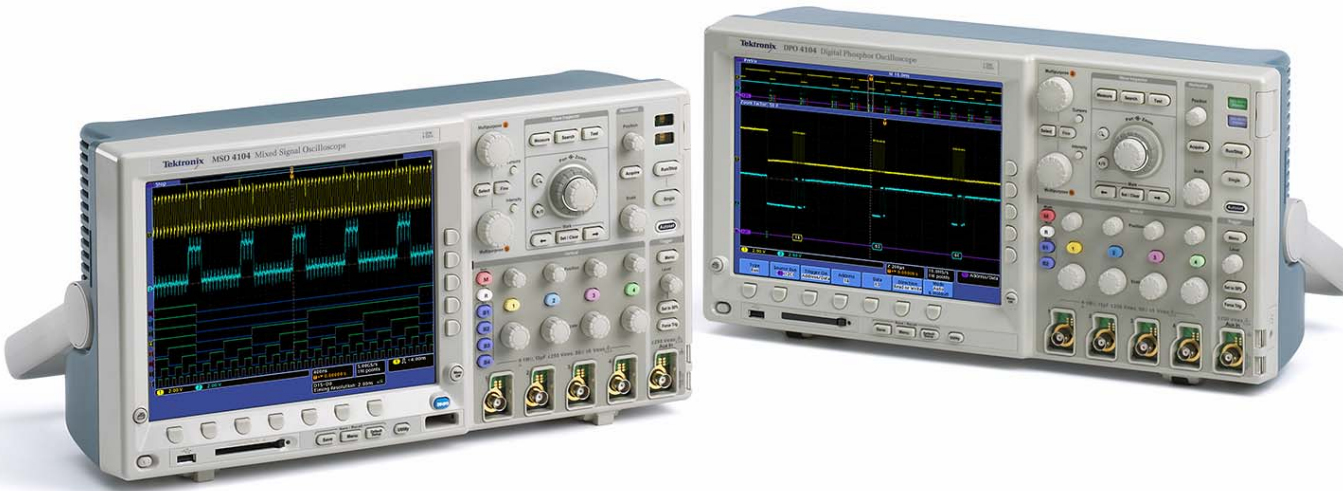


# Tektronix 4000 Series Oscilloscope Family

MSO4000 • DPO4000

Product Fact Sheet



Free up valuable bench-top space -

Dimensions: 9.0 in. (229 mm) height x 17.3 in. (439 mm) width x 5.4 in (137 mm) depth; 11 lbs (5kg) weight.

## Key Specifications

<b>Bandwidth</b>	350 MHz, 500 MHz, 1 GHz models
<b>Channels</b>	2 or 4 analog channels; plus 16 channels (MSO)
<b>Record Length</b>	10 M standard on all channels
<b>Sample Rate</b>	Up to 5 GS/s on all analog channels
<b>Display</b>	10.4 inches (264 mm); 1,024 x 768 resolution (XGA)
<b>Mass Storage</b>	Front panel USB and CompactFlash
<b>Additional</b>	<ul style="list-style-type: none"><li>▪ I<sup>2</sup>C, SPI, CAN, LIN, FlexRay, RS-232/422/485/UART serial triggering and analysis options</li><li>▪ Parallel bus decoding and triggering (MSO)</li><li>▪ Per-channel thresholds (MSO)</li><li>▪ Multi-channel set-up and hold triggering (MSO)</li></ul>

## 4000 Series Key Features & Benefits

### Wave Inspector® Controls

Efficiently view, navigate and analyze waveform data.

### Large 10.4 in. (264 mm) XGA Screen

Easily visualize on-screen data.

### Only 5.4 in. (137 mm) Deep

Free up valuable bench-top space.

### USB Plug-and-Play Connectivity

Simply transfer, analyze and document results with NI LabVIEW SignalExpress TE software.

### Serial Triggering and Analysis Options

## MSO4000 Adds...

### 16 Digital Channels

Adds basic logic analyzer functionality for mixed signal debug.

### Next-generation Digital Waveform Display

Simple waveform visualization – color-coded ones and zeros, white edge multiple transition detection, and waveform grouping.

### Industry Best Timing Resolution

60.6 ps (16.5 GS/s) digital timing resolution.

### Innovative Digital Probe Design

Simplifies connecting to the device-under-test.

[www.tektronix.com/mso4000](http://www.tektronix.com/mso4000) | [www.tektronix.com/dpo4000](http://www.tektronix.com/dpo4000)

**Tektronix**  
Enabling Innovation



Perform serial debug for common standards, including CAN, LIN, FlexRay, I<sup>2</sup>C, SPI and more!



Zoom, pan, search, set user marks and more with Wave Inspector®



Innovative digital probe design (MSO) with color-coding that is represented on-screen



## Ordering Information

Model	Analog Channels	Digital Channels	Bandwidth	Sample Rate All Analog / All Digital
<b>MSO4104</b>	4	16	1 GHz	5.0 / 16.5 GS/s
<b>DPO4104</b>	4	-	1 GHz	5.0 / -- GS/s
<b>MSO4054</b>	4	16	500 MHz	2.5 / 16.5 GS/s
<b>DPO4054</b>	4	-	500 MHz	2.5 / -- GS/s
<b>MSO4034</b>	4	16	350 MHz	2.5 / 16.5 GS/s
<b>DPO4034</b>	4	-	350 MHz	2.5 / -- GS/s
<b>MSO4032</b>	2	16	350 MHz	2.5 / 16.5 GS/s

### Application Modules

- DPO4EMBD**  
Embedded Serial Triggering and Analysis Module (FC, SPI).
- DPO4COMP**  
Computer Serial Triggering and Analysis Module (RS-232/422/485/UART).
- DPO4AUTO**  
Automotive Serial Triggering and Analysis Module (CAN, LIN).
- DPO4AUTOMAX**  
Extended Automotive Serial Triggering and Analysis Module (CAN, LIN, FlexRay).
- DPO4VID**  
HDTV and Custom Video Triggering Module.

### Impressive Performance

- Up to 1 GHz bandwidth.
- 10 M record length on every channel.
- ≥ 5x over sampling on every channel.
- 60.6 ps Digital Timing Resolution (MSO).

### Mixed Signal Debug (MSO)

- 2 or 4 analog channels, plus 16 digital channels.
- Simultaneously monitor multiple points (up to 20) of your design for both analog and digital data.
- Multi-channel setup and hold triggering.
- Parallel bus decoding and triggering.

### Serial Debug for Common Standards

- Serial bus trigger and decode (I<sup>2</sup>C, SPI, CAN, LIN, FlexRay, RS-232/422/485/UART serial triggering and analysis).<sup>\*2</sup>

### Exceptional Ease of Use

- Wave Inspector controls allow you to easily search and navigate through long memory.
- Large, high-resolution 10.4 in. (264 mm) XGA screen.
- Front panel USB and CompactFlash mass storage.
- USB plug-and-play PC connectivity.

<sup>\*2</sup> Optional

### Standard Probes and Accessories

#### All 4000 Series oscilloscopes include:

- One P6139A 500MHz, 10x Passive Probe per Channel.
- Front Cover (200-4908-00).
- CompactFlash Memory Card; 32MB (156-9413-00).
- User Manual (071-2121-xx).
- Documentation CD (063-3903-xx).
- OpenChoice® Desktop Software.
- NI LabVIEW SignalExpress™ Tektronix Edition LE Software.
- Calibration Certificate Documenting Traceability to National Metrology Institute(s) and ISO9001 Quality System Registration.
- Power cord.
- Accessory bag (016-1967-00).
- Three-year warranty.

#### MSO4000 Series oscilloscopes also include:

- One P6516 16 channel logic probe.
- One logic probe accessory kit (020-2662-xx).

### Recommended Probes and Accessories

<b>Probes</b>	▪ <b>TAP1500</b>	1.5 GHz TekVPI Active Probe.	
	▪ <b>TCP0030</b>	120 MHz TekVPI 30 Ampere AC/DC Current Probe.	
	▪ <b>TCP0150</b>	20 MHz TekVPI 150 Ampere AC/DC Current Probe.	
	▪ <b>TDP0500</b>	500 MHz TekVPI 42V Differential Probe.	
	▪ <b>TDP1000</b>	1 GHz TekVPI 42V Differential Probe.	
	▪ <b>P5205<sup>*1</sup></b>	1.3 kV, 100 MHz High-voltage Differential Probe.	
	▪ <b>P5210<sup>*1</sup></b>	5.6 kV, 50 MHz High-voltage Differential Probe.	
	▪ <b>P5100</b>	2.5 kV, 100X High-voltage Passive Probe.	
	▪ <b>ADA400A<sup>*1</sup></b>	100X, 10X, 1X, 0.1X High-gain Differential Amplifier.	
	▪ <b>NEX-HD2HEADER</b>	Mictor Connector on a Target to 0.1" Header Pins.	
<b>Accessories</b>	▪ <b>071-1844-xx</b>	Service Manual (English only).	▪ <b>119-6827-00</b> CompactFlash to USB Memory Card Reader.
	▪ <b>FPGAView-xx</b>	FPGA Support for Altera and Xilinx.	▪ <b>ACD4000</b> Soft Transit Case.
	▪ <b>SIGEXPTE</b>	NI LabVIEW SignalExpress™ Tektronix Edition Software.	▪ <b>HCTEK4321</b> Hard Transit Case (requires ACD4000).
	▪ <b>TPA-BNC</b>	TekVPI to TekProbe BNC adapter.	▪ <b>RM4000</b> Rackmount Kit.
	▪ <b>TEK-USB-488</b>	GPIO to USB adapter.	▪ <b>AMT75<sup>*1</sup></b> 1 GHz, 75 Ω adapter.

<sup>\*1</sup> Requires TekVPI™ to TekProbe BNC adapter (TPA-BNC).

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