CWS 500N3
SIMULATOR FOR LOW FREQUENCIES 10 HZ - 250 KHZ

FOR TESTS ACCORDING TO...
- Chrysler CS-11979
- DaimlerChrysler DC-10614
- DaimlerChrysler DC-10615
- DO 160 Section 18
- Ford EMC-CS-2009.1
- Ford FMC1278
- GMW 3097 (2006)
- ISO 11452-10
- ISO 11452-8
- Jaguar EMC-CS-2010JLR V1.1 (2011-01)
- MIL STD 461 D CS 101
- MIL STD 461 D CS 109
- MIL STD 461 D RS 101
- MIL STD 461 E CS 101
- MIL STD 461 E CS 109
- MIL STD 461 E RS 101
- MIL STD 461 F CS 101
- MIL STD 461 F CS 109
- MIL STD 461 F RS 101
- ...

CWS 500N3 - TESTING OF RIPPLE NOISE AND MAGNETIC FIELDS

Key applications of the CWS 500N3 are in the automotive and aerospace area. Various international standards and MIL requirements call for magnetic field tests in the low frequency range. Apart from this the automotive industry requires conducted immunity tests with superposed sinusoidal signals on the DC supply voltage (ripple noise). For both applications the CWS 500N3 is the perfect equipment including everything in a single box, necessary for these tests.


HIGHLIGHTS
- Most compact equipment for ripple noise on ac/dc supplies and magnetic fields
- Built-in LF signal generator
- Built-in LF amplifier
- Built-in LF transformer 2:1
- Built-in frequency-selective voltage and current meter

APPLICATION AREAS
- AUTOMOTIVE
- AVIONICS
- MILITARY
### Technical Details

#### General Output Characteristics (Amplifier)

- **Frequency range**: 10Hz - 250kHz
- **Signal power**: 100W (nominal)
- **Signal level**: 0.001V - max. 7Vrms (14Vrms)
- **Signal current**: Max. 15A rms
- **Harmonic distortion**: > -20dBc at 100W power 0.5ohm
- **Current protection**: Short circuit protected for current > 15A rms
- **Overvoltage protection**: For voltages > 60V fed back by DUT
- **LF indicator**: LED indication the LF output status
- **LCD**: Display of the test voltage and frequency

#### Measurments

- **General**: Frequency selective instrument for Voltage, Current and Magnetic field
- **Frequency**: 10Hz - 250kHz
- **Accuracy**: Better than 5%
- **Current**: Sense by 0.02ohm shunt. 1mA - 16A rms
- **Voltage**: 0.5mV - 12 V rms
- **Magnetic field**: 50ohm input for loop sensor

#### Coupling to Battery Supply Lines

- **Transformer**: Impedance ratio 1:4
- **Frequency range**: 10Hz - 250kHz
- **DUT load**: 60VDC up to 30A
- **DUT load**: 300VAC up to 20A
- **Coupling capacitor**: 100uF/10uF to shunt the DC source
- **Output impedance**: less than 0.5ohm@f 80kHz

#### MIL STD 461 D/E, CS 101, CS 109, RS 101

- **CS 101 Standard 461D**: Voltage ripple AC/DC, 30Hz - 50kHz
- **CS 101 Standard 461E/F/G**: Voltage ripple AC/DC, 30Hz - 150kHz
- **CS 109**: Structure current, 60Hz - 100kHz
- **RS 101**: H-field (Army, Navy), 30Hz - 100kHz
- **Calibration resistor**: built-in 0.5ohm power resistor

#### ISO 11452-8, Radiated Magnetic Field

- **Level control**: Substitution method
- **Frequency range**: 15Hz - 150kHz
- **Frequency steps**: As specified in the test plan
- **Test levels**: 30A/m, 100A/m, 300A/m and 1,000 A/m as per Annex A

#### Test Routines

- **Quick Start**: Immediate start; easy to use and fast
- **Service**: Service, Set-up

#### Interface

- **Serial interface**: USB
- **Parallel interface**: IEEE 488, addresses 1 - 30
- **Fail 1**: BNC input; test will be stopped (active low)
- **Fail 2**: BNC input; test status will be saved (max. 10 events) when active low. Test continues

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**DATA SHEET > CWS 500N3 > 20160606**

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## TECHNICAL DETAILS

### GENERAL DATA

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>19”/6HU (555mm x 448mm x 286mm)</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 36kg</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>115V or 230V +10/-15%, 50/60Hz</td>
</tr>
<tr>
<td>Input power</td>
<td>Max. 600W</td>
</tr>
<tr>
<td>Power factor</td>
<td>cos((\phi)) = 0.96 at max. output power as per IEC 555</td>
</tr>
<tr>
<td>Fuses</td>
<td>2 x 6.3AT (115V) or 2 x 3.15AT (230V)</td>
</tr>
<tr>
<td>Cooling</td>
<td>Active cooling, air ventilation</td>
</tr>
<tr>
<td>Temperature</td>
<td>10°C - 40°C</td>
</tr>
<tr>
<td>Rel. humidity</td>
<td>Max. 85%, non-condensing</td>
</tr>
</tbody>
</table>

### ACCESSORIES

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiating loop</td>
<td>For magnetic field test</td>
</tr>
<tr>
<td>Field sensor probe</td>
<td>To measure the magnetic field</td>
</tr>
<tr>
<td>icd.control</td>
<td>Extensive and most versatile remote control and reporting software. A standard library helps to configure the test setup. Multiple interruption functions automated by IEEE instruments or manually. Easy-to-use and expandable to complex test routines on the base of vector definitions.</td>
</tr>
</tbody>
</table>
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.