ProSol Technology

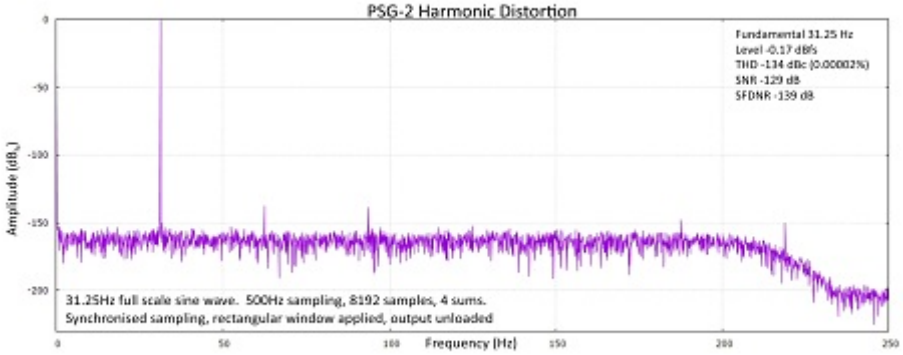
PSG2 - Precision Signal Generator

Independent verification of specifications is essential for system qualification and data of the highest integrity. Until now, this has been possibly only through use of bulky laboratory equipment, unsuited to field use.

Prosol's second generation Precision Signal Generator is an all-new design which overcomes these limitations and is capable of providing the highest quality test signals in almost any environment.

Features

- Sine wave, pulse and DC outputs
- 0.5 Hz to 250 Hz sine wave frequencies
- 0.5 µs pulse delay and duration resolution
- 1 µV DC resolution
- Output level relative accuracy 0.1%
- Output voltage range -3.54 V to +3.54 V
- Timing accuracy 1 ppm
- THD < -125 dB (0.00006%), SNR > 120 dB
- Four output buffers with 30mA drive capability each
- < 1 ohm buffer output resistance
- Pulse and sine wave synchronisation features
- Reference clock input and output
- Internal monitor circuit checks signal generator performance
- Monitor function can be used as a high accuracy data recorder
- Small, light and low power (powered from 12Vdc battery or wall cube)
- Comprehensive scripts allow automated and semi-automated test procedures
- Ground isolated USB control interface



Specifications

Master Clock

Frequency	16.384 MHz
Accuracy	< 1 ppm

Waveforms

Sine

Frequency Range	0.5 to 250 Hz
Total Harmonic Distortion	-125 dB(1)
Signal to Noise Ratio	120 dB(1)
Amplitude	0 to 2.5 V_{rms}

Pulse

Width	0 to 4.096 s
Delay	0 to 4.096 s
Resolution	0.25 µs
Initial/Final Amplitude	-3.58 V to +3.58 V
Pulse Amplitude	-3.58 V to +3.58 V
Rise Time	< 1 µs
Settling Time	25 µs to 0.1% final value

DC

Range	-3.58 to +3.58 V
Relative accuracy	± 0.5%
Resolution	< 0.5 µV

Outputs

Signal Outputs 1 to 4

Connection	Balanced, unbalanced, common mode
Output Resistance	< 1 ohm
Noise	< 40 nV/rootHz
Drive Capability(2)	680 ohms in parallel with 100 nF

Reference Clock

Frequencies	Programmable up to 16.384 MHz
Accuracy	1 ppm
Interface	5V CMOS levels

Synchronisation

Event	Start of monitor record and pulse sequence
Interface	5V CMOS active high

Inputs

Monitor

Input Range	±2.5 V
Bandwidth	2 kHz (max)
Resolution	24 bits
Synchronisation	
Event	Start of monitor record, pulse sequence and sine wave zero crossing.
Interface	Opto-isolated 3-6 Vdc active high

Reference Clock

Frequency	16.384 MHz
Interface	CMOS 5V

Notes

(1) Distortion measured at 31.25Hz, 3.5Vpk, 2ms synchronous sampling, 8912 samples, rectangular window, all harmonics in bandwidth used.
(2) Maximum current drive capability, 30mA per output, balanced or unbalanced)

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