1 Series DPO

Digital Phosphor Oscilloscope Datasheet

All the essentials and more

The 1 Series DPO features up to 4 analog channels, 200 MHz bandwidth, 1.25 GS/s sample rate, 25 MHz AFG, frequency counter, digital voltmeter, advanced triggers, and protocol decode, all in a compact form factor. The 1 Series DPO has all the essentials you need to learn and work.

With a capacitive touchscreen and a highly intuitive user interface truly designed for touch, the 1 Series DPO completes the Tektronix family of oscilloscopes with its shared user interface and the programmatic interface. This makes it even easier to use any Tektronix next generation oscilloscope.

A large catalog of compatible probes and accessories extend the 1 Series DPO capabilities and versatility to make it suitable for a variety of applications.

Key performance specifications

Analog input channels

2 or 4 inputs

Bandwidth

50 MHz, 70 MHz, 100 MHz, 200 MHz

Sample rate

- 1.25 GS/s half channels
- 625 MS/s all channels

Waveform capture rate

Up to 200k wfm/s

Record length

10 M points per channel

Vertical resolution

12 bits ADC

Standard trigger types

Edge, pulse width, runt, timeout, logic, setup & hold, and rise/fall time

Standard analysis

- Cursors: Waveform, V bars, H bars, and V&H bars
- Measurements: 24
- Plots: XY, limit mask
- Math: Basic waveform arithmetic, FFT, and advanced equation editor

Serial trigger, decode and analysis

I^2C, SPI, and UART (RS-232/422/485)

Additional Features

- 4-digit Digital voltmeter
- 7-digit Frequency counter

Arbitrary function generator (S models only)

- 25 MHz waveform generator
- Waveform types: Arbitrary, sine, square, pulse, ramp, DC level, and random noise
- Waveform modulation: AM, FM, ASK, FSK, Sweep

Display

- 7-inch color display
- Capacitive touchscreen
- WSVGA 1024x600 resolution

Connectivity

- USB 2.0 Device (one port)
- USB 2.0 Host (one port)
- LAN (10/100 Base-T Ethernet)

Remote control

Remotely view and control the oscilloscope over a network connection through eScope

VESA mount

100 mm x 100 mm VESA interface

Security

- Kensington lock
- EUCRA compliant

Standard probes

- One P2101 100 MHz, 1X/10X voltage probe per channel (50 MHz, 70 MHz, and 100 MHz bandwidth models)
- One P2201 200 MHz, 1X/10X voltage probe per channel (200 MHz bandwidth model)

Collaborative tools (optional)

- TekScope: Perform basic offline analysis such as protocol decode, automated measurements, etc. on saved data.

Optional Accessories

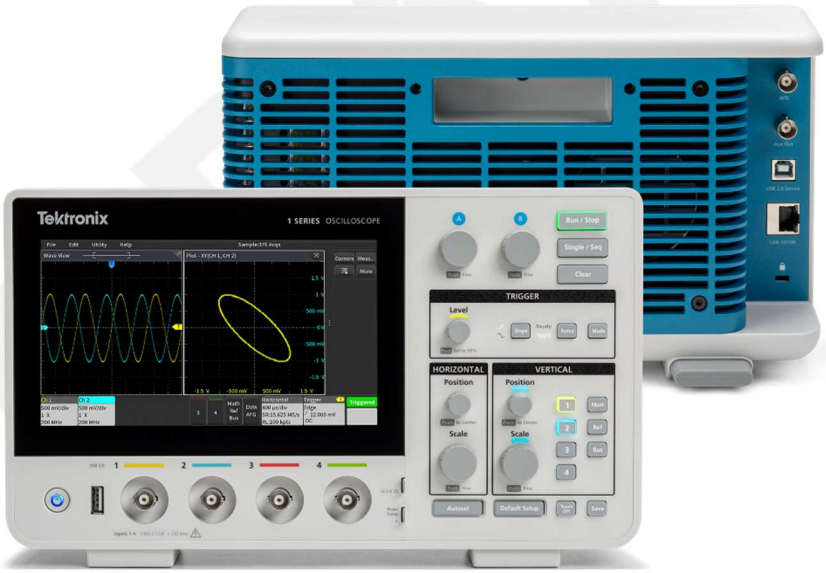
- Soft carrying case
- Rackmount kit
- Hard case

Warranty

- One year standard

Tektronix Next Generation Oscilloscopes

1 Series DPO	2 Series MSO	3 Series MDO	4 Series B MSO	5 Series B MSO	6 Series B MSO
Small footprint with all the essentials	Compact, portable, battery- operated instrument	Extreme versatility for any bench includes a spectrum analyzer	Up to 6 channels of high- visibility bench test	Advanced analysis and up to 8 inputs	Unmatched detail on high-speed signals



Easy touchscreen with simplified front panel

The 1 Series DPO offers the same interface as the higher end Tektronix oscilloscopes scaled to fit the smaller touchscreen.

- Drag waveforms left/right or up/down to adjust horizontal and vertical position or to pan a zoomed view
- Swipe in from the right to reveal the results bar or down from the top to access the menus in the upper left corner of the display

Interact with the capacitive touch display

The simplified front panel retains critical buttons and knobs with color-coded LEDs allowing quick access and easy adjustment of the most frequently used instrument settings.

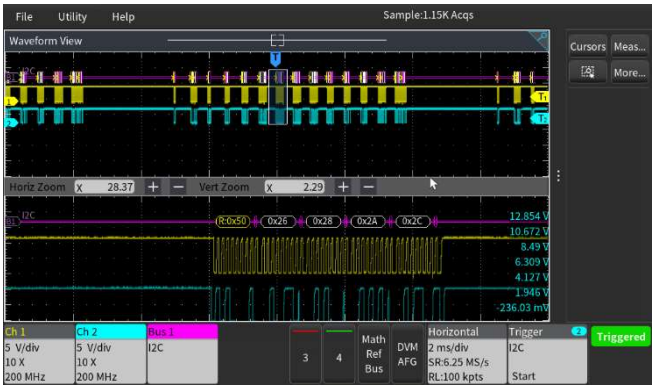
Simplified and intuitive front panel with color coded LEDs

The combination of a streamlined front panel with an intuitive touch interface makes it easy for any new engineer to self-discover and begin using the instrument.

Work smarter with the intuitive UI

The user interface on the 1 Series DPO is designed for touch operation. All the key information is presented as a series of badges with visual cues. Get immediate access to instrument configuration or waveform management tasks with a single tap. A USB mouse is also supported and can be used as a third interaction method with the instrument.

The 1 Series DPO offers a comprehensive set of standard analysis tools including:

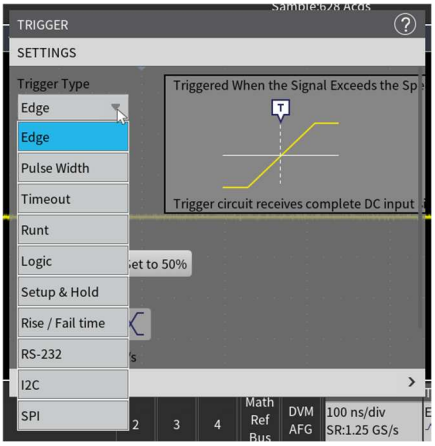


- Waveform and screen-based cursors with user-selectable readout location.
- 24 automated measurements with measurement statistics and gating, the ability to add up to 21 measurements.
- Basic and advanced waveform math including arbitrary equation editing.
- Basic FFT analysis with options to view magnitude or phase, multiple options to customize window type, gating, and units. Works simultaneously across all analog channels.

The 1 Series DPO screen also displays plots, measurement results tables, bus decode tables, and more. You can easily resize and relocate the various views to suit your needs.

Triggering

Discovering a device fault is only the first step. Next, you must capture the event of interest to identify the root cause. The 1 Series DPO provides a complete set of advanced triggers, including runt, pulse width, timeout, rise/fall time, and serial packet data that can be used to capture complex infrequent events.



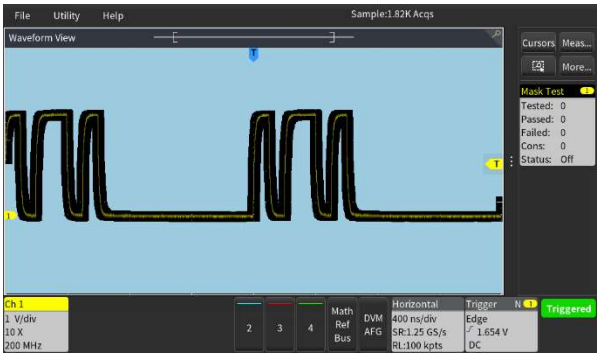
Configuration menus are accessed by simply double tapping on the item of interest. In this case trigger badge was tapped to open trigger menu.

Limit mask testing

Limit mask testing offers a good way to test the quality of a signal. A mask can be defined based on a golden signal with user defined tolerances on the screen.

The 1 Series DPO provides a comprehensive set of mask tools that allow:

- Defining test duration in number of waveforms
- Setting a violation threshold that must be met before considering a test failure
- Counting violations/failures and reporting statistical information
- Setting actions upon violations, test failure, and test complete



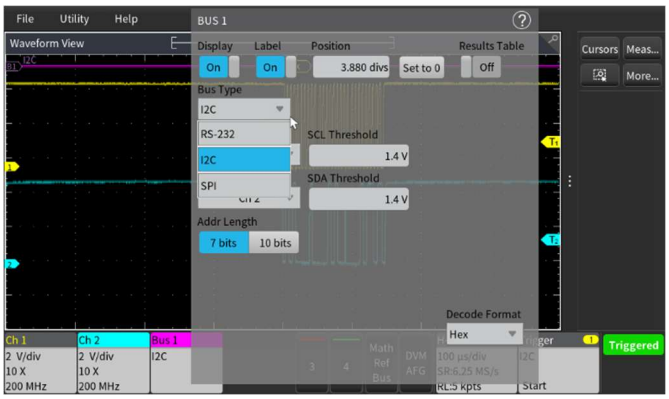
Limit mask testing

Serial protocol triggering and analysis

The 1 Series DPO offers a robust set of tools for working with Serial buses found in embedded design including I^2C, SPI, and RS-232/422/485/UART.

The protocol decode and triggering capability is invaluable to trace the flow of activity through a system by observing the traffic on a serial bus.

- Serial protocol triggering lets you trigger on specific packet content including start of packet, specific addresses, specific data content, unique identifiers, and errors.
- Bus waveforms provide a higher-level, combined view of the individual signals of your bus such as clock, data, and chip enable. This makes it easy to identify where packets begin and end, and identifying sub-packet components such as address, data, identifier, and CRC.
- The bus waveform is time-aligned with all other displayed signals, making it easy to measure timing relationships across various parts of the system under test.
- The bus decode table provides a tabular view of all decoded packets in an acquisition. Packets are time-stamped and listed consecutively with columns for each component like address and data.



Bus menu provides options to configure the bus parameters.

Arbitrary function generator (S models only)

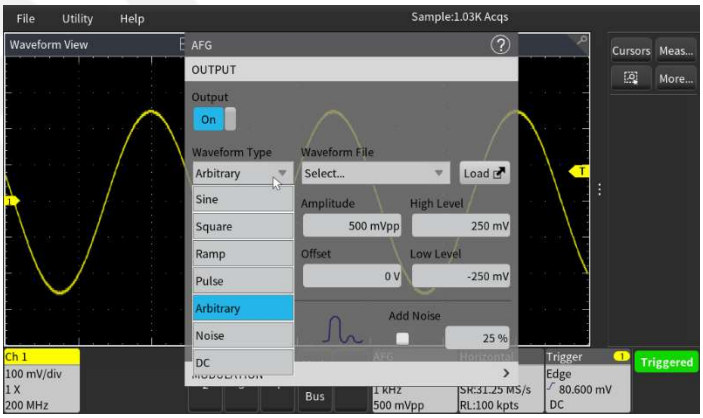
The 1 Series DPO (S models only includes a 25 MHz arbitrary function generator for simulating sensor signals within a design or adding noise to signals to perform margin testing.

Several predefined waveforms including sine, square, pulse, ramp/triangle, DC, and noise are included.

- The Waveform modulation: AM, FM, ASK, FSK, Sweep

The waveform modulation techniques include AM, FM, ASK, FSK, and sweep

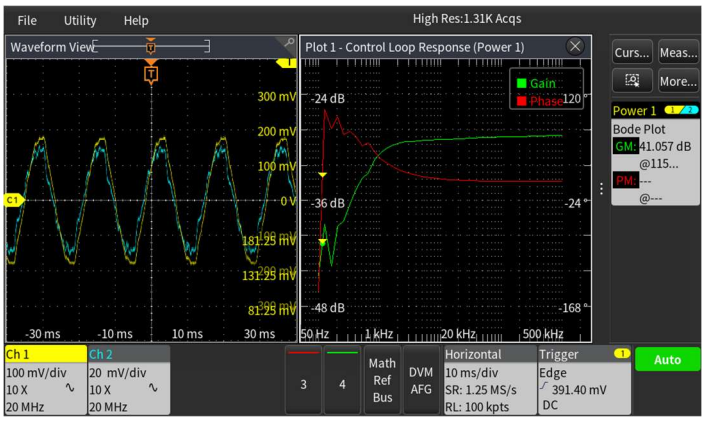
The arbitrary waveform generator provides the ability to load saved waveforms on the analog input to replay on the AFG.



Built-in AFG (S model only) with flexible settings and a wide variety of waveform types.

Bode plot (S model only)

Analyze the frequency response of a system using the built-in Bode plot feature. The input voltage is swept across the user-selected range using the internal AFG. The gain and phase of the output relative to the input voltage is plotted at each point.



Bode plot for frequency response analysis.

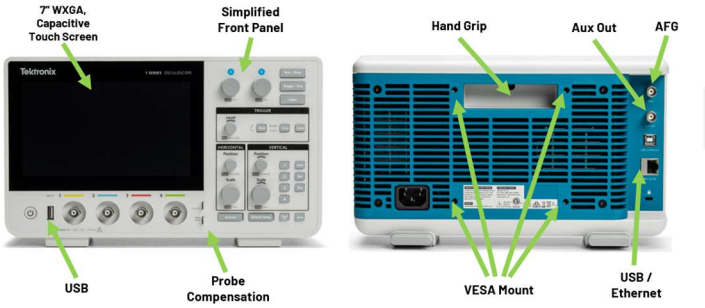
VESA Mount

The 1 Series has an industry standard VESA mount compatible with off-the-shelf accessories.

Connectivity

The 1 Series DPO contains several ports that you can use to connect the instrument to a network, directly to a PC, or to other test equipment.

- USB 2.0 host port on the front of the instrument enables easy transfer of screenshots, instrument settings, and waveform data to a USB mass storage device. A USB mouse can also be attached for instrument control.
- The USB device port allows you to control the oscilloscope remotely from a PC.
- The standard 10/100BASE-T ethernet port enables easy connection to networks and remotely controlling the instrument and viewing the acquired data.



Enhanced security

Hardware security includes a Kensington lock to prevent theft of the oscilloscope. The TekSecure function erases all nonvolatile memory storage.

Accessories

Addition accessories are available for the 1 Series DPO:

- Install the instrument in a rack for production with the rackmount kit.
- Carry the instrument into the field using the soft case.
- Hard case comes with foam inserts and offers additional protection for shipping.

The 100 mm x 100 mm standard VESA interface on the back of the instrument is compatible with a wide variety of accessories.

Soft carrying case

Rackmount kit

Hard carrying case

TekScope PC analysis software

Get the analysis capability of an award-winning oscilloscope on your PC. Analyze waveforms anywhere, anytime.

Analyze waveforms anywhere without an oscilloscope using the same UI as the oscilloscope

TekScope software on a PC

Programmatic interface

Programmable interface commands can be used to remotely control the instrument through the USB device port or the ethernet port. This enables programming the instrument to perform an automated set of tasks or integrating into a larger system that includes other equipment for performing specific tasks.

The programmatic interface command set is compatible with the next generation of Tektronix oscilloscopes, making it easy to reuse code written for other Tektronix oscilloscopes.

eScope

To use the eScope feature, simply connect the oscilloscope to a network using the ethernet port on the oscilloscope. Enter the scope's IP address into a web browser and select the eScope instrument control panel from the home screen.

An exact replica of the oscilloscope's screen will appear on the browser. Now professors and students can control all aspects of the oscilloscope using just a mouse.

Educational features

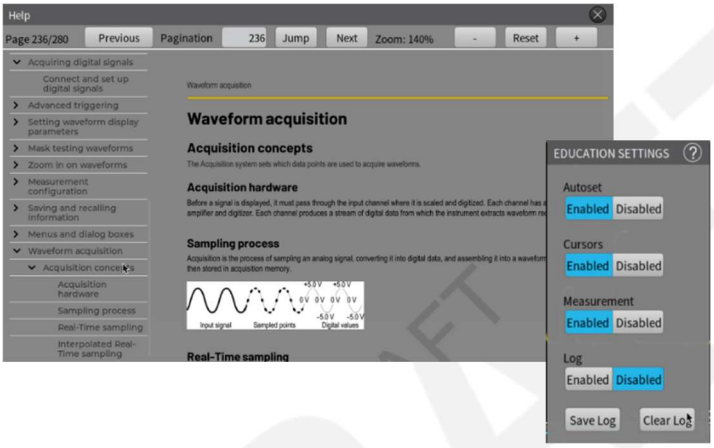
Help when you need it where you need it

The 1 Series DPO includes several helpful resources to get your questions answered rapidly without having to find a manual or go to a website:

- Graphical images and explanatory text are used in numerous menus to provide quick feature overviews.
- All menus include a question mark icon in the upper right that takes you directly the integrated help system. View the information on the scope or use the QRCode to access the Help file on your mobile device. This allows you to view the information and the oscilloscope screen simultaneously.
- The Getting acquainted with your instrument section in the Help menu enables you to quickly come up to speed with the instrument in a few minutes.

Demo Menu

The 1 Series Demo screen will have a unique QRcode that opens the 1 Series Resource webpage. This will contain multiple demo videos and information to get you started with your oscilloscope.



Feature control

The 1 Series DPO offers new ways to enable educators to devote more time to teaching circuit concepts instead of lab setup and management.

Educators can disable autoset, cursors, and automated measurements on the instruments. This allows students to focus on the basic concepts and helps them understand how to use the horizontal and vertical controls to get the waveform display, use the graticule to measure time and voltage, and manually plot/calculate the signal characteristics.

Other Products to Complete Your Bench

Arbitrary Function Generator (AFG1000)

AFG1052 (25 MHz)
AFG1062 (60 MHz)

- 2 Output channels
- 1 mVpp to 10 Vpp
- 50 Built-in arbitrary waveforms
- Built-in 200 MHz 6-digit frequency counter

Keithley DMM6500 6.5 Multimeter

DMM6500

- 15 measurement functions, including capacitance, temperature, and digitizing
- Expanded measurement range
- Large internal memory stores up to 7 million readings

Keithley 2220/2230 Multiple Output Power Supply

221A-33-3 (3 outputs, 3A max)
2220-30-1 (2 outputs, 1.5A max)
2030-30-1 (3 outputs, 5A max)

- Multiple outputs
- All channels independently controlled and isolated
- Remote sensing channels

Specifications

All specifications are typical unless noted otherwise. All specifications apply to all models unless noted otherwise.

Model overview

Model	DPO12				DPO14			
No AFG With AFG	DPO1052 DPO1052S	DPO1072 DPO1072S	DPO1102 DPO1102S	DPO1202 DPO1202S	DPO1054 DPO1054S	DPO1074 DPO1074S	DPO1104 DPO1104S	DPO1204 DPO1204S
Analog channels	2				4			
Analog channel bandwidth	50 MHz, 70 MHz, 100 MHz, 200 MHz							
Sample rate	1.25 GS/s Half Channel, 625 MS/s All Channel							
Record length	10 M per channel							
Waveform Capture Rate, typical	Up to 200k wfm/s							
Vertical Resolution	12 bits							
AFG output (S models only)	1							

Processor system

Operating system Closed Linux

Vertical system analog channels

Bandwidth selection **(limited by instrument bandwidth)** 20 MHz and full instrument bandwidth based on model (50 MHz, 70 MHz, 100 MHz, 200 MHz)

Input coupling AC, DC

Input impedance 1 MΩ±2% || 17 pF±1 pF

Input sensitivity range 1mV/div to 10 V/div

Vertical resolution 12 Bit

Maximum input voltage 1 MΩ: 400 V (DC+ACVpk) 135 V_{RMS}

DC gain accuracy <5 mV: ±2% full scale, ≥5 mV: ±1.5% full scale

Offset range 1mV/div to 50 mV/div : ±2 V
51 mV/div to 1 V/div : ±25 V 1.02 V/div
to 10 V/div : ±250 V

Horizontal system analog channels

Timebase range (5 ns/div to 1 ks/div) (50MHz and 70MHz)
(2 ns/div to 1 ks/div) (100MHz and 200MHz)
(simultaneously display the current sampling rate and memory depth)

Timebase delay range	-10 divisions to 5000s
Channel to channel skew	≤0.5 ns
Timebase accuracy	± 25 ppm over any ≥1 ms interval

Trigger system

Trigger modes	Auto, normal, and single
Trigger coupling	DC: all signals can pass AC: block DC component of input signal HF reject: suppress high-frequency components of signals above 40 kHz LF reject: suppress low-frequency components of signals below 40 kHz
Trigger holdoff range	0 s to 10 s
Trigger sensitivity	Edge type, DC coupled Any analog input channel: ≤ 10 mV/div, The larger value of 1div or 5 mVpp > 10 mV/div, 0.5 div

Trigger level ranges

Any input channel	±4 divisions from center of screen

Trigger types

Edge	Positive, negative, or either slope on any channel.
Pulse Width	Trigger on width of positive or negative pulses. Event can >, <, ≤ ≥. With width at 0.8 ns to 4 s
Timeout	Trigger on an event which is rising, falling, or either with a positive or negative polarity. The width is between 3.2 ns to 10 s on analog channels.
Runt	Trigger on a pulse that crosses one threshold but fails to cross a second threshold before crossing the first again. Event can be time- or logic-qualified (<,>, ≤ ≥, None) Polarity can be positive or negative. (3.2 ns to 10s)
Rise/Fall	Trigger on pulse edge rates that are faster or slower than specified. Slope may be positive, negative, or either. Event can be logic-qualified.
I2C	Trigger on start, repeated start, stop, missing ack, address (7 or 10 bit), data, or address and data on I2C buses up to 10 Mb/s.
SPI	Trigger on slave select, idle time, or data (1-16 words) on SPI buses up to 20 Mb/s.
RS-232/422/485/UART	Trigger on start bit, end of packet, data, and parity error up to 15 Mb/s.

Acquisition system modes

Sample	Acquired sample values
High Res	Applies a unique bandwidth filter for each sample rate that maintains the maximum bandwidth possible for that sample rate while preventing aliasing and removing noise from the oscilloscope amplifiers and ADC above the usable bandwidth for the selected sample rate.
Averaging	Average of a series of acquired waveforms up to 10,240 acquisitions

Waveform measurements

Cursors	Waveform, V bars, H bars, and V&H bars
Automatic measurements	24, with up to 21 can be displayed as either individual measurement badges or collectively in a measurement results table
Amplitude measurements	Amplitude, maximum, minimum, peak-to-peak, positive overshoot, negative overshoot, mean, RMS, AC RMS, top, base, and area
Time measurements	Period, Frequency, Rise time, Fall time, +Width, -Width, +Duty, -Duty, Burst width, Setup time, Hold time
Bode Plot (FRA) (S model only)	Start: 50 Hz to 25 MHz, Stop: 60 Hz to 25 MHz, High resistance: 20 mVpp to 6 Vpp, 50Ω: 10 mVpp to 3 Vpp
Measurement statistics	Mean, standard deviation, maximum, minimum, and population
Reference levels	User-definable reference levels for automatic measurements can be specified in either percent or units. Reference levels can be set to global for all measurements, per source channel or signal
Gating	Screen or cursors specify the region of acquisition in which to take measurements

Waveform math

Number of math waveforms	Up to 4
Arithmetic	Add, subtract, multiply, and divide
Math Functions	Integrate, differentiate, log 10, log e, square root, exponential, and abs
Relational	Boolean result of comparison >, <, ≥, ≤, =, and ≠
Logic	AND, OR, NAND, NOR, XOR, and EQV
FFT	Spectral magnitude and phase, and real and imaginary spectra
FFT units	Magnitude: linear and log (dBm) Phase: degrees, radians, and group delay
FFT window functions	Hanning, rectangular, hamming, blackman-harris,

Arbitrary function generator

Number of channels	1
Operating modes	Continuous
Waveforms	Sine, square, pulse, ramp, triangle, dc, and noise

Amplitude and frequency range

Signal type	Amplitude range 50 Ω	Amplitude range 1 MΩ	Frequency range
Sine	10 mV to 2.5 V	20 mV to 5 V	1 uHz to 25 MHz
Square	10 mV to 2.5 V	20 mV to 5 V	1 uHz to 10 MHz
Pulse	10 mV to 2.5 V	20 mV to 5 V	1 uHz to 10 MHz
Ramp	10 mV to 2.5 V	20 mV to 5 V	1 uHz to 400 kHz
DC Level		20 mV to 5V	
Random noise	10 mV to 2.5 V	20 mV to 5 V	
Arbitrary	10 mV to 2.5 V	20 mV to 5 V	1 uHz to 5 MHz

AM / FM Modulation Characteristics

Carrier Wave	Sine, square, pulse, ramp, and arbitrary
Source	Internal
Modulated wave	Sine, square, rising ramp, falling ramp, noise, arbitrary wave
Modulation frequency	2 mHz to 50 kHz
Modulation depth	0% to 120%

ASK Modulation Characteristics

Carrier Wave	Sine, square, pulse, ramp, and arbitrary
Modulated wave	Square wave (Duty ratio 50%)
Modulation frequency	2 mHz to 50 kHz

FSK Modulation Characteristics

Carrier Wave	Sine, square, pulse, ramp, and arbitrary
Modulated wave	Square wave (Duty ratio 50%)
Modulation frequency	2 mHz to 50 kHz
Hopping frequency	Any frequency within the range of the carrier wave signal

Sweep

Mode	Linear, logarithmic
Sweep time	2 mHz to 50 kHz
Start and stop frequency	Any frequency within the range of the waveform

DC offset

DC offset range	±3 V into Hi-Z, ±1.5 V into 50 Ω
DC offset resolution	1 mV into Hi-Z, 500 uV into 50 Ω
DC offset accuracy	± (offset set value 5%+2 mV)

Additional Features

Digital Voltmeter	DC, AC+DC RMS, AC RMS; 4-digit resolution
Frequency Counter	Frequency, Period Totalizer; maximum 7 digits; ±25 ppm (original accuracy)

Display

Display type	7 Inch multi-touch capacitive display
Display resolution	WSVGA 1024 x 600
Display mode	Overlay
Zoom	Horizontal and vertical zooming is supported in all waveform and plot views.
Interpolation	Sin(x)/x and linear
Waveform styles	Vectors, dots, variable persistence, and infinite persistence
Graticules	Movable and fixed graticules, selectable between grid, full, and none
Format	YT, XY
Language support	English, Japanese, Simplified Chinese, Traditional Chinese, French, German, Italian, Spanish, Portuguese, Russian, Korean

Input/Output ports

USB interface	One USB 2.0 host port (front) One USB 2.0 device port (back)
Ethernet interface	One ethernet port, 10/100 Mb/s, LAN (VXI11)

Probe compensation signal

Amplitude	0 to 2.5 V
Frequency	1 kHz
Source impedance	1 kΩ

Aux out	Trigger out, Pass/Fail, DVM
Security lock	Rear-panel security slot connects to standard T-bar style Kensington-style lock.
VESA mount	Standard (VESA MIS-D 100) 100 mm x 100 mm VESA mounting points on rear of instrument.

Software

IVI Driver	Provides a standard instrument programming interface for common applications such as LabVIEW, LabWindows/CVI, Microsoft .NET, and MATLAB. Compatible with python, C/C++/C# and many other languages through VISA.
TekScope	TekScope brings the power of the oscilloscope analysis environment to the PC. You can have the flexibility to perform analysis tasks including serial decode, power analysis, timing, eye, and jitter analysis outside the lab. Visit *www.tek.com/software/tekscope-pc-analysis-software* to learn more.
Programming examples	Programming with the 1 Series platform has never been easier. With a programmer's manual and a GitHub site you have many commands and examples to help you get started remotely automating your instrument. See *github.com/TEKTRONIX/PROGRAMMATIC-CONTROL-EXAMPLES*

Power

Line power	100 - 240 V ± 10% at 47 Hz to 63 Hz
Power consumption	50 W (max)

Physical characteristics

Dimensions

Instrument 0nly

Height	175 mm (6.875 in)
Width	292 mm (11.5 in)
Depth	83 mm (3.25 in)

Weight

Instrument only	2.18 kg (4.8 lbs)
Rackmount configuration	4U

EMC, environmental, and safety

Temperature

Operating	0 °C to +50 °C (+32 °F to 120 °F)
Non-operating	-20 °C to +70 °C (-4 °F to 158 °F)

Humidity

Operating	5% to 90% relative humidity at temperatures up to +30 °C, 5% to 60% relative humidity at temperatures greater than +30 °C and up to +50 °C.
Non-operating	5% to 90% relative humidity at temperatures up to +30 °C, 5% to 60% relative humidity at temperatures greater than +30°C and up to +60 °C.

Altitude

Operating	Up to 3,000 meters (9,842 feet)
Non-operating	Up to 15,000 meters (48,212 feet)

Regulatory compliance

EMC	Conforms to European Union EMC Directive (CE-marked) UK EMC Equivalent: Electromagnetic Compatibility Regulations (UKCA-marked) Ukraine EMC Equivalent: Technical Regulations on Electromagnetic Equipment Compatibility (Ukraine-marked) AUS EMC Equivalent: Australia Radiocommunications Act 1992 (RCM-marked) Korea EMC Equivalent: Registration of Broadcasting and Communications Equipments (KCC-marked)
Safety	Conforms to European Union Low Voltage Directive (CE-marked) UK LVD Equivalent: Safety Regulations 2016 (S.I. 2016/1101) amended by SI 2019 No. 696 (UKCA-marked) Ukraine LVD Equivalent: Technical Regulation of Low Voltage Electrical Equipment TR 1067 (Ukraine-marked)
RoHS	Conforms to European Union Restrictions on Hazardous Substances (CE-marked) Conforms to UK RoHS equivalent (UKCA-marked) Conforms to Ukraine RoHS equivalent: (Ukraine-marked) Conforms to China RoHS (China RoHS EFUP marked)

Ordering information

Use the following steps to select the appropriate instrument and options for your measurement needs.

Step 1 – Select instrument model

Select the 1 Series DPO instrument model

Model	Description
DPO1052	Digital Oscilloscope: 12-bit 50 MHz, 2 analog ch, 1.25 GS/s, 10 M samples/ch, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1072	Digital Oscilloscope: 12-bit 70 MHz, 2 analog ch, 1.25 GS/s, 10 M samples/ch, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1102	Digital Oscilloscope: 12-bit 100 MHz, 2 analog ch, 1.25 GS/s, 10 M samples/ch, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1202	Digital Oscilloscope: 12-bit 200 MHz, 2 analog ch, 1.25 GS/s, 10 M samples/ch, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1054	Digital Oscilloscope: 12-bit 50 MHz, 4 analog ch, 1.25 GS/s, 10 M samples/ch, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1074	Digital Oscilloscope: 12-bit 70 MHz, 4 analog ch, 1.25 GS/s, 10 M samples/ch, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1104	Digital Oscilloscope: 12-bit 100 MHz, 4 analog ch, 1.25 GS/s, 10 M samples/ch, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1204	Digital Oscilloscope: 12-bit 200 MHz, 4 analog ch, 1.25 GS/s, 10 M samples/ch, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1052S	Digital Oscilloscope: 12-bit 50 MHz, 2 analog ch, 1.25 GS/s, 10 M samples/ch, 20 MHz AFG, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1072S	Digital Oscilloscope: 12-bit 70 MHz, 2 analog ch, 1.25 GS/s, 10 M samples/ch, 20 MHz AFG, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1102S	Digital Oscilloscope: 12-bit 100 MHz, 2 analog ch, 1.25 GS/s, 10 M samples/ch, 20 MHz AFG, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1202S	Digital Oscilloscope: 12-bit 200 MHz, 2 analog ch, 1.25 GS/s, 10 M samples/ch, 20 MHz AFG, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1054S	Digital Oscilloscope: 12-bit 50 MHz, 4 analog ch, 1.25 GS/s, 10 M samples/ch, 20 MHz AFG, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1074S	Digital Oscilloscope: 12-bit 70 MHz, 4 analog ch, 1.25 GS/s, 10 M samples/ch, 20 MHz AFG, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1104S	Digital Oscilloscope: 12-bit 100 MHz, 4 analog ch, 1.25 GS/s, 10 M samples/ch, 20 MHz AFG, protocol decode I2C, SPI, UART; 1-year standard warranty
DPO1204S	Digital Oscilloscope: 12-bit 200 MHz, 4 analog ch, 1.25 GS/s, 10 M samples/ch, 20 MHz AFG, protocol decode I2C, SPI, UART; 1-year standard warranty

Each model includes

- Probes (one per channel): 50 MHz, 70 MHz, and 100 MHz models include P2101 100 MHz 1x/10x probes; P2201 200 MHz models include 200 MHz, 1x/10x probe
- Installation and safety manual (translated in English, Japanese, and Simplified Chinese)
- Embedded help
- Power cord
- Calibration certificate documenting traceability to National Metrology Institute(s) and ISO9001 (compliant) quality system registration

Step 2 – Add additional probes and adapters

Add additional recommended probes and adapters

Passive voltage probes	Description
TPP0100	100 MHz bandwidth, 10x attenuation, BNC interface
TPP0200	200 MHz bandwidth, 10x attenuation, BNC interface
P2221	6 MHz to 200 MHz bandwidth, 1x / 10x attenuation, BNC interface
P6139B	500 MHz bandwidth, 10x attenuation, BNC interface
P6101B	15 MHz bandwidth, 1x attenuation, BNC interface
P3010	100 MHz bandwidth, 10x attenuation, BNC interface

Current probes	Description
TCPA300	Current probe amplifier; 50 Ω feed-through termination (011-0049-XX) is required
With TCP312A	DC to 100 MHz, 1 mA
With TCP305A	DC to 50 MHz, 5 mA
With TCP303	DC to 15 MHz, 5 mA
TCPA400	Current probe amplifier; 50 Ω feed-through termination (011-0049-XX) is required
With TCP404XL	DC to 2 MHz, 1 A
TCP2020	DC to 50 MHz, 10 mA
A621	5 Hz to 50 kH, 10 mA to 2000 A pk
A622	DC to 100 kHz
P6021A	120 Hz to 60 MHz, 2 mA/mV, 10 mA/mV
P6022	935 Hz to 120 MHz, 1 mA/mV, 10 mA/mV
TRCP3000	1 Hz to 16 MHz, 2 mV/A
Current probes	**Description**
TRCP0600	12 Hz to 30 MHz, 10 mV/A
TRCP0300	9 Hz to 30 MHz, 20 mV/A
CT1	25 kHz to 1 GHz, 5 mV/mA
CT2	1.2 kHz to 200 MHz, 5 mV/mA
CT6	250 kHz to 2 GHz, 5 mV/mA

High voltage single ended probe	Description
P5100A	500 MHz bandwidth, 100x attenuation
P6015A	75 MHz bandwidth, 1000x attenuation
P5122	200 MHz bandwidth, 100x attenuation

High voltage differential probe	Description
P5200A	50 MHz bandwidth, 50:1/500:1 attenuation

Step 3 – Select accessories

Add additional recommended accessories

Optional accessories	Description
1-RK	Rackmount kit
1-SC	Carrying bag with kickstand and protective case for instrument
1-HC	Hard carrying case

Step 3 – Select power cord option

Optional accessories	Description
A0	North America power plug (115 V, 60 Hz)
A1	Universal Euro power plug (220 V, 50 Hz)
A2	United Kingdom power plug (240 V, 50 Hz)
A3	Australia power plug (240 V, 50 Hz)
A5	Switzerland power plug (220 V, 50 Hz)
A6	Japan power plug (100 V, 50/60 Hz)
A10	China power plug (50 Hz)
A11	India power plug (50 Hz)
A12	Brazil (60 Hz)
A99	No power cord

E1	Universal euro bundle

Step 8 – Select service options

Protect your investment and your uptime with a service package for your 1 Series DPO.

Optimize the lifetime value of your purchase and lower your total cost of ownership with a calibration and extended warranty plan for your 1 Series MSO. Plans range from standard warranty extensions covering parts, labor, and 2-day shipping to Total Product Protection with repair or replacement coverage from wear and tear, accidental damage, ESD or EOS. See the table below for specific service options available on the 1 Series MSO family of products. Compare factory service plans *www.tek.com/en/services/factory-service-plans*.

Additionally, Tektronix is a leading accredited calibration services provider for all brands of electronic test and measurement equipment, servicing more than 140,000 models from 9,000 manufacturers. With 100+ labs worldwide, Tektronix serves as a global partner, delivering tailored whole-site calibration programs with OEM quality at a market price. View whole site calibration service capabilities *www.tek.com/en/services/calibration-services*.

Service options	Description
R3	Three-year total protection plan includes repair or replacement coverage from wear and tear, accidental damage, ESD or EOS plus preventative maintenance. Including a 5 day turnaround time and priority access to customer support
R5	Five-year total protection plan includes repair or replacement coverage from wear and tear, accidental damage, ESD or EOS plus preventative maintenance. Including a 5 day turnaround time and priority access to customer support
T3	Three Year Total Product Protection Plan, includes all features of Extended Warranty Plan plus complete coverage against accidental damage, user caused electrical overstress damage, and electrostatic discharge damage.
T5	Five Year Total Product Protection Plan, includes all features of Extended Warranty Plan plus complete coverage against accidental damage, user caused electrical overstress damage, and electrostatic discharge damage.
CD1	Calibration with full data report service. Includes traceable calibration with full data report, or functional verification where applicable. Coverage includes 1 calibration event over 3 years.
CD3	Calibration with full data report service for 3 years. Includes traceable calibration with full data report, or functional verification where applicable. Coverage includes 3 calibration events over 3 years.
CD5	Calibration with full data report service for 5 years. Includes traceable calibration with full data report, or functional verification where applicable. Coverage includes 5 calibration events over 5 years.

Additional software for extended functionality

Purchase additional software with flexible licensing to extend the capabilities of your instrument for collaboration and offline analysis. Option bundles with different levels of functionality are being offered to suit different application needs. Each of these bundles can be purchased as a 1-year subscription or as a perpetual license.

Software option	Description
TEKSCOPE-STARTER	TekScope PC software bundles for various applications
TEKSCOPE-ULTIMATE	

Tektronix is ISO 14001:2015 and ISO 9001:2015 certified by DEKRA.

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For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit *www.tek.com*.

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