



XWRM 10A & 25A

Transformer Winding Resistance Meter

CAT III	IP	CE	USB	Bluetooth
600V	67/54			

XWRM Transformer is a Winding Resistance Meter designed for accurate & fast measurement of highly inductive loads such as Transformers, Reactors, Generator & HT Motors etc. The selectable smooth DC test current is useful to test transformer with different power ratings. Higher Open Circuit voltage saturates the core quickly in order to get stable readings. The three resistance measurement channels for simultaneous measurement of three windings help to reduce testing time. The heat run test feature is available with graphical representation through software and also has demagnetization facility, which eliminates the magnetic remanence effects. XWRM has facility to test make-before-break operation of on-load tap-changers which helps in the analysis of OLTC switch contacts. The Back EMF feature protects XWRM from high inductive kickbacks. The large LCD with keypad provides easy operation. It also has the Software for remote operation and detailed report generation, with an internal memory to store 2000 test results and inbuilt thermal printer provided for onsite report.

XWRM has Bluetooth connectivity module with MOT-WARE mobile app for remote access of testing data & storage in the cloud for further analysis & record purpose.

Features

- ✓ Direct 3-channel digital reading allows for testing of windings at a time.
- ✓ Very fast discharge time.
- ✓ High-contrast, large alphanumeric displays can be seen in bright sunlight.
- ✓ User-selectable maximum current range ensures protection of small transformers.
- ✓ Built-in demagnetization circuitry allows the operator to demagnetize the transformer core upon completion of resistance testing, or as a stand-alone feature before SFRA testing or when the transformer is put back in service.
- ✓ The XWRM allows for test of transformers with on-load tap-changers and provides a “break-before-make” indicator, in the event of any discontinuity.
- ✓ For those users who choose to create an external interlock safety perimeter, a safety Emergency Stop is provided.
- ✓ Remote trigger switch is also provided for testing transformers with tap-changers.
- ✓ Internal flash memory allows for mass storage of dataset records, for later recall and analysis.

Applications

Winding Resistance Test is an essential test which enables to identify shorted turns, loose connections, or deteriorating contacts in tap changers and measurements on all tap changer positions in transformer (if present) and compared to previous or factory test values for evaluating the condition of the transformer windings and leads. The acceptance criteria for the field-measured values should be within 3% of the factory values. A change greater than the acceptance criteria is indicative of short-circuited turns, poor joints, or bad tap changer contacts. This test should be performed during acceptance testing and when other maintenance electrical tests are conducted.

- Power Transformer
- Motor and Generator
- Reactor
- Heat Run Test
- OLTC Dynamic Test

Technical Details

XWRM 10A/25A

Specifications

Test Current	XWRM-10A : 10A,5A,1A, 100mA,10mA
	XWRM-25A : 25A,10A,5A,1A, 100mA,10mA

Resistance Ranges (Auto ranging)	XWRM-10A: 2mΩ to 2KΩ
	XWRM-25A: 200μΩ to 2KΩ

Accuracy	± (0.25% rdg + 0.25% F.S.D.)
-----------------	------------------------------

Resolution	±(0.25% of FSD + 5.0μΩ) for 0.1μΩ to 199.9 μΩ only
-------------------	--

Resolution	XWRM-10A: 0.1μΩ
	XWRM-25A: 0.01μΩ

Test Current						Range (Ω)	Resolution (Ω)	Maximum Display (Ω)
25A	10A	5A	1A	100mA	10mA			
✓						200 μΩ	0.01 μΩ	199.99 μΩ
✓	✓					2 mΩ	0.1 μΩ	1.9999 mΩ
✓	✓		✓			20 mΩ	1 μΩ	19.999 mΩ
✓	✓		✓	✓		200 mΩ	10 μΩ	199.99 mΩ
	✓		✓	✓	✓	2 Ω	0.1mΩ	1.9999 Ω
			✓	✓	✓	20 Ω	1 mΩ	19.999 Ω
				✓	✓	200 Ω	10 mΩ	199.99 Ω
					✓	2000 Ω	0.1 Ω	1999.9 Ω
		✓				4 mΩ	0.1 μΩ	4.0000 mΩ
		✓				40 mΩ	1 μΩ	40.000 mΩ
		✓				400 mΩ	10 μΩ	400.00 mΩ
		✓				4 Ω	0.1mΩ	4.0000 Ω

Voltage Channel	Direct 3-channel digital reading allows for testing of windings at a time.
------------------------	--

Current Channel	1
------------------------	---

Temperature Channel	2
----------------------------	---

Temperature Correction	Yes
-------------------------------	-----

Temperature Measurement:	0°C to 100°C
Accuracy:	±1 deg.
Resolution:	±0.1 deg.

OLTC Dynamic Test	Remote Hand Switch, Tests operation of on-load tap-changers
--------------------------	---

Discharge Circuit	Fast auto safety discharge circuit
--------------------------	------------------------------------

Core Demagnetization	Manual Core Demagnetization
-----------------------------	-----------------------------

Heat Run Test	Through unit and software
----------------------	---------------------------

Open-Circuit Test Voltage	XWRM-10A : 48V
	XWRM-25A : 60V

Max Power	XWRM-10A: 500W
	XWRM-25A: 1500W

Internal Data Storage	2000 Test Readings
------------------------------	--------------------

Printer	Inbuilt thermal printer
----------------	-------------------------

Display	Custom Built, backlit 4 ½ LCD t
----------------	---------------------------------

Indication	LED & Beep during test ON, & discharge.
-------------------	---

Power Supply	Mains 115/230V, 50/60HZ Single phase
	AC supply

Computer Interface	USB 2.0 A/B cable 1.5 mtr long, Built in
	Thermal Printer

Software	PC communication Software, USB & Bluetooth operation, Bluetooth Software (Optional)
-----------------	---

Standards Safety	: Safety in accordance with IEC 61010-1
	: EMC in accordance with IEC 61326-1
	: Type test in accordance with IEC 60068
	: Measurement Category- CAT III (600V)
	Reinforced insulation.

IP	IP 67 (for XWRM-10A)
	IP 54 (for XWRM-25A)

Instrument Case	Pelican Case
------------------------	--------------

Weight	XWRM-10A : Instrument (excluding accessories): 13 kg (approx..)
	Gross weight (including accessories): 26 kg (approx.)
	XWRM-25A : Instrument (excluding accessories): 17kg Approx

	Gross weight (including accessories : 28 kg (approx..)
--	--

Dimensions	XWRM-10A: 504 mm X 396 mm x 189 mm (L X W X D)
	XWRM-25A: 525 mm X 437 mm x 213 mm (L X W X D)

Environmental Specifications

Operating Temperature	0°C to 55°C
------------------------------	-------------

Storage Temperature	-10°C to 60°C
----------------------------	---------------

Relative Humidity	95% RH, Non condensing.
--------------------------	-------------------------

Temp Co- efficient	± 0.05% of the applicable accuracy specification per °C of resistance range.
---------------------------	--

Technical Details

XWRM 10A/25A

Accessories

Standard

■ Test leads (15 meter)	: 1 Set
■ Short link (5 meter)	: 2 Nos
■ Master earthing cable(5 meter)	: 1 No.
■ Mains cord straight, length=3.0mtr	: 1 No.
■ Instruction manual for XWRM-25A	: 1 No
■ Thermal paper role 57*30	: 1 No.
■ USB 2.0 A/B cable 1.5 mtr long	: 1 No.
■ OLTC probe	: 1 No
■ MagneticTemperature sensor probe	: 2 Nos
■ Pen drive	: 1 No
■ Test & Calibration Certificate	: 1 No.
■ Spare Fuse	: 2 Nos

Optional

- Bluetooth
- MOT-WARE Desktop Application

ORDERING INFORMATION

Product	Order Code
XWRM 10A	109227310
XWRM-25A	109213410
with Standard Accessories	

Note: Image & weight are subjected to change.

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 includes continuous improvement of its product. We, therefore, reserve the right of any deviation from illustration or specifications without notice. 4. Stated accuracies are valid from 10% of the range to 95% of the range. 5. Accuracy specified for temperature range of 25°C ± 5°C & 55% RH ± 10%.