

	132KV ISOLATOR				
	General				
2.1	Manufacturer				
2.2	Place of manufacturing				
2.3	Type designation for Isolator				
2.4	Type designation for grounding switch				
2.5	Type of Isolator			Horizontal Double	
2.6	Applicable standard			IEC 62271-102	
2.7	Quantity of poles			Three pole op.	
2.8	Rated voltage		kV	145	
2.9	System Voltage		kV	132	
2.10	Rated current at maximum site temperature		A		
2.9.1	At maximum site temperature				
2.9.1.1	For line feeder			Acc. to SLD	
2.9.1.2	For Transformer feeder			Acc. to SLD	
2.9.1.3	For Diameter			N.A.	
2.9.1.4	For Bus Coupler feeder			Acc. to SLD	
2.9.1.5	For Bus Section			N.A.	
2.9.1.6	For reactor feeder			N.A.	
2.9.2	At IEC condition				
2.9.2.1	For line feeder			Acc. to SLD	
2.9.2.2	For Transformer feeder			Acc. to SLD	
2.9.2.3	For Bus Coupler feeder			Acc. to SLD	
2.9.2.4	For Bus Coupler feeder			Acc. to SLD	

2.9.2.5	For Bus Section			N.A.	
2.9.2.6	For reactor feeder			N.A.	
2.10	Rated frequency		Hz	50	
2.11	Class (outdoor / indoor)			Outdoor	
2.12	Withstanding in load combinations of earthquake, wind, short circuit and etc.? (Yes / No)		Yes / No	Yes	
2.13	Hand operating facility is provided? (Yes / No)		Yes / No	Yes	
2.14	Accessibility to operating mechanism from ground level		Yes / No	Yes	
2.15	Mechanical Endurance Class			M2	
2.16.1	Electrical Endurance Class			E2	
2.16.2	Capacitive switching at maximum temporary			C2	
2.17	Manufacturer quality system in accordance with ISO 9000		Yes / No	Yes	
2.17.1	Date of issue			Latest	
2.17.2	Validity				
2.17.3	Certificate attached to the offer		Yes / No	Yes	
2.18	Type test certificate to be issued by independent laboratory or independently witnessed type test		Yes / No	Yes	
2.18.1	Certificate to be attached to the offer			Yes	
2.18.2	Report to be attached to the offer			Yes	
	Insulation Rating				
2.19	Basic Insulation level (at site condition)				
2.19.1	Common value		kV peak	750	

2.19.2	Across the isolating distance		kV peak	860	
2.20	One minute power frequency withstand voltage (at site condition)				
2.20.1	Common value		kV rms	325	
2.20.2	Across the isolating distance		kV rms	375	
2.21	Switching impulse withstand voltage (at site condition)				
2.21.1	Common value		kV peak	N.A.	
2.21.2	Across the isolating distance		kV peak	N.A.	
2.22	Type of Insulation(porcelain/silicon rubber)			porcelain	
	Current Rating				
2.23	Rated short time withstand current				
2.23.1	For Isolator		kA rms/sec	31.5/1	
2.23.2	For grounding switch		kA rms/sec	31.5/1	
2.24	Rated short circuit making current for grounding switches		kA rms	2.5*31.5	
2.25	Rated peak short circuit withstand current		kA peak		
2.26	Maximum inductive current breaking capacity for grounding switch (acc.to IEC 62271/102)		kVA		
2.27	Maximum capacitive current breaking capacity for grounding switch (acc. to IEC 62271/102)		kVA		
	Other Characteristic				
2.28	Rated Supply Voltage				
2.28.1	For motor, control and interlock		Vdc	110	
2.28.2	For AC auxiliaries		Vac	240	

2.29	Voltage drop across terminals of one pole at 100 A.dc for Isolator and ground switches		mV		
2.30	Maximum temperature rise at normal current over Maximum ambient temperature		°C		
2.31	Maximum and minimum ambient temperature for design		°C	Acc. to section 1	
2.32	Altitude above sea level		m	Acc. to section 1	
	Operating Mechanism				
2.33	Type of operating mechanism				
2.33.1	For Isolator			DC Motor	
2.33.2	For grounding switch			DC Motor	
2.34	Motor type				
2.35	Motor		V	110 VDC	
2.35.1	Rated voltage		W		
2.35.2	Power demand		A		
2.35.3	Full load current		rpm		
2.35.4	Speed				
2.36	Type of motor protection				
2.37	Total time from initiation of opening operation to Isolator in fully open		sec	≤15	
2.38	Time from contact separation to extinct of capacitive arc		sec		
2.39	Total time from initiation of opening operation to time when Isolator gap can withstand phase voltage				
2.40	Breaking and closing of:				

2.40.1	Magnetizing current of power transformers		Yes / No	Yes	
2.40.2	Mutual inductive/capacitive current of parallel circuit in double circuit line		Yes / No	Yes	
2.40.3	Charging current of unloaded lines and/or cables		Yes / No	Yes	
2.41	Minimum guaranteed no. of operations for Isolators or grounding switches before maintenance		N		
2.42	Maximum required force for hand operation with supplied handle				
2.43	Thickness of steel control cabinet		mm	Min (2)	
2.44	Degree of protection (IP) of mechanism housing			IP55	
2.45	Cubicle space heaters (thermostat Controlled)		Yes / No	Yes	
2.46	Cabinet heater				
2.46.1	Power		W		
2.46.2	Nominal Voltage		V	240AC	
2.47	Whether local/ remote/ disconnect selector switch is provided? (Yes / No)		Yes / No		
2.48	Whether open/neutral /close control switch is provided? (Yes / No)		Yes / No		
2.49	Whether under voltage relay is provided for motor supply?		Yes / No	Yes	
2.50	Whether all of the heaters are equipped with a M.C.B ?		Yes / No	Yes	
2.51	Rated power of operation coil		W		
2.52	Total load of heaters for Isolator		W		
	Insulators				
2.53	Manufacturer				
2.54	Place of manufacturing				
2.55	Type (porcelain /composite)			porcelain	

2.56	Color				
2.57	Creepage distance		mm	4495	
2.58	Protected creepage distance		mm		
2.59	Permissible cantilever working load		N	C8	
2.60	Operating handle or lever mounting height above ground		m	1.2	
2.61	Permissible tensional strength		N.m		
	Minimum clearance		mm		
2.61.1	Between poles when Isolator is closed				
2.61.2	Between poles when Isolator is open				
2.61.3	Between phase and ground				
2.61.4	Between one pole terminals at open condition				
	Interlocks				
2.62	Type of interlock between Isolator and associated ground switch			Electrical and Mechanical	
2.63	Type of interlock between ground switch and related circuit breakers			Electrical	
2.64	Type of interlock between Isolator and related circuit breaker			Electrical	
2.65	Locking arrangement in on/off position		Yes / No	Yes	
2.66	Automatic isolation of control supplies when lock off		Yes / No	Yes	
	Miscellaneous				
2.67	Type of main contacts				
2.67.1	For Isolator				
2.67.2	For grounding switch				
2.68	Material of main contacts				

2.68.1	For Isolator			Copper	
2.68.2	For grounding switch			Copper	
2.69	Material of blades				
2.69.1	For Isolator				
2.69.2	For grounding switch				
2.70	Whether main contacts are silver plated				
2.70.1	For Isolators			Yes	
2.70.2	For grounding switches			Yes	
2.71	Quantity and type of free auxiliary contacts				
2.71.1	For Isolators			10NO+10NC	
2.71.2	For grounding switches			10NO+10NC	
2.72	Permissible force on HV terminals				
2.72.1	Static in any direction		N		
2.72.2	Dynamic in any direction		N		
2.73	Weight of maximum package ready for shipment		kg		
2.74	Weight of complete				
2.74.1	Isolator		kg		
2.74.2	Isolator with associated grounding switch		kg		
2.74.3	Single phase		kg		
2.75	Cubicle Light (Compact LED)		Yes / No	Yes	
2.76	Number of grounding switch			1/2	
	Note: The table should be filled and submitted for each of the following equipment separately:				

	1. Isolator with 2 Ground Switches				
	2. Isolator with 1 Ground Switches				
	132KV EARTHING SWITCH				
	General				
3.1	Manufacturer				
3.2	Place of manufacturing				
3.3	Type designation				
3.4	Type of operating mechanism			DC Motor	
3.5	Applicable standard			IEC 62271-102	
3.6	Rated voltage		kV	145	
3.7	System Voltage		kV	132	
3.8	Rated current		A		
3.8.1	At maximum site temperature			Acc. to SLD	
3.8.2	At IEC condition			Acc. to SLD	
3.9	Rated frequency		Hz	50	
3.10	Class (outdoor / indoor)			Outdoor	
3.11	Withstanding in load combinations of earthquake, wind, short circuit and etc.? (Yes / No)		Yes / No	Yes	
3.12	Hand operating facility is provided. (Yes / No)		Yes / No	Yes	
3.13	Accessibility to operating mechanism from ground level		Yes / No	Yes	
3.14	Manufacturer quality system in accordance with ISO 9000		Yes / No	Yes	
3.15	Date of issue			Latest	

3.16	Validity				
3.17	Certificate attached to the offer		Yes / No	Yes	
3.18	Type test certificate to be issued by independent laboratory or		Yes / No	Yes	
3.18.1	Certificate to be attached to the offer			Yes	
3.18.2	Report to be attached to the offer			Yes	
	Insulation Rating				
3.19	Basic Insulation level (at site condition)				
3.19.1	Common value		kV peak	750	
3.19.2	Across the isolating distance		kV peak	850	
3.20	One minute power frequency withstand voltage (at site condition)				
3.20.1	Common value		kV rms	325	
3.20.2	Across the isolating distance		kV rms	375	
3.21	Switching impulse withstand voltage (at site condition)				
3.21.1	Common value		kV peak	N.A.	
3.21.2	Across the isolating distance		kV peak	N.A.	
3.22	Type of Insulation(porcelain/silicon rubber)			porcelain	
	Current Rating				
3.23	Rated short time withstand current				
3.23.1	For grounding switch		kA rms/sec	31.5/1	
3.23.2	Rated short circuit making current for grounding switches		kA rms	2.5*31.5	
3.24	Rated peak short circuit withstand current		kA peak		

3.25	Maximum inductive current breaking capacity for grounding switch (acc.to IEC 62271/102)		kVA		
3.26	Maximum capacitive current breaking capacity for grounding switch (acc. to IEC 62271/102)		kVA		
	Other Characteristic				
3.27	Rated Supply Voltage				
3.27.1	For motor, control and interlock		Vdc	110	
3.27.2	For AC auxiliaries		Vac	240	
3.28	Voltage drop across terminals of one pole at 100 A.dc for ground switches		mV		
3.29	Maximum temperature rise at normal current over Maximum ambient temperature		°C		
3.30	Maximum and minimum ambient temperature for design		°C	Acc. to section 1	
	Altitude above sea level		m	Acc. to section 1	
3.31	Operating Mechanism				
3.32	Type of operating mechanism			DC Motor	
3.32.1	Motor type				
3.32.2	Motor		V		
3.33	Rated voltage		W		
3.34	Power demand		A		
3.34.1	Full load current		rpm		
3.34.2	Speed				
3.35	Type of motor protection				

3.36	Total time from initiation of opening operation in fully open position		sec	≤15	
3.37	Breaking and closing of:				
3.37.1	Magnetizing current of power transformers		Yes / No	Yes	
3.37.2	Mutual inductive/capacitive current of parallel circuit in double circuit line		Yes / No	Yes	
3.37.3	Charging current of unloaded lines and/or cables		Yes / No	Yes	
3.38	Minimum guaranteed no. of operations for grounding switches before		N		
3.39	Maximum required force for hand operation with supplied handle				
3.40	Thickness of steel control cabinet		mm	Min (2)	
3.41	Degree of protection (IP) of mechanism housing			IP55	
3.42	Cubicle space heaters (thermostat Controlled)		Yes / No	Yes	
3.43	Cabinet heater				
3.43.1	Power		W		
3.43.2	Nominal Voltage		V	240 AC	
3.44	Whether local/ remote/ disconnect selector switch is provided? (Yes / No)		Yes / No		
3.45	Whether open/neutral /close control switch is provided? (Yes / No)		Yes / No		
3.46	Whether under voltage relay is provided for motor supply?		Yes / No	Yes	
3.47	Whether all of the heaters are equipped with a M.C.B ?		Yes / No	Yes	
3.48	Rated power of operation coil		W		
3.49	Total load of heaters		W		
	Insulators				
3.50	Manufacturer				

3.51	Place of manufacturing				
3.52	Type (porcelain /composite)			porcelain	
3.53	Color				
3.54	Creepage distance		mm	4495	
3.55	Protected creepage distance		mm		
3.56	Permissible cantilever working load		N	C8	
3.57	Operating handle or lever mounting height above ground		m	1.2	
3.58	Permissible tensional strength		N.m		
3.59	Minimum clearance		mm		
3.59.1	Between poles when earth switch is closed				
3.59.2	Between poles when earth switch is open				
3.59.3	Between phase and ground				
3.59.4	Between one pole terminals at open condition				
	Interlocks				
3.60	Type of interlocking			Electrical and Mechanical	
3.61	Locking arrangement in on/off position		Yes / No	Yes	
3.62	Automatic isolation of control supplies when lock off		Yes / No	Yes	
	Miscellaneous				
3.63	Type of main contacts				
3.64	For grounding switch				
6.65	Material of main contacts				
3.65.1	For grounding switch				

3.66	Material of blades				
3.66.1	For grounding switch				
3.67	Whether main contacts are silver plated				
3.67.1	For grounding switches			Yes	
3.68	Quantity and type of free auxiliary contacts				
3.67.1	For grounding switches			>10NO+ >10NC	
3.69	Permissible force on HV terminals				
3.69.1	Static in any direction		N		
3.69.2	Dynamic in any direction		N		
3.70	Weight of maximum package ready for shipment		kg		
3.71	Weight of complete earth switch		kg		
3.72	Cubicle Light (Compact LED)		Yes / No	Yes	