

## CHZ7-12/17.5/24 Outdoor AC High Voltage Auto-recloser

### Summary

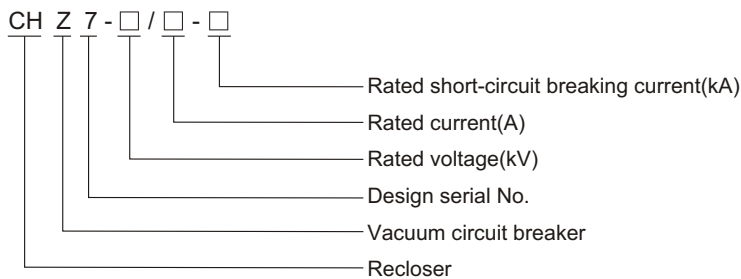
CHZ7 model high voltage AC vacuum auto-recloser is composed of ZW20A vacuum circuit breaker and HYC461/CH30 recloser in 12/17.5/24 kV, 50/60Hz power system. It is applicable for substations, industry and mining, urban and rural electricity power networks, especially applicable in occasions with frequent operation and automatic power distribution network. It accords with the standards of IEC62271-111 & IEEE37.60:High voltage switchgear and controlgear-Part 111: Overhead, pad-mounted, dry vault and submersible automatic circuit reclosers and fault interrupters for alternating current systems. IEC62271-1-2007 idt GB/T11022: High voltage switchgear and controlgear-Part1: Common specification.



### Ambient condition

1. Altitude:  $\leq 2000\text{m}$ ;
2. Ambient air temperature:  $-40^{\circ}\text{C}\sim+40^{\circ}\text{C}$ ;
3. Wind speed:  $\leq 34\text{m/s}$ ;
4. Earthquake intensity: 8 degree;
5. Ice thickness: 10mm ;
6. Pollution degree: IV;
7. Applicable occasions should free from inflammables, explosives, corrosives.

### Model



### Product feature

1. Ideal apparatus in urban and rural electricity network reform  
Remote function: remote control, remote metering, remote communication and remote adjustment.
2. Flexible operating:  
Both power storage and CO operation are motor and manual operated, remote and local operation are both available.
3. Excellent breaking capability  
Break short-circuit current up to 25kA.
4. Small operation power and high dependability  
The small motor-driving spring operation mechanism with new design is of lowest operation power(about 30W).
5. Multiple installation  
Pole mounted and pad mounted.
6. Reliable sealing  
The mature sealing technology assures reliable sealing performance.
7. Particular incoming and outgoing method  
Silicon rubber bushing to make enough insulate distance.
8. Safe operation  
Anti-explosive device mounted on the top of box prevents heated gas and matters from spattering out when inner fault occurs.

## Technical specification

### 1. Rated technical parameters of circuit breaker

No.	Item		Unit	Data			
1	Rated voltage		kV	12	17.5	24	
2	Rated insulation level	1 min P.F. withstand voltage	Dry test(interphases, to ground / between gaps)	kV	42/48	42/48	50/60
			Wet test(to ground, to insulation)	kV	34	45	50
			Lightning impulse withstand voltage (interphases, to ground / between gaps)	kV	75/85	95/110	125/145
3	Rated current		A	630, 800, 1000			
4	Rated frequency		Hz	50/60			
5	Rated short-circuit breaking current		kA	12.5,16,20,25			
6	Rated peak withstand current (peak value)		kA	31.5,40,50,63			
7	Rated short-time withstand current		kA	12.5,16,20,25			
8	Rated short-circuit making current (peak value)		kA	31.5,40,50,63			
9	Rated short-time withstand time		s	4			
10	Rated operating sequence			O-0.3s-CO-180s-CO			
11	Breaking times of rated short-circuit breaking current		time	30			
12	Mechanical life		time	10000			
13	Rated operating voltage(according to the requirements)		V	220			

### 2. Mechanical parameters of circuit breaker

No.	Item	Unit	Data(12kV)	Data(17.5/24kV)
1	Open distance of contact	mm	$9^{+1}_{-0.5}$	$12^{+1}_{-0.5}$
2	Contacting travel of contact		$3^{+1}_{-0.5}$	$3^{+1}_{-0.5}$
3	Average opening speed	m/s	$1.2 \pm 0.2$	$1.4 \pm 0.2$
4	Average closing speed		$0.6 \pm 0.2$	$0.6 \pm 0.2$
5	Bounce time of contact closing	ms	$\leq 2$	$\leq 2$
6	Three phase opening asynchronism		$\leq 2$	$\leq 2$
7	Closing time		$\leq 40$	$\leq 45$
8	Opening time		$\leq 45$	$\leq 45$
9	Circuit resistance of each phase	$\mu\Omega$	$\leq 200$	$\leq 120$
10	Centre distance between phases inside the enclosure	mm	$135 \pm 2$	135
11	Centre distance between phases outside the enclosure	mm	$280 \pm 2$	340
12	Allowable accumulated wear	mm	3	3
13	Contact self-closing pressure	N	$2000 \pm 200$	$2000 \pm 200$
14	Rated pressure of SF6 gas (gauge pressure)	Mpa	0	0
15	Net weight	kg	140	180

### 3. Main technical parameters of the controller

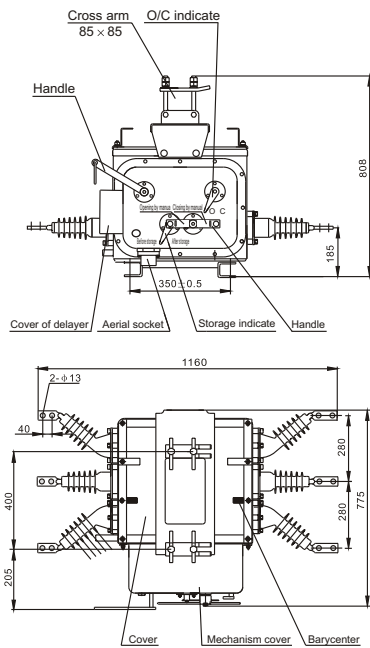
No.	Item	Data
1	Transformation ratio of input CT	$\square/5A$ or $1A$ ( $\square$ selected by the user)
2	Rated voltage and frequency	AC 220V or AC100V, 50Hz(or 60Hz)
3	Opening/closing operating power supply	DC 24V or AC 220V
4	Output capacity	not less than 600W
5	Over-current settings	20%~300% continuous adjustable
6	Quick-breaking settings	20%~100% continuous adjustable

No.	Item	Data
7	Reclosing time	0.1s ~ 600s continuous adjustable
8	Delay time	0.1s ~ 600s continuous adjustable
9	Zero phase sequence current	10% ~ 100% continuous adjustable
10	Local remote control distance	no less than 30m
11	Remote control distance	no less than 1200m

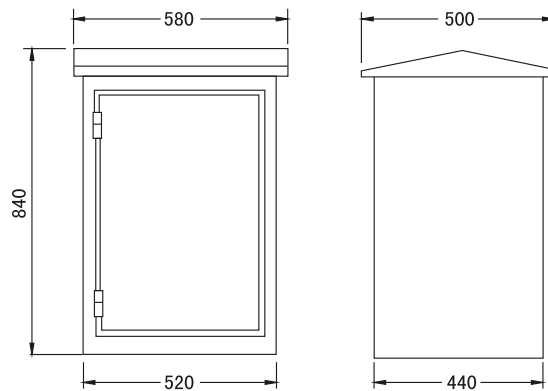
## Product function

1. Voltage on single side closing: delay time can be adjusted continuous; voltage on double side not closing: auto-opening under lost voltage.
2. Over-current protection function: the over-current constant value can be setted by keyboard.
3. Fixed-time limited protection: 50ms~6000ms adjust continuous.
4. Fast-breaking protection: inverse definite minimum time (IDMT) protection, the fast-breaking fixed value can be setted by keyboard.
5. Low current earthing protection: the fixed value can be setted by keyboard.
6. Four remote control function: RS-485 communication interface.
7. Memory function: series setted data enter the memory unit and will be kept at list 20 years.
8. Three pole protection: there is a opening secret, only appointed man can change the setted data of controller.
9. Sequence: superior recloser was reclosed when the fault happened on line, there is a opening secret, only appointed man can change the setted data of controller.

## Outline dimension



(1) Switch



(2) Control box