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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 61000-4-5
› EN 61000-4-9
› EN 61000-6-1
› EN 61000-6-2
› FCC 97-270 (part 68)
› IEC 60255-22-5
› IEC 61000-4-5
› IEC 61000-4-9
› IEC 61326
› IEC 61850-3
› ITU-T K.12

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 electronical 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 7 kV**
› **Surge current up to 3.5 kA**
› **Telecom surge voltage up to 7 kV**
› **Telecom surge current up to 465 A**
› **Voltage/current monitors**
› **Built-in 1ph CDN 16 A**
› **Interlock**

APPLICATION AREAS

INDUSTRY
TELECOM
COMPONENTS
RESIDENTIAL
MEDICAL
BROADCAST

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TECHNICAL DETAILS

SURGE GENERATOR

AC POWER PORT TESTING, PULSE 1.2/50 US - 8/20 US AS PER IEC 61000-4-5	
Voltage (o.c.)	250 V - 7,000 V ±10 %
Rise time	1.2 us ± 30 %
Pulse duration	50 us ± 20 %
Current (s.c.)	125 A - 3,500 A
Rise time	8 us ± 20 %
Pulse duration	20 us ± 20 %
Polarity	Positive, negative or alternating
Counter	1 - 30,000 or endless

TELECOM PORT TESTING, PULSE 10/700 US AS PER IEC 61000-4-5	
Voltage (o.c.)	250 V - 7,000 V ±10 %
Rise time	10 us ± 30 %
Pulse duration	700 us ± 20 %
Current (s.c.)	6.25 - 175 A
Rise time	5 us ± 20 %
Pulse duration	320 us ± 20 %
Energy storage capacitor	20 uF
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.)	250 V - 7,000 V ±10 %
Rise time	10 us ± 30 %
Pulse duration	700 us ± 20 %
Energy storage capacitor	20 uF
Polarity	Positive, negative or alternating
Counter	1 - 30,000 or endless

PULSE OUTPUT	
Direct	Outputs with HV connectors: - Zi =2 ohm: 1.2/50 us - 8/20 us with optional adapter IMN2 - Zi =15 ohm: 10/700 us - 5/320 us - for external couplers

SURGE GENERATOR

COUPLING ONTO POWER PORTS AS PER	
IEC 61000-4-5	L-N, L-PE, N-PE, L+N-PE Single phase 250 V/16 A, AC/DC

COUPLING ONTO TELECOM PORTS AS PER	
ITU-T	2-wire T1,T2 with 25 ohm each 4-wire T1,T2,T3,T4 with 25 ohm each
FCC part 68	2-wire T1 and T2 with 25 ohm each
IEC 61000-4-5	4-wire T1, T2, T3, T4 with 25 ohm each

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

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

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TECHNICAL DETAILS

GENERAL DATA

INTERFACE	
Serial interface	USB interface
Parallel interface	IEEE 488, addresses 1 - 30
CN interface	To control extzernal coupling matrix

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

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

OPTIONS

COUPLING/DECOUPLING NETWORKS FOR POWER LINES	
CNI 503A5	3phase coupling/decoupling network for EFT/Surge; 3x480 V/16 A
CNI 503A7	3phase coupling/decoupling network for EFT/Surge; 3x480 V/32 A
CNI 503A8	3phase coupling/decoupling network for EFT/Surge; 3x480 V/63 A
CNI 503A9	3phase coupling/decoupling network for EFT/Surge; 3x480 V/100 A
CNV 503S5	3phase coupling/decoupling network for Surge only; 3x480 V/32 A
CNV 503S6	3phase coupling/decoupling network for Surge only; 3x480 V/63 A
CNV 503S7	3phase coupling/decoupling network for Surge only; 3x480 V/100 A

PULSED MAGNETIC FIELD AS PER IEC 61000-4-9	
MS 100N	Magnetic field coil for up to 3,200 A/m

OPTIONS

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

COUPLING/DECOUPLING NETWORKS FOR 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 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 504S13	Impedance network 4 x 25 ohm Test voltage up to 4 kV
CNV 504S10	Impedance network 4 x 25 ohm Test voltage up to 10 kV

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 2 ohm source impedance

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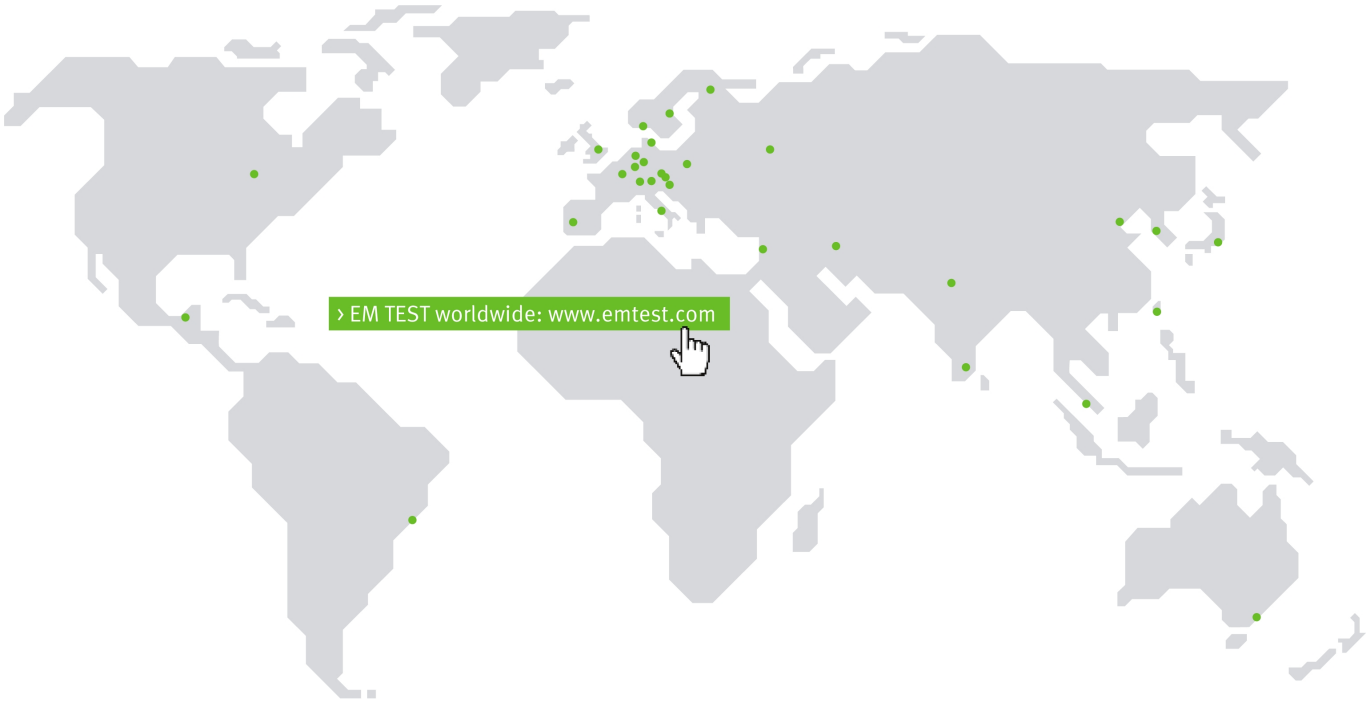
COMPETENCE WHEREVER YOU ARE



CONTACT EM TEST DIRECTLY

Switzerland
AMETEK CTS GmbH › Sternenhofstraße 15 › 4153 Reinach › Switzerland
Phone +41 (0)61 204 41 11 › Fax +41 (0)61 204 41 00
Internet: www.ametek-cts.com › E-mail: sales.conducted.cts@ametek.com

Germany
AMETEK CTS Europe GmbH › Customer Care Center EMEA › Lünener Straße 211 › 59174 Kamen › Germany
Phone +49 (0) 2307 26070-0 › Fax +49 (0) 2307 17050
Internet: www.ametek-cts.com › E-mail: info.cts.de@ametek.com

Poland
AMETEK CTS Europe GmbH › Biuro w Polsce › ul. Twarda 44 › 00-831 Warsaw › Poland
Phone +48 (0) 518 643 12
Internet: www.ametek-cts.com › E-mail: Infopolska.cts@ametek.com

USA / Canada
AMETEK CTS US › 52 Mayfield Ave › Edison › NJ 08837 › USA
Phone +1 732 417 0501
Internet: www.ametek-cts.com › E-mail: usasales.cts@ametek.com

P.R. China
AMETEK Commercial Enterprise (Shanhai) Co. Ltd.› Beijing Branch› Western Section, 2nd floor› Jing Dong Fang Building (B10)› Chaoyang District›Beijing, China, 100015
Phone +86 10 8526 2111 › Fax +86 (0)10 82 67 62 38
Internet: www.ametek-cts.com › E-mail: chinasales@ametek.com

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

Singapore
AMETEK Singapore Pte. Ltd › No. 43 Changi South Avenue 2 › 04-01 Singapore 48164
Internet: www.ametek-cts.com › E-mail: singaporesales.cts@ametek.com

Great Britain
AMETEK GB › 5 Ashville Way › Molly Millars Lane › Wokingham › Berkshire RG41 2 PL › Great Britain
Phone +44 845 074 0660
Internet: www.ametek-cts.com