

# AMPTEC 640N - Multipurpose Igniter Tester Explosive Safety Meter



## The AMPTEC 640N Ruggedized Igniter Tester - Standard Missile and ESSM Missile Approved

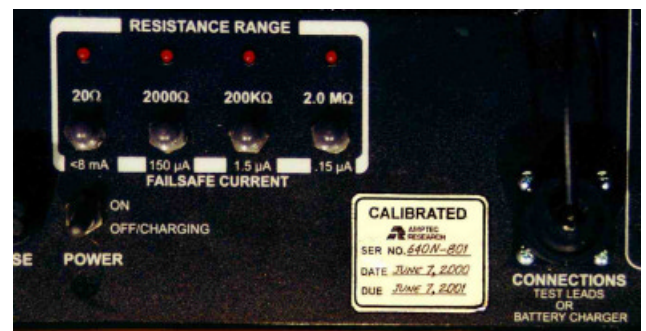
The AMPTEC RESEARCH 640N Igniter Tester is designed for use in harsh environments, on the go “mobile” take it anywhere use, as well for general purpose test bench use on ordnance. Designed originally for military ordnance programs, (i.e. U.S. NAVY STANDARD MISSILE and EVOLVED SEA SPARROW ESSM Missile - NAVY ORDNANCE CENTER SAFETY BOARD APPROVED) as a ruggedized Igniter Tester, the AMPTEC 640N features: a water-resistant main front panel, higher 200K and 2.0 Megohm ranges, self-contained DC milliammeter and test resistors (to verify 640N test current levels are safe and resistance ranges accurate), 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 storage area (i.e. test leads, charger), *a shielded Faraday cage design for EMP, ESD protection, noise immunity, and more.*

The 640N Igniter Tester come ready to use, and are 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 Instruction/ Operation card that makes it easy for test personnel to understand and use.



## Measure On The Go - Sunshine or In The Rain

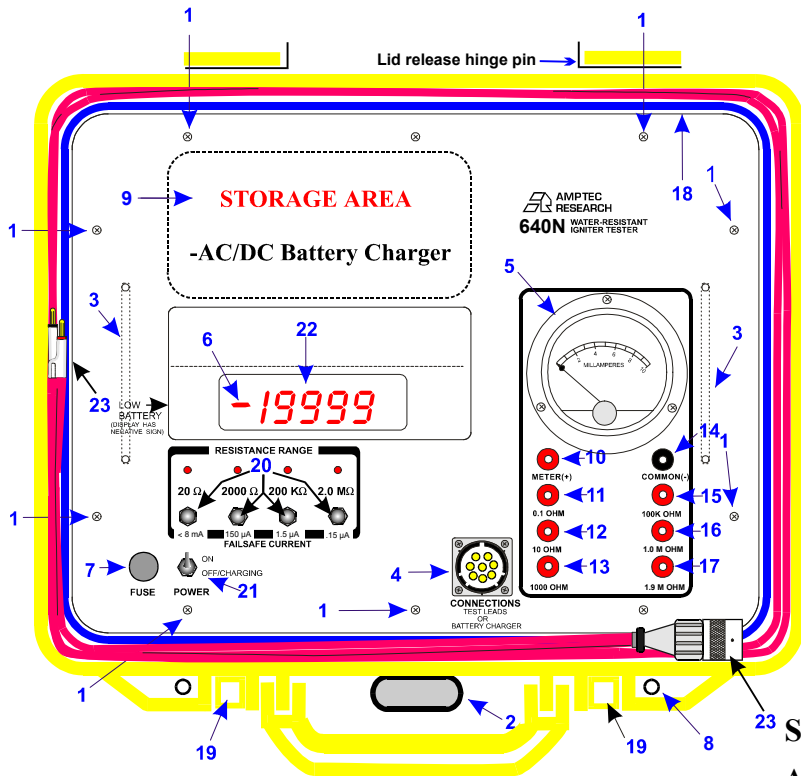
The AMPTEC 640N internal packaging and impact resistant case is constructed to a water tight standard. The polypropylene case is water proof when closed (and purge valve is shut) to a depth of 3 feet. The 640N also floats in water and *can be operated outside in direct rain, as it has silicon boot seals 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 640N display is easily read outdoors in sunlight.



## Measure High Resistance to 2.0 MegOhms.

The 640N features 20.0, 200.0, 200 KOhm and 2.0 MegOhm fullscale ranges. The 2.0 MegOhm range is useful for determining “open igniter circuit continuity status”. *Foil Calibration Stickers* prevent any unauthorized access to the internal 640N electronics. The limited access (one use at a time) external connection port *also* makes it *physically impossible to simultaneously connect the AC/DC Charger while measuring with the test leads.* Charging batteries or measuring a squib’s resistance, *there is only one connection port*, it’s a case of “*either/or*” but never both. The 640N operator can connect the AC/DC Battery Charger to the notched 640N limited access connection port *thus mechanically blocking access for the measuring sense leads.* When measuring, using the sense leads, the same limited access connection port blocks any battery charger access.

# 640N Explosive Safety Igniter Tester



## 640N Resistance Range/Resolution Table

20Ω/1mΩ	2000Ω/10mΩ	200KΩ/10Ω	2.0 MΩ/100Ω
5 mA/10mA	50μA/150 μA	0.5μA/ 1.5 μA	0.05μA/.15μA
The above test currents are typical and failsafe levels			

## 640N Versatility, Value, Failsafe

A *shielded Faraday cage* (all to *chassis ground* - common jack - item #14) lines the entire 640N 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.* AMPTEC RESEARCH's design and manufacturing engineers have over 36 years of experience in the manufacture of Igniter Testers. Give us a call, and let our experienced test engineers work with you on any ordnance test application.

## 640N FEATURES

1. Calibration/Maintenance access screws
2. Purge Valve for Air-Pressure Equalization
3. Handles for lifting front plate during calibration
4. Single Access Notched Connector - for either test lead hookup *or* connection to battery charger.
5. Millimeter for measuring 640N test current . .
6. Negative sign means "low battery level" (*recharge*).
7. Fuse Access - required for general operation
8. Padlock Hole - provides added security (i.e transit).
9. Battery Charger Storage Area
10. Input jack (red banana) for *Vhigh* and *Ihigh*.
11. Input jack of 0.1 ohm test resistor for checking the zero accuracy of 20 ohm range.
- 12.-13. 10Ω, 1000Ω resistors - for testing the 20Ω and 2000Ω ranges.
14. Input jack for the common lead.
- 15-16-17.. 100KΩ, 1.0 MΩ, and 1.9 MΩ test resistors for checking the the 200KΩ, and 2.0 MΩ ranges.
18. Water Resistant O-ring seal(s) in lid & front plate.
19. Tight Squeeze Flip Latch Area -water resistant seal.
20. Resistance Ranges - 20Ω, 2000Ω, 200KΩ, and 2.0MΩ- silicone rubber boots provide water-resistance (LED indicates the selected range).
21. Main "Power ( On *or* OFF/Charging) Switch"
22. Beveled Display / SuperBright LED Display.
23. Test Leads wrap around inside rim of 640N lid, with Velcro<sup>™</sup> style hook and loop fastening.

## Specifications

- Accuracy:** (180 days 25°C ± 10°C) ± 0.02% of reading and ± 0.02% of range for 20Ω through 200 KΩ ranges, ± 1.0 % of reading and ± 0.2% of range for 2.0 MΩ range.
- Failsafe Current :** < 8 mA - 2Ω and 20Ω 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)
- Conversion Rate:** Approximately 3 per second
- Power:** Rechargeable Ni-Cad batteries (5.0 Ahr) & Charger (115 VAC 50-60 Hz)
- 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

640N Igniter Tester . . . . .
Option "630-300" 48" Kelvin lead Set . . .
Option "630-401" Handheld Probes . . . . .
Additional Operator/Maintenance Manual . .

\* VISA, MC and AMEX PURCHASES ACCEPTED