Low-Frequency Conducted Immunity Test System

LFS-1000【Introduction】

The LFS-1000 is a brand-new, intelligent, and highly integrated low-frequency interference test system developed. With an all-in-one design, it incorporates a built-in signal generator, audio power amplifier, and more. When paired with accessories, it can fulfill the requirements for low-frequency sinusoidal interference testing, namely the B waveform testing specified in ISO 7637-4. It also meets the ripple testing requirements of ISO 16750-2, the testing requirements of GB/T 17626.16/19, and the testing requirements of ISO 21498-2. The system is capable of fully automated calibration and testing. An external power amplifier is optional, and the device can also be used standalone.

Compliance Standards

ISO 7637-4、TS 7637-4、ISO 21498-2、BMW GS 95023、Mercedes MBN LV 123、Volkswagen VW 80303/80300、IEC 61000-4-16/19、GB/ T 17626.16/19、ISO 16750-2

Application Fields

It is applicable to the electrical systems equipped in road vehicles with electrically independent drives (such as Battery Electric Vehicles (BEVs), Hybrid Electric Vehicles (HEVs), or Plug-in Hybrid Electric Vehicles (PHEVs)), as well as low-voltage electrical appliances, electronic automotive components, and the energy storage industry.

Technical Features

- Integrated design with a built-in signal generator and audio power amplifier；
- Software-controlled to automatically complete calibration and testing；
- The main unit is compatible with multiple testing requirements.；

Parameter List

Specification Model	LFS-1000
Main Technical Parameters	
Frequency Range	DC ～ 300 kHz
Frequency Step	Linear and logarithmic
Output Voltage	0.5 V ～ 30 V(≤ 30 kHz) 0.5 V ～ 20 V(＞ 30 kHz) Resolution: 0.1 V
Rated Current	16 A
Dwell Time	1 ～ 10 s
Signal Generator Parameters	
Frequency Characteristic	
Sine Wave	1 μHz ～ 10 MHz
Resolution	1 μHz
Accuracy	±(1 ppm+10 pHz)，18℃~ 28℃
Sine Wave Spectral Purity	
Harmonics	<-55 dBc
Non-harmonics	<-60 dBc
Output Characteristics	
Range	1.0 mVpp~20 Vpp
Accuracy	±(1%)± 5 mV
Output Impedance	50 Ω
Output Interface	BNC (Female Connector)
Technical Parameters for Power Amplifier	
Frequency Range	DC ～ 300 kHz
Output Power	900 W

Gain Flatness	±3.5 dB
Gain	20
Technical Parameters in Continuous Mode (LSF-1000)	
Test Frequency	DC， 16 $\frac{2}{3}$Hz，50 Hz and 60 Hz
Common-mode Open-circuit Voltage	1 V(-10%) ～ 50V(+10%)
Output Impedance	50 Ω±10%
Technical Parameters in Short-time Mode (with CLF-1619-ST) $\frac{2}{3}$	
Test Frequency	DC， 16 $\frac{2}{3}$Hz，50 Hz 和 60 Hz
Common-mode Open-circuit Voltage	10(-10%) V ～ 330(+10%) V
Output Impedance	50 Ω±10%
Fall/Rise Time	Between 1 μs and 5 μs (DC -)
On/Off Switching of Output Voltage	Switch at a phase of 0 degrees (0° ±5%)(16$\frac{2}{3}$ Hz，50 Hz 和 60 Hz)
Technical Parameters in Sweep Mode (LSF-1000)	
Frequency Range	15 Hz-300 kHz
Common-mode Open-circuit Voltage	0.1 V(-10%) ～ 50 V(+10%)
Output Impedance	50 Ω±10%
Total Harmonic Distortion	<1%(Sine wave)
Technical Parameters for Differential-mode Voltage Interference Test (with CDND M3-16)	
Frequency Range	2 kHz ～ 150 kHz
Waveform	Sine wave, with total harmonic distortion <5%
Open-circuit Voltage	0.1 V ～ 25 V±5%
Pulse Modulation	3 Hz ～ 1 kHz
Duty Cycle	50%
Output Impedance	10 Ω±30%
Technical Parameters for Differential-mode Current Interference Test (with CIN-19)	
Frequency Range	2 kHz ～ 150 kHz
Maximum Current	7 A

Load Output Impedance	1 Ω±0.3 Ω
Pulse Modulation	3 Hz ～ 1 kHz
Duty Cycle	50%
General Parameters	
Operating Power Supply	AC 85 V ～ 264 V 50/60 Hz 120 W
Maximum Power Consumption	1200 W
Dimension	19" / 4 U
Weight	25 kg
Temperature	15℃~ 35℃
Humidity	45% ～ 75%
Atmospheric Pressure	86 kPa ～ 106 kPa