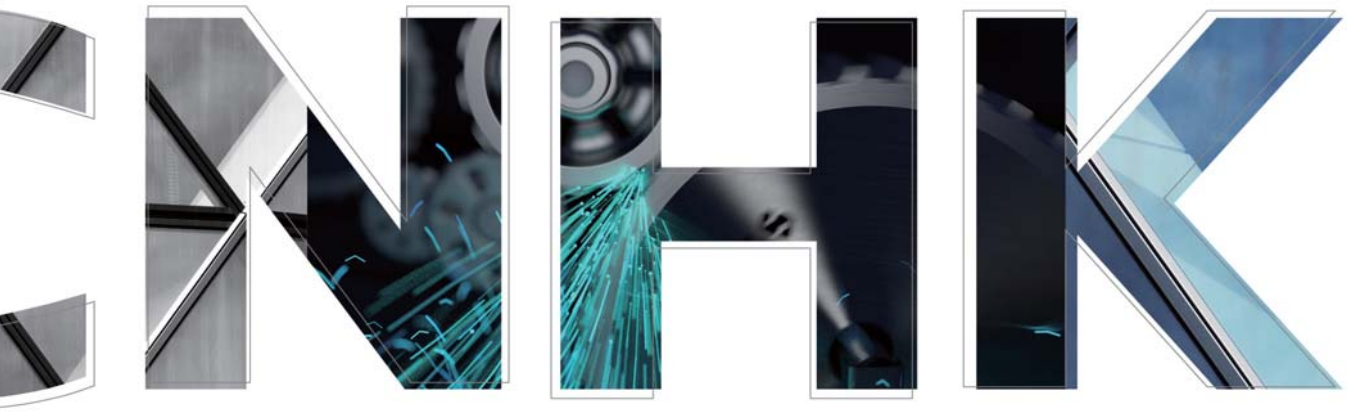


PRODUCT MANUALS

Product Range

Power transformer
Intelligent integration substation
Wind power generation combined type substation
Prefabricated(American) transformer substation
High and low voltage switchgear
Intelligent high protective transparent meter box
Distribution box, cable distribution box
High and low voltage component

CNHK®
HUANGHUA GROUP CO.,LTD.

CNHK®

Company Profile

Huanghua Group Co., Ltd. China was founded in 1980, former is Huanghua Electrical Co., Ltd. It is an integrated modern sciencial and technological enterprise group with researching and developing, professional large-scale manufacturing and marketing in power industry. Mainly products cover high and low voltage equipments, such as switchgears, substations, transformer and other distribution items.

CNHK people have continuously tried to improve product quality, introducing abroad advanced equipments and technology. Moreover, our all products are finished under the strict supervisory control of ISO9000 system, from research and design, from storage and transport to before-, in- and after-sale service, providing quality guarantee.

Meanwhile we attained ISO14001 environmentally management certification, OHSAS18001 occupational health and safety management system certification, All products are through China Compulsory Certification (CCC) supervising by Chinese Quality Certification Center.

We also have advanced technology and equipments, like digital control sheet metal production line and arc welding robot machine, etc. We will initiate the second phase of our development strategy. Offering customers the reasonable prices, efficient delivery time and good after-sales service is our basic principles. We desire to cooperate with more customers for mutual development and benefits.

Warmly welcome to contact us at any time!





HUANGHUA
GROUP

CNHK®

Advanced Production Equipment

"A handy tool makes a handy man"
To ensure reliable quality of every product, we possess advanced production to checkout equipment and standard production workshop

1.CNC turet pressure machine.

2.CNC mucti-station pressure.

3.CNC bending machine.

CNHK brand is established by quality all the time.









△Finished products workshop



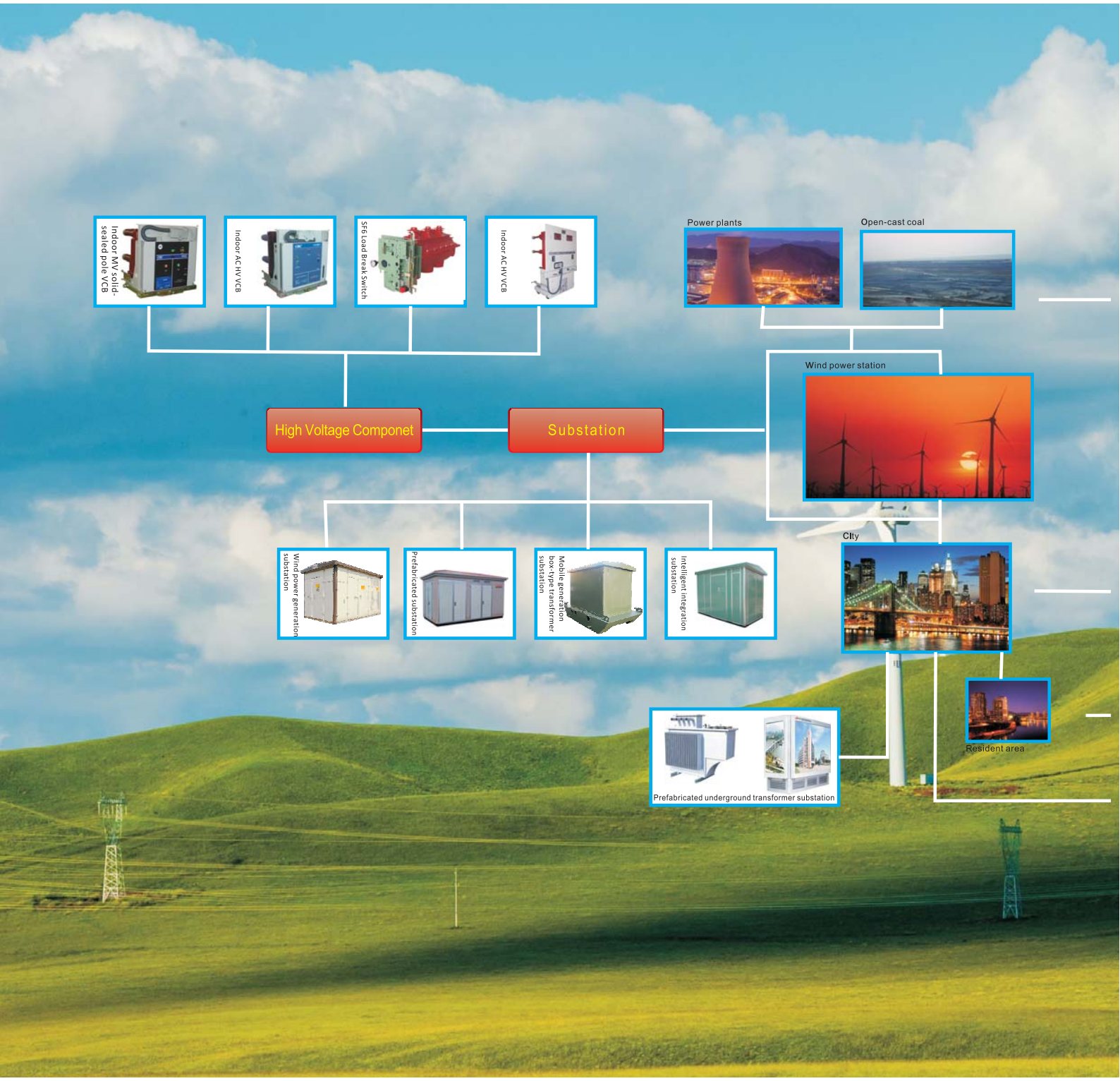


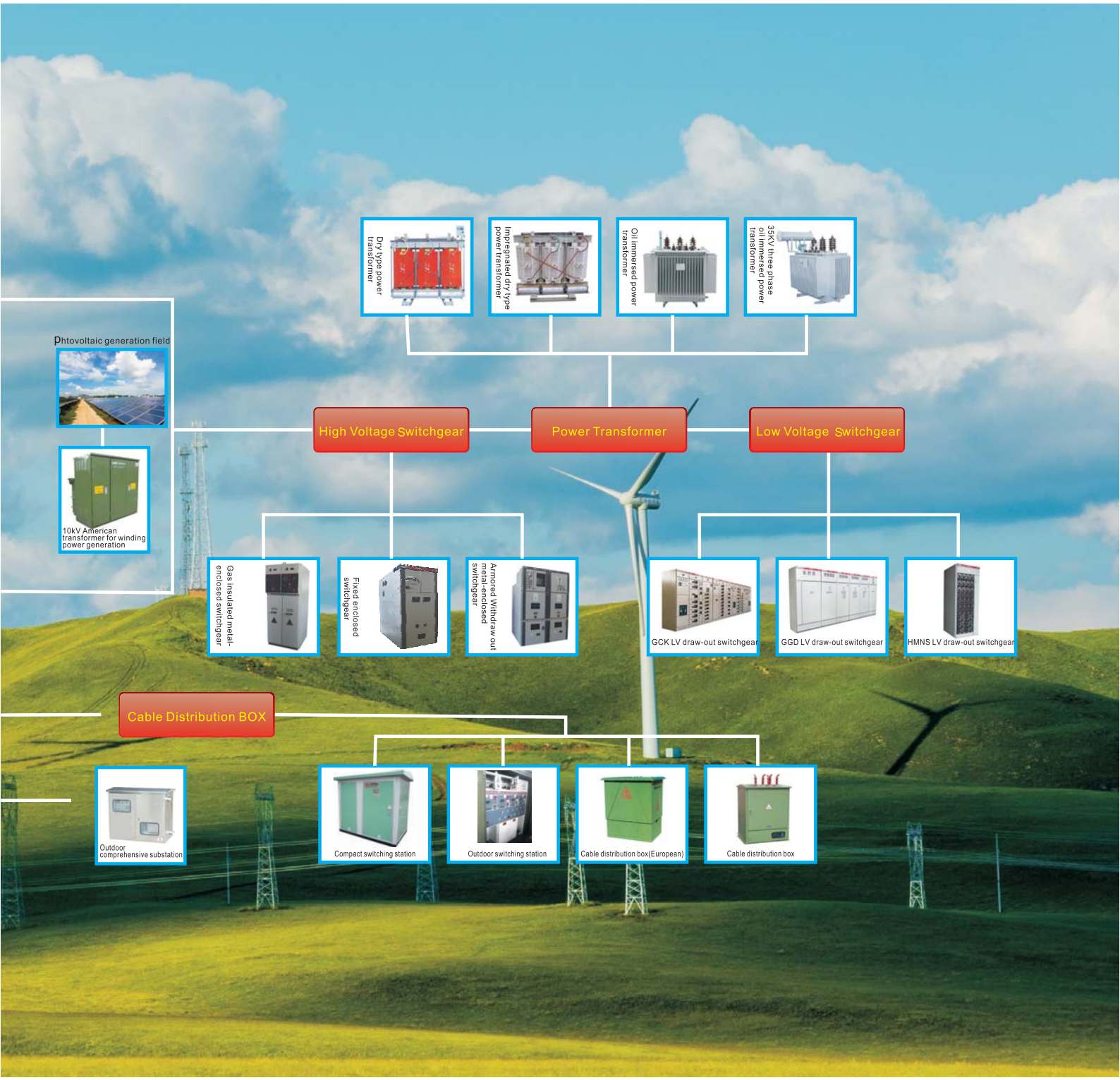
△On-site



△On-site

CNHK® Electric System




Dry type power transformer
Impregnated dry type power transformer
Oil immersed power transformer
35KV three phase oil immersed power transformer
Phtovoltaic generation field
10kV American transformer for winding power generation
High Voltage Switchgear
Power Transformer
Low Voltage Switchgear
Gas insulated metal-enclosed switchgear
Fixed enclosed switchgear
Armored Withdraw out metal-enclosed switchgear
GCK LV draw-out switchgear
GGD LV draw-out switchgear
HMNS LV draw-out switchgear
Cable Distribution BOX
Outdoor comprehensive substation
Compact switching station
Outdoor switching station
Cable distribution box(European)
Cable distribution box

QC system Certification

- Quality Management System:ISO9001
- Environmental Management System:ISO14001
- Occupational Health&Safety Management:OHSAS18001
- Quality Reliable Certificate



















Sales&Services

Customer-oriented Support System

Sales Service Team

- Experienced engineers and sales representatives are chosen to provide professional service and support.
- Customer-oriented solutions are provided.

Customer Oriented

- Customized products and solutions are available according to clients' requirements.
- Customized products meet local standards
- Regular internal inspection and supervision on contract execution.

Functional Service

- Quick-response logistics and finance system to support contract.
- Strategic collaboration with global renowned logistics service provider to improve global transportation solutions even in tough conditions.
- Service tracking system and termly customer feedback evaluation system.

Punctual Delivery

- Large scale production capacity ensures short manufacturing period.
- Shortest delivery time on special requirements.

After-sales Service

After-sales Service Team

- Standard procedures with feedback collection, problem tracking and problem shooting.
- In-time and efficient solutions to solve problems.
- Systematical service improvement through problem feedback and tracking.

After-sales Service Network

- Professional engineers are sent abroad for on-site service, installation guidance, maintenance and handing emergencies.
- Local service partners are selected for installation and maintenance supports.
- Global service network being built in order to provide convenient local after-sales service to different customers.





CNHK®

Contents

目　录

Medium Voltage(12kV~40.5kV)Metalclad Switchgear Panel,Withdrawable Type

01/07 KYN28A-24(Z) Metalclad Switchgear, Withdrawable Type

08/15 KYN28A-12(Z) Metalclad AC Enclosed Switchgear, Withdrawable Type

16/26 KYN61-40.5(Z) Metalclad AC Enclosed Switchgear, Withdrawable Type

Medium Voltage (7.2 kV ~12kV) Metal Enclosed Switchgear, Fixed Type

27/31 XGN17-40.5 Cubicle AC Metal Enclosed Switchgear, Fixed Type

32/35 KGN8-12 Cubicle AC Metal Enclosed Switchgear, Fixed Type

36/40 XGN2-12 Cubicle AC Metal Enclosed Switchgear, Fixed Type

41/43 XGN66A-12 Cubicle AC Metal Enclosed Switchgear, Fixed Type

Medium Voltage (12 kV ~24kV) Air–insulated Ring Main Unit (RMU), Fixed Type

44/46 HXGN15-12 Air-insulated Ring Main Unit (RMU), Fixed Type

47/51 HRM6 Air-insulated Ring Main Unit (RMU), Fixed Type

52/54 HDJS MV Capacitance Compensation Enclosed Cabinet

Low Voltage Switchgear Panel(415/690v)

55/61 HMNS Low-voltage Switchgear Panel, Withdrawable Type

62/66 GCK Low-voltage Switchgear Panel, Withdrawable Type

67/70 GCS Low-voltage Switchgear Panel, Withdrawable Type

71/73 GGD Low-voltage Switchgear Panel, Fixed Type

Low Voltage Control Signal Panel

74/81 GZDW DC Power Supply Panel

82/83 PK Computer Control Panel

84/86 XL-21 Power Distribution Cabinet

87 DBX Series Merer Panel

88/89 Products Summary

KYN28A-24(Z)

Metalclad Switchgear,Withdrawable Type



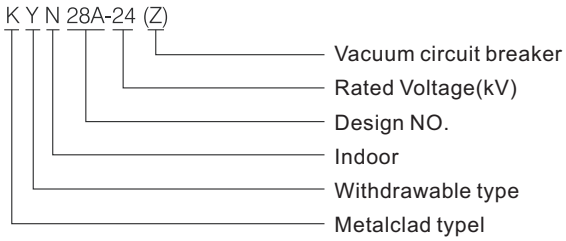
1.General

1.1 Ratings: system voltage 24KV, rated current up to 1250A, AC50/60Hz.

1.2 Application: applicable for power receiving and distribution of power plant and substations for control, protection and measurement.

1.3 Standards: IEC62271-200

2.Type Designation



3.Working Condition

3.1 Ambient air temperature: -15℃～ +40℃ (-25℃～ +45℃ available as customized products).

3.2 Altitude: ≤1000m

3.3 Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

4.Main Technical Parameter

Item	Unit	Data
		CB fitted
		VS1-24
Rated voltage	kV	24
1 min power frequency withstand voltage	kV	(50)65
Rated impulse withstand voltage (peak)	kV	125
Rated frequency	Hz	50(60)
Rated current	A	630 1250 1600 2000 2500 3150
Rated current of branch bus	A	630 1250 1600 2000 2500
Rated short time withstand current	kA	16 20 25 31.5
Rated peak withstand current	kA	40 50 63 80
Rated short circuit continuous time	s	4
Protection level		Shell: IP4X, IP2X when CPT and CB door are open
Weight	kg	800,1000(rated current ≥1600A)

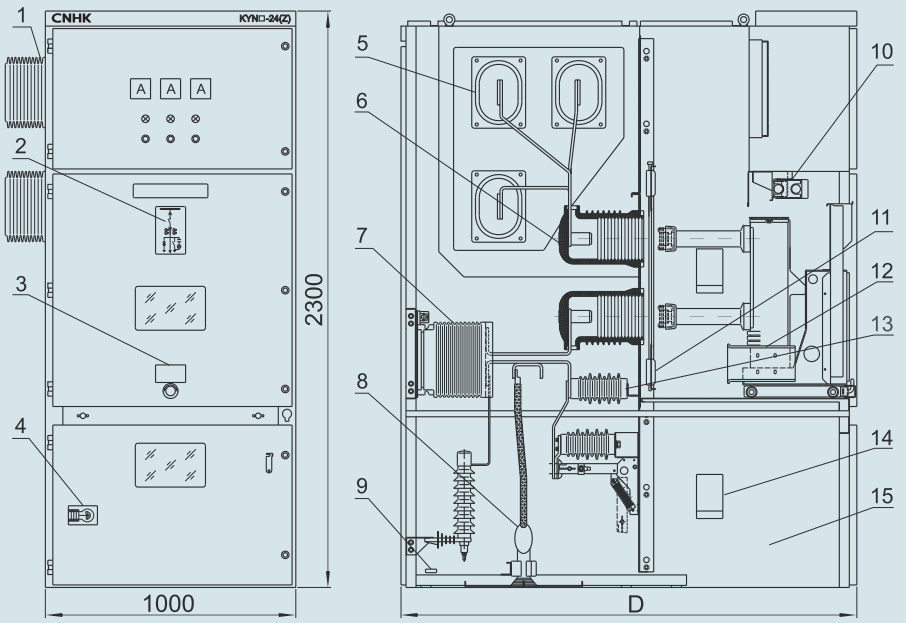
5.Construction

5.1 Compact Design

The switchgear is featured for its outstanding insulation level in its compact design with no necessity of the compund insulation and inter-phase clapboard.

5.2 Reliable structure and easy installation

Switchgear panel construction (unit:mm)

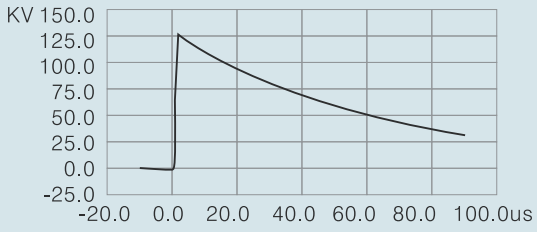


1.Passing bushing 2. Primary diagram 3. Nameplate 4. Lighting lamp 5. Main bus
6. Contact box 7. CT 8. Incoming cable 9. Earthing bus bar 10. Secondary interlocking device
11. Valve mechanism 12. CB trolley 13. Insulator 14. Heater 15. Frame

Depth D (mm)	Cable outgoing feeder	1820
	Overhead incoming and outgoing feeder	2150

5.3 Anti-lightning impulse capability

Oscillogram-lightning impulse voltage test



Upk=125.33kV

T1=1.11us

T2=45.45us

5.4 Trolley

The frame of trolley adoptes thin steel plate processed by CNC machine tool. The trolley co-ordinates insulatively with the switchgear so as to make the mechanical interlock safe and reliable. There are CB trolley, PT trolley and separating trolley as per the application. Trolleys with the same specifications are inter-changeable. In the switchgear, the trolley could be locked at three positions of breaking, testing and operating to ensure a reliable interlock. The trolley is featured by compactness, which is convenient for check and maintenance.

Variety of trolleies



VS1-24 circuit breaker with trolley



Isolation trolley

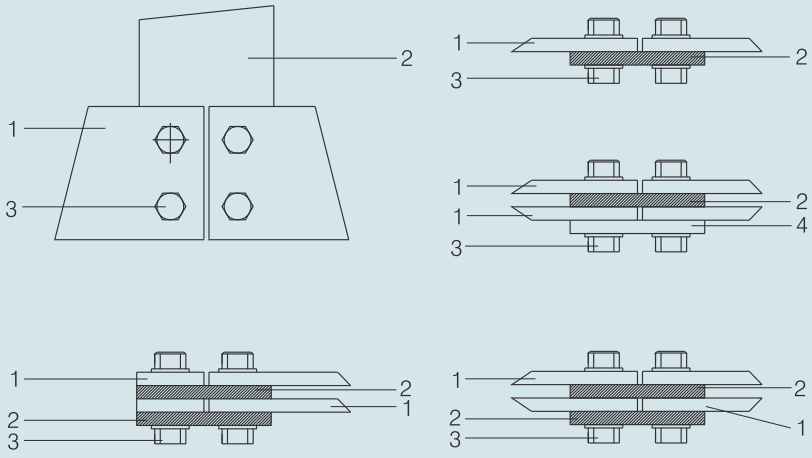


Voltage transformer with trolley

5.5Bus Separating

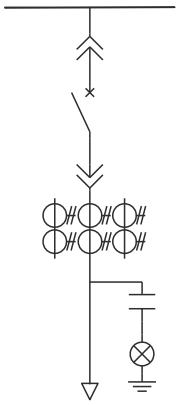
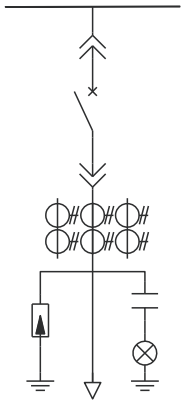
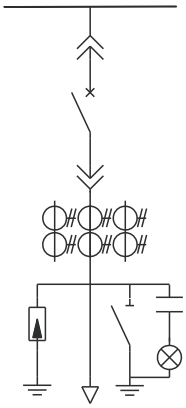
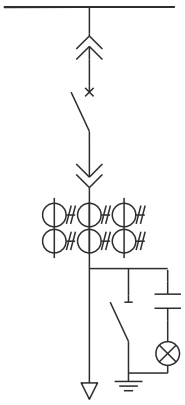
Two bus bars' connection could be applied under with trolley big current. The branch bus is connected to the static contact box and main bus without other supporters. Bus of the neighboring switchgear is fixed by the bush with could separate the failure are from spreading.

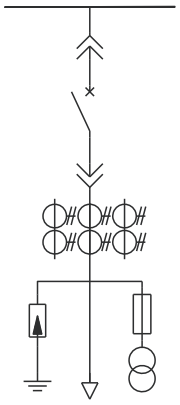
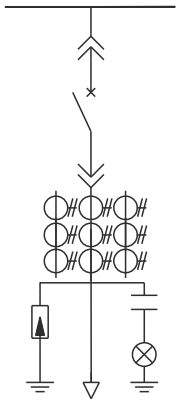
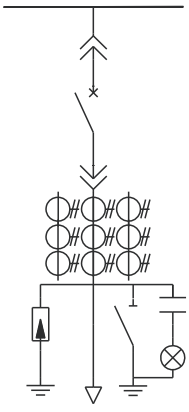
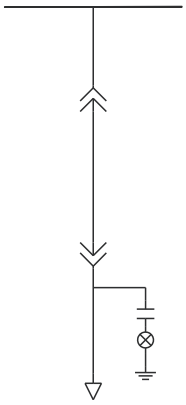
Connection mode of the main bus bar and brach bus bar

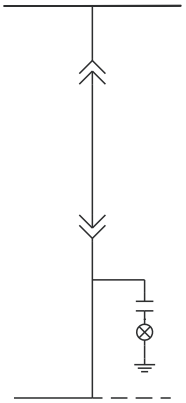
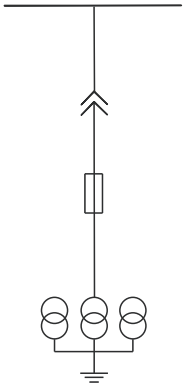
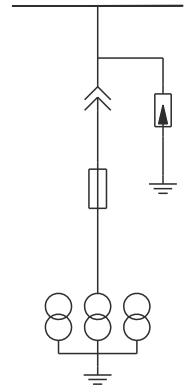
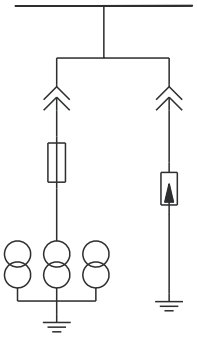


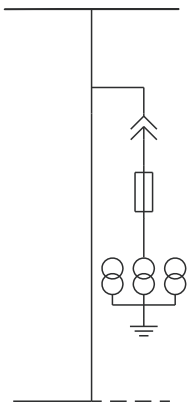
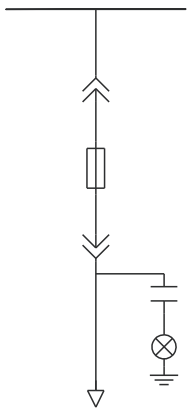
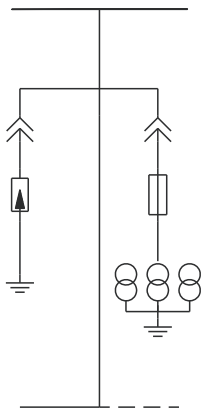
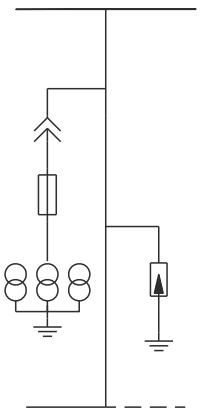
1. Main bus 2. Branch bus 3. Screw 4. Spacer

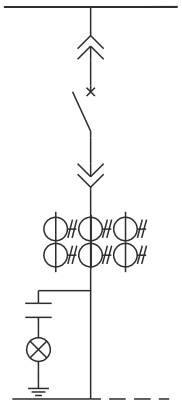
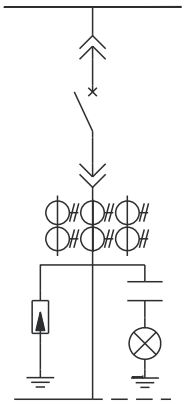
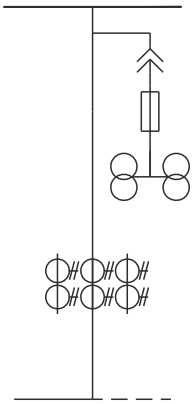
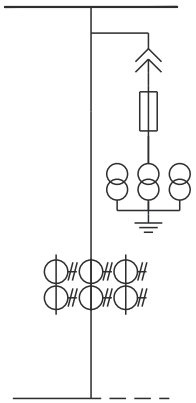
6.Single Line Diagram (Unit:mm)

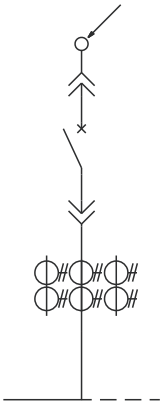
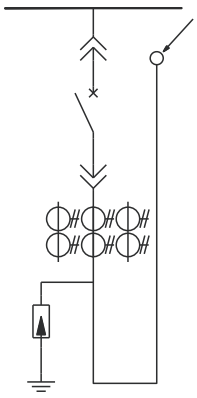
Program No.		001	002	003	004
Single line diagram					
Switchgear Dimension (Width×Depth×Height)		1000X1820X2300	1000X1820X2300	1000X1820X2300	1000X1820X2300
Rated current (A)		630~3150A			
Main electrical components	VCB (VS1-24)	1	1	1	1
	CT LZZB9-24	2~3	2~3	2~3	2~3
	PT				
	High-voltage fuse				
	Earthing switch			1	1
	Surge arrester		3	3	
Application		Receiving, Feeding	Receiving, Feeding	Receiving, Feeding	Receiving, Feeding
Note					

	005	006	007	008
Single line diagram				
Switchgear Dimension (Width×Depth×Height)	1000X1820X2300	1000X1820X2300	1000X1820X2300	1000X1820X2300
Rated current (A)	630~3150A			
Main electrical components VCB (VS1-24)	1	1	1	
CT LZZB9-24	3	3	3	
PT	1			
High-voltage fuse	2			
Earthing switch			1	
Surge arrester	3	3	3	
Application	Receiving, Feeding	Receiving, Feeding	Receiving, Feeding	Disconnecting
Note				

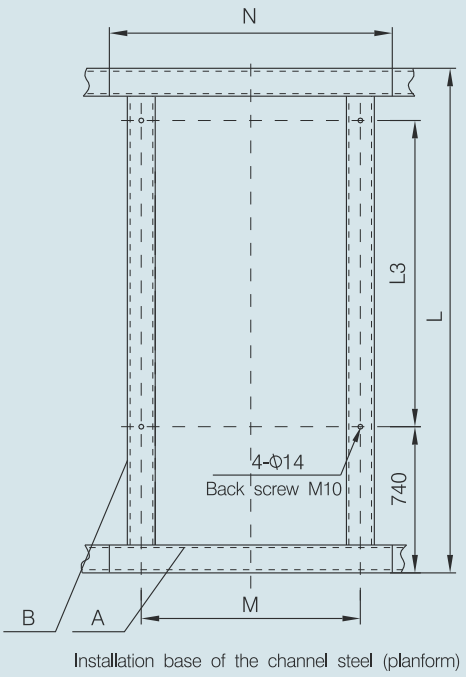
Program No.	009	010	011	012
Single line diagram				
Switchgear Dimension (Width×Depth×Height)	1000X1820X2300	1000X1820X2300	1000X1820X2300	1000X1820X2300
Rated current (A)	630~3150A			
Main electrical components: VCB (VS1-24)				
Main electrical components: CT LZZB9-24				
Main electrical components: PT		2~3	3	2~3
Main electrical components: High-voltage fuse		3	3	3
Main electrical components: Earthing switch				
Main electrical components: Surge arrester			3	3
Application	Bus bar disconnecting	Voltage measuring	Voltage measuring	Voltage measuring
Note				

Program No.	013	014	015	016
Single line diagram				
Switchgear Dimension (Width×Depth×Height)	1000X1820X2300	1000X1820X2300	1000X1820X2300	1000X1820X2300
Rated current (A)	630~3150A			
Main electrical components: VCB (VS1-24)				
Main electrical components: CT LZZB9-24				
Main electrical components: PT	3		3	3
Main electrical components: High-voltage fuse	3	3	3	3
Main electrical components: Earthing switch				
Main electrical components: Surge arrester			3	3
Application	Measureing+ communicating	Fuse	Measureing+ communicating	Measureing+ communicating
Note				

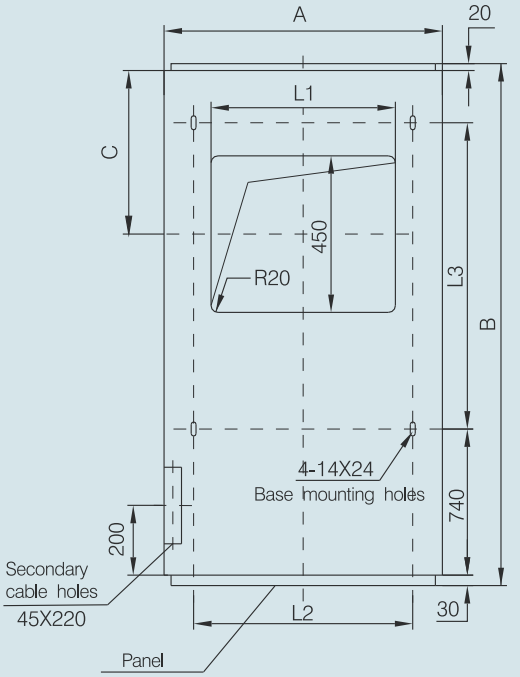
Program No.	017	018	019	020
Single line diagram				
Switchgear Dimension (Width × Depth × Height)	1000X1820X2300	1000X1820X2300	1000X1820X2300	1000X1820X2300
Rated current (A)	630~3150A			
Main electrical components: VCB (VS1-24)	1	1		
Main electrical components: CT LZZB9-24	2~3	2~3	3	3
Main electrical components: PT			2	3
Main electrical components: High-voltage fuse			3	3
Main electrical components: Earthing switch				
Main electrical components: Surge arrester		3		
Application	Communicating	Communicating	Communicating + measuring	Communicating + measuring
Note				

Program No.	021	022	023	024
Single line diagram				
Switchgear Dimension (Width × Depth × Height)	1000X2150X2300	1000X2150X2300		
Rated current (A)	630~3150A			
Main electrical components: VCB (VS1-24)	1	1		
Main electrical components: CT LZZB9-24	2~3	3		
Main electrical components: PT				
Main electrical components: High-voltage fuse				
Main electrical components: Earthing switch				
Main electrical components: Surge arrester		3		
Application	Communicating	Overhead incoming feeder		
Note				

7.Installation Dimension(Unit:mm)



Installation base of the channel steel (planform)



Dimension of the bottom plate (planform)

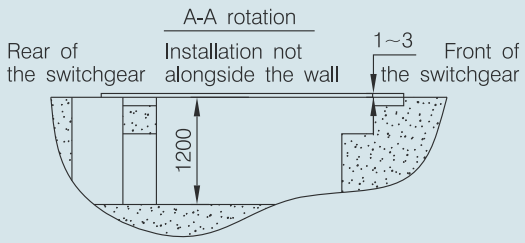
※ Note: 1. Depth of the cable duct should be ⩾1200mm

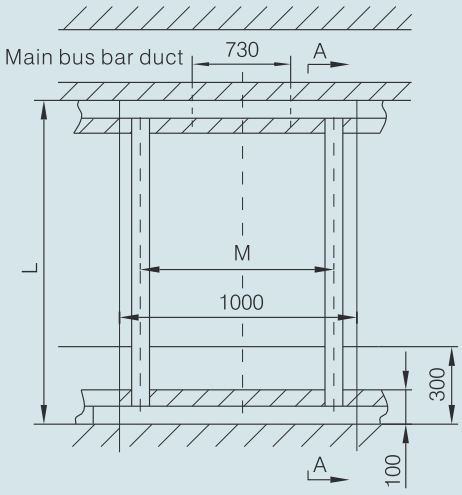
2. The A, B channel steel (8#) in the installation base figure is 1~3mm above the ground.

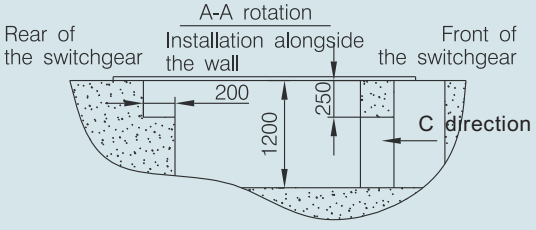
8.Installtion Foundation Scheme(Unit:mm)

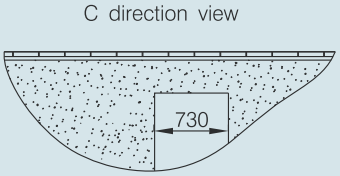
Dimension unit: mm

Switchgear width A	Switchgear depth B	L	M	N	L1	L2	L3	C
1000	1820	1770	830	1000	730	830	880	470
	2150	2100						800









KYN28A–12(Z)

Metalclad AC Enclosed Switchgear, Withdrawable Type



1. General

1.1 Ratings: system voltage 12KV, rated current up to 3150A, AC50/60Hz.

1.2 Application: applicable for power receiving and distribution and control, protection and measurement of circuit.

1.3 Standards: IEC62271-200

2.Type Designation

K Y N 28A - 12 (Z) / - □ - □

- (Z): Type of VCB
- 12: Rated voltage(kV)
- 28A: Design No.
- N: Indoor
- Y: Withdrawable type
- K: Metalclad enclosed switchgear

3. Working Condition

3.1 Ambient air temperature: -15℃～ +40℃(−25℃～ +45℃ available as customized products).

3.2 Altitude: ≤4000m

3.3 Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

4. Main Technical Parameter

Item		Unit	Data
Rated voltage		kV	3.6,7.2,12
Rated current of circuit breaker		A	630,1250,1600,2000,2500,3150,4000,5000
Rated current of switchgear		A	630,1250,1600,2000,2500,3150,4000,5000
Rated frequency		Hz	50
Rated short–circuit breaking current		kA	16,20,25,31.5,40,50
Rated short–time withstand current		kA	16,20,25,31.5,40,50
Rated short circuit continuous time		S	4
Rated peak withstand current		kA	40,50,63,80,100,125
Rated short–circuit closing current(peak)		kA	40,50,63,80,100,125
Rated insulation level: 1min power frequency withstand voltage		kV kV	24,32,42 between poles,pole to earth 24,32,48 between pen contacts
Rated insulation level: Lighting impulse withstand voltage(peak)		kV kV	40,60,75 between poles,pole to earth 46,70,85 between open contacts
Rated power frequency withstand voltage		kV	95/1min
Protection level	Switchgear shell		IP3X
	Compartments(door opened)		IP2X when the CPT and CB doors are open

5. Construction

The switchgear is composed of panel body and middle –mounted removable part

The panel body is divided into four separate compartments: Overhead incoming and outgoing feeder, cable incoming and outgoing feeder, and combining schemes, installation and maintenance can be operated at the front of the switchgear, so it can be double arranged back to back and can be installed against the wall, which improves the products safety flexibility and save space.

6. KYN28A–12(VS1) switchgear panel layout size and diagram (Unit: mm)

Ratings:

6.1.1. Rated current ⩽ 3150A, altitude⩽4000m

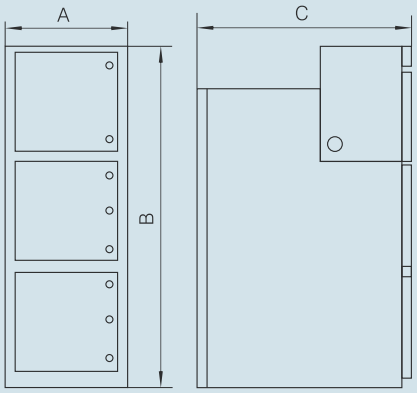
6.1.2. Switchgear for altitude 3000m-4000m;

6.1.3. Rated current ⩽1250A,

6.1.4. Short circuit breaking current⩽31.5kA

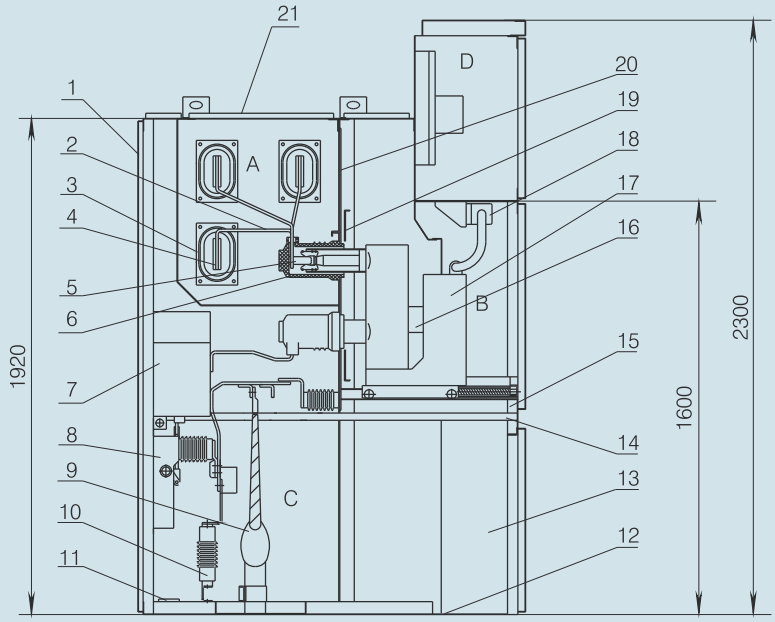
6.1.5. Switchgear width=1000m

KYN28A-12(Z) Switchgear layout dimensions



HeightB(mm)			2300
Width A(mm)	Rated current of branch bus heat stable current	⩽ 1250A ⩽ 31.5kA	650
	Rated current of branch bus heat stable current	⩽ 1250A ⩽ 40kA	800
	Rated current branch bus	⩾ 1600A	1000
Depth C(mm)	Cable outgoing feeder		1500
	Overheaded incoming and outgoing feeder		1660

KYN28A-12(Z)Structure diagram



A. Bus compartment
B. Circuit breaker trolley compartment
C. Cable compartment
D. Relay meters compartment

1. Shell
2. Mini branch bus
3. Bus bushing
4. Main bus
5.Fixed contact assembly
6. Contact box
7. CT
8. Earthing switch
9. Cable
10. Surge arrester
11. Earthing main busbar
12 Base board
13 Control mini bus
14. Earthing switch operation
15. Withdrawable level board
16. Heating device
17. Circuit break handcart
18. Secondary plug
19. Board(valve)
20. Detachable partition
21. Pressure releasing channel

7.2 KYN28A-12(VD4) switchgear panel layout size and diagram (Unit: mm)

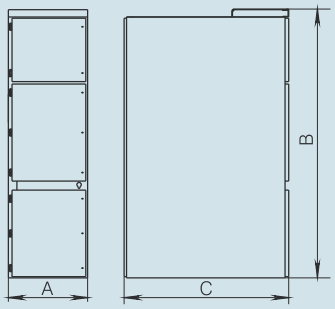
Ratings:

7.2.1 Rated current ⩽5000A,altitude ⩽1000m

7.2.2 Switchgear for altitude 3000m-4000m

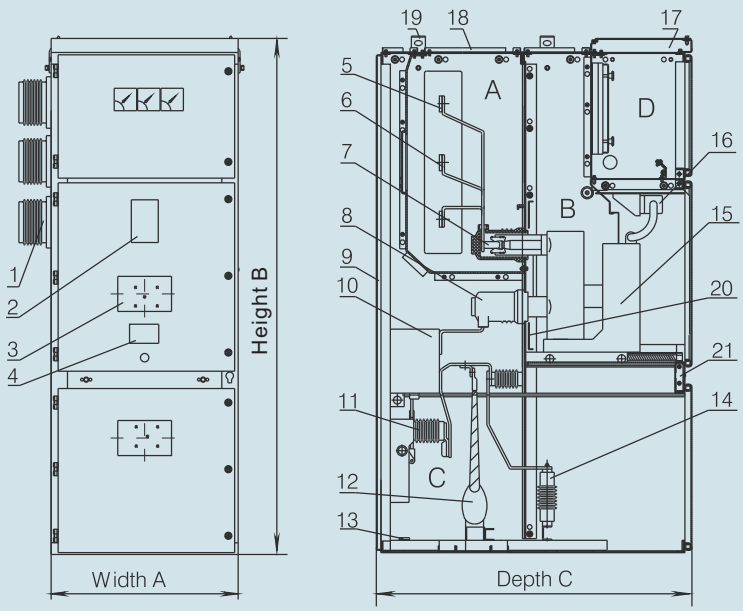
7.3.3 Switchgear rated current 4000A-5000A,layout size 1000×1500(1660)×2300(flat top switchgear)

KYN28A-12(Z) Switchgear layout dimensions



Height B (mm)		2200
	Rated current 4000A～5000A	2300
Width A (mm)	Rated current of branch bus ⩽1250A, heat stable current ⩽31.5kA	650
	Rated current of branch bus ⩽1250A, heat stable current ⩽40kA	800
	Rated current branch bus ⩾1600A	1000
Depth C (mm)	Cable outgoing feeder, Overheaded	1350
	incoming and outgoing feeder	
	Rated current 4000A～5000A	1550(1660)

KYN28A-12(Z) Switchgear structure diagram

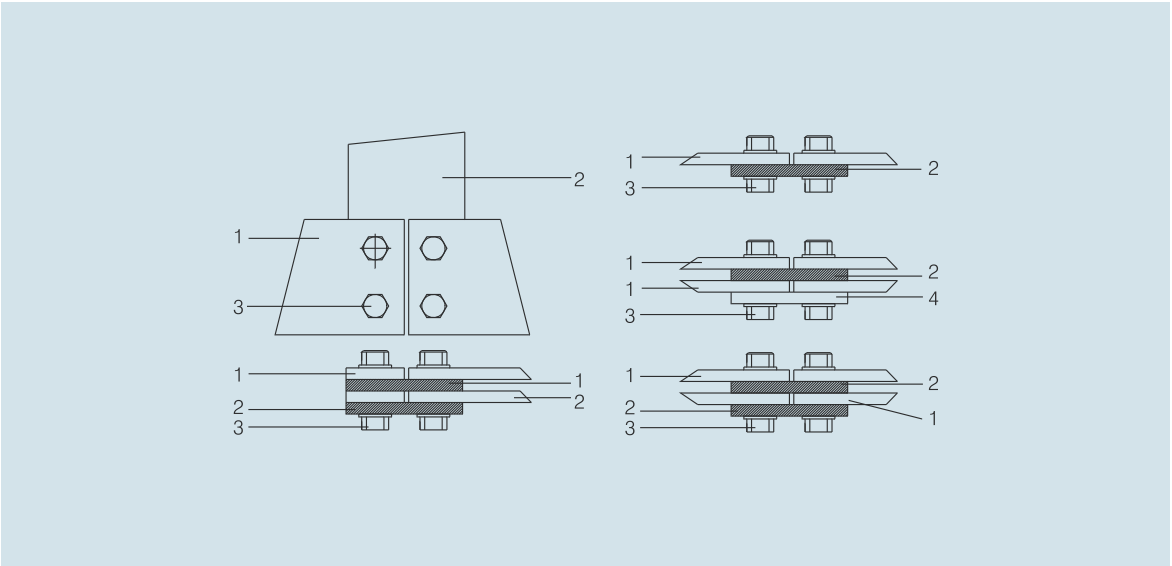


A. Busbar compartment　　B. Circuit breaker trolley compartment

C. Cable compartment　　D. Relay meters compartment

1. Bus bushing
2. Simulate bus winding
3. View window of the trolly compartment
4. Nameplate
5. Main bus
6. Branch bus
7. Fixed contact
8. Contact box
9. Rear plate
10. CT
11. Earthing switch
12 Cable
13 Main earthing bus
14. Arrester
15. Trolley
16. Air plug
17. Secondary mini busbar compartment
18. Pressure releasing plate
19. Lifting ring
20. Partition
21. Withdrawable horizontal partition,

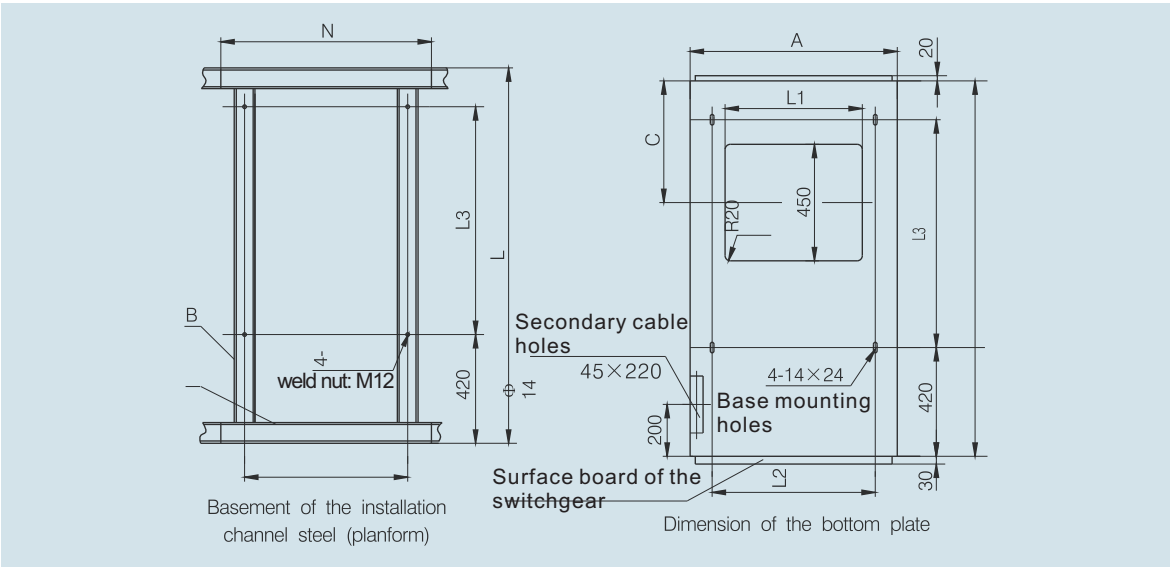
8. The Connecting Form of the Bus and Branch Busbar

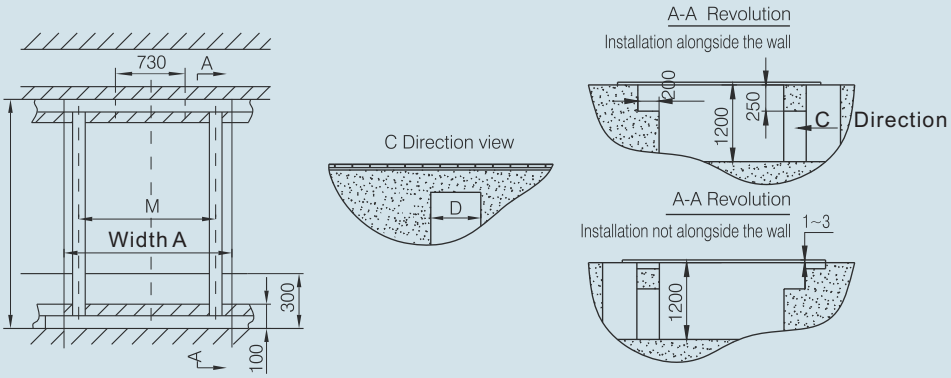


1. Main bus 2. Branch bus 3. Bolt 4.Pad

9. Installation Base Scheme

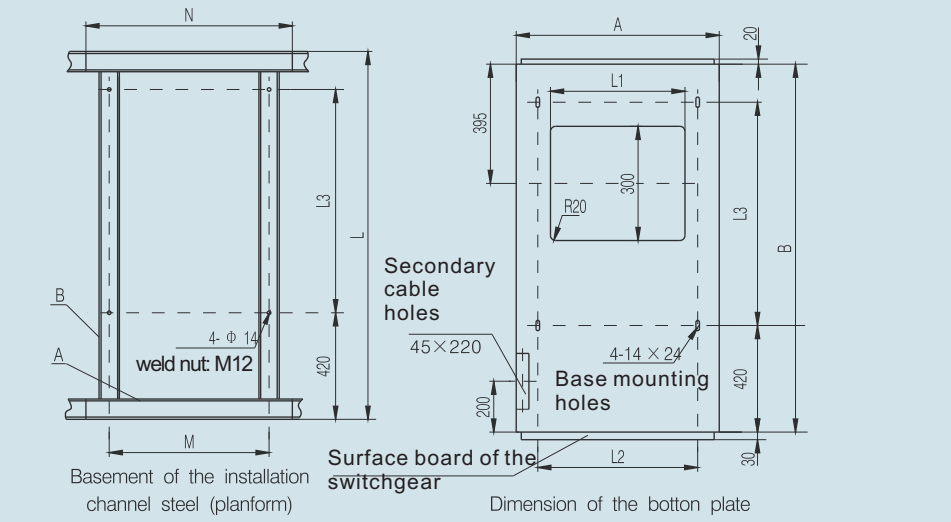
9.1 KYN28A-12(Z)(VS1) Switchgear installation dimension



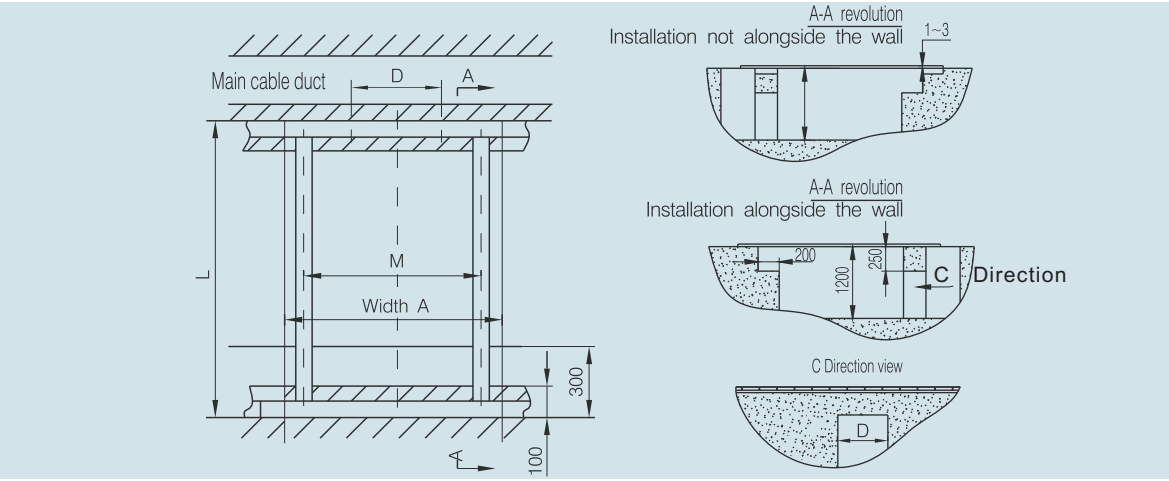


Width A	Depth B	M	N	D	L1	L2	L3	C	L
650	1500 cable	480	650	430	380	480	880	470	1450
	1660 overhead							630	1610
800	1500 cable	630	800	580	530	630	880	470	1450
	1660 overhead							630	1610
1000	1500 cable	830	1000	730	730	830	880	470	1450
	1660 overhead							630	1610

9.2 KYN28A-12(Z)(VD4) installation dimension

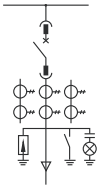
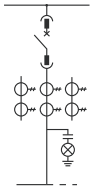
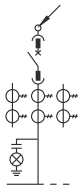
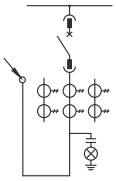
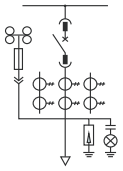
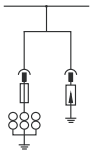


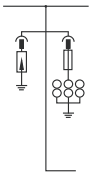
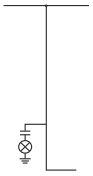
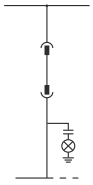
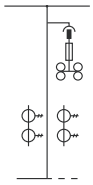
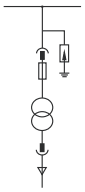
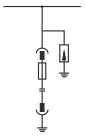
9.3 KYN28A-12(Z)(VD4) foundation diagram



Width A	Depth B	M	N	D	L1	L2	L3	L
650	1350 cable	480	650	430	380	480	730	1300
800	1350 cable	630	800	580	530	630	730	1300
1000	1350 cable	830	1000	730	730	830	730	1300

10.Single Line Diagram

Program No.	01	02	03	04	05	06
Single line diagram						
Dimensions(W×D×H(GZS1)/D×H(N B))mm	650/800/1000 × 1500×2300/1350×2200	650/800/1000 × 1500×2300/1350×2200	650/800/1000 × 1500×2300/1350×2200	650/800/1000 × 1660×2300/1550×2200	650/800/1000 × 1500×2300/1350×2200	650/800 × 1500×2300/1350×2200
Rated current(A)	630～5000					
Main electrical components: VCBZN63A or VD4	1	1	1	1	1	
Main electrical components: CT LZZBJ9 series	3	3	3	3	3	
Main electrical components: Earthing switch JN15	1					
Main electrical components: Surge arrester HY5W	3				3	3
Main electrical components: PT					JDZ10-10 | 2	JDZX10-10 | 3
Main electrical components: HV capacitor RN2-10					3	3
Circuit name	Receiving, Feeding	Communication	Overheaded incoming feeder	Overheaded incoming and outgoing feeder	Cable incoming feeder + PT	Voltage measurement + surge arrester

Program No.	07	08	09	10	11	12
Single line diagram						
Dimensions(W×D×H(GZS1)/D×H(N B))mm	650/800/1000 × 1500×2300/1350×2200	650/800/1000 × 1500×2300/1350×2200	650/800/1000 × 1500×2300/1350×2200	650/800/1000 × 1500×2300/1350×2200	800/1000 × 1500×2300/1350×2200	800/1000 × 1500×2300/1350×2200
Rated current(A)	630～5000					
Main electrical components: CT LZZBJ9 series				2		
Main electrical components: Surge arrester HY5W	3				3	3
Main electrical components: PT	JDZX10-10 | 3			JDZ10-10 | 2		3
Main electrical components: HV capacitor RN2-10	3			3	RN3-10 | 3	3
Main electrical components: Transformer					1	
Main electrical components: Capacitor						3
Circuit name	Voltage measurement +surge arrester+busbar	Busbar	Disconnection+ communication	Measurement + communication	Transformer	Capacitor panel

11.Ordering Information

Please specify the following information when ordering:

1 1.1 Main circuit program number and single line system diagram, allocation diagram and layout diagram should be supplied.

1 1.2 Main circuit diagram, busbar bar diagram for main circuit, allocation diagram should be supplied.

1 1.3 Secondary wiring diagram and terminals allocation diagram should be supplied.

1 1.4 Electrical equipments list.

1 1.5 Span an height dimension should be supplied if bus bridge needed.

1 1.6 Spare parts and their quantity.

1 1.7 Customized products are available.



KYN61–40.5(Z)

Metalclad AC Enclosed Switchgear,Withdrawable type

1.General

1.1 Ratings: system voltage 40.5KV, rated current up to 2000A, AC50/60Hz.

1.2 Application: applicable for power receiving and distribution of power plant and substations for control, protection and measurement.

1.3Standards: IEC62271-200

2.Type Designation

K Y N 61 40.5 □/□-□ □ □ □

- Environmental features
- Operating mode
- Plan code
- Rated short-circuit breaking current (kA)
- Rated current (A)
- Type of CB
- Rated voltage(kV)
- Design No.
- Indoor
- Withdrawable type
- Metalclad enclosed switchgear

3.Working Condition

3.1 Ambient air temperature: -15℃ ~ +40℃ (-25℃ ~ +45℃ available as customized products).

3.2 Altitude: ≤1000m

3.3 Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

4.Main Technical Parameter

4.1 Switchgear Panel Parameters

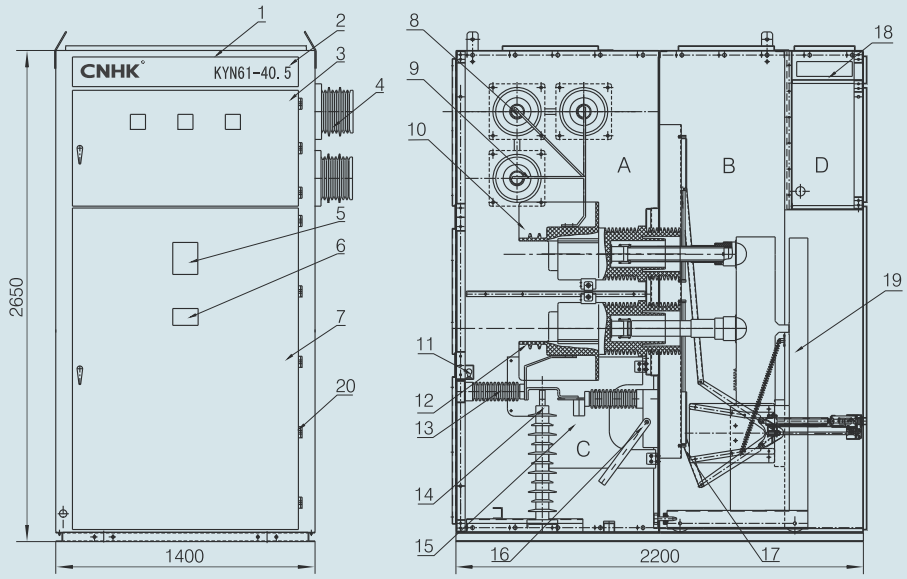
Item		Unit	Data
Rated voltage		kV	40.5
Rated current	Rated current of main bus bar	A	1250,1600,2000,(2500)
	Rated current of matched VCB	A	1250,1600,2000,(2500)
	1min power frequency withstand voltage	KV	95
	Lightning withstand voltage	kV	185
	Power frequency withstands voltage of auxiliary circuit and control circuit	V/1min	2000
Rated frequency		Hz	50
Rated short-circuit breaking current		kA	20 25 31.5
Rated short-time withstand current/ Rated short-circuit continuous time		kA/4s	20 25 31.5
Rated withstands current (peak)		kA	50 63 80*
Rated short-circuit making current		kA	50 63 80*
Rated voltage of control circuit		V	DC：110 220； AC：110 220
Protection level	Switchgear shell		IP3X
	Compartments (door opened)		IP2X

4.2 VCB Parameter

Item		Unit	Data
Rated voltage		kV	40.5
Rated current		A	1250,1600,2000,(2500)
Rated frequency		Hz	50
Rated short-time breaking current		kA	20 25 31.5
Rated short-circuit making current		kA	50 63 80
Rated peak withstand current		kA	50 63 80
Rated short-time withstand current/Rated short-circuit continuous time		kA/4s	20 25 31.5
Rated insulation level	1min power frequency withstand voltage (rms)	kV	95
	Thundering withstand voltage(rms)	kV	185
	Power frequency withstand voltage of auxiliary circuit and control circuit	V/1min	2000
Mechanical life		Times	10000
Making time	Electro-magnetic mechanism	s	≤0.2
	Spring mechanism	s	≤0.15
Breaking time		s	≤0.07
Rated operation sequence			open-0.3s-close open-180s-close

5.Construction

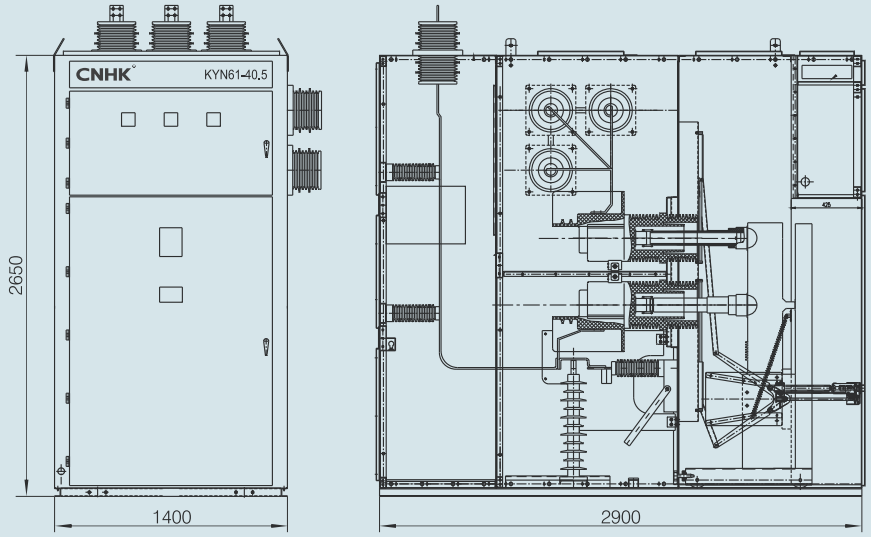
Steel construction switchgear panel (Unit:mm)



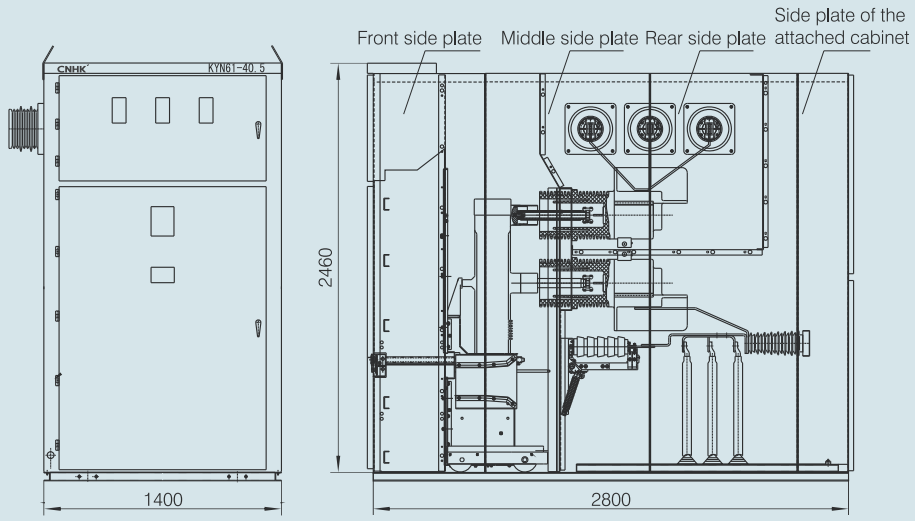
A. Bus compartment B. Trolley C. Cable compartment D. Relay meters compartment

1. Assembly, 2. Mini bus compartment covering plate 3. Meters compartment door 4. Bus bushing
5. Analog bus 6. Nameplate 7. Trolley compartment door 8. Main bus 9. Branch bus
10. Contact box 11. Lamb 12. CT 13. Insulator 14. Oxide zinc surge arrester 15. Insulating plate
16. Earthing switch 17. Valve assembly 18. Mini bus terminal 19. VCB trolley 20. Hinge

Steel construction switchgear with an accessory cabinet (overheaded incoming feeder) switchgear (Unit:mm)

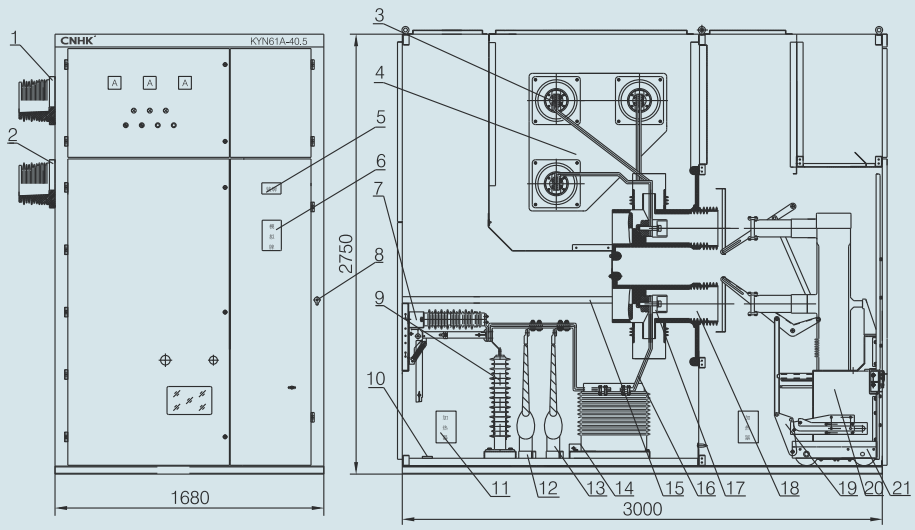


Aluminum-zinc deposited construction with an accessory cabinet switchgear (Unit:mm)



※ Note: depth of overhead incoming cabinet is 3300mm

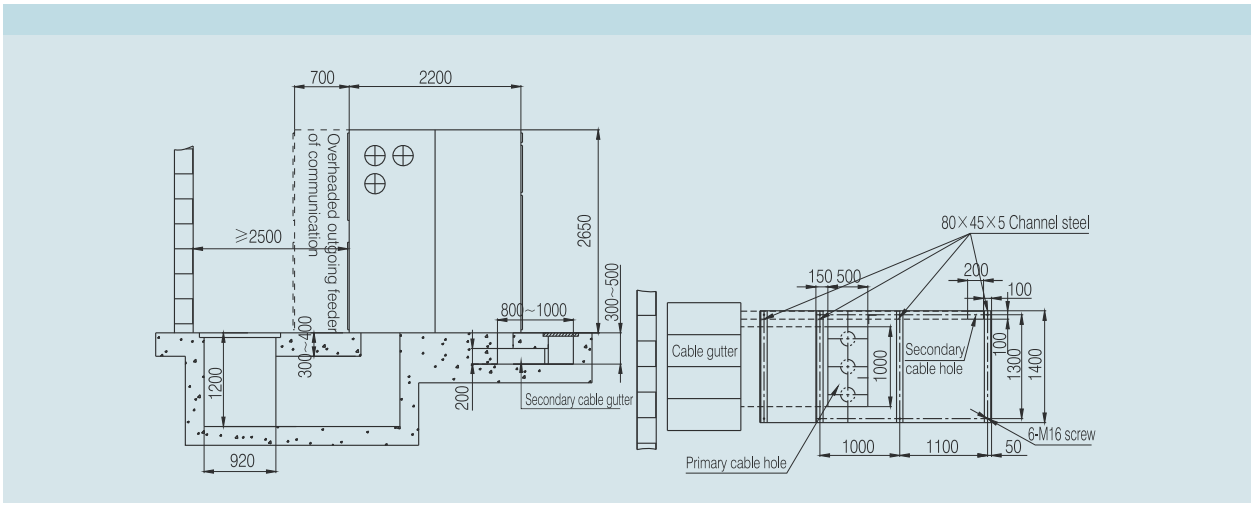
KYN61A-40.5 (1680mm wide type panel)



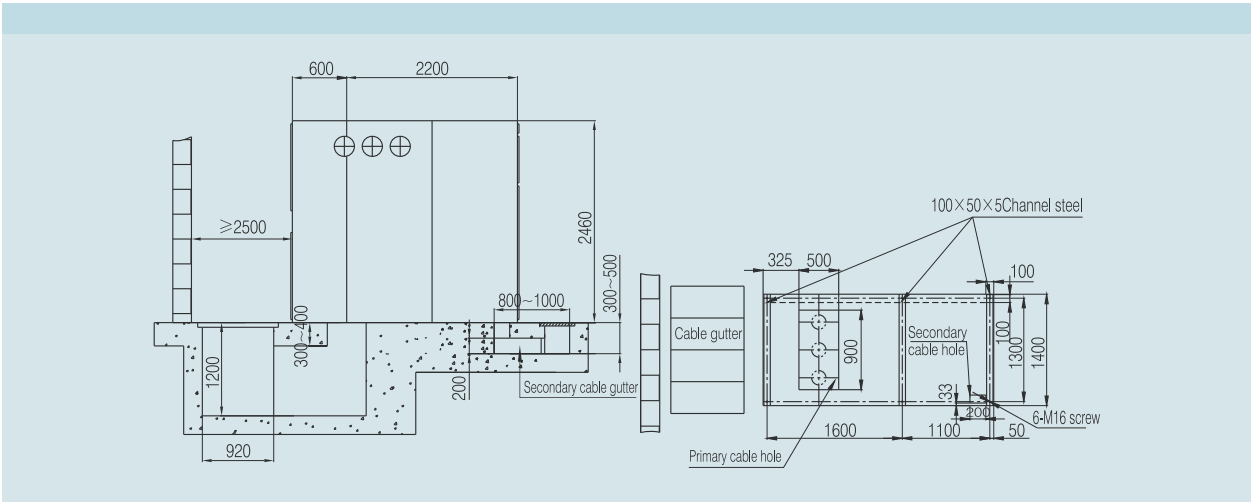
1. 35kV Bushing
2. Panel body assembly
3. Main bus and branch bus assembly
4. Main bus clapboard
5. Nameplate
6. Imitating plate
7. Earthing switch
8. Seal plate
9. Surge arrester
10. Earthing bus assembly
11. Heater
12. Cable clamp
13. Primary HV cable and cable head
14. Current transformer
15. Earthing switch operating interlocking mechanism
16. Lower branch bus
17. Primary static contact
18. 35kV Contact box
19. Valve mechanism assembly
20. Secondary socket and interlocking assembly
21. VCB (with trolley)

6.Installation Base and Dimension(Unit:mm)

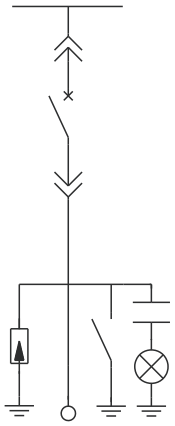
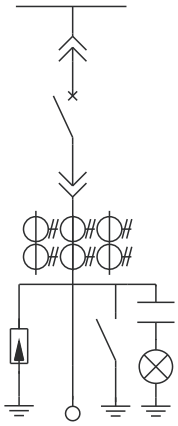
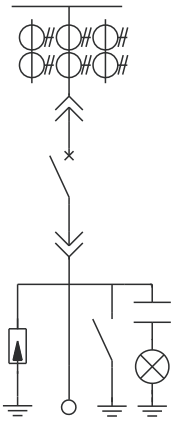
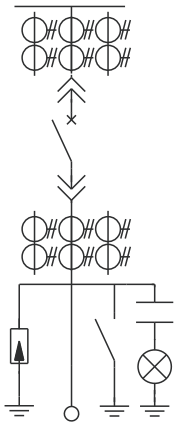
Steel construction switchgear installation foundation diagram

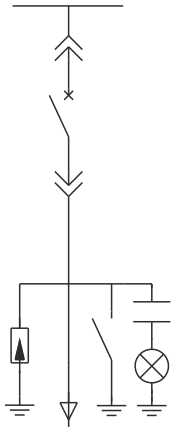
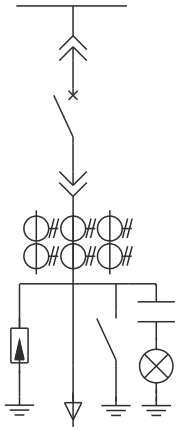
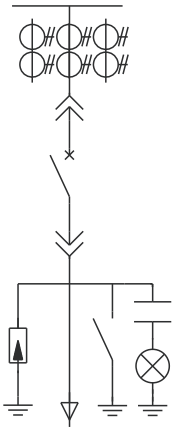
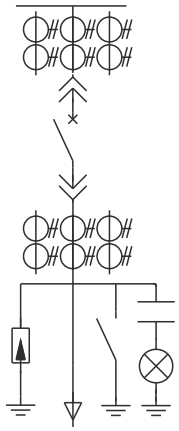


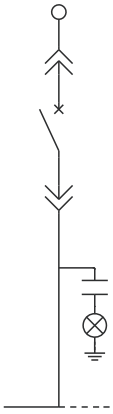
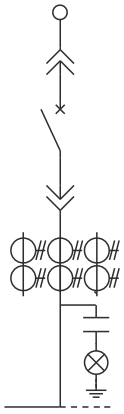
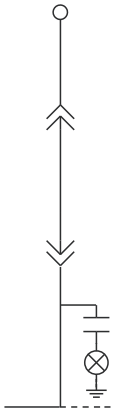
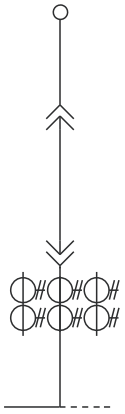
Aluminum-zinc deposited construction switchgear installation foundation diagram

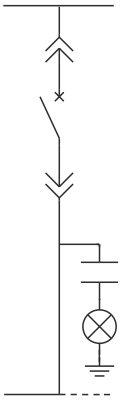
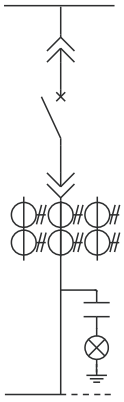
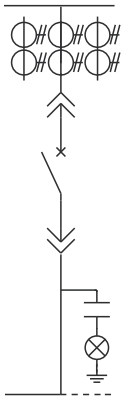
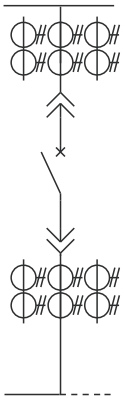


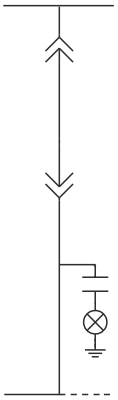
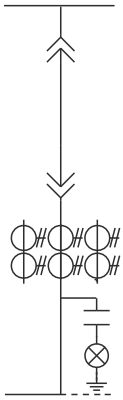
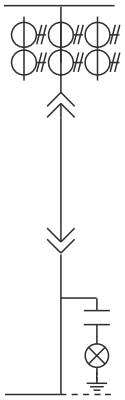
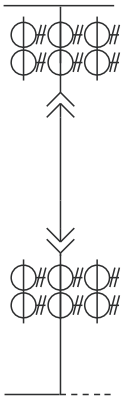
7.Single Line Diagram

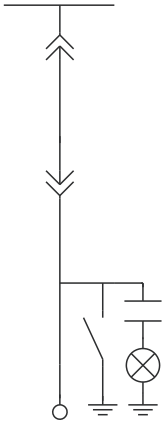
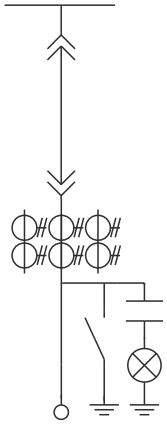
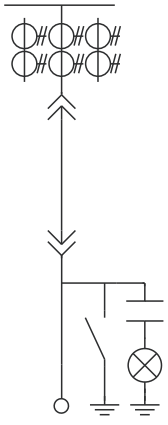
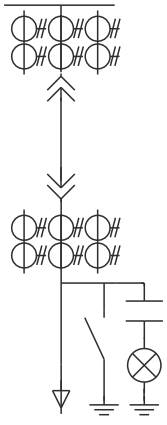
	Program No.	001	002	003	004
	Single line diagram				
Main electrical components	VCB ZN85-40.5	1	1	1	1
	CT LDJ5-35Q		1-3	1-3	4-6
	PT				
	HV Capacitor				
	Earthing switch	0-1	0-1	0-1	0-1
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester	0/3	0/3	0/3	0/3
	Application	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder

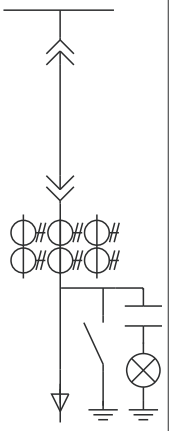
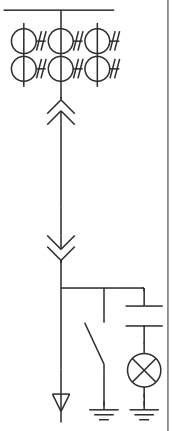
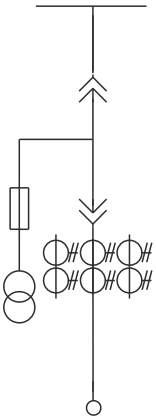
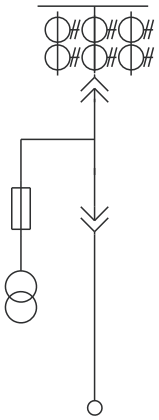
	Program No.	005	006	007	008
	Single line diagram				
Main electrical components	VCB ZN85-40.5	1	1	1	1
	CT LDJ5-35Q		1-3	1-3	4-6
	PT				
	HV Capacitor				
	Earthing switch	0-1	0-1	0-1	0-1
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester	0/3	0/3	0/3	0/3
	Application	Cable incoming and outgoing feeder	Cable incoming and outgoing feeder	Cable incoming and outgoing feeder	Cable incoming and outgoing feeder

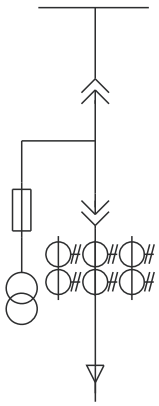
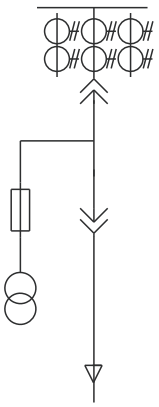
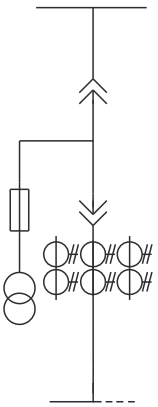
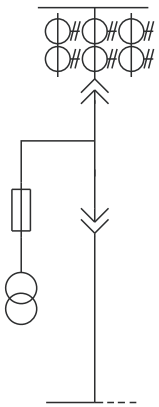
	Program No.	009	010	011	012
	Single line diagram				
Main electrical components	VCB ZN85-40.5	1	1	1	1
	CT LDJ5-35Q		1-3		1-3
	PT				
	HV Capacitor				
	Earthing switch				
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester	0/3	0/3	0/3	0/3
	Application	Overhead Incoming(outgoing) feeder communicating	Overhead Incoming(outgoing) feeder communicating	Overhead Incoming(outgoing) feeder communicating	Overhead Incoming(outgoing) feeder communicating

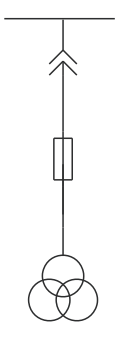
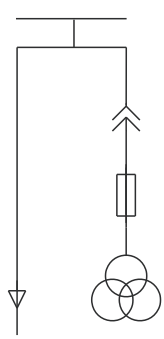
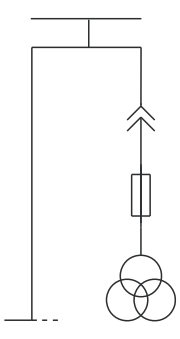
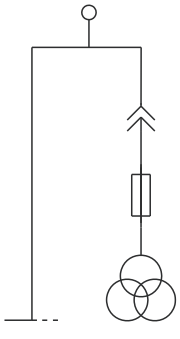
	Program No.	013	014	015	016
	Single line diagram				
Main electrical components	VCB ZN85-40.5	1	1	1	1
	CT LDJ5-35Q		1-3	1-3	4-6
	PT				
	HV Capacitor				
	Earthing switch				
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester	0/3	0/3	0/3	0/3
	Application	Left (right) communicating	Left (right) communicating	Left (right) communicating	Left (right) communicating

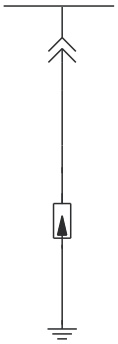
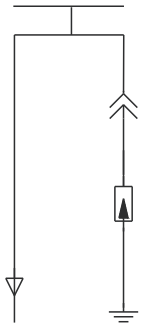
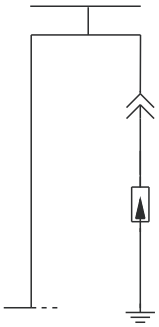
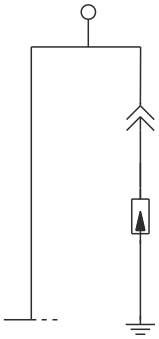
	Program No.	017	018	019	020
	Single line diagram				
Main electrical components	VCB ZN85-40.5				
	CT LDJ5-35Q		1-3	1-3	4-6
	PT				
	HV Capacitor				
	Earthing switch				
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester	0/3	0/3	0/3	0/3
	Application	Left (right) communicating	Left (right) communicating	Left (right) communicating	Left (right) communicating

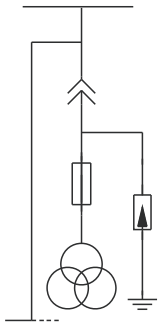
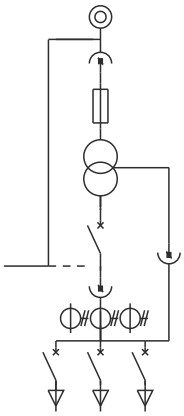
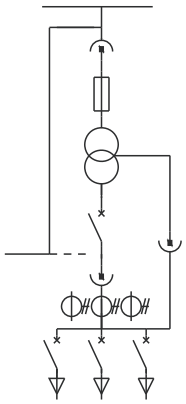
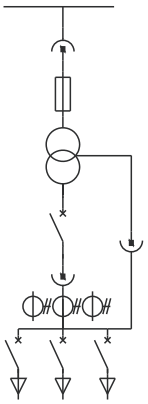
	Program No.	021	022	023	024
	Single line diagram				
Main electrical components	VCB ZN85-40.5	1	1	1	1
	CT LDJ5-35Q		1-3	1-3	4-6
	PT				
	HV Capacitor				
	Earthing switch	0-1	0-1	0-1	0-1
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester	0/3	0/3	0/3	0/3
	Application	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder	Overhead incoming and outgoing feeder

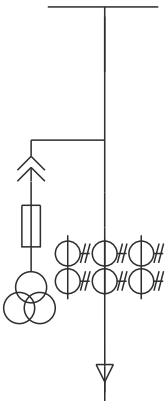
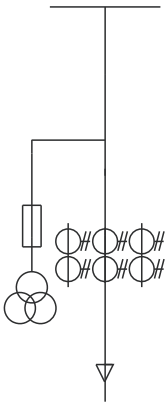
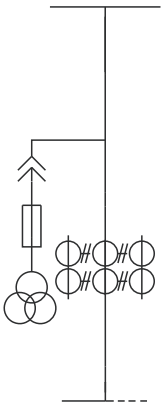
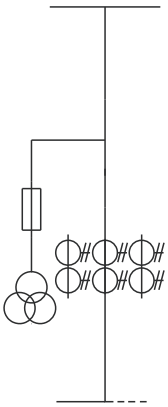
Program No.		025	026	027	028
	Single line diagram				
Main electrical components	VCB ZN85-40.5	1	1	1	1
	CT LDJ5-35Q	1-3	1-3	1-3	1-3
	PT			2	2
	HV Capacitor				
	Earthing switch	0-1	0-1	0-1	0-1
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester				
	Application	Cable incoming and outgoing feeder	Cable incoming and outgoing feeder	Measuring+ Overhead incoming and outgoing feeder	Measuring+Overhead incoming and outgoing feeder

Program No.		029	030	031	032
	Single line diagram				
Main electrical components	VCB ZN85-40.5	1	1	1	1
	CT LDJ5-35Q	1-3	1-3	1-3	1-3
	PT	2	2	2	2
	HV Capacitor				
	Earthing switch	0-1	0-1	0-1	0-1
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester				
	Application	Measuring & cable incoming feeder	Measuring & cable incoming feeder	Measuring & left/right communicating	Measuring & left/right communicating

	Program No.	033	034	035	036
	Single line diagram				
Main electrical components	VCB ZN85-40.5				
	CT LDJ5-35Q				
	PT	1-3	1-3	1-3	1-3
	HV Capacitor	3	3	3	3
	Earthing switch				
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester	0/3	0/3	0/3	0/3
	Application	PT	PT & cable incoming and outgoing feeder	PT & left(right) communicating	PT overhead & left(right) communicating

	Program No.	037	038	039	040
	Single line diagram				
Main electrical components	VCB ZN85-40.5				
	CT LDJ5-35Q				
	PT				
	HV Capacitor				
	Earthing switch				
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester	3	3	3	3
	Application	Surge arrester	Surge arrester & cable incoming and outgoing feeder	Surge arrester & left/right communicating	Surge arrester overhead & left/right communicating

	Program No.	041	042	043	044
	Single line diagram				
Main electrical components	VCB ZN85-40.5				
	CT LDJ5-35Q				
	PT	1-3			
	HV Capacitor	3	3(XRNT)	3(XRNT)	3(XRNT)
	Earthing switch				
	Live Monitor				
	Surge arrester				
	Application	PT + surge arrester and communicating feeder	Transformer overhead and communicating	Transformer	Transformer
	Note		Transformer SC9-35	Transformer SC9-35	Transformer SC9-35

	Program No.	045	046	047	048
	Single line diagram				
Main electrical components	VCB ZN85-40.5	1	1	1	1
	CT LDJ5-35Q	3	3	3	3
	PT	3	3	3	3
	HV Capacitor				
	Earthing switch	0-1	0-1	0-1	0-1
	Live Monitor	0-1	0-1	0-1	0-1
	Surge arrester				
	Application	Measuring & cable incoming feeder	Measuring & cable incoming feeder	Measuring & left/right communicating	Measuring & left/right communicating

XGN17–40.5

Cubicle AC Metal Enclosed Switchgear, Fixed Type



1. General

1.1 Ratings: system voltage 40.5KV, rated current up to 2000A, AC50/60Hz.

1.2 Application: applicable for power receiving and distribution of power plant and substations for control, protection and measurement.

1.3Standards: IEC62271-200

2.Type Designation

X G N 17 - 40.5 / □ - □ - □

- Scheme No.
- Rated short circuit breaking current (kA)
- Rated current (A)
- Rated voltage (kV)
- Design No.
- Indoor
- Fixed type
- Metal-enclosed type

3. Working Condition

3.1Ambient air temperature: -15℃～ +40℃(-25℃～ +45℃ available as customized products).

3.2Altitude: ≤1000m

3.3Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

4.Main Technical Parameter

4. Main Technical Parameter

Technical parameter of high voltage switchgear

No.	Item	Unit	Parameter	
1	Rated voltage	kV	40.5	
2	Maximum rated current	A	2000	
3	Rated breaking current	kA	25	31.5
4	Rated closing current (peak)	kA	63	80
5	Ultimate peak current	kA	63	80
6	Rated short time withstand current (4s)	kA	25	21.5
7	Outline size: LXDXH	mm	1918×3250×3125	
8	Degree of protection		IP2X	
9	Weight	kg	Approx 1500	

Technical parameter of GN27-35 disconnector

Model	Rated voltage (kV)	Rated current (A)	Short time withstand current (4s) (kA)	Peak withstand current (kA)
GN27-35/630-20	40.5	630	20	50
GN27-35/1250-31.5	40.5	1250	31.5	80
GN27-35/2000-40	40.5	2000	40	90

Main technical parameter of R-C type surge absorber

Model	Rated voltage (kV)	Rated capacitance (μF)	Resistance (Ω)	1min power frequency dielectric test voltage (kV)	Weight (kg)	Remark
LG36–0.05/100–1	36	0.5	100	75	22	
LG36–0.1/100–1	36	0.1	100	75	22	
LGQ36–0.05/100–1	36	0.05	100	108	27	Type Q
LGQ36–0.1/100–1	36	0.05	100	108	27	Type Q
LG36–0.5/300–1	36	0.05	300	75	27	
LG36–0.05/30–1	36	0.05	300	108	27	Type Q

Main technical parameter of vacuum circuit breaker

No.	Item	Unit	Parameter					
			ZN12–40.5			ZN23–40.5		
1	Rated voltage	kV	40.5			40.5		
2	Rated current	A	1250	1600	2000	1250	1600	2000
3	Rated short circuit breaking current	kA	25		31.5	25		31.5
4	Rated peak withstand current	kA	63		80	63		80
5	Rated short time withstand current (4s)	kA	25		31.5	25		31.5
6	Rated short circuit closing current (peak)	kA	63		80	63		80
7	Rated short circuit current breaking times	Time	20			20		
8	Rated operation sequence		O-0.3s-CO-180s-CO					
9	Rated frequency	Hz	50					
10	Rated lightning impulse withstand voltage (full wave)	kV	185					
11	Rated short time power frequency withstand voltage (1min)	kV	90					
12	Closing time	ms	⩽ 90			⩽200(equipped with CD10); ⩽100(equipped with CT)		
13	Opening time	ms	⩽75			⩽60		
14	Mechanical life	Time	10000 6000*			6000(equipped with CD10); 10000(equipped with CT)		
15	Rated capacitor bank breaking current	A	630			400		
16	Rated current breaking times	Time	10000 6000*			6000(equipped with CD10); 10000(equipped with CT)		
17	Rated power of energy storage motor	W	275			150–600		
18	Rated voltage of energy storage motor	V	AC DC 110			AC DC 220		
19	Energy storage time	s	⩽15					
20	Rated voltage of closing/opening electromagnet	V	DC220 DC110			~(110)220,380,–110,220		
21	Rated current of over current release	A	5					
22	Rated current of auxiliary switch	A	AC10			DC5		
23	Allowable cumulative wearing thickness of contact	mm	3					
24	Total weight	kg	450			450		
25	Circuit resistance	μ Ω	⩽50					

Note: 1. ZN12 opening and closing time is the operation time under maximum, minimum and rated operating voltage.
2. Data with " * "denotes the breaking value for above 31.5kV.
3. ZN23-40.5 can be equipped with CT19BN, CT17, CD10 operating mechanism.

Technical parameter of LN40.5 SF6 circuit breaker

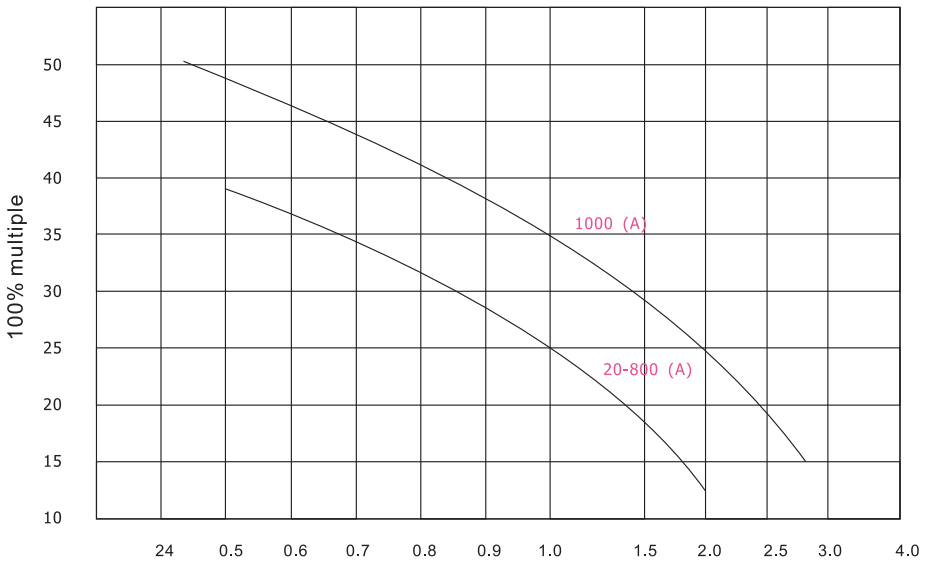
No.	Item			Unit	Parameter		
					LN2-40.5I/1250-16	LN2-40.5II/1250-25	LN2−40.5III/1250−25
1	Rated voltage			kV	40.5		
2	Rated insulation level	Lightning impulse withstand(Full-wave)		kV	185		
		Power frequency withstand(1min)			95		
3	Rated frequency			Hz	50		
4	Rated current			A	1250	1250	1600
5	Rated short circuit breaking current			kA	16	25	25
6	Rated operation sequence				O-0.3s-CO-180s-CO		
7	Rated short circuit closing current			kA	40	63	63
8	Rated peak withstand current (dynamic stability current)				40	63	63
9	Rated short time withstand current (thermostability current)			kA	16	25	25
10	Rated short time duration (thermostability current)			s	4		
11	Single capacitor bank opening/closing current			A	630		
12	Rated out-of-phase opening/closing current			kA	4	6.3	6.3
13	Accumulative breaking times under rated current			Time	6000		
14	Accumulative breaking times under rated short circuit breaking current				20		
15	Mechanical life				6000(equipped with CD10);10000(equipped with CT10)		
16	Closing time	Electromagnetic mechanism		s	≤0.2		
		Spring mechanism			≤0.1		
17	Intrinsic openingtime of energy storage time	When operating voltage is	Min.	s	≤0.01		
			Rated				
			Max.		≤0.06		
18	Rated pressure of SF6 gas (pressure gauge at 20			Mpa	130	0.65	135
19	Locking pressure (pressure gauge at 20)					0.59	
20	Annual leak rate				≤1%		
21	Water content of SF6 gas			ppm(V)	≤150		
22	Rated operating voltage when equipped with spring operating mechanism	Closing coil		V	AC110、220、380; DC110、220		
		Opening coil			AC110、220、380; DC110、220		
		Motor			AC110、220、380; DC110、220		
23	Rated operating voltage when equipped with electromagnetic operting mechanism	Closing coil			DC110、220		
		Opening coil			DC110、220		
24	Weight	Body of circuit breaker		kg	130	130	135
		SF6 gas			1.5		

Technical parameter of LCZ-35 current transformer

Secondary combination		Rated primary current (A)	Rated secondary current (A) 5	Accuracy class 0.5	Rated secondary load (VA) 50	10% multiple≥
0.5/10p 10 0.5/0.5 10p 15/10p 15		200~1000		10p10	50	10
0.5/10p 15 10p 10/10p 10		20-800		10p15	20	15
0.5/10p 20 10p 20/10p 20		1000		10p20	20	20

Rated primary current (A)	Rated short time withstand current (kA)	Rated peak withstand current (kA)	Rated primary current (A)	Rated short time withstand current (4s) (kA)	Rated short time withstand current (A)
20	1.3	4.2	200	13	42.5
30	2.0	6.4	300	19.5	63.6
40	2.6	8.5	400	26	84.9
50	3.3	10.6	600	39	127.3
75	4.9	16	800	52	112
100	6.5	1.2	1000	65	141.4
150	9.8	31.8			

Secondary load



Technical parameter of voltage transformer

Model	Rated voltage (V)			Rated capacity (VA)			Maximum capacity (VA)
	Primary coil A.X.	Basic secondary coil a. X.	Auxiliary secondary coil aD. XD.	Class 0.5	Class 1	Class 3	
JDZ9-35	35000	100	–	50	250	500	1000
JDZX9-35	35000/$\sqrt{3}$	100/$\sqrt{3}$	100/3	150	250	500	1000

5. Ordering Information

Pleases specify the following information when ordering:

5.1 Main circuit program number and single line system diagram, allocation diagram and layout diagram should be supplied

5.2 Main circuit diagram, busbar diagram for main circuit, allocation diagram should be supplied.

5.3 secondary wiring diagram and terminals allocation diagram should be supplied

5.4 Electrical equipments list

5.5 Span and height dimension should be supplied if bus bridge needed.

5.6 Customized products and avaliable according to your requirements,

5.7 Spare parts and their quantity.



KGN8–12

Cubicle AC Metal Enclosed Switchgear,Fixed Type

1. General

1.1 Ratings: system voltage 3.6-12KV and below, rated current up to 630A, AC50/60Hz.

1.2 Application: applicable for power receiving and distribution of power plant and substations for control, protection and measurement.

1.3 Standards: IEC62271-200

2.Type Designation

K G N 8 - 12 (Z) / (T) □ - □ - □

- Single line diagram
- Rated short circuit breaking current (kA)
- Rated current(A)
- Spring operating Mechanism
- VCB
- Rated voltage(kV)
- Design No.
- Indoor
- Fixed type
- Metalclad type

3. Working Condition

3.1Ambient air temperature: -15℃～ +40℃(−25℃～ +45℃ available as customized products).

3.2Altitude: ≤1000m

3.3Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

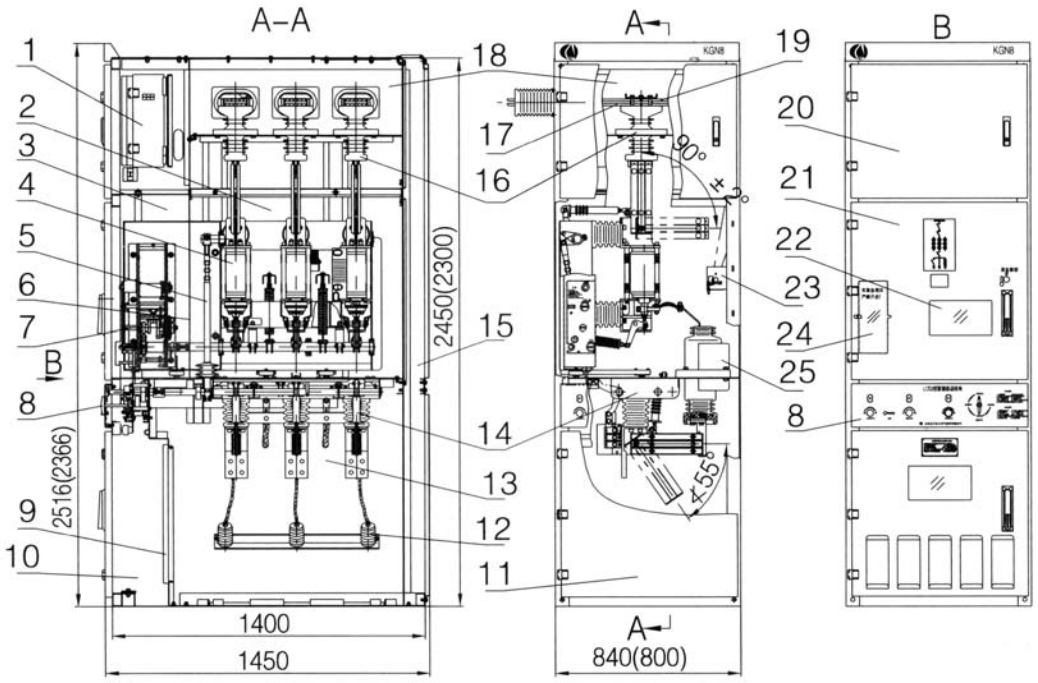
4.Main Technical Parameter

No.	Item		Unit	Data
4.1	Rated voltage		kV	12
4.2	Rated current	load break switchgear	A	630
		Combined switchgear	A	125
4.3	Rated frequency		Hz	50
4.4	Rated short-circuit breaking current		kA	31.5,40,50
	Rated short-time withstand current		kA	20
	Rated active on-load breaking current		A	630
4.5	Rated peak withstand current		kA	82,104,130
4.6	Rated power frequency voltage withstands inter-phase, to earth and to the open contact		kV	42/49
4.7	Thundering withstands voltage inter-phase, to earth and to the open the contact		kV	75/85
4.8	Mechanical life		times	10000
4.9	Rated take-over current		A	3150
4.10	Protection level			IP2X
4.11	Operating mode			Manual or automatic

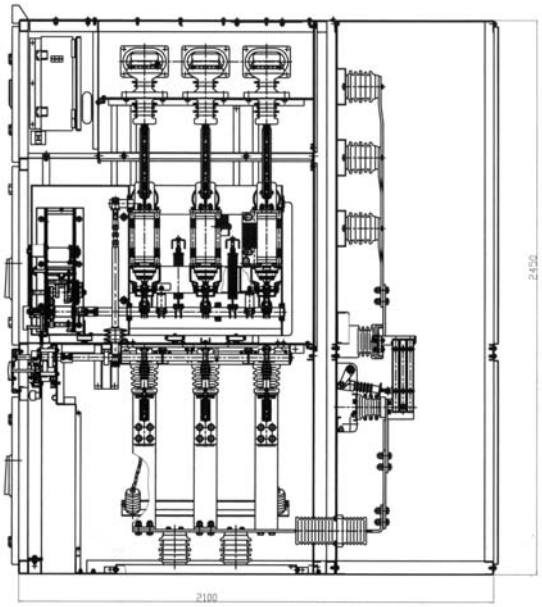
5.Construction

5.1 Both manual and automatic operation are available
5.2 The design facilitate the operation at the front panel and the switchgear could be installed alongside the wall.
5.3 The switchgear is featured for its complete interlocking functions, like the load break switch can be operated to the making position. The earthing switch can make or beak when the load break switch is at disconnect position. When the earthing switch is at making status, input the insulation clapboard to its position, the switchgear door then, could be opened. The vacuum are-extinguishing chamber and fuse are reliably connected. So as the fuse & switchgear door and insulation clapboard & the switchgear door.
5.4 Switch disconnector, VCB, earthing-switch and switchgear reliable interlock to avoid miss operation.There is lead sealed pin at the door of measurement chamber and meter chamber.
5.5.The prompt tripping can be realized to protect the equipments.

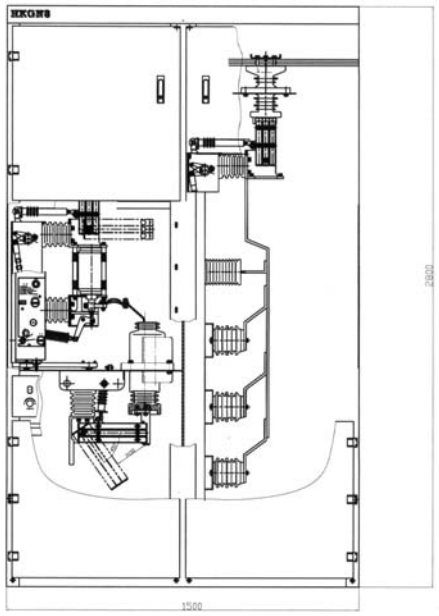
6. Single busbar structure



1. Instrument room
2. Circuit breaker chamber
3. Mechanism room
4. Vacuum circuit breaker
5. Isolation operation lever(Upper)
6. Circuit breaker chamber clapboard
7. Circuit breaker operating mechanism
8. Interlocking operation mechanism
9. Cable chamber door
10. Terminal discharge chamber
11. Terminal room door
12. Arrester
13. Cable room .
14. Isolating switch
15. Exhaust channel
16. Combination of wear casing wall
17. Busbar
18. Busbar chamber
19. Adjacent tank busbar
20. Instrument room door
21. Mechanism room door
22. Observation window
23. Shutter operation mechanism
24. Emergency operation window
25. Current transformer



Single busbar with side busbar tank side view

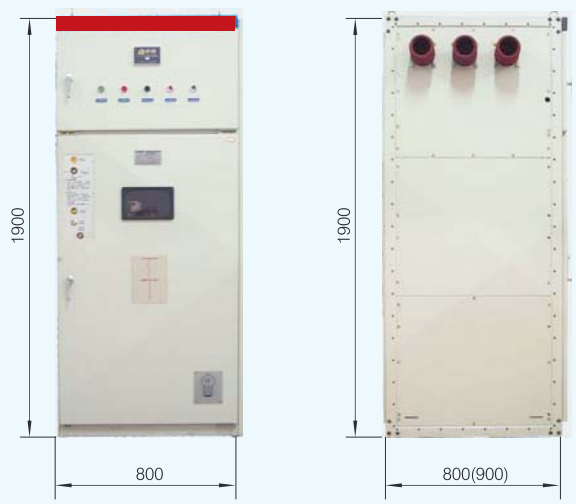


Double busbar front view

7. Overall and Installation Dimension

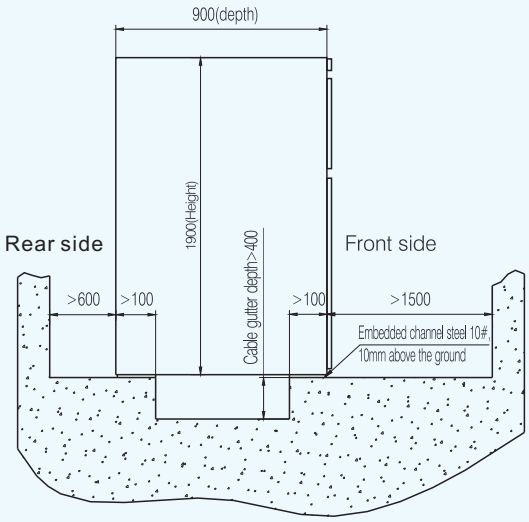
7.1 Switchgear overall dimension diagram

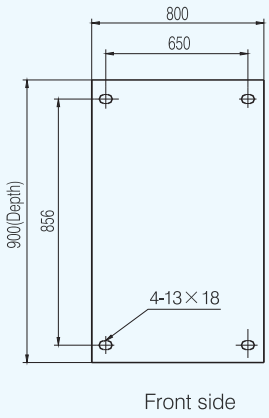
Switchgear overall dimension diagram



7.2 Installation foundation diagram

Installation foundation diagram





※ Note: the channel steel should be earthing reliably



XGN2-12

Cubicle AC Metal Enclosed Switchgear,Fixed Type

1. General

1.1Ratings: In the system voltage3.6- 12kV and below rated current up to 3150A, AC50/60Hz

1.2 Application: applicable in the system of three-phase single busbar for power receiving and distribution.

1.3 Standards: IEC62271-200

2.Type Designation

X G N 2 - 12 □ □ □/ □ - □

- Rated short circuit breaking current (kA)
- Rated current (A)
- Operating mechanism code
- Design code
- Circuit Breaker Type(Z: VCB)
- Rated voltage (kV)
- Design No.
- Indoor
- Fixed type
- Metal-enclosed type

3.Working Condition

3.1Ambient air temperature: -15℃～ +40℃(-25℃～ +45℃ available as customized products).

3.2Altitude: ≤1000m

3.3Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

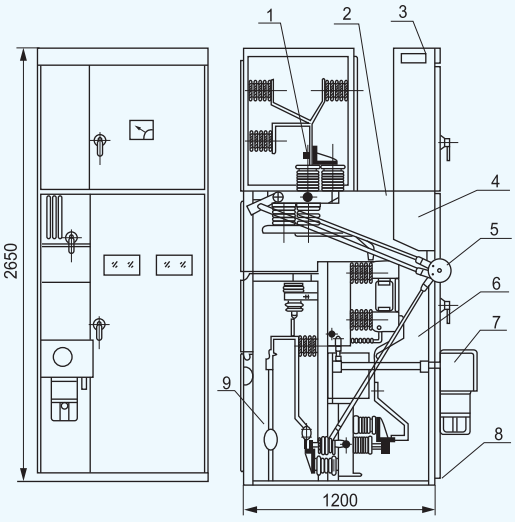
3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

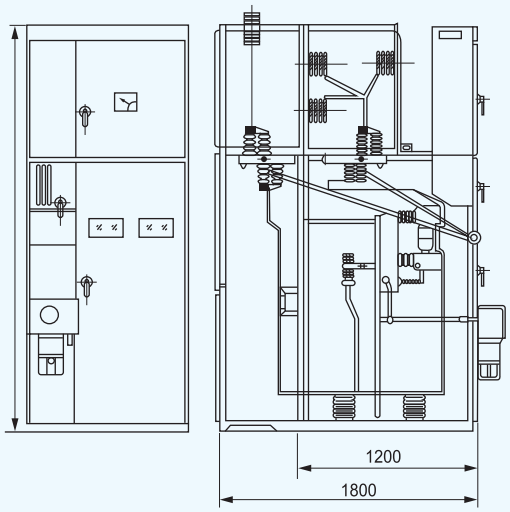
4.Main Technical Parameter

No.	Item	Unit	Data
4.1	Rated voltage	kV	3.6,7.2,12
4.2	Rated current of main bus	A	630,1250,1600,2000,3150
	Max rated current of circuit breaker	A	125
4.3	Rated frequency	Hz	50
4.4	1min power frequency withstands voltage between phases to earth /open contact	kV	42/48
4.5	Lightning impulse withstand voltage between phases, to earth/open contacts	kV	75/85
4.6	Auxiliary and control circuit 1min power frequency withstand voltage	V	2000
4.7	Rated short circuit closing current(peak)	kA	40,50,80,100
4.8	Rated withstand current(peak)	kA	16,20,31.5,40
	Rated short-time withstand current	kA	40,50,80,100
	Rated shifting breaking current	kA	1700
4.9	Rated peak withstand current	kA	50
4.10	Main circuit rated short time withstand current/time	kA/s	20/3
4.11	Earting circuit rated short time withstand current/time	kA/s	20/2
4.12	Mechanical life	time	2000
4.13	Protection level		IP2X
4.14	Control circuit rated voltage	V	DC: 220, AC:220

5. Switchgear structure diagram

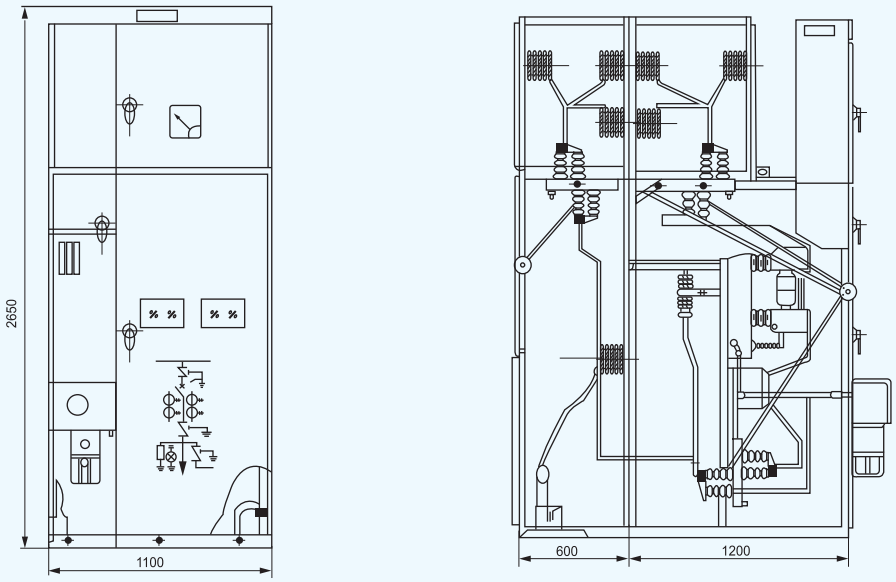


XGN2-12Z~07D Overall Dimension and structure diagram



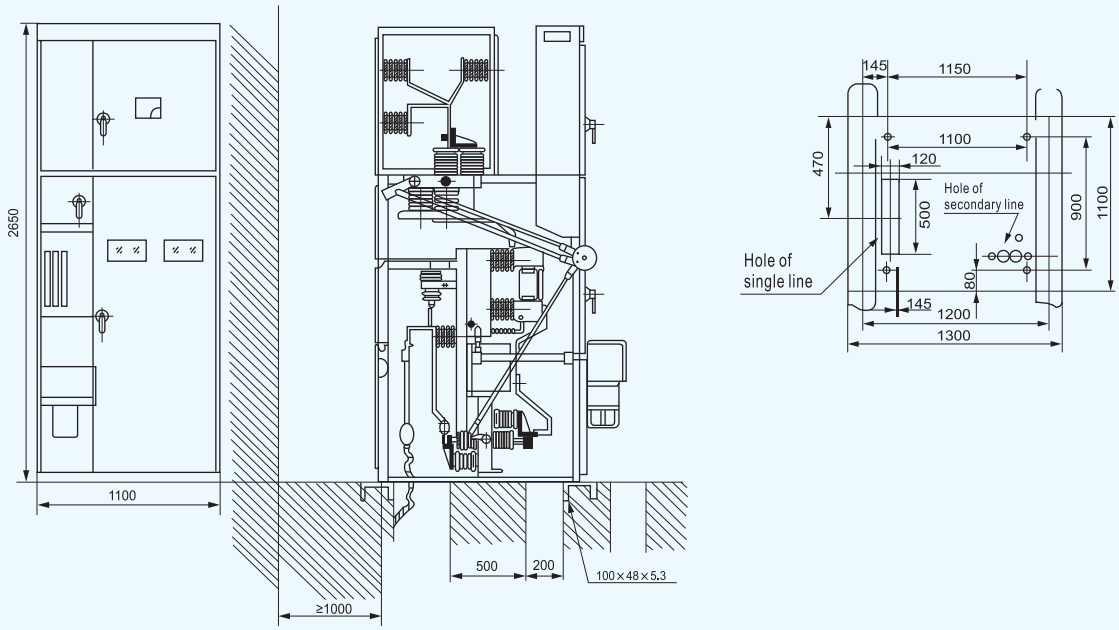
XGN2-12Z-71 Overall Dimension and structure diagram For big current top incoming wire cabinet

1. Busbar Chamber
2. Pressure released Channels
3. Meter chamber
4. Combination switches
5. Manual operation and interlock mechanism
6. Main switch chamber
7. Electromagnetism or Spring operation mechanism
8. Wiring busbar
9. Cable chamber



XGN-12Z Overall Dimension and structure diagram for Branch wire outgoing cabinet (Match with ZN28A series VCB)

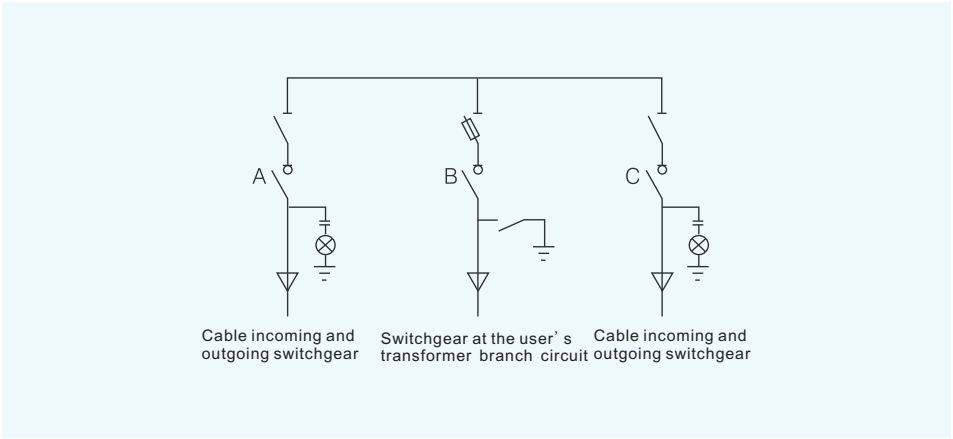
6. Installation Dimension & Base diagram



XGN2-12 Installation Dimension & Base diagram

7.Loop Power Supply Principle

The loop power supply is composed of three basic units to separate any one of the failure line and ensure the continuous power supply through the other unit. The branch line for the user could separated and protect the transformer which could facilitate the maintenance. The loop power supply could be expanded as per the user's requirements to form various protection plans.



8. Ordering Information

Pleases specify the following information when ordering:

8.1 Main circuit program number and single line system diagram, allocation diagram and layout diagram should be supplied

8.2 Main circuit diagram, busbar diagram for main circuit, allocation diagram should be supplied.

8.3 Secondary wiring diagram and terminals allocation diagram should be supplied

8.4 Electrical equipments list

8.5 Span and height dimension should be supplied if bus bridge needed.

8.6 Customized products and avaliable according to your requirements,

8.7 Spare parts and their quantity.



XGN66A–12

Cubicle AC Metal Enclosed Switchgear, Fixed Type

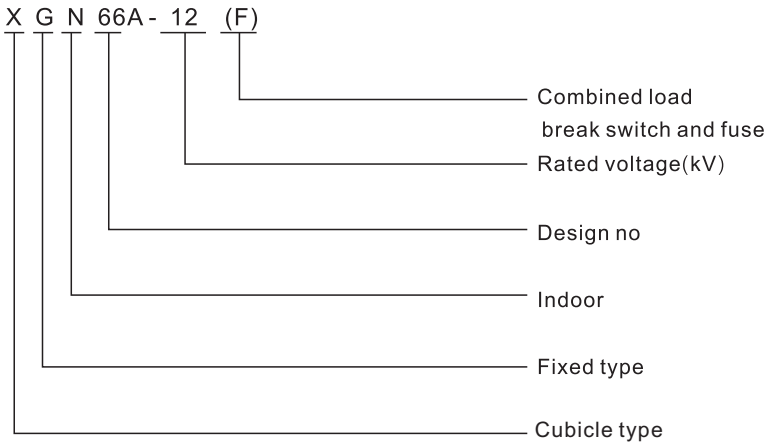
1. General

1.1Ratings: In the system voltage3.6- 12kV and below rated current up to 3150A, AC50/60Hz

1.2 Application: applicable connecting the generator into the grid during normal operation and breaking and protecting the generator when short circuit and fault occur in the grid.

1.3 Standards: IEC62271-200, IEC60694

2.Type Designation



3.Working Condition

3.1Ambient air temperature: -15℃ ~ +40℃(–25℃ ~ +45℃ available as customized products).

3.2Altitude: ≤1000m

3.3Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available..

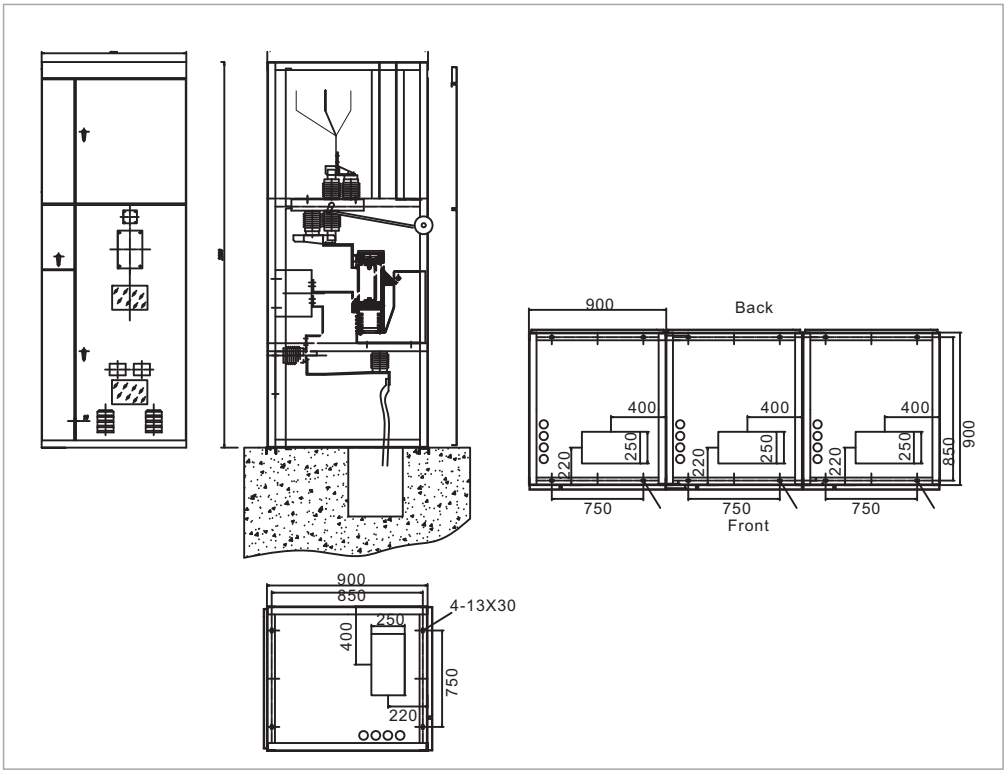
4.Main Technical Parameter

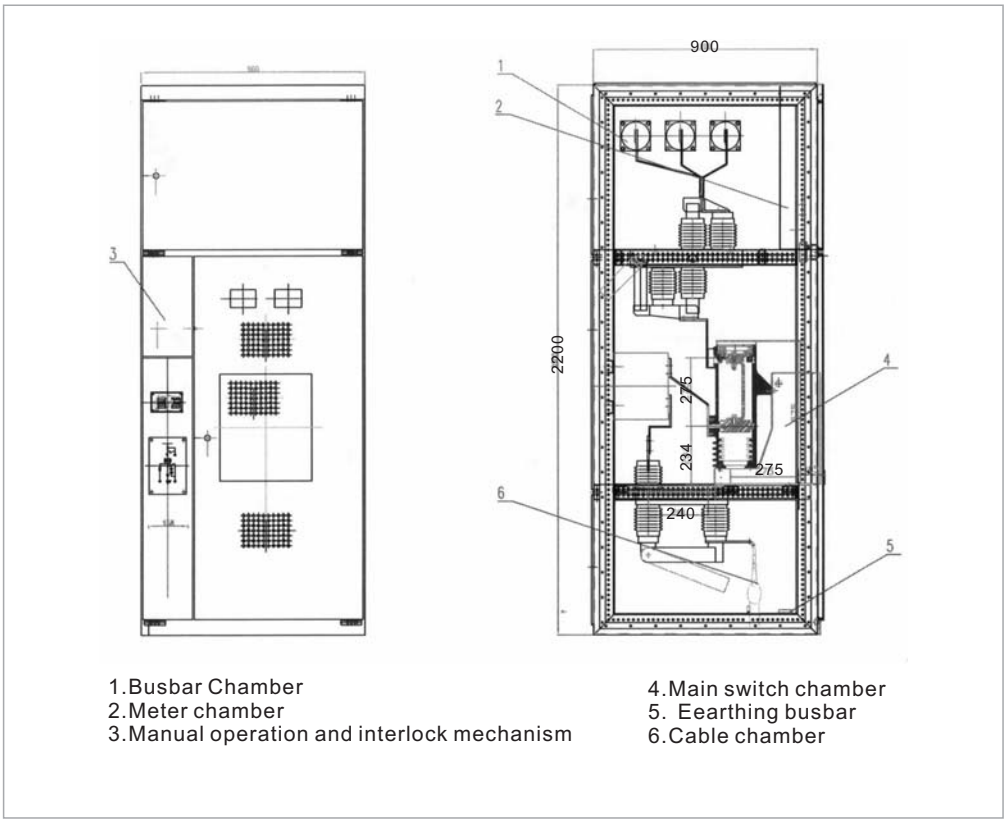
No.	Item	Unit	Data	
			XGN66A-12(F)	XGN66A-12(F.R.)
3.1	Rated voltage	kV	3.6,7.2,12	
3.2	Rated current of main bus	A	630	
	Max rated current of circuit breaker	A		125
3.3	Rated frequency	Hz	50	
3.4	1min power frequency withstands voltage between phases to earth /open contact	kV	42/48	
3.5	Lightning impulse withstand voltage between phases, to earth/open contacts	kV	75/85	
3.6	Auxiliary and control circuit 1min power frequency withstand voltage	V	2000	
3.7	Rated short circuit closing current(peak)	kA	40,50,80	
3.8	Rated withstand current(peak)	kA	16,20,31.5	
	Rated short-time withstand current	kA	50	
	Rated shifting breaking current	kA		1700
3.9	Rated peak withstand current	kA	50	
3.10	Main circuit rated short time withstand current/time	kA/S	20/3	
3.11	Earting circuit rated short time withstand current/time	kA/S	20/2	
3.12	Mechanical life	times	2000	
3.13	Protection level		IP2X	
3.14	Control circuit rated voltage	V	DC:220, AC:220	

5. Structural Feature

5.1 SF6 load switch with insulated enclosure FLN36-12D and FLRN36-12D could be matched in the switchgear.
5.2 Compact design and easy operation
5.3 There is a pressure relieﬁng duct at the rear of the switchgear to protect the operator when a failure occurs in the switchgear.
5.4 Allocation of the switchgear is changeable.
5.5 Reliable interlocking at the different making status of the loading switch, earhting switch to ensure the reliable operation.

6. Switchgear structure diagram





1.Busbar Chamber
2.Meter chamber
3.Manual operation and interlock mechanism
4.Main switch chamber
5. Eearthing busbar
6.Cable chamber

HXGN15–12(SF6)

Air-insulated Ring Main Unit (RMU), Fixed Type



1. General

1.1Ratings: In the system voltage 12kV with SF6 load break switch rated current up to 630A, AC50/60Hz.

1.2 Application: applicable in the power distribution systems, especially suitable for application in prefabricated substation to control and protect the electric system.

1.3 Standards: IEC62271-200

2.Type Designation

H X G N15A -12 (SF6)

- (SF6) — Combined load break switch and fuse(Sf6)
- -12 — Rated voltage(kV)
- N15A — Indoor type
- G — Fixed type
- X — Cubicle type
- H — Loop type

3.Working Condition

3.1Ambient air temperature: -15℃～ +40℃(-25℃～ +45℃ available as customized products).

3.2Altitude: ≤1000m

3.3Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available..

4.Main Technical Parameter

Item		Unit	Date
Rated voltage		kV	12
Rated current	load break switchgear	A	630
	Combined switchgear	A	125
Rated frequency		Hz	50
Rated short–circuit breaking current		kA	31.5
Rated short–time withstand current		kA	20
Rated active on-load breaking current		A	630
Rated peak withstand current		kA	50
Rated power frequency voltage withstands inter-phase, to earth and to the open contact		kV	42/48
Thundering withstands voltage inter-phase, to earth and to the open the contact		kV	75/85
Mechanical life		times	10000
Rated take-over current		A	3150
Protection level			IP2X
Operating mode			Manual or automatic

6. Structural Feature

6.1 SF_6 load switch with insulated enclosure FLN36-12D and FLRN36-12D could be matched in the switchgear.

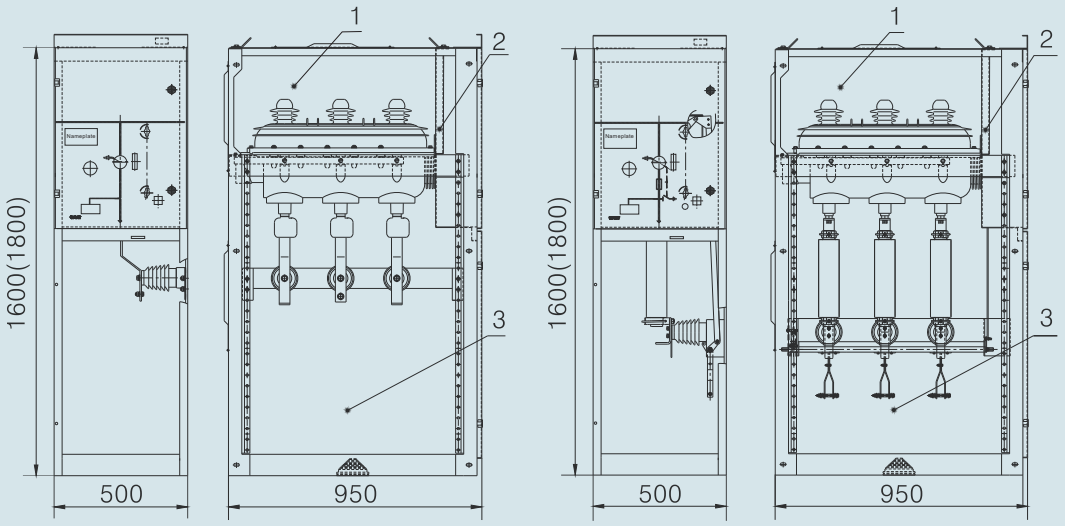
6.2 Compact design and easy operation.

6.3 There is a pressure reliefing duct at the rear of the switchgear to protect th e operator when a failure occurs in the switchgear.

6.4 Allocation of the switchgear is changeable.

6.5 Reliable interlocking at the different making status of the loading switch, earthing switch to ensure the reliable operation.

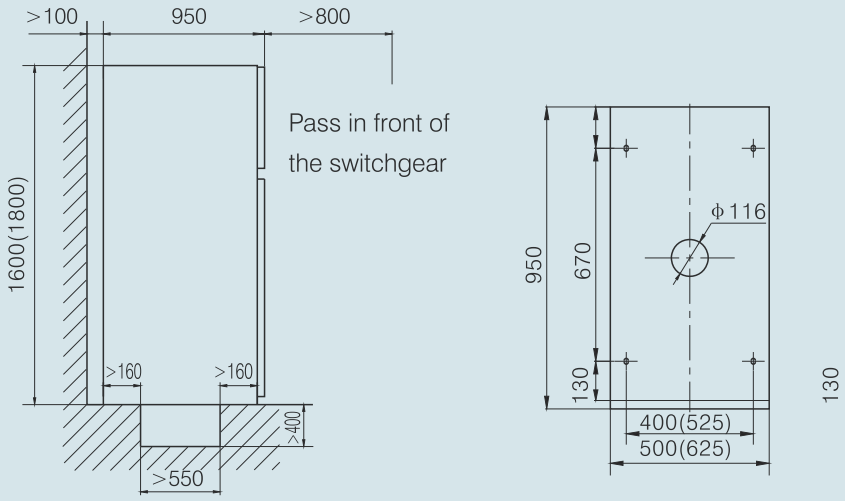
Switchgear overall dimension



Ring Main Unit (Load switchgear) Ring Main Unit (Combination switchgear)

1. Bus compartment 2. Meters compartment 3. Cable compartment

Switchgear installation dimension



Installation foundation diagram Base fixing hole



HRM6–12/24

Air-insulated Ring Main Unit (RMU),Fixed Type

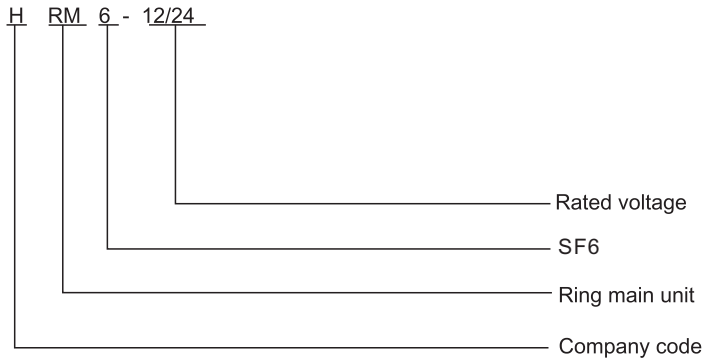
1. General

1.1 Ratings: In the system voltage 12kV and 24kV with SF6 load break switch rated current up to 630A/1250A, AC50/60Hz.

1.2 Application: applicable in the small secondary distribution substation, industrial and mining enterprises, airports, railways, commercial, high-rise buildings, highways, subways tunnel. etc..

1.3 Standards: IEC62271-200

2.Type Designation



3. Working Condition

3.1Ambient air temperature: -15℃～ +40℃(-25℃～+45℃ available as customized products).
3.2Altitude: ≤1000m
3.3Relative humidity: Daily average ≤95%
Monthly average ≤ 90%
3.4 Earthquake intensity: ≤magnitude 8.
3.5 Water vapor pressure: Daily average ≤2.2kPa
Monthly average ≤1.8kPa
3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.
※Note: Customized products are available..

4.Main Technical Parameter

4.1 SF6 gas pressure: 1.4 bar under 20 ℃ under (absolute pressure).

4.2 SF6 gas leakage rate: ≤ 0.25% .

4.3 Immersion fire test: 0.3 bar pressure underwater for 24 hours

4.4 Arc testing: having arcing at 20 ka / 1 s, no arcing at 16 ka / 1 s.

4.5 Can be used in harsh environment , including condensation, frost resistance, salt fog, filthy, corrosion resistance,UV resistance, small animals and chemicals etc.

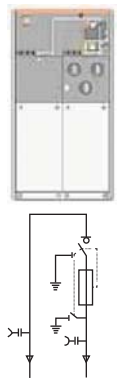
4.6 All the high voltage electric parts and switch element are sealed in SF6 gas tank in low pressure, compact structure, and realize the miniaturization, lightweight and fully insulated.
4.7 Modular design: Different modules can be made of all kinds of main wirings, and changed according to user needs, to form circuit switch system.
4.8 Adopt silicon rubber connector, realizing the high pressure components of splice and any extension of the cabinet.
4.9 All outlet and inlet line of shielded cable.
4.10 With circuit breaker cabinet.
4.11 With high pressure monitoring devices, integrated digital relay.
4.12 Can match high pressure metering tank.
4.13 Can be mounted to the remote control and monitoring unit.
4.14 Can be mounted to the over-current relay protection equipment.
4.15 Preventing flood, long life, free maintenance, lower operating costs.
4.16 Satisfies the upgrade requirement of distribution network automation.

5.Main Technical Parameter

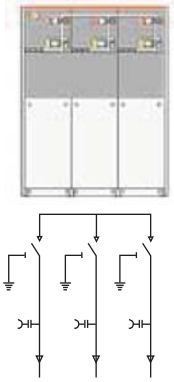
Name	Unit	C module	F module	V module		CB module	
		Load switch	GIS	Vacuum switch	Isolation/earth switch	VCB	Isolation/earth switch
Rated voltage	KV	12/24	12/24	12/24	12/24	12/24	12/24
Power frequency withstand voltage	KV	42/50	42/50	42/50	42/50	42/50	42/50
Lightning impulse withstand voltage	KV	95/125	95/125	95/125	95/125	95/125	95/125
Rated current	A	63/630	note1)	630/630		1250/630	
Breaking capacity							
Closed loop breaking current	A	63/630					24
Cable charging breaking current	A	135/135					20/20
5% of rated active load breaking current	A	31.5/-					50/50
Ground fault tripping current	A	200/150					125/50
When earthing fault ,cable charging breaking current	A	115/87					
Short circuit breaking current	KA		note2)	20/16		25 (20) note 3	
ON-FF capacity	KA	63/52.5	note2)	50/40	50/40	63 (50) note3	63/50
Short-time withstand current for 2s	KA	25/-					
Short-time withstand current for 3s	KA	-/21		20/16	20/16	25 (20) note 3	25/20
Mechanical life	times	5000	3000	5000	2000	10000	2000

Note 1) Depending on the fuse current rating ; 2) Limited by high voltage fuse ; 3) The data in bracket is belong to type 800 in 24 KV system 。TLD-12 Compact switchgear follow to the standard: IEC62271-100 , IEC62271-102 , IEC62271-103 , IEC62271-200 , IEC62271-105 , IEC62271-1 , GB/T11022-1999 , GB3905-2006 , GB1985-2004 , GB16926 , GB3804-2004 , GB1984-2003 , GB3309-89。

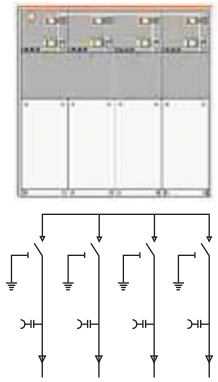
6. HRM6–12/24 Standard Combination module



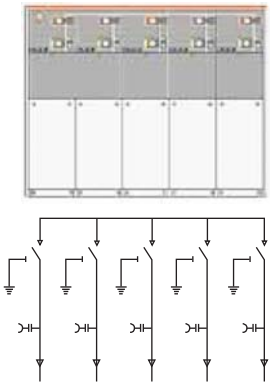
2 Circuits DF(260kg)



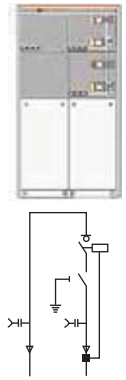
3 Circuits CCC(300kg)



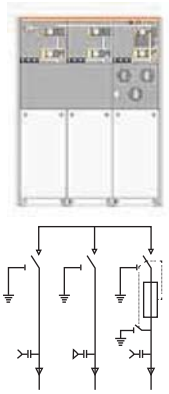
4 Circuits CCCC(390kg)



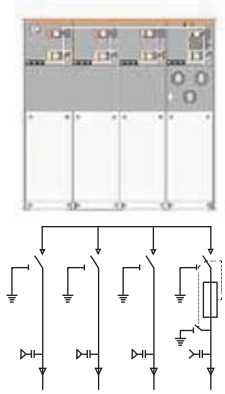
5 Circuits CCCCC(480kg)



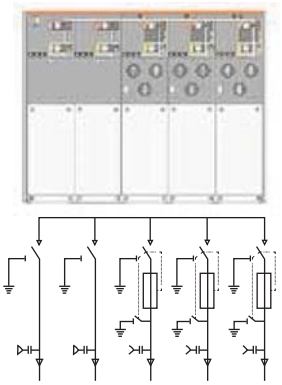
3 Circuits (320kg)



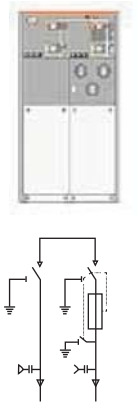
3 Circuits CCF(320kg)



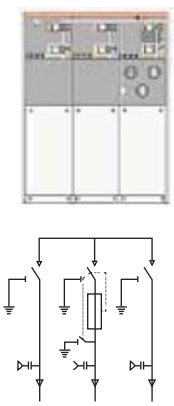
4 Circuits CCCF(410kg)



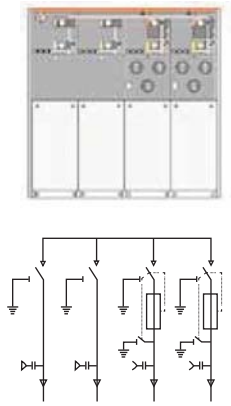
5 Circuits CCFFF(540kg)



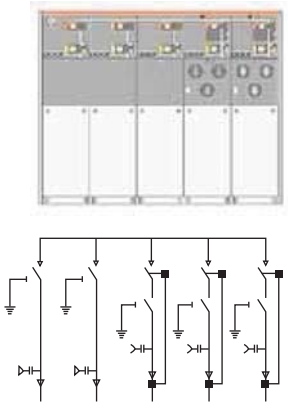
2 Circuits CF(270kg)



3 Circuits CFV(320kg)

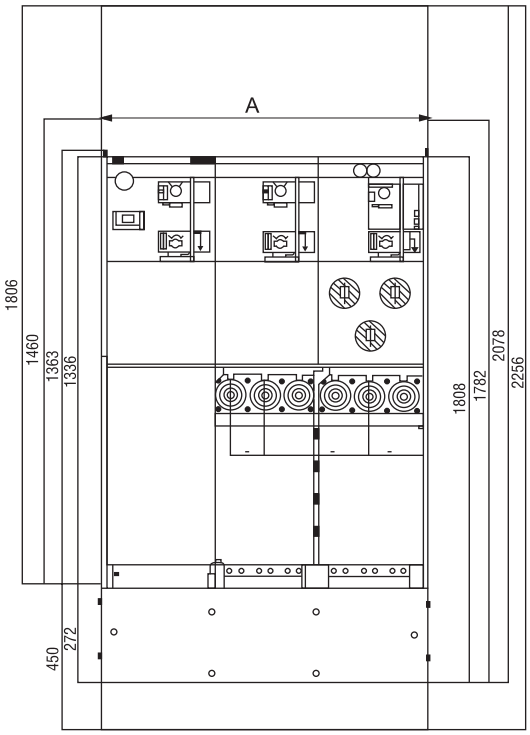


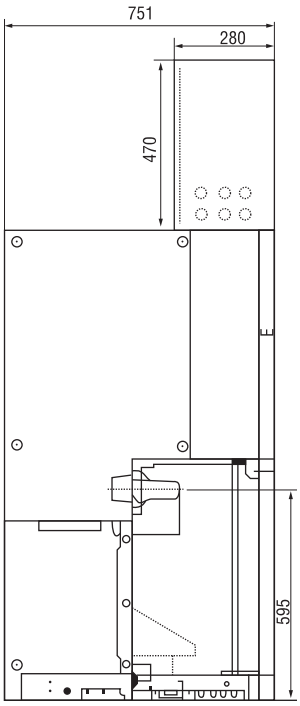
4 Circuits CCFF(430kg)



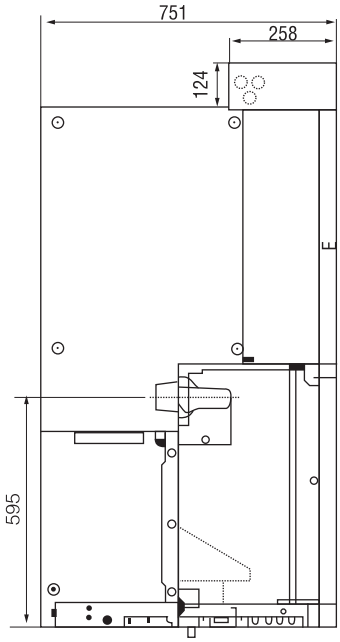
5 Circuits CCFFF(520kg)

7.Overall dimensions



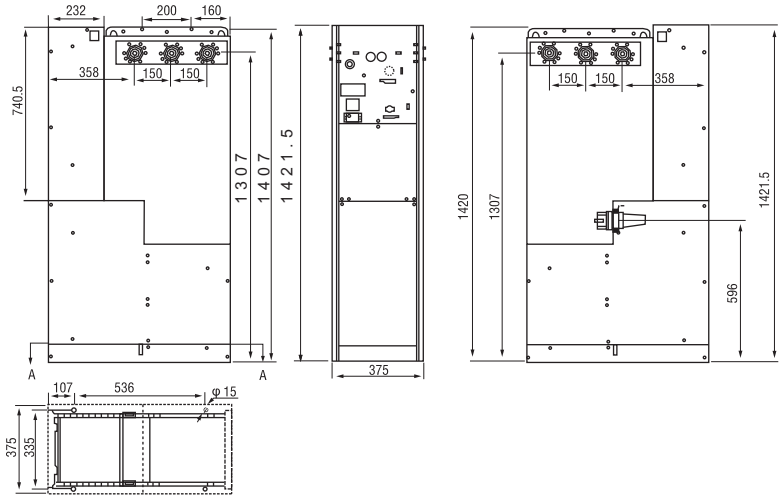


Unit	A
1 Circuit	371
2 Circuits	696
3 Circuits	1021
4 Circuits	1346
5 Circuits	1671

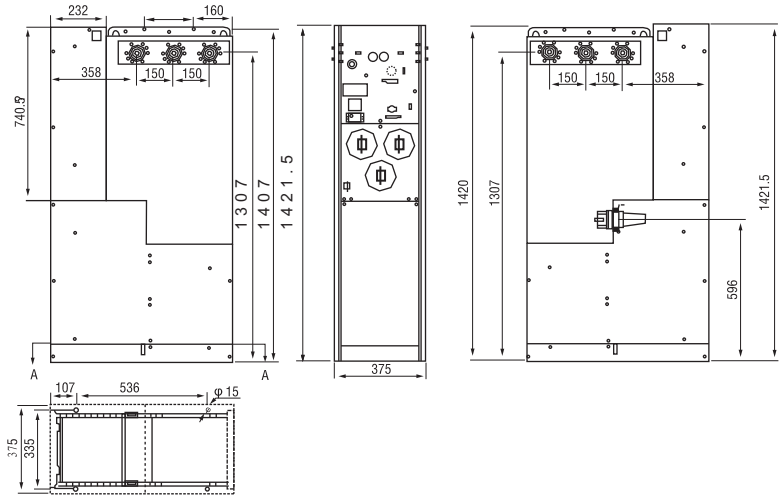


8.Product structure

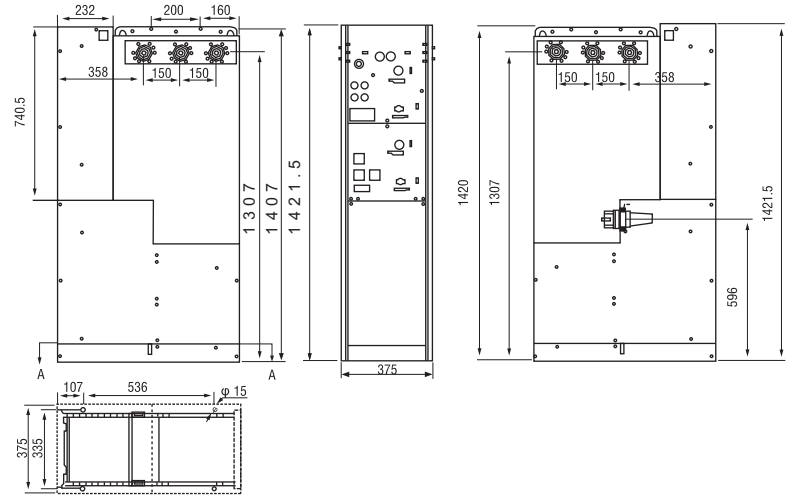
C unit



F unit



V unit



HDJS

MV Capacitance Compensation Enclosed Cabinet



1. General

1.1 Ratings: In the system voltage up to 12kV and rated current up to 630A, AC50/60Hz.

1.2 Application: applicable AC Vacuum compensation cabinet. All components are mounted inside. Highly efficient to keep out the wind, sand, rain and snow MCU (microcomputer control unit)chip, I2C circuit memory unit, A/D alternating current sampling, V/ F conversion , artificial intelligence and precise switching. All electric parameters are available for presetting

1.3 Standards: IEC62271-200

2 .Type Designation

H DJ S

- S — Product code
- DJ — Low voltage capacitance compensation
- H — Company code

3. Working Condition

3.1Ambient air temperature: -15℃～ +40℃(-25℃～ +45℃ available as customized products).

3.2Altitude: ≤1000m

3.3Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

4. Main technical Parameter

Item	Unit	Parameter
Rated voltage	kV	3.6、7.2、12
Rated current	A	160、250、400、630
Rated making capacity		5COS ϕ=0.35 ±0.05 10times
Rated breaking capacity		COS ϕ=0.35 ±0.05 8times
Ultimate breaking capacity	A	4000(160、250) 5000(400、630)
Capacitor opening and closing current	A	30~160
Power frequency withstand voltage	kV	42/1min
Mechanical life	10000times	≥10
Electric life	10000times	≥10
Operating voltage	V	AC110/220V
Automatic throw-in/out range	kV	9.2~10.8
Throw in/out circuit	ways	1~3
Main circuit resistance	μ Ω	1000

Technical parameter of capacitor

Item	Unit	Parameter
Rated voltage	kV	12
Rated frequency	Hz	50
Rated capacity	kvar	30~300
Capacitance deviation		−5%~+10%
Dielectric loss angle tangent		tg δ ≤0.0003
Maximum allowable over voltage		1.1Un
Maximum allowable over current		1.3In
Self discharge characteristic of built-in discharge resistance		It drops from $\sqrt{2}$ to 75V and below within 10min after power supply is cut off

Technical parameter of vacuum contactor

Item		Unit	Parameter
Rated voltage		kV	10
Rated frequency		Hz	50
Rated current		A	160、250、400、630 (optional)
Rated voltage of control circuit		V	AC:110V、220V、380V; DC:110V、220V (optional)
Operating frequency and duty			The operating frequency for repeated short time duty is 600h
Main contact	Final pressure	N	>85
	Opening distance	mm	5±0.5
	Over travel	mm	1.5±0.5

Technical parameter of voltage transformer

Item	Unit	Parameter
Rated voltage	kV	10
Rated insulation level	kV	12/42/75
Power factor of load		COSΦ =0.8 (lag)
Rated secondary voltage	V	220V, 380V (optional)
Surface creepage distance		In conformity to class II pollution level

HMNS

Low-voltage Switchgear Panel, Withdrawable Type



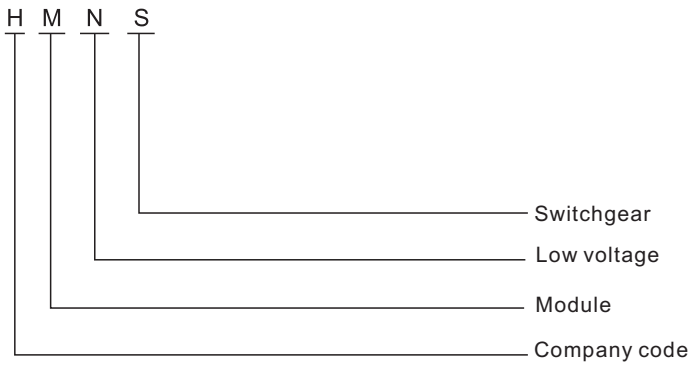
1.General

1.1Ratings: In the system voltage 660V, rated current up to 3150A, AC50/60Hz

1.2 Application: applicable for control, protection and monitoring.

1.3 Standards: IEC60439-1

2.Type Designation



3.Working Condition

3.1Ambient air temperature: -15℃～ +40℃； daily average ≤+35℃

(-25℃～+45℃ available as customized products)

3.2Altitude: ≤2000m

3.3Relative humidity: ≤50% when at +40℃≤ 90% when at +20℃

3.4 Earthquake intensity: ≤magnitude 8.

3.5 Inclination: ≤5°

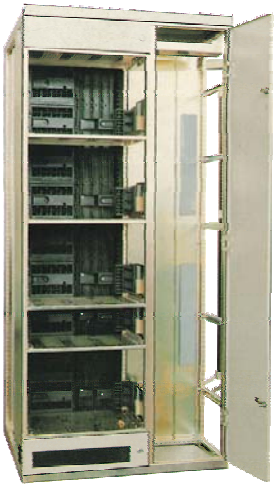
3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

4.Main Technical Parameter

No.	(1) Electric performance	
4.1	Rated insulation voltage	660V
4.2	Rated operating voltage	380V, 660V
4.3	Maximum operating current of main busbar	5000A
4.4	Rated withstand current of main busbar	100kA
4.5	Rated peak withstand current of main busbar	220kA
4.6	Maximum operating current of distribution busbar(vertical busbar)	1000A
4.7	Peak current of distribution busbar (vertical busbar)	80kA
4.8	Standard type	105kA(maximum)
4.9	Reinforced type	176kA(maximum)
4.10	(2) Degree of protection	
		In conformity to standard IEC529.DIN40050
		IP30 for solid ≥ ϕ2.5mm
		IP40 for solid ≥ ϕ1.0mm
		IP54 for dust and spiash stany direction
		(please negotiste with the manufacturer when IP54 degree of protection is ordered)

5.Cabinet Body Structure



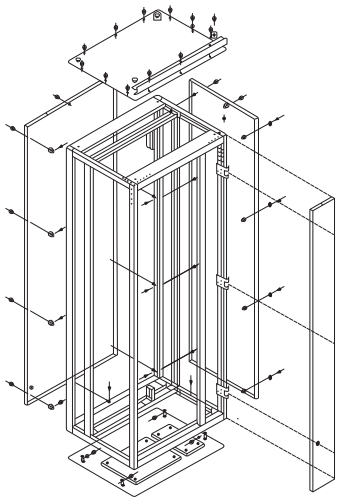


Fig.1 Framework Structure Assembled with C Type Sectional Material

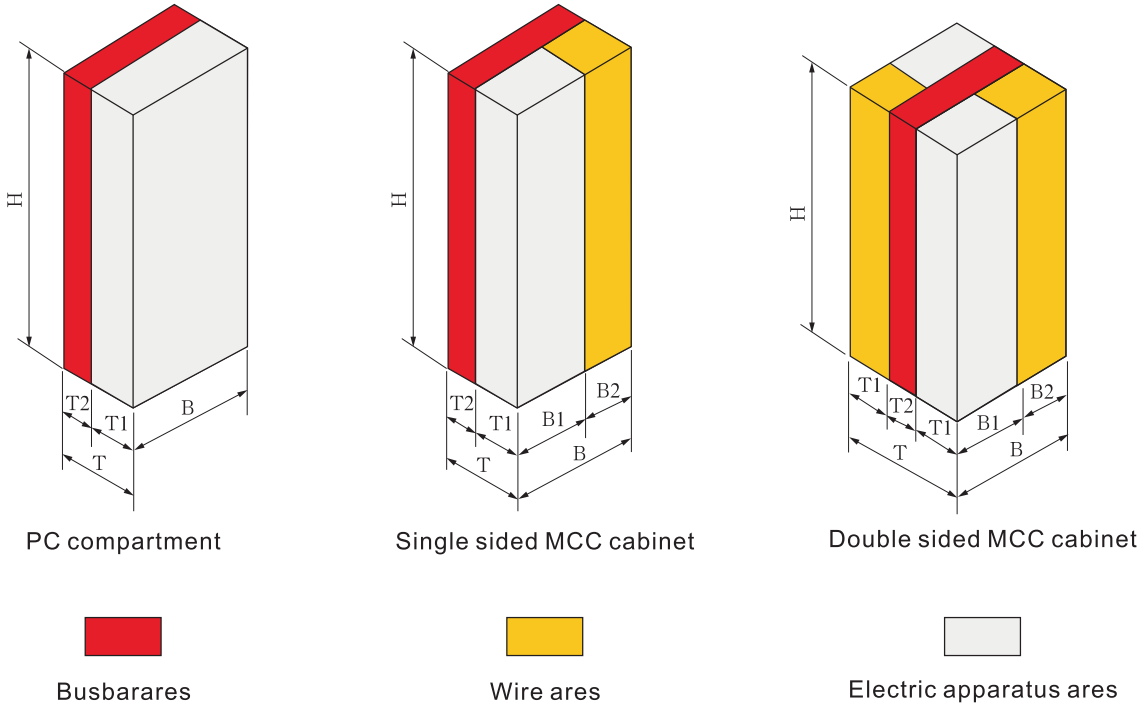


Fig.2 Cabinet Body Schematic Diagram

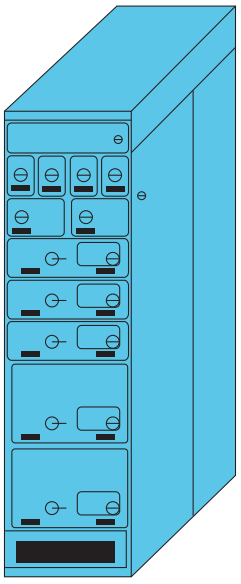
5.1 Partition design for the cabinet



PC Cabinet



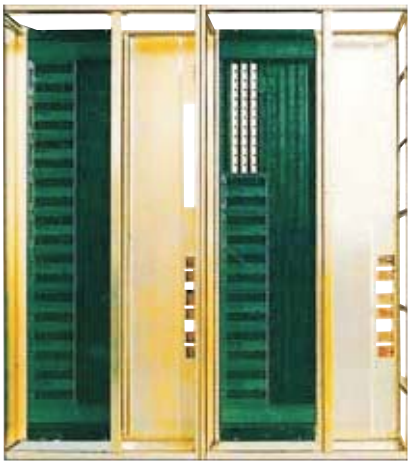
MCC Cabinet



Cabinet OutgoingLine From Back

5.2 Safety protection system





Insulation Protection System

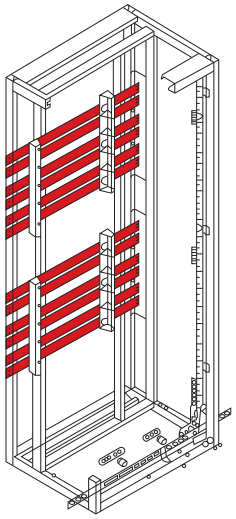
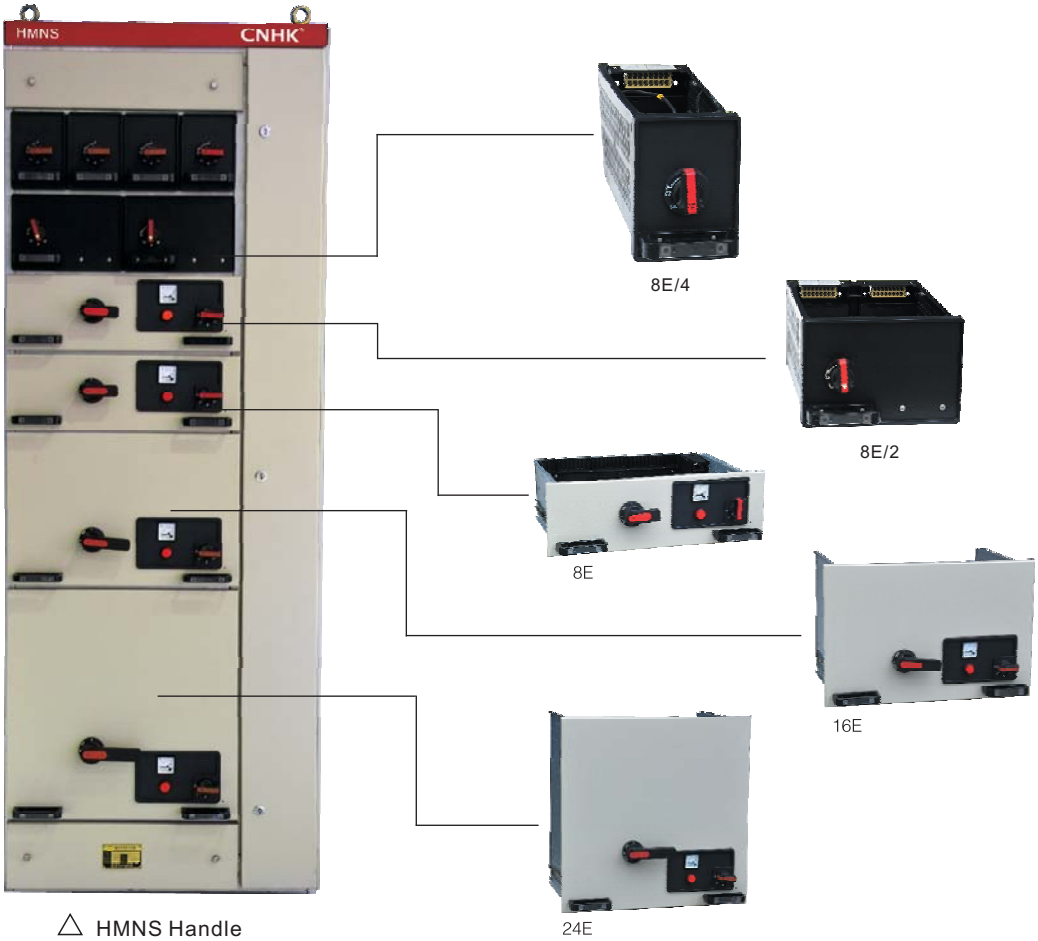


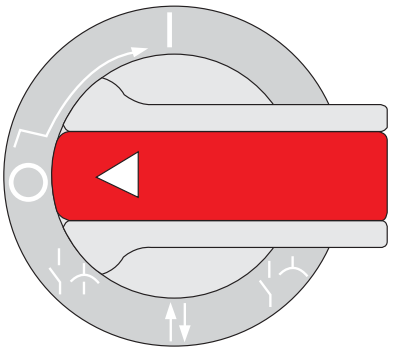
Fig 3 Busbar System

Table.1

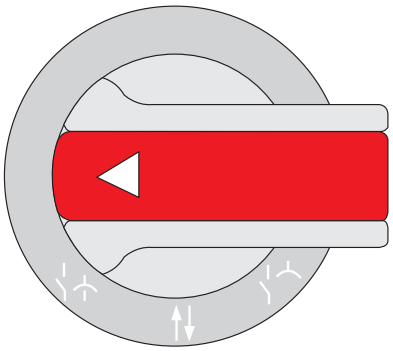
Draw out type	8E/4	8E/2	8E	16E	24E
Max.unit number	36	18	9	4	2



△ HMNS Handle



Used for the drawer with units 8 E/ 4 and 8E/2



Used for the drawer with units 8E and 24E

△ A Power center(PC)

Table 1(mm)

Height	Width	Depth			Note
H	B	T	T_1	T_2	Busbar transfer
2200	400	1000	500	500	F1s-1250-2000 ME630-1605
2200	400	1000	500	500	F2s-2500
2200	600	1000	500	500	F4s-3200 ME2000-3200
2200	800	1000	500	500	F5s-4000 ME3205
2200	1000	1000	500	500	ME4005
2200	1200	1000	500	500	

△ B Motor control center(MCC)

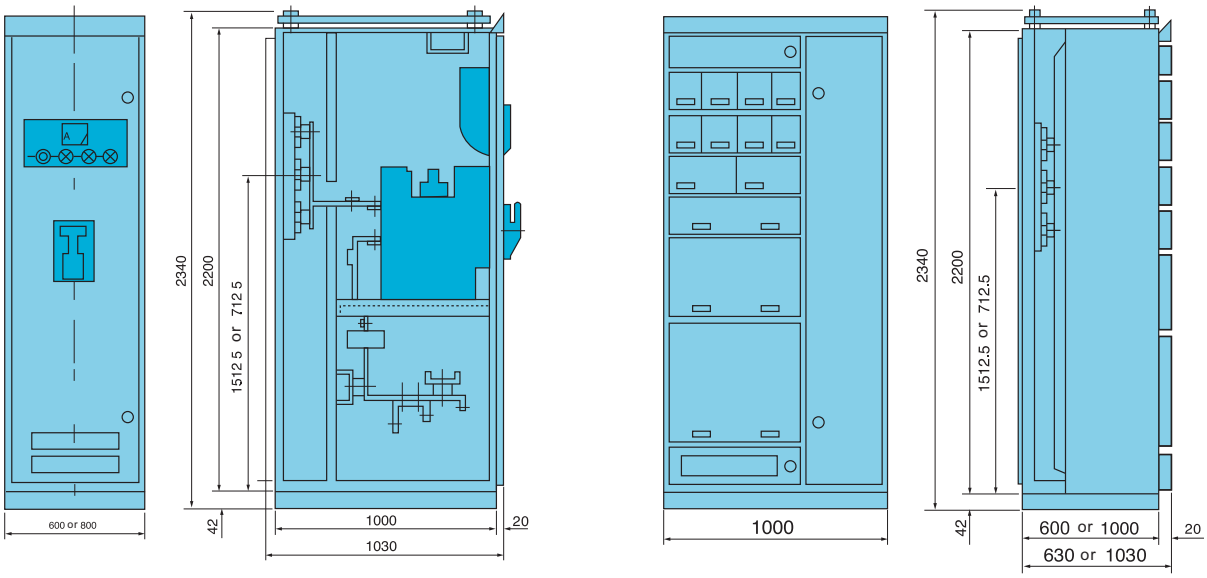
Table 2 (mm)

Height	Width			Depth			Note
H	B	B_1	B_2	T	T_1	T_2	
2200	1000	600	400	600	400	200	Single sided operation
2200	1000	600	400	1000	400	200	Double sided operation
2200	1000	600	400	1000	400	600	Single sided operation

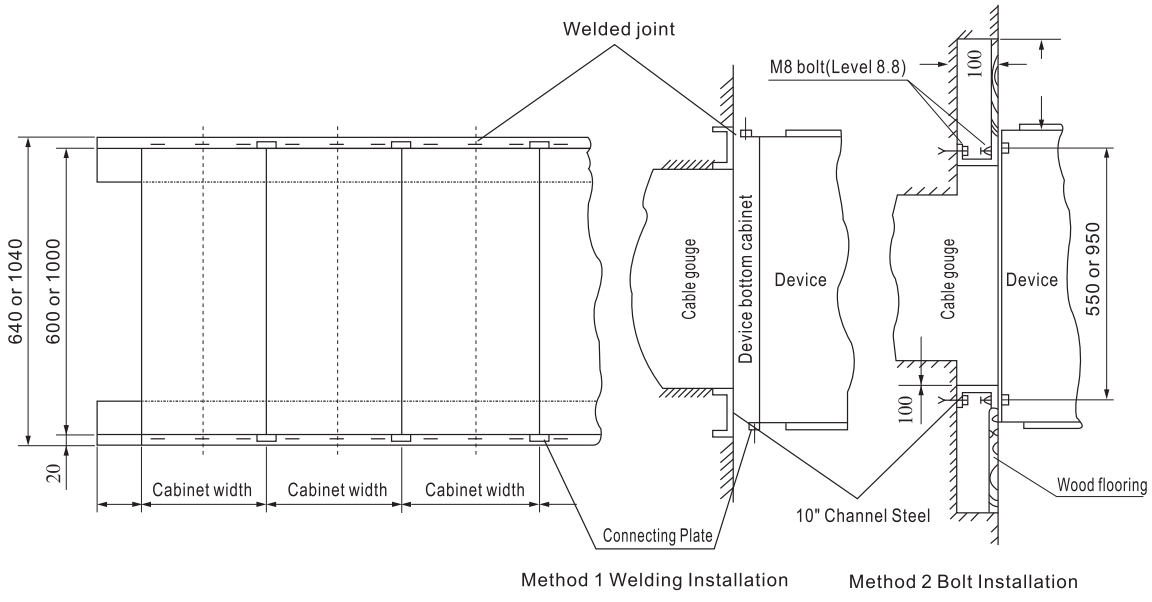
6. Construction

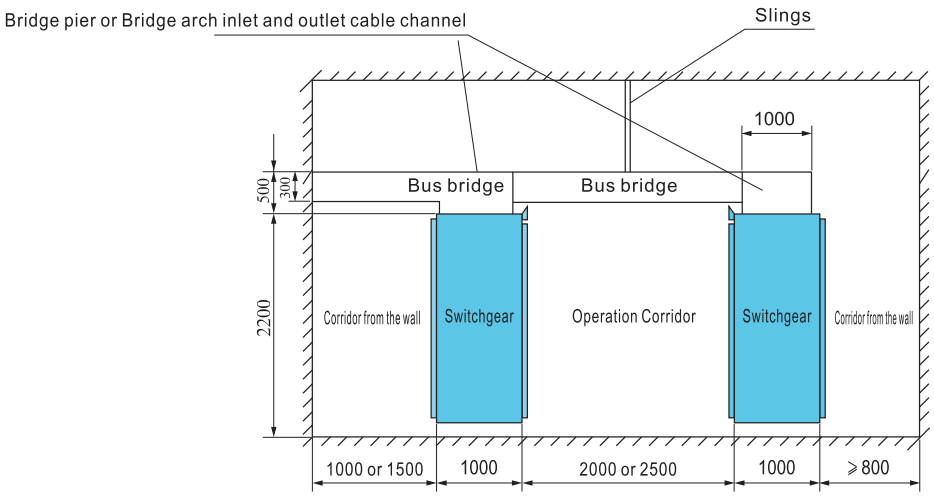
The basic structure of the switchgear body is assembled with C type sectional material, which is bent with steel sheet with module mounting hole E=25mm. All frameworks and inner partitions are processed with galvanized passivating treatment. The door sheet and side sheet are processed with high voltage static plastic spraying. See fig. 1 for basic structure of switchgear body; see table 1 and 2 for basic size of switchgear size.

7. HMNS switchgear panel layout size and diagram (Unit: mm)

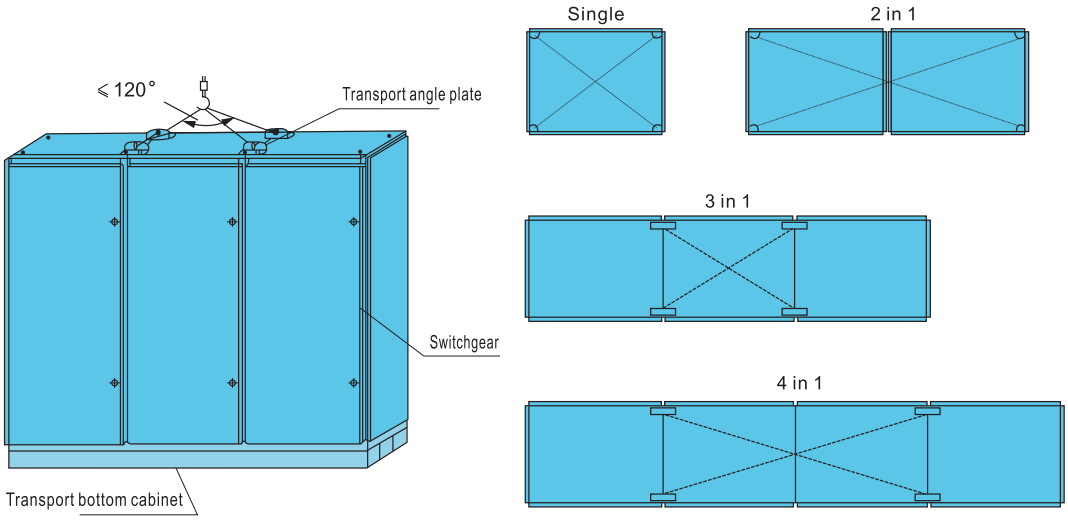


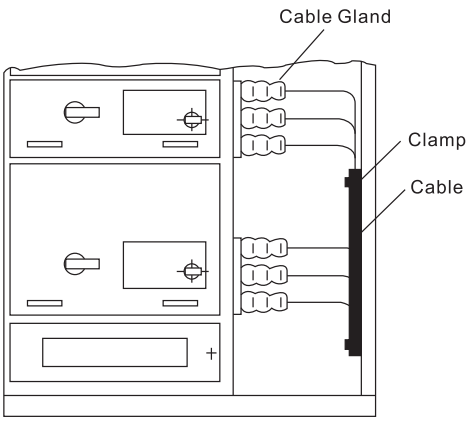
7.1 Installation SchematicDiagram

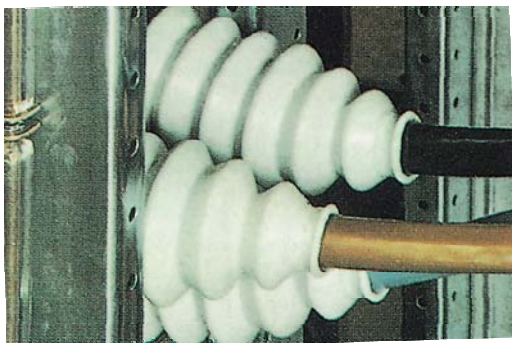




7.2 Device Lifting Schematic Diagram









GCK

Low-voltage Switchgear Panel, Withdrawable Type

1.General

1.1 Ratings: rated voltage of main circuit up to 690V, rated insulation voltage up to 1000V, rated current up to 6300A, AC50/60Hz

1.2 Application: applicable in the low-voltage system of all power generation, power distribution occasions, like main and sub-power panels, distribution panels, motor power and motor control center, power system, ships, oil drilling platform, industrial end user, utility users and civil and commercial construction.

1.3 Standards: IEC60439-1

2.Type Designation

G C K □ – □ – □

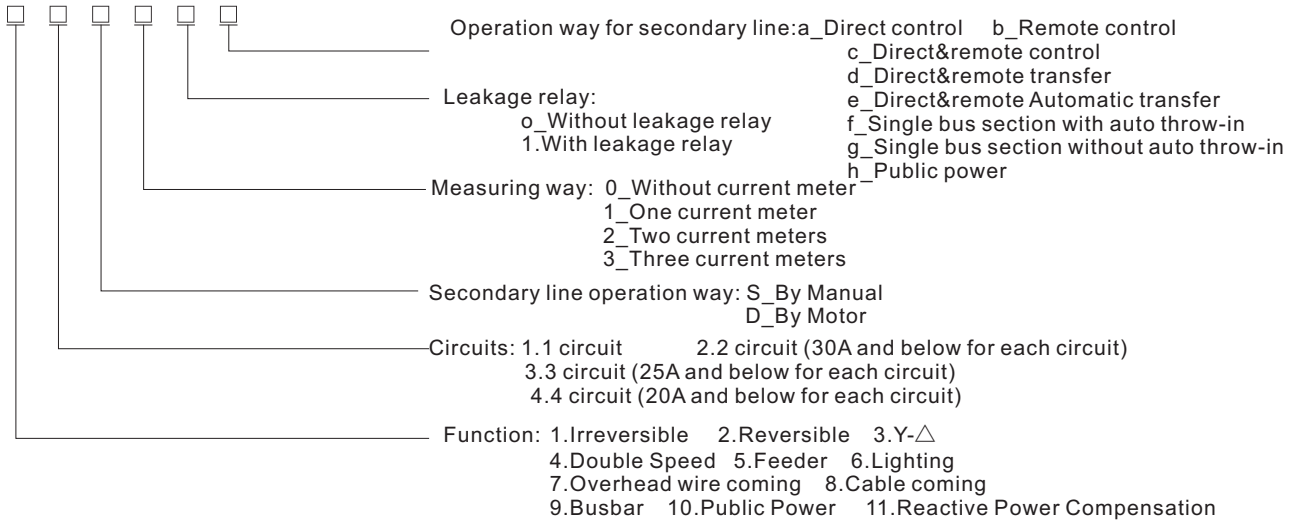
- Breaking Current(kA)
- Series Features
- Design No.
- Motor Control
- Withdrawable Type
- Cabinet Structure

2.1 Motor Control Center Function Unit Primary & Secondary Circuit Scheme Code Illustration

□ □ □ □ □ □ □ □

- Leakage relay : 0_ Without Leakage Relay 1_ With Leakage Relay
- Current Transformer 0_No Current Transformer 1_With One Current Transformer 2_With two Current Transformer 3_With three Current Transformer 4_With four Current Transformer
- Operation way: S_By Manual D_By Motor
- Circuits: 1.1circuit 2.2circuits(30A and below for each circuit) 3.3circuits(25A and below for each circuit) 4circuits(20A and below for each circuit)
- Function: 1.Irreversible 2.Reversible 3.Y-△ 4.Double Speed 5.Feed 6.Lighting 7.Overhead wire coming 8.Cable coming 9.Busbar 10.Public Power 11.Reactive Power Compensation
- Control motor power or current: a-0.5~3Kw(10A) b -4~8Kw(20A) c -10~11Kw(25A) d -13~15Kw(32A) e -17~28Kw(63A) f -30~32Kw(80A) g -37~75Kw(160A) h -80~90Kw(200A) I -95~125Kw(250A) j -130~155Kw(315A) k -160~200Kw(400A) l -225~300Kw(600A) m -(1000A) n-(2000A) o -(3000A)
- Main circuit component type : Z_Auto switch R_Fuse L_Leakage switch Q_Cutout Fuse
- Height for Functional Unit: A-160mm B-240 mm C-320 mm D-400 mm E-480 mm F-560 mm G-640 mm H-720 mm K-960 mm J-740 mm X-800 mm

4.2.Function Unit Secondary Circuit Scheme Code Illustration



3.Working Condition

3.1Ambient air temperature: -5℃～ +40℃; daily average ≤+35℃

(-25℃～+45℃ available as customized products)

3.2Altitude: ≤2000m; the equipment should decrease the capacity to run when the altitude is >2000m.

3.3Relative humidity: ≤50% when at +40℃≤ 90% when at +20℃

3.4 Pollution grade: 3

3.5 Indoor installation

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

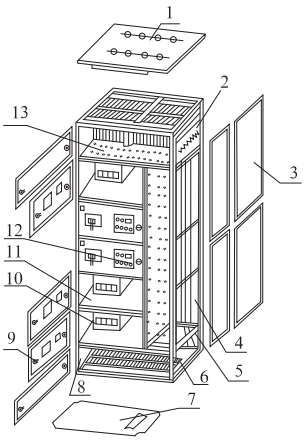
※Note:1. Higher relative humidity is allowed when under lower temperature.

2. Certain amount of congeal dew is allowed due to temperature changes.

4.Main Technical Parameter

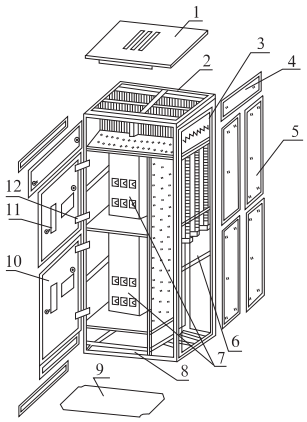
No.	Item	Unit	Specifications	Data
2.1	Rated voltage	V	GCK	380V
2.2	Rated Frequency	Hz		50
2.3	Rated current(A)	A	Horizontal busbar	1600 3150
		A	Vertical busbar	630
		A	Main circuit contact connector	160 250 630 400
		A	Auxillary circuit contact connector	20A
		A	Max.current on feeder circuit	160 400 630 250
		A	Receiving circuit	1000 1600 2000 2500
		A	Effective value	50 80
		kA	Peek value	105 176
2.4	capacity	kW	For the control motor	0.45-155
2.5	Withstand voltage	V/min		2500
2.6	Mechanical life	times		1000

5. Cabinet Body Structure



1–Top cover
2–Horizontal busbar
3–Protection plate
4–Rear closing plate
5–Framework
6–Cable room
7–Bottom plate
8–Public power supply room
9–Door
10–Component room
11–Chassis
12–Door lock
13–Partition

Fig.1 GCK Series MCC Feeder Cabinet Structure



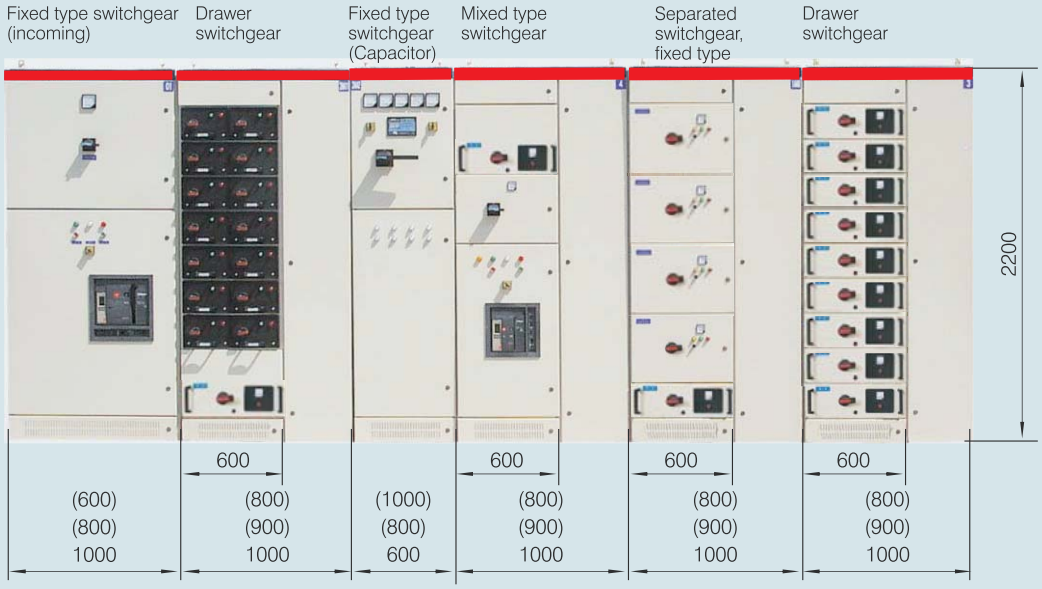
1–Top cover
2–Horizontal busbar
3–Side board
4–Rear plate
5–Rear closing plate
6–Cable room
7–Component room
8–Public power supply room
9–Door
10–Door
11–Functional unit room
12–Door hinge

Fig.2 GCK Series MCC Inlet Cabinet Structure

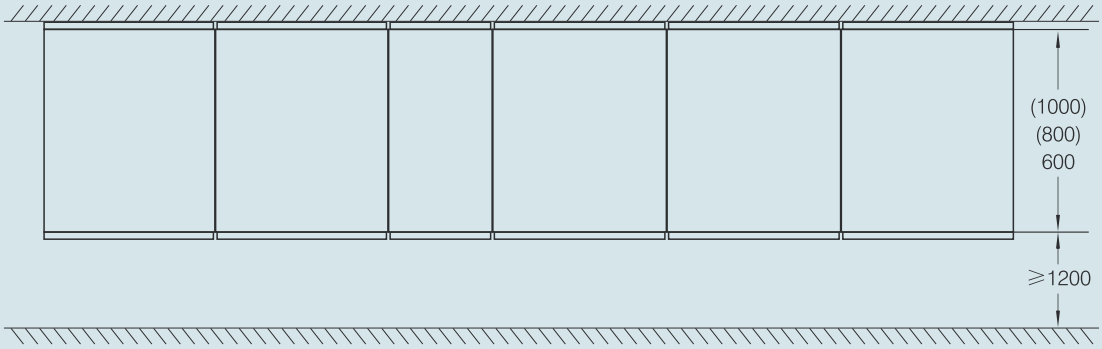
6. Construction

6.1 GCK motor control center is divided into inlet cabinet and feeder cabinet.
6.2 The public power unit is mounted at the lower part of cabinet, without occupation of mounting unit compartment.
6.3 The indicating meter, button, control switch and indicating lamp are assembled on the control panel, which is mounted in the front side of each unit and drawn in or out together with the unit.
6.4 The unit drawn in and out by lever, unit with height of 400mm and more is provided with levers both at upper and lower part, which is convenient for operation

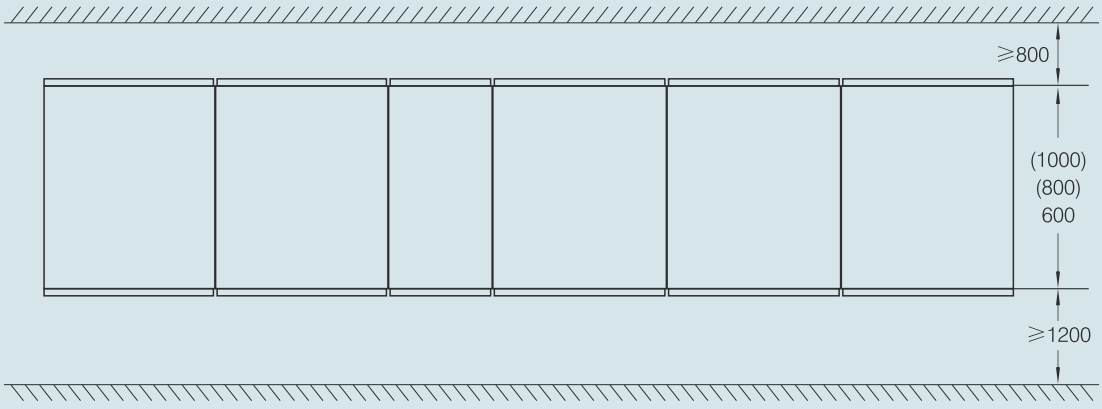
7.Switchgear Dimension

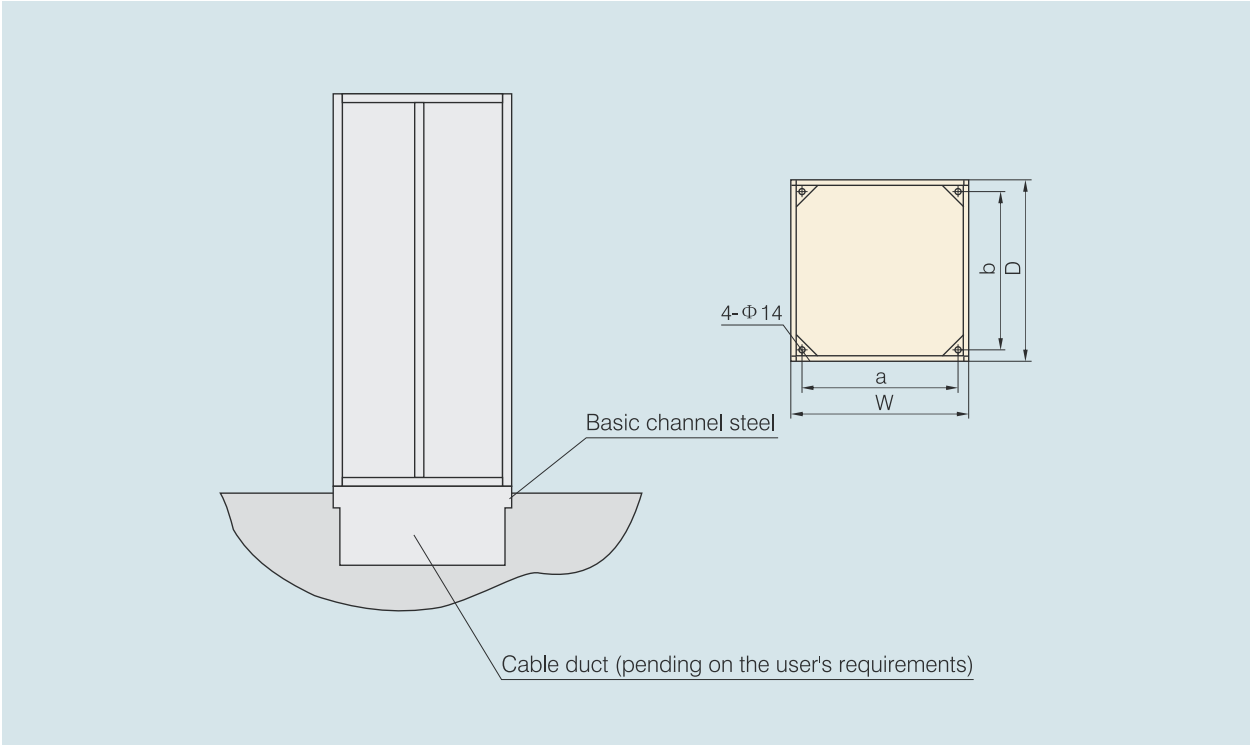


Front connection (installed alongside the wall)



Rear connection (not installed alongside the wall)





Fixed Type Switchgear

Width	Depth	a	b	Note
1000, 800, 600	600, 800, 1000	W-100	D-100	
400*	800, 1000	W-100	D-100	

* Mainly for connection of bus bars within switchgears of varied depths

Drawer Switchgear

Width	Depth	a	b	Note
1000, 900	600, 800, 1000	W-100	D-100	Front outgoing
600, 800	800, 1000	W-100	D-100	Rear outgoing

※ Note:Drawer swithgear with glassdoor:min width 650 mm,min depth 700 mm.

Fixed Separating Switchgear

Width	Depth	a	b	Note
1000, 900	600, 800, 1000	W-100	D-100	Front outgoing
600	800, 1000	W-100	D-100	Rear outgoing



GCS

Low-voltage Switchgear Panel, Withdrawable Type

1.General

1.1 Ratings: rated voltage690/1000V, rated current up to 5000A, AC50/60Hz

1.2 Application: applicable in the low-voltage system of factories etc. power distribution and motor control systems..

1.3 Standards: IEC60439-1

1.4 Protection level: IP40, IP43, IP51, IP54,

2.Type Designation



3.Working Condition

3.1Ambient air temperature: -5℃～ +40℃； daily average ≤+35℃

(-25℃～ +45℃ available as customized products)

3.2Altitude: ≤2000m

3.3Relative humidity: ≤50% when at +40℃≤ 90% when at +20℃

3.4 Pollution grade: 3

3.5 Indoor installation

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

4.Main Technical Parameter

No.	Item	Unit	Specifications	Data
4.1	Rated voltage	V	For Main circuit	AC 380V (400),(660)
			For auxilliary	AC220,380,400,DC110,220
4.2	Rated Frequency	Hz		50(60)
4.3	Rated insulation Voltage			400(66A)
4.4	Rated current(A)	A	Horizontal busbar	≤4000V
		A	Vertical busbar	1000
4.5	Rated short time withstand current of busbar	kA/1s		50, 80
4.6	Rated peek withstand current of busbar	kA/0.1s		105 176
4.7	Power frequency withstand voltage	V/1min	Main circuit	2500
			Auxillary circuit contact connector	1760
4.8	Busbar	A	Three-phase four wire system	A.B.C.PEN
			Three-phase four wire system	A.B.C.PE.N
4.9	Degree of protection	A		IP30, IP40

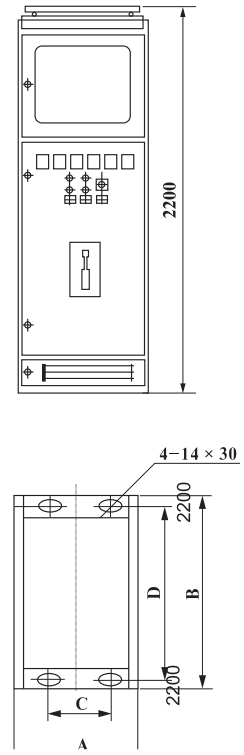
5.Cabinet Body Structure

The main frame of the switchgear uses 8MF or C section material, the frame is assembled or partially welded, all the main frames are installed with modular hole, E=20mm. Each functional room of the switchgear is strictly separated, the compartments mainly include functional unit room, busbar room, cable room, the function of rooms are independent to each other.

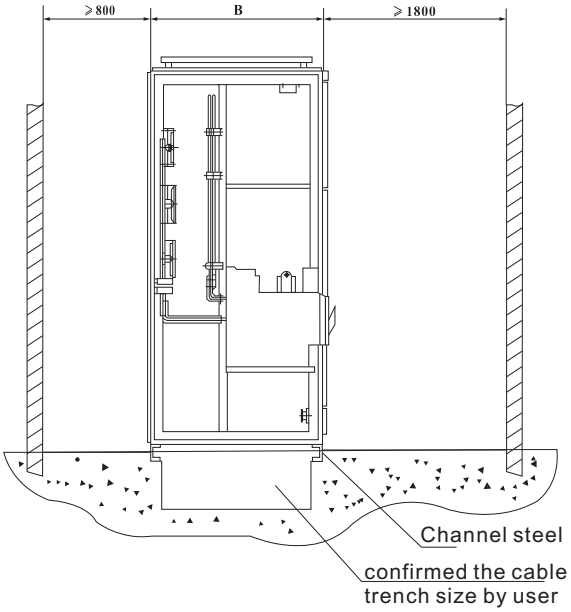
6. Construction

6.1 GCS motor control center is divided into inlet cabinet and feeder cabinet.
6.2 The public power unit is mounted at the lower part of cabinet, without occupation of mounting unit compartment.
6.3 The indicating meter, button, control switch and indicating lamp are assembled on the control panel, which is mounted in the front side of each unit and drawn in or out together with the unit.
6.4 The unit drawn in and out by lever, unit with height of 400mm and more is provided with levers both at upper and lower part, which is convenient for operation.

7. Overall and Installation Dimension

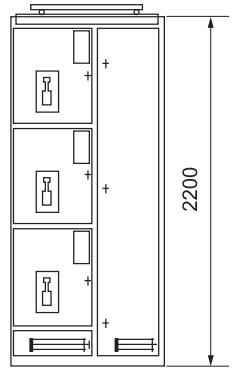


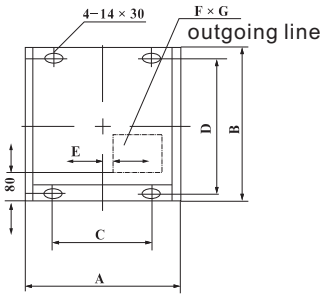
Contact cabinet Fig.01



(mm) table.7

Code	A	B	C	D	Note
GCS–TG1010–4	1000	1000	850	956	Contact tank
GCS–TG0810–4	800	1000	650	956	Feeder cabinet
GCS–TG0808–4	800	800	650	756	Feeder cabinet
GCS–TG0608–4	600	800	450	756	Feeder cabinet





PC Fig.02

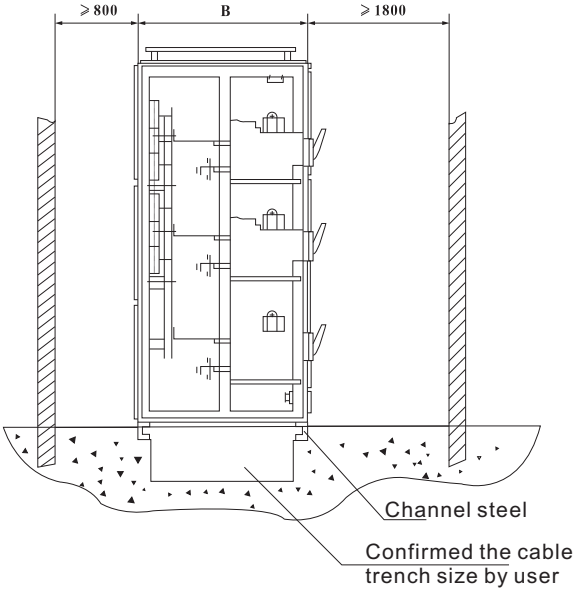
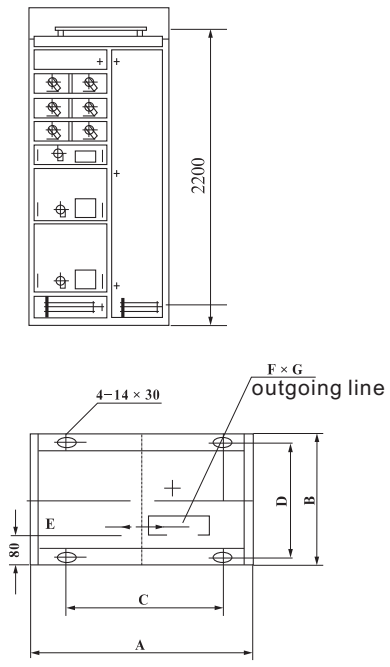


table.8

Code	A	B	C	D	E	F×G
GCS–TG1010–2	1000	1000	850	956	60	400×400
GCS–TG0810–2	800	1000	650	956	160	200×400
GCS–TG1008–2	1000	800	850	756	60	400×400
GCS–TG0808–2	800	800	650	756	160	200×400

Overall and Installation Dimension



MCC Fig.03

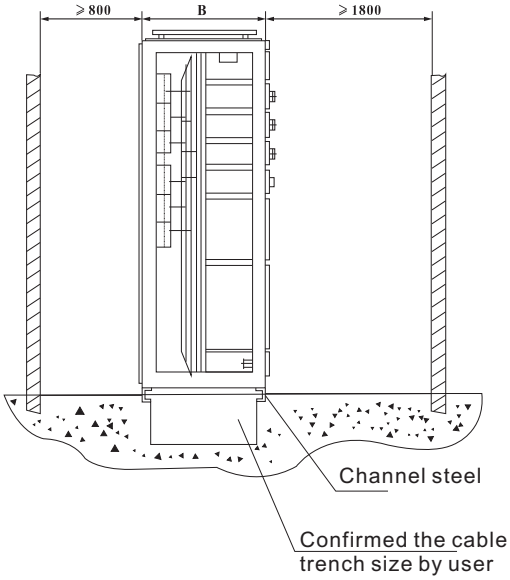


table.9

Code	A	B	C	D	E	F × G
GCS−TG1006−1	1000	600	850	556	60	400 × 350
GCS−TG0806−1	800	600	650	556	160	200 × 350

GGD

Low-voltage Switchgear Panel, Fixed Type



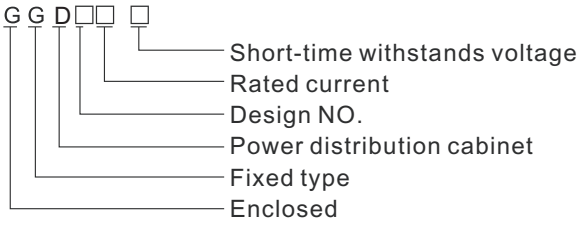
1.General

1.1 Ratings: rated voltage 400V, rated current up to 3150A, AC 50/60Hz

1.2 Application: applicable for the power receive, distribution and control of lighting and distribution equipments, etc.

1.3Standards: IEC60439-1

2.Type Designation



3.Working Condition

3.1 Ambient air temperature: -5℃ ~ +40℃;Daily average≤+35℃

(–25℃ ~ +45℃available as customized products)

3.2 Altitude: ≤2000m; Wind Speed≤35m/s

3.3 Relative humidity: ≤50% when at+40℃ ≤ 90% when at +20℃

3.4 Earthquake intensity: ≤magnitude 5.

3.5 Water vapor pressure: Daily average ≤2.2kPa Monthly average ≤1.8kPa

3.6 Applicable in the places of commercial center, industrial park and urban concentration areas, city network reconstruction

*Note: Customized products are available.

4.Technical Parameter

4.1 Main Technical Data

Type	Rated voltage(V)	Rated current(A)		Rated short-circuit breaking current(kA)	Rated short-circuit withstand current(1s)(kA)	Rated peak withstand voltage(kA)
GGD1-1000-15	400	A	1000	15	15	30
		B	600(630)			
		C	400			
GGD2-1600-30	400	A	1500(1600)	30	30	63
		B	1000			
		C	600			
GGD3-3150-50	400	A	3150	50	50	105
		B	2500			
		C	2000			

4.2 Main Bus

Single copper busbaradopted when the rated current ≤1600A. Double copper busbaradopted when the rated current >1600A. Brushing & anodizing process adopted which is better than traditional zinc-coated process.

4.2.1 Selection of Horizontal Bus

Rated current(A)	Specification of copper bus bar(mm)
400	40×4
630	50×5
1250	60×10
1600	80×10
2000	2×(60×10)
2500	2×(80×10)
3150	2×(100×10)

4.2.2 Selection of Neutral Earthing Bus

Cross section of phase conductor(mm^2)	Cross section of PE(N) conductor(mm^2)
500~720	40×4
1200	50×5
>1200	60×10

4.3 Selection of electrical components

4.3.1With flexible installation of GG1, variety of electric components can be easily installed in it. Such as CNHK intelligent circuit breaker, plastic shell circuit breaker, soft-start circuit and inverter.

4.3.2 Disconnections are easy to operate and safe for maintenance with visible open contacts. It is easy for installation of disconnectors.

4.3.3 Bus clips of high intensity can be installed ensure dynamic stability.

5.Construction

5.1 The accuracy and quality of the switchgear could be ensured as the framework parts and special parts supplied by CHNK. Modular design of the dimension concerning(E=20mm), which has cut production time and enhance efficiency.

5.2 The heat dispensation channel at the top and bottom of the switchgear formulate a ventilation loop to dispens the heat.

5.3 Easy for installation and dismantling

5.4 The switchgear is with perfect earthing protection systems.

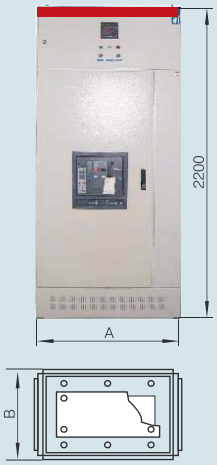
5.5The cover of the switchgear could be removed for installation and adjustment of the main busbar. There are also rings for lifting and delivery of the switchgear.

5.6The protection degree is IP30. As per your requirements, switchgear with protection degree of IP20-IP40 are available.

5.7Flexible circuit plans are available.

6.Overall and Installation Dimension(Unit:mm)

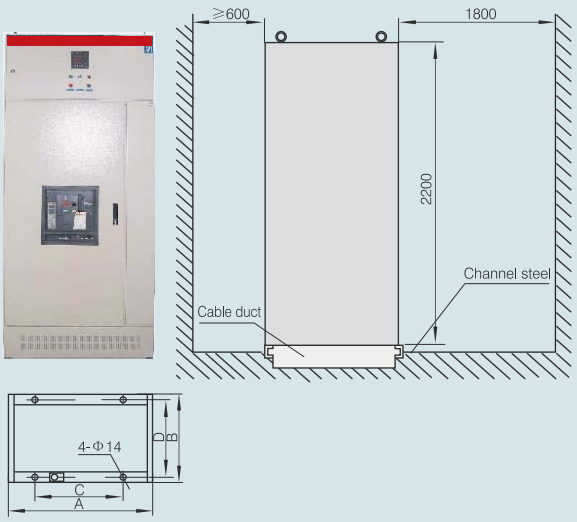
Overall dimension



(mm)

Product code	A	B
06	600	600
06A	600	800
08	800	600
08A	800	800
10	1000	600
10A	1000	800
12	1200	800

Dimension



(mm)

Product code	A	B	C	D
06	600	600	500	500
06A	600	800	500	700
08	800	600	700	500
08A	800	800	700	700
10	1000	600	900	500
10A	1000	800	900	700
12	1200	800	1100	700



GZDW

DC Power Supply Panel

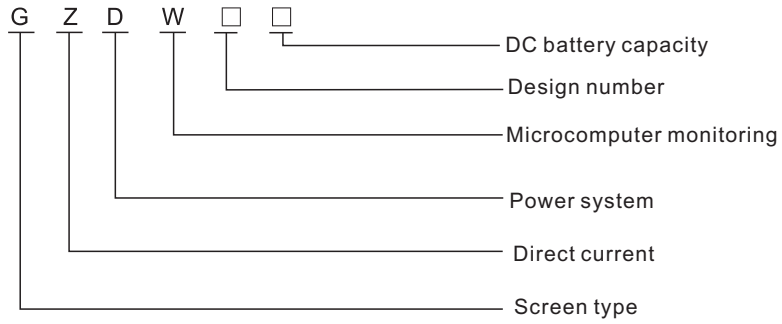
1.Application

1.1 The DC power supply panel serves in power generation plants and substations to functions as power supply needed for making & breaking closing of high voltage.

1.2 It also serves as power supply in such occasions as metallurgical industry, railway, mine, petrochemical industry, post, telecom, hospital, bank, hotel, computer network and so on.

1.3 Standards: IEC61204

2.Type Designation



3.Working Condition

3.1Ambient air temperature: -5℃～ +40℃; Daily average ≤+35℃

(-25℃～+45℃ available as customized products)

3.2Altitude: ≤2000m (you can consult with us if it is over 2000m)

3.3Relative humidity: ≤ 90% when at ±20℃+5℃

3.4 Pollution grade: 3; Inclination: ≤5°

3.5 Indoor installation

3.6 Applicable in the places without steam, explosion, corrosive, and flammable gas.

※Note: Customized products are available.

4.Main Technical Parameter

No.	Model	Description	Kinds	Application
4.1	GZDW- 230-□/□	Single battery group, single busbar sectionalization, two two-line output charging and floating charging devices, no voltage reduced circuit	10	power plant or large substation
4.2	GZDW- 231-□/□	Single battery group, single busbar, two two-line output charging and floating charging devices, no voltage reduced circuit	10	power plant or large substation
4.3	GZDW- 232-□/□	Single battery group,double busbar sectionalization, two two-line output charging and floating charging devices	20	12kV-220kV substation and medium and small power plant
4.4	GZDW- 233-□/□	Single battery group, double busbar, two two-line output charging and floating charging devices	20	12kV-220kV substation and medium and small power plant
4.5	GZDW- 234-□/□	Single battery group, double busbar sectionalization, two three-way output charging and floating charging devices	20	12kV-220kV substation and medium and small power plant
4.6	GZDW- 235-□/□	Single battery group, double busbar, two three-way output charging and floating charging devices	20	12kV-220kV substation and medium and small power plant
4.7	GZDW- 240-□/□	Double battery group, single busbar sectionalization, two two-line output charging and floating charging devices, voltage reduced circuit	10	important power plant or large substation
4.8	GZDW- 241-□/□	Double battery group, double busbar sectionalization, two two-line output charging and floating charging devices	12	12kV-220kV substation and medium and small power plant
4.9	GZDW- 242-□/□	Single battery group, double busbar sectionalization, three two-line output charging and floating charging devices	10	important power plant or large substation
4.10	GZDW- 243-□/□	Single battery group, double busbar, two two-line output charging and floating charging devices	12	12kV-220kV substation and medium and small power plant

5. Main technical Data:

5.1 Input supply voltage: three phase AC380V±10%, 50Hz±5%;

5.2 Rated output DC voltage: 48V, 110V, 220V;

5.3 Rated output DC current: 5A, 8A, 10A, 15A, 20A, 30A, 40A, 50A;

5.4 Rated capacity of storage battery: 10Ah, 20Ah, 38Ah, 40Ah, 50Ah, 60Ah, 65Ah, 100Ah,

150Ah, 200Ah, 250Ah, 300Ah.

Note: special condition shall be resolved with our company after negotiation.

6. Voltage stability regulation data

6.1

Rated output DC voltage	48V	110V	220V
Floating charging voltage regulation range	43~57	99~130	198~260
Mean charging voltage regulation range	54~62	125~140	198~286
Main charging voltage regulation charge	43~70	99~162	187~310

6.2 Output alternating current regulation range: 0~100% rated current

6.3 Voltage stabilization precision: <±1%;

6.4 Current stabilization precision: <±1%;

6.5 Work mode: continuous;

6.6 Effectiveness >90%;

6.7 Degree of protection: IP20-IP30.

7. Main Function

△ Complete specification: it covers more than 10 types and hundreds of specifications, which can fully meet requirement for DC power supply of large, medium and small power plant, substation etc;

△ Reliable operation: AC two-line input automatic transfer. The product owns charging and floating charging equipment for convenient transfer;

△ Stable operation: this product owns high anti-interference performance, high precision of current and voltage stabilization and small ripple factor;

△ Long service life of battery: this product can perform charging and floating charging for the storage battery strictly according to battery charging curve, so as to avoid over charge or under charge. The microcontroller owns battery cyclic check function.

△ Multi-protection: this product can detect each working point and integrate software and hardware protection. The insulation detection device monitors the busbar insulation situation at all times;

△ Communication: the DC power cabinet of microcontroller can make communication with upper computer, realizing centralized and unattended monitoring.

8. Main Specification of Product (maintenance free lead acid battery)

No.	Model	Rated capacity of storage battery (Ah)	Output voltage of storage battery (V)	Rated current of control busbar (A)	Impulse current of closing busbar (A)	Qty of cabinet panel
8.1	GZDW-20/220	20	220	5	60	2
8.2	GZDW-38/220	38	220	5	100	2
8.3	GZDW-50/220	50	220	8	120	2
8.4	GZDW-65/220	65	220	10	120	2
8.5	GZDW-100/220	100	220	10	240	2~3
8.6	GZDW-150/220	150	220	15	480	3~4
8.7	GZDW-200/220	200	220	20	480	4~5
8.8	GZDW-300/220	300	220	30	600	2
8.9	GZDW-20/110	20	220	5	60	2
8.10	GZDW-38/110	38	220	5	100	2
8.11	GZDW-50/110	50	220	8	120	2
8.12	GZDW-65/110	65	220	10	120	2
8.13	GZDW-100/110	100	220	10	240	3~4
8.14	GZDW-150/110	150	220	15	480	3~4
8.15	GZDW-200/110	200	220	20	480	3~4
8.16	GZDW-300/110	300	220	30	600	3~4

9. GZDW DC Power Cabinet , DC System Diagram (fig.1~fig. 10)

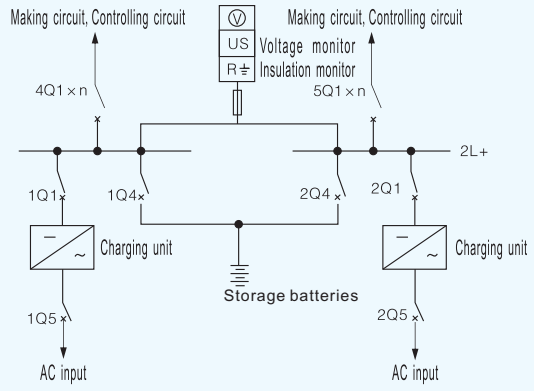


Fig.1 DC System Diagram of GZDW-230 System

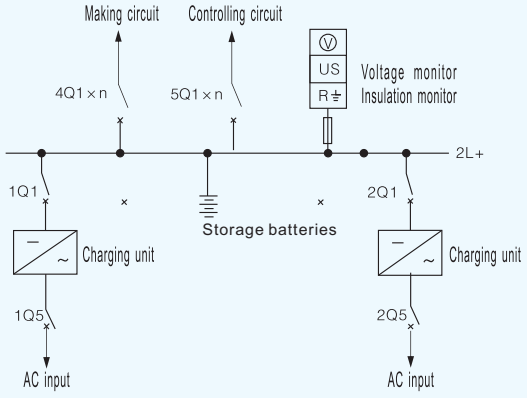


Fig.2 DC System Diagram of GZDW-231 System

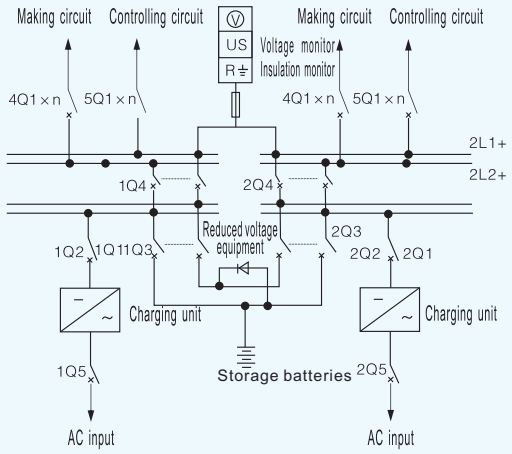


Fig.3 DC System Diagram of GZDW-232 System

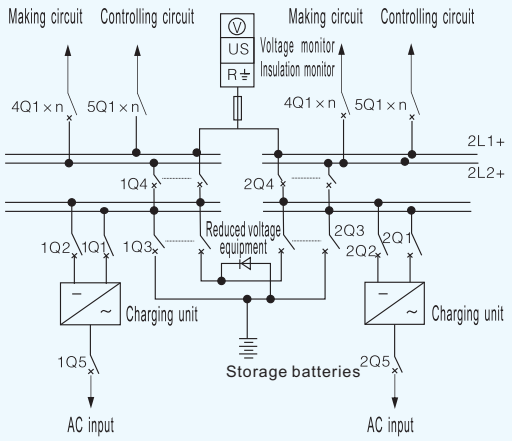


Fig.4 DC System Diagram of GZDW-234 System

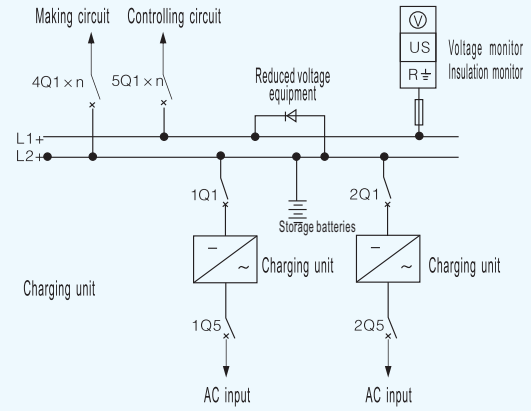


Fig.5 DC System Diagram of GZDW-233 System

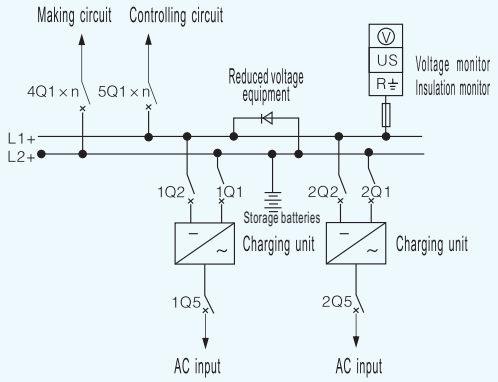


Fig.6 DC System Diagram of GZDW-235 System

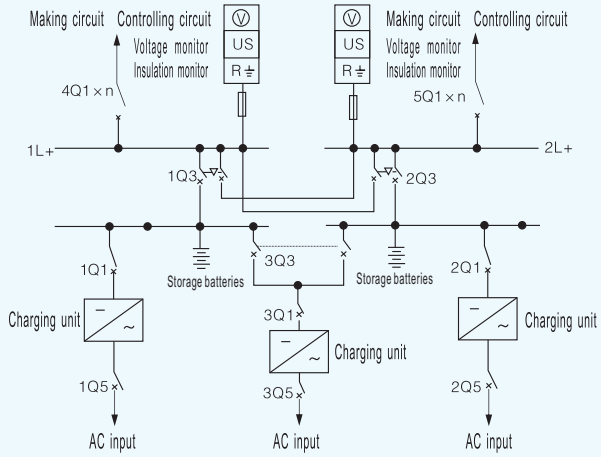


Fig.7 DC System Diagram of GZDW-240 System

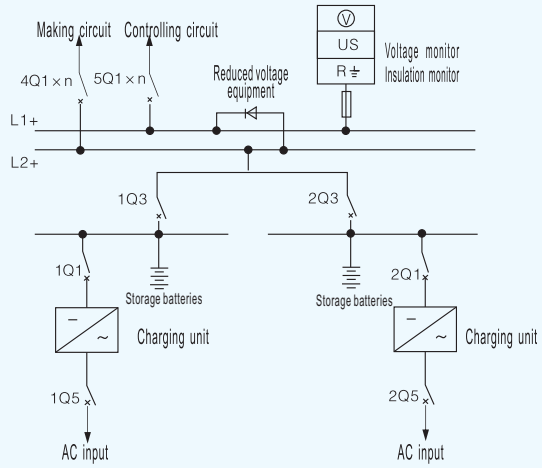


Fig.8 DC System Diagram of GZDW-241 System

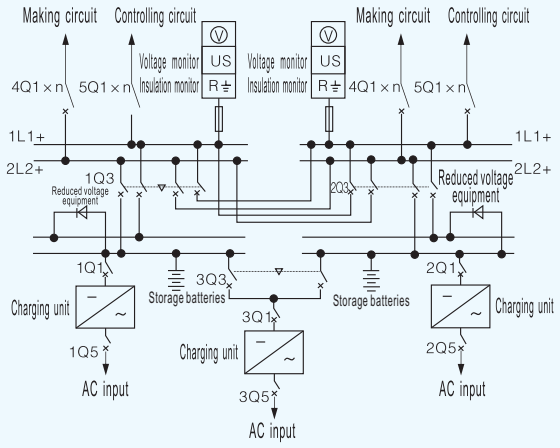


Fig.9 DC System Diagram of GZDW-242 System

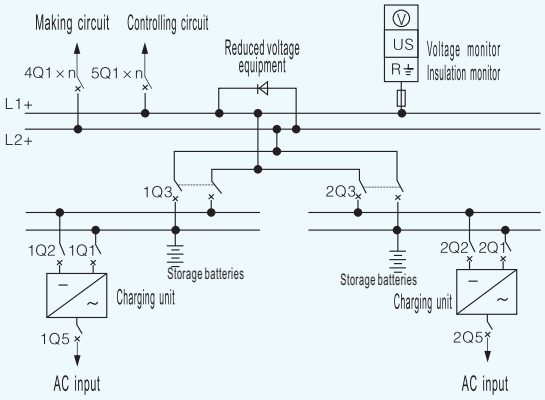
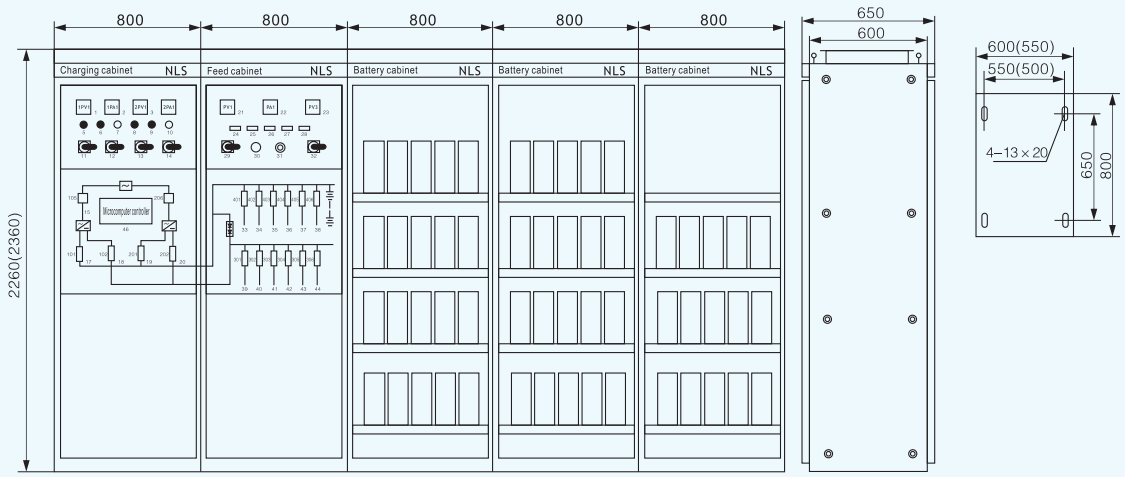


Fig.10 DC System Diagram of GZDW-243 System

10. Outline & Installation Size of Product

GZDW-35 300/200 DC Power Cabinet Panel Arrangement & Installation Explanatory Legend
(the panel can be arranged according to actual requirement of user)



11. Panel Arrangement Diagram Label Description (fig. 11) (see following table)

No.	Content of label	No.	Content of label	No.	Content of label
1	No.1 constant load voltmeter	16	No.2 AC power input switch	31	Flash test button
2	No.1 constant load ammeter	17	No.1 closing power output switch	32	Voltage regulation transfer switch
3	No. 2 constant load voltmeter	18	No.1 control power output switch	33	Closing feeder switch 1
4	No.2 constant load voltmeter	19	No.2 closing power output switch	34	Closing feeder switch 2
5	No.1 main charging indicator	20	No.2 control power output switch	35	Closing feeder switch 3
6	No.1 mean charging indicator	21	Battery group voltmeter	36	Closing feeder switch 4
7	No. 1 floating charging indicator	22	Charging ammeter	37	Closing feeder switch 5
8	No. 2 main charging indicator	23	Insulation monitor and control busbar voltmeter	38	Accident lamp power supply switch
9	No. 2 mean charging indicator	24	Over voltage indicator	39	Control feeder switch 1
10	No. 2 floating charging indicator	25	Under voltage indicator	40	Control feeder switch 2
11	No. 1 current and voltage stabilization transfer switch	26	Insulation fault indicator	41	Control feeder switch 3
12	No. 1 mean and floating charging transfer switch	27	Feed fault indicator	42	Control feeder switch 4
13	No. 2 current and voltage stabilization transfer switch	28	Blowout fault indicator	43	Control feeder switch 5
14	No. 2 mean and floating charging transfer switch	29	Earth detection transfer switch	44	Central signal panel power supply switch
15	No. 1 AC power input switch	30	Flash signal indicator	45	Microcontroller
				46	Storage battery

Note: 1. GZDW131-500/220G type scheme is applied as the layout diagram.
2. For other scheme outlets, relevant change shall be made according to structure features and capacity so as to meet requirement of design.

12. Ordering information:

Client		Contact person	
Tel		Fax	
System voltage	☐ 220V ☐ 110V ☐ 48V	Battery capacity	
Constant load current not containing charging current	A	Battery product	☐ Made in China (manufacturer)
			☐ Imported (manufacturer)
Type of battery	☐ Maintenance free lead acid battery	Type of battery group	☐ Single
	☐ Cd-Ni battery		☐ Double
Microcomputer control	☐ YES	4-remote control function	☐ YES
	☐ NO		☐ NO
Feed circuit	☐ 800×600×2260	Colour of cabinet body	☐ Light camel colour
	☐ 800×550×2260		☐ Others
	☐ 800×600×2360	Earth line	☐ YES ☐ NO
	☐ 800×550×2360	Battery cyclic check	☐ YES ☐ NO
	☐ Others	Feeder switch	☐ SIEMENS
Others	☐ Closing circuit	Feeder switch	☐ Beijing Renmin
	☐ Control circuit		☐ Others

The drawings and technical instructions in this manual may be different from actual situation, please refer to real object and operation instruction for details. Due to a great variety of product, this manual has not covered all products, please contact our sales department or local agency for details. Our company reserves the right to improve and update the technology, and any change in the manual may not be noticed separately. Any unit or individual is prohibited for entire or partial duplication or reproduction without authorization.

PK
Computer Control Panel



1.General

1.1 Application: apply for measurement, protection and control on the HV equipments within substations of 35kV and below.

1.2 Standards.: IEC255-5

2.Working Condition

2.1 Ambient air temperature: -40℃～ +75℃ for storage and transportation. -15℃～+40℃ for operation.

2.2 Altitude: ≤1000m;

2.3 Relative humidity: Daily average ≤95% Monthly average ≤ 90%

3. Technical data

3.1 Sampling ratings: voltage:100v/50Hz, current:5A/50HZ

3.2Rated power supply voltage: 110v/220v DC

3.3 Power consumption: DC normal power consumption:10W AC, under working status, 15W, when the power of current circuit is less than 0.75VA/phase, the power of voltage circuit is 0.50VA/phase

3.4 Overload Feature

*Long time making current for current circuit:20A

*Short time making current:100A/1s

*Instantaneous making current 500A/20ms

*1.5 times for rating of voltage circuit long time operation

3.5 Contact capacity: long time making:5A/220V(DC)

3.6 Input making & breaking value:+24V/5mA, disconnecting withstand voltage 2000V

3.7 Measurement accuracy

*Current measurement accuracy:0.5% for 0.1A~6A,2% for 61A~100A

*Voltage measurement accuracy:0.5% for 60V~120V,1% for 0A~60V and 120~150V

*Power measurement accuracy:1.0%

*Watt-hour measurement accuracy:1.0%

*Protection time-delay accuracy:0.1s~20.00s,±2.5% or 25ms

3.8 Telecommunication interface:RS-485,speed 9600Mbps

3.9 Insulation Resistance:100KΩ/500V

3.10 Voltage withstand:2.0KV/50Hz 1min

3.11 Anti-interference: Common mode:2.5KV/MHz/2S, differential mode 1.0kV/1MHz/2S.

4.Construction

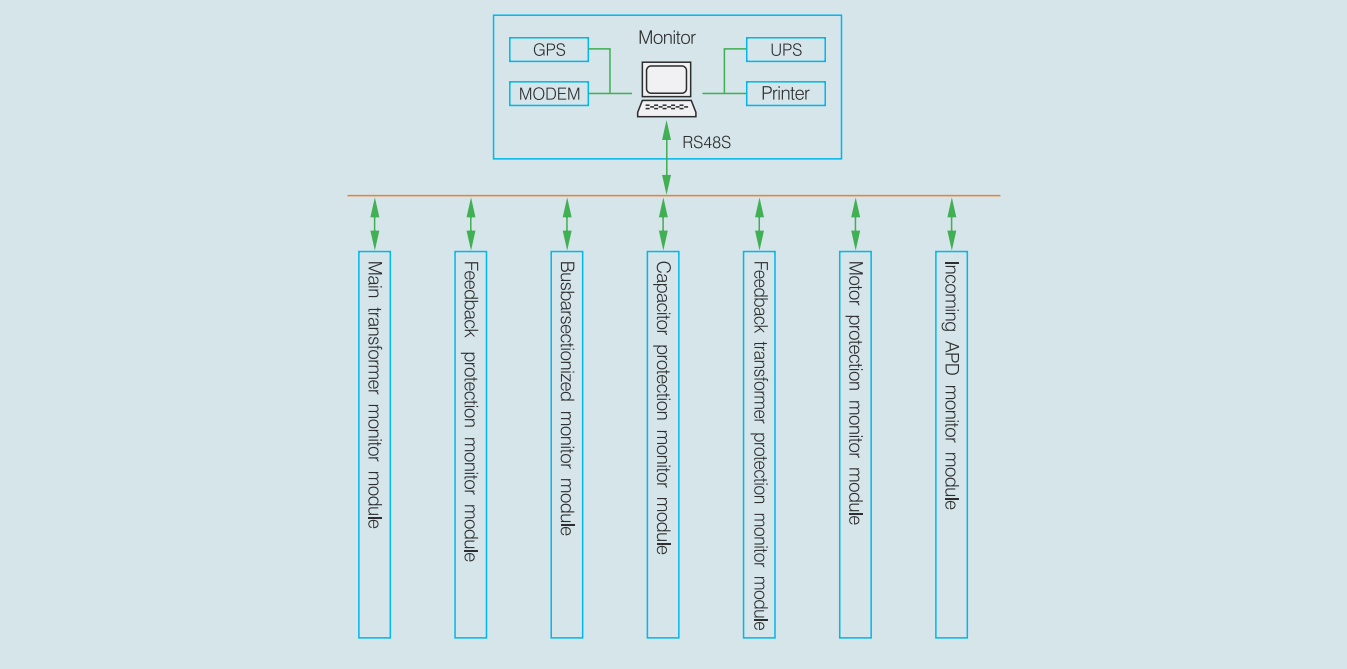
4.1 Equipped with double CPUs and chips from Intel to realize reliable processing capability, on with one of the CPUs could switch to the other one if it fails to work. Ungrading and extension of the system is allowable as there is enough redundancy.

4.2 COMS chips adopted to lower the power loss and anti-interference capability

4.3 High reliability to meet the requirements needed for various working conditions

4.4 Efficient and reliable telecommunication. Specified RS-485 adopted, as well as photo-electricity separation measures to protect all the connection equipments.

5.Reference on System Allocation



6.Overall Dimension

800mm(W)×600mm(D)×2260(2360)mm(H)

XL–21

Power Distribution Cabinet



1.General

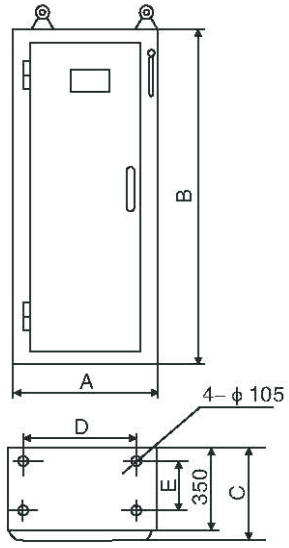
Application:In the system of less than or equal to 500V AC,
3 phases & 3wires,for power distribution
In power plants and industrial & mining enterprises.
XL-21 is installed aganist wall,
Indoor type, tested and repaired before the screen.

2.Type Designation

X L -21

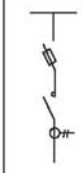
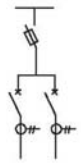
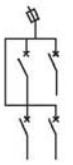
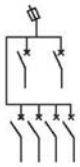
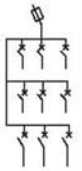
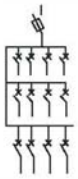
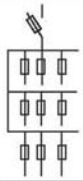
- Design code
- Power cabinet
- Cubicle

2.Dimension and Installation

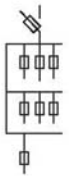
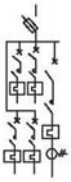
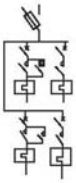
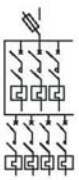
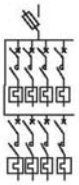
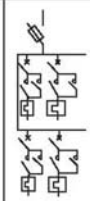


	A	B	C	D	E	
XL–21–A	600	1600	370	550	250	
XL–21–B	700	1700	370	650	250	
	600	1700	470	550	350	
	800	1700	470	750	350	
XL–21–C	700	1700	470	660	395	

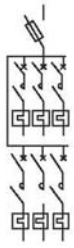
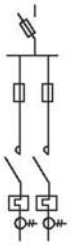
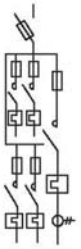
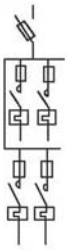
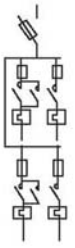
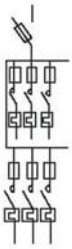
XL-21 Single Line Diagram & Main Electrical Components

Single Program No.	01	02	03	04	05	06	07	11
Single line diagram								
Qty. / Application / Type and Name								
Knife fuse switch HR3-600	1	1	1	1	1	1	1	
Knife fuse switch HR3-400								1
Automatic switch DZ20-600	1							
Automatic switch DZ20-250		2			2			
Automatic switch DZ20-100			4	4		9	12	
Automatic switch DZ47-20								
Contactor CJ20-400			1					
Current transformer BH-0.66	1	2	1					
Fuse NT1-100								27

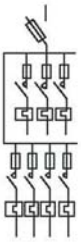
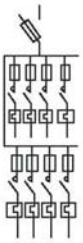
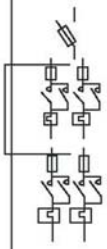
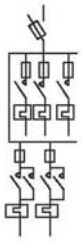
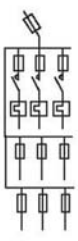
Continue table

Single Program No.	12	21	22	23	24	25	26	27
Single line diagram								
Qty. / Application / Type and Name								
Knife fuse switch HR3-600	1	1	1	1	1	1	1	1
Automatic switch DZ20-250		2	1					
Automatic switch DZ20-100						3	8	4
Automatic switch DZ47-20			4	4	6	4		
Contactor CJ20-160			1					
Contactor CJ20-40		2		6	6	3		
Contactor CJ20-20			4			4	8	8
Current transformer BH-0.66		2	1					
Fuse NT2-200	21							
Thermal relay JR16-150			1					
Thermal relay JR16-60		2		4	6	3		
Thermal relay JR16-20			4			4	8	4

Continue table

Single Program No.	28	41	42	43	44	45
Single line diagram						
Type and Name \ Qty. \ Application						
Knife fuse switch HR3-600	1	1	1	1	1	1
Automatic switch DZ20-100						
Automatic switch DZ47-20	5					
Contactor CJ20-150B		2	1	4	6	6
Contactor CJ20-40						
Contactor CJ20-20	3					
Current transformer BH-0.66	4		4			
Fuse NT2-200		2	1			
Fuse NT2-100		6	3			
Fuse NT0-50				12	12	18
Fuse NT0-100			12			
Fuse NT0-60			1			
Thermal relay JR16-150		2		4	4	6
Thermal relay JR16-60	3					
Thermal relay JR16-20	2		4			

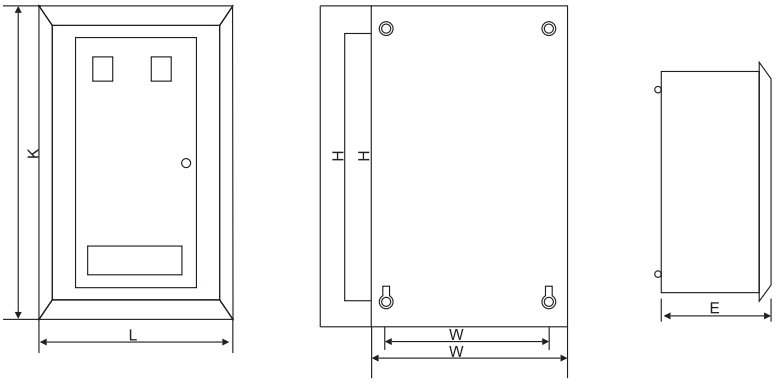
Continue table

Single Program No.	46	47	48	49	50
Single line diagram					
Type and Name \ Qty. \ Application					
Knife fuse switch HR3-400	1	1	1	1	1
Automatic switch DZ20-100					
Automatic switch DZ47-20					
Contactor CJ20-150	3				
Contactor CJ20-40	4	8	8	3	3
Contactor CJ20-20				4	
Current transformer BH-0.66					
Fuse NT2-200					
Fuse NT1-100					
Fuse NT1-0-50					
Fuse NT1-100					
Fuse NT1-60	21	24	12	15	27
Thermal relay JR16-150					
Thermal relay JR16-60	3			3	3
Thermal relay JR16-20	4	8	4	2	



DBX
Series Meter Panel

Rated working voltage: AC380V/AC220V,
Rated insulated voltage: AC500V,
Rated current of main busbar and breaking capacity : 4kA,
Main breaking capacity: 10kA,



PZ30
Distribution box

Rated working voltage: AC380V/AC220V,
Rated insulated voltage: AC380V,
Rated current of main busbar and breaking capacity :100A. 4kA,
Main breaking capacity: 4kA,



Products Summary

Power transformer
Prefabricated substation
High and Low Voltage Component

40.5kV


KYN61-40.5(Z) Metalclad Enclosed Withdrawable Switchgear


ZN85 Indoor Solid Sealed Polar Pole Vacuum Circuit Breaker


XGN17-40.5(Z)Cubicle Fixed AC metal-enclosed switchgear


YBM(P)77-40.5-0.69 HV/LV Prefabricated Substation


FZR77-40.5D HV AC Vacuum Load Switch-Fuse Combined Equipment Specialised for Wind Power


GW4-40.5 Outdoor AC Switch Disconnector


YBW-40.5/12 Prefabricated Substation


Skid-type Box Transformer


6-35kv Substation Type Auto-switched HV Shunt Capacitor Equipment

12kV


KYN28A-12(Z) Metalclad Enclosed Withdrawable Switchgea


KYN28A-24(Z) Metalclad Enclosed Withdrawable Switchgear


XGN15-12 (SFe) Fixed Type Metalclad Enclosed Loop Switchgear


HXGN17-12 Fixed Type Metalclad Enclosed Loop Switchgear


XGN2 12 Box type Fixed AC Metal enclosed switch gear




12kV Indoor Embedded Pole Vacuum Circuit Breaker


12kV Indoor HV AC Vacuum Circuit Breaker


12kV Indoor HV AC SFe Switch-fuse Combined Equipment


12kV Indoor HV AC Vacuum Load Switch-fuse Combined Equipment


12kV Outdoor HV AC Vacuum Circuit Breaker


12kV Outdoor Shunt Type HV AC Vacuum Load Breaker Switch (Electric Dog)


12kV Outdoor Shunt Type HV AC Vacuum Circuit Breaker (Electric Dog)


S9-S11 Series Three-phase Oil-immersed Regulating Distribution Transformer without Excitation


S9-S11 Series Three-phase Oil-immersed Full-sealed Distribution Transformer withput Excitation


SC(B) series Epoxy Resin Dry-type Transformer


SCBH15 Amorphous Transformer


SBH15 Amorphous Oil-Immersed Transformer



0.38-0.6kV


GCK LV Withdrawable Switchgear


GCS LV Withdrawable Switchgear


GGD LV Fixed Switchgear


GZDW Series DC Power Supply Switchgear




Molded case circuit breaker


Universal type breaker


Universal type breaker


Universal type breaker



ZGS11 American Type Transformer Specialised for Wind Power



Outdoor SF_6 Circuit Breaker



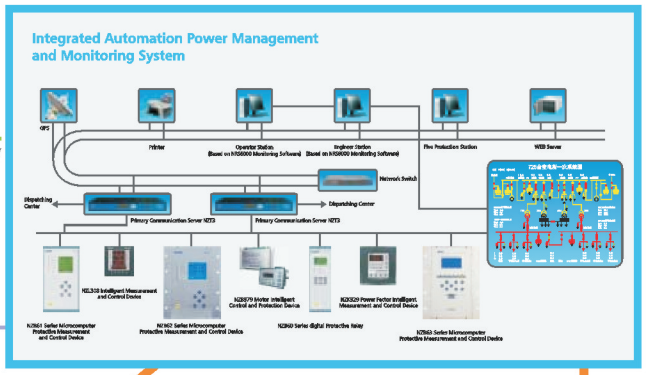
ZW7-40.5 Outdoor HV AC Vacuum Circuit Breaker



35kV Oil-immersed Transform with OLTC in SZ9 series



27.5kV Surge Arrester & Insulator Used for Electric Railway
35kV Porcelain Metal Oxide Surge Arrester Used for Substation



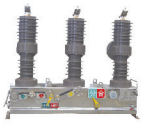


XGN66A-12 Cubicle AC Metal Enclosed Switchgear, Fixed Type

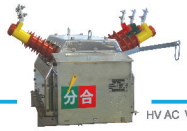


HRM6 Air-insulated Rain Main Unit (RMU), Fixed Type

6-10kV HV Shunt Capacitor Complete Equipment



Outdoor HV Permanent Magnet Vacuum Circuit Breaker



HV AC Vacuum Circuit Breaker



HV Shunt Capacitor Complete Equipment



YB6 series Prefabricated Substation



YBM(P)29 HV/LV Prefabricated Substation

10kV Indoor Casting Current Transformer
10kV Indoor Casting Voltage Transformer



Outdoor Oil-immersed Energy Metering Box



12kV AC Three-phase Combined Over-voltage Protector With Composite Jacket and Gap



HMNS LV Withdrawable Switchgear

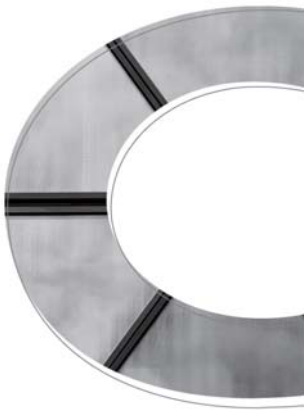
PZ Series Lighting and Control Box



PK Computer Control Switchgear







CNHK®
HUANGHUA GROUP