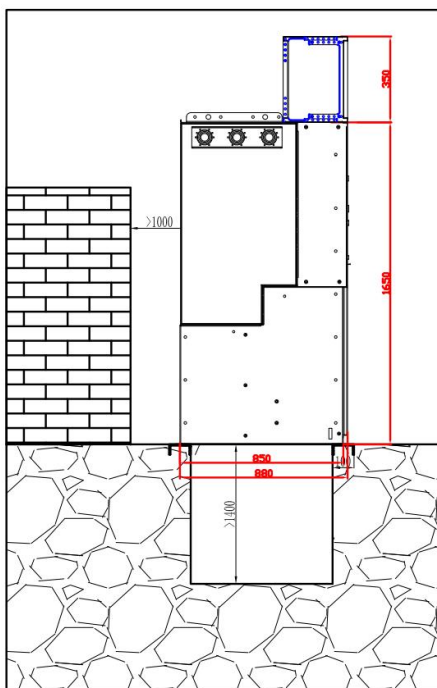
8. whether the screws are loose, the main circuit part of the fastening is reliable.

9. Do not use this product outside the specified conditions of use. To prevent malfunction and cause accidental disaster.



6. Equipment Installation

Indoor Installation Basics



Outdoor Installation Basics

