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# NEUTRAL GROUNDING RESISTOR DATA SHEET

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<u>DESCRIPTION</u>	<u>REQUIRED SPECIFICATIN</u>	<u>BIDDER SPECIFICATION</u>
<b>1. GENERAL</b>		
1-1. QUANTITY		
1-2. CODES & STANDARDS		IEEE-32 (1972), IEC 60071-1
<b>2. SERVICE CONDITIONS</b>		
2-1. LOCATION	<input type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR	<input type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR
2-2. AMBIENT TEMPERATURE	MAX: °C      MIN: °C	MAX: °C      MIN: °C
2-3. MAX RELATIVE HUMIDITY	%	%
2-4. ALTITUDE (SEA LEVEL)	m	m
2-5. SEISMIC WITHSTAND FACTOR (Ver/Hor)	g	g
<b>3. SYSTEM &amp; RATING</b>		
<b>3-1. RATING OF NGR</b>		
3-1-1. RATED VOLTAGE	kV	kV
3-1-2. PHASE TO NEUTRAL VOLTAGE	kV	kV
3-1-3. FAULT VOLTAGE	kV	kV
3-1-4. MAX SYSTEM VOLTAGE	kV	kV
3-1-5. RATED WITHSTAND VOLTAGE	kV	kV
3-1-6. RATED LIGHTNING IMPULSE VOLTAGE	kV	kV
3-1-7. RATED CURRENT	A	A
3-1-8. OHMIC VALUE @ 20 °C / TOLERANCE	Ω / ± %	Ω / ± %
3-1-9. RATED TIME DURATION	SEC	SEC
3-1-10. MAX. TEMP. RISE	°C	°C
3-1-11. RATED CONTINUOUS CURRENT	A	A
3-1-12. FREQUENCY	Hz	Hz
<b>4. CONSTRUCTION</b>		
<b>4-1. RESISTOR ELEMENTS</b>		
4-1-1. TYPE OF RESISTOR		
4-1-2. MATERIAL OF RESISTOR		
4-1-3. RESISTOR SCREW & NUT MATERIAL	<input type="checkbox"/> GALVANIZED <input type="checkbox"/> STAINLESS STEEL	<input type="checkbox"/> GALVANIZED <input type="checkbox"/> STAINLESS STEEL
4-1-4. CONNECTIONS MATERIAL	<input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/> ALUMINUM <input type="checkbox"/> BRASS <input type="checkbox"/> COPPER	<input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/> ALUMINUM <input type="checkbox"/> BRASS <input type="checkbox"/> COPPER
<b>4-2. CABLE ENTRY</b>		
4-2-1. INCOMING (from NEUTRAL)	<input type="checkbox"/> TOP <input type="checkbox"/> SIDE <input type="checkbox"/> BOTTOM <input type="checkbox"/> FROM CABLE BOX	<input type="checkbox"/> TOP <input type="checkbox"/> SIDE <input type="checkbox"/> BOTTOM <input type="checkbox"/> FROM CABLE BOX
4-2-2. OUTGOING (to GROUND)	<input type="checkbox"/> SIDE <input type="checkbox"/> BOTTOM <input type="checkbox"/> FROM CABLE BOX	<input type="checkbox"/> SIDE <input type="checkbox"/> BOTTOM <input type="checkbox"/> FROM CABLE BOX
<b>4-3. ENCLOSURE</b>		
4-3-1. INDEX OF PROTECTION (IEC 60529)	IP	IP
4-3-2. ENCLOSURE MOUNTING	<input type="checkbox"/> FREE STANDING <input type="checkbox"/> WALL MOUNT <input type="checkbox"/> FRAME OR PLINTH MOUNT <input type="checkbox"/> ON TRANSFORMER	<input type="checkbox"/> FREE STANDING <input type="checkbox"/> WALL MOUNT <input type="checkbox"/> FRAME OR PLINTH MOUNT <input type="checkbox"/> ON TRANSFORMER
4-3-3. ENCLOSURE MATERIAL	<input type="checkbox"/> BLACK IRON <input type="checkbox"/> PRE GALVANIZED STEEL <input type="checkbox"/> HOT DIP GALVANIZED <input type="checkbox"/> STAINLESS STEEL	<input type="checkbox"/> BLACK IRON <input type="checkbox"/> PRE GALVANIZED STEEL <input type="checkbox"/> HOT DIP GALVANIZED <input type="checkbox"/> STAINLESS STEEL
4-3-4. ENCLOSURE SCREW & NUT MATERIAL	<input type="checkbox"/> GALVANIZED <input type="checkbox"/> STAINLESS STEEL	<input type="checkbox"/> GALVANIZED <input type="checkbox"/> STAINLESS STEEL
4-3-5. ENCLOSURE COLOR (if applicable)	RAL	RAL
4-3-6. LIFTING LUGS	<input checked="" type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input checked="" type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
4-3-7. FOUNDATION BOLTS	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
4-3-8. NAME PLATES	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
4-3-9. WARNING PLATES	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
4-3-10.TAG NUMBER PLATES	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
4-3-11.GLAND PLATE	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
4-3-12.HV CABLE BOX	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
4-3-13.LV CABLE BOX	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED

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<u>DESCRIPTION</u>	<u>REQUIRED SPECIFICATIN</u>	<u>BIDDER SPECIFICATION</u>
<b>5. ACCESSORIES</b>		
<b>5-1. CURRENT TRANSFORMER</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
5-1-1. REQUIRED QUANTITY	1	1
5-1-2. RATED VOLTAGE	kV	kV
5-1-3. RATIO		
5-1-4. BURDEN	VA	VA
5-1-5. ACCURACY CLASS		
<b>5-2. VOLTAGE TRANSFORMER</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
5-2-1. REQUIRED QUANTITY		
5-2-2. RATED VOLTAGE	kV	kV
5-2-3. RATIO		
5-2-4. BURDEN	VA	VA
5-2-5. ACCURACY CLASS		
<b>5-3.SURGE ARRESTER</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
<b>5-4.PROTECTION RELAY</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
<b>5-5. CIRCUIT BREAKER</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
5-5-1. TYPE	<input type="checkbox"/> interlock <input type="checkbox"/> switch <input type="checkbox"/> contactor	<input type="checkbox"/> interlock <input type="checkbox"/> switch <input type="checkbox"/> contactor
5-5-2. BREAKING STATE	<input type="checkbox"/> off-load <input type="checkbox"/> on-load	<input type="checkbox"/> off-load <input type="checkbox"/> on-load
5-5-3. OPERATION	<input type="checkbox"/> manual <input type="checkbox"/> motorized	<input type="checkbox"/> manual <input type="checkbox"/> motorized
5-5-4. INSULATOR FLUID	<input type="checkbox"/> air <input type="checkbox"/> SF6 <input type="checkbox"/> vacuum	<input type="checkbox"/> air <input type="checkbox"/> SF6 <input type="checkbox"/> vacuum
<b>5-6. INCOMING BUSHING (from NEUTRAL)</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
<b>5-7. OUTGOING BUSHING (to GROUND)</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
<b>5-8. ANTI CONDENSATION HEATER &amp; THERMOSTAT</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
<b>5-9. TERMINAL BOX</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
<b>5-10. CONTROL CABINET</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
<b>6. COOLING METHOD</b>		
<b>6-1. COOLANT FLUID</b>	<input type="checkbox"/> AIR <input type="checkbox"/> OIL	<input type="checkbox"/> AIR <input type="checkbox"/> OIL
<b>6-2. COOLING METHOD</b>	<input type="checkbox"/> NATURAL <input type="checkbox"/> FORCED	<input type="checkbox"/> NATURAL <input type="checkbox"/> FORCED
<b>7. SPARE PARTS</b>		
<b>7-1. FOR START UP &amp; COMMISSIONING</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
<b>7-2. FOR 2 YEAR OPERATION &amp;MAINTENANCE</b>	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED	<input type="checkbox"/> REQUIRED <input type="checkbox"/> NOT REQUIRED
<b>8. DIMENSIONS &amp; WEIGHT</b>		
<b>8-1. DIMENSIONS (W×L×D)</b>		
<b>8-2. NET WEIGHT</b>		
<b>8-3. ENCLOSURE WEIGHT</b>		
<b>9. PACKAGING</b>		
<b>9-1. PACKAGING (According to Packing Procedure)</b>	<input type="checkbox"/> NOT REQUIRED <input type="checkbox"/> SOFT COVER <input type="checkbox"/> SOLID STRUCTURE	<input type="checkbox"/> NOT REQUIRED <input type="checkbox"/> SOFT COVER <input type="checkbox"/> SOLID STRUCTURE