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UTG900E Series Function Arbitrary Waveform Generators



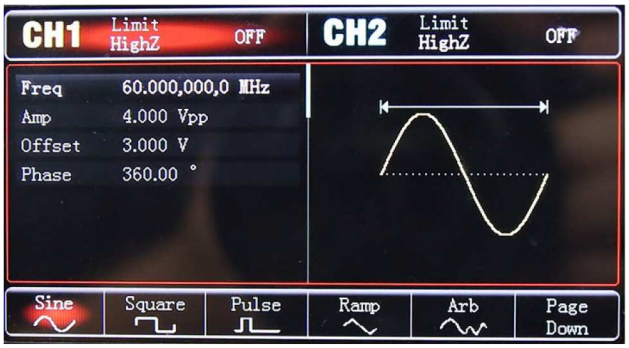
Introduction

UTG900 series function arbitrary waveform generator uses direct digital synthesis technology to produce accurate and stable waveform output, as low as 1μhz resolution, is a handheld mini economy, high performance, multi-function arbitrary waveform generator. Can generate accurate, stable, pure, low distortion output signal, easy to operate, superior technical indicators and humanized graphic display, is a multi-purpose equipment to meet the needs of learning, testing, improve work efficiency.

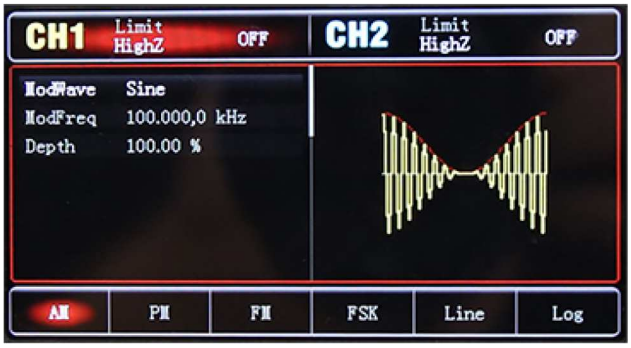
Features

- 30/60MHz sine waveform output, 1μHz full-band resolution
- 200MSa/s sample rate, 14bit vertical resolution，Double channel
- portable handheld mini signal generator
- High-accuracy, broad-band 6 bit frequency counter, range: 100mHz~100MHz
- Easy to use modulation type: AM,FM,PM,FSK
- 24 non-volatile waveform stores
- 4.3 inches high resolution color TFT display

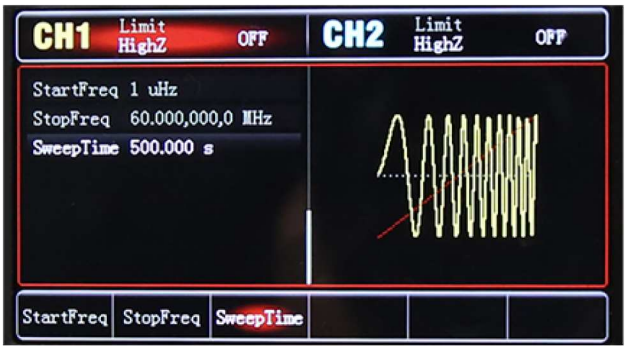
Design Features



Double Channel， Multiple basic waveform options



24 Select Arbitrary Wave



Linear and logarithmic scan signal



Easy to use modulation type

Technical Specifications

Model	UTG932E	UTG962E
Channel	2	
Max frequency	30MHz	60MHz
Sampling rate	200MSa/s	
Waveform	Sine wave, square wave, ramp wave, pulse wave, noise, DC, arbitrary wave	
Working modes	Output gating, continuous, modulation, frequency sweep	
Modulation types	AM, FM, PM, FSK, Line, Log	
Frequency characteristic		
Sine wave		
Frequency range	1μHz~30MHz	1μHz~60MHz
Resolution	1μHz	
Accuracy	within 90 days: ±50ppm, within 1 year: ±100ppm (18°C-28°C)	
Harmonic distortion(typical value)	Test condition: output frequency 0dBm	
	DC~5MHz	-60dBc
	5MHz ~30MHz	-50dBc
	30MHz ~60MHz	-40dBc
THD(typical value)	<0.2%(DC~20kHz, 1Vpp)	
Spurious signal (non-harmonic wave, typical value)	test condition: output power 0dBm	
	DC~10MHz, <-70dBc	
	> 10MHz < -70dBc+6dB/octave	
Phase noise (typical value)	10 MHz: ≤ -125dBc/Hz (typical, 0dBm, 10kHz deviation)	
Square wave		
Frequency range	1μHz~15MHz	1μHz~20MHz
Resolution	1μHz	
Rise/fall time	<16ns (typical value, 1kHz, 1Vpp)	
Overshoot(typical value)	<2%	
Duty ratio	0.01%~99.99% (limited by current frequency)	
Symmetry	1ns + 100ppm of period	
(50% duty ratio)		
Shake (typical value)	Typical value (1MHz, 1Vpp, 50Ω)	
	≤5MHz: 2ppm+200ps	
	>5MHz: 200ps	
Ramp wave		
Frequency	1μHz~400kHz	1μHz~400kMHz
Resolution	1μHz	
Nonlinearity	3%±2mV (typical value, 1kHz, 1Vpp, symmetry 50%)	
Symmetry	0.0% ~ 100.0%	
Pulse wave		
Frequency	1μHz~15MHz	1μHz~20MHz
Resolution	1μHz	
Pulse width	≥80ns	
Variable edge	15ns~8s	15ns~8s
Overshoot	<2% (typical value 1Vpp)	
Shake	150ps	
Gauss noise		
Bandwidth	30MHz(-3dB) (typical value)	60MHz(-3dB，typical value)
DC offset		
Range (peak AC+DC)	±5V(50Ω)	
	±10V (high resistance)	
Offset accuracy	±3% of offset set value ± 6% of amplitude value ±2mV	
Arbitrary wave characteristics		
Frequency range	1μHz~10MHz	1μHz~10MHz
Resolution	1μHz	
Wave length	4kpts	
Vertical resolution	14bits (symbol included)	
Sampling rage	200MSa/s	
Minimum rising/falling time	< 20ns typical value	< 20ns typical value
Shake	5ns±150ps	

Nonvolatile storage	24 waveforms	
Output characteristics		
Amplitude range	≤10MHz：1mVpp~10Vpp; (50Ω)	
	≤60MHz: 1mVpp~5Vpp; (50Ω)	
Accuracy (1kH zsine wave)	±(3% of set value+2mVpp)	
Amplitude flatness (equal to 1kHz sine wave, 1Vpp/50Ω)	Test condition: typical value (sine wave,2.0Vpp)	
	≤100MHz：±0.1dB	
	≤60MHz：±0.3dB	
Waveform output		
Impedance	50Ω typical value	
Insulation	Maximum 42Vpk to ground wire	
Protection	Channel protection	
Modulation types		
AM modulation		
Carrier wave	Sine wave, square wave, ramp wave, arbitrary wave	
Source	Internal	
Modulation wave	Sine wave, square wave, ramp wave, noise, arbitrary wave	
Modulation frequency	2mHz~200kHz	
Modulation depth	0%~120%	
FM modulation		
Carrier wave	Sine wave, square wave, ramp wave, arbitrary wave	
Modulation wave	Sine wave, square wave, ramp wave, noise, arbitrary wave	
Modulation frequency	1μHz~200kHz	
Frequency deviation	DC~15MHz	DC~30MHz
PM modulation		
Carrier wave	Sine wave, square wave, ramp wave, arbitrary wave	
Modulation wave	Sine wave, square wave, ramp wave, noise, arbitrary wave	
Modulation frequency	2mHz~200kHz	
Phase deviation	0°~360°	
FSK modulation		
Carrier wave	Sine wave, square wave, ramp wave, arbitrary wave	
Source	Internal/external	
Modulation wave	Square wave (Duty ratio 50%)	
Rate	2mHz~100kHz	
Frequency sweep		
Carrier wave	Sine wave, square wave, ramp wave, arbitrary wave	
Type	Linear or logarithmic	
Frequency sweep time	1ms~500s ± 0.1%	
Sync signal		
Output level	TTL compatible	
Output frequency	1μHz~2MHz	
Output frequency	50Ω, typical value	
Coupled mode	DC	
Trigger input		
Input level	TTL compatible	
Input impedance	> 10kΩ, DC coupling	
Frequency counter		
Input level	TTL compatible	
Range of input frequency	100mHz~100MHz	
Accuracy	±51ppm	
Frequency resolution	7 digit	
Coupled mode	DC	
General technical specifications		
Display type	4.3 inches TFT LCD	
Resolution	480×272	
Power supply	DC5V, 2A	
Power consumption	Less than 10W	
Temperature range	Operating: 10°C~+40°C	
	Non-operating: -20°C~+60°C	

Cooling method	Natural cooling	
Humidity range	Below +35°C: ≤90% relative humidity	
	+35°C~+40°C: ≤60% relative humidity	
Altitude	Operating below 2,000m	
	Non-operating below 15,000m	
Dimensions	172mm×90mm×68mm	
Net weight	0.33kg	
Rough weight	0.77kg	
Ordering Information		
UTG900E Series	UTG962E(60MHz，200MS/s，2-Channel)	UTG962E
	UTG932E (30MHz，200MS/s，2-Channel)	UTG932E
Standard Accessories	Power cord conforming to the standard of the destination country	/
	1 BNC cables（1m)	UT-L02
	1 BNC-alligator clip cable	UT-L45