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GW Instek AFG-2025 Function Generator

Manufacturer: GW Instek

Part Number: AFG-2025

Price:

$353.00

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Product Details

The AFG-2100/2000 Series Arbitrary Function Generator is a DDS (Direct Digital Synthesized) based signal generator designed to accommodate the Educational and Basic Industrial requirements for an accurate and affordable signal source covering the output of Sine, Square (Pulse), Ramp (Triangle), Noise and Arbitrary waveforms. The 20M Sa/s sampling rate, 10 bit vertical resolution and 4k point memory of the AFG-2100/2000 Series provide user with a flexible environment for creating the specific waveform output as needed. The 0.1Hz resolution of Sine, Square and Triangle waveforms and the 1% ~ 99% adjustable duty cycle of Square (Pulse) waveform are the remarkable features to greatly extend its application range in various fields.

Specifications

Models		AFG-2000 series			AFG-2100 Series		
		2005	2012	2025	2105	2112	2125
Waveforms							
		Sine, Square, Ramp**, Noise, Arbitrary Waveform**					
Arbitrary Waveform							
	Sample Rate	20 MSa/s					
	Repetition Rate	10MHz					
	Waveform Length	4k points					
	Amplitude Resolution	10 bit					
	Non-Volatile Memory	4k points					
Frequency Characteristics							
Range	Sine, Square	0.1Hz | 5MHz	0.1Hz | 12MHz	0.1Hz | 25MHz	0.1Hz | 5MHz	0.1Hz | 12MHz	0.1Hz | 25MHz
	Ramp	0.1Hz ~ 1MHz					
Resolution	Sine, Square, Ramp	0.1Hz					
Accuracy	Stability	±20 ppm					
	Aging	±1 ppm, per 1 year					
	Tolerance	≦ 1 mHz					
Output Characteristics							
Amplitude	Range	1 mVpp to 10 Vpp(into 50Ω), 0.1Hz ~ 20MHz 2 mVpp to 20 Vpp(open-circuit) , 0.1Hz ~ 20MHz 1 mVpp to 5 Vpp(into 50Ω), 20MHz ~ 25MHz 2 mVpp to 10 Vpp(open-circuit), 20MHz ~ 25MHz					
	Accuracy	± 2% of setting ±1 mVpp (at 1 kHz,>10 mVpp)					
	Resolution	1 mV or 3 digits					
	Flatness	± 1% (0.1dB) ≦100kHz ± 3% (0.3 dB) ≦5MHz ± 4% (0.4 dB) ≦12MHz ± 20% (2 dB) ≦20MHz ± 5% (0.4 dB) ≦25MHz (sine wave relative to 1 kHz)					
	Units	Vpp, Vrms, dBm					
Offset	Range	±5 Vpk ac +dc (into 50Ω) ±10Vpk ac +dc (Open circuit) ±2.5 Vpk ac +dc (into 50Ω) for 20MHz-25MHz ±5Vpk ac +dc (Open circuit) for 20MHz-25MHz					
	Accuracy	2% of setting + 5 mV+ 0.5% of amplitude					

Output	Impedance	50Ω typical (fixed) > 300kΩ (output disabled)	
	Protection (main output)	Short-circuit protected by overload relay automatically disables output	
SYNC Output	Level	TTL-compatible into>1kΩ	
	Impedance	50Ω nominal	
	Rise or Fall Time	≦25ns	
Sine wave Characteristics	Harmonic Distortion	–55 dBc DC ~ 200kHz, Ampl > 0.1Vpp –50 dBc 200kHz ~ 1MHz, Ampl > 0.1Vpp –35 dBc 1MHz ~ 5MHz, Ampl > 0.1Vpp –30 dBc 5MHz ~ 25MHz, Ampl > 0.1Vpp	
Square wave Characteristics	Rise/Fall Time	≦25ns at maximum output (into 50Ωload)	
	Overshoot	< 5%	
	Asymmetry	1% of period+1 ns	
	Variable Duty Cycle	1.0% to 99.0% ≦ 100kHz 20.0% to 80.0% ≦ 5 MHz 40.0% to 60.0% ≦10MHz 50% ≦ 25MHz	
Ramp Characteristics	Linearity	< 0.1% of peak output	
	Variable Symmetry	0% to 100%(0.1% Resolution)	
AM Modulation			
	Carrier Waveforms	-	Sine, Square, Triangle
	Modulating Waveforms	-	Sine, Square, Triangle
	Modulating Frequency	-	2 mHz to 20 kHz (Int) DC to 20KHz (Ext)
	Depth	-	0% to 120.0%
	Source	-	Internal / External
FM Modulation			
	Carrier Waveforms	-	Sine, Square, Triangle
	Modulating Waveforms	-	Sine, Square, Triangle
	Modulating Frequency	-	2 mHz to 20 kHz (Int) DC to 20KHz (Ext)
	Deviation	-	DC to Max Frequency
	Source	-	Internal / External
SWEEP			

	Waveforms	-	Sine, Square, Triangle
	Type	-	Linear or Logarithmic
	Start F / Stop F	-	0.1Hz to Max Frequency
	Sweep Time	-	1 ms to 500 s
	Source	-	Internal / External
FSK			
	Carrier Waveforms	-	Sine, Square, Triangle
	Modulating Waveforms	-	50% duty cycle square
	Modulation Rate	-	2mHz to 100kHz(INT) DC to 100kHz(Ext)
	Frequency Range	-	0.1Hz to Max Frequency
	Source	-	Internal / External
Frequency Counter			
	Range	-	5Hz to 150MHz
	Accuracy	-	Time Base accuracy±1count
	Time base	-	±20ppm (23℃ ± 5℃) after 30 minutes warm up
	Resolution	-	100nHz for 1Hz, 0.1Hz for 100MHz.
	Input Impedance	-	1kΩ/1pf
	Sensitivity	-	35mVrms ~ 30Vms (5Hz to 150MHz)
System Characteristics			
	Store/Recall	10 Groups of Setting Memories	
	Interface	USB(Device)	
	Display	LCD	
General Specifications			

	Power Source	AC100 ~ 240V , 50 ~ 60Hz	
	Power Consumption	25 VA	
	Operating Environment	Temperature to satisfy the specification : 18 ~ 28◦C Operating temperature : 0 ~ 40◦C Relative Humidity: ≤ 80%, 0 ~ 40°C ≤ 70%, 35 ~ 40°C Installation category： CAT II	
	Operating Altitude	2000 meters	
	Storage Temperature	-10 ~ 70◦C, Humidity: ≤70%	
	Dimensions (WxHxD)	266(W)×107(H)×293(D) mm	
	Weight	Approx. 2.5 kg	
	Accessories	CD (user manual + software) ×1 , Quick Start Guide x1, Power cord×1	
		GTL-101× 1	GTL-101× 2