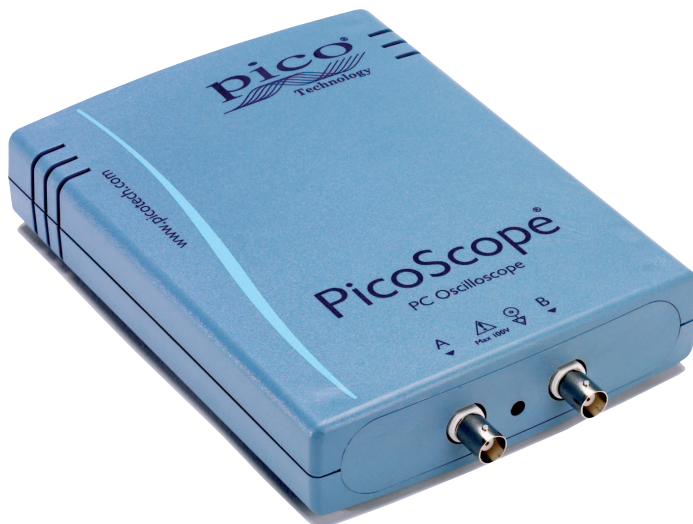


# PicoScope<sup>®</sup> 4000 Series

HIGH-PRECISION USB OSCILLOSCOPES

Speed, precision and detailed capture



32 MS buffer  
12-bit resolution  
80 to 250 MS/s sampling  
20 to 100 MHz bandwidth  
2 or 4 channels  
2 channel IEPE model  
USB powered



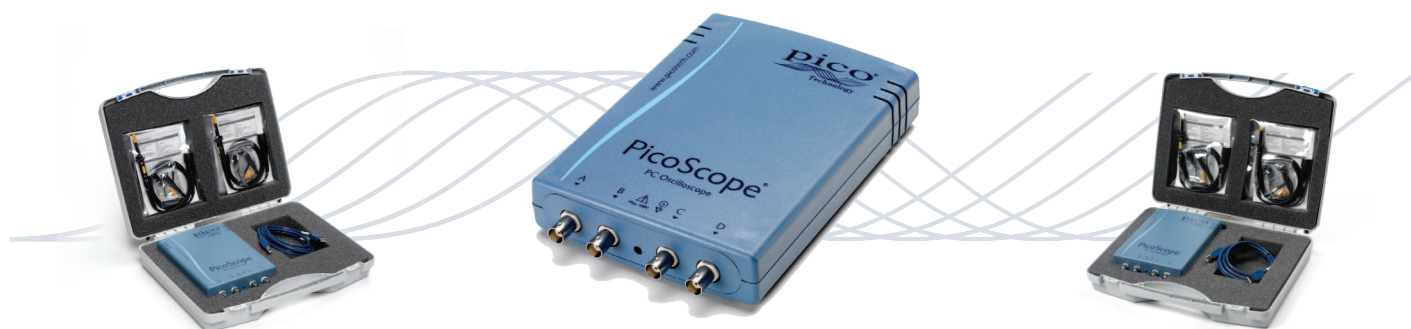
32 MS BUFFER  
12-BIT  
IEPE



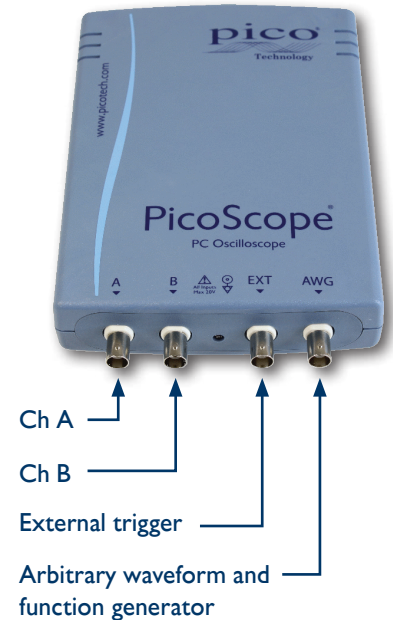
Supplied with a full SDK including example programs  
• Software compatible with Windows XP, Windows Vista,  
Windows 7 and Windows 8 • Free technical support

MODEL	BANDWIDTH	CHANNELS	SAMPLING	BUFFER MEMORY	EXT TRIG	AWG
PicoScope 4424	20 MHz	4	80 MS/s	32 MS	No	No
PicoScope 4224	20 MHz	2	80 MS/s	32 MS	No	No
PicoScope 4224 IEPE	20 MHz	2	80 MS/s	32 MS	No	No
PicoScope 4226	50 MHz	2	125 MS/s	32 MS	Yes	Yes
PicoScope 4227	100 MHz	2	250 MS/s	32 MS	Yes	Yes

MODEL	PicoScope 4424	PicoScope 4224	PicoScope 4224 IEPE
<b>INPUTS</b>			
Number of channels	4 BNC inputs	2 BNC inputs	<b>Passive Probe Mode</b> 2 BNC inputs <b>IEPE Interface Mode</b> 2 BNC inputs
Analog bandwidth	20 MHz (10 MHz on $\pm 50$ mV range)		DC to 20 MHz (10 MHz on $\pm 50$ mV range)
Voltage ranges	$\pm 50$ mV to $\pm 100$ V in 11 ranges		$\pm 50$ mV to $\pm 20$ V in 9 ranges
Sensitivity	10 mV/div to 20 V/div		10 mV/div to 4 V/div
Graphing frequency measurement	20 Hz, 200 Hz, 2 kHz, and 20 kHz ranges		
Vertical resolution	12 bits (up to 16 bits with resolution enhancement)		12 bits (up to 16 bits with resolution enhancement)
Input coupling	AC or DC, software-controlled		AC or DC, software-controlled
Input impedance	1 M $\Omega$    22 pF		1 M $\Omega$    22 pF   1 M $\Omega$    1 nF
Overvoltage protection	$\pm 200$ V		$\pm 100$ V
<b>SAMPLING</b>			
Timebases	100 ns/div to 1000 s/div		100 ns/div to 1000 s/div
Maximum sampling rate (real-time)	1/2 channels: 80 MS/s*	80 MS/s	80 MS/s
	3/4 channels: 20 MS/s		
*To achieve the best sampling rate across two channels, choose one channel from A or B, and one from C or D.			
Buffer size	32 MS shared between active channels		32 MS shared between active channels
<b>TRIGGERING</b>			
Sources	Any input channel		
Modes	None, single, repeat, auto, rapid		
Trigger types	Rising edge, falling edge, edge with hysteresis, pulse width, runt pulse, dropout, windowed		
<b>PERFORMANCE</b>			
Timebase accuracy	50 ppm		
DC accuracy	1% of full scale		
Trigger resolution	1 LSB		
Trigger re-arm time	2.5 $\mu$ s (fastest timebase)		
<b>ENVIRONMENT</b>			
Temperature range	Operating: 0 $^{\circ}$ C to 45 $^{\circ}$ C For stated accuracy: 20 $^{\circ}$ C to 30 $^{\circ}$ C Storage: -20 $^{\circ}$ C to 60 $^{\circ}$ C		
Humidity range	Operating: 5% to 80% RH, non-condensing Storage: 5% to 95% RH, non-condensing		
PC connection	USB 2.0. Compatible with USB 1.1		
PC operating system	Windows XP (SP3), Windows Vista, Windows 7 and Windows 8 (not Windows RT). 32-bit and 64-bit versions.		
Power supply	5 V @ 500 mA max. from USB port		
Dimensions	200 mm x 140 mm x 38 mm including connectors		
Weight	< 500 g		



MODEL	PicoScope 4226	PicoScope 4227
<b>INPUTS</b>		
Number of channels	2 BNC inputs	
Analog bandwidth	50 MHz	100 MHz
Voltage ranges	±50 mV to ±20 V in 9 ranges	
Sensitivity	10 mV/div to 4 V/div	
Vertical resolution	12 bits	
Input coupling	AC or DC, software-controlled	
Input impedance	1 MΩ    16 pF	
Overtoltage protection	±100 V	
<b>SAMPLING</b>		
Timebases	100 ns/div to 1000 s/div	50 ns/div to 1000 s/div
Maximum sampling rate (real-time)	1 channel: 125 MS/s	1 channel: 250 MS/s
	2 channels: 125 MS/s	2 channels: 125 MS/s
Maximum sampling rate (ETS)	10 GS/s	
Buffer size	32 MS shared between active channels	
<b>TRIGGERING</b>		
Sources	Ch A, Ch B, Ext	
Modes	None, single, repeat, auto, rapid	
Ch A, Ch B trigger types	Edge, window, pulse, interval, dropout, runt, delayed	
EXT trigger types	Rising edge, falling edge	
<b>EXT TRIGGER INPUT</b>		
Connector	BNC	
Bandwidth	100 MHz	
Impedance	1 MΩ    20 pF	
Voltage range	±20 V	
Threshold range	±150 mV to ±20 V	
Coupling	DC	
Overtoltage protection	±100 V	
<b>FUNCTION GENERATOR / ARBITRARY WAVEFORM GENERATOR</b>		
Connector	BNC	
Function generator frequency range	DC to 100 kHz	
Function generator waveforms	Sine, square, triangle, ramp, sin(x)/x, Gaussian, half-sine, white noise, DC level	
Buffer size	8192 samples	
DAC update rate	20 MS/s	
DAC resolution	12 bits	
Bandwidth	100 kHz	
DC accuracy	1%	
Output range	±250 mV to ±2 V	
Output offset range	±1 V	
Max. combined output	±2.5 V	
Output resistance	600 Ω	
Overtoltage protection	±10 V	
<b>PERFORMANCE</b>		
Timebase accuracy	50 ppm	
DC accuracy	1% of full scale	
Trigger resolution	1 LSB (Ch A, Ch B)	
Trigger re-arm time	1 μs (fastest timebase, rapid trigger)	
<b>ENVIRONMENT</b>		
Temperature range	Operating: 0 °C to 45 °C For stated accuracy: 20 °C to 30 °C Storage: -20 °C to 60 °C	
Humidity range	Operating: 5% to 80% RH, non-condensing Storage: 5% to 95% RH, non-condensing	
PC connection	USB 2.0. Compatible with USB 1.1	
PC operating system	Windows XP (SP3), Windows Vista, Windows 7 and Windows 8 (not Windows RT). 32-bit and 64-bit versions.	
Power supply	5 V @ 500 mA max. from USB port	
Dimensions	200 mm x 140 mm x 38 mm including connectors	
Weight	< 500 g	
Compliance	EU EMC and LVD Standards RoHS and WEEE, FCC Rules Part 15 Class A	



#### Additional features:

- Mask limit testing with alarms
- Serial data decoding (CAN, I<sup>2</sup>C etc.)
- Per-channel low-pass filtering
- Math channels
- Reference waveforms
- Waveform buffer with up to 10,000 segments and visual navigator
- Digital Color and Analog Intensity persistence modes
- XY mode

