

VCS 500N7T

SURGE/TELECOM SURGE GENERATOR



FOR TESTS ACCORDING TO ...

- > 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.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
---------------	--

PULSE OUTPUT

Direct	Outputs with HV connectors: - Zi = 2ohm for 1.2/50us - 8/20us with optional adapter IMN 2 - Zi = 15ohm for 10/700us - 4/300us - for external couplers
--------	--

MEASUREMENTS

Peak voltage	7,000V in the LCD display
Peak current	3,500A in the LCD display
CRO Ū-monitor	10Vp for 7,000V
CRO Î-monitor	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, addresses 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)

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 for Surge to 2ohm source impedance

COUPLING/DECOUPLING NETWORKS FOR POWER LINES

CNI 503A5	3phase coupling/decoupling network for EFT/Surge; 3x480V/16A
CNI 503A7	3phase coupling/decoupling network for EFT/Surge; 3x480V/32A
CNI 503A8	3phase coupling/decoupling network for EFT/Surge; 3x480V/63A
CNI 503A9	3phase coupling/decoupling network for EFT/Surge; 3x480V/100A
CNV 503S5	3phase coupling/decoupling network for Surge only; 3x480V/32A
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/DATA LINES

General data	Coupling/decoupling networks for Surge and Ringwave with 40ohm via 0.5µF capacitor (as per Fig. 11, IEC 61000-4-5) and arrester (as per Fig. 12); with 3.3µF capacitor for Ringwave (as per Fig. 9, IEC 61000-4-12)
CNV 504N1	CDN for 4 signal lines Test voltage up to 4kV
CNV 508N1	CDN for 8 signal lines Test voltage up to 4kV
CNV 504N2	CDN for 4 signal lines Test voltage up to 7kV
CNV 508N2	CDN for 8 signal lines Test voltage up to 7kV

COUPLING/DECOUPLING NETWORKS FOR TELECOM LINES

CNV 504S1	4 telecom lines as per fig. 14, IEC/EN 61000-4-5 Test voltage up to 4kV
CNV 508S1	8 telecom lines as per fig. 14, IEC/EN 61000-4-5 Test voltage up to 4kV
CNV 504S13	Impedance network 4 x 25ohm Test voltage up to 4kV
CNV 504S19	4 telecom lines as per fig. 14, IEC/EN 61000-4-5 Test voltage up to 7kV
CNV 508S19	8 telecom lines as per fig. 14, IEC/EN 61000-4-5 Test voltage up to 7kV
CNV 504S10	Impedance network 4 x 25ohm Test voltage up to 10kV

PULSED MAGNETIC FIELD AS PER IEC 61000-4-9

MS 100N	Magnetic field coil for up to 3,200A/m
---------	--

COMPETENCE WHEREVER YOU ARE



CONTACT EM TEST DIRECTLY

Switzerland

EM TEST (Switzerland) GmbH › Sternenhofstraße 15 › 4153 Reinach › Switzerland
 Phone +41 (0)61/7179191 › Fax +41 (0)61/7179199
 Internet: www.emtest.ch › E-mail: sales.emtest@ametek.com

Germany

EM TEST GmbH › Lünener Straße 211 › 59174 Kamen › Deutschland
 Phone +49 (0)2307/26070-0 › Fax +49 (0)2307/17050
 Internet: www.emtest.com › E-mail: info.emtest@ametek.de

France

EM TEST FRANCE › Le Trident - Parc des Collines › Immeuble B1 - Etage 3 › 36, rue Paul Cézanne › 68200 Mulhouse › France
 Phone +33 (0)389 31 23 50 › Fax +33 (0)389 31 23 55
 Internet: www.emtest.fr › E-mail: info@emtest.fr

Poland

EM TEST Polska › ul. Ogrodowa 31/35, 00-893 Warszawa › Polska
 Phone +48 (0)518 64 35 12
 Internet: www.emtest.com/pl › E-mail: info_polska.emtest@ametek.de

USA / Canada

EM TEST USA › 9250 Brown Deer Road › San Diego › CA 92121
 Phone +1 (858) 699 1685 › Fax +1 (858) 458 0267
 Internet: www.emtest.com › E-mail: sales.emtest@ametek.com

P.R. China

E & S Test Technology Limited › Rm 913, Leftbank › No. 68 Bei Si Huan Xi Lu › Haidian District › Beijing 100080 › P.R. China
 Phone +86 (0)10 82 67 60 27 › Fax +86 (0)10 82 67 62 38
 Internet: www.emtest.com › E-mail: info@emtest.com.cn

Republic of Korea

EM TEST Korea Limited › #405 › WooYeon Plaza › #986-8 › YoungDeok-dong › Giheung-gu › Yongin-si › Gyeonggi-do › Korea
 Phone +82 (31) 216 8616 › Fax +82 (31) 216 8616
 Internet: www.emtest.co.kr › E-mail: sales@emtest.co.kr

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