

GENERAL SPECIFICATIONS

Display (LCD)	Dot matrix LCD (240×128 dots), Display Size : 53mm(H)× 92mm(W)
Display Sampling Rate	Waveform : 4 times / sec., Readings : 2 times / sec.
Measurement Items	DC Voltage, AC Voltage, Resistance, Continuity, Frequency, Duty Cycle, Pulse Width, Temperature
Frequency bandwidth	DC to 200kHz
Max. Sampling Rate	2MS / sec.
Max. Input Voltage	DC 1000V / AC (rms) 600V ※Crest factor 1.5 or less
Number of Channels	2 channels
Input Resistance	Approx. 1MΩ
Language	English, Japanese (Default : English)
Oscilloscope Function	Graphic waveform display for voltage measurement
DMM Function	Displays for DCV, ACV, Resistance, Continuity, Frequency, Duty Cycle, Pulse Width, Temperature
Internal Power Supply	1.5V LR6 or R6P batteries 4 pcs. (NiMH rechargeable battery usable)
External Power Supply	USB mini-B connector (DC5V)
Auto Power Off	Turn off after a lapse of 30 minutes (for battery operation only, default setting : OFF)
Data Saving	Screen capture : save "HOLD" display as image data (PNG format) Data logger : save sampling data (CSV format) ※Data saving capacity : approx. 3.7M bytes (data transfer to PC available with USB connection)
Operating Temperature & Humidity	-10°C to 50°C, less than 80%RH (in non-condensing)
Storage Temperature & Humidity	-20°C to 60°C, less than 70%RH (in non-condensing)
Power Consumption	Backlight-ON : approx. 170mA, Backlight-OFF : approx. 100mA
Continuous Measurement	Manganese : approx. 2.5 hours for backlight-ON, approx. 4.5 hours for backlight-OFF Alkaline, NiMH (1900mAh) : approx. 10 hours for backlight-ON, approx. 18 hours for backlight-OFF
Safety Level	CE Marking approved (main unit) EN61010-1 CAT II 300V class 2, EN61326-1
Dimensions & Weight	Approx. 162mm(H)×167mm(W)×35mm(D), 570g (excluding batteries)
Accessories	Holster (attached to the main unit), 100-57 Test Leads, 903 AC/DC Adapter (USB 5V output), 934 USB cable, 1035 Carrying Case, 1.5V R6P Batteries 4 pcs, Instruction Manual
Optional Accessories	660 AC/DC Clamp Adapter, 100-57R Red Test Lead, 100-72 Oscilloscope Test Lead Set, 100-41 Test Lead Kit, 100-62 Test Lead Set, 653 RPM Sensor (for Direct Ignition), 650 RPM Sensor (for High Tension Cord), 940 Alligator Clips, 793 Coil-Type Contact Pin, 944 Test Pin, 946 Battery Clip, 818-02 Temperature Probe

MEASUREMENT SPECIFICATIONS (23°C±5°C, less than 80%RH in non-condensing) Temperature Coefficient : add "accuracy×0.1 / °C" except 23°C±5°C

Voltage (Graph mode)		Frequency bandwidth : DC to 200kHz		Resistance (Ω)		DMM mode	
V / Div	Accuracy	Range	Accuracy	Range	Accuracy	Resolution	Open Circuit Voltage
200mV / 2V / 20V	±4dot	2.000kΩ	±1.0%rdg±8dgt	1Ω		1Ω	≤3.3V
500mV / 5V / 50V / 200V	±2dot	20.00kΩ		10Ω		10Ω	
1V / 10V / 100V / 500V	±1dot						
DC Voltage (DMM mode)		Continuity (••)		Frequency (Hz)		DMM mode	
Range	Accuracy	Resolution	Max. Input	Range	Accuracy	Resolution	Open Circuit Voltage
200.0mV	±1.0%rdg±8dgt	100 μV	1000V DC	2.000kΩ	±1.0%rdg±8dgt	1Ω	≤3.3V
2.000V		1mV		Buzzer sounds when approx. 50Ω or less			
20.00V		10mV					
200.0V		100mV					
1000V	±1.0%rdg±5dgt	1V					
AC Voltage (AC V rms)		Pulse Width (S)		Temperature (°C)		DMM mode	
Range	Accuracy	Resolution	Input Sensitivity	Range	Accuracy	Resolution	Sensor
2.000V	±2.0%rdg±8dgt (45Hz to 1kHz)	1mV	5V (square wave)	10 μS to 999 μS	±0.5%rdg	1 μS	K-type thermocouple
20.00V	±2.5%rdg±8dgt (1kHz to 10kHz)	10mV		1.0mS to 999.9mS		±3dgt	
200.0V	±4.0%rdg±8dgt (10kHz to 20kHz)	100mV					
600V	±6.0%rdg±8dgt (20kHz to 30kHz)	1V					
		±2.0%rdg±5dgt (45 to 1kHz), ±2.5%rdg±5dgt(1kHz to 10kHz)					
Duty Cycle (%)		DMM mode					
Range	Accuracy	Resolution	Input Sensitivity				
5.0% to 95.0%	±0.5%rdg±3dgt	0.1%	5V (square wave)				

※Max. Input : 600V AC (rms) / Crest factor 1.5 or less
 ※20.00V range : for 18V to 20V, add ±1.0% to the accuracy
 ※200.0V range : for 180V to 200V add ±1.0% to the accuracy, frequency effective 45Hz to 20kHz

HANDY

SUITABLE FOR AUTOMOTIVE MEASURING

OSCILLOSCOPE

SK-2500

NEW



2ch Hand-held Oscilloscope Especially for Car Mechanics

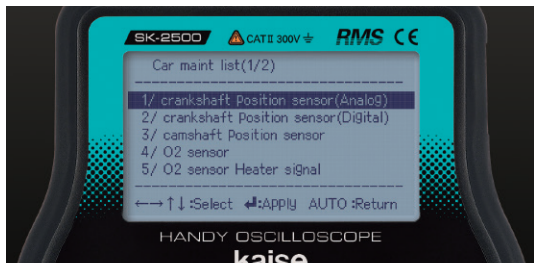
Waveform Observation for Car Maintenance!

Equipped with Sufficient Function and High Usability.
Focusing on Ruggedness and Simplicity of Use.

Ideal Waveform Observation Tool for Car Mechanics with User-Friendly Design, Usage, and Functions!

Car Maintenance List - The Auto Set Function for Car Sensors and Signals

The most complicated thing to get the observable waveform with oscilloscope is the settings of voltage axis, time axis, and trigger. SK-2500 makes it easier by providing "Car Maintenance List". Just choosing the sensor or signal to be measured, the instrument automatically adjusts the waveform and shows it on the screen.



Car maintenance list

Rubber Holster for Shock Protection and Improved Ruggedness

Standard oscilloscopes tend to be slippery due to its plastic chassis, and careful handling is required. SK-2500 added rugged solution for hand-held oscilloscope with slip-proof rubber holster. This also offers stable placing even in the engine compartment.



Easy-to-Use Hand-Held Oscilloscope Without Special Accessories

SK-2500 can use as your daily tool, with oscilloscope, digital multimeter, and data logger in one single hand-held unit. Test probes and accessories are common with our other test & measurement products for enhanced usability.

Usable : 100-41 Test Lead Kit, 100-62 Test Lead Set



100-41 Test Lead Kit (option)

Large-Sized Luminous Key Switches with Simple Operation

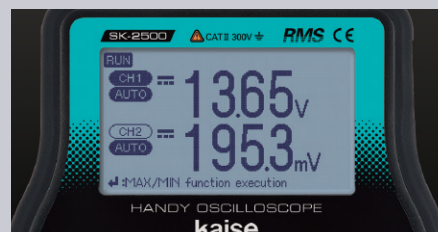
Feeling difficulties in complicated key operation for using oscilloscope? Key switches of SK-2500 offers intuitive operation with illumination function, pictorial indications, and guide icons on the screen.



Key switches with illumination function

Digital Multimeter Function in DMM Mode

AC/DC Voltages, Resistance, Continuity, Frequency, Pulse Width, Duty Cycle, and Temperature measurements.



DMM mode (2ch measurement possible)

Auto Axes Adjustment

Auto Adjustment for voltage and time axes.

AC/DC Adapter Powering

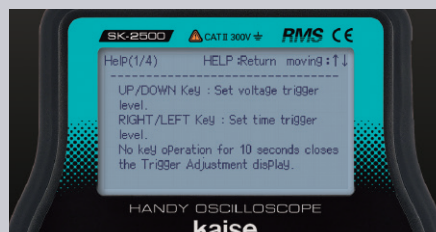
USB 5V output AC/DC adapter for continuous measurement. ※standard accessory

Temperature Measurement (with optional temperature probe)

Use the optional 818-02 Temperature Probe or other K-type thermocouple probes.

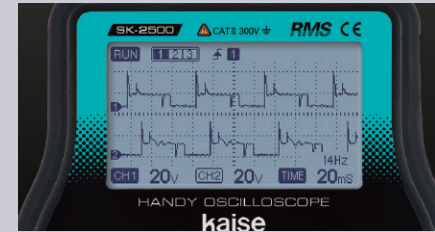
Help Function to Support Your Measurement

Press HELP Key when you have questions in the operation. Help lists with useful hints or tips are displayed on the screen.



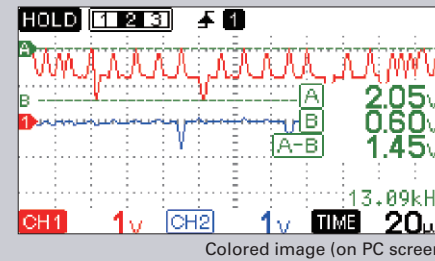
HELP screen

2ch Waveform Display



Screen Capturing Saved as Image Data

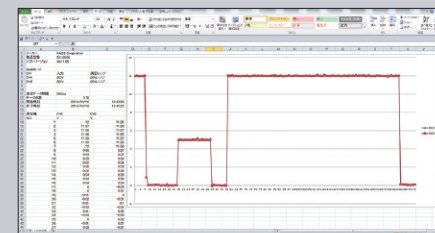
Screen capturing saved as PNG format is available just pressing CAPTURE Key. Captured data can be recalled from the menu list to view on the screen or to move to the PC. You can see the colored image data on PC screen.



Colored image (on PC screen)

Data Logger Function and Data Processing on PC

You can record the measuring data with Data Logger function and can send it to PC for using in spreadsheet software like making graphs. SK-2500 can store up to 99 CSV and PNG data.



Graph sample in spreadsheet

Cursor Function to Check the Waveform Precisely

Voltage, Time, Frequency, and Duty Cycle between the cursor can be measured.

Trigger Settings

Can set trigger positions, slope, and channel.

Trigger Hold Function

Will not miss out the sporadic waveform by freezing the screen when the measuring waveform comes up to the trigger level.

Backlight LCD

Easy reading even in dark environment.

With Soft Carrying Case

Measurement Example

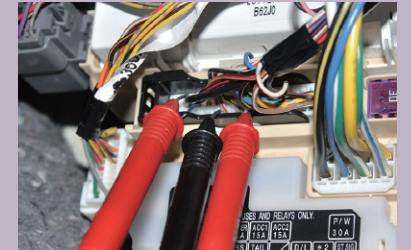
Waveform observation of cam and crank sensors in graph mode

※See maintenance manual when making the measurement.

- ① Insert the Input Plugs of Test Lead to Input Terminals. Turn on the instrument.
- ② Contact the Test Pins to the terminal to be measured. The below picture is getting the signal input from wire harness connector using 100-41 Test Lead Kit.



Insert the input plugs to the terminals



Wire harness

- ③ Choose the item from Car Maintenance List. Auto set works for voltage / time axes, trigger, and waveform position to display camshaft position sensor waveform in CH1.
- ④ Adjust voltage axis and waveform position to make space for CH2 waveform.
- ⑤ Press CH2 Key. Crankshaft position sensor waveform is displayed on the screen. Adjust the voltage axis to be the same as CH1 and adjust the waveform position.



Battery voltage measurement in DMM mode

- ① Insert the Input Plugs of Test Lead to Input Terminals. Turn on the instrument.
- ② Press TEST MODE Key to go to DC Voltage measurement in DMM mode.
- ③ Contact the test pins to battery terminals (red pin to plus terminal, and black pin to minus terminal).
- ④ Read the measurement result on the screen.



2ch test for battery voltage and alternator current

※Optional 660 AC/DC Clamp Adapter is required.



Graph mode



DMM mode