

## CLSR-12/24

Compact Solid Insulated  
Ring Main Unit (RMU)



### Overview

The CLSR-12/24 series is a new generation of compact solid insulated ring cabinet with a high level of operational safety, which is applied in the distribution network as the core unit of the distribution network. The main modular components of the equipment include circuit breaker and three-station isolation switch body, load switch and three-station isolation switch body, fuse tube, insulated bus and cable joint. All high-voltage live parts are cast with high-quality insulating materials. The vacuum interrupter, main circuit, insulation support, etc. are organically integrated into a whole to achieve a fully insulated, fully sealed, maintenance-free structure. At the same time, it also greatly reduces the insulation gap between switches, and observes the position state of the ground switch through an independent observation window each time to ensure the safety of operation overhaul and maintenance.

# CLSR-12/24

Compact Solid Insulated Ring Main Unit (RMU)

## Model meaning

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↓	↓		↓	↓		↓	↓	↓
Corporate code	Solid insulation		Rated voltage	Type of master switch (C is the load switch, F is the load switch-fuse combination, V is the circuit breaker)		Ground distribution switch	Rated current	Breaking capacity

## Product classification

According to the function in the system, it can be divided into incoming cabinet, outgoing cabinet, busbar cabinet, metering cabinet, PT cabinet, arrester cabinet and other powerEnergy unit, different functional units have different wiring schemes, usually represented by wiring schemes.

According to the main switch category of the configuration, it can be divided into load switch cabinet (referred to as C cabinet I), load switch fuse combination electrical cabinet (JaneCalled F cabinet), and circuit breaker cabinet (referred to as V cabinet).

## Typical use

CLSR-12 series compact solid insulated ring cabinet is a green environmental protection switchgear independently developed and produced by our company. It has passed the product test of the National Electrical Products Quality Supervision and Inspection Center and is suitable for thousands of power distribution systems - including extremely harsh environments.

## Substation

User substations, power systems and utilities of substations and open latches.

## Industrial field

Wind power stations, high-rise buildings, airports, open-pit coal mines, subway stations, sewage treatment plants, port facilities, traction power supply systems, automotive industry, petroleum industry, chemical industry, cement industry, thermal power plants, textile industry, paper industry and emergency power supply systems.

## Standard

GB1984-2003 "High voltage AC Circuit breaker";

GB1985-2004 "High voltage AC isolation switch and ground switch";

GB3804-2004 3.6 ~ 40.5KV "High voltage AC load switch";

GB3906-2006 3.6 ~ 40.5KV "AC metal enclosed Switchgear and Control equipment";

GB16926-2009 "AC load switch - fuse combination appliance";

DL/T402-2007 "High voltage AC circuit breaker ordering technical conditions";

GB/T11022-2011 "High voltage switchgear and control equipment standard common technical requirements".

## Use environment

- Ambient temperature: not higher than +40 house, not lower than -40 it;
- Altitude: no more than 3000 meters;
- Relative air temperature: daily average is not more than 95%, monthly average is not more than 90%, saturated steam pressure daily average is not more than 2.2Kpa, monthly average is not more than 1.8Kpa;
- Earthquake intensity: not more than 8 degrees;
- No fire, explosion, serious pollution, chemical corrosion and violent vibration.

## CLSR-12 Technical parameter

Rated voltage	Units	Argument
Routine		
Rated voltage	KV	12
Rated current	A	630
Rated frequency	Hz	50
Power frequency withstand voltage	kV/min	42/48
Lightning impulse voltage	KV	75/85
Arc waiting time	s	20kA/O 5s
Cabinet protection level		IP3X
Operating supply voltage	V	DC: 24,48,110,220 AC: 110, 220
Bus system		
Rated current	A	630
Rated short-time withstand current	kA/s	20/4
Rated peak withstand current	kA	50
Load Switch Unit (C)		
Rated current	A	630
Rated short-circuit closing current	kA	50
Rated short-time withstand current	KA/s	20/4
Load switch mechanical life	time	M2 1000
Three-station isolation switch mechanical life	time	M1 3000
Load switch electrical life	time	E3
Circuit Breaker Unit (V)		
Rated current	A	630
Rated short-circuit breaking current	kA	20
Rated short-circuit closing current	kA	50
Rated short-time withstand current	kA/s	20/4
Mechanical life of circuit breaker	time	M2 10000
Three-station isolation switch mechanical life	time	M1 3000
Circuit breaker electrical life	time	E2
Rated operating sequence		0-0 3s-C0-180s-CO
Load switch-Fuse Unit (F)		
Rated current	A	100
Rated short-circuit breaking current	kA	31.5
Rated short-circuit closing current	kA	80
Rated crossover current	A	3150

## CLSR-24 Technical parameter

Items		Unit	Vacuum switch	Isolation /Grounding Switch
Rated voltage		kV	24	24
Rated current		A	630 / 1000	630 / 1000
Rated frequency		Hz	50 / 60	50 / 60
Rated short-circuit making current		kA	50	/
Rated short-circuit breaking current		kA	20 / 25	/
Rated short-time withstand current		kA	20	/
Rated peak withstand current		kA	50	/
Rated transfer current		A	/	/
Rated operating sequence			0-0.3s-CO-180s-CO	/
Rated power-frequency withstand voltage	Between phases, to earth	kV	50 / 1min	50 / 1min
	Across the isolating distance	kV	65 / 1min	65 / 1min
	Auxiliary and control circuit	kV	2 / 1min	2 / 1min
Rated lightning impulse withstand voltage	Between phases, to earth	kV	125	125
	Across the isolating distance	kV	145	145
Number of mechanical operations		Bout	5000	5000
Resistance of main circuit		$\mu\Phi$	$\leq 200$	$\leq 150$
Protection class: gas tank/cabinet			IP65 / IP4X	IP65 / IP4X
Partial discharge		Pc	$18\text{kV} \leq 20\text{pc}$	$18\text{kV} \leq 20\text{pc}$

## Product characteristics

- Safe to use
  - Completely using solid insulation, green environmental protection, there is no internal switch short circuit, pressure rise caused by the explosion caused by casualties;
  - Three-phase solid insulation installation, service life of up to 30 years;
  - Vacuum interrupter circuit breaker module, with the ability to open and close short circuit current;
  - Ground switch position Xuan visible, with the ability to close the short circuit current;
  - Three-station isolation switch with patented technology to optimize electric field structure;
  - Reliable mechanical and electrical interlock, effectively avoid misoperation.
- Green and environmental protection
  - SF6 gas is not used as arc extinguishing and insulation;
  - Circuit breaker, isolating switch and grounding switch adopt optimized integrated design, compact structure and small volume;
  - The main loop uses the minimum contact design to ensure low energy consumption during operation;
  - Fully designed with environmentally friendly materials.
- Intelligent design
  - Smart grid automation with advanced protection, control and monitoring functions;
  - The insulated bus and connecting components adopt a modular design, which can be flexibly combined according to the scheme to meet the needs of users to the greatest extent.