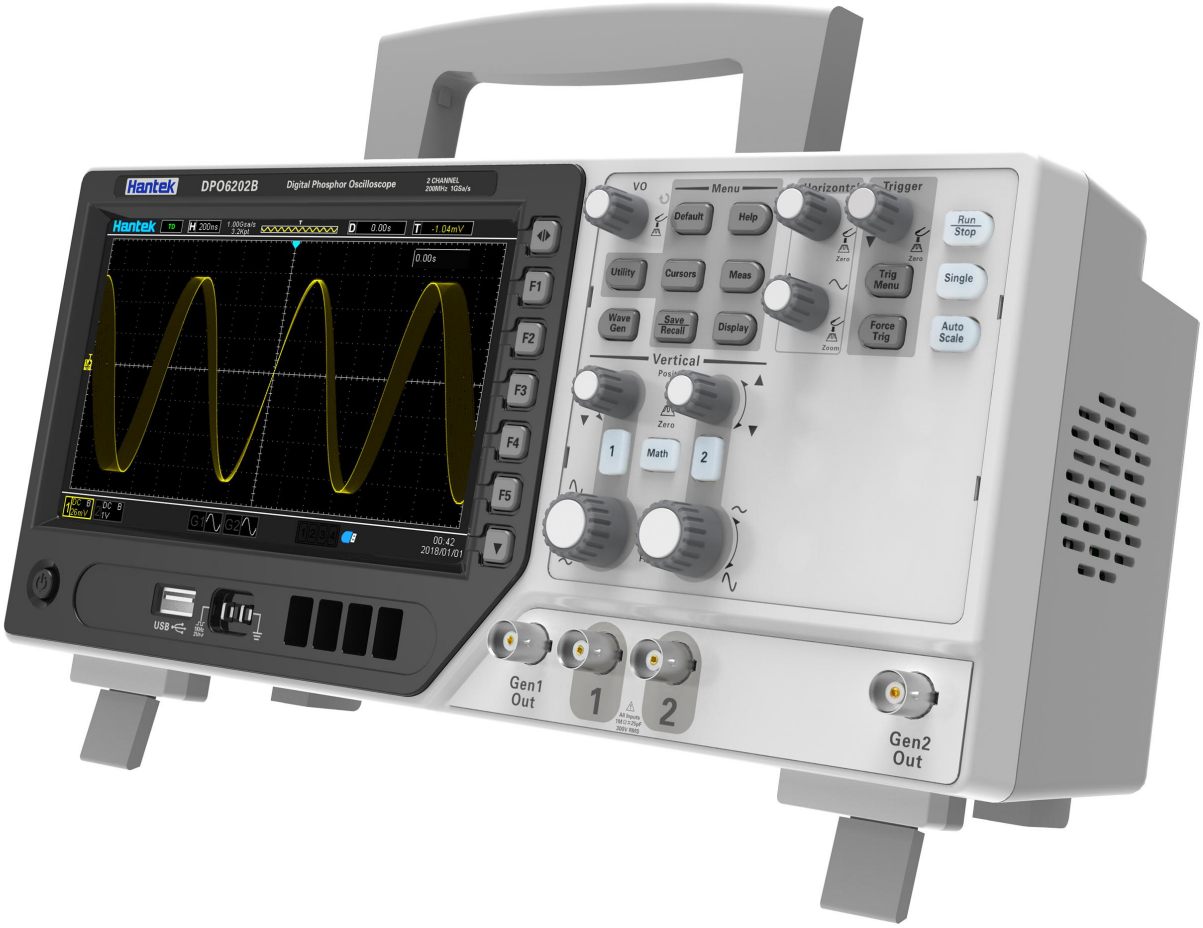
Digital Phosphor Oscilloscope

2CH, 80-200MHz Bandwidth, 1GSa/S, 64M Memory Depth, Up to 400,000 wfm/s, Touch Screen, with LAN port

DPO6002B Series



Accessories

Features

- 2 channels, 80-200MHz bandwidth, 1GS/s sample rate, 64 Mpts Memory Depth.
- Waveform capture rate up to 400,000 wfm/s (FastAcq Mode), 60,000 wfm/s (DPO Mode).
- Multi-segment acqusition function, maximum redord waveform 80, 000 frames, 256 level grayscale display.
- Low noise, vertical miminum range 500uV/div.
- Over 43 types of auto measurement function (with statistics function).
- Over 16 types of trigger function, including 5 kinds of protocol trigger, and provide 5 serial decode options, UART, LIN, CAN, SPI, IIC decode.
- 5 digit digital voltmeter and 6 digit frequency counter .
- USB and LAN port, with touch screen.

Specification

Model	DPO6202B	DPO6102B	DPO6082B
Horizontal			
Bandwidth	200MHz	100MHz	80MHz
Waveform Interpolation	(sin x)/x		
Record Length	Maximum 64M samples per single-channel;		
	Maximum 32M samples per dual-channel;		
SEC/DIV Range	2ns/div~100s/div		
	1, 2, 5 sequence		
Time Base Mode	Y-T, X-Y, Roll		
Offset from Zero Point	±0.5 div × minmum time base voltage		
Sample Rate and Delay Time Accuracy	±25ppm		
Clock Drift	≤±5 ppm/year		
Delta Time Measurement Accuracy (Full Bandwidth)	Single-shot, Normal mode ± (1 sample interval +100ppm × reading + 0.6ns)		
	>16 averages ± (1 sample interval + 100ppm × reading + 0.4ns)		
	Sample interval = s/div ÷ 200		
Vertical			
AD Converter	8-bit resolution		
VOLTS/DIV Range	500μV/div to 10V/div at input BNC		

Position Range	500μV/div~120mV/div, ±1V; 122mV/div~1.2V/div, ±10V; 1.22V/div~10V/div, ±50V		
Selectable Analog Bandwidth Limit, typical	20MHz		
Low Frequency Response (-3db)	≤10Hz at BNC		
Rise Time at BNC, typical	≤1.7ns	≤3.5ns	≤4.4ns
DC Gain Accuracy	±3% for Normal or Average acquisition mode, 10V/div to 10mV/div		
	±4% for Normal or Average acquisition mode, 5mV/div to 500μV/div Note: Bandwidth reduced to 6MHz when using a 1X probe.		
DC Offset Accuracy	±0.1 div±2 mV±1% drift value		
Isolation Ratio Among Channels	DC to max. Bandwidth: >40 dB		

Acquisition

Real Time Sample Rate	1GSs/s single channel, 500MSa/s dual channel
Peak Detect	4ns
Average	After N acquisitions on all channels simultaneously, N can be set to 2, 4, 8, 16, 32, 64, 128, 512 or 1024
High Resolution	Max. 12 bits
Minimum Pulse Width	8ns
Memory Depth	Maximum 64M samples per single-channel; Maximum 32M samples per dual-channel;

Inputs

Channel	2CH
Input Coupling	DC, AC or GND
Input Impedance, DC coupled	25pF±3 pF, 1MΩ±2%
Overvoltage Category	300V CAT II
Maximum Input Voltage	$300V_{RMS}$ (10X)

Trigger

Trigger Level Range	±5 div from the center of the screen	
Mode	Auto, Normal, Single	
Level	CH1~CH2	±4 divisions from center of screen
Holdoff Range	8ns ~ 10s	

Trigger Level Accuracy	0.2div × volts/div within ±4 divisions from center of screen

Edge Trigger

Slope	Rising, Falling, Risingor Falling
Source	CH1~CH2

Pulse Width

Polarity	Positive, Negative
Condition(When)	<, >, ≠, =
Source	CH1~CH2
Width Range	8ns ~ 10s

Video Trigger

Signal Standard	NTSC, PAL
Source	CH1~CH2
Sync	ScanLine, LinrNum, OddField, EvenField and AllField

Slope Trigger

Slope	Rising, Falling
Condition(When)	<, >, ≠, =
Source	CH1 ~ CH2
Time Range	8ns ~ 10s

Overtime Trigger

Source	CH1~CH2
Polarity	Positive, Negative
Time Range	8ns ~ 10s

Window Trigger

Source	CH1~CH2

Pattern Trigger

Pattern	0: Lower level; 1: High level; X: Ignore
Level	CH1~CH2

Interval Trigger

Slope	Rising, Falling
Condition(When)	<, >, ≠, =
Source	CH1~CH2
Time Range	8ns ~ 10s

Delay Trigger

Slope	Rising, Falling
Condition(When)	<, >, ≠, =
Source	CH1~CH2
Time Range	8ns ~ 10s

Setup & Hold Trigger

Slope	Rising, Falling
Condition(When)	<, >, ≠, =
Source	CH1~CH2
Time Range	8ns ~ 10s

Under Amp

Polarity	Positive, Negative
Condition(When)	<, >, ≠, =
Source	CH1~CH2
Time Range	8ns ~ 10s

UART Trigger

Condition(When)	Start, Stop, Data, Parity Error, COM Error
Source(RX/TX)	CH1~CH2
Data format	Hex (hexadecimal notation)
Condition(When)	<, >, ≠, =
Data Length	1 byte
Data Length	5 bit, 6 bit, 7 bit, 8 bit
Parity Check	None, Odd, Even
Idle Level	High, Low
Baud Rate(Selectable)	110/300/600/1200/2400/4800/9600/14400/19200/38400/57600/115200/230400/380400/460400 bit/s
Baud Rate (Custom)	300bit/s~334000bit/s

LIN Trigger

Condition(When)	Interval Field, Sync Field, Id field, Sync Id Error, Identifier, Id and Data
Source	CH1~CH2
Data format	Hex (hexadecimal notation)
Baud Rate (Selectable)	110/300/600/1200/2400/4800/9600/14400/19200/38400/57600/115200/230400/380400/460400 bit/s
Baud Rate (Custom)	300bit/s~334000bit/s

CAN Trigger

Condition(When)	Start Bit, Remote Frame, Data Frame Id, Frame Id, DataFrame Id A, Error Frame, All Error, Ack Error, Overload Fram	
Source	CH1~CH2	
Data format	Hex (hexadecimal notation)	
Baud Rate (Selectable)	10000, 20000, 33300, 500000, 62500, 83300, 100000, 125000, 250000, 500000, 800000, 1000000	
Baud Rate (Custom)	5kbit/s~1Mbit/s	

SPI Trigger

Source	CH1~CH2
Data format	Hex (hexadecimal notation)
Data Length	4, 8, 16, 24, 32

IIC Trigger

Source (SDA/SCL)	CH1~CH2
Data format	Hex (hexadecimal notation)
Data Index	0~7
When(Condition)	Start, Stop, No Ack, Address, Data, Restart

Measurements

Cursors	Voltage difference between cursors: △V Time difference between cursors: △T Reciprocal of △T in Hertz (1/ΔT)	
Automatic Measurements	Frequency, Period, VMean, VMax, VMin, Pk-Pk, VTop, VMid, VBase, VAmp, VRms, Vovr, Vpre, PVRms, PVMean, RiseT, FallT, PosPW, NegPW, PDuty, NDuty, FRR, FFF, Vfov, Vrpr, BWidth, FRF, FFT, LRR, LRF, LFR, LFF, MaxTime, MinTime, +PhaseTime, -PhaseTime, Variance, +PulseCnt, -PulseCnt, +EdgeCnt, -EdgeCnt, TriggerCnt, CHN_LRR	
DVM	Source	CH1, CH2
	Measurement Type	DC RMS
		AC RMS
		DC
	Frequency Counter	Hardware 6 digit frequency counter

General Specifications

Display

Screen Type	7 inch TFT (diagonal liquid crystal) touch screen

Display Resolution	800 horizontal by 480 vertical pixels	
Color Display	16000K color (24bit real color)	
Persistence	Min., 1 s, 5 s, 10 s, 30S, infinite	
Display Type	Dot, Vector	
Display Mode	Color temperature, gray scale	
Display Brightness	Adjustable	
Grid Type	Optional	
Grid Brightness	Adjustable	
Interface		
Standard Interface	USB Host, USB Device, LAN	
Probe Compensator Output		
Output Voltage, typical	About 2Vpp into ≥1MΩ load	
Frequency, typical	1kHz	
Power Supply		
Supply Voltage	100-120VACRMS(±10%), 45Hz to 440Hz, CAT II 120-240VACRMS(±10%), 45Hz to 66Hz, CAT II	
Power Consumption	<30W	
Fuse	T, 3.15A, 250V, 5x20mm	
Environmental		
Operating Temperature	0~50 °C (32~122 °F)	
Storage Temperature	-40~+71 °C (-40~159.8 °F)	
Humidity	≤+104℉(≤+40°C): ≤90% relative humidity	
	106℉~122℉ (+41°C ~50°C): ≤60% relative humidity	
Cooling Method	Convection	
Altitude	Operating and Nonoperating	3,000m (10,000 feet)
	Random Vibration	0.31g_{RMS} from 50Hz to 500Hz,
		10 minutes on each axis
	Nonoperating	2.46g_{RMS} from 5Hz to 500Hz
		10 minutes on each axis
Mechanical Shock	Operating	50g, 11ms, half sine
Mechanical		
Dimension	318 x 110 x 150mm (L x W x H)	
Weight	2900g	