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Advanced and
Innovative Solutions



WRT-10D™

Winding resistance tester
with demagnetisation circuit

WRT-10D™

Winding Resistance Tester with Demagnetisation

The WRT-10D™ is a high performance winding resistance tester designed for power transformers and large motor applications.

COMPETITIVE ADVANTAGES

- ⚡ Rugged, highly regulated and filtered output current source for fast stabilized measurements
- ⚡ High Accuracy 0.1% of reading
- ⚡ High resolution with 4 ½ display, 0.1μΩ
- ⚡ Large, Color LCD display
- ⚡ Full QWERTY keyboard for easy data entry
- ⚡ Large internal memory
- ⚡ Reporting software automatically generates a finished report from PC
- ⚡ Built-in thermal Printer
- ⚡ Remote Tap Changer circuit
- ⚡ Stabilized reading indicator
- ⚡ Protection against overvoltage transients
- ⚡ Timed mode for logging heat run testing
- ⚡ Multi-language interface
- ⚡ Housing internal storage compartment for accessories or leads

APPLICATIONS

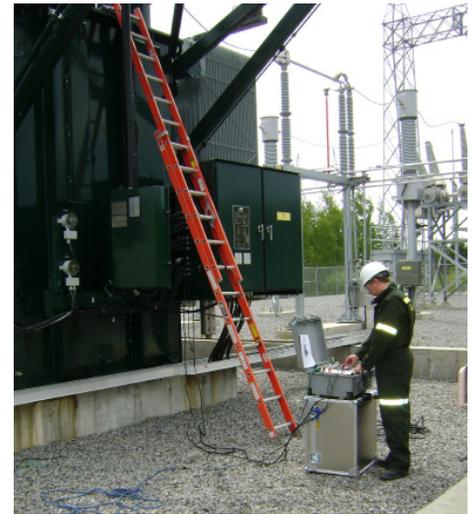
Winding resistance testing is an important part of a power transformer maintenance or a manufacturing quality assurance program. Transformers & large motors are subject to vibrations, overloading and environments with large temperature variations. Winding resistance measurements can assure that the connections are made correctly and that no opens or shorts are present. Tap changers of power transformers are a particularly critical element of a power system. The WRT-10D™ is very effective in detecting Tap changer abnormalities.

OPERATION

The WRT-10D™ injects a DC current through the windings & measures the voltage drop. The instrument calculates the resistance $R = E / I$. The challenge in winding resistance measurements is that the voltage across an inductor is defined by $V = L (di/dt)$, where L is the inductance of the winding & (di/dt) is rate of change of current. Therefore small changes in the current, as may be caused by ripple or poor regulation, can make it impossible to measure the DC resistance. The highly regulated and filtered current output of the WRT-10D™ allows for winding resistance measurements on very large power transformers.

TECHNICAL SPECIFICATIONS

Power input	<ul style="list-style-type: none"> 90 to 132 VAC 50/60 Hz 198 to 256 VAC 50/60 Hz, 550 VA max
Fuse rating	5 A 250 VAC, Type T
Test current	0.01, 0.1, 1 & 10A DC
Test voltage	30 V DC
Resistance measurements	2 auto-ranging channels
Resistance range	0.1 $\mu\Omega$ to 2000 Ω
Protection	<ul style="list-style-type: none"> Against overvoltage transients and substation noise High speed current interruption detector Audible warning during testing and discharging Emergency off button
Accuracy	$\pm 0.1\%$ reading $\pm 0.025\%$ Full scale
Measuring ranges	<ul style="list-style-type: none"> 10A Range 1 : 0.1 $\mu\Omega$ to 1.9999 mΩ Range 2 : 1.0 $\mu\Omega$ to 19.999 mΩ Range 3 : 10 $\mu\Omega$ to 199.99 mΩ Range 4 : 0.1 mΩ to 1.9999 Ω 1A Range 1 : 1.0 $\mu\Omega$ to 19.999 mΩ Range 2 : 10 $\mu\Omega$ to 199.99 mΩ Range 3 : 0.1 mΩ to 1.9999 Ω Range 4 : 1.0 mΩ to 19.999 Ω 0.1A Range 1 : 10 $\mu\Omega$ to 199.99 mΩ Range 2 : 0.1 mΩ to 1.9999 Ω Range 3 : 1.0 mΩ to 19.999 Ω Range 4 : 10 mΩ to 199.99 Ω 0.01A Range 1 : 0.1 mΩ to 1.9999 Ω Range 2 : 1.0 mΩ to 19.999 Ω Range 3 : 10 mΩ to 199.99 Ω Range 4 : 0.1 Ω to 1999.9 Ω
Resolution	4 ½ digits
Housing	Rugged, waterproof case, IP-67
Weight	11.4 kg (25 lb)
Dimensions	56 x 45.5 x 26.5 cm (22.06 x 17.93 x 10.43 in)
Environmental	<ul style="list-style-type: none"> Operating temperature: -10°C to 50°C Storage temperature: -20°C to 80°C Relative humidity: 0–90%, non-condensing
Display	120 mm x 90 mm bright LCD display visible in bright
Memory	At least 100 files with at least 120 measurements
Printer	Built-in, 40-character wide printer
PC connection	Downloads results to PC via USB port or RS-232 connection



STANDARD ACCESSORIES:

- Test leads (50ft / 15m)
- Jumper lead (30ft / 9m)
- Tap changer cables
- Ground cable
- RS-232C cable
- USB cable - PC Software
- User manual
- Calibration certificate

OPTIONAL EQUIPMENT

- WRT Shipping Case
- WRT Printer Paper Roll
- Specific custom-made test clips
- Specific Custom length test leads

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Since 1991