

## Product Overview

Photovoltaic power generation, as a clean energy production method, has developed rapidly both domestically and internationally. ZGS11-Z.T photovoltaic on-site boosting substation is precisely designed to meet the growing power supply requirements of photovoltaic power generation. Based on the production of 10kV and 35kV combination transformers, our company has digested and absorbed excellent technologies from both domestic and foreign sources, combined with domestic demand to produce our own products. This product installs transformers, load switches, and high-voltage fuses inside the transformer box, using the insulation liquid of the transformer as the insulation and heat dissipation medium of the entire product. It adopts a fully sealed structure, and the shell is separated. Shot blasting, acid washing, phosphating, and spraying primer, intermediate paint, and topcoat respectively achieve surface corrosion resistance, thickness resistance, and UV resistance that exceed those of ordinary spraying. Strength, with advantages such as small size, light weight, and easy installation.

## 产品型号说明

Z G S □ - ZT □ / □  
① ② ③ ④ ⑤ ⑥ ⑦

①	组合式变压器
②	共箱式
③	三相
④	性能水平代号 11、13
⑤	终端型光伏发电用
⑥	变压器额定容量 (kVA)
⑦	额定电压等级 (kV)

## Usage conditions

Altitude: not exceeding 3000m

Environmental temperature: -40 °C ~ +45 °C

Outdoor wind speed: not exceeding 30m/s

Relative humidity: daily average not exceeding 95%; Monthly average not exceeding 90%

The waveform of the power supply voltage is approximately sinusoidal, and the three-phase power supply voltage is approximately symmetrical

Installation location: Installed in a place without fire, explosion hazard, serious pollution, chemical corrosion, and severe vibration

Note: If ordering this product exceeds the above conditions, please consult with our company

## Product Model Description

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## Technical Parameter

## 技术参数

□ 额定电压等级: 35kV 和 10kV 及以下 □ 频率: 50Hz □ 绝缘水平 (见下表)

电压等级 (kV)	设备最高电压有效值 (kV)	额定短时工频耐受电压有效值 (kV) 分钟	额定雷电冲击耐受电压全波峰值 (kV)
≤ 1	≤ 1.1	5	
10	12	35	75
35	40.5	85	200

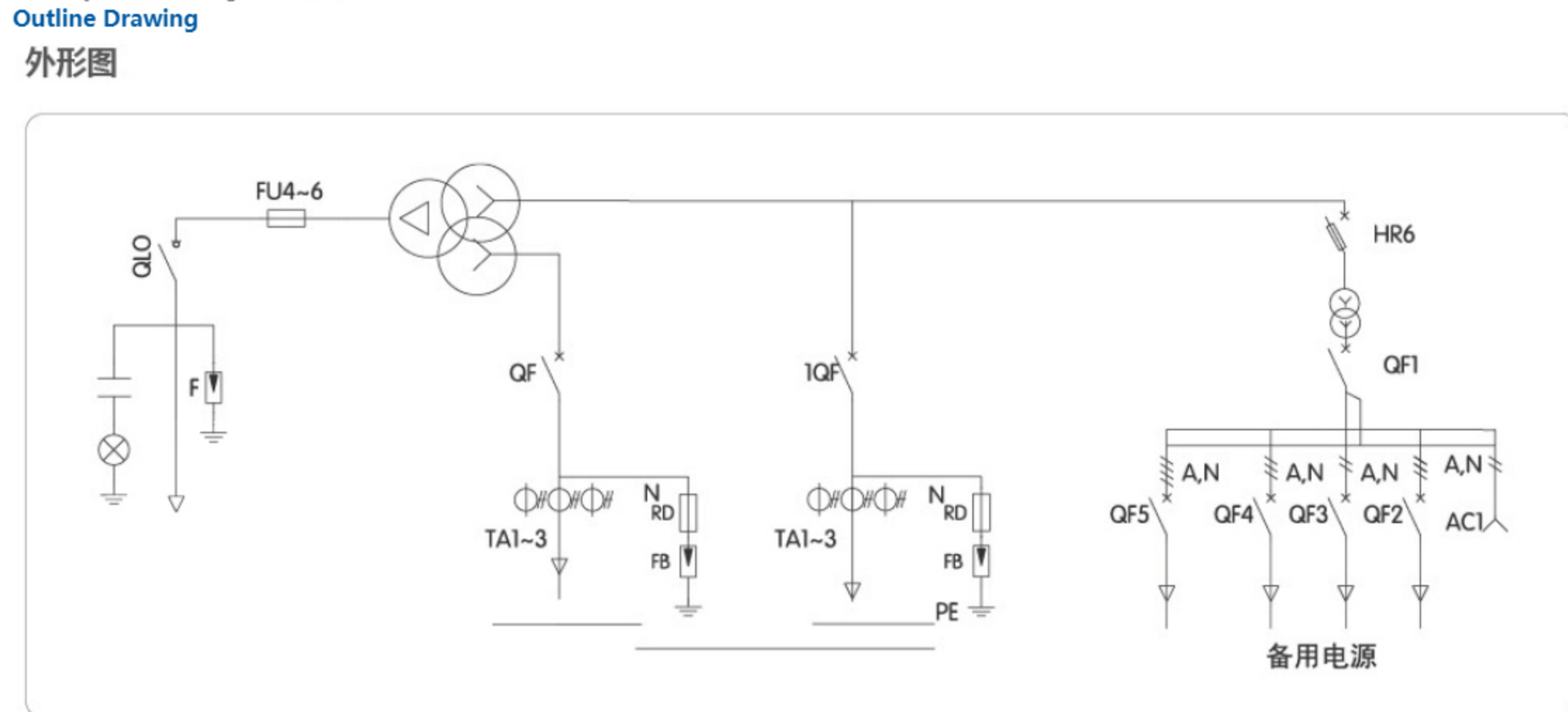
The insulation level of the transformer is Class A insulation, and the temperature rise of the winding does not exceed 65K, and the temperature rise of the top oil layer does not exceed 60K

Protection level: fuel tank IP68, high and low pressure chamber IP54

Primary scheme diagram of transformer

## Outline Drawing

## 外形图



## Product Structure Features

### The transformer part of the combination transformer

The transformer body is tightly matched with the oil tank and has a fixed device. All high and low leads are connected by soft connections, and cold press welding and bolt fastening are used between the tap changer and the no-load tap changer. All connections (including coils and backup fuses, plug-in fuses, load switches, etc.) are welded by cold press, and the fastening parts have self-locking and anti loosening measures. The transformer can withstand the vibration and bumps of long-distance transportation, and there is no need for routine core inspection after being sent to the user's installation site. The transformer is a sealed structure as a whole, without an oil storage tank.

The transformer adopts vacuum oil injection technology during packaging, completely removing moisture from the transformer. During operation, the transformer oil does not come into contact with the atmosphere, effectively preventing oxygen and moisture from entering the transformer and causing a decrease in insulation performance and aging of the transformer oil.

The box is treated with special technology and has good anti-corrosion ability, which can effectively prevent erosion from sandstorms and coastal salt spray.

### Fuse protection

10KV level combination transformer

The high-voltage backup current limiting protection fuse and plug-in overload protection fuse are used in series to provide full range protection for the transformer. High voltage current limiting protection fuses are used as short-circuit protection for transformers, while plug-in overload protection fuses are used as overload and small fault short-circuit current protection for American power transformers and other power equipment.

35KV level combination transformer

A new type of high-voltage current limiting fuse for full range protection is adopted, which can reliably break any fault current between the current causing melting of the melt and the rated breaking current. It utilizes the high breaking capacity of current limiting fuses, rather than the good low current protection characteristics of non current limiting fuses. Combining the different characteristics of the two types of fuses, it is combined into one to obtain good full range breaking characteristics.

### High and low voltage cabinets

10KV level combination transformer

The high and low voltage cabinets are an integral weatherproof enclosure, with two parallel high and low voltage cabinets separated by partitions. The high and low voltage cabinet doors are interlocked, and can only be opened after the low voltage cabinet door is opened. The door has a large rotation range, providing maximum maintenance convenience. On the front wall of the high-voltage cabinet, there is a high-voltage sleeve, single or double pass, elbow shaped cable head. There is a wall mounted one next to each high-voltage sleeve seat for installing wall mounted single or double pass connectors to accommodate the insertion of elbow shaped cable connectors pulled out from the transformer. During operation, the insertion and removal of elbow shaped cable heads should be done using insulated operating rods.

Please refer to the user manual for the elbow cable head before installation.

Warning: Before plugging or unplugging the elbow cable head, the load switch must be switched to the position where the elbow cable head is disconnected from the transformer, otherwise it may cause serious equipment damage or personal injury accidents.

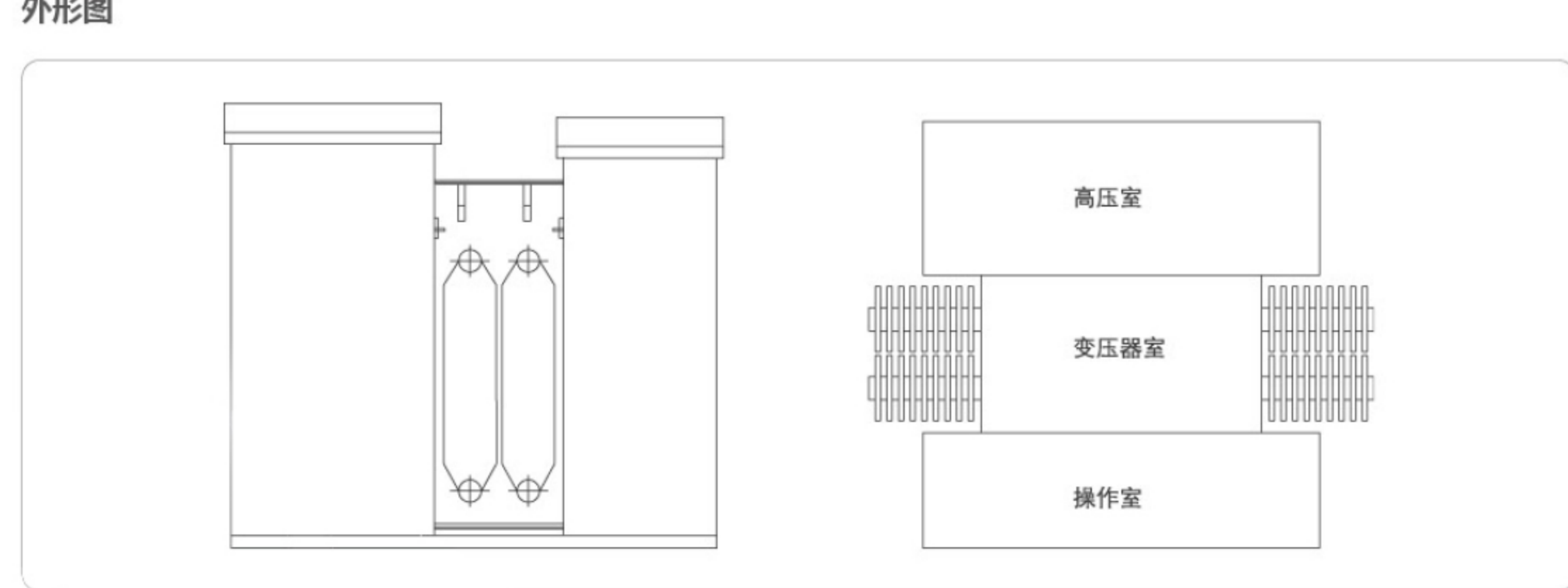
Note: High voltage can also be discharged through a pure ceramic sleeve.

35KV level combination transformer

The high and low voltage cabinets are respectively equipped with weather resistant enclosures, arranged in a "eye" shape. The high voltage cabinet doors are protected by electromagnetic locks on the mesh doors, and other electrical components such as lightning arresters and live displays can be installed according to user requirements. The high-voltage side adopts a metal flange type pure ceramic bushing for the outgoing line, and the bushing is installed horizontally. A special flange with a sealing groove is welded on the box wall to effectively ensure the sealing performance of the bushing.

## Outline Drawing

## 外形图



## Installation foundation diagram

## 安装地基图

