Technical Specifications for Digital Insulation Tester – 5KV

A: SCOPE:

This specification covers Design/Engineering, manufacture, testing & calibration as well as supply & delivery of Digital Insulation Tester (5 kV) suitable for measuring insulation resistance, DAR, PI in live /running Switchyard 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. Type test from NABL/ILAC should be submitted by the bidder (inhouse or factory test report shall not be considered).

B: SPECIFICATION:

1. Insulation Tester should be suitable for application in:
   a. Insulation testing of EHV Power Transformers at charged Switch-yard.
   b. Insulation testing of EHV under-ground Power Cables.
   c. Insulation testing of EHV switch-gears within charged Switch-yard.
   d. Insulation testing of Capacitors.
2. Instrument should have in-built battery & battery charger. Battery should be rugged, long life & long working hours. Input Voltage for charging battery should be with charging adapter (230 V ±15%, 50HZ ±5%, AC).
3. Instrument should have display of IR values at programmable time intervals set as Rt1, Rt2, Rt3, PI, DAR, Voltage applied, Leakage current, time, step voltage, Dielectric discharge 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/Tera Ohms (Max. range 5 TΩ), and the display should be large enough to read the result with the backlight function.
6. Instrument should have selectable voltage ranges of 500V, 1000V, 2500V & 5000V.
7. Instrument should have selectable voltage range from 50V to 5000V in steps of 50V.
8. Instrument should have memory storage of 990 cells with the capability of data transmission through USB.
9. Instrument should have automatic calculation of DAR and PI. It should also automatically calculate capacitance for user programmable timing.
10. Instrument should have rated short-circuit rejection current of 1.5mA with high accuracy limit at 5KV injection to the object.
11. Instrument should have induction suppression up to 750V or more, with automatic discharge of applied voltage from the object, and no manual discharge rods to be used, ensuring user safety.
12. Instrument should have safety compliance as per IEC61010-1 CAT_IV or equivalent.
13. Instrument should have to conform the following standards:
    a. EMC requirements (immunity for industrial environment) as per 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
14. Instrument should have capability for real-time data download to Microsoft Windows-based software PC.

15. Instrument should have suitable carrying case for the instrument & its complete accessories.
16. Instrument should have display of cable length and capacitance in the kit itself.
17. Instrument should have suitable length of cables supplied along with the product.
18. Instrument should have ingress protection of IP65.

C: SERVICE AFTER SALE:

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