

EFT S4 Electrical Fast Transient/ Burst Generator

Overview

Switching the transient process (to cut off inductive load, relay contact bounce, etc) usually interferes with other electrical and electronic equipment in the same circuit. This type of interference is characterized by high amplitude, short rise time, high repetition rate and low energy. Pulse generators are used for evaluating the performance of electrical and electronic equipment power supply port, signal, control and grounding ports when subjected to electrical fast transient burst interference.

The EFT S/T series are the state-of-the-art EFT/ Burst testers with a built-in coupling/ decoupling network for single phase or three-phase mains supply line and a HV terminal to connect a capacitive coupling clamp. Its performance fully complies with IEC 61000-4-4 standard.

Standard and basis of product designing & manufacturing

- GB/ T 17626.4-2008
- IEC/ EN 61000-4-4: Testing and measurement techniques- Electrical fast transient/ burst immunity test

Power supply

- Input voltage: AC220V (≥150W)
- Frequency: 50/60Hz
- Coupling/ decoupling network: single-phase three-wire (L-N-PE)
- Voltage resolution: 1V
- Voltage harmonic distortion <5%

Environment

- Indoor use
- Altitude not exceeding 1000metres
- Ambient temperature 15°C~35°C
- Relative humidity no more than 85%
- No conductive dust, no fire or explosion hazard, no corroding metal or insulating gas, sine wave voltage waveform, waveform distortion rate≤5%
- Earthing resistance not more than 0.5Ω

Features

- User friendly 7" Touch Panel Display
- Support multi-language & facilitate users
- Built-in environment self-test program
- Programmable operation



Via Acquanera, 29 tel. 031.526.566 (r.a.) info@calpower.it



- Built-in international standard test levels make it more user friendly (Pre-programmed IEC 61000-4-4 test settings)
- The highest pulse frequency is up to 1.2MHz
- RS232 / USB Port, PC control operation & printable test report

Picture



Technical data

Model	EFT S4	
Group pulse generator host technical parameters		
Standard	IEC/ EN61000-4-4、GB/T 17626.4	
Operation	7" Touch Panel Display	
Output Voltage	0.2 ~ ± 5KV	
Frequency	1kHz ~ 1200KHz ± 10%, continuous adjustable	
Pulse Polarity	Positive/ negative/ alternating	
Running Time	1 ~ 9999s, continuous adjustable	
Internal Resistance	50 Ω± 10%	
Pulse Front Edge	5ns ± 30%	
Pulse Width	50ns ± 30% (50Ω load)	
	35 ns ~ 150 ns(1kΩ load)	
Output Mode	IEC, user-defined, programmable	
Coupling-out	BNC, coupling/ decoupling network	
Pulse Number	1 ~ 255, continuous adjustable	
Phase Angle	0~359°synchronous, asynchronous, or automatic	
Burst Period	0.15~99.9s,continuous adjustable	
Coupling/ Decoupling network	Built-in, single-phase three-wire, 16A	



	(custom specific on demand)
Power Supply	AC 220V ± 10% 50/60Hz
Ambient Temperature	15℃ ~ 35℃
Coupling decoupling network technical parameters	
Voltage	0~6KV
Attenuation ratio	<10%
Coupling capacitor	33nF
Coupling mode	L, N, PE free combination
Capacity	AC 220V 16A

Test configuration

The capacitive coupling clamp couples the fast transient burst to the test line without any electrical connection to the terminals of the device under test, the cable shield, or any other part of the test equipment. The capacitive coupling clamp is used in conjunction with the electrical fast transient burst generator, and the interference is carried out on the input, output, control line and data line of the device. Products fully meet the requirements of IEC61000-4-4 and GB/T17626.4 standard.



Coupling capacity	100~1000pF
Insulating ability	> 5kV

Basic circuit diagram

The capacitor Cc in the figure below determines the energy of a single pulse (the standard specified that the energy of 2KV pulse is 4mJ in the case of impedance matching in 50 Ω matching load). The waveform resistor Rs and energy storage capacitor determines the shape of pulse wave (especially the pulse duration). Impedance matching resistor Rm determines the output impedance of the group pulse generator (the standard specification is 50 Ω). The blocking condenser Cd isolates the DC component in the output waveform of burst generator, which eliminates the effect of load on working group pulse generator.





Measured waveform



