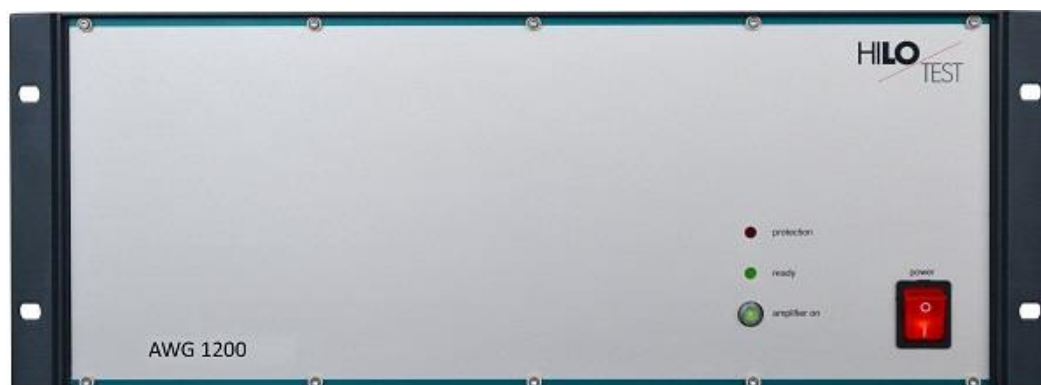


Arbitrary-Waveform-Generator AWG 1200/2000/3000/6000

EMC-Test Equipment for electrical installation of vehicles

- **Battery simulator**
- **Bandwidth DC-200kHz**
- **Signal Bandwidth DC-1MHz (small signal -3dB)**
- **4 quadrant amplifier**
- **Fast rise time up to 70V/ μ s**
- **Sense lines**
- **Arbitrary waveform up to 16MSa / 20MSa/s**
- **Selectable output impedance 0-200m Ω**
- **Over voltage protection**

AWG 1200	• Max. 75V V _{peak} / 40A (80A peak)
AWG 2000	• Max. 70V/-30V V _{peak} / 75A
AWG 3000	• Max. 70V/-30V V _{peak} / 100A
AWG 6000	• Max. 70V/-30V V _{peak} / 200A



According to

ISO 7637: 2011

ISO 7637-4:2020

ISO 16750-2

ISO 21848-2

SAE J1113

LV124 (VW80000)

LV148

VDA 320

ISO 21780

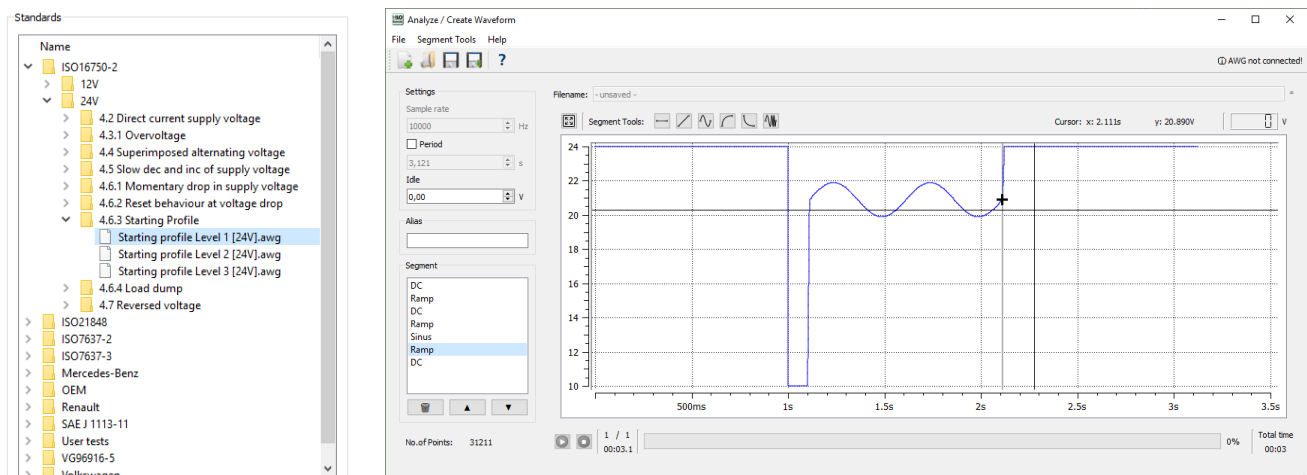
... many manufacturer standards, GM, Ford, Chrysler, Mercedes, BMW, VW, PSA, Renault, Fiat

The arbitrary waveform generator 1200/ 2000/ 3000 /6000 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 arbitrary waveform generator 1200 / 2000 / 3000 / 6000 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/ 200A.

The software program CAR-remote permits the PC control of the generator via Ethernet and 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 16MSa 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. Ethernet switch

Optionally it can be expanded to fulfil further international and manufacturer standards:

Configurations for the fulfilment of various standards:

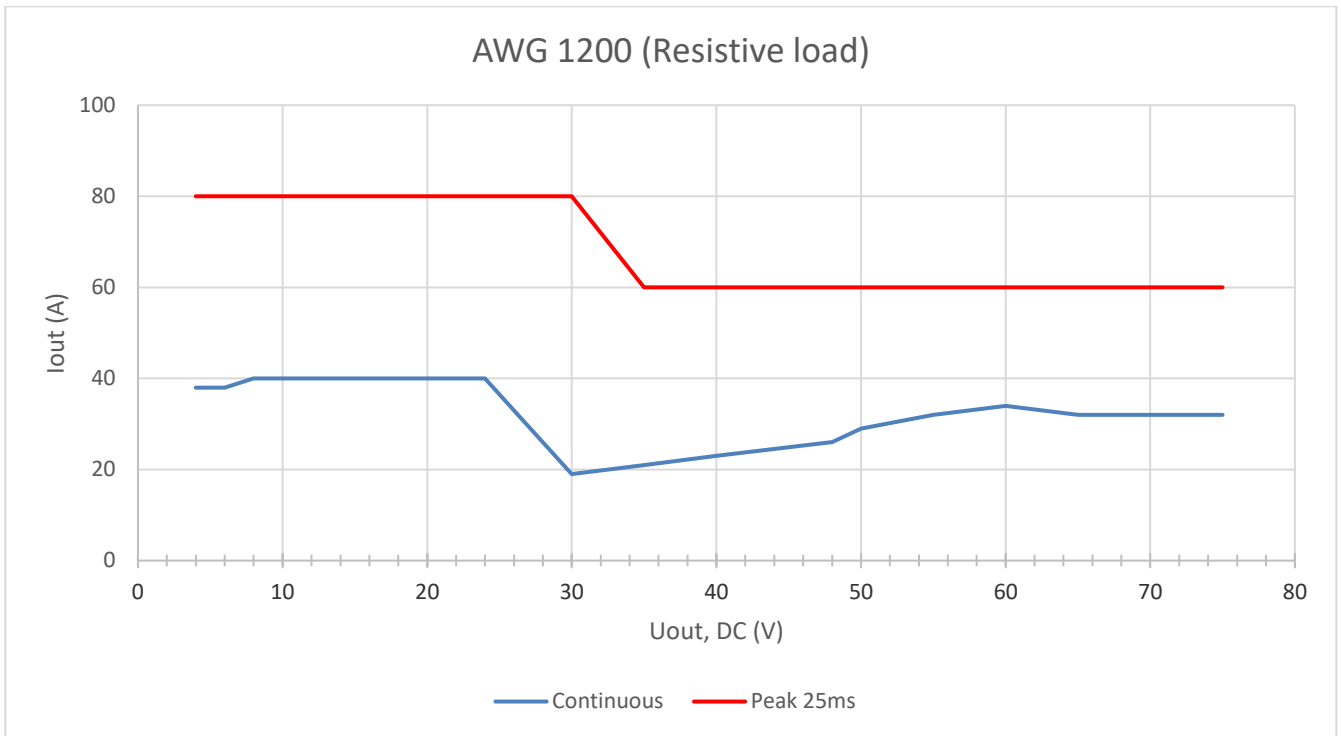
Setup	CAR-SYS + Battery	CAR-SYS + PS xx-xx	CAR-SYS + AWG	AWG
ISO 7637 ²⁾	✓ ⁵⁾	✓	✓	✗
ISO 16750 ¹⁾	✗	✓ ⁴⁾	✓	✓
ISO 21848	✗	✓	✓	✓
LV 124/148 ³⁾	✗	✗	✓	✓
MBN 1028-4	✓	✓	✓	✗
Renault 36.00.808 ¹⁾	✗	✗	✓	✗
Nissan 280401ND02	✗	✗	✓	✗
SAEJ 1113-111 ¹⁾	✗	✗	✓	✗
VW TL81000 ¹⁾	✓	✓	✓	✗
...and many other standards				

1) + Load dump (PG2804 / PS-LD)
 2) + CAR-TE 14 for 4.3. Transient Emission test
 3) + CAR-PFS 80 for LV E-10, E-13 and E-14 Interruptions tests

4) without Superimposed alternating voltage test
 5) without Puls 2b

TECHNICAL SPECIFICATIONS:	AWG			
	1200	2000	3000	6000
Mainframe				
Ethernet Interface for remote control of the generator	Built-in			
Connector for external safety interlock loop	24 V=			
External red and green warning lamps acc. to VDE 0104	24 V=, 40 mA			
Mains power	230V, 50 Hz	400V, 50 Hz	400V, 50 Hz	400V, 50 Hz
Dimensions, case, W * H * D	450*180* 500 mm ³	16HE Rack	20HE Rack	34HE Rack
Weight	45kg	100kg	140kg	270kg
Amplifier				
4-quadrant voltage and current amplifier				
Power bandwidth	200kHz			
Frequency range (small signal -3dB)	1MHz			
Max. Voltage	±75V	+70V/-30V	+70V/-30V	+70V/-30V
Max. Current	±40A	±75A	+100A	+200A
Max. Current /500ms	±80A	±150A	+200A	+400A
Max. Power	1200W	2000W	3000W	6000W
selectable output impedance	0-200mΩ			
Overvoltage protection	✓			
Voltage-/Current monitoring	✓			
Slew Rate	70V/us			
Small Signal Bandwidth	DC-600kHz			
Residual Noise Output	<62dBV; 10Hz - 500kHz			
Signal / Noise Output	>97dBV; 10Hz - 200kHz			
Cooling	Controlled fans and heat sink			
Overcurrent Protection with CAR SYS	Magnetic and Thermic			
Triggering with CAR SYS	Software - Manual - Extern			
Trigger output with CAR SYS	For Oscilloscope			
Arbitrary				
Resolutuion	14 Bit			
Samplerate	20MSa/s			
Max. Points	16MSa			
Segmenttyps	DC, Sinus, Sinesweep, Ramp, Exponential function			

AWG 1200:



AWG 3000:



Example configuration of HILO-TEST system:

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

