



MAIN FEATURES

- Automatic Closed Loop test procedures
- Built-in DDS sinus signal generator up to 500 kHz
- Output voltage max. 160 V p-p, 50 V rms
- Output current max. 18 A rms
- Designed for EV's and more
- Supports magnetic field tests up to 1100 A/m
- Short-circuit protected
- Integrated frequency-selective measurement 10 Hz - 250 kHz

AMP 200N2

LF Signal Generator & Amplifier, DC to 500 kHz

The AMP 200N2 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 avionics, military and automotive industry.

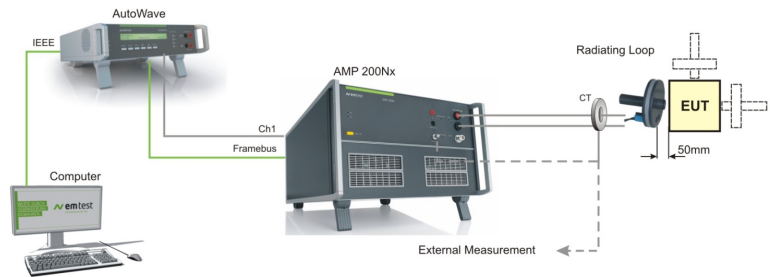
The AMP 200N2 is controlled by either the NetWave (for testing Electrical Vehicles, avionics, military and nautic standard requirements. e.g LV 123, ISO 21498 and ISO 7637-4 Pulse C) or the AutoWave for LV automotive test requirements such as e.g. Ford FMC1278.

Additionally, the AMP 200N2 can be used to generate magnetic fields by means of a radiation loop or small Helmholtz coils as per various standards.

The buit-in measuring unit is able to measure available signals frequency selective. Two separate input channels allow you to regulate on voltage and current values simultaneously. Using closed loop method, the system is capable to regulate on the exact target level.

By using either the autowave.control or net.control software it is possible to do substitution method, record a test and play it afterwards with the exact same data.

The below sample picture shows the setup for magnetic field testing.



Test standards (extract)

| NetWave | AutoWave |
|---------------------------|---------------------------------------|
| DO-160 E/F/G (section 18) | ISO 11452-8 |
| ABDO100.1.2 G | ISO 11452-10 |
| ABDO100.1.8, chapter 16 | SAE J1113-2 |
| LV 123 | SAE J 1113-22 |
| ISO 7637-4 | Ford FMC 1278, RI 140/150, CI 210/250 |
| ISO 21798 | BMW 95002-2 |
| MBN 11123 | GMW 3097 |
| GS 95023 | VW 810000 |
| VW 80300 | MBN 10284-2 |
| MIL STD 461 E/F/G | TS 0000048-07 |
| MIL STD 704 A/B/C/D/E/F | an many more |

Remark:

For some standard tests external measuring instrument such as scope might be required.

Specifications

| Parameter | Value |
|-------------------------|---|
| Amplifier Output | |
| Frequency Range | DC ... 500 kHz (sinusoidal) |
| Signal Power | max. 1000 W (nominal) |
| Output Voltage | max. 160 V pp / 50 V rms |
| Output Current | max. 18 A rms DC current max. 25 A (DC H-field) |
| Sinusoidal Frequency | 1 ... 500 kHz +/- 1 % |
| Bandwidth | Full Signal Range: DC - 100 kHz /// max. 50 V rms / 160 Vpp (+/- 10 %) * Extended Range 1: 100 kHz - 250 kHz /// max. 30 V rms / 80 Vpp (+/- 10 %) * Extended Range 2: 250 kHz - 500 kHz /// max. 30 V rms / 80 Vpp (+1 dB / -3 dB) * |
| Low Range | 25 V pk / 17 V rms / max. 18 A rms (+/- 10 %) |
| Mid Range | 55 V pk / 37 V rms / max. 14 A rms (+/- 10 %) |
| High Range | 80 V pk / 55 V rms / max. 10 A rms (+/- 10 %) |
| Output Impedance | 30 mΩ @ 1 kHz |
| Measuring Inputs | |
| Frequency Range | 10 ... 250 kHz (+/- 5%) |
| Current Measurement | With external current clamp: Range 100 mV/A: 1 mA - 30 A rms Range 10 mV/A: 10 mA - 300A rms |
| Voltage Measurement | direct: 17 mV - 70V rms (or with external voltage probe) |
| General Data | |
| Interface | Serial interface Framebus (internal bus), to connect to AutoWave or NetWave |
| Dimension | 19", 6 HU (500 x 449 x 286 mm) |
| Weight | approx. 40 kg |
| Supply Voltage | 115 VAC +10/-2 %, 50 ... 60 Hz 230 VAC +10/-15 %, 50 ... 60 Hz |
| Input Power | max. 1900 VA |
| Fusage | 16 AT (115 V) / 10 AT (230 V) |
| Safety | Short circuit protected Overtemperature protected, active air cooling by fans |
| Operating Temperature | 10 ... 40 °C |
| Humidity | max. 85 %, non condensing |

* Only signal generating, without using closed loop method

Accessories

| | |
|------------------------------|--|
| RL 120 | 120 mm radiating loop for magnetic field, 1100 A/m up to 3 kHz, > 30 A/m @ 100 kHz |
| LS 040 | Loop sensor for RL 120 |
| DC HField Kit Radiating Loop | Including hall sensor, 2 different radiating loops, loop sensor, matching network, fixture |
| DC HField Kit Helmholtz | Including hall sensor, 2 different Helmholtz coils, matching network, fixture |
| C-Box H-Field | Capacitance to adjust resonance point for certain Helmholtz coils |
| MN-DC HField | Matching network for DC magnetic field |
| CN 200N1 | Coupling transformer, 50 A secondary |
| CN 200N100 ... 300 | Coupling transformer, up to 300A secondary |
| AutoWave | Signal generator, master device for AMP 200N2 |
| NetWave XX | Single or 3-phase electronic Power Source, 3 ... 108 kVA |
| PowerWave | 3-phase electronic Power Source, 250 ... 1'000 kVA |



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