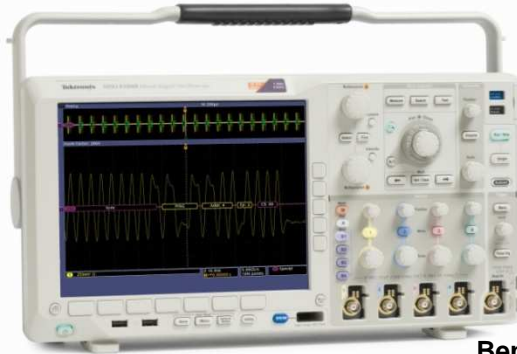


MSO/DPO4000B Series Oscilloscopes

Feature-rich tools for debugging mixed signal designs



Features

Benefits

2 or 4 analog and 16 digital channels	Analyze analog and digital signals on a single instrument for system-level troubleshooting of complex designs.
Digital phosphor display	Quickly discover glitches and infrequent events with a greater than 50,000 wfm/s waveform capture rate and intensity-graded display.
Complete set of triggers	Rapidly capture signal anomalies with over 125 available trigger combinations, including setup/hold, serial packet and parallel data.
Wave Inspector® controls	Easily search, mark and navigate long record lengths to find all occurrences of your event.
Automated Measurements	Simplify analysis of your device with 41 automated measurements, FFT analysis, measurement statistics, waveform histograms, and advanced waveform math.
Parallel bus triggering and analysis (MSO Series)	Quickly debug your parallel bus with automated trigger, decode and search. Capture fast transitions with timing resolution up to 60.6 ps.
Serial triggering and analysis options	Quickly debug common serial buses with automated trigger, decode and search – I ² C, SPI, USB, Ethernet, CAN, LIN, FlexRay, RS-232/422/485/UART, I ² S/LJ/RJ/TDM, and MIL-STD-1553.
Power analysis option	Achieve fast, accurate results with integrated automated power measurements.
Low-capacitance passive voltage probing	One probe per channel with industry-best 4pF capacitive loading and up to 1 GHz bandwidth are included standard to ensure accurate measurements

Designed to make your work easier



Wave Inspector® controls speed navigation of long waveform records

Featuring:

- 350 MHz, 500 MHz, 1 GHz models
- 2 or 4 analog channels
- 16 digital channels (MSO Series)
- Up to 20 Mpoint standard record length on all channels
- Up to 5 GS/s sample rate on all analog channels
- Up to 60.6 ps timing resolution on all digital channels with MagniVu™ high speed acquisition
- 41 automated measurements and FFT analysis
- Front panel USB host ports for data storage
- Serial bus triggering and analysis options for I²C, SPI, USB, Ethernet, CAN, LIN, FlexRay, RS-232/422/485/UART, I²S/LJ/RJ/TDM, and MIL-STD-1553
- Parallel bus triggering and analysis, including multi-channel set-up and hold triggering (MSO Series)
- Power analysis option
- Limit/Mask test option
- HDTV and custom video analysis option
- 3-year warranty

MSO/DPO4000B Series Oscilloscopes

Key specifications and ordering information

Models	Analog Channels	Analog Bandwidth	Analog Sample Rate (1/2/4 ch)	Record Length (1/2/4 ch)	Digital Channels	Digital Sample Rate Main / MagniVu™
DPO4034B	4	350 MHz	2.5/2.5/2.5 GS/s	20/20/20M	--	--
MSO4034B	4	350 MHz	2.5/2.5/2.5 GS/s	20/20/20M	16	500 MS/s / 16.5 GS/s
DPO4054B	4	500 MHz	2.5/2.5/2.5 GS/s	20/20/20M	--	--
MSO4054B	4	500 MHz	2.5/2.5/2.5 GS/s	20/20/20M	16	500 MS/s / 16.5 GS/s
DPO4102B-L	2	1 GHz	5/2.5/-- GS/s	5/5/--M	--	--
DPO4102B	2	1 GHz	5/5/-- GS/s	20/20/--M	--	--
DPO4104B-L	4	1 GHz	5/5/2.5 GS/s	5/5/5M	--	--
DPO4104B	4	1 GHz	5/5/5 GS/s	20/20/20M	--	--
MSO4102B-L	2	1 GHz	5/2.5/-- GS/s	5/5/--M	16	500 MS/s / 16.5 GS/s
MSO4102B	2	1 GHz	5/5/-- GS/s	20/20/--M	16	500 MS/s / 16.5 GS/s
MSO4104B-L	4	1 GHz	5/5/2.5 GS/s	5/5/5M	16	500 MS/s / 16.5 GS/s
MSO4104B	4	1 GHz	5/5/5 GS/s	20/20/20M	16	500 MS/s / 16.5 GS/s

Application Modules	
Serial Bus Triggering and Protocol Analysis	
DPO4AERO	Aerospace (MIL-STD 1553)
DPO4AUDIO	Audio (I ² S/LJ/RJ/TDM)
DPO4AUTO	Auto (CAN, LIN)
DPO4AUTOMAX	Auto (CAN, LIN, FlexRay)
DPO4COMP	Computer (RS-232)
DPO4EMBD	Embedded (I ² C, SPI)
DPO4ENET	Ethernet (10/100)
DPO4USB	USB 2.0 (LS, FS, HS)
Additional Analysis	
DPO4PWR	Power Analysis
DPO4LMT	Limit and Mask Testing
DPO4VID	HDTV & Custom Video Trig.

Service Options	
C3	Calibration Service 3 Years
C5	Calibration Service 5 Years
D1	Calibration Data Report
R5	Repair Service 5 Years

www.tektronix.com/mso4000

Recommended Probes and Accessories	
Passive Voltage Probes	
TPP0500	500 MHz, 10X TekVPI Low C (3.9 pF)
TPP0502	500 MHz, 2X TekVPI Low C (12.7 pF)
TPP1000	1 GHz, 10X TekVPI Low C (3.9 pF)
Active Voltage Probes	
TAP1500	1.5 GHz, 10X TekVPI
TAP2500	2.5 GHz, 10X TekVPI
Differential Voltage Probes	
TDP0500	500 MHz, 50X/500X, ±42V TekVPI
TDP1000	1 GHz, 50X/500X, ±42V TekVPI
High Voltage Probes	
TPP0850	800 MHz, 50X, 2.5 kV TekVPI
P5205A*1	100 MHz, 50X/500X, 1.3 kV Differential
Current Probes	
TCP0030	120 MHz, 30A AC/DC TekVPI
TCP0150	20 MHz, 150A AC/DC TekVPI
Accessories	
TPA-BNC	TekVPI Interface Adapter
ACD4000	Soft Carrying Case

*1 Requires TPA-BNC adapter.

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Standard Probes and Accessories
<ul style="list-style-type: none"> One TPP0500 (350 MHz and 500 MHz models) or TPP1000 (1 GHz models) Passive Voltage Probe per channel One P6616 16 Channel Logic Probe OpenChoice® Desktop and NI LabVIEW SignalExpress™ TE (LE version) Software Calibration Certificate, Quick Reference Manual & Documentation on CD Front Panel Cover, Power Cord 3-year Warranty

Key Applications	Benefits
Design and debug of embedded systems	<ul style="list-style-type: none"> Perform system-level troubleshooting with up to 20 channels Easily debug parallel and serial buses: <ul style="list-style-type: none"> –Trigger on serial packet content and parallel data –Decode common serial bus standards and defined parallel buses –Automatically search through acquired data
Investigation of transient phenomena	<ul style="list-style-type: none"> Quickly capture elusive glitches and other infrequent events with >50,000 wfms waveform capture rate Capture a long time window at high resolution with 20 Mpoints record length
Power supply design and analysis	<ul style="list-style-type: none"> Quickly and accurately analyze your design with automated power measurements

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