

# Specification



## VCS 500 Combination Wave Generator

- IEC 61000-4-5
- ITI K44 recommendations
- ETS 301489

**The combination wave generator type VCS 500 generates high voltage transients as required by IEC 61000-4-5, Surge Immunity Requirements up to 4kV and 2kA.**

**The same transients are used for surge testing as per ITU recommendations for telecom equipment.**



Combination Wave		1.2/50 $\mu$ s – 8/20 $\mu$ s
Voltage (open circuit)	:	160V – 4,000V $\pm$ 10%
Pulse front time	:	1.2 $\mu$ s $\pm$ 30%
Pulse time to half value	:	50 $\mu$ s $\pm$ 20%
Current (short-circuit)	:	max. 2,000A $\pm$ 10%
Pulse front time	:	8 $\mu$ s $\pm$ 20%
Pulse time to half value	:	20 $\mu$ s $\pm$ 20%
Polarity	:	Positive/negative/alternating
Event counter select	:	1 – 30,000 or endless
Pulse counter	:	1 – 1,000,000

Trigger		
Automatic	:	Automatic pulse release
Manual	:	Single pulse release
External	:	External pulse release
CRO trigger	:	5V trigger signal for oscilloscope
Synchronization	:	0° - 360°, resolution 1°
Pulse repetition rate	:	1s – 999s depends on the voltage

Output		
Direct	:	Via HV connector; Zi = 2 $\Omega$ To connect external surge coupler
CDN 1-M4	:	Internal single phase coupler
Coupling mode	:	Line to line with 2 $\Omega$ impedance Line(s) to PE with 12 $\Omega$ impedance
EUT supply	:	AC: 250V/16A; 50/60Hz DC: 250V/10A

Measurements		
Peak voltage	:	4,000V in the LCD display
Peak current	:	2,000A in the LCD display

Test Routines		
Quick Start	:	Immediate start; easy to use and fast
User Test Routines	:	Change Polarity after n pulses Change voltage after n pulses by $\Delta$ V
Standard Test Routines	:	IEC 61000-4-5 Level 1,000V IEC 61000-4-5 Level 2,000V IEC 61000-4-5 Level 4,000V Manual Standard Test Routine
Service	:	Service, Setup, Self test

Interface		
Serial interface	:	RS 232, baud rate 1200 - 19200
Parallel interface	:	IEEE 488, address 1 - 30

Safety		
Safety circuit	:	Control input (24Vdc)
Warning lamp	:	Floating output contact

General data		
Dimensions, weight	:	19" / 3HU, approx. 20kg
Supply voltage	:	115/230V +10/-15%
Fuses	:	2 x T 2AT (230V) or 2 x T4AT (115V)
Interfaces	:	RS 232 and IEEE 488 (GPIB)

Coupling/Decoupling networks for ac/dc power lines		
CNI 503A	:	3phase coupler for EFT and Surge; 3x400V/16A
CNI 503A2	:	3phase coupler for EFT and Surge; 3x400V/32A
CNI 503A3	:	3phase coupler for EFT and Surge; 3x400V/63A
CNI 503A4	:	3phase coupler for EFT and Surge; 3x400V/100A
CNV 503	:	3phase coupler for Surge only; 3x400V/16A
CNV 503S1	:	3phase coupler for Surge only; 3x400V/32A
CNV 503S2	:	3phase coupler for Surge only; 3x400V/63A
CNV 503S3	:	3phase coupler for Surge only; 3x400V/100A

Coupling/Decoupling networks for signal/telecom lines		
CNV 504S1	:	4 telecom lines as per fig. 12 IEC 61000-4-5
CNV 504S2	:	4 signal lines as per fig. 11 IEC 61000-4-5
CNV 508S1	:	8 telecom lines as per fig. 12 IEC 61000-4-5
CNV 508S2	:	8 signal lines as per fig. 11 IEC 61000-4-5

Pulsed Magnetic Field as per IEC 61000-4-9		
Antenna	:	MS 100 for up to 5,000A/m

Technical data subject to change without notice.



EM TEST AG  
Sternenhofstr. 15  
CH-4153 Reinach  
Switzerland

Tel: +41 (0)61 717 91 91  
Fax: +41 (0)61 717 91 99  
email: [sales@emtest.ch](mailto:sales@emtest.ch)  
URL: <http://www.emtest.com>

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