Test & Measurement
Product Catalog

Suin Instruments Co., Ltd

★Signal Generator

-Function/Arbitrary Waveform Generator

-RF Signal Generator

-Pulse/Pattern Generator

★Analyzer

-Power Quality Analyzer

-Spectrum Analyzer

-Frequency Counter

-Frequency Characteristic Analyzer

★Meter

-Millivolt Meter

★Power Supply

★Calibrator

-TR3000 Series Rubidium Atomic Frequency Standard

-Frequency Standard Comparator

-Stopwatch Calibrator

Selection Guide of Generators

	TFG6800 Series	TFG2900A Series	TFG3600 Series	SU3630	TFG3900A Series	TFG6900A Series	TFG1900B Series	TFG1900A Series
Max Frequency	100MHz	400MHz	1.5GHz	3GHz	160MHz	60MHz	20MHz	20MHz
Channel	2	2 or 4	2	1	2	2	1	2
Frequency Resolution	1μHz	1μHz	1μHz	3Hz	1μHz	1μHz	10μHz	1μHz
Best Accuracy	20ppm	1ppm	1ppm	±5ppm	2ppm	50ppm	50ppm	20ppm
Sampling Rate	250MSa/s	1.2GSa/s	50MSa/s	○	500Msa/s	120MSa/s	100MSa/s	100MSa/s
Vertical Resolution	16bits	14bits	10bits	○	14 bits	14bits	8bits	10bits
Output level	Max 20Vpp	Max 10Vpp	-127dBm ~ +13dBm	-120dBm ~ +13dBm	Max 20Vpp	Max 20Vpp	Max 20Vpp	Max 20Vpp
Waveform	165 kinds including Sine, Square, Ramp, Pulse, Noise, DC, PRBS, user-defined Arbitrary waveform, user-defined harmonic, etc	165 kinds including: Sine, square, ramp, pulse, noise, PRBS, Arbitrary waveforms and user-defined	CHA: Sine, Square CHB: Sine, Square, Ramp, Pulse, and 4 built in waveforms	Sine	150 kinds including: Sine, square, ramp, pulse, noise, PRBS, Arbitrary waveforms and user-defined	Sine, square, ramp, pulse, noise +50 built in Arbitrary waveforms + 5 user-defined	Sine, square, ramp, pulse, Exponent, Logarithm, Noise, etc. totally 16 waveforms	11 built in waveforms + 5 user-defined
DC Offset	●	●	●	○	●	●	●	●
TTL	●	●	●	○	●	●	●	●
Sweep	●	●	●	●	●	●	●	●
Modulation	FM,AM,PM,PWM,Sum, FSK,4FSK,NFSK,PSK,4PSK,NPSK,ASK,OSK	FM, AM, PM, PWM, Sum, FSK, 4FSK, NFSK, PSK, 4PSK, NPSK, ASK, OSK	FM,AM,FSK,PSK	Pulse	FM,AM,PM,PWM, Sum,FSK,4FSK, QPSK,,ASK,OSK	FM,AM,PM,PWM, Sum,FSK, BPSK	FM,AM,PM,PWM,FSK	FM,AM,PM,PWM,FSK
Burst	●	●	●	○	●	●	●	●
Frequency Counter	●	○	○	○	0.1Hz ~ 350MHz	0.01Hz ~ 350MHz	○	1Hz ~ 100MHz
Display	7" TFT LCD touch screen	7" TFT LCD touch screen	4.3' TFT LCD	4.3' TFT LCD	4.3' TFT LCD	4.3' TFT LCD	VFD	VFD
Interface	USB Host & Device and LAN	USB Host&Device, LAN, WIFI	USB Device, RS-232	USB Device, RS-232	USB Host & Device and LAN	RS-232, USB Host & Device	USB Device	USB Host & Device
Options	TCXO, Power Amplifier, IOT interface	Frequency Counter	GPIB, Frequency Counter	GPIB	Amplifier	Amplifier, TCXO	○	○

*Notice: ● means the indicated function is available while ○ means not available

TFG6800 Series Function/Arbitrary Waveform Generator

* without option PA

Features

- 250MSa/s sample rate, 16bit vertical resolution and 16Mpts waveform length
- Rise/fall time of Square: ≤4.2ns
- Removable PA (option)
- Optional IOT interface
- High precision frequency counter
- 7"touch screen display

Specification

		TFG6803	TFG6806	TFG6810
Frequency				
Sine/Square		1μHz~35MHz	1μHz~65MHz	1μHz~100MHz
Pulse		1μHz-25MHz		
Ramp		1μHz-3MHz		
PRBS		1kbps~60Mbps		
Noise (-3dB)		100MHz bandwidth		
Other		1μHz~20MHz		
Resolution		1μHz or 12 digits		
Accuracy		±(20ppm + 14pHz)		
Waveform				
Type		165 kinds include: Sine, Square, Ramp, Pulse, Noise, DC, PRBS, user-defined Arbitrary waveform, user-defined harmonic, etc		
Smaple Rate		250MSa/s		
Vertical Resolution		16 bits		
Arbitrary	Sample Rate	1μSa/s~125MSa/s		
	Length	2-16Mpts		
	Resolution	16 bits		
Square	Rise/Fall Time	≤4.2ns		
	Duty Cycle	0.0001%~99.9999%		
Pulse	Rise/Fall Time	≥8ns		
	Width	13ns ~ (period - 13ns)		
DC Offset (High-Z)				
Range		±10Vpk(ac+dc)		
Resolution		1mVdc		
Accuracy		±(|setting value|×1%+amplitude value ×0.5%+2mV)		
Sweep				
Range		1μHz ~ upper frequency limit		
Type		Linear, logarithmic		
Time		1ms to 500s		
Burst				
Mode		Triggered, Gated		
Period		1μs to 600s		
Count		1 to 100000000 cycles		
Counter				
Frequency Range		1mHz to 350MHz (DC Couple) 10Hz to 350MHz (AC Couple)		
Resolution		8 digits/s		
Period and Pulse Width Measurement		100ns to 20s		
Duty Cycle Measurement		0.1% to 99.9%		
Amplitude (High-Z)				
Range		2mVpp~20Vpp, frequency≤10MHz 2mVpp~10Vpp, frequency>10MHz		
Resolution		1mVpp or 4digits		
Accuracy		±(of settings value×1%+1mV), Sine 1kHz, ≥10mVpp, offset 0V		
Modulation				
FM,AM,PM, PWM,Sum	Carrier Waveform	Sine, Square, Ramp (only pulse for PWM), etc.		
	Modulating Waveform	Sine, Square, Ramp, etc.		
	Modulating Frequency	1mHz to 100kHz		
FSK,4FSK,NFSK, PSK,4PSK,NPSK, ASK,OSK	Carrier Waveform	Sine, Square, Ramp, ect		
	Hop Frequency	1μHz -upper limits		
	Hop Rate	1mHz to 1MHz		
General Characteristic				
Power		AC 100~240V, 50/60Hz ±10% , AC 100~120V, 400Hz ±10%		
Dimension & Weight		226×200×125mm, Approx. 2.9kg 226×200×166mm, Approx. 3.3kg (if amplifier power is selected)		

Standard Accessories

Power Cord	1
BNC cable	1
CD(software+manual)	1

Options

TCXO	±1ppm accuracy, ±1ppm/year aging rate
Power Amplifier	2 times power amplifier, Max output power 8W (8Ω)
IOT interface	Based on LoRa

TFG2900A Series Arbitrary Waveform Generators

Features

- 1.2GSa/s sample rate, 14 bits vertical resolution
- Maximum 4 output channels can be configured
- Generating arbitrary waveform points by points to ensure output high-quality waveform accurately
- Unique Harmonic Synthesis
- Standard Interface include: USB Host, USB Device, LAN and WIFI
- 7" touch screen display for easier operation(pixel 800*400)

Specification

		TFG2922A	TFG2924A	TFG2932A	TFG2934A	TFG2942A	TFG2944A
Output Channel		2	4	2	4	2	4
Frequency							
Sine		1μHz~200MHz		1μHz~300MHz		1μHz~400MHz	
Square		1μHz~120MHz					
Pulse		1μHz~80MHz					
Ramp		1μHz~6MHz					
Others		1μHz~50MHz					
Resolution		1μHz					
Accuracy		±1ppm					
Waveform							
Type		165 kinds include : Sine, Square, Ramp, Pulse, Noise, DC, PRBS, buid-in arbitrary waveforms ,user-defined harmonic, etc.					
Smaple Rate		1.2GSa/s					
Vertical Resolution		14 bits					
Arbitrary	Sample Rate	1uSa/s~200MSa/s					
	Length	2 ~ 32M points					
	Resolution	14 bits					
Square	Rise/Fall Time	≤2.5ns					
	Duty Cycle	0.01%~99.99%					
Pulse	Rise/Fall Time	2.5ns ~1.2s					
	Width	4ns~(period-4ns)					
Sine Spectral Purity							
Total Distortion		≤0.2% (20Hz~20kHz,20Vpp)					
Phase Noise		≤-140dBc/Hz@10MHz (0dBm, 10kHz offset)					
Amplitude (into 50Ω)							
≤40MHz		1mVpp~10Vpp					
≤100MHz		1mVpp~5Vpp					
≤200MHz		1mVpp~2Vpp					
≤300MHz		1mVpp~1.5Vpp					
>300MHz		1mVpp~1Vpp					
Accuracy		±(1%of setting+1mVpp), (Sine 1kHz, 0V offset, ≥10mVpp)					
Offset							
Range		±5Vpk ac+dc (50Ω load)					
Accuracy		±(1%of setting+2mV+0.5% of amplitude) (High-Z)					
Modulation							
Type		FM, AM, PM, PWM, Sum, FSK, 4FSK, NFSK, PSK, 4PSK, NPSK, ASK, OSK					
Burst							
Burst Count		1 to 100 000 000 cycles					
General Characteristic							
Power		AC 100~240V, 45~65Hz , <70VA (TFG29X2A) ,<80VA (TFG29X4A)					
Dimension & Weight		364×155×329 mm, 7.0KGs , (TFG29X2A) 364×155×468 mm, 10.0Kgs (TFG29X4A)					

Standard Accessories

Power Cord	1
BNC cable	1
CD(Software+ User's Guide)	1
Wifi Antenna	1

Options

Frequency Counter (upper limits to 3GHz)
OCXO (accuracy:±0.01ppm±1μHz)

TFG3900A Series Function/Arbitrary Waveform Generators

Features

- Dual channel outputs with identical performance
- 500MSa/s sample rate, 14 bits vertical resolution
- 2ppm high accuracy to ensure the high quality waveform
- 150 built-in waveforms
- Full and complete modulation functions
- 7digits/s, 350MHz built-in counter
- Standard interface: USB Host & Device, LAN

Standard Accessories

Power Cord	1
BNC Testing cable	1
CD(Software+ User's Guide)	1

Options

Power Amplifier

Specification

		TFG3908A	TFG3912A	TFG3916A
Frequency				
Range	Sine	1μHz ~ 80MHz	1μHz ~ 120MHz	1μHz ~ 160MHz
	Square, Pulse	1μHz ~ 30MHz	1μHz ~ 40MHz	1μHz ~ 50MHz
	Arbitrary	1μHz ~ 30MHz		
	Ramp	1μHz ~ 5MHz		
Resolution		1μHz		
Accuracy		±(2ppm+1μHz)		
Waveform				
Type		150 kinds, including Sine, Square, Ramp, Pulse, Noise, PRBS, Exponential, Logarithm, Tangent, Gaussian, Cardiac, Quake, etc.		
Length		16384 points		
Sample Rate		500MSa/s		
Vertical Resolution		14bits		
Amplitude				
Range	Frequency≤40MHz	1mVpp~10Vpp (50Ω load)		
	Frequency≤80MHz	1mVpp~5Vpp (50Ω load)		
	Frequency≤120MHz	1mVpp~2.5Vpp (50Ω load)		
	Frequency>120MHz	1mVpp~2Vpp (50Ω load)		
Accuracy		±(1% of setting + 2mVpp)		
Flatness (relative to 1MHz Sine)		±0.2dBm, frequency < 80MHz ±0.3dBm,frequency≥80MHz		
Offset				
Range		±10Vpk (ac+dc, open circuit) ±5Vpk (50Ω load)		
Accuracy		±(1% of setting + 2mV + 0.5% of amplitude)		
Modulation				
FM, AM, PM, PWM, Sum Modulation	Modulating Frequency	1mHz ~ 100kHz (FM, AM, PM,PWM) 1mHz~1MHz(Sum)		
	AM Modulating Depth	0% ~ 120%		
	Phase Deviation	0° ~ 360°		
	Pulse Width Deviation	0% ~ 99%		
	Sum Amplitude	0% ~ 100%		
	Source	Internal/External		
FSK,4FSK,QFSK, PSK,4PSK,QPSK, ASK,OSK	Hop Frequency	1μHz ~ maximum frequency		
	Rate	1mHz ~ 1MHz		
	Source	Internal/External		
Sweep				
Waveform	Sine, Square, Ramp, etc.			
Type	Linear, Log, List			
Sweep Time	1ms to 500s			
Return/Hold/Interval Time	0s to 500s			
Trigger Source	Internal, External or Manual			
Burst				
Waveform		Sine, Square, Ramp, etc.		
Period		1μs ~ 500s		
Burst Count		1 ~ 100000000		
Start/Stop Phase		0° ~ 360°		
Trigger Source		Internal, External or Manual		
Channel Coupling				
Frequency Coupling		Frequency Ratio, Frequency Difference		
Amplitude Offset Coupling		Amplitude Difference, Offset Difference		
Waveform Coupling		Combination Amplitude, 0% ~ 100%		
Sync Output				
Level		TTL compatible, rise/fall time≤10ns		
Impedance		50Ω (typical)		
Counter				
Frequency Range		0.01Hz ~ 350MHz Resolution: 7 digits/s		
Period and Pulse Width Measurement		100ns ~ 20s		
Duty Cycle Measurement		0.1% ~ 99.9%		
General Characteristics				
Power		AC 100 ~ 240V, 45 ~ 65Hz, <30VA		
Dimension & Weight		256×106×386mm, Approx.3.7 kg		

TFG6900A Series Function/Arbitrary Waveform Generators

Features

- Dual channel outputs
- 50ppm frequency accuracy and 1μHz resolution
- 5 standard waveforms, 50 built-in and 5 user-defined arbitrary waveforms
- Abundant modulation function FM, AM, PM, PWM, Sum, FSK, BPSK
- Channel coupling and combine features on CHB
- 6digits/s, 350MHz built-in frequency counter
- Standard interface: USB Host & Device, RS-232

Specification

		TFG6910A	TFG6920A	TFG6930A	TFG6940A	TFG6960A
Frequency						
Range	Sine	1μHz ~ 10MHz	1μHz ~ 20MHz	1μHz ~ 30MHz	1μHz ~ 40MHz	1μHz ~ 60MHz
	Square, Pulse	1μHz ~ 10MHz				
	others	1μHz ~ 5MHz				
Resolution		1μHz				
Accuracy		±(50ppm+1μHz)				
Waveform						
Type		Sine, Square, Ramp, Pulse, Noise, 50 built-in waveforms + 5 user-defined waveforms				
Length		4096 points				
Sample Rate		120 MSa/s				150 MSa/s
Vertical Resolution		14 bits (CHA); 10bits (CHB)				
Amplitude Characteristics						
Range	Frequency ≤20MHz	0.1mVpp ~ 10Vpp(50Ω) 0.2mVpp ~ 20Vpp (open circuit)				
	Frequency>20MHz	0.1mVpp ~ 7.5Vpp(50Ω) 0.2mVpp ~ 15Vpp (open circuit)				
Resolution		1mVpp (Amplitude≥1Vpp, load 50Ω) 0.1mVpp(Amplitude<1Vpp, load 50Ω), 2mVpp (Amplitude≥2Vpp, open circuit) 0.2mVpp(Amplitude<2Vpp, open circuit)				
Accuracy		±(1% of setting +1mVpp)(1kHz Sine, 0V offset, auto range)				
Offset Characteristics						
Range		±5Vdc (50Ω), ±10Vdc (open circuit)				
Accuracy		±(1% of setting +1mVdc)				
Modulation Characteristics (CHA)						
FM,AM, PM,PWM, SUM		Carrier Waveform: Sine, Square, Ramp, etc. (only Pulse for PWM) Modulating Waveform: Sine, Square, Ramp, etc.				
FSK,BPSK	Carrier Waveform	Modulating Frequency : 1μHz ~ 100kHz Sine, Square, Ramp, etc.				
	Source	Internal/External				
Sweep Characteristics (CHA)						
Carrier Waveform		Sine, Square, Ramp and etc.				
Type		Linear, Log				
Sweep Time		5ms to 500s				
Hold/Return Time		0s to 500s				
Trigger Source		Internal, External or Manual				
List Sweep		List Length: 600 pcs				
Burst Characteristics (CHA)						
Carrier Waveform		Sine, Square, Ramp, etc.				
Period		1μs~500s				
Burst Count		1 ~ 1000000				
Trigger Source		Internal, External or Manual				

Counter	
Frequency Range	10mHz ~ 350MHz, resolution: 6 digits/s
Period, Pulse Width	100ns ~ 20s
Duty Cycle	1% ~ 99%

General Characteristics	
Power	AC 100 ~ 240V, 45 ~ 65Hz, < 30VA
Dimension & Weight	256×106×336 mm, Approx.3 kg

Standard Accessories

Power Cord	1
BNC cable	1
CD(Software+ User's Guide)	1

Options

Power Amplifier	Power: 8W (load 8Ω)
TCXO	Frequency Stability: ±2ppm

TFG1900A Series Function/Arbitrary Waveform Generators

USB CE 2CH PC Software

Features

- Dual channel outputs
- Frequency accuracy 20ppm and 1μHz resoultuon
- Abundant mudulation function AM, FM, PM, PWM and FSK
- Provide sweep and burst
- 100MHz built-in counter
- Standard interface : USB Device & Host

Standard Accessories

Power Cord	1
CD(Software+ User's Guide)	1

Options

Power Amplifier: 10W, load 8Ω

Specification

		TFG1905A	TFG1910A	TFG1920A
Frequency				
Range	Sine	1μHz ~ 5MHz	1μHz ~ 10MHz	1μHz ~ 20MHz
	Square, Pulse	1μHz ~ 5MHz		
	others	1μHz ~ 1MHz		
Resolution		1μHz, 6digits		
Accuracy		±20ppm		
Waveform				
Type		11 build-in waveform (Sine, Square, Ramp, Pulse, etc.) + 5 user-defined arbitrary waveforms		
Length		4096 points		
Sample Rate		100 MSa/s		
Vertical Resolution		10 bits		
Amplitude Characteristics				
Range	Frequency≤8MHz	0 ~ 10Vpp(50Ω), 0 ~ 20Vpp(Open circuit)		
	Frequency>8MHz	0 ~ 9Vpp (50Ω), 0 ~ 18Vpp(Open circuit)		
Resolution		2mVpp(Amplitude>2Vpp) 0.2mVpp(Amplitude≤2Vpp)		
Offset Characteristics (Ampl. 0Vpp)				
Range		±5Vdc (50Ω), ±10Vdc (Open circuit)		
Resolution		2mVdc		
Modulation Characteristics (CHA)				
FM,AM,PM, PWM	Carrier Waveform	16 waveforms, Sine, Square, Ramp, etc. (PWM is only for Pulse)		
	Modulating Waveform	16 waveforms, Sine, Square, Ramp, etc.		
	Modulating Frequency	2mHz ~ 20kHz		
FSK	Carrier Waveform	16 waveforms, Sine, Square, Ramp, etc.		
	Hop Frequency	1μHz ~ 5MHz	1μHz ~ 10MHz	1μHz ~ 20MHz
	Rate	1mHz ~ 100kHz		
Sweep Characteristics (CHA)				
Carrier Waveform		16 waveforms, Sine, Square, Ramp, etc.		
Type		Linear or Log		
Sweep Time		50ms ~ 500s		
Burst Characteristics (CHA)				
Carrier Waveform		16 waveforms, Sine, Square, Ramp, etc.		
Burst Count		1 ~ 1000000		
Internal Period		1μs ~ 500s		
Start/Stop Phase		0° ~ 360°		
Sync Output				
Waveform Characteristic		Square, rise/fall time ≤ 20ns		
Output Level		TTL compatible		
Counter				
Frequency Range		1Hz ~ 100MHz		
Input Amplitude		100mVrms ~ 7Vrms		
Period		50ms ~ 5s		
General Characteristics				
Power		AC 100 ~ 240V, 45 ~ 65Hz, < 30VA		
Display		VFD display		
Dimension & Weight		322×256×102 mm, Approx.1.5 kg		

TFG1900B Series Function Generators

USB CE PC Software

Features

- Simple structure and highly cost-effective
- Output 16 waveforms
- FM, AM, PM, PWM and FSK modulation
- Provide frequency sweep and burst
- Standard configuration interface: USB device

Specification

		TFG1903B	TFG1905B	TFG1910B	TFG1920B
Frequency					
Range	Sine	10μHz ~ 3MHz	10μHz ~ 5MHz	10μHz ~ 10MHz	10μHz ~ 20MHz
	Square	10μHz ~ 5MHz			
	others	10μHz ~ 1MHz			
Resolution		10μHz			
Accuracy		±50ppm			
Waveform					
Type		16 waveform, Sine, Square, Ramp, Exp, Log, Noise, etc.			
Length		1024 points			
Sampling Rate		100 MSa/s			
Vertical Resolution		8 bits			
Sine	Harmonic Distortion	≤-40dBc(≤5MHz); ≤-35dBc(>5MHz)			
	Total Distortion	≤0.5% (20Hz ~ 20kHz, 20Vpp)			
Square	Rise/Fall Time	≤35ns Overshoot: ≤10 %			
	Duty Cycle	0.1% ~ 99.9%			
Ramp	Symmetry	0.0% ~ 100.0%			
Amplitude					
Range	Frequency≤8MHz	0 ~ 10Vpp(50Ω), 0 ~ 20Vpp(Open circuit)			
	Frequency>8MHz	0 ~ 9Vpp (50Ω), 0 ~ 18Vpp(Open circuit)			
Resolution		5mVpp(Amplitude>2Vpp)			
		0.5mVpp(Amplitude≤2Vpp)			
DC Offset (Ampl. 0Vpp)					
Range		±5Vdc (50Ω), ±10Vdc (Open circuit)			
Resolution		5mVdc			
Modulation					
FM,AM,	Carrier Waveform	16 waveforms, Sine, Square, Ramp, etc. (only Pulse for PWM)			
PM,PWM	Modulating Waveform	16 waveforms, Sine, Square, Ramp, etc.			
	Modulating Frequency	40mHz ~ 20kHz			
FSK	Carrier Waveform	16 waveforms, Sine, Square, Ramp, etc.			
	Modulating Waveform	Square			
	FSK Rate	40mHz ~ 100kHz			
Sweep					
Type		Linear or Logarithmic			
Sweep Time		50ms ~ 500s			
Trigger Source		Internal/External/Manual			
Burst					
Waveform		16 waveforms, Sine, Square, Ramp, etc.			
Burst Count		1 ~ 1000000			
Internal Period		1μs ~ 20s			
Start Phase		0° ~ 360°			
Trigger Source		Internal/External/Manual			
Sync Output					
Electrical Level		TTL compatible			
Waveform Characteristic		Square, edge time ≤ 20ns			
Output Level		low level<0.3V, high level>4V			
General Characteristics					
Power		AC 100 ~ 240V, 45 ~ 65Hz, <20VA			
Display		VFD display			
Dimension & Weight		322×256×102mm, Approx.1.5 kg			

Options

Power Amplifier （output power: 10W）

TFG368X Series Microwave Signal Generator

Features

- Ultra-low pahse noise, excellent spurious noise suppression, ultra-wide bandwidth
- Wide application range in radar, communication, ECM, electronic reconnaissance and etc
- It can also be used as local oscillator and signal generator

Specification

	TFG3681	TFG3682
Frequency		
Range	10MHz-12GHz	10MHz-20GHz
Resolution	20Hz 1mHz (option)	
Accuracy	±1ppm, Frequency≥1.0kHz, 18℃-28℃	
Amplitude		
Setting Range	-25dBm～+15dBm	
Specified Range	-10dBm～+13dBm	
Resolution	0.1dB	
Accuracy	±1.5 dBm of setting (output level: +13dBm～-10dBm)	
Output Impedance	50Ω	
Spectrum Purity		
Harmonic	<-35dBc	<-35dBc (200MHz~12GHz) <-25dBc (12GHz ~20GHz)
Non-harmonic	<-70dBc	
Phase Noise	-94dBc/Hz@10kHz,at 10GHz output	-94dBc/Hz@10kHz, at 10GHz output -121dBc/Hz@10kHz, at 10GHz output (option)
Modulation		
PM break-make ratio	60dBc	
Make-break time range	100nS~10mS	
General Characteristics		
Power	AC200V~240V, 50(1±10%)Hz, <40VA	
Dimension & Weight	256×106×386 mm, Approx.4.2 kg	

Standard Accessories

Power Cord	1
CD(Software+ User's Guide)	1


Power Cord


CD

TFG3600 Series Synthesized Signal Generators

Features

- Perfect combination of DDS and PLL techniques
- Frequency upper limits to 1.5GHz
- Higher level of frequency accuracy, up to 1ppm
- Complete AM/FM/FSK/PSK modulation function
- Standard communication interface: USB Device and RS-232

Standard Accessories

Power Cord	1
BNC Testing cable	1
CD(Software+ User's Guide)	1

Options

Frequency Counter
(upper limits to 2.5GHz, only for TFG3605)

GPIB

Specification

CHA		TFG3605	TFG3610	TFG3615
Frequency				
Range	Sine	1μHz ~ 500MHz	1μHz ~ 1000MHz	1μHz ~ 1500MHz
	Square	1μHz ~ 80MHz		
Resolution		1μHz (carrier frequency≤80MHz) 1Hz (carrier frequency>80MHz)		
Accuracy		±1ppm, Frequency≥1.0kHz,18 ℃ to 28 ℃ ±50ppm, Frequency<1.0kHz,Min. output 1μHz		
Sine Output Level				
Range	Freq≤500MHz	-127dBm ~ +13dBm(-127dBm ~ -117dBm typ.)		
	Freq≤1000MHz	-110dBm ~ +13dBm(-100dBm ~ -110dBm typ.)		
	Freq≤1500MHz	-105Bm ~ +10dBm(-100dBm ~ -105dBm typ.)		
Resolution		0.1dB		
Accuracy	Freq≤300MHz	setting value ±1dBm (output level +13dBm~-100dBm)		
	Freq≤1500MHz	setting value±2.2dBm (output level +13dBm~-80dBm, setting value ±1.5dBm typ.) setting value ±2.7dBm (output level -80dBm~-100dBm, setting value ±2.0dBm typ.)		
Stationary Wave Ratio (SWR)		<1.8 (output level≤0dBm)		
Spectral Purity				
Harmonic		< -33dBc (output level≤4dBm,typ.)		
Non-Harmonic		<-40dBc (output level≤4dBm, deviation CF≥5kHz)		
Sub-Harmonic		<-40dBc (output level≤4dBm)		
Residual FM		< 100Hz (BW: 0.3 ~ 3kHz, RMS < 120MHz)		
Square				
Rise/Fall Time		≤15ns		
Overshoot		≤5%		
Modulation				
Type		AM,FM, FSK, PSK		
External Modulation Input		Voltage Range: 5V full scale, Input impedance:10kΩ, Frequency: DC to 10kHz		
Frequency Sweep				
Sweep Rate		1ms ~ 800s Linear (carrier ≤80MHz) 100ms ~ 800s Logrithm(carrier ≤80MHz)		
Step Time		50ms ~ 10s Linear (carrier>80MHz)		
Burst(Carrier Frequency ≤80MHz)				
Burst Count		1 ~ 10000 cycles		
Interval		0.1ms ~ 800s		
CHB				
Frequency				
Range		1μHz ~ 10MHz		
Resolution		1μHz		
Accuracy		±1ppm, Frequency≥1.0kHz,18 ℃ to 28 ℃ ±50ppm, Frequency<1.0kHz,Min. output 1μHz		
Waveform				
Type		Sine, Square, Ramp, Pulse, Sinc, Exp, Noise, DC		
Square	Rise/Fall Time	≤50ns		
	Duty Cycle	0.01% ~ 99.99%		
Pulse	Rise/Fall Time	≤50ns		
	Pulse Width	20ns ~ 20s		
Ramp	Symmetry	0.0% ~ 100.0%		
Output				
Amplitude		1mVpp ~ 10Vpp(50Ω), 2mVpp ~ 20Vpp(High Z)		
Offset		±5Vpk ac+dc(50Ω), ±10Vpk ac+dc(High Z)		
Resolution		5mVpp		
Accuracy		±(1% of setting + 10mVpp) (1kHz Sine)		
Flatness		± 0.5dB(1MHz Sine,1Vpp)		
General Characteristics				
Power		AC 100V~240V, 50/60Hz, 50VA Max		
Dimension & Weight		256×106×386 mm, 4.2 kg		

SU3630 3GHz Synthesized Signal Generator

Features

- Simple and easy to operate
- Up to -115dBc phase noise
- Up to +13dBm output power
- Flexible frequency and amplitude sweep function
- Pulse modulation function
- Standard interface of USB Device and RS232

USB CE RS-232

Specification

Frequency		
Range		25MHz ~ 3GHz
Resolution		3Hz
Reference Frequency	Reference Output	Frequency: 10MHz Level: >0dBm Port: BNC connector
	Reference Input	Frequency: 10MHz Power: -3~ +7dBm Input Port: BNC connector Impedance(nominal): 50Ω
Phase Noise		-90dBc~ -115dBc,offset:20kHz
Spurious	Harmonic	<-35dBc (Power ≤-5dBm)
	Non-harmonic	<-60dBc
Power		
Range		-120dBm ~ +13dBm
Resolution		0.25dB
Accuracy	Output Frequency: 25MHz~2250MHz	±(1.0+2% absolute of setting value) dB
	Output Frequency: 2200MHz~3000MHz	±(1.0+4% absolute of setting value) dB
Input SWR		<1.5 typical
RF Output	Terminal	N type
	Output Impedance	50Ω
Pulse Modulation		
Break-make Ratio		>80dB
Rising/Falling Edge		<100ns
Pulse Width		0.25s Min.
Pulse Period		0.5s Min.
Sweep		
Frequency Sweep	Sweep Mode	Linear
	Min. Step	3Hz
Power Sweep	Sweep Mode	Linear
	Min. Step	0.25dBm
General Characteristics		
Power		AC 100V~240V, 50/60Hz, 50VA Max
Dimension&Weight		256×106×386 mm, <5 kg

Standard Accessories

Power Cord	1
CD(Software+ User's Guide)	1

Options

GPIB	1
N-N cable	1
N-SMA adapter	1

SU5000 Series Pulse/Pattern Generators

Features

- Direct Digital Synthesis Technology
- Crystal Oscillation Reference
- High Accurate Time and Frequency
- Count burst or single burst both can be selected
- Multiple output channels and EXT
- Trigger/Frequency Standard Input channels
- Data Storage And Recall
- Optional GPIB and USB interface

Specification

	SU5101/5102	SU5202G	SU5302	SU5303
Channel	**1/2**	**2**	**2**	**1**
Waveform				
Pulse	Single/Dobule, Logic Positive /Negative, Positive/Negative Polary	Single/Dobule, Logic Positive /Negative		Logic Positive /Negative
Edge Time	≤10ns	≤10ns	8ns ~ 1ms	5ns ~ 1ms
Overshoot	≤ 10%	≤ 10%	≤ 10%	≤ 10%
Time				
Pulse Period	20ns ~ 10000s (frequency range: 0.1mHz ~ 50MHz)			20ns ~ 10000s
Time Interval	5ns ~ 10000s			8ns ~ 9999.5s
Resolution	5ns (Low range), 10μs (High range)			0.1ns (typical)
Interval Error	± (T×5×10^{-5} + 5ns)(Low range), ±(T×5×10^{-5} + 10μs) (High range)			±(T×5×10^{-5}+5ns)
Pattern	○		Length:4095bits Format:NRZ Rate:100mHz ~ 50MHz	Length range: 2~16383bits Format:NRZ, RZ
Amplitude Offset				
Amplitude Range	50mV ~ 10V(High Z)	50mV ~ 5V (50Ω)		
Offset Range	50mV ~ 10V(High Z)	±(50mV~5V) (50Ω)		
Output Impedance	50Ω			
TTL				
TTL/COMS Level	Low Level≤ 0.3V, High Level≥3.0V (high impedance load)			
Output Impedance	50Ω			
Burst				
Burst Count	2 ~ 65000 cycles			
Burst Mode	Continuous, Single			
EXT. STD Input				
Frequency	10M mutiple			
Amplitude	0.5-5Vpp， AC coupling			
Trigger				
Trigger Mode	Internal, External, Manual			
Ext. Trigger Input	Frequency: 1Hz ~ 10MHz (Square), Amplitude: 1Vp-p~20Vp-p			Ampl: TTL, Pulse width: >100ns, Input Impedance: ≥1kΩ
Input Impedance	≥100kΩ			
General Characteristics				
Power	AC110~240V, 50/60Hz,<80VA			
Display	VFD	5.7' TFT LCD	5.7' TFT LCD	4.3' TFT LCD
Optional Interface	USB, GPIB	RS232(Standard),GPIB	RS-232(Standard)	RS232(Standard),GPIB
Dimension & Weight	256×106×385mm, Approx.3 kg	340×162×293mm,Approx.4.2kg		450×102×475mm, Approx.6.0 kg

Standard Accessories

Power Cord	1
Testing cable	1
CD (User's Guide)	1

Options

Power Amplifier

SA2100/SA2200 Power Quality Analyzer

Selection Guide

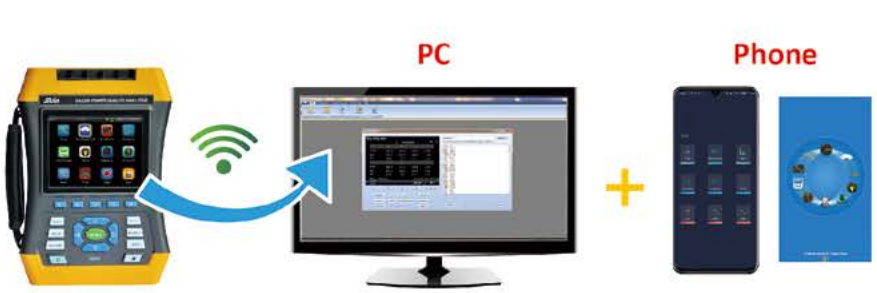
Model		SA2100	SA2200
IEC61000-4-30 standard compliance		Class S	Class A, Ed.3
Measurement Items	AC/DC	●	●
	Voltage/Current	●	●
	Frequency	● (50Hz,60Hz,400Hz)	● 50Hz,60Hz,400Hz
	Dips /swell	●	●
	Harmonics	● 1-50th (50/60Hz)	● 1-100th (50/60Hz)
	Power / Energy	●	●
	Unbalance	●	●
	Monitor	●	●
	Inrush	●	●
	Flicker	●	●
	Transients	● 20kS/s	● 200kS/s
	Logger	●	●
	Mains signaling	○	●
	Wave Recording	○	●
Input Characteristics	Channel (Voltage/Current)	4/4	
	Voltage Range	1-1000Vrms, 6000V transient voltage	
	Current Range	depends on supplied current clamp	
Storage	Micro SD card (build-in)	8GB	32GB
Battery	Capacity/Life	NI-MH, 3800mAh/>7h	Lithium ion, 5200mAh/>8h
Time Synchronization	GPS/Beidou	○	● (option)
Communication	Interface	USB Host, LAN	USB Host, LAN, WIFI
	WIFI App	○	● (option)
General Characteristic	Screen	5.6' TFT LCD /320*240	5.6' TFT LCD /640*480
	Language	9- Chinese, English,French, German,Korean, Polish,Portuguese, Spanish, Turkish	14-Chinese, English,French, German, Italian,Japanese, Korean, Polish,Portuguese(Brazil/Portugal), Russian,Spanish (Latin/Spain), Turkish
	Dimension/Weight	262× 173×66 mm/1.6kg	270 × 190×66mm/2.0kg
	Wire Combinations	1Ø+NEUTRAL,1Ø SPLIT PHASE,1Ø IT NO NEUTRAL,3Ø WYE,3Ø DELTA, 3Ø IT, 3Ø HIGH LEG, 3Ø OPEN LEG, 2-ELEMENT, 2 1/2-ELEMENT	
	Electrical Safety	IEC61010-1 ,Safety Degree: 600V CAT IV 1000V CAT III	

Isolated Interface to ensure safe operation

SA2100 Specification

• Measurement

		Measurement Range	Resolution	Accuracy
Voltage/Current/Frequency				
Vrms(AC+DC)		1 ~ 1000Vrms	0.1Vrms	±0.5% of nominal voltage
Vpk		1 ~ 1400Vpk	0.1Vpk	±0.5% of nominal voltage
V(Crest Factor)		1.0 ~ >2.8	0.01	±5%
Arms (AC)	10mV/A	0~100A	0.1A	±0.5%±0.2A
	1mV/A	1~1000A	0.1A	±0.5%±0.2A
	50mV(65mV)/1000A	15~5000A	1A	±1%±2A
A(Crest Factor)		1 ~ 10	0.01	±5%
Frequency		42.5~57.5(50Hz nominal)	0.01Hz	±0.01Hz
		51~69(60Hz nominal)	0.01Hz	±0.01Hz
		385~414(400Hz nominal)	0.01Hz	±0.1Hz
Dips & Swells				
Vrms1/2		0 ~ 200% of nominal voltage	0.1Vrms	±1%
Arms1/2		1 ~ 3000A	1A	±1% ±2A
Duration		hour-minute-second-microsecond	0.5 cycle	1 cycle
Harmonic (IEC61000-4-7)				
Harmonic Number		1 ~ 50		
Harmonic Voltage %f		0.0 ~ 100.0%	0.1%	±0.1% ± nx0.1%
Harmonic Current %f		0.0 ~ 100.0%	0.1%	±0.1% ± nx0.1%
THD		0.0 ~ 100.0%	0.1%	±2.5%
Phase		-360° ~ 0°	1°	± nx1.5°
Power and Energy				
Active Power/Apparent Power/Reactive Power		1.0 ~ 20.00MW	0.1kW	±1.5±10 digits
KWh		0.00kWh ~ 200GWh	10Wh	±1.5±10 digits
Power Factor		0 ~ 1	0.01	±0.03
Flicker (IEC61000-4-15)				
Pst(1min),Pst,Plt,PF5		0.00 ~ 20.00	0.01	±5%
Unbalance				
Voltage		0.0 ~ 5.0%	0.1%	±0.5%
Current		0.0 ~ 20.0%	0.1%	±1%
Voltage Phase		-360° ~ 0°	1°	±2 digits
Current Phase		-360° ~ 0°	1°	±5 digits
Voltage Transient				
Vpk		±6000Vpk	1V	±15%
Vrms		10 ~ 1000Vrms	1V	±2.5%
Min. Test Time		50us		
Inrush Current				
Arms		0~3000Arms	0.1	±1% ± 5 digits
Inrush Duration		6s ~ 32min selectable	10ms	±20ms
Logger				
Recording		user-defined parameters for 4 phases at the same time		
Memory		Data stored in Micro SD card, 8GB		
Duration Time		2 hrs to 1 year, depends on the recording items and time interval		
Interval		1s to 60 minutes		
Monitor				
Suport EN50160 in default or user-defined standard				



SA2200 Specification

• Measurement

		Measurement Range	Resolution	Accuracy
Voltage/Current/Frequency				
Vrms(AC+DC)		1 ~ 120Vrms	0.001Vrms	±0.1% of nominal voltage
		120Vrms~400Vrms	0.01Vrms	
		400~1000Vrms	0.1Vrms	
Vpk		1 ~ 1400Vpk	0.01Vpk	±0.5% of nominal voltage
V(Crest Factor)		1.0 ~ >2.8	0.01	±5%
Arms (AC)	10mV/A	0~150A	0.01A	±0.1%±0.1A
	1mV/A	1~2000A	0.01A	±0.1%±0.1A
	65mV/1000A	10~6000A	0.01A	±0.1%±0.2A
A(Crest Factor)		1 ~ 10	0.01	±5%
Frequency		42.5~57.5 (50Hz nominal)	0.01Hz	±0.01Hz
		51~69 (60Hz nominal)	0.01Hz	±0.01Hz
		320~480 (400Hz nominal)	0.01Hz	±0.01Hz
Dips & Swells				
Vrms1/2		0 ~ 200% of nominal voltage	0.01Vrms	±0.2%
Arms1/2		depends on current clamps	0.01A	±1%
Harmonic (IEC61000-4-7)				
Harmonic Number		1 ~ 100(50/60Hz) (IEC61000-4-7) 1~12(400Hz)		
Harmonic Voltage %f		0.0 ~ 100.0%	0.01%	±0.1% ± nx0.1%
Harmonic Current %f		0.0 ~ 100.0%	0.01%	±0.1% ± nx0.1%
THD		0.0 ~ 100.0%	0.01%	±2.5%
Phase		-180° ~180°	0.1°	± nx0.1°
Power and Energy				
P, S, Q1		Max. 6000MW	0.1kW	±1%±10 digits
PF & cosΦ		0 ~ 1	0.01	±0.01
kWh, kVAh, kvarh		depends on nominal voltage and current clamps		±1%±10 digits
Flicker (IEC61000-4-15)				
Pst(10min)/Plt (2 hrs)		0.00 ~ 20.00	0.01	±5%
Unbalance				
Voltage		0.0 ~ 20.0%	0.1%	±0.1%
Current		0.0 ~ 20.0%	0.1%	±1%
Voltage Phase		-360° ~ 0°	0.1°	±0.1°
Current Phase		-360° ~ 0°	0.1°	±0.5°
Voltage Transient				
Vpk		±6000Vpk	0.01V	±15%
Vrms		10 ~ 1000Vrms	0.01V	±2.5%
Min. Test Time		5us		
Inrush Current				
Arms		depends on current clamps	0.01A	±1% ± 5digits
Inrush Duration		1 ~ 32min selectable	10ms	±20ms
Mains Signaling				
Signaling Frequency		60-3000Hz	0.1Hz	
Relative V%		0%~100%	0.10%	±0.4%
Absolute V3s (3s average)		0.0 ~ 1000V	0.1V	±5% of Nominal voltage
Logger				
Recording		user-defined parameters for 4 phases at the same time		
Memory		Data stored in Micro SD card, 32GB		
Duration Time		2 hrs to 1 year, depends on the recording items and time interval		
Interval		1s to 60 minutes		
Monitor				
Suport EN50160 in default or user-defined standard				

Accessories

Voltage Test Leads + Alligator Clips	 (SA2200)  (SA2100)	(2m) × 5 pcs
Power Cord Power Adapter		1 pcs

Soft Carry Bag		1 pcs
CD (Software, Manuals)		1 pcs
Sticker of input port (SA2200)		1 pcs

CT Clamps

Clamp Mode	ST08-5A	CTC0080	CTC0130	CTC1535	ETCR035AD
Apperance					
Measurement Range	0-5A	0-50A	1~100A	1~1000A	0.0-1000A (AC/DC)
Output Voltage Ratio	10mV/A	10mV/A	1mV/A	1mV/A	1mV/A
Accuracy	0.2%	0.2%	0.2%	1%	±3%
Frequency Characteristic	45Hz~55Hz	50Hz~400Hz	50Hz~400Hz	40Hz~100kHz	AC: 45Hz~400Hz
Clamp Radius (mm)	8	8	13	52	30×35
Dimension (mm)	158×43×24	171×46×27	174×52×27	111×216×45	122×70×33
Cable Length (cm)	200	200	200	200	150
Power	○	○	○	○	9V Dry cell 6LR61

Flexible Probes Mode	SY-1500A	PY-3000A	PY-5000A(SA2100)	SY-6000A(SA2200)
Apperance				
Measurement Range	1~1500A	15~3000A	20~5000A	20~6000A
Output Voltage Ratio	100mV/1000A @ 50Hz	65mV/1000A @50Hz	50mV/1000A @ 50Hz	65mV/1000A @ 50Hz
Accuracy	±0.5% + Position Error	±1% + Position Error		±1% + Position Error
Maximum Allowable Input	100KA	100KA		100KA
Phase Error	<±1°	<±1°		<±1°
Noise	<2mVrms (10Hz~10KHz)	<2mVrms (10Hz~10KHz)		<2mVrms (10Hz~10KHz)
Frequency Characteristic	10Hz~10KHz (-3dB)	10Hz~10KHz (-3dB)		10Hz~10KHz (-3dB)
Weight	110g	130g		150g
Length	200cm	200cm		200cm
CT Perimeter	35cm	50cm		80cm
Measurement Position Error	±1%	±2%		±2%

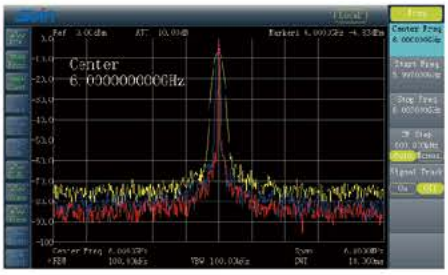
SA9100/9200 Series Spectrum Analyzers

Features

- Frequency range from 9kHz to 7.5GHz
- -160dBm Display Average Noise Level (Min.)
- < -100 dBc/Hz @10 kHz Offset Phase Noise (Typ.)
- Total Amplitude Accuracy < 0.8 dB
- Preamplifier and EMI filter are standardly configured

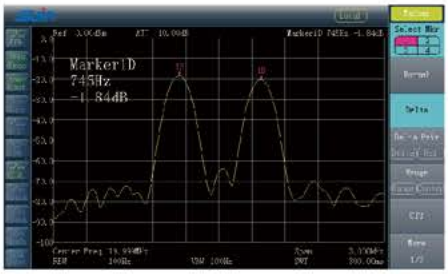
Adjacent Channel Power

AM modulation signal

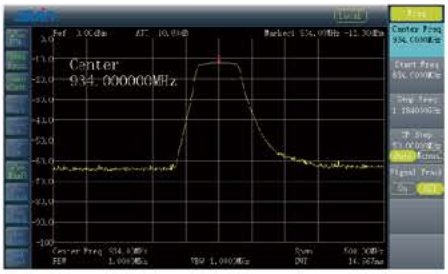


Different analysis width

Occupied bandwidth



Higher resolution



Scalar network analyzer

Specification

	SA9115	SA9130	SA9232	SA9275
Frequency				
Range	9kHz ~ 1.5GHz	9kHz ~ 3.0GHz	9kHz ~ 3.2GHz	9kHz ~ 7.5GHz
Resolution	1Hz			
Aging Rate	<5×10^{-6}/year		<1×10^{-6}/year	
Frequency Span				
Frequency Span Range	0Hz, 100Hz ~ 1.5GHz	0Hz, 100Hz ~ 3.0GHz	0Hz, 100Hz ~ 3.2GHz	0Hz, 100Hz ~ 7.5GHz
Uncertainty	±span/(sweep points-1)			
SSB Phase Noise (fc=1.0GHz)	-80dBc/Hz @10 kHz offset		-96dBc/Hz @10 kHz offset	
Bandwidth				
Resolution Bandwidth (-3dB)	10Hz ~ 1MHz, step 1-3-10,			
RBW Uncertainty	10%, nominal (RBW>1kHz)			
	20%, nominal(RBW≥10Hz, sweep time≥5s)			
Video Bandwidth (-3dB)	1Hz to 1MHz, step 1-3-10			
Amplitude				
Range	DANL to +30dBm		DANL to +20dBm	
Maximum Input Level	DC Voltage: 50V			
	CW RF Power: +30dBm (1.0W)		CW RF Power: +20dBm (0.1W)	
	Max.Damage Level: +40dBm (10W)		Max.Damage Level: +30dBm (1W)	
Displayed Average Noise Level (DANL)				
DANL (Preamplifier Off)	typ. -125 dBm		typ. -135 dBm	
DANL (Preamplifier On)	typ. -135 dBm		typ. -152 dBm	
Reference Level Range	-100 dBm to +30 dBm, step 1 dB			
Sweep				
Sweep Time Range	10 ms to 3000 s (100Hz≤Span≤3GHz)		1ms to 7500 s (100Hz≤Span≤7.5GHz)	
	20 µs to 3000 s (Span=0 Hz)		20 µs to 7500 s (Span=0 Hz)	
Sweep Time Uncertainty	5%, nominal (100Hz≤Span≤7.5GHz)			
	0.5%, nominal (Span=0 Hz)			
Sweep Mode	Continuous, Single			
Trigger				
Trigger Source	Free, Video, External			
External Trigger Level	5 V TTL level			
Advanced Measurement				
Channel Power, Adjacent Channel Power, N-dB bandwidth, Occupied Bandwidth				
EMI	200Hz, 9kHz, 120kHz			
Input/Output				
RF Input Impedance	50 Ω			
Standard frequency	Frequency: 10MHz			
	Amplitude: 0dBm~10dBm (input)-3dBm to +3dBm (output)			
Tracking Generator (-TG Model)				
TG Frequency range	9kHz to 1.5GHz	9kHz to 3GHz	100kHz to 3.2GHz	100kHz to 7.5GHz
TG Output level range	-20dBm to 0dBm		-40dBm to 0dBm	
TG Output level resolution	1 dB			
Interface				
Type	USB Host & Device, LAN, VGA, RS-232 (only SA9100 series available)			
General Characteristic				
Power Supply	Input Voltage: AC100V to 240V			
	Frequency: 50/60Hz (1±10%)			
	Power Consumption: 35W			
Dimension & Weight	364×155×328mm, Approx. 6.0kg		364×155×328mm, Approx. 6.5kg	

Standard Accessories

Standard	Power Cord	1
	N-BNC Adapter	1
	CD(Software+ User's Guide)	1

Attena 1:900MHz/1.8GHz

Attena 2:2.4GHz

Near Filed Probe Set SY5030

Options

Tracking Generator
N-SMA Adapter, N-SMA Cable, BNC-BNC Cable,
USB cable, RS-232 cable
Attena 1(900MHz/1.8GHz), Attena2 (2.4GHz)
Near Filed Probe Set SY5030

SS7406 Universal Frequency Counter/Timer/Analyzer

Features

- Minimum measuring resolution 11 digits/s
- Time resolution 25ps (Typ.)
- 4.3' TFT-LCD display to show abundant information also trendgram and histogram of statistical calculation visually
- Firm and sophisticated standard 2U design
- Standard interface of RS-232, GPIB and LAN

Standard Accessories

Power Cord	1
BNC Testing Cable	1
CD(Software+ User's Guide)	1

Specification

Measring Functions		
Frequency Range	Channel 1: 1mHz ~ 200MHz	
	Channel 2: 1mHz ~ 200MHz	
	Channel 3: 3GHz/6.5GHz/12.4GHz/16GHz/20GHz/26.5GHz (option)	
Measurement Resolution	11 digits/s	
Period	5ns ~ 1000s	
Time Interval Range	1ns ~ 10000s	
Time Resolution	25 ps	
Pulse Width	1ns ~ 10000s	
Duty Cycle	1% ~ 99%	
Totalize	0 ~ 1×10^{13}	
Phase Difference	1° ~ 359°	
Input		
Dynamic Range	50mVrms ~ 1.0Vrms (Sine), 150mVPP ~ 4.5VPP(Pulse)	
Input Impedance	1MΩ//35pF or 50Ω	
Coupling Mode	AC or DC	
Input Attenuation	×1 or ×10	
Trigger Level	-5.000V ~ +5.000V, min. step 1mV or auto trigger level	
Other Functions		
Frequency Ratio	ratio value range : 0.00001~999999	
Up/Low Limit	"Limit" light on shows the result out of range, off shows within range	
Statistics Calculation	Multi-average, Max.,Min., PPM, SD, Allan Variance	
Standard Time Base		
Daily Aging	1×10^{-8}/day	
Yearly Aging	5×10^{-7}/year	
Optional Time Base		
Daily Aging	5×10^{-10}/day	
Yearly Aging	5×10^{-8}/year	
Channel Options		
	Frequency Range	**Dynamic Range**
3.0GHz	100MHz ~ 3GHz	A.-27dBm~+19dBm (100MHz~2.6GHz) -15dBm~+19dBm (2.6GHz~3.0GHz)
	100MHz ~ 3GHz	B. -27dBm~+19dBm
6.5GHz	200MHz ~ 6.5GHz	-15dBm ~+13dBm
12.4GHz	6.5GHz ~ 12.4GHz	-15dBm ~ +10dBm
16.0GHz	6.5GHz ~ 16GHz	-15dBm ~ +10dBm
20.0GHz	200MHz~20GHz	-10dBm ~ +10dBm (200MHz~350MHz) -15dBm ~ +10dBm (350MHz~18GHz) -10dBm ~ +10dBm (18GHz~20GHz)
26.5GHz	10GHz~26.5GHz	-20dBm ~ +10dBm (10GHz~20GHz) -15dBm ~ +10dBm (20GHz~24GHz) -10dBm ~ +10dBm (24GHz~26.5GHz)
40GHz	18GHz~40GHz	-29dBm~+15dBm (18GHz~20GHz) -20dBm~+15dBm (20GHz~28GHz) -29dBm~+10dBm (28GHz~37GHz) -20dBm~+13dBm (37GHz~40GHz)
General Characteristics		
Interface	RS-232, GPIB, LAN	
Power	Standard: AC220V (10%), 50Hz (5%), <70VA	
	Optional: AC110V (10%), 60Hz (5%), <70VA	
Dimension & Weight	454×98×486mm,7.3Kg	

Power Cord

BNC Testing Cable

CD

SS7000 Series Universal Frequency Counter/Timer/Analyzer

Features

- Minimum measuring resolution 11 digits/s
- Time resolution 25ps (typical)
- Maximum frequency's measurement can reach to 40GHz (options)
- Measures Frequency, Period, Duty Cycle, Frequency Ratio, Totalize, Phase Difference, Pulse Width, Time Interval and DCV.
- Utility statistics functions of multi-average, maximum, minimum, PPM, standard deviation and Allan Variance for frequency measurement
- Stores 15 group status
- High-stability crystal oscillator is optional

Specification

		SS7200A	SS7300	SS7400	SS7402
Measring Functions					
Frequency Range	CH1	0.001Hz ~ 200MHz			
	CH2	0.001Hz ~ 200MHz			
	CH3	CH 3:3GHz/6.5GHz/12.4GHz/16GHz/20GHz/26.5GHz/40GHz (option)			
Display Resolution		8 digits/s	10 digits/s	11 digits/s	11 digits/s
Period		5ns ~ 1000s			
Time Interval Range		10ns ~ 10000s		1ns ~ 10000s	
Time Resolution		2.5ns	500 ps	150ps	25ps
Pulse Width		30ns ~ 5000s		1ns ~ 10000s	
Duty Cycle		1% ~ 99%			
Totalize		0 ~ 1×10^{13}			
Phase Difference		1° ~ 359°			
Input					
Dynamic Range		50mVrms ~ 1.0Vrms (Sine), 150mVpp ~ 4.5Vpp(Pulse)			
Input Impedance		1MΩ//35pF or 50Ω			
Input Attenuation		×1 or ×10			
Trigger Level		-5.000V ~ +5.000V			
Other Functions					
Frequency Ratio		●			
Up/Low Limit		"Limit" light on shows the result out of range, off shows within range			
Statistics Calculation		Multi-average, Max.,Min., PPM, SD, Allan Variance			
Standard Time Base					
Accuracy		5×10^{-8}			
Daily Aging		1×10^{-9}/day			
Yearly Aging		5×10^{-7}/year			
Optional Time Base					
Accuracy		5×10^{-8}			
Daily Aging		5×10^{-10}/day			
Yearly Aging		5×10^{-8}/year			
Channel Options					
		Frequency Range	**Dynamic Range**		
3.0GHz		100MHz ~ 3GHz	A.-27dBm~+19dBm (100MHz~2.6GHz) -15dBm~+19dBm (2.6GHz~3.0GHz)		
		100MHz ~ 3GHz	B. -27dBm~+19dBm		
6.5GHz		200MHz ~ 6.5GHz	-15dBm ~+13dBm		
12.4GHz		6.5GHz ~ 12.4GHz	-15dBm ~ +10dBm		
16.0GHz		6.5GHz ~ 16GHz	-15dBm ~ +10dBm		
20.0GHz		200MHz~20GHz	-10dBm ~ +10dBm (200MHz~350MHz) -15dBm ~ +10dBm (350MHz~18GHz) -10dBm ~ +10dBm (18GHz~20GHz)		
26.5GHz		10GHz~26.5GHz	-20dBm ~ +10dBm (10GHz~20GHz) -15dBm ~ +10dBm (20GHz~24GHz) -10dBm ~ +10dBm (24GHz~26.5GHz)		
40GHz		18GHz~40GHz	-29dBm~+15dBm (18GHz~20GHz) -20dBm~+15dBm (20GHz~28GHz) -29dBm~+10dBm (28GHz~37GHz) -20dBm~+13dBm (37GHz~40GHz)		
General Characteristics					
Interface	Standard	USB, RS-232			RS-232,GPIB
	Optional	GPIB			○
Power		AC220V(10 %) or AC110V(10%), 50Hz(5%) or 60Hz(5%)			
		AC220V (1 ±10%) ,50Hz (1 ±5%) <70VA (for SS7402)			
Dimension & Weight		256×106×386mm			
		3.7kg	3.7kg	4.2kg	5.2kg

Standard Accessories

Power Cord	1
BNC Testing Cable	1
CD(Software+ User's Guide)	1

SS7301 Frequency Counter

Features

- High accuracy with minimum measuring resolution 10 digits/s
- 16-bit microcontroller is used and the speed of data processing is fast
- Maximum frequency's measurement can reach to 26.5GHz (options)
- Utility statistics functions of multi-average, maximum, minimum, PPM, standard deviation and Allan Variance for frequency measurement
- High-stability crystal oscillator is optional

Standard Accessories

Power Cord	1
BNC Testing Cable	1
CD(Software+ User's Guide)	1

Specification

Measring Functions		
Frequency	CH 1	0.001Hz ~ 200MHz
	CH 2	3GHz/6.5GHz/12.4GHz/16GHz/20GHz/26.5GHz/40GHz (options)
	CH 3	3GHz/6.5GHz/12.4GHz/16GHz/20GHz/26.5GHz /40GHz(options)
Display Resolution		10 digits/s
Period		5ns ~ 1000s
Pulse Width		50ns ~ 1000s
Duty Cycle		5% ~ 95%
Totalize		$0 \sim 1\times10^{13}$
Input		
Dynamic Range		50mVrms ~ 1.0Vrms (Sine), 150mVpp ~ 4.5Vpp(Pulse)
Input Impedance		1MΩ//35pF or 50Ω
Coupling Mode		AC or DC
Trigger Mode		Rising edge or Falling edge
Input Attenuation		×1 or ×10
Low-pass Filter		stop frequency approx.100kHz
Trigger Level		-5.000V ~ +5.000V, step 5mV
Other Functions		
Frequency Ratio		●
Frequency Self-test		●
Up/Low Limit		"Limit" light on shows the result out of range, off shows within range
Statistics Calculation		Multi-average, Max.,Min., PPM, SD, Allan Variance
Standard Time Base		
Accuracy		5×10^{-8}
Daily Aging		1×10^{-8}/day
Optional Time Base		
Accuracy		5×10^{-8}
Daily Aging		5×10^{-10}/day

Channel Options	**Frequency Range**	**Dynamic Range**
3.0GHz	100MHz ~ 3GHz	A.-27dBm~+19dBm (100MHz~2.6GHz) -15dBm~+19dBm (2.6GHz~3.0GHz)
	100MHz ~ 3GHz	B. -27dBm~+19dBm
6.5GHz	200MHz ~ 6.5GHz	-15dBm ~+13dBm
12.4GHz	6.5GHz ~ 12.4GHz	-15dBm ~ +10dBm
16.0GHz	6.5GHz ~ 16.0GHz	-15dBm ~ +10dBm
20.0GHz	200MHz~20GHz	-10dBm ~ +10dBm (200MHz~350MHz) -15dBm ~ +10dBm (350MHz~18GHz) -10dBm ~ +10dBm (18GHz~20GHz)
26.5GHz	10GHz~26.5GHz	-20dBm ~ +10dBm (10GHz~20GHz) -15dBm ~ +10dBm (20GHz~24GHz) -10dBm ~ +10dBm (24GHz~26.5GHz)
40GHz	18GHz~40GHz	-29dBm~+15dBm (18GHz~20GHz) -20dBm~+15dBm (20GHz~28GHz) -29dBm~+10dBm (28GHz~37GHz) -20dBm~+13dBm (37GHz~40GHz)

General Characteristics		
Interface	Standard	USB, RS-232
	Optional	GPIB
Power		AC220V(10 %) or AC110V(10%), 50Hz(5%) or 60Hz(5%)
Dimension & Weight		256×106×386mm, Approx. 3.5kg

SA1000 Series Frequency Characteristic Analyzer

Features

- Built-in detector, dispensing with detection radiometer
- Measure amplitude-frequency, phase-frequency, frequency discrimination and S parameters
- Available to set sweep mode arbitrarily, such as linear, logarithmic or single tone
- Display the frequency, gain and phase value at cursor position
- Four cursors could be displayed at same time within the sweep range
- 7' TFT color LCD with clear graph interface and convenient operation
- USB Device and RS-232 interface

Specification

	SA1030C/D	SA1050C/D	SA1080C/D	SA1140C/D
Sweep Range	20Hz ~ 30MHz	20Hz ~ 50MHz	20Hz ~ 80MHz	20Hz ~ 140MHz
Function	SA1000C: amplitude-frequency, phase-frequency, frequency discrimination and S Parameters can be measured SA1000D: amplitude-frequency, phase-frequency and frequency discrimination can be measured			
Sweep Mode	Linear, Log or Tone			
Output Amplitude	>0.5Vrms			
Input Impedance	50Ω/High Impedance			
Output Impedance	50Ω			
Output Attenuation	0 ~ 80dB, 1dB step			
Input Gain	10 ~ -30dB, 10dB step			
Phase Range	-180° ~ +180°			
Phase Resolution	1°			
Amplitude range of Input	0.1V≤A≤10V			
DC Offset	±4V			
General Characterisctics				
Display	7" TFT LCD, 800×480			
Interface	RS-232, USB Device			
Power	AC 220 (1±10%)V, 50(1±5%)Hz, <60VA			
Dimension & Weight	364×155×328mm, Approx.4.8 kg			

Standard Accessories

Power Cord	1
BNC Testing Cable	2
Test clip leads	2
CD(User's Guide)	1


Power Cord


CD


BNC Testing Cable


Test clip leads

Options

TCXO Stability: ±5×10^{-7}/day

SM2100 Series Digital AC Millivolt Meter

Features

- LED Display, Dual Independent Channels
- Auto/Manual Ranging can be selected
- Multiple display result with different units
- High Frequency Range from 5Hz to 6MHz
- Standard Interface USB Device

Specification

	SM2130	SM2160
Frequency Range	5Hz ~ 3MHz	5Hz ~ 6MHz
Measurement Range		
AC Voltage	50μV ~ 400V	50μV ~ 300V
Range	3mV, 30mV, 300mV, 3V, 30V, 300V	
dBV	-86dBV ~ 52dBV	-86dBV ~ 50dBV
dBm	-73dbm~65.05dbm (R=50Ω)	-73dbm~62.55dbm (R=50Ω)
	-84dbm~54.26dbm (R=600Ω)	-84dbm~51.76dbm (R=600Ω)
Vpp	141μV ~ 1131Vpp	141μV ~ 848Vpp
W	0.05nW~3200W (R=50Ω)	0.05nW~1800W (R=50Ω)
	0.00417nW~267W (R=600Ω)	0.00417nW~150W (R=600Ω)
Voltage Measurement Error		
≥5Hz ~ 100Hz	±2.5% reading ± 0.8% range	
>100Hz ~ 500kHz	±1.5% reading ± 0.5% range	
>500kHz ~ 2MHz	±2.0% reading ± 1.0% range	
>2MHz ~ 3MHz	±3.0% reading ± 1.0% range	
>3MHz ~ 5MHz	±4.0% reading ± 2.0% range	
>5MHz ~ 6MHz	±5.0% reading ± 4.0% range	
Resolution		
Range	$3\,^{1}/_{2}$ digits Display	$4\,^{1}/_{2}$ digits Display
3mV	0.001mV	0.0001mV
30mV	0.01mV	0.001mV
300mV	0.1mV	0.01mV
3V	0.001V	0.0001V
30V	0.01V	0.001V
300V	0.1V	0.01V
Maximum Undamaged Input Voltage		
Range:300V	400Vrms	350Vrms
General Characteristics		
Power	AC220(1±10%)V, 50 (1±5%)Hz, < 20VA	
Interface	USB Device	
Display	LED display	
Dimension & Weight	256×106×386mm , Approx.3.9 kg	

Standard Accessories

Power Cord	1
Test clip leads	2
CD(Software+ User's Guide)	1


Power Cord


CD


Test clip leads

SK33231/33251 Programmable DC Power Supply

Features

- Less buttons, easy to operate
- Three outputs, the maximum power is up to 342W
- 4 digit LED display can show voltage, current and power simultaneously

Specification

Model		SK33231	SK33251
Channel			
	CH1	0~32V/0~3.2A	0~32V/0~5.1A
	CH2	0~32V/0~3.2A	0~32V/0~5.1A
	CH3	1.8V/2.5V/3.3V/5V switchable, 3.2A (Max. output)	
Line Regulation			
Voltage	CH1, CH2,CH3	≤1×10^{-4}+2mV	
Current	CH1, CH2,CH3	≤1×10^{-4}+2mA	
Load Regulation			
Voltage	CH1	≤1×10^{-4}+3mV	≤1×10^{-4}+8mV
	CH2		
	CH3		≤1×10^{-4}+3mV
Current	CH1,CH2	≤1×10^{-4}+2mA	≤1×10^{-4}+2mA
Programming/Readback Accuracy			
Voltage	CH1	≤±(0.5%+30mV)	
	CH2		
	CH3 (no readback)	≤±7%	
Current	CH1	≤±(0.5%+30mA)	≤±(1%+60mA)
	CH2		
	CH3 (no readback)	≥3.2A	
Ripple and Noise			
Voltage	CH1,CH2,CH3	≤1mVrms	≤1mVrms
Current	CH1,CH2	≤3mArms	≤5mArms
Display resolution			
Voltage	CH1,CH2	10mV	
Current	CH1,CH2	1mA	
Display Digits			
Voltage		4 digits	
Current		4 digits	
Other function			
Auto switch of serial and parallel		●	
General Characteristics			
Rated Voltage		220-230 (198-242)V	
Rated Power		500W 670VA	600W 800VA
Rated Frequency		50/60(47-63) Hz	
USB charging Interface		5V 1A	
Remote Interface		USB Device	
Dimension		226×140×303mm	226×140×333mm
Weight		8KGs	9KGs

Standard Accessories

Power Cord	1
CD(User's Guide)	1

Power Cord

CD

SK3323/3325/3503 Programmable DC Power Supply

Features

- Three outputs, the maximum power is up to 342W
- Standard Timing Output
- Comprehensive over-voltage protection
- 4 digit LED display can show voltage, current and power simultaneously

Specification

Model		SK3323	SK3325	SK3503
Channel				
	CH1	0~32V/0~3.2A	0~32V/0~5.1A	0~50V/0~3.2A
	CH2	0~32V/0~3.2A	0~32V/0~5.1A	0~50V/0~3.2A
	CH3	1.8V/2.5V/3.3V/5.0V switchable, 3.2A (Max. output)		
Line Regulation				
Voltage	CH1, CH2	≤1×10^{-4}+2mV		
	CH3	≤1×10^{-4}+3mV		
Current	CH1, CH2	≤1×10^{-4}+2mA		
Load Regulation				
Voltage	CH1	≤1×10^{-4}+3mV	≤1×10^{-4}+8mV	≤1×10^{-4}+3mV
	CH2			
	CH3		≤1×10^{-4}+3mV	
Current	CH1,CH2	≤1×10^{-4}+2mA		
Programming/Readback Accuracy				
Voltage	CH1	≤±(0.5%+30mV)		≤±(0.5%+60mV)
	CH2			
	CH3 (no readback)	≤±7%		
Current	CH1	≤±(0.5%+30mA)	≤±(1%+60mA)	≤±(0.5%+30mA)
	CH2			
	CH3 (no readback)	≥3.2A		
Ripple and Noise				
Voltage	CH1,CH2	≤1mVrms		≤1.5mVrms
	CH3			≤1mVrms
Current	CH1,CH2	≤3mArms	≤5mArms	≤3mArms
Display resolution				
Voltage	CH1,CH2	10mV		
Current	CH1,CH2	1mA		
Display Digits				
Voltage		4 digits		
Current		4 digits		
Other function				
Auto switch of serial and parallel		●		
General Characteristics				
Rated Voltage		AC220(1±10%)V		
Rated Power		500W 670VA		600W 800VA
Rated Frequency		50/60(1±5%) Hz		
USB charging Interface		5V 1A		
Remote Interface		USB, LAN (option)		
Dimension		226×140×303mm		226×140×333mm
Weight		8KGs		9KGs

Standard Accessories

Power Cord	1
CD(User's Guide)	1

Power Cord

CD

SK3323J/3325J Programmable DC Power Supply

Features

- Three outputs, the maximum power is up to 338W
- Lowe Ripple and Noise:≤1mV/≤3mA
- Standard Timing Output
- Comprehensive over-voltage and over-temperature protection
- Fully remote control interface:LAN,USB Device and RS-232
- 5 digit LED display can show voltage, current and power simultaneously

Specification

Model		SK3323J	SK3325J
Channel			
	CH1	0~32V/0~3A	0~32V/0~5A
	CH2	0~32V/0~3A	0~32V/0~5A
	CH3	0~6V/0~3A	
Line Regulation			
Voltage	CH1, CH2,CH3	≤1×10^{-4}+3mV	
Current	CH1, CH2,CH3	≤1×10^{-4}+500μA	
Load Regulation			
Voltage	CH1	≤1×10^{-4}+3mV	≤1×10^{-4}+5mV
	CH2		
	CH3		≤1×10^{-4}+3mV
Current	CH1,CH2,CH3	≤1×10^{-4}+500μA	
Programming/Readback Accuracy			
Voltage	CH1	≤±(0.05%+20mV)	
	CH2		
	CH3		
Current	CH1	≤±(0.3%+5mA)	≤±(0.3%+10mA)
	CH2		
	CH3	≤±(2%+20mA)	
Ripple and Noise			
Voltage		≤1mV	
Current		≤3mA	
Display resolution			
Voltage		1mV	
Current		1mA	
Display Digits			
Voltage		5 digits	
Current		4 digits	
Other function			
Auto switch of serial and parallel		○	
Timing Output		●	
OTP		●	
OVP		●	
General Characteristics			
Rated Voltage		220/230 (198-242)V	
Rated Power		0.5kW 0.7kVA	0.6kW 0.8kVA
Rated Frequency		50/60(47-63) Hz	
USB charging Interface		5V 2A	
Remote Interface		LAN, USB Device, RS-232	
Dimension		254×157×442mm	
Weight		9KGs	10KGs

Standard Accessories

Power Cord	1
CD(User's Guide)	1

SK10000 Series Programmable DC Power Supply

Features

- All digital controlled, output 1mV/1mA step
- High stability, Low drift
- LED display the voltage/current and working status visually
- Intelligent temperature controlled fun with low noise
- Storage and recall function
- OVP (Over Voltage Protection) function
- Keypad locked function to avoid the misoperation
- Standard RS-232 interface, optional USB Device

Specification

Model	SK13515	SK13530	SK13530K
Output Range	35V/15A	35V/30A	
Ouput Power	500W	1000W	
Resolution	1mV/1mA		
Source Effect			
CV	≤1×10^{-5}+1mV		
CC	≤1×10^{-5}+3mA		
Load Effect			
CV	≤1×10^{-4}+3mV		
CC	≤1×10^{-4}+3mA		
Period and Random Deviation (PARD)			
CV	≤1mV		
CC	≤6mA		≤20mA
Accuracy			
Volatge	≤± (0.05%+10mV)		≤±(0.1%+10mV)
Current	≤± (0.2%+50mA)		≤±(0.2%+50mA)
OVP	≤± (0.5%+0.5V)		≤±(0.5%+0.8V)
General Characteristics			
Power	AC220V(1±10%)V,50(1±5%)Hz		AC220~230(198~242)V,50(47~63)Hz
Interface	RS-232 (standard) USB Device (option)		
Dimension & Weight	445×148×475 mm, Approx 25kg	445×148×675 mm, Approx 35kg	345×148×475 mm, Approx 13kg

Standard Accessories

Power Cord	1
RS-232 cable	1
CD(Software+User's Guide)	1


Power Cord


RS-232 cable


CD

TR3000 Series Rubidium Atomic Frequency Standard

Model	TR3111	TR3112	TR3113
Frequency Stability	≤3×10^{-11}/1s ≤8×10^{-12}/10s ≤3×10^{-12}/100s	≤1×10^{-12}/1s ≤3×10^{-12}/10s ≤1×10^{-12}/100s	≤3×10^{-12}/1s ≤3×10^{-12}/10s ≤3×10^{-12}/100s
Frequency Drift Rate	≤3×10^{-11}/day		
Frequency Adjusting Range	≥2×10^{-9}		
Frequency Temperature Characteristic	≤5×10^{-11}		
Phase Noise (10MHz)	10Hz <-130dBc/Hz; 100Hz <-145dBc/Hz 1kHz <-150dBc/Hz; 10kHz <-155dBc/Hz		
Electromagnetic Effect	＜2×10^{-11}		
Frequency Reproducibility	5×10^{-11}		
Frequency Accuracy	5×10^{-11} (factory setting)		
Output Frequency	10MHz Sine 10 channels 5MHz Sine 3 channels 1pps 3 channels		
GPS/Beidou Calibration	≤1×10^{-12} (24 hours averaging)		
General Characterics	AC220（1±2%）V, 50(1±1%)Hz, <35w 454×98×486mm, Approx10.5kg		

ST2050 Series Frequency Standard Comparator

Features

- With dual-channel frequency difference measuring technique
- Measuring Channel: up to 4
- The sampling time could be set as user demand: 1s to 10^5s
- Graphic interface, auto and real time measurement of Allan Deviation
- Measure Cesium/Hydrogen/Rubidium Atomic Clock, such as daily fluctuation, booting characteristic, aging rate, accuracy, drift, frequency deviation and difference of daily accuracy

Specification

Main Specification	ST2051	ST2052	ST2053	ST2054
Measuring Channel	1	2	3	4
Frequency	5MHz, 10MHz			
Input Amplitude	3dBm ~ 13dBm, Input Impedance: 50ohm			
Max. Frequency Deviation	1×10^{-8}			
Comparison Uncertainty	5×10^{-13}/s 5×10^{-14}/10s 5×10^{-15}/100s 1×10^{-15}/1000s 5×10^{-16}/10000s			
Measuring Function	Allan standard deviation, Accuracy, Booting characteristic, Aging rate, Repeatablity			
Built-in Frequency Counter	13digits/s			
Port	USB: connect USB-type mouse, keyboard and USB disk LAN: remote control			
General Characterisctics				
Voltage	220(1±10%)V			
Frequency	50(1±5%)Hz			
Power Consumption	65VA Max.			
Working Temperature	10 ~ 30℃			
Weight	10.5kg			
Dimension	364×155×468mm			

Standard Accessories

Power Cord	1
CD (User's Guide)	1
Network cable	1
BNC testing cable	5
Connector TNC/BNC-JK	5


Connector TNC/BNC-JK


Power Cord


CD


BNC testing cable


Network cable

SF2002 Stopwatch Calibrator

Features

- High resolution of crystal oscillator with accuracy up to 5×10^{-8}
- Quick response
- Easy operation suitable for metrological service, factory, academy and scientific research institution to calibrate all kinds of timer instruments

Specification

Mechanical stopwatch and electronic stopwatch	
Input Range	T_0: 1s-99999s
Accuracy	< ± ($1\times10^{-7}\times T_0$+3ms)
Pointer electrical stopwatch	
Input Range	T_0: 0.1s-99999s (Continous, Trigger and Pause)
Accuracy	<± (Mains frequency accuracy×T_0+0.6ms)
Digital electrical stopwatch	
Input Range	T_0: 0.1ms-9999.9s
Accuracy	<± ($1\times10^{-7}\times T_0$ + 3μs)
Crystal Oscillator	
Nominal Frequency	10MHz
Daily Aging Rate	≤5×10^{-9}/day
Second Stability	≤5×10^{-11}/s
Accuracy	≤5×10^{-8}
Warm Up Time	>2 hours
General Characteristics	
Power	220(1±10%)V, 50(1±5%)Hz, <20VA
Display	LCD
Dimension	256×106×393 mm
Weight	3.7kg

Standard Accessories

Power Cord	1
CD (User's Guide)	1
Dual banana plug test lead	2
BNC-banana test lead	1


Power Cord


BNC-banana test lead


CD


Dual banana plug test lead

Options

Test Fixture
Certificate issued by third part

* Our company reserves the right to change the specification of the catalogue without notice

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