

Schedule – III**Technical Specification for supply of Single Phase Transformer Turns Ratio Test Kit against TN-2563****1. Scope of work : -**

The equipment offered shall be used for automatic measurement of turns ratio , exciting current, ratio error, and phase angle deviation & check for live test points, short circuit, open circuit and reverse polarity before each measurement of various power and distribution transformer.

2. The technical requirements shall be as follows:-

- I.** The instrument should have basic accuracy of $\pm 0.02\%$ reading $\pm 0.1\%$ of range.
- II.** It should be capable of performing accurate measurement of Turn Ratio of Transformer.
- III.** Both voltage channels shall have a high immunity against electrical disturbance, high dynamic common mode rejection and wide measuring ranges.
- IV.** Excitation current measurement should be up to 500mA.
- V.** Test voltage should be from 10 to 100 Volt
- VI.** Reverse polarity indication sign in LCD.
- VII.** It should have user friendly features like yellow lemon color 16x 1 LCD display , two nos. of tack switch to perform easy operation.

3. General Specification:-

| Sr No | Particulars | Specification |
|--------------|---|---------------------------------------|
| 1 | Warm Up time(for specified accuracy) | 30 Minutes |
| 2. | Operating temp. | 5 to 50 degree C |
| 3. | Operating humidity | 20 to 75 % RH(non condensation) |
| 4. | Storage temp. | 0 to 55 degree C |
| 5. | Input Power supply | AC-230V $\pm 10\%$, @ 50Hz |
| 6. | Overall size of instrument in mm (W x D x H) Approx | 270 x 280 x 65mm |
| 7. | Weight of instrument | 2 to 3.5 Kg, approx (Only instrument) |

4. Measuring Functions:-

| Sr. No. | Particulars | Specification |
|----------------|--------------------------------------|---|
| 1. | Measuring and calculative parameters | Turns ratio, reverse polarity, short circuit and open circuit |

| | | |
|----|---------------------------------------|---|
| 2. | Resolutions of turns ratio | 4/5 digits |
| 3. | Excitation voltage | 10 to 100 Volt |
| 4 | Excitation current range | Ranges up to 500mA. |
| 5 | Accuracy | +0.02% reading \pm 0.1% of range |
| 6 | Ratio range | 1.0 to 500.0 |
| 7 | Data hold facility | Using HLD key with hold indication LED |
| 8 | Over current protection | Inbuilt over current protection for short winding |
| 9 | Phase Deviation Range | \pm 180 Degrees |
| 10 | Phase Deviation Accuracy & Resolution | Accuracy \pm 0.05 Degrees \pm Resolution Resolution : \pm 0.05 Degrees |

5. Accessories:-

| Sr.No | Particulars |
|-------|--|
| 1 | 5 meter long HV & LV testing lead (Detachable) along with complete accessories |
| 2 | Mains power code |
| 3 | Accessories bag |
| 4 | Documents file with operational manual and with manufacturer lab calibration certificate |
| 5 | Extra fuses. |

6. Key features:-

1. Fully automatic measurement of transformer turns ratio and polarity & Check for live test points, short circuit, open circuit and reverse polarity before each measurement.
2. 0.1% accurate measurement.
3. Single phase connections enables simpler and faster testing .
4. 16x1 LCD to see measured parameters with details.
5. Switch for auto testing .
6. Inbuilt over current protection for short winding
7. Portable in size.
8. Wrong HT/LT detections.
9. Rechargeable battery backup facility.
10. Guarantee 24 months.

7. TENDER SAMPLE:

All the testing expenditures of sample testing, Acceptance tests for routine inspection of lots will be borne by the firm only.

The tenderer shall have to submit one tender sample of each rating offered of Single Phase Transformer Turns Ratio meter duly tested as per the tender

specifications before the date of opening of techno-commercial bid or one day prior to opening of techno-commercial bid, for arranging CTL or elsewhere testing. The tender without sample or delayed submission of sample will be outrightly rejected and offer will not be considered neither for technical evaluation nor for price bid consideration.

Only after successful CTL or elsewhere testing **as per specifications** in presence of tenderer's / bidder's representative, offer of the firm will be considered for opening of the financial bid. The tender sample will be returned back on whom order is not placed. It will be responsibility of bidder to collect the tender sample within 10 days on receipt of letter from Purchaser. The purchaser is not responsible for any damage or loss of parts etc. if found short during collection of tender sample. If bidder is not lifting the tender sample on receipt of letter from purchaser, then Nigam will not be responsible for its safe custody. The tender sample will be considered as a part for the successful bidder and after successful passing in tests at CTL or elsewhere, it will be allowed for dispatch at the destination, allotted by the purchaser along with the last lot.

The samples are to be submitted to Testing office (i.e. CTL or elsewhere) under guidance of purchaser.

8.0 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.