



MFG-2000 Series - Features and Benefits



Delivery Detail: 1 week
Payment Terms: T/T, Western Union



200MHz frequency counter, 7W(8Ω) power amplifier

- LCD display, English/Chinese menu
- Dual independent output channels
- 32 kinds of built-in pre-stored waveforms
- 40μHz Frequency resolution
- 1mV(50Ω) Minimum stable output waveform
- FM, AM, FSK, ASK, PSK modulation functions
- Frequency sweep, amplitude sweep and burst functions
- Over voltage, over current, output short-circuit and reverse voltage protections
- Optional parts: RS232 interface, USB interface

Model	MFG-2010	MFG-2020	MFG-2040	MFG-2060
Frequency range(sine)	40μHz~10MHz	40μHz~20MHz	40μHz~40MHz	40μHz~60MHz
Waveform Characteristics				
Waveform type	sine, square, pulse, DC			
Waveform length	4~16000 points			
Sample rate	180MSa/s			
Waveform amplitude resolution	10bits			
Sinusoidal harmonic rejection	≥50dBc (≤1MHz), ≥ 40dBc (1MHz~20MHz), ≥30dBc (20MHz~40MHz)			
Sine wave total distortion	≤0.5 % (20Hz ~ 200kHz)			
Pulse and square rise/fall time	≤20ns			
Pulse and square overshoot	≤5%			
Square wave duty cycle	50%			
Pulse wave duty cycle	0.1%~ 99.9%			
Frequency Characteristics				
Frequency range	Sine: 2kHz ~ the maximum frequency, resolution: 40 mHz; 40μHz ~ 2kHz, resolution: 40μHz Square: 40μHz~20MHz; Pulse: 40μHz~10MHz			
Frequency resolution	40μHz			
Frequency accuracy	±(5×10 ⁻⁵ +40mHz)			
Frequency stability	±5×10 ⁻⁶ /3 hours			
Amplitude Characteristics				
Amplitude range	2mVpp ~ 20Vpp (high impedance)			
Amplitude resolution	20mVpp (amplitude>2Vpp), 2mVpp (amplitude<2Vpp)			
Amplitude accuracy	±(1%+2mVrms) (high impedance, true RMS, frequency at 1kHz)			
Amplitude stability	±0.5%/3 hours			
Amplitude flatness	±5% (frequency<1MHz), ±10% (frequency between 1MHz ~ 10MHz), ±20% (frequency between 10MHz ~ 60MHz)			
Output impedance	50Ω			
Sine wave amplitude setting range (50Ω)	1mVpp ~ 10Vpp, when output frequency ≤10MHz			
	1mVpp ~ 5Vpp, when output frequency ≤40MHz			
	1mVpp ~ 2Vpp, when output frequency ≥ 40MHz			
Amplitude setting range (high impedance)	2mVpp ~ 20Vpp, when output frequency ≤10MHz			
	2mVpp ~ 10Vpp, when output frequency ≤40MHz			
	2mVpp ~ 4Vpp, when output frequency ≥40MHz			
DC Offset Characteristics				
Offset range	±10V (high impedance)			
Resolution	20mVdc			
Offset accuracy	±(1%+20mVdc)			



Output Characteristics of Channel A	Sweep Characteristics (linear sweep on frequency or amplitude)	
	Sweep range	free to set start point and stop point
	Sweep step	any value more than resolution
	Sweep rate	10ms~60s/step
	Sweep mode	Up, Down, Up-Down
	Manual sweep	step/time
	Frequency Modulation Characteristics	
	Modulation signal	internal or external waveforms
	FM deviation	0%~20%
	Amplitude Modulation Characteristics	
	Modulation signal	internal or external waveforms
	AM depth	0%~20%
	Shift Keying Characteristics	
	FSK	free to set carrier frequency and hop frequency
ASK	free to set carrier amplitude and hop amplitude	
PSK	hop phase 0~360°, max. resolution 11.25°	
Alternative rate	10ms~60s	

Output Characteristics of Channel B	Waveform Characteristics	
	Waveform type	32 waveforms including: Sine, Square, Triangle, Ramp, Pulse etc.
	Waveform length	1024 points
	Sample rate	12.5MSa/s
	Waveform amplitude resolution	8bits
	Frequency Characteristics	
	Frequency range	Sine: 10mHz~1MHz Other waveforms: 10mHz~100kHz
	Frequency resolution	10mHz
	Frequency accuracy	$\pm(1 \times 10^{-5} + 10\text{mHz})$
	Amplitude Characteristics	
	Amplitude range	50mVpp~20Vpp (high impedance)
	Amplitude resolution	20mVpp
	Output impedance	50Ω
	Harmonic Characteristics (channel B frequency is the harmonic wave of channel A)	
	Harmonic time	0.1 ~ 250.0 times
	Harmonic frequency	<1MHz
	Phase adjustment	coarse adjustment: 11.25 degree/step, fine adjustment: 2 degree/step
Burst Characteristics(channel B signal is used as burst signal)		
Frequency of Channel B	40mHz ~ 1MHz	
Burst Frequency	10mHz ~ 50kHz	
Burst Count	1~65000 cycles	
Burst Mode	continuous burst and single burst	

TTL Output	Waveform characteristics	Square, rise/fall times≤20ns
	Frequency characteristics	same as sine wave of channel A
	Amplitude characteristics	TTL, CMOS compatible, low level<0.3V, high level>4V

General and Optional	Display	LCD display, English, Chinese (simplified), Chinese (traditional)
	Dimension (D×W×H)	415mm×295mm×195mm
	Weight	3.5kg
	Remote interface (optional)	USB Universal Serial Bus Interface; RS232 serial interface
	Frequency counter (optional)	Testing frequency range: 1Hz~200MHz; Input signal amplitude: 100mVpp~20Vpp
	Power amplifier (optional)	Max. output power: 7W (8Ω), 1W (50Ω); Max. output voltage: 22Vpp; Frequency bandwidth: 1Hz~200kHz