

# EM TEST GENERATES FINEST WAVE SHAPES

# NOW EVEN MORE UNIVERSAL

THE NEW CWS SERIES OF EM TEST:  
UNIVERSAL TEST SYSTEMS FOR CONDUCTED  
LF- AND RF-IMMUNITY.



## STANDARDS:

(Selection of implemented standards)

- › IEC/EN 61000-4-6
- › ISO 11451-4, ISO 11452-4, SAE J1113-4, SAE J1113-22 Rev. Nov 2003 -> BCI/Stripline
- › Car manufacturer specifications, e.g. BMW, Chrysler, Daimler-Chrysler, Fiat, Ford, GM, Mercedes, PSA, Renault, VW, etc.
- › RTCA-DO-160 F
- › RTCA-DO-160 D Section 18
- › MIL-STD-461 D/E/F CS 114
- › MIL-STD-461 C CS 01, CS 09, RS01
- › MIL-STD-461 D/E/F CS 101, CS 109, RS101
- › Ford EMC-CS-2009.1, CI 210, RI 112, RI 140, RI 150

## CWS 500 N1/N2:

Frequency range from 10 kHz to 400 MHz, extendable up to 1 GHz, according to IEC/EN 61000-4-6

- › Integrated class A amplifier up to 100 W and 10 kHz up to 400 MHz
- › Integrated RF-switch to connect external amplifiers
- › Integrated bi-directional coupler (N2)
- › Integrated 3-channel power meter
- › USB- and IEEE-interface
- › Software also runs under Windows 7

## CWS 500 N3:

Compact equipment for „ripple noise“ and magnetic fields (10 Hz – 250 kHz)

- › Integrated LF signal generator
- › Integrated LF-amplifier and LF-transformer 2:1
- › Integrated frequency selective voltage-/current meter
- › Fully automatic self calibration
- › USB- and IEEE-interface
- › Software also runs under Windows 7



## CWS 500 N4:

Compact simulator for Common-Mode-Disturbances according to IEC 61000-4-16

- › Integrated LF-signal generator and LF amplifier
- › Frequency sweep 15 Hz (-10 %) up to 150 kHz (+10 %)
- › Built-in rectifier module for DC testing
- › Built-in voltage meter (RMS-values)
- › Built-in semiconductor power switch
- › USB- and IEEE-interface
- › Software also runs under Windows 7

# NOW 3-PHASE

THE NEW NETWAVE.



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Programmable AC- and DC- power sources with low distortion and high stability in the power range from **7.5 kVA to 60 kVA.**

## Standards:

(Selection of implemented standards)

### Immunity testing:

- › IEC/EN 61000-4-13
- › IEC/EN 61000-4-14
- › IEC/EN 61000-4-17
- › IEC/EN 61000-4-27
- › IEC/EN 61000-4-28
- › IEC/EN 61000-4-29

### Immunity testing in avionics:

- › AIRBUS ABD 0100
- › BOEING
- › RTCA/DO 160 Section 16
- › MIL-STD-704

### Harmonics and Flicker measurement:

with DPA 500 or DPA 503

- › IEC/EN 61000-3-2
- › IEC/EN 61000-3-3
- › IEC/EN 61000-3-11
- › IEC/EN 61000-3-12

## NetWave Highlights:

- › Wide power bandwidth: DC - 5 kHz
- › Output power: 7.5 kVA (single phase);  
22 kVA up to 60 kVA (3-phase)
- › Output voltage: 300 VAC, 425 VDC
- › High inrush-current capability
- › Built-in Arbitrary Generator
- › Compilation of any kind of wave forms, (segments or points)
- › Import and processing of other wave forms  
(e.g. oscilloscope) or Excel, CSV-files possible
- › Interface GPIB and Ethernet, USB (for memory stick),  
RS 232 (DPA-analyzer),  
Frame-Bus (int. System bus) integrated

# FORD EMC-CS-2009.1

THE NEW FORD STANDARD:  
EM TEST OFFERS THE POWER SOLUTION!



Short overview:

- CI 210 Immunity from Continuous Power Line Disturbances**  
(complimentary test requirement)
- CI 220 A1 to C2 Immunity from Transient Disturbances - Electrical Fast Transients**  
(not comparable with Ford-Standard AC ...)
- CI 250 Immunity to Ground Voltage Offset**  
(new test requirement)
- CI 260 A to F Immunity to Voltage Dropout**  
(complimentary test requirement)
- RI 130 Coupled immunity**  
(new and complimentary test requirement)
- RI 140 Magnetic field immunity**  
(new and complimentary test requirement)
- RI 150 Coupled immunity**  
(new and complimentary test requirement)



# SOLAR TESTING.

THE NEW VSS 500 N10.2:  
EM TEST OFFERS THE POWER SOLUTION!



**NEW into branch portfolio of  
EM TEST: Renewable energies**

The Surge generator VSS 500N10.2 is specifically designed for safety testing of photo voltaic panels. High voltage transients are generated, as required by IEC 61730-2.

- › Test voltage 500 V up to 10 kV
- › Wave shape 1.2 / 50  $\mu$ s
- › Load range: 10 nF to 180 nF adjustable in 7 ranges
- › USB- and IEEE-interface

**Standards:** (Selection of implemented standards)

- › EN 61730-1
- › EN 61730-2
- › IEC 60060
- › IEC 61730-1
- › IEC 61730-2
- › UL 1703

# INCREASING POWER:

LÜTHI ELEKTRONIK-FEINMECHANIK-AG  
JOINED THE EM TEST GROUP AS OF  
01.01.2010.

Herewith, EM TEST secures the experience of more than 40 years in manufacturing high-quality EMC measurement accessories for high-frequency measurements and a decisive competitive edge.

The proved Lüthi products: Absorbing measuring clamp according to CISPR 16 and CISPR 22 as well as coupling networks according to IEC 61000-4-6 and CISPR 15 (edition 6).





 **emtest**

Since 01.01.2010 part  
of the EM TEST Group:



# ACCREDITED – DEFINITELY.

EM TEST HAS BEEN ACCREDITED:

The accredited calibration laboratories of EM TEST calibrate EMC test simulators of all manufacturers. And on request extra fast and on-site. So to say: Full Service



# GENERATE YOUR WAVE SHAPES:

WITH EM TEST RENTAL EQUIPMENT.

Long-term investments can be bridged by renting the necessary equipment whenever you need it. EM TEST offers rental equipment for almost all EMC test requirements.

TEST EQUIPMENT  
REQUIRED AT SHORT  
NOTICE?  
[rent@emtest.de](mailto:rent@emtest.de)



