

# Combination Wave Lightning Surge Simulator CWS 1000N

## Datasheet



### In compliance with

- > IEC 61000-4-5
- > GB/T 17626.5

### Introduction

The combination wave lightning surge simulator CWS 1000N is designed in accordance with IEC 61000-4-5, which is capable of simulating switching and lightning transients and generating 1.2/50  $\mu$ s combination wave with test voltage up to 10 kV. Built-in single-phase CDN can couple the surge onto power line with AC 250 V, 20 A/DC 220 V, 12 A. The product is featured with easy operation and test sequence.

### Features

- > 5.7 inches color touch screen on front panel
- > Built-in single-phase coupling/decoupling networks  
250 V AC / 20 A; 110 V DC-1 / 12 A
- > Pulse voltage up to 10 kV, compact design;
- > Built-in surge signal acquisition function;
- > 3-phase CDN (SPN series) is available for extension;

### Application Areas

- > Communication
- > Telecom
- > Medical
- > Broadcast
- > Railway
- > Technology
- > Military
- > Avionics
- > New Energy Electrical Power
- > New Energy Vehicles

Technical Parameters	
Standard	IEC 61000-4-5
<b>Generator</b>	
Test Voltage (open-circuit waveform)	0.5 kV ~ 10.0 kV± 10%
Rise Time	1.2 μs±30%
Duration	50 μs±20%
Test Current (Short-circuit waveform)	0.25 kA ~ 5.0 kA± 10%
Rise Time	8 μs ± 20%
Duration	20 μs ± 20%
Polarity	Positive, negative, alternative
Source Impedance	2 Ω
Repetition Rate (single pulse)	6 s ~ 99 s (The shortest time depends on test voltage)
Counter	1~ 999
Phase Angle Sync.	0° ~ 360° (45 Hz ~ 65 Hz)
Trigger Mode	Manual, Auto, External Trigger
<b>CDN</b>	
EUT Load Capacity	AC 250 V, 20 A; DC 220 V, 12 A
Coupling Capacitance	9 μF (L-PE), 18μF (L-L)
Coupling Resistor	10 Ω (equivalent impedance 12 Ω), 0 Ω (equivalent impedance 2 Ω)
Coupling Attenuation	< 2 dB
Coupling Switch	Auto
Residual surge voltage on EUT injection port	Not exceed 15% of the maximum applied test voltage or twice the rated peak voltage of the CDN

Accessories	
User Manual, Test line, Earth line, 3-core power line, fuses (Spare parts)	

General Parameters	
Display Screen	5.7" TFT touch screen
Working Power	AC 110 V/220 V (±10%), 50 Hz /60 Hz (Default in mainland China: 220 V)
Fuse	10 A
Max. Power	300 W
Communication Mode	Ethernet LAN、RJ45
External Control Mode	25-pin parallel port cable
External Trigger Input	BNC, 5 V TTL The node is open, oscilloscope can trigger the CWS 800N when internal circuit is closed.
Running Control Input	BNC, 5 V TTL
Failure Detection	The failure information will be displayed on LCD in front panel when failure occurs and interrupt the working of instrument.
Working Status Indication	LED indication and LCD display on front panel
Earthing Mode	Flat earth line
EUT Power Injection Line	φ4 mm or φ6 mm banana plug
Dimension	6U
Weight	Approx. 44 kg
Ambient Temperature	15 °C ~ 35 °C
Relative Humidity	45% ~ 75%
Atmospheric Pressure	86 kPa ~ 106 kPa

Options	
1. External 3-phase CDN SPN series	
2. Isolation transformer DG-4.4 KVA	
3. Differential Probe VCF-80 (Attenuation 1000: 1)	
4. Wide-band Current Monitor Clamp CM 0220M	
5. PC control Software CoreLab Support Windows XP and Windows 7; easy operation& beautiful UI; user can easily perform customized testing sequence through each operation function and standard library; generate testing report flexibly.	



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