# ARBITRARY SIGNAL GENERATOR PAWG 100 Datasheet


## In Compliance with

> ISO 7637-2
> ISO 16750-2
> LV 124
> VW 8000
>BMW GS 95003-2
> BMW GS 95024-2-1
> BMW-（Airbag ECU）
> BMW 600 13.0(Part 1)
> Chrysler CS-11809
> Chrysler PF-9326
> Cummins 14269 (982022-026)
> DaimlerChrysler DC-10615
> Ford ES-XW7T-1A278-AB
> Ford ES-XW7T-1A278-AC
> Ford WDR 00.00EA
> GMW 3172
> Hyundai/Kia ES 95400-10, Rev. D
> DO 160 Section 16
> Case N ew Holland ENS0310
> Audi（Reference vehicles）
> Fiat 9090110
> DaimlerChrysler PF-10541
> Ford EMC-CS-2009.1

## Introduction

The test waveforms in automotive become more and more complicated, and more attention are paid to vehicle or components. Normal waveform generator can't meet these requirements, especially, multiple waveforms superposition during one test is needed, PAWG 100 arbitrary signal generator is the best solution.

1. **Multiple sequence oscillator**

· Signal output part is cordwood components, can be extended to max.4 channels.

· Can generate arbitrary waveforms: DC wave, ramps, sine, sweep frequency, exponential, frequency modulation/amplitude modulation sine wave, irregular and random arbitrary wave.

· Can generate variation waveform with voltage and time axis

· Can generate waveform timing sequence

2. Soft**ware for generating arbitrary waveform**

Using excellent GUI arbitrary waveform generation software, it can easily generate complex waveforms with repeated voltage, time scanning.

## Features

> Meet the tests as per ISO16750 (corresponding individual manufacturer standard)
> Every oscillation channel has waveform arithmetic circuitry to output waveform with high resolution and accuracy
> By software control with Ethernet, represent kinds of variation phenomenon easily and really.
> Ensure the synchronization deviation among channels to be less than 1μs
> Waveform data (CSV) received from oscilloscope can be output with high accuracy.

## Application Areas

> Automotive
> Aviation
> Military

| Technical parameters | |
|---|---|
| Number of Channels | 1 ch ～ 4 ch，2 or 4 optional |
| Synchronization accuracy among channels | <1 μs |
| Waveform type | DC wave, ramps, triangle wave, sine, square wave, sweep frequency, exponential, frequency modulation/amplitude modulation, Oscilloscope storage data waveform, user's self-defined waveform, irregular and random arbitrary wave |
| Parameters | Amplitude, duration, frequency, DC offset, rectification, duty cycle, phase angle, trigger, noise |
| Amplitude and offset ramping | Static, linear, exponential |
| Frequency ramping | Static, linear, exponential, log(base 10) |
| Start/End phase angle | 0 ～ 360°in 1°step |
| Rectification | None, positive, negative, bridge rectification, programmable |
| Frequency range per channel | **Operate mode:** 500 kHz max. sine, square, triangle wave, etc, which include sweep frequency, amplitude, offset, phase angle and synchronization change among channels. **Direct internal storage mode:** DC-500 kHz arbitrary wave, 1 MHz square wave |
| Waveform output rate | 25 MSPS per channel |
| Frequency resolution | 0.001 Hz |
| Rise/fall time | ≤100 ns @ 20 Vpp |
| Waveform voltage amplitude | 0～±10.00 V |
| Drive capacity | ≥ 1 kΩ |
| Short circuit protection | Yes |
| Voltage setting resolution | 1 mV |
| Output accuracy | ± (0.2% + 10 mV) DC – 10 kHz<br>±1% 10 – 100 kHz<br>± 2% 100 – 350 kHz<br>± 5% 350 – 500 kHz |

| Technical parameters | |
|---|---|
| File type | CSV |
| File waveform points | 16 MB Max |
| Waveform data storage | Dynamic cache data storage: 1 GB DDR3<br>NVDS: 32 GB NAND FLASH |
| Segments of waveform | 1000 segments per waveform, each segment is composed of several kinds of waveforms |
| Segment duration | 100 μs to 999 hrs or infinite loop |
| Delay between segments | None |
| Test duration | 1ms~9999 hrs, 1 to 99999 count, or infinite loop |
| Trigger oscilloscope output | A BNC socket 0-5 V, setting trigger point at the arbitrary point of waveform generation software, monitoring the generated waveform by oscilloscope external trigger function |
| External control input | One BNC socket 0-5 V input, used for 1~4 ch waveform external control |
| PC interface | Ethernet |
| Operating temperature range | 15 ℃ - 35 ℃ |
| Operating humidity range | 45%-75% |
| Driving power supply | AC 90 V - 260 V 50/60 Hz 100 VA |
| Dimension | 19'/4u |
| Weight | Approx.10 kg |

## Optional Accessories

By self-developed AutoLab software, users can edit kinds of waveforms for waveform segment or test points. According to different requirement, users can regulate the waveform by advanced image tools, and recording waveforms by other way is also supported like oscilloscope capturing. All types of waveforms can be downloaded to PAWG 100.
PAWG 100, APS and APG series must be matched together.