

DDS Arbitrary Waveform/Function Generator

TFG3500A Series



TFG-3510A



► Introduction

The TFG3500A series are arbitrary waveform/function generators with maximum frequency of 10MHz, 20MHz and 40MHz. The TFG3500A series are based on DDS (Direct Digital Synthesis) technology providing outstanding performance and system features for basic scientific and industrial requirements.

The 10 bits resolution, 180MSa/s sampling rate, 16k pts memory length, 32 built-in waveforms and 8 user-defined arbitrary waveforms create various waveforms for different needs. A free PC software for USB and RS-232 interfaces control, multiple modulations (FM, AM, FSK, PSK), 40 sets memories and multiple-protection designs make TFG3500A series an ideal solution for an accurate and affordable signal source for industrial, scientific research and educational applications.

► Features

- ✓ Max. output frequency 10MHz/20MHz/40MHz
- ✓ 2 output channels
- ✓ 3.5-inch TFT LCD display
- ✓ Direct Digital Synthesis technology (DDS)
- ✓ Minimum output amplitude: 1mV, Maximum resolution: 1μVpp
- ✓ Sampling rate 180MSa/s, vertical resolution 10 bits, waveform length 16000 points
- ✓ 32 built-in waveforms and 8 user-defined arbitrary waveforms from CHB
- ✓ 40 sets panel setting save & recall
- ✓ Modulations: FM, AM, FSK, PSK
- ✓ Frequency sweep, amplitude sweep, burst and CHA & CHB ADD functions
- ✓ Over voltage protection, over current protection, short circuit protection, reverse voltage protection
- ✓ Numeric keyboard and rotary dial for data input
- ✓ Standard parts: USB interface, RS-232 interface, 200MHz frequency counter
- ✓ Optional parts: power amplifier

Model			TFG-3510A	TFG-3520A	TFG-3540A
Main output	Output frequency	Sine	40μHz~10MHz	40μHz~20MHz	40μHz~40MHz
		Square	40μHz~10MHz	40μHz~20MHz	
		Pulse	40μHz~10MHz		
	Output waveform		Sine, Square, Pulse, DC		
	Output amplitude		1mVpp~20Vpp (high impedance)		
	Output modulation		Single frequency, Sweep frequency, Sweep amplitude, FM, AM, FSK, PSK and CHA & CHB Add		
	Waveform length		4~16000 points		
	Vertical resolution		10 bits		
	Sampling rate		180MSa/s		
	Frequency resolution		40μHz (40μHz~2kHz); 40mHz (>2kHz)		
	Frequency accuracy		±(5×10-5+40mHz)		
	Amplitude resolution		1μVpp (high impedance)		
	Amplitude accuracy		±(1%+1mVrms) (high impedance, RMS, frequency 1kHz)		
	Amplitude flatness		±5% (frequency <5MHz); ±10% (frequency 5~10MHz); ±20% (frequency >10MHz)		
	Output impedance		50Ω		
	Offset range		±10V (high impedance, attenuation 0 dB)		
	Offset resolution		20mVdc		
	Offset accuracy		±(1%+20mVdc)		
	FM deviation		0%~20%		
	AM depth		0%~120%		
	PSK modulation range		0~360°		
	Phase resolution		11.25°		
Sine	Harmonic distortion		≥50dBc (<1MHz); ≥45dBc (1~10MHz); ≥40dBc (10~20MHz); ≥30dBc (>20MHz)		
	Total distortion		≤0.1% (20Hz~200kHz)		
Pulse & Square	Rise/fall time		≤20ns		
	Duty cycle of square		50.00%		
	Duty cycle of pulse		1%~99% (≤1MHz)		
Sweep	Sweep time		100ms~600s		
	Sweep direction		Up, Down, Up-Down		
	Sweep mode		Linearity, Logarithmic		
CHB output	Output frequency	Sine	10mHz~1MHz		
		Other	10mHz~50kHz		
	Output waveform		32 built-in waveforms, including Sine, Square, Triangle, Saw tooth, Ladder, etc. And 8 user-defined arbitrary waveforms		
	Output amplitude		100mVpp~20Vpp (high impedance)		
	Waveform length		1024 points		
	Vertical resolution		8 bits		
	Sampling rate		100MSa/s		
	Frequency resolution		40mHz		
	Frequency accuracy		±(1×10-5+40mHz)		
Frequency counter	Amplitude resolution		2mVpp		
	Output impedance		50Ω		
Power amplifier (optional)	Testing frequency range		1Hz~200MHz		
	Input signal amplitude		100mVpp~20Vpp		
General	Max. output power		7W (8Ω), 1W (50Ω)		
	Max. output voltage		22Vpp		
	Frequency bandwidth		1Hz~200kHz		
	Remote control		USB interface, RS-232 interface		
	Display		TFT LCD		
	Power source		AC110V/220V±10% selectable, 50/60Hz, Max. 45VA		
Standard accessories		Power cord ×1, Operation manual ×1, Software CD ×1, USB cable ×1, RS-232 cable ×1, BNC-BNC cable ×1, Test lead ×1			
Dimension		415×295×195mm			
Weight		4kg			