

SCHEDULE -III**TECHNICAL SPECIFICATION FOR SINGLE PHASE DIGITAL TRANSFORMER
TURNS RATIO METER AGAINST TN- 2625****3.01 SCOPE:**

Supply of Single Phase microprocessor based digital transformer turns ratio meter capable of measuring and testing the transformation ratio of all types of power transformers on site and to be delivered up to our stores.

3.02 REQUIREMENT:

17 Nos. Digital transformer turns ratio meters are required. This quantity is tentative which may be increased or decreased at the time of finalization of tender.

3.03 SPECIFICATIONS:

- 3.03.1 Automatic functions: The instrument shall be fully automatic. No user calibration, range selection, hand cranking or balancing shall be required.
- 3.03.2 The minimum range of ratio measurement of the equipment shall be 1.0000 to 999.99. The instrument shall have auto ranging facility.
- 3.03.3 The accuracy of the instrument shall be atleast $\pm 0.1\%$ of full scale deflection of the selected range ± 3 digits or better for all transformation ratios.
- 3.03.4 The Resolution shall be as below or similar depending on the ranges offered:
- (a) 0.0001 for readings from 1.0000 to 1.9999.
 - (b) 0.001 for readings from 2.000 to 19.999.
 - (c) 0.01 for readings from 20.00 to 99.999.
- 3.03.5 The instrument shall be user friendly and simple to operate.
- 3.03.6 The instrument shall be capable of making the following measurements:
- i) Transformer turns ratio
 - ii) Excitation current
 - iii) Indication of polarity (phase)
- 3.03.7 The readings of the equipment shall be minimum 3 ½ digit display. The instrument shall display the following:
- i) Transformer ratio
 - ii) Excitation current and voltage
 - iii) Indication of polarity

3.03.8 On each measurement the instrument shall automatically perform self checking / calibration and display the following warning messages, if applicable.

- i) Incorrect connections
- ii) Accidental step up misconnection.
- iii) Circuit continuity not available
- iv) Low battery

3.04 **POWER SUPPLY:**

The instrument shall be powered by AC 230V+/-10%, 50Hz supply (without internal rechargeable battery). The instrument shall also be powered by internal rechargeable battery.

3.05 **TEMPERATURE RANGE:**

The instrument shall be able to work in the temperature range of 0 to 50 degree C.

3.06 **ACCESSORIES:**

All the accessories such as measuring leads, etc. of length 10 metres and power cord of length 5 metres shall be supplied alongwith the instrument. Extra battery and 2 copies of the manual shall also be supplied.

3.07 **WEIGHT:**

Instrument shall be light in weight and portable.

3.08 **HOUSING:**

Instrument shall be housed and packed in a robust, shock proof and weather proof cover so that it is not damaged during transportation.

3.09 **DEMONSTRATION:**

The free of cost demonstration of the offered instrument shall be arranged by the bidder prior to order to prove confirmation to the ranges / specification.

3.10 **MEMORY CAPACITY:**

The instrument shall have the capability to store test readings. The storage capacity shall be indicated.

3.11 AFTER SALES SERVICE:

The bidder shall provide after sales service free of cost during warrantee period. The bidder shall confirm that the after sales services and necessary spare parts required if any, shall be available in India at least for a period of 5 years from the date of expiry of warrantee period. The facility to provide after sales services and spare parts for a period of 5 years after expiry of warrantee period in India is mandatory otherwise their bids will be considered as non responsive.

3.12 PROTECTION:

Instrument shall be protected against any wrong connections.

3.13 GUARANTEE:

The instrument shall be guaranteed for a period of 2 years from the date of supply.

3.14 CALIBRATION CERTIFICATES:

The equipments shall be supplied with calibration certificates. The instruments used for such calibration shall have traceability to National Physical Laboratories or NABL accredited laboratories. For bidders offering equipment from outside India, the calibration certificates shall be from manufacturer's laboratory having accreditation from certification agency or independent testing laboratory.

3.15 INSPECTION

The inspection and testing shall be carried out as per specification and in terms of Clause 1.27 of GCC. The bidder shall indicate the name and place of laboratory/ works, where the inspection shall be carried out.

In case of the equipment manufactured outside India and imported by Indian Agent or Indian office of the manufacturer , the inspection shall be carried out at the laboratory of Indian agent / Indian office of the manufacturer (if the testing facility is available) . If it is not possible to carryout inspection as above, then the physical verification of the material shall be carried out by our Inspecting officer in the office of the Indian Agent / Indian office of the manufacturer , who shall seal 1 No. equipment out of the ordered quantity for getting it tested for accuracy and ranges at Govt. Lab. / Govt. recognized lab / NABL accredited laboratory for acceptance of ordered material . The testing charges of the laboratory shall be borne by the bidder.

3.16 DEPARTURE FROM SPECIFICATION:

If the tenderer departs from above technical parameters required as mentioned above than he should clearly indicate such departures in schedule-VI unless this is done , the departmental specification shall hold good and shall be binding on the supplier.

3.17 GENERAL:

The tenders received without complete details required as per enclosed forms / schedules are liable to be rejected.

3.18 ADDITIONAL ORDER

Repeat orders for additional quantities, upto 50% of original ordered quantities, may be placed by the Nigam, on the same rates, terms and conditions given in the contract.