

AMP 200N

LOW FREQUENCY SIGNAL SOURCE DC (0HZ) TO 250KHZ



FOR TESTS ACCORDING TO ...

- › Chrysler CS-11809 (2009)
- › Chrysler CS-11979
- › Chrysler DC-11224 Rev.A
- › DaimlerChrysler DC-10615
- › DaimlerChrysler DC-11224
- › Ford EMC-CS-2009.1
- › GMW 3172
- › EMC-CS-2010JLR V1.1 (2011-01)
- › MAN 3285
- › SAE J1113-2
- › Tata TST/TS/WI/257

AMP 200N - LOW-FREQUENCY SIGNAL SOURCE FOR SUPPLY SIMULATION AND MAGNETIC FIELD TESTING

The AMP 200N has been designed as a low-frequency signal source to generate sinusoidal signals used to simulate ripple noise and ground shift noise as required by a variety of standards in the automotive industry e.g. as per Ford EMC-CS-2009.1, CI 210 and CI 250 as well as RI 150. The AMP 200N is controlled by the EM TEST Autowave to also allow the generation of non-sinusoidal and customised signals. Additionally, the AMP 200N can be used to generate magnetic fields by means of a radiation loop or small Helmholtz coils as per RI 140 of Ford EMC-CS-2009.1.

HIGHLIGHTS

- › **Built-in DDS to generate sinusoidal signals up to 250kHz**
- › **Built-in LF amplifier, 250W**
- › **Output voltage max. 140V p-p, 50V rms**
- › **Output current max. 5A rms**
- › **Programmable DC voltage offset**
- › **Controlled by AutoWave and autowave.control via Framebus**

APPLICATION AREAS



AUTOMOTIVE

TECHNICAL DETAILS

BENEFITS

AMP 200N - SIGNAL GENERATOR/AMPLIFIER SOLUTION FOR RIPPLE NOISE AND MAGNETIC FIELD TESTING

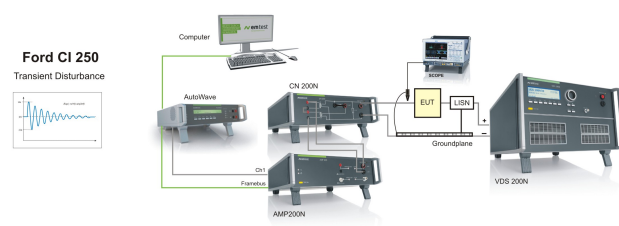
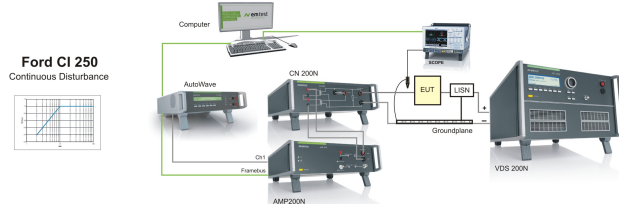
The AMP 200N unifies a low-frequency signal generator and a powerful amplifier module giving a maximum amplitude of 150V peak-to-peak as required e.g. by Ford EMC-CS-2009.1. It generates both sinusoidal and transient signals. Equipped with a DDS it generates any sinusoidal signal with a frequency up to 250kHz. The AMP 200N is controlled by the EM TEST AutoWave in order to generate any sinusoidal or non-sinusoidal/transient signals and is therefore fully supported by the autowave.control software with its exhaustive library of pre-programmed standards and its outstanding reporting and documentation capabilities.

The AMP 200N can also be used for magnetic field testing using a Radiation Loop and Loop Sensor. Extended by the optional measuring module the AMP 200N offers means for frequency-selective current measurement, voltage measurement and measurement of the magnetic field strength.

FORD EMC-CS-2009.1, CI 250 TESTING

IMMUNITY TO GROUND OFFSET

The AMP 200N can be used for testing the immunity to ground offset noise as per Ford EMC-CS-2009.1, CI 250. Both the continuous as well as the transient signal are generated by means of the AMP 200N, controlled by the AutoWave. The CN 200N is used to couple the test signals on to the line under test.



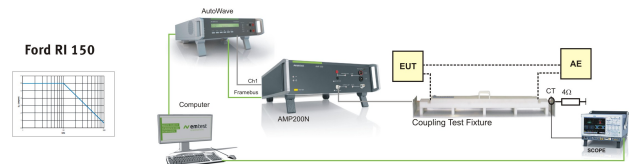
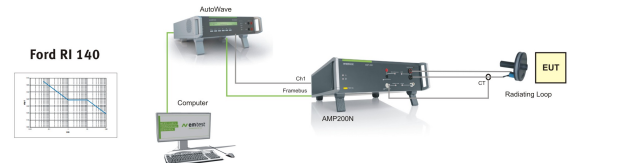
EMC-CS-2009.1, RI 140, RI 150, CI 210

MAGNETIC FIELD TESTING (RI 140), CONTINUOUS DISTURBANCE TESTING (RI 150) AND IMMUNITY FROM POWER LINE DISTURBANCES (CI 210)

The AMP 200N is designed for immunity testing and magnetic field testing as per Ford EMC-CS-2009.1. For RI 140 magnetic field testing a Radiation loop and current clamp to measure the induced current is required.

For RI 150 testing a test fixture is needed to represent the injection loop.

For CI 210 Immunity testing from continuous power line disturbances the AMP 200N generates the control signal to drive a programmable DC source, e.g. a VDS 200N.



AUXILIARY DEVICES

CN 200N1 - SINGLE-BOX TRANSFORMER ASSEMBLY FOR LF CONDUCTED IMMUNITY TESTING

The CN 200N1 is an easy-to-use coupling device consisting of two audio transformers and a 0.5ohm/250watt load resistor configurable as required by Ford EMC-CS-2009.1, Fig. 18-6 for AC ground voltage offset testing. The two transformers need to be connected in series on their primary side, their secondary side is paralleled and loaded by the 0.5ohm non-inductive resistor load.

TECHNICAL DETAILS

AMPLIFIER OUTPUT CHARACTERISTICS

Frequency range	DC - 250kHz
Signal power	250W (nominal)
Output voltage	50Vrms, max. 140V(p-p) up to 100kHz 30Vrms 100kHz - 250kHz
Output current	Max. 5Arms up to 200kHz Max. 4Arms 200kHz - 250kHz
Output Impedance	30 mOhm @ 1 kHz
Harmonic Distortion (THD)	< 0.1%
Protection	- Short circuit - Overtemperature

SIGNAL GENERATOR OUTPUT CHARACTERISTIC (BUILT-IN)

Frequency range	DC, 10Hz - 250kHz (sinusoidal)
Output voltage	+/-10V
DC offset	0-10V, programmable, to control external DC amplifier

INTERFACE

Serial interface	Framebus to AutoWave or NetWave
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GENERAL DATA

Dimensions	19", 3HU (500mm x 449mm x 133mm)
Weight	Approx. 18kg
Supply voltage	115 V +10/-02%, 50/60 Hz or 230 V +10/-15%, 50/60 Hz
Input power	Max. 500W
Fuses	2 x 6.3 AT (115V) or 2 x 3.15 AT (230V)
Cooling	Active cooling, air ventilation
Temperature	10°C - 40°C
Rel. humidity	Max. 85%, non-condensing

MEASUREMENTS (OPTIONAL)

Measuring Unit	Optional built-in measuring unit; Frequency-selective instrument for voltage, current and magnetic field
Frequency range	10Hz - 250kHz
Accuracy	Better than 5%
Current measurement	External with current clamp: Range 10mV/A: 1mA - 30A rms Range 100mV/A: 10mA - 300A rms
Voltage measurement	17mV - 70V rms

ACCESSORIES

Radiation Loop	120mm radiation loop for magnetic field testing as per Ford EMC-CS-2009.1, RI 140
Loop Sensor	To measure the magnetic field strength
CN 200N	Transformer assembly with built-in 0.5ohm/250W resistive load as per Ford EMC-CS-2009.1

COMPETENCE WHEREVER YOU ARE



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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.