MOTWANE

EMPOWERING
MEASUREMENT

XWRM-10

Transformer Winding Resistance Meter

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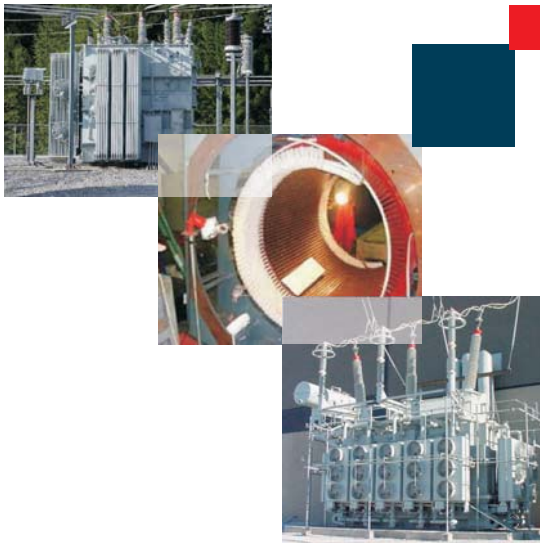

XWRM-10

Transformer Winding Resistance Meter

The Motwane make XWRM-10 is a dual channel, 10A rated, Transformer Winding Resistance Meter designed and developed after extensive research on challenges and requirements of testing of various Transformer winding resistance. The instrument has One Current channel and two resistance Channels. The instrument provides a large open circuit voltage of 42Volts, for fast charging of the highly inductive windings of transformers, to provide stable resistance values in minimum time. The XWRM-10 is intended to replace complex bridge set up with a single compact instrument.

The XWRM-10 is based on 4-wire measurement method to measure low resistance accurately. The instrument is well protected against inductive kickbacks offered by the inductive windings and gives stable reading on various types of transformers.

XWRM-10 has a special feature to conduct heat run test on transformers. Two channels are provided to measure winding resistance of primary and secondary side of two winding transformers simultaneously, which are required to take fast readings during heat run test. The periodic samples of readings of both channels are stored in a special memory which can be uploaded to a PC. The Windows based software is provided with the instrument for calculations of the temperature rise in windings from the recorded resistance values. The software can also be used for data management, graph plotting, analysis and report generation. The instrument can be operated through software. XWRM-10 has another feature of detecting open OLTC conditions, thereby indicating the healthiness of OLTC. The windings are automatically discharged after the test, for the safety of the operator.
The XWRM-10 is user friendly and easy to operate. The test information is displayed along with real time data on large LCD display with backlit during TEST ON condition. The test cables are provided with specially designed industrial grade heavy duty crocodile clips for better grip and durable performance in harsh conditions. The instrument and the accessories come in trolley mounted heavy duty casings for easy transportation on the fields.
Frequent testing of Transformers for winding resistances can yield huge revenue savings, because small increase of winding resistance, leads to huge full load losses.

Applications

XWRM-10 is perfectly suitable for measurements of cold and hot winding resistances of Transformer winding. The instrument is designed for testing of medium capacity power transformers as well as distribution transformer. Trending of data can reveal vital information about deterioration, incipient faults in tap changer and enables user to take informed decision regarding maintenance.

The XWRM-10 is intended for following target market

- Transformer Manufacturer/ Repairer
- Public & Private Power Sectors
- State Power Utilities
- Large Industrial Sectors
- EPC Contractors
- Out sourced Testing Agencies

Features

- 4½ digit reading for resistance measurement
- Simultaneous display of dual channels for resistance and single channel for current
- Four test current Ranges: ≤10A,1A,100mA,10mA
- Seven measurement Ranges: 2mΩ to 2000Ω
- Minimum resolution of 0.1μΩ with accuracy : ±(0.2% of rdg+5 counts)
- Built in memory storage up to 99 records
- Automatic fault detection in OLTC of the Transformers
- Special mode for conducting heat run test
- Custom built backlit LCD with sealed soft touch membrane keypad
- Data exchange to PC through USB interface

Benefits

Dual channel measurement

To measure winding resistance of two separate windings simultaneously, saving time

Fast & stable readings

The open circuit voltage of 42V, provides the fast charging of inductive windings to give stable readings in minimum time for a wide variety of transformers

Auto discharge facility

Auto discharge facility ensures operator's safety after conducting test on transformer winding.

Four wire measurement method

To eliminate the resistance of test leads, which may lead to inaccurate readings.

Large and clear display

Large and clear backlit LCD enables visibility in all light conditions

Data handling and analysis

MOTWANE XWRM-10 make comes with Windows Vista/XP/2000 based analytical software for analyzing heat run test readings in tabular and graphical format. The software allows the user to download online test records to PC through USB interface

Heat run test mode

In heat run test mode the instrument will start recording resistance values which can be downloaded to PC through USB interface and analyzed through the software provided

General Specifications

- Principle : 4 wire measurement
- Mode : Continuous
- Display : Large LCD
  4½ digit display for resistance
  3½ digit display for test current
- Keypad : Sealed soft touch keypad
- Test ON indication : LED and Beep
- Over range indication : Blinking OL display

Technical Specification

Power Supply

- Input power : 230V ±10%, 50Hz, Single phase AC supply

Test Specification

- Test Current Injection : ≤10A, 1A, 100mA &10mA
- Test current accuracy : ±10%
- Current Flow Alert : LED & Beep
- Open-Circuit Test Voltage : 42 VDC

Resistance Measurement Range

- Seven Ranges : 2mΩto 2000Ω
- Accuracy : ±(0.2% of rdg. + 5counts)

				Range (Ω)	Resolution (Ω)	Maximum Display (Ω)
10A	1A	100mA	10mA			
√				2mΩ	0.1uΩ	1.9999mΩ
√	√			20mΩ	1uΩ	19.999mΩ
√	√	√		200mΩ	10uΩ	199.99mΩ
√	√	√	√	2Ω	0.1mΩ	1.9999Ω
	√	√	√	20Ω	1mΩ	19.999Ω
		√	√	200Ω	10mΩ	199.99Ω
			√	2000Ω	0.1Ω	1999.9Ω

Physical Specifications

- Dimensions (D x W x H) : 365mm x 426mm x 177.8mm
- Net Weight: Instrument : 12 Kg
- Test Cables : 6.8 Kg
- Packing case : 9.5Kg
- Gross Weight : 28.3 Kg approx.

Environmental Specifications

- Operating Temperature : 0°C to 50°C
- Storage Temperature : -10°C to 50°C
- Humidity : <90% RH, Non condensing
- Temperature Coeff. : 0.05% of applicable accuracy Specifications/ °C of res. Range

Software Details

- Type : Windows based analytical software
- Data Transfer : Real time data transfer
- Internal Storage : 99 test results
  10 sets of heat run test results
- Features : Online data acquisition
  Graph plotting for heat run test
  Remote operation
  Test report generation

Trending of data can reveal vital information about deterioration, the enables user to take informed decision regarding maintenance.

DBS/PC/LR-08/rev-00

Accessories

Standard Accessories

- 15 meter strong cables with Heavy duty alligator clips: 1 Set (6 no's)
- Mains power cord
- 5 meter Short link
- User Manual
- Calibration Sheet
- Carrying Case

Optional Accessories

- Software CD
- USB Cord




Notes

1. The Instrument is accompanied with Test & calibration sheet. 2. Test Facilities can be provided at the factory with the available test set-ups only. 3. The Company's policy is continuous improvement of its products. we therefore reserve the Right of any deviation from illustration or specifications without notice. 4. Stated accuracies are valid from 1/10th of range to FS. 5. Accuracy Specified for temperature range of 25°C ± 5°C & 55%RH ± 10%.