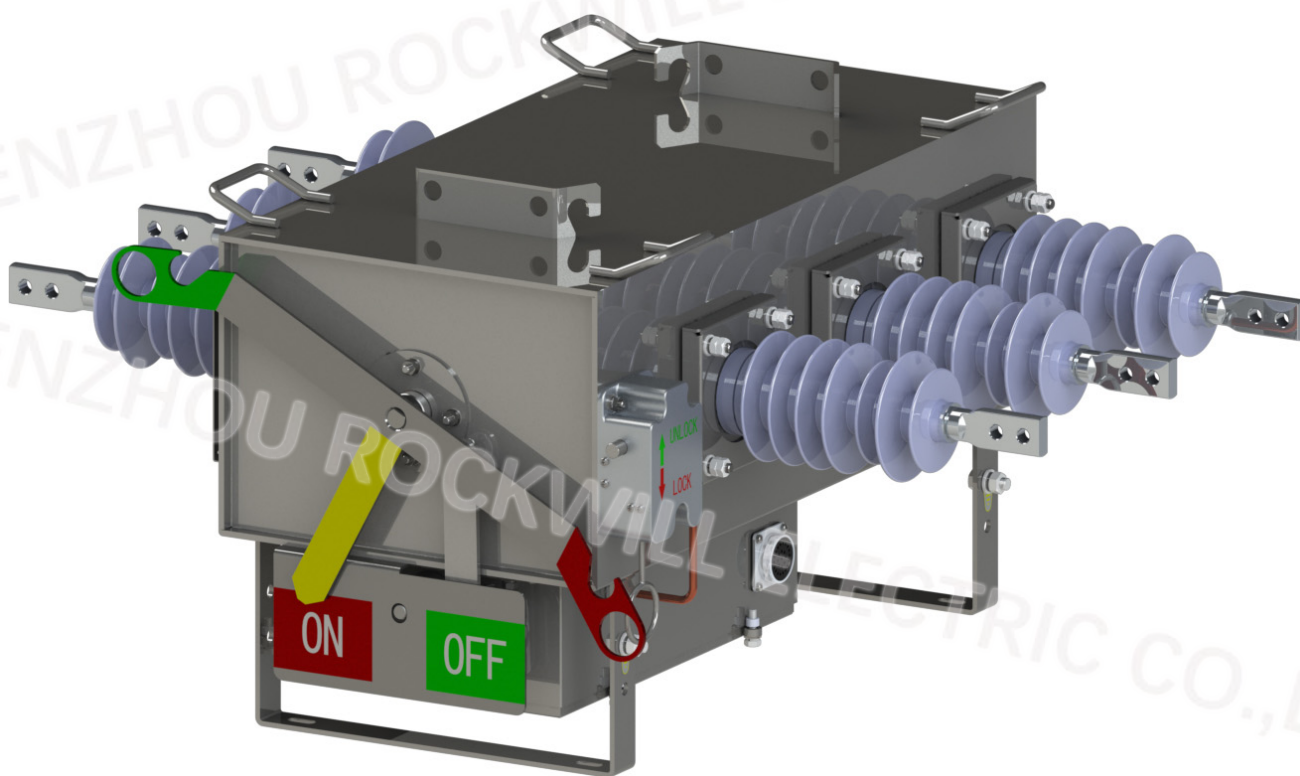




RPS

Pole mounted SF6 Load break switch Manual/Motorize
6kV,...40.5kV, 400A,...630,...1250A



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.

RPS is an SF6-insulated, outdoor pole mounted load break switch family for overhead lines and specifically designed for use in modern remote controlled distribution automation systems. The RPS offers reliable maintenance free operation even in the most demanding climatic conditions including salt laden atmospheres, corrosive industrial pollution, snow and ice. It has excellent load breaking and fault making capacity and satisfies the isolation requirements specified for load break switch. The earthed metal tank prevents all possible leakage currents across an open switch. RPS can be manually operated or motor operated for local and remote electric control, upgraded.

• 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 RPS 15, Rating 6-20 kV with 400A, 16 kA up to 1250A, 20kA;

--Type RPS 27, Rating 22-27 kV with 400A, 16 kA up to 1250A, 20kA;

--Type RPS 38, Rating 30-40.5 kV with 400A, 16 kA up to 1250A, 20kA;

With optional classes for different grid application installation:

Section function (Section)

50 Instantaneous/Definite-Time Overcurrent(P.OC)

51 Phase Time-Overcurrent(P.Fast curve/P.Delay curve)

Overload (N.Fast curve/N.Delay curve)

50N Residual Ground Instantaneous/Definite-Time Overcurrent(G.OC)

51N Residual Ground Time-Overcurrent (G.Fast curve/G.Delay curve)

50SEF Sensitive Earth Fault (SEF)

51c Cold Load(Cold load)

TRSOTF Switch-Onto-Fault(SOTF)

59 Over Voltage (L.Over volt)

27 Under Voltage (L.Under volt)

Monitoring Functions:

Primary/Secondary Phases and Earth Currents

Direction

Primary/Secondary Line and Phase Voltages

Apparent Power and Power Factor

Real and Reactive Power

Historical Demand Record

Positive Phase Sequence Voltage & Current

Negative Phase Sequence Voltage & Current

Zero Phase Sequence Voltage

Frequency

Binary Input/Output status

Trip circuit healthy/failure

Time and date

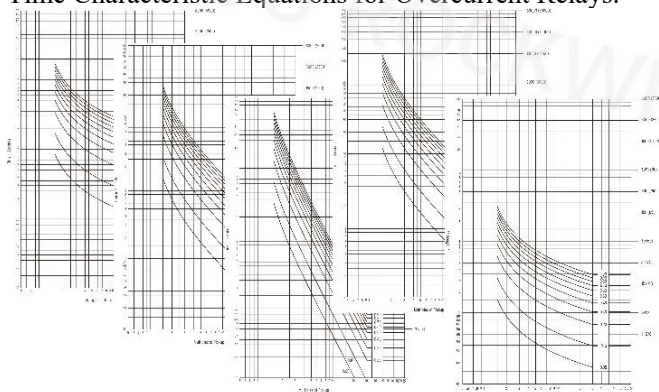
Fault records

Event records



•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.

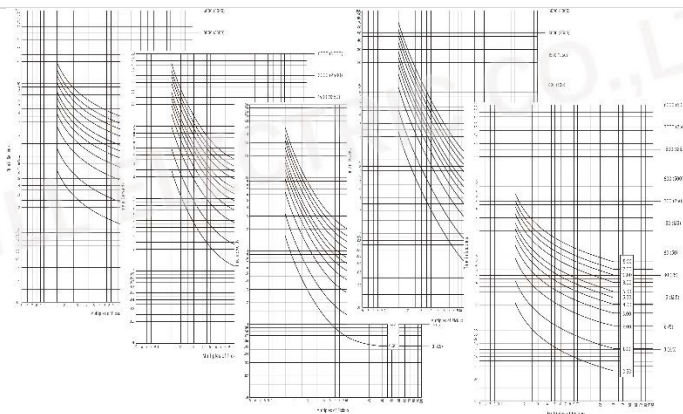


IEC Curves:

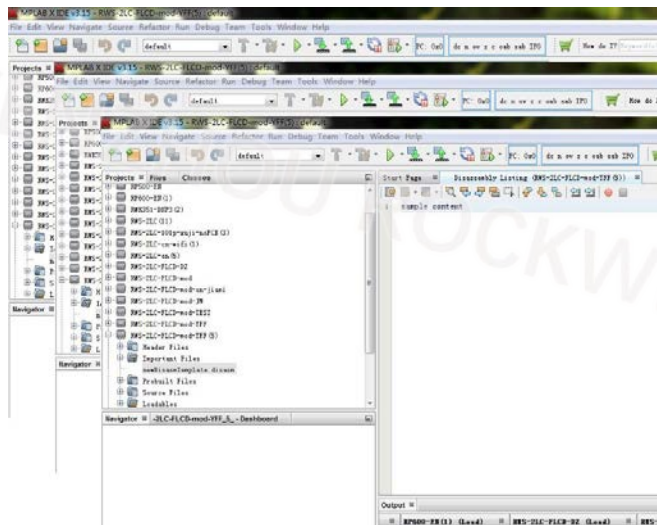
- C1 (Standard Inverse)
- C2 (Very Inverse)
- C3 (Extremely Inverse)
- C4 (Long-Time Inverse)
- C5 (Short-Time Inverse)

U.S. Curves:

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

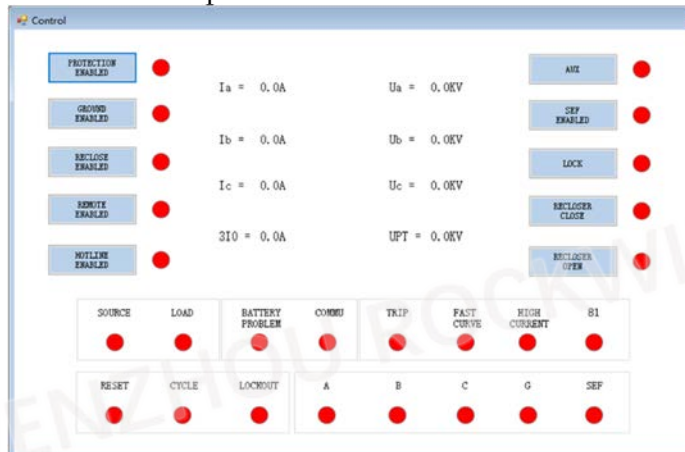


• PC software for controller Testing, Setting, programming, Update.

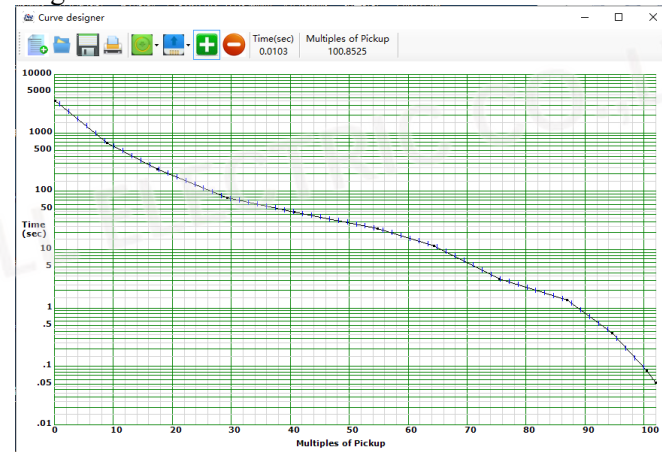


Parameter name	Value	Unit	Parameter name	Value	Unit	Parameter name	Value	Unit	Parameter name	Value	Unit
Reclose count (0-4)	3		1st delay time (0.00-60.00)	4.00	S	2nd delay time (0.00-60.00)	4.00	S	3rd delay time (0.00-60.00)	4.00	S
Lock Reset time (0.0-180.0)	10.0	S	Sequence Coord. (0-1)	0		Sequence Coord. (0-1)	0		Sequence Coord. (0-1)	0	
Operating mode (1-4)	1		Operating mode (1-4)	1		Operating mode (1-4)	1		Operating mode (1-4)	1	
Activate shot (0-5)	2		Activate shot (0-5)	2		Activate shot (0-5)	2		Activate shot (0-5)	2	
Pickup current (0.10-100.00)	1.00	A	Pickup current (0.10-100.00)	1.00	A	Pickup current (0.10-100.00)	1.00	A	Pickup current (0.10-100.00)	1.00	A
Curve type (1-14)	3		Curve type (1-14)	3		Curve type (1-14)	3		Curve type (1-14)	3	
Time adder (0.00-99.99)	0.00	S	Time adder (0.00-99.99)	0.00	S	Time adder (0.00-99.99)	0.00	S	Time adder (0.00-99.99)	0.00	S
Minimum response (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S
Operating mode (1-4)	2		Operating mode (1-4)	2		Operating mode (1-4)	2		Operating mode (1-4)	2	
Activate shot (0-5)	2		Activate shot (0-5)	2		Activate shot (0-5)	2		Activate shot (0-5)	2	
Pickup current (0.10-100.00)	1.00	A	Pickup current (0.10-100.00)	1.00	A	Pickup current (0.10-100.00)	1.00	A	Pickup current (0.10-100.00)	1.00	A
Curve type (1-14)	3		Curve type (1-14)	3		Curve type (1-14)	3		Curve type (1-14)	3	
Time adder (0.00-99.99)	0.00	S	Time adder (0.00-99.99)	0.00	S	Time adder (0.00-99.99)	0.00	S	Time adder (0.00-99.99)	0.00	S
Minimum response (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S
Operating mode (1-4)	2		Operating mode (1-4)	2		Operating mode (1-4)	2		Operating mode (1-4)	2	
Activate shot (0-5)	2		Activate shot (0-5)	2		Activate shot (0-5)	2		Activate shot (0-5)	2	
Pickup current (0.02-6.00)	1.00	A	Pickup current (0.02-6.00)	1.00	A	Pickup current (0.02-6.00)	1.00	A	Pickup current (0.02-6.00)	1.00	A
Curve type (1-14)	3		Curve type (1-14)	3		Curve type (1-14)	3		Curve type (1-14)	3	
Time adder (0.00-99.99)	0.00	S	Time adder (0.00-99.99)	0.00	S	Time adder (0.00-99.99)	0.00	S	Time adder (0.00-99.99)	0.00	S
Minimum response (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S	Minimum response (0.00-99.99)	0.00	S

Human friendship interface



Programmable Time-Overcurrent curve



• RPS feature

The high quality 3 mm stainless steel are used for tank, which is designed for its maximum robustness and minimum welding line to minimize corrosion, and specifically to guarantee the safety of the operation personnel even with the internal arc faults at the maximum fault capacity of the tank the RPS can withstands an internal fault without venting hot gases.

The independent spring operation mechanism adopt ROCKWILL® patent spiral spring, provides a guaranteed load break fault make capability by ensuring the opening and closing speed of the switch.

The RPS is provided with light reflecting position indicator which are directly connected to the switch operating shaft providing clear and unambiguous switch position indication. Indicator made of light reflecting material, which is easily visible from ground level even at night in driving rain.

• Main new advantages of RPS

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.

Corrosion resistant, Composite bushing

Manual lock-out mechanism (including hook stick)

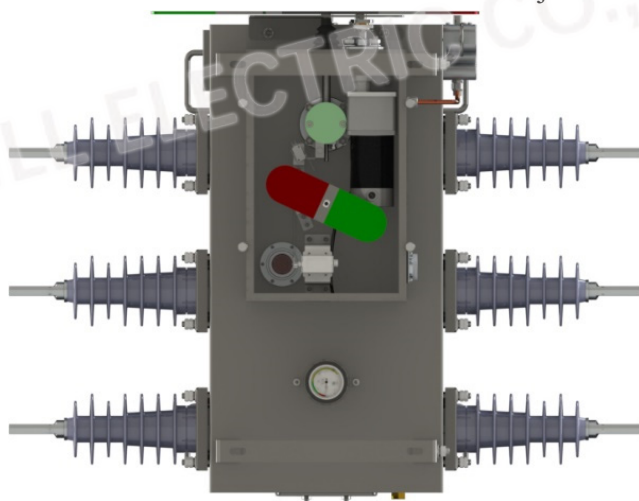
Reliable housing ground

O/C indicator (made of light reflecting material),

Operation counter, Gas density gauge which are easily visible from ground level.

Advanced and Integrated helium leakage detecting and filling equipment, which ensuring SF6 leakage of each switch is less than 0.1% strictly per year.

Motor drive, which easily retrofitted on site to manually operated units.



• Creepage Distances of RPS

Terminal to ground creepage	15kV BIL 95/110kV	27kV BIL 125/150kV	38kV BIL 170/200kV
Composite bushing	564mm	840mm	1400mm
Porcelain bushing	556mm	708mm	1250mm

• Current transformer and Voltage sensor

Part Number	RPS-15		RPS-27		RPS-38	
	Manual	Motorize	Manual	Motorize	Manual	Motorize
Current transformer	/	3	/	3	/	3
Voltage sensor	/	3/6	/	3/6	/	3/6

Note: Current transformers and voltage sensors can be customized according to requirements.

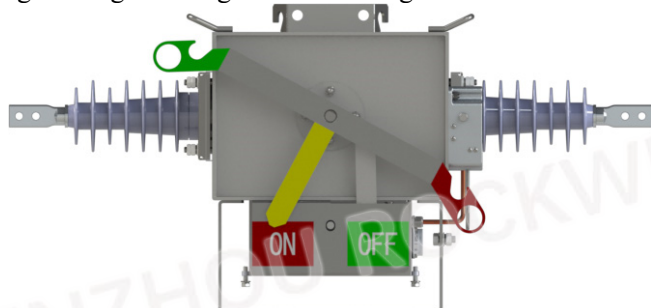
• Standards for reference

IEC 62271-1

IEC 62271-102

IEC 62271-103

High-voltage switchgear and controlgear. Part 103: switches for rated voltage above 1 kV up to and including 52 kV



Front: Color clear O/C indicator



Rear: Highly reliable explosion-proof valve, Inflatable/deflation integrated device

• Main technical data

Insulation level				
Rated voltage	kV	15	27	38
Power frequency withstand voltage, 50 Hz				
- to earth and between phases	kV	28	50	70
- across the isolating distance	kV	32	60	80
Lightning impulse withstand voltage				
- to earth and between phases	kV	75	125	170
- across the isolating distance	kV	85	145	195
Current ratings				
Rated normal current	A	400/630/800/1250		
Mainly active load breaking current	A	400/630/800/1250		
Number of breaking operations CO	times	400		
Line-charging breaking current	A	50	50	2
Cable-charging breaking current	A	50	50	40
Earth fault breaking current	A	50	50	130
Cable charging breaking current				
under earth fault conditions	A	28	28	80
No-load transformer breaking current	A			20
Short-circuit ratings				
Short-time withstand current, I _k	kA/s	20 kA/4 s	20 kA/4 s	20 kA/4 s
Peak withstand current	kA	50	50	50
Short-circuit making current	kA	50	50	50
Number of making operations				
- main switch 50 kA (CL E3)	times	5	5	5
- main switch 31.5 kA (CL E3)	times	10	10	10
- earthing switch 50 kA (CL E2)	times	3	3	3
- earthing switch 31.5 kA (CL E3)	times	5	5	5
Ambient air temperature limits		-40°C...+60°C		
Mechanical endurance (number of CO operations)				
- main switch	times	5000	5000	5000
- earthing switch	times	2000	2000	2000
Filling pressure (+20°C)	bar (abs)	1.4-1.5	1.4-1.5	1.8-1.9
Alarm pressure (+20°C)				
- density switch	bar (abs)	1.2	1.2	1.65
- density gauge	bar (abs)	1.2	1.2	1.6
- low gas lock-out mechanism	bar (abs)	1.1	1.1	1.6
Weight				
Composite bushing	kg	115	125	135
Porcelain bushing	kg	125	135	155
Motorize		Add 20kg		
Degree of protection of the mechanism box		IP67		

• Technical service

ROCKWILL®, China. Provide with best support.

If you have any question please consult below:

Tel: 0086-577-27869969

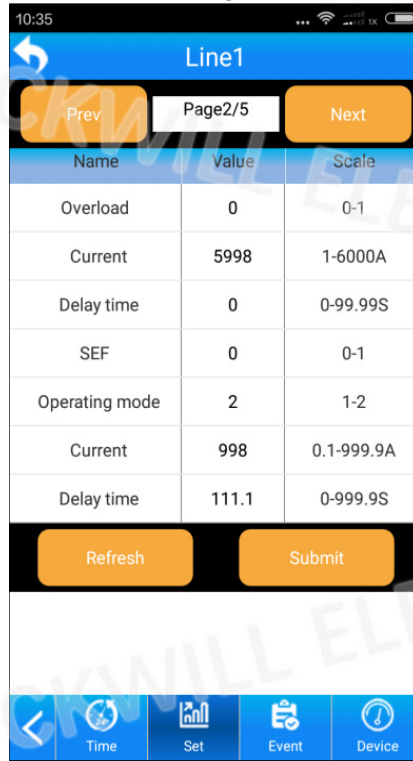
Email: barry@rockwill.cn

•Mobile APP software GPRS/GSM/WIFI/BLUETOOTH

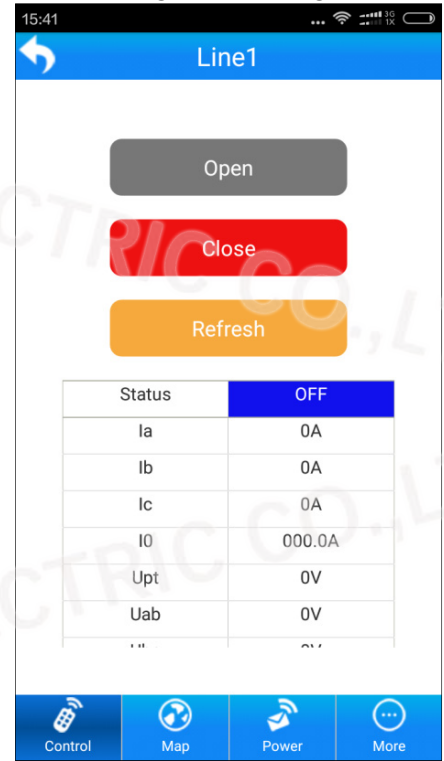
1, Map guide&location



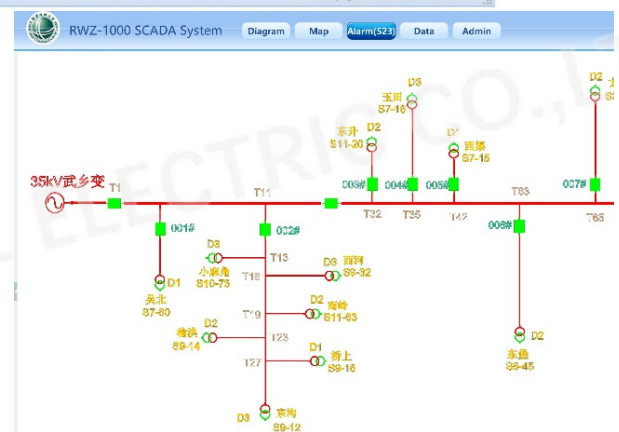
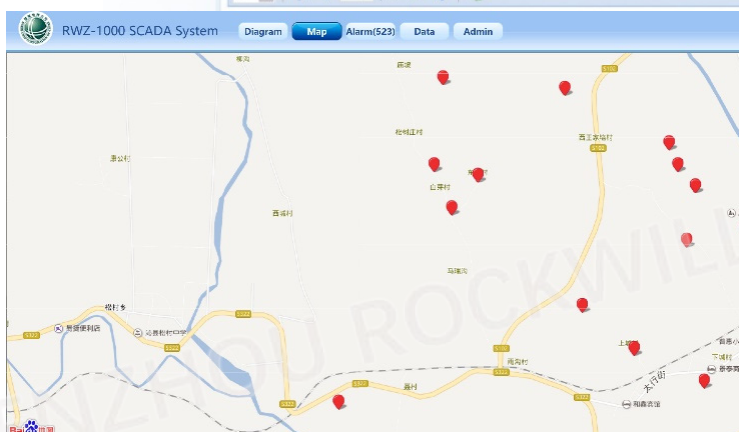
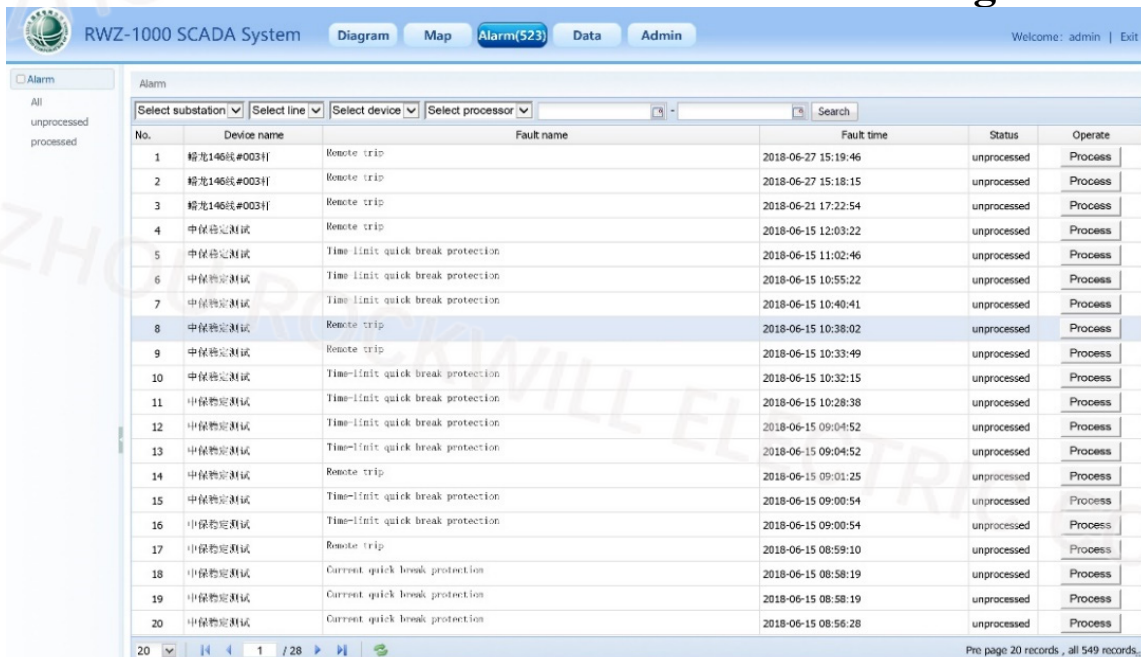
2, Protection setting&Modification



3, Monitoring&Controlling

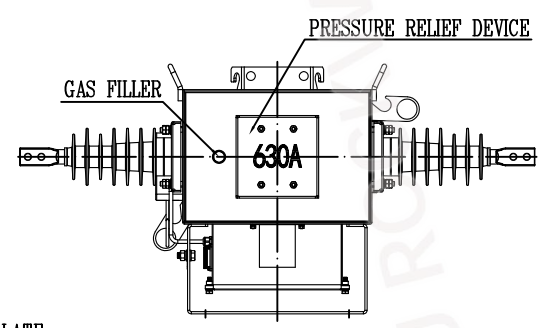
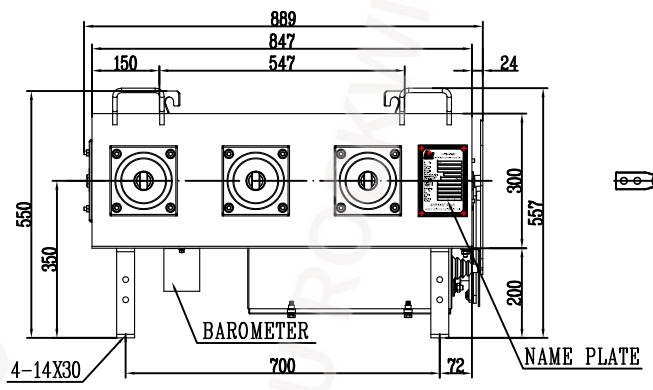
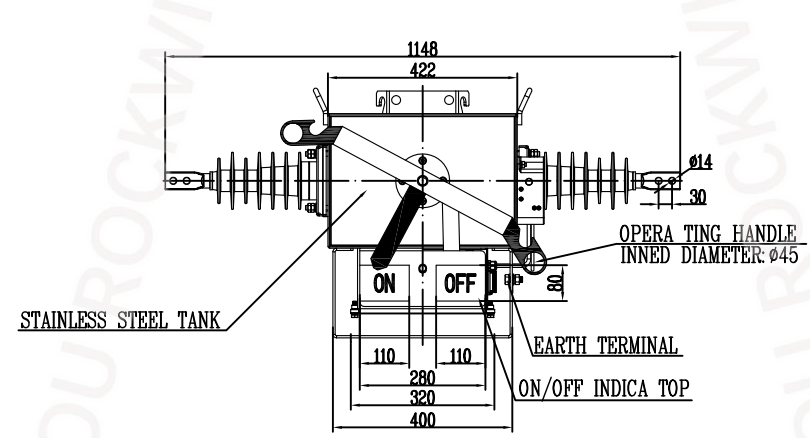
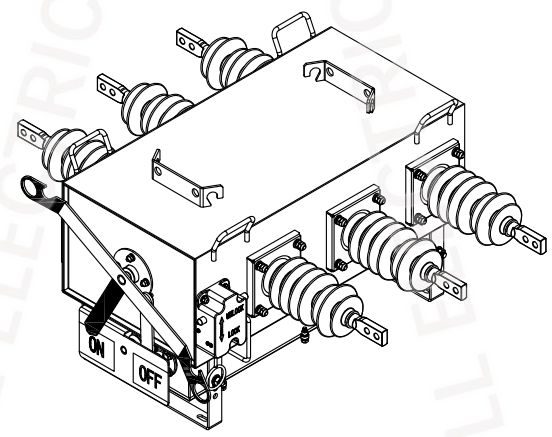
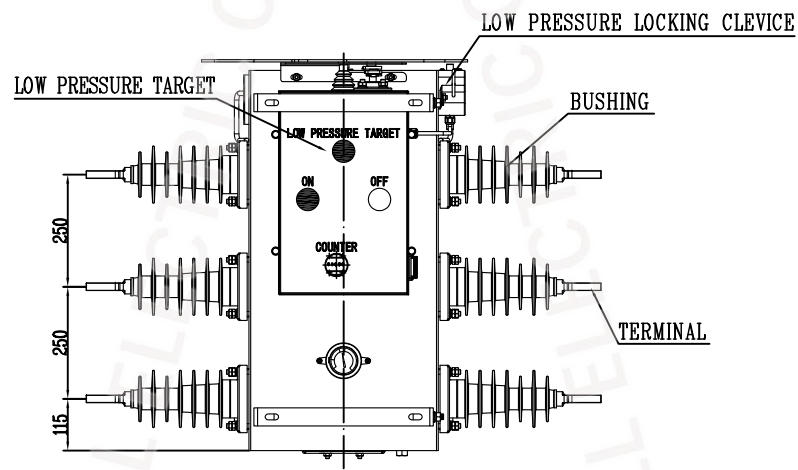


•Master software for Distribution Automation Management



•Outline & Sizes for RPS

ZONE	REV	APPROVED



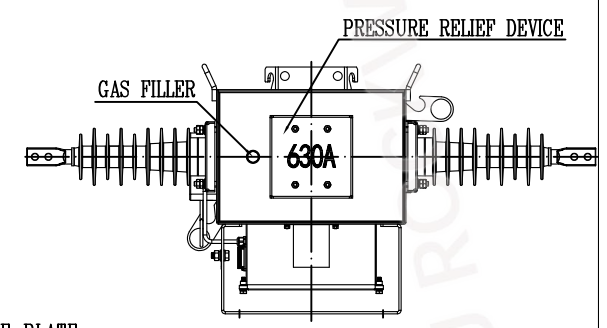
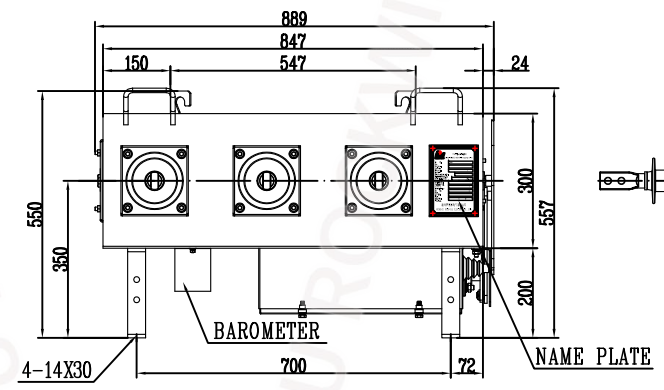
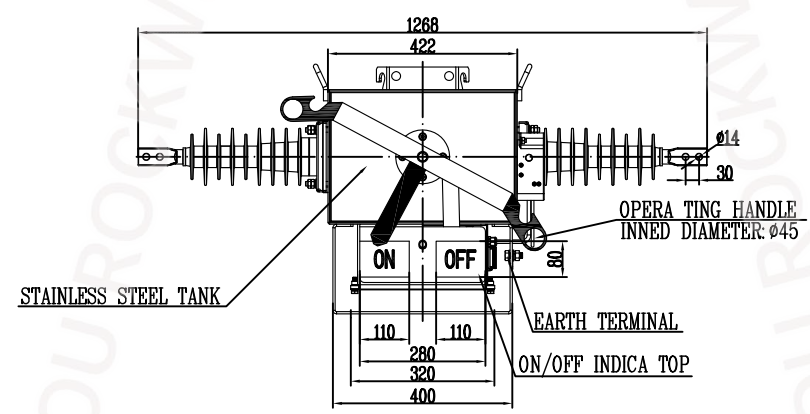
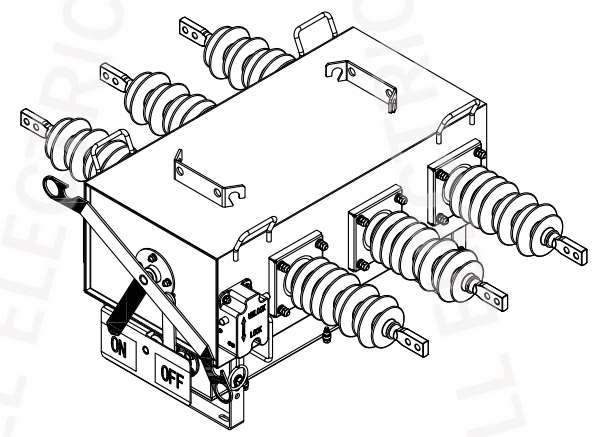
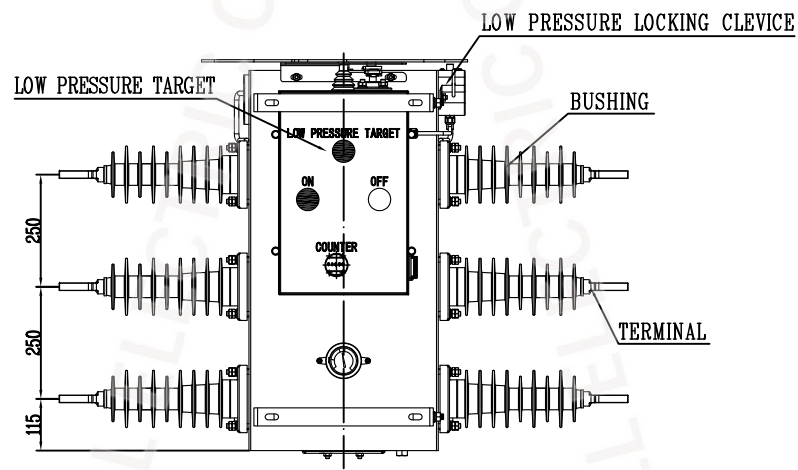
WENZHOU ROCKWILL ELECTRIC CO.,LTD.



Sizes for Manual/Motorize RPS-15kV/630A

SIZE	Dwg NO.	Project Name.	REV
Client			SHEET

ZONE		REV	APPROVED

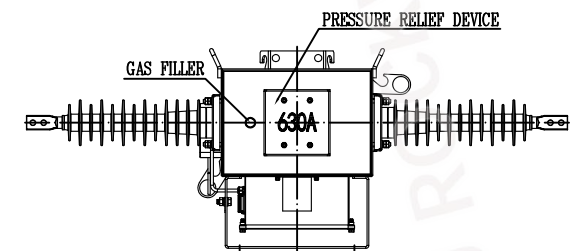
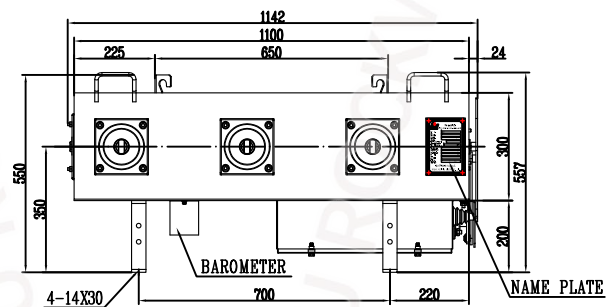
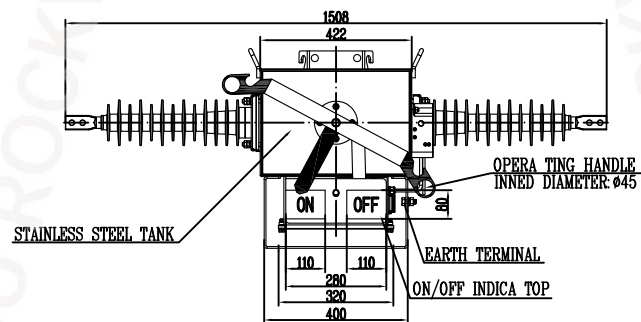
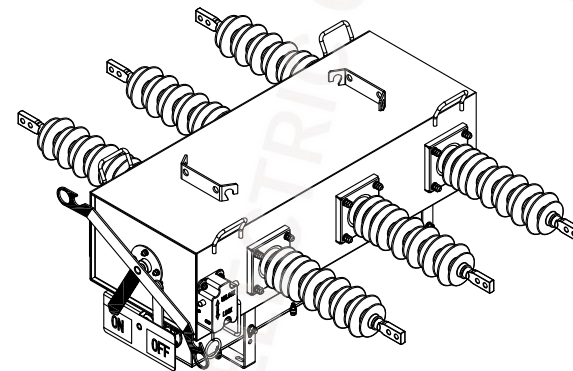
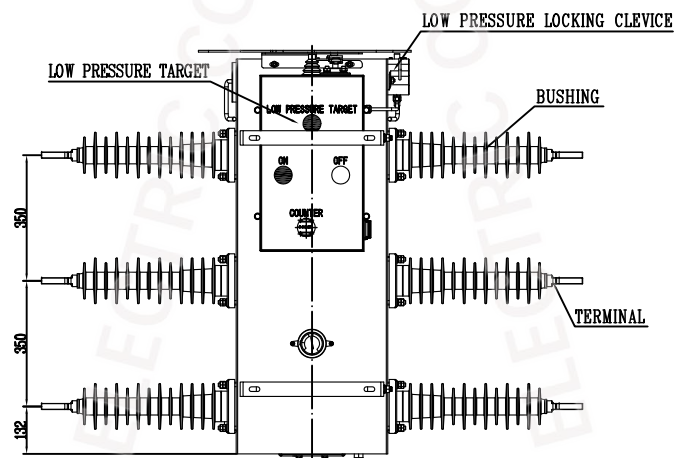


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Sizes for Manual/Motorize RPS-27kV/630A

SIZE	Dwg NO.	Project Name.	REV
Client		SHEET	



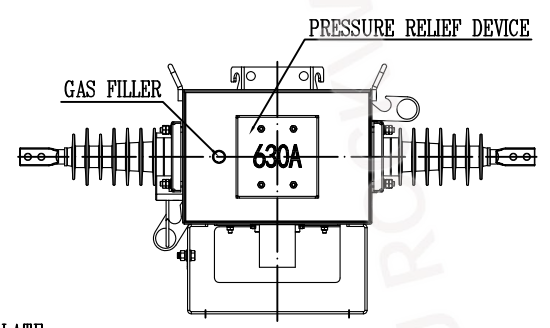
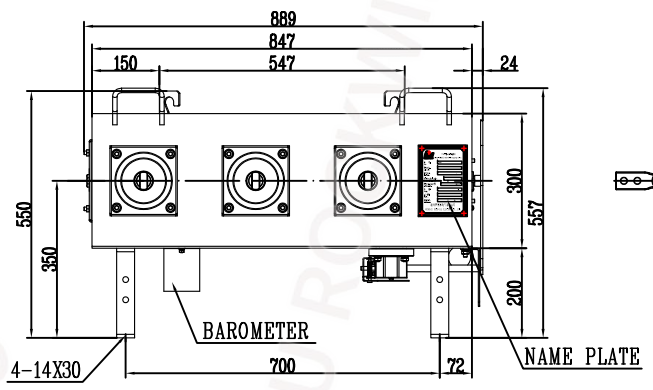
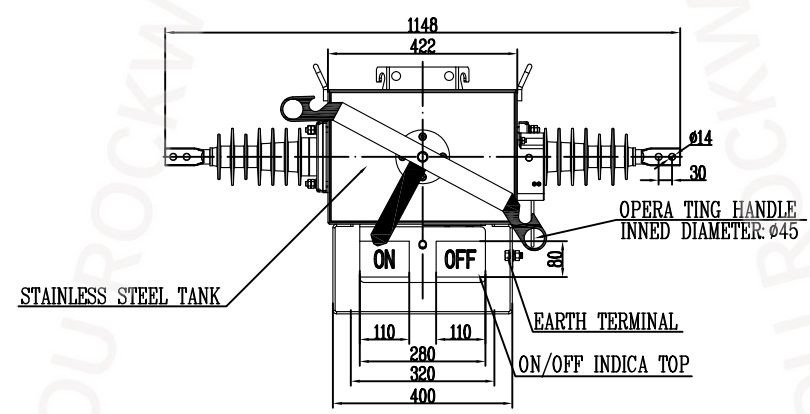
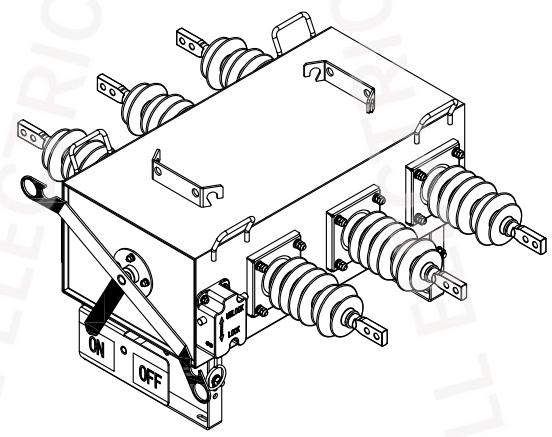
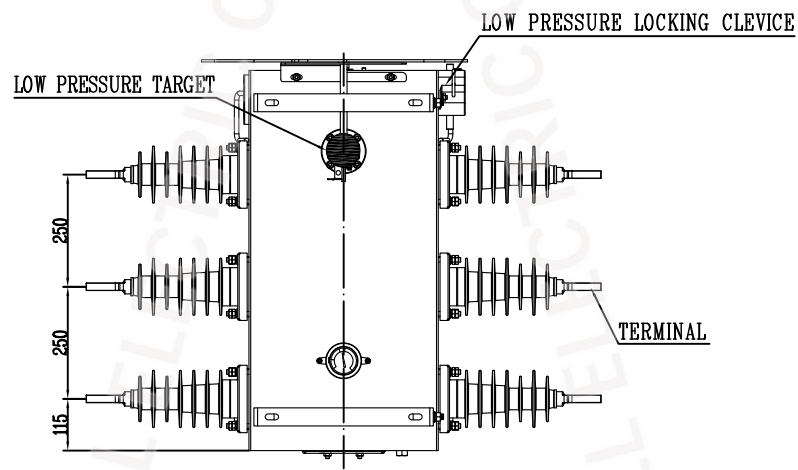
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Sizes for Manual/Motorize RPS-38kV/630A

SIZE	Dwg NO.	Project Name.	REV
Client		SHEET	

ZONE	REV	APPROVED



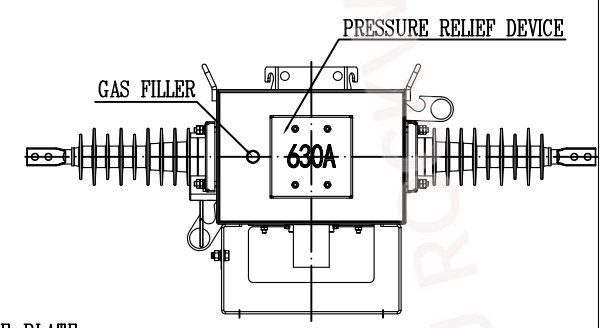
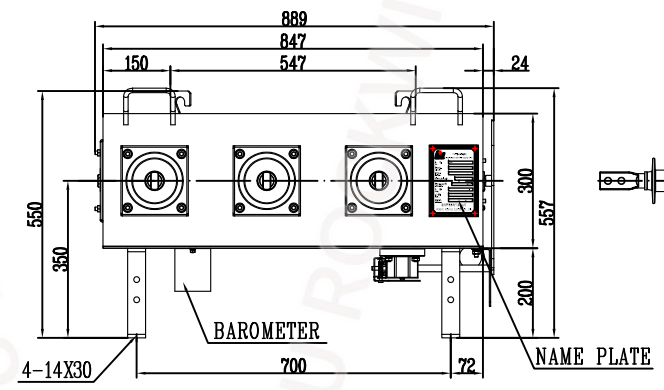
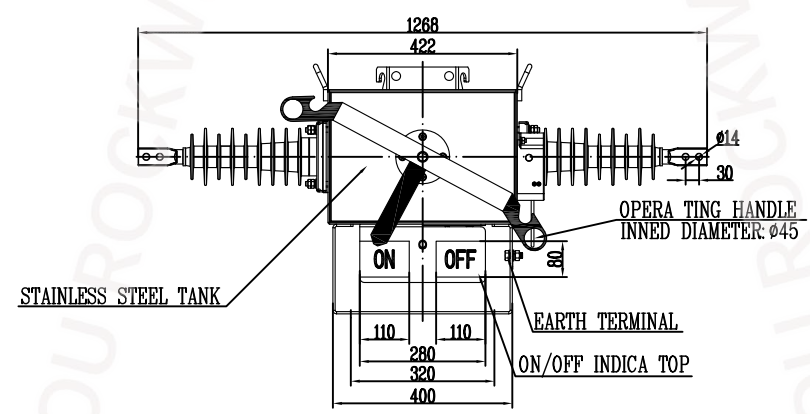
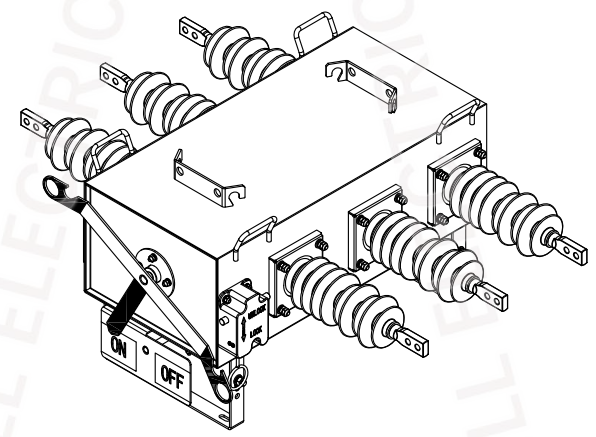
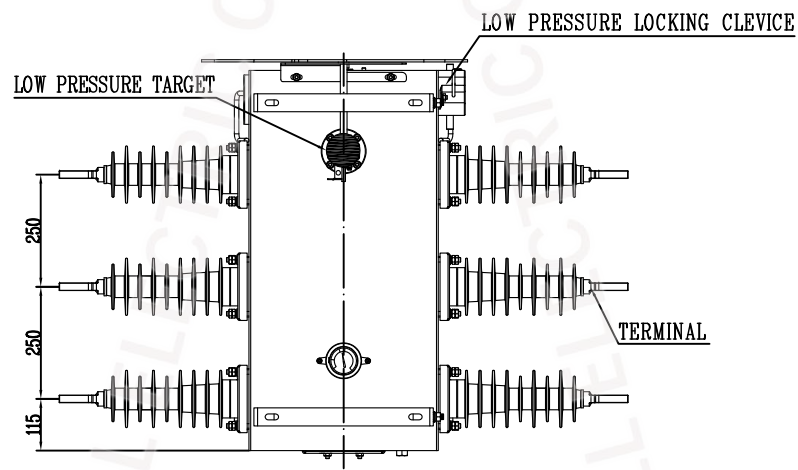
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Sizes for Manual RPS-15kV/630A



SIZE	Dwg NO.	Project Name.	REV
Client			SHEET

ZONE	REV	APPROVED

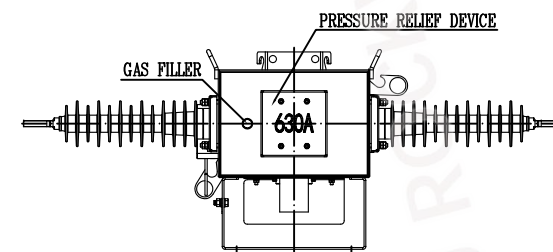
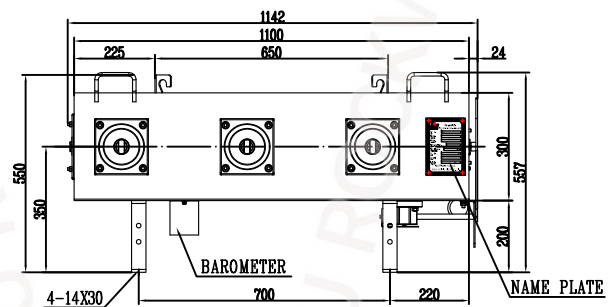
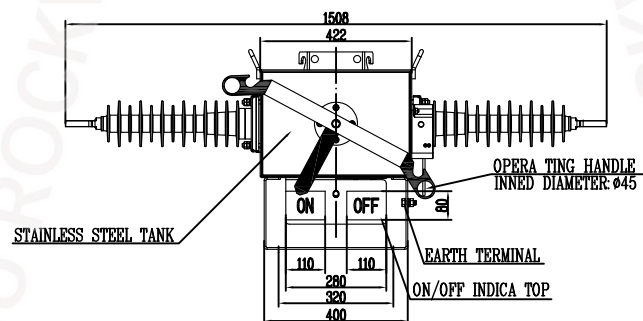
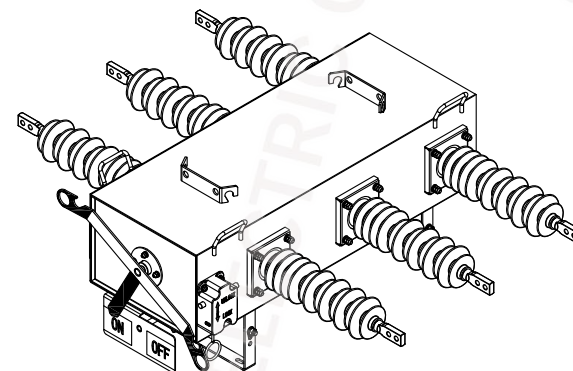
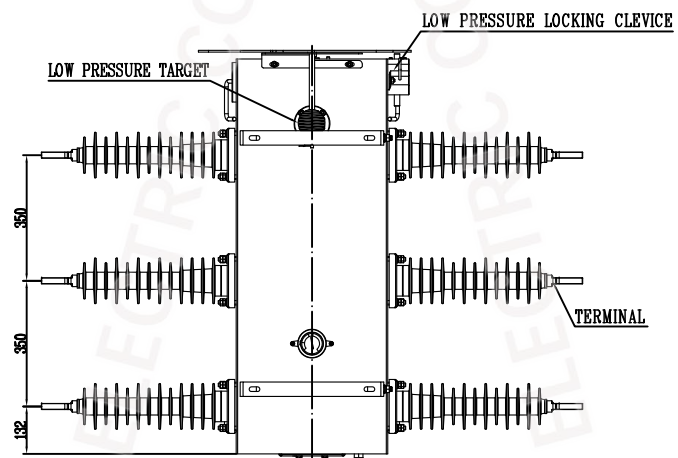


WENZHOU ROCKWILL ELECTRIC CO.,LTD.

Sizes for Manual RPS-27kV/630A



SIZE	Dwg NO.	Project Name.	REV
Client			SHEET



ZONE	REV	APPROVED
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WENZHOU ROCKWILL ELECTRIC CO.,LTD.



Sizes for Manual RPS-38kV/630A

SIZE	Dwg NO.	Project Name.	REV
Client		SHEET	