Product catalogue https://www.cnrockwill.com

YB Type

Prefabricated Substation(US-style, EU-style)

12kV... 24kV... 36kV... 40.5kV...

Convenient Operation and Maintenance, Long - term Worry - free
Space Optimization, Flexible Adaptability
Excellent Performance, Stable Power Supply
Rapid Substation Construction, High - efficiency Commissioning

Comply with IEC / CEI /GB/JB/DL standards
Provided customized manufacture
Whole solutions for design, assembly, test...
Accountable solution for safety and reliability
Wide range offering, easy business and convenient installation

Rockwill Group is one of the leading high technical enterprises professional deals in medium high voltage switchgear and components develop, manufacture and sales.

Located in Wengyang Industrial Zone, Wenzhou, used to known as Yueqing Real Electric Works (Registered in 1986), we have more than 20 years experiences in Medium & high voltage field. We strategically cooperate with worldwide high reputation medium& high voltage switchgear manufacturer and research institute, successfully developed series of medium voltage mutually; filled the blank in China.

We also teamed up with province grade intelligence high voltage switch laboratory, together developed new generation intelligence simultaneous technical vacuum switch, electronic current transformer, digital integrated substation etc. through the cooperation we obtain plenty achievements and build up experience technical team. Plentiful talent backup, advanced production equipment, perfect quality control system and reverse inspection procedure are powerful guarantee of our reliable product quality and high reputation.

We have always insisted the faith on grow together with customers, and to provide a safe, simply, green and efficient medium & high voltage switchgear and components.

ROCKWILL®, China. Provide with best support.
If you have any question please consult below:
Email: rockwell@rockwill.com Tel: +86 (577) 27869969
https://www.cnrockwill.com/

ROCKWILL® Electric strives to bring our customers the latest technology and competitive pricing and best service for distribution automatic.

YB() series products is a kind of set of equipment which assembles the MV switch apparatus, transformer, LV distribution equipment together according to fixed connection scheme. This series substation is suitable for neighborhood unit, hotel, large-scale work site and high building that the voltage is 12kV /24kV/36kV/40.5kV, the frequency is 50Hz and the capacity is under 2500kvA.

Prefabricated substations are innovative facilities that adopt factory prefabrication production. Electrical equipment, secondary systems and some building structures are prefabricated in the factory according to standard processes. They can be put into operation after being transported to the site and quickly assembled and commissioned. Compared with traditional substations, they feature a shorter construction cycle, stable quality, good cost - effectiveness and environmental friendliness. They are widely used in scenarios such as urban power grid renovation, power supply in remote areas and temporary power use, contributing to the efficient operation of modern power systems.

Service environment:

Air temperature:	-25℃ ~ +40℃
Humidity average humidity:	Monthly:95%; Daily :90%
Altitude above sea level:	Max installation altitude: 2500m

Ambient air not apparently polluted by corrosive and flammable gas vapor etc.

No frequent violent shake

Modular Design:

The substation is divided into independent functional modules such as transformers, high and low voltage switchgear, secondary system control, and building structures. These modules are prefabricated in the factory, which facilitates transportation and on-site assembly. During later maintenance, faulty modules can be directly replaced.

Factory-based Prefabrication Production:

Core electrical equipment is assembled and commissioned in the factory. The secondary system is integrated, and wiring is done in advance. The building structure part is produced in the factory to ensure precision and strength, guaranteeing the consistency and reliability of quality.

Standardized Interfaces:

A standardized interface design is adopted, with unified specifications for both electrical and mechanical interfaces. Modules that meet the standards produced by different manufacturers can be smoothly assembled, improving installation efficiency and the operational stability of the entire system.

Intelligent Integration：

Sensors are installed to monitor the parameters of electrical equipment in real time. With the help of communication technology, remote operation of the equipment can be achieved. Through data analysis, potential faults can be predicted, ensuring the reliable operation of the substation.

Strong Module Compatibility:

The technical characteristics of prefabricated substations are prominently manifested in strong module compatibility. Each functional module is prefabricated independently with standardized interfaces, enabling different modules to be combined conveniently and adapt to a variety of scenarios.

The crust of the substation is designed according to the foreign advanced technology and physical reality. We provide many kinds of crust material such as aluminum alloy steel composite stainless steel board and non metal material(glass fiber).

The HV side use charge switch or vacuum circuit breaker. The transformer could be oil type hermetically-sealed type and dry type. The proof of the box is double layers structure and between the layers is filled with foam. There are independent boards in HV and LV room, and in the transformer room will install auto thermal controller heater and cooling equipment.

Note: we offer special customized products according to client's requirement.

Power Conversion Principle:

Voltage Conversion: Transformers are used to convert high-voltage electrical energy into low-voltage electrical energy suitable for users, or to carry out conversions between different voltage levels in the power grid to meet the requirements of power transmission and distribution. For example, in urban power grids, high-voltage electricity of usually 110kV or 220kV is stepped down by the transformers in prefabricated substations to different voltage levels such as 10kV or 380V.

Current Conversion: Current transformers are utilized to convert large currents into small currents in a certain proportion, making it convenient for measurement, protection, and control devices to process. For instance, a large current of several thousand amperes on the primary side is converted into a small current of 5A or 1A on the secondary side for use by measuring instruments and protection devices.

Power Distribution Principle:

Busbar System: Prefabricated substations are equipped with busbars, which are conductors for collecting and distributing electrical energy. Various power sources and loads are connected to the busbars through switchgear and other equipment. Electrical energy is collected and distributed on the busbars, and the electrical energy on the power source side is distributed to each outgoing circuit to supply different users or lower-level substations.

Switchgear Control: Switchgear such as circuit breakers, isolating switches, and load switches are used. According to the operation requirements of the power system, the circuits are switched on and off to achieve the distribution and control of electrical power.

Protection and Control Principle：

Relay Protection:Prefabricated substations are equipped with various relay protection devices, which monitor electrical quantities like current, voltage and power in real - time.When faults such as short circuits and overloads are detected, these devices quickly send a tripping signal, making the corresponding switchgear act to cut off the faulty part and protect the electrical equipment and power system.

Automated Control: With the help of an automated control system, the operation status of the substation is monitored in real-time and adjusted automatically.

Signal Transmission and Communication Principle：

Secondary System Signal Transmission: In the secondary circuit, signals like measurement, protection and control are transmitted via cables and optical cables among devices for information interaction and coordinated operation.

Network: Prefabricated substations communicate via the network with the dispatching center and other substations, uploading operation data and equipment status while receiving instructions for remote monitoring and unified dispatching.

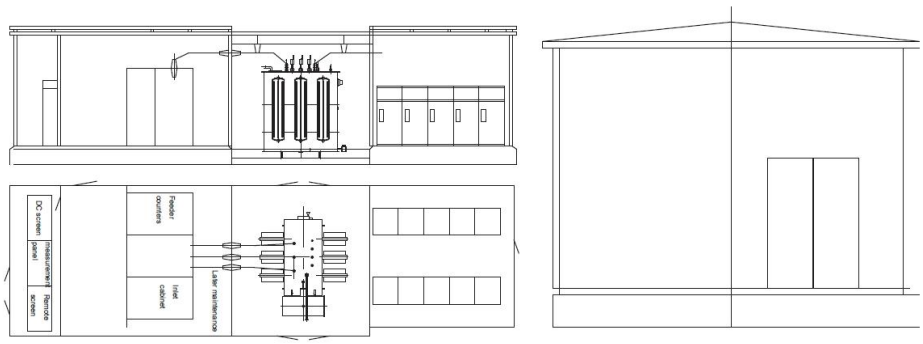
12/24/36kV

Name	Unit	HV equipment	Transformer	LV Equipment
Rated voltage	kV	12/24/36	(12/24/36)/0.4	0.4
Rated current	A	630	3/75-150/3750	Less than 4000
Frequency	Hz	50/60		
Rated Capacity	kVA	50 - 2500		
Pfr withstand	kV	42/50/70/95		2.5
BIL	kV	75/125/170/185		
Crust Protection Grade		IP23	Oil type 55; dry type 65	IP23
Noisy Grade	dB			
Appearance Dimensions	mm	According to primacy wiring circuit schema		

		
HV Room	LV Room	Transformer Room

40.5kV

Name	Unit	HV equipment	Transformer	LV Equipment
Rated voltage	kV	40.5	40.5/12/0.69/0.4	12/6.3/0.69/0.4
Rated current	A	Less than 1250		Less than 4000
Frequency	Hz	50/60		
Rated Capacity	kVA	1250 - 20000		
Pfr withstand	kV	70/95		42/2.5(Auxiliary)
BIL	kV	170/185		75
Crust Protection Grade		IP23	Oil type 55; dry type 65	IP23
Noisy Grade	dB			
Appearance Dimensions	mm	According to primacy wiring circuit schema		



40.5kV prefabricated transformer substation

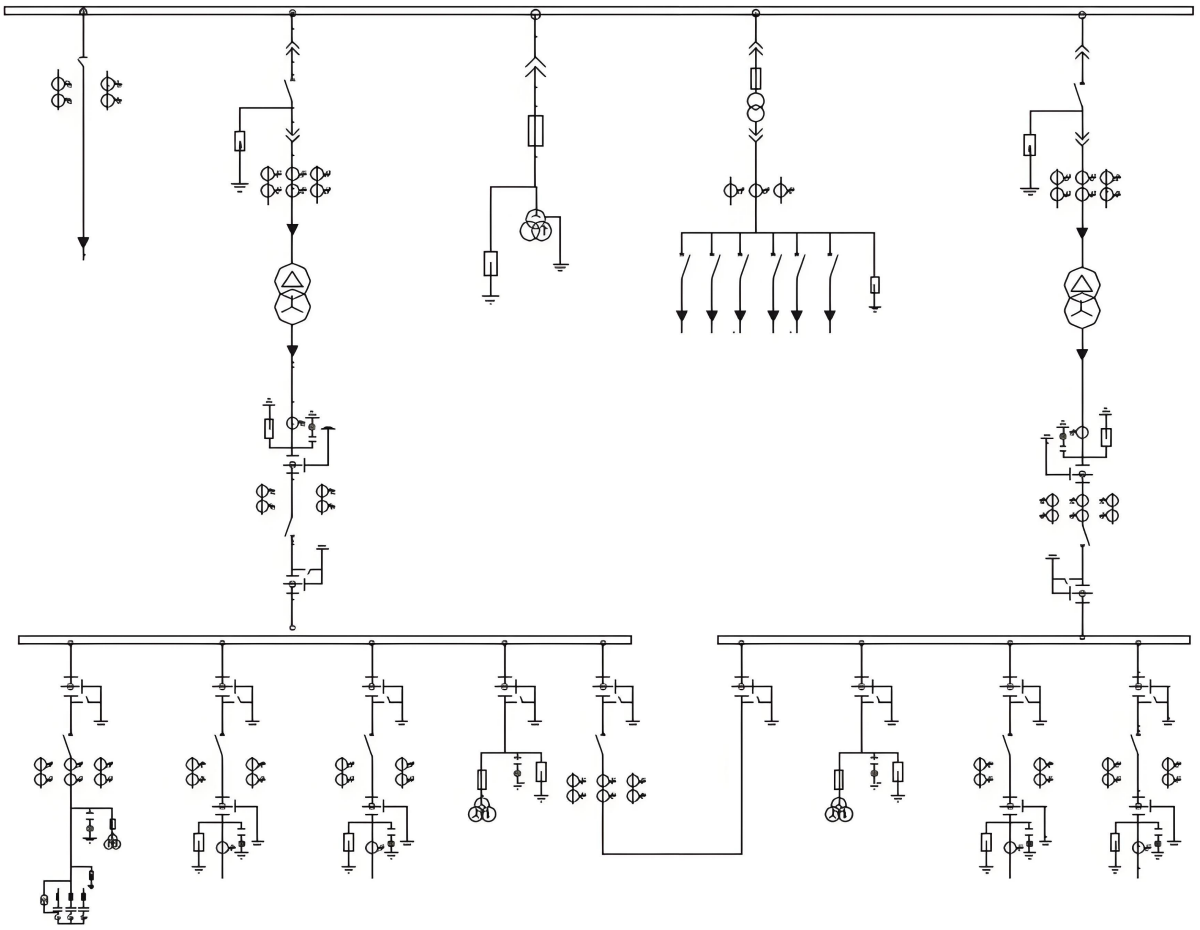
	
Aluminum Alloy Composite Board Crust- A	Aluminum Alloy Composite Board Crust-B
	
Aluminum Sheet Crust-C	Package System With Steel board Crust-D
	
Non-metallic Crust-E	Non-metallic Crust-F
	
Non-metallic Crust-G	Non-metallic Crust-H

Field service operation and warranty issues:

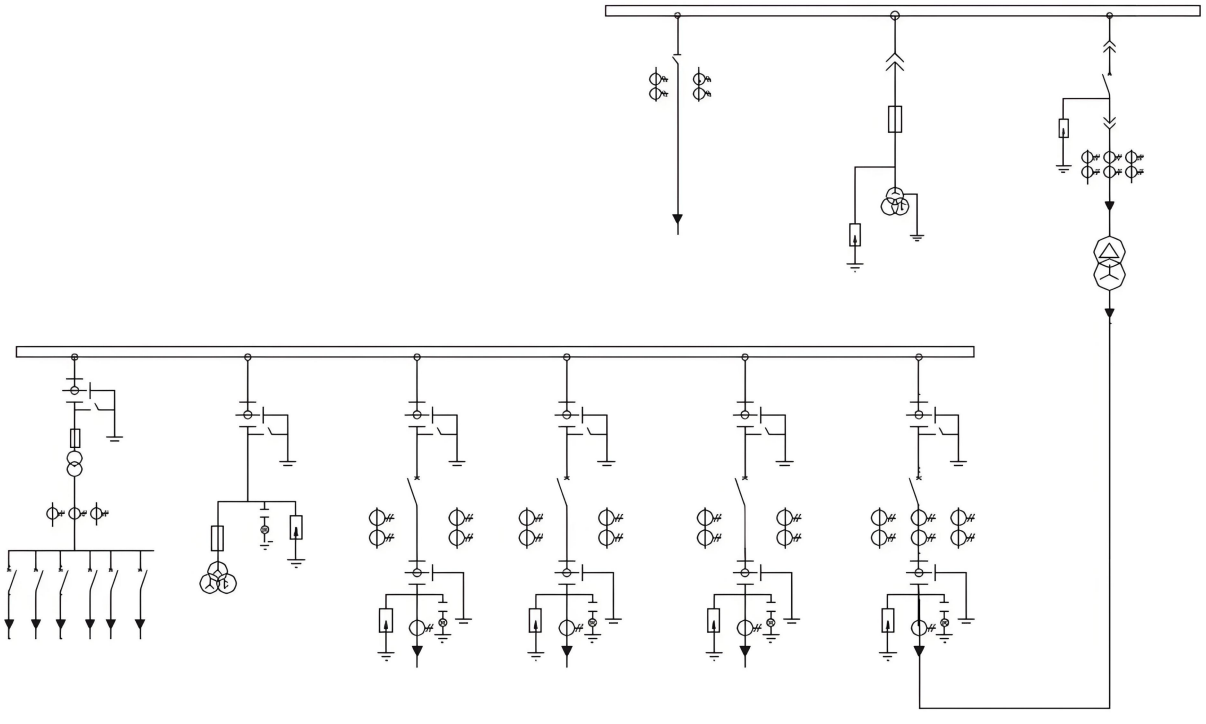
ROCKWILL® can provide competent, well trained field service representatives to provide technical guidance and advisory assistance for the installation, overhaul, repair and maintenance of ROCKWILL® equipment, processes and systems.

ROCKWILL® service Tel: +86 (577) 27869969
Email: rockwell@rockwill.com
Or check the website information: https://www.cnrockwill.com/

Main Primacy Wiring Circuit Schemas for Substation(40.5kV)



Wiring type A-40.5kV



Wiring type B-40.5kV

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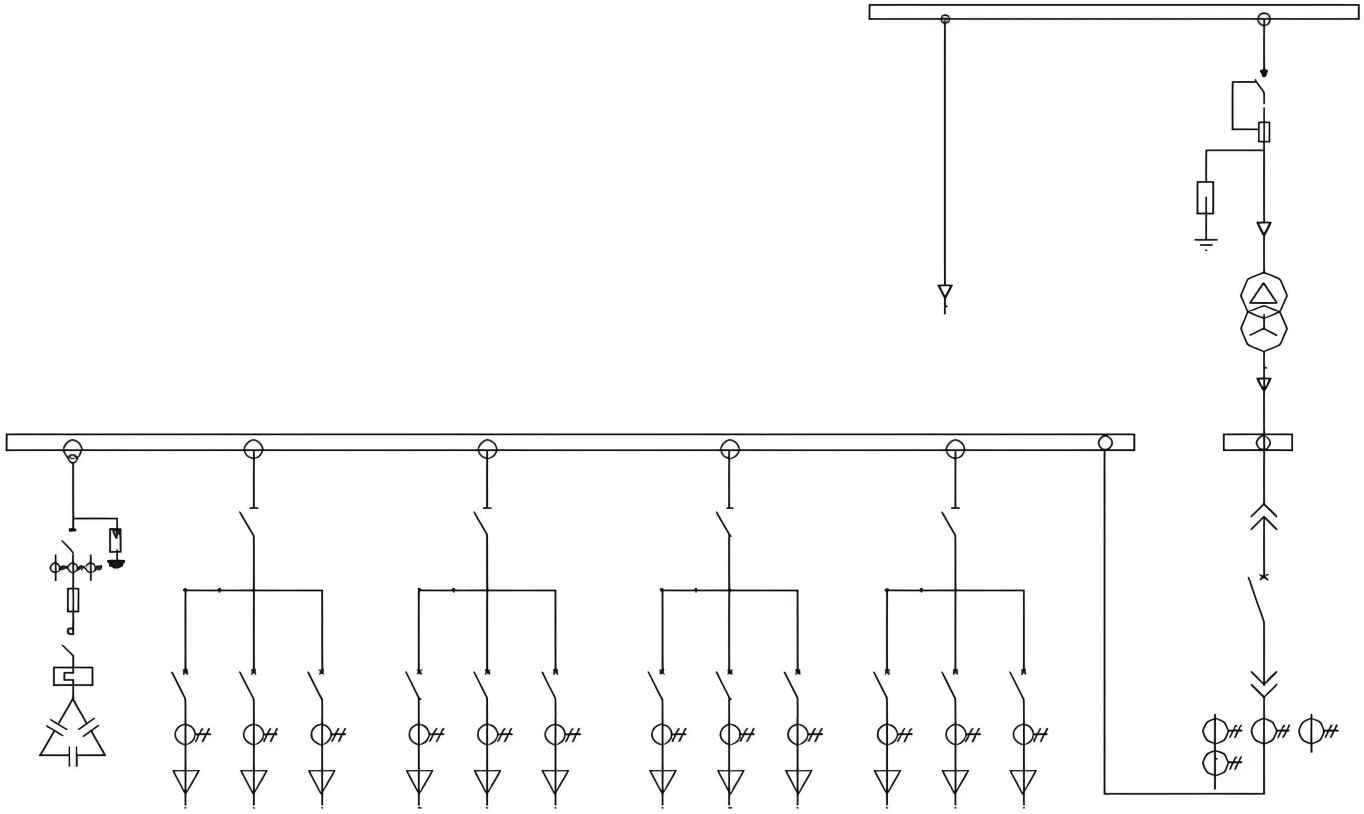
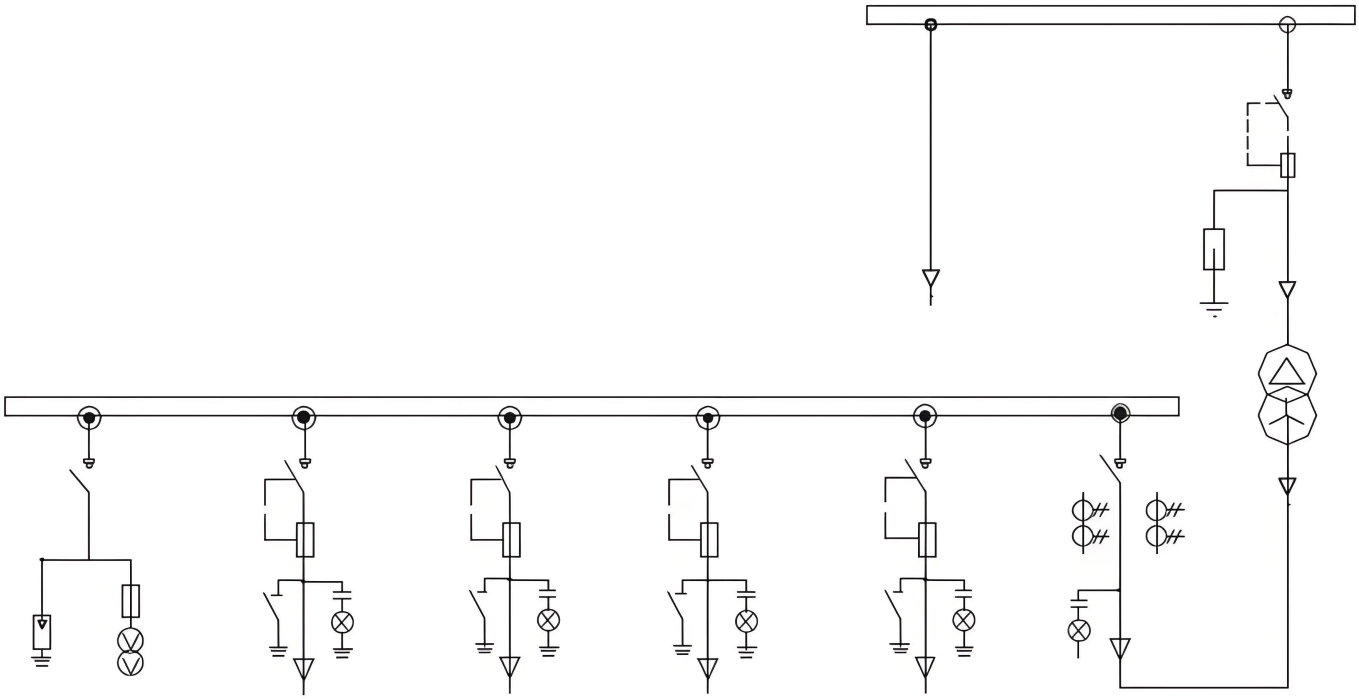


Wiring type C -40.5kV



Wiring type D -40.5kV

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