



		<u>19.1 kV Auto-Recloser New Schedule of Guaranteed Values</u>
		Pages: 4
<u>Title</u> <u>Technical Specification AutoRecloser Schedule of Guaranteed Values</u>		Date Issued : 22 March 2017
		Supersedes: 19.1 AutoRecloser
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1. **SCOPE**

- 1.1 The specification provides for the schedule of guaranteed values for 19.1 kV AutoRecloser

2. **TERMS AND DEFINITION**

For the purpose of this specification the definitions given in the reference standards shall apply.

BS - British Standard

ISO - International Organization for Standardization

SAZ - Standards Association of Zimbabwe

IEC - International Electrotechnical Commission.

REF - Rural Electrification Fund

3. **INTRODUCTION**

The table for guaranteed values is a revision of the 19.1 Auto-Recloser Specification from ZETDC. Bidder is required to fill in the Schedule of Technical Guarantees below. Failure to do so will lead to rejection of the bid.

Supersedes ZETDC 19.1 Autorecloser	Date Issued 22-03-2017	Page 1 of 5	Revision Status 1	Material Specification
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TABLE : TECHNICAL SPECIFICATION 19.1kV AUTORECLOSER

19.1 KV SINGLE PHASE AUTORECLOSER

Item	Description	Units	Required
1	PARTICULARS OF THE ELECTRICAL SYSTEM		
1(i)	Number of Phases		Single Phase
1(ii)	Maximum Earth Fault Factor		1.5
1(iii)	Frequency of system	Hz	50
1(iv)	HV nominal	kV	19.1 ± 10%
1(v)	MV nominal	V	0.23 ± V 10%
Item	Description	Units	Required
1	Circuit Breaker Basic Timings		
1(i)	Contact Close from energisation of close coil	ms	≤50
1(ii)	Opening Time	ms	≤35
1(iii)	Interrupting Time	ms	≤45
1(iv)	Fault clearing Time on instantaneous protection for fault ≥ 4 x Setting Current ϕ	ms	≤70
1(v)	Time to contact part from receipt of trip command by Operator, telemetry, protocol or IOEX	ms	≤150
2	Auto-Recloser Voltage Ratings	Units	Required
2(i)	Rated Maximum Voltage	kV	24
2(ii)	Rated Continuous Voltage	kV	19 - 21
2(iii)	Rated Impulse Withstand Voltage	kV	125
2(iv)	Power Frequency Withstand Phase//Earth Across Interrupter	kV	60
3	Auto-Recloser Current Ratings	Units	Required
3(i)	Rated Continous Current	Amps	400
3(ii)	Rated Cable Charging Interrupting Current	Amps	25
3(iii)	Rated Transformer Magnetising Interrupting Current	Amps	22
3(iv)	Rated Symmetrical Interrupting Current	kA	6
3(v)	Rated Asymmetrical Making Current (Peak)	kA	15
3(vi)	Rated Symmetrical Making Current (RMS)	kA	6
3(vii)	Short Time Current for 3 Seconds	kA	6
3(viii)	Short Time Current Recovery Time	sec	180

Supersedes ZETDC 19.1 Autorecloser	Date Issued 22-03-2017	Page 2 of 5	Revision Status 1	Material Specification
--	---------------------------	----------------	----------------------	------------------------

3(ix)	Rated Frequency	Hz	50
4	Auto-Recloser Operating mechanism		
4(i)	Opening/Closing Mechanism		Latching magnetic actuator
4(ii)	D.C Resistance Terminal/Terminal		≤120 micro ohm
Item	Description	Units	Required
5	Auto-Recloser Housing/Construction		
5(i)	Tank Construction		Stainless Steel
5(ii)	Bushings/VI Housing/Insulator material		Outdoor Cyclo-Aliphatic Epoxy Resin
5(iii)	Creepage Distance		≥780mm
5(iv)	Mechanical Operations		10 000
5(v)	Contact Wear - 400A		10 000
5(vi)	Maintenance Interval		5 years
5(vii)	Earthing		Outer Nipple/stud provided
5(viii)	Applicable Standards		ANSI C37.60
6	Environmental		
6(i)	Operating temperature		minus 30 °C to plus 50 °C
6(ii)	Operating Humidity		0 to 100%
6(iii)	Operating Altitude		3000m max
7	General Specifications		
7(i)	Maintenance Interval		5 years
7(ii)	Battery Sizing		≥15 Ah
7(iii)	Battery Replacement Interval		5 years
8	Power System Measurements Capability		
8(i)	Voltage Range (RMS Phase/Earth)	kV	2 - 24 kV
8(ii)	Voltage Resolution	V	1
8(iii)	Voltage Accuracy	V	2.5%±25V
8(iv)	Current Range (RMS)	Amp	1 - 800
8(v)	Current Resolution	Amp	1
8(vi)	Current Accuracy		2.5%±2 Amp
8(vii)	Apparent Power range		0 - 12 MVA
8(viii)	Apparent Power Resolution		1 kVA
8(ix)	Apparent Power Accuracy		±5%
8(x)	Real Power range		minus 12 to 12 MW

Supersedes ZETDC 19.1 Autorecloser	Date Issued 22-03-2017	Page 3 of 5	Revision Status 1	Material Specification
--	---------------------------	----------------	----------------------	------------------------

8(xi)	Real Power Resolution		1 kW
8(xii)	Real Power Accuracy		±5% of Apparent Power
8(xiii)	Reactive Power range		0 to 12 MVAR
8(xiv)	Apparent Power Resolution		1 kVAR
8(v)	Apparent Power Accuracy		±5% of Apparent Power
Item	Description of	Units	Required
9	Demand History		
9(i)	Average Demand Sample Times and periods, with 2MB flash memory		5, 15, 30 to 60 minutes
9(ii)	Number of stored events in History		≥3000
10	Local Operator Controls		
	Local Operator Control is through the Operator Control panel (OPC). The OPC is mounted inside the control cubicle on the equipment panel. The OPC should have a four line LCD display and key pad with switches and LEDs used to select and monitor the function of the auto-recloser.		
11	Communications/Control Functions		
11(i)	Continuous Primary Current	Amps	800
11(ii)	Short Time Primary Current	sec	16 kA for 3 Seconds
11(iii)	Short Time Recovery Current time	sec	60
11(iv)	Recloser Operations		20 in 1 minute, 1 per minute thereafter
11(v)	Trips in Sequence To Lockout		1 to 4
11(vi)	Reclose Time after first trip in sequence	sec	0.5 to 180
11(vii)	Sequence Reset Time	sec	3 to 180
11(viii)	Fault Reset Time	ms	50 to 800
11(ix)	Fault Reset Time Accuracy	ms	±20
12	Equipment Dimensions		
12(i)	Control Cubicle and cable	kg	≤40
12(ii)	Pole Mounted Circuit Breaker	kg	≤70
12(iii)	Pole Mounting Bracket	kg	≤15
13	Manufacturer		
14	Quality Standard of Certification		
15	Country of Manufacturer		

Supersedes ZETDC 19.1 Autorecloser	Date Issued 22-03-2017	Page 4 of 5	Revision Status 1	Material Specification
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Where necessary, documentation to evaluate whether the equipment offered is in accordance with this specification shall be submitted with the Bid'.

Tenderer's
Signature_____Date_____

Supersedes ZETDC 19.1 Autorecloser	Date Issued 22-03-2017	Page 5 of 5	Revision Status 1	Material Specification
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