

## Compact Immunity Test System

## CCS 500

### Datasheet



#### In Compliance with

- |                     |                    |
|---------------------|--------------------|
| > IEC/EN 61000-4-4  | > EN 61543         |
| > IEC/EN 61000-4-5  | > GB/T 17626.5     |
| > IEC/EN 61000-4-8  | > GB/T 17626.4     |
| > IEC/EN 61000-4-9  | > GB/T 17626.8     |
| > IEC/EN 61000-4-11 | > GB/T 17626.9     |
| > IEC/EN 61000-4-29 | > GB/T 17626.11    |
| > IEC/EN 61008-1    | > GB/T 17626.29    |
| > IEC/EN 61009-1    | > ANSI/IEEE C62.41 |

#### Introduction

CCS 500 is an intelligent multifunctional compact immunity (EMS) test system, which meets all the requirements of international standards and product standards for transient pulse, surge and voltage dip. Its test voltage is up to 5 kV. CCS series are the best choice for full compliance immunity test solutions. With built-in fully automatically single-phase CDN, it not only meets the immunity testing requirements of CE and CCC certification for single-phase EUTs, but also be capable of performing three-phase-five-line EUTs tests by using automatically controlled external CDNs (up to 100 A) of our company. Various enclosures needed are available to satisfying types of needs such as power frequency magnetic field tests.

#### Features

- > 5.7" color touch screen
- > Surge failure detection
- > Data acquisition of surge voltage and current
- > Test sequence function
- > Built-in multifunctional testing modules
- > Built-in single-phase fully automatically CDN, AC 250 V 16 A; DC-1 (resistive load) 250 V 16 A
- > Optional for external three-phase CDN modules
- > Ethernet and RJ45 ports, used for PC remote control, test report documentation and print etc

#### Application Areas

- |                    |                               |
|--------------------|-------------------------------|
| > Communication    | > Technology                  |
| > Telecom          | > Military                    |
| > Medical          | > Avionics                    |
| > Broadcast and TV | > New Energy Electrical Power |
| > Railway          | > New Energy Vehicle          |

General Parameters			
Display Screen	5.7" TFT color touch screen	Power Supply	AC 110 V/220 V( $\pm 10\%$ ), 50 Hz /60 Hz, ( $\pm 5\%$ ) (default AC 220 V 50 Hz in mainland China)
Fuse	6 A	Max. Power Consumption	200 W
Memory Space	Infinite (PC)	Communication Mode	Ethernet, RJ45
Dimension	19"/6U	Weight	Approx. 35 kg
Ambient Temperature	15 °C-35 °C	Relative Humidity	45%-75%
Atmospheric Pressure	86 kPa-106 kPa		

EFT/burst Tests as per IEC 61000-4-4			
Test Voltage	0.25 kV-4.8 kV( $\pm 10\%$ )	Source Impedance	50 $\Omega$
Polarity	Positive, negative, alternative	Rise Time	5 ns ( $\pm 30\%$ ), 50 $\Omega$ load, 1000 $\Omega$ load
Pulse Waveform	5/50 ns, 50 $\Omega$ and 1000 $\Omega$ load	Pulse Frequency	0.1 kHz-1000 kHz
Pulse Duration	50 ns( $\pm 30\%$ ), 50 $\Omega$ load	Burst Duration	0.075 ms-750 ms
	50 ns-15/+100 ns, 1000 $\Omega$ load	Test Duration	1 s-9999 s
Burst Cycle	11 ms-9999 ms	Synchronization	0°-360°, 1° step or random
Trigger Mode	Automatic, manual or external trigger	CDN	Built-in single-phase automatic CDN: Single-phase-3-line AC 220 V 16 A Max. 250 V

Surge Tests as per IEC61000-4-5			
Test Voltage	0.3 kV-5 kV ( $\pm 10\%$ )	Test Current	0.15 kA-2.5 kA ( $\pm 10\%$ )
Voltage Waveform	Front time: 1.2 $\mu$ s ( $\pm 30\%$ ), Time to half value: 50 $\mu$ s ( $\pm 20\%$ )	Source Output Impedance	2 $\Omega$
Current Waveform	Front time: 8 $\mu$ s ( $\pm 20\%$ ), Time to half value: 20 $\mu$ s ( $\pm 20\%$ )	Coupling Capacitance	9 $\mu$ F, 18 $\mu$ F
Polarity	Positive, negative, alternative	Pulse Cycle	5 s-180 s (the shortest time depends on test voltage)
Coupling Resistance	10 $\Omega$ , 0 $\Omega$ coupling resistor Either IEC standard mode or customized mode is optional	Number of Test	1-999
Surge Voltage and Current Peak Detection	Front panel BNC output, surge voltage: 1000 V:1 V Surge current :500 A:1 V 3 digits on display	Synchronization	0° - 360°, 1° step or random
Trigger Mode	Automatic, manual or external trigger	CDN	Built-in single phase automatic CDN Single-phase-3-line AC 220 V 16 A Max. 250 V

PFMF Tests as per IEC61000-4-8 with optional module MFT 400/1200 or VMT series			
Magnetic Field Strength	TCXS 111 Single-turn coil: 1 A/m -100 A/m (continuous) 100 A/m -400 A/m (1 s -10 s in short time) TCXS 113 Single-turn coil : 1 A/m -300 A/m (continuous) 300-1200 A/m (1 s -10 s in short time)	Current Distortion Rate	<5%
Current Waveform	50 Hz/60 Hz sine wave	Operating Current Range for Short Time	120 A-500 A
Continuous Operating Current Range	1 A-120 A	Test Duration	1 s -28800 s
Waveform Interval	1 s -9999 s	Coil Size	1000 mm *1000 mm or others
Trigger Mode	Auto, Manual, External signal trigger	Coil Turn	Single-turn /three-turn
Coil Shape	Rectangle or others	Output Magnetic Field Strength	Test Sequencing setup

Pulse Magnetic Field Tests as per IEC 61000-4-9 with optional module PMC 1200			
Output Magnetic Field Range	100 A/m-1200 A/m	Waveform	Rise time: 6.4 $\mu$ s( $\pm$ 30%); duration: 16 $\mu$ s( $\pm$ 30%)
Output Current	100 A-2000 A	Polarity	Positive, negative, alternative
Synchronization	0°- 360°, 1° step or random	Pulse Cycle	5 s-99 s ( the shortest time depends on test current )
Trigger Mode	Auto, manual, external signal trigger	Coil Shape	Rectangle
Number of Test	1-999	Model of Coil	TCXS 111
Coil Size	1000 mm *1000 mm	Output Magnetic Field Strength	Test sequencing setup
Coil Turn	Single		

Power Fail Tests as per IEC 61000-4-11 (with Optional Module VVT or VMT series) & IEC 61000-4-29			
EUT Max. Voltage	250 V AC, 220 V DC	EUT Max. Current	AC/DC 16 A continuous current; AC 20 A continuous 5 s; 40 A continuous 3 s; 500 A impulse current
EUT Current and Voltage Measurement	LCD display, BNC terminal: voltage 100:1, current 10 A:1 V	Dip Level	0%-100% (for VVT/VMT series) 0%, 40%, 70%, 80% (for VVTxxxxSFseries)
Interruption Level	0%	Dip and Interruption Interval Time	5 ms-9999 ms
Dip and Interruption Duration	0.1-9999 cycle or 1 ms-9999 ms	Dip and Interruption Rise/Fall Time	1 $\mu$ s -5 $\mu$ s (100 $\Omega$ load)
Dip and Interruption Test Duration	1 s-9999 s	Time of Voltage Variation Decreasing	500 ms-9999 ms (50%-100%) or abrupt (same with rise/ fall time for dips and interruption) 1000 ms-9999 ms (0%-100%) or abrupt (same with rise/ fall time for dips and interruption)
Voltage Variation Level	0-100%	Duration after Voltage Variation Decreasing	10 ms-99999 ms
Time of Voltage Variation Increasing	500 ms-9999 ms (50%-100%) 1000 ms-9999 ms (0%-100%)	Trigger Mode	Automatic, manual or external trigger
Synchronization	0°- 360°, 1° step or random		

Models Selection								
Name	Model No.	IEC 61000 -4-4	IEC 61000 -4-5	IEC 61000 -4-8	IEC 61000 -4-9	IEC 61000 -4-11	IEC 61000 -4-29	CDN single- phase- 3-line
Compact Immunity Test System	CCS 500	✓	✓	✓	✓	✓	✓	✓
EFT/Burst CDN	EFTN 3816T	✓						
Surge CDN	SPN 3816T		✓					
EFT/Burst and Surge CDN	SEPN 3816T	✓	✓					
	SEPN 3832T	✓	✓					
Power Frequency Magnetic Module	MFT 400			✓				
	MFT 1200			✓				
AC Voltage Dips, Short Interruption and Variation Module	VVT 2216S					✓		
	VVT 2216SV					✓		
Power Fail and Power Frequency Magnetic Module	VMT 2216S			✓		✓		
	VMT 2216SV			✓		✓		
Pulsed Magnetic Field Converter	PMC 1200				✓			

Accessories
User Manual, Fuse×2 (spare parts), Flat Grounding Wire, Radio-Frequency Wire, Testing Wire, Power Supply Wire



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