

## KGN8-12 Fixed Metal-clad Switchgear

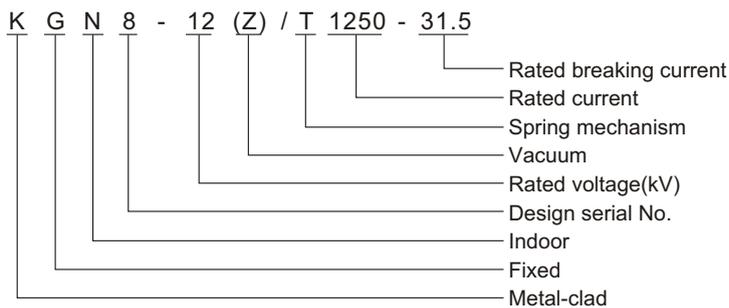
### Summary

KGN8-12 fixed metal-clad switchgear (short for KGN8 switchgear as below) applies to below 12kV, 3 phase AC 50/60Hz power system. It can be widely used for electric force, metallurgy, petrification and urban construction.

### Ambient condition

1. Ambient temperature: -15°C~40°C; daily average: 35°C;
2. Altitude: ≤1000m
3. Relative humidity:daily average: ≤95%,monthly average: ≤90%
4. Applicable occasions should be free from inflammables, explosives, corrosives and severe vibration.

### Model



### Technical specification

Technical specification of KGN8 switchgear, see Table 1

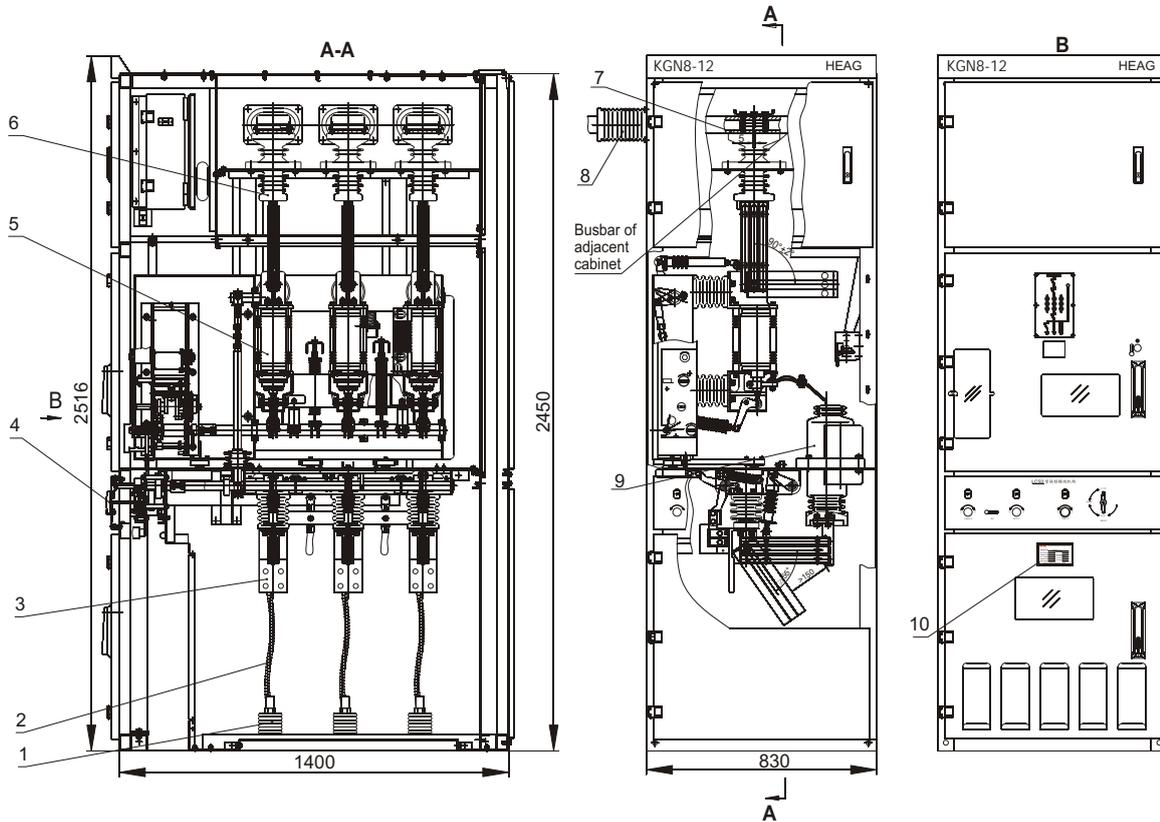
Table 1 Technical specification of KGN8

Item	Unit	Data
Rated voltage	kV	12
P.F. withstand voltage (Phase to phase, phase to earth)	kV	42
P.F. withstand voltage (Across open contacts)	kV	49
Lightning impulse withstand voltage(Phase to phase, phase to earth)	kV	75
Lightning impulse withstand voltage(Across open contacts)	kV	85
Rated frequency	Hz	50
Main busbar rated current	A	1250、1600、2000、2500、3150、4000、5000(Air-cooled)
Branch rated current	A	630、1250、1600、2000、2500、3150、4000、5000(Air-cooled)
Rated short time withstand current	kA	31.5、40、50
Rated peak withstand current	kA	82、104、130
Rated short circuit continuous time(50kA)	s	4(2)
Protection degree(Enclosure/Compartment)		IP40/IP30
Continuity of Operations Categories		LSC2B-PM
IAC grade		BFLR
Static load	kg	≈1000
Dynamic load	kg	≈1500
Dimension(W*H*D)	mm	840 × 2450 × 1400(Rear Aerial Busbar 1770)

### Structure

KGN8-12 type switchgear is fixed metal-clad switchgear. The dimension of the cubicle should be: 840(W)×2450(H)×1400(D) (Rear Aerial Busbar 1770). The classic scheme consist of busbar compartment, CB compartment, cable compartment, relay instrument compartment and etc.

## Outline dimension



1. Lightning arrester HY5W2-17/50 2. Conducting wire 3. Disconnect switch GN58-12D  
 4. Interlock mechanism 5. VCB ZN108-12 6. Modular wall bushing ZCS3-12  
 7. Busbar 8. Busbar wall bushing 9. CT component 10. Nameplate

Table 2 Technical specification of ZN108-12

Item	Unit	Data
Rated voltage	kV	12
P.F. withstand voltage (Phase to phase, phase to earth)	kV	42
P.F. withstand voltage (Across open contacts)	kV	48/49
Lightning impulse withstand voltage (Phase to phase, phase to earth)	kV	75
Lightning impulse withstand voltage (Across open contacts)	kV	85
Rated frequency	Hz	50
Rated current	A	630、1250、1600、2000、2500、3150、4000、5000 (Air-cooled)
Rated short circuit breaking current	kA	25、31.5、40、50
Rated short circuit making current (Peak)	kA	82、104、130
Rated short-circuit breaking current of the DC component	%	61
Rated short circuit duration (50kA)	s	4 (2)
Rated cable charging breaking current	A	25
Rated operation sequence		O-0.3s-CO-180s-CO
Closing time	ms	30~70
Opening time	ms	15~50
Arcing time	ms	≤15
Mechanical Life		M2(10000)

Table 3 Main mechanical parameters of the circuit breaker and actuator

With Spring operation mechanism

Item	Unit	Data			
Rated power of storage motor	W	110			
Rated voltage of storage motor	V	≥110、220 ( 85~110% )			
Power storage time	S	≤12			
Rated voltage of opening/closing coil	V	≈ 110	≈ 220	≈ 110	≈ 220
Rated current of opening/closing coil	A	3.6	2.6	2.3	1.4
Rated voltage of auxiliary switch	A	10(≈220V)、2(=220V T≥20ms)			
Distance of open contact	mm	10~12			
Super travel of contact	mm	3.5~5			
Tripping time of closing time	ms	2			
Interval of three pole on-off	ms	2			
Average closing speed	m/s	1.0 ± 0.2			
Average opening speed	m/s	0.6 ± 0.2			
Main loop resistance	μ Ω	≤60/35/25*			
Pressure on closing contact	N	3000 ± 100/5000 ± 200/6000 ± 400**			
Distance between the center pole	mm	270 ± 2			

Permanent magnetic

Item	Unit	Data
External control voltage	V	≥110(1 ± 20%)    ≥220(1 ± 20%)
External control current	A	< 2
Control signal voltage	V	≥220(1 ± 20%)
Control signal current	A	< 0.1

\*Corresponding to rated current 1600/3150/4000A

\*\*Corresponding to breaking current 31.5/40/50kA

Table 4 Main technical parameters of GN58-12D Isolation switch

Item	Unit	Data
Rated voltage	kV	12
P.F. withstand voltage (Phase to phase, phase to earth)	kV	42
P.F. withstand voltage (Across open contacts)	kV	49
Lightning impulse withstand voltage(Phase to phase, phase to earth)	kV	75
Lightning impulse withstand voltage(Across open contacts)	kV	85
Rated frequency	Hz	50
Rated current	A	630、1250、1600、2000、2500、3150、4000、5000(Air-cooled)
Rated short-time withstand voltage	kA	25、31.5、40、50
Rated peak withstand voltage	kA	82、104、130
Rated short circuit duration (50kA)	s	4 ( 2 )
Rated short-circuit making current of earthing switch (Peak)	kA	80

Table 5 Main technical parameter of CT

Item	Unit	Data
Rated voltage	kV	12
Rated single current	A	5~5000
Rated secondary current	A	1、5
Accuracy Class		0.2s/0.5/10P10(0.2s/10P15)
Minimum rated output capacity	VA	10/10/15(15/15)