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AFG-2100 & AFG-2000 Specifications

The specifications apply when the AFG-2100 & AFG-2000 is powered on for at least 30 minutes under +20°C~+30°C.

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/into 50Ω without DC offset)					
	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/into 50Ω)					
	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 (Open circuit) for 20MHz-25MHz					
	Accuracy	2% of setting + 10 mV+ 0.5% of amplitude					
Output	Impedance	50Ω typical (fixed) > 300kΩ (output disabled)					
	Protection (main output)	Short-circuit protected by overload relay automatically disables main 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 50Ω load)					
	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 (1% Resolution for full Frequency Range)	
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