

# UNRIVALED PERFORMANCE, UNBEATABLE VALUE



Highest Resolution HD4096 technology, 12 bits all the time

More Capability than you imagined

Comprehensive Probe Support Over 30 probes in 9 categories





Unrivaled Performance, Unbeatable Value

WaveSurfer 4000HD extends Teledyne LeCroy's leadership
in High Definition Oscilloscopes with a bright,
12.1" touch screen display, performance without
compromise, and price points that fit your budget.

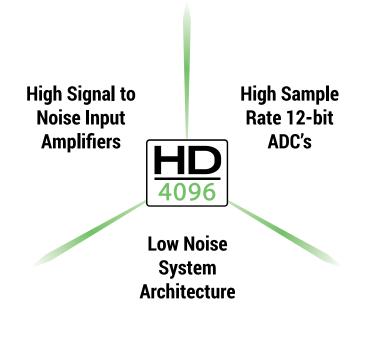
# 12 bits all the time.





WaveSurfer 4000HD

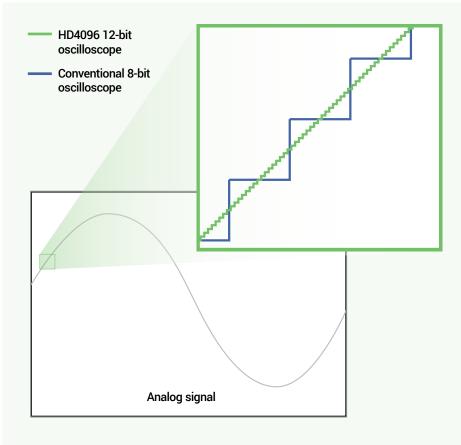
## HD4096 TECHNOLOGY - 12 BITS ALL THE TIME



Teledyne LeCroy high definition 12-bit oscilloscopes use unique HD4096 technology to provide superior and uncompromised measurement performance:

- 12-bit ADCs with high sample rates
- High signal-to-noise amplifiers
- Low noise system architecture (to 1 GHz)

Oscilloscopes with HD4096 technology have higher resolution than conventional 8-bit oscilloscopes (4096 vs. 256 vertical levels) and low noise for uncompromised measurement performance. The 12-bit ADCs support capture of fast signals and oscilloscope bandwidth ratings up to 1 GHz, while 5 GS/s sample rate ensures the highest measurement accuracy and precision. The high performance input amplifiers deliver pristine signal fidelity, and the low-noise system architecture provides an ideal signal path to ensure that signal details are delivered accurately to the oscilloscope display – 16x closer to perfect.



### 16x Closer to Perfect

#### **16x more resolution**

HD4096 technology provides 12 bits of vertical resolution — 16x more resolution than conventional 8-bit oscilloscopes. The 4096 discrete vertical levels reduce the quantization error compared to 256 vertical levels. This improves the accuracy and precision of the signal capture and increases measurement confidence.

## **EXPERIENCE THE DIFFERENCE**



Experience HD4096 accuracy, detail, and precision and never use an 8-bit oscilloscope again. Whether the application is general-purpose design and debug, high-precision analog sensors, power electronics, automotive electronics, mechatronics, or other specialized applications, the HD4096 technology provides unsurpassed confidence and measurement capabilities.

#### **Clean, crisp waveforms**

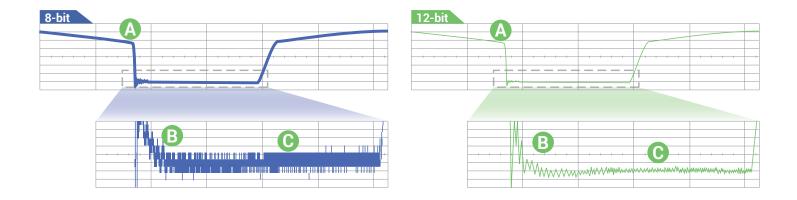
When compared to waveforms acquired and displayed using conventional 8-bit oscilloscopes, waveforms captured with HD4096 12-bit technology are dramatically crisper and cleaner, and are displayed more accurately. Once you see a waveform acquired with HD4096 technology, you will not want to go back to using a conventional 8-bit oscilloscope.

#### More signal details

16x more resolution provides more signal detail. This is especially helpful for analyzing wide dynamic range signals where very small amplitude signal details must be viewed. 12-bit acquisitions combined with the oscilloscope's vertical and horizontal zoom capabilities provide unparalleled insight into system behaviors and problems.

#### **Unmatched measurement precision**

HD4096 technology delivers measurement precision several times better than conventional 8-bit oscilloscopes. Higher oscilloscope measurement precision results in better ability to assess corner cases and design margins, perform root cause analysis, and create the best possible solution for any discovered design issue.



Clean, crisp waveforms | Thin traces show the actual waveform with minimal noise interference.

More signal details | Waveform details can now be clearly seen on an HD4096 12-bit oscilloscope.

Unmatched measurement precision | Measurements are more precise and not affected by quantization noise.

## MORE CAPABILITY THAN YOU IMAGINED





# Protocol Analysis with Serial Trigger and Decode

- Intuitive, color-coded overlays make it easy to understand serial data information
- Powerful, conditional data triggering capabilities
- Interactive decode table summarizes results of two different protocol decodes
- Touch a row in the table to automatically zoom and display the selected packet
- Search and conditional filtering

Index	Time	<ul> <li>Protocol</li> </ul>	Message	Data	CRC	Status 🚽
▶ 11	323.943 µs	SSPI	0x43	0x43		
▶ 12	419.72 µs	UART	254	0xfe		
▶ 13	422.595 µs	SSPI	0x72	0x72		-
▶ 14	521.247 µs	SSPI	0x6f	0x6f		
▶ 15	529.70 µs	UART	254	0xfe		

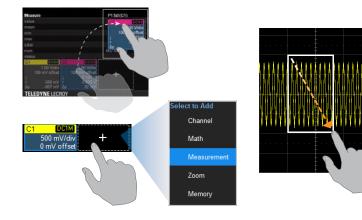


#### Logic Analysis with 16-channel Mixed Signal Capability

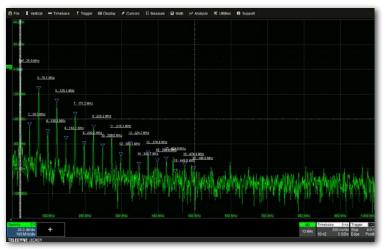
- Simultaneously view, measure, and analyze 4 analog and 16 digital channels
- Dedicated digital logic port does not consume analog channels
- Analog and digital channels can be incorporated into a single pattern trigger
- Find anomalies in digital waveforms using WaveScan, trends, statistics, and histicons

#### **MAUI with OneTouch**

- Most unique touch screen features on any oscilloscope
- Drag-and-drop to dramatically reduce setup time
- All common operations can be performed with one touch

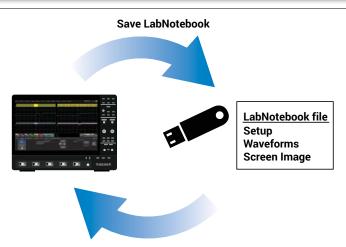












#### **Spectrum Analyzer**

- Spectrum analyzer style controls
- Logarithmic scales
- Pop up Peaks and Markers table

#### **Built-in Waveform Generator**

- Frequencies of up to 25 MHz
- Wide variety of waveform sources available
- Saved waveforms can be uploaded to oscilloscope to generate arbitrary waveforms

#### **DVM and Frequency Counter**

- 4-digit digital voltmeter, 5-digit frequency counter
- Works with any channel; measurements update even when system is not triggering
- Set voltage readings to DC, DC RMS, or AC RMS

The DVM license key can be downloaded at no charge from *teledynelecroy.com/ws4000hd/redeemdvm* 

#### LabNotebook

- Store all setups, waveforms, and screen image in a single LabNotebook file
- Add descriptive notes to LabNotebooks, or mark up screen images
- Recall ("Flashback") LabNotebooks to restore oscilloscope to past state—including all setups, waveforms, and table data
- Extract component files from .LNB format files, or append other files to .LNB

To learn more about the capabilities of the WaveSurfer 4000HD, see the Oscilloscope Features, Options, and Accessories catalog *cdn.teledynelecroy.com/files/pdf/lbw-scopes-options-catalog.pdf* 

### **COMPREHENSIVE PROBE SUPPORT**





**Active Power Rail Probe** 



RP4030

- Large (30 V) built-in offset, low noise
- Perfect for low impedance power rails
- Solder-in & U.FL connections

Active Voltage Probes

**Current Probes** 



ZS1000 ZS1500

- Low 0.9 pF input capacitance
- High input impedance (1 MΩ)
- Low cost



#### CP030, CP030-3M, CP030A CP031, CP031A CP150, CP150-6M CP500, DCS025

- Peak currents up to 700 A
- Sensitivities to 1 mA/div
- Bandwidth up to 100 MHz



#### **Differential Probes**



ZD1500, ZD1000, ZD500, ZD200 AP033

- High CMRR, high bandwidth, low noise
- 1 pF capacitance, wide dynamic range
- Series/shunt voltage measurement

High Voltage Differential Probes



HVD3102A, HVD3106A (1 kV) HVD3206A, HVD3220 (2 kV) HVD3605A (6 kV)

- 1, 2, or 6 kV common-mode ratings
- Excellent CMRR (65 dB at 1 MHz)
- 1% gain accuracy

**Passive Probes** 

#### **High Voltage Passive Probes**



HVP120 PPE6KV-A

• 1 kV to 6 kV ratings

**Probe Adapters** 

- Safe and easy probing accessories
- Sense pin for automatic scaling

#### High Voltage Fiber Optically-isolated Probes



#### HVF0108

- 35 kV common-mode rating
- Highest possible CMRR (140 dB)
- Ideal for gate-drive measurements



#### PP019, PP026

- Rated for 500 V
- Sense pin for automatic scaling
- High input impedance of 10 MΩ

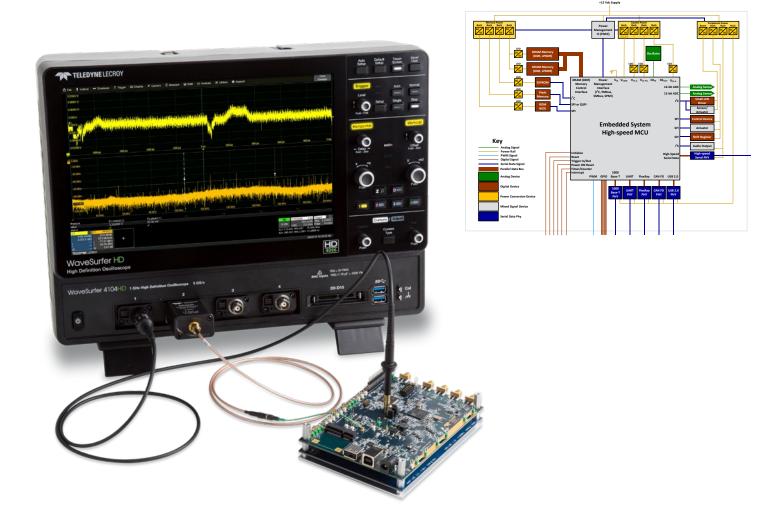


#### TPA10

- Supports TekProbe interface level II
- Configure power and offset control
- Supports wide variety of Tek probes

# **BEST EMBEDDED SYSTEM DEBUG**



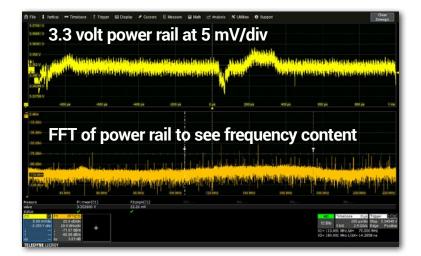




#### **Clock Analysis**

- Capture long records to build statistics faster
- All-instance measurements measure every clock edge in any acquisition length
- Trend values over time
- Histicons show statistical distribution









#### **Power Rail Analysis**

- 12-bit resolution and low noise clearly shows small signal details in power rails
- FFT or Spectrum Analyzer determines root cause of high noise events
- Built-in high offset capability permits native probing of power rails

#### **Protocol Analysis**

- Trigger on protocol elements or specific DATA patterns using powerful conditional DATA triggering
- Highly adaptable ERROR frame triggering isolates protocol errors
- Combine UART/SPI bytes into single "message frame" to trigger on proprietary protocols
- Use Search and Zoom to correlate protocol events to other embedded signals

#### **Power Analysis**

- Measure and analyze operating characteristics of power conversion circuits
- Identify turn-on and turn-off transitions using color-coded overlays
- Automatically calculate switching device measurements
- Measure input/output power and input harmonics

# WAVESURFER 4000HD AT A GLANCE





#### **Key Attributes**

- 1. 12.1" 1280 x 800 capacitive touch screen display
- 2. Buttons/indicators color-coded to associated waveform on display
- **3.** MAUI with OneTouch user interface for intuitive and efficient operation
- 4. HD4096 Technology 12 bits all the time
- 5. Use cursors and adjust settings without opening a menu

- 6. ProBus input supports over 30 probes in 9 product categories
- 7. Mixed Signal capability with 16 channel dedicated digital logic port
- 8. USB 3.1 ports for easy connectivity
- 9. WaveSource Arbitrary Waveform Generator
- **10.** HDMI output
- 11. USBTMC over USB 2.0 for data offload



# SPECIFICATIONS



Vertical Angles Channels	WaveSurfer 4024HD	WaveSurfer 4034HD	WaveSurfer 4054HD	WaveSurfer 4104HD	
Vertical - Analog Channels Analog Bandwidth ( $@ 50 \Omega$ (-3 dB)	200 MHz	350 MHz		1 GHz	
Rise Time (10–90%)	1.75 ns	1 ns	500 MHz 700 ps	450 ps	
Input Channels	4	1 115	700 ps	430 ps	
Vertical Resolution	12 bits				
Effective Number of Bits (ENOB)	8.7	8.6	8.5	8.3	
Vertical Noise Floor (rms, 50 $\Omega$ )	0.1	8.0	0.0	0.5	
1 mV/div	65 µV	70 µV	90 µV	125 µV	
2 mV/div	65 μV	70 μV 70 μV	90 µV 90 µV	125 µV	
5 mV/div	65 μV	70 μV 70 μV	90 µV 90 µV	125 μV 125 μV	
10 mV/div	70 μV	75 μV	90 µV 95 µV	130 µV	
20 mV/div	95 μV	95 µV	<u>95 μν</u> 115 μV	160 μV	
50 mV/div	160 μV	175 µV	210 µV	280 µV	
100 mV/div	270 μV	290 µV	350 μV	465 μV	
200 mV/div	960 μV	925 µV	1.10 mV	1.65 mV	
500 mV/div	1.60 mV	1.75 mV	2.10 mV	2.75 mV	
1 V/div	2.70 mV	2.90 mV	3.50 mV	4.70 mV	
Sensitivity		iable; <b>1 ΜΩ</b> : 1 mV–10 V/div, f		4.70111	
DC Vertical Gain Accuracy (Gain Component of DC Accuracy)	±0.5% FS, offset at 0 V				
Channel-Channel Isolation	60 dB	60 dB up to 200 MHz 50 dB up to 350 MHz	60 dB up to 200 MHz 50 dB up to 500 MHz	60 dB up to 200 MHz 50 dB up to 500 MHz 40 dB up to 1 GHz	
Offset Range	<b>50</b> Ω: 1 mV to 4.95 mV: ±1.6 V; 5 mV to 9.9 mV: ±4 V; 10 mV to 19.8 mV: ±8 V; 20 mV to 1 V: ±10 V <b>1 M</b> Ω: 1 mV to 4.95 mV: ±1.6 V; 5 mV to 9.9 mV: ±4 V; 10 mV to 19.8 mV: ±8 V; 20 mV to 100 mV: ±16 V; 102 mV to 198 mV: ±80 V; 200 mV to 1 V: ±160 V; 1.02 V to 10 V: ±400 V				
DC Vertical Offset Accuracy Maximum Input Voltage	±(1.0% of offset setting + 0.5% FS + 0.02% of max offset + 1 mV) 50 Ω: 5 Vrms, 1 MΩ: 400 V max (DC + Peak AC ≤ 10 kHz)				
Input Coupling	1 MΩ: AC, DC, GND; 50 Ω: DC				
Input Impedance	50 Ω: ±2.0%; 1 MΩ: ±2.0%    15 pF				
Bandwidth Limiters	20 MHz         20 MHz, 200 MHz         20 MHz, 200 MHz         20 MHz, 200 MHz				
Rescaling	Electrical: Volts, Amps				
Horizontal - Analog Channels					
Acquisition Modes	Pool time Poll Average Seg	Jones (Sagmented Memory)	ιp to 1000 segments with 1 μ	s min_intersegment time)	
Timebases	Internal timebase common to		ip to 1000 segments with 1 p	s min. intersegment time)	
Time/Division Range	500 ps/div to 100 s/div				
Clock Accuracy	±2.5 ppm + 1.0 ppm/year from calibration				
CIOCK Accuracy					
Acquisition - Analog Channels					
Sample Rate (Single-Shot)	2.5 GS/s on 4 Ch, 5 GS/s on 2	2 Ch			
Standard Memory (4 Ch / 2 Ch)	12.5 Mpts / 25 Mpts				
Averaging	Summed averaging to 1024	sweeps			
Vertical, Horizontal, Acquisition		ID-MSO option only)			
Input Channels	16 Digital Channels				
Threshold Groupings	Pod 2: D15 to D8, Pod 1: D7 to				
Threshold Selections	TTL (+1.4 V), 5 V CMOS (+2.5 \	/), ECL (-1.3 V) or User Defined			
Maximum Input Voltage	±30 V Peak				
Threshold Accuracy	±(3% of threshold setting + 10)	0 mV)			
Input Dynamic Range	±20 V				
Minimum Input Voltage Swing	500 mVpp				
Input Impedance (Flying Leads)	100 kΩ    5 pF				
Maximum Input Frequency	125 MHz				
Sample Rate	500 MS/s				
Record Length	12.5 Mpts - 16 Channels				
Minimum Detectable Pulse Width	4 ns				
Channel-to-Channel Skew	±(1 digital sample interval)				
User-defined Threshold Range	±10 V in 20 mV steps				

## **SPECIFICATIONS**

Modes Sources

Coupling

Hold-off

 $(Ch_{1}-4)$ 

Zooming

Size

Probes

Voltage

Humidity

Altitude

Weight



WaveSurfer 4024HD WaveSurfer 4034HD WaveSurfer 4054HD WaveSurfer 4104HD **Triggering System** Normal, Auto, Single, and Stop Any input channel, Ext, Ext/5, or Line; slope and level unique to each source (except Line trigger) DC, AC, HFRej, LFRej From 10 ns up to 20 s or from 1 to 100,000,000 events Pre-trigger Delay 0 to 100% of full scale Post-trigger Delay 0 to 10,000 divisions ±4.1 div from center (typical) Internal Trigger Level Range External Trigger Level Range Ext (±0.610 mV); Ext/5 (±3.05 V) Maximum Trigger Rate 175,000 waveforms/second Trigger Sensitivity with Edge Trigger 0.9 division @ 10 MHz 1.0 division @ 200 MHz 1.0 division @ 350 MHz 1.0 division @ 500 MHz 1.0 division @ 1 GHz Edge, Width, Logic (Pattern), TV (NTSC, PAL, SECAM, HDTV - 720p, 1080i, 1080p), Runt, Slew Rate, **Trigger Types** Interval (Signal or Pattern), Dropout, Qualified (State or Edge). External input supports Edge trigger only. Low Speed Serial Protocol Triggering (Optional) I2C, SPI (SPI, SSPI, SIOP), UART-RS232, CAN1.1, CAN2.0, CAN FD, LIN, FlexRay Measure, Zoom, and Math Tools Up to 6 parameters can be calculated at one time on any waveforms, selected from the following list of measurements: Amplitude, Area, Base, Delay, Duty Cycle (50%, @level), Edge (@level), Fall Time (90%–10%), Fall Time (80%–20%), Frequency (50%, @level), Maximum, Mean, Minimum, Overshoot+, Overshoot-, Peak-Peak, Measurement Parameters Period (50%, @level), Phase, Rise Time (10%-90%), Rise Time (20%-80%), RMS, Skew, Standard Deviation,  $\Delta$ Time (@level) Top,  $\Delta$ Width (@level) Width+, Width-. Statistics and histicons can be added to measurements. Measurements can be gated Use front panel QuickZoom button, or Rectangle-Zoom using touch screen or mouse. Up to 2 math functions can be calculated at one time on any waveforms, selected from the following list of operations: Sum, Difference, Product, Ratio, Absolute Value, Average, Derivative, Enhanced Resolution, Envelope, Floor, Integral, Invert, Reciprocal, Rescale, Roof, SinX/x, Square, Square Root, Trend, Zoom and FFT (with Power Spectrum output; Rectangular, VonHann and FlatTop windows). Math Functions **Display System** 12.1" widescreen capacitive touch screen Resolution 1280 x 800 pixels Standard Probes PP019 (5 mm), PP026 (5 mm), 1 per channel 1 per channel BNC and Teledyne LeCroy ProBus for active voltage, current, and differential probes Probing System Connectivity Ethernet Port 1 x 10/100BaseT Ethernet interface (RJ45 port) 1 Micro SD port, 16 GB Micro SD card installed standard Removable Storage 2 front USB 3.1 Gen1 ports, 2 back USB 2.0 ports **USB Host Ports** USB Device Port 1 USBTMC over USB 2.0 port External Monitor Port 1 HDMI port, supports up to 1280 x 800 pixels Remote Control Microsoft COM Automation or LeCroy Remote Command Set Network Communication Standard VICP or VXI-11, LXI compatible **Power Requirements** 100 to 240 VAC ±10% @ 50 to 60 Hz ±10%; 100 to 120 VAC ±10% @ 400 Hz ±5%; automatic AC voltage selection Nominal Power Consumption 90 W / 90 VA Max Power Consumption 150 W / 150 VA Environmental Operating: 0 °C to +50 °C; Non-operating: -30 °C to +70 °C Temperature Operating: 5% to 90% RH (non-condensing) at ≤30 °C, upper limit derates to 50% RH (non-condensing) at +50 °C; Non-operating: 5% to 95% relative humidity (non-condensing) as tested per MIL-PRF-28800F Operating: 3,048 m (10,000 ft) max at ≤ 25 °C; Non-operating: up to 12,192 meters (40,000 ft) Size and Weight **Dimensions (HWD)** 10.7" H x 14.9" W x 6.3" D (273 mm x 380 mm x 160 mm) 11.7 lbs (5.3 kg) Certifications **CE** Certification CE compliant, UL and cUL listed; conforms to UL 61010-1 (3rd Edition), UL 61010-2-030 (1st Edition), and CAN/CSA C22.2 No. 61010-1-12 UL and cUL Listing Warranty and Service

> 3-year warranty; calibration recommended annually. Optional service programs include extended warranty, upgrades, and calibration services.

# **SPECIFICATIONS**



WaveSurfer 4024HD WaveSurfer 4034HD WaveSurfer 4054HD WaveSurfer 4104HD

#### Digital Voltmeter (Optional, available no charge at teledynelecroy.com/ws4000hd/redeemdvm)

Functions	ACrms, DC, DCrms, Frequency
Resolution	ACV/DCV: 4 digits, Frequency: 5 digits
Measurement Rate	100 times/second, measurements update on the display 5 times/second
Vertical Settings Autorange	Automatic adjustment of vertical settings to maximize the dynamic range of measurements

#### WaveSource Arbitrary Waveform Generator (WS4KHD-FG option only)

marcooulee Aibidary marci	
General	
Max Frequency	25 MHz
Channels	1
Sample Rate	125 MS/s
Arbitrary Waveform Length	16 kpts
Frequency Resolution	1 µHz
Vertical Resolution	14 bits
Vertical Range	±3 V (HiZ); ±1.5 V (50 Ω)
Waveform Types	Sine, Square, Triangle, Pulse, DC, Noise, ARB, Exponential Fall, Exponential Rise, Ramp, Gaussian, Lorentz, Cardiac,
	Haversine

#### **Frequency Specification**

requency opecification	
Sine/Haversine	1 μHz - 25 MHz
Square/Pulse	1 μHz - 10 MHz
Ramp/Triangular	1 μHz - 300 KHz
Exponential Fall/Rise	1 μHz - 1 MHz
Gaussian, Lorentz, Cardiac	1 μHz - 5 MHz
Noise	25 MHz (-3 dB)
Resolution	1 μHz
Accuracy	±50 ppm, over temperature
Aging	±3 ppm/year, first year
Output Specification	
Amplitude	4 mVpp - 6 Vpp ( HiZ); 2 mVpp - 3 Vpp (50 Ω)
Vertical Accuracy	±(0.3 dB + 1 mV)
Amplitude Flatness	±0.5 dB
DC Offset	
Range (DC)	±3 V (HiZ); ±1.5 V (50 Ω)
Offset Accuracy	±(1% of offset value + 3 mV)
onoccriocardoy	
Waveform Output	
Impedance	50 Ω ±2%
Protection	Short-circuit protection
Sine Spectrum Purity	
SFDR (Non Harmonic) @1.265 Vpp	
DC-1 MHz	-60 dBc
1 MHz - 5 MHz	-55 dBc
5 MHz - 25 MHz	-50 dBc
Harmonic Distortion @1.265 Vpp	
DC - 5 MHz	-50 dBc
5 MHz - 25 MHz	-45 dBc
Square/Pulse	
Rise/Fall time	24 ns (10% - 90%)
Overshoot	3% (typical - 1 kHz, 1 Vpp)
Pulse Width	50 ns minimum
Jitter	500 ps + 10 ppm of period (RMS cycle to cycle)
Ramp/Triangle	
Linearity	0.1% of Peak value output (typical - 1 kHz, 1 Vpp, 100% symmetric)
Symmetry	0% to 100%
, -,	

# **ORDERING INFORMATION**

Product Description	Product Code
WaveSurfer 4000HD Oscilloscopes	
200 MHz, 2.5 GS/s, 4 Ch, 12.5 Mpts/Ch	WaveSurfer 4024HD
High Definition Oscilloscope	
with 12.1" capacitive touch screen	
350 MHz, 2.5 GS/s, 4 Ch, 12.5 Mpts/Ch	WaveSurfer 4034HD
High Definition Oscilloscope	
with 12.1" capacitive touch screen	
500 MHz, 2.5 GS/s, 4 Ch, 12.5 Mpts/Ch	WaveSurfer 4054HD
High Definition Oscilloscope	
with 12.1" capacitive touch screen	
1 GHz, 2.5 GS/s, 4 Ch, 12.5 Mpts/Ch	WaveSurfer 4104HD
High Definition Oscilloscope	
with 12.1" capacitive touch screen	

#### **Included with Standard Configurations**

÷10 passive probes (Qty. 4), Micro SD card (installed), Micro SD card adapter, protective cover, Getting Started Guide, commercial NIST traceable calibration with certificate, power cable for the destination country, 3-year warranty

#### Multi-Instrument Ontions

Mixed-Signal Oscilloscope (incl. 16-channel digita	al WS4KHD-MS0
leadset, 22 extra large gripper probes, 20 ground	
extenders, 5 flexible ground leads and license)	
Spectrum Analyzer for WaveSurfer 4000HD	WS4KHD-SPECTRUM-1
WaveSource Arbitrary Waveform Generator	WS4KHD-FG
Serial Trigger and Decode Options	
AudioBus Trigger and Decode	WS4KHD-AUDIO TD
Automotive Bundle: CAN, CAN FD, LIN,	WS4KHD-AUTO TD
FlexRay Trigger and Decode	
Embedded Bundle: I2C, SPI, UART-RS232	WS4KHD-EMB TD
Trigger and Decode	
Power Analysis Options	
Power Analysis	WS4KHD-PWR
General Accessories	
Softcase	WSAKHD-SOETCASE

Softcase Rackmount Kit WS4KHD-SOFTCASE WS4KHD-RACK

Bandwidth upgrades can be made at any time. Contact your local Teledyne LeCroy sales office.

	<b>4096</b>
Product Description	Product Code
Probes	
250 MHz Passive Probe – 5 mm, 10:1, 10 MΩ	PP019
500 MHz Passive Probe – 5 mm, 10:1, 10 MΩ	PP026
7.5 GHz Low Capacitance Passive Probe (÷10, 1 kΩ; -	÷20, 500 Ω) PP066
Power/Voltage Rail Probe with 4 GHz bandwidth, 1.2x attenuation, ±30 V offset, ±800 mV	RP4030
RP4030 Browser Tip Accessory	RP4000-BROWSER
30 A, 50 MHz Current Probe – AC/DC, 30 Arms,50 A peak pulse, 1.5-meter cable	CP030
30 A, 10 MHz Current Probe – AC/DC, 30 Arms, 50 A peak pulse, 3-meter cable	CP030-3M
30 A, 50 MHz High Sensitivity Current Probe – AC/DC, 30 Arms, 50 A peak pulse, 1.5-meter cable	CP030A
30 A. 100 MHz Current Probe –	CP031
AC/DC, 30 Arms, 50 A peak pulse, 1.5-meter cable	01 001
30A, 100 MHz High Sensitivity Current Probe –	CP031A
AC/DC, 30 Arms, 50 A peak pulse, 1.5-meter cable	
150 A, 10 MHz Current Probe – AC/DC; 150 Arms; 500 A peak pulse, 2-meter cable	CP150
150 A, 5 MHz Current Probe – AC/DC, 150 Arms, 500 A peak pulse, 6-meter cable	CP150-6M
500 A, 2 MHz Current Probe – AC/DC, 500 Arms, 700 A peak pulse, 6-meter cable	CP500
Deskew Calibration Source	DCS025
700 V, 25 MHz High Voltage Differential Probe (÷10, ÷	-100) AP031
1 kV, 25 MHz High Voltage Differential Probe	HVD3102A
1 kV, 25 MHz High Voltage Differential Probe (without tip accessories)	HVD3102A-NOACC
1 kV, 120 MHz High Voltage Differential Probe	HVD3106A
1 kV, 80 MHz High Voltage Differential Probe with 6-meter Cable	HVD3106A-6M
1 kV, 120 MHz High Voltage Differential Probe (without tip accessories)	HVD3106A-NOACC
2 kV, 120 MHz High Voltage Differential Probe	HVD3206A
2 kV, 80 MHz High Voltage Differential Probe with 6-meter Cable	HVD3206A-6M
2kV, 400 MHz High Voltage Differential Probe	HVD3220
6 kV, 100 MHz High Voltage Differential Probe	HVD3605A
High Voltage Fiber Optic Probe, 150 MHz bandwidth	HVF0108
HVF0100 Universal ±1 V Tip Accessory	HVF0100-1X-TIP-U
HVF0100 Universal ±5 V Tip Accessory	HVF0100-5X-TIP-U
HVF0100 Universal ±10 V Tip Accessory	HVF0100-10X-TIP-U
HVF0100 Universal ±20 V Tip Accessory	HVF0100-20X-TIP-U
HVF0100 Universal ±40 V Tip Accessory	HVF0100-40X-TIP-U
100:1 400 MHz 50 MΩ 1 kV High Voltage Probe	HVP120
2 kV/ HV/ Proba 6 kV/ overveltage capability	DDE6K\/_A

#### **Probe Adapters**

Tek Probe to ProBus Probe Adapter

2 kV HV Probe, 6 kV overvoltage capability 500 MHz, 60 V Common Mode Differential Probe.

1 GHz, 60 V Common Mode Differential Probe. Includes standard set of leads and tips.

500 MHz, 1.0 pF Active Differential Probe, ±8 V

1 GHz, 1.0 pF Active Differential Probe, ±8 V

1.5 GHz, 1.0 pF Active Differential Probe, ±8 V

500 MHz Active Differential Probe (÷1, ÷10, ÷100)

1 GHz, 0.9 pF, 1 M $\Omega$  High Impedance Active Probe

1.5 GHz, 0.9 pF, 1 M $\Omega$  High Impedance Active Probe

200 MHz, 3.5 pF, 1 MΩ Active Differential Probe, ±20 V

Includes standard set of leads and tips.

TPA10

PPE6KV-A

DL05-HCM

DL10-HCM

ZD200

ZD500

AP033

ZD1000

ZD1500

ZS1000

ZS1500



#### 绿测科技有限公司

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