

Battery Element Tester

Pulse Surge Arc Testing of Lead-Acid Batteries



CE

Model 1652

Tester Description

The STS Instruments 1652 Battery Element Tester provides a unique method for the detection of assembly level insulation defects in lead-acid batteries, including missing and damaged separators. Detection of such faults prior to filling and charging the battery minimizes costly reclamation.

Important Benefits

Increase your product quality and reliability by rigorous in-line high voltage testing of your battery element separator plates during the production process. Reduce field failures, costly recalls and dissatisfied customers by adding the 1652 Battery Element Tester to your Lead Acid Battery production line.

Hidden imperfections in your separator plates are difficult to detect using conventional means. When using traditional AC hipot testing to detect such failures, excessive heating can occur in moist cell applications resulting in possible damage of the unit under test.

The 1652 uses a unique short-duration high voltage pulse instead which maximizes stress on the dielectric material for fault detection but induces minimal energy.

Advanced Technology

Model 1652 testers feature an adjustable test voltage with a peak output of 3000 volts, accommodating a wide range of separator spacing and types. Durable solid state switching of the high voltage assures reliability for high volume applications. Easy-to-read digital meters provide readouts for applied voltage and quality. Following a simple setup procedure, operation is go/no-go, and requires no operator interpretation of results. The test voltage is applied using included safety probes. When a failure occurs, the high voltage is shut off and both audible and visual alarms warn the operator of the failure.

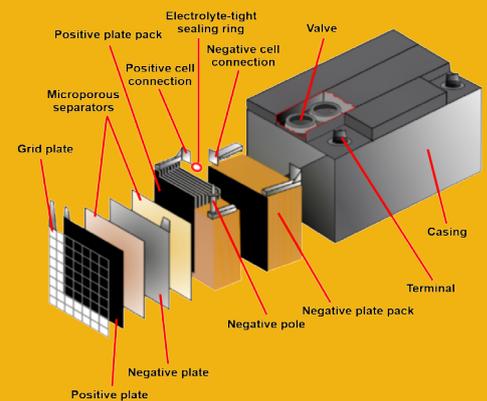


Ease of Operation

- Large knob to adjust test voltage level
- Ten turn locking pots to adjust trip level and balance
- Large, easy to read LCD meter readouts
- Audible and visible operation warning upon unit under test failure
- Auto lock out on failure shut off test output until reset by operator
- Detachable safety probes ensure operator safety
- Probes are easily replaced after extended use and wear
- Rear panel digital output for reject indication
- Self test button verifies correct tester operation at start of shift

APPLICATIONS

- Automotive Engine Starting, Lighting and Ignition Batteries (SLI)
- Power Backup and Energy Storage System Batteries
- Traction Application Batteries
- Most Battery Types with Separators



Technical Specifications

AC OUTPUT

VOLTAGE	400 to 3000 Volts Peak, adjustable
FREQUENCY	AC Line Frequency Derived
SHAPE	Pulse
DURATION	15 µsec typ.

MEASUREMENTS (ALL DIGITAL)

VOLTAGE	Range: 0 to 3000 Volts Peak
	Resolution: 1 Volt
	Accuracy: ±1,0%
QUALITY METER	Range: -1000 to +1000
	Resolution: 1
	Accuracy: 2,0%
READOUTS	DUAL 3½ DIGIT LCD DISPLAYS

AC INPUT

INPUT VOLTAGE	110 / 240V manually selectable, ± 10 % variation; 47 – 63 Hz
POWER	60VA
FUSE	0,5A Slow Blow 250VAC.
	Diameter: 6,35mm/0,25" Length: 32mm/1,25"
LINE CORD	Detachable, IEC 60320, C13
	(Line Cord Included)

ENVIRONMENTAL

TEMPERATURE	0 to +40° C +32 to +104° F
HUMIDITY	RH 0 to 85%, Non-Condensing
POLLUTION DEGREE	Cat II, Indoor Use

FRONT PANEL CONTROLS AND INDICATORS

POWER	Illuminated On/Off Rocker Power Switch
	Lit when unit is powered on
CHECK	Check Button Verifies Tester Operation
VOLTAGE ADJUST DIAL	Allows for Easy Adjustment of Test Voltage Level
TRIP LEVEL DIAL	Adjust Pass/Fail Trip Level Setting
BALANCE DIAL	Balance Quality Meter Adjust to 000 at No Load
SENSITIVITY SELECT SWITCH	Selects Minimum Impedance Setting of Unit Under Test as either 100 Ohm or 250 Ohm
LCD DISPLAYS	Voltage, Quality
TERMINALS	Range: 0 – 6000 V
TEST PROBES	High Voltage Detachable Probes with Leads
	Safety Retractable Probe Tips
	Easily Replaceable after Wear

PHYSICAL

DIMENSIONS	Width: 344 mm / 13,5"
	Height: 127 mm / 5,0"
	Depth: 305 mm / 12,0"
	Shipping: 457*239*406mm / 18*9*16" (W*H*D)
WEIGHT	Net: 10,5 Kg / 23 Lbs
	Shipping: 14 Kg / 31 Lbs

REGULATORY

APPROVALS	CE Mark LVD 2006/95/EC
	Safety: IEC 61010-1:2010
	EMC: IEC 61326-1:2012



Rear Panel - AC input, Bell, Digital I/O Connectors.



Set of Safety Retracting Probes with 1,8 m/6 ft. Leads included, 1 Red, 1 Black.

Model 1652

Ordering Information

MODEL NUMBER	DESCRIPTION	NOTES
1652	Battery Element Tester	Supplied with: <ul style="list-style-type: none">• Set of High Voltage Safety Test Leads, 1,8 m / 6 ft. long• 1652 Operator Manual Hardcopy• Spare AC Input Fuses (2)• Certificate of Calibration• AC Line Cord (detachable)
ACCESSORIES	DESCRIPTION	NOTES
102-050-919	Test Probe Assembly Kit	Set of Safety Retracting Red/Black Probes with 1,8 m / 6 ft. leads
200025	Test Probe Assembly, Red	Safety Retracting Probe, Red with 1.8 m / 6 ft. lead
200026	Test Probe Assembly, Black	Safety Retracting Probe, Black with 1.8 m / 6 ft. lead
200386	Test Probe Assembly, Red	Safety Retracting Probe, Red with 3 m / 10 ft. lead
200387	Test Probe Assembly, Black	Safety Retracting Probe, Black with 3 m / 10 ft. lead

Service and Support

STS Instruments' customer support is second to none. Our Customer Support Program provides the training, repair, calibration, and technical support services that our customers value. So, in addition to receiving the right test equipment, our customers can also count on excellent support before, during and after the sale.

Complete calibration and repair services are offered at our USA, United Kingdom and China manufacturing facilities (see contact info below). Calibrations are to original factory specifications and are traceable to NIST (National Institute of Standards and Technology). A certificate of conformance accompanies each repaired tester.

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