

Catalog

High Precision Digital Multimeter

ET3260A、ET3260B 6 1/2 Digital multimeter

ET3240X 4 1/2 Digital multimeter

ET3255X 5 1/2 Digital multimeter

Functional Signal Generator

ET33X Series Functional Signal Generator

ET33C Series Functional Signal Generator

Digital LCR Meter (Benchtop /Handheld)

ET35 Series Precision Digital Bridge

ET43 Series Handheld Digital LCR Meter Series

ET44、ET45 Series(Economical) Series Digital Bridge

Programmable Electronic Load

ET54A+ Series Programmable Electronic Load (Economical)

ET5410A+ Programmable Electronic Load (Economical)

ET5411A+ Programmable Electronic Load (Economical)

ET5420A+ Programmable Electronic Load (Economical)

ET53 Series Programmable Electronic Load (Economical)

ET5300A Programmable Electronic Load (Economical)

ET5301 Programmable Electronic Load (Economical)

ET5302 Programmable Electronic Load (Economical)

ET5303 Programmable Electronic Load (Economical)

ET5304 Programmable Electronic Load (Economical)



Electric Measurement and instrument

High Precision Digital Multimeter

ET3260A、ET3260B 6 1/2 Digital multimeter

ET3260A、ET3260B 6 1/2 Digital multimeter	ET3260A	570USD
	ET3260	618USD



Model		ET3260	ET3260A	
display		3.5-inch color screen (resolution 320*480)		
According digits		6 1/2		
Signal terminal		front-end/back-end	front-end	
Maximum measurement speed		2500 readings per second		
function	Items	uncertainty, $\pm(\% \text{ measurement} + \% \text{ range})$		
DCV	uncertainty	0.0035+ 0.0005		
	Measuring range	0 mV~1000 V		
	Maximum resolution	100nV		
ACV	uncertainty	0.06 + 0.03		
	Measuring range	1 mV~750 V		
	Maximum resolution	100nV		



	Frequency range	3 Hz ~ 300 kHz
DCI	uncertainty	0.05 + 0.006
	Measuring range	0 uA ~ 12 A
	Maximum resolution	10 pA
ACI	uncertainty	0.10 + 0.04
	Measuring range	1 uA ~ 12 A
	Maximum resolution	100 pA
	Frequency range	3 Hz ~ 10 kHz
resistance	uncertainty	0.01 + 0.001
	Measuring range	0 Ω ~ 1 GΩ
	Maximum resolution	10 uΩ
Frequency/ period	uncertainty	0.01%
	Measuring range	3 Hz ~ 1 MHz
	Maximum resolution	1 uHz
capacitanc e	uncertainty	1 + 0.3
	Measuring range	0 nF ~ 100 mF
	Maximum resolution	1 pF
On- off/diode		yes
proportion(DC: DC)	reference range	100mV ~ 10 V
	Input range	100mV ~ 1000 V
temperatur e	type	Platinum resistance, thermistor, custom sensor
	Maximum resolution	0.001°C
Mathematical functions		Relative to (ax + b), maximum/minimum/average, standard deviation, dB, dBm, read retention, limit



	test	
graphics	Histogram, trend graph	
interface	RS-232、 IEEE 488、 LAN、 USB Device、 USB Host、 Trig IN/OUT	
programming language	SCPI Compatible with Agilent 34401A 、 34410 和 Fluke 45	
Data storage capacity	512K	

ET3240X、ET3255X Digital multimeter (4 1/2, 5 1/2)

ET3240X Digital multimeter	ET3240	190USD
	ET3241	216USD
	ET3255	260USD
Model	ET3240	ET3241
Display screen	3.5" TFT LCD (resolution of 320*480)	
Number of display digits	4 1/2	4 1/2
Signal terminal	Front end	
Fastest measuring speed	7 readings/s	
Function No.	Uncertainty, $\pm(\% \text{ of reading} + \text{least significant digit})$	
Uncertainty	0.05+ 3	0.03+6
	0.015+ 3	



DCV	Measurement range	10 uV~1000 V	1 uV~1000 V	1 uV~1000 V					
	Maximum resolution	10uV	10uV	1uV					
ACV	Uncertainty	0.8+ 80	0.5+40	0.2+ 100					
	Measurement range	10 uV~750 V	10 uV~750 V	1 uV~750 V					
	Maximum resolution	10uV	10uV	1uV					
	Frequency range	40Hz ~ 1kHz	40Hz ~ 20kHz	40Hz ~ 100kHz					
DCI	Uncertainty	0.35 +10	0.15+15	0.05 +10					
	Measurement range	0.01 uA ~ 10 A	0.01 uA ~ 10 A	0.001 uA ~ 10 A					
	Maximum resolution	0.01uA	0.01uA	0.001uA					
ACI	Uncertainty	0.8+80	0.75+20	0.3+400					
	Measurement range	0.01 uA ~ 10 A	0.01 uA ~ 10 A	0.001 uA ~ 10 A					
	Maximum resolution	0.01uA	0.01uA	0.001uA					
	Frequency range	40Hz ~ 1kHz	40Hz ~20kHz	40 Hz ~ 5kHz					
Resistance	Uncertainty	0.1+ 20	0.1+5	0.02+ 6					
	Measurement range	0.01Ω ~20MΩ	0.01Ω ~20MΩ	0.001 Ω ~20MΩ					
	Maximum resolution	0.01Ω	0.01Ω	0.001Ω					
Frequency/cycle	Uncertainty	0.2+10	0.2+10	0.1+3					
	Measurement range	0.01 Hz ~20 MHz	0.01 Hz ~20 MHz	0.001 Hz ~20 MHz					
	Maximum resolution	0.01Hz	0.01Hz	0.001Hz					
Capacitance	Uncertainty	7+ 30	6+15	5+5					
	Measurement range	1 pF ~ 10 mF	1 pF ~ 10 mF	1 pF ~ 10 mF					
	Maximum resolution	11pF	1pF	1 pF					
Mathematical functions:									
Relative measurement, max/min, dB, dBm, reading hold									
Data storage/reading									
Interfaces		USB device standard, RS232 optional		USB Device, RS232					
Trigger measurement									
Yes									
Square-wave output									
Yes									
Fast measurement									
Optional configuration				Yes					
Resistance 4-line measurement									
Yes									
External trigger measurement									
None				Yes					
AC+DC measurement									
Calibration		Yes							
On-off/diode		Yes							
Limit test function		Yes							

Functional Signal Generator LCR Digital Bridge (desktop, hand-held)

ET33 Series Functional Signal Generator



 <p>ET33X Series Functional Signal Generator</p>	ET3315X	145USD		
	ET3325X	175USD		
	ET3340X	202USD		
	ET3360X	238USD		
<ul style="list-style-type: none"> ● 3.5-inch 480×320TFT LCD with clear graphic interface ● Chinese / English menu available ● Press key for help and information ● File management supporting USB flash disk and local storage ● Two-channel output with the highest output frequency is ET3315X Model is 15MHz, ET3325X Model is 25MHz, ET3340X Model is 40MHz, ET3360X Model is 60MHz. ● Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k ● 5 basic waveforms and 32 arbitrary waveforms in-built ● Pulse wave output set in edge time ● Internal/external AM, FM, PM, ASK, FSK and PSK modulation function ● Output of linear/logarithmic frequency sweep and burst waveform ● Frequency meter of high precision of 100MHz and 32-bit counter ● With RS232 interface, USB Device, USB Host interface supporting USB flash disk storage (USB Host Optional) ● Multi-functional arbitrary waveform editing software equipped 				
Frequency Characteristics				
MODEL	ET3315X	ET3325X	ET3340X	ET3360X
Sine	1μHz ~ 15MHz	1μHz ~ 25MHz	1μHz ~ 40MHz	1μHz ~ 60MHz
Square	1μHz ~ 15MHz	1μHz ~ 15MHz	1μHz ~ 15MHz	1μHz ~ 15MHz
Triangle	1μHz ~ 15MHz	1μHz ~ 15MHz	1μHz ~ 15MHz	1μHz ~ 15MHz
Pulse	100μHz ~ 6MHz	100μHz ~ 6MHz	100μHz ~ 6MHz	100μHz ~ 6MHz
Arbitrary	1μHz ~ 6MHz	1μHz ~ 6MHz	1μHz ~ 6MHz	1μHz ~ 6MHz
Noise (-3dB)	7MHz Bandwidth			
Frequency Resolution	1μHz			
Frequency	±5ppm			



Accuracy					
Frequency Stability	$\pm 1\text{ppm}/3\text{hour}$				
Frequency Characteristics					
Waveform Types	Sine, square, triangle, pulse, noise and arbitrary waves (including DC). There are 32 kinds of arbitrary waves and 50 kinds of user-defined waves.				
Waveform Length	8192 points				
Waveform Sampling Rate	200 MSa/s				
Waveform Vertical Resolution	13 bits				
Sine Wave Characteristics					
Sine Wave	Harmonic Distortion	$\geq 45\text{dBc}(<1\text{MHz})$; $\geq 40\text{dBc}(1\text{MHz}\sim 20\text{MHz})$			
	Total Harmonic Distortion	$<0.8\%(20\text{Hz} \sim 20\text{kHz}, 0\text{dBm})$			
Square Wave Signal Characteristics					
Square Wave	Rise/Fall	$<20\text{ns}$			
	Overshoot	$<5\%$			
	Duty Cycle	freq<100kHz: 1%~99%; 100kHz≤freq<5MHz: 20% ~ 80%; 5MHz≤freq: 40% ~ 60%(0.1% resolution)			
Pulse Wave Characteristics					
Pulse Wave	Pulse Width	Min 20ns; 1ns resolution			
	Edge Transition Time	Min 20ns;			
	Overshoot	$<5\%$			
	Jitter	6ns+0.1% Period			
Ramp Wave Characteristics					
Ramp Wave	Linearity Degree	$\geq 98\%(0.01\text{Hz}\sim 10\text{kHz})$			
	Symmetry	0.0 ~ 100.0%(resolution 0.1%)			
Output Characteristics					
Amplitude					
Amplitude Range	freq<10MHz	10MHz≤freq<30MHz	30MHz≤freq		
	2mVpp ~ 20Vpp	2mVpp ~10Vpp	2mVpp ~5Vpp		
Amplitude Resolution	1mV				
Amplitude Stability	$\pm 1\%$ set value $\pm 1\text{mVpp}$ (1kHz Sine, 0 offset, >10mVpp)				
Amplitude Flatness (relative to 1K Sine,	$\pm 0.4\text{dB}$ <10MHz ; $\pm 1.0\text{dB}$ $\geq 10\text{MHz}$.				



1 Vpp)		
Output Impedance	50 Ω ± 10% (Typical)	
Protection	All the signal output terminal can be shorted within 60s	
DC Offset		
	Output Amplitude>0.1V	2mV<Output Amplitude≤0.1V
Offset Adjusting Range	±10Vpk, ac + dc	±0.250Vpk, ac + dc
Offset Resolution	1mV	
Phase characteristics		
Phase Adjusting Range	0~359.9°	
Phase Resolution	0.1°	
External Measurement Function		
Frequency Meter	Frequency measurement range	1Hz ~ 100MHz
	Measurement accuracy	Gate time continuously adjusted between 0.01s~10s
Counter Function	Counting region	0 ~ 4294967295
	Control mode	Manual operation
Input Signal Voltage Range	2Vpp~20Vpp	
Coupled Mode	AC or DC	
Pulse Width Measurement	1ns (resolution), 20s (MAX measuring time)	
Period Measurement	1ns (resolution), 20s (MAX measuring time)	
SYNC Output		
Output Channel	CH1 or CH2, default CH1	
Level	TTL	
Impedance	50 Ω	
Rise/Fall Time	< 25ns	
Maximum Frequency	25MHz	
AM Modulation		
Output Channel	CH1 or CH2, default CH1	
Carrier Wave	Sine, square, ramp, pulse and arbitrary waveforms (excluding DC)	
Source	Internal/External	



Modulation Wave	Sine, square, triangle and ramp
Modulation Frequency	2mHz~20kHz
Modulation Depth	0%~120%
FM Modulation	
Output Channel	CH1 or CH2, default CH1
Carrier Wave	Sine, square, ramp, pulse and arbitrary waveforms (excluding DC)
Source	Internal/External
Modulation Wave	Sine, square, triangle and ramp
Modulation Frequency	2mHz~20kHz
Frequency Offset	0~Maximum carrier frequency
PM Modulation	
Output Channel	CH1 or CH2, default CH1
Carrier Wave	Sine, square, ramp, pulse and arbitrary waveforms (excluding DC)
Source	Internal/External
Modulation Wave	Sine, square, triangle and ramp
Modulation Frequency	2mHz~20kHz
Phase Offset	0° ~ 360°
ASK Modulation	
Output Channel	CH1 or CH2, default CH1
Carrier Wave	Sine, square, ramp, pulse and arbitrary waveforms (excluding DC)
Source	Internal/External
Modulation Wave	Square wave of 50% duty ratio
Keying Frequency	2mHz~1MHz
Modulation Amplitude	0~Carrier Amplitude
FSK Modulation	
Output Channel	CH1 or CH2, default CH1
Carrier Wave	Sine, square, ramp, pulse and arbitrary waveforms (excluding DC)
Source	Internal/External
Modulation Wave	Square wave of 50% duty ratio
Keying Frequency	2mHz~1MHz
Hop Frequency	Carrier frequency range
PSK Modulation	
Output Channel	CH1 or CH2, default CH1
Carrier Wave	Sine, square, ramp, pulse and arbitrary waveforms (excluding DC)



Source	Internal/External
Modulation Wave	Square wave of 50% duty ratio
Keying Frequency	2mHz~1MHz
Modulation Phase	0° ~ 360°
Frequency Sweep	
Output Channel	CH1 or CH2, default CH1
Types	Linearity/Logarithm
Sweep Frequency Time	1ms ~ 500.000s
Start/Stop Frequency	1μHz~Maximum carrier frequency
Sweep Direction	Forward, Backward
Trigger Source	Manual operating, internal, external
Burst Characteristics	
Output Channel	CH1 or CH2, default CH1
Carrier Wave	Sine, square, ramp, pulse and arbitrary waveforms (excluding DC)
Pulse Count	1~65535 or infinite, gated
Start/Stop Phase	0~360°
Internal Period	1μs~500s
Gating Source	External
Trigger Source	Internal, external, manual operating
Trigger Input	
Signal Range	2Vpp~20Vpp
Coupling	AC or DC
Pulse Width	>100ns
Reaction Time	<500ns (Burst)
	<10μs (Sweep)
Modulation Input	
Impedance	1M Ω
Signal range	± 2.5V ac+dc



ET33C Series Functional Signal Generator	3320C	58USD
	3330C	63USD
	3340C	68USD
	3350C	73USD
	3360C	78USD

ET33C series two-channel function/arbitrary wave generator (hereinafter referred to as ET33C series) adopts direct digital frequency synthesis technology, which can output signals with high accuracy, stability and low distortion.

ET33C series has five models: ET3320C, ET3330C, ET3340C, ET3350C, ET3360C, the highest output frequency is 20MHz, 30MHz, 40MHz, 50MHz and 60MHz respectively.

- 2.4-inch 320X240 TFT LCD with clear graphic interface
- Chinese / English menu available
- Both channels are independent of each other and have phase synchronization function.
- Sampling rate: 200MSa/S, vertical resolution: 13 bit and storage depth: 8k
- 5 basic waveforms and 32 arbitrary waveforms in-built
- waveform storage; Support internal storage of 50 groups of user-defined edited waveforms;
- Pulse wave output set in edge time
- Internal AM, FM, PM modulation function (External AM, FM, PM modulation is optional)
- Internal/external ASK, FSK, PSK modulation function;
- Dual channel output, maximum output frequency 60M;
- Output of linear/logarithmic sweep and burst (pulse train) waveforms;
- With 100MHz high precision frequency meter and 32 bit counter;
- Standard USB Device interface; Optional external analog modulation interface;
- Equipped with multifunctional arbitrary waveform editing software.

Frequency Characteristics

Model	ET3320C	ET3330C	ET3340C	ET3350C	ET3360C
Sine	1μHz ~ 20MHz	1μHz ~ 30MHz	1μHz ~ 40MHz	1μHz ~ 50MHz	1μHz ~ 60MHz
Square	1μHz ~ 15MHz				
Triangle	1μHz ~ 15MHz				
Pulse	100μHz ~ 6MHz				
Arbitrary	1μHz ~ 6MHz				



Frequency Resolution	1μHz				
Frequency Accuracy	±20ppm				
Frequency Stability	±1ppm/3 hour				
Waveform Characteristics					
Waveform Types	Sine, square, triangle, pulse, noise and arbitrary waves (including DC). There are 32 kinds of arbitrary waves and 50 kinds of user-defined waves.				
Waveform Length	8192 points				
Waveform Sampling Rate	200MSa/s				
Waveform vertical resolution	13bits				
Sine Wave Characteristics					
Sine Wave	Harmonic suppression degree	≥45dBc(<1MHz); ≥40dBc(1MHz~20MHz)			
	Total harmonic distortion	<0.8%(20Hz ~ 20kHz, 0dBm)			
Square Wave Signal Characteristics					
Square Wave	Rise/Fall	<20ns			
	Overshoot	<5%			
	Duty Cycle	freq<100kHz: 1%~99%; 100kHz≤freq<5MHz: 20% ~ 80%; 5MHz≤freq: 40% ~ 60%(0.1% resolution)			
Pulse Wave Characteristics					
Pulse Wave	Pulse Width	Min 20ns; 1ns resolution			
	Edge jump time	Min 20ns;			
	Overshoot	<5%			
	Jitter	6ns+0.1%Period			
Sawtooth wave Characteristics					
Sawtooth wave	Linearity Degree	≥98%(0.01Hz~10kHz)			
	Symmetry	0.0 ~ 100.0%(resolution0.1%)			
Output Characteristics					
Amplitude					
Amplitude Range	freq<10MHz	10MHz≤freq<30MHz	30MHz≤freq		
	2mVpp ~ 20Vpp	2mVpp ~10Vpp	2mVpp ~5Vpp		



Amplitude Resolution	1mV	
Accuracy of amplitude	1% of set value +2mVpp (1kHz Sine, 0 offset, >10mVpp)	
Amplitude accuracy	$\pm 0.4\text{dB}$ <10MHz ;	
Amplitude flatness (Relative to 1K sine wave, 1Vpp)	$\pm 1.0\text{dB}$ $\geq 10\text{MHz}$.	
Output Impedance	50 $\Omega \pm 10\%$ (Typical)	
Protection	All signal output terminals can work within 60s under load short circuit	
Offset		
	Output Amplitude>0.1V	2mV<Output Amplitude $\leq 0.1\text{V}$
Output range	$\pm 10\text{Vpk}$, ac + dc	$\pm 0.250\text{Vpk}$, ac + dc
Offset Resolution	1mV	
Phase characteristics		
Phase Adjusting Range	0~359.9°	
Phase Resolution	0.1°	
External Measurement Function		
Frequency Meter Function	range	1Hz ~ 100MHz
	Gate time	0.01s ~ 10s continuously adjusted
Counter Function	Counting region	0 ~ 4294967295
	Counting method	Manual operation
Input Signal Voltage Range	2Vpp~20Vpp	
Coupled Mode	AC or DC	
Pulse Width Measurement	1ns(resolution, MAX measuring time 20s	
Period Measurement	1nsresolution, MAX measuring time 20s	
AM Modulation		
Output Channel	CH1 or CH2	
Carrier Wave	Sine, square, sawtooth wave, pulse and arbitrary waveforms (excluding DC)	
Source	Internal/External VCO(external optional)	
Modulation Wave	Sine wave, square wave, triangle wave, upper oblique wave, lower oblique wave	
Modulation Frequency	2mHz~20kHz	
Modulation depth	0%~120%	
FM Modulation		
Output Channel	CH1 or CH2	



Carrier Wave	Sine, square, sawtooth wave, pulse and arbitrary waveforms (excluding DC)
Source	Internal/External VCO(external optional)
Modulation Wave	Sine wave, square wave, triangle wave, upper oblique wave, lower oblique wave
Modulation	2mHz~20kHz
Frequency Offset	0~Maximum carrier frequency
PM Modulation	
Output Channel	CH1 or CH2
Carrier Wave	Sine, square, sawtooth wave, pulse and arbitrary waveforms (excluding DC)
Source	Internal/External VCO(external optional)
Modulation Wave	Sine wave, square wave, triangle wave, upper oblique wave, lower oblique wave
Modulation freq.	2mHz~20kHz
Frequency Offset	0° ~360°
ASK Modulation	
Output Channel	CH1 or CH2
Carrier Wave	Sine, square, sawtooth wave, pulse and arbitrary waveforms (excluding DC)
Source	Internal/External
Modulation Wave	A square wave with 50% duty cycle
Modulation freq.	2mHz~1MHz
Amplitude modulation	0~Carrier wave amplitude
FSK Modulation	
Output Channel	CH1 or CH2
Carrier Wave	Sine, square, sawtooth wave, pulse and arbitrary waveforms (excluding DC)
Source	Internal/External
Modulation Wave	A square wave with 50% duty cycle
Modulation rate	2mHz~1MHz
Frequency hopping	Carrier frequency range
PSK Modulation	
Output Channel	CH1 or CH2
Carrier Wave	Sine, square, sawtooth wave, pulse and arbitrary waveforms (excluding DC)
Source	Internal/External
Modulation Wave	A square wave with 50% duty cycle
Modulation rate	2mHz~1MHz
The phase modulation	0° ~360°
Frequency sweep function	



Sweep frequency channel	CH1 or CH2
Frequency sweep type	Linear scan, logarithmic scan
Frequency sweep time	1ms ~ 999.999s
Setting range	Arbitrarily set the start and end points
Frequency sweep direction	Forward, reverse, round trip
Trigger source	Internal, external, manual
Burst Characteristic	
Output Channel	CH1 or CH2
Carrier Wave	Sine wave, square wave, sawtooth wave, pulse wave, noise, arbitrary wave (except DC)
Pulse count	1 to 1048575 or Unlimited or gated
Start/stop phase	0~360°
Intercycle	1μs~500s
Door control source	external
Trigger source	Internal, external, manual
Trigger input	
Input signal voltage range	2Vpp~20Vpp
Coupled mode	DC or AC
Pulse width	>100ns
Response time	<500ns (pulse train) <10μs (sweep frequency)
Analog modulation input (optional)	
Input impedance	1M Ω
Singal range	± 2.5V ac+dc



Digital LCR Meter (Benchtop /Handheld)

ET35 Series Precision Digital Bridge

 <p>ET35 Series Precision Digital Bridge</p>	ET3501	520 USD
	ET3502	620 USD
	ET3503	796 USD
	ET3505	940 USD
	ET3510	1320 USD

Model	Description
ET3501	100 kHz frequency range, 0.05% basic accuracy, 6 1/2 digit display
ET3502	200 kHz frequency range, 0.05% basic accuracy, 6 1/2 digit display
ET3503	300 kHz frequency range, 0.05% basic accuracy, 6 1/2 digit display
ET3505	500 kHz frequency range, 0.05% basic accuracy, 6 1/2 digit display
ET3510	1 MHz frequency range, 0.05% basic accuracy, 6 1/2 digit display

Model	ET3510	ET3505	ET3503	ET3502	ET3501
Test signal frequency range	10Hz-1MHz	10Hz-500kHz	10Hz-300kHz	10Hz-200kHz	10Hz-100kHz
Frequency resolution 、 accuracy	Resolution:1mHz, Accuracy:0.01%				
Test parameters	Cp-D, Cp-Q, Cp-G, Cp-Rp, Cs-D, Cs-Q, Cs-Rs, Lp-D, Lp-Q, Lp-G, Lp-Rp, Ls-D, Ls-Q, Ls-Rs, Rs-Xs, Z -θr, Z -θd, Y -θr, Y -θd, G-B				
Measuring display speed	Fast:50times/s(20ms), Medium:10times/s(100ms), Slow:1.25times/s(800ms)				
Custom measuring speed	Between 0.5times/s~200times/s, Can be set				
LCR parameter range	Cp、Cs: 0.001000pF~99.9999F Lp、Ls: 0.001000nH~99.9999kH Rp、Rs、 Z 、Xs: 0.001000mΩ~999.999MΩ				



	G、B、 Y : 0.001000μS~999.999kS θr: ±0.000001rad~3.14159rad θd: ±0.000001deg~179.9999deg D: ±0.000001~9.99999 Q: ±0.001~99999.9	
Test signal voltage range	0~2Vrms	
Voltage resolution、accuracy	Resolution:1mV, accuracy:5%+5mV	
Test signal current range	100μArms~20mAms	
Current resolution、accuracy	Resolution:10μA, accuracy:5%+50μA	
DC bias voltage source	Internal: -2V~+2V voltage bias, -20mA~+20mA current bias External : -60V~+60V voltage bias	
Internal resistance of signal source	30 Ohm or 100 Ohm, selectable	
Basic accuracy	0.05%	
Display resolution	6 1/2 digit	
Comparator	9 groups of qualified setting, one group of unqualified setting, one group of auxiliary setting	
Triggered mode	Internal,External,manual, bus	
Mathematical operations	Delta (absolute value) , Delta% (percentage) , Direct reading	
Calibration function	Self-calibration, open circuit,short circuit,load,100 groups of customised frequency point	
List scanning	10-point list scanning testing	
Storage device	Internal/USB storage device	
Interface	GPIB、LAN、RS232、USB Host、USB Device、Handler	

ET43 Series Handheld Digital LCR Meter Series



ET43Series Functional Signal Generator



ET430B

76USD

ET430

80USD

ET431

102USD

ET432

128USD

ET433

245USD

Model	ET430	ET430B	ET431	ET432	ET433		
Testing frequency	100Hz, 120Hz, 1KHz, 10KHz, 40kHz, 100KHz	100Hz, 20Hz, 1KHz, 10KHz	100Hz, 120Hz, 1KHz, 10KHz	100Hz, 120Hz, 1KHz, 10KHz, 40kHz, 100KHz	100Hz-100KHz Continuously adjustable, a step of 1 Hz		
Basic accuracy	0.3%	0.3%	0.2%	0.2%	0.2%		
Display screen	2.8" TFT LCD screen						
Number of display digits	Principal parameter: 5 digit Secondary parameter: 5 digit						
Measured parameter:	Principal parameter: L/C/R/Z Secondary parameter: X/D/Q/θ/ESR						
Capacitive mode	✗	✓	✓	✓	✓		
DCR mode	✗	✗	✓	✓	✓		
Measurement range	L: 0.000μH~2000H, C: 0.000pF~20.000mF, R: 0.0001 Ω ~20.000M Ω						
Measuring display speed	1 time/s (slow), 2 times/s (medium), 4 time/s (fast)						
Internal bias	✗		0-500mV adjustable, at a step of 1mV.				
Testing level	0.6Vrms	0.3Vrms, 0.6Vrms	0.1Vrms, 0.3Vrms, 0.6Vrms, 1Vrms	0-1V adjustable			
Calibration function	Open circuit calibration, short circuit calibration						
Screening function	The limit range of screening can be set to 1%-50%, and the fixed points are 1%, 5%, 10% and 20%.						
Deviation measurement	Used for comparing and displaying deviation percentage of component and the set nominal value						
Others	Adjustment of backlight brightness, Chinese and English are optional,USB device and automatic power-off time						
Accessories							
Standard configuration	1. Mini-USB cable; 2. Power adapter; 3. Short circuit bar;						



	4. Red and black rubber plug;	5. High capacity lithium battery	
		Kelvin clips	
Optional configuration	Kelvin clips SMD clips	SMD clips	

ET44、ET45 Series(Economical) Series Digital Bridge

 <p>ET44, ET45 Series Functional Signal Generator</p>	ET4401	133USD
	ET4402	202USD
	ET4410	230USD
	ET4501	250USD
	ET4502	272USD
	ET4510	289USD

Model	10k (Fixed fr.)	20k (Fixed fr.)	100k (Fixed fr.)	10k (Continuous fr.)	20k (Continuous fr.)	100k (Continuous fr.)
Testing frequency	10 Points (100, 120, 200, 400, 800, 1K, 2K, 4K, 8K, 10K, 15K, 20K)	12 Points (100, 120, 200, 400, 800, 1K, 2K, 4K, 8K, 10K, 15K, 20K)	16 Points (100, 120, 200, 400, 800, 1K, 2K, 4K, 8K, 10K, 15K, 20K, 40K, 50K, 80K, 100K)	10~10KHz Continuously adjustable, a step of 1 Hz	10~20KHz Continuously adjustable, a step of 1 Hz	10~100KHz Continuously adjustable, a step of 1 Hz
Display screen	3.5" TFT LCD screen					
Number of display digits	Principal parameter: 5 digit Secondary parameter: 5 digit					
Measured parameter:	Principal parameter: L/C/R/Z Secondary parameter: X/D/Q/ θ /ESR					
Measurement range	L: 0.001μH~9999H, C: 0.001pF~99.999mF, R: 0.0001 Ω ~99.99M Ω					
Basic accuracy	0.2%					
Measuring display speed	2 time/s (slow), 4 times/s (medium), 8 time/s (fast)					
Internal bias	0-1500mV adjustable, at a step of 1mV.					



Testing level	Six fixed level(0.1V、0.3V、0.6V、1V、1.5V、2V)	0.1~2V adjustable, at a step of 1mV.
Signal source output impedance		30 Ω 、 100 Ω
Calibration function		Open circuit calibration, short circuit calibration
Screening function		The limit range of screening can be set to -50% ~ +50%, and the fixed points are 1%, 5%, 10% and 20%.
Comparator		5 groups sorting, 3 groups of qualified setting, one group of unqualified setting, one group of auxiliary setting
Interfaces		standard: RS232 (or 485) , USB Device, Handler ;optional :GPIB,USB Host
Others		Support dc resistance (DCR), electrolytic capacitor measurement model, Adjustment of backlight brightness, Chinese and English are optional

ET54A+ Series Programmable Electronic Load (Economical)

ET54A+ Series Programmable Electronic Load (Economical)	ET5410A+	111USD
	ET5411A+	120USD
	ET5420A+	130USD



MODEL	ET5410 A+	ET5420 A+	ET5411 A+
Channels	Single Channel	Double channels	Single Channel
Rated input	Power	400W	400W (200W × 2)
	Input voltage	0-150V	0-500V



	Input current	0-40A	0-20A×2	0-15A
CV mode	Range	0.1~19.999V, 0.1~150.00V		0.1~19.999V , 0.1~500.00V
	Resolution	1mV, 10mV		
	Accuracy	$\pm(0.05\%+0.02\%FS)$		
CC mode	Range	0~3.000A, 0~40.00A		0~3.000A, 0~20.00A 0~3.000A, 0~15.00A
	Resolution	1mA, 10mA		
	Accuracy	$\pm(0.05\%+0.05\%FS)$		
CR mode	Range	0.05 Ω~1 k Ω , 1 k Ω~4.5k Ω		
	Resolution	10m Ω , 100m Ω		
	Accuracy	$\pm(0.1\%+0.5\%FS)$		
CP mode	Range	0~400W	0~200W	0~400W
	Resolution	10mW		
	Accuracy	$\pm(0.1\%+0.5\%FS)$		
Tran Test	Mode	CC, CV		
	T1&T2	1ms~60s; resolution: 1ms		
	Accuracy	0.1%+1ms		
Battery Test	Discharge mode	CC, CR		
	Maximum discharge capacity	9999Ah		
	Resolution	1mA, 10mA, 10m Ω , 100m Ω		
Range of measurement				
Voltage read-back value	Range	0~19.999V, 0 ~150.00V		0~19.999V, 0~500.00V
	Resolution	1mV, 10mV		1mV, 10mV
	Accuracy	$\pm(0.05\%+0.1\%FS)$		
Current read-back value	Range	0~3.000A, 0~40.00A		0~3.000A, 0~15.00A
	Resolution	1mA, 10mA		
	Accuracy	$\pm(0.05\%+0.1\%FS)$		
Power read-back value	Range	0~400W	0~200W	0~400W
	Resolution	10mW		
	Accuracy	$\pm(0.1\%+0.5\%FS)$		
Scope of protection				
Over Voltage Protection(OV)		>155V cut off input		> 510V cut off input
Over Current	Current	>42A cut off input	>22A cut off input	> 16A cut off



Protection(OC)				input	
Over Power Protection(OP)		420W	220W	420W	
Over Temperature Protection		85°C			
Short Circuit	Current (CC)	≤ 3A ≤ 40A	≤ 3A ≤ 20A	≤ 3A ≤ 15A	
	Voltage (CV)	0V			
	Resistance (CR)	≤ 40mΩ			

ET53A+ Series Programmable Electronic Load (Economical)

ET53 Series Programmable Electronic Load (Economical)	ET5300A	142USD
	ET5300	178USD
	ET5301	239USD
	ET5302	260USD
	ET5303	362USD
	ET5304	248USD



ET53 series DC programmable electronic load provides 1mV/10mV, 1mA/10mA high resolution and precision with superior performance. It is equipped with 12 common modes and complete test functions, which can be widely used in charger, switching power supply, linear power supply, battery and other production line testing.

- User-friendly Design:
 - ◆ It adopts 3.5-inch TFT LCD screen with rich display contents and supports Chinese and English display;
 - ◆ The operation process is simple and convenient, and with visual interface display system, it is easy to get started.
 - ◆ Key lock function to prevent misoperation;
- High-performance load:
 - ◆ It provides CC, CV, CR, CP and CC+CV, CR+CV several basic measurement modes;
 - ◆ It provides professional battery test;



- ◆ It provides professional LED test;
 - ◆ The Tran test mode can test the dynamic output performance of the power supply;
 - ◆ The scan test mode can test the continuity of power output within a certain range;
 - ◆ Support 4-wire measurement;
 - ◆ The list test mode can simulate a variety of loading status changes;
 - ◆ The short circuit test can be used to simulate load short circuit;
 - ◆ Support external trigger input;
 - ◆ Built-in buzzer alarm;
 - ◆ Maintain data storage in case of power failure;
 - ◆ Remote operation via USB, RS-232 or 485 (optional) interfaces;
- Multiple safety protection:
- ◆ It provides overcurrent, overvoltage, overpower, over temperature protection. The overvoltage and overcurrent parameters can be set flexibly, so as to effectively protect the load;
 - ◆ It has intelligent fan speed control function, which can effectively reduce the fan noise when it is working.
 - ◆ With input polarity reverse prompt;

Model		ET5300A	ET5300	ET5301
Rated input	Power	200W	400W	
	Input voltage	0~150V		
	Input current	0~30A	0~40A	0~60A
CV mode	Range	0.1~19.999V, 0.1~150.00V		
	Resolution	1mV, 10mV		
	Accuracy	$\pm(0.05\%+0.02\%FS)$		
CC mode	Range	0~3.000A		0~6.000A
		0~30.00A	0~40.00A	0~60.00A
	Resolution	1mA, 10mA		
CR mode	Accuracy	$\pm(0.05\%+0.05\%FS)$		
		0.05 Ω ~ 1 k Ω , 1 k Ω ~ 4.5 k Ω		
		10m Ω , 100m Ω		
CP mode	Accuracy	$\pm(0.1\%+0.5\%FS)$		
		0~200W	0~400W	
		10mW		
Tran Test	Mode	CC, CV		
	T1&T2	50ms~60s;		
Battery Test	Accuracy	CC, CR		
	Discharge mode	9999Ah		
	Maximum discharge capacity	1mA, 10mA, 10m Ω , 100m Ω		
Range of measurement				



Voltage read-back value	Range	0~19.999V, 0~150.00V				
	Resolution	1mV, 10mV				
	Accuracy	$\pm(0.05\%+0.1\%FS)$				
Current read-back value	Range	0~3.000A		0~6.000A		
		0~30.00A	0~40.00A	0~60.00A		
	Resolution	1mA, 10mA				
Power read-back value	Accuracy	$\pm(0.05\%+0.1\%FS)$				
	Range	200W	400W			
	Resolution	10mW				
	Accuracy	$\pm(0.1\%+0.5\%FS)$				
Scope of protection						
Overvoltage protection		>21V or 155V overvoltage protection				
Overcurrent protection		>3.1A or 31A input cut off	>3.1A or 41A input cut off	>6.1A or 61A input cut off		
Overpower protection		210W	410W			
Over-temperature protection		85°C				
Model		ET5304				
Rated input	Power	400W (200W*2)				
	Input voltage	0~150V				
	Input current	0~60A(30A*2)				
CV mode	Range	0.1~19.999V, 0.1~150.00V				
	Resolution	1mV, 10mV				
	Accuracy	$\pm(0.05\%+0.02\%FS)$				
CC mode	Range	0~3.000A, 0~30.00A				
	Resolution	1mA, 10mA				
	Accuracy	$\pm(0.05\%+0.05\%FS)$				
CR mode	Range	0.05 Ω~1 kΩ, 1 kΩ~4.5k Ω				
	Resolution	10m Ω, 100m Ω				
	Accuracy	$\pm(0.1\%+0.5\%FS)$				
CP mode	Range	0~200W				
	Resolution	10mW				
	Accuracy	$\pm(0.1\%+0.5\%FS)$				
Tran Test	Mode	CC, CV				
	T1&T2	50ms~60s;				
Battery Test	Accuracy	CC, CR				
	Discharge mode	9999Ah				
	Maximum discharge capacity	1mA, 10mA, 10m Ω, 100m Ω				



Range of measurement		
Voltage read-back value	Range	0~19.999V,0 ~150.00V
	Resolution	1mV,10mV
	Accuracy	±(0.05%+0.1%FS)
Current read-back value	Range	0~3.000A,0~30.00A
	Resolution	1mA,10mA
	Accuracy	±(0.05%+0.1%FS)
Power read-back value	Range	200W
	Resolution	10mW
	Accuracy	±(0.1%+0.5%FS)
Scope of protection		
Overvoltage protection		>21V or 155V overvoltage protection
Overcurrent protection		>3.1A or 31A input cut off
Overpower protection		210W
Over-temperature protection		85°C
Model		ET5302
Rated input	Power	400W
	Input voltage	0-500V
	Input current	0-15A 0-30A
CV mode	Range	0.1~19.999V,0.1~500.00V
	Resolution	1mV,10mV
	Accuracy	±(0.05%+0.02%FS)
CC mode	Range	0~3.000A,0~15.00A 0~3.000A,0~30.00A
	Resolution	1mA,10mA
	Accuracy	±(0.05%+0.05%FS)
CR mode	Range	0.05 Ω ~1 k Ω , 1 k Ω ~4.5k Ω
	Resolution	10m Ω , 100m Ω
	Accuracy	±(0.1%+0.5%FS)
CP mode	Range	0~400W
	Resolution	10mW
	Accuracy	±(0.1%+0.5%FS)
Tran Test	Mode	CC, CV
	T1&T2	50ms~60s;
Battery Test	Accuracy	CC, CR
	Discharge mode	9999Ah
	Maximum discharge capacity	1mA, 10mA, 10m Ω , 100m Ω
Range of measurement		
Voltage read-back value	Range	0~19.999V,0 ~500.00V
	Resolution	1mV,10mV



	Accuracy	$\pm(0.05\%+0.1\%FS)$	
Current read-back value	Range	0~3.000A,0~15.00A	0~3.00A,0~30.00A
	Resolution	1mA,10mA	
	Accuracy	$\pm(0.05\%+0.1\%FS)$	
Power read-back value	Range	400W	
	Resolution	10mW	
	Accuracy	$\pm(0.1\%+0.5\%FS)$	
Scope of protection			
Overvoltage protection		>21V or 510V overvoltage protection	
Overcurrent protection		> 3.1A or 16A input cut off	> 3.1A or 31A input cut off
Overpower protection		410W	
Over-temperature protection		85 °C	

ET3916 multi channel Temperature Detector 	ET3916-08	158USD
	ET3916-16	215USD
	ET3916-24	330USD
	ET3916-32	470USD
	ET3916-48	680USD
	ET3916-64	855USD

With the characteristic of simple content, easy operation, large temperature data storage, ET3916 multi channel data recorder supports thermocouple input, such as J、K、T、E、S、N、B、R type, to reach the requirement of production line, laboratory and measurement development department.

Its widely used in Lighting appliances, power tools, household appliances, electric motors, electric heating appliances, pharmaceutical, petroleum, chemical, metallurgy, electric power and other industries and scientific research units and other fields of production enterprises, laboratories, quality supervision departments .

Main Features:



- ◆ Adopt 5 inches industrial true-color display LCD display screen;
- ◆ Adopt high speed and high performance 32 bits ARM microprocessor, fast response speed; It supports multi channel signals' acquisition, recording, display, alarm;
- ◆ Each measurement module supports measurement of 8 channels, the max to 64 channels; Modules quantity can be equipped according to customers' requirement.
- ◆ The data can be displayed in three modes: numerical values, curves and bar charts. The numerical interface supports the values of 4/8/16/32 channels to be displayed in same time, and its automatic page-turning, the time of page-turning can be selected by multi-levels.
- ◆ 6 digits display, display range can reach -999.99~9999.99;
- ◆ Equipped GB2312 Chinese Character Library with full input method;
- ◆ Each channel supports parameter setting separately(including upper/ lower alarm, temperature calibration, display unit) and arbitrary naming;
- ◆ When the measured temperature excesses upper/ lower alarm, it will alarm (optional: relay alarm output)
- ◆ Real-time clock: adopt hardware real-time clock, lithium battery power; the max time error is ± 1 min/year
- ◆ Each channel is isolated, disturb of high frequency and isolated voltage peak value reach 400V
- ◆ Supports thermocouple measurement: J、K、T、E、S、N、B、R
- ◆ The 8GB FLASH memory chip is used to store historical data, and the data can be exported through the U disk;
- ◆ Measurement speed for option: slow speed: 1 s/channel, medium speed: 0.5 s/channel;
- ◆ USB-HOST and USB-DEVICE communication port; USB-HOST to export the historical data through U-Disk; USB-DEVICE to communicate with computer;

MODEL	ET3916 Series
	ET3916-08、ET3916-16 ET3916-24、ET3916-32 ET3916-48、ET3916-64
Channels	8 channels ~ 64 channels
Measurement Range	60mV
Accuracy	0.05%FS
Temperature Display Resolution	0.1°C
Supported Thermocouple Type	K、J、T、E、S、N、B、R (please check thermocouple sheet for details indicators)
Cold Compensation	± 0.5 °C



Accuracy	
Measuring Speed	Slow speed: 1 s/channel, medium speed: 0.5 s/channel
Display Mode	numerical , curve, bar charts
Calibration	isolated correction factor of each channel
Alarm	Isolated alarm setting(upper upper limit, upper limit, lower limit, lower lower limit)
Data Record Interval	1s
Data Storage	8G

General Information:

- ◆ Power Voltage:220V.AC±10%, or110V.AC±10%, 45~65Hz;
- ◆ Display: 5 inches industrial true-color display, 854×480
- ◆ Working Temperature:0°C~40°C
- ◆ Storage Temperature:-10°C~70°C
- ◆ Relative Humidity:<80%
- ◆ Communication port: USB Device、USB Host(standard);
RS232、rely alarm output(optional);
- ◆ Dimension:260mm×300mm×100mm (L×W×H) ;

