

## Technical Specifications for Digital Earth Resistance Tester

### **A: SCOPE:**

This specification covers Design/Engineering, manufacture, testing & calibration as well as supply & delivery of **Digital earth resistance meter** suitable for measuring **earth resistance of electrical installations** as per applicable standard & testing procedure. The offer for supply should include all accessories even though not specifically mentioned but which are essential for complete & satisfactory operation.

### **B: SPECIFICATION:**

- 1) Digital earth resistance tester shall be suitable for accurate measurement of earth resistance of electrical installations. The tester should be free from the effect of AC earth stray & electrolytic fields.
- 2) The tester should be powered by non-Rechargeable or re-chargeable battery.
- 3) **The instrument shall have range of 0-1.99 Kilo ohms with a resolution of 0.01 ohm. The accuracy of the instrument shall not be more than  $\pm 2\%$  of selected range for earth pit measurement.**
- 4) **Instruments should have the feature of 2-pole measurement and 3-pole measurement**
- 5) **Resistance of earth connection and equipotential bonding measured using current  $\geq 200$  mA with auto-zero function – meets the requirements of EN 61557-4**
- 6) The output voltage should be 25V or 50 V (selectable) with 125 HZ frequency for 50HZ network & 150HZ for 60Hz network (at a test frequency different from 50Hz to avoid electromagnetic interference)
- 7) The indication of high noise and high resistance of spikes (current & potential) provided in test instrument.
- 8) Comply with testing requirements set by international standards.
- 9) Measurement should not be influenced by electrostatic/electromagnetic interference present in EHV switchyards.
- 10) Measurement of disturbance voltage be provided up to 100V
- 11) Protection class IP 54
- 12) The instrument should indicate the battery status.
- 13) Safety compliance as per IEC61010-1 CAT III 600V/ IV 300V
- 14) Test Certificates are mandatory conforming to the following standards
  - EMC requirements (immunity for industrial environment) according to the following standards 61326-1:2006 and EN 61326-2-2:2006
  - type of insulation double, EN 61010-1 and IEC 61557 compliant
- 15) quality standard: design, construction and manufacturing are ISO 9001, ISO 14001, PN-N-18001 compliant
- 16) The instrument should be supplied along with its measurement leads (Red-30m, Blue-15m), earth spikes (2 Nos.), Connecting clips, charging leads, battery charger, Clamps, USB and a carrying case for safe transportation.

**C: SERVICE AFTER SALE:** Bidder will have to submit the documentary evidence of having established mechanism for prompt services as & when required.