

## IGNITER CIRCUIT TESTERS

MODEL	DESCRIPTION
101-5HJ-NAV	Military approved version of our basic tester
101-5HJ-IBM	Our basic approved tester with fiber optic interface to a computer
101-5HJ-NAVR	Rack mount version of the basic tester

Range (ohm)	Resolution (ohm)	Accuracy (ohm)
19.999	0.001	0.01
199.99	0.01	0.05
1999.9	0.1	0.5
199.99K	0.01K	1.0K

101-5HJ-NAV-3	Lower cost version - no mA meter & reduced accuracy (available in quantities of 10 or more <u>only</u> )
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Range (ohm)	Resolution (ohm)	Accuracy (ohm)
19.999	0.001	0.03
199.99	0.01	0.1
1999.9	0.1	1
199.99K	0.01K	2.0K

OPTIONS	DESCRIPTION
2A	Ranges 20 ohm, 200 ohm, 2K ohm, 2M ohm
2B	Ranges 20 ohm, 200 ohm, 200K ohm, 2M ohm
2D	Ranges 20 ohm, 2K ohm, 200k ohm, 20M ohm
3A	0.8mA failsafe current, 200 ohm lowest range
3B	0.08mA failsafe current, 200 ohm lowest range
4	AC Power Pack with isolation & zener barrier
SE9912	Explosion Proof version of Option 4 (was opt. 4EX)
SE90036	Key shorting switch w/10 ft. Cable (was opt. 8)
SE90036A	Extra test cable (specify Length - price per foot)
SE9838	Extra set of alligator clip leads (was opt. 9)
13	Connector to mate with our tester
19	Additional four-wire Kelvin probes
SE9511	Replacement battery charger
SE9511-EU	Replacement battery charger - European (220V)
SE9512	Replacement battery pack with overcurrent protection
SE9563A	Replacement failsafe module
SE9667	Replacement DPM (LCD)
SE9682A	Replacement Ammeter (10mA) to verify test current
SE9717	Battery assembly for 101-5RZ (LED Display)
SE9942	Replacement battery pack for 101-5HJ-IBM

**General Description** Our igniter circuit tester is a type of ohmmeter designed specifically to measure the resistance of electro-explosive circuits such as explosive bolts, squibs, and blasting caps. This instrument uses a test current which is typically much smaller than conventional precision ohmmeters. These instruments have been approved by the Navy for measurement of munitions and rocket motor igniters. Since excessive current could cause the device under test to explode, overcurrent protection for all modes of failure or operator error must be built into the instrument. In our instruments, a sealed, tamperproof, fail-safe module guarantees that the test current will be less than 10 MA EVEN UNDER WORST CASE CONDITIONS OF SIMULTANEOUS FAILURE OF MULTIPLE CIRCUIT ELEMENTS. Our testers also have an interlock to prevent testing from taking place while the battery is being charged. Since the charger is connected to the AC line, this could otherwise result in a dangerous situation whereby voltage spikes could enter the tester.

**Ease of Operation** Our instrument is direct reading with no bridge to balance. The 4 wire test leads, which automatically compensate for lead resistance, are attached to the igniter circuit and the appropriate range button is depressed. The LCD readout then displays the resistance. The instrument and test leads are housed in a small carrying case for genuine portability.

**Model 101-5HJ-NAV** This is our most popular tester. A built-in D'Arsonval milliammeter in the cover of the instrument verifies that the short circuit test current is within safe limits. The test leads can be first connected to this meter to check the test current before connecting these leads to the actual unit under test. Three precision calibration resistors are also provided in the cover: 18 ohms, 160 ohms, & 1000 ohms to verify the instrument accuracy. This model is approved by the military. It has been ruggedized to withstand adverse environments and has a sealed push button assembly, conformal coating on the printed circuit board, sealed battery, and a number of other special features which enhance reliability when the tester is operated outdoors or on board a ship.

**Model 101-5HJ-IBM** This is a modified version of our 101-5HJ-NAV igniter circuit tester that permits connection to an IBM computer. To preserve the fail-safe characteristics of this tester, the RS-232 signal between tester and computer is a beam of light that is transmitted via a fiber optic cable. Since there are no electrical connections between the computer and the igniter circuit tester, maximum safety is realized. This instrument includes an RS-232 interface that plugs into a slot in the IBM computer, and measurement software. The computer is not provided.

**Model 101-5HJ-NAVR** This is the 19 inch rack mounted version of the Model 101-5HJ-NAV. Usually this unit is sold with an optional Power Pack so it can be continuously powered from an AC line rather than using a battery.

**Model 101-5HJ-NAV-3** The measuring circuit of this tester is electrically similar to the Model 101-5HJ-NAV, but the accuracy specifications are not as good. This tester does not have the built-in mA meter in the cover to measure test current and only one calibration resistor is provided (18 ohms).

**OPTION 4 - AC POWER PACK (NOT RECOMMENDED FOR HIGH RISK TESTING).** This option allows unlimited testing by continuously charging the battery while tests are being made (standard instrument REQUIRES that charger be removed in order to connect test leads).

**OPTION SE9912 (was 4EX)- EXPLOSION PROOF AC POWER PACK** - This option consists of an Appleton explosion proof AC input plug and an explosion proof enclosure for the AC power pack/charger for locations where the AC input cannot be placed outside the hazardous area (hazardous environment rating--Class I and II, Division 1 and 2, Groups C, D, E, and F).

**NOTE:** Although we have provided every safeguard we could think of on these AC supplies, there is no way to protect against lightning surges on the power line, and it should be recognized that NO line power device is ever as safe as a battery powered unit.

**OPTION SE90036 (was 8)- KEY SHORTING SWITCH.** This option is a must if the test part is behind a barrier out of sight of the tester. It consists of a 10 ft long test cable attached to a key-operated shorting switch near the tester end. When used properly, the key shorting switch allows the test operator to lock the test leads in a safe condition between tests. This prevents test current from being accidentally applied to the UUT during connection of the test leads.

**OPTION SE9838 (was 9)- TEST LEADS.** These are identical to the set provided with the instrument. Test leads have a way of getting lost, so we recommend this option.

**OPTION 13 - CONNECTOR ONLY.** Perhaps you would like to make up your own test leads. This connector mates with our instrument.

**OPTION 19 - FOUR-WIRE "KELVIN" PROBES.** When the object to be measured has a resistance less than 1 ohm, then contact resistance may introduce a large error in the measurement. These probes are coaxial with separate current and voltage connections, so that contact resistance is totally eliminated.