**SINGLE- AND THREE- PHASE TRANSFORMER RATIO AND PHASE-ANGLE DEVIATION METER**

TECHNICAL SPECIFICATIONS

1. The instrument will measure the ratio and the phase-angle deviation and it will check the polarity, for single and three-phase transformers.

2. The digital readings will appear directly (no balancing required) and the measuring time will be clearly stated at the offers.

3. Transformer ratio range:
   From 1/1 to 2000/1.

4. Accuracy: ± 0.1%.

5. Test voltage: up to 220 V in steps , automatic or manually selectable.

6. Power sypply: 230 V / 50 Hz.

7. Automatic winding connection identification and automatic vector group detection of the transformer.

8. Protection from overvoltage and incorrect connection of the tested transformer. The protection device will be clearly stated at the offers.

9. The offer will include:
   α) a power supply cable
   β) the appropriate measuring cables, with a minimum length of 15 m, with the suitable terminals.

10. Maximum instrument dimensions: 500 x 500 x 300 mm.
    Maximum instrument weight: 15 kg.

11. The offers will include a suitable and safe for transport robust case.

12. The supplier has to provide together with the instrument a complete operation and maintenance instruction manual in Greek or English, as well as circuit diagrams.

13. The offered instruments must have have been sold and operate without problems for a long time.
    For this reason bidders are requested to submit with their offer a reference list of the offered instruments including the following information:

    α) Country and customer
    β) Quantity and type of the instrument
    γ) Year of sale

14. One year guarantee.

15. Transformation ratio measurement in all possible connections of power transformers.

16. Operation temperature: $0^{o}C \div +40^{o}C$
    Storage temperature: $-5^{o}C \div +50^{o}C$

17. Allowed humidity up to 90%.

18. The device will be given with an accreditation certificate, according to the ISO requirements, by a recognized laboratory.