DIGITAL OSCILLOSCOPE

UTD3000/UTD3000E SERIES
DUAL CHANNEL DIGITAL STORAGE OSCILLOSCOPE

UTD3000/UTD3000E series low cost/high performance digital storage oscilloscopes offer user-friendly front panel control with access to all functions. The layout of controls and settings are based on traditional analog oscilloscopes, users can operate without spending additional time to familiarize with the new units. With up to 1GS/s real-time sampling rate (UTD3000E series only), powerful triggering and mathematical functions, users can capture and analyze the signals in a quick and easy way.

Features:
- Mono LCD display (UTD3000B/UTD3000BE series), 64K full color LCD display (UTD3000C/UTD3000CE series)
- LCD size: 5.7” 320x240 pixels
- Bandwidth: 25MHz/40MHz/60MHz/80MHz/100MHz/150MHz/200MHz
- Max sampling rate:
  - 1GS/s(real-time) / 50GS/s(equivalent) (for UTD3000E series)
  - 500MS/s(real-time) / 25GS/s(equivalent) (for UTD3000 series)
- Auto measurement of waveform parameters
- Cursor measurement functions
- FFT and 4 math functions
- High waveform capture rate up to 2000wfms/s
- Internal storage/recall of 10 waveforms and 10 settings
- Advanced triggering including edge (rise, fall), pulse width, video, etc.
- USB host and USB device, supplied with Windows software
- Pass/Fail test (for UTD3000E series)
- On-screen help system
- Waveform recording/playback function, max. 1000 frames
- Automatic self-calibration

Specifications (UTD3000 series)

<table>
<thead>
<tr>
<th></th>
<th>UTD3025B / UTD3025C</th>
<th>UTD3042B / UTD3042C</th>
<th>UTD3062B / UTD3062C</th>
<th>UTD3082B / UTD3082C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandwidth</td>
<td>25MHz</td>
<td>40MHz</td>
<td>60MHz</td>
<td>80MHz</td>
</tr>
<tr>
<td>Rise Time</td>
<td>≤ 14ns</td>
<td>≤ 8.7ns</td>
<td>≤ 5.6ns</td>
<td>≤ 4.5ns</td>
</tr>
<tr>
<td>Sampling Rate</td>
<td>250MS/s(real-time)</td>
<td>500MS/s(real-time)</td>
<td>500MS/s(real-time)</td>
<td>500MS/s(real-time)</td>
</tr>
<tr>
<td>Vertical Sensitivity</td>
<td>2mV~10V/div</td>
<td>2mV~5V/div</td>
<td>2mV~5V/div</td>
<td>2mV~5V/div</td>
</tr>
<tr>
<td>Time Base Range</td>
<td>20ns~50s/div(1-2-5 sequence)</td>
<td>10ns~50s/div(1-2-5 sequence)</td>
<td>5ns~50s/div(1-2-5 sequence)</td>
<td>5ns~50s/div(1-2-5 sequence)</td>
</tr>
<tr>
<td>Display</td>
<td>mono / color</td>
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<table>
<thead>
<tr>
<th></th>
<th>UTD3102B / UTD3102C</th>
<th>UTD3152B / UTD3152C</th>
<th>UTD3202B / UTD3202C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandwidth</td>
<td>100MHz</td>
<td>150MHz</td>
<td>200MHz</td>
</tr>
<tr>
<td>Rise Time</td>
<td>≤ 3.5ns</td>
<td>≤ 2.3ns</td>
<td>≤ 1.8ns</td>
</tr>
<tr>
<td>Sampling Rate</td>
<td>500MS/s(real-time)</td>
<td>500MS/s(real-time)</td>
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</tr>
<tr>
<td>Vertical Sensitivity</td>
<td>2mV~5V/div</td>
<td>2mV~5V/div</td>
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</tr>
<tr>
<td>Time Base Range</td>
<td>5ns~50s/div(1-2-5 sequence)</td>
<td>2ns~50s/div(1-2-5 sequence)</td>
<td>2ns~50s/div(1-2-5 sequence)</td>
</tr>
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<td>Display</td>
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</tbody>
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# Specifications (UTD3000E series)

<table>
<thead>
<tr>
<th>Model</th>
<th>Bandwidth</th>
<th>Rise Time</th>
<th>Sampling Rate</th>
<th>Vertical Sensitivity</th>
<th>Time Base Range</th>
<th>Display</th>
</tr>
</thead>
<tbody>
<tr>
<td>UTD3042BE / UTD3042CE</td>
<td>400MHz</td>
<td>±0.7ns</td>
<td>1GS/s (real-time)</td>
<td>2mV/50mV/div</td>
<td>5ns~50s/div</td>
<td>mono / color</td>
</tr>
<tr>
<td>UTD3062BE / UTD3062CE</td>
<td>60MHz</td>
<td>±0.8ns</td>
<td>1GS/s (real-time)</td>
<td>50GS/s (equivalent)</td>
<td>5ns~50s/div</td>
<td>mono / color</td>
</tr>
<tr>
<td>UTD3082BE / UTD3082CE</td>
<td>80MHz</td>
<td>±1.5ns</td>
<td>1GS/s (real-time)</td>
<td>50GS/s (equivalent)</td>
<td>5ns~50s/div</td>
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<tr>
<td>UTD3102BE / UTD3102CE</td>
<td>100MHz</td>
<td>±0.5ns</td>
<td>1GS/s (real-time)</td>
<td>2mV/50mV/div</td>
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<td>UTD3152BE / UTD3152CE</td>
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<tr>
<td>UTD3202BE / UTD3202CE</td>
<td>200MHz</td>
<td>±1.5ns</td>
<td>1GS/s (real-time)</td>
<td>50GS/s (equivalent)</td>
<td>5ns~50s/div</td>
<td>mono / color</td>
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# General Technical Data (UTD3000 / UTD3000E series)

**ACQUISITION MODE**
- Normal, peak detect, average
- Average numbers selectable: 2, 4, 8, 16, 32, 64, 128, 256

**SAMPLING MODE**
- Real-time / equivalent

**INPUT**
- **Input Coupling:** DC, AC, GND
- **Input Impedance:**
  - 1MΩ with ±2% in parallel with 245pF ±2.5%
- **Probe Attenuation:** 1X, 10X, 100X, 1000X
- **Max. Input Voltage:** 400V (DC+AC peak, 1MΩ input impedance)
- **Time delay between channels:** 150ps (typical)

**HORIZONTAL SYSTEM**
- **Waveform Interpolation:** Sampled
- **Memory Depth:** 2x 512 points
- **Time Base Accuracy:** +/- 50ppm (UTD3000 series: +/-100ppm)

**VERTICAL SYSTEM**
- **Vertical Resolution:** 8-bit, two channels sampled simultaneously
- **Vertical Sensitivity:** 2mV/50mV/div at input BNC (UTD3025B/UTD3025C: 2mV/10V/div)
- **Position Range:** ±10 div
- **Bandwidth Limit Filter:** 20MHz
- **Low Frequency Response:** ±10Hz at BNC (AC coupling, 3dB)
- **DC Gain Accuracy:** 2mV/50mV/div: ±1% (normal or average acquisition mode)
- **DC Measurement Accuracy (average acquisition mode):**
  - When vertical position is zero and average number ≥ 16:
    - 2mV/50mV/div: ±1% (normal or average acquisition mode)
    - 10mV/50mV/div: ±3% (normal or average acquisition mode)
  - When vertical position is not zero and average number ≥ 16:
    - ±1% (within ±4 div from the center of the screen)
    - ±2% (within ±5 div from the center of the screen)
- **Voltage Difference (ΔV):**
  - Measurement Accuracy (average acquisition mode):
    - When vertical position is zero and average number ≥ 16:
      - 2mV/50mV/div: ±1% (normal or average acquisition mode)
      - 10mV/50mV/div: ±2% (normal or average acquisition mode)
- **Trigger System**
  - **Trigger Mode:** Auto, normal, single, edge, pulse width, video
  - **Trigger Sensitivity:** ±1 div
  - **Trigger Level Range:** Internal: +/-5 div from the center of the screen
  - **Trigger Level Accuracy:**
    - 2mV/50mV/div: ±0.5 div
  - **Trigger Delay Accuracy:**
    - ±10ns from 20ns to 1.5s
  - **Set level to 50% (typical):** Input signal frequency ≤ 50Hz
  - **Edge Trigger:** Edge type: RISE, FALL
  - **Pulse Width Trigger:** Trigger mode: less than, greater than or equal to, positive pulse; less than, greater than or equal to, negative pulse
  - **Video Trigger:** Trigger sensitivity: 2mV peak to peak
  - **Alternate Trigger:** CRT1: edge, pulse, video

**MEASUREMENT SYSTEM**
- **Cursor:** Manual mode: x-axis, y-axis, 1/1
- **Auto Measurement:** Vpp, Vamp, Vmax, Vmin, Vtop, Vbase, Vrms, Vavg, overshoot, pre-overshoot, frequency, period, rise time, fall time, positive width, negative width, positive duty cycle, negative duty cycle, delay, delay, delay = 2.5ns, delay = 2.5ns
- **Math Functions:** +, -, *, /, invert
- **Waveform Storage:** 10 waveforms and 10 front panel settings saved/recalled
- **FFT:** Window: Hanning, Hamming, Blackman, Rectangular
- **Sampling points:** 1024 points
- **X-Y Operation:** Phase difference: ±10°

**DISPLAY**
- **Type:** 5.7" LCD
- **Resolution:** 320 x 240 pixels
- **Contrast:** Adjustable
- **Display Language:** Simplified Chinese, Traditional Chinese, English
- **INTERFACED**
  - **Standard:** USB device, USB host, RS-232C (UTD3000E series and UTD3025B/C are without RS-232C interface), Pass/Fail module (UTD3000E series)
  - **Optional:** LAN, GPIB
- **POWER SOURCE**
  - **Mains Voltage:** 100~240Vac, 45~440Hz
  - **Power Consumption:** < 50W
- **MECHANICAL SPECs**
  - **Dimension:** 320 x 150 x 292mm
  - **Weight:** approx. 4.5Kgs

**STANDARD ACCESSORIES**
- 1X/10X passive probe x 2, USB cable x 1, power cord x 1, Windows software, operation manual