

# Oscilloscope selection chart



	4000 Series (MSO4000, DPO4000)	DPO3000 Series	TDS3000C Series	TPS2000 Series	TDS2000B Series	TDS1000B Series
<b>Channels</b>	Analog Digital	2 <sup>*1</sup> , 4 16 <sup>*4</sup>	2, 4 –	2, 4 –	2, 4 Isolated –	2, 4 –
<b>Bandwidth</b>	350 MHz to 1 GHz	100 MHz to 500 MHz	100 MHz to 500 MHz	100 MHz to 200 MHz	60 MHz to 200 MHz	40 MHz to 100 MHz
<b>Rise Time</b>	1.0 ns to 350 ps	3.5 ns to 700 ps	3.5 ns to 700 ps	3.5 ns to 2.1 ns	5.8 ns to 2.1 ns	8.4 ns to 3.5 ns
<b>Sample Rate (Real-time)</b>	2.5 GS/s to 5 GS/s	2.5 GS/s	1.25 GS/s to 5 GS/s	1 GS/s to 2 GS/s	1 GS/s to 2 GS/s	500 MS/s to 1 GS/s
<b>Record Length (Max)</b>	10 M	5 M	10 k	2.5 k	2.5 k	2.5 k
<b>Digital Channel Characteristics<sup>2</sup></b>	Main: 500 MS/s, 10 M record length MagniVu™: 16.5 GS/s, 10 k record length (centered at the trigger)	–	–	–	–	–
<b>Trigger Types</b>	Edge, Sequence, Logic, Pulse Width, Runt, Multi-channel Set-up and Hold, Rise/Fall Time, Video, FC <sup>3</sup> , SPI <sup>2</sup> , CAN <sup>2</sup> , LIN <sup>2</sup> , FlexRay <sup>4</sup> , RS-232/422/485/UART <sup>2</sup> , Extended Video <sup>2</sup> , Parallel <sup>4</sup>	Edge, Sequence, Logic, Pulse Width, Runt, Set-up and Hold, Rise/Fall Time, Video, Extended Video <sup>2</sup> , FC <sup>3</sup> , SPI <sup>2</sup> , CAN <sup>2</sup> , LIN <sup>2</sup> , RS232/422/485/UART <sup>2</sup>	Edge, Logic, Pulse, Video, Extended Video <sup>2</sup> , Comm <sup>1</sup>	Edge, Pulse, Video	Edge, Pulse, Video	Edge, Pulse, Video
<b>Connectivity and Storage</b>	USB host for storage USB device for PC connectivity, CompactFlash, LAN, (10/100Base-T Ethernet), GPIO <sup>2</sup>	USB host for storage, USB device for PC connectivity, LAN, (10/100Base-T Ethernet), GPIO <sup>2</sup>	USB host for storage, Ethernet (10Base-T), RS-232 <sup>2</sup> , GPIO <sup>2</sup>	RS-232, Centronics, CompactFlash	USB host for storage, USB device for PC connectivity or direct print, GPIO <sup>2</sup>	USB host for storage, USB device for PC connectivity or direct print, GPIO <sup>2</sup>
<b>Waveform Math and Analysis</b>	Waveform math (+, -, x, /), FFT, Arbitrary expression math, Connect to a PC for extended analysis on OpenChoice <sup>®</sup> or NI LabVIEW SignalExpress Tektronix Edition software	Waveform math (+, -, x, /), FFT, Arbitrary expression math, Connect to a PC for extended analysis on OpenChoice <sup>®</sup> or NI LabVIEW SignalExpress Tektronix Edition software	Waveform math (+, -, x, /), DPO math <sup>3</sup> , Arbitrary expression math <sup>3</sup> , FFT, Connect to a PC for extended analysis on OpenChoice <sup>®</sup> , NI LabVIEW SignalExpress Tektronix Edition software	Waveform math (+, -, x), FFT, Connect to a PC for extended analysis on OpenChoice <sup>®</sup> or MS Windows software	Waveform math (+, -, x), FFT, Connect to a PC for extended analysis on OpenChoice <sup>®</sup> or NI LabVIEW SignalExpress Tektronix Edition software and MS Windows software	Waveform math (+, -, x), FFT, Connect to a PC for extended analysis on OpenChoice <sup>®</sup> or NI LabVIEW SignalExpress Tektronix Edition software and MS Windows software
<b>Applications</b>	Embedded design & debug, Investigation of transient phenomena, Automotive electronics design & debug, Manufacturing test & quality control, Industrial control	Embedded design & debug, Investigation of transient phenomena, Power measurements, Video design & debug, Automotive electronics design & debug, Manufacturing test & quality control, Industrial control	Telecomm mask testing and manufacturing, Digital troubleshooting, Video design and service, Power supply design	Industrial power design and installation, Advanced electronics design and installation, Education, Automotive	Design and debug, Service and repair, Education and training, Manufacturing test and quality control	Design and debug, Service and repair, Education and training, Manufacturing test and quality control
<b>Dimensions</b>	17.3 in. (439 mm) wide x 9.0 in. (229 mm) high x 5.4 in. (137 mm) deep	16.4 in. (417 mm) wide x 8.0 in. (203 mm) high x 5.4 in. (137 mm) deep	14.8 in. (375 mm) wide x 6.9 in. (176 mm) high x 5.9 in. (149 mm) deep	13.24 in. (336 mm) wide x 6.33 in. (161 mm) high x 5.10 in. (130 mm) deep	12.85 in. (326.3 mm) wide x 6.22 in. (158.0 mm) high x 4.89 in. (124.2 mm) deep	12.85 in. (326.3 mm) wide x 6.22 in. (158.0 mm) high x 4.89 in. (124.2 mm) deep
<b>Weight</b>	11.0 lbs (5.0 kg)	9.0 lbs (4.1 kg)	7.0 lbs. (3.2 kg)	7.0 lbs. (3.2 kg) with one battery installed	4.4 lbs. (2.0 kg)	4.4 lbs. (2.0 kg)

Specifications may vary based on the model selected within the product families listed above.  
<sup>1</sup> Requires TDS3TMT module. <sup>2</sup> Optional. <sup>3</sup> Requires TDS3A4M module. <sup>4</sup> MSO4000 Series only.

For further assistance in choosing the right Tektronix oscilloscope for your needs,  
 please contact your local Tektronix representative, or visit [www.tektronix.com/oscilloscopes](http://www.tektronix.com/oscilloscopes)

Want advice on which oscilloscope will best fit your particular needs?  
 Try our interactive oscilloscope advisor at: [www.tektronix.com/oscilloscopeadvisor](http://www.tektronix.com/oscilloscopeadvisor)

## Recommended Accessories

### 4000 Series Accessories

<b>DPO4AUTO Module</b>	Automotive serial triggering and analysis module (CAN, LIN).
<b>DPO4AUTOMAX Module</b>	Automotive serial triggering and analysis module (CAN, LIN, FlexRay).
<b>DPO4EMBD Module</b>	Embedded serial triggering and analysis module (FC, SPI).
<b>DPO4COMP Module</b>	Computer serial triggering and analysis module (RS-232/422/485/UART).
<b>DPO4VID Module</b>	HDTV and custom (non-standard) video triggering module.
<b>TPA-BNC</b>	TekVPI to TekProbe BNC adapter.
<b>TEK-USB-488</b>	GPIO to USB adapter.
<b>ACD4000</b>	Soft transit case.
<b>HCTEK4321</b>	Hard carrying case (requires ACD4000).
<b>RM4000</b>	Rackmount kit.

### DPO3000 Series Accessories

<b>DPO3AUTO Module</b>	Automotive serial triggering and analysis module (CAN, LIN).
<b>DPO3EMBD Module</b>	Embedded serial triggering and analysis module (FC, SPI).
<b>DPO3COMP Module</b>	Computer serial triggering and analysis module (RS-232/422/485/UART).
<b>DPO3VID Module</b>	HDTV and custom (non-standard) video triggering module.
<b>TPA-BNC</b>	TekVPI to TekProbe BNC adapter.
<b>TEK-USB-488</b>	GPIO to USB adapter.
<b>ACD4000</b>	Soft transit case.
<b>HCTEK4321</b>	Hard carrying case (requires ACD4000).
<b>RMD3000</b>	Rackmount kit.

### TDS3000C Series Accessories

<b>TDS3GV Communication Module</b>	GPIO, VGA and RS-232 interfaces. Includes TDSPCS1 OpenChoice® software.
<b>TDS3AAM Advanced Analysis Module</b>	Adds extended math capability, arbitrary math expressions, measurement statistics and additional automated measurements.
<b>TDS3LIM Limit Testing Module</b>	Offers fast, accurate Go/No Go verification that tested circuits are operating within intended parameters.
<b>TDS3TMT Telecommunications Mask Testing Module</b>	Pass/Fail compliance testing of ITU-T G.703 and ANSI T1.102 standards, custom mask editing and more.
<b>TDS3VID Extended Video Analysis Module</b>	Adds Video QuickMenu, Autose, Holdoff, Line Count Trigger, Video Picture mode, Vectorscope mode, HDTV format triggering, graticules and more.
<b>TDS3SDI 601 Serial Digital Video Module</b>	Identify and analyze ITU-R BT.601 video signals, video picture mode with bright line select, vectorscope mode, HDTV format triggering and more.
<b>TDS3BATC</b>	Battery pack for up to 3 hours of continuous operation without line power.
<b>AC3000</b>	Soft carrying case.
<b>HCTEK4321</b>	Hard carrying case (requires AC3000).
<b>RM3000</b>	Rackmount kit.

### TPS2000 Series Accessories

<b>TPS2PBD Power Bundle</b>	Includes (4) P5120 passive, high-voltage probes and TPS2PWR1 power measurement and analysis software.
<b>TPS2PWR1 Power Software</b>	Offers instantaneous power waveform analysis, harmonics analysis, switching loss, phase angles, dv/dt and di/dt cursors.
<b>TPSBAT</b>	Battery pack for up to 4 hours battery operation. Optional second battery offers hot-swappability for 8+ hours continuous battery operation.
<b>TPSCHG</b>	External battery charger.
<b>AC2100</b>	Soft carrying case.
<b>HCTEK4321</b>	Hard carrying case (requires AC2100).

### TDS2000B and TDS1000B Series Accessories

<b>TEK-USB-488</b>	GPIO to USB adapter.
<b>AC2100</b>	Soft carrying case.
<b>HCTEK4321</b>	Hard carrying case (requires AC2100).
<b>RM2000B</b>	Rackmount kit.

## Recommended Software

### 4000 Series, DPO3000, TDS3000C, TDS2000B and TDS1000B Series Software

<b>SIGEXPT Software</b>	NI LabVIEW SignalExpress Tektronix Edition - Fully interactive measurement software environment optimized for the MSO4000, DPO4000, DPO3000, TDS3000C, TDS2000B and TDS1000B Series (Full Version).
<b>IVI Driver</b>	Provides a standard instrument programming interface for common applications such as LabVIEW, LabWindows/CVI, Microsoft .NET and MATLAB.

### TDS3000C and TPS2000 Series Software

<b>TDSPCS1 OpenChoice® Software</b>	A collection of applications that enables fast and easy documentation and analysis of measurement results <sup>1</sup> .
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## Complete Probe Solutions

<b>Passive Probes</b>	P2220 - 1/10X, 7 MHz/200 MHz passive probe P3010 - 10X, 100 MHz passive probe P6101B - 1X, 15 MHz passive probe P6139A - 10X, 500 MHz passive probe
<b>Low-capacitance Probes</b>	P6158 - 20X, 3 GHz low-capacitance probe
<b>Active Probes</b>	P6205 - 10X, 750 MHz active probe <sup>2,3</sup> P6243 - 10X, 1 GHz active probe <sup>2,3</sup> TAP1500 - 1.5 GHz TekVPI™ active probe <sup>3</sup>
<b>Differential Probes</b>	ADA400A - 100X/10X/1X/0.1X, 1 MHz differential preamplifier <sup>3,4,5</sup> P5205 - 1.3 kV, 100 MHz high-voltage differential probe <sup>3,8</sup> P5210 - 5.6 kV, 50 MHz high-voltage differential probe <sup>3,8</sup> P6246 - 1X/10X, 400 MHz differential probe <sup>2,3</sup> P6247 - 1X/10X, 1 GHz differential probe <sup>2,3</sup> TDP0500 - 500 MHz TekVPI 42V differential probe <sup>3</sup> TDP1000 - 1 GHz TekVPI 42V differential probe <sup>3</sup>
<b>Current Probes</b>	A621 - 1000 A <sub>RMS</sub> , 50 kHz current probe A622 - 70 A <sub>RMS</sub> , 100 kHz current probe P6021 - 5 A <sub>RMS</sub> , 60 MHz current probe P6022 - 2 A <sub>RMS</sub> , 120 MHz current probe TCP202 - 15 A, DC to 50 MHz current probe <sup>3</sup> TCP312 - 30 A, DC to 100 MHz current probe <sup>5</sup> TCP305 - 50 A, DC to 50 MHz current probe <sup>5</sup> TCP303 - 150 A, DC to 15 MHz current probe <sup>5</sup> TCP404XL - 750 A, DC to 2 MHz current probe <sup>6</sup> TCP0030 - 120 MHz TekVPI 30 Ampere AC/DC current probe <sup>9</sup> TCP0150 - 20 MHz TekVPI 150 Ampere AD/DC current probe <sup>9</sup> TCPA300/400 - Current measurement systems <sup>8</sup>
<b>High-Voltage Probes</b>	P5100 - 100X, 250 MHz, passive high-voltage probe P5120 - 20X, 200 MHz, passive high-voltage probe P6015A - 1000X, 75 MHz passive high-voltage probe P5200 - 50X/500X, 25 MHz, high-voltage differential probe <sup>7</sup> P5205 - 50X/500X, 100 MHz, high-voltage differential probe <sup>3,8</sup> P5210 - 100X/1000X, 50 MHz high-voltage differential probe <sup>3,8</sup>
<b>Probe Accessories</b>	NEX-HD2HEADER - Mictor connector breakout to 0.1" header pins

<sup>1</sup> Ships standard with the TPS2000 Series and TDS3GV module. <sup>2</sup> Requires 1103 TEKPROBE power supply when used with TDS1000B, TDS2000B, TDS3000C or TPS2000 Series. <sup>3</sup> Requires 1103 TEKPROBE power supply when used with TDS1000B, TDS2000B or TPS2000 Series. <sup>4</sup> Bandwidth limits: 100 Hz, 3 kHz and 100 kHz. <sup>5</sup> Used with TCPA300 amplifier. <sup>6</sup> Used with TCPA400 amplifier. <sup>7</sup> Not compatible with TPS2000 Series. <sup>8</sup> Requires TekVPI to TekProbe™ BNC adapter for use with 4000 Series and DPO3000. <sup>9</sup> 4000 Series and DPO3000 Series only.

Want advice on which oscilloscope will best fit your particular needs?  
Try our interactive oscilloscope advisor at: [www.tektronix.com/oscilloscopeadvisor](http://www.tektronix.com/oscilloscopeadvisor)

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