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Low Frequency Generators LFG-50P & LFG-200P

LFG-50P

LFG-200P

Application

LFG Low-Frequency Generators, when operated in conjunction with a receiver, can be used for locating as well as tracing underground metal communications, such as any cables with metal cores as well as metal pipes. In addition, they provides operator with a quick detection of short circuits on cables as well as with an identification of a cable in a bunch.

Description

LFG is a 50W (for LFG-50P) and 200W (for LFG-200P) low-frequency generator with ability to inject a signal of three frequencies via direct connection to an object or via internal transmission loop antenna, which is built-in a cover lid. Basic frequencies are 491; 982 and 8440 Hz. There are options of using a singlefrequency or multi-frequency signals at the output.

LFG-200P is a low frequency generator which is used as a built-in device in ETL-series cable fault locators.

A load matching is made automatically. Main parameters, such as output power, load impedance, selected frequency are shown on OLED display. If a load is higher than 1000 Ω LFG automatically switches into output voltage setting mode. The output overload protection ill trip, when operating on short-circuit loops (lower than 0.5 Ω).

Fast and accurate search for power cables and other communications, identification of coating defects and the depth, followed by mapping.

Parameter	Value
Operating frequencies, Hz	526 / 1024 / 8928
Bandwidth:	
• RADIO mode, kHz	10 – 36
• ONLINE mode, Hz	48 – 10 000
Sensitivity, µV	1
Track depth measurment error, %, max	5
Dimensions, mm	700 x 300 x 140
Weight, kg, max	2.4

PT-14

LFG-50P & LFG-200P Low Frequency Generators

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Specifications

Parameter	Value	
	LFG-50P	LFG-200P
Output frequencies*, Hz	491 / 982 / 8440	
Number of frequencies for multi-frequency operation	1 – 3	
Output power adjustment range, V·A	0 – 50	0 – 200
Increment for manual power adjustment, V·A	2.5	1 – 10
Frequency selection	manual	
Operation modes	continuous, pulsed	
Impedance matching	automatic	
Impedance matching range, Ω	0.5…1000	
Output voltage (RMS), V, max	300	600
Range of measured and indicated parameters:		
• output voltage, V	0.1…300	0.1…600
• current, A	0.01…9.99	0.01…20
• load impedance, Ω	0.5…1000	
• phase angle, °	0…90	
Voltage, current, impedance measurement accuracy, %	5	
Phase angle measurement accuracy, %	10	
Modulation type	amplitude	
Pulse frequency, Hz	1	
Power supply and battery:		
• battery voltage, V	12	–
• time of continuous battery-powered operation, hours, min**,	1	–
• average battery charging time, hours	3	–
• external mains supply voltage, V	230 ± 10 %	
• external mains supply frequency, V	50 ± 1 Hz	–
• external power source voltage, V	10…15	–
Mains power consumption, V·A, max	100	400
Current consumption from external power source (12 V), A, max	8	–
Weight, kg, max	8	15
Dimensions, L×H×D, mm, max	366 x 270 x 178	482 x 133 x 350

* user-specific frequencies on request;
** using lower output power or pulsed mode when the Generator is battery-powered helps to significantly conserve the battery life.

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Low Frequency Generator LFG-2500P

Application

The generator LFG-2500P in conjunction with the receiver PT-14 is designed for tracing underground metal distribution lines and fault location across all power cable types. In addition, the tracing set LFG-2500P & PT-14 makes it possible to efficiently pinpoint shorts on power cables.

The LFG-2500P is a low frequency generator featuring automatic load impedance matching and smooth adjustment of output current.

The generator operating principle is based on a special method of low frequency modulation of the output signal. Modulation is performed by rectangular pulses with the frequency of 1 Hz in such a way that during the first half-period of the modulating voltage a signal with the frequency of 1024 Hz is generated, and a signal with the frequency of 2048 Hz – during the second half-period. The advantage of this modulation method is that, provided there is a receiver with receiving frequencies of 1024 Hz and 2048 Hz (such as PT-14), the signal of both frequencies can be received while the switch between the two is done on the receiver itself. In the continuous generation mode, the signal with the frequency of 1024 Hz is generated.

Technical specifications

Parameter	Value
Generation frequency, Hz	1024 / 2048
Modulation type	frequency
Modulation frequency, Hz	1
Maximum output power in the matching mode, W	2500
Maximum output idling voltage, V	320
Maximum output current, A	50
Load resistance range, Ω	0.5 – 150
Impedance matching	automatic
Display parameters	OLED display, 128×64
Power supply voltage, V	230 ± 10 %
Power supply frequency, Hz	50 ± 1
Power consumption, kV•A, max	3
Net weight, kg, max	12
Dimensions (W×H×D), mm, max	415 x 178 x 322