

DGE3000 Series Waveform Generator



- + Max 60MHz frequency output, 300MSa/s Sample rate
- + 14 bits Vertical Resolution , 100K Arb waveform length
- + Comprehensive waveform output : 5 basic waveforms, and 160 built-in arbitrary waveforms
- + Comprehensive modulation functions : AM, FM, PM, PWM, FSK, 3FSK, 4FSK, PSK, ASK, BPSK, OSK, DSBAM, QPSK, SUM, sweep, Burst
- + SCPI, and LabVIEW supported
- + 3.6 inch (480 × 272 pixels)

+ Performance Specifications

Model	DGE3032	DGE3062	DGE3031	DGE3061
Channel	2		1	
Frequency Output	30MHz	60MHz	30MHz	60MHz
Sample Rate	125MSa/s		300MSa/s	
Vertical Resolution	14 bits			

Waveform

Standard Waveform	sine, square, pulse, ramp, noise
Arbitrary Waveform	exponential rise, exponential fall, sin(x)/x, step wave, and others, total 150 built-in waveforms

Frequency (resolution 1μHz)

Sine	1μHz-30MHz	1μHz-60MHz	1μHz-30MHz	1μHz-60MHz
Square	1μHz ~ 15MHz	1μHz ~ 20MHz	1μHz ~ 15MHz	1μHz ~ 20MHz
Pulse	1μHz ~ 15MHz	1μHz ~ 20MHz	1μHz ~ 15MHz	1μHz ~ 20MHz
Ramp	1μHz ~ 1MHz	1μHz ~ 2MHz	1μHz ~ 1MHz	1μHz ~ 2MHz
Noise	20MHz (-3dB , typical)			
Arbitrary Waveform	1μHz ~ 10MHz			

Sine Wave Spectrum Purity

Harmonic Distortion (typical (0dB))	DC - 1MHz : <-65dBc 1MHz - 30MHz : <-60dBc 30MHz - 60MHz : <-50dBc
Total Harmonic Distortion	< 0.2%, 10 Hz to 20 kHz, 1 Vpp
Spurious (non-harmonic) (typical (0dB))	≤10MHz : <-70dBc >10MHz : <-70dBc + 6dB/ octave band
Phase Noise (typical (0 dBm, 10 kHz deviation))	typical (0dBm , 10kHz offset) 10MHz : -110dBc/Hz

Square

Rise / Fall Time	<15ns
Overshoot	< 2%
Duty Cycle	5.0% (fixed)

Jitter (rms)	200ps + 30ppm	
Pulse		
Pulse Width	≥24ns	
Rise / Fall Time	≥15ns	
Jitter (rms)	200ps + 30ppm	
Ramp		
Linearity	≤1% of peak output (typical, 1kHz, 1 Vpp, 50% symmetry)	
Symmetry	0% ~ 100%	
Arbitrary		
Waveform Length	2 points – 100K points	
Sample Rate	125MSa/s	300MSa/s
Amplitude		
into 50Ω load	1mVpp ~ 10Vpp (≤10Hz) 1mVpp ~ 5Vpp (≤60MHz)	
DC Offset Range (AD+DC)	±(10 Vpk – Amplitude Vpp/2) high resistance ±(5 Vpk – Amplitude Vpp/2) 50 Ω	
DC offset resolution	1mV or 4digits	
Load Impedance	50Ω (typical)	
DC offset Accuracy	±(1 % of setting + 1 mV + amplitude Vpp * 0.5%)	
Modulation		
Type	AM、FM、PM、PWM、FSK、3FSK、4FSK、PSK、ASK、BPSK、OSK、DSB-AM、QPSK、SUM、Sweep、Burst	
AM		
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)	
Source	internal / external	
Modulating Waveform	sine, square, ramp, noise	
Depth	0.0%~100.0%	
Modulating Frequency	2 mHz ~100KHz	
FM		
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)	
Source	internal / external	
Modulating Waveform	sine, square, ramp, noise, and arbitrary	
Modulating Frequency	2 mHz ~100KHz	
PM		
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)	
Source	internal / external	
Modulating Waveform	sine, square, ramp, noise	
Phase Deviation	0° - 180°	
Modulating Frequency	2 mHz –100KHz	
ASK/FSK/3FSK/4FSK		
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)	
Source	internal	
Modulating Waveform	square with 50% duty cycle	

Key Frequency	2 mHz - 1MHz
PSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal / external
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
BPSK	
Carrier Waveform	sine, square, ramp, and arbitrary (except DC)
Source	internal
Modulating Waveform	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
OSK	
Carrier Waveform	sine
Source	internal
Oscillation Time	square with 50% duty cycle
Key Frequency	2 mHz - 1MHz
DSB-AM	
Carrier Waveform	sine, square, ramp
Source	internal / external
Internal frequency	2mHz~100kHz
Depth	0.0%~100.0%
QPSK	
Carrier Waveform	sine
Source	internal
frequency	2mHz~1MHz
SUM	
Carrier Waveform	sine, square, ramp
Source	internal / external
Internal am frequency	2mHz~100kHz
Depth	0.0%~100.0%
PWM	
Carrier Waveform	pulse
Source	internal / external
Modulating Waveform	sine, square, ramp, noise
Modulating Frequency	2 mHz ~ 100kHz
Deviation	0~min
Pulse train responses	
Carrier	Sine , Square , Pulse, and Arbitrary Waveform(except DC)
Carrier frequency	BW/2
Type	unlimited, gated
Gated Source	external trigger
Sweep characteristic	
carrier	sine, square, ramp, and arbitrary (except DC)
Minimum / maximum starting	2mHz

frequency	
Type	linear, logarithmic,
Direction	up / down
Scanning time	1 ms to 500 s $\pm$ 0.1%
Trigger source	Internal, manual

Frequency Counter

Function	Frequency , period
Frequency Range	100mHz ~ 200MHz
Frequency Resolution	6 digits

Input / Output

Display	3.6" 280 x 2720 pixels LCD
Input mode	external modulation input, external trigger input,
Communication Interface	USB Host, USB Device

Mechanical specifications

Size	200mm (L)*92mm (H)*156.2mm (D)
Weight	0.8kg

Specifications subject to change without prior notice

+ Accessories

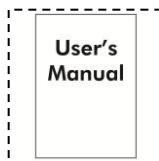
The accessories subject to final delivery.



Power Cord



CD Rom



Manual



USB Cable



BNC Cable



BNC to Alligator Clip

(only for DGE3032,3062)

شرکت صائن

WWW.SAENCO.COM

021 88936611

