

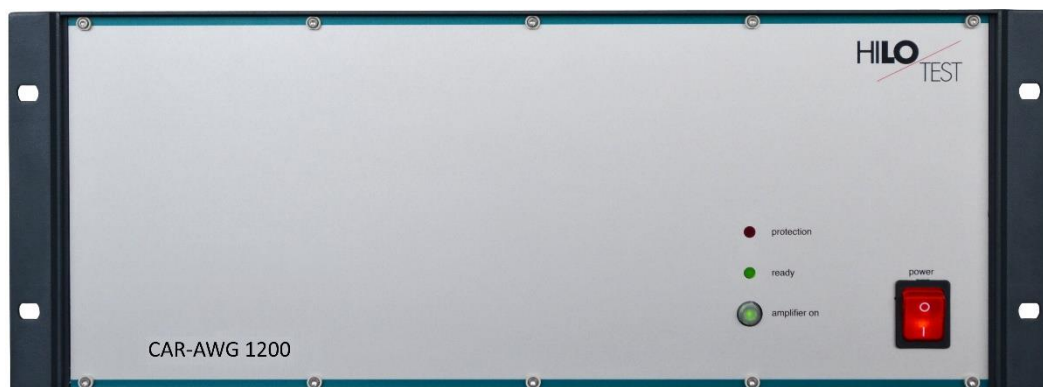
CAR - Arbitrary-Waveform-Generator 1200/ CAR - AWG 3000

EMC-Test Equipment for electrical installation of vehicles

CAR-AWG 1200

CAR-AWG 3000

- Batterie simulator
 - Bandwidth DC-200kHz
 - Signal Bandwith DC-1MHz (small signal -3dB)
 - 4 quadrant amplifier
 - Max. 75V V_{peak} / 40A (100A short)
 - Fast rise time up to 100V/μs
 - Sense lines
 - Arbitrary waveform up to 16kSa / 20MSa/s
 - selectable output impedance 0-200mΩ
 - Over voltage protection
- /Max. 70V/-30V V_{peak} / 100A



According to

ISO 7637: 2011

ISO 16750-2

ISO 21848-2

SAE J1113

LV124 (VW80000)

... many manufacturer standards, GM, Ford, Chrysler, Mercedes, BMW, VW, PSA, Renault, Fiat

The CAR arbitrary waveform generator 1200/ 3000 is a compact EMC testing system for performing voltage variations on supply lines of vehicles. The system strictly complies with the international standards and manufacturer standards that describe phenomena on the power supply of vehicles.

Thus, the CAR arbitrary waveform generator 1200 / 3000 is the optimal voltage power source for battery simulation up to 70V. It can simulate pulse 2b, pulse 4, starting profile, superimposed alternating voltage and others, up to a battery current of 40A/ 100A.

Optionally it can be expanded with CAR-TEST-SYSTEM 14 and PG2804. The CAR-TEST-SYSTEM 14 allows generation of transient immunity test pulses, pulse #1, #2 and #3. The generator PG2804 generates load dump pulses according to ISO16750-2 (Test A, Test B (Clip)).

The software program CAR-remote permits the PC control of the generator via Ethernet and also allows the standardized documentation according to IEC 17025 and the evaluation of test results.

The user can use the PC software to call up standard test procedures (ISO, VG, vehicle manufacturer specific) or define and execute individual test procedures on a point-by-point basis. Voltage curves up to 16kSa can be generated.

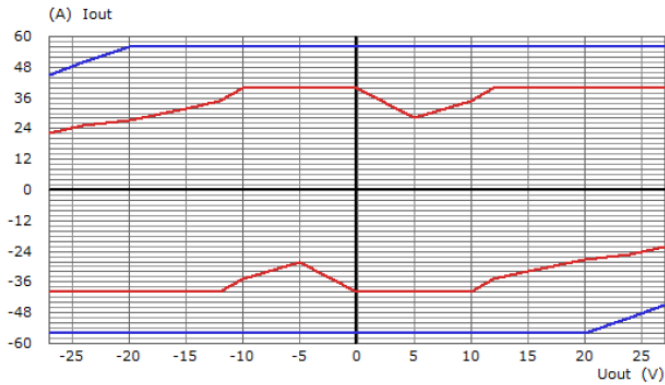
It is equipped with an Impulse Recording Function (IRF) to record definite impulses (with oscilloscope).

Control	Description
CAR-REMOTE-AWG	Remote software with Impulse Recording Function (IRF) (XP, WIN7, WIN10) incl. 5 m fibre optic cable and PC Ethernet PC-Interface

TECHNICAL SPECIFICATIONS:	CAR – AWG	
	1200	3000
Mainframe		
Ethernet Interface for remote control of the generator	buildin	
Connector for external safety interlock loop	24 V=	
External red and green warning lamps acc. to VDE 0104	230V / 60 W	
Mains power	230V, 50 Hz	400V, 50 Hz
Dimensions desk top case, W * H * D	450*180*500 mm ³	20HE Rack
Weight	15kg	
Amplifier		
4-quadrant voltage and current amplifier		
Power bandwidth	200kHz	200kHz
Frequency range (small signal -3dB)	1MHz	1MHz
Max. Voltage	±75V	+70V/-30V
Max. Current	±40A	+100A
Max. Current /10ms	±100A	+200A
selectable output impedance	0-200mΩ	0-200mΩ
Overvoltage protection	op	✓
Arbitrary		
Resolutuion	14 Bit	
Samplerate	20MSa/s	
Max. Points	16kSa	
Segmenttyps	DC, Sinus, Sinussweep, Ramp, Exponentialfunction	

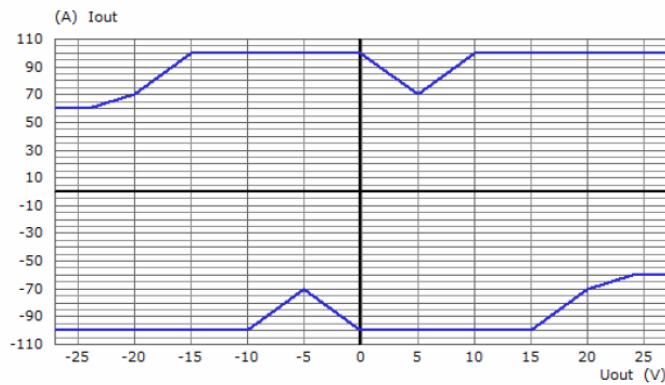
Continuous Output Current vs. Output Voltage (THD + N < 1%)

Uout= +/- 27V
 Supply Voltage: Auto
 Blue: AC Limit
 Red: DC Limit



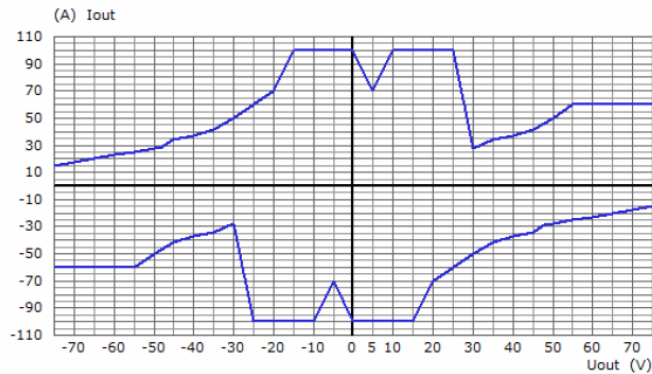
Short-Time Output Current vs. Output Voltage (THD + N < 1%)

Uout= +/- 27V
 Supply Voltage: Auto
 Blue: Pulse Current Limit; 200ms Pulse, duty cycle=5 %

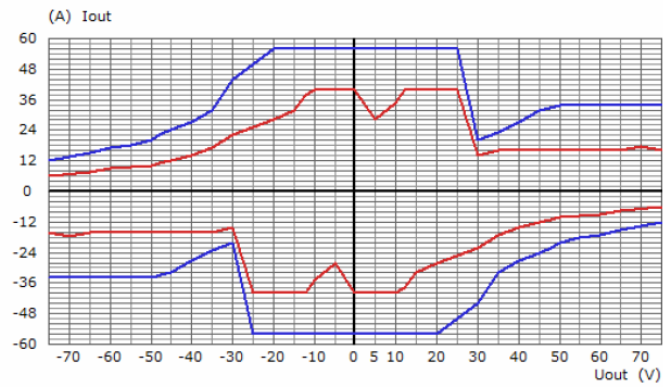


Short-Time Output Current vs. Output Voltage (THD + N < 1%)

Uout= +/- 75V
 Supply Voltage: Auto
 Blue: Pulse Current Limit; 200ms Pulse, duty cycle=5 %



Continuous Output Current vs. Output Voltage (THD + N < 1%)
U_{out} = +/- 75V
Supply Voltage: Auto
Blue: AC Limit
Red: DC Limit



Example configuration of HILO-TEST system:

CAR-TEST-SYSTEM 14 I Puls #1, #2 und #3, Build in 19" Rack
+ Option CAR-AWG 1200 (75V/40A)
+ Option PG2804

