Technical Specifications for Digital Insulation Tester – 1KV

A: SCOPE:

This specification covers Design/Engineering, manufacture, testing & calibration as well as supply & delivery of Digital Insulation Tester (1 kV) suitable for measuring insulation resistance, DAR, PI in live /running Switchyard of different level 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. The instrument shall be portable, light weight with internal chargeable battery or non-rechargeable battery.

B: SPECIFICATION:

1. Insulation Tester should be suitable for application in:
   a. Insulation testing of EHV Power Transformers at charged Switchyard.
   b. Insulation testing of EHV under-ground Power Cables.
   c. Insulation testing of EHV switchgears within charged Switchyard.
   d. Different kV level charged /running Sub-Stations.

2. Instrument should have rechargeable battery & battery charger. Battery should be rugged, long life & long working hours.
3. Instrument should have display of IR values at programmable time intervals set as Rt1, Rt2, Rt3, PI, DAR, Voltage applied, etc. without applying any searching process.
4. Instrument should have programmable time to set Resistance values as T1, T2, T3 up to 10 minutes.
5. Instrument should have direct digital display in the range of Kilo/Mega/Giga Ohms (Max. range 100GΩ) & the display should be large enough to read the result with the backlight function.
6. Instrument should have selectable voltage range of 50V, 100V, 250V, 500V, 1000V and any voltage range from 50V to 1000V in steps of 10V.
7. Instrument should have memory storage of 990 cells with capability of data transmission through USB.
8. Instrument should have automatic calculation of DAR and PI.
9. Instrument should have rated short-circuit rejection current of 1mA with permissible accuracy limit.
10. Instrument should have continuity measurement of protective and equipotential conductors according to EN 61557-4 with >200mA current.
11. Instrument should have capacitance measurement range up to 9.99µF.
12. Instrument should have leakage current measurement.
13. Instrument should have measurement capability for AC/DC voltage up to 600V.
14. Instrument should have safety compliance as per IEC61557 CAT_IV or equivalent.
15. Instrument should have ingress protection of IP67.
16. Instrument should have to confirm the following standards:
    a. EMC requirements (immunity for industrial environment) according to standards 61326-1:2006 and EN 61326-2-2:2006
    b. Type of insulation double, EN 61010-1 and IEC 61557 compliant
    c. Quality standard: design, construction and manufacturing are ISO 9001, ISO 14001, PN-N-18001 compliant

17. Instrument should have capability for real-time data download to Microsoft Windows-based software PC through USB/Bluetooth.
18. Instrument should have suitable carrying case for the instrument & its complete accessories.

C: SERVICE AFTER SALE:

Bidder will have to submit the documentary evidence of having established mechanism for prompt services as & when required.