

## INTRODUCTION

The Function Generator series are stable low distortion instruments which generate signals in the frequency range up to 5MHz. Typical applications include a wide range of audio response testing applications, vibration testing, servo system evaluation, ultra sound applications, and etc.

These instruments include the following features: logarithmic and linear sweep capabilities, together with a built in frequency counter. The sweep capability simplifies the task of finding resonant points of speakers, filter networks and other networks/structures. An oscilloscope may be connected to this instrument for the response to be displayed. The counter can be switched to measure and display the frequency of an external signal up to 100MHz.



## ADDITIONAL FEATURES

1. Low distortion waveforms (sine, triangular and square) and ramp signal.
2. Signal output in seven decade stages, 0.5Hz to 5MHz for FG-5000/FG-5000M, 0.3Hz to 3MHz for FG-3000/FG-3000M.
3. Adjustable sweep time and sweep width both in linear and logarithmic modes.
4. Duty cycle control with signal inversion capability.
5. External Voltage controlled Frequency (VCF).
6. AM or FM modulation modes with internal or external modulation control.
7. A second output for TTL or adjustable CMOS pulses.
8. 50 ohm main signal output with DC offset adjustment and 20dB attenuation capability.
9. Supplied with two BNC test leads and AC power cord set.

FEATURES COMPARISON TABLE FOR MODELS:

FEATURE	MODEL		
	FG-3000M	FG-5000	FG-5000M
AM/FM	✓	–	✓
SWEEP	✓	–	✓
COUNTER	✓	✓	✓
GCV Output	✓	–	✓
TTL/CMOS	✓	✓	✓
VCF	✓	✓	✓
Duty Cycle Control	✓	✓	✓

## TECHNICAL SPECIFICATION

	FG- 3000M	FG- 5000 / 5000M
<b>1.Main:</b>		
Frequency Range	0.3HZ~3MHZ(7 Range)	0.5HZ~5MHZ(7 Range)
Amplitude	≥ 10Vpp(into 50Ω load)	≥ 10Vpp(into 50Ω load)
Impedance	50Ω ± 10%	50Ω ± 10%
Attenuator	-20dB±1dB×2	-20dB ± 1dB×2
DC Offset	<-5V~>5V(into 50Ω load)	<-5V~>5V (into 50Ω load)
Duty Control	80%:20%:80% to 1MHz Continued variable	80%:20%:80%to1MHz Continued variable
Display	6 digits LED display	6 digits LED display
<b>2.Sine Wave</b>		
Distortion	≤ 1%,0.3HZ~200kHz THD ≤ 35dB below fundamental in all range(Specification applied from MAX. to 1/10 level).	≤1%,0.5HZ~100kHz THD≤ 30dB below fundamental in all range (Specification applied from MAX. to 1/10 level)
Flatness	<0.3dB,0.3HZ~300kHz, < 0.5dB,300kHz~3MHz	≤ 0.3dB,below 500kHz, ≤1dB,below 5MHz
<b>3.Triangle Wave</b>		
Linear	≥ 98%,0.3HZ~100kHz ≥ 95%,100kHz~3MHz	≤ 98%,0.5HZ~100kHz ≥ 95%,100kHz~5MHz
<b>4.Square Wave</b>		
Symmetry	±2%,0.3HZ~100kHz	± 2%,1Hz~100kHz
Rise or Fall Time	≤ 100ns at maximum output (into 50Ω load)	≤ 50ns at maximum output (into 50Ω load)

\*Technical Specifications & Appearance are subject to change without prior notice

## TECHNICAL SPECIFICATION

	FG- 3000M	FG- 5000 / 5000M
<b>5.COMS Output</b>		
Level	4Vpp±1Vpp~14.5Vpp, ±0.5Vpp adjustable	4Vpp±1Vpp~14.5Vpp, ±0.5Vpp adjustable
Rise or Fall Time	≤ 120ns	≤ 120ns
<b>6.TTL Output</b>		
Level	≥ 3Vpp	≥ 3Vpp
Fan Out	20 TTL load	20 TTL load
Rise or Fall Time	≤ 25ns	≤ 25ns
<b>7.VCF</b>		
Input Voltage	0V~10V±1V(100:1)	0V~10V±1V(100:1)
Input Impedance	10KΩ±10%	10KΩ±10%
<b>8.GCV</b> (for FG-3000M/5000M only)		
Output Voltage	To set the voltage between 0V~2V as per different frequency	To set the voltage between 0V~2V as per different frequency.
<b>9.Sweep Operation</b> (for FG-3000M/5000M only)		
Sweep/Manual	Switch selector	Switch selector
Sweep/Rate	100:1 ratio max. and adjustable	100:1 ratio max. and adjustable
Sweep/Time	0.5Sec~30Sec adjustable	0.5Sec~30Sec adjustable
Sweep/Mode	Lin./Log. Switch selector	Lin./Log. Switch selector
<b>10.Amplitude Modulation</b> (for FG-3000M/5000M only)		
Depth	0~100%	0~100%
MOD.Freq.	400Hz (INT), DC~1MHz(EXT)	400Hz (INT), DC~1MHz(EXT)
Carrier BW	100Hz~3MHz(-3dB)	100Hz~5MHz(-3dB)
EXT Sensitivity	=10Vpp for 100% modulation	=10Vpp for 100% modulation
<b>11.Frequency</b> (for FG-3000M/5000M only)		
Deviation	0~±5%	0~±5%
MOD.Freq.	400Hz (INT), DC~20kHz(EXT)	400Hz (INT), DC~20kHz(EXT)
EXT Sensitivity	≤ 10Vpp for 10% modulation	≤ 10Vpp for 10% modulation
<b>12.Frequency Counter</b>		
Int./Ext.	Switch selector	Switch selector
Range	0.3Hz~3MHz (5Hz~100MHz EXT)	0.5Hz~5MHz(5Hz~100MHz EXT)
Accuracy	Time base accuracy ±1 count	Time base accuracy ±1 count
Time Base	±20ppm(23°C±5°C) after 30minutes warm up	±20ppm(23°C±5°C)after 30 minutes warm up
Resolution	The maximum resolution 10Hz for 1Hz and 0.1Hz for 100MHz	The maximum resolution 10Hz for 1Hz and 0.1Hz for 100MHz
Input Impedance	1MΩ/150pF	1MΩ/150pF
Sensitivity	≤ 35mVrms(5Hz~80MHz), ≤ 45mVrms (80MHz~100MHz)	≤ 35mVrms (5Hz~80MHz), ≤ 45mVrms(80MHz~100MHz)
<b>13.General</b>		
Power Source	AC115V/230V±15%,50/60Hz	AC115V/230V±15%,50/60Hz
OperationEnvironment	Indoor use, altitude up to2000m. Ambient Temperature 0°C~40°C. Relative Humidity 80%(Maximum). Installation category II; Pollution Degree 2 .	
Storage temperature & Humidity	-10°C~70°C, 70%(Maximum).	
Accessories	Power code × 1Testing code ×1Instruction manual × 1	Power code × 1Testing code ×1Instruction manual × 1
Dimension	251(W)× 91(H)× 291(D) mm	251(W)× 91(H)× 291(D)m/m
Weight	Approx. 2.1kgs-FG-30002.2kgs-FG-3000M	Approx. 2.3kgs-FG-50002.4kgs-FG-5000M

\*Technical Specifications & Appearance are subject to change without prior notice