ELECTROM INSTRUMENTS

LEADING THE INDUSTRY FOR OVER TWENTY YEARS

INTRODUCING THE NEW

iTIG Winding Analyzer

Designed and built with reliable digital components. Rugged and dependable. For the electric motor and generator manufacturing and repair environment.

ELECTROM INSTRUMENTS LOVELAND COLORADO USA
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Test Equipment Built to Last !

A pioneer in the industry, ***Electrom Instruments*** produced the first ever digital Winding Analyzer in the early '90s, revolutionizing the industry. Today computers and software contribute to a greater level of performance, flexibility and ease of use. Electrom Instruments offers the latest and most durable Winding Analyzer on the market.

The **iTIG** is a complete *"all in one"* Winding Analyzer. Its main function is that of an insulation tester designed to safely detect weak or unstable insulation at voltages far below what the apparatus being tested is designed to withstand.

All models can perform all of the following tests:

- Megohm (resistance) Tests
- Hipot Tests
- Surge Tests
- Rotor Bar Tests (Open or cracked AC Rotors)
- Step Voltage Tests
- Dielectric Absorption Tests
- Polarization Index Tests
- Armature Tests (DC Rotors)
- Form Coil Tests

The instruments are sold worldwide to companies in a ***vast*** range of industries, to electric motor repair shops, manufacturers of electric motors, generators and transformers, to utilities and various processing and manufacturing plants.

Electrom Instruments
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iTIG Models:

• iTIG A: Basic Winding Analyzer with no storage or reporting capability

• iTIG B: Stores one Surge Test wave form pair, can produce print screens and Excel test reports

• iTIG C: Same as B but stores 10 test sets (Megohm, Hipot and Surge test results)

• iTIG D: Stores unlimited amounts of customer, motor and test data. Comes with **Capture Pro** database and reporting software.

iTIG A,B,& C are upgradable in the field to any higher level model.

Data is stored in the computer memory and on memory sticks.

Capture Pro

Capture Pro V3 is a database and reporting software specifically designed to work with the iTIG. It is used to store and organize data for easy retrieval and to generate reports. It is a valuable tool for predictive and preventative maintenance, and generates trend reports. Capture Pro is installed on a separate desk or lap top PC. Data is transferred from the iTIG to Capture Pro using a memory stick or by connecting directly via USB cable. Data stored can include customer information, equipment data, test data for all tests performed, analysis and notes. Reports are automatically generated, and can be customized or modified to suit individual users. Capture Pro V3 works with Windows 95 through Vista.

iTIG Advantages:

• **MORE SENSITIVE AND ACCURATE FAULT DETECTION:** Most surge testers have one surge generator or channel. This means one winding is tested and compared to a stored winding test. The Electrom iTIG uses two independent surge generators operating simultaneously to compare two windings or coils. This produces a live comparison with a higher voltage gradient between the two phases under test, thus simulating what motors are subject to during operation. Comparing two live waveforms makes it easier to see faults that might go undetected using only one live channel.

• **FINDS FAULTS AT LOWER TEST VOLTAGES:** Ionization of the air surrounding the windings is necessary for detection of insulation weaknesses in a surge test. The iTIG generates line frequency Surge Pulse Rates (50 or 60Hz). This produces and maintains sufficient ionization around fault locations at lower test voltages than instruments with lower pulse rates, such as commonly used 5Hz units.

• **PREVENTS DETECTED FAULTS FROM WORSENING:** Voltage is the equivalent of pressure causing currents of electrons to flow. Voltage (pressure) is necessary to detect weaknesses (current leaks) in the insulation of rotating equipment. Leakage current (the flow of electrons crossing a fault) should be kept as small as possible to prevent further deterioration of the insulation. The current is a function of the discharge capacitance of the instrument. The higher the capacitance the higher the current. The iTIG's discharge capacitance is very low at 0.02uF (20nF) per channel.

• **EASY TO USE AND READ:**
  - Computer-controlled oscilloscope functions with color LCD display.
  - Large displays of test and output voltage, resistance (Megohms) and leakage current
  - Easier to use than previous instruments with multiple report printing options.

• **ONLY BUY WHAT YOU NEED NOW, UPGRADE LATER:** The iTIG is upgradeable in the field from a basic non-reporting winding analyzer to one with unlimited data storage and full reporting capability through simple software upgrades.

• **PORTABLE ALL IN ONE INSTRUMENT:** All tests, including the AC Rotor Bar test, are done with one instrument, no extras. Optional accessories fit in the cover of the rugged moisture-proof case which is designed for harsh environments.

• **BUILT IN SAFETY FEATURES:** Improper power line ground and polarity prevents the iTIG from turning on. Limits on leakage current prevent insulation damage and shuts the test down.

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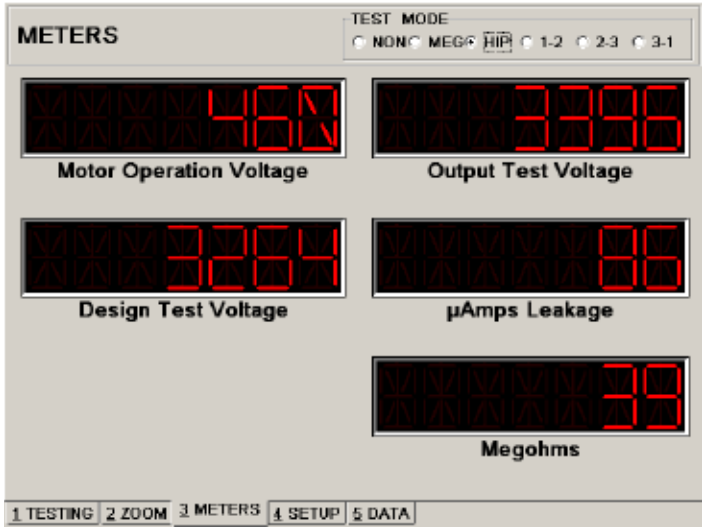
Functions & Specifications for the Electrom iTIG Series Winding Analyzer

FUNCTIONALITY:

- **Surge test**
  - **Two Surge Generators - more sensitive fault detection than with one channel**
  - **Line frequency (50/60Hz) Pulse Rate – detects faults at lower voltage than lower frequency instrument.**
- **Rotor Bar Test - Open or cracked AC rotors**
- **DC Megohm Test**
- **DC HiPot Test**
- **DC Step Voltage Test**
- **Polarization Index Test**
- **Dielectric Absorption Test**
- **Form Coil Test**



This screen is typically used in Megohm and Hipot mode.

SPECIFICATIONS: (Higher outputs available with addition of a Power Pack)

Surge Test

Maximum Voltage	12 kV
Maximum Current	800 Amps
Maximum Energy	2.8 Joules

DC Hi-Pot / Megohm

Maximum Voltage	12 kV
Maximum Current	5 mA
Micro-Amp Display	0.0 – 2000
Over-Current Trip	5 mA
Resistance range	250k ohms to 1,000 meg ohms.

Input Voltage	120 VAC or 220-240 VAC, 50 or 60Hz
Power	600 Watts
Weight	52 lbs - 24kg
Dimensions	20¼ x 8½ x 19½ inches - 51x22x50 cm

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ACCESSORIES

Power Pack

- The Power Pack is used to test large and high voltage rotating machines such as slow speed 4,160V, to 13,800V electric motors
- All tests available with the iTIG are standard in all Power Packs when used together with an iTIG.
- Power Packs may be used for Stand Alone DC Hi-Pot and Megohm Testing.
- The surge test is a load dependant test. Load characteristics are influenced by operating voltage, horse power, rotating speed, frame size, coil type etc. Greater loads may necessitate a Power Pack.
- Assembled motors may limit output voltage because of the magnetic influence of the rotor thus requiring a Power Pack.
- The iTIG captures and displays the surge waveforms from the Power Pack.
- The Power Pack is portable and has the same rugged case as the iTIG.

Standard Power Pack PP30 Specifications:

Surge Test

• Maximum Voltage	30 kV
• Maximum Current	2,000 Amps
• Maximum Energy	18 Joules

DC Hi-Pot / Megohm Tests

• Maximum Voltage	30 kV
• Maximum Current	5 mA
• Over-Current Trip	5mA
• Micro-Amp Display	1 micro Amp resolution
• Meg Ohm Display	1 Meg Ohm to infinite

Input Voltage:	120 VAC or 220-240 VAC, 50 or 60Hz
Weight:	70 lbs - 32kg
Dimensions:	20¼ x 8½ x 19½ inches - 51x22x50 cm

Power Packs with other output specifications are available on request.

iTIG and Power Pack with ATF-11

iTIG with Rotor Bar Clamp

Rotor Bar Clamp

The RTR-03 is a clamp-on current transformer specifically designed to monitor the 50/60Hz signal on one phase of an induction motor. Its purpose is to find an open or broken bar in the rotor. This is done by detecting a fluctuation in the sine wave produced by a rotating motor.

Armature Test Fixture

The ATF-11 is a one size fits all fixture used when testing DC Armatures. It has a one step set-up and allows one hand operation so the other hand can be used to operate the iTIG. It should be used together with the Foot Switch.

Foot Switch

The FS-01 is a Foot Switch used to energize the iTIG and start the test instead of using the Function Switch on the front panel of the iTIG.

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