Hantek

DPO7000 series

Digital oscilloscope

Data Manual

202304

Warranties and Declarations

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Product certification

Hantek certified DPO series oscilloscope to meet China's national industry standards and has passed the CE certification.

Contact us

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1   Product Overview

Product features

- Integrated with 8 independent instruments, including oscilloscope/16 channel logic analyzer/spectrum analyzer/arbitrary wave generator/digital voltmeter/frequency meter and accumulator/protocol analyzer/protocol generator;

- Real time sampling rate up to 2GSa/s, 2G storage depth, hardware real-time waveform recording and playback up to 2 million frames;

- 10.1-inch multi touch capacitive screen, 256 level waveform grayscale and color temperature display;

- Rich serial protocol triggering and decoding functions;

- The waveform capture rate is higher than 500000 waveforms per second;

- Up to 51 waveform parameters can be automatically measured, and full memory measurement function is also provided;

- Multiple data analysis and processing functions: independent search, navigation buttons and event lists, histograms, Bode plots, power analysis, counters.

- Standard configuration: USB HOST,USB DEVICE,LAN;Optional: HDMI,Serial port.

The DPO7000 series digital oscilloscope adopts a 10.1-inch multi touch capacitive screen, 256 level waveform grayscale and color temperature display, 500MHz bandwidth, 2GSa/s sampling rate, 2G storage depth, and 500.000wfms/s waveform capture rate; Equipped with a 50MHz signal generator that supports arbitrary wave output; 51 automatic measurements, providing full memory measurement function; Rich serial protocol triggering and decoding functions; Multiple data analysis and processing functions; By integrating 8 instrument functions, the measurement system is significantly simplified and the measurement speed is accelerated; Provide rich configuration interfaces for more convenient use; It is a trustworthy oscilloscope that can provide you with professional level measurements.

2   <u>Specifications</u>

All technical specifications are applicable to the DPO7000 series oscilloscope, as detailed in the last part of this chapter. To verify whether the oscilloscope meets technical specifications, the oscilloscope must first meet the following conditions:

- Within the specified operating temperature, the oscilloscope must have been operating continuously for more than twenty minutes.

- If the operating temperature changes by more than 5 degrees Celsius, a self calibration operation must be performed, which can be done through the **[Utility]** menu.

- The oscilloscope must be within the factory calibration period.

Model

Model	Analog Bandwidth	Rising Time	Max. Memory Depth	real-time sample rate	High waveform capture rate
DPO7104E	100 MHz	≤3.5 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7102E	100 MHz	≤3.5 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7104C	100 MHz	≤3.5 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7102C	100 MHz	≤3.5 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7204E	200 MHz	≤1.4 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7202E	200 MHz	≤1.4 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7204C	200 MHz	≤1.4 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7202C	200 MHz	≤1.4 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7354E	350 MHz	≤1 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7352E	350 MHz	≤1 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7354C	350 MHz	≤1 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7352C	350 MHz	≤1 ns	2Gpts	2GSa/s	500,000wfms/s
DPO7504E	500 MHz	≤700ps	2Gpts	2GSa/s	500,000wfms/s
DPO7502E	500 MHz	≤700ps	2Gpts	2GSa/s	500,000wfms/s

Model	Analog Bandwidth	Rising Time	Max. Memory Depth	real-time sample rate	High waveform capture rate
DPO7504C	500 MHz	≤700ps	2Gpts	2GSa/s	500,000wfms/s
DPO7502C	500 MHz	≤700ps	2Gpts	2GSa/s	500,000wfms/s

Specifications

No. of Input Channels	4 analog channel input 1 EXT channel input 16 input digital channels
Sampling Mode	Real-time sampling
Max. Sample Rate of Analog Channel	2GSa/s(single-channel) 2GSa/s(half-channel) 1GSa/s(all channels) (Half-channel mode: CH1 and CH2 are considered as a group; CH3 and CH4 are considered as another group. Each group share the same ADC sample, and either one of the channels in each group is enabled.)
Max. Memory Depth	2Gpts(single-channel), 1Gpts(two-channel), 500Mpts(three or all-channel)
Max. Waveform Capture Rate	500,000wfms/s
Peak Detection	Under all the time base settings, capture 1ns glitches
LCD Size and Type	10.1-inch capacitive multi-touch screen
Display Resolution	1024*600

Vertical System Analog Channel

Input Coupling	DC, AC, GND	
Input Impedance	1 MΩ ± 1%, 50 Ω ± 1%	
Input Capacitance	19pF ± 3 pF	
Maximum Input Voltage	1MΩ	CAT I 300 VRMS, 400Vpk; Transient overvoltage1600Vpk
	50Ω	5 VRMS
Vertical Resolution	8bit	

Vertical Sensitivity Range	1MΩ	500uV/div ~ 10 V/div
	50Ω	500uV/div ~ 1 V/div
Offset Range	1MΩ	±1V (500uV/div ~ 50 mV/div) ±10V(100mV/div ~ 500 mV/div) ±100 V (1V/div ~ 10 V/div)
	50Ω	±1V(500uV/div ~ 50 mV/div) ±10V(100mV/div ~ 500 mV/div) ±100V(1 V/div)
Dynamic Range	±5 div (8 bit)	
Bandwidth Limit	100MHz	20MHz; selectable for each channel
	200MHz	20MHz, 100M; selectable for each channel
	350MHz	20MHz, 100M, 200MHZ; selectable for each channel
	500MHz	20MHz, 100M, 200MHz, 350M; selectable for each channel
DC Gain Accuracy	± 3% FullScale	
DC Offset Accuracy	<200 mV/div (±0.1 div±2 mV±1.5% of offset value)	
	>200 mV/div (±0.1 div±2 mV±1.0% of offset value)	
Channel-to-Channel Isolation	40dB, from DC to maximum rated bandwidth of each model	
ESD Tolerance	±8 kV (on input BNCs)	

Vertical System Digital Channel

Number of Channels	16 input channels: L1.0~L1.3, L2.0~L2.3, L3.0~L3.3, L4.0~L4.3
Threshold Range	±7.0 V, 10 mV step
Threshold Accuracy	±(100 mV + 3% of the threshold setting)
Threshold Selection	(1.4V)TTL, (+2.5V)CMOS5.0, (+1.65V)CMOS3.3, (+1.25V)CMOS2.5, (+0.9V)CMOS1.8, (-1.3 V)ECL, (+3.7V)PECL, (+1.2V)LVDS, 0V, User
Max. Input Voltage	± 25 V peak CAT I; transient overvoltage 800 Vpk
Max. Input Dynamic Range	±10 V + threshold

Minimum Voltage Swing	500mVpp
Input Impedance	>10MΩ
Probe Load	8 pF± 3pF
Vertical Resolution	1 bit

Horizontal System--Analog Channel

	100MHz	200MHz	350MHz	500MHz
Range of Time Base	2ns/div~1 ks/div	2ns/div~1 ks/div	1ns/div~1 ks/div	500ps/div~1 ks/div
Time Base Accuracy	±1 ppm ± 1 ppm/year			
Time Base Delay Range	before triggering	≥1/2 screen width		
	after triggering	1 s or 100 div, whichever is greater		
Time Interval(△T)	±(1 sample interval) ± (2 ppm×readout)±50 ps			
Inter-channel Offset Correction Range	±100 ns			
Horizontal Mode	YT	Default		
	XY	X1 = Channel 1, Y1 = Channel 2 X2 = Channel 3, Y2 = Channel 4		
	SCAN	Time base ≥100 ms/div, available to enter or exit the SCAN mode by rotating the Horizontal SCALE knob		
	ROLL	Time base ≥100 ms/div, available to enter or exit the ROLL mode by rotating the Horizontal SCALE knob (enable the auto ROLL mode at first)		

Horizontal System--Digital Channel

Min. Detectable Pulse Width	1 ns
Maximum Input Frequency	500 MHz (accurately copied as the sine wave of the maximum frequency of the logic square wave; input amplitude is the minimum swing; the shortest the ground cable is required for the logic probe)
Inter-channel Time Delay	1ns (typical), 2ns (maximum)

Acquisition System

Max. Sample Rate of Analog Channel	2GSa/s(single-channel), 2GSa/s(half-channel), 1GSa/s(all channels) (Half-channel mode: CH1 and CH2 are considered as a group; CH3 and CH4 are considered as another group. Each group share the same ADC sample, and either one of the channels in each group is enabled.)
Max. Memory Depth	2Gpts(single-channel), 1Gpts(two-channel), 500Mpts(three or all-channel)
Max. Sample Rate of Digital Channel	2GSa/s(all Channels)

Acquisition Mode	Normal	Default
	Peak Detection	Capture 1ns glitches
	Average Mode	2, 4, 8, 16…65536 are available for you to choose, averaging point by point
	High Resolution	12 bits (max.)

Trigger System

Trigger Source	Analog channel(CH1-CH4), EXT
Trigger Mode	Auto, Normal, Single
Holdoff Range	8ns-10s

Trigger Bandwidth	CH1-CH4	Analog bandwidth
	EXT	200MHz
Trigger Sensitivity	CH1-CH4	1 div or 5 mVpp, whichever is larger, <10mV/div 0.5 div, ≥10mV/div Enable the noise rejection, with trigger sensitivity reducing half
	EXT	200 mVpp, DC-200MHz
Trigger Level Range	CH1-CH4	± 4 div from the center of the screen
	EXT	± 1V

Trigger Type

Trigger Type	Edge trigger, Pulse trigger, Video trigger, Slope trigger, Overtime trigger, Window trigger, Logic trigger, Overamp trigger, Runt trigger, Delay trigger, Setup/Hold trigger, Pattern trigger,Nth Edge trigger, UART trigger, LIN trigger, CAN trigger, SPI trigger, I2C trigger
Edge trigger	Identify triggering by searching for specified edges (rising edge, falling edge, double edge) and voltage levels on the waveform. Source channel: CH1~CH4, EXT.

Pulse trigger	Set the oscilloscope to trigger on a positive or negative pulse of a specified width. You can set the trigger source, polarity (positive pulse width, negative pulse width), limiting conditions, and pulse width in this menu. Source channel: CH1~CH4, EXT.
Video trigger	Triggered on scan lines, number of lines, odd fields, even fields, and all fields that meet video standards. The supported video standards include NTSC, PAL/SECAM. Source channel: CH1~CH4.
Slope trigger	Set the positive or negative slope of the oscilloscope to trigger from one level to another within a specified time. Source channel: CH1~CH4.
Overtime trigger	Triggered when the time interval ($\triangle$T) from the rising edge (or falling edge) of the input signal to the end of the adjacent falling edge (or rising edge) through the triggering level is greater than the set timeout time. Source channel: CH1~CH4, EXT.
Window trigger	Window triggering provides high and low trigger levels. When the input signal passes the high or low trigger level, the oscilloscope triggers. Source channel: CH1~CH4.
Logic trigger	Logic triggering requires setting the logical values of each channel and the logical relationships between channels (OR, AND). When the logical relationship is met and the set time conditions are met, triggering occurs when the edges of any channel change. Source channel: CH1~CH4.
Overamp trigger	Superamp trigger provides a high trigger level and a low trigger level. The instrument triggers when the input signal passes through the high trigger level or the low trigger level. Source channel: CH1~CH4.
Runt trigger	Used to trigger pulses that cross one trigger level but do not cross another trigger level. Source channel: CH1~CH4.
Delay trigger	You need to set up source A and source B separately. When the time difference ($\triangle$T) between the edge set by source A (edge A) and the edge set by source B (edge B) meets the preset time limit, the oscilloscope triggers, where edge A and edge B must be adjacent edges. Source channel: CH1~CH4, EXT.
Setup/Hold trigger	The establishment time starts from the time when the data channel crosses the power generation level and ends when the designated clock channel edge arrives; The holding time starts when the designated clock channel edge arrives and ends when the data

		channel crosses the touch generator again. When the establishment time or holding time is less than the preset time, the oscilloscope will trigger. Source channel: CH1~CH4, EXT.
UART(Option)		Triggered when detecting frame start, frame end, data, checksum error, or error of RS232 signal. Source channel: CH1~CH4, EXT.
LIN(Option)		Triggered on the synchronous field of the LIN signal, it can also be triggered on a specified identifier, data, or frame. Source channel: CH1~CH4, EXT.
CAN(Option)		Triggered at the beginning of the CAN signal frame, at a specified type of frame (such as remote frame, data frame, etc.), or at a specified type of error frame. Source channel: CH1~CH4, EXT.
SPI(Option)		When the selection or timeout conditions are met, the oscilloscope triggers when it searches for the specified data. Source channel: CH1~CH4, EXT.
I2C(Option)		Triggered on the start, stop, restart, loss confirmation, address (7 bits, 8 bits, or 10 bits), data, or address data of the I2C bus. Source channel: CH1~CH4, EXT.

Waveform Measurement

Cursor	Number of Cursors	2 pairs of XY cursors
	Manual Mode	Voltage deviation between cursors ($\triangle$Y) Time deviation between cursors ($\triangle$X) Reciprocal of $\triangle$X (Hz) (1/$\triangle$X)
	Track Mode	Fix Y-axis to track X-axis waveform point's voltage and time values Fix X-axis to track Y-axis waveform point's voltage and time values
	XY Mode	Measure the voltage parameters of the corresponding channel waveforms in XY time base mode. X = Channel 1, Y = Channel 2
Auto Measurement	Number of Measurements	Up to 7 measurements can be displayed at a time.
	Measurement Source	CH1-CH4, Math, D0-D15
	All Measurement	Display 51 measurement items for the current measurement channel; the measurement results are updated continuously; you can switch the measurement channel.
	Horizontal	Freq, Period, RiseT, FallT, PosPW, NegPW,

		PDuty, NDuty, BWidth, MaxTime, MinTime, +Edges, -Edges, +Pulses, -Pulses, TrigCnt, +slope, -slope
	Vertical	VMean, VMax, VMin, PkPk, VTop, VMid, VBase, VAmp, VRms, Vovr, Vper, PVRms, PVMeas, Vfov, Vrpr
	Others	FRR, FFF, FRF, FFR, LRR, LRF, LFR, LFF, +Phase, -Phase, +AreaDC, -AreaDC, perAreaDC, absAreaDC, +AreaAC, -AreaAC, perAreaAC, absAreaAC
	Statistics	Cur, Avg, Max, Min, Dev, Cnt
	Analyze	Frequency Counter, DVM, Power Analysis, Histogram, Bode Plot

Waveform Calculation

Operation	A+B, A-B, A*B, A/B, FFT, A&&B, A||B, A^B, !A, Intg, Diff, Sqrt, Lg, Ln, Exp, Abs, LowPass, HighPass, BandPass, BandStop, AX+B, Expression
Color Grade	Support Math and FFT
Source	CH1-CH4, REF

FFT	Window Type	Rectangular, Blackman-Harris, Hanning (default), Hamming, Flattop, and Triangle
	Peak Search	A maximum of 15 peaks

Waveform Analysis

Waveform Recording	Store the signal under test in segments according to the trigger events, i.g. save all the sampled waveform data as a segment to the RAM for each trigger event.	
	Source	All enabled analog channels and digital channels
	Analysis	Support playing frame by frame or continuous playing
Pass/Fail Test	Compare the signal under test with the user-defined mask to provide the test results: the number of successful tests, failed tests, and the total number of tests. The pass/fail event can enable immediate beeper, and the screenshot.	
	Source	Any analog channel
Histogram	The waveform histogram provides a group of data, showing the number of times a waveform hits within the defined region range on the screen. The waveform histogram not only shows the distribution of hits, but also the ordinary measurement statistics.	
	Source	CH1-CH4
	Type	Horizontal, Vertical

	Measure	Sum, Peaks, Max, Min, Pk_Pk, Mean, Median, Mode, Bin width, Sigma
	Mode	Support all modes, except the Zoom, XY, and ROLL modes

Serial Decoding

Decoding Type	UART, I2C, SPI, LIN, CAN
UART	Decode the data of 20 Mb/s UART bus TX/RX signals (5-9 bits), supporting check bit (no parity, odd parity, and even parity) and stop bit (1bit, 1.5bit, 2bit) settings.
I2C	Decode the address (with or without read/write bits), data, and ACK of the I2C bus.
SPI	Decode data from SPI bus MISO/MOSI. The mode supports timeout and film selection.
LIN	Decode 1. X or 2. X or two versions of LIN bus, with a maximum speed of 20Mb/s.
CAN	Decode remote frames, overloaded frames, and data frames from a 5 Mb/s CAN bus. CAN bus signal types include CAN_ H, CAN_ L, Rx, Tx, Diff.

Frequency Counter

Source	CH1-CH4
Measure	None, frequency, period, totalizer

DVM

Source	CH1-CH4
Mode	DC, AC+DC RMS, and AC RMS
Limits Beeper	Sound an alarm when the voltage value is within or outside of the limit range.

Bode Plot(Option)

Input Source	CH1-CH4
Output Source	CH1-CH4
Start Frequency	10Hz-10MHz
Stop Frequency	100Hz-25MHz

Display Type	Line chart, table

Arbitrary Waveform Generator(Opiton)

Sample Rate	200MSa/s	
Vertical Resolution	12bit	
Max. Frequency	50MHz	
Standard Waveform	Sine, Square, Ramp, Pulse, DC, Noise, Sinc, Exp.Rise, Exp.Fall, ECG, Gauss, Lorentz, Haversine	
Arb Waveform	Arb	
Sine	Frequency Range	0.1Hz-50MHz
Square	Frequency Range	0.1Hz-10MHz
Ramp	Frequency Range	0.1Hz-1MHz
Pulse	Frequency Range	0.1Hz-10MHz
Sinc	Frequency Range	0.1Hz-1MHz
Exp.Rise	Frequency Range	0.1Hz-5MHz
Exp.Fall	Frequency Range	0.1Hz-5MHz
ECG	Frequency Range	0.1Hz-1MHz
Gauss	Frequency Range	0.1Hz-1MHz
Lorentz	Frequency Range	0.1Hz-1MHz
Haversine	Frequency Range	0.1Hz-1MHz
Arb	Frequency Range	0.1Hz-10MHz
Waveform Length	2KSa	
Frequency	Accuracy	100 ppm (<10 kHz), 50 ppm (>10 kHz)
	Resolution	100 mHz or 4 bits (whichever is greater)
Amplitude	Output Range	10mVpp-5Vpp(HighZ)
		5mVpp-2.5Vpp(50Ω)
DC Offset	Range	±2.5V, HighZ

		±1.25V, 50Ω
	Resolution	100 uV or 3 bits (whichever is greater)
	Accuracy	2%(1KHz)
Output Impedance	50Ω±1%	
Modulation	AM, FM, PM	
	AM	Modulating Waveforms: Sine, Square, Triangle, and Noise
		Modulation Frequency: 1Hz-50KHz
		Modulation Depth: 0%-120%
	FM	Modulating Waveforms: Sine, Square, Triangle, and Noise
		Modulation Frequency:1Hz-50KHz
		Modulation Offset:0.1Hz-1.01KHz
	PM	Modulating Waveforms: Sine, Square, Triangle, and Noise
		Modulation Frequency:1Hz-50KHz
		Modulation Depth: 0%-120%
Burst	N Cycle, Infinite	
	Cycle Count	1-10
	Trigger Source	Internal, Manual
	Burst Period	2ms-500s

QuickAction

Save Image	Quickly save the screen image to the specified path based on the current image storage menu settings.
Save Wave	Quickly save the screen or memory waveforms to the specified path based on the current waveform storage menu settings.
Save Setup	Quickly save the setup file to the specified path based on the current setup storage menu settings.
All Measure	Display all the prompt message windows for all the measurement of the waveforms.
Stat Reset	Quickly reset all the measurement statistics data and measurement counts.
	Quickly reset all the statistics information in PassFail function.
Record	Quickly start or stop the waveform recording.
Load Mask	Automatically retrieve saved rules and open disk management to select saved rules.
Save Group	Quickly perform the group saving function based on the currently selected item for saving.

Display

LCD	10.1-inch capacitive multi-touch screen 256-level intensity grading display
Resolution	1024*600
Graticule	(10 vertical divisions) x (8 horizontal divisions)
Persistence	Off, Infinite, variable persistence (100 ms to 10 s)
Display Type	vector or point
Waveform Intensity	adjustable
Screen Grid	Dot, Line, and Close
Grid Brightness	adjustable
Screen Brightness	adjustable

I/O

USB HOST	1 on the front panel
USB DEVICE	1 on the rear panel
LAN	1 on the rear panel
RS232/485	1 on the rear panel
HDMI	1 on the rear panel

Power

Power Voltage	47-440Hz,90-264VAC/127-320VDC,55Watts MAX
Power	Max.55W
Fuse	4 A, T degree, 250 V

Environment

Temperature Range	Operating	0℃~+50℃
	Non-operating	-30℃~+70℃
Humidity Range	Operating	Below +30℃, ≤90%RH (without condensation)

		+30 ℃ ~+40 ℃ , ≤75%RH (without condensation)
		+40 ℃ ~+50 ℃ , ≤45%RH (without condensation)
	Non-operating	Below 65℃, ≤90%RH (without condensation)
Altitude	Operating	Below 3,000
	Non-operating	Below 15,000

Mechanical Characteristics

Dimensions	372mm(L)*138mm(W)*231.5mm(H)	
Weight	Package Excluded	4.05kg

3   Order Information and warranty period

3.1   Order Information

Order Information	Order No.
Model	
2GSa/S, 2Gpts, 100MHz 4-channel oscilloscope + LA + AWG	DPO7104E
2GSa/S, 2Gpts, 100MHz 2-channel oscilloscope + LA + AWG	DPO7102E
2GSa/S, 2Gpts, 100MHz 4-channel oscilloscope	DPO7104C
2GSa/S, 2Gpts, 100MHz 2-channel oscilloscope	DPO7102C
2GSa/S, 2Gpts, 200MHz 4-channel oscilloscope + LA + AWG	DPO7204E
2GSa/S, 2Gpts, 200MHz 2-channel oscilloscope + LA + AWG	DPO7202E
2GSa/S, 2Gpts, 200MHz 4-channel oscilloscope	DPO7204C
2GSa/S, 2Gpts, 200MHz 2-channel oscilloscope	DPO7202C
2GSa/S, 2Gpts, 350MHz 4-channel oscilloscope + LA + AWG	DPO7354E
2GSa/S, 2Gpts, 350MHz 2-channel oscilloscope + LA + AWG	DPO7352E
2GSa/S, 2Gpts, 350MHz 4-channel oscilloscope	DPO7354C
2GSa/S, 2Gpts, 350MHz 2-channel oscilloscope	DPO7352C
2GSa/S, 2Gpts, 500MHz 4-channel oscilloscope + LA + AWG	DPO7504E
2GSa/S, 2Gpts, 500MHz 2-channel oscilloscope + LA + AWG	DPO7502E
2GSa/S, 2Gpts, 500MHz 4-channel oscilloscope	DPO7504C

Order Information	Order No.
2GSa/S, 2Gpts, 500MHz 2-channel oscilloscope + LA + AW	DPO7502C

Order Information	Order No.
Standard Accessories	
Oscilloscope probe (two for 2-channel series, four for 4-channel series)	PP-100(100MHz) PP-200(200MHz) HT300B(350MHz) HT500B(500MHz)
USB cable	--
Power cord conforming to the standard of the destination country	--

Bandwidth Upgrade Option	Order No.
Bandwidth upgrades from 100 MHz to 200 MHz (DPO7104/DPO7102)	DPO7000-BW10T20
Bandwidth upgrades from 100 MHz to 350 MHz (DPO7104/DPO7102)	DPO7000-BW10T35
Bandwidth upgrades from 100 MHz to 500 MHz (DPO7104/DPO7102)	DPO7000-BW10T50
Bandwidth upgrades from 200 MHz to 350 MHz (DPO7204/DPO7202)	DPO7000-BW20T35
Bandwidth upgrades from 200 MHz to 500 MHz (DPO7204/DPO7202)	DPO7000-BW20T50
Bandwidth upgrades from 350 MHz to 500 MHz (DPO7354/DPO7352)	DPO7000-BW35T50

Function Upgrade Option	Order No.
Power Analysis Option	DPO7000-PWR
25MHz Arbitrary Waveform Generator Option (DPO7000C)	DPO7000-AWG
RS232/LIN/CAN/SPI/I2C Bus Trigger and Analysis	DPO7000-TA
Bode Plot Option	DPO7000-BD

3.2   Warranty Period

Mainframe warranty for 3 years, excluding probes and accessories.

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