



Technical Specification

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RCW-27 27KV Outdoor Automatic Recloser

For overhead line feeder automatic

Implementation standard

IEC 62271-1:

High-voltage switchgear and controlgear - Part 1: Common specifications for alternating current switchgear and controlgear.

IEC 62271-100:

High-voltage switchgear and controlgear - Part 100: Alternating-current circuit-breakers.

IEC 62271-101

High-voltage switchgear and controlgear - Part 101: Synthetic testing.

IEC 62271-201:

High-voltage switchgear and controlgear - Part 201: AC solid-insulation enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV.

IEC 60947-3:

Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units.

IEC 60664-1:

Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests.

IEC 60947-5-1:

Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices.

We offer the following services

Provided customized manufacture

Whole solutions for design, assembly, test...

Accountable solution for safety and reliability

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Parameter Table 1: Circuit Breaker

SN	Item	Unit	Data
1	Description		27 kV outdoor Three-Phase Automatic Circuit vacuum Recloser With programmable protection and control features complete with facilities for SCADA control & monitoring, mounting brackets, surge arrester mounting brackets and VT.
2	Ingress Protection		Outdoor IP65
3	Rated Voltage	kV	27
4	Nominal System Voltage	kV	21.9/24
5	Frequency	Hz	50
6	No. of Phases		Single-phase/Double-phase/3-Phase
7	Continuous current rating	A	400/630/800/1250
8	Rated mainly active load-break current	A	400/630/800/1250
9	Rated closed loop break current	A	400/630/800/1250
10	Rated no-load transformer breaking current	A	2.5
11	Rated line charging breaking current	A	10
12	Rated Short Circuit Making Current	KA	12.5/16/20/25
13	Rated Short time current (1 second) RMS	kA rms/1s	31.5kA
14	Lightning Impulse withstand voltage (1.2/50 μ s wave)		
	a) Between earth and Phase	kV	150
	b) Across the terminals of open switches	kV	150
15	Rated power frequency withstand voltage wet		
	a) Between earth and Phase	kV	70
	b) Across the terminals of open switches	kV	70
16	Operation sequence		C-0.5-CO-2-CO-5-CO
17	Mechanical endurance		
	a) Class - General purpose		Class M2
	b) Operations (On/Off operations)		5000
18	Electrical endurance		
	a) Class - General purpose		Class E3
	b) Operations (On/Off or make/break operations at rated current, without maintenance)		300
19	Fault making Operations at rated short-circuit / fault making current		Min. 3 closing operations
20	Current transformer		
	Winding rate		BCT-1 : 400-400/1A.
	For protection		96% to 102%

SN	Item	Unit	Data
21	Data logging of network parameters, Current, voltage, kW, kWh, kVAr, kVhr		Required
22	Operating mechanism		
	a) Manual operation facility by Hot stick		Required
	b) By activating a local switch by the operator		Required
	c) Remote operation from EDTL Distribution Control Center (or master Control Station) via communication		Required
23	Opening time		$\leq 30\text{ms}$
24	Closing time		$\leq 40\text{ms}$
25	Trip Counter		Required
26	Mechanical lock in		Optional

Parameter Table 2: LBS Controller

SN	Item	Unit	Data
1	Rated Power supply Voltage	V	$230\pm 5\%$
2.	Rated frequency	Hz	50/60
3	Electric energy consumption	W	$\leq 5\text{W}$
4	Backup battery lifetime		20000 operations or 5 years
5	Protection relay and measurement accuracy		
	a) Current protection (secondar side)	A	$0.05-50\leq \pm 3\%$
	b) Zero-sequence current protection (secondar side)	A	$0.02-10\leq \pm 1\%$
	c) Voltage	V	$10-280\text{V}\leq \pm 5\%$
6	Protection performance parameters		
	a) Event resolution	ms	2
	b) Quick-break export time		Under the input of 1.2In magnification, the whole group action time is less than 40ms.
	c) Protect export time error		$\leq 1\%$
7	Communication I/O parameters		
	a) RS485 port		1*3PIN Terminal 10Mbps 1*DB9 10Mbps
	b) Ethernet port		1*RJ45 100Mbps. Local IP: 192.168.0.7
	c) Update port		1*RJ45 10Mbps
8	EMC		
	a) Insulation resistance		$\geq 10\text{M}\Omega$
	b) Voltage mutation		100%, 0.5s
	c) High-frequency interference (series mode)		1.5 kV Pk, 1min
	d) High-frequency interference (common mode)		2.5 kV Pk, 1min

SN	Item	Unit	Data
8	e) transient pulse		4.0kV Pk, 1min
	f) inrush current interference		4.0 kV Pk, 1.2/50 μ s
	g) electrostatic discharge		8kV
	h) power frequency magnetic fields		100A/m
	i) Damping oscillating magnetic field		100A/m
	j) Power frequency withstand voltage		2.5kV, 1min
	k) Lightning Impulse withstand voltage		5kV, 1.2/50 μ s
9	Relay protection components		
	a) Auto Reclose		ANSI C37.2 79
	b) Instantaneous/Definite-Time Overcurrent		ANSI C37.2 50
	c) Phase Time-Overcurrent		ANSI C37.2 51
	d) Residual Ground Instantaneous/Definite-Time Overcurrent		ANSI C37.2 50N
	e) Residual Ground Instantaneous/Definite-Time Overcurrent		ANSI C37.2 51N
	f) Overload		ANSI C37.2 49
	g) Sensitive Earth Fault		ANSI C37.2 50SEF
	h) Cold Load		ANSI C37.2 51C
	i) Switch-Onto-Fault		ANSI C37.2 TRSOTF
	j) Under Voltage		ANSI C37.2 27
k) Over Voltage		ANSI C37.2 59	
l) Frequency protection		ANSI C37.2 81	
10	Supervision components		
	a) Trip & Close Circuit Supervision		ANSI C37.2 74T
	b) VT Supervision		ANSI C37.2 60VTS
11	Control components		
	a) Lockout		ANSI C37.2 86
12	Monitoring components		
	a) Phases and Earth Currents		3I
	b) Line and Phase Voltages		3U
	c) Phase Angle		ANSI C37.2 77
	d) Power Measuring		ANSI C37.2 32
	e) Frequency		ANSI C37.2 88
13	SCADA Communication protocol support		
	a) IEC 60870-101		Yes
	b) IEC 60870-104		Yes
	c) DNP 3.0		Yes
	d) Modbus-RTU		Yes
	e) IEC 61850		Yes
14	Network standard support		GSM(2G)/CDMA(3G)/LTE(4G)



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