

INSTRUMENTS FOR

# ELECTRICAL SAFETY COMPLIANCE TESTING



HI POT TESTERS

GROUND BOND TESTERS

INSULATION RESISTANCE TESTERS

LINE LEAKAGE TESTERS

MEDICAL TEST SYSTEMS

HV/HC SCANNING MATRICES

SOFTWARE SOLUTIONS

FUNCTIONAL RUN TESTERS

CUSTOM INSTRUMENTS



 **ASSOCIATED  
RESEARCH, INC.®**



# LINECHEK<sup>®</sup> II

## Fully-Automated Line Leakage Tester

The 620L is a stand alone Line Leakage tester with an enhanced graphic LCD which automates leakage testing in production and laboratory environments. The 620L is configured for up to 40 Amps of current draw for DUT input power. It is designed to test to most safety agency standards for Line Leakage testing. The 620L comes standard with USB and RS-232 interfaces. Ethernet, GPIB, and RS-485 interfaces are also available.

### Model 620L - Fully-Automated Line Leakage Tester

#### Features and Benefits

- Test operators can configure the 620L to perform all eight required Line Leakage tests
- Leakage current readings can be monitored using both PEAK and RMS measurements
- Most common measuring devices are already incorporated into the instrument's intuitive menu system
- 50 Memories with 30 steps per memory can be stored and recalled in any alphanumeric combination
- Compact 3U Rack Mount Design
- Optional Functional Run Testing for additional measurements
- Interconnection to APT Brand AC Power Source
- Interconnection to SC6540 Modular Scanner provides automated control of multiple test points
- Graphic LCD and intuitive menu system to simplify the entire testing process
- Patented CAL-ALERT<sup>®</sup> alerts the operator that the 620L is due for re-calibration
- Handles up to 40 Amp maximum continuous DUT Current
- Optional cold resistance measurement capability
- USB/RS-232, GPIB, Ethernet, or RS-485 automation interfaces available
- Easily Interconnect to any automated Associated Research Hipot Tester
- Autoware Testing Software available for complete Automation Control



Safety agency listed.



## Input Specifications

Voltage	115/230 VAC $\pm$ 10%, user selection
Frequency	50/60 Hz $\pm$ 5%
Fuse	2 A Slow Blow 250 VAC

## Line Conditions

Reverse Power Switch	Reverse polarity switch for normal condition
Neutral Switch	Neutral switch on/off selection for single fault
Ground Switch	Ground switch on/off selection for class I single fault

## Probe Settings

Surface to Surface (PH - PL)	
Surface to Line (PH - L)	
Ground to Line (G - L)	

## Leakage Limit Settings

Touch Current	
High/Low Limit (RMS)	Range: 0.0 $\mu$ A - 999.9 $\mu$ A / 1000 $\mu$ A - 9999 $\mu$ A / 10.00 mA - 20.00 mA Resolution: 0.1 $\mu$ A/1 $\mu$ A/0.01 mA
Touch Current	
High/Low Limit (Peak)	Range: 0.0 $\mu$ A - 999.9 $\mu$ A / 1000 $\mu$ A - 9999 $\mu$ A / 10.00 mA - 30.00 mA Resolution: 0.1 $\mu$ A/1 $\mu$ A/0.01 mA

## Display

Touch Current	
Display (RMS)	Range: 0.0 $\mu$ A - 550 $\mu$ A, frequency DC, 15 Hz - 1 MHz Resolution: 0.1 $\mu$ A Accuracy: DC: $15 \text{ Hz} \leq f < 100 \text{ kHz}$ : $\pm(2\%$ of reading + 3 counts) $100 \text{ kHz} \leq f \leq 1 \text{ MHz}$ : $\pm 5\%$ of reading, (10.0 $\mu$ A - 999.9 $\mu$ A) Range: 400 $\mu$ A - 8500 $\mu$ A, frequency DC, 15 Hz - 1 MHz Resolution: 1 $\mu$ A Accuracy: DC: $15 \text{ Hz} \leq f < 100 \text{ kHz}$ : $\pm(2\%$ of reading + 3 counts) $100 \text{ kHz} \leq f \leq 1 \text{ MHz}$ : $\pm 5\%$ of reading, (10 $\mu$ A - 8500 $\mu$ A) Range: 8.00 mA - 20.00 mA, frequency DC, 15 Hz - 1 MHz Resolution: 0.01 mA Accuracy: DC: $15 \text{ Hz} \leq f \leq 100 \text{ MHz}$ : $\pm 5\%$ of reading, (0.01 mA - 20.00 mA)
Touch Current	
Display (Peak)	Range: 0.0 $\mu$ A - 550 $\mu$ A, frequency DC - 1 MHz Resolution: 0.1 $\mu$ A Accuracy: DC: $\pm(2\%$ of reading + 3 counts) $15 \text{ Hz} \leq f \leq 1 \text{ MHz}$ : $\pm 10\%$ of reading + 2 $\mu$ A Range: 400 $\mu$ A - 8500 $\mu$ A, frequency DC - 1 MHz Resolution: 1 $\mu$ A Accuracy: DC: $\pm(2\%$ of reading + 3 counts) $15 \text{ Hz} \leq f \leq 1 \text{ MHz}$ : $\pm 10\%$ of reading + 2 $\mu$ A Range: 8.00 mA - 30.00 mA, frequency DC - 100 kHz Resolution: 0.01 mA Accuracy: DC: $\pm(2\%$ of reading + 3 counts) $15 \text{ Hz} \leq f \leq 100 \text{ kHz}$ : $\pm 10\%$ of reading + 2 counts

## Measuring Device Module

MD1	UL544NP, UL484, UL923, UL471, UL867, UL697
MD2	UL544P
MD3	IEC 60601-1
MD4	UL1563
MD5	IEC60990 Fig4 U2, IEC60950-1, IEC60335-1, IEC60598-1, IEC60065, IEC61010
MD6	IEC60990 Fig5 U3, IEC60598-1
MD7	IEC60950, IEC61010-1 FigA.2 (2 kohm) for Run function
External MD	Basic measuring element 1 kohm
MD Voltage Limit	70 VDC

## DUT Power

AC Voltage	0.0 - 277.0 V
AC Current	40 A max continuous
AC Voltage	Range: 0.0 - 277.0 V
High/Low Limit	Resolution: 0.1 V/step
AC Voltage Display	Range: 0.0 - 277.0 V Resolution: 0.1 V/step Accuracy: $\pm(1.5\%$ of reading + 2 counts), 30.0 - 277.0 V
Delay time setting	Range: 0.5 - 999.9 sec Resolution: 0.1 sec
Dwell time setting	Range: 0, 0.5 - 999.9 sec (0=Continuous) Resolution: 0.1 sec Accuracy: $\pm(0.1\%$ of reading + 0.05 seconds)
Failure Protection	(Start-Up) - Neutral Voltage Check (Neutral-V) Over current and ground current check (Line - OC)

## General Specifications

Dimension	(W x H x D) 16.93 x 5.24 x 11.81 (430 x 133 x 300 mm)
Weight	26.45 lbs (12 kg)
Display	320 X 240 graphic LCD
Mechanical	Bench or rack mount with tilt up feet
Memory	50 Memories, 30 steps per each memory File locations can link 900 steps max
Interface	USB/RS232 Standard, Ethernet, GPIB, Data Storage (RS-485) Optional

Specifications subject to change without notice.

Accredited calibration service available. Includes ISO 17025, ANSI Z540.1-1994, CTL & Denan's Law requirements.

For more information on testing to a specific standard, refer back to the Common Safety Standard Reference Chart.

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13860 West Laurel Drive,  
Lake Forest, IL U.S.A. 60045

Tel: +1-847-367-4077 Fax: +1-847-367-4080

E-mail: [info@asresearch.com](mailto:info@asresearch.com)

For more information visit us at [www.asresearch.com](http://www.asresearch.com)  
or call us toll-free at 1-800-858-TEST(8378)