

VLF-60

PORTABLE HIGH-VOLTAGE VLF TESTER



- **Efficient non-destructive VLF withstand testing according to IEEE 400.2-2013**
- **VLF sinewave, VLF squarewave, DC+ and DC- voltage waveform output**
- **Up to 10 μ F load capacitance testing**
- **Cable sheath testing and fault pinpointing¹**
- **Manual & automatic test cycles**
- **Colour LCD with touch screen control**
- **Portable and easy-maintenance design**
- **Automatic discharge system**

Portable high-voltage very low frequency tester VLF-60 has a multitude of applications in technical condition assessment and residual life forecasting of high-voltage equipment and cable lines. A list of specific uses includes, without limitation, the following:

- **VLF withstand testing** of cables with polymeric (PE, XLPE, TRXLPE, EPR, etc.) insulation for quality assurance during installation, acceptance and maintenance according to IEEE 400.2-2013.
- **DC hipot testing** of various electrical equipment (generators, transformers, switchgear, etc.).
- **Cable sheath testing and fault pinpointing¹**.
- **Vacuum circuit breaker testing.**

VLF-60 can operate in an automatic mode where, having entered the nominal voltage of the cable, all test parameters are selected and results are interpreted automatically according to IEEE 400.2-2013, and a manual mode where an operator can tune every aspect of the test and save programmed test sequences.

Powered by an advanced operating software and equipped with a large colour display with touch technology, VLF-60 is a unique device in its class boasting a user-friendly interface and an intuitive control.

The device features a variety of safety mechanisms – a built-in automatic discharge device, residual voltage monitoring and power keylock switch. Along with the portable and easy-maintenance design, VLF-60 is a perfect and versatile solution for both laboratory and field VLF testing.

¹ In this mode VLF-60 acts as a pulse generator only. A suitable signal receiver (not included) is required for fault pinpointing.

Output voltage	Adjustment and indication ranges: <ul style="list-style-type: none"> ▪ Sinewave ▪ Bi-polar pulse ▪ DC+ ▪ DC- ▪ Vacuum bottle test ▪ Sheath test ▪ Sheath fault location 	0.1 ... 62 kV _{PEAK} (44 kV _{RMS}) 0.1 ... 62 kV _{PEAK} + (0.1 ... 60) kV minus (0.1 ... 60) kV minus (0.1 ... 60) kV minus (0.1 ... 10) kV + (0.1 ... 10) kV
	Setting and indication resolution	0.1 kV
	Relative indication accuracy	± [2 % + 2 dgt*]
	Indication	Real time voltage wave visualisation
Output current	Indication ranges: <ul style="list-style-type: none"> ▪ Sinewave ▪ Bi-polar pulse ▪ DC+ ▪ DC- ▪ Vacuum bottle test ▪ Sheath test ▪ Sheath fault location 	0.1 ... 40 mA _{PEAK} (26 mA _{RMS}) 0.1 ... 40 mA _{PEAK} + (0.1 ... 40) mA minus (0.1 ... 40) mA minus (1 ... 1000) µA minus (0.1 ... 40) mA + (0.1 ... 40) mA
	Indication resolution	1 µA, 0.1 mA
	Relative indication accuracy	± [2 % + 2 dgt]
Output frequency (sinewave, bi-polar pulse)	Output frequency setting range	0.01 ... 0.1 Hz, resolution 0.01 Hz
	Frequency selection	<ul style="list-style-type: none"> ▪ Automatic ▪ Manual
Output power	up to 1200 W	
Breakdown management	Burn on arc (keep arc burning)	Insulation is burnt in the pace of a fault for the duration set in the range of 1 ... 5 minutes
	Trip out on arc (current limit trip)	If a flashover is detected, the test is stopped
Object under test	Load capacitance range**	0.1 nF ... 12 µF
	Load resistance range**	10 kΩ ... 20 GΩ
	Maximum load	<ul style="list-style-type: none"> ▪ 1.0 µF at 0.1 Hz, 44 kV_{RMS} (3 km for a typical cable with capacitance 330 pF/m) ▪ 5.0 µF at 0.02 Hz, 44 kV_{RMS} (15 km for a typical cable with capacitance 330 pF/m) ▪ 10.0 µF at 0.01 Hz, 44 kV_{RMS} (30 km for a typical cable with capacitance 330 pF/m)
	Duty cycle	Continuous, unlimited
Metering	<ul style="list-style-type: none"> ▪ Voltage and current (RMS and/or PEAK) ▪ Object under test capacitance ▪ Object under test resistance ▪ Test time 	

Controls and interfaces	Display	5.7" colour TFT, 640 × 480 px, capacitive multi-touch
	Menu languages	<ul style="list-style-type: none"> ▪ English ▪ Russian ▪ Chinese (simpl.) ▪ Other (option)
	Secondary control interface	Rotary encoder with "ENTER" button
	Connection interfaces	<ul style="list-style-type: none"> ▪ USB-A (user memory stick , FAT32) ▪ USB-B (service only) ▪ RS-485 (service only)
	Internal memory	10 000 test reports
Safety	Grounding	<ul style="list-style-type: none"> ▪ Protective earthing ▪ Automatic internal dual discharge
	Protection	<ul style="list-style-type: none"> ▪ Thermal circuit breaker
	High voltage presence signalling	<ul style="list-style-type: none"> ▪ Indication of high voltage presence on the object under test
	High voltage switch off	<ul style="list-style-type: none"> ▪ EMERGENCY STOP button ▪ Power keylock switch
	Ingress protection rating (according to EN 60529)	IP 21 (with lid closed)
Power supply and consumption	Mains supply voltage	110 ... 230 VAC, ± 10 %
	Mains supply frequency	50 / 60 Hz
	Power consumption	up to 1.5 kV•A
Physical	Dimensions, H × W × D	528 × 577 × 408 mm
	Weight	64 kg

* *dgt* – least significant digit.

** Values measured on the high AC voltage may significantly differ from the values measured by a standard low-voltage multimeter.

Specifications are subject to change without notice. Pictures are for illustration purposes only.



KHARKOVENERGOPRIBOR LTD.

9, Generala Momota Str.,
Kharkiv, Ukraine, 61075
www.kephv.com
info@kephv.com
Tel.: +38 (057) 393-20-28
Fax: +38 (057) 393-10-69