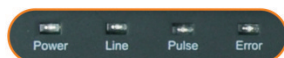


# CWS 600

Combination Wave Surge Simulator

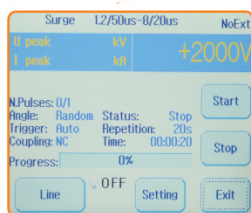
The Third  
Generation





### LED running indicator

Power: power indicating lamp  
Line EUT: power on  
Pulse: pulse  
Error: error warning lamp



### Touch screen

All functions and parameters are displayed. Set up parameters directly on the screen

### Operating buttons

Left to right: run/pause, stop, main menu, back, cursor shift, enter



### External Trigger

U surge: monitoring voltage  
I surge: monitoring current  
CRO TRIG: oscilloscope



### CDN supply output

Line Out output  
Line Out ground  
GRP terminal

### SYNC Input

Differential input, polarity is isolated from system, provide phase-sync source for IEC 61000-4-5/IEC 61000-4-11 test

### Safety switch

### CDN supply Input

Test power supply input  
Test power supply input PE

### Reference earth connection

The generator has to be connected to the reference earth plane of the test setup. The connection at the rear part of the generator is an alternative to the grounding point.



COM Output  
HV Output

Supply voltage selector  
AC110V/AC220V

LAN port  
serial port  
Control CN port

### External trigger

BNC connector MON U  
BNC connector MON I  
Test process control

### Warning lamp

A voltage free contact is available for external warning indications. The signal is generated after pressing TEST ON.

### Safety circuit

The test can only be started if the Safety circuit is turned off. If the circuit is opened during a running test the simulator will be switched off immediately.



### General Description:

Surge pulses occur due to direct or indirect lightning strokes to an external circuit. This leads to current or electromagnetic fields causing high voltage or current transients. Another source for surge pulsed is switching transients originating from switching disturbances and system faults. Nearly every electrical and electronic device may suffer from such surge pulses.

CWS600 is the most intelligent immunity test instrument which fully complies with CE and CCC relative standards

### Features:

5.7 inch color touch screen  
Surge voltage 6 kV, surge current 3 kA  
Built-in single phase CDN 250V AC 16 A  
Voltage /current monitors, LCD display  
Surge failure detection  
External three phase CDN  
With magnetic field, antenna to comply with IEC61000-4-9  
Ethernet, RJ45, PC control and test report

### As per:

IEC 61000-4-5  
IEC 61000-4-9  
IEC 60255-22-5  
IEC 61326  
IEC 61850-3  
EN 61000-4-5  
EN 61000-4-9  
ITU-T K.12  
ITU-T K.20  
ITU-T K.45  
GB/T 17626.5  
UL 1449

General details	
Display screen	5.7" TFT colorful touch screen
Power supply	110V/220V, $\pm 10\%$ , 50/60 Hz
Fuse	10 A
Max consumption	100 W
Memory space	Infinite
Communication mode	Ethernet, RJ 45
External control	D-sub 25p
External trigger input	BNC, 5V TTL
CRO trigger output	BNC, 5V TTL
Input	BNC, 5V TTL
Synchronization	10-500Hz, 20-500V between dotted terminal & undotted terminal
	0-500V among dotted terminal, undotted terminal & case
Warning LED	0-220V AC 10A/0-48V DC 3A
	Power depends on external signal lamp
Safety circuit	The test only can be started when it is closed
Failure test	Display on LCD and interrupt the work at failure case
Voltage monitor output	BNC, 100:1 coaxial terminal output
Current monitor output	BNC, 5A:1V coaxial terminal output
Working indicator	LED, LCD display
Grounding connection	Flat grounding line
EUT power injection	4mm banana line
Output code	1m coaxial cable
Size	19" / 6U
Weight	35 kg
Temperature	15-35°C
Humidity	45% - 75%
Air pressure	86 kPa - 106 kPa

### Surge Immunity test as per IEC 61000 - 4 - 5

Surge Immunity	
standards	IEC/EN 61000-4-5, GB/T 17626.5
Test voltage range	0.2 kV - 6 kV $\pm$ 10%
Test current range	0.1kA - 3 kA $\pm$ 10%
Voltage wave shape	Front time: 1.2 us $\pm$ 30%
	Time to half value: 50 us $\pm$ 20%
Current wave shape	Front time: 8 us $\pm$ 30%
	Time to half value: 20 us $\pm$ 20%
Output source impedance	2 ohm
Polarity	Positive, negative, alternative
Coupling capacitor	9uF, 18uF
Coupling resistor	10 ohm, 0 ohm coupling resistor
Duration	5s - 99s
Measurements	BNC output
	Voltage 1000:1
	Current 400A:1V
	Displayed on LED
Test times	1 - 999
Trigger	Auto ,manual, external
Synchronization	0° - 360°, 1° step or random
Coupling network	L, N, PE, built-in single phase CDN
	AC 250V 16A
	DC 110V 16A

### PFM as per IEC 61000-4-9

PFM test	
standards	IEC/EN 61000-4-9, GB/T 17626.9
Magnetic field output	100 A/m - 1200 A/m
Current output	100 A - 2000 A
Wave shape	Rise time 6.4 us $\pm$ 30%
	Test duration 16 us $\pm$ 30%
Synchronization	0° - 360°, 1° step or random
Polarity	Positive, negative, alternative
Trigger	Auto, manual, external
Duration	5 - 99 s depending on current
Test times	1 - 999
Coil size	1000*1000 mm or others
Coil shape	Rectangle or others
Number of turns	Single - turn
Field intensity	Be set up as scheduled program

### Accessories

- Surge coupling/decoupling network as per IEC 61000-4-5  
SPN 3832T(380V) SPN 6932T(triphas 690V 32A)  
SPN 383100T(380V) SPN 6916T(triphas 690V 16A)
- Coupling/decoupling network as per IEC 61000-4-5 for signal lines and communication line  
(A) 4 lines CDN for communication line  
(B) 8 lines CDN for communication line
- Pulse magnetic filed transducer PMC1200 IEC61000-4-9
- Magnetic field coil TCX 10 single-turn coil,  
TCX30 three-turn coil, 1 × 1m IEC 61000-4-8
- HV differential probe Model VCF - 80, test voltage 8KV, attenuation ratio 1000:1
- HV current sensor , model TR410
- PC software EMSlab  
With PC installed WIN XP and WIN7, it can be easily operated to make the measurement, based on the customized test program. It can generate test report automatically.

### Basic equipment

generator, manual, test report, test cable, power cord, fuse



# Quality & Service For EMC



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