

AMPTEC 630ES - Nuclear Explosive Safety (NES) Approved Explosive Safety Igniter Tester



Nuclear Explosive Safety (N.E.S.) Use What's your Igniter Application?

Designed originally for military Nuclear Ordnance programs, (i.e. U.S. Dept. of Energy Los Alamos National Laboratories Use) as their ruggedized **HE** (High Explosives) meter, the AMPTEC 630ES Explosive Safety Igniter Tester features: a water-resistant main front panel, self-contained DC ammeter and test resistors (to verify 630ES test current levels are safe and resistance ranges are functional), a notched limited access external connection port (*see impossible to connect Charger when Measuring discussion*), wide viewing angle (tilted) ergonomic display - readable in direct sunlight, *a shielded Faraday cage design for EMP, ESD protection, noise immunity, and more*. The AMPTEC 630ES is for use in harsh environments (down to -10°C) or on the go "mobile" take it anywhere use, as well for general purpose test bench use on ordnance.

The AMPTEC 630ES is ready to use, completely self contained. A storage area holds both the AC/DC Battery Charger and the measurement test leads of your choice. The inside lid has a laminated Operation card that makes it easy for test personnel to understand and use.



Measure On The Go - Sunshine or In The Rain

The AMPTEC 630ES internal packaging and impact resistant case is constructed to a water tight standard. The polypropylene case is water proof when closed (and purge valve is shut) to a depth of 3 feet. The AMPTEC 630ES Explosive Safety Igniter Tester also floats in water and *can be operated outside in direct rain, as it has silicon boot seals over all switches*.

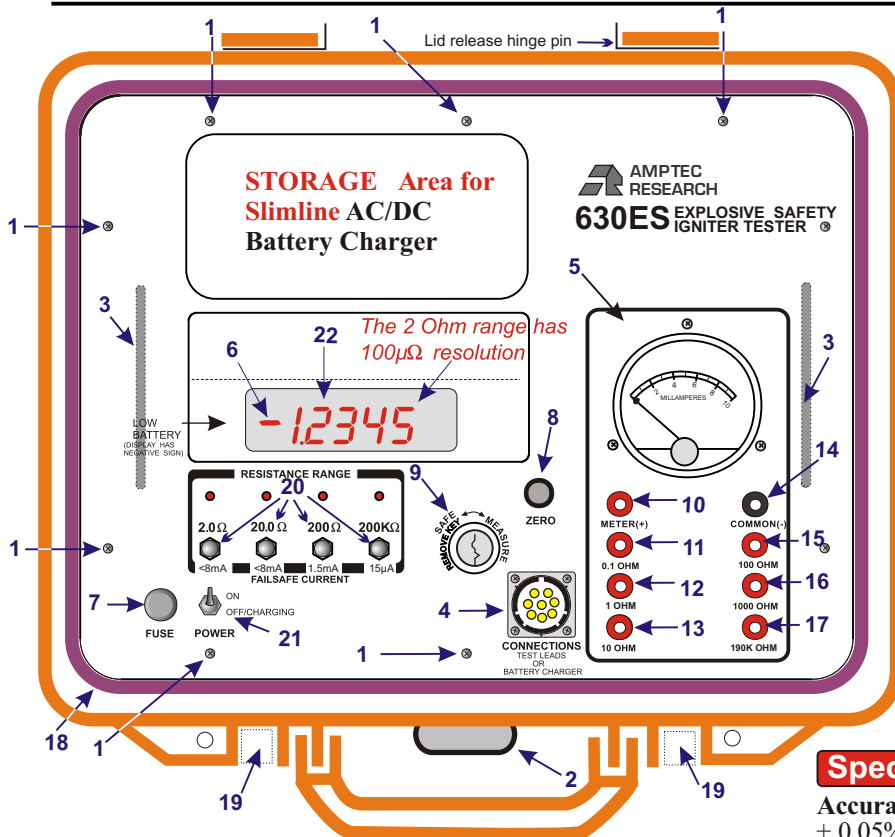
The waterproof overlay covers a unibody aluminum front plate mounted on a water-resistant compressed o-ring in bezel construction. The SuperBright LEDs are 5 times brighter (25,000 lumens) that normal "high intensity" LEDs. The AMPTEC 630ES display is easily read outdoors in sunlight.



Make Squib Wire Connections Worry Free

The *Key Locked Safety/Measure Switch* has two modes, the shorted *Safe Mode* shorts the inputs together and disconnects them from the 630ES. *Remove the key, put it in your pocket, it's locked in "Safe Mode"* (it can't be accidentally made to measure), this lets you make squib wire connections worry free. The limited access (one use at a time) connection port *also* makes it *physically impossible to simultaneously connect the AC/DC Charger while measuring with the test leads*. Charging the NICAD batteries or measuring a squib's resistance, *there is only one connection port*, it's a case of "*either/or*" but never both. The 630ES operator can connect the battery charger to the notched 630 limited access connection port for recharging the NI-CAD batteries thus mechanically blocking access for connecting the leads. When measuring, the same limited access connection port blocks any battery charger connection.

AMPTEC 630ES Explosive Safety Igniter Tester (HE Meter)



630ES Versatility, Value, Failsafe

The AMPTEC 630ES comes self-contained with its own test leads, battery charger, operator/maintenance manual and United States N.I.S.T. Traceable Calibration Certificate. For test lead use, the single set of leads are dual function, both banana plug termination for test panel use and plug on alligator clip for direct attachment to squib wiring. The 630ES has the safety integrity for the most demanding explosive safety requirements. A *shielded Faraday cage* (all to *chassis ground* - common jack - item #14) lines the entire 630ES case and *all the test lead wiring* (ie Vhi, Ihi, etc) are *shielded*. *All shielding is connected to chassis ground to provide additional electronic noise immunity, ESD and EMP protection.* *Stray Voltage measurement* from 0-200 VRMS ACV or DCV is optionally available with the 630ES. AMPTEC RESEARCH's design and manufacturing engineers have over 36 years of experience in the manufacture of Igniter Testers.

AMPTEC 630ES Safety Meter Features:

1. Calibration/Maintenance access screws
2. Purge Valve - Provides Air Pressure Equalization to open.
3. Handles - see item #1 then lift for calibration access
4. Single Access Notched Connector - for **either** test lead hookup **or** connection to battery charger.
5. Milliammeter for measuring actual 630ES test current levels.
6. Minus sign - indicates "low battery level" recharge time
7. Fuse Access - for general operation (seal in cap of holder)
8. Zero pot - Adjusts shorted resistance offset of the test leads.
9. Keylock Switch - locks the 630ES in *Safe mode*-shorts inputs together and disconnects and isolates user inputs from measurement electronics .
10. Milliammeter Input jack to test 630ES current levels.
11. Input jack of 0.1 ohm test resistor for checking the low and zero offset of the 2 Ohm and 20 ohm ranges.
- 12, and 13. 1 ohm and 10 ohm test resistors for checking the mid-scale functionality of the 2 ohm and 20 ohm ranges.
14. Chassis Common Input jack - (plug-in black banana jack) - Faraday cage & shields for test leads connect here. *see manual*
- 15, 16 and 17. 100 ohm, 100K ohm, and 190K ohm test resistors for checking the mid-scale functionality of the 200 ohm and 200K ohm ranges of the 630ES.
18. Water Resistant O-ring seal(s) in lid & under the front plate.
19. Tight Squeeze Flip Latch Area - waterproof seal (closed).
20. Resistance Ranges - 2.0Ω, 20.0Ω, 200Ω, and 200KΩ - silicone rubber boots provides water-resistance switch cover (LED indicates the selected range).
21. Power "On" or "OFF/Charging Switch" - either/or
22. Beveled Display Hood and Super Bright LED Display readable in sunlight. *The 2 Ohm range has 100 μΩ resolution*

Specifications

Accuracy: (180 days 25°C ± 10°C) ± 0.02% of reading ± 0.05% of range for the 2 Ohm range, ± 0.02% of reading and ± 0.02% of range for 20 ohm through 200 Kohm ranges.

Failsafe Current : < 8 mA - 2 Ohm and 20 Ohm ranges, < 1.5 mA - for 200Ω range, <15 μA for the 200 KΩ range.

Display: 4½ digit (19999) SuperBright L.E.D. - 20,000 counts, Display is visible in direct sunlight.

Terminal Configuration: Four-wire Kelvin

Overload Indication: Display flashes

Maximum Input: 250 VDC or peak AC without damage

Operating Temperature Range: 0°C to 50°C

Temperature Coefficient: ±.002% per °C (from 0°C to 15°C and 35°C to 50°C) @ -10°C it's accurate to ± 0.25%

Conversion Rate: Approximately 3 per second

Power: Rechargeable NI-CAD batteries & Charger (115 VAC 50-60 Hz or 220VAC version also available)

Max. Internal Voltage: 4.8 VDC - 4 ea. 1.2 V Ni-CADS

Humidity : 5 to 95%, waterproof to 3' depth when closed

Size: 295mm/11.5" D x 335mm/13.5" W x 155mm/6" H

Weight: 12 lbs NET, 15 lbs shipping

Drop/Impact Specification: Designed and tested to survive a 3' fall (i.e instrument cart to floor).

Order Information

630ES Explosive Safety Meter

Option "630-300" 48" Kelvin lead Set . . .



**AMPTEC
RESEARCH**

TEL +01.512.858.4045
FAX +01.512.858.4340
e-mail sales@amptec.com

Find us on the World-Wide Web at www.amptec.com

TEL (Toll Free from USA) 1-800-350-5105
FAX (Toll Free inside USA) 1-800-430-5440