

## ZGS Type New Energy Combined Substation



### Model meaning

S Three-phase	Performance level code	Z Combined transformer
G Common box type	Rated capacity/voltage level	Z.G Terminal photovoltaic

### Product description

The ZGS series new energy package transformer is specifically designed to meet the growing power supply demands of photovoltaic generation. Based on our production of 35 kV package transformers, we have integrated advanced domestic and international technologies and independently developed this series according to local requirements. The product combines the transformer, load switch, and high-voltage fuse within the transformer's enclosure, using the transformer's insulating liquid as both the insulation and heat dissipation medium. It features a fully sealed structure, compact size, light weight, and easy installation.

### Features

The prefabricated substation features a compact and rational overall layout with a small exterior footprint. Connections between main components are convenient, and the use of copper busbars is greatly reduced. The incoming and outgoing cable connection and maintenance spaces are ample, facilitating assembly and inspection.

Enclosure structure: All metal components undergo sandblasting, hot-dip galvanizing, and painting treatments, ensuring strong corrosion resistance even in humid and heavy salt-spray environments. All doors and panels are solid without cavities, filled with polyurethane and silicate composite insulation materials, providing excellent thermal insulation and ensuring safe and rapid operation in extremely cold conditions.

Transformer: The unit primarily uses a three-phase, double-winding, oil-immersed, on-load tap-changing, low-loss power transformer. Other types of power transformers can be configured according to requirements. Reforms in materials, processes, and structure have been implemented to ensure the electrical performance reaches the advanced international level. Both no-load and load losses are below national standards, offering high efficiency and low losses, significantly reducing electricity consumption and operating costs while delivering notable social benefits. The core is made of high-quality cold-rolled, grain-oriented silicon steel sheets with full-step lap stacking and vacuum oil impregnation.

Low-voltage side: Intelligent circuit breakers or other series of low-voltage breakers can be used to distribute power and protect circuits and equipment from overload, undervoltage, short circuit, and single-phase grounding faults. A small maintenance transformer is also provided on the low-voltage side to supply power for on-site inspections. All low-voltage cabinet frame electrical beams are treated with hot-dip galvanization for corrosion protection.

## Main Technical Parameters

Name		Unit	Data
Rated voltage	original side	KV	33~38.5
	secondary side	KV	0.8
aximum working voltage		KV	40.5
Rated frequency		HZ	50
Rated Capacity		KVA	800~4000
1 minute power frequency withstand voltage		KV	95 95(Transformer not included) 85(Transformer)
BIL impact withstand voltage		KV	185
cooling method			Oil immersed self-cooling
o load voltage regulation		kV	$\pm 2 \times 2.5\%$
Environment temperature		°C	-45~+40
Allow top oil layer temp rise			$\leq 55$
Transformer low voltage winding temp rise		K	$\leq 65$
Transformer high voltage winding temp rise		K	$\leq 65$
oise level		dB	$\leq 55$
Protection level			IP33D



## YB Type New Energy Prefabricated Box-type Substation



### Model meaning

YB 预装式 Pre-installation	M 为目字型, P 为品字型 M is the font, P is the type of character type	额定容量 / 电压等级 Rated capacity/voltage level
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### Product description

The wind power package transformer series is specifically designed and developed by our company for wind power generation. The output voltage of the wind turbine generators is 0.69, 0.95, or 1.14 kV, which is stepped up to 35 kV by the transformer. On the 35 kV outgoing side, multiple circuits form a combined unit, which is then transmitted via 35 kV cable lines to a 35/110 kV step-up substation.

This prefabricated substation integrates the step-up transformer, high-voltage switchgear, low-voltage switchgear, auxiliary power transformers, and other auxiliary equipment reasonably within the enclosure to form a complete substation unit. Its performance fully complies with GB/T 17467 “High/Low Voltage Prefabricated Substations.”

Developed to meet the special requirements of wind power generation, it is a new type of prefabricated substation featuring high integration, ease of installation, short construction cycles, low operating costs, high structural strength, and strong corrosion resistance. It is fully suitable for harsh natural environments such as beaches, grasslands, and deserts, with performance that completely meets the operational requirements of wind farms.

### Features

The overall layout of the packaged substation is compact and well-organized, with a small external footprint. Connections between the main components are convenient, and the amount of copper busbar used is greatly reduced. The incoming and outgoing cable wiring space and maintenance space are ample, facilitating assembly and servicing.

The enclosure structure: all metal components are treated with sandblasting, hot-dip galvanizing, and painting, ensuring strong corrosion resistance for use in humid and heavy salt-spray environments, while guaranteeing safe and rapid operation in extremely cold conditions.

The power transformer incorporates a series of reforms in materials, manufacturing processes, and structure, achieving electrical performance at the advanced level of similar international products. Both no-load and load losses are below national standard requirements, offering high efficiency and low loss, which saves significant electricity and operational costs and brings substantial social benefits. The core uses high-quality cold-rolled grain-oriented silicon steel sheets stacked with full miter joints and vacuum oil impregnation.

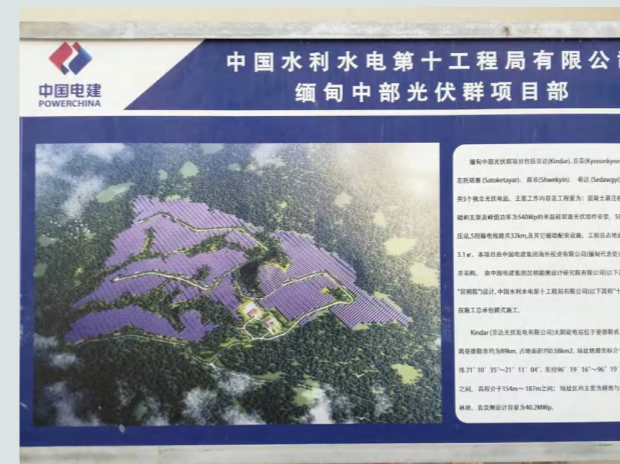
On the low-voltage side, intelligent circuit breakers or other series of low-voltage breakers can be used to distribute electrical power and protect lines and equipment from overload, undervoltage, short circuits, and single-phase grounding faults. Additionally, a small maintenance transformer is installed on the low-voltage side to provide power for on-site maintenance. The low-voltage cabinet frame and busbars are all treated with hot-dip galvanization for corrosion protection.

## Main Technical Parameters

name		Unit	Data
Rated voltage	original side	KV	35
	secondary side	KV	0.69
aximum working voltage		KV	40.5
Rated frequency		HZ	50
Rated Capacity		KVA	1600+
1 minute power frequency withstand voltage		KV	95/85 95(Transformer not included) 85(Transformer)
BIL impact withstand voltage		KV	185
cooling method			Oil immersed self-cooling
o load voltage regulation		kV	35 ± 2x2.5%
Environment temperature		°C	-45~+40
Allow top oil layer temp rise			≤ 55
Transformer low voltage winding temp rise		K	≤ 65
Transformer high voltage winding temp rise		K	≤ 65
oise level		dB	≤ 55
Protection level			IP33D



Participating in the substation supply and use of the photovoltaic cluster project in central Myanmar.



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Providing photovoltaic substations to support the progress of energy transformation projects in Inner Mongolia.

## Required technical parameters

No	Item description	Unit	Proposed Data
<b>General specifications</b>			
1	Transformer Type(Oil-immersed/Dry...)		
2	Application Scenario		
3	Number of Phases		
4	Winding Materials		
5	Rated Power	kVA	
6	Nominal Vlotage	Volts	
7	Frequency	Hz	
8	Tap Position		
9	Vector Group		
10	Temperature Rise (Oil/Windings)	°C	
11	Altitude	m	
12	Corrosion Category		
13	Ambient Climate(Maximum Temp/Rainfall/Dust, etc.)		
14	Ingress Protection(IP)		
15	Protective Devices on the Transformer Tank		
<b>Performance specification</b>			
16	Standards Based on(IEC/ISO...)		
17	No-load Losses	W	
18	On-load Losses	W	
19	Total Losses	W	
20	Impedance Voltages (at Full Load 75°C at Normal Tap)	%	
<b>Weight and dimensions</b>			
21	Net Weight of Insulating Oil	kg	
22	Active Part	kg	
23	Weight of the Largest Shipping Package	kg	
24	Transformer Dimensions (Width x Length x Height)	mm	
<b>Appearance</b>			
25	Shell Color		
26	Shell Material		
27	Sealing		
28	Indelible Marking on the Main Facade		
29	Installation		