



SIVA INSTRUMENTS

Automatic Transformer Ratio Meter

Model : ATRM-1uP



An ISO 9001:2000 COMPANY



Introduction

Microprocessor based Automatic Ratio Meter is the first automatic ratio meter in the country giving digital display of ratio directly.

The instrument without any need of balancing precisely & accurately measures the voltage transformation ratio of single phase/3-phase delta or star connected transformers, CTs & PTs, Power Transformers.

Test Voltage : The Instrument provides 3 isolated test voltages of 8V/40V,80V which enable the testing of both power transformers & CTs.

Display : LCD displays the ratio i.e. ratio of high voltage winding to low voltage winding at low flux in the core. Ratio is displayed in 0.8 - 13000 by auto ranging.

Principle of operation: This micro-processor based Instrument uses ratio-metric circuit in which the ratio of test specimen is compared with known internal standard.

Protection: Instrument is protected against any wrong connection across the transformer. Fast acting VBO trips in case of stepping up of test voltage.

Keypad & LCD Display : This is provided for displaying keyboard selected parameter, error/warning messages like incorrect connection, accidental step up misconnection, for user friendly functioning etc.

Features

- Fully auto operation, No balancing is required .
- Measures and displays transformer ratio, Phase angle, excitation current, polarity, percent deviation (Primary/Secondary, Continuity or any short circuit)
- LCD display.
- Automatic Vector Group Detection.
- RS232 Port to down load data to PC.
- Resolution of 0.001 in the range 10.
- Can be used to measure 3,1 phase delta, star connected transformer.
- Fully protected against any wrong connections.
- Built in printer for on-site printouts.
- Temperature Range -5 to 50°C

Specifications

POWER SUPPLY 220V AC , 50Hz, single phase.
110 VAC 60Hz on request.

TEST VOLTAGE 8 V/ 40V,80VAC

AUTORANGING RANGES

Ratio Range	Display	Resolution	Accuracy
10	0.8-9.999	0.001	±0.1% for ratio 0.8 to 2000.
100	10-99.99	0.01	
1000	100-999.9	0.1	±0.2% for ratio beyond 2000
10000	1000-10000	1	
13000	10000-13000	1	

INDICATION 4 ½ Digit LCD display of ratio.
LCD display 4line x 20 Characters
alphanumeric controlled by processor
for interfacing with keyboard.

ACCURACY ±0.1% for ratio reading 0.8 to 2000.
±0.2 % for ratio beyond 2000.

PHASE ANGLE ± 90 degrees,

ACCURACY ± 1degree.

EXCITATION CURRENT 0 – 500mA

ACCURACY ± 2%

RESOLUTION 3DIGIT

PHASE DEVIATION RANGE 0 – 90 degrees.

RESOLUTION 1degree.

RATIO DEVIATION RANGE 0 – 100%

RESOLUTION 0.01%

STORAGE MEMORY 900 Readings.

PORT RS232 PORT

SOFTWARE Windows Based.

OPERATING TEMP. - 5°C TO 50 °C

SAFETY SPECIFICATIONS IEC 61010 COMPLIED.

EMI/EMC SPECIFICATIONS IEC/EN 61326 COMPLIED.

VIBRATION TEST IEC60068-2-6 COMPLIED.

SHOCK TEST IEC60068-2-27 COMPLIED.

BUMP TEST IEC60068-2-29 COMPLIED.

DAMP HEAT TEST IEC60068-2-78 COMPLIED.

WEIGHT Approx. 17Kg

DIMENSIONS 434 x 305 x 222 ± 5mm

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