

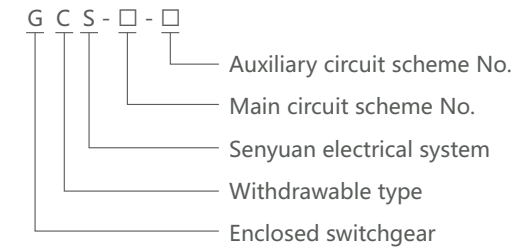
Low Voltage Switchgear **GCS** Low-voltage Switchgear Panel, Withdrawable Type

- Rating: Rated voltage 400V, 690V, rated current reach to 4000A.
- Application:
mainly applicable in place with high automation and need to communicate with computer, like large power station and petrochemistry system, as the low voltage distribution device of the distribution and motor controlling, and reactive power compensation in power system.
- Protection degree: IP30, IP40
- Standard: IEC60439-1

General

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Selection



Operating conditions

- Ambient air temperature: $-15^{\circ}\text{C} \sim +40^{\circ}\text{C}$
Daily average temperature: $\leq 35^{\circ}\text{C}$
When the actual temperature exceed the range, it should be used by reducing the capacity accordingly.
- Altitude: $\leq 2000\text{m}$
- Relative humidity: $\leq 50\%$, when temperature is $+40^{\circ}\text{C}$
When temperature is low, larger relative humidity is allowed. when it is $+20^{\circ}\text{C}$, relative humidity can be 90%. Since the temperature change will make out condensation.
- Installation inclination: $\leq 5\%$
- Applicable in the places without corrosive and flammable gas.

Note: Customized products are available.



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Technical data

Sheet 1

Item		Data
The main circuit of rated voltage(V)		AC400, 690
The auxiliary circuit of rated voltage(V)		AC220, 400; DC110, 220
Rated frequency(Hz)		50(60)
Rated insulation voltage(V)		660(1000)
Rated current(A)	Horizontal busbar	≤4000
	Vertical bus(MCC)	1000
Busbar rated short time withstand current(KA/1S)		50, 80
Busbar rated peak withstand current(KA/0.1s)		105, 176
Power frequency test voltage (V/1Min)	Main circuit	2500
	Auxiliary circuit	2000
Main Busbar	3 Phase 4 Wires	A, B, C, N
	3 Phase 5 Wires	A, B, C, PE, N

Features

1. C type material adopted for the main frame, frame use the form of Assembling structure. Main frame have the installation modular hole E=20mm
2. The Compartment is divided into functional unit rooms, bus room, cable rooms,Each unit is relatively independent ."
3. Take the drawer as main body, meanwhile have the draw out type and fixed type, can mixed combination, Arbitrary selection.
4. Cabinet size (refer to sheet 2)

Sheet 2

Height	2200			
Width	400	600	800	1000
Depth	600	800	1000	

5. Functional unit

- 1) The higher modulus of drawer is 160mm, divide to 1/2 unit, 1 unit, 1.5unit, 2 unit,3 unit 5 different size series. Unit loop rated voltage below 400A.
- 2) The same functional unit of the drawer has good interchangeability.Each MCC cabinet can install max 11 set drawer with 1 unit, or 3) 22 sets drawer with 1/2 unit. Drawer with more than 1 unit adopt multi-functional plate .
- 4) Drawer incoming and outgoing line adopt the same standardized plug of slice structure with different quantity according to current
- 5) The transfer between ½ unit drawer and cable cabinet use ZJ-2 adapter..
- 6) The transfer between drawer which is above 1 unit and cable cabinet use standardized bar type or tube type ZJ-1 adapter according to different current rated.
- 7) Drawer panel have the open, close, test, draw out position indicator.
- 8) Drawer unit have Mechanical linkage.
- 9) Feeder cabinet and motor control cabinet have special cable insulation cabinet. The connection between functional unit and cable cabinet adopt adapter.Not only improves the reliability of the cable, and greatly facilitates the user safety and repair of cable.

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6. Busbar

In order to improve the bus dynamic thermal stability and improved contact surface temperature rise, device use TMY-T2 series of hard copper, Copper plate surface will be treated with new advanced oxidation process. The performance index is superior to the traditional tin plating process.

1) Horizontal busbar

Horizontal busbar is arranged in Busbar compartment at the back of cabinet,double busbar for above 2500 A, single layer busbar for current below 2500A.Each phase is composed of 4 or 2 pcs busbar ,improve the Short circuit strength of bus.

2) Vertical bus

"L" shape hard copper tin bus is used for vertical busbar of drawer.L type bus specification(mm):

(Height×thickness)+(button×Thickness)(50×5)+(30×5)Rated current 1000A

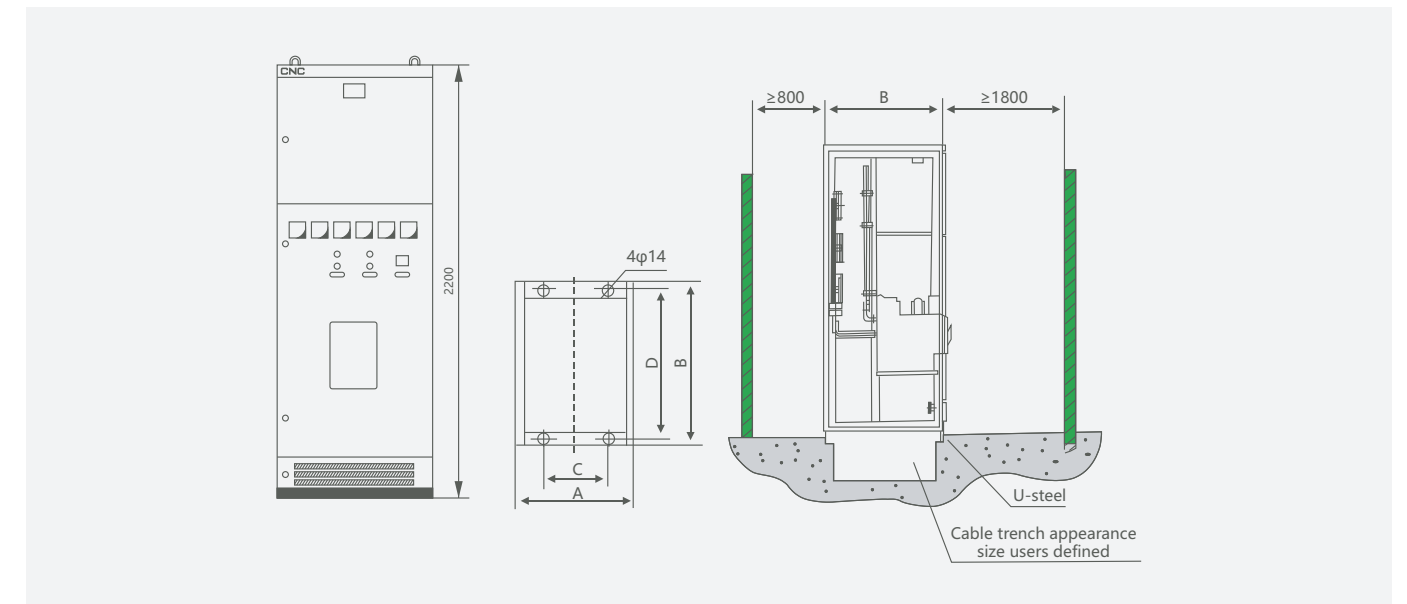
Neutral grounding busbar

3) Adopt hard copper. Through the level of neutral grounding wire (PEN) or ground +neutral line (PE+N).

Overall and mounting dimensions(mm)

Electric power, communication cabinet installation diagram

Picture 1



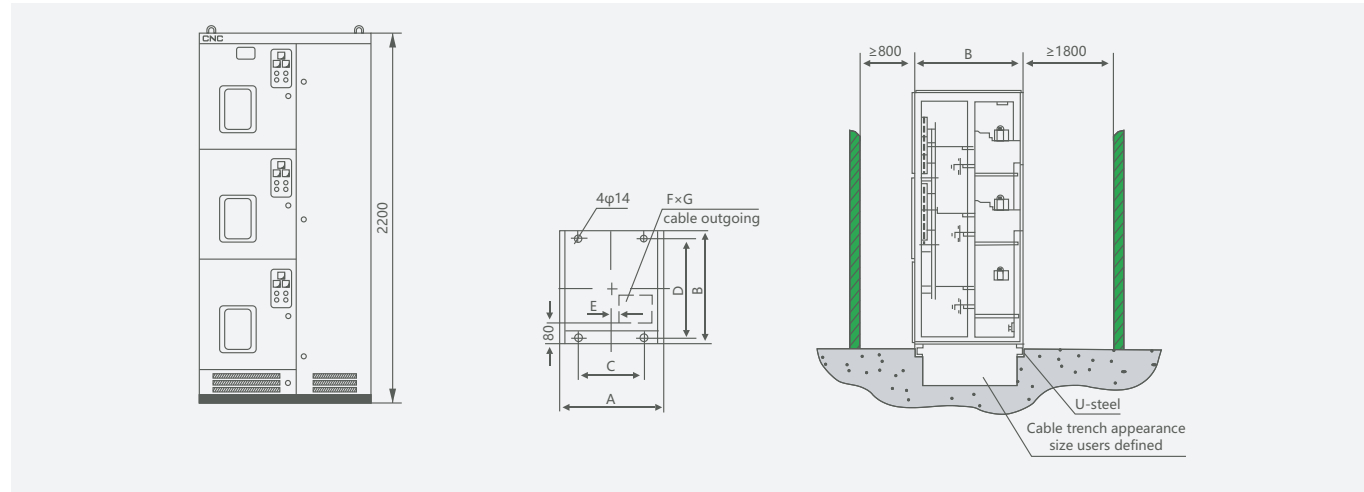
(mm) Sheet 3

Cabinet code	A	B	C	D	Remark
GCS-TG1010-4	1000	1000	900	900	Communication cabinet
GCS-TG0810-4	800	1000	700	900	Electric power cabinet
GCS-TG0808-4	800	800	700	700	Electric power cabinet
GCS-TG0608-4	600	800	500	700	Electric power cabinet

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PC cabinet installation diagram

Picture 2

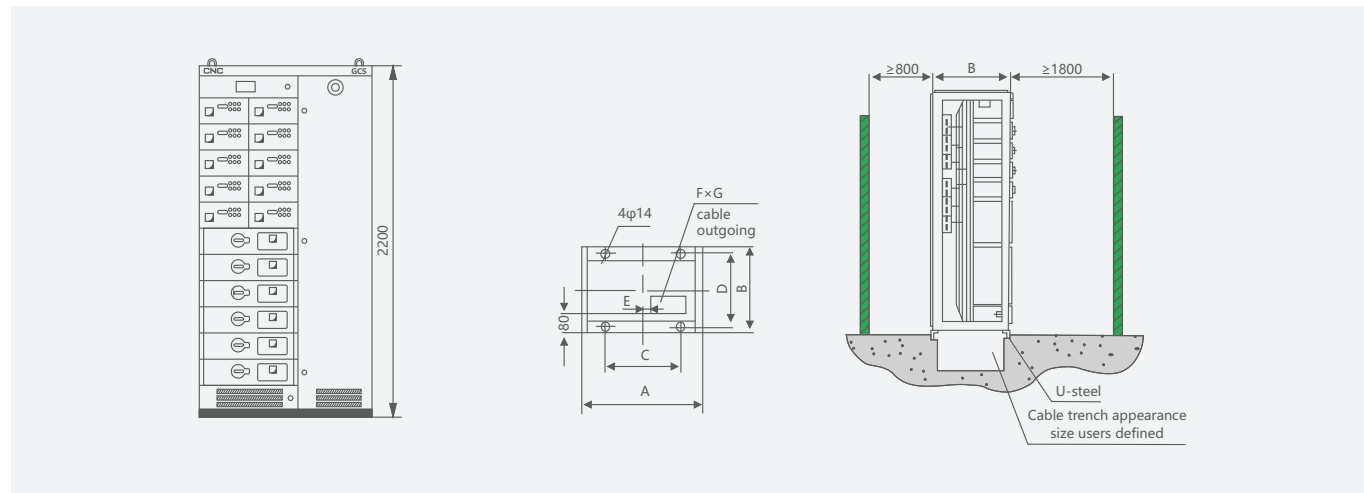


(mm) Sheet 4

Cabinet code	A	B	C	D	E	F×G
GCS-TG1010-2	1000	1000	900	900	60	400×400
GCS-TG0810-2	800	1000	700	900	160	200×400
GCS-TG1008-2	1000	800	900	700	60	400×400
GCS-TG0808-2	800	800	700	700	160	200×400

MCC cabinet installation diagram

Picture 3



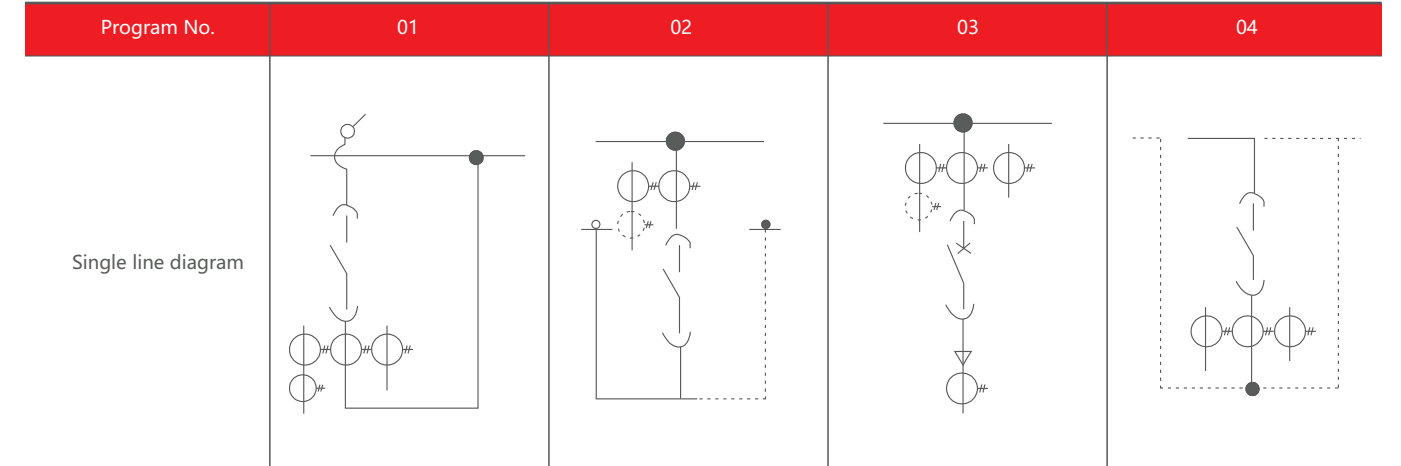
(mm) Sheet 5

Cabinet code	A	B	C	D	E	F×G
GCS-TG1008-1	1000	800	900	700	60	400×350
GCS-TG1006-1	1000	600	900	500	60	400×350
GCS-TG0806-1	800	600	700	500	160	200×350

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Main single line diagram

Sheet 5



Application	Electric power (up incoming)							Electric power (bottom incoming)							Electric power (Electric cable incoming)					Communication							
Specification No.	A	B	C	D	E	F	G	A	B	C	D	E	F	G	A	B	C	D	E	A	B	C	D	E	F	G	
Short time withstand current/Instantaneous withstand current(kA)	80/176							80/176							50/105					50/105							
	50/105							50/105							50/105					50/105							
	30/63							30/63							30/63					30/63							
Rated current(A)	4000	3150	2500	2000	1600	1000	630	4000	3150	2500	2000	1600	1000	630	2500	2000	1600	1000	630	4000	3150	2500	2000	1600	1000	630	
YCW1-4000	1							1													1						
YCW1-3200		1							1													1					
YCW1-2000			1							1					1								1				
YCW1-2000				1							1						1							1			
YCW1-2000					1							1						1							1		
YCW1-2000						1							1						1							1	
SDL-□															(1)	(1)	(1)	(1)	(1)								
SDH-□□/5	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)						3	3	3	3	3	3	3	
Cabinet width(mm)	800(1000)			600				800(1000)			600				800		600			1000		800					
Cabinet depth(mm)	1000		800					1000		800					800					1000		800					
Small compartment height usage(mm)																											

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Continued Sheet 5

Program No.	05	06	07	08	
Single line diagram					
Application	Bus switching	Feeder	Dual power switch manually	Dual power switch manually	
Specification No.		A B	A B	A B	
Short time withstand current/Instantaneous withstand current(kA)		80/176		50/105	
		50/105		30/63	
Rated current(A)		4000 3150 2500	2500 2000	1000 630	
YCW1-2000		1			
YCW1-2000			1		1
YCW1-2000				1	1
QPS-1000				1	
QPS-630					1
SDL-□		(1) (1) (1)			
SDH-□□/5		1(3)			3(4) 3(4)
Cabinet width(mm)	400(600)	1000		1000	
Cabinet depth(mm)	400(600)	800(1000)		800	
Small compartment height usage(mm)		640			

Main electric components

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Continued Sheet 5

Program No.	09	10	11	12	
Single line diagram					
Application	Dual power supply switching	Feeder	Feeder	Current-limiting reactor	
Specification No.	A B	A B C D			
Short time withstand current/Instantaneous withstand current(kA)	50/105		50/105		50/105
	30/63		30/63		30/63
Rated current(A)	400 250	630 400 250 160	400 250 100	600	
QSA-630		1			
QSA-400			1		
QSA-250				1	
QSA-160					
Current-limiting reactor600A0.0084Ω/Φ				3	
B370, LR1, CJ35	1				
B250, LR1, CJ35		1			
TG-400BD, YCM1-400L, TM30	1	1		1	
TG-225BD, YCM1-225M, TM30				1	
TG-100BD, YCM1-100M, TM30				1	
SDL-□		(1) (1)		1	
SDH-□□/5					
Cabinet width(mm)	800(1000)		1000		800(1000)
Cabinet depth(mm)	600(800)		800(1000)		600(800)
Small compartment height usage(mm)	480×2		480 320	240(160)	

Main electric components

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Continued Sheet 5

Program No.	13	14	15
Single line diagram			
Application	Potential transformer	Potential transformer	Potential transformer
Specification No.			
Rated current(A)			
QSA-63		1	1
NT00-□	3		
JDG-0.5 380/100	2	2	1
JSGW-0.5			
SDH-□□/5			
Cabinet width(mm)	Install in the electric power cabinet or 05 scheme Switching cabinet, connect with branch bus, Not occupy the space.		
Cabinet depth(mm)			
Small compartment height(mm)			

Continued Sheet 5

Program No.	16	17	18
Single line diagram			
Application	Static Var Compensator		Public power
Specification No.	A	B	C
Max control motor power (kW)	160	128	96
QA - 400	1	1	1
am-32	30	24	18
NT00-□			3
JBK3-400			1
B30C	10	8	6
T45, LR1	10	8	6
BCMJ-0.4-16-3	10	8	6
SDH-□□/5	3	3	3
Cabinet width(mm)	1000	800	1000
Cabinet depth(mm)	800 (600)		800 (600)
Small compartment height usage(mm)			

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Continued Sheet 5

Program No.	19	20	21	22					
Single line diagram									
	Motor (reversible)		Motor (irreversible)						
Specification No.	A	B	7.5	A	B	C	A	B	
Max control motor power (kW)	37	15		100	75	75	37	15	7.5
QSA-125	1								
HH17-63		1	3						
NT00-□									
YCM1-400L or TG-400BD, TM30				1					
YCM1-225M, TM30, TG225BD					1	1			
YCM1-1000L or TG-100BD, TM30							1	1	
NZMS4, TM30									1
B250, LC1, CJ35				1					
B170-105, LC1, CJ35					1	1			
B85 or LC1-D80	2						1		
B45 or LC1-D32		2						1	
B16 or LC1-D18			2						1
T85, LR1	1						1		
TSA45, LC1		1					1		
T16, LR1			1	1	1	1			1
SDL-□	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
SDH-□□/5	1	1	1	3	3	3	1	1	1
Small compartment height usage(mm)	320	160	160	480	320	320	160		

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Continued Sheet 5

Program No.	23		24		25		26		
Single line diagram									
Application	Y-Δ Start		Y-Δ Start		Y-Δ Start		Y-Δ Start		
Specification No.	A	B	A	B	A	B	A	B	
Max control motor power (kW)	160	90	37	15	160	90	37	15	
Main electric components	QSA-400~250				1	1			
	QSA-125						1		
	HH17-63							1	
	NT3-□	3							
	TG-400B	1							
	YCM1-225 or TG-225D		1						
	YCM1-100M or TG-100D			1	1				
	B370+B250	2+1				2+1			
	B250+B170		2+1				2+1		
	B85 or LC1-D80			3				3	
	B45, TC1-D32 or 3TB44				3				3
	T85			1				1	
	TSA45				1				1
	T16	1	1			1	1		
SDL-□	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
SDH-□□/5	3	3	1	1	1	1	1	1	
Cabinet width(mm)									
Cabinet depth(mm)									
Small compartment height usage(mm)	1120	960	320		800		320		