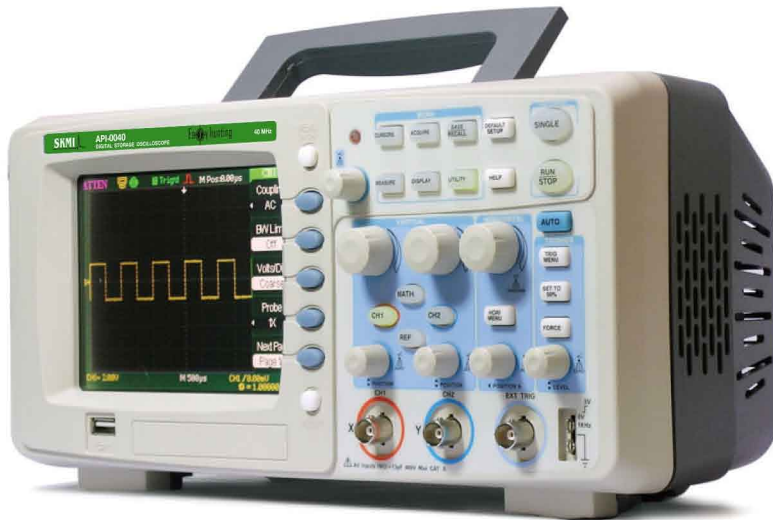


# API Series

## DIGITAL STORAGE OSCILLOSCOPE

25MHz / 40MHz / 60MHz / 100MHz / 150MHz / 200MHz



### FEATURES

- 500MSa/s & 1GSa/s Sampling Rate
- 2 Channels
- 7in & 5.7in LCD Color Display
- USB Host/Device: Support USB Printer and USB Flash Drive
- PictBridge Function
- Easyscope Software
- 12 Languages

### APPLICATIONS

- Industrial Power Design, Troubleshooting, Installation, and Maintenance.
- Electronics Design, Troubleshooting, Installation, and Maintenance
- Circuit Design & Debug
- Educational Lab & Training Institutions
- Repair & Service
- Production Test & Quality Inspection

### CHARACTERISTIC:

- The highest Single real-time sampling rate can up to 1Gsa/s; Equivalent sampling rate is up to 50GSa/s.
- Memory Depth: API-0025, API-0026 Series – 4Kpts  
API-0040 Series – 32Kpts  
API-0041/0060/0100/0150/0200 Series – 2Mpts
- Max recording length: 6Mpts
- The longest single recording time: 33.3h
- Trigger types: Edge, Pulse Width, Video, Slope, Alternative
- Unique Digital Filter function and Waveform recorder function
- Support Pass/Fail function.
- Thirty two parameters Auto measure function.
- Save/recall types: Setups, Waveforms, CSV file, Picture.
- Support Multilingual On-line help system
- Waveform Intensity and Grid Brightness can be adjusted.
- Support twelve types Language
- Standard Configuration Port:  
USB Host: Support USB flash driver save/recall function and update firmware;  
USB Device: Support PictBridge compatible printer and support PC remote control; RS232, Pass/ Fail output

#### ADI-0025/API-0026

25MHz, 500MSa/s, 2 Channel

#### ADI-0040/API-0041

40MHz, 500MSa/s & 1GSa/s, 2 Channel

#### ADI-0060

60MHz, 1GSa/s, 2 Channel

#### ADI-00100

100MHz, 1GSa/s, 2 Channel

#### ADI-0150

150MHz, 1GSa/s, 2 Channel

#### ADI-0200

200MHz, 1GSa/s, 2 Channel

MODEL INDEX	API-0200	API-0150	API-0100	API-0060	API-0041	API-0040	API-0026	API-0025	
Bandwidth	200MHz	150MHz	100MHz	60MHz	40MHz		25MHz		
Sampling Rate	1GSa/s					500MSa/s			
Equivalent Sampling Rate	50GSa/s					25GSa/s		10GSa/s	
Memory Depth	5Kpts/CH	Single Channel: 2Mpts; Double Channels: 1Mpts				32Kpts		4Kpts	
Rise Time	< 1.8ns	< 2.3ns	< 3.5ns	< 5.8ns	< 8.8ns		< 14ns		
Input Impedance	1MΩ  14pF								
Sec/div Range	2.5ns/div-50s/div			5ns/div-50s/div	10ns/div-50s/div		25ns/div-50s/div		
	Scan: 100ms-50s/div								
Display	Color (480*234) 7" LCD			Color (320*234) 5.7" LCD					

## FEATURES

### Abundant Trigger Function

API series products have rich trigger modes: Edge, Pulse, Video, Slope and Alternative mode, which satisfy with users more extensive needs. Alternative trigger mode is usually used to observing two non-correlated signals at the same time and users can select different trigger mode for two channels, which is a kind reproduction that analog oscilloscope function in the digital oscilloscope.

### FFT Waveform Split Display Function

FFT waveform and its Channel waveform can display on split screen at the same time. In split display mode, the screen is divided into two parts and each part is divided eight divides in vertical direction. That is similar to under the entire screen pattern simultaneously to observe two waveforms. This way will make users observe waveforms to be clearer and convenient.

### Pop-up Menu Display Mode

The menu may hide as necessary make waveforms display on 12 divides full screen. Comparing with other same level digital oscilloscopes, this kind of pattern is more flexible, the user operation is more convenient and users can observe waveforms clearly.

### Auto Measure Function

API series can auto measure thirty two parameters, which is most in the same level digital oscilloscopes. Auto measure function can eliminate user error consumedly, and users will measure parameters what they need faster and more accurately using it. API series also have all measurement function that displays all the waveform parameters on the screen according to measure kinds, and users can ready measure parameters value expediently. So API series are your most perfect measure tools in current market.

### Cursor Survey Function

API series cursor survey function has three kinds of modes: Auto manual mode, Track mode, Auto mode. The user may according to own need to choose the survey pattern nimbly, thus with ease read measure results from the top right of the screen or experience completely automatic intelligent design pattern.

### Digital Filter Function

API series provide a digital filter function, and users can use it setting upper limit and lower limit of frequency to reduce signal noise and filter error signal. So they can observe their interested signals distinctly, which will advance users' work efficiency consumedly.

### Waveform Recorder Function

Using this function, Users can continue record data of their need signals as the form of frame. Waveform recorder can record input waveform from CH1 and CH2, with maximum record length of 1500 frames. This record behavior can also be activated by the pass/fail test output, which makes this function especially useful to capture abnormal signals in long term without keeping an eye watching it.

### Pass/Fail Function

Users may use the Pass/Fail function which the API series provides to carry on the product test. Through a series of setups, the oscilloscope can output the test result automatically which enhanced the product production efficiency greatly.

### Display

API series products use the colored TFT LCD. The screen display parameter value and the waveform are clearer, stably and nature; That is also more advantageous to alleviate tiredness of users using the instrument extended periods at a time.

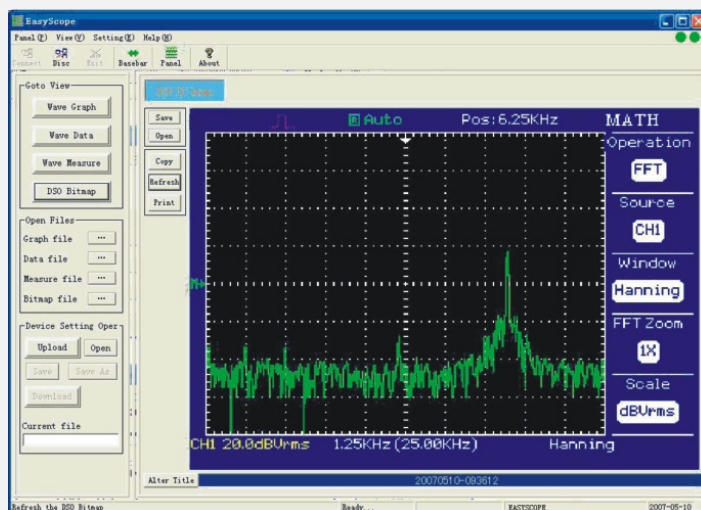
### Multi-country Language User Interface Display function

API series product has 12 languages user interface display function: Simplified Chinese, Traditional Chinese, English, Arabic, French, German, Russian, Spanish, Portuguese, Japanese and Korean, which has further developed the API series product international market and has laid the foundation for API series making for the international well-known brand products.

### Powerful EasyScope3.0 Software

EasyScope3.0 software is the powerful system software suitable for API series products. This software can be compatible RS-232 and USB Device to realize communication between the computer and the oscilloscope, then realizes long-distance control. Simultaneously this software can automatic real-time refresh waveform data, provide waveforms measure data sampling data, screen images read storage and printing functions. In addition

EasyScope3.0 also has setups upload and download function. Most quickly basing on millisecond level interactive between PC and API series make users to be easier to analyze, research waveforms and data.



EasyScope3.0 Software interface

## Input

Input Coupling	AC, DC, GND
Input Impedance	DC: $1M \Omega \pm 2\% \parallel 17pF \pm 3pF$ AC: $1.2M \Omega \pm 2\% \parallel 17pF \pm 3pF, \leq 100mV/div$ $1.0M \Omega \pm 2\% \parallel 17pF \pm 3pF, > 100mV/div$
Maximum Input Voltage	$\pm 400V$ PK-PK CATI
Ch to Ch Isolation (Both channels in same V/div setting)	> 100: 1 at 100MHz (ADS1202CM), > 100: 1 at 70MHz (ADS1152CM) > 100: 1 at 50MHz (ADS1102CM), > 100: 1 at 30MHz (ADS1062CM) > 100: 1 at 20MHz (ADS1042CM/C+)
Probe attenuator	1X, 10X
Probe attenuator	1X, 10X, 100X, 1000X

## Horizontal System

Real Time Sampling Rate	API-0041/0060/0100/0150/0200: Single Channel 1GSa/s; Double Channels 500MSa/s API-0025/0026/0040: Single Channel 500MSa/s; Double Channels 250MSa/s					
Equivalent Sampling Rate	API-0060/0100/0150/0200: 50GSa/s API-0041: 25GSa/s; API-0025: 10GSa/s					
Measure Display Modes	MAIN, WINDOW, WINDOW ZOOM, Scan, X-Y					
Timebase Accuracy	$\pm 100ppm$ measured over 10ms interval					
Time Window	12 Divisions					
Horizontal Scan Range	API-0200 API-0150	API-0100	API-0060	API0040/0041	API-0025/0026	
	2.5ns/div -50s/div	2.5ns/div -50s/div	5.0 ns/div -50s/div	10 ns/div -50s/div	25ns/div - 50s/div	
	Scan: 100ms/div -50s/div (1-2.5-5 sequence)					

## Vertical System

Vertical Sensitivity	2mV-10V/div at input BNC (1-2-5 order)					
Channel voltage offset range	2mV-200mV: $\pm 1.6V$ 206mV-10V: $\pm 40V$ in Fixed Gain Ranges & Variable Gain Ranges					
Vertical Resolution	8 bit					
Channels	2					
Analog Bandwidth (at input BNC)	API-0200 200MHz	API-0150 150MHz	API-0100 100MHz	API-0060 60MHz	API-0040/0041 40MHz	API-025/0026 25MHz
BW Flatness	DC-10% of rated BW: $\pm 1DB$ 10%-50% of rated BW: $\pm 2DB$ 50%-100% of rated BW: $\pm 3DB$					
Lower frequency limit (AC -3dB)	$\leq 10Hz$ (at input BNC)					
Noise: Pk-Pk for 3K record	$\leq 0.6Div$ for average of 10Pk-Pk readings in fixed gain settings. $\leq 0.7 Div$ for average of 10 Pk-Pk readings, Variable gain settings					
SFDR including harmonics	$\geq 40dB$					
DC Gain Accuracy	$< \pm 3.0\%$ : 5mV/div to 5V/div in Fixed Gain Ranges $< \pm 4.0\%$ : typical for 2mV/div and Variable Gain Ranges					
DC Measurement Accuracy: All Gain settings $\leq 100mV/div$	$\pm [3\%X ( reading  +  offset ) + 1\% \text{ of }  offset  + 0.2div + 2mV]$ $+ 0.2div + 2mV]$					
DC Measurement Accuracy: All Gain settings $> 100mV/div$	$\pm [3\%X ( reading  +  offset ) + 1\% \text{ of }  offset  + 0.2div + 100mV]$					
Rise time, Typical (using 500ps pulse)	API-0200 <1.8ns	API-0150 <2.3ns	API-0100 <3.5ns	API-0060 <5.8ns	API-0040/0041 <8.8ns	API-025/0026 <14ns
Math operation	+,-, *,FFT					
FFT	Window mode: Hanning, Hamming, Blackman, Rectangular Sampling points: 1024					
Bandwidth limiter	20MHz $\pm 40\%$ Typical (Note: BW limited below 20MHZ $\pm 40\%$ when using probe X1; ADS1022C+don't have BW limiter)					

## Trigger System

Trigger Types	Edge, Pulse Width, Video, Slope, Alternative
Trigger Modes	Auto, Normal, Single
Trigger Sources	Ch1-2, EXT, EXT/5, AC Line
Trigger Coupling	AC, DC, LF rej, HF rej
Trigger Level Range	CH1, CH2: $\pm 6$ divisions from center of screen EXT: $\pm 1.2V$ EXT/5: $\pm 6V$
Trigger Level Accuracy (typical) applicable for the signal of rising and falling time $\approx 20ns$	Internal: $\pm(0.2 \text{ div} \times V/\text{div})$ (within $\pm 4$ divisions from center of screen) EXT: $\pm(6\%$ of setting + 40 mV) EXT/5: $\pm(6\%$ of setting + 200 mV)
Edge Trigger	Edge type: Rising, Falling, Rising and Falling
Pulse Width Trigger	Trigger Modes: (>, <,<=) Positive Pulse Width, (>,<,<=) Negative Pulse Width Pulse Width Range: 20ns-10s
Video Trigger	Support signal Formats: PAL/SECAM, NTSC Trigger condition: odd field, even field, all lines, line Num
Slope Trigger	(>,<,<=) Positive slope, (>,<,<=) Negative Slope Time: 20ns-10s
Alternative Trigger	CH1 trigger type: Edge, Pulse, Video, Slope CH2 trigger type: Edge, Pulse, Video, Slope

## Control Panel Function

Auto Set	Auto adjusting the Vertical, Horizontal system and Trigger Position
Save/Recall	Support 2 Group referenced Waveforms, 20 Group setups, 20 Group captured Waveforms internal Storage/Recall function and USB flash driver storage function.

## Hard Ware Frequency Counter

Reading resolution	6 Bytes
Accuracy	$\pm 0.01\%$
Range	DC Couple, 10Hz to MAX Bandwidth
Signal Types	Satisfying all Trigger signal (Except Pulse width trigger and Video Trigger)

## Acquisition System

Sample Types	Real time, Equivalent time			
Memory Depth	API-0025 Series: Single Channel 4Kpts ; API-0026/0040Series: Single Channel 32Kpts, API-0200 :5Kpts / CH			
	<b>API-0041/0060/0100/0200 Series:</b>			
	<b>Channel Mode</b>	<b>Sampling Rate</b>	<b>Short memory</b>	<b>Long Memory</b>
	Single Channel	1Gsa/s	40kpts	No Support
	Single Channel	500MSa/s or lower	20kpts	2Mpts #
Double Channels	500MSa/s or lower	20kpts	1Mpts #	
Sample Mode	Sample, Peak Measure, Average			
Averages	4,16,32,64,128,256			

## Measure System

Auto Measure	Vpp, Vmax, Vmin, Vamp, Vtop, Vbase, Vavg, Mean, Crms, Vrms, ROVShoot, FOVShoot, RPREShoot, FPREShoot, Rise time, Fall time, Freq, Period, +Wid, -Wid, +Dut, -Dut, Bwid, Phase, FRR, FRF, FFR, FFF,LRR,LRF, LFR, LFF
Cursor Measure	Manual mode, Track mode and Auto mode

# (only in API-0100/0200 Series with Long Memory)

## GENERAL SPECIFICATIONS

Display	
Display Mode	Color TFT 7 in & 5.7in.(145mm) diagonal Liquid Crystal Display
Resolution	480 horizontal by 234 vertical pixels & 320 horizontal by 234 vertical pixels
Display Color	64K color
Display Contrast (Typical state)	150:1
Backlight Intensity (Typical state)	300nit
Wave display range	8 x 12 div
Wave Display Mode	Point, Vector
Point, Vector	Off, 1 sec, 2 sec, 5 sec, Infinite
Menu Display	2 sec, 5 sec, 10 sec, 20 sec, Infinite
Skin	Succinct
Screen saver	1min, 2min, 5min, 10min,15min, 30min, 1hour, 2hour, 5hour, off
Waveform Interpolation	Sin(x)/x, Linear
Color model	Normal , Invert
Language	English, French, German, Russian, Spanish, Simplified Chinese, Traditional Chinese, Portuguese, Japanese, Korean, Italian, Arabic
Interface	USB Host, USB Device, RS232, Pass/Fail output

Environments	
Temperature	Operating:10°C to + 40°C Not operating: -20°C to +60°C
Humidity	Operating: 85%RH, 40°C, 24 hours Not operating: 85%RH, 65°C, 24 hours
Height	Operating: 3000m Not operating: 15,266m

Power Supply	
Input Voltage	100-240 VAC, CAT II, Auto selection
Frequency Scope	45Hz to 440Hz
Power	50VA Max

Mechanical				
Dimension	Length	Width	Height	
	305mm	133mm	154mm	
Dimension (ADS1202CM)	399mm	110.5mm	148.5mm	
Weight	2.3 kg			

We pursue a policy of continuous development and product improvement. Thus the specifications and picture in this Spec sheet and control location on the front Panel may be changed.



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