electrom INSTRUMENTS

# THE ELECTROM iTIG II MOTOR TESTER AND WINDING ANALYZER


## AUTOMATED, SAFE, AND EASY TO USE TESTER.
## HIGH AND LOW VOLTAGE TESTS IN A LIGHTWEIGHT PACKAGE.

The state of the art Electrom iTIG II provides a wide range of tests to analyze the condition of insulation systems in all types of windings and coils.

It comes in several different models with varying options and output ranges to fit most budgets. Tests and product features can be added to models at any time if your needs change.

## CONTACT US ABOUT LOW RISK INVESTMENTS IN TESTERS

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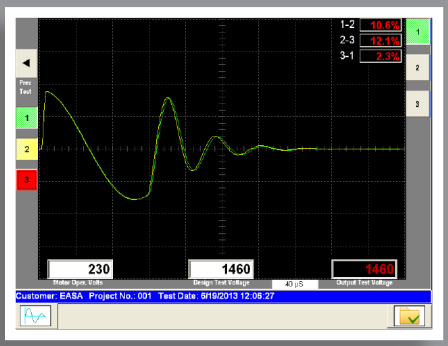
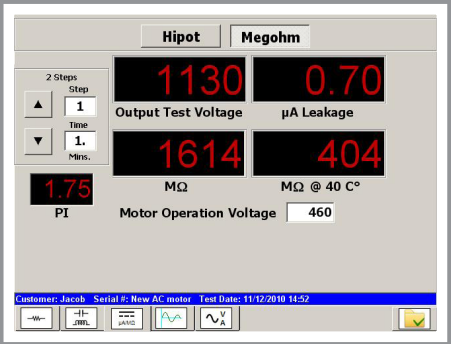
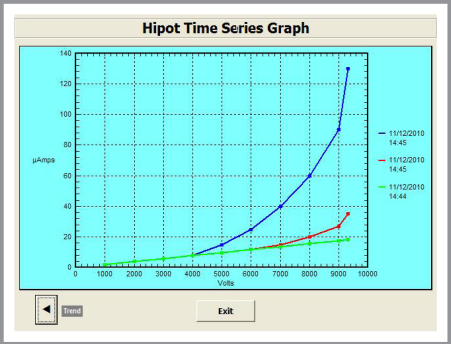
MODELS RANGE FROM THE BASE MODEL A TO THE FULLY AUTOMATIC MODEL D FOR WHICH ALL TESTS CAN BE DONE THROUGH THE SAME LEAD SET.




# SURGE AND HIPOT TESTS

- **Superior High Frequency 50/60Hz Surge Pulses.** This eliminates ionization dissipation present in lower frequency surge testers. As a result, the iTIG II finds weak insulation at lower voltages than low frequency testers and better simulates motor operating conditions with line frequency pulses.

- **Automatic Quick Surge™ and Surge Guard™** Enables the user to push a button and let the iTIG II run the test with a controlled and limited number of pulses. Surge waveform ranges are automatically set for all models; no need to push buttons or turn dials.

- **Compare Coils to Master Coil** Coil testing mode with easy comparison to a master coil is available. Automatic calculation of differences and detection of faults.

- **Manual or Automated IR & Hipot Tests** Includes Meg, DAR, PI and Step Voltage tests. Multi-point test graphs and comparisons to previous tests for trend analysis is available.

# iTIG II TEST AND MEASUREMENT OPTIONS

| | |
|---|---|
| Surge comparison | Low resistance (μΩ) |
| DC Hipot | Impedance (Z) |
| Step Voltage | Phase Angle |
| Insulation Resistance (Meg test) | Inductance (L) |
| Dielectric Absorption (DAR) | Capacitance (C) |
| Polarization Index (PI) | |

# USES FOR iTIG II TESTS AND MEASUREMENTS

| Failures / Test | Surge | DC Hipot | Step Voltage | IR | DAR | PI | Low R (μΩ) | Z | L | C | Phase Angle | D/Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Weak insulation** turn to turn, coil to coil, phase to phase | ✓ | | | | | | | | | | | |
| **Shorts** Turn to turn, coil to coil, phase to phase | ✓ | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ |
| **Weak ground wall** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| **Dielectric ground wall strength** | | ✓ | ✓ | | | | | | | | | |
| **Dirty or moist windings** | | ✓ | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | |
| **Phase unbalance** | ✓ | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ |
| **Open coils** | ✓ | | | | | | ✓ | ✓ | ✓ | | ✓ | ✓ |
| **Reversed coils** | ✓ | | | | | | | ✓ | ✓ | | ✓ | ✓ |
| **Motor lead connections** | | | | | | | ✓ | | | | | |
| **Power cable faults** | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | |

# WINDOWS OPERATING SYSTEM AND REPORT SOFTWARE

- Test Report Pro or TRPro runs on PCs and works with models B to D
- Data is easily transferred back and forth between the iTIG II and a PC or server. It can be done with one click using a memory stick or through an Ethernet connection.
- Reports can also be printed directly from the iTIG II.

| PASS / FAIL RESULTS | |
|---|---|
| Surge Fail | NO |
| IR Fail | NO |
| Step Test Tripout | NO |
| Ohms Balance Fail | NO |
| Off-line Equip. Rating | PASS |
| On-line Equip. Rating | PASS |

## LANGUAGES

The iTIG II and TRPro report software are available in multiple languages.

# OUTPUT OPTIONS

THE ITIG II IS AVAILABLE WITH 4KV, 6KV AND 12KV MAXIMUM OUTPUTS.


## POWER PACKS

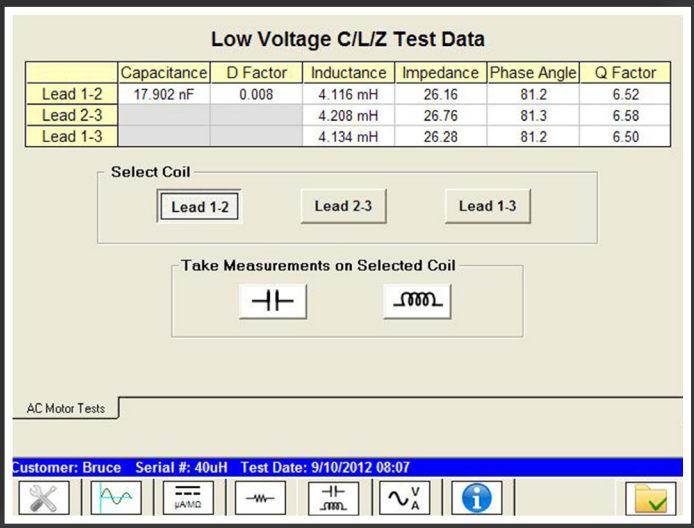
The Power Pack is used to test large, high voltage rotating machines and transformers. Surge tests are load dependent and influenced by operating voltage, power, speed, frame size and coil type.

## POWER PACK FEATURES

√ 24kV and 30kV Power Packs are portable and have the same rugged case as the iTIG II.

√ The iTIG II captures, displays, and stores the test data from the Power Pack.

# MEASUREMENT OPTIONS




## C, L AND Z MEASUREMENTS

Where more analysis is needed, for example for predictive maintenance, Electrom offers the CLZ option. It includes measurements of inductance, impedance and phase angle for windings and coils, and capacitance measured from the winding to ground. It also calculates Dissipation factor (D), also called Tan Delta, and Quality factor (Q).

## WINDING RESISTANCE

Model D does all tests and measurements with milli Ohm resistance measurement accurate to ±0.2% for winding resistance. When lower resistance is required, for example to compare low resistance coils, choose the micro Ohm option. Model D does all tests and measurements through the same high voltage output leads.

# ACCESSORIES

## ARMATURE TEST FIXTURE (ATF) FOR DC MOTORS

The ATF-11 is a hand-held fixture that is used to test large and small DC Armatures with any iTIG II model. The ATF spans an adjustable number of bars. Only 2-3 span tests are usually needed to find out if the armature is good or bad.

## FOOT SWITCH

The FS-01 energizes the iTIG II and can be used instead of the Start button on the front panel.

# iTIG II 12KV SPECIFICATIONS

## SURGE

| | |
|---|---|
| Surge Voltage Accuracy | 10% |
| Repetition rate | 50/60Hz |
| Capacitance | 40 nF |
| Max. Surge Energy | 2.9J |
| Max Current | 800 A |

## DC IR AND HIPOT

| | |
|---|---|
| Voltage accuracy | 2% |
| Current resolution | 0.01 µA |
| Current accuracy | 2% |
| Max resistance | 500 GΩ |
| Min resistance | 0.5 MΩ |
| Resistance accuracy | 4% |
| Current trip-out | 0-2000 µA |

## RESISTANCE

| | |
|---|---|
| Resolution | 1 MΩ / 1 µΩ |
| Accuracy 10µΩ to 2kΩ | 0.2% ± 2µΩ |

## IMPEDANCE

| | |
|---|---|
| Accuracy from 0.001 Ω to 2 MΩ | <1% |

## INDUCTANCE

| | |
|---|---|
| Accuracy from 0.01 mH to 20 H | <1% |

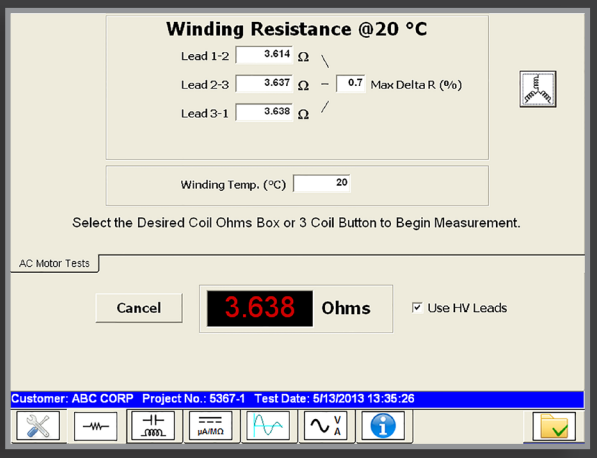
## CAPACITANCE

| | |
|---|---|
| Accuracy from 0.1 nF to 10 mF | <1% |

Power Input: 110-240V ±10%, 50/60Hz
Weight: ~35 lbs (~16kg) depending on options

Portable, rugged and lightweight

Model with 4 output leads




The built-in 30GB+ SSD memory can store over a million tests.

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