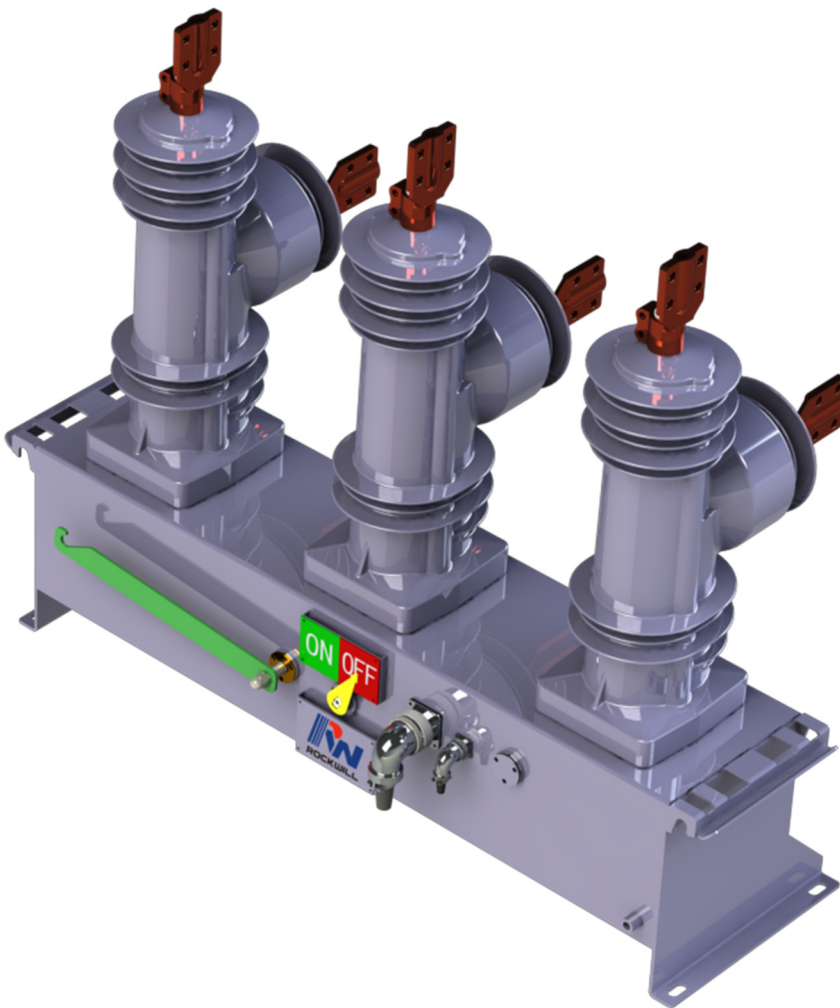




RCW

Pole mounted vacuum Recloser
6kV,...38kV, 630A,...800,...1250A



ANSI/IEEE C37.60/IEC 62271-111
(GB1984-2003 China standard)
GBT11022-1999 China Standard
IEC 6052
IEC 60255-11
IEC 60255-21-1 Class I
IEC 60255-21-2 Class I
IEC 60255-21-3 Class I
IEC 60255-22-1 Class III
IEC 60255-21-2 Class IV
IEC 60255-21-3 Class III
IEC 60255-21-4 Class IV

Provided Customized manufacture
Whole solutions for design, assembly, test...

Catalog

Best solution for your power!

•Summary

ROCKWILL® Electric strives to bring our customers the latest technology and competitive pricing and best service for distribution automatic.

The RCW series automatic circuit reclosers can use on overhead distribution lines as well as distribution substation applications for all voltage classes 11kV up to 38kV at 50/60Hz power system. and it's rated current can reach 1250A.

The RCW series automatic circuit reclosers integrates the functions of control, protection, measurement, communication, fault detection, on-line monitoring of closing or opening.

•Service environment

1.Air temperature: Maximum temperature: +85°C; Minimum temperature:-45°C

Humidity: Monthly average humidity 95%; Daily average humidity 90% .

Altitude above sea level: Maximum installation altitude: 2500m or more higher.

Ambient air not apparently polluted by corrosive and flammable gas, vapor etc. No frequent violent shake

•Offering

With optional classes for rated current range:

--Type RCW12, Rating 6-12 kV with 630A, 16 kA up to 1250A, 20kA;

--Type RCW15, Rating 15-20 kV with 630A, 16 kA up to 1250A, 20kA;

--Type RCW27, Rating 22-27 kV with 630A, 16 kA up to 1250A, 20kA;

--Type RCW38, Rating 30-40.5 kV with 630A, 16 kA up to 800A, 20kA;

With optional classes for different grid application installation: Single phase & Three phase.

With optional relay protection& logics for user choice:

+Instantaneous over-current protection.

+Timing over-current protection

+Negative sequence over-current protection.

+Directional over-current protection(*).

+Over-voltage protection./Under voltage protection.

+Programable protection relay curves total 10 nos ANSI/IEC curves.

+Cold load pickup protection TCC +Hot line tag

+Earth protection EF/SEF +Zone Sequence Co-ordination

+More relay functions can be customized.

With optional communication protocols & I/O port for user choice:

RS-232 and RS-485 ports supporting.

DNP3.0 communication protocol support(*).

Modbus communication protocol is optional(*).

IEC 60870-5-101 communication protocol support.

IEC 60870-5-104 communication protocol support.(*).

The recloser can communicate through GPRS(Or GSM) modem with English or Specified language (*).

With optional functions for user.

Rated currents, System phase current.

Rated voltages, System phase voltage& secondary low voltage power supply voltage. Frequency, power(kWh), reactive power(kV arh), power factor .

With optional reclosing interval for user pre-program:

Reclosing times setting support.

Dead time setting support.

With events recording function:

SOE 10000 operations record.

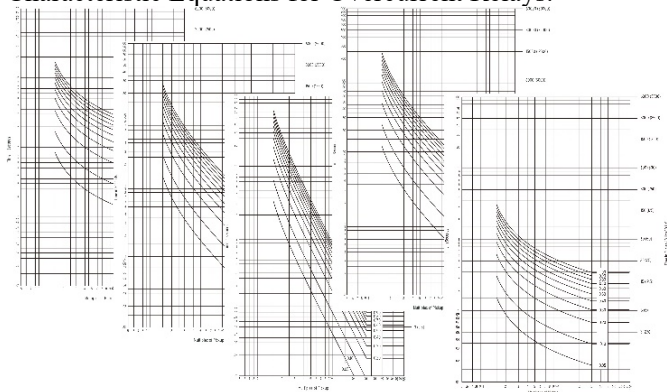
Fault record and normal operation record.

Note: (*) mean should customized by manufacturer if needed.



Time-Overcurrent Curves

The following information describes the curve timing for the curve and time dial settings made for the time-overcurrent elements. The time-overcurrent relay curves conform to IEEE C37.112-1996 IEEE Standard Inverse-Time Characteristic Equations for Overcurrent Relays.

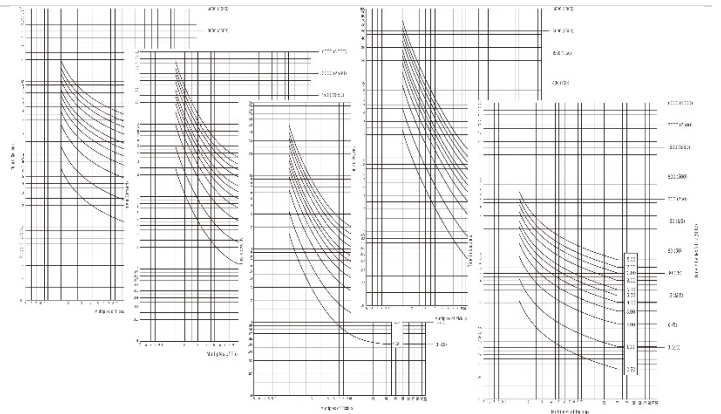


IEC Curves:

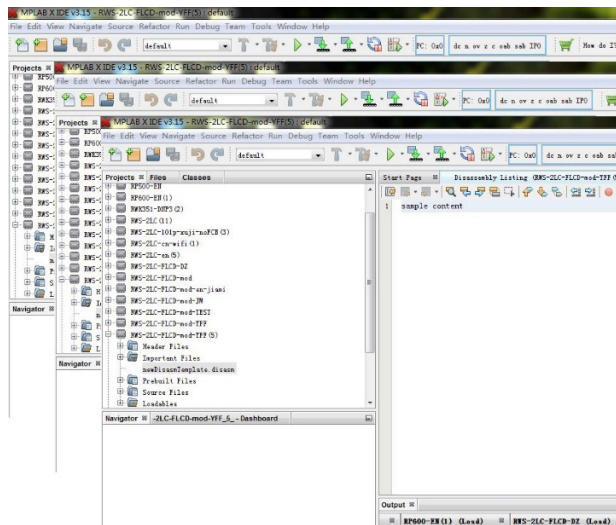
- C1 (Standard Inverse)
- C2 (Very Inverse)
- C3 (Extremely Inverse)
- C4 (Long-Time Inverse)
- C5 (Short-Time Inverse)

U.S. Curves:

- U1 (Moderately Inverse)
- U2 (Inverse)
- U3 (Very Inverse)
- U4 (Extremely Inverse)
- U5 (Short-Time Inverse)

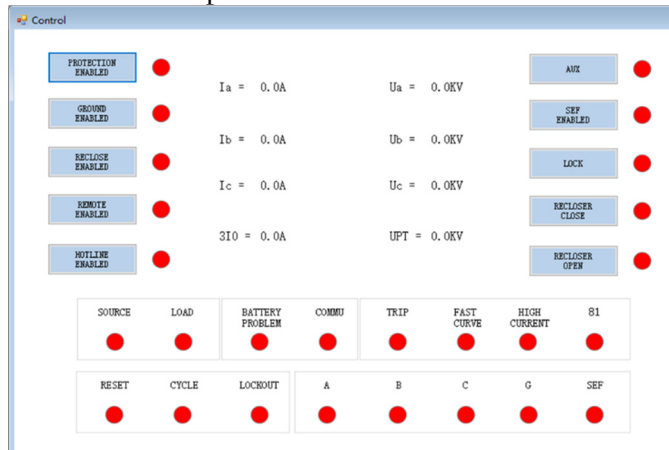


PC software for controller Testing, Setting, programming, Update.

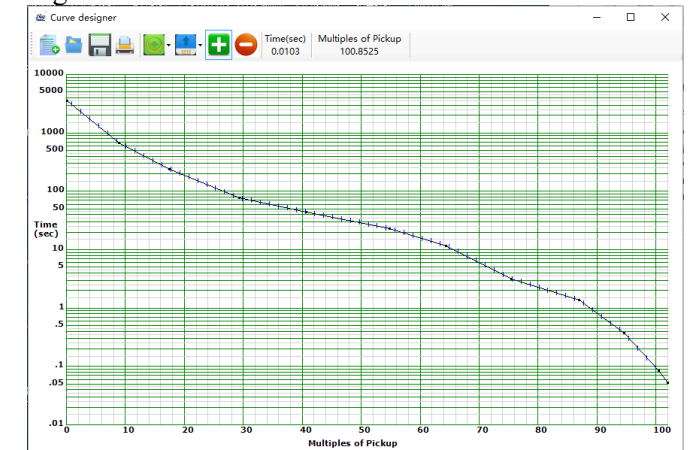


Parameter name	Value	Unit	Parameter name	Value	Unit	Parameter name	Value	Unit	Parameter name	Value	Unit
Reclose (0-1)	0		Reclose count (1-4)	3		1st delay time (0.00-60.00)	4.00	S	End delay time	4.00	S
			3rd delay time (0.00-60.00)	4.00	S	4th delay time (0.00-60.00)	4.00	S	Cycle Reset ti		
			Lock Reset time (0-180.0)	10.0	S	Sequence Coord (0-1)	0		OPLOCK (1-5)		
			OPLOCK (1-5)	4		OPLOCK (1-5)	4				
F. OC1 (0-1)	0		Operating mode (1-4)	1		Pickup current (0.10-100.00)	1.00	A	Delay time (0.0		
			Activate shot (1-5)	2							
F. OC2 (0-1)	0		Operating mode (1-4)	1		Pickup current (0.10-100.00)	1.00	A	Delay time (0.0		
			Activate shot (1-5)	2							
F. OC3 (0-1)	0		Operating mode (1-4)	1		Pickup current (0.10-100.00)	1.00	A	Delay time (0.0		
F. Fast curve (0-1)	0		Curve type (1-14)	3		Pickup current (0.10-100.00)	1.00	A	Time dial (0.00		
			Time adder (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S	Enable and sho		
F. Delay curve (0-1)	0		Curve type (1-14)	3		Pickup current (0.10-100.00)	1.00	A	Time dial (0.00		
			Time adder (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S			
G. OC1 (0-1)	0		Operating mode (1-4)	2		Pickup current (0.10-100.00)	1.00	A	Delay time (0.0		
			Activate shot (1-5)	2							
G. OC2 (0-1)	0		Operating mode (1-4)	2		Pickup current (0.10-100.00)	1.00	A	Delay time (0.0		
			Activate shot (1-5)	2							
G. OC3 (0-1)	0		Operating mode (1-4)	1		Pickup current (0.10-100.00)	1.00	A	Delay time (0.0		
G. Fast curve (0-1)	0		Curve type (1-14)	3		Pickup current (0.10-100.00)	1.00	A	Time dial (0.00		
			Time adder (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S	Enable and sho		
G. Delay curve (0-1)	0		Curve type (1-14)	3		Pickup current (0.10-100.00)	1.00	A	Time dial (0.00		
			Time adder (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S			
M. OC1 (0-1)	0		Operating mode (1-4)	2		Pickup current (0.02-6.00)	1.00	A	Delay time (0.0		
			Activate shot (1-5)	2							
M. OC2 (0-1)	0		Operating mode (1-4)	2		Pickup current (0.02-6.00)	1.00	A	Delay time (0.0		
			Activate shot (1-5)	2							
SEP (0-1)	0		Operating mode (1-4)	1		Pickup current (0.02-6.00)	1.00	A	Delay time (0.0		
N. Fast curve (0-1)	0		Curve type (1-14)	3		Pickup current (0.02-6.00)	1.00	A	Time dial (0.00		
			Time adder (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S	Enable and sho		

Human friendship interface



Programmable Time-Overcurrent curve



• Recloser feature

a) Outline of recloser:

The RCW series vacuum recloser is mainly combined with integration terminal, current transformer, permanent magnetic actuator and it's recloser controller.

b) The recloser tank feature:

The Vacuum recloser tanks are manufactured from 304# grade stainless steel and are powder coated a light grey colour. Whole recloser IP67 protection class, equipped with a auxiliary plug to connect with recloser controller by control cable, Diameter Max22mm, 6 M length (8M for special).

It's can performance serve more than 20 years long term under heavy duty circumstance.

• Main new advantages of RCW

High reliable manual opening device

High reliable manual closing device



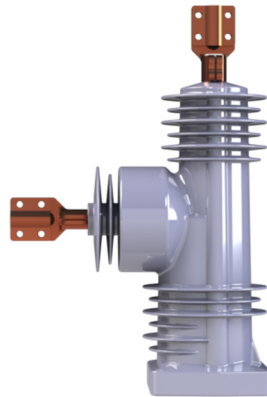
Visible ON/OFF indicator

IP67 class waterproof plug connector

ROCKWILL® Supply special design manual closing device technology with own patent, It applied for normal and abnormal situation closing. It's closing speed(time) comply with IEC62271-100.

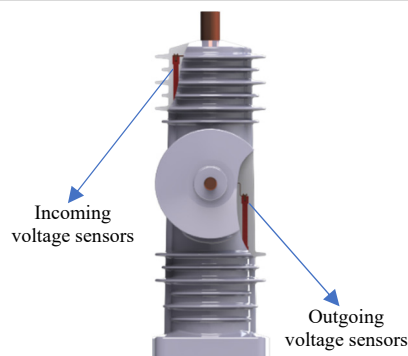
This function can offset from magnetic actuator fault which when actuator can't work will cause the major accident.

Primacy incomer terminal
(directly connect to interrupter
reduce power lost)
Current sensor
(external modular design easy for
quality control and maintenance)
Accuracy: $\pm 0.5\%$
Ratio: 800/1



Vacuum interrupter
(Adopt the APG technology,
increasing the whole insulation and
weathering performance)

Internal Voltage sensors
incorporated within the vacuum
interrupter module
It's equipped with two voltage-
sensors, one for measuring the
voltage of incoming side,
and another one for measuring the
voltage of outgoing side.



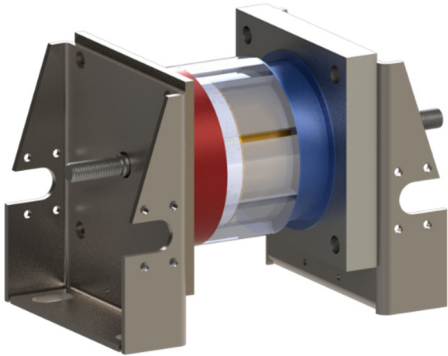
Shielded 4-conductor cable
connection
Accuracy: $\pm 0.2\%$ Voltage Sensor
Ratio: 500/1 or 1000/1

• Creepage Distances of RCW

Description	12kV BIL 75/95kV	15kV BIL 95/110kV	27kV BIL125/150kV	38kV BIL 170/200kV
Terminal to terminal creepage	600mm	840mm	1250mm	1380mm
Terminal to ground creepage	510mm	760mm	1200mm	1300mm

Apply ANSOFT design the high performance magnetic actuator, high reliable and free maintenance. Through 35,000 times opening reverse excitation test, the demagnetization rate less than 1%.

Note:
ROCKWILL® supply special patent modular design mono-stable type magnetic actuator with two coils controlling. It's the best design for vacuum circuit breaker.

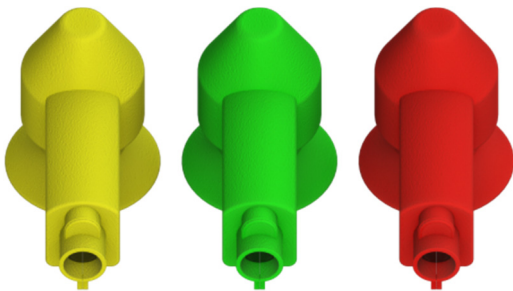


•Main technical data

N	Item		Unit	Data			
1	Rated max voltage		kV	12	15	27	38
2	Rated current		A	630/800/1250			
3	Rated frequency		Hz	50/60			
4	Power frequency 1min	Dry	kV	45	55	65	95
		Wet		30	45	55	80
5	Lightning impulse withstand voltage(peak)		kV	75/95*	95/100*	125/150*	170/200*
6	Rated short circuit breaking current		kA	12.5/16/20/25*			
7	Rated short current switching current(peak)		kA	31.5/40/50/63*			
8	Rated peak value withstand current		kA	31.5/40/50/63*			
9	4S short time withstand current		kA	12.5/16/20/25*			
11	Rated operating circulate			O-0.5S-CO-2S-CO-2S-CO			
10	Breaking current frequency under rated short circuit		time	200			
12	Mechanism life		time	10000			
13	Secondary loop 1 min power frequency withstand		kV	2			
14	Auxiliary voltage supply		Vac	220±20%			
15	Battery bank		Vdc	12×2			
16	Capacitor unit		Vdc	220			

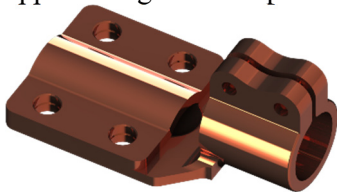
•Accessories of RCW

All above insulating components for BIL 200kV expanding using. Any question please contact with our engineer.



Upper voltage shield 3 pcs/set

Standard made of T2 copper material, for 630A rated current using. With expanding range.



Terminal 6 pcs/set

•Technical service

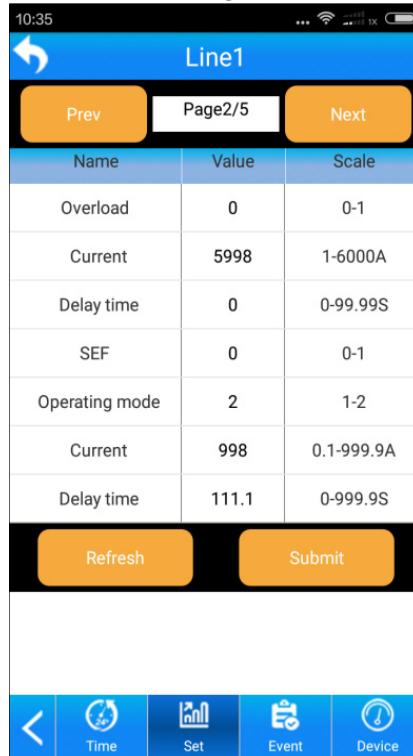
ROCKWILL®, China. Provide with best support.
If you have any question please consult below:
Tel: 0086-577-27869969
Email: rockwell@rockwill.cn

•Mobile APP software GPRS/GSM/WIFI/BLUETOOTH

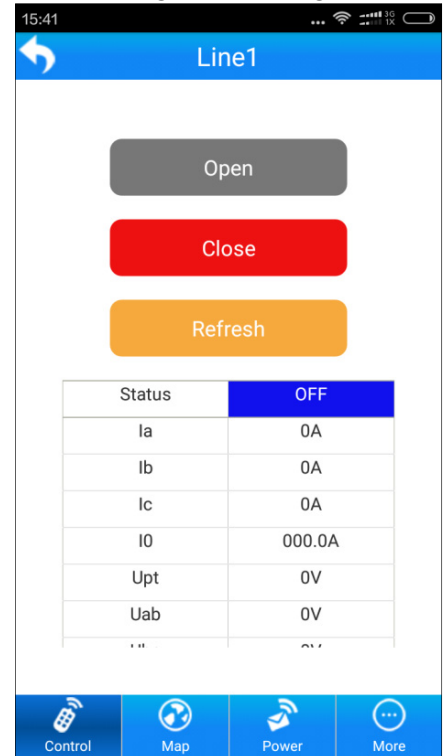
1, Map guide&location



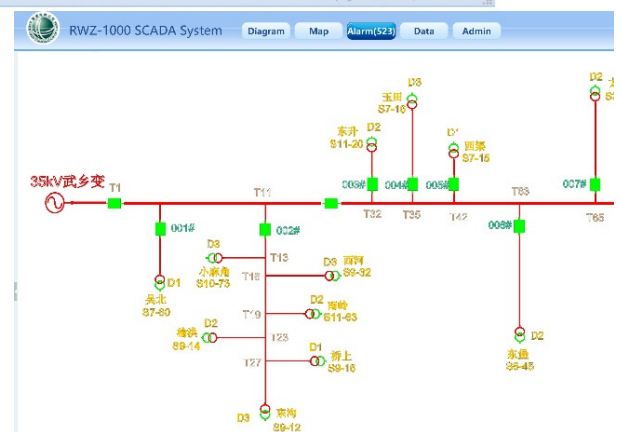
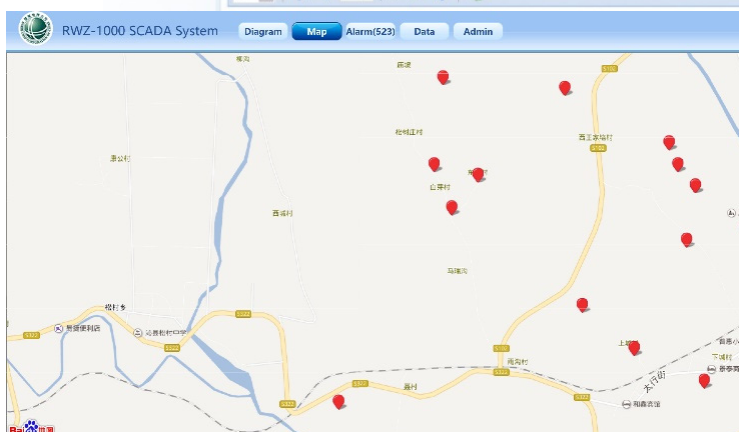
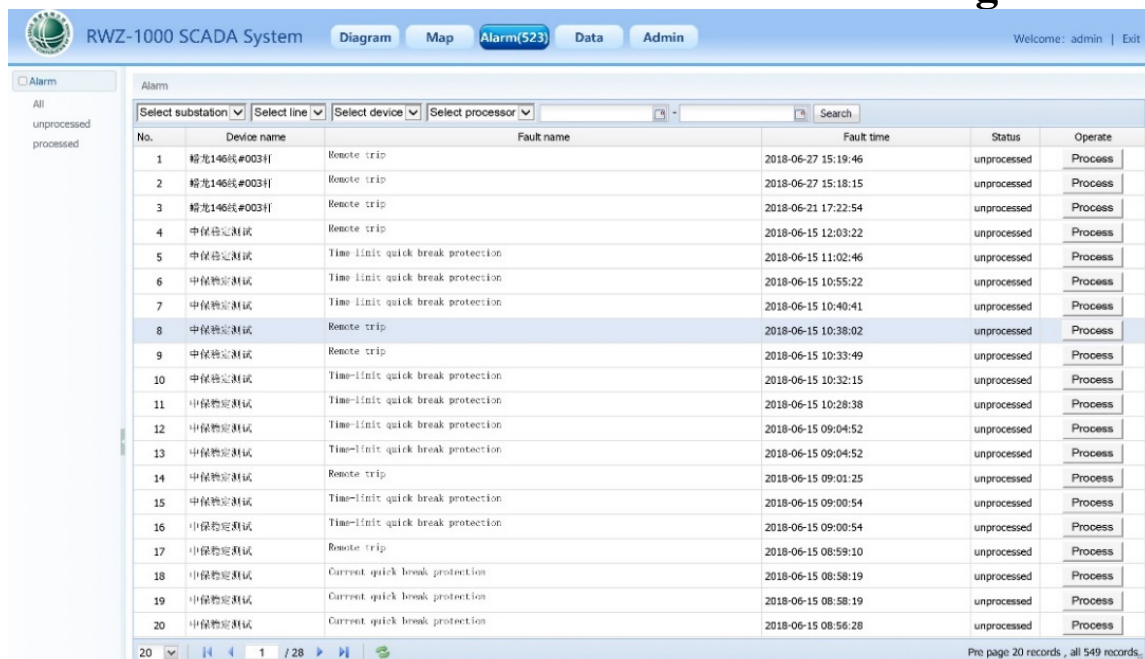
2, Protection setting&Modification



3, Monitoring&Controlling



•Master software for Distribution Automation Management

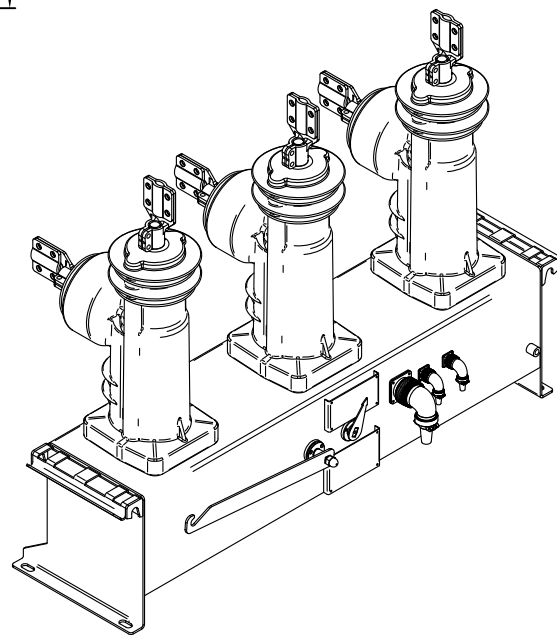
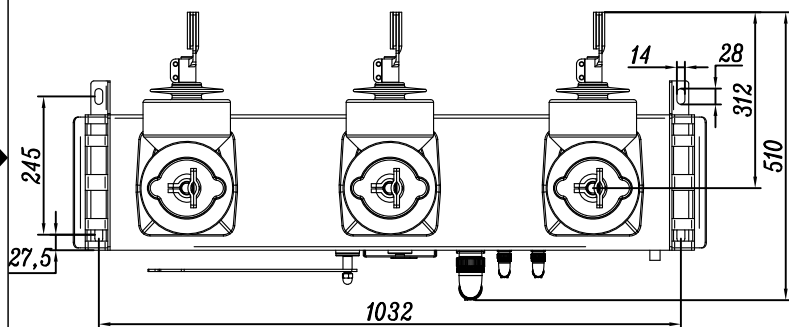
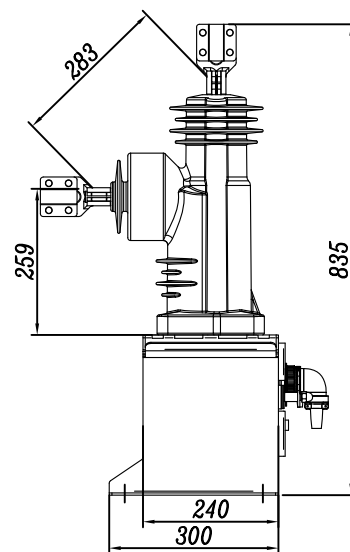
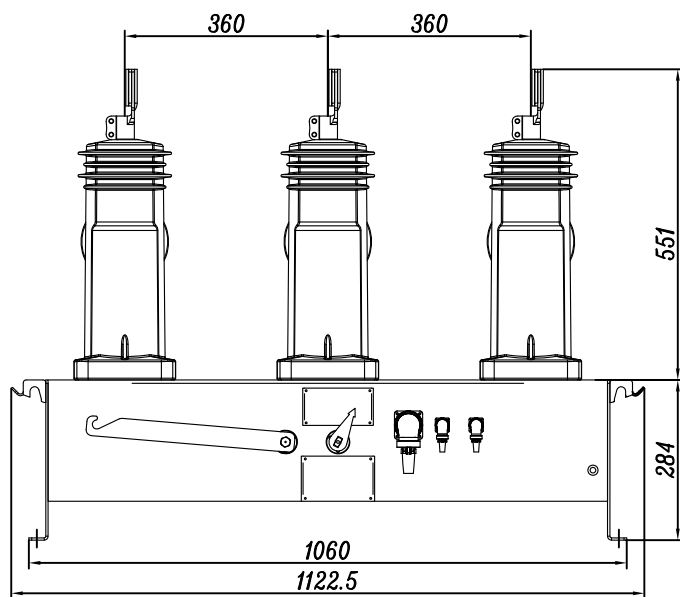


•Outline & Sizes for RCW

ZONE

REV

APPROVED



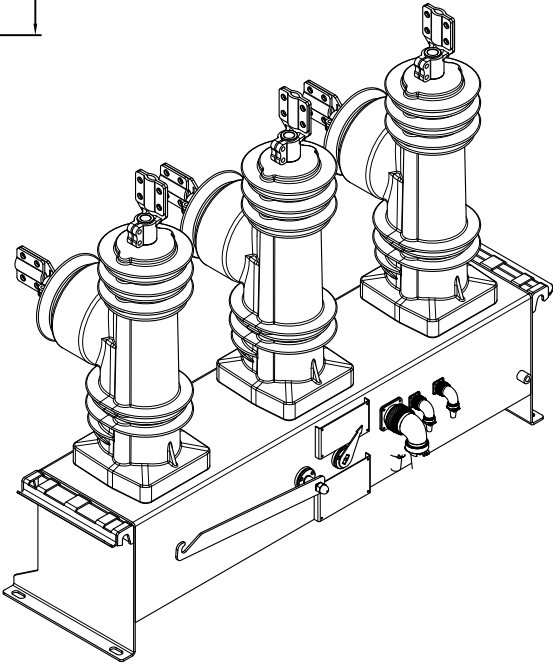
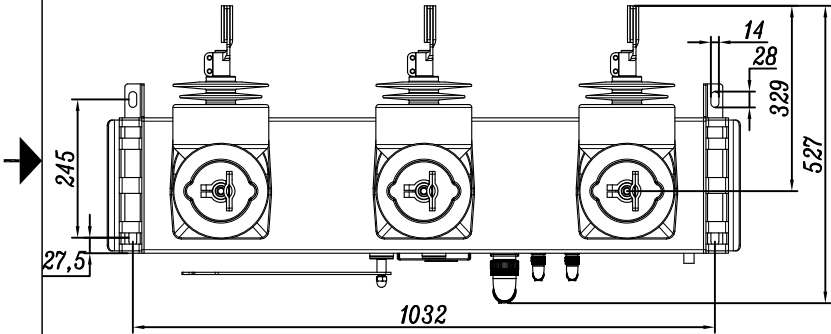
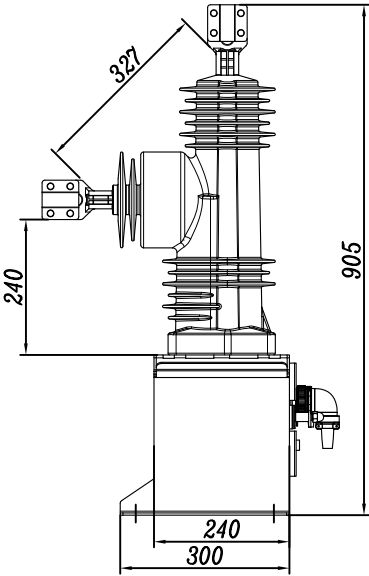
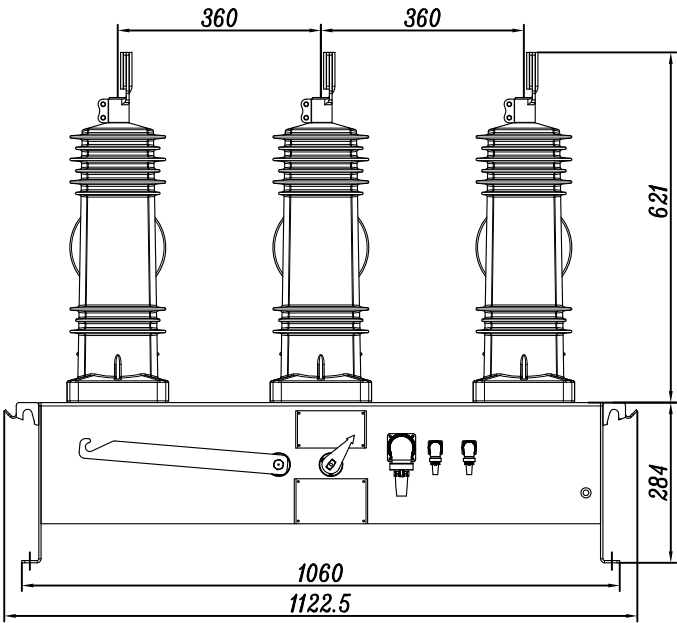
WENZHOU ROCKWILL ELECTRIC CO.,LTD.



Sizes for RCW12kV/630A-16kA

SIZE	Dwg NO.	Project Name.	REV
Client		SHEET	

ZONE		REV	APPROVED
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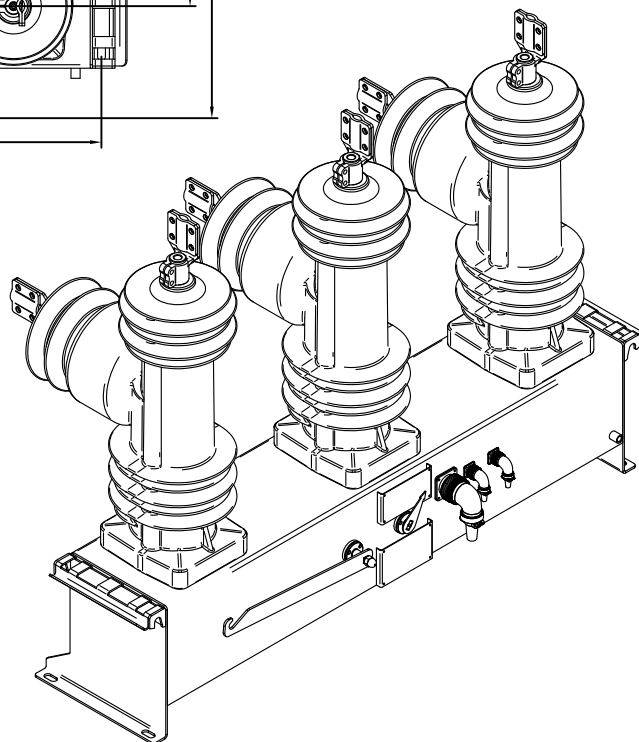
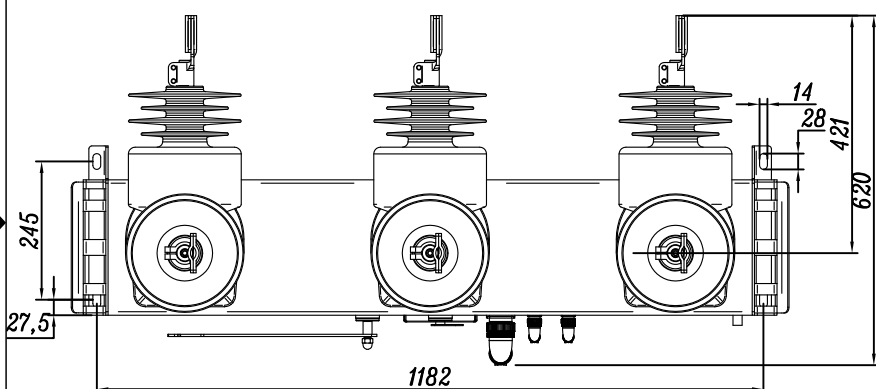
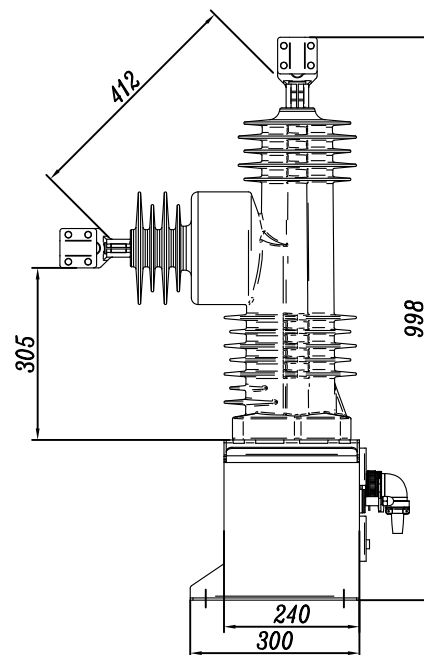
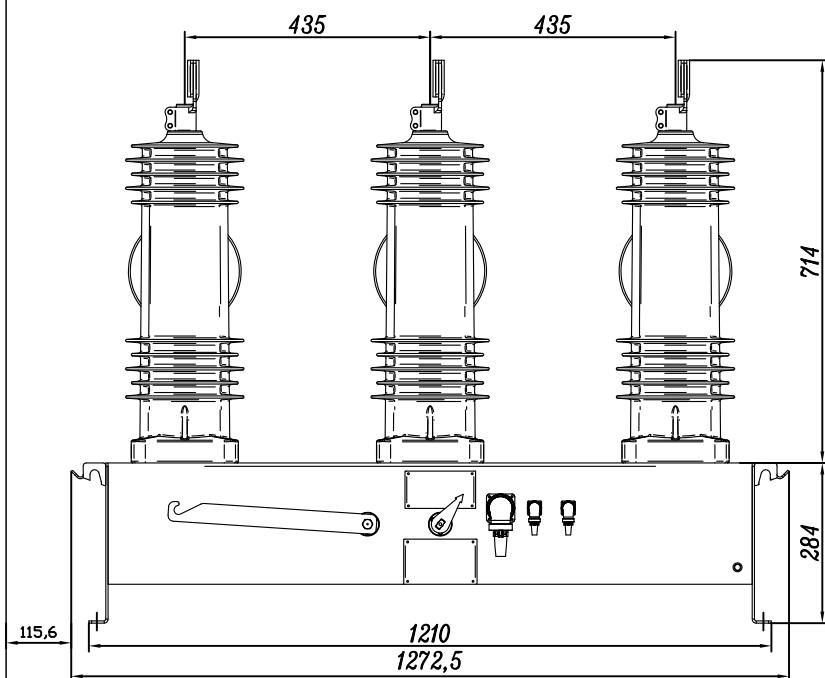


Sizes for RCW15kV/630A-16kA

SIZE	Dwg NO.	Project Name.	REV
Client		SHEET	

ZONE REV

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WENZHOU ROCKWILL ELECTRIC CO.,LTD.

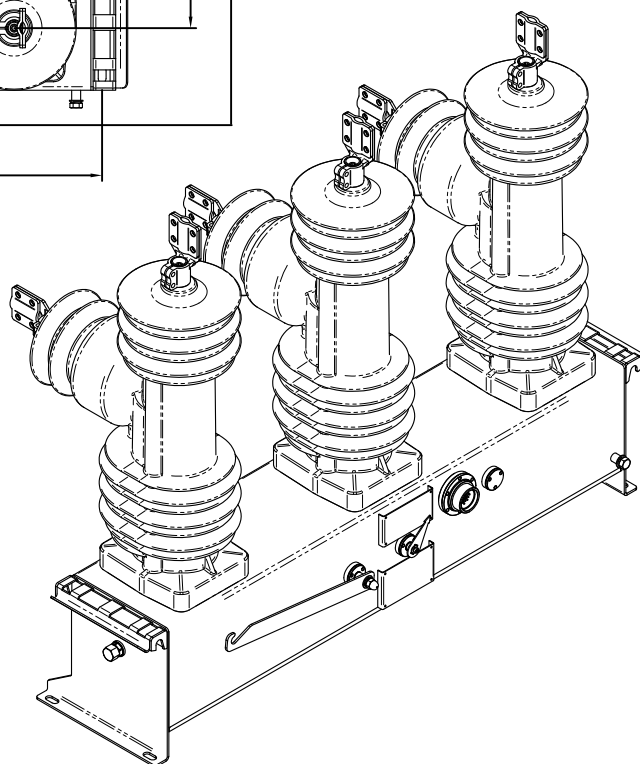
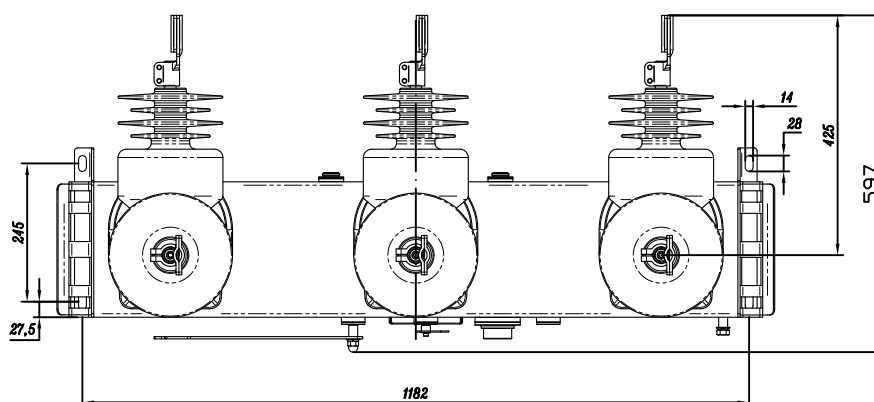
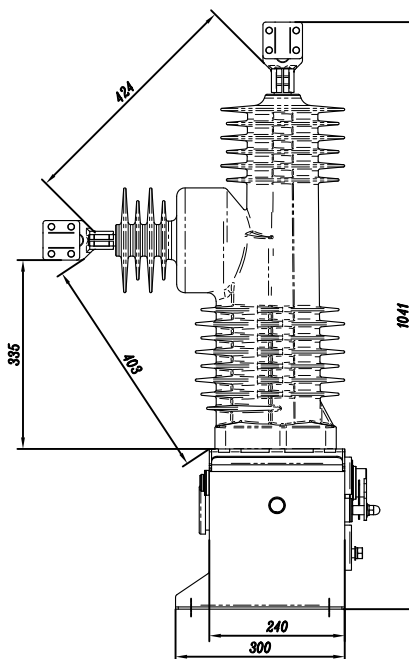
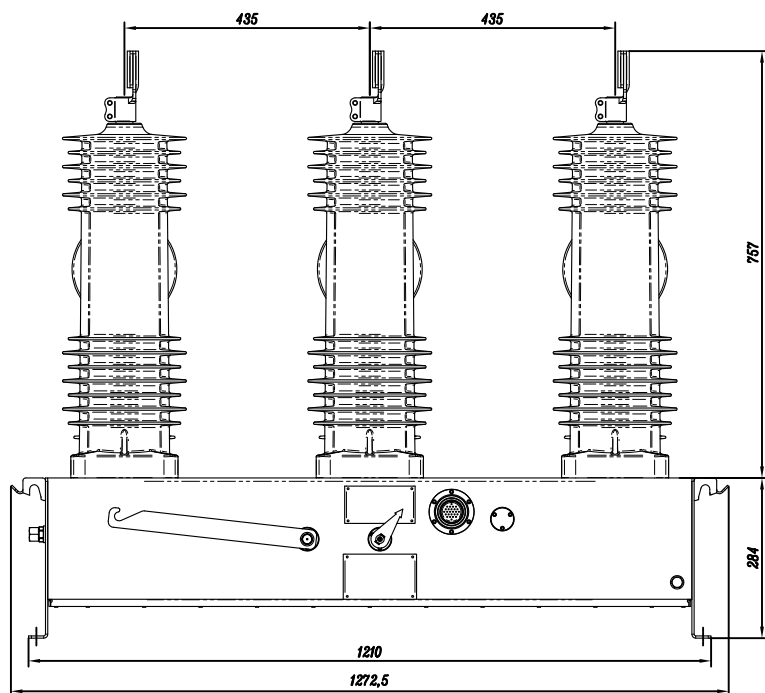
Sizes for RCW27kV/630A-16kA



SIZE	Dwg NO.	Project Name.	REV
Client		SHEET	

ZONE REV

APPROVED



WENZHOU ROCKWILL ELECTRIC CO.,LTD.

Sizes for RCW38kV/630A-16kA



SIZE	Dwg NO.	Project Name.	REV
Client		SHEET	