

FUNCTION GENERATOR (Model : FG XX)



Test & Measurement Division



- Wide Frequency range: 0.1Hz to 1MHz, 0.1Hz to 2MHz, 0.1Hz to 3MHz and 0.1Hz to 20 MHz (four separate Models).
- Bright 4 digit LED display for freq. readout and amplitude with range indicating LEDs: MHz/KHz/Hz. Optionally Internal / External frequency counter may be provided.
- Easy selection of frequency range with separate fine control.
- Versatile waveforms options: Sine, Triangle, Square, Ramp, Optional Facilities of AM Balanced, AM (standard), FM, ASK, FSK, Pulse, TTL, PWM etc.
- DC offset control variable with offset enable.
- 50Ω/600Ω outputs with step attenuator of maximum 20dB/40dB/variable 60 60db.
- Useful for testing and measurement in the laboratory and on field.
- Designed to provide good quality signal while maintaining easy operability.

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Specifications are subject to change without notice.

TECHNICAL SPECIFICATIONS

SPECIFICATIONS		MODEL			
		FG20M	FG3MA	FG2M	FG1M
FREQUENCY	Frequency range	0.1Hz to 20 MHz.	0.1Hz to 3 MHz.	0.1Hz to 3MHz.	0.1Hz to 1MHz.
	Range selection	9 Step switch with separate fine control.	9 Step switch with separate fine control(uncalibrated beyond 3MHz).	8 Step switch with separate fine control.	7 Step switch with separate fine control.
	Wave forms	DC, Sine, Square, Triangle, TTL/CMOS leveled Square. Ramp, Pulse using duty cycle control.		Sine, Square, Triangle, TTL/CMOS, PWM / Pulse O/P using duty cycle control, Skewed Sine/Triangle (optional), DC. Level.	Sine, Square, Triangle, TTL
DISPLAY WITH FREQ. /AMP. SELECTION (4 DIGIT RED LED)	Freq. Display	Display with accuracy within $\pm 1\%$ upto 100KHz & $\pm 3\%$ FS @1MHz.,range LEDs for MHz,KHz & Hz.			
	Amplitude display	Not Applicable	Display in Volts peak-peak with accuracy within $\pm 3\%$ @ 30Vpp, LEDs to indicate Vpp & 40db attenuation.		
	Over drive LED indication	Not Applicable		Provided	Not Applicable
SINE OUTPUT	Trueness	+/- 0.35V (10 V reference).			
SQUARE OUTPUT	Symmetry	Less than $\pm 3\%$ (at 1KHz).			
	Rise & Fall time	Less than 50 ns @ 1MHz.		<70 ns @ 1MHz.	
TRIANGLE OUTPUT	Linearity	99% @ 100KHz			
RAMP/PULSE OUTPUT	Duty cycle	15% to 85% of cycle period.		PWM using duty cycle control 15 to 85% - upto 1MHz	Not Applicable
TTL / CMOS OUTPUT WITH ENABLE	Rise & Fall time	Less than 20 ns. at a separate BNC connector.		Less than 100nS at a separate BNC connector.	
OUTPUT	Output level	H \geq 4.13 V, L \leq 0.26V.		H \geq 4.8V, L \leq 0.20V	
OUTPUT	Output voltage	200mV to 20Vpp settable through Amplitude Control Knob. Beyond 1MHz 10Vpp with 50 ohm termination.	0 to 20 Vpp settable through Amplitude Control Knob. Beyond 1MHz 10Vpp with 50 ohm termination	0-30 Vpp max. variable upto -40db using Amplitude Control Knob.	
	O/P Impedance	50 ohm, 600 ohm with separate BNC connector.		50 ohm O/P	
	Offset with enable	+/- 10 V DC (variable) useful to generate clock for 10V CMOS logic.		+/- 15V variable with enable. Can be used as DC output if amplitude set to minimum.	
ATTEUNATOR	Attenuation	-20 db/-40dB selection with attenuator enable.			
FREQUENCY MODULATION	Input voltage	-3.0 V to + 3.0 V through BNC provided with max. Freq. when -3V at BNC.		-1.5V to + 1.5 V through BNC provided with max. Freq. when -1.5V at BNC. Supports FSK mode.	
	Freq. Variable range	-70% to + 70% around center frequency set when no input is connected.			
SWEEP INTERNAL	Frequency	Variable from 0.25Hz to 250Hz.		Variable from DC to 10KHz.	
	waveform	sawtooth		Sine, triangle, Square	
	Amplitude	-3.0 V to + 3.0 V(fixed)		0 to 6Vpp variable	
	Sweep O/P	Optionally made available on the rear BNC.			
EXT SWEEP	Through FM input.				
AMPLITUDE MODULATION	Input voltage	-3.0 V to + 3.0 V. through BNC provided.	Not Applicable.	-3 V to + 3 V. through BNC provided.	
	Amplitude Control	100: 1 attenuation with maximum amplitude when input is +3V & ext. AM selected.		Supports ASK, AM Standard , AM Balanced (Optional).	
FREQUENCY COUNTER (OPTIONAL)	Internal /External	Freq.Range:2Hz to 30MHz,Input Voltage:300Vpp max.,Sensitivity:,0.5Vpp min Attn.:1:1,1:10,Input impedance: 1M Ω , Display:4 digit red LED with Hz, KHz, MHz mode, Accuracy: ± 1 count + time base accuracy, Source select switch for >1 MHz & < 1 MHz.			
GENERAL	Operating Temp	0 to 50 $^{\circ}$ C (Accuracy specified at 25 $^{\circ}$ C).			
	Power	220/230VAC SW $\pm 10\%$, 50 Hz, 15VA.			
	Weight	Approximately 1.9 Kg.			
Dimensions		255 (W) X 270 (D) X 98 (H).		295 (W) X 220 (D) X 98 (H).	
Accessories		Power cord, BNC to BNC , BNC to Crocodile cable, & Operating manual.			

