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# Solid-Insulated Ring Main Unit

**Green Energy Electrical Industry Co., Ltd** 







# **XGN-12**

# **Solid-insulated Ring Main Unit**

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# **XGN-12**







### Intelligent solid insulation cabinet

# Overview

XGN-12 series solid all-insulated closed ring network switchgear is a kind of solid insulation vacuum switchgear with full insulation, full seal and maintenance-free. All high-voltage live parts are insulated Excellent epoxy resin material is cast and molded, which organically combines the vacuum arc extinguishing chamber, main electric circuit and insulation support into a whole, and the functional units are connected by fully insulated solid bus bars. Therefore, the whole Each switchgear is not affected by external environment, which can ensure the reliability of equipment operation and the safety of operators.

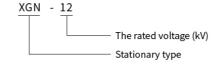
The ring network cabinet has the characteristics of simple structure, flexible operation, reliable interlocking and convenient installation. It is suitable for 50Hz and 12 kV power systems and is widely used in industrial and civil cable ring networks and distribution Network terminal engineering, as the receiving and distribution of electric energy, is especially suitable for power distribution in urban residential areas, small substations, opening and closing stations, cable branch box, box-type substations, industrial and mining enterprises, shopping malls and machines Field, subway, wind power generation, hospitals, stadiums, railways, tunnels and other places.

Because the product has the advantages of full insulation, full sealing and full shielding, it is especially suitable for high altitude, high temperature, damp heat, severe cold and severe pollution.

# Cotegory

According to switch types, it is divided into load switch with grounding assembly (c module for short), load switch without grounding assembly (CB module for short) and circuit breaker with grounding assembly (v module for short). Circuit breaker without grounding assembly (VB module for short), circuit breaker contact switch (VZ module for short), load switch+fuse combination electrical switch assembly (F module for short) and isolating switch assembly (g module for short).

# Model and meaning



## Conditions of use

- ♦ Ambient temperature: -45°C ~+45°C
- $\Diamond$  Humidity: maximum average relative humidity, with daily average  $\leq$  95% and monthly average  $\leq$  90%
- ♦ Altitude: ≤ 2000 meters
- ♦ Seismic resistance: 8 degrees
- ♦ Protection grade: live body seal IP67, fuse barrel IP67, switch cabinet shell IP3X

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# Application field

- ♦ Low temperature and cold area: there is no application of SF6 gas, so it can run normally at -45°C without considering the low temperature operation of SF6 gas.
- ◆ Plateau area: it is unnecessary to consider the influence of plateau atmospheric pressure on insulation performance.
- Strong sandstorm area: The safety protection level of solid insulation ring network cabinet body is IP67, and the control loop room adopts special treatment to ensure long-term operation in strong sandstorm area.
- ◆ Coastal wet pool area: sealed with epoxy resin, resistant to moisture and salt spray corrosion, ensuring long-term use in coastal areas.
- ♦ Areas with high environmental protection requirements: The influence of SF6 gas on atmospheric warming has been paid great attention to, and SF6 gas has been eliminated in solid ring network cabinets, thus causing no pollution and harm to the environment and people.
- In smart grid: since the main switch and isolating switch can be electrically operated, the intelligent controller developed by our company can be selected for remote control, telemetry and telecommunication of switching equipment and substation site, which can not only carry out decentralized control, but also facilitate centralized control.

### The main technical parameters

Projects	Unit	Parameter
Conventional		
Rated voltage	kV	12
Rated frequency	Hz	50
Power frequency withstand voltage	kV/min	42/48
Lightning impulse withstandvoltage	kV	75/85
Arc duration	s	≥ 0.5
Protection grade of primary components (except metering cabinet)		IP67
Cabinet protection level		IP4X
Protection level between compartments		IP2X
Operating supply voltage	V	DC24、48、 110、220
		AC110、220
Busber system		
Rated current	А	630(1250)
Rated short-time withstand current	kA/s	20/4(25/4)
Rated withstand current peak	kA	50(63)
Rated peak withstand current	kA	50
Load switch unit		
Rated current	Α	630
Rated short circuit closing current	kA	50
Rated short-time withstand current	kA/s	20/4
Mechanical life of load switch	times	
Electrical life of load switch	times	E3
Partial discharge	PC	≤ 5
Circuit breaker unit	800	
Rated current	А	630(1250)
Rated short circuit breaking current	kA	20(25)

		Parameter
Rated short circuit closing current	kA	50(63)
Rated short-time withstand current	kA/S	20/4(25/4)
Mechanical life of circuit breaker	times	20000
Circuit breaker electrical life	times	E2
Rated operating sequence		O-0.3s-CO- 180s-CO
Partial discharge	PC	≤ 5
Load switch- Fuse combination electric un	it	
Rated current (maximum)	А	200
Rated short circuit breaking current	kA	31.5
Rated short circuit closing current	kA	80
Partial discharge	PC	3150
Isolating switch		
Rated current	A	630/1250
Rated short-term withstand current	kA	20/25
Rated short time duration	s	4
Rated withstand current peaak	kA	50/63
Mechanical life	times	3000
Earthing switch		
Rated current	А	630/1250
Rated short-time withstand current	k	20/25
Rated short duration	S	4
Rated peak withstand current	k	50/63
Rated short-circuit closing current (Peak value)	kA	50
Rated short circuit closing current times	times	2
Mechanical life	times	3000

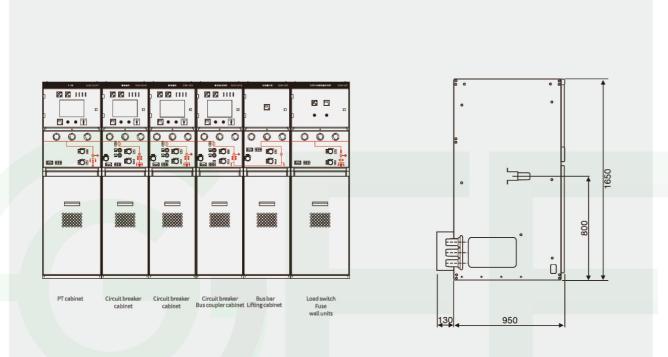
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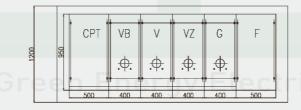


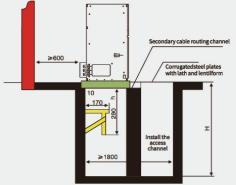
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# Application field







### Note:

- ${\bf 1.}\ the\ bottom\ of\ the\ concrete\ cushion\ should\ be\ plain\ soil\ compaction;$
- 2. The total length of the switch cabinet does not exceed 2 meters, but when the total length of the switch cabinet exceeds 2 meters, one pillar should be added every 2 meters span;
- 3. In the figure, the space ≥600 behind the cabinet is the pressure relief channel of the switch cabinet, so a group of switch cabinets need to be equipped with protective barriers at both ends behind the cabinet;
- $\textbf{4.}\,\textbf{H}\,\textbf{in}\,\textbf{the}\,\textbf{drawing}\,\textbf{is}\,\textbf{determined}\,\textbf{according}\,\textbf{to}\,\textbf{the}\,\textbf{maximum}\,\textbf{bending}\,\textbf{radius}\,\textbf{of}\,\textbf{cable}.$

Panel Display Diagram









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Panel Display Diagram

