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VCS 500N12 SERIES

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 SIMUALTOR

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 pulses up to 12kV/6kA**
- **Single phase or three-phase coupler up to 100A (external option)**
- **Fail inputs**
- **Warning lamp control**
- **Emergency interlock**
- **Standard Test routines**

APPLICATION AREAS

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

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TECHNICAL DETAILS

VCS 500N12 SERIES

VCS 500N12 GENERATORS	
VCS 500N12	12 kV Surge Generator 1.2/50 us-8/20 us, IEC and ANSI Cat.B coupling, with ext. coupler 3x480 V
VCS 500N12.2	12 kV Surge Generator 1.2/50 us-8/20 us, IEC and ANSI Cat.B coupling, with ext. coupler 3x690 V requires CNV 503S21

COMBINATION WAVE 1.2/50US - 8/20US	
Voltage (o.c.)	500 V - 12,000 V ±10%
Rise time	1.2 us ± 30%
Pulse time to half value	50 us ± 20%
Current (s.c.)	max. 6,000 A ±10%
Rise time	8 us ± 20%
Pulse time to half value	20 us ± 20%
Polarity	Positive/negative/alternating
Event counter	1 - 30,000 or endless

TRIGGER	
Trigger of events	Automatic, manual, external
CRO trigger	5 V trigger signal for oscilloscope
Synchronization	0° - 360°, resolution 1°
Repetition rate	6 s - 999 s, depending on the voltage

PULSE OUTPUT	
Direct	Via HV-connectors: - Zi = 2 ohm - To connect external surge couplers

VCS 500N SURGE GENERATOR

MEASUREMENTS	
CRO Û-monitor	10 Vp at 12,000 V
CRO Î-monitor	10 Vp at 6,000 A
Peak voltage	12,000 V in the LCD display
Peak current	6,000 A 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 61000-4-5 Manual Standard Test routine
Service	Service, set-up, self test

INTERFACE	
Optical interface	Opto link, 3 m cable USB A connector
Parallel interface	IEEE 488, addresses 1 - 30
CN interface	To control external coupling matrix

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

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TECHNICAL DETAILS

GENERAL DATA

VCS 500N12	
Dimensions, weight	19"/9 HU, approx. 35 kg
Supply voltage	115/230 V +10/-15%
Fuses	2x2 AT (230 V) or 2x4 AT (115 V)

VCS 500N12.2	
Dimensions, weight	19"/12 HU, approx. 40 kg
Supply voltage	115/230V +10/-15%
Fuses	2x2 AT (230V) or 2x4 AT (115V)

ENVIRONMENT	
Temperature	10 °C to 35 °C
Humidity	30 % to 75 %, non condensing
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1,060 mbar)

OPTIONS

PULSED MAGNETIC FIELD AS PER IEC 61000-4-9	
MS 100N	Magnetic field coil for up to 3,200A/m
iec.control	Software to control the test, including standard library, test report facility and data conversion generator.

ACCESSORIES

EXT. COUPLERS FOR POWER LINES	
CNV 501S6	1phase coupling/decoupling network for surge; 250 V/16 A
CNV 501S7	1phase coupling/decoupling network for surge; 250 V/32 A
CNV 503S14	3phase coupling/decoupling network for surge; 3x440 V/16 A
CNV 503S15	3phase coupling/decoupling network for surge; 3x440 V/32 A
CNV 503S21	3phase coupling/decoupling network for surge; 3x690 V/32 A, requires VCS 500N12.1

COUPLING/DECOUPLING NETWORKS FOR SIGNAL/TELECOM LINES	
CNV 504N series	4 signal lines as per fig. 9 IEC 61000-4-5:Ed3 Surge voltage: up to 10 kV EUT current: up tp 4 A
CNV 508N series	8 signal lines as per fig. 9 IEC 61000-4-5:Ed3 Surge voltage: up to 10 kV EUT current: up tp 4 A
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 8 lines.
CNI 508N2 Assembly	Set of coupling/decoupling and protection networks for testing unshielded and shielded high-speed communication lines (Ethernet lines)
SPN 508N1	Surge protection network for unshielded and shielded lines, 4 twisted pairs, residual voltage max. 10 V

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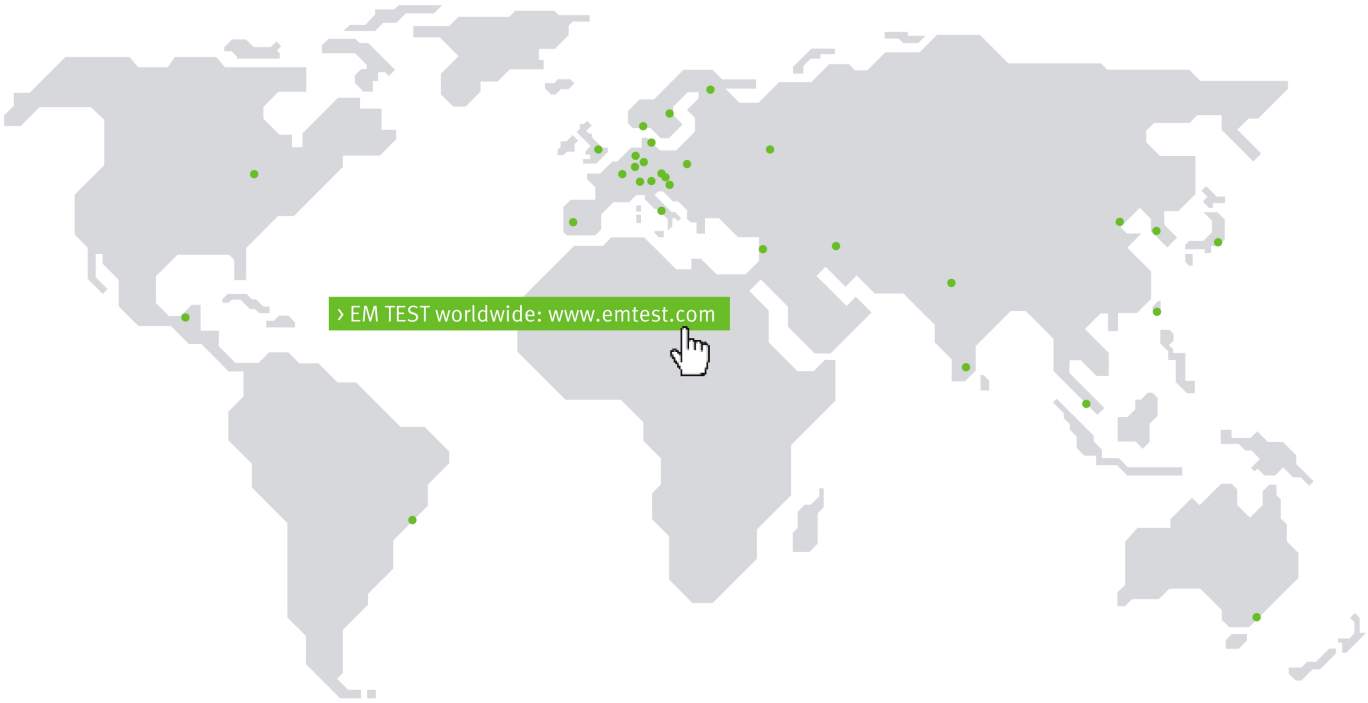
COMPETENCE WHEREVER YOU ARE



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
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

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

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.