

# Fully Automated Liquid Dielectric Test Sets



## Testing Applications

Measure the breakdown voltage of insulation fluids used in transformers, capacitors, bushings and related high voltage equipment. With the appropriate oil vessel test cell, these test sets are designed to perform tests in accordance with standards ASTM D1816, ASTM D877, IEC 60156, BS 148, VDE 0370, plus other applicable standards.



- **Bluetooth** connection to **Android devices**, Android App **included**
- **Bluetooth** connection to **optional** printer
- **Fully compliant** with **international** and **national** standards



## Description

The controls located on the front panel include an easy-to-read digital voltmeter, on/off and remote mode switch, rate of rise selector, start/stop/reset switch, and device pair switch with indicator lamp to permit Bluetooth connection. Test standards are preloaded into the Android device. The test compartment is provided with a see-through lid interlocked to the test circuit with a limit switch to ensure full safety during operation.

The liquid to be tested is placed in the test cell and then placed in the test compartment on the cradle contacts, the rate of rise is selected, the test chamber lid closed, and the switch moved to start position. The test set will automatically raise the voltage. When a breakdown of the liquid occurs, the test sample failure lamp will illuminate, and the meter will hold the breakdown voltage level.



Specifications are subject to change without notice.

Brochure No. **10800**

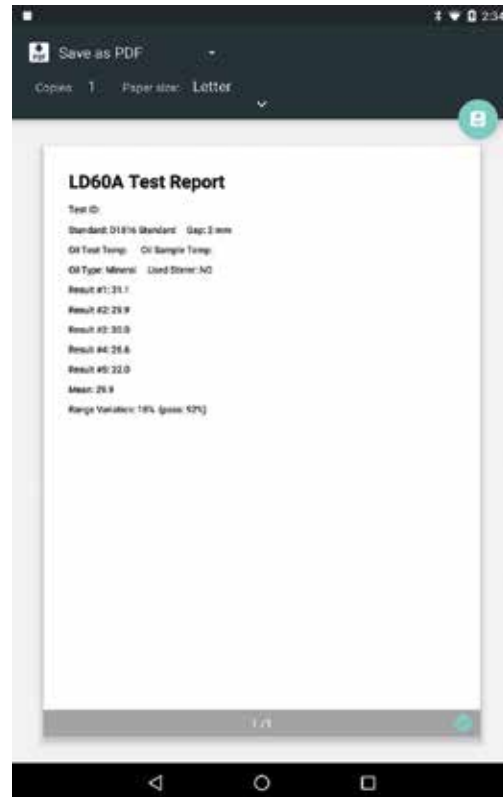
MODEL		LD60A
INPUT	Voltage / Current	120 V, 5 A 230 V, 2.5 A
	Frequency	50 or 60 Hz (Voltage and frequency required must be specified)
OUTPUT	Voltage	0-60 kV at 500 VA
	Maximum Voltage to Earth	30,000 V
RATE OF RISE	selectable	500/2000/3000 Volts per Second
DUTY CYCLE		continuous breakdown testing
DIGITAL MEMORY VOLTMETER	Range	~0-60 kV
	Accuracy	+/-1% of Full Scale
DIMENSIONS & WEIGHTS	Length	21.25" (540 mm)
	Width	16.75" (426 mm)
	Height	13.75" (350 mm)
	Weight	51 lbs (23 kgs)
SHIPPING SIZE	Length	24" (610 mm)
	Width	21" (533 mm)
	Height	18" (457 mm)
	Weight	63 lbs (29 kgs)

## Safety and Design Features

- Center tapped high voltage transformer
- Safety interlock engaged when lid is open
- Fast acting relay ensures immediate cutout at flashover
- High voltage cutoff circuit to ensure safety. Testing can be aborted from the tablet or from the unit via the power switch.
- Control lamp indicating AC power on
- Control lamp indicating failure
- Fast acting fuses are located both in the input to the test set and in the primary of the high voltage transformer
- Zero start interlock

## Environmental Conditions

- 10-40°C, indoor/outdoor in fair weather
- Humidity <95% non-condensing
- Altitude <3300 ft (1000 meters)



## Test Cells

TYPE	TEST STANDARD	TEST ELECTRODES	GAP SETTING	RATE OF RISE
TC/DE (flat electrodes)	ASTM D877	Polished brass disc 1" (25 mm) diameter	.1" +/-0.0005"	3000 Volts per Second
TC/VDE (motorized with stirrer)	ASTM D1816	Spherical dome 1.4" (36 mm) diameter	.04" or .08" +/-0.001"	500 Volts per Second
TC/IEC	IEC 60156	Spherical dome 36 mm (1.4") diameter	2.5 mm +/-0.1 mm	2000 Volts per Second
TC/BS	BS 148	Spherical cap 12.5 mm (.5") diameter	2.5 mm +/-0.1 mm	2000 Volts per Second



Type TC/DE



Type TC/VDE



Type TC/IEC



Type TC/BS

## Options

- Software for optional PC operation
- Printer with Bluetooth connection, battery operated, charger included



- Reusable case for shipping purposes



## Liquid Dielectric Comparison Unit

As an External Voltmeter unit for use with Phenix Technologies Liquid Dielectric (LD) test set, the LDCU may be used before testing oil or as a periodic standard to verify the voltmeter operation of the LD test set. The easy to use LDCU installs into the same position as the LD test cells.

The LDCU consists of precision voltage dividers with passive analog voltmeter. The high voltage resistors and meters are housed in a custom built composite material enclosure with brass terminals for direct connection to the LD. The voltmeter scale offers a direct read of voltage for comparison to the LD voltmeter.





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Our 85,000 square-foot headquarters is a modern manufacturing facility. All aspects of electrical, mechanical, and software design and production are performed in this facility. Our engineers offer a unique blend of theoretical knowledge and practical experience. Our Service and Calibration Department assists customers during and after installation to ensure years of trouble free service.

We carry our commitment into the future as we proudly continue to provide the best in **high voltage, high current, high power test systems and components.**



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