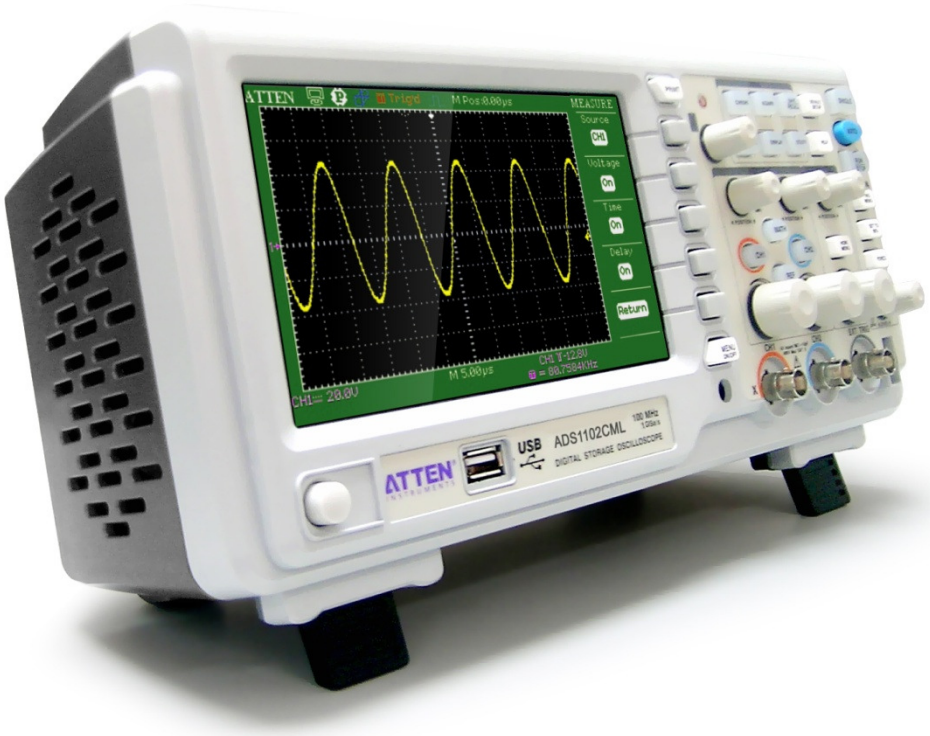
NEW PRODUCT ANNOUCEMENT

ADS1000CL+ / CML DSO Series

25MHz ~ 200MHz



We are glad to introduce to our global customers our new series of Digital Storage Oscilloscope under ADS1000 CL+ & CML Series. Based on the same platform of our ADS1000C & CM series, the new oscilloscope is a general purpose portable, affordable and easy to use oscilloscope designed to meet the requirement in the educational, research labs and industry.

The series is available in 6 selective bandwidths ranging from 25MHz to upto 200MHz. With sampling rate of 500MSa/s and 1GSa/s and memory depth upto 2Mpts, customer will have a total measuring experience.

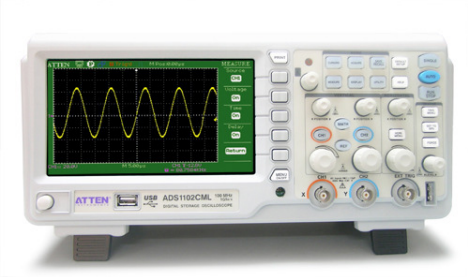
ADS-1000 series offers dual sampling mode, giving users two options for 500MS/s and 1GSa/s Real-Time sampling or 50GS/s high-speed Equivalent sampling rate. With high-speed wave handling capability, more advanced triggering functions, 7” Widescreen Display and Compact and light-weight design makes it the most powerful oscilloscope with the best price than ever.

The ADS-1000 is considered for the replacement of analog oscilloscope and further promoted as a personal DSO affordable to any situation such as each student in educational labs, service technicians, or industrial field needing big quantity. With the easy to use user interface available in 12 different languages, its truly a global player

Key Features

- 25MHz, 40MHz, 60 MHz, 100 MHz, 150MHz and 200MHz bandwidths
- Realtime Sample rates of 500MSa/s and 1GS/s
- Equivalent Sampling rate of 50Gsa/s
- Long Waveform Memory – upto 2Mpts
- Advanced Triggering-Edge, Pulse Width, Video, Slope (Rise Time)
- 7" widescreen color display on all models
- 32 automatic measurements
- Large internal waveform and setup storage
- 4 math functions plus FFT
- USB host and device connections for printers, memory sticks and PC remote control
- Multi-language User Interface and Context Sensitive Help

Product Series Description



ADS1022CL+, 25MHz, 500MSa/s, 2 Ch, 7” Widescreen Color LCD
ADS1042CL+, 40MHz, 500MSa/s, 2 Ch, 7” Widescreen Color LCD
ADS1042CML, 40MHz, 1GSa/s, 2 Ch, 7” Widescreen Color LCD
ADS1062CML, 60MHz, 1GSa/s, 2 Ch, 7” Widescreen Color LCD
ADS1102CML, 100MHz, 1GSa/s, 2 Ch, 7” Widescreen Color LCD
ADS1152CML, 150MHz, 1GSa/s, 2 Ch, 7” Widescreen Color LCD
ADS1202CML, 200MHz, 1GSa/s, 2 Ch, 7” Widescreen Color LCD

CL+, 32Kpts Memory Depth
CML : 2Mpts Memory Depth

MODEL INDEX	ADS1202CML	ADS1152CML	ADS1102CML	ADS1062CML	ADS1042CML	ADS1042CL+	ADS1022CL+
Bandwidth	200MHz	150MHz	100MHz	60MHz	40MHz	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	
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	7” LCD Color (480*234)						

Input	
Input Coupling	AC, DC, GND
Input Impedance	DC: 1MΩ+/-2% || 17pF +/-3pF AC: 1.2MΩ+/-2% || 17pF +/-3pF, <=100mV/div 1.0MΩ+/-2% || 17pF +/-3pF, >100mV/div
Maximum Input Voltage	±400V PK-PK CATI
Ch to Ch Isolation (Both channels in same V/div setting)	> 100: 1 at 100MHz (ADS1202CML), > 100: 1 at 70MHz (ADS1152CML) > 100: 1 at 50MHz (ADS1102CML), > 100: 1 at 30MHz (ADS1062CML) > 100: 1 at 20MHz (ADS1042CML/CL+)
Probe attenuator	1X, 10X
Probe attenuator	1X, 10X, 100X, 1000X

Horizontal System						
Real Time Sampling Rate	Single Channel 1GSa/s; Double Channels 1GSa/s (ADS1202CML) Single Channel 1GSa/s; Double Channels 500MSa/s (ADS1000CML Series) Single Channel 500MSa/s; Double Channels 250MSa/s (ADS1000CL+ Series)					
Equivalent Sampling Rate	50GSa/s					
Measure Display Modes	MAIN, WINDOW, WINDOW ZOOM, Scan, X-Y					
Timebase Accuracy	±100ppm measured over 10ms interval					
Time Window	18 Divisions					
Horizontal Scan Range	ADS1202CML	ADS1152CML	ADS1102CML	ADS1062CML	ADS1042CL+ /CML	ADS1022CL+
	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) 2mV-5V/div (ADS1202CML / 1022CL+)					
Channel voltage offset range	2mV-200mV: ±1.6V 206mV-10V: ±40V in Fixed Gain Ranges & Variable Gain Ranges					
Vertical Resolution	8 bit					
Channels	2					
Analog Bandwidth (at input BNC)	ADS1202CML	ADS1152CML	ADS1102CML	ADS1062CML	ADS1042CL+/ CML	ADS1022CL+
	200MHz	150MHz	100MHz	60MHz	40MHz	25MHz
BW Flatness	DC-10% of rated BW: ±1DB 10%-50% of rated BW: ±2DB 50%-100% of rated BW: ±3DB					
Lower frequency limit (AC -3dB)	≤10Hz (at input BNC)					
Noise: Pk-Pk for 3K record	≤0.6Div for average of 10Pk-Pk readings in fixed gain settings. <=0.7 Div for average of 10 Pk-Pk readings, Variable gain settings					
SFDR including harmonics	≥40dB					
DC Gain Accuracy	< ±3.0%: 5mV/div to 5V/div in Fixed Gain Ranges < ±4.0%:typical for 2mV/div and Variable Gain Ranges					
DC Measurement Accuracy: All Gain settings ≤100mV/div	±[3%X (|reading|+|offset|) +1% of |offset| +0.2div+2mV] +0.2div+2mV]					
DC Measurement Accuracy: All Gain settings >100mV/div	±[3%X (|reading|+|offset|) +1% of |offset| +0.2div+100mV]					
Rise time, Typical (using 500ps pulse)	ADS1202CML	ADS1152CML	ADS1102CML	ADS1062CML	ADS1042CL+/ CML	ADS1022CL+
	<1.8ns	<2.3ns	<3.5ns	<5.8ns	<8.8ns	<14ns
Math operation	+,-, *,FFT					

FFT	Window mode: Hanning, Hamming, Blackman, Rectangular Sampling points: 1024
Bandwidth limiter	20MHz ±40% Typical (Note: BW limited below 20MHZ±40% when using probe X1;25MHz BW don't have this function)
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: ±6divisions from center of screen EXT: ±1.2V EXT/5: ±6V
Trigger Level Accuracy (typical) applicable for the signal of rising and falling time ≥20ns	Internal: ±(0.2 div x V/div)(within±4 divisions from center of screen) EXT: ±(6% of setting + 40 mV) EXT/5: ±(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.
Acquisition System	
Sample Types	Real time, Equivalent time
Memory Depth	ADS1202CML :5Kpts / CH ADS1000CL+ Series: Single Channel 4Kpts ; ADS1000CML Series: Single Channel 2Mpts

ADS1000CML Series			
Channel Mode	**Sampling Rate**	**Short memory**	**Long Memory**
Single Channel	1Gsa/s	40kpts	No Support
Single Channel	500MSa/s or lower	40kpts	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

GENERAL SPECIFICATIONS

Display				
	Display Mode	Color TFT 7in diagonal Liquid Crystal Display		
	Resolution	480 horizontal by 234 vertical pixels		
	Display Color	64K color		
	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℃ to + 40℃ Not operating: -20℃ to +60℃		
	Humidity	Operating: 85%RH, 40℃, 24 hours Not operating: 85%RH, 65℃, 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
		399mm	110.5mm	148.5mm
	Weight	2.4 kg		

Ordering Details

Shipping date: Available May 10th, 2010

Delivery: 4 Weeks

How to purchase: Order directly from the Atten factory by placement of a purchase order.

Service & Support: 2 Years Warranty. The service instructions in the Service Manual will help users repair the defective units promptly. Board swapping service support is provided by Atten for the necessary board replacement. Latest release of Easyscope software and firmware is available on the website www.attenelectronic.com for update.

An ISO-9001Certified Manufacturer

ATTEN ELECTRONICS CO., LTD.
Building A29, Tanglang Industrial Zone, Xili
Nanshan, Shenzhen 518055
P.R.China

Tel.: +86-755-86021376, Fax: +86-755-61618291