



Advanced Test Equipment Corp.
www.atecorp.com 800-404-ATEC (2832)

TELEDYNE | LECROY

CAPTURE EVERY DETAIL



HDO6000B



350 MHz - 1 GHz
High Definition Oscilloscopes

- Highest Resolution** HD4096 Technology, 12 bits all the time
- Bigger Display**, small footprint, most bench space
- More Capability**, increased productivity

teledynelecroy.com/hdo6000

Highest Resolution

+

Bigger Display

+

More Capability

High Signal to
Noise Input
Amplifiers

High Sample
Rate 12-bit
ADCs

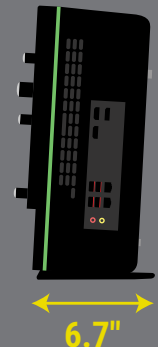
HD
4096

Low Noise
System
Architecture

12 bits **all the time.**



- Bigger display
- Small footprint
- Most bench space



MAUI IVN Tools **MSO**
with OneTouch LabNotebook
Q-Scape **HD** DVM
15.6" 4096 AFG
Touch Pass/Fail
Spectrum Analysis History Mode Protocol Analysis
Power Conversion **MAUI**
Studio Pro

Capture Every Detail



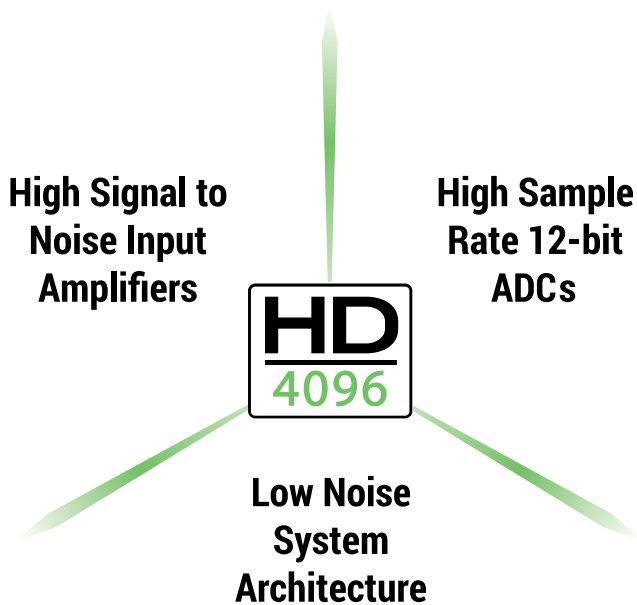
Providing **12 bits all the time**, a **bigger display**,
small footprint, and **more capability**, the
HDO6000B captures every detail.

12 bits all the time.



HDO6000B

HD4096 TECHNOLOGY - 16X CLOSER TO PERFECT

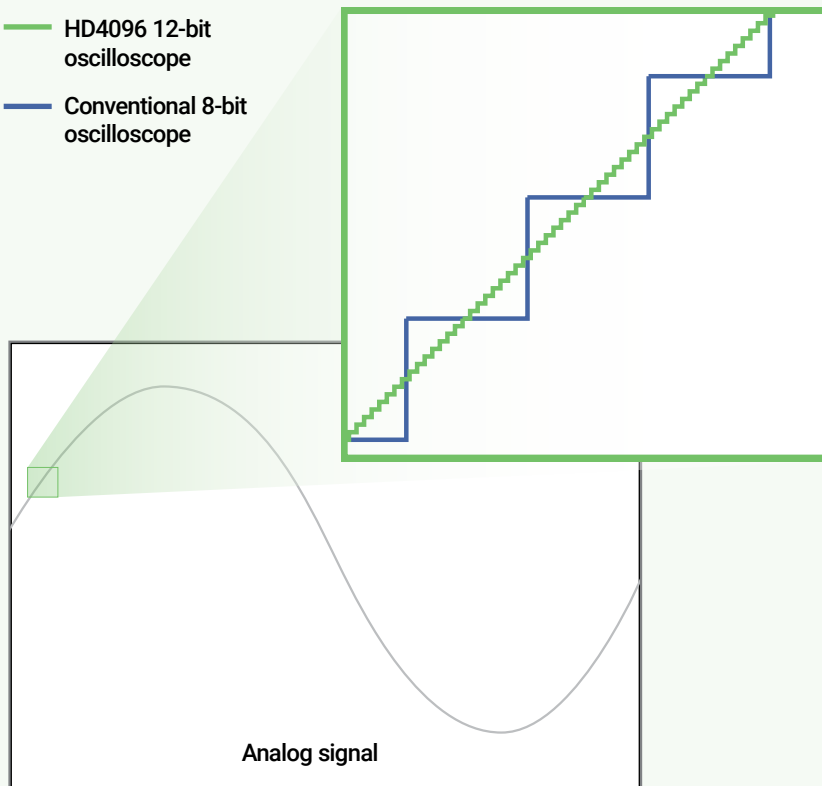


Teledyne LeCroy high definition 12-bit oscilloscopes use unique HD4096 technology to provide superior and uncompromised measurement performance:

- 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 at oscilloscope bandwidth ratings up to 1 GHz, while Enhanced Sample Rate to 10 GS/s 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.

— HD4096 12-bit oscilloscope
— Conventional 8-bit oscilloscope



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

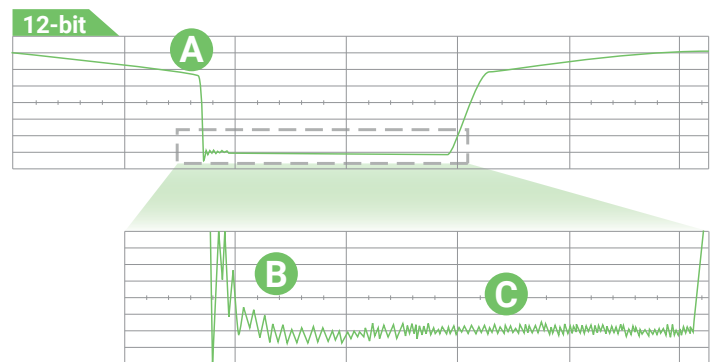
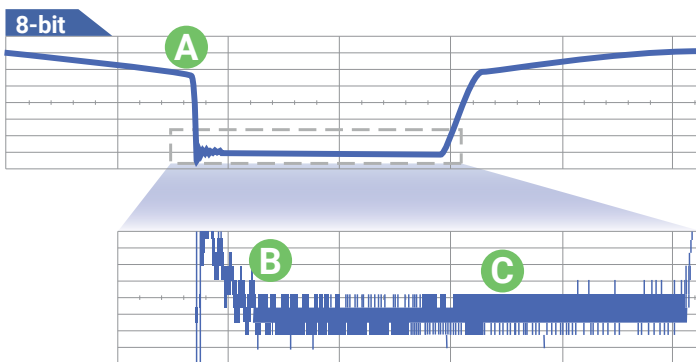
When compared to waveforms acquired and displayed using conventional 8-bit oscilloscopes, waveforms captured with HD4096 12-bit technology are dramatically crisper and cleaner, and are displayed more accurately. Once you see a waveform acquired with HD4096 technology, you will not want to go back to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

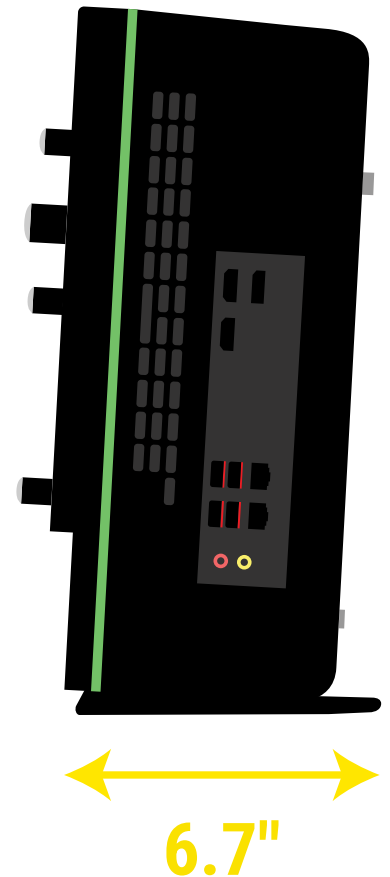
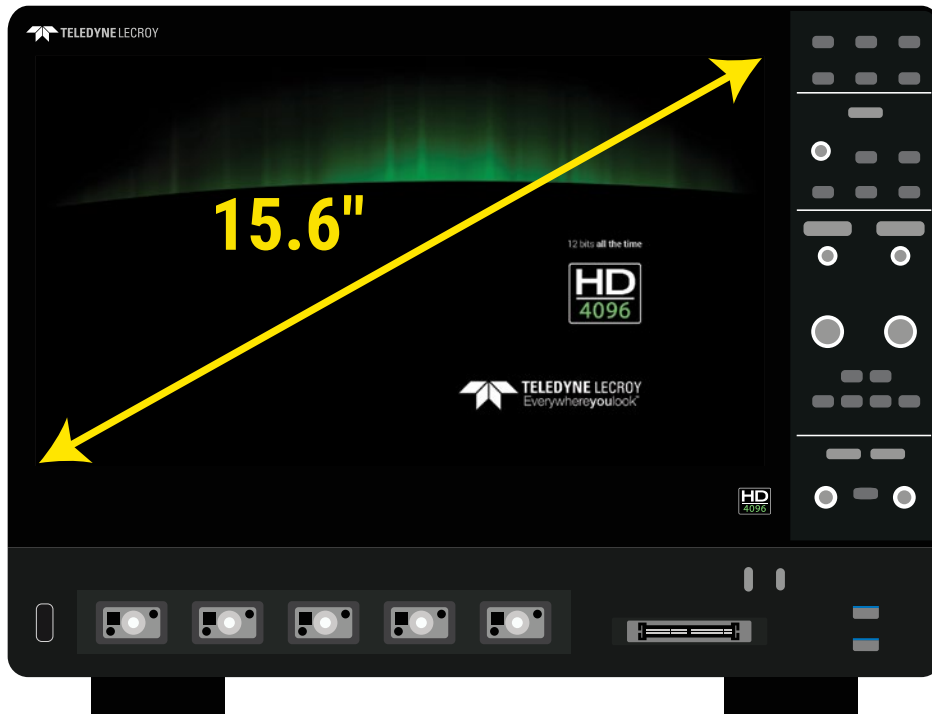
Unmatched measurement precision

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.



- A Clean, crisp waveforms** | Thin traces show the actual waveform with minimal noise interference.
- B More signal details** | Waveform details can now be clearly seen on an HD4096 12-bit oscilloscope.
- C Unmatched measurement precision** | Measurements are more precise and not affected by quantization noise.

BIGGER DISPLAY, SMALL FOOTPRINT, MORE BENCH SPACE



Capture every detail with the HDO6000B's bigger 15.6" display.

Bigger display

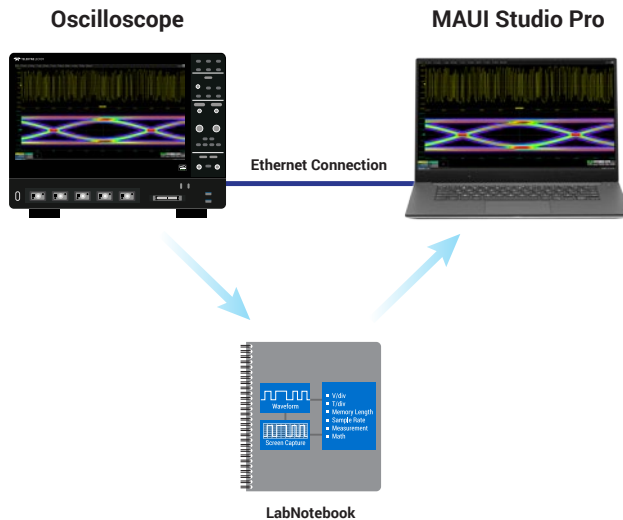
With a 15.6" display and 1920x1080 resolution, the HDO6000B allows you to capture more detail. Connect to a second monitor, and view the extended desktop in glorious 8K resolution.

Small footprint

At only 6.7" deep and 25% thinner than competitive products, the HDO6000B is the sleekest instrument in the market.

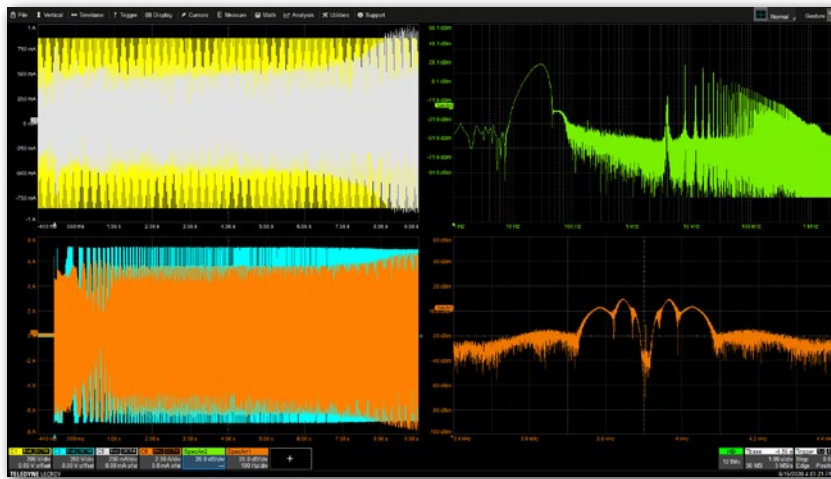
Most bench space

The HDO6000B occupies less bench space than the competitive products, allowing you to spread out test circuits and probes to help focus on solving problems.



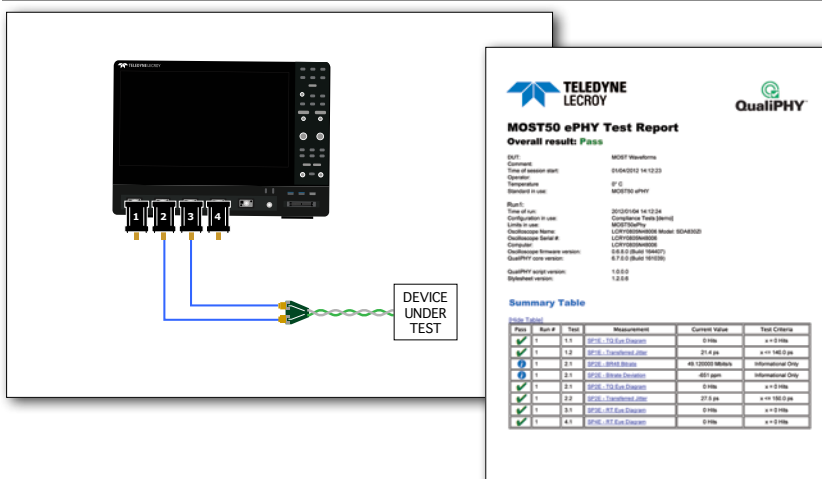
MAUI Studio

Unleash the power of a Teledyne LeCroy oscilloscope anywhere, using a PC with MAUI Studio. Work from anywhere while having the full functionality of an oscilloscope at your fingertips. Collaborate with ease by giving everyone access to the same software options to use for offline analysis.



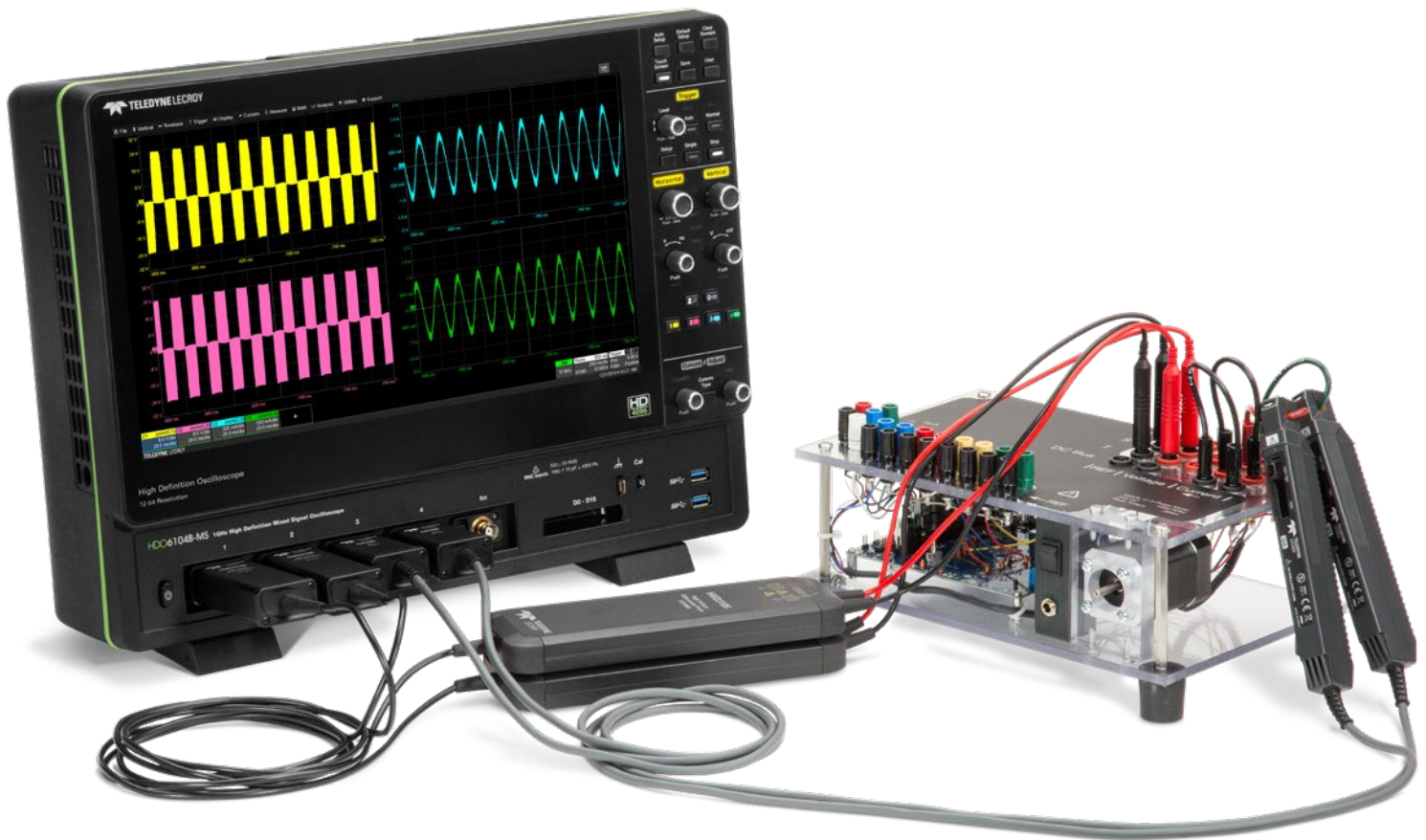
Spectrum Analysis

Spectrum-Pro-2R provides the most flexible spectral analysis with a logarithmic scale and drag-and-drop spectrum traces. Leverage long acquisition memory to perform analysis down to 1 Hz with resolution bandwidth up to 100 mHz.



QualiPHY Compliance Testing

The QualiPHY framework provides an automated and easy-to-use compliance testing platform for a number of serial data standards. QualiPHY reduces time and effort by guiding you through each setup and fully document all results.



HDO6000B 12-bit oscilloscopes deliver 4 analog channels, 3-phase power analysis software, and high performance probes for inverter subsection, power system and control testing.

Flexible Power Calculations

Analyze short or long acquisitions. The mean value Numerics table summarizes static performance, while per-cycle Waveforms help you understand dynamic behaviors. Use Zoom+Gate to isolate and correlate power system behaviors to control system activity during time periods as short as a single device switching cycle.

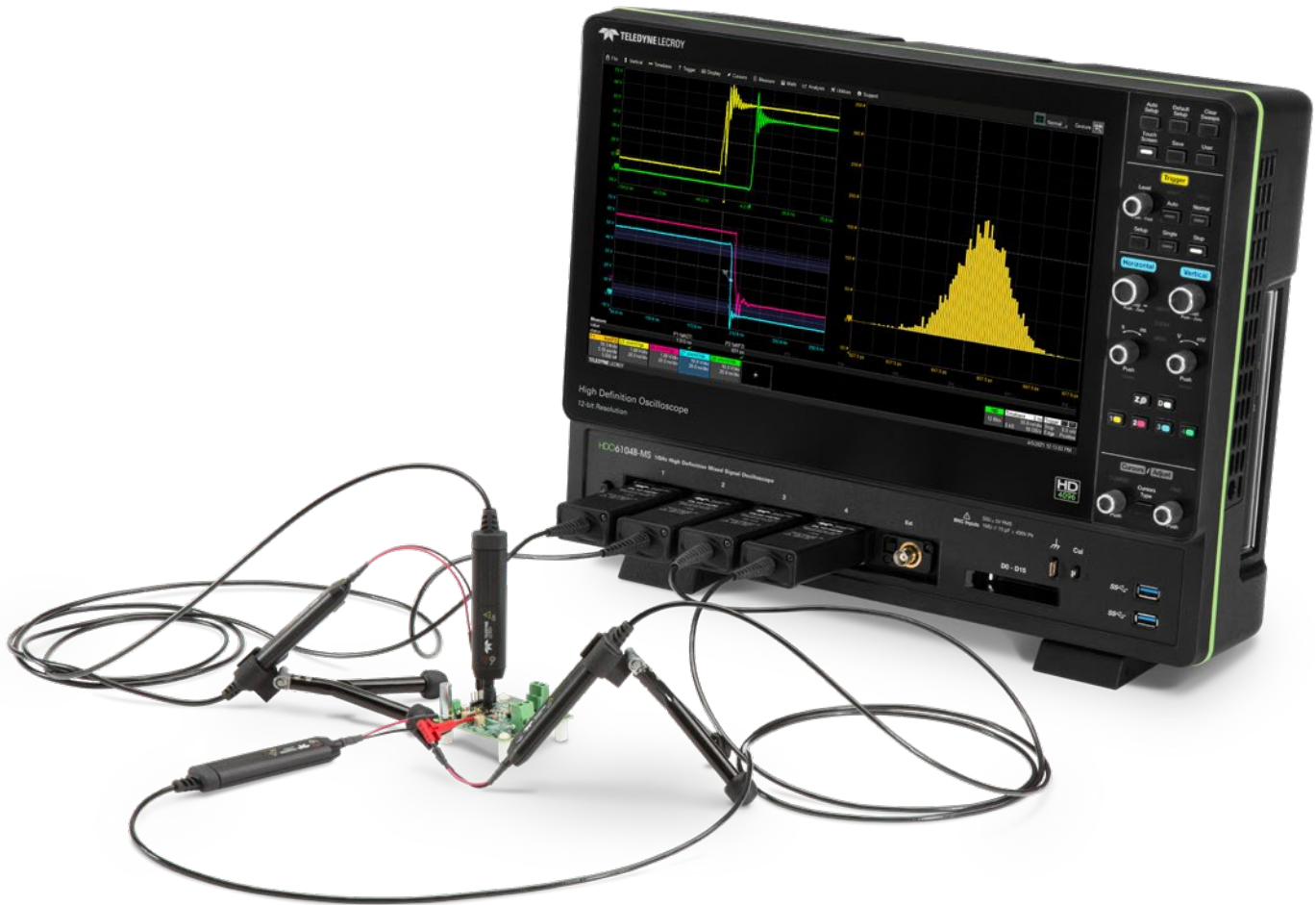
Comprehensive probing

HVD series high voltage differential probes have 65 dB CMRR at 1 MHz with upto 0.35% gain accuracy, the widest voltage ranges, and up to 6 kV common-mode rating. Connect current probes or use your own transducers with the programmable CA10 current sensor adapter to create a customized "probe". HVFO and DL-HCM probes are ideal for gate drive probing.

Two-wattmeter Support

Both 1-phase and 3-phase measurements are supported. The two-wattmeter measurement method allows 3-phase power measurements to be made using two voltage and two current signals; therefore, 3-phase measurements can be made using 4 channels instead of 6.

**Want 8 or 16 channels? The WaveRunner 8000HD has you covered.
Learn more at www.teledynelecroy.com/wr8000hd**



HDO6000B 12-bit oscilloscopes provide a wide range of probing solutions, compliance testing, and debug software to best address the specific test needs of the automotive industry.

Ideal probe for 48 V systems

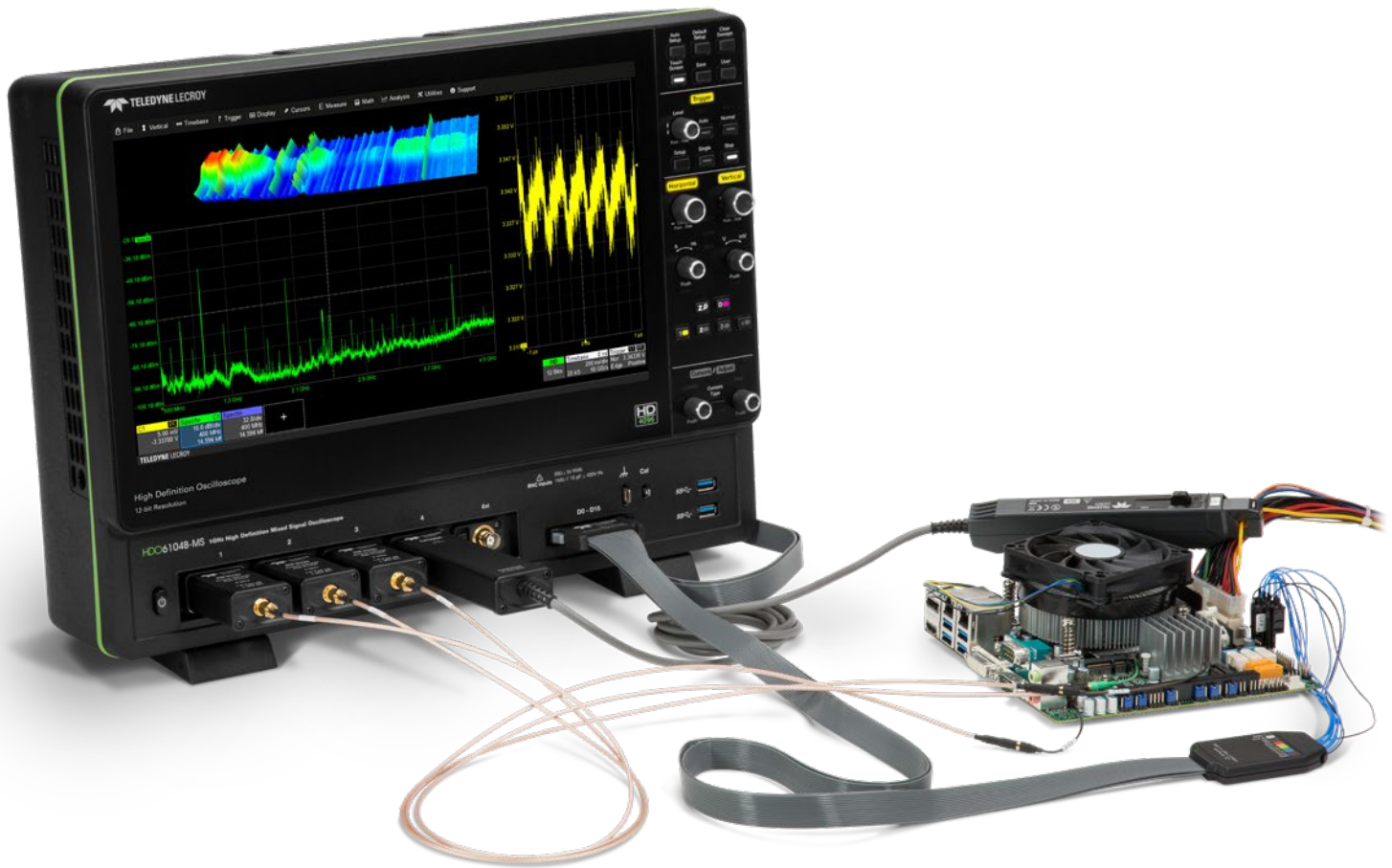
The DL-HCM, 60 V Common Mode Differential Probes are the ideal probes for 48 V battery-powered motor and drive systems. When combined with HDO6000B 12-bit oscilloscopes, the DL10-HCM provides 1 GHz bandwidth with the highest accuracy, the best CMRR, and lowest noise.

Superior IVN tools

Unique capabilities that build on our legacy serial data trigger and decode provide the most complete in-vehicle networking (IVN) debug and validation. Cover all aspects of physical layer 10Base-T1S and 100Base-T1 Automotive Ethernet compliance testing and debug.

EMI/EMC pre-compliance test

12-bit resolution for spectral analysis provides more insight. Specialized EMC/EMI pulse parameters provide measurement flexibility. Support for all relevant electrical and magnetic field units of measure. Capability to measure sub-1 Hz magnetic field strengths.



HDO6000B 12-bit oscilloscopes' high resolution and long memory let you validate and debug all aspects of power supply, delivery and consumption – for complete confidence.

Accurate PDN measurements

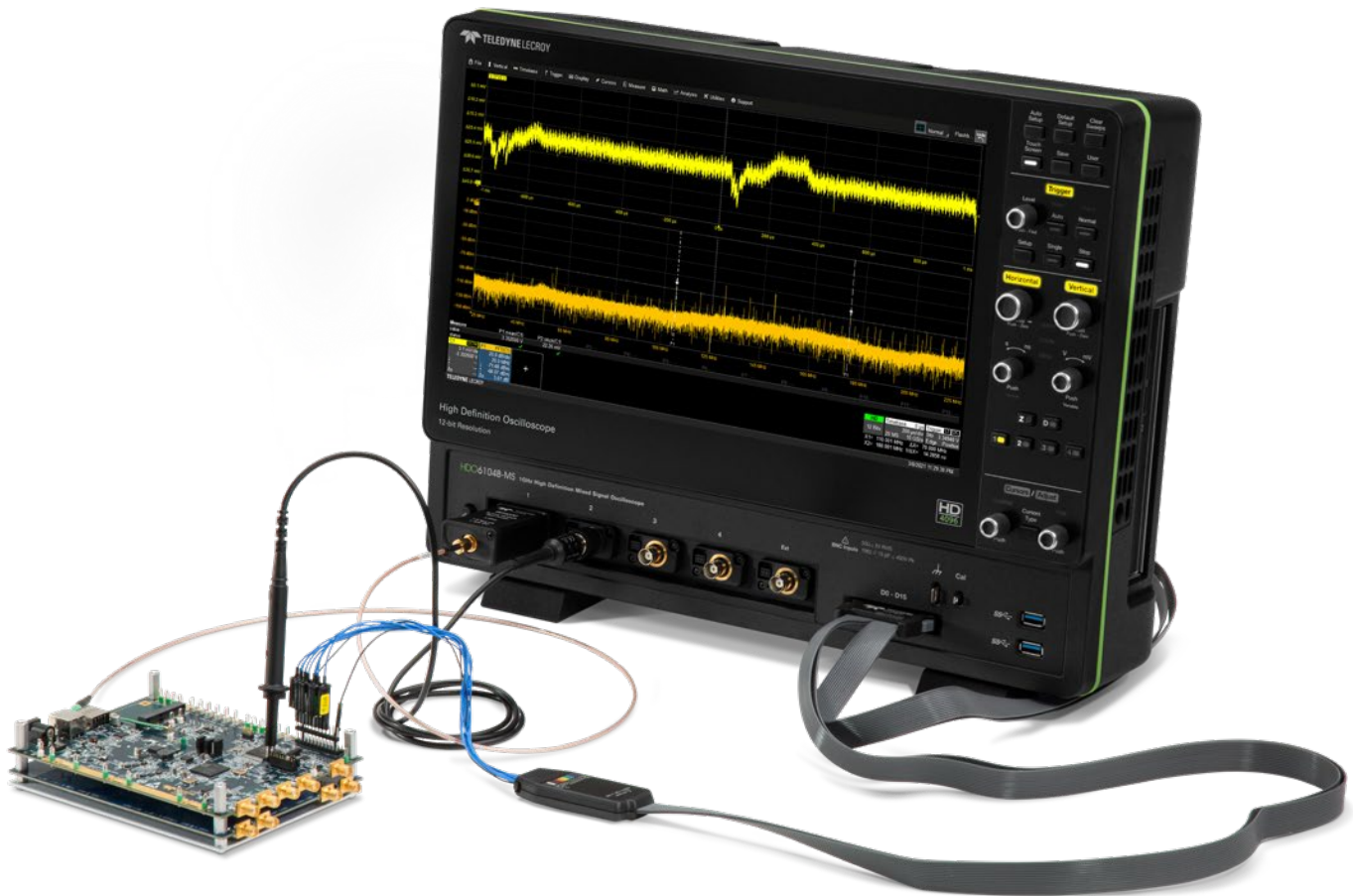
Make sensitive measurements like rail collapse characterization with total confidence thanks to HDO6000B's high dynamic range and 0.5% gain accuracy. Its HD4096 architecture means an exceptionally low noise floor, for easily pinpointing noise sources.

Specialized power probes

Combine HDO6000B with the RP4030 Power Rail Probe for unsurpassed insight into PDN behavior. The variety of probe tips ensures easy connectivity, and its low loading characteristics minimize disruption to the device under test.

Spectrum Analysis

Narrow in on interference causing problems in PDNs by enabling unique debug features such as spectral background removal on Spectrum-Pro-2R to eliminate spurious interference from environmental or other sources.



HDO6000B 12-bit oscilloscopes acquire long records at the highest resolution for the most comprehensive deeply embedded computing system analysis (analog, digital, serial data, and sensor).

Clock Analysis

Enable better analysis of clock sources by combining HDO6000B's all-instance measurements, to measure every clock edge, with the ability to capture long records and build statistics faster. Then, trend values over time or build a statistical distribution.

Protocol Analysis

HDO6000B uses powerful conditional DATA triggering to trigger on protocol elements or specific DATA patterns. Highly adaptable ERROR frame triggering helps isolate protocol errors while Search & Zoom helps correlate protocol events to embedded signals.

Power Management Tools

HDO6000B supports decoding of I²C, SPMI, SMBus, and PMBus protocols to provide insight into dedicated power management serial protocols and speeding up test and debug of designs.



Key Attributes

1. 15.6" 1920 x 1080 capacitive touchscreen display
2. 4 analog input channels
3. ProBus input supports every Teledyne LeCroy probe
4. MAUI with OneTouch user interface for intuitive and efficient operation
5. Q-Scape multi-tab display architecture
6. Up to 250 Mpts of acquisition memory
7. HD4096 technology - 12 bits all the time
8. Buttons/indicators color-coded to associated waveform on display
9. Use cursors and adjust settings without opening a menu
10. Mixed Signal capability with 16 integrated digital channels
11. 4 USB 3.2 Gen2 ports (side) and 2 USB 3.1 Gen1 ports (front)
12. 1 HDMI 2.0b Port, 1 HDMI 1.4a Port, 1 DisplayPort 1.4a Port - supports 8K (7680 x 4320) external monitor
13. Removable SSD (standard)
14. Reference Clock Input/Output for connecting to other equipment
15. USBTMC over USB 2.0 for data offload
16. WaveSource Arbitrary Function Generator



Capture		View			Measure		Math		Analyze										Document
Triggering	Acquire	Display Grids	Display Views	Zooming	Parameters	Parameter Analysis	Functions	Advanced Functions	Pass/Fail	Anomaly Detection	Serial Decode	Serial Message Analysis	Clock & Timing Jitter	Serial Data Jitter	Serial Data Analysis	Application Packages	Document		
Exclusion Measurement Multistage Sequence Mode 80ch Serial Data 100 GHz / DBI 4 MS/s Roll Multi-Grid Q-Scope Segment Waveform Histogram 3D Persistence Multi-Zoom Vertical Zoom Auto-Scroll All Instance Parameter Math Custom Measure Statistics Parameter Acceptance Histogram/Histogram Full Memory FFT Tracks / Trends Demodulation Digital Filters Processing Web Custom Math Mask Test Actions Boolean Compare TriggerScan WaveScan History Mode Symbol Protocol Layer Application Layer Search & Zoom Bus Parameters Timing Parameters Jitter Overlay Jitter Histogram Jitter Spectrum Bathub Curve IsoBER Jitter Simulation PAM-4 Analysis Dj Views Noise + Crosstalk Motor + Power 40-45 Email on Action Compliance Hardcopy WaveStudio LSB LabNotebook Automation Element Key: ▲ Invented by LeCroy ★ Unique to LeCroy Category Number 84 Noise + Crosstalk Name MAUI Icon 5 Color Overlays 6 Measure Gate 7 Eye Diagrams 8 Multi-Lane 9 EMC Pulse 10 Email on Action 11 Protocol Table 12 Jitter Overlay 13 Tj, Rj, Dj 14 PAM-4 Analysis 15 Motor + Power 16 I - V 17-22 Compliance 23 Hardcopy 24 WaveStudio 25 LSB 26 LabNotebook 27 Automation 17 Device Loss 18 Control Loop 19 Harmonics 20 3-Phase 21 Static/Dynamic 22 Zoom+Gate 23 Ethernet 24 DDR 25 Video 26 mipi 27 Automotive 28 PCIe 29 USB 30 Storage																			

Our heritage

Teledyne LeCroy's 50+ year heritage is in processing long records to extract meaningful insight. We invented the digital oscilloscope and many of the additional waveshape analysis tools.

Our obsession

Our tools and operating philosophy are standardized across much of our product line. This deep toolbox inspires insight; and your moment of insight is our reward.

Our invitation

Our Periodic Table of Oscilloscope Tools explains the toolsets that Teledyne LeCroy has deployed in our oscilloscopes. Visit our interactive website to learn more about them.

teledynelecroy.com/tools

Teledyne LeCroy offers an extensive range of probes to meet virtually every probing need.

Differential Probes (500 MHz – 1.5 GHz)



Wide dynamic range, low loading, and excellent noise performance from 500 MHz to 1.5 GHz. Specialty AP033 provides 10x gain and high CMRR.

60 V Common Mode Differential Probes



The ideal probes for lower voltage GaN power conversion measurement with the highest accuracy, best CMRR and lowest noise. Up to 1 GHz.

High Voltage Differential Probes



1 kV, 2 kV and 6 kV CAT safety rated models. Widest differential voltage ranges, exceptional CMRR, low noise, 1% gain accuracy.

High Voltage Optically Isolated Probes



Ideal for GaN and SiC devices. Highest accuracy, most bandwidth, wide range of voltages, optical isolation.

High Voltage Passive Probes



1 kV to 6 kV ratings. Provides ground-referenced high voltage measurements for a wide range of applications.

Active Voltage Probes



1 to 4 GHz models. High signal fidelity and low circuit loading (<1 pF tip capacitance), ± 8 V dynamic range, ± 12 V offset.

Active Voltage/Power Rail Probe



4 GHz bandwidth, ± 60 V offset, ± 800 mV dynamic range. High DC input impedance and low noise/attenuation for power rail probing.

Current Probes



For AC, DC and impulse current measurements. Utilizes combination of Hall effect and transformer technology. Up to 500 A, up to 100 MHz.

Probe and Current Sensor Adapters



Change between the different Teledyne LeCroy Oscilloscope input types or provide a simple interface to 3rd-party probes.

Passive Probes



10x attenuating with 10 M Ω input resistance. Ideal for low-frequency signals.

HDO6034B

HDO6054B, HDO6054B-MS

HDO6104B, HDO6014B-MS

Vertical - Analog Channels

Analog Bandwidth @ 50 Ω (-3 dB)	350 MHz	500 MHz	1 GHz
Analog Bandwidth @ 1 MΩ (-3 dB)	350 MHz	500 MHz	500 MHz
Rise Time (10–90%, 50 Ω)	1 ns	700 ps	450 ps
Rise Time (20–80%, 50 Ω)	700 ps	500 ps	300 ps
Input Channels	4		
Vertical Resolution	12 bits; up to 15 bits with enhanced resolution (ERES)		
Effective Number of Bits (ENOB)	8.7 bits	8.6 bits	8.4 bits
Vertical Noise Floor (rms, 50 Ω)			
1 mV/div	85 µV	100 µV	145 µV
2 mV/div	85 µV	100 µV	145 µV
5 mV/div	90 µV	105 µV	150 µV
10 mV/div	95 µV	110 µV	155 µV
20 mV/div	110 µV	130 µV	185 µV
50 mV/div	210 µV	265 µV	275 µV
100 mV/div	360 µV	450 µV	500 µV
200 mV/div	1.10 mV	1.25 mV	1.75 mV
500 mV/div	2.10 mV	2.60 mV	2.75 mV
1 V/div	3.70 mV	4.50 mV	4.90 mV

Sensitivity **50 Ω:** 1 mV–1 V/div, fully variable; **1 MΩ:** 1 mV–10 V/div, fully variable

DC Vertical Gain Accuracy
(Gain Component of DC Accuracy) ±(0.5%) FS, offset at 0 V

Channel-Channel Isolation	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

50 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

1 MΩ:

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 ±(1.0% of offset setting + 0.5%FS + 0.02% of max offset + 1mV)

Maximum Input Voltage **50 Ω:** 5 Vrms, ± 10 V Peak
1 MΩ: 400 V max. (DC + Peak AC ≤ 10 kHz)

Input Coupling 50 Ω: DC, GND; 1 MΩ: AC, DC, GND

Input Impedance 50 Ω ± 2.0%; 1 MΩ ± 2.0% || 15 pF

Bandwidth Limiters 20 MHz, 200 MHz

Rescaling Length: meters, inches, feet, yards, miles; Mass: grams, slugs; Temperature: Celsius, Fahrenheit, Kelvin;
Angle: radian, arcdeg, arcmin, arcsec, cycles, revolutions, turns; Velocity: m/s, in/s, ft/s, yd/s, miles/s;
Acceleration: m/s², in/s², ft/s², g₀; Volume: liters, cubic meters, cubic inches, cubic feet, cubic yards;
Force (Weight): Newton, grain, ounce, pound; Pressure: Pascal, bar, atmosphere (technical), atmosphere (standard),
torr, psi; Electrical: Volts, Amps, Watts, Volt-Amperes, Volt-Amperes reactive, Farad, Coulomb, Ohm, Siemen,
Volt/meter, Coulomb/m², Farad/meter, Siemen/meter, power factor; Magnetic: Weber, Tesla, Henry, Amp/meter,
Henry/meter; Energy: Joule, BTU, calorie; Rotating Machine: radian/second, frequency, revolution/second,
revolution/minute, N·m, lb·ft, lb·in, oz·in, Watt, horsepower; Other: %

Horizontal - Analog Channels

Timebases	Internal timebase common to 4 input channels		
Time/Division Range	20 ps/div - 5 ks/div with standard memory (up to 10 ks/div with -L memory, 25 ks/div with -XL memory); RIS available at ≤ 10 ns/div; Roll Mode available at ≥ 100 ms/div and ≤ 5 MS/s		
Clock Accuracy	±2.5 ppm + 1.0ppm/year from calibration		
Sample Clock Jitter	Up to 10 ms acquired time range: 280 fsrms (internal timebase reference)		
Delta Time Measurement Accuracy	$\sqrt{2} * \sqrt{\left(\frac{\text{Noise}}{\text{SlewRate}}\right)^2} + (\text{Sample Clock Jitter})^2 \text{ (RMS)} + (\text{clock accuracy} * \text{reading}) \text{ (seconds)}$		
Jitter Measurement Floor	$\sqrt{\left(\frac{\text{Noise}}{\text{SlewRate}}\right)^2} + (\text{Sample Clock Jitter})^2 \text{ (RMS, seconds, TIE)}$		
Jitter Between Channels	Analog Channels: 2 psrms (TIE, typical) Digital Channels: 350 ps (maximum) between any two channels Analog-Digital Channels: <5ns (maximum) between any analog and any digital channel		
Channel-Channel Deskew Range	±9 x time/div. setting, 100 ms max., each channel		
External Timebase Reference (Input)	10 MHz ±25 ppm at 0 to 10 dBm into 50 Ohms		
External Timebase Reference (Output)	10 MHz, 2.0 dBm ±1.5 dBm, sinewave synchronized to reference being used (internal or external reference)		

HDO6034B

HDO6054B, HDO6054B-MS

HDO6104B, HDO6014B-MS

Acquisition - Analog Channels

Sample Rate (Single-Shot)	10 GS/s on all 4 Channels with Enhanced Sample Rate
Sample Rate (Repetitive)	125 GS/s, user selectable for repetitive signals (20 ps/div to 10 ns/div)
Memory Length (Number of Segments in Sequence Acquisition Mode)	Standard: 50 Mpts/ch for all channels (30,000 segments) Option - L: 100 Mpts/ch for all channels (60,000 segments) Option -XL: 250 Mpts/ch for all channels (65,000 segments)
Intersegment Time	1.25 μ s
Averaging	Summed averaging to 1 million sweeps; continuous averaging to 1 million sweeps
Interpolation	Linear or Sin x/x (2 pt and 4 pt); 5 or 10 GS/s Enhanced Sample Rate defaults to 2 pt or 4 pt Sin x/x respectively

Vertical, Horizontal, Acquisition - Digital Channels (-MS Models only)

Maximum Input Frequency	250 MHz
Minimum Detectable Pulse Width	1 ns
Input Dynamic Range	± 20 V
Input Impedance (Flying Leads)	100 k Ω 5 pF
Input Channels	16 Digital Channels
Maximum Input Voltage	± 30 V Peak
Minimum Input Voltage Swing	400 mV
Threshold Groupings	Pod 2: D15 to D8, Pod 1: D7 to D0
Threshold Selections	TTL, ECL, CMOS (2.5 V, 3.3 V, 5 V), PECL, LVDS or User Defined
Threshold Accuracy	$\pm$ (3% of threshold setting + 100 mV)
User Defined Threshold Range	± 10 V in 20 mV steps
User Defined Hysteresis Range	100 mV to 1.4 V in 100 mV steps
Sample Rate	1.25 GS/s
Record Length	Standard: 50 MS Optional -L: 100 MS Optional -XL: 125 MS
Channel-to-Channel Skew	350 ps

Triggering System

Modes	Normal, Auto, Single, and Stop		
Sources	Any input channel, Ext, Ext/10, or Line; slope and level unique to each source (except Line)		
Coupling	DC, AC, HFRej, LFRaj		
Pre-trigger Delay	0-100% of memory size		
Post-trigger Delay	0-10,000 Divisions in real time mode, limited at slower time/div settings or in roll mode		
Hold-off	From 2 ns up to 20 s or from 1 to 99,999,999 events		
Trigger and Interpolator Jitter	≤ 4.0 ps rms (typical) <0.1 ps rms (typical, software assisted)	≤ 3.5 ps rms (typical) <0.1 ps rms (typical, software assisted)	≤ 3.5 ps rms (typical) <0.1 ps rms (typical, software assisted)
Internal Trigger Level Range	± 4.1 div from center (typical)		
External Trigger Level Range	Ext (± 400 mV); Ext/10 (± 4 V)		
Maximum Trigger Rate	800,000 waveforms/sec (in Sequence Mode, up to 4 channels)		
Trigger Sensitivity with Edge Trigger (Ch 1-4)	0.9 division @ < 10 MHz 1.0 divisions @ < 200 MHz 2.0 divisions @ < 350 MHz	0.9 division @ < 10 MHz 1.0 divisions @ < 200 MHz 1.5 divisions @ < 250 MHz 2.0 divisions @ < 500 MHz	0.9 division @ < 10 MHz 1.0 divisions @ < 200 MHz 1.5 divisions @ < 500 MHz 2.0 divisions @ < 1 GHz
External Trigger Sensitivity, Edge Trigger	0.9 division @ < 10 MHz 1.0 divisions @ < 200 MHz 2.0 divisions @ < 350 MHz	0.9 division @ < 10 MHz 1.0 divisions @ < 200 MHz 1.5 divisions @ < 250 MHz 2.0 divisions @ < 500 MHz	0.9 division @ < 10 MHz 1.0 divisions @ < 200 MHz 1.5 divisions @ < 500 MHz 2.0 divisions @ < 1 GHz
Max. Trigger Frequency, SMART Trigger	350 MHz	500 MHz	1 GHz

HDO6034B

HDO6054B, HDO6054B-MS

HDO6104B, HDO6104B-MS

Trigger Types

Edge	Triggers when signal meets slope (positive, negative, or either) and level condition.
Width	Triggers on positive or negative glitches with selectable widths. Minimum width: 1.5 ns, maximum width: 20 s
Glitch	Triggers on positive or negative glitches with selectable widths. Minimum width: 1.5 ns, maximum width: 20 s
Window	Triggers when signal exits a window defined by adjustable thresholds.
Pattern	Logic combination (AND, NAND, OR, NOR) of 5 inputs (4 channels and external trigger input). Each source can be high, low, or don't care. The high and low level can be selected independently. Triggers at start or end of pattern.
Runt	Trigger on positive or negative runs defined by two voltage limits and two time limits. Select between 1 ns and 20 ns.
Slew Rate	Trigger on edge rates. Select limits for dV, dt, and slope. Select edge limits between 1 ns and 20 ns.
Interval	Triggers on intervals selectable between 1 ns and 20 s.
Dropout	Triggers if signal drops out for longer than selected time between 1 ns and 20 s.
Measurement	Select from a large number of measurement parameters to trigger on a measurement value with qualified limits.
Multi-stage: Qualified	Triggers on any input source only if a defined state or edge occurred on another input source. Delay between sources is selectable by time or events (Note: event B pattern trigger cannot include analog channels).
Multi-stage: Qualified First	In Sequence acquisition mode, triggers repeatedly on event B only if a defined pattern, state or edge (event A) is satisfied in the first segment of the acquisition. Holdoff between sources is selectable by time or events (Note: event B pattern trigger cannot include analog channels).
Multi-Stage: Cascade (Sequence) Trigger, Capability	Arm on "A" event, then Trigger on "B" event. Or Arm on "A" event, then Qualify on "B" event, and Trigger on "C" event
Multi-Stage: Cascade (Sequence) Trigger, Types	Cascade A then B: Edge, Window, Pattern (Logic) Width, Glitch, Interval, Dropout, or Measurement. Measurement can be on Stage B only. Cascade A then B then C (Measurement): Edge, Window, Pattern (Logic), Width, Glitch, Interval, Dropout, or Measurement. Measurement can be on Stage C only. Cascade A then B then C: Edge, Window, Pattern (Logic)
Multi-Stage: Cascade (Sequence) Trigger, Holdoff	Holdoff between A and B or B and C is selectable by time or number of events. Measurement trigger selection as the last stage in a Cascade precludes a holdoff setting between the prior stage and the last stage.

Zone Trigger (Optional)

Zone shapes	Draw Rectangles and tap-and-draw custom shapes.
Channels	Create zone areas on any analog channel simultaneously.
Number of Areas	Supports up to 50 unique zone areas and supporting Boolean logic.
Zone Trigger Conditions	Each Area condition is set as the waveform must be "In", "Out", or "Don't Care".
Boolean Logic Equation	Build special custom logic trigger equations ie. (A1 and not A2) or (A3 and A4)
Visual Status indicators	Each created area and the descriptor have real-time status LED indicators. Know if the trigger is waiting, processed and failed to meet zone conditions or passed, meaning it met all conditions and was displayed.
Zone Troubleshooting	A special Pass-Thru mode helps troubleshoot when triggers aren't occurring.
Zone Save and Recall	Save a special zone Area setup file and recall just the zone areas.

Low Speed Serial Protocol Triggering (Optional)

Please refer to the Oscilloscope Features, Options, and Accessories Catalog for the latest offerings on all our instruments

Measurement Tools

Measurement Functionality	Display up to 8 measurement parameters together with statistics including mean, minimum, maximum, standard deviation, and total number. Each occurrence of each parameter is measured and added to the statistics table. Histicons provide a fast, dynamic view of parameters and waveshape characteristics. Parameter math allows addition, subtraction, multiplication, or division of two different parameters. Parameter gates define the location for measurement on the source waveform. Parameter accept criteria define allowable values based on range setting or waveform state.
Measurement Parameters - Horizontal and Jitter	Cycles (number of), Delay (from trigger, 50%), Δ Delay (50%), Duty Cycle (50%, @level), Edges (number of, @level), Fall Time (90-10, @levels), Frequency (50%, @level), Half Period (@level), Hold Time (@level), N Cycle Jitter (peakpeak), Number of Points, Period (50%, @level), Δ Period (@level), Phase (@level), Rise Time (10-90, @levels), Setup (@levels), Skew (@levels), Slew Rate (@levels), Time Interval Error (@level), Time (@level), Δ Time (@level), Width (50%, @level), Δ Width (@level), X(value)@max, X(value)@min
Measurement Parameters - Vertical	Amplitude, Base, Level@X, Maximum, Mean, Median, Minimum, Peak-to-Peak, RMS, Std. Deviation, Top
Measurement Parameters - Pulse	Area, Base, Fall Time (90-10, 80-20, @levels), Overshoot (positive, negative), Rise Time (10-90, 80-20, @levels), Top, Width (50%)
Measurement Parameters - Statistical (on Histograms)	Full Width (@HalfMax, @%), Amplitude, Base, Peak@MaxPopulation, Maximum, Mean, Median, Minimum, Mode, Range, RMS, Std. Deviation, Top, X(value)@Peak, Peaks (number of), Percentile, Population (@bin, total)

Math Tools

Math Functionality	Display up to 8 math functions traces (F1-F8). The easy-to-use graphical interface simplifies setup of up to two operations on each function trace, and function traces can be chained together to perform math-on-math.
Math Operators - Basic Math	Average (summed), Average (continuous), Difference (-), Envelope, Floor, Invert (negate), Product (x), Ratio (/), Reciprocal, Rescale (with units), Roof, Sum (+)
Math Operators - Digital (incl. with -MS Models)	Digital AND, Digital DFlipFlop, Digital NAND, Digital NOR, Digital NOT, Digital OR, Digital XOR
Math Operators - Filters	Enhanced Resolution (ERes) to 15 bits vertical, Interpolate (cubic, quadratic, sinx/x)
Math Operators - Frequency Analysis	FFT (power spectrum, magnitude, phase, power density, real, imaginary, magnitude squared) up to full analysis memory length. Select from Rectangular, VonHann, Hamming, FlatTop and Blackman Harris windows.
Math Operators - Functions	Absolute value, Correlation (two waveforms), Derivative, Deskew (resample), Exp (base e), Exp (base 10), Integral, Invert (negate), Log (base e), Log (base 10), Reciprocal, Rescale (with units), Square, Square Root, Zoom (identity)
Math Operators - Other	Segment, Sparse

HDO6034B

HDO6054B, HDO6054B-MS

HDO6104B, HDO6104B-MS

Measurement and Math Integration

Histogram of statistical distributions of up to 2 billion measurements. Trend (datalog) of up to 1 million measurements. Track (measurement vs. time, time-correlated to acquisitions) of any parameter. Persistence histogram and persistence trace (mean, range, sigma).

Pass/Fail Testing

Display up to 8 Pass/Fail queries using a Single or Dual Parameter Comparison (compare All values, or Any value $<$, $\leq$, $=$, $>$, $\geq$, within limit $\pm\Delta$ value or %) or Mask Test (pre-defined or user-defined mask, waveform All In, All Out, Any In, or Any Out conditions). Combine queries into a boolean expression to Pass or Fail IF "All True", "All False", "Any True", "Any False", or groups of "All" or "Any", with following THEN Save (waveforms), Stop (test), (sound) Alarm, (send) Pulse, (save) LabNotebook or other User(-defined) Action.

Display System

Size	Color 15.6" widescreen capacitive touch screen
Resolution	Full HD (1920 x 1080 pixels)
Number of Traces	Display a maximum of 16 traces. Simultaneously display channel, zoom, memory and math traces.
Grid Styles	Auto, Single, Dual, Triplex, Quad, Octal, Tandem, Triad, Quattro, Twelve, Sixteen, X-Y, Single+X-Y, Dual+X-Y
Waveform Representation	Sample dots joined, or sample dots only

Processor/CPU

Type	Intel® Core 3-201E Quad Core, 3.6 GHz (or better)
Processor Memory	16 GB standard
Operating System	Microsoft Windows® 11
Real Time Clock	Date and time displayed with waveform in hardcopy files. SNTP support to synchronize to precision internal clocks.

Connectivity

Ethernet Port	1 x 2.5 Gbps and 1 x 1 Gbps Ethernet interface (RJ45 port)
USB Host Ports	4 side USB 3.2 Gen2 ports, 2 front USB 3.1 Gen1 ports
USB Device Port	1 USBTMC over USB 2.0 port
GPIO Port (Optional)	Supports IEEE-488.2 (External)
External Monitor Port	1 x DisplayPort 1.4a port, supports up to 7680x4320 @ 60 Hz 1 x HDMI 2.0b port, supports up to 5120x2880 @ 30 Hz 1 x HDMI 1.4a port, supports up to 3840x2160 @ 30 Hz
Remote Control	Microsoft COM Automation or LeCroy Remote Command Set
Network Communication Standard	VICP or VXI-11, LXI Compatible

Power Requirements

Voltage	100-240 VAC ($\pm 10\%$) at 50/60/400 Hz ($\pm 5\%$)
Nominal Power Consumption	220 W / 220 VA
Max Power Consumption	320 W / 320 VA

Environmental

Temperature (Operating)	+5 °C to +40 °C
Temperature (Non-Operating)	-20 °C to +60 °C
Humidity (Operating)	5% to 90% relative humidity (non-condensing) up to +31 °C Upper limit derates to 50% relative humidity (non-condensing) at +40 °C
Humidity (Non-Operating)	5% to 95% relative humidity (non-condensing) as tested per MIL-PRF-28800F
Altitude (Operating)	Up to 10,000 ft (3048 m) at or below +30 °C
Altitude (Non-Operating)	Up to 40,000 ft (12,192 m)
Random Vibration (Operating)	0.31 grms 5 Hz to 500 Hz, 20 minutes in each of three orthogonal axes
Random Vibration (Non-Operating)	2.4 grms 5 Hz to 500 Hz, 15 minutes in each of three orthogonal axes
Functional Shock	30 g peak, half sine, 11 ms pulse, 3 shocks (positive and negative) in each of three orthogonal axes, 18 shocks total

Size and Weight

Dimensions (HWD)	13.8" H x 17.5" W x 6.7" D (352 mm x 445 mm x 170 mm)
Weight	21 lbs (9.8 kg)

Certifications

CE Certification	CE compliant, UL and cUL listed; conforms to UL 61010-1 (3rd Edition), UL 61010-2-030 (1st Edition)
UL and cUL Listing	CAN/CSA C22.2 No. 61010-1-12

Warranty and Service

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

WaveSource Arbitrary Waveform Generator (all models)

General	
Max Frequency	25 MHz
Sample Rate	125 MS/s
Arbitrary Waveform Length	16 kpts
Output Amplitude	4 mVpp - 6 Vpp (HiZ); 2 mVpp - 3 Vpp (50 Ω)
Waveform Types	Sine, Square, Pulse, Triangle, DC, Noise, Arbitrary Waveform

Frequency Specification	
Sine	1 μ Hz - 25 MHz
Square/Pulse	1 μ Hz - 10 MHz
Triangular	1 μ Hz - 300 KHz
DC Output	± 3 V (HiZ); ± 1.5 V (50 Ω)
Noise	25 MHz (-3 dB)
Arbitrary Waveform	1 μ Hz - 3 MHz

Product Description	Product Code
HDO6000B Oscilloscopes	
350 MHz, 4 Ch, 12 Bits, 10 GS/s, 50 Mpts/Ch High Definition Oscilloscope with 15.6" 1920x1080 capacitive touch screen and 4K extended desktop	HDO6034B
500 MHz, 4 Ch, 12 Bits, 10 GS/s, 50 Mpts/Ch High Definition Oscilloscope with 15.6" 1920x1080 capacitive touch screen and 4K extended desktop	HDO6054B
1 GHz, 4 Ch, 12 Bits, 10 GS/s, 50 Mpts/Ch High Definition Oscilloscope with 15.6" 1920x1080 capacitive touch screen and 4K extended desktop	HDO6104B

HDO6000B-MS Mixed Signal Oscilloscopes	
500 MHz, 4 Ch, 12 Bits, 10 GS/s, 50 Mpts/Ch High Definition Mixed Signal Oscilloscope with 15.6" 1920x1080 capacitive touch screen and 4K extended desktop	HDO6054B-MS
1 GHz, 4 Ch, 12 Bits, 10 GS/s, 50 Mpts/Ch High Definition Mixed Signal Oscilloscope with 15.6" 1920x1080 capacitive touch screen and 4K extended desktop	HDO6104B-MS

Included with Standard Configurations (HDO6000B and HDO6000B-MS)
 ÷10 Passive Probe (Qty. 4), Getting Started Guide, Anti-virus Software (Trial Version), Microsoft Windows® 11, Removable Solid State Drive, Commercial NIST Traceable Calibration with Certificate, Power Cable for the Destination Country, Protective Front Cover, 3-year Warranty

Included with HDO6000B-MS
 16 Channel Digital Leadset, Extra Large Gripper Probe Set (Qty. 22), Ground Extenders (Qty. 20), Flexible Ground Leads (Qty. 5)

Memory Options	
100 Mpts/ch memory Option	HDO6KB-L
250 Mpts/ch Memory Option	HDO6KB-XL

CPU, Computer, and Other Hardware Options	
Additional Removable Solid State Drive	HDO6KB-SSD-02
32 GB RAM Upgrade	HDO6KB-UPG-32GBRAM*
64 GB RAM Upgrade	HDO6KB-UPG-64GBRAM
WaveSource Arbitrary Function Generator	HDO6KB-AFG

* 32 GB RAM upgrade is included with all Memory Options

Serial Trigger and Decode Options	
100Base-T1 Trigger, Decode, Measure/Graph, and Physical Layer Option	HDO6K-100BASE-T1 TDMP
100Base-T1 Trigger & Decode	HDO6K-100Base-T1bus TD
10Base-T1S Trigger, Decode, Measure/Graph, and Eye Diagram Option	HDO6K-10BASE-T1S TDME
10Base-T1S Trigger and Decode Option	HDO6K-10BASE-T1S TD
MIL-STD-1553 Trigger & Decode	HDO6K-1553 TD
MIL-STD-1553 Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-1553 TDME
ARINC 429 Bus Symbolic Decode, Measure/Graph, and Eye Diagram	HDO6K-ARINC429BUS DME SYMBOLIC
ARINC 429 Symbolic Decode	HDO6K-ARINC429bus DSymbolic
Audiobus Trigger and Decode	HDO6K-Audiobus TD
Audiobus Trigger, Decode, And Graph	HDO6K-Audiobus TDG
CAN FD Trigger & Decode	HDO6K-CAN FDbus TD
CAN FD Symbolic Trigger, Decode, and Measure/Graph, and Eye Diagram	HDO6K-CAN FDBUS TDME SYMBOLIC
CAN and CAN FD Trigger and Decode Option	HDO6K--CAN FDbus TD
CAN Symbolic Trigger, Decode, and Measure/Graph, and Eye Diagram	HDO6K-CANBUS TDME SYMBOLIC
CAN/ CAN FD/ CAN XL Trigger and Decode	HDO6K-CAN XL TD
CAN /CAN FD/ CAN XL Symbolic Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-CAN XL TDME SYMBOLIC

Product Description	Product Code
Serial Trigger and Decode Options (cont'd)	
DigRF 3G Decode	HDO6K-DigRF3Gbus D
DigRF v4 Decode	HDO6K-DigRFv4bus D
D-PHY Decode	HDO6K-DPHYbus D
DisplayPort AUX Trigger and Decode	HDO6K-DPAUX TD
DisplayPort AUX Trigger, Decode, Measure/Graph, and Physical Layer Option	HDO6K-DPAUX TDMP
I2C, SPI and UART-RS232 Trigger & Decode	HDO6K-EMB TD
I2C, SPI, UART-RS232 Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-EMB TDME
ENET Decode	HDO6K-ENETbus D
FlexRay Trigger & Decode	HDO6K-FlexRaybus TD
FlexRay Trigger, Decode, Measure/Graph and Physical Layer	HDO6K-FLEXRAYBUS TDMP
I2C Bus Trigger & Decode	HDO6K-I2Cbus TD
I2C Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-I2CBUS TDME
I3C Bus Trigger & Decode	HDO6K-I3Cbus TD
I3C Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-I3Cbus TDME
LIN Trigger & Decode	HDO6K-LINbus TD
LIN Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-LINBUS TDME
MDIO Decode	HDO6K-MDIObus D
NRZ and Manchester Trigger and Decode	HDO6K-NRZ-Manchester TD
PMBus Trigger & Decode	HDO6K-PMBUS TD
PMBus Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-PMBUS TDME
QSPI (Simple Data, Dual-, Quad-SPI) Trigger and Decode	HDO6K-QSPI TD
SENT Trigger & Decode	HDO6K-SENTbus TD
SENT Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-SENTbus TDME
SpaceWire Decode	HDO6K-SpaceWirebus D
SPI Bus Trigger and Decode	HDO6K-SPIbus TD
SPI Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-SPIBUS TDME
SPMI Trigger and Decode	HDO6K-SPMIBUS TD
SPMI Trigger, Decode, Measure/Graph & Eye Diagram	HDO6K-SPMIBUS TDME
SMBus Trigger & Decode	HDO6K-SMBUS TD
SMBus Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-SMBUS TDME
UART and RS-232 Trigger & Decode	HDO6K-UART-RS232bus TD
UART-RS232 Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-UART-RS232BUS TDME
USB2-HSIC Decode	HDO6K-USB2-HSICbus D
USB 2.0 Trigger and Decode	HDO6K-USB2bus TD
USB 2.0 Trigger, Decode, Measure/Graph, and Eye Diagram	HDO6K-USB2BUS TDME
USB Power Delivery Trigger & Decode	HDO6K-USBPD TD
USB Power Delivery Trigger, Decode, Measure/Graph, and Physical Layer	HDO6K-USBPD TDMP
USB4-SB Trigger and Decode	HDO6K-USB4SB TD
USB4-SB Trigger, Decode, Measure/Graph, and PHY Measurement	HDO6K-USB4SB TDMP

Serial Data Analysis Options	
NRZ Serial Data Analysis Framework, Eye, Jitter, Noise and Crosstalk Measurements	HDO6K-SDAX-NRZ
PAM Serial Data Expert Analysis Framework, Eye, Jitter and Noise Measurements	HDO6K-SDAX-PAM
Serial Data Mask Option	HDO6K-SDM

Serial Data Compliance Test Software	
QualiPHY 10Base-T1L Compliance Software	QPHY-10Base-T1L
QualiPHY 10Base-T1S Compliance Software	QPHY-10Base-T1S
QualiPHY 100Base-T1 Compliance Software	QPHY-100Base-T1
QualiPHY Ethernet 10/100/1000BT Software	QPHY-ENET
QualiPHY MOST50 ePHY Compliance Software	QPHY-MOST50
QualiPHY USB 2.0 Compliance Software for Low Speed and Full Speed data rates	QPHY-USB

ORDERING INFORMATION

Product Description

Product Code

Serial Data Test Fixtures

USB4 Sideband Test Coupon Fixtures	TF-USB-C-SB
USB4 High-speed and Sideband Test Coupon Fixture	TF-USB-C-HS
Test Fixture HMTD-Connector (m) to SMA (f)	TF-AUTO-HMTD
Automotive Ethernet Breakout Test Fixture for 100Base-T1 and 1000Base-T1 Debug	TF-AUTO-ENET
Test Fixture MATenet-Connector(m) to SMA(f)	TF-AUTO-MATENET
4 pack of SMA Connector boards for TF-AUTO-ENET	TF-AUTO-ENET-SMA
Test Fixture Mini-50-Connector(m) to SMA(f)	TF-AUTO-MINI50

Power Analysis Software

Power Device Analysis Option	HDO6K-POWER-DEVICE
Power Analyzer Software	HDO6K-PWR
Digital Power Management Analysis Software	HDO6K-DIG-PWR-MGMT
3-Phase Power Analysis Software	HDO6K-THREEPHASEPOWER
3-Phase Power Harmonics Calculation Software (requires HDO6K-THREEPHASEPOWER)	HDO6K-THREEPHASEHARMONICS
3-Phase Power Vector Display	HDO6K-THREEPHASEVECTOR
3-Phase dq0 Transform Option	HDO6K-THREEPHASEDQ0

Jitter Analysis Software

Clock Expert Jitter Analysis Framework with SSC, Phase Noise, and Accumulated Jitter Analysis	HDO6K-CLOCK-X-PRO
Clock Expert Jitter Analysis Framework	HDO6K-CLOCK-X
Clock and Clock-Data Timing Jitter Analysis Package	HDO6K-JITKIT

Digital Filtering Software

DFF2 Digital Filter Option	HDO6K-DFF2
----------------------------	------------

Other Software Options

MAUI Studio Pro Offline Remote and PC Analysis Software License	MAUI Studio Pro
Spectrum Analysis Option (1 Trace)	HDO6K-SPECTRUM-1
Spectrum Analysis Option (2 Traces + Reference)	HDO6K-SPECTRUM-PRO-2R
Advanced Customization Option	HDO6K-XDEV
EMC Pulse Parameter Software Package	HDO6K-EMC
Zone Trigger	HDO6K-ZONETRIGGER

Remote Control/Network Options

External GPIB Accessory	USB2-GPIB
-------------------------	-----------

General Accessories

Soft Carrying Case	WPHD-CARRYCASE
HDO6000B Rackmount Kit	HDO6KB-RACKMOUNT

Customer Service

Teledyne LeCroy oscilloscopes and probes are designed, built, and tested to ensure high reliability. In the unlikely event you experience difficulties, our digital oscilloscopes are fully warranted for three years and our probes are warranted for one year.

This warranty includes:

- No charge for return shipping
- Long-term 7-year support
- Upgrade to latest software at no charge

 **TELEDYNE** | LECROY

1-800-5-LeCroy
teledynelecroy.com

Product Description

Product Code

Probes

High Voltage Optically Isolated Probe, 350 MHz Bandwidth.	DL03-ISO
High Voltage Optically Isolated Probe, 700 MHz Bandwidth.	DL07-ISO
High Voltage Optically Isolated Probe, 1 GHz Bandwidth.	DL10-ISO
500 MHz Passive Probe, 2.5mm, 10:1, 10 M Ω	PP023-1
500 MHz Passive Probe, 5mm, 10:1, 10 M Ω	PP026-1
High Voltage Fiber Optic Probe, 150 MHz	HVFO108
TekProbe to ProBus Probe Adapter	TPA10
Power/Voltage Rail Probe. 2 GHz bandwidth, 1.2x attenuation, +/-60V offset, +/-800mV	RP2060
Power/Voltage Rail Probe. 4 GHz bandwidth, 1.2x attenuation, +/-60V offset, +/-800mV	RP4060
1 GHz, 0.9 pF, 1 M Ω High Impedance Active Probe	ZS1000
1.5 GHz, 0.9 pF, 1 M Ω High Impedance Active Probe	ZS1500
30 A, 10 MHz Current Probe - AC/DC, 30 A rms, 50 A Peak Pulse, 3 meter cable	CP030B-3M
30A, 50 MHz High Sensitivity Current Probe - AC/DC, 30 A _{rms} , 50 A _{peak} Pulse, 1.5 meter cable	CP030B
30 A, 100 MHz Current Probe - AC/DC; 30 A _{rms} ; 50 A _{peak} Pulse	CP031
30A, 100 MHz High Sensitivity Current Probe - AC/DC, 30 A _{rms} , 50 A _{peak} Pulse, 1.5 meter cable	CP031A
150 A; 10 MHz Current Probe - AC/DC; 150 A _{rms} ; 500 A _{peak} Pulse	CP150B
150 A, 5 MHz Current Probe - AC/DC, 150 A rms, 500 A Peak Pulse, 6 meter cable	CP150B-6M
500 A; 2 MHz Current Probe - AC/DC; 500 A _{rms} ; 700 A _{peak} Pulse	CP500
Deskew Calibration Source	DCS025
Programmable Current Sensor to ProBus Adapter (for third-party current sensors)	CA10
500 MHz, Active Differential Probe ($\div 1$, $\div 10$, $\div 100$)	AP033
250 MHz 60 V Common Mode Differential Probe	DL02-HCM
500 MHz 60 V Common Mode Differential Probe	DL05-HCM
1 GHz 60 V Common Mode Differential Probe	DL10-HCM
500 MHz, 1.0 pF Active Differential Probe, ± 8 V	ZD500
1 GHz, 1.0 pF, 1 M Ω Active Differential Probe, ± 8 V	ZD1000
1.5 GHz, 1.0 pF Active Differential Probe, ± 8 V	ZD1500
1,500 V, 25 MHz High-Voltage Differential Probe	HVD3102A
1kV, 25 MHz High Voltage Differential Probe without tip Accessories)	HVD3102A-NOACC
1,500 V, 120 MHz High-Voltage Differential Probe	HVD3106A
1kV, 120 MHz High Voltage Differential Probe without tip Accessories	HVD3106A-NOACC
1kV, 80 MHz High Voltage Differential Probe with 6m cable	HVD3106A-6M
2kV, 120 MHz High Voltage Differential Probe	HVD3206A
2kV, 80 MHz High Voltage Differential Probe with 6m cable	HVD3206A-6M
6kV, 100 MHz High Voltage Differential Probe	HVD3605A
2kV, 400 MHz High Voltage Differential Probe	HVD3220
400 MHz, 1kV Vrms High-Voltage Passive Probe	HVP120
6kV High Voltage Passive Probe, 500 MHz	PPE6KV-A