



# H.V. TEST

Specialists in High Voltage  
Testing & Diagnostics

## HVRW310 Transformer DC Resistance & Ratio Tester (10A)

HVRW310 Transformer Winding Resistance and Turn Ratio Test unit is used for a Transformer DC Resistance Test and Transformer Ratio Group Test during a maintenance outage.

Because of the different test methods often two instruments are needed and it is necessary to do two tests separately and two connections and disconnect, which will greatly reduce the work efficiency and increase testing time. The transformer DC resistance ratio tester solves the above problems. One instrument can carry out two tests: DC resistance test and ratio test. The unit with its intuitive operation, completes three-phase direct resistance test and three-phase ratio test at one time, and performs the testing quickly and with high accuracy.

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### Features:

- DC Resistance and Variable Ratio Testing Function: Simultaneously, it has DC resistance testing and Variable Ratio Group testing functions, one wiring, two different tests, simple and convenient.
- Variable Ratio Testing: It has three-phase sinusoidal inverter output, output voltage automatic regulation, soft start and soft stop functions, so the testing speed is quick and easy and increased accuracy
- Variable ratio test: three-phase transformer, single-phase transformer, PT, variable ratio, group, polarity test function.
- Variable ratio test: it has blind test function, that is, variable ratio and group test is conducted when the connection mode of high and low voltage is unknown.
- Variable ratio test: CT variable ratio polarity test function.
- Variable ratio test: single phase test with Angle difference test
- Variable ratio test: tap-tap position up to 197.
- Variable ratio test: the test range is wide, up to 10000.
- Variable ratio test: high and low voltage reverse connection protection function.
- Variable ratio test: output short circuit protection function.
- DC resistance test: for the winding test with star connection and neutral lead wire, three-phase simultaneous measurement to test the resistance of A0, B0 and C0 phases.

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# HVRW310

## Transformer DC Resistance & Ratio Tester (10A)

### Additional Features:

- DC resistance test: for Y type and  $\Delta$  type winding test, the instrument can be three-phase automatic test, and convert the three-phase imbalance rate.
- DC resistance test: with reverse electromotive force protection, input protection, power protection and other protection functions.
- DC resistance test: wide measuring range and high precision.
- No power off clock and date display; The data storage mode is divided into local storage and USB flash disk storage. Among them, the local storage can store 600 pieces of test data (300 pieces of direct resistance test and 300 pieces of variable ratio test), and the local storage can be transferred to USB flash disk. USB flash drive data storage format for Word format, can be directly on the computer to edit and print.
- Thermal printer printing function.

## TECHNICAL SPECIFICATIONS

- |                              |                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • DC resistance test current | AUTO, <20mA , 40mA , 200mA , 1A, 3A, 10A                                                                                                                                                                                                                                                                                                                   |
| • DC range and accuracy      | 10A: 0.5 m $\Omega$ ~ 800m $\Omega$ $\pm$ (0.2%+2 digits )<br>3A : 2m $\Omega$ ~ 2 $\Omega$ $\pm$ (0.2%+2 digits): 5m $\Omega$ ~ 10 $\Omega$ $\pm$ (0.2%+2 digits)<br>200mA: 100m $\Omega$ ~ 5 0 $\Omega$ $\pm$ (0.2%+2 words)<br>40mA : 500m $\Omega$ ~ 2 50 $\Omega$ $\pm$ (0.2%+2 digits)<br>< 20 mA: 50 $\Omega$ ~ 50 K $\Omega$ $\pm$ (0.5%+2 digits) |
| • Minimum resolution         | 0.1 $\mu\Omega$                                                                                                                                                                                                                                                                                                                                            |
| • Display                    | LCD display                                                                                                                                                                                                                                                                                                                                                |
| • Resistive Resolution       | 4 decimals                                                                                                                                                                                                                                                                                                                                                 |
| • Data storage               | 1000 groups                                                                                                                                                                                                                                                                                                                                                |
| • Working environment        | Relative humidity: <80%RH, non-condensing                                                                                                                                                                                                                                                                                                                  |
| • Ambient temperature        | -20 ~ 40 °C                                                                                                                                                                                                                                                                                                                                                |
| • Power supply               | 220V $\pm$ 10 V AC, 50Hz $\pm$ 1 Hz                                                                                                                                                                                                                                                                                                                        |
| • Fuse                       | 5 A                                                                                                                                                                                                                                                                                                                                                        |
| • Maximum power consumption  | 200W                                                                                                                                                                                                                                                                                                                                                       |
| • Test range                 | Transformation ratio -- 0.9 ~ 10000 Angle -- 0-360°                                                                                                                                                                                                                                                                                                        |
| • Ratio accuracy             | $\pm$ 0.1% + 2 digits (0.9-500)<br>$\pm$ 0.2% + 2 digits (501-2000)<br>$\pm$ 0.5 % + 2 digits (2001-10 000)                                                                                                                                                                                                                                                |
| • Angle accuracy             | $\pm$ 0.2°                                                                                                                                                                                                                                                                                                                                                 |
| • Output voltage             | Automatically adjusted according to the load                                                                                                                                                                                                                                                                                                               |
| • Resolution                 | Ratio - minimum 0.0001, angle - 0.01°                                                                                                                                                                                                                                                                                                                      |
| • Power supply               | 220V $\pm$ 10% AC, 50 $\pm$ 1Hz                                                                                                                                                                                                                                                                                                                            |
| • Ambient temperature        | - 10 °C ~ 40 °C                                                                                                                                                                                                                                                                                                                                            |
| • Relative humidity          | $\leq$ 85%, no condensation                                                                                                                                                                                                                                                                                                                                |
| • Instrument Dimensions      | 390 x 280 x 190 mm                                                                                                                                                                                                                                                                                                                                         |
| • Weight                     | 9kg (Excluding test leads)                                                                                                                                                                                                                                                                                                                                 |

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