SFT 1400

Burst Generator

IEC / EN 61000-4-4

- Burst frequency up to 125 kHz
- Single pulse to continuous burst
- Simple operation

Time-accurate triggering
With a variety of special functions!

Overview

The SFT 1400 simulates fast transient interference pulses as defined in the standards IEC 61000-4-4 and DIN EN 61000-4-4. Due to the very short rise time of 5 ns, the individual impulses generate a broadband RF spectrum up to 300 MHz. RF interference is the result.

The clearly arranged operating elements allow time-saving and optimized tests. The memory function stores the normative test levels 1, 2, 3 and 4. In addition, own test sequences can be stored.

Special functions: The generator also offers various special functions such as **"Real Burst",** which simulates the natural appearance of the burst pulse, or **"Noise"**. The functions **"IFM"** and **"DFM"** (increasing or decreasing frequency within a burst packet) are important tools for investigating resonance or saturation effects in the EUT.

Key facts

- Clearly arranged control elements allow time-saving and optimized tests
- All parameters can be changed during the test
- With the memory function, the normative test levels 1, 2, 3 and 4 are stored
- Additionally, own test sequences can be stored
- Special functions, like real burst or noise
- With high voltage output, connection for coupling pliers or 3-phase coupling network
- Extensive range of accessories available

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Technical data

Burst Generator

Switching element	semiconductor switch
Pulse voltage	100 V - 5000 V (normconform from 200 V to 5 kV) in 10V steps
Polarity burst packet	pos., neg., alternating
Burst frequency	single pulse up to 125 kHz
Step rate Spike frequency	0.1 - 10 kHz -> 0.1 kHz-steps 10.5 - 50 kHz -> 0.5 kHz steps 51 - 100 kHz -> 1 kHz steps 105 - 125 kHz -> 5 kHz steps
Pulse form	acc. to IEC 61000-4-4, 5 ns / 50 ns
Max. pulse / sec	5000 (to 2 kV) 3000 (to 3 kV) 1500 (to 5 kV)
Burst duration	0.01 ms – 100 ms
Burst period	10 ms – 1000 ms
Max. pulse	500 / packet
Triggerung	manual or external
HV output	coaxial socket
Monitor output	BNC, TTL level
Interface	RS 232
Fan	temperature-controlled, switches on at approx. 40°, switches off again at 32° degree

Internal single-phase coupling network

Coupling network integrated in the generator, coupling of the test pulses to supply lines of the EUT.

Nominal voltage AC	max. 230 V / 16 A, 50 Hz
Nominal voltage DC	max. 110 V / 8 A
Phase display	LED red LED green
Coupling capacity	33 nF
Coupling switch	L, N, PE -> E L, N -> E; etc.
Test sample connection	safety socket additional laboratory sockets
High voltage output	FISCHER HV-socket
Earth connection	via socket

General

Operating temperature	0 - 40 °C
Dimensions	19" housing (3 RU)
Weight	9 kg
Supply voltage	100-240 V / 47-63 Hz

Technical data – Burst definition

	Normdefinition	Variable settings on the SFT 1400
Burst duration	15 ms 20 % at 5 kHz 0.75 ms 20 % at 100 kHz (corresponds to 75 pulses each)	0.01 - 100 ms (1)
Burst period	300 ms ± 20 %	10 – 1000 ms (1)
Burst frequency	5 kHz or 100 kHz to 4 kV	100 Hz - 125 kHz to 5 kV
Pulse amplitude	0.5 / 1 / 2 / 4 kV	100 V - 5000 V (in 10 V steps)
Rise time	5 ns ± 30 %	
Pulse duration (50 Ohm) Pulse duration (1 kOhm)	50 ns ± 30 % 50 ns, -15 ns/+100 ns	
Impedance	50 Ω ± 2 %	

1) The SFT 1400 automatically considers the limit parameters.

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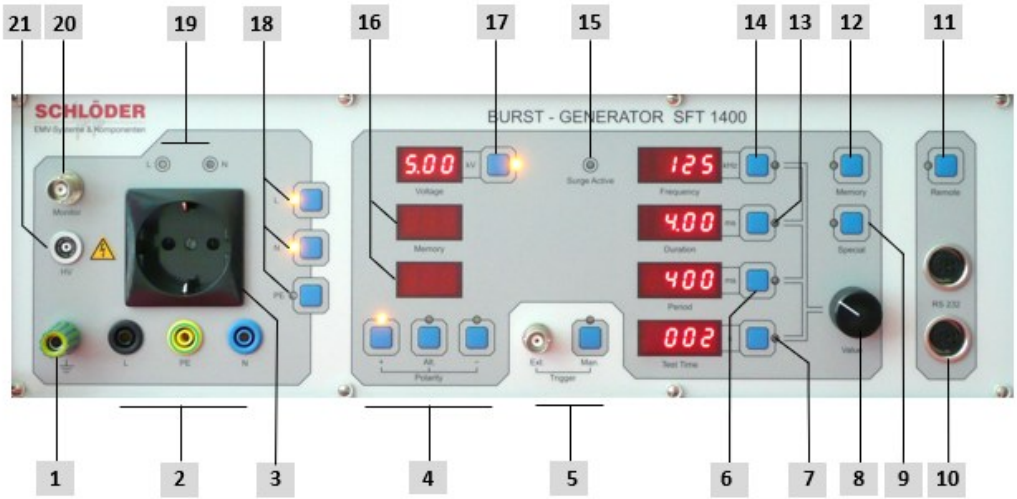
Technical data - Functions



[1]	Earth connection
[2]	Laboratory jacks for EUT connection
[3]	Protected earth outlet for EUT connection
[4]	Polarity of the burst packet
[5]	Trigger release key, external trigger input Time accurate triggering with jitter < ± 25 ns
[6]	Selection key for the period-time
[7]	Selection key for the test-time
[8]	Digital potentiometer
[9]	Selection of the special functions
[10]	Jack for interface cable
[11]	Remote control release
[12]	Activation of the memory function
[13]	Selection key for the duration-time
[14]	Selection key for the burst frequency
[15]	Indicator for "Surge active"
[16]	Indicators for the memory function
[17]	Indicator for pulse voltage
[18]	Selection keys for the coupling paths
[19]	Phase indicators
[20]	Monitoring (TTL output)
[21]	High voltage output (connection for coupling clamp or 3-phase coupling network)

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Options	
CWG 520	3-ph. coupling network 4 x 16 A, burst and surge
SFT 470	probe set for magnetic field
SFT 415	coupling clamp
SFT 415-CS	calibration set coupling clamp
SFT 430	HV cable for coupling clamp 1 m
SFT 450-1	50 Ω attenuator, divider 500:1
SFT 450-2	1000 Ω attenuator, divider 1000:1
SFT 450-Set	50 + 1000 Ω attenuators, necessary for independent verification of the burst impulse at the generator or coupling clamp SFT 415
SESD 270	HCP – Horizontal coupling plane, reference ground plane
EMV-SOFT	control software for burst etc.

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