

Low-Voltage Switchgear

-GCK//GDF/GGD/GGJ/MNS



- Metal-Enclosed Switchgear
- High-Quality Stainless Steel Shell

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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 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

GCK, GGD type AC low-voltage power distribution switchgears are suitable for power distribution systems with AC 50Hz, rated working voltage 380V and rated working current up to 3150A for power plants, substations, factories and mining enterprises and other power users. As power, lighting and power distribution equipment for power transformation, distribution and control.

GCK and GGD type AC low-voltage distribution switchgears use air as arc extinguishing and insulating medium, and the products are characterized by high breaking capacity, good dynamic and thermal stability, flexible electrical scheme, convenient combination, strong series and practicality, novel structure and high protection level.

Features of GCK, GGD series products:

• High security and reliability

(1) Enclosed structure, the body protection level is IP30, which can completely prevent operators and operation and maintenance personnel from touching the live parts and ensure the personal safety of personnel. At the same time, it can avoid the harmful substances such as water vapor and dust in the external environment from affecting the insulation level and operating life of the live parts, and ensure the reliable operation of the equipment during the whole life cycle.

(2) Simple structure, flexible operation, reliable mechanical and electrical interlocks, which can ensure the personal safety of the operator.

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

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

• Simple structure and easy replacement design

(1) GCK series adopts standard parts C profile installation, which can be quickly adjusted according to different programs to achieve the program design requirements.

(2) Each functional unit adopts modular design, the same unit can be interchangeable.

• Good heat dissipation and long life cycle

(1) The large internal space of the switchgear makes it have good heat dissipation, practicality and operability, and improves the life cycle and operational safety of the product.



• Easy installation and maintenance-free

(1) The product unit can be installed right after it is shipped.

(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**

GCK、GGD series is operated/served under normal environmental conditions and complies with IEC standards.

• **Environmental temperature**

- Max. temperature + 40°C
- Max. temperature (average of 24 hours) +35°C
- Min. temperature -5°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)*

• **Color**

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

• **Special conditions**

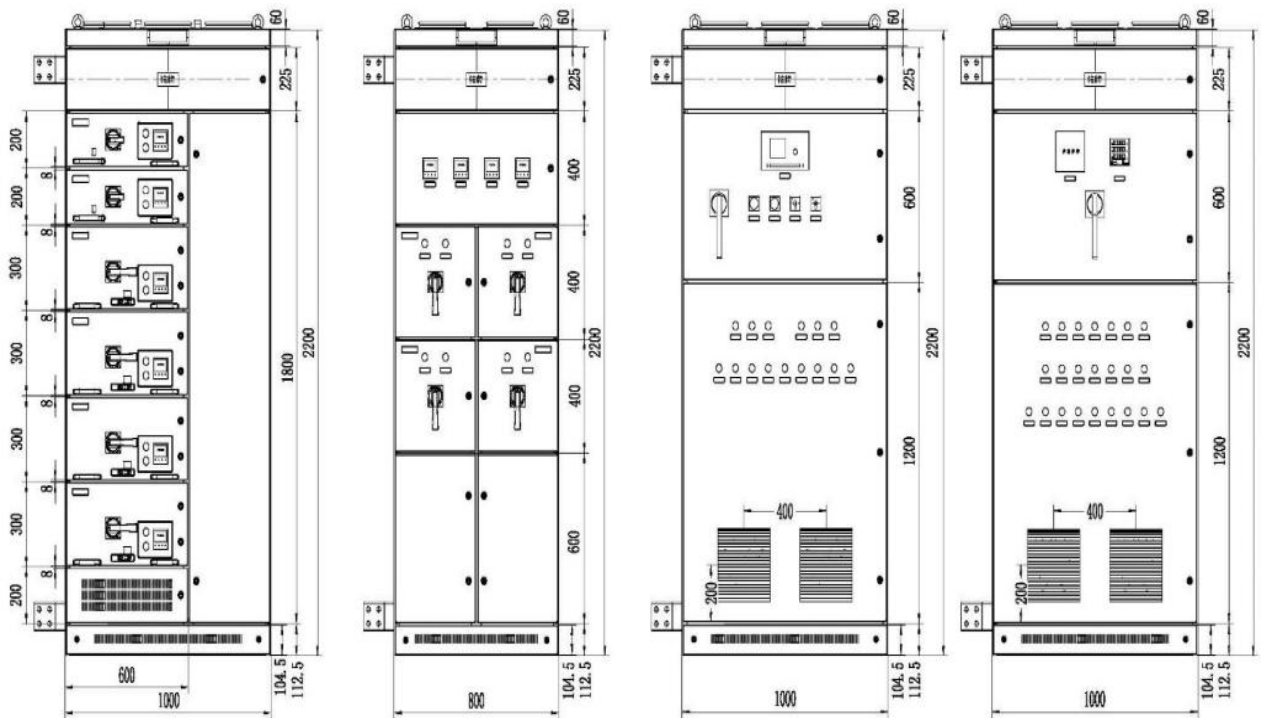
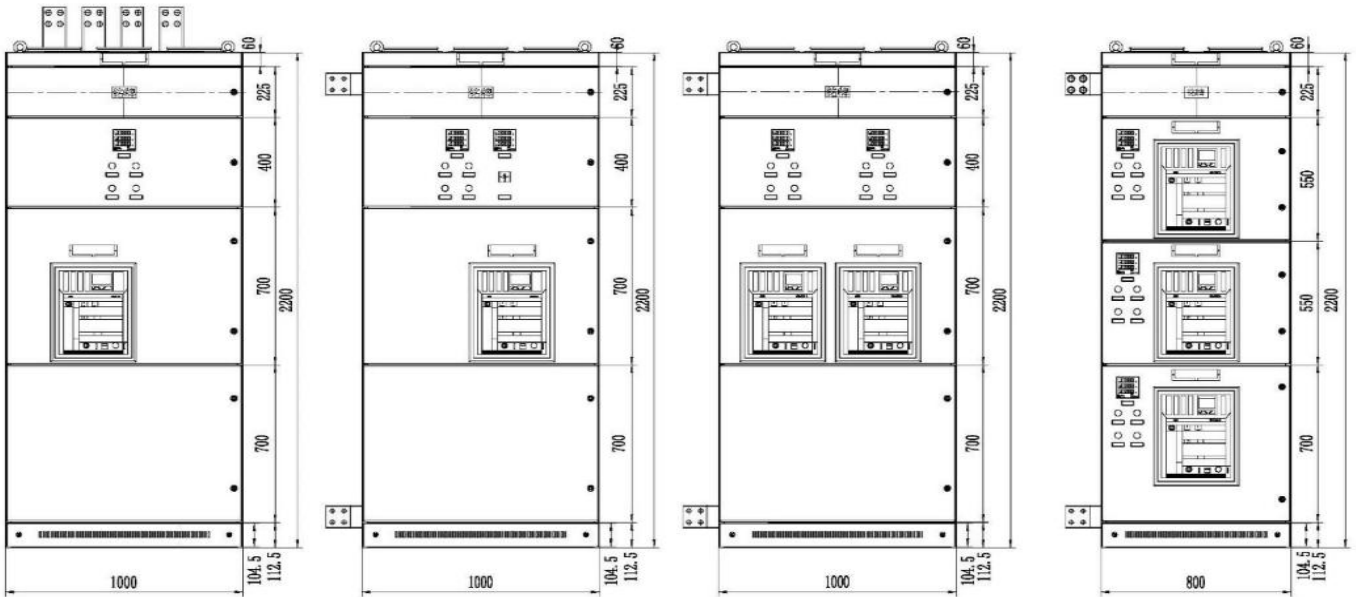
Note 1): Please consult when the electrical equipment is installed at an altitude of 2000m or more.

Note 2): When it is lower than -5°C, you need to inform

Main technical parameters

Item	Explanation	Unit	Value	
Rated Voltage	Ur	KV	380/660	
Rated Insulating Voltage		KV	660	
Auxiliary Electric Circuit Rated Voltage			AC 220V/380V	DC 110V/220V
Rated Frequency	Fr	Hz	50/60	
Rated Current	Ir	A	Horizontal Busbar	Vertical Busbar
			<3150	630/800
Short-Time Withstand Current	Ik	KA rms	105/1s	Neutral Bus 30/1s
Peak Withstand Current	Ip	KA	105/0.1s or 50/0.1s	
Function Unit (Drawers) breaking capacity		KA rms	50	
Protection level	Shell		IP30/IP40	
Busbar Setting			3-phase 4-wire system/3-phase 5-wire system	
Standard			IEC-439 BS5486 VDE0660	
			GB7251 NEMAIC2-322 JJB/T9661	

- Product Dimensions

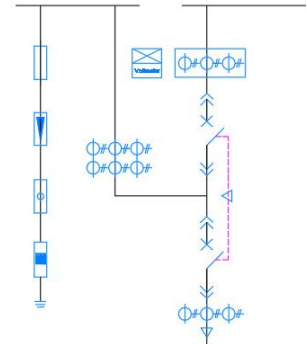


4. Function & configuration

– LV Withdrawable Switchgear

Standard configuration:

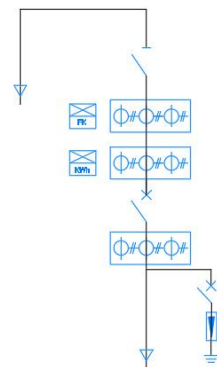
- 630A frame switch
- 630A busbar
- Current Transformer
- Function Room
- Cable bracket



– LV Fixed Switchgear

Standard configuration:

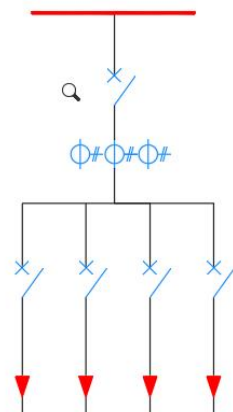
- 630A frame switch
- 630A busbar
- Isolating switch
- Current Transformer
- Spacing unit
- Cable bracket



– Enclosed Power Box

Standard configuration:

- 630A molded-case circuit breaker
- 630A busbar
- Current Transformer
- Cable bracket



5. Transport & Storage

Transportation and Handling

GCK and GGD series are equipped with lifting rings for lifting, and can also be moved with motorized forklift insertion shovels.

Unpacking and Inspection

Check the following items after opening the box:
Before opening the box, the user should check whether the packaging of Switchgears and the transportation process is damaged or even damaged Switchgears, 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. accompanying documents:

- ① Product certificate
- ② EX-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.

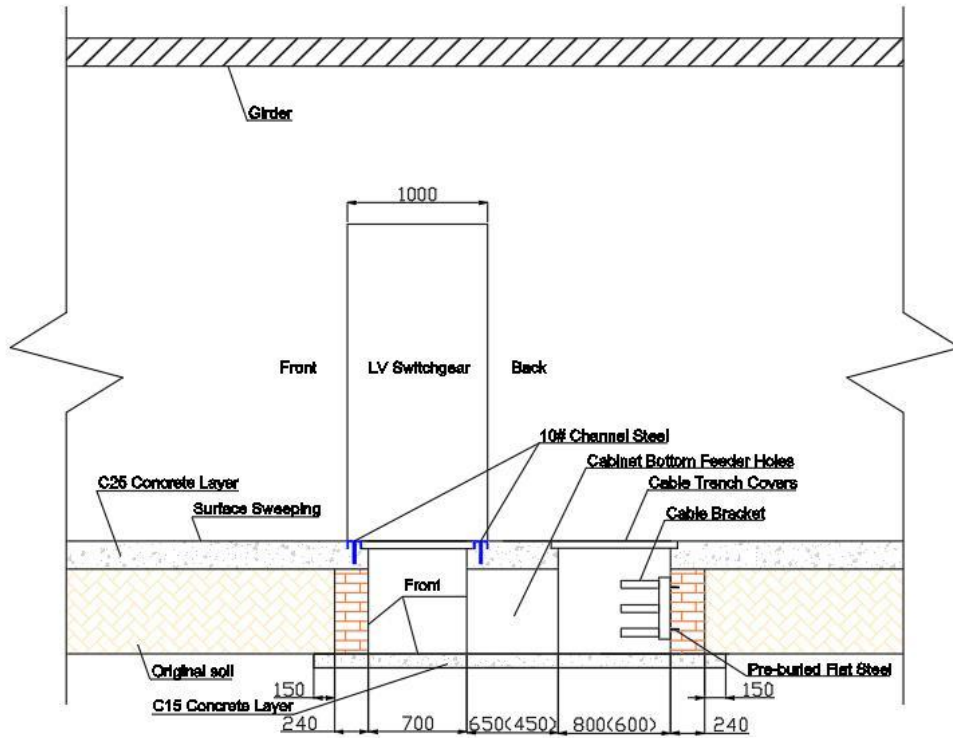
7. Please confirm the specifications of the product and the environmental conditions of use before use.

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

