

MV Circuit Breaker

ZW20□-12 Outdoor Vacuum Circuit Breaker

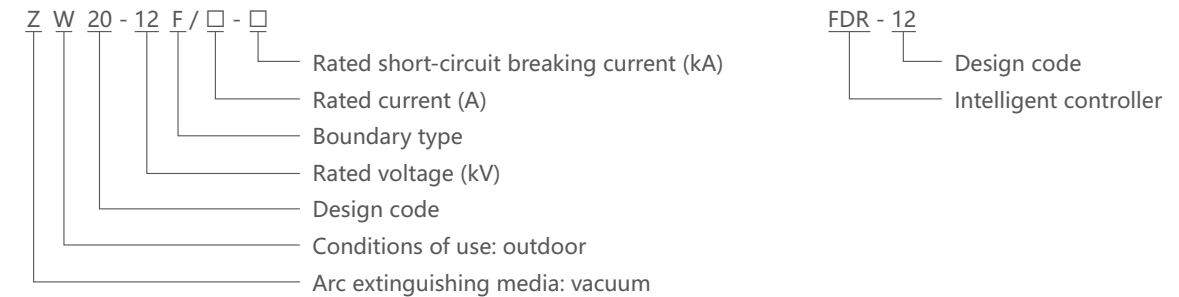
- ZW20-12 outdoor AC MV vacuum boundary circuit breaker (hereinafter referred to as the boundary circuit breaker) is one of our new products. Boundary circuit breaker is a multifunctional intelligent device with the function of vacuum breaker, vacuum load switch, recloser, sectionalizer four switches. The main configuration consists of vacuum breaker, CH-40 controller, external voltage transformer (Note: distribution automation line ring network available in bilateral PT) three parts. Products are widely used in 10kV, 13kV city, rural power grid space ring network for disconnecting switch, contact switch, automatic switch device which can implement the ring deployment line load. It can be used as boundary switch (commonly known as watchdog) in the branch line of power supply, used as reclosers and sectionalizers in feed overhead distribution network. A boundary circuit breaker is designed with remote management mode, protection and control functions, and communication functions. Reliable detection device with mA level zero sequence current and phase to phase short circuit current can achieve automatic troubleshooting of single-phase grounding faults and phase to phase short circuit faults.
- The main switch adopts vacuum arc, and the insulation adopts SF6 and N2 mixed gas. The case introduces the gas sealing, explosion-proof, and insulation system technologies of Japan, Germany, and France, and the overall sealing performance is excellent. The interior is filled with SF6, N2 mixed gas, no leakage, and not affected by the external environment. The spring operating mechanism adopts a miniaturized and performance-optimized design, and its action reliability is much higher than that of the traditional spring mechanism.
- Standard: IEC 62271-100

General

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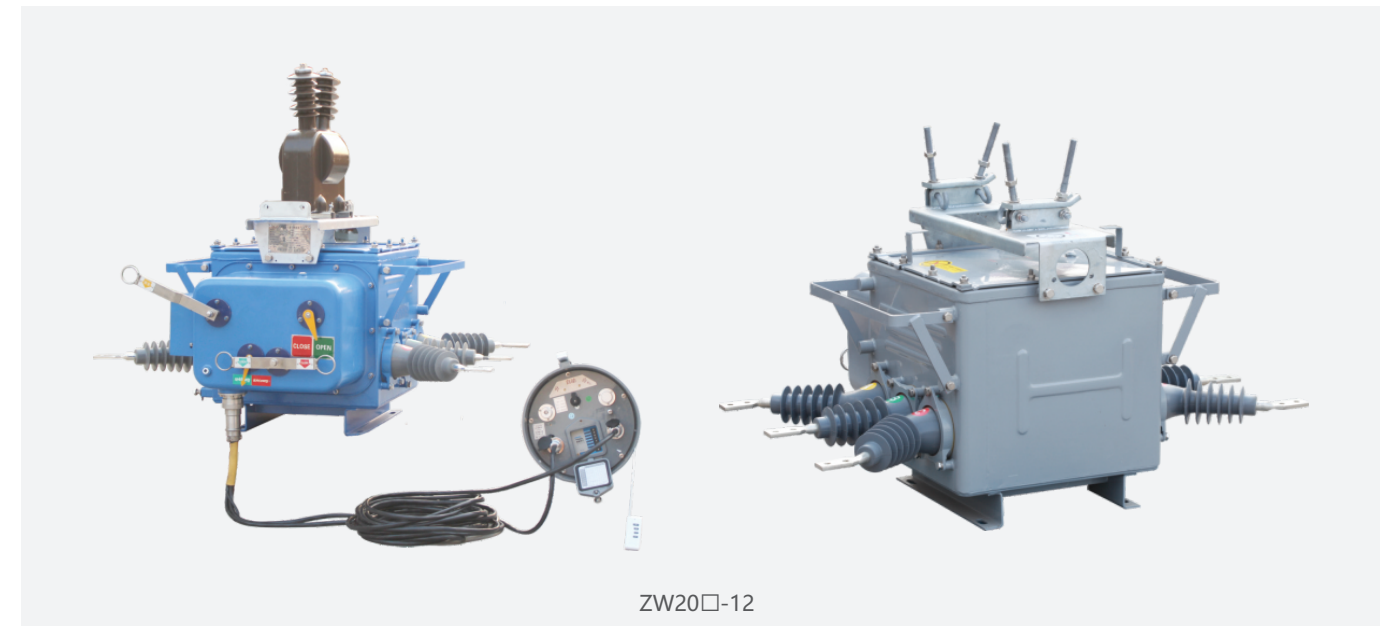
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Selection



Operating conditions

- Altitude ≤ 2000 meters
- The environment temperature: -30°C ~ +55°C outdoor; the highest annual average temperature 20 °C, the highest daily average temperature 30 °C;
- Relative humidity: 95% (25°C)
- Seismic capacity: horizontal ground acceleration 0.3g, vertical ground acceleration 0.15g, at the same time duration of three sine waves, a safety factor of 1.67
- Earthquake intensity: 7 degrees
- The maximum daily temperature difference: 25 °C
- The intensity of sunshine (wind speed 0.5m/s): 0.1W/cm²
- The maximum wind speed: 34m/s
- The maximum ice thickness: 10mm
- Installation position: outdoor, the 10kV overhead line responsibility demarcation point
- Grounding: neutral non grounding, arc suppression coil grounding and low resistance grounding.



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Technical data

Item	Unit	Parameter		
Voltage, current parameters				
Rated voltage	KV	12		
Insulation level of fracture	The power frequency (dry and wet test)	KV	48	
	Lightning impulse test voltage (peak)	KV	85	
On the ground and interphase insulation level	Power frequency	Dry test	KV	42
		Wet test	KV	34
	Lightning impulse test voltage (peak)	KV	75	
Rated current	A	630		
Rated short-circuit breaking current	kA	16, 20, 25		
Rated short-circuit breaking current interruption times	Times	30		
Rated short-time withstand current	kA	16, 20, 25		
Rated short circuit duration	S	4		
Rated short-circuit close current (peak)	kA	40, 50, 63		
Rated peak withstand current	kA	40, 50, 63		
Mechanical life	Times	> 10000		
Rated current on and off times	Times	10000		
Net weight	kg	180		
Mechanical properties				
Clearance between open contacts	mm	$9^{+1}_{-0.5}$		
Contact overtravel	mm	$3^{+1}_{-0.5}$		
Opening speed	m/s	1.2 ± 0.2		
Closing speed	m/s	0.6 ± 0.2		
Contact closing jump time	ms	≤ 2		
pjase spacing	mm	280 ± 2		
External charged air insulation distance	mm	235 ± 2		
External creepage distance	cm/kV	3.8		
Three phase opening different period	ms	≤ 2		
Each phase conductive loop resistance	$\mu\Omega$	≤ 150		
Closing time	ms	20~60		
Opening time	ms	18~45		
The energy storage motor rated power	W	≥ 40		
The energy storage motor rated voltage	V	AC220		
Rated closing operating voltage	V	AC220		
Maximum / minimum closing operating voltage	V	AC264/143		
Rated opening operation voltage	V	AC220		
Maximum / minimum voltage of motor	V	AC264/143		
Maximum / minimum opening operating voltage	V	AC242/187		
Ratecl pressure SF6 gas (gauge)	MPa	"0"		

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Overall and mounting dimensions(mm)

