



1 $\mu$ Hz~5MHz  
1 $\mu$ Hz~10MHz  
1 $\mu$ Hz~15MHz  
1 $\mu$ Hz~20MHz

## TFG3600E SERIES



### ► Introduction

The TFG3600E series are arbitrary waveform/function generators with maximum frequency of 5MHz, 10MHz, 15MHz and 20MHz, based on Direct Digital Synthesis (DDS) technology providing flexible performance and system features for basic scientific and industrial requirements.

The 8 bits resolution, 100MSa/s sampling rate, 1024 pts memory length, 32 built-in waveforms and 8 user-defined arbitrary waveforms create various waveforms for different needs. Free PC software for RS-232 interface control. The TFG3600E series have additional functions of multiple modulations FM, FSK, ASK and PSK, 200MHz external frequency counter, 40 sets memories and multiple protections. Stable output frequency, high accuracy and low distortion make TFG3600E series an ideal solution for an accurate and affordable signal source for industrial, scientific research and educational applications.

### ► Features

- Max. output frequency 5MHz/10MHz/15MHz/20MHz
- 2 output channels
- 3.5-inch TFT LCD display
- Direct Digital Synthesis technology (DDS)
- Min. output amplitude 1mV (50 $\Omega$ ) with good stability
- Sampling rate 100MSa/s, vertical resolution 8 bits, waveform length 1024 points
- Arbitrary waveform function
- 32 built-in waveforms and 8 user-defined arbitrary waveforms
- 40 sets save & recall for panel settings
- Modulations: FM, FSK, ASK, PSK
- Frequency sweep, amplitude sweep, burst and TTL output functions
- Over voltage, over current, short circuit and reverse voltage protections
- High speed rotary dial and keypad input
- Standard RS-232 interface for PC remote control
- Standard 200MHz external frequency counter
- Optional power amplifier

### ► Specifications

Model		TFG-3605E	TFG-3610E	TFG-3615E	TFG-3620E
Output frequency		1μHz~5MHz	1μHz~10MHz	1μHz~15MHz	1μHz~20MHz
<b>Waveform</b>					
Output waveform		32 built-in waveforms, including Sine, Square, Triangle, Ramp, Pulse, etc. 8 user-defined arbitrary waveforms			
Waveform length		1024 points			
Vertical resolution		8 bits			
Sampling rate		100MSa/s			
Sine	Harmonic distortion	≥40dBc (<1MHz); ≥35dBc (1~20MHz)			
	Total distortion	≤1% (20Hz~200kHz)			
Square	Rise/fall time	≤35ns			
	Duty cycle	1%~99%			
<b>Frequency</b>					
Range	Sine	1μHz~5MHz	1μHz~10MHz	1μHz~15MHz	1μHz~20MHz
	Square	1μHz~5MHz			
	Other	1μHz~1MHz			
Resolution		1μHz			
Accuracy		±5x10 <sup>-5</sup>			
<b>Output characteristics</b>					
Amplitude	Range	2mVpp~20Vpp (open circuit)			
	Resolution	20mVpp (amplitude>2V); 2mVpp (amplitude<2V)			
	Accuracy	±(1%+2mVrms) (open circuit, 1kHz, sine)			
	Flatness	±5% (<10MHz); ±10% (>10MHz)			
	Output impedance	50Ω			
Offset	Range	±10V (open circuit, attenuation 0 dB)			
	Resolution	20mVdc			
	Accuracy	±(1%+20mVdc)			
<b>Sweep</b>					
Time		100ms~900s			
Direction		Up, Down, Up-Down			
Mode		Linearity, Logarithmic			
Modulations		FM, FSK, ASK, PSK, Burst, 200MHz frequency counter, Power amplifier			
<b>CHB output characteristics</b>					
Output waveform		32 built-in waveforms, including Sine, Square, Triangle, Ramp, Pulse, etc. 8 user-defined arbitrary waveforms			
Waveform length		1024 points			
Vertical resolution		8 bits			
Sampling rate		12.5MSa/s			
Frequency range		Sine: 1μHz~1MHz; Other: 1μHz~100kHz			
Frequency resolution		1μHz			
Frequency accuracy		±1x10 <sup>-5</sup>			
Amplitude range		50mVpp~20Vpp (open circuit)			
Amplitude resolution		20mVpp			
Output impedance		50Ω			
<b>General</b>					
Display		3.5-inch TFT LCD			
Interface		RS-232 interface			
Power source		AC110V/220V±10% selectable, 50/60Hz, Max. 45VA			
Accessories		Power cord x1, Operation manual x1, Software CD x1, RS-232 cable x1, BNC-BNC cable x1, Test lead x1			
Dimension (WxHxD)		260x110x385mm			
Weight		3.5kg			