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CWS 500N4

SIMULATOR FOR CONDUCTED, COMMON-MODE DISTURBANCES, AS PER IEC 61000-4-16, IEC 61000-4-19 ANNEX C, 0HZ (DC) TO 165KHZ

FOR TESTS ACCORDING TO ...

› EN 61000-4-16
› IEC 60255-22-7
› IEC 60255-26
› IEC 60533
› IEC 61000-4-16
› IEC 61000-4-19, Annex C
› IEC 61326
› IEC 61543
› IEC 61850-3
› prTR 50579

CWS 500N4 - TESTING FOR IMMUNITY TO CONDUCTED, COMMON-MODE DISTURBANCES

The CWS 500N4 is the state-of-the-art solution in a compact single-box design to test for immunity to conducted, common mode disturbances in the frequency range 0Hz (DC) to 165kHz. Such test requirements are specified in IEC 61000-4-16 and cover continuous mode testing as well as short term testing with DC, 16 2/3Hz, 50Hz and 60Hz with 4 test levels each plus a sweep mode from 10Hz to 165kHz.
Additionally, the CWS 500N4 can be used for testing electricity metering equipment as per prTR 50579 and Draft standard IEC 61000-4-19, Annex C.

HIGHLIGHTS

› **Most compact equipment for common-mode disturbances as per IEC 61000-4-16**
› **Built-in LF signal generator and LF amplifier**
› **Sweep mode capability 10Hz to 165kHz**
› **Built-in rectifier module for DC testing**
› **Option for Electricity Meter testing acc IEC 61000-4-19 Annex C**

APPLICATION AREAS

INDUSTRY
RESIDENTIAL

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TECHNICAL DETAILS

TESTING AS PER IEC/EN 61000-4-16

OUTPUT CHARACTERISTICS CONTINUOUS MODE	
Test frequencies	DC, 16 2/3Hz, 50Hz and 60Hz
Signal level	0.1 - 35 Vrms or DC
Test level 1	1V continuous
Test level 2	3V continuous
Test level 3	10V continuous
Test level 4	30V continuous
Output impedance	50ohm ± 10%
Total harmonics distortion	‹ 10% (sinusoidal waveform)
Ripple on DC	‹ 5%

OUTPUT CHARACTERISTICS SHORT-TERM MODE	
Test frequencies	DC, 16 2/3Hz, 50Hz and 60Hz
Signal level	1 - 330Vrms or DC
Test level 1	10V for 1s duration
Test level 2	30V for 1s duration
Test level 3	100V for 1s duration
Test level 4	300V for 1s duration
Output impedance	50ohm ± 10%
Total harmonics distortion	‹ 10% (sinusoidal waveform)
Phase synchronisation	0° ± 5%
Ripple on DC	‹ 5%
Fall/rise time	between 1us and 5us
Note:	These tests require either the optional MV 2606N2.2 motor variac or the optional programmable AC voltage source ACS 500N2.3.

TESTING AS PER IEC/EN 61000-4-16

OUTPUT CHARACTERISTICS 15HZ - 165KHZ	
Frequency range	10Hz to 165kHz
Signal level	0.1 to 35Vrms
Test level 1	1V - 0.1V - 1V
Test level 2	3V - 0.3V - 3V
Test level 3	10V - 1V - 10V
Test level 4	30V - 3V - 30V
Output impedance	50ohm ± 10%
Total harmonics distortion	‹ 1% (sinusoidal waveform)

MEASUREMENT	
Voltage	internal rms measurement

TEST ROUTINES	
Quick Start	Immediate start; easy to use and fast discrete frequency testing
Service	Service, Set-up

TESTING OF ELECTRICITY METERING EQUIPMENT AS PER TR-EN 50579

INTERFERENCES DISTURBANCES TESTING AS PER TR-EN 50579 AND IEC 61000-4-19 ANNEX C (OPTION)	
Test frequencies	2kHz to 150kHz
Signal level	Max. 3A up to 150kHz
Total harmonic distortion (THD)	‹5% at maximum level
Accuracy	better than ± 5%
Frequency step	Max. 1%
Output impedance	1.0ohm (external decoupling impedance SH 1R)

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TECHNICAL DETAILS

GENERAL DATA

INTERFACE	
Serial interface	USB
Parallel interface	IEEE 488, addresses 1 - 30
Fail 1	BNC input; test will be stopped immediately (when input becomes active low)
Fail 2	BNC input; test will be stopped (when input becomes active low) and contiunued (input active high). After 10 fail events the test will be stopped.

SOFTWARE	
icd.control	Extensive and most versatile remote control and reporting software. A standard library helps to configure the test setup. Part of delivery

GENERAL DATA	
Dimensions	19"/6HU, 555mm x 448mm x 286mm
Weight	Approx. 30kg
Supply voltage	115V - 230V +10/-15%, 50/60Hz
Input power	Max. 600W
Fuses	2x6.3AT (115V) or 2x3.15AT (230V) 2x10AT for AC-source
Cooling	Active cooling, air ventilation
Temperature	10°C - 40°C

OPTIONS

ACCESSORIES COUPLING NETWORK	
CN 16-L2/L4	2-wire/4-wire coupling network, switchable, EUT Umax. AC: 440V 16.7Hz..80Hz, EUT Umax. DC: 125V, GEN IN Umax.: 330V AC/DC, Power dissipation: max. 40W
CN 16-L2.1	2-wire coupling network, EUT Umax. AC: 300V 16.7Hz..80Hz, EUT Umax. DC: 220V, GEN IN Umax.: 330V AC/DC, Power dissipation: max. 200W, active cooling,overtemperature protection, Mains: 85-265 V 50/60Hz, Fuse 1AT
CN 16-L3	3-wire coupling network, EUT Umax. AC: 440V 16.7Hz..80Hz, EUT Umax. DC: 125V, GEN IN Umax.: 330V AC/DC, Power dissipation: max. 40W
CN 16-L4/690V	4-wire coupling network, EUT Umax. AC: 3x690V 50/60Hz, EUT Umax. DC: 125V, GEN IN Umax.: 330V AC/DC, Power dissipation: max. 40W
CN 16-L8	8-wire coupling network, EUT Umax. AC: 300 V 16.7Hz..80Hz, GEN IN Umax.: 330 V AC/DC, EUT Umax. DC: 160V, Power dissipation: max. 40W
CDN 16-L2	2-wire coupling network, decoupling with isolation transformer, EUT Umax./ Imax.: 300V 16A GEN IN Umax.: 330VAC
CDN 16-L4/400 V	4-wire coupling network, decoupling with isolation transformer EUT Umax./ Imax.: 3x480V 16A, GEN IN Umax.: 330VAC
CDN 16-T2	Telecom T-network, 60VDC, 2A, EUT Umax.: 60VDC, EUT Frequency range: Telecom applications, GEN IN Umax.: 330V AC/DC,

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TECHNICAL DETAILS

OPTIONS

ACCESSORIES COUPLING NETWORK	
CN 60255-22-7	4-wire coupling network for common mode and differential mode coupling as per: IEC 60255-26, figs. A1, A2 and A3, previous IEC 60255-22-7, figs. 2, 3 and 4
CN 61543	Coupling network as per IEC 61543 (100ohm)

AC SOURCES	
ACS 500N2.3	AC power source 0 - 330VAC/2kVA, 10Hz - 80Hz, galvanically isolated; controlled by CWS 500N4 via serial interface Mains supply: 230V/16A, 50/60Hz
MV 2606N2.2	Motor variac 0 - 330VAC/2kVA, 50Hz/60Hz, galvanically isolated; controlled by CWS 500N4 via 0-10V analog output Mains supply: 230V/9A, 50/60Hz

OPTIONS

EXTENSION FOR APPLICATION AS PER IEC 61000-4-19	
ELM set	Electricity meter test set as per IEC 61000-4-19 Annex C included: -SH ELM, 1R and 100R, Shunt resistor box and decoupling impedance, -Current meter ext., 5 1/2 digit, 150kHz, USB remote control with icd.control software, -USB remote cable -Cable set SH ELM to current meter
ELM-R set (upgrade)	Electricity meter test set as per IEC 61000-4-19 Annex C included: -CWS500N4 hardware upgrade and calibration, -SH ELM, 1R and 100R, Shunt resistor box and decoupling impedance, -Current meter ext., 5 1/2 digit, 150kHz, USB remote control with icd.control software, -USB remote cable -Cable set SH ELM to current meter -Call representative for details

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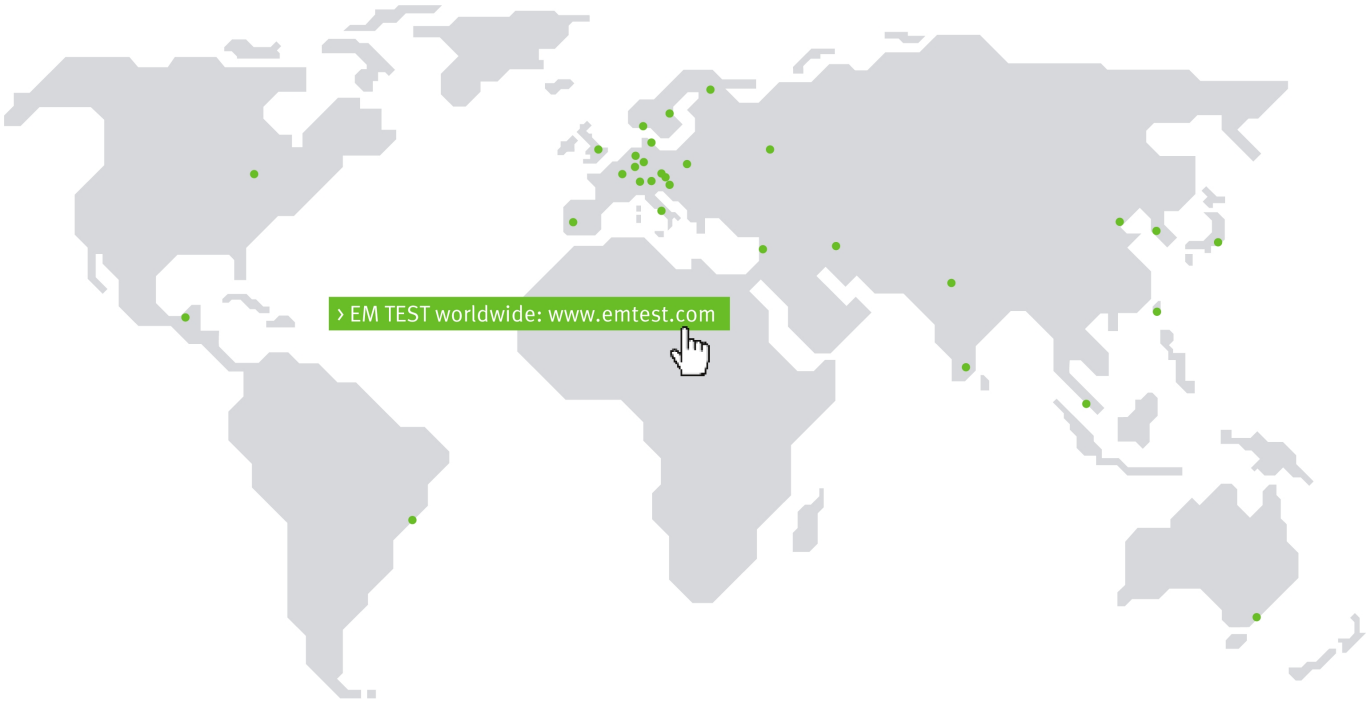
COMPETENCE WHEREVER YOU ARE



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