PicoScope®

TECHNICAL SPECIFICATIONS OF THE PICOSCOPE 4225A AND 4425A DIAGNOSTIC OSCILLOSCOPES

	PicoScope 4225A	PicoScope 4425A
Channels	2	4
Vertical resolution	12 bits (16 bits in enhanced resolution mode)	
DC accuracy	±1% of full scale (2% on 50mV range)	
Sensitivity	10 mV/div to 40 V/div	
Input ranges (full scale)	±50 mV to ±200 V in 12 ranges	
Input impedance	1 MΩ in parallel with 24 pF	
Input type	Floating single-ended PicoBNC+ connector	
Input coupling	Software selectable AC/DC	
Input overvoltage protection	±250 V (DC + AC peak)	
Buffer memory	250 M samples shared between active channels	
Waveform buffer	Up to 10,000 waveforms	
Timebase ranges	5 ns/div to 5000 s/div	
Bandwidth	20 MHz (10 MHz on ±50 mV range)	
Maximum sampling rate (single shot) 1 channel in use 2 channels in use 3 or 4 channels in use	 400 MS/s 200 MS/s 100 MS/s	
TRIGGERS		
Source	Any input channel	
Basic triggers	Auto, repeat, single, none	
Advanced triggers	Rising edge, falling edge, edge with hysteresis, pulse width, runt pulse, dropout, windowed, logic	
Maximum pre-trigger delay	Up to 100% of capture length	
Maximum post-trigger delay	Up to 4 billion samples	
SPECTRUM ANALYZER		
Frequency range	DC to 20 MHz	
Display modes	Magnitude, peak hold, average	
ENVIRONMENTAL		
Operating temperature range	0 °C to 40 °C (15 °C to 30 °C for quoted accuracy)	
Operating humidity range	5% to 80% RH, non-condensing	
Storage temperature range	-20 to +60°C	
Storage humidity range	5 to 95% RH, non-condensing	
PHYSICAL CHARACTERISTICS		
Dimensions	190 x 160 x 40 mm (approx 7.5 x 6.3 x 1.6 in)	
Weight	<900 g (approx 2 lb)	
GENERAL		
Additional accessories (supplied)	USB-C® to USB-B (2.0) cable 1.2 m USB-A to USB-B (2.0) cable 1.8 m Safety Guide	
PC interface	USB 3.0 (USB 2.0 compatible)	
Power requirements	Powered from USB port	
Compliance	FCC (EMC), CE (EMC and LVD), RoHS compliant	
Warranty	2 years	

WHAT DOES IT ALL MEAN?
The main specifications explained.

VERTICAL RESOLUTION

The number of dots in the waveform from top to bottom. "12 bits" means 4,096 dots, which is more detail than you can see on the screen all at once. PicoScope stores the extra detail for when you zoom in.

BUFFER MEMORY

The number of dots in the waveform from left to right. If you don't have enough memory then the waveform won't show all the detail in the signal. PicoScope has more than enough memory, so you can zoom in thousands of times and still see a clear display and spot intermittent glitches.

WAVEFORM BUFFER

A memory that collects your most recent waveforms. If a waveform disappears off the screen, you can look back through the waveform buffer to find it.

TRIGGER

This ensures that the scope captures the waveform at the right time and keeps it in a stable position on the screen. PicoScope can set up the trigger automatically, but if you want you can select special trigger modes to catch unusual waveforms that you might otherwise miss.

BANDWIDTH

For faster signals, more bandwidth gives a more faithful reproduction of the signal shape on the screen. PicoScope has enough bandwidth to display CAN bus and FlexRay signals accurately.

SAMPLING RATE

Like bandwidth, this is more important for fast signals. A high sampling rate ensures that you catch the high-frequency details of the signal.

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