# 

## 2024 Test & Measurement Instruments



**Unite your test bench with Uni-T** 



#### The Never Ending Pursuit Since 1988

#### About Us

Established in 1988 and officially registered as UNI-Trend (China) Technology Co., Ltd. in 2003, UNI-T leads in crafting advanced test and measurement solutions. Our commitment to technology pioneer status aligns with our vision for a sustainable future. A prominent figure in the industry, UNI-T innovates across Education, Scientific Research, Industrial Automation, Automobile, Transportation, Energy, Semiconductors, Network and Communications, Medical, and Environmental Protection. Globally, we've expanded with branches in the USA and Germany, reinforcing our commitment to top-notch solutions. A significant milestone was going public on the SSE STAR stock market in February 2021 (Stock code 688628), highlighting our continuous growth and dedication to excellence.

#### R&D focused

UNI-T has three R&D centers in Dongguan, Chengdu and Changzhou, where more than 200 skilled R&D engineers work to ensure our products are reliable, innovative and affordable. Our factory covers 100,000 square meters and can produce over 10 million units per year. We are experts in testing and we offer cutting-edge solutions to assist our partners and customers worldwide solve their measurement needs today and for tomorrow.

#### Wide-Range Production Line

As a growing company with solutions that span multiple sectors, there's a lot to talk about with UNI-T. In North America, we focus on three major product lines: Test & Measurement Instruments, Field Measurement Instruments and Thermal Imagers. With extensive applications across industries and fields, you can count on UNI-T on the tasks from R&D to production to education. Our Test & Measurement Instruments portfolios includes Digital Oscilloscopes, Waveform Generators, Spectrum Analyzers, Linear DC Power Supplies and Bench Multimeters.

#### Customer-Centric Sales

UNI-T works with partners in more than 80 countries to provide our customers with prompt services whenever they need them. We collaborate with our partners on product and technical issues as well as channel and business strategies to ensure customer satisfaction. Together with our partners, UNI-T aims to deliver the highest quality products and services to scientists, engineers and technicians around the world for their future success.

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## **Digital Oscilloscopes Selection Guide**

Series	Model	Channel	Memory	Sampling				B	andwidth	ı			
Series	Model	Glialille	depth	rate	2 GHz	1 GHz	500 MHz	350 MHz	200 MHz	150 MHz	100 MHz	70 MHz	50 MHz
MSO7000X	MSO7204X	4+16Digit	1Gpts	10GSa/s	•								
	MSO7104X	4+16Digit	1Gpts	10GSa/s		•							
	MSO/UPO3504E	4+16Digit/4	250Mpts	2.5GSa/s			•						
MSO/UPO3000E	MSO/UPO3502E	2+16Digit/2	250Mpts	2.5GSa/s			•						
····	MSO/UPO3352E	4+16Digit/4	250Mpts	2.5GSa/s				•					
	MSO/UPO3354E	2+16Digit/2	250Mpts	2.5GSa/s				•					
	MSO3504E-S	4+16Digit	250Mpts	2.5GSa/s				•					
	MSO3354E-S	4+16Digit	250Mpts	2.5GSa/s				•					
	MSO/UPO2204	4+16Digit/4	56Mpts	2GSa/s					•				
	MSO/UPO2202	2+16Digit/2	56Mpts	2GSa/s					•				
MSO/UPO2000	MSO2204-S	4+16Digit	56Mpts	2GSa/s					•				
	MS02202-S	2+16Digit	56Mpts	2GSa/s					•				
	MSO/UPO2104	4+16Digit/4	56Mpts	2GSa/s							•		
	MSO/UP02102	2+16Digit/2	56Mpts	2GSa/s							•		
	MSO2104-S	4+16Digit	56Mpts	2GSa/s							•		
	MSO2102-S	2+16Digit	56Mpts	2GSa/s							•		
UPO1000CS	UPO1202CS	2	56Mpts	1GSa/s					•				
	UPO1102CS	2	56Mpts	1GSa/s							•		
UPO1000	UP01204	4	56Mpts	2GSa/s					•				
	UP01104	4	56Mpts	2GSa/s							•		
0 0 11 11 010 11	UP01054	4	56Mpts	2GSa/s									•
UTD2000CEX+	UTD2202CEX+	2	64Kpts	1GSa/s					•				
	UTD2102CEX+	2	64Kpts	1GSa/s							•		
	UTD2052CEX+	2	64Kpts	1GSa/s									•
	UTD2152CL	2	64Kpts	500MSa/s						•			
UTD2000CL+/CL	UTD2102CL+	2	64Kpts	500MSa/s							•		
	UTD2052CL+	2	64Kpts	500MSa/s									•
	UTD2072CL	2	64Kpts	500MSa/s								•	

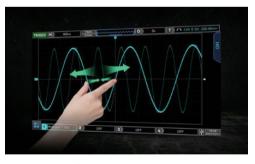
### **Digital Oscilloscopes Accessories**

Model		Information	Certification	Oscilloscopes Series
UT-H01		Probe factor: (10:1) Bandwidth: 25MHz Voltage: 600Vpp	CE&UKCA	UTD1000CL
UT-H03		Probe factor: (10:1) Bandwidth: 60MHz Voltage: 600Vpp	CE&UKCA	UTD1000CL
UT-P01		Probe factor: (10:1) Bandwidth: 25MHz Voltage: 600Vpp	CE&UKCA	UTD2000CL/CL+
UT-P03		Probe factor: (10:1) Bandwidth: 60MHz Voltage: 600Vpp	CE&UKCA	UTD2000CEX+/CL/CL+
UT-P04		Probe factor: (10:1) Bandwidth: 100MHz Voltage: 600Vpp	CE&UKCA	MSO/UPO2000; UP01000CS; UPO1000; UTD2000CEX+/CL/CL+
UT-P05		Probe factor: (10:1) Bandwidth: 200MHz Voltage: 600Vpp	CE&UKCA	MSO/UPO3000E; MSO/UPO2000; UPO1000CS; MSO/UPO1000; UTD2000CEX+/CL/CL+
UT-P06		Probe factor: (10:1) Bandwidth: 300MHz Voltage: 600Vpp	CE&UKCA	MSO/UPO3000E
UT-P07		Probe factor: (10:1) Bandwidth: 500MHz Voltage: 600Vpp	CE&UKCA	MSO/UPO3000E
UT-P08A		Probe factor: (10:1) Bandwidth: 350MHz Voltage: 600Vpp	CE	MSO/UPO3000E
UT-P20		Passive probe: (100:1) Bandwidth: 250MHz Voltage: 1500Vpp	CE&UKCA	
UT-P21		Passive high voltage probe: (1000:1) Bandwidth 40MHz Voltage: DC 10kVrms/AC 7kV	CE&UKCA	
UT-P30		Differential probe: (1/1000:1) Bandwidth: 100MHz Differential voltage: ±800Vpp	CE&UKCA	MSO7000X; MSO/UPO3000E;
UT-P31		High voltage differential probe: (10:1/100:1) Bandwidth: 100MHz Differential voltage: ±1500Vpp	CE&UKCA	MSO/UPO2000; MSO/UPO1000;
UT-P32		Differential probe: (1000:1/100:1) Bandwidth: 50MHz Differential voltage: ± 3000Vpp	CE&UKCA	UPO1000CS; UTD2000CEX+/CL/CL+
UT-P33		Differential probe: (100:1/10:1) Bandwidth: 120MHz Differential voltage: ±14KVpp	CE&UKCA	
UT-P35		High voltage differential probe: 1:50, 130V (DC+peakAC) 1:500, 1300V(DC+peakAC), Bandwidth: 50MHz, Precision: 2%	ROW	
UT-P36		High voltage differential probe: 1:200, 560V (DC+peakAC)1:500, 5600V(DC+peakAC), Bandwidth: 100MHz, Precision: 2%	ROW	, and the second s
UT-V23		High voltage probe: (100:1) Bandwidth: 100MHz Voltage: 2000Vpp	CE&UKCA	
UT-P40		Conversion ratio: 50mV/A, 5mV/A, Current range : 0.4A–60A Frequency: DC–100kHz Voltage: 600Vrms	CE&UKCA	
UT-P41		Conversion ratio: 100mV/A, 10mV/A, Current range: 50mA-100A Frequency: DC-100kHz, Voltage: 600Vrms	CE&UKCA	
UT-P42	8	Conversion ratio: 50mV/A, 5mV/A, Current range: 0.4A–200A Frequency: DC–150kHz, Voltage: 600Vrms	CE&UKCA	MSO/UPO3000E; MSO/UPO2000; UP01000CS; MSO/UPO1000;

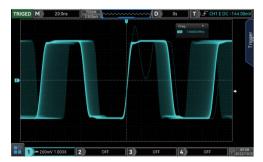
#### MSO/UPO3000E Series



- Analog channel bandwidth: 350MHz, 500MHz
- Real time sampling rate of analog channel 2.5GSa/s, Real time sampling rate of digital channel 1.25GSa/s (only MSO)
- Input impedance:  $1M\Omega$ ,  $50\Omega$
- Storage depth of each channel: 250Mpts
- Waveform capture rate up to 1,000,000 wfms/s
- Built in 50MHz dual channel function/arbitrary waveform generator (only MSO-S).
- Auto measurement of 36 waveform parameters
- Supports Bode Plot loop test and analysis function (optional)
- Ultra Phosphor 2.0, up to 256 levels of gray display
- 8-inch 800 × 480 capacitive touch.
- Support web access and control



Brand new interactive experience

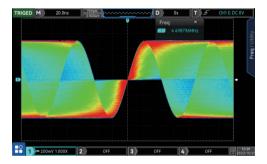


Ultra high capture rate 1,000,000 wfms/s in Fast Acquire mode

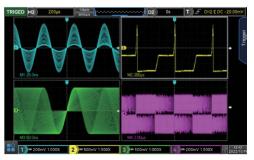
The MSO/UPO3000E series digital phosphor oscilloscope is the upgrade you need to unite your test bench. It's a highperformance instrument based on Ultra Phosphor 2.0 technology. It seamlessly integrates ease of use, excellent technical indicators, and a multitude of functional features to expedite measurement tasks. Specifically designed to meet the general needs of design, debugging, and testing across various fields.

These include computers, communication, semiconductors, industrial electronics, instrumentation, education, consumer electronics, automotive electronics, on-site maintenance, and R&D. It excels in tasks such as video analysis, jitter measurement noise assessment, and low-frequency signal analysis. Fast Acquire technology enables accurate capture of abnormal events.

- Hardware real-time waveform uninterrupted recording and analysis up to 120,000 frames
- 1M points enhanced FFT
- Multi-Scopes 2.0 supports multi-channel independent trigger and fluorescent display
- Multi-channel independent 7-bit hardware frequency counter
- Digital Volt Meter (DVM) supports multi-channel independent
- AC/DC True RMS measurement
- Protocol trigger and decoding function (optional): RS232, I2C, SPI, CAN, CAN-FD, LIN, FlexRay
- Rich interfaces: USB Host, USB Device, LAN, EXT Trig, AUX Out (Trig Out, Pass/Fail), AWG, VGA



256-level grayscale display



Channel split screen function Multi-Scopes 2.0



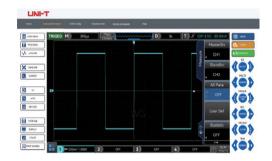
Memory depth 250Mpts per channel



Arbitrary Waveform Generator (AWG) Function



Rich trigger function



Embedded with Web Server

Key Specifications	MSO3354E-S	MSO3352E UPO3352E	MSO3354E UPO3354E	MSO3502E UPO3502E	MSO3504E UPO3504E	MSO3504E-S
Bandwidth	350MHz			500MHz		
Channels	4+16digital, 2CH AWG	2+16digital/2	4+16digital/4	2+16digital/2	4+16digital/4	4+16digital, 2CH AWG
Sampling rate (analog)	2.5GS/s (Single channel)	), 1.25GS/s (al	l channels)			<u> </u>
Sampling rate (digital)	1.25GS/s					
Max. memory depth	250Mpts per channel					
Waveform capture rate	200,000wfms/s; 1,000,00	Owfms/s (Fas	t Acquire)			
Time base scale (s/div)	1ns/div-1000s/div (Disp	lay current sar	npling rate and	storage depth)	)	
Input impedance	(±2%@1MΩ, ±1.5%@50	Ω)    (18pF±	3pF)			
Input impedance (digital)	(101k $\Omega \pm 1\%$ ) II (9pF $\pm 1$	oF)				
Input impedance (digital)	$(101k \Omega \pm 1\%)$ II $(9pF \pm 1pF)$	=)				
Vertical scale (V/div)	1mV/div-10 V/div (1 MΩ	); 1mV/div-1V	/div(50Ω)			
DC gain accuracy	<5mV:±3%, ≥5mV:±2%	, D				
Waveform record	120,000 frames					
Trigger types	Edge, Runt, Window, Nth Edge, Delay, Time out, Duration, Setup/Hold, Pulse Width, Slop, Video, Pattern; Optional: RS232/UART, I2C, SPI, CAN, CAN-FD, LIN, FlexRay					ilop, Video, Pattern;
Bus decode	Optional: RS232/UART,	12C, SPI, CA, 0	CAN-FD, LIN, F	lexRay		
Mathematical operations	A+B, A-B, A×B, A/B, En	hanced FFT, d	igital filtering, e	ditable advanc	ed and logical (	operations
Auto measurements	Analog channel: Max, Min, High, Low, Ampl, Pk-Pk, Middle, Mean, Cycmean, RMS, CycRMS, AC RMS, Period, Freq, Rise, Fall, RiseDelay, FallDelay, +Width, -Width, FRFR, FRFF, FFFR, FFFF, FRLF, FRLF, FFLF, +Duty -Duty, Area, CycArea, Oversht, Presht, Phase, Pulse Width, 36 measurement parameters; Digital channel: Freq, period, +Width, -Width, +Duty, -Duty, RiseDelay A→B, FallDelay A→B, phase A→B, phase B→A					
Number of measurements	Display 5 measurements at the same time					
Measurement statistics	Average, Max, Min, standard deviation, number of measurements					
Frequency counter	7-bit hardware frequency meter					
Standard interfaces	USB-host, USB-Device,	LAN, EXT Trig,	AUX Out (Trig	Out: Pass/Fai	I), AWG (only N	ISO-S model), VGA

General Characteristics				
Power	100V-240V AC, 50Hz/60Hz			
Display	8 inch TFT LCD, WVGA (800x480), touch screen			
Product net weight	4.5kg			
Product size ( $W \times H \times D$ )	370mm×185mm×115mm			

Ordering Information				
	MSO3504E-S: 500MHz, 2.5GS/s, 250Mpts, 4+16CH MSO,2CH 50MHz AWG			
	MSO3504E: 500MHz, 2.5GS/s, 250Mpts, 4+16CH MSO			
	MSO3502E: 500MHz, 2.5GS/s, 250Mpts, 2+16CH MSO			
SO3000E Series	MSO3354E-S: 350MHz, 2.5GS/s, 250Mpts, 4+16CH MSO,2CH 50MHz AWG			
	MSO3354E: 350MHz, 2.5GS/s, 250Mpts, 4+16CH MSO			
	MSO3352E: 350MHz, 2.5GS/s, 250Mpts, 2+16CH			
	UPO3504E: 500MHz, 2.5GS/s, 250Mpts, 4CH			
PO3000E Series	UP03502E: 500MHz, 2.5GS/s, 250Mpts, 2CH			
OSOUCE Series	UPO3354E: 350MHz, 2.5GS/s, 250Mpts, 4CH			
	UP03352E: 350MHz, 2.5GS/s, 250Mpts, 2CH			
	Power cord			
	UT-D04: USB interface cable			
	UT-P07: Passive probe x 2/4 (1x, 10x switchable, 500MHz) (MSO/UPO3502E, MSO/UPO3504E)			
tandard Accessories	UT-P08A: Passive probe x 2/4 (1x, 10x switchable, 350MHz) (MSO/UP03352E, MSO/UP03354E)			
	UT-M15: 16CH logic analyzer probe(MSO3000E series)			
	UT-L45: BNC-BNC straight-through cable (only MSO-S) × 1			
	UT-L02A: BNC - red and black alligator clip cable (only MSO-S) $ imes 1$			
	MSO/UPO3000CS-BND: All Serial Bus Trigger and Decode Options			
	MSO/UPO3000CS-EMBD: Serial bus trigger and decode options (includes RS232, UART, I2C, SPI)			
	MSO/UPO3000CS-AUTO: Automotive serial bus triggering and decoding options (CAN, CAN-FD, LIN, FlexRay)			
	MSO/UPO3000CS-COM: RS232/UART trigger and decode options			
ptions	MSO/UPO3000CS-I2C: I2C trigger and decode options			
	MSO/UPO3000CS-SPI: SPI trigger and decode options			
	MSO/UPO3000CS-CAN: CAN trigger/decode option			
	MSO/UPO3000CS-CAN-FD: CAN-FD trigger/decode option			
	MSO/UPO3000CS-LIN: LIN trigger/decode option			
	MSO/UPO3000CS-FlexRay: FlexRay trigger/decode option			
	MSO3000CS-S-BODE: Bode plot loop test analysis (software); used with UT-ISOT			
	High Voltage Probe: UT-V23/UT-P21			
	High Voltage Differential Probe: UT-P30/UT-P31/UT-P32/UT-P33/UT-P35/UT-P36			
ptional accessories	Current Probe: UT-P40/UT-P41/UT-P42/UT-P43/UT-P44			
	16-channel logic analyzer probe: UT-M15			
	Isolation transformer: UT-ISOT			

## MSO/UPO2000 Series



- Analog channel bandwidth: 200MHz, 100MHz
- Memory depth of each channel: 56Mpts
- Built in 50MHz dual channel function/arbitrary waveform generator (only MSO-S)
- Support Bode Plot loop test and analysis function
- 4M points enhanced FFT, supporting frequency setting, waterfall diagram, detection setting and mark measurement, etc.
- Multi-Scopes supports multi-channel independent trigger and fluorescent display
- Protocol trigger and decoding function. Optional : RS232, I2C, SPI, CAN, CAN-FD, LIN, FlexRay
- Hardware real-time waveform uninterrupted recording and analysis up to 120,000 frames/s



The 8-inch touch screen design supports a variety of gesture operations, such as click, slide, zoom, edit, drag, etc



XY mode cursor measurement can quickly measure the phase difference between two signals.

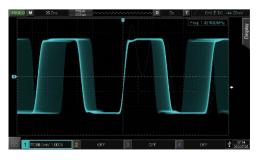
The MSO/UPO2000 series digital phosphor oscilloscope stands as a versatile and high-performance instrument giving you outstanding features and Ultra Phosphor 2.0 technology. This oscilloscope seamlessly combines user-friendly operation, impressive technical specifications, and a multitude of functional features, facilitating faster completion of measurement tasks.

Specifically designed to meet the general design, debugging, and testing requirements across various fields including communication, semiconductor, computer, instrumentation, industrial electronics, consumer electronics, and automotive electronics. It excels in tasks such as video analysis, jitter measurement, noise assessment, and low-frequency signal analysis.

- Real time sampling rate of analog channel 2GSa/s
- Waveform capture rate up to 1,000,000 wfms/s
- 8-inch 800 × 480 capacitive touch
- DVM supports multi-channel independent AC/DC true
  RMS measurement
- Auto measurement of 36 waveform parameters
- Multi Scope 2.0 allows independent channel time bases
- Hardware 7-bit frequency meter
- Area trigger function
- Interfaces: USB Host, USB device, LAN, AUX
- Support real-time loading of oscilloscope screen data to AWG arbitrary wave output



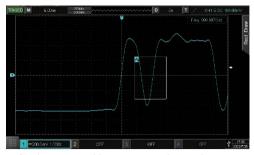
The full-memory hardware decoding under the deep storage of 56Mpts, Decoding speed in milliseconds.



Using innovative digital signal parallel processing technology, it can reach an ultra-high capture rate of 200,000wfms/s in normal sampling and 1,000,000 wfms/s in FastAcq mode.



Bode plot option available for loop analysis



Combine area and basic triggers, along with advanced and protocol triggers to capture elusive and complex signals.

Technical Specifications	MSO2102-S MSO2102	MSO2104-S MSO2104	MSO2202-S MSO2202	MSO2204-S MSO2204			
	UP02102	UP02104	UP02202	UPO2204			
Bandwidth	100 MHz		200 MHz				
Channels	2+16digital/2	4+16digital/4	2+16digital/2	4+16digital/4			
Sampling rate	2GSa/s						
Sampling rate (digital)	1GSa/s (only MSO)						
Max. memory depth	56Mpts						
Waveform capture rate	200,000wfms/s, 1,000,000w	fms/s (FastAcq)					
Timebase scale (s/div)	2ns/div-1000s/div (Display	sampling rate and memory de	pth)1ns/div–1000s/div (Display	sampling rate and memory depth )			
Input impedance	(1MΩ ±2%) II (18pF±3pF)						
Input impedance (digital)	(101kΩ±1%) II (9pF±1pF)						
Vertical scale (V/div)	1mV/div-20 V/div (1 MΩ)						
DC gain accuracy	<5mV: ±3%, ≥5mV: ±2%						
Waveform record	120,000 frames						
Trigger types		Edge, Runt, Window, Nth Edge, Delay, Overtime, Duration, Setup/Hold, Pulse Width, Slop, Video, Pattern, RS232/UART, I2C, SPI, CAN (optional), CAN-FD (optional), LIN (optional), FlexRay (optional)					
Bus decode	Optional: RS232/UART, I2C,	SPI, CAN, CAN-FD , LIN					
Mathematical operations	A+B, A-B, A×B, A/B, FFT, c	ligital filtering, editable advand	ced and logical operations				
Auto measurements	Analog channel: Max, Min, Top, Bottom, Mid, Peak-to-Peak, Amplitude, Mean, Cycle Mean, RMS, Cycle RMS, AC RMS, Area, Cy Area, Overshoot, Preshoot, Frequency, Period, Rise Time, Fall Time, Positive Pulse Width, Negative Pulse Width, Positive Duty Cycle, Negative Duty Cycle, Rise Delay, Fall Delay, Phase, FRFR, FRFF, FFFR, FFFF, FRLF, FRLR, FFLR, FFLF, 36 measurement parameters; Digital channel: Frequency, Period, Positive Pulse Width, Negative Pulse Width, Positive Duty Cycle, Rise Delay A→B, Fall Delay A→B, Phase A→B, Phase B→A						
Number of measurements	Display 5 measurements at	the same time					
Measurement statistic	Average, Max, Min, Standar	d Deviation, Number of Measu	irements				
Frequency counter	7 bits	7 bits					
Standard interfaces	USB Host, USB Device, LAN, EXT Trig, AUX Out (Trig Out, Pass/Fail), AWG (only MSO), VGA						
Power	100V-240V AC, 50Hz/60Hz						
Display	8 inches TFT LCD, WVGA (8	8 inches TFT LCD, WVGA (800x480), touch screen					
Product net weight	4.5kg						
Product size $(W \times H \times D)$	370mm x 185mm x 115mm						

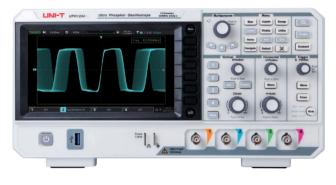
Ordering Information	Ordering Information				
	MSO2204-S: 200MHz, 2GSa/s, 56Mpts, 4+16CH MSO, 2CH 50MHz AWG				
	MSO2202-S: 200MHz, 2GSa/s, 56Mpts, 2+16CH MSO, 2CH 50MHz AWG				
	MSO2104-S: 100MHz, 2GSa/s, 56Mpts, 4+16CH MSO, 2CH 50MHz AWG				
MSO2000 Series	MSO2102-S: 100MHz, 2GSa/s, 56Mpts, 2+16CH MSO, 2CH 50MHz AWG				
	MSO2204: 200MHz, 2GSa/s, 56Mpts, 4+16CH MSO				
	MSO2202: 200MHz, 2GSa/s, 56Mpts, 2+16CH MSO				
	MSO2104: 100MHz, 2GSa/s, 56Mpts, 4+16CH MSO				
	MSO2102: 100MHz, 2GSa/s, 56Mpts, 2+16CH MSO				

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Ordering Information			
	UPO2204: 200MHz, 2GS/s, 56Mpts, 4CH		
JPO2000 Series	UPO2104: 100MHz, 2GS/s, 56Mpts, 4CH		
JP02000 Series	UP02202: 200MHz, 2GS/s, 56Mpts, 2CH		
	UP02102: 100MHz, 2GS/s, 56Mpts, 2CH		
	Power cord		
	UT-P04: Passive probe x 2/4 (1x, 10x switchable, 100MHz) (MSO/UPO2102, MSO/UPO2104, MSO2102/4-S)		
Standard Accessories	UT-P05: Passive probe x 2/4 (1x, 10x switchable, 200MHz) (MSO/UPO2202, MSO/UPO2204, MSO2202/4-S)		
	UT-D14: USB interface cable		
	UT-M15: 16CH logic analyzer probe(MSO2000 series)		
	UT-45: BNC-BNC through leads (MSO2000-S series)		
	MSO/UPO2000-BND: Serial bus trigger and decode options (MSO/UPO2000-EMBD& MSO/UPO2000-AUTO)		
	MSO/UPO2000-EMBD: Serial bus trigger and decode options (includes RS232, UART, I2C, SPI)		
	MSO/UPO2000-AUTO: Automotive serial bus triggering and decoding options (CAN, CAN-FD, LIN, FlexRay)		
	MSO/UPO2000-COM: RS232/UART trigger and decode options		
	MSO/UPO2000-I2C: I2C trigger and decode options		
Options	MSO/UPO2000-SPI: SPI trigger and decode options		
	MSO/UPO2000-CAN: CAN trigger/decode option		
	MSO/UPO2000-CAN-FD: CAN-FD trigger/decode option		
	MSO/UPO2000-LIN: LIN trigger/decode option		
	MSO/UPO2000-FlexRay: FlexRay trigger/decode option		
	MSO-BODE: Bode plot loop test analysis option; used with UT-ISOT		
	High Voltage Probe: UT-V23/UT-P21		
	High Voltage Differential Probe: UT-P30/UT-P31/UT-P32/UT-P33/UT-P35/UT-P36		
Optional accessories	Current Probe: UT-P40/UT-P41/UT-P42/UT-P43/UT-P44		
	16-channel logic analyzer probe: UT-M15 (incl. with MSO models)		
	Isolation transformer: UT-ISOT		



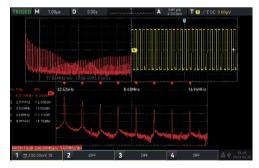
#### **UPO1000** Series



- Analog channel bandwidth: 50MHz, 100MHz, 200MHz
- Number of analog channels: 4
- Maximum sampling rate: 2GSa/s
- Vertical scale: 500µV/div-20 V/div
- Low noise floor: <100µVrms
- Storage depth: 56Mpts/CH



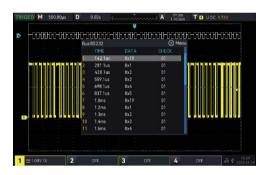
The maximum storage depth is 56Mpts. At the same time, the whole and details of the waveform are considered.



1M sampling point enhanced FFT

The UPO1000 series digital oscilloscope is here to take center stage on your test bench. It incorporates Ultra Phosphor 2.0 technology for high signal fidelity. This series is available in three bandwidth options: 50MHz, 100MHz, and 200MHz, boasting a high real-time sampling rate of up to 2GSa/s. Standard across the series is the inclusion of 4 channels, support for an independent DVM module, rich trigger and bus decoding functions, and the capability for full-memory hardware real-time decoding. Designed for versatility, these oscilloscopes find applications in various fields including communication, semiconductor, computer, integrated circuit design, instrumentation, industrial electronics, consumer electronics, automotive electronics, field maintenance, research & development, and education.

- Waveform capture rate up to 500,000 wfms/s
- Can automatically measure 36 kinds of waveform parameters the measurement range is optional: screen or cursor area
- Hardware real-time waveform recording 120,000 frames
- 7-bit hardware frequency meter
- DVM supports four-channel true RMS measurement



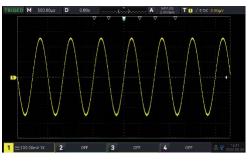
Innovative hardware decoding enables real-time decoding



The cursor function can measure the time and voltage of CH1, CH2, CH3, CH4, MATH, REF at the same time.



When Cursor is turned on, the parameters of the waveform in the cursor area can be measured



Navigation functions include time navigation, marker navigation, and segment navigation.

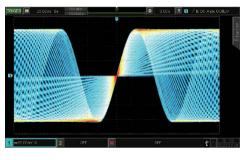
Key Specification	UPO1054	UP01104	UP01204		
Bandwidth	50 MHz	100 MHz	200 MHz		
Channels	4	4	4		
Sampling rate	2GSa/s	I	,		
Max. memory depth	56Mpts (Per channel)				
Waveform capture rate	150,000wfms/s; 500,000	Owfms/s (Fast Acquire mode)			
Time base scale (s/div)	2s/div-1000s/div	2ns/div-1000s/div	1ns/div-1000s/div		
Input impedance	(1MΩ ±2%)  (16 pF ±	3pF)			
Vertical scale (V/div)	500uV/div-20V/div (1M	Ω)			
DC gain accuracy	<10mV: ±4.0% full scal	e; ≥10mV: ±3.0% full scale			
Waveform record	120,000 frames				
Trigger types	Edge, Runt Set, Window Set, Nth Edge, Delay, Timeout, Pattern, Duration, Build/hold, Pulse, Slope, Video, RS232/UART, I2C, SPI				
Bus decode	RS232/UART, I2C,SPI				
Mathematical operations	A+B, A-B, A×B, A/B, Enhanced FFT, Editable operations (Log, Exp, Sin, Cos, Tan, Sqrt, Intg, Diff), Logical operations				
Auto measurements	Max, Min, High, Low, Ampl, Pk- Pk, Middle, Mean, Cycmean , RMS, CycRMS, AC RMS, Period, Freq, Rise, Fall, RiseDelay FallDelay, +Width, -Width, FRFR, FRFF, FFFR, FFFF, FRLF, FRLR, FFLR, FFLF, +Duty, -Duty, Area, CycArea, Overshot, Presht, Phase, Pulse, 36 measurement parameters				
Number of measurements	5 measurements are dis	played simultaneously			
FFT points	1Mpts				
Frequency counter	7-bit hardware frequenc	cy meter			
Standard interfaces	USB Host, USB Device, LAN, EXT Trig, AUX Out (Trig Out/,Pass/Fail)				
Power	100V-240V AC, 50Hz/60Hz				
Display	7 inch TFT LCD, WVGA(800 × 480)				
Product net weight	2.45 kg				
Product size ( $W \times H \times D$ )	306mm × 138mm × 107mm				

Ordering Information				
	UPO1054: 50MHz, 2GS/s, 56Mpts, 4-Channel			
UPO1000 Series	UPO1104: 100MHz, 2GS/s, 56Mpts, 4-Channel			
	UP01204: 200MHz, 2GS/s, 56Mpts, 4-Channel			
Standard Accessories	Power cord			
	UT-D04: USB interface cable			
	UT-P03: Passive probe x 4 (1x, 10x switchable, 60MHz) (UPO1054)			
	UT-P04: Passive probe x 4 (1x, 10x switchable, 100MHz) (UPO1104)			
	UT-P05: Passive probe x 4 (1x, 10x switchable, 200MHz) (UPO1204)			
Optional accessories	High Voltage Probe: UT-V23/UT-P21			
	High Voltage Differential Probe: UT-P30/UT-P31/UT-P32/UT-P33/UT-P35/UT-P36			
	Current Probe: UT-P40/UT-P41/UT-P42/UT-P43/UT-P44			
Options	MSO/UPO1000X-1MT2M: Bandwidth upgrade option for MSO/UPO1104 to 200 MHz bandwidth			

## **UPO1000CS Series**



- 1GSa/s real-time sampling rate per channel, 2 analog channels
- Bandwidth: 100MHz, 200MHz
- Memory depth 56Mpts (per channel)
- Up to 150000wfms/s waveform capture rate
- 256-level intensity grading display
- Alternative triggers



Using the original Ultra Phosphor display technology, it is easy to display the details of the waveform information

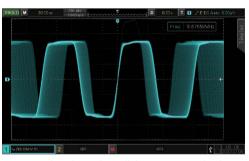


Standard 56Mpts per channel. Takes into account the overall and details of the waveform

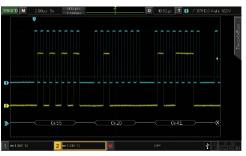
The UPO1000CS Series offers unprecedented value in customer applications with its innovative technology, industry leading specifications, powerful trigger functions and analysis capabilities.

The Series is available in 100 and 200 MHz bandwidths and all have 2 analog channels. It adopts Ultra Phosphor 2.0 visualization technology, has a maximum sample rate of 1GSa/s and a standard memory depth of 56Mpts. It comes with an innovative digital trigger system with high sensitivity and low jitter, and a waveform capture rate of 150,000 wfms/s.

- Low noise floor, minimum vertical scale 1mV / div
- A variety of trigger modes, and a variety of serial bus trigger and real-time decoding
- 100,000 frames waveform record
- 7 inch TFT LCD, WVGA (800x480)
- Interfaces: USB Host, USB device, LAN, EXT Trig, AUX



Innovative digital signal parallel processing technology, normal sampling waveform capture up to 150,000 wfms/s, Fast Acquire mode up to 500,000 wfms/s



Innovative hardware decoding enables real-time decoding. The decoding time under the deep storage 56Mpts can reach the millisecond level



Multi-Scopes technology, which can be used for testing signals with different clock sources and different frequencies

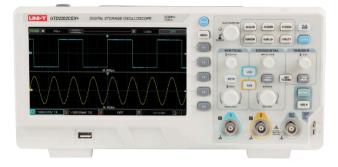


64kpts enhanced FFT for easy frequency domain analysis of signals

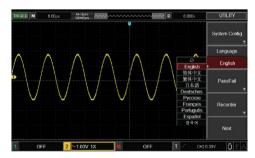
Key Specifications	UP01102CS	UP01202CS			
Bandwidth	100 MHz	200 MHz			
Channels	2	2			
Sampling rate	1GSa/s				
Max. memory depth	56Mpts (Per channel)				
Waveform capture rate	150,000wfms/s; 500,000 wfms/s (Fast Acquire n	node)			
Time base scale (s/div)	2ns/div-1000s/div	1ns/div-1000s/div			
Input impedance	$(1M\Omega \pm 2\%)  (16 \text{ pF} \pm 3\text{pF})$				
Vertical scale (V/div)	1mV/div-20V/div (1MΩ)				
DC gain accuracy	<10mV: ±4.0% full scale; ≥10mV: ±3.0% full sc	ale			
Waveform record	100,000 frames				
Trigger types	Edge, pulse width, slope, alternation, video, delay, timeout, duration, build/hold, under amplitude pulse, over				
ringger types	amplitude pulse, RS232/UART, I2C, SPI, Optional: CAN, LIN				
Bus decode	RS232/UART, I2C, SPI, Optional: CAN, LIN				
Mathematical operations	A+B, A-B, A×B, A/B, Enhanced FFT, Editable advanced, operations (Log, Exp, Sin, Cos, Tan, Sqrt, Intg, Diff), Logical operations				
Auto measurements	Max, Min, High, Low, Ampl, Pk–Pk, Middle, Mean, Cyc mean, RMS, Cyc RMS, AC RMS, Period, Freq, Rise, Fall, Rise Delay, Fall Delay, +Width, -Width, FRFR, FRFF, FFFR, FFFF, FRLF, FRLR, FFLR, FFLF, +Duty, -Duty, Area, CycArea, Overshot, Preshot, Phase, Pulse, 36 measurement parameters				
Number of measurements	5 measurements are displayed simultaneously				
Measurement statistic	Mean, maximum, minimum, standard deviation, a	and number of measurements			
Frequency counter	7-bit hardware frequency meter				
Standard interfaces	USB Host, USB Device–LAN, EXT Trig, AUX Out (Trig Out, Pass/Fail)				
Power	100–240V AC, 50-60Hz				
Display	7 inch TFT LCD, WVGA(800 × 480)				
Product color	White and gray				
Product net weight	3.0 Kg				
Product size (W x H x D)	306mm × 138mm × 107mm				
	1				

Ordering Information	
UP01000CS Series	UPO1102CS: 100MHz, 1GSa/s, 56Mpts, 2-Channel
01 0100000 001100	UPO1202CS: 200MHz, 1GSa/s, 56Mpts, 2-Channel
	Power cord
Standard Accessories	UT-D14: USB interface cable
	UT-P04: Passive probe x 2 (1x, 10x switchable, 100MHz)
	UT-P05: Passive probe x 2 (1x, 10x switchable, 200MHz)
Options	UP01000CS-AUTO: CAN Decoding options, LIN Decoding options
	High Voltage Probe: UT-V23/UT-P21
Optional accessories	High Voltage Differential Probe: UT-P30/UT-P31/UT-P32/UT-P33/UT-P35/UT-P36
	Current Probe: UT-P40/UT-P41/UT-P42/UT-P43/UT-P44

### UTD2000CEX+ Series



- 50/100/200MHz bandwidth
- 2 channels, low noise floor, wide vertical range: 1mV/div-20V/div
- Memory depth: 64kpts
- System software upgrade via USB drive



Multilingualism to meet the needs of more users in a variety countries

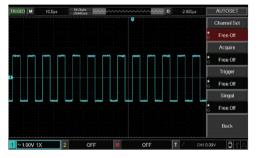


Automatic Measurement of Waveform Parameters

The UTD2000CEX+ Series digital storage oscilloscope serves as an entry-level bench solution, addressing the fundamental requirements of basic measurements. Its straightforward and intuitive front panel is designed for easy operation. The UTD2000CEX+ Series offers bandwidth options of 50MHz, 100MHz, and 200MHz, a real-time sampling rate of 1GSa/s, dual channels, and a storage depth of 64kpts.

With its versatile capabilities, this model is well-suited for a broad range of application scenarios in communication, semiconductor, computer, instrumentation, industrial electronics, consumer electronics, automotive electronics, on-site maintenance, and R&D/education, among others.

- 7 inch TFT LCD
- Supports plug-and-play USB storage device; communication with and remote control of computer through the USB device



 $8 \text{div} \times 16 \text{div}$  Wider display range

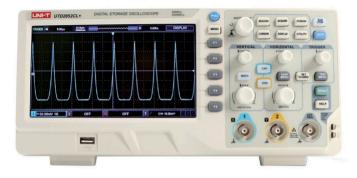


Waveform recording functions

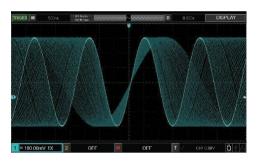
Key Specifications	UTD2052CEX+	UTD2102CEX+	UTD2202CEX+
Bandwidth	50MHz	100MHz	200MHz
Channels	2		
Samplingrate	1GSa/s		
Memory depth	64kpts		
Waveform capture rate	5,000wfms/s		
Risetime	<7ns	<3.5ns	<1.8ns
Vertical scale (V/div)	1mV/div-20V/div		
Vertical resolution	8bit		
Time base scale (s/div)	2ns/div-50s/div		
Deviation from scope	±8div(away from screen cer	ter)	
Input impedance	$1M\Omega \pm 2\%$ , $18 \pm 3pF$		
Input coupling	DC, AC, GND		
Timing accuracy	$\leq \pm$ (50+2 × service life ) ppm	1	
Time base mode	Y-T, X-Y, Roll		
Storage methods	Setup, wave, bitmap		
Trigger types	Edge, pulse, alternate, slope,	video	
Mathematical operations	+,-,×,÷,FFT		
	Max, Min, High, Low, Ampl, P	k-Pk, Middle, Mean, CycMean, RMS, Cy	cRMS, Period, Freq, Rise, Fall, RiseDelay,
Auto measurements	FallDelay, +Width, -Width, FR 34 parameters in total	R, FRF, FFR, FFF, LRF, LRR, LFR, LFF, +	Duty, -Duty, Area, CycArea, OverSht, PreSht, Phase,
Displayed measurements	Display 5 measurements at th	ie same time	
Frequency counter	6bits		
Interface	USBHost, USB Device, Pass/	Fail	
Power	100–240VAC, 45–440Hz		
Display	7inch TFT LCD, 800×480		
Product color	White and gray		
Product net weight	2.5kg		
Product size ( $W \times H \times D$ )	306mm × 138mm × 124mm		

Ordering Information	
	UTD2202CEX+: 200MHz, 1GSa/s, 64kpts, 2 Channel
UTD2000CEX+	UTD2102CEX+: 100MHz, 1GSa/s, 64kpts, 2 Channel
	UTD2052CEX+: 50MHz, 1GSa/s, 64kpts, 2 Channel
	Powercord
	UT-D14: USB interface cable
Standard Accessories	UT-P03: Passive Probe x 2 (1x, 10x switchable, 60MHz) (UTD2052CEX+)
	UT-P04: Passive Probe x 2 (1x, 10x switchable, 100MHz) (UTD2102CEX+)
	UT-P05: Passive Probe x 2 (1x, 10x switchable, 200MHz) (UTD2202CEX+)

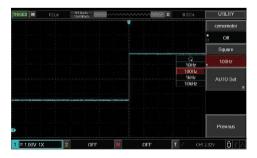
## UTD2000CL/CL+ Series



- Bandwidth options of 50MHz, 70MHz, 100MHz, and 150MHz.
- 2 channels with a low noise floor and a wide vertical range from 1mV/div to 20V/div.
- Memory depth of 64kpts.
- Wider display range of 8div × 16div.
- New auto-set function for easy handling of complex test scenarios.
- Multiple frequency output options with a standard square wave.



Wide display range 8div×16div

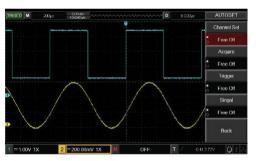


Multiple frequency output standard square wave optional

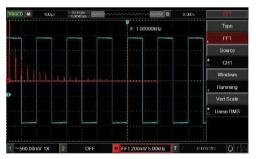
The UTD2000CL/CL+ Series is a highly favored option among entry-level digital oscilloscopes, meticulously created to meet the demands of mainstream testing. Featuring a timeless front panel design and an easily navigable user interface, this model is exceptionally well suited for your everyday testing requirements.

Any of the models in the Uni-T UTD2000CL/CL+ Digital Storage Oscilloscope (DSO) series will empower electrical engineers and professors with the tools they need for affordable, accurate and insightful waveform analysis.

- Abundant math functions, including math operations, FFT, and digital filtering.
- Automatic measurement of waveform parameters. Lissajous figure phase measurement capability.
- System software upgrade via USB drive.
- 7-inch TFT LCD display.
- Supports plug-and-play USB storage devices, enabling communication with and remote control of computers through the USB device.

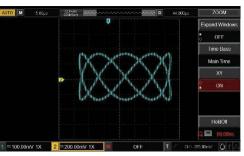


New auto-set function, easy to handle complex test scenarios  $% \left( f_{i}^{2}, f_{i}^{2}$ 



Abundant math functions: math operation, FFT, digital filtering

			r		1	1		$\wedge$	$\wedge$	MasterSr
	Allp	arameters	;	1	<i>r</i> ,				S MENU	, CH1
N	36	Max	296.00mV	Min	-320.00mV	High	280.00 w∀	Low	-304.00mV	SlaveSro
	Vollage		584.00mV	Pk-Pk	616.00mV			Mean	-8.00mV	
	Vc					CycRMS	208.00 mV			, CH1
			969.50ns				280.00his		292.00ns	All Para
-	16f	RiseDelay		FalDelay		+Width			495.00ns	On On
	Timer	FRER	0.00s		420.00ns		420.00hs		0.00s	е <u>сл</u>
									7.00µs	
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	Other	OverSht				Phase				
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Automatic measurement of waveform parameters

Lissajous figure phase measurement

Key Specifications	UTD2052CL+	UTD2102CL+	UTD2072CL	UTD2152CL
Channels	2			
Bandwidth	50MHz	100MHz	70MHz	150MHz
Sampling rate	500MSa/S			
Memory depth	64kpts			
Waveform capture rate	5,000 wfms/s			
Rise time	<7ns	<3.5ns	<5ns	<2.4ns
Vertical scale (V/div)	1mV/div-20V/div			
Time base scale (s/div)	2ns/div-50s/div		2ns/div-50s/div	
Timing accuracy	$\leq \pm (50+2 \times \text{service life})$	e) ppm		
Time base modes	Y–T, X–Y, Roll			
Storage methods	Setup, wave, bitmap			
Trigger types	Edge, pulse, alternate,	slope, video		
Mathematical operations	A+B, A–B, A×B, A/B, F	FT		
Auto measurements	Delay, Fall Delay, +Wic		yc Mean, RMS, Cyc RMS, Period R, FRF, FFR , FFF, LRF, LRR, LF	
Number of measurements	Display 5 measuremen	ts at the same time		
Frequency counter	6 bits			
Standard interfaces	USB Host, USB Device,	, Pass/Fail		
Power	100-240V AC, 45-440H	Z		
Display	7 inch TFT LCD, 800 ×	480		
Product color	White and Gray			
Product net weight	2.5kg			
Product size ( $W \times H \times D$ )	336mm × 164mm × 1	08mm		

Ordering Information	
	UTD2152CL: 150MHz, 500MS/s, 64kpts, 2 Channel
UTD2000CL Series	UTD2072CL: 70MHz, 500MS/s, 64kpts, 2 Channel
	UTD2102CL+: 100MHz, 500MS/s, 64Kpts, 2 Channel
	UTD2052CL+: 50MHz, 500MS/s, 64Kpts, 2 Channel
	Power cord
	UT-D14: USB interface cable
Standard Accessories	UT-P05: Passive probe x2 (1x, 10x switchable, 200MHz) (UTD2152CL)
	UT-P04: Passive probe x2 (1x, 10x switchable, 100MHz) (UTD2072CL, UTD2102CL+)
	UT-P03: Passive probe x2 (1x, 10x switchable, 60MHz) (UTD2052CL+)

## Waveform Generators Selection Guide

Series	Model	Channels	Sampling						MAX F	reque	ency (	MHz)			
Series	Iviodei	Gildilleis	Rate	600	500	350	200	160	120	80	60	40	30	25	20
UTG9000T	UTG9604T	4	2.5GSa/s												
	UTG9504T	4	2.5GSa/s												
	UTG9354T	4	2.5GSa/s												
UTG4000A	UTG4202A	2	500MSa/s				•								
	UTG4162A	2	500MSa/s					•							
	UTG4122A	2	500MSa/s						•						
	UTG4082A	2	500MSa/s							•					
UTG2000A/B	UTG2122B	2	1.28GSa/s						•						
	UTG2082B	2	1.28GSa/s							•					
	UTG2062B	2	1.28GSa/s								•				
	UTG2025A	2	125MSa/s											•	
UTG1000X	UTG1042X	2	200MSa/s									•			
	UTG1022X	2	200MSa/s												•
	UTG1022X-PA	2	200MSa/s												•
UTG900E	UTG962E	2	200MSa/s								•				
	UTG963E	2	200MSa/s										•		

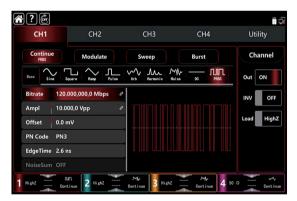
#### Waveform Generators Accessories

Model		Information	Certification	Series
UT-M14	a a	Power amplifier module for UTG series	ROW	UTG9000T; UTG4000A; UTG2000A/B; UTG1000X; UTG900E
UT-L02		BNC to alligator clip test line: 1M	ROW	UTG9000T; UTG4000A; UTG2000A/B; UTG1000X; UTG900E
UT-L45	9	BNC-BNC line: 1M, Suitable for all signal generators	ROW	UTG9000T; UTG4000A; UTG2000A/B; UTG1000X; UTG900E





- 4 channels output
- Output: up to 600MHz sine wave, full-band resolution:  $1\mu\text{Hz}$
- 200MHz pulse waveform with adjustable rise and fall time
- Max Sampling rate: 2.5GSa/s, vertical resolution: 16bits
- Arbitrary wave memory depth of 64Mpts, supports point-topoint output .
- Supports one-click SNR output.



Support for multiple signal outputs, including PRBS patterns for measuring performance of communication components



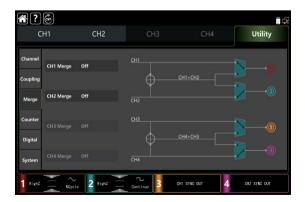
Digital protocol output: SPI, I2C, UART

The UTG9000T Series pulse/function/arbitrary waveform generators, employing Direct Digital Synthesizer (DDS) technology, produce precise and stable waveform outputs with a bandwidth of up to 600MHz. They feature a maximum sampling rate of 2.5GSa/s and a resolution as fine as 1 $\mu$ Hz. These instruments deliver accurate, stable, pure, and low-distorted signals. With straightforward operation, technical superiority, and the ability to provide high-frequency square waves with rapid rising and falling edges, these multi-functional instruments cater to a variety of requirements.

- Frequency sweep modes: linear, logarithmic, list, stepping
- 15 Modulation types: AM, PM, FM, DSBAM, ASK, PSK, BPSK, QPSK, FSK, 3FSK, 4FSK, QAM, OSK, PWM, SUM
- 10.1 inch capacitive touchscreen with 1280 x 800 resolution
- Digital protocol output: SPI, I2C, UART
- Standard interfaces: USB Host, USB Device, LAN



Arbitrary wave memory depth of 64Mpts, supports point-to-point output.



Addition of waveforms and Channels Merge

#### Waveform Generators



10.1 inch capacitive touchscreen. 4 Channel output Sampling rate: 2.5GSa/s Vertical resolution: 16bits



Rich sweep features: Line, Log, Step, List

Key Specifications	UTG9354T	UTG9504T	UTG9604T	UTG9354T	UTG9504T	UTG9604T
Channel	CH1 & CH2 (Mair	1)		CH3 & CH4 (Slave)		
Max. frequency	350MHz	500MHz	600MHz	160MHz	200MHz	200MHz
Sampling rate	2.5GSa/s			625MSa/s		
Vertical resolution	14bits	14bits	16bits	16bits	16bits	16bits
Arbitrary wave length	8pts–64Mpts			8kpts		
Working mode	Continue, modula	tion, frequency sweep	o, burst, frequency co	unter, digital protoc	ol	
Continue	Sine, square, ram	p, pulse, harmonic, no	oise, PRBS, DC, arbit	rary waveform		
Vodulation types	AM, PM, FM, DSE	3AM, ASK, PSK, BPSK	, QPSK, FSK, 3FSK,	4FSK, QAM, OSK, P	WM, SUM	
requency sweep types	Linear, logarithm	ic, list, stepping				
Burst types	N cycle, gating, ir	finite				
Digit types	SPI, I2C, UART					
Hardware frequency counter	100mHz-800MHz	, DC/AC coupling				
Frequency Characteristics						
Sine wave	1µHz–350MHz	1µHz–500MHz	1µHz–600MHz	1µHz–160MHz	1µHz–200MHz	1µHz–200MHz
Square wave	1µHz–120MHz	1µHz–160MHz	1µHz–200MHz	1µHz–50MHz	1µHz–60MHz	1µHz–60MHz
Pulse wave	1µHz–120MHz	1µHz–160MHz	1µHz–200MHz	1µHz–50MHz	1µHz–60MHz	1µHz–60MHz
Ramp wave	1µHz–20MHz	1µHz–30MHz	1µHz–30MHz	1µHz–8MHz	1µHz–10MHz	1µHz–10MHz
Noise	1mHz-350MHz	1mHz–500MHz	1mHz-600MHz	1mHz-160MHz	1mHz-200MHz	1mHz-200MH
Arbitrary wave (DDS)	1µHz–80MHz	1µHz–100MHz	1µHz–100MHz	1µHz–50MHz	1µHz–60MHz	1µHz–60MHz
PRBS	1µbps-80Mbps	1µbps-120Mbps	1µbps-120Mbps	1µbps-40Mbps	1µbps-60Mbps	1µbps-60Mbp
Harmonic wave	1µHz–175MHz	1µHz–250MHz	1µHz-300MHz	1µHz–80MHz	1µHz–100MHz	1µHz-100MHz
Frequency resolution	1µHz				1	
Rise/fall time	1MHz, 1 Vpp, 500	2 load				
	<2ns	<2ns	<1.5ns	<6ns	<5ns	<5ns
	≤40MHz		20Vpp	≤20MHz	1	20Vpp
	≤120MHz		10Vpp	≤80MHz		10Vpp
D	≤160MHz		5Vpp	≤120MHz		5Vpp
Output amplitude (High Z)	≤300MHz		4Vpp	≤200MHz		3Vpp
	≤400MHz		2.5Vpp			
	≤500MHz		1.5Vpp			
	≤600MHz		1Vpp			
	(1kHz sine wave	with 0V offset, >10mV	'pp)	1		
Amplitude accuracy	±(1% of set amp	litude+1mVpp)				
DC offset ranges		peak value AC + DC ); -10Vpp–10Vpp(Hig	h Z)			
DC offset accuracy	±1% of offset set	value ± 0.5% of amp	litude set value ±2n	۱V		
Interface						
Standard configuration	USB Host, USB D	evice, LAN				
Output resistance	50Ω					

General Characteristics	
Power	100–240V AC, 50Hz/60Hz; 100–120V AC, 400 Hz
Display	10.1 inch TFT capacitive touchscreen with 1280x800 resolution
Product size( $W \times H \times D$ )	370mm x 115mm x 185mm
Product net weight	4.04kg

Ordering Information	
	UTG9354T: 350MHz, 2.5GSa/s, 64Mpts, 4 Channel
UTG9000T Series	UTG9504T: 500MHz, 2.5GSa/s, 64Mpts, 4 Channel
	UTG9604T: 600MHz, 2.5GSa/s, 64Mpts, 4 Channel
	Power cord
Standard Accessories	UT-D14: USB interface cable
	BNC cables (1m): 4pcs

### UTG4000A Series



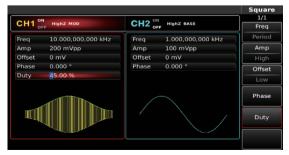
The UTG4000A Series waveform generators boast a multifunction design, making them well-suited for diverse application scenarios. With features such as Function Generation, Arbitrary Waveform Generation, Pulse Generation, Harmonic Generation, Analog/Digital Modulation source, and a frequency counter, the UTG4000A series is capable of handling a wide range of signal emulation applications. Frequency ranges from near DC to up to 200MHz, depending on the model and function.

Utilizing Direct Digital Synthesizer (DDS) technology, the UTG4000A series ensures the delivery of stable, precise, and low-distortion signals. The sleek, upright design is complemented by a high-resolution 8-inch display screen. Additionally, the user-friendly interface design and panel layout contribute to improved efficiency.

- 80 MHz/120 MHz/160 MHz/200 MHz sine waveform output,  $1 \mu Hz$  full-band resolution
- 30MHz/40MHz/50MHz pulse waveform, adjustable rise/fall time
- 500MSa/s sampling rate, 16 bits vertical resolution
- Standard dual channels, supporting stand-alone or channel-coupling output mode

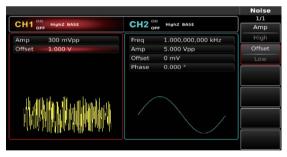
Arb			
1/1	Highz BASE	4 HighZ BASE	
Wave	FF	F STATISTICS	OF
	1.000,000,000 kHz	AbsSine.bsv	Wave
ay Mode	5.000 Vpp	de Close	Play Moc
Close	0 mV	1.000,000,000 kHz	Freq
Freq	0.000 °	5.000 Vpp	Amp
Period		0 mV	Offset
Amp			
High			
Offset			
Low			
			/

Built-in arbitrary waveform available at any time



Rich modulation functions

- 32Mpts arbitrary waveform depth, 7GB non-volatile arbitrary waveforms
- Versatile modulation types: AM, FM, PM, ASK, FSK, PSK, BPSK, QPSK, OSK, PWM, SUM, QAM
- Frequency counter range: 100mHz-800MHz
- 8 inch TFT LCD, WVGA (800 × 480)
- Standard Ports: USB Host, USB Device, LAN, 10MHz Input, 10MHz Output, Frequency Counter, FSK Trig, Modulation In



Noise modes

				Sweep
CH1 <sup>⁰№</sup>	HighZ SWEEP		HighZ BASE	1/2
CHI OF	HIGHZ SWEEP	CH2 OF	HighZ BASE	Туре
Туре	Linear	Туре	AM	Linear
Source	Internal	Source	Internal	Source
Swp Time	e 1.000 ms	Wave	Sine	< Internal
Start Free	1.000,000,000,0 kHz	Fre	10.000,000 kHz	
Stop Freq	136.000,000,0 Hz	Depth	100.000 %	Swp Time
Trig Fre	136.000,000,0 Hz			Start Free
	THAL			Stop Free
				Trig Fre

Linear and logarithmic sweep waveform

			Harmoni
СН1。	FF Highz Harmonic	CH2 OFF Highz Sine	Freq
Freq	1.000,000,000 kHz	Freq 1.000,000,000 kHz	Period
Amp	5.000 Vpp	Amp 5.000 Vpp	Amp
Offset	0 mV	Offset 0 mV	High
Phase	0.000 °	Phase 0.000 °	Offset
Type Order	Odd 16		Low
Ň	ж		Phase
Im	~~~~		Туре
	m		<b>∢</b> Odd
			Order

Customize harmonic generation function

0114 01		ON	1/1
CH1 o	HighZ BASE	CH2 OFF HighZ BASE	Coupling
Freq	1.000,000,000 kHz	Freq 1.000,000,000 kH	z AC
Amp	5.000 Vpp	Amp 5.000 Vpp	
Offset	0 mV	Offset 0 mV	TrgLevel
Phase	0.000 °	Phase 0.000 °	TRG Precision
			HF Reject
/			Off
Counter	AC 0 r	nV 100 % Off	
Freque	ncy 999.999,113,4 l	(Hz	
Frequency	999.999,113,4 kHz	+Width 501.440 ns	
Period	1.000,00 us	-Width498.560 ns	

Frequency counter from 100mHz to 200MHz

Key Specifications	UTG4082A	UTG4122A	UTG4162A	UTG4202A		
Max. frequency	80MHz	120MHz	160MHz	200MHz		
Channels	2					
Sampling rate	500MSa/s					
Waveforms	Sine, square, ramp, harn	ine, square, ramp, harmonic, pulse, noise, DC voltage, arbitrary				
Working modes	Continuous, modulation	, sweep, burst				
Modulation types	AM, FM, PM, ASK, FSK	M, FM, PM, ASK, FSK, PSK, BPSK, QPSK, OSK, PWM, SUM, QAM				
Frequency Characteristics						
Sine	1µHz–80MHz	1µHz–120MHz	1µHz–160MHz	1µHz-200MHz		
Square/Pulse	1µHz–30MHz	1µHz–40MHz	1µHz–50MHz	1µHz–60MHz		
Ramp	1µHz–2MHz	1µHz–3MHz	1µHz–4MHz	1µHz–5MHz		
Harmonic	1µHz–40MHz	1µHz–60MHz	1µHz–80MHz	1µHz-100MHz		
Noise (-3dB)	80MHz	120MHz	160MHz	200MHz		
Resolution	1µHz		L.			
Arbitrary Waveform						
Frequency range	1µHz–20MHz	1µHz–30MHz	1µHz–40MHz	1µHz–50MHz		
Memory depth	8pts-32Mpts	8pts-32Mpts	8pts-32Mpts	8pts-32Mpts		
Vertical resolution	16bits	·	L			
Min rise/fall time (typical: 1Vpp)	<7ns	<6ns	<5ns	<5ns		
Power	100V-240V AC, 50Hz/60	Hz	·			
Display	8 inch TFT LCD, WVGA	(800 x 480)				
Product net weight	3.5kg					
Product size $(W \times H \times D)$	336mm x 164mm x 108m	ım				

Ordering Information	
	UTG4082A: 80MHz, 500MSa/s, 32Mpts, 2 Channel
UTG4000A Series	UTG4122A: 120MHz, 500MSa/s, 32Mpts, 2 Channel
	UTG4162A: 160MHz, 500MSa/s, 32Mpts, 2 Channel
	UTG4202A: 200MHz, 500MSa/s, 32Mpts, 2 Channel
	Power cord
Standard Accessories	UT-D14: USB interface cable
	BNC cables (1M): 1 pair

## UTG2000A/B Series



- 25MHz/60MHz/80MHz/120MHz sine waveform output, 1 $\mu$ Hz full-band resolution
- Max 320MSa/s sampling rate, 16 bits vertical resolution
- Unique expression output function
- Standard dual channels, supporting stand-alone or channelcoupling output mode



120MHz sine waveform output, double channels multiple waveforms selection



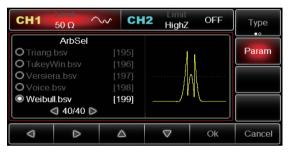
Built-in 16 types harmonic generators

CH1	50 Ω Line	CH2	Limit HighZ	$\sim$	Туре
StartFreq StopFreq	<b>1 μHz</b> 120.000,00 Μ	ИНz	A ATDA	hilduaht	Param
Time TrigSrc	500.000 s Internal				Carrier
TrigOut TrigEdge	On Rise			, <sup>th</sup> t truit	
<i>*</i>					
Line	Log				

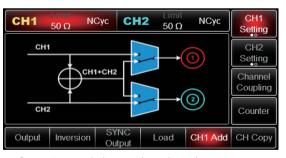
Sweep function and burst mode

The waveform generators in the UTG2000B Series provide precise, stable, and distortion-free signals with high purity. These instruments produce highfrequency square waves featuring fast rise and fall edges. With an intuitive operation interface and a well-designed graphical display, users can improve their efficiency while working with these versatile tools.

- 16Mpts arbitrary waveform depth
- Versatile modulation types: AM, FM, PM, PWM, ASK, FSK, PSK, BPSK, QPSK, OSK, DSB-AM, SUM, QAM
- 4.3 inch TFT LCD, WVGA (480 × 272)
- Standard Ports: USB Host, USB Device, LAN



Built-in up to 200 arbitrary waveforms



Supporting stand-alone or channel-coupling output mode. Channel merging and stacking

CH1	Limit 50 Ω		H2 Limit HighZ	$\sim$	Туре
Map Source	64QAM PN7	- <b>B</b> 41 1		≂ Q	Param
Rate	1.000,00	MHZ		<u>н н н н н н н н н н н н н н н н н н н </u>	Carrier
4			••••	••••	
BPSK	QPSK	OSK	SUM	DSBAM	QAM

Multiple analog and digital modulation functions

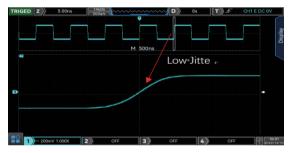
Key Specifications	UTG2025A	UTG2062B	UTG2082B	UTG2122B			
Max. frequency	25MHz	60MHz	80MHz	120MHz			
Channels	2						
Sampling rate	125MSa/s	125MSa/s 320MSa/s (1.28GSa/s @ 4×Interpolation)					
Waveforms	Sine, square, ramp, pul	se, noise, DC, arbitrary; UTG2	2000B only: harmonic, exp				
Working modes	Continuous, modulation	n, sweep, burst					
Modulation types	AM, FM, PM, ASK, FSK, PSK, PWM	AM, FM, PM, ASK, FS	AM, FM, PM, ASK, FSK, PSK, PWM, BPSK, QPSK, OSK, DSB-AM, SUM, QAM				
Arbitrary Waveform							
Memory depth	8pts-8kpts	8pts-16Mpts					
Vertical resolution	14bits	4bits 16bits (symbol included)					
Frequency Characteristics							
Sine	1µHz–25MHz	1µHz–60MHz	1µHz–80MHz	1µHz–120MHz			
Square	1µHz–5MHz	1µHz–25MHz	1µHz–25MHz	1µHz–30MHz			
Pulse	1µHz–5MHz	1µHz–20MHz	1µHz–25MHz	1µHz–30MHz			
Ramp	1µHz–400kHz	1µHz–3MHz	1µHz–4MHz	1µHz–5MHz			
Harmonic		1µHz–30MHz	1µHz–40MHz	1µHz–60MHz			
Arbitrary	1µHz–5MHz	1µHz–15MHz	1µHz–20MHz	1µHz–25MHz			
Noise	25MHz (-3dB)	60MHz (-3dB)	80MHz (-3dB)	120MHz (-3dB)			
Resolution	1µHz						
	±0.5ppm 25 °C						
Accuracy	First year aging rate: 1p	opm					
	Temperature coeffici	ent: ±0.5ppm/°C					
Temperature Coefficient	<2ppm/°C						
Interfaces	USB Host, USB Device,	10MHz clock source input/o	utput, External analog modulatio	on input			
Power	100V-240V AC, 50Hz/6	OHz					
Display	4.3 inch TFT LCD, WVG	GA (480 x 272)					
Product net weight	3.2kg						
Product size	265mm x 110mm x 320	mm					

Ordering Information	
	UTG2025A: 25MHz, 125MSa/s, 8Kpts, 2 Channel
UTG2000A/B Series	UTG2062B: 60MHz, 320MSa/s, 16Mpts, 2 Channel
	UTG2082B: 80MHz, 320MSa/s, 16Mpts, 2 Channel
	UTG2122B: 120MHz, 320MSa/s, 16Mpts, 2 Channel
	Power cord
Standard Accessories	UT-D14: USB interface cable
	BNC cables: 1pc, BNC to alligator clip line(1m): 1pc

## UTG1000X Series



- Excellent digital sampling technology, resulting in lower output waveform jitter.
- Dual-channel equivalent performance, with a maximum output frequency of 40 MHz and a maximum output amplitude of 20 Vpp. 200MSa/s sampling rate
- 16-bit vertical resolution.
- Square wave with a maximum frequency of 20MHz and low jitter.
- Rich modulation functions including AM, FM, PM, FSK, ASK, PSK, and PWM.



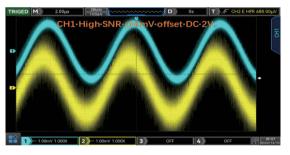
Excellent digital sampling technology makes the output waveform jitter lower.

CH1	Limit 50Ω	FM	CH2	Limit HighZ	OFF
ModWave ModFreq FreqDev	Sine 100.000 H 1.000,000,				
MA	FM	PM	ASK	FSK	Page Down

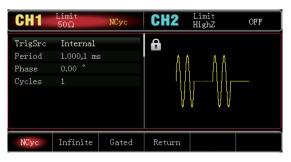
Supports AM, FM, PM, FSK, ASK, PSK and PWM multiple analog and digital modulation methods.

The UTG1000X utilizes direct digital synthesis technology, ensuring the generation of precise and stable waveforms with a resolution as fine as 1 $\mu$ Hz. This economical, high-performance, and multi-functional/arbitrary waveform generator produces accurate, stable, clean, and low-distortion output signals. It is designed for convenient operation, offering superior technical indicators and a user-friendly graphic display, making it a versatile tool that meets the needs of learning and testing while enhancing work efficiency.

- Support for sweep frequency and pulse train output.
- Built-in power amplifier module (maximum output power: 4W, -PA model only).
- Generation of arbitrary waveforms through PC software.
- 7-bit hardware frequency counter function
- Built-in 200 arbitrary waveforms.
- Standard USB Host and USB Device interfaces.
- 4.3-inch TFT LCD display.



Set small signal to superimpose large DC, UTG1000X has lower output noise and higher signal-to-noise ratio



Supports three pulse modes: N cycle, infinite and gated. Internal and External modulation signal sources.

#### Waveform Generators

CH1	Limit 50Ω	Log	CH2	Limit HighZ	OFF
	q 1.000,000 20.000,00 e 100 ms		<b>a</b>		
Line	Log	Return			

Support linear and logarithmic two frequency sweep methods.

CH1	Limit 50Ω	$\sim$	CH2	Limit HighZ	OFF
Freq	10.123	,456,7 MHz			6
Period	99 ns				
Duty	42.28	%			
Freq	Period	Duty	Return		

High-precision frequency meter, which can measure the frequency range of 100mHz-200MHz.

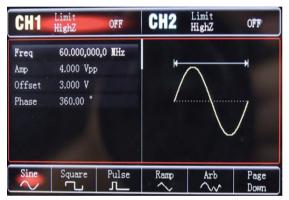
Key Specifications	UTG1022X	UTG1022X-PA	UTG1042X		
Max. frequency	20MHz	20MHz	40MHz		
Channels	2				
Vertical resolution	16bits				
Sampling rate	200MSa/s				
Arbitrary wavelength	2kpts				
Working mode	Continue, modulation, frequency s	weep			
Continue	Sine, Square, Ramp, Pulse, Noise,	DC, Arb			
Modulation types	AM, PM, FM, ASK, PSK, FSK, PWM				
Frequency sweep types	Linear, logarithmic				
Hardware frequency counter	100mHz-200MHz				
Frequency Characteristics					
Sine wave	1µHz–20MHz	1µHz–20MHz	1µHz–40MHz		
Square wave	1µHz–10MHz	1µHz–10MHz	1µHz–20MHz		
Pulse wave	1µHz–10MHz	1µHz–10MHz	1µHz–20MHz		
Ramp wave	1µHz-400kHz	1µHz–400kHz	1µHz–1MHz		
Noise	40MHz bandwidth(- 3dB)(typical)	40MHz bandwidth (- 3dB)(typical)	40MHz bandwidth(- 3dB)(typical)		
Frequency resolution	1µHz		-		
Rise/fall time	1 Vpp, 50Ω load				
Rise/Tan time	<16ns	<16ns	<16ns		
Output Characteristics					
Output amplitude(50 $\Omega$ )	≤20MHz		1mVpp-10Vpp		
Output amplitude(5022)	≤40MHz	1mVpp-5Vpp			
Amplitude accuracy	(1kHz sine wave with 0V offset, >10mVpp)				
	±(3% of set amplitude+1mVpp)				
DC offset range	$\pm 5V$ (50 $\Omega$ ); $\pm 10V$ (High Z)				
DC offset accuracy	± (3%+2mV)				
Interface					
Standard configuration	USB Host, USB Device, PowerOut (BNC)				
Output resistance	50 Ω				
Power	100-240V AC, 50Hz/60Hz; 100-120V	rms (±10%), 400 Hz			
Display	4.3 inch TFT LCD WVGA (480×272)				
Product size $(W \times H \times D)$	215mm x 103mm x 316mm				
Product net weight	2.2kg				

Ordering Information				
	UTG1022X: 20MHz, 200MSa/s, 2kpts, 2 Channel			
UTG1000X Series	UTG1022X-PA: 20MHz, 200MSa/s, 2kpts, 2 Channel, 4W Power Module			
	UTG1042X: 40MHz, 200MSa/s, 2kpts, 2 Channel			
	Power cord			
Standard Accessories	UT-D14: USB interface cable			
	BNC cables (1m): 2pcs			

### **UTG900E** Series



- 30MHz/60MHz sine waveform output
- 1µHz full-band resolution
- 200MSa/s sampling rate, 14 bits vertical resolution, double channels
- Portable handheld mini signal generator



Multiple waveform signals: sine, square, ramp, pulse, noise, DC, arbitrary waveform

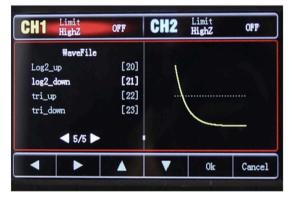
CH1 Limit HighZ OFF	CH2 Limit HighZ OFF		
StartFreq 1 uHz StopFreq 60.000,000,0 MHz	A A A A A A A A A A A A A A A A A A A		
SweepTime 500.000 s			
StartFreq StopFreq SweepT	ine		

Sweep function; Scan type: linear and logarithmic, test scan from low to high, and scan output from high to low

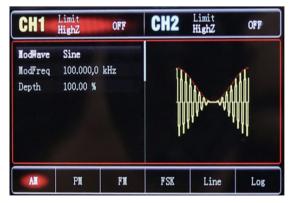
The UTG900E Series is an entry-level handheld arbitrary waveform generator that combines high performance with multi-functionality. Featuring a compact design, a 4.3-inch TFT LCD, and a user-friendly interface, this model is well-suited for a range of test scenarios, making your testing tasks more straightforward.

Utilizing direct digital synthesis (DDS) technology, it ensures accurate and stable waveform generation. With a remarkable full-band resolution of up to  $1\mu$ Hz, this generator offers precision in waveform creation.

- High-accuracy, broad-band 6-bit frequency counter, range: 100mHz-100MHz
- Linear and logarithmic sweep functions
- 24 types of non-volatile waveform stores
- 4.3 inch high resolution color TFT display



Built-in 24 arbitrary waveforms. 4kpts digital arbitrary waveform storage



Modulation functions Easy-to-use modulation types: AM, FM, PM, FSK

Key Specifications	UTG932E	UTG962E		
Max. frequency	30MHz	60MHz		
Channels	2	·		
Sampling rate	200MSa/s			
Vertical resolution	14 bits			
Waveforms	Sine, square, pulse, ramp, noise, DC, arbitra	у		
Sweep modes	Logarithmic, linear			
Frequency Characteristics				
Sine	1µHz–30MHz	1µHz–60MHz		
Square	1µHz–15MHz	1µHz–20MHz		
Ramp	1µHz-400kHz	1µHz–400kHz		
Pulse	1µHz–15MHz	1µHz–20MHz		
Arbitrary	1µHz–10MHz	1µHz–10MHz		
Resolution	1µHz	·		
	Within 90 days ± 50ppm			
Accuracy	Within 1 year ± 100ppm			
18°C-28°C				
Output Characteristics				
Impedance	50Ω			
Amplitude range	1mVpp-10Vpp (50Ω); 2mVpp-20Vpp (high Z	)		
DC offset range (AC+DC)	±5V (50Ω); ±10V (high Z)			
Amplitude resolution	1mV			
Power	100–240VAC, 50Hz/60Hz			
Display	4.3 inch TFT LCD (480×272)			
Product net weight	0.33kg			
Product size (W $\times$ H $\times$ D)	172mm x 90mm x 68mm			

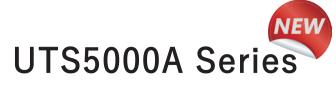
Ordering Information			
UTG900E Series	UTG932E: 30MHz, 200MSa/s, 2 Channel		
	UTG962E: 60MHz, 200MSa/s, 2 Channel		
	Power cord		
Standard Accessories	UT-D14: USB interface cable		
	BNC cables: 1pc, BNC to alligator clip line (1M): 1pc		
	Power adapter		

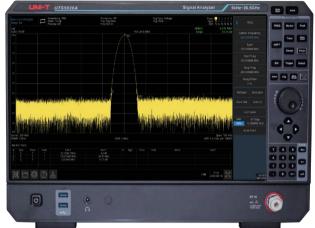
## Spectrum Analyzers Selection Guide

Series	Model	Frequency Range	Frequency Resolution	RBW	Phase Noise	DANL	Tracking Source
	UTS3084T	9kHz–8.4GHz	1Hz	1Hz–3MHz	<-98 dBc/Hz (Typical value)@10kHz	<-161dBm	Yes
UTS3000B	UTS3084B	9kHz–8.4GHz	1Hz	1Hz–3MHz	<-98 dBc/Hz (Typical value)@10kHz	<-161dBm	No
	UTS3036B	9kHz–3.6GHz	1Hz	1Hz–3MHz	<-98 dBc/Hz (Typical value)@10kHz	<-161dBm	Optional
	UTS3021B	9kHz–2.1GHz	1Hz	1Hz–3MHz	<-98 dBc/Hz (Typical value)@10kHz	<-161dBm	Optional
	UTS1032B	9kHz–3.2GHz	1Hz	1Hz–1MHz	<-98 dBc/Hz (Typical value)@10kHz	<-161dBm	No
UTS1000B	UTS1015B	9kHz–1.5GHz	1Hz	1Hz–1MHz	<-98 dBc/Hz (Typical value)@10kHz	<-161dBm	No
	UTS1015T	9kHz–1.5GHz	1Hz	1Hz–1MHz	<-98 dBc/Hz (Typical value)@10kHz	<-161dBm	Yes
	UTS1032T	9kHz–3.2GHz	1Hz	1Hz–1MHz	<-98 dBc/Hz (Typical value)@10kHz	<-161dBm	Yes
UTS5000A	UTS5013A	9kHz–13.6GHz	1Hz	1Hz–3MHz (10 % steps), 4, 5, 6, & 8 MHz	<-107 dBc/Hz (Typical value)@10kHz	<-163dBm	No
	UTS5026A	9kHz–26.5GHz	1Hz	1Hz–3MHz (10 % steps), 4, 5, 6, & 8 MHz	<-107 dBc/Hz (Typical value)@10kHz	<-163dBm	No

## Spectrum Analyzers Accessories

Model	Information	Certification	Series
UT-CK01	Spectrum Utility Kit: includes NSMAJ-NJ-0.7M DC-6G Cable x1, NJ- NJ-0.7M DC-6G Cable x1, SMA-N-KJ-T DC-6GHz Adapter x2, N- BNC-JK DC-4GHz Adapter x2, 2400MHz–2500MHz Antenna x2, 824–960MHz/1710–1990MHz x2	ROW	UTS3000B; UTS1000B
UT-CK02	Spectrum Utility Kit: includes NSMAJ-NJ-0.7M DC-40G Cable x1, NJNJ-0.7M DC-40G Cable x1, SMA-N-KJ-T DC-40GHz Adapter x2, NBNC-JK DC-40GHz Adapter x2	ROW	UTS5000A
UTS-EMI01	Frequency range: 30MHz–3GHz; includes 3 Pcs magnetic field near-field probes and 1 Pcs electric field near field probe; 1 Pcs N-SMA cable, 1 Pcs N-BNC	ROW	UTS5000A; UTS3000B; UTS1000B
BAG-B3	Soft carrying bag for UTS1000B and UTS3000B Series Spectrum Analyzers	ROW	UTS3000B; UTS1000B

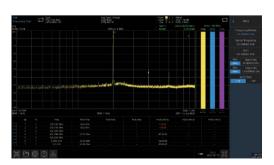




- Frequency range: 9kHz to 26.5GHz
- DANL: -163 dBm/Hz (typical value)
- Phase noise: <-107 dBc/Hz (at 10 kHz offset, typical)
- Scan points: up to 100,001 points
- Minimum Resolution Bandwidth (RBW): 1 Hz
- Advanced one-key measurement (UTS5000A-AMK)



Excellent sensitivity to test weaker signals



EMI pre-compliance (UTS5000A-EMI)

The UTS5000A series is a signal analyzer with a frequency range of 9kHz to 26.5GHz, which covers most of the wireless communication (C band) and satellite communication (Ku and K band) standards and applications.

Whether you need to verify the performance and compliance of your RF devices, or to build an automatic control system for your test environment, the UTS5000A series can meet your needs with its high accuracy, reliability, and versatility.

The UTS5000A series can be used as the main equipment required to test the output power, frequency, bandwidth, modulation quality, spectrum, distortion, dynamic range, and demodulation performance of various RF devices, such as transmitters, receivers, antennas, filters, amplifiers, etc. It can also be integrated with other instruments and software to form a complete RF conformance and calibration system for corporate R&D, factory production, education, and scientific research.

- EMI Pre-Compliance Analysis Function (UTS5000A-EMI)
- Optional Analog Demodulation Analysis (UTS5000A-AMA)
- Available Digital Demodulation Analysis (UTS5000A-VSA)
- Easily add Real-time Spectrum Analysis (UTS5000A-RTSA)
- Upgrade for I/Q Analysis (UTS5000A-IQ)
- 15.6 inches multi-touch 1920x1080 HD TFT LCD display



Excellent selectivity. Scan 100,001 points



Removable dust mesh

#### Spectrum Analyzers

Key Specifications	UTS5013A	UTS5026A	
Frequency range	9kHz–13.6GHz	9kHz–26.5GHz	
Frequency resolution	1Hz	· · · · · · · · · · · · · · · · · · ·	
Scan width range	0Hz, 10Hz-13.6GHz	0Hz, 10Hz-26.5GHz	
Scan accuracy	Scan mode: ±[0.25%×span+horizontal re	solution]	
	FFT mode: ± (0.10% x span + horizontal r	esolution)	
Sweep time	Span = 0Hz, 1 $\mu$ s to 6000s; Span $\ge$ 10Hz, 1n	ns to 4000s	
Marker mode	Normal, Delta∆, Fixed		
Marker function	Marker Noise, Band Power, Band Densit	y, N dB, Counter	
RBW (-3 dB)	1 Hz–3MHz (10% step), 4, 5, 6, 8MHz		
Video bandwidth (VBW)	1 Hz-3MHz (10% step), 4, 5, 6, 8MHz		
Selectivity (-60 dB/-3 dB)	<4.1:1 (Nominal), -60dB: -3dB		
Reference level	-170dBm to +30dBm, 0.01dB Steps		
Preamplifier	+20dBm nominal		
Input attenuator range	0 to 50dB, 2dB Steps		
Trace detectors	Normal, peak, sample, negative peak, log power average, RMS average, and voltage average		
Trace type	Clear/Write, Average, Max Hold, Min Hold		
Scale units	dBm, dBmV, dBµV, V, W		
Sweep (trace) point range	11 to 100,001		
Advanced Measurement	Power Suite Measurement, Nonlinear Measurement, Spectrum Monitoring		
Modulation Analysis	Demodulation, AM Measurement, FM Measurement		
	ASK (2 ASK); FSK: 2 FSK, 4 FSK, 8 FSK	, 16 FSK; MSK (GMSK); PSK: BPSK, QPSK,	
Vector signal analysis	OQPSK, 8PSK; DPSK: DBPSK, DQPSK, D8PSK, $\pi/4$ -DQPSK, $\pi/8$ -D8PSK;		
	QAM: 16, 32, 64, 128, 256		
I/Q Analyzer analysis bandwidth	Standard: 9kHz to 25MHz; Option B40: 9kH	Hz to 40MHz	
Real-time analysis bandwidth	25MHz; 40MHz		
Interface	RF input, 10MHz reference IN/OUT, External trigger input, HDMI, USB-Host, USB-Device, LAN		
Power	100-240V AC, 50Hz/60Hz, 100-120V AC 40	D0Hz	
Display	15.6 inch TFT LCD (1920x1080) touch		
Product size( $W \times H \times D$ )	445mm×311mm×195mm		
Product net weight	11kg		

Ordering Information				
UTS5000A Series	UTS5013A: 13.6GHz, 1Hz-8MHz, -163dBm/Hz			
	UTS5026A: 26.5GHz, 1Hz–8MHz, -163dBm/Hz			
Standard Accessories	Power cord			
	USB cable×1			
	UT-CK02: accessories kit			
Optional Accessories	UTS-EMI01: EMI Near-Field Probe kit			
	UTS5000A-AMK: Advanced measurement kit option			
	UTS5000A-EMI: EMI measurement option			
Options	UTS5000A-AMA: Analog demodulation measurement option			
options	UTS5000A-VSA: Digital demodulation analysis option			
	UTS5000A-IQ: I/Q Analysis			
	UTS5000A-RTA: Real-time Spectrum Analysis			

## **UTS3000B** Series



The UTS3000B Series spectrum analyzer offers three models covering frequency bands from 9kHz to 2.1GHz, to 3.6GHz and to 8.4GHz, respectively. This spectrum analyzer series boasts wide frequency band coverage and superior performance, utilizing advanced all-digital IF technology with a resolution bandwidth ranging from 1Hz to 3MHz.

Equipped with a 10.1-inch large touch screen, the UTS3000B series enhances user experience. With 40,001 scanning points and a variety of analysis functions, it provides robust support for your analytical tasks. The compact design, multiple ports, general protocol support, and optional tracking source contribute to its versatility, facilitating automation and remote control. The UTS3000B series is ideal for applications across various fields, including communications, instrumentation, electronics, research & development and education.

- Measurement ranges: 9kHz–2.1GHz/3.6GHz/8.4GHz
- Display average noise level (DANL): -161dBm/Hz (typical)
- Phase noise: <-98 dBc (Offset 10 kHz, typical value)
- Full amplitude accuracy: <0.7dB
- Up to 40,001 scanning points
- Minimum resolution bandwidth (RBW): 1Hz

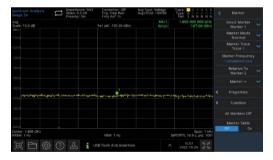


Multi touch HD screen for quick operation

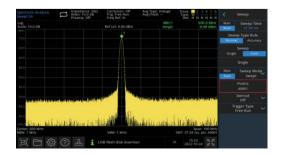


Removable dust mesh

- Advanced function one key measurement (UTS3000B-AMK)
- EMI Pre-compliance analysis function (UTS3000B-EMI)
- Available analog demodulation analysis (UTS3000B-AMA)
- Optional digital demodulation analysis (UTS3000B-VSA)
- Tracking generator output for B-models only (UTS3000B-TG)
- 10.1 inch 1280 × 800 HD capacitive touch screen
- Standard USB/LAN interface, supports SCPI protocol



Excellent sensitivity to test weaker signals



Scan 40,001 points



Excellent selectivity



EMI pre-compliance (UTS3000B-EMI)

Key Specifications		UTS3021B	UTS3036B	UTS3084B	UTS3084T			
Frequency range		9kHz–2.1GHz	9kHz–3.6GHz	9kHz–8.4GHz	9kHz–8.4GHz			
Frequency resolution		1Hz	•		·			
Sweep width range		0Hz, 100Hz–2.1GHz	0Hz, 100Hz-3.6GHz	0Hz, 100Hz-8.4GHz	0Hz, 100Hz-8.4GHz			
Sweep accuracy		Swept ±[0.25%*Span+	-Span/(Points-1)]; FFT	±[0.10%*Span+Span/(P	oints-1)]			
Sweep time		1ms to 4000s (span≠0) 1µs to 4000s (span=0)	1ms to 4000s (span≠0) 1µs to 4000s (span=0)					
Sweep mode		Swept, FFT	Swept, FFT					
Marker mode		Normal, Delta∆, Fixed						
Marker function	I	Marker Noise, Band Pov	wer, Band Density, NdB, (	Counter				
RBW (-3 dB)		1Hz–3MHz, 1-3-10 step	s					
Video bandwidt	h (VBW)	1Hz-3MHz, 1-3-10 step	S					
Selectivity (-60	dB/-3 dB)	<4.8:1 (nominal) (-60dE	3:-3dB)					
Bandwidth accu	uracy (-3dB)	< 5% (nominal)						
Reference level		-100 dBm-+30dBm, Ste	-100 dBm-+30dBm, Steps 1dB					
Preamp		20dB, Nominal, 9kHz to	20dB, Nominal, 9kHz to 2.1GHz (3.6Ghz, 8.4GHz)					
Input attenuato	r range	0-51dB, 1dB Steps	0-51dB, 1dB Steps					
Maximum input	DC voltage	50V DC max						
Maximum contin	nuous wave RF power	≤+33dBm 3 minute, Input attenuation >20dB						
Display log scal	e	1dB to 200dB						
Display linear s	cale	0-Reference level						
Scale units		dBm, dBmV, dBuV, V, W						
Sweep (trace) p	ooint range	40,001						
Number of traces	6	6						
Detection mode		Sample, Peak, Negative, Normal, Average						
Trace Type		Clear/Write, Average, MaxHold, MinHold						
Frequency	Preamplifier off	9kHz to 3.6GHz: ±0.6dB;	9kHz to 3.6GHz: ±0.6dB; ±0.3dB, Typical; 3.6GHz to 8.4GHz: ±0.8dB; ±0.6dB, Typical					
response	Preamplifier on	100kHz to 3.6GHz: ±1.0	) dB; ±0.8dB, Typical; 3.	6GHz to 8.4GHz: ±1.2dB	; ±1.0dB, Typical			
RBW switching	uncertainty	Relative to 10kHz RBW logarithmic resolution $\pm$ 0.2dB, linear resolution $\pm$ 0.01, Nominal						
Input attenuation switching uncertainty		±0.5dB (20-30°C, fc=50MHz, Preamp Off, Relative to 20dB, attenuation, Input attenuation 1-51dB)						
Absolute amplitude accuracy	Preamplifier off	±0.4dB, Input signal level -20dBm (20°C-30°C, fc=50MHz, RBW=1kHz, VBW=1kHz, peak detector, attenuation input 20dB)						
	Preamplifier on	±0.5dB, Input signal level -40dBm (20°C-30°C, fc=50MHz, RBW=1kHz, VBW=1kHz, peak detector attenuation input 20dB)						
Total absolute amplitude accuracy		± (0.4dB+frequency response) (20°C-30°C, fc>100kHz, Input signal level -50dBm-0dBm RBW=1kHz VBW=1kHz, Peak detection, Input attenuation 20dB, Preamplifier off, 95% Confidence)						

# Spectrum Analyzers

Key Specifications		UTS3021B UTS3036B UTS3084B UTS3084T					
Input voltage standing wave ratio (VSWR)		<1.8dB (nominal)					
	Frequency range	10MHz–2.1GHz (Opt.)	10MHz-3.6GHz (Opt.)	No	100kHz-6GHz		
Output level range		-40dBm-0dBm					
Tracking source	Resolution	0.5dB					
	Flatness output	±3dB					
Interface		Trace source output, 10MHz reference input, 10MHz reference output, Ext Trigger, HDMI, USB host, USB device, LAN					
Power		100-240V AC, 50Hz/60Hz; 100-120V AC, 400Hz					
Display		10.1 inch TFT LCD (1280x800) touch					
Product size (W $\times$ H	I × D)	378mm×218mm×120mm					
Product net weight		4.55kg					

Ordering Information				
	UTS3021B: 2.1GHz, 1Hz-3MHz, -161dBm/Hz			
	UTS3036B: 3.6GHz, 1Hz-3MHz, -161dBm/Hz			
UTS3000B Series	UTS3084B: 8.4GHz, 1Hz-3MHz, -161dBm/Hz			
	UTS3084T: 8.4GHz, 1Hz–3MHz, -161dBm/Hz, with built-in Tracking generator			
Standard Accessories	Power cord			
Standard Accessories	USB cable			
Optional Accessories	UT-CK01: Accessories kit			
	UTS-EMI01: Near-field probes kit			
	UTS3000B-AMK: Advanced measurement kit			
	UTS3000B-EMI: EMI measurement option			
Options	UTS3000B-AMA: Analog demodulation measurement option			
	UTS3000B-VSA: Digital demodulation analysis option			
	UTS3000B-TG: Tracking generator option (Factory Installed, must be ordered with unit)			

# **UTS1000B** Series



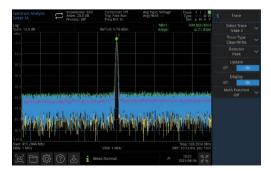
The UTS1000B Series spectrum analyzer consists of four models: UTS1015B/T and UTS1032B/T, covering frequency bands from 9kHz to 1.5GHz and 9kHz to 3.2GHz, respectively. This series offers broad frequency band coverage and exceptional performance, with resolution bandwidth ranging from 1Hz to 1MHz. Featuring 10,001 scanning points, it supports various functions to enhance your analysis tasks.

Equipped with a 10.1-inch large touch screen, the UTS1000B series provides an improved user experience. Its compact bench design, multiple ports, and general protocol support enable automation and remote control. Widely applicable in fields such as communications, semiconductors, computers, electronics, instrumentation, R&D, and education. The UTS1000B series caters to a diverse range of applications.

- Frequency range: 9kHz–3.2GHz
- Resolution bandwidth: 1Hz–1MHz
- Tracking source: 100kHz–3.2GHz
- DANL: -161dBm
- Phase noise: <-98dBc/Hz (1GHz, typical)
- Number of scanning points displayed: 10,001

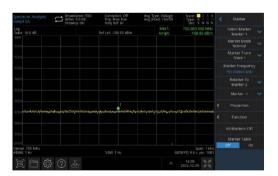


4 traces



Rich detector functions

- Optional Analysis functions: EMI analysis, advanced measurement, analog demodulation analysis, digital demodulation analysis
- Display: 10.1 inch TFT LCD (1280x800) touch screen
- Interface: HDMI, USB host, USB device, LAN, 3.5mm audio



DANL <-161dBm



Excellent selectivity

# Spectrum Analyzers

Key Specifications		UTS1015B	UTS1015T	UTS1032B	UTS1032T			
Frequency range		9kHz–1.5GHz	9kHz–1.5GHz	9kHz–3.2GHz	9kHz–3.2GHz			
Frequency resolutio	n	1Hz						
Sweep width range		0Hz, 100Hz–1.5GHz	0Hz, 100Hz-1.5GHz	0Hz, 100Hz-3.2GHz	0Hz, 100Hz-3.2GH			
Sweeptime		1ms to 4000s(span≠0); 1	us to 4000s (span=0)	1	L			
Sweep mode		Swept (1 kHz–1 MHz), FFT	Г (1Hz–30kHz)					
Marker mode		Normal, Delta∆, Fixed						
Marker function		Marker Noise, Band Pow	er, Band Density, NdB, Co	unter				
RBW (-3 dB)		1Hz-1MHz, 1-3-10 steps						
/ideo bandwidth ('	VBW)	1Hz-1MHz, 1-3-10 steps						
Selectivity (-60 dB	/-3 dB)	<4.8:1 (nominal) (-60dB:	-3dB)					
Bandwidth accura	cy (-3dB)	< 5% (nominal)						
Reference level		-100dBm-+30dBm, Steps	1dB					
Preamp		20dB, nominal value, 9k	Hz–1.5GHz (3.2GHz)					
nput attenuator ra	nge	0-51dB, 1dB steps						
Maximum input DC	voltage	50V DC max						
Jaximum continuo	us wave RF power	≤±33dBm, 3 minute, Inp	out attenuation >20dB					
Display log scale		1dB-200dB						
Display linear scal	e	0-Reference level						
Scale units		dBm, dBmV, dBµV, V, W	dBm, dBmV, dBµV, V, W					
Sweep (trace) poir	nt range	10,001						
Number of traces		4						
Detection mode		Sample, Peak, Negative, Normal, Average						
Trace Type		Clear/Write, Average, Max Hold, Min Hold						
Frequency	Preamplifier off	$\pm$ 0.6dB; $\pm$ 0.3dB, Typical (20°C–30°C, 30%–70% relative humidity, Input attenuation 20dB, be relative to 50MHz)						
response	Preamplifier on	±1.0dB; ±0.8dB, Typical (20°C–30°C, 30%–70% relative humidity, Input attenuation 20dB, relative to 50MHz)						
RBW switching un	certainty	Relative to 10kHz RBW logarithmic resolution $\pm$ 0.2dB, linear resolution $\pm$ 0.01, Nominal						
nput attenuation s	witching uncertainty	±0.5dB (20°C–30°C, fc=50MHz, Preamp Off, Relative to 20dB attenuation, Input attenuation 1–51dE						
Total absolute amp	litude accuracy	± (0.4dB+Frequency response) (20–30°C, Fc>100kHz, Input signal level -50dBm–0dBm, RBW=1kHz, VBW=1 kHz, Peak detectors, Input attenuation 20dB, Preamp Off, 95% confidence)						
Input voltage standi	ing wave ratio (VSWR)	≤1.8 (Nominal)	≤1.8 (Nominal)	≤1.8 (Nominal)	≤1.8 (Nominal)			
	Frequency range	_	100kHz-1.5GHz	_	10MHz–3.2GHz			
Tracking source	Output level range		-40dBm-0dBm	_	-40dBm-0dBm			
-	Resolution	_	0.5dB	_	0.5dB			
	Flatness output		±3dB		±3dB			
Interface		Trace source output, 10MHz reference input, 10MHz reference output, Ext Trigger, HDMI, USB host, USB device, LAN, 3.5mm						
Power		100-240V AC, 50Hz/60H	z; 100–120V AC, 400Hz					
Display		10.1 inch TFT LCD (1280	x800) touch					
Product size(W × H	×D)	378mm x 218mm x 120mm						
Product net weight		4.55kg						

Ordering Information	
	UTS1015B: 1.5GHz, 1Hz-1MHz, -161dBm
UTS1000B Series	UTS1015T: 1.5GHz, TG, 1Hz-1MHz, -161dBm
	UTS1032B: 3.2GHz, 1Hz-1MHz, -161dBm
	UTS1032T: 3.2GHz, TG, 1Hz-1MHz, -161dBm
	Power cord
Standard Accessories	USB cable ×1
Optional Accessories	UT-CK01: Accessories kit
·	UTS-EMI01: Near-field probes kit
	UTS1000B-AMK: Advanced measurement kit option
Options	UTS1000B-EMI: EMI measurement option
Options	UTS1000B-AMA: Analog demodulation measurement option
	UTS1000B-VSA: Digital demodulation analysis option

# **DC** Power Supplies Selection Guide

Series	Model	Channel	Output Voltage	Output Current	Max Power	Resolution	Name
	UDP3305S	4	0–32V (CH1, CH2) 0–6V (CH3), 5V (CH4)	0–5A (CH1, CH2) 0–3A (CH3), 2A (CH4)	348W	1mV/1mA	
UDP3000/S	UDP3305S-E	4	0-32V (CH1, CH2) 0-6V (CH3), 5V (CH4)	0–5A (CH1, CH2) 0–3A (CH3), 2A (CH4)	348W	10mV/1mA	
	UDP3305C	3	0-30V (CH1, CH2) 1.8V/2.5V/3.3V/5V (CH3)	0–5A (CH1, CH2) 3A (CH3)	315W	10mV/1mA	Programmable Linear DC
	UDP3303C	3	0-30V (CH1, CH2) 1.8V/2.5V/3.3V/5V (CH3)	0–3A (CH1, CH2) 3A (CH3)	195W	10mV/1mA	Power Supply
	UDP3303A	3	0–30V (CH1, CH2) 1.8V/2.5V/3.3V/5V (CH3)	0–3A (CH1, CH2) 3A (CH3)	195W	10mV/1mA	-
UDP1000							
	UDP1306C	1	0–32V	0–6A	192W	10mV/1mA	

# UDP3000/S Series



- Maximum power up to 348W
- Four channel independent output CH1/CH2: 0– 30V/5A,CH3: 0–6V/3A, CH4: 5V/2A
- Multiple protection: OCP/OVP/OTP
- Excellent load regulation and line regulation
- Ultra low output ripple and noise
- · Support one key serial and parallel output function
- The 4.3 inch TFT display can display three channels and multiple parameters at the same time
- · List/delayer function to control output as required

The UDP3000S Series stands out as a high-performance programmable linear DC power supply. Boasting a user-friendly LCD interface, impressive performance indicators, a range of analytical functions, and versatile communication interfaces, this series is designed to cater to diverse user testing requirements. Its primary goal is to offer cost-effective DC programmable power supply solutions for applications in teaching, scientific research, industry, and other relevant fields.

- External trigger function to realize industrial automation control
- Provides USB host, USB device, LAN, RS232, digital IO and other interfaces
- Real-time and dynamic display of output voltage/current/ power waveforms
- Intelligent speed control of fan can effectively reduce fan noise during operation
- Supports 10 groups of file storage and transfer out, and support for USB FLASH read and write

<u>ن</u>					<b>۵ م</b> ×
CH1	On CC	CH2	On C	CH3	On CV
<b>29.98</b> v		<b>30.00</b> v		05	5.00 v
5.	5.000 A		<b>4.995</b> A		A 000
149	<b>9.90</b> w	149	<b>9.85</b> w	00	w <b>00.</b> C
Set	Limit	Set	Limit	Set	Limit
30.00 v	30.00 v 🗆	30.00 v	32.00 V 🗆	5.00 v	5.00 v 🗆
5.000 A	5.000 A 🗆	<b>5.000</b> A	5.000 A [	1.000 A	1.000 A 🗆
Voltage	e Curre	nt C	VP	ОСР	

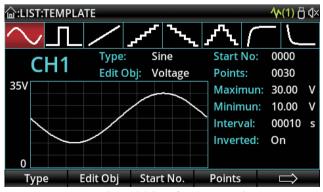
4.3 inch LCD provides a human-computer interaction interface with rich functions and simple operation.

<b>습:WAVE</b> I	DISP				Ö 4
CH1	On CC	CH1:	CH2: —	(	:H3:30
29	9 <b>.98</b> v				20 10
5.	<b>000</b> A				0 V
					4
145	<b>9.90</b> w				2
Set	Limit				0 A
30.00 v	30.00 v 🗆				100
<b>5.000</b> A	5.000 a 🗆				50 0 W
Voltage	e Curre	nt O\	/P (	ОСР	

With waveform display function, it can intuitively display the change trend of voltage, current and power.



One key series parallel connection provides you with a wider working range of power supply.



Unique list and delayer functions provide convenience for automatic testing

# DC Power Supplies

Key Specifications		UDP3303A	UDP3303C	UDP3305C	UDP3305S-E	UDP3305S	
Output voltage		0-30V (CH1/CH2)	0-30V (CH1/CH2); 1.8V/2.5V/3.3V/5V (CH3)		0-32V (CH1/CH2	0-32V (CH1/CH2); 0-6V (CH3); 5V (CH4)	
Output current		0-3A (CH1/CH2);	0-3A (CH1/CH2); 3A(CH3)		) 0-5A (CH1/CH2);	0-3A (CH3); 2A (CH4)	
Output power		195W		315W	348W		
	CV	≤0.01%+3mV (≤3	A); ≤0.02%+5m	/ (>3A)	≤0.01%+2mV		
Load regulation	CC	≤0.2%+3mA			≤0.01%+250µA		
I for a second state of	CV	≤0.01%+3mV			≤0.01%+2mV		
Line regulation	CC	≤0.2%+3mA			≤0.01%+250µA		
Resolution	Voltage	10mV			10mV	1mV	
Resolution	Current	1mA			1mA	1mA	
Durgenerating	Voltage	≤0.1%+30mV			±(0.3%+20mV)	± (0.03%+10mV)	
Programming accuracy	Current	<0.5%+2mA	<0.5%+2mA			± (0.2%+5mA)	
	Voltage	≤0.1%+30mV	≤0.1%+30mV			± (0.03%+10mV)	
Readbackaccuracy Current		≤0.5%+2mA	≤0.5%+2mA			± (0.15%+5mA)	
	Voltage	≤1mVrms	≤1mVrms		<350µVrms/2mVpp (5Hz–1MHz)		
Ripple and noise	Current	≤3mArms	≤3mArms		≤2mArms		
Temperature coefficient	L	≤300ppm	≤300ppm		Voltage: 0.01%+5mV; Current: 0.01%+2mA		
Parallel load regulation		≤0.01%+3mV(≤3A	≤0.01%+3mV(≤3A); ≤0.02%+5mV(>3A)		≤0.01%+2mV	≤0.01%+2mV	
Parallel line regulation		≤0.01%+3mV	≤0.01%+3mV		≤0.01%+2mV	≤0.01%+2mV	
Series load regulation		≤300mV	≤300mV		≤300mV	≤300mV	
Series line regulation		≤0.01%+5mV	≤0.01%+5mV		≤0.01%+3mV	≤0.01%+3mV	
Standard interfaces		USB Host (5V/2A, charging port only), Digital I/O	(5V/2A, charging port only), port only), USB Device, RS-232, Digital I/O		USB Host (5V/2A, charging port only), USI Host, USB Device, LAN, RS-232, Digital I/		
Power		AC 100V-240V, 50	AC 100V-240V, 50Hz/60Hz				
Display		EBTN LCD	EBTN LCD		4.3 inch LCD		
Product net weight		8.5kg	8.5kg		10.2kg		
Product size $(W \times H \times D)$		240mm x 151mm	x 327mm	-	355mm x 240mm x 168mm		

UDP3000/S Series	UDP3305S: Programmable Linear DC Power Supply (4-Channel, 30V, 5A)
	UDP3305S-E: Programmable Linear DC Power Supply (4-Channel, 30V, 5A)
	UDP3305C: Programmable Linear DC Power Supply (3-Channel, 30V, 5A)
	UDP3303C: Programmable Linear DC Power Supply (3-Channel, 30V, 3A)
	UDP3303A: Non-Programmable Linear DC Power Supply (3-Channel, 30V, 3A)
	Power cord
Standard Accessories	USB interface cable (programmable models only)
	Alligator clip test line
Optional Accessories	Alligator clip test line (UDP3000S)

# **UDP1000 Series**



The UDP1306C is a programmable linear single-channel DC power supply designed as a cornerstone power product for test benches of all types. The UDP1306C caters to users with compact requirements and a demand for high reliability. It excels in minimizing ripple noise, offering a swift transient response, and demonstrates outstanding power supply and load regulation. The device is equipped with robust output capabilities and a comprehensive set of protection functions.

- High precision 4-digit display
- Over voltage/current/temperature protection
- Display Output voltage/current settings
- Shutdown memory/keyboard lock
- Intelligent cooling fan
- USB charging interface
- USB device communication, RS232 programcontrolled communication interface
- Remote control (output ON/OFF)
- 5 sets of setup storage: M1-M5



Single output 32V/6A and USB charging interface 5V/2A

5 sets of setup storage: M1-M5





Over voltage/current/ temperature protection

With RS-232 and USB communication interface function



# DC Power Supplies

Key Specifications		UDP1306C		
Output voltage		0-32V		
Output current		0-6A		
Output power		192W		
Display mode		3-window, 4-digit voltage and current high precision display		
Resolution	Voltage	10mV		
Resolution	Current	1mA		
Load regulation	Voltage	<0.01%+5mV		
Load regulation	Current	<0.1%+10mA		
Power regulation	Voltage	<0.01%+3mV		
Power regulation	Current	<0.1%+3mA		
Programming accuracy	Voltage	<0.5%+20mV		
(25° C±5° C)	Current	<0.5%+10mA		
Ripple and noise	Voltage	≤2mVrms		
(20Hz–20MHz)	Current	≤3mArms		
Temperature coefficient	ŀ	Current/Voltage: ≤300ppm/°C		
Voltage rising/falling time	delay	<100ms (10% rated load)		
Standard interfaces		USB Host (5V/2A), USB Device,RS-232		
Power		AC 100V-240V,50Hz/60Hz		
Display		EBTN LCD		
Product net weight		7.5kg		
Product size $(W \times H \times D)$		136mm x 194mm x 327mm		

Ordering Information			
UDP1300C Series UDP1306C: Programmable Linear DC Power Supply (1 Channel, 32V, 6A)			
	Power cord		
Standard Accessories	USB interface cable		
	Alligator clip test line		
Optional Accessories	RS-232 Communication line		

# **Benchtop Multimeters Selection Guide**

Series	Model	Display Accuracy	DCV Annual Accuracy	Fastest Test Rate
	UT8806E	61/2	0.0035%	10k rdgs/s
UT8800E	UT8805E	5½	0.01%	5k rdgs/s
	UT8804E	45⁄6	0.025%	3 rdgs/s
	UT8803E	35⁄6	0.3%	3 rdgs/s
	UT8802E	41/2	0.1%	3 rdgs/s

# **Bench Multimeters Accessories**

Model	Picture	Information	Certification	Multimeter Series
UT-L41		Alligator clip short test lead: 110–130mm	ROW	UT8806E; UT8805E; UT8804E; UT8803E; UT8802E





The UT8806E is the ultimate device to satisfy today's multifunctional, high-precision, and automatic measurement needs. Whether you're testing electrical circuits, industrial equipment, or scientific instruments, the UT8806E will deliver reliable and consistent results every time.

The UT8806E boasts a 6½ digit reading capability with a display count of 1,999,999, giving you a clear and detailed view of your measurements. It also has a rapid measurement speed of up to 10,000 readings per second, saving you time and increasing your productivity. Plus, it features true RMS AC voltage and current measurement, ensuring accurate and stable readings of complex waveforms. And with a 4.3 inch TFT-LCD with a display resolution of 480 × 272, you can easily read and navigate the UT8806E's user-friendly interface.

- 6<sup>1</sup>⁄<sub>2</sub> digit reading capability
- Display count: 1,999,999
- Rapid measurement speed of up to 10,000 readings per second
- True RMS AC voltage and current measurement
- 4.3 inch TFT-LCD with a display resolution of  $480 \times 272$
- Versatile configuration interface: USB Host, USB Device, LAN, RS-232C, GPIB
- Dual display support with a built-in help system for easy information retrieval



1,999,999 count, 4.3 inch TFT LCD display

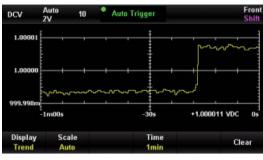
- Compatibility with standard SCPI remote control commands, PC software, and the latest mainstream multimeter command set
- 32GB NAND Flash for mass storage of instrument settings, files, and data
- Import/export functionality for measurement data and settings through VXI-11, USBTMC, and U disk, facilitating convenient modification, viewing, and backup by users
- Inclusion of built-in thermocouple cold junction compensation for enhanced temperature measurement accuracy.

DCV	Auto 2V	10 Auto Trigger	Front Shift
	+1	.0000	)10 <sub>vpc</sub>
Min:	1.000010	Average: 1.000011	Max: 1.000011
Span:	1.192093u	Std Dev: 252.57119n	Samples: 19
Sta On			Clear Return

Various mathematical operations



Display main and auxiliary parameters on the same screen.



UT8806 supports multiple display modes. Users can observe measurement data through numbers, bar graphs, trend graphs and histograms.

	UT8806E			
Key Specifications	Range Accuracy (90 days)			
DC voltage (V)	20mV/2V/20V/200V/1000V	$\pm (0.002\% + 0.0004\%)$		
AC voltage (V)	200mV/2V/20V/200V/750V	$\pm (0.05\% + 0.04\%)$		
DC current (A)	2µA/20µA/200µA/2mA/20mA/200mA/2A/10A	± (0.030%+0.001%)		
AC current (A)	200µA/2mA/20mA/200mA/2A/10A	± (0.10%+0.04%)		
Resistance (Ω)	20Ω/200Ω/2kΩ/20kΩ/200kΩ/2MΩ/10MΩ/100MΩ/1GΩ	± (0.008%+0.001%)		
Capacitance (F)	2nF/20nF/200nF/2µF/20µF/200µF/2mF/20mF/100mF	± (0.9%+0.1%)		
Frequency (Hz)	3Hz-1MHz	±0.006%		
Temperature (°C)	-270°C-1760°C	±0.16°C		
Display count	1,999,999	1		
DCV Accuracy	0.0035%			
Sampling rate	10k rdgs/s	10k rdgs/s		
Auto range	✓			
True RMS	$\checkmark$			
Data storage	10k data record; 32GB Nand Flash total storage			
Frequency response (Hz)	300kHz			
Diode/triode test	$\checkmark$			
Continuity buzzer	✓			
Data hold	$\checkmark$			
Mathematical operations	Pass/Fail, Relative, minimum/maximum/average, standard deviation, dBm, dB, histogram, trend chart and bar chart			
Input resistance	≥10GΩ			
Standard interface	USB Host, USB Device, LAN, RS-232C, GPIB (optional)			
Power	AC 90V-110V, 45-440Hz; AC 110V-132V, 45-440Hz; AC 200V-240V, 45-66Hz; AC 216V-264V, 45-66Hz			
Display	4.3 inches TFT LCD			
Product net weight	4.4kg			
Product size $(W \times H \times D)$	256mm×113.2mm×378.2mm			

Ordering Information				
UT8000E Series UT8806E: Benchtop Digital Multimeter (1,999,999; Auto)				
	International standard power cord			
	USB interface cable			
Standard Accessories	Test leads			
	RS-232C interface cable			
	Simple test lead with alligator			

# UT8805E



- 5½ digit display
- 199,999 counts resolution
- Measuring speed: 2.5/10/5k reading per second
- AC true RMS measurement.
- 2-line and 4-line resistance measurement
- Temperature measurement with built-in thermocouple cold junction compensation
- Various mathematical operations



199999 count, 4.3 inch TFT LCD display



Supports the display of main and auxiliary parameters on the same screen.

The UT8805E is a true RMS desktop digital multimeter with automatic ranging, featuring an impressive 199999-count display and a rapid reading rate of up to 5,000 readings per second. With a 300kHz frequency response and a 4.3-inch TFT LCD, this instrument is equipped for high-performance measurements.

The UT8805E offers various measurement capabilities, including Pass/Fail, maximum value, minimum value, average value, and relative value measurements. The device also boasts a 10,000 reading history data record and a total capacity of 1GB Nand Flash. With its superior electrical measuring capabilities, the UT8805E is well-suited for applications in electronics, manufacturing, research and development and education.

- Continuity and diode test
- PC control software of upper computer
- USB drive store data and configuration
- Supports interface of USB, RS-232C and LAN, USB-TMC, IEEE 488.2 standard, VXI11 and SCPI language
- History data record and storage
- 1GB NAND FLASH storage, mass storage system and test data

DCV	Auto 2V	Auto	Trigger	s	Shif
	+(	).9	763	38	
Min:	0.955044	Average:	0.963862	Max:	DC 0.980819
Span:	0.025775	Std Dev:	0.004645	Samples:	56
Range Auto	e Speed Slow	lput Z Auto	Relatively Off		History

Various mathematical operations: maximum, minimum, average value, standard deviation, pass/fail, dBm, dB, relative measurement, histogram, trend chart, bar chart



3 kinds of display formats are supported by UT8805E. User can check the measured data by number, bar chart, trend chart, and histogram.

Key Specifications	UT8805E		
Key Specifications	Range	Accuracy (90 days)	
DC voltage (V)	20mV/2V/20V/200V/1000V	± (0.008%+0.003%)	
AC voltage (V)	200mV/2V/20V/200V/750V	± (0.19%+0.05%)	
DC current (A)	200µA/2mA/20mA/200mA/2A/10A	± (0.050%+0.005%)	
AC current (A)	2mA/20mA/200mA/2A/10A	$\pm (0.30\% + 0.1\%)$	
Resistance (Ω)	$200\Omega/2k\Omega/20k\Omega/200k\Omega/2M\Omega/10M\Omega/100M\Omega$	± (0.012%+0.003%)	
Capacitance (F)	2nF/20nF/200nF/2µF/20µF/200µF/2mF	± (1%+0.5%)	
Frequency (Hz)	20Hz-1MHz	± (0.01%+0.003%)	
Temperature (°C)	-270°C-1760°C (thermocouple and thermal resistance sensor supported)	±0.5°C	
Display count	199,999		
DCV Accuracy	0.015%		
Sampling rate	5k rdgs/s		
Auto range	$\checkmark$		
True RMS	$\checkmark$		
Data storage	10k data record; 1GB Nand Flash total storage		
Frequency response (Hz)	100kHz		
Diode/triode test	$\checkmark$		
Continuity buzzer	✓		
Data hold	✓		
Mathematical operations	Pass/Fail, relative value, minimum/maximum/average, standard deviation, dBm, dB, Hold, histogram, trend chart and bar chart		
Input Resistance	10MΩ or >10GΩ (200mV, 2V, 20V). 10MΩ ±2% for 200V, 1000V)		
Standard interface	USB Host, USB Device, LAN, RS-232		
Power	AC 100V–120V, 45Hz–440Hz; AC 200V–240V, 45Hz–66Hz		
Display	4.3 inch TFT LCD		
Product net weight	4.4kg		
Product size $(W \times H \times D)$	239mm × 100mm × 344mm		

Ordering Information				
UT8000E Series UT8805E: Benchtop Digital Multimeter (199,999; Auto)				
	Power cord			
	USB interface cable			
Standard Accessories	Test leads			
	RS-232C interface cable			
	Simple test lead with alligator clip			

# UT8804E



- Reading resolution: 4<sup>5</sup>/<sub>6</sub> digits
- Maximum count: 59,999
- Measuring rate: 2 reading/s
- DC voltage range: 60mV-1000V
- DC current range: 600µA–10A
- AC voltage range: 60mV–1000V (True-RMS)
- AC current range: 600µA–10A (True-RMS)
- Resistance range:  $600 \Omega 60 M \Omega$
- Capacitance range: 6nF-60mF



Analog simulation bar makes the display of measurement results more intuitive.



UT8804E digital multimeter has a recording function. Historical data records can be presented in statistics and trend charts. The UT8804E is a true RMS desktop digital multimeter with automatic ranging and an impressive 59,999-count display. It comes equipped with a 4.3-inch TFT LCD and features a 100kHz frequency response. The inclusion of VFC low-pass filtering minimizes the impact of high-frequency signal interference on measurement results.

The UT8804E packs a lot of functionality into an affordable solution for standard parameters, along with maximum, minimum, average, and relative value measurement capabilities. With the capacity to store up to 20000 sets of outputs, the UT8804E stands out as a superior tool for electrical technicians and students.

- Conductivity range: 60ns
- Frequency measurement range: 60Hz–60MHz
- Duty cycle measurement range: 10%–90%
- Mathematical operation: maximum, minimum, average, peak, comparative measurement, trend chart
- Interface: USB device
- Frequency response: 100KHz
- Data record: 20,000 groups
- LPF low-pass filter function



Batch test function. This will help you check components quickly and pass or fail them based on your criteria



Additional secondary parameters can be added to make the measurement more informative, while displaying the main parameters.

Kay Specifications	UT8804E			
Key Specifications	Range	Accuracy (90 days)		
DC voltage (V)	1000V	± (0.025%+5)		
AC voltage (V)	1000V (45Hz-100kHz)	± (0.3%+30)		
DC current (A)	10A	± (0.08%+10)		
AC current (A)	10A (45Hz–10kHz)	± (0.6%+20)		
Capacitance (F)	60mF	± (0.05%+2)		
Conductance (nS)	60nS	± (2%+10)		
Frequency (Hz)	60MHz	± (0.01%+5)		
Duty cycle (%)	10%-90% (10Hz-2kHz)	± (1.2%+30)		
Temperature (°C/F)	-40°C-1000°C	± (1%+30)		
	-40°F-1832°F	± (1.5%+50)		
Display count	59,999	59,999		
DCV Accuracy	0.3%	0.3%		
Sampling speed	2-3rdgs/s			
Range	Auto, manual			
True RMS	✓			
Date display	✓			
Frequency response (Hz)	100kHz			
Diode/transistor test	✓			
Data storage	20,000	20,000		
On-off beep	✓			
Data hold	✓			
Standard interface	USB Device			
Power	100V–240V, 50Hz–60Hz			
Display	4.3 inch TFT LCD			
Product net weight 3.7kg				
Product size $(W \times H \times D)$	239mm x 109m x 344m	239mm x 109m x 344m		

Ordering Information				
UT8000E Series	UT8804E: Digital Multimeter (59,999; Auto)			
	Power cord			
	USB interface cable			
Standard Accessories	Test leads			
	Simple test lead with alligator clip			
	K-type temperature probe			

# UT8803E



The UT8803E is a compact desktop digital multimeter powered by AC. It features a 5,999-count, 3in LCD display. The large character display, equipped with backlight, enhances readability. The UT8803E is an automatic ranging instrument offering full-function testing, complete range overload protection, and a distinctive design. This instrument is an easy way for you to improve your electrical test bench. It is capable of measuring AC/DC voltage, AC/DC current, resistance, frequency, capacitance, inductance, triode HFE, diode (LED), thyristor (SCR), and circuit on-off. With its multi-functionality, high precision, and automation, the UT8803E meets the diverse measurement needs of users.

Don't miss out on the Uni-T UT8803E, the ultimate solution for

professionals seeking precision, versatility, and automation in their measurements. Elevate your electrical testing capabilities and ensure the success of your projects.



Maximum count: 5,999

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- Measuring rate: 2–3 reading/s
- DC voltage range: 600mV–1000V
- DC current range: 600µA–10A
- AC voltage range: 600mV–750V (True-RMS)
- AC current range: 600μΑ–10A (True-RMS)
- Resistance range:  $600 \Omega 60 M \Omega$
- Capacitance range: 6nF–60mF
- Inductance range: 600μH–100H
- Frequency measurement range: 600Hz–20MHz
- Duty cycle measurement range: 5%–95%
- Mathematical operation: maximum, minimum, relative value, analog bar
- Interface: USB device
- Frequency response: 100KHz
- Measures diodes, triodes, and thyristors



Reading resolution 3% digits. Maximum count 5,999



Measure all the standard parameters with the turn of dial



D/Q parameters of capacitance and inductance can be measured



Extreme value operation and reference value operation function, with analog bar



Kay Specifications	UT8803E			
Key Specifications	Range	Accuracy		
DC voltage (V)	1000V	± (0.3%+2)		
AC voltage (V)	750V	± (0.6%+5)		
DC current (A)	10A	± (0.8%+3)		
AC current (A)	10A	± (1%+5)		
Capacitance (F)	6mF	$\pm (1.5\%+5)$		
Resistance (Ω)	60M Ω	± (0.8%+5)		
Inductance (H)	100H	± (2%+5)		
Temperature (°C)	-40°C-1000°C	± (1%+5)		
Frequency (Hz)	600Hz-20MHz	± (0.1%+10)		
Duty cycle (%)	5%-95%	Only for reference		
Display count	5,999	5,999		
DCV Accuracy	0.3%	0.3%		
Sampling speed	2–3 rdgs/s			
Frequency response (Hz)	100kHz	100kHz		
Range	Manual, Auto			
Input impedance for DCV	10ΜΩ			
True RMS	$\checkmark$			
Diode/triode	$\checkmark$			
SCR test	$\checkmark$			
Continuity buzzer/data hold	$\checkmark$			
LCD backlight	$\checkmark$			
Interface	USB Device			
Power	100–240V, 50/60Hz			
Display	EBTN LCD	EBTN LCD		
Product net weight	3.09kg			
Product size $(W \times H \times D)$	265mm x 110mm x 320mm			
	1			

Ordering Information				
UT8803E: Digital Multimeter (Display: 5,999; 0.3%; Range: Manual)				
	Power cord			
	USB interface cable			
Standard Accessories	Test leads			
	Simple test lead with alligator clip			
	Temperature probe			

# UT8802E



The UT8802E is a benchtop digital multimeter with manual ranging capabilities. It boasts a large backlit screen, full-scale overload protection, and a distinctive design. This versatile instrument is capable of measuring AC and DC voltage, AC and DC current, resistance, frequency, capacitance, transistor parameters (hFE), diode (LED), SCR, continuity, and more.

- Reading resolution: 4½ digits
- Maximum reading: 19,999 counts
- Measuring rate: 3 reading/s
- DC voltage range: 200mV-1000V
- DC current range: 200µA-20A
- AC voltage range: 2V-750V
- AC current range: 2mA-20A
- Resistance range: 200 Ω -200M Ω
- Capacitance range: 20nF-100mF
- Frequency measurement range: 200Hz-10MHz
- Duty cycle measurement range: 5%-99%
- Mathematical operation: maximum, minimum, relative value
- Interface: USB device
- Frequency response: 1KHz
- Diode, triode, and thyristor Measurement



Can display 4  $\frac{1}{2}$  bit (19999), which can provide you with high-precision and accurate result display



With the help of UT-S03A, the measurement of triode and thyristor can be realized



Diode measurement function



Recall min/max easily to use as reference values

	UT8802E			
Key Specifications	Range	Accuracy		
DC voltage (V)	200mV/2V/20V/200V/1000V	± (0.1%+3)		
AC voltage (V)	2V/20V/200V/750V	± (0.5%+20)		
DC current (A)	200µA/2mA/20mA/200mA/20A	± (0.5%+20)		
AC current (A)	2mA/20mA/200mA/20A	± (0.8%+40)		
Capacitance (F)	20nF/200nF/2µF/20µF/200µF/2mF/20mF/100mF	± (1.5%+10)		
Resistance $(\Omega)$	200Ω/2kΩ/20kΩ/200kΩ/200kΩ/2MΩ/200MΩ	± (0.5%+10)		
Frequency (Hz)	200Hz-10MHz	± (1%+5)		
Duty cycle (%)	5%-99%	± (1.5%+2)		
Display count	19,999			
DCV Accuracy	0.1%			
Sampling speed	2–3 rdgs/s			
Frequency response (Hz)	1kHz			
Range	Manual			
Input impedance for DCV	10ΜΩ			
Diode/triode	✓			
SCR test	✓			
Continuity buzzer/data hold	$\checkmark$			
LCD backlight	$\checkmark$			
Interface	USB Device			
Power	100V-240V, 50/60Hz			
Display	EBTN LCD			
Product net weight	3.09kg			
Product size $(W \times H \times D)$	uct size (W × H × D) 265mm x 110mm x 320mm			

Ordering Information	
UT8000E Series	UT8802E: Digital Multimeter (Display: 19,999, 0.1%, Range: Manual)
	Power cord
	USB interface cable
Standard Accessories	Test leads
	Simple test lead with alligator clip

# Oscilloscope Options

### UPO3000CS-LA16

16-channel upgrade option (software)

#### MSO/UPO3000CS-BND

Function and application bundle option for MSO/UPO3000E series. Includes MSO/UPO-EMBD bundle and MSO/UPO-AUTO bundle

### MSO/UPO3000CS-COM

PC serial bus trigger and analysis—UART for MSO/UPO3000E series

#### MSO/UPO3000CS-CAN

Auto serial bus trigger and analysis—CAN for MSO/UPO3000E series

#### MSO/UPO3000CS-LIN

Auto serial bus trigger and analysis—LIN for MSO/UPO3000E series

#### MSO/UPO3000CS-SPI

Embedded serial bus trigger and analysis— SPI for MSO/UPO3000 series

### MSO/UPO2000-BND

Function and application bundle option for MSO/UPO2000 series, including MSO/UPO-EMBD bundle and MSO/UPO-AUTO bundle

## MSO/UPO2000-AUTO

Function and application bundle option, for MSO/UPO2000 series. Includes MSO/UPO-CAN, MSO/UPO-CAN FD, MSO/UPO-LIN, MSO/UPO-FlexRay

### MSO/UPO2000-SPI

Embedded serial bus trigger and analysis-SPI for MSO/UPO2000 series

### MSO/UPO2000-CAN FD

Auto serial bus trigger and analysis-CAN FD for MSO/UPO2000 series

#### MSO3000CS-S-BODE

Bode plot loop test analysis (software)

#### MSO/UPO3000CS-AUTO

Function and application bundle option, for MSO/ UPO3000E series. Includes MSO/UPO-CAN, MSO/ UPO-CAN FD, MSO/UPO-LIN, MSO/UPO-FlexRay

### MSO/UPO3000CS-I2C

Embedded serial bus trigger and analysis-I2C for MSO/UPO3000E series

#### MSO/UPO3000CS-CAN-FD

Auto serial bus trigger and analysis-CAN-FD for MSO/UPO3000E series

#### MSO/UPO3000CS-EMBD

Function and application bundle option, for MSO/ UPO3000 series. Includes MSO/UPO-COM, MSO/ UPO-I2C, and MSO/UPO-SPI

#### MSO/UPO3000CS-FlexRay

FlexRay serial bus trigger and analysis for MSO/ UPO3000E series

### MSO/UPO2000-EMBD

Function and application bundle option, for MSO/ UPO2000 series. Includes MSO/UPO-COM, MSO/ UPO-I2C, MSO/UPO-SPI

#### MSO/UPO2000-I2C

Embedded serial bus trigger and analysis-I2C for MSO/UPO2000 series

### MSO/UPO2000-CAN

Embedded serial bus trigger and analysis-SPI for MSO/UPO2000 series

#### MSO/UPO2000-LIN

Auto serial bus trigger and analysis-LIN for MSO/ UPO2000series

# Oscilloscope Options (cont)

### MSO/UPO2000-FlexRay

FlexRay serial bus trigger and analysis for MSO/ UPO2000 series

### MSO-BODE

Bode plot option for MSO2000-S Series

### • MSO/UPO1000X-1MT2M

Bandwidth upgrade option for MSO/UPO1104 to 200 MHz bandwidth

# Spectrum Analyzers Options

#### • UTS5000-AMK

Advanced measurement kit

# • UTS5000-AMA

Analog demodulation measurement option

UTS3000B-AMK
 Advanced measurement kit

## UTS3000B-VSA

Digital demodulation analysis option

### UTS3000B-AMA

Analog demodulation measurement option

# • UTS1000B-AMA

Analog demodulation measurement option

## • UTS1000B-EMI

EMI software

UTS5000-EMI
 EMI measurement option

UPO2000-LA16

• UP01000CS-AUTO

UPO1000CS series

only

16-channel upgrade option (software), for UPO models

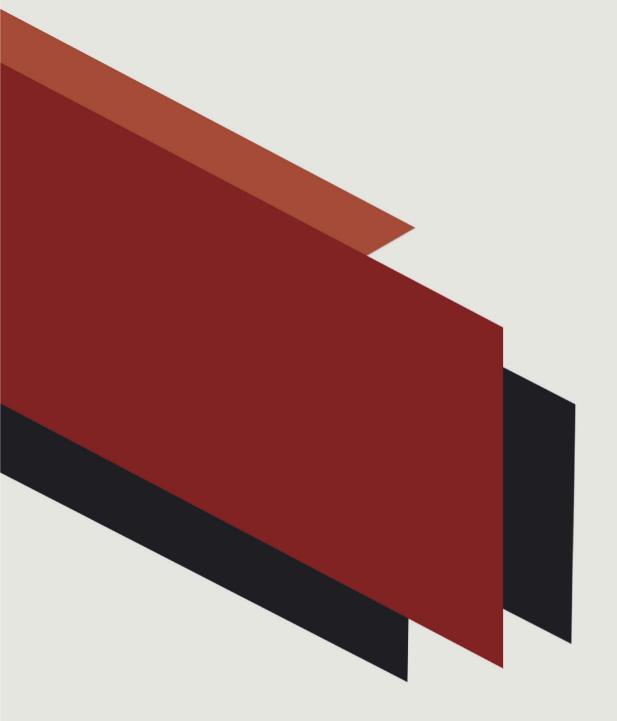
Auto serial bus trigger and analysis (CAN, LIN) for

- UTS5000-VSA Digital demodulation analysis option
- UTS3000B-EMI EMI software

### • UTS3000B-TG

Tracking generator option (factory installed only)

- UTS1000B-AMK
  Advanced measurement kit
- UTS1000B-VSA Digital demodulation analysis option



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