

# VCS 500N8

## 8KV COMBINATION WAVE SIMULATOR



### FOR TESTS ACCORDING TO ...

- › EN 61000-4-5
- › EN 61000-4-9
- › IEC 60255-22-5
- › IEC 61000-4-5
- › IEC 61000-4-9
- › IEC 61326
- › IEC 61850-3
- › ITU-T K.12
- › ITU-T K.20
- › ITU-T K.45

### COMBINATION WAVE SIMULATOR








Surge pulses occur due to direct or indirect lightning strokes to an external (outdoor) circuit. This leads to currents or electromagnetic fields causing high voltage or current transients. Another source for surge pulses are switching transients originating from switching disturbances and systems faults.

Due to the characteristic of the phenomenon nearly every electrical and electronic device may suffer from such lightning events which justifies the necessity of surge tests being widely performed. Surge voltage can reach several thousands of volts and surge current is seen to reach several thousands of amps.

### HIGHLIGHTS

- › Surge voltage up to 8kV
- › Surge current up to 4kA
- › Voltage/current monitors
- › Built-in CDN 1-phase or 3-phase up to 3 x 690V and 32A
- › Interlock
- › Warning lamp control

### APPLICATION AREAS

- |  |  |
|--|--|
|  INDUSTRY   |  TELECOM          |
|  COMPONENTS |  RESIDENTIAL      |
|  MEDICAL    |  RENEWABLE ENERGY |
|  BROADCAST  |  |

## TECHNICAL DETAILS

### VCS 500N8 MODELS

VCS 500N8	8kV Surge Generator w/o. built-in CDN; an external CDN is required
VCS 500N8.1	8kV Surge Generator with built-in 1ph CDN 250V / 16A
VCS 500N8.2	8kV Surge Generator with built-in 3ph CDN 3*440V / 16A
VCS 500N8.3	8kV Surge Generator with built-in 3-phase CDN 3*690V (L-L) / 32A
VCS 500N8.5	8kV Surge Generator with built-in 3-phase CDN 3*440V (L-L) / 32A

### COMBINATION WAVE 1.2/50US - 8/20US

Voltage (o.c.)	250V - 8,000V ± 10%
Front time	1.2µs ± 30%
Time to half value	50µs ± 20%
Current (s.c.)	max. 4,000A ± 10%
Front time	8µs ± 20%
Time to half value	20µs ± 20%
Polarity	Positive/negative/alternating
Event counter	1 - 30,000 or endless

### TRIGGER

Trigger of events	Automatic, manual, external
CRO trigger	5V trigger signal for oscilloscope
Synchronization	0° - 360°, resolution 1°
Repetition rate	3s - 999s, depending on the voltage

### OUTPUT

Direct	Via HV connectors for external coupling networks (Zi = 2ohm with optional adapter IMN 2)
VCS 500N8.1	Built-in single phase coupler AC: 250V/16A; 50/60Hz DC: 250V/10A
VCS 500N8.2	Built-in 3-phase coupler 3 x 440VAC / 16A; 50/60Hz DC: 250V/10A
VCS 500N8.5	Built-in 3-phase coupler 3 x 440VAC / 32A; 50/60Hz DC: 250V/20A
VCS 500N8.3	Built-in 3-phase coupler 3 x 690VAC / 32A; 50/60Hz DC: 400V/20A
Coupling mode	Line to line with 2ohm Line(s) to PE with 12ohm

### MEASUREMENTS

CRO Ū-monitor	10Vp at 8,000V
CRO Î-monitor	10Vp at 4,000A
Peak voltage	8,000V in the LCD display
Peak current	4,000A 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
Standard Test routines	As per IEC/EN 61000-4-5, Level 1,000V - Level 4,000V Manual Standard Test routine
Service	Service, setup, self test

### INTERFACE

Optical interface	Opto link, 3 m cable USB A connector
Parallel interface	IEEE 488, addresses 1 - 30

### SAFETY

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

### GENERAL DATA

Dimensions, weight	
VCS 500N8	19"/6HU, approx. 25kg
VCS 500N8.1	19"/6HU, approx. 28kg
VCS 500N8.2	19"/6HU, approx. 35kg
VCS 500N8.3	19"/9HU, approx. 55kg
VCS 500N8.5	19"/9HU, approx. 52kg
Supply voltage	115/230V +10/-15%
Fuses	2x2AT (230V) or 2x4AT (115V)

### OPTIONS

iec.control 1	Remote control and documentation software, including standard test routines and reporting capabilities.
IMN 2	Impedance matching adapter to match direct output to 2ohm source impedance

**TECHNICAL DETAILS**
**COUPLING/DECOUPLING NETWORKS FOR AC/DC POWER LINES**

CNI 503A10	3phase coupling/decoupling network for EFT and Surge; 3x480V/16A
CNI 503A12	3phase coupling/decoupling network for EFT and Surge; 3x480V/32A
CNI 503A13	3phase coupling/decoupling network for EFT and Surge; 3x480V/63A
CNI 503A14	3phase coupling/decoupling network for EFT and Surge; 3x480V/100A
CNV 501S4	1phase coupling/decoupling network for Surge only; 250V/16A
CNV 503S6	3phase coupling/decoupling network for Surge only; 3x480V/63A
CNV 503S7	3phase coupling/decoupling network for Surge only; 3x480V/100A

**COUPLING/DECOUPLING NETWORKS FOR SIGNAL/TELECOM LINES**

CNV 504T5	Coupling/decoupling network for unshielded symmetrical lines (communication lines) as per IEC/EN 61000-4-5 Ed.3 (fig. 10) for 4 lines.
CNV 504Nx series	4 signal lines as per fig. 11 & 12, IEC 61000-4-5; Test voltage 4kV, 7kV or 10kV
CNV 508T5	Coupling/decoupling network for unshielded symmetrical lines (communication lines) as per IEC/EN 61000-4-5 Ed.3 (fig. 10) for 4 lines.
CNV 508Nx series	8 signal lines as per fig. 11 & 12, IEC 61000-4-5; Test voltage 4kV, 7kV or 10kV

**PULSED MAGNETIC FIELD AS PER IEC 61000-4-9**

MS 100N	Magnetic field coil for up to 3,200 A/m
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# COMPETENCE WHEREVER YOU ARE



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Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.