CEEG®

Deliver Premium Power to the World

Prefabricated Substation

Compact | Efficient | Reliable



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CEEG Overview

Tailored Solutions for Every Need

35+ industrial experience

2000+ employees

150+ countries with CEEG products

400,000+ transformers installed worldwide

Customize for You

CEEG offers flexible designs and extensive customization options.
We stay aligned with the world' s cutting-edge technologies and practices, ensuring our solutions keep pace with the future of the industry.
With a commitment to safety, energy efficiency, and environmental responsibility, we deliver reliable, sustainable, and cost-effective transformer solutions to customers worldwide.

Products

- Cast resin dry-type transformers
- Vacuum pressure impregnated (VPI) dry-type transformers
- Oil-filled transformers
- Prefabricated substations
- Dry-type and oil-filled rectifiers
- Marine transformers
- Variable frequency transformers
- Amorphous transformers
- Mobile transformers
- Harmonic mitigation transformers
- Explosion-proof mining transformers and substations
- ...

Transformers from 50 kVA up to 300 MVA, covering voltage levels up to 330 kV.

Qualifications

Certificates: UL, CE, CSA, and more.
Standards: IEC, ANSI/IEEE, EN, DIN, GB, and others.
Accredited Laboratories: CNAS, TÜV Rheinland, DEKRA.

Quality Management

CEEG is certified in accordance with:
- ISO 9001 (Quality Management)
- ISO 14001 (Environmental Management)
- ISO 45001 (Occupational Health & Safety)
- ISO 50001 (Energy Management)



Introduction

The CEEG Prefabricated Substation integrates high-voltage and low-voltage switchgear, transformers, internal connections, and auxiliary equipment within a compact enclosure. It combines the functions of a traditional substation—switching, control, protection, metering, and compensation—in a modular and space-efficient form.

Featuring a small footprint, quick installation, safe and reliable operation, and flexible mobility, it offers low investment costs and an aesthetic design that harmonizes with its surroundings.

Product Features

- Rated Voltage: 6–35 kV
- Enclosure: Suitable for outdoor use
- Protection against incorrect operation
- Modular structure for easy installation and operation
- Excellent weather resistance and ventilation performance
- Automatic temperature control in transformer and LV rooms
- Top insulation layer prevents condensation
- Intelligent monitoring, operation, and maintenance support
- Customizable designs for various applications: Wind farms, PV stations, energy storage systems, industrial facilities, mining sites, etc.

Product Structure

High-Voltage Room

The high-voltage room is equipped with a ring main unit (RMU) offering comprehensive protection and flexible switching options, including pressure-type, vacuum-type, SF_6 load switches, and vacuum circuit breakers. The cabinet provides reliable protection against transformer short circuit, overload, and other electrical faults.

Transformer Room

The transformer room can be equipped with either a dry-type or an oil-immersed transformer. It features a well-designed ventilation system with adjustable temperature control to maintain optimal operating conditions. A charging interlock device ensures operator safety by preventing accidental entry during inspection or maintenance.

Low-Voltage Room

The low-voltage room is available in fixed and withdrawable configurations.
It can be equipped with metering cabinets, incoming and outgoing cabinets, capacitor cabinets, and tie cabinets (for dual-transformer setups), providing a complete low-voltage switchgear system.

Typically, the metering and switch functions are integrated: instruments and meters are placed at the top, while circuit breakers, surge arresters, and instrument transformers are installed below. The capacitor cabinet supports manual or automatic reactive power compensation, with a compensation capacity typically 15–30% of the transformer rating, allowing both individual and overall compensation to improve power factor and system efficiency.

Operating Conditions

Ambient temperature: +40°C to -25°C
Altitude: ⩽1000 m
Relative humidity: ⩽90% at +25°C (short-term up to 100%)
Installation site: Away from fire, explosion, chemical corrosion, and strong vibration sources
Custom designs are available for special operating conditions upon request.



Prefabricated Substations Exported to the US



Containerized Substations Exported to the UK



Integrated PCS & Step-Up Transformer Unit for ESS Exported to Israel

Technical Data

Item	Unit	High Voltage Side	Transformer	Low Voltage Side
Rated Voltage	kV	6; 10; 35	6; 10/0.4	0.4
Rated Current	A	20~200	115.5/4000	100~4000
Transformer Capacity	kVA		50~2500	
Rated Short-Circuit Breaking Current	kA	31.5; 50		30~50
Rated Short-Circuit Making Current	kA	50		
Rated Short-Time Withstand Current	kA/s	20/2		30/1
Rated Peak Withstand Current	kA	50		63
Power Frequency Withstand Voltage 1min (to Ground / Across Isolating Gap)	kV	42/48	35	2.5
Lightning Impulse Withstand Voltage (to Ground / Across Isolating Gap)	kV	75/85		
Enclosure Protection Grade		IP54	IP33	IP54
Noise Level	dB		Dry-type < 65, Oil-type < 55	
Number of Circuits		1~10	1~2 units	4~20

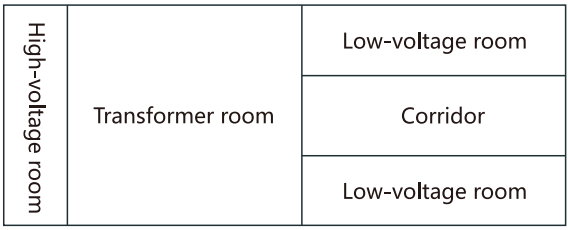
Note: The data is for reference only. Actual parameters may vary depending on specific project requirements.

Model:YBW-12

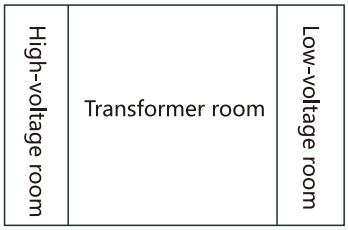
Rated Capacity (kVA)	Primary Current (A)	Secondary Current (A)	Rated Current of High Voltage Fuse (A)	Rated Current of Low Voltage Main Breaker (A)
50	2.9	72	6.3	100
80	4.6	115	10	1223
100	5.8	144	16	160
125	7.2	180	16	250
160	9.2	231	16	250
200	11.5	290	20	400
250	14.4	360	25	400
315	18.2	455	31.5	630
400	23.0	576	40	630
500	28.9	720	50	800
630	36.4	910	63	1250
800	46	1160	80	1250
1000	58.0	1440	100	1600

Note: The data is for reference only. Actual parameters may vary depending on specific project requirements.

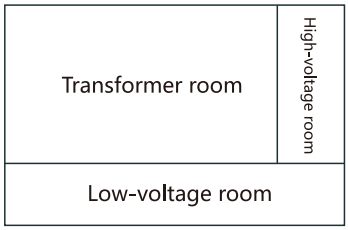
Product Structure Layout Form



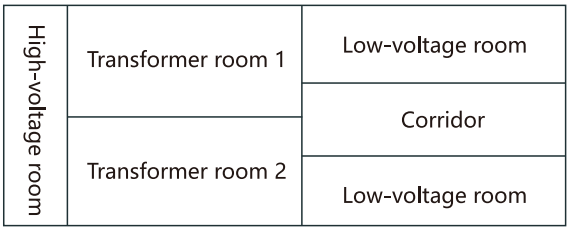
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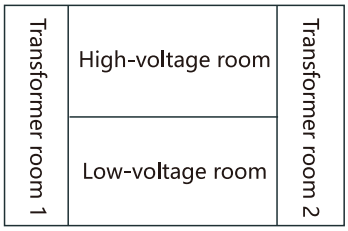
"目" font structure 2



"品" font structure

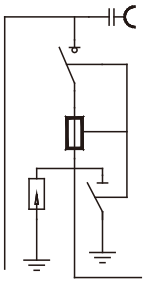
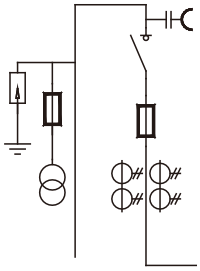
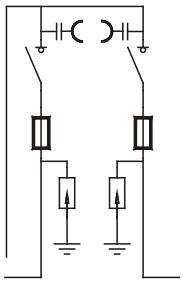
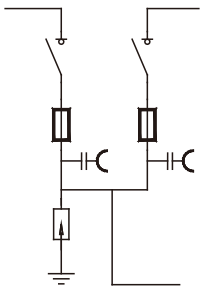
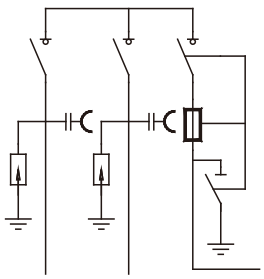
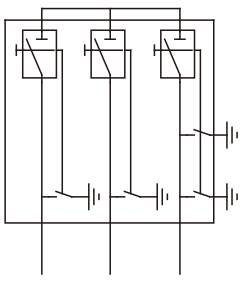


"目" font structure 3

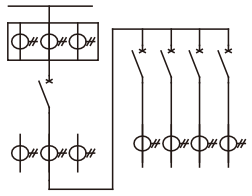
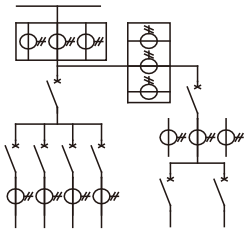
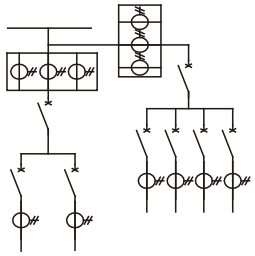
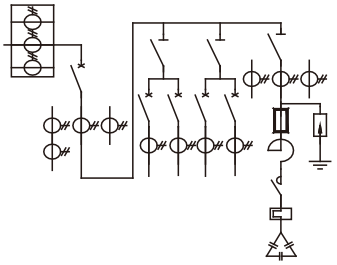


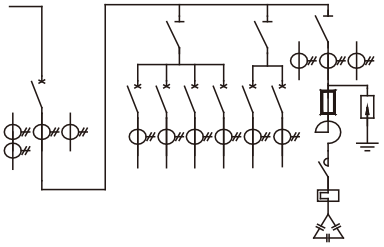
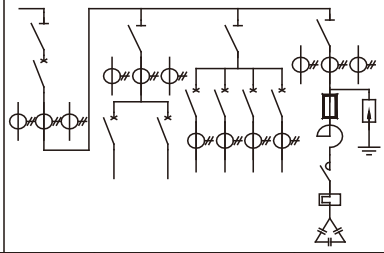
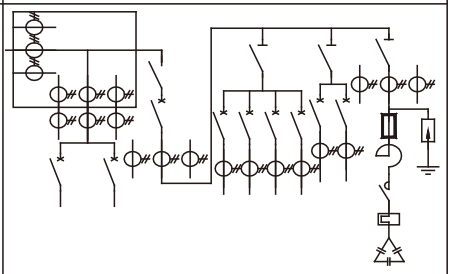
"目" font structure 4

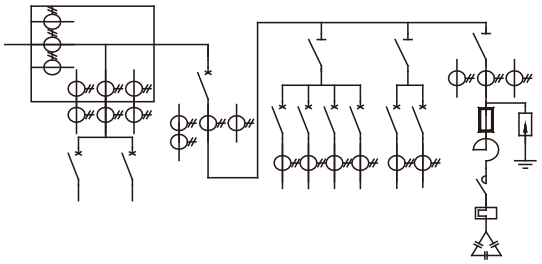
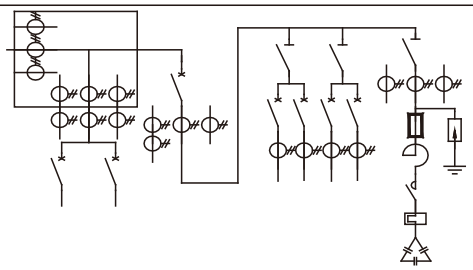
High-voltage Typical Primary Solution

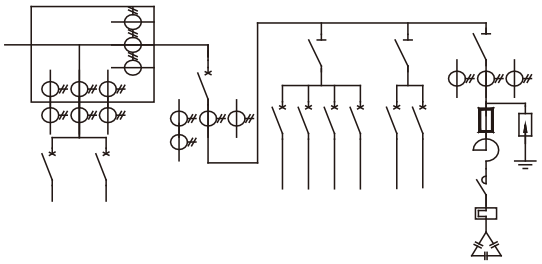
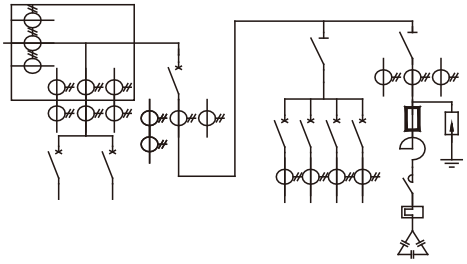
Main circuit scheme number		01	02	03
Main circuit scheme	single line diagram（SLD）			
Application		Cable entry	Cable inlet measurement	Cable entry double transformer
Main circuit scheme number		04	05	06
Main circuit scheme	single line diagram（SLD）			
Application		Cable inlet dual power supply	Ring network (Dual power supply)	Ring network (Dual power supply)

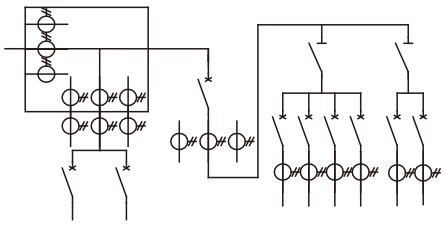
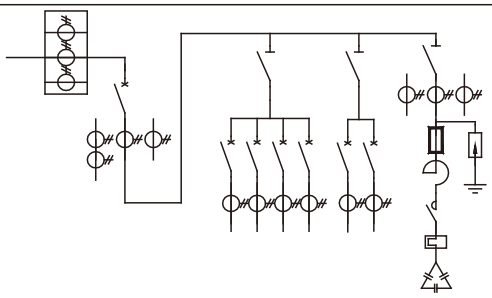
Low-voltage Typical Primary Solution

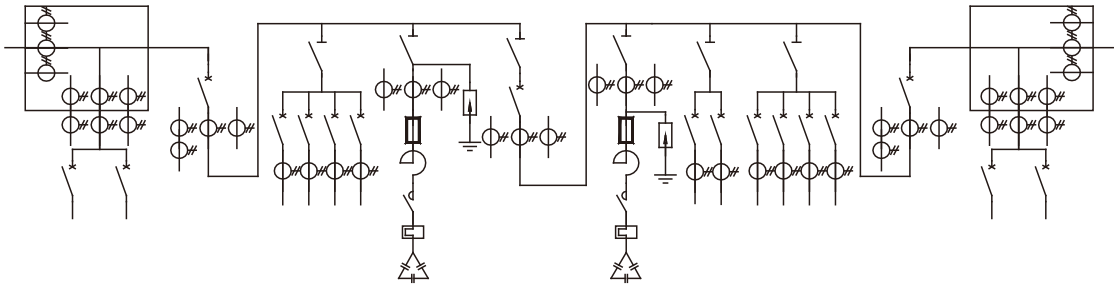
Main circuit combination scheme number	01	02	03	04
Main circuit scheme — single line diagram (SLD)				
The primary solution number to be combined	02 17	29 25	30 29	24 14 31
Box structure	Low voltage panel high supply low meter	Low voltage panel high supply low meter	Low voltage panel high supply low meter	Low voltage panel high supply low meter no operating corridor

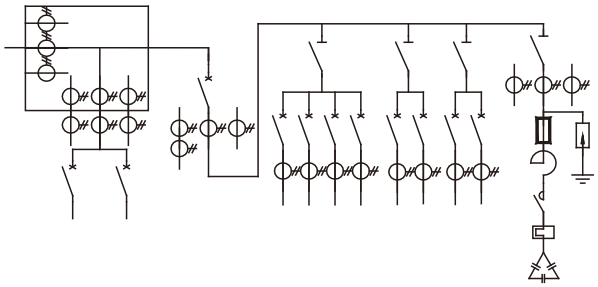
Main circuit combination scheme number	05	06	07
Main circuit scheme — single line diagram (SLD)			
The primary solution number to be combined	02 09 07 31	01 08 09 31	27 01 09 07 31
Box structure	Low voltage cabinet mounted high supply and high meter font belt operating corridor	Low voltage cabinet mounted high supply and high meter font belt operating corridor	Low voltage cabinet mounted high supply low meter “目” font structure

Main circuit combination scheme number	08	09
Main circuit scheme — single line diagram (SLD)		
The primary solution number to be combined	27 02 09 07 31	27 02 07 07 31
Box structure	Low voltage cabinet mounted high supply low meter “品” font structure	Low voltage cabinet mounted high supply low meter “品” font structure

Main circuit combination scheme number	10	11
Main circuit scheme — single line diagram (SLD)		
The primary solution number to be combined	27 02 09 07 31	27 02 09 31
Box structure	Low voltage cabinet mounted high supply low meter “品” font structure	Low voltage cabinet mounted high supply low meter “品” font structure

Main circuit combination scheme number	12	13
Main circuit scheme — single line diagram (SLD)		
The primary solution number to be combined	27 / 02 / 09 / 07	24 / 09 / 07 / 31
Box structure	Low voltage cabinet mounted high supply low meter “目” font structure with operating corridor	Low voltage cabinet mounted high supply low meter “目” font structure with operating corridor

Main circuit combination scheme number	14
Main circuit scheme — single line diagram (SLD)	
The primary solution number to be combined	27 / 02 / 09 / 31 / 01 / 31 / 07 / 09 / 04 / 27
Box structure	Low voltage cabinet mounted high supply low meter “目” font structure

Main circuit combination scheme number	15
Main circuit scheme — single line diagram (SLD)	
The primary solution number to be combined	27 / 02 / 09 / 07 / 07 / 31
Box structure	Low voltage cabinet mounted high supply low meter “目” font structure with operating corridor

Model Variants

Containerized Substation

• Modular and on-site assembled power distribution solution featuring a containerized or non-metallic enclosure design.
• Integrates transformer, high-voltage switchgear and control equipment, low-voltage switchgear and control equipment, internal wiring, metering, compensation, surge arresters, and other auxiliary systems into a unified unit.
• Flexible enclosure options allow customization according to project requirements and environmental conditions.
• All components are pre-assembled, commissioned, and tested in accordance with relevant international standards to ensure reliability and performance.
• Compact, transportable structure enables quick deployment, simplified logistics, and reduced installation time.







Integrated PCS & Step-Up Transformer Unit for ESS (Dry-Type & oil-filled)

1. Turnkey Solution
• Combines transformer, PCS, and switchgear in a factory-tested, ready-to-install unit housed in a container.

2.Wide Voltage Range and High Power Capacity
• High-voltage side covers 6 kV to 35 kV; transformer low-voltage AC side ranges from 0.315 kV to 0.69 kV.
• DC voltage can reach up to 1500 VDC, with a single integrated unit capacity of up to 10 MW.

3.Strong Environmental Adaptability
• Constructed with high weather-resistant steel for superior corrosion protection.
• Equipped with internal thermal insulation panels for enhanced fire resistance, heat insulation, and temperature stability.
• Specially designed air inlets provide effective dust and sand protection.

4.High Reliability and Safety
• The epoxy resin transformer has passed C2, E2, and F1 tests, ensuring flame retardancy with no risk of explosion or fire.

5.Lower Investment, Higher Returns
• Compared with the conventional setup of "inverter room + PV substation," overall investment is reduced by 15%–20%.
• Installation foundations reduced from two to one, saving 50% in installation and commissioning time.
• Busbar connection between inverter and transformer eliminates costly interconnection cables.
• Optimized structure design removes the need for two low-voltage switchgear cabinets between the inverter and transformer.

Deliver Premium Power to the World

Get in Touch

Online, quick, and easy — scan the QR code to send your inquiry now.

If you're ready to discuss the details of your project, our team is ready to assist you. Simply complete the online form, and a CEEG representative will reach out to you shortly — it's the fastest way to get the information and quotation you need to move your project forward.

Contact us

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