AT33 EV™ Specifications

Test Frequencies
50, 100, 200, 400, 800 Hz

Test Value Static / Reference Value Static
0.01 – 10000 ±1%, (Dimensionless calculated value)

Stator Test Dynamic
Repeatability ±1%, (of measured data and calculated deviations)

Rotor Test Dynamic
Repeatability ±2%, (of measured data and calculated deviations)

Resistance
0.01 – 999 Ω measurement range
0.01 – 99.9 Ω ±1%, Max Resolution: 0.01 mΩ
100 Ω - 500 Ω ±1.5%, displayed as whole numbers
501 Ω - 999 Ω ±2.5%, displayed as whole numbers
Relative Accuracy “Phase to Phase” ± 0.1%
True 4-wire Kelvin measurement
(Compensation for thermoelectric offset voltages)

Dissipation factor - DF (frame – stator)
1 – 100% measurement range (expressed as a percentage)
1 – 10% ±0.5 (C = 10 – 1000 nF)
10 – 30% ±1.0
(This specification is based on battery operation and USB not connected to PC)

Capacitance (frame – stator)
2 – 2000 nF measurement range
10 – 2000 nF ±5%
(This specification is based on battery operation and USB not connected to PC)

Inductance:
1 – 999 mH measurement range @ 100Hz
1 – 200 mH ±2%, all other values ±3%

Insulation Resistance
0 – 999 MΩ @1000V, 0 – 500 MΩ @500V
1 – 100 MΩ ±3%, all other values ±5%

Enclosure
Material - Polycarbonate, UL94-V2

Safety
According to IEC 61010-1 cat.III 1000V

Approvals
CE

Keyboard
Sealed tactile touch, XL size keys

Warranty: 1 year limited warranty; Optional 2 years available with calibration

Patent Pending

Connections
3 x Motor input/output - push-pull connectors 4-pole High Voltage
output - Ø
4mm safety jack
PC communication - USB type B connector
Charger input - 2.5mm diameter center pin DC-jack

Display
Graphic LCD, monochrome 128 x 64 pixels (3.1”)
Viewing Area = 69 x 36.5mm, white LED backlight

Batteries
2 x Li-ION cells with ≥ 2100 mAH capacity

Temperature range storage
-20 °C to +60 °C (-4 °F to +140 °F)

Temperature range operating
-10 °C to +50 °C (+14 °F to +122 °F)

Humidity
0-80% relative humidity, non-condensing

EMC
- EN61000-6-4 (Emission)
- EN61000-6-2 (Susceptibility)

Instrument Specifications
Size: 126 x 218 x 51 mm (5”x8.6”x2”) (WxLxH)
(basic enclosure size without minor protrusions)
Weight: 0.7 kg (1.5 lb.)

Shipping Specifications
Gross Size: 45.7x40.6x15.2 cm (18“x16”x6”) (WxLxH)
Gross Weight: 5.0 kg (11 lb.)

Accessories (included)
3x Test Leads with Kelvin Clips and push-pull connectors
1x Test Lead with 4mm safety plug and MC “Dolphin” clip
Charging adapter, Universal input type 100-240VAC, output 9VDC @ 1.7A
Attaché type hard case with pre-cut foam liner
User Manual on CD

Accessories NOT Included
AT33 IND™ Software for further analysis, reporting, trending and database storage. Available in English, Spanish, Chinese and Portuguese.
1x USB cable 1m
Soft carrying pouch for instrument and test leads

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ALL-TEST Pro, LLC

AT33 EV™ ELECTRIC VEHICLE MOTOR TESTER

Meg-ohm-meters and multi-meters see only 10% of possible electric motor faults...

Don’t overlook the other 90% of motor faults that can lead to unexpected downtime.

REVOLUTIONARY, EASY TO USE INSTRUMENT WITH IMMEDIATE INFORMATION ABOUT THE COMPLETE CONDITION OF YOUR ELECTRIC VEHICLE MOTORS!

The AT33 EV™ instrument is the ONLY TOOL made for testing the special Permanent Magnet Motors and Motor/Generators, used in Electric & Hybrid Vehicles.

www.alltestpro.com

EASY AND QUICK TEST TO CHECK THE ELECTRIC MOTOR

Test the motors without removing from vehicle. Trouble Shoot suspect motors and know immediately if the problem is in the stator, rotor, or connections. Trend early changes in the motor's electrical condition.

The unit can be used stand-alone or with software, which enables you to see all the underlying data from the test. For accuracy see our specifications.

TWO TESTS IN ONE

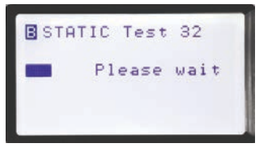
The Instrument can be used in two modes: Static and Dynamic. Both quickly collect data in auto mode and there is no need to push a lot of difficult to understand buttons.

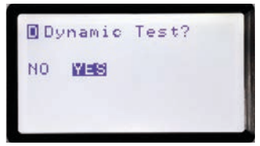
THE STATIC TEST gives you the information whether any change in Stator or Rotor has occurred between prior test (baseline) and present test.

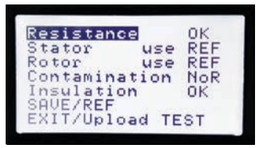
It measures Resistance, Inductance, Impedance, Capacitance and Phase Angle.

Meg-ohm-test with 500 and 1000 V reading up to 999 Mohm.

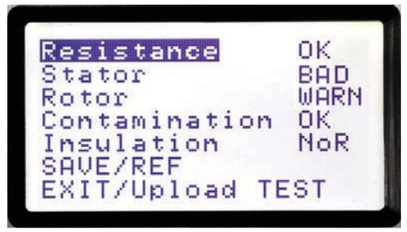
The Static Test is compared to base-line test that can be retrieved from "Reference Value Static" records in the instrument, or from the optional software.







DYNAMIC TEST BY ROTATING SHAFT



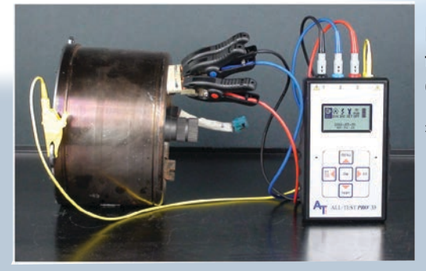
The AT33 EV™ Dynamic Test analyzes the results for you by showing Bad, Warning or OK for Resistance, Stator, Rotor and Contamination. It is developed for testing permanent magnet and motor generators used in Electric and Hybrid Vehicles.[1]

If the Static Test needs to be further evaluated, or if no baseline is available, a Dynamic Test should be done.

It measures in real time, during the manual rotation of the shaft, several measurements. Any problem is easily recognized.

It also collects data used for a "signature" of the Stator and Rotor and these signatures allow for a more in-depth evaluation and supports data of other faults showing in the report.

[1] Flywheel alternator starter (FAS) type motors may require special testing consideration. Contact us for more information.



ACCURACY and EASY TESTING

The AT33 EV™ comes with high-quality test leads and 4 wire Kelvin Clips for very accurate data collection. Please see specifications.

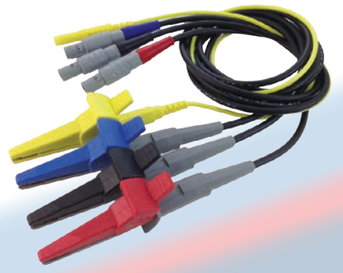
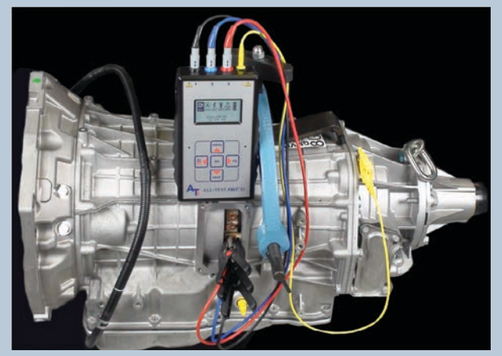
The lithium batteries support more than 8 hours of continuous use.

Custom Kelvin test leads set

NO NEED TO CARRY ALONG HARD TO READ USER MANUALS

All instructions are shown step-by-step on the instrument's large screen. The result is then automatically shown on the screen as well. By calling up a prior test of the same motor you can easily see if a change has occurred.

The AT33 EV™ is made for safe operation and for harsh environments incorporating CE Certification and a casing rated CAT III. The tester has a large memory storage capacity for reference and test-data and can be used as a stand-alone tester without software.

Optional AT33 EV™ Software
The instrument quickly up-loads its test-data and the report can be printed. Instrument can quickly upload test data and compile reports. The data can also be further analyzed by a technician and compared to prior data of the same motor; or motor of the same model to create a history of any problems and solutions. (Software available in English, Spanish, Chinese and Portuguese.)

Optional larger Kelvin test leads set