

## 3 MHz Programmable Function Generator SM5062



- Three functions in one instrument :  
Function Generator  
Sweep Generator  
Frequency Counter
- Wave Shapes :  
Sine, Square, Triangular, Pulse, Ramp,  
DC
- Frequency, Duty Cycle, Amplitude,  
Sweep Time etc, setting displayed on  
LCD
- 40 MHz external Frequency Counter
- External Modulation :  
AM (standard, balanced), FM, PWM,  
PAM
- 600 Ω synchronous output
- All the parameters can be remotety  
controlled via RS232 interface

The new SM5062, 3 MHz function generator, state of the art designed on latest embedded & SMD technology. Precise settings of signal frequency, amplitude, duty cycle made it possible to have full control over test signal input to your testing needs. High stability of signal frequency 0.1%/hr, ensures no need to check & recheck the deviation in signal fed to your system. The pulse generator settings are fully controllable, ensuring correct frequency & pulse width, enhance the testing. Internal sweep function can be clubbed to any of the waveform shape, has full control over start, stop frequencies and sweep duration.

The remote programmability of complete front panel of SM5062 from PC make its unique identity in its class of function generators. The standard software can control its parameters & display it on monitor. User can write/code their own programs for applications.

Front panel of SM5062 is straight forward and user friendly, all the parameters adjusted are numerically displayed, leaves no errors in test set up. All these controls and functions make SM5062 , a unique instrument in its class, gives best price to performance ratio.

**Applications :** Design & developments, educational laboratory experiments , repairs and service, industrial testing, power electronics assembly testing, electronic manufacturing industries etc.



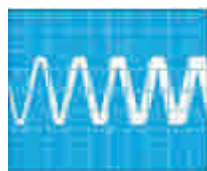
Sinewave with AM (Standard)



Sinewave with AM Balanced



FM



Sweep Mode (FM)



FM Modulated Pulses



PAM Signal

# 3 MHz Multifunction Generator SM5062

## Technical Specifications

**Operating Modes** : Function Generator, Frequency Counter  
Amplitude Display

**Modulation** : AM stand & Balanced, FM int (sweep mode) & Ext. PWM, PAM

### Function Generator

Sine, Square, Triangle, Ramp, Pulse, Invert Ramp, Invert Pulse, TTL, DC, Free running, with or without DC offset

**Frequency Range** : 0.3 Hz to 3 MHz

**Frequency Stability** : < 0.1% / hr or 0.2% / 24 hr at constant ambient temperature

### Waveform Characteristics

**Sine wave Distortion** : 0.3 Hz - 100 kHz : max. 0.5 %  
0.1 MHz-0.5 MHz : max. 1.5%  
0.5 MHz - 3 MHz : max. 3%

**Square Wave Rise time** : typ. <50 ns

**Overshoot** : < 5%

**Triangular non-linearity** : <1% (up to 100 kHz)

**Ramp Wave Polarity** : +ve or -ve selectable

**Pulse Wave Polarity** : +ve or -ve selectable

**Duty Cycle** : Adjustable 10% to 90% upto 300 kHz & 20% to 80% 300 kHz to 3 MHz

**Rise Time** : <50 ns

**TTL/Trigger Output** : Square Wave synchronous to signal output, TTL > 4 Vpp

### Frequency Display Accuracy

Up to 3 Hz :  $\pm (1\% + 3 D)$

3 Hz - 3 MHz :  $\pm (0.1\% + 1D)$

**Output** : (short-circuit-proof)

**Output Voltage** : 10 Vpp into 50  $\Omega$  , max. 20 Vpp open circuit

**Attenuation** : Automatically selected with adjustment of output level ( max. 60 dB, 2 steps : 20 dB  $\pm$  0.2 dB each, Variable : 0 to 20 dB)

**Amplitude Flatness** : (sine/triangle)

0.3 Hz - 0.3 MHz : max.  $\pm$  0.2 dB

0.3 MHz - 3 MHz : max.  $\pm$  0.5 dB

**Output Impedance** : 50  $\Omega$  , 600  $\Omega$

**DC Offset** : Variable offset range : max.  $\pm$  2.5 V into 50  $\Omega$  , max.  $\pm$  5 V open circuit

### Amplitude Modulation

**Modulation Depth** : 0 to 100% (approx.)

**Bandwidth** : DC to 20 kHz

**Carrier Frequency** : up to 3 MHz

**Max. Input** : AM stand & AM Balanced :  $\pm$  30 V

### Frequency Modulation

**FM Ext.**

**Frequency Change** : 1:100 approx.

**Input Impedance** : 50 k $\Omega$  || 25 pF

**FM Internal (sweep)**

**Sweep Speed** : 20 ms to 4s

**Sweep Range** : approx. 1 : 100

**Input Voltage** :  $\pm$  30 Vmax

**Pulse Width Modulation**

**Input** : +30 Vmax via PWM rear BNC

**Modulation Index** : 20 to 80 % or better

**Pulse Amplitude Modulation**

**Input** : +30 Vmax via rear BNC

**Depth of Modulation** : 80 % or better

**Frequency Counter**

**Frequency Counter** : Internal / External, Auto ranging

**Frequency Range** : 10 Hz to 40 MHz

**Accuracy** :  $\pm (0.1\% + 1D)$

**Input Sensitivity** : 50 mVrms to 500 mVrms

**Max. Input Voltage** : 150 Vrms

**Input Impedance** : 1 M $\Omega$  || 50 pF

**Amplitude Display**

**Display Range** : 20 mVpp - 20 Vpp

**Accuracy** :  $\pm 2\% \pm 1D$

### General Information

**Display** : Backlit LCD readout for displaying functions , frequency, modulations modes, sweep start-stop-time, % pulse duty cycle, DC offset, External frequency in counter mode.

**Interface** : RS232 for remote controlling

**Last setup** : saved automatically, on power off

**Supply** : 230 V  $\pm$  10%, 50 Hz (100/120/220/240 V available on request)

**Power Consumption** : 30 VA approx.

**Operating Conditions** : 0 to 50  $^{\circ}$ C, RH 95%

**Dimensions** : W:205, H:95, D:292 (mm)

**Weight** : 2.4 kg (approx.)

### Accessories

**Manual** : 1 no. BNC - BNC : 1 no. Line Cord : 1 no.

**Optional** : 50  $\Omega$  Termination SA51, BNC-Banana Cable

(subject to change)

**SCIENTIFIC MES-TECHNIK PVT. LTD.**, B-14, Pologround, Industrial Estate, Indore-452 015 India.  
Ph. : 0731-2422330/31/32/33 Fax : 0731-2422334, 2561641 e-mail : info@scientificindia.com

**scientific**<sup>®</sup>

Allahabad(0532) 2260833

Bengaluru(080) 23437635, 2331478

Chennai (044) 24424598, 42054180

Hyderabad (040) 27534995,27534996

Mumbai (022) 24333654, 24211171

New Delhi (011) 65638100, 65638101

Pune (020) 26114688, 26132882

e-mail: allahabad@scientificindia.com

e-mail: banglore@scientificindia.com

e-mail: chennai@scientificindia.com

e-mail: hyderabad@scientificindia.com

e-mail:mumbai@scientificindia.com

e-mail: ndelhi@scientificindia.com

e-mail: pune@scientificindia.com