

# VCS 500N7T

## SURGE/TELECOM SURGE GENERATOR



### FOR TESTS ACCORDING TO ...

- > EN 300329
- > EN 300340
- > EN 300342-1
- > EN 300386-2
- > EN 300386 V1.3.2
- > EN 301489-1
- > EN 301489-17
- > EN 301489-24
- > EN 301489-7
- > EN 61000-6-1
- > EN 61000-6-2
- > FCC 97-270 (part 68)
- > IEC 61000-4-5
- > IEC 61000-4-9
- > IEC 61326
- > IEC 61850-3
- > ITU-T K.12
- > ITU-T K.20
- > ITU-T K.21
- > ITU-T K.45

### COMBINED COMBINATION WAVE / TELECOM SURGE GENERATOR







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 7KV
- > SURGE CURRENT UP TO 3.5KA
- > TELECOM SURGE VOLTAGE UP TO 7KV
- > TELECOM SURGE CURRENT UP TO 465A
- > VOLTAGE/CURRENT MONITORS
- > BUILT-IN 1PH CDN 16A
- > INTERLOCK

### APPLICATION AREAS

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

## TECHNICAL DETAILS

### AC POWER PORT TESTING, PULSE 1.2/50US - 8/20US AS PER IEC 61000-4-5

Voltage (o.c.)	250V - 7,000V ±10%
Rise time	1.2us ± 30%
Pulse duration	50us ± 20%
Current (s.c.)	125A - 3,500A
Rise time	8us ± 20%
Pulse duration	20us ± 20%
Polarity	Positive, negative or alternating
Counter	1 - 30,000 or endless

### TELECOM PORT TESTING, PULSE 10/700US AS PER IEC 61000-4-5

Voltage (o.c.)	250V - 7,000V ±10%
Rise time	10us ± 30%
Pulse duration	700us ± 20%
Current (s.c.)	6.25 - 175A
Rise time	4us ± 20%
Pulse duration	300us ± 20%
Energy storage capacitor	20uF
Polarity	Positive, negative or alternating
Counter	1 - 30,000 or endless

### TELECOM TESTING PULSE 10/700US AS PER ITU AND ETS RECOMMENDATIONS

Voltage (o.c.)	250V - 7,000V ±10%
Rise time	10us ± 30%
Pulse duration	700us ± 20%
Energy storage capacitor	20uF
Polarity	Positive, negative or alternating
Counter	1 - 30,000 or endless

### COUPLING ONTO TELECOM PORTS AS PER

ITU-T	2-wire T1,T2 with 25ohm each 4-wire T1,T2,T3,T4 with 25ohm each (an external network is required, optional)
FCC part 68	2-wire T1 and T2 with 25ohm each
IEC 61000-4-5	4-wire T1, T2, T3, T4 with 100ohm each

### COUPLING ONTO POWER PORTS AS PER

IEC 61000-4-5	L-N, L-PE, N-PE, L+N-PE Single phase 250V/16A
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### PULSE OUTPUT

Direct	HV connectors with Zi = 2ohm for 1.2/50us - 8/20us Zi = 15ohm for 10/700us - 4/300us
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### MEASUREMENTS

Peak voltmeter	7,000V ± 10%
Peak current meter	3,500A ± 10%
CRO U	10Vp for 7,000V
CRO I	10Vp for 3,500A

### TRIGGER

Trigger of events	Automatic, manual, external
CRO trigger	5V trigger signal for oscilloscope
Synch.	0° - 360° on ac power ports

### TEST ROUTINES

Quick Start	Immediate start; easy-to-use and fast
User Test routines	Change Polarity after n pulses Change voltage after n pulses Change coupling after n pulses Change phase angle after n pulses
Standard Test routines	As per IEC 61000-4-5, Levels 1 - 4 As per ITU-T
Service	Service, set-up

### INTERFACE

Serial interface	USB interface
Parallel interface	IEEE 488, address 1 - 30
CN interface	To control external coupling matrix

### SAFETY

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

## TECHNICAL DETAILS

### GENERAL DATA

Dimensions, weight	19"/6HU, approx. 34kg
Supply voltage	115/230V +10/-15%
Fuses	2 x T 2AT (230V) or 2 x T 4AT (115V)

### COUPLING/DECOUPLING NETWORKS FOR POWER LINES

CNI 503A5	3phase coupling/decoupling network for EFT/Surge; 3x440V/16A
CNI 503A7	3phase coupling/decoupling network for EFT/Surge; 3x440V/32A
CNI 503A8	3phase coupling/decoupling network for EFT/Surge; 3x440V/63A
CNI 503A9	3phase coupling/decoupling network for EFT/Surge; 3x440V/100A
CNV 503S5	3phase coupling/decoupling network for Surge only; 3x440V/32A
CNV 503S6	3phase coupling/decoupling network for Surge only; 3x440V/63A
CNV 503S7	3phase coupling/decoupling network for Surge only; 3x440V/100A

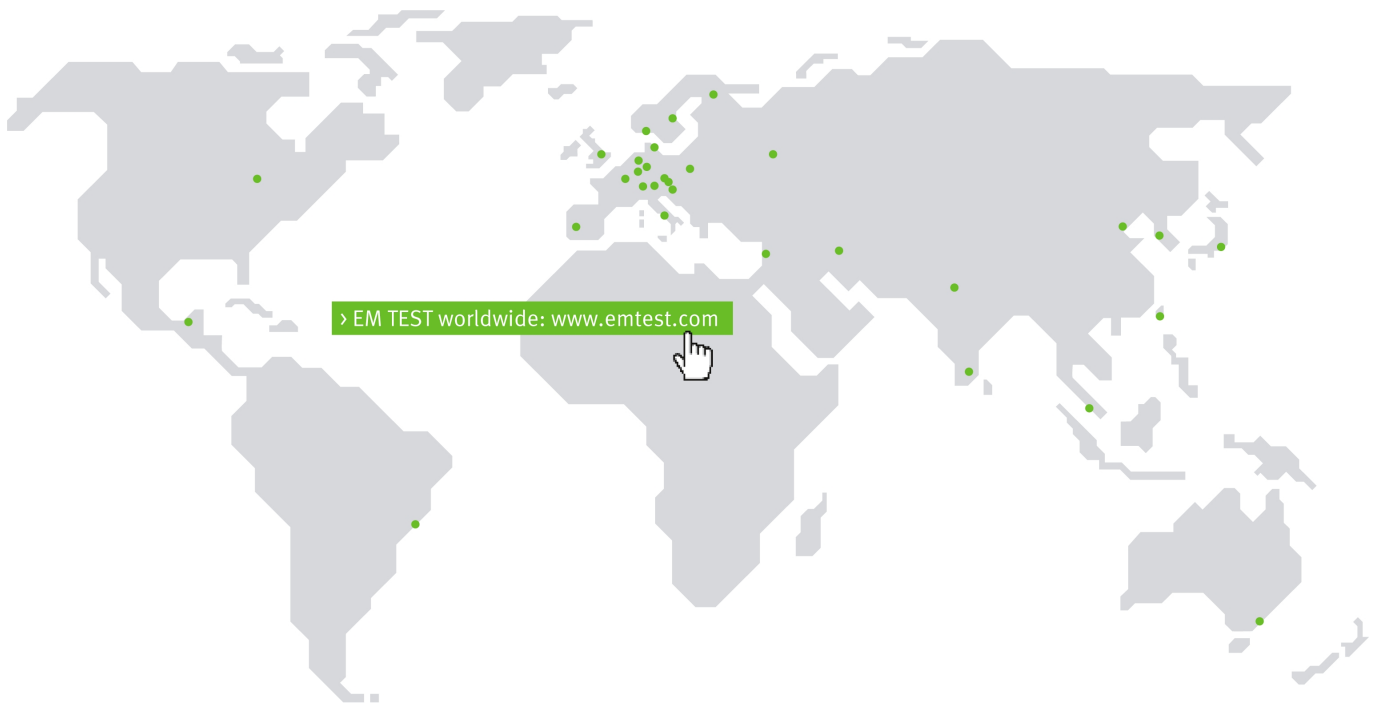
### COUPLING/DECOUPLING NETWORKS FOR SIGNAL/TELECOM LINES

CNV 504S1	4 telecom lines as per fig. 14, IEC 61000-4-5
CNV 504N	4 signal lines as per fig. 11 & 12, IEC 61000-4-5
CNV 504S5	Impedance network 4 x 25
CNV 508S1	8 telecom lines as per fig. 14, IEC 61000-4-5
CNV 508N	8 signal lines as per fig. 11 & 12, IEC 61000-4-5

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

Antenna	MS 100 for up to 2,000A/m
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# COMPETENCE WHEREEVER YOU ARE



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