User manual JINHAN JDS2012Q

Exterior:

(JDS2012Q)

1. Channel 1/CH1
2. Multimeter A/V/ Ω
3. Automatic setting /AUTO
4. Trigger key/TRIG
5. Pause/start
6. OK key: Long press to record the waveform.
7. Parameters/long press screenshot
8. Power button/PRW
9. Time base/HORI: adjust time size
10. Menu key/MENU
11. Return: return to the main interface
12. selection key F1 F2 F3
13. Channel 1 interface
14. Multimeter negative
15. Multimeter is working
16. USB interface

Main interface:

Boot into the main interface, you can use different functions through each submenu.

ignition:

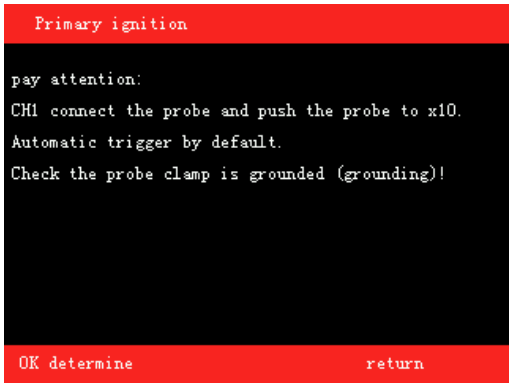
The main function of the ignition menu is to help customers quickly set the commonly used ignition signal parameters of the oscilloscope.

Button function under ignition menu:

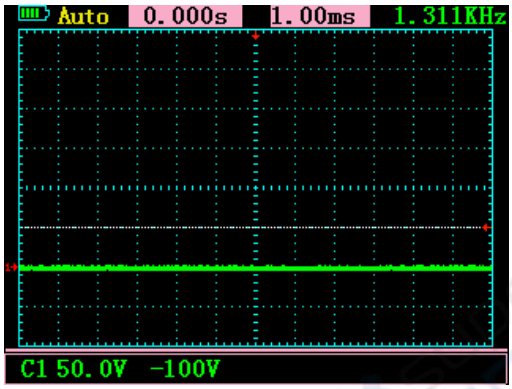
OK	determine
↑ ↓	Select function
return	Return to the previous menu

Routine1:

Select the primary ignition, after the OK button is confirmed, there will be corresponding notices:

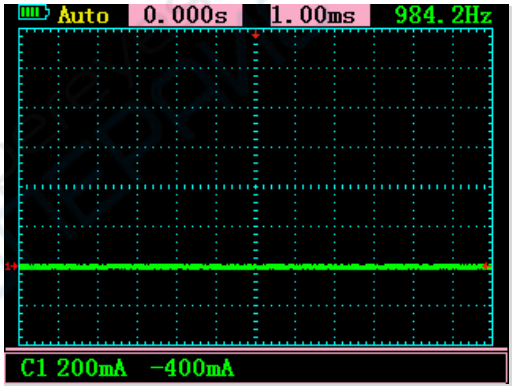


At this time, press the OK key again to enter the waveform test (you can also press the return key to return to the previous menu)



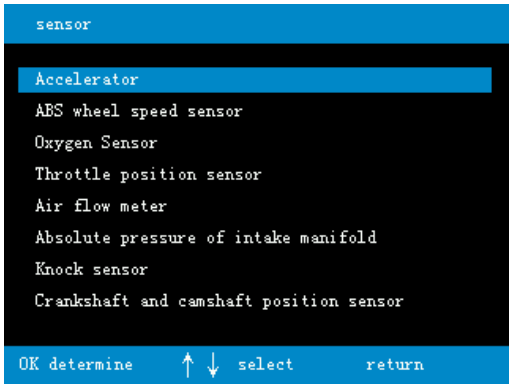
Routine 2 (use of current clamp):

Select primary ignition (current), OK key to confirm after entering the oscilloscope:



Note: At this time, the relevant parameter values of the oscilloscope interface have been adjusted to the current unit A, and all current parameters can be read directly.

sensor:



The main function of the sensor menu is to help customers quickly set the commonly used sensor signal parameters of the oscilloscope.

Button function under sensor menu:

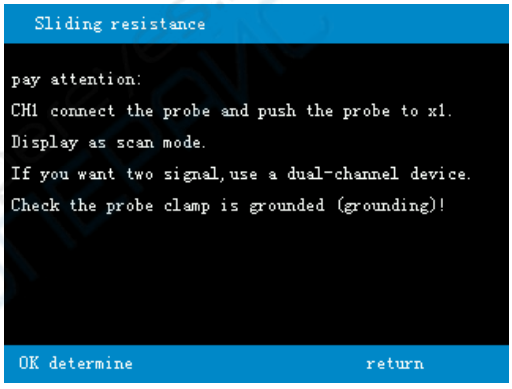
OK determine

↑ ↓ Select function

return Return to the previous menu

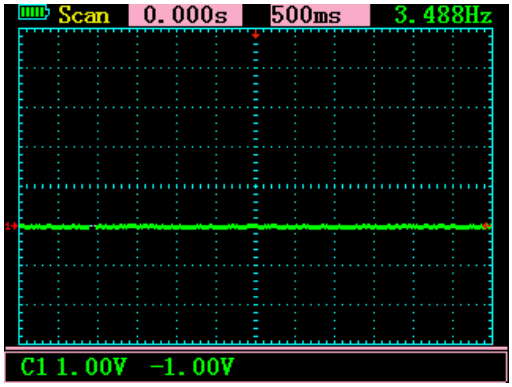
Routine:

Select the sliding resistance type of the accelerator pedal, after the OK button is confirmed, there will be corresponding notices:

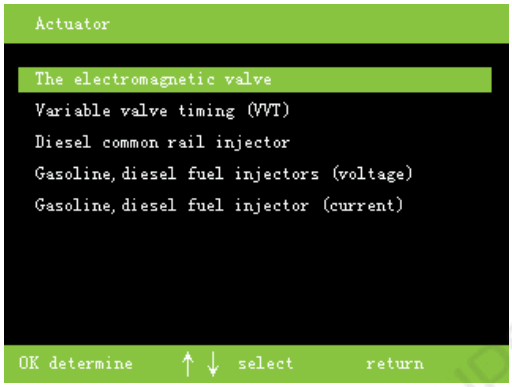


Note: This is a single-channel device, and the accelerator pedal is a two-wire output. To observe the two-wire, you need to use 2022Q.

At this time, press the OK key again to enter the waveform test (you can also press the return key to return to the previous menu)



Actuator:



The main function of the actuator menu is to help customers quickly set the commonly used actuator signal parameters of the oscilloscope.

Button function under the actuator menu:

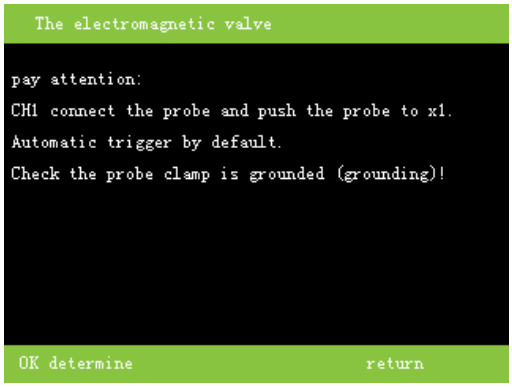
OK determine

↑ ↓ Select function

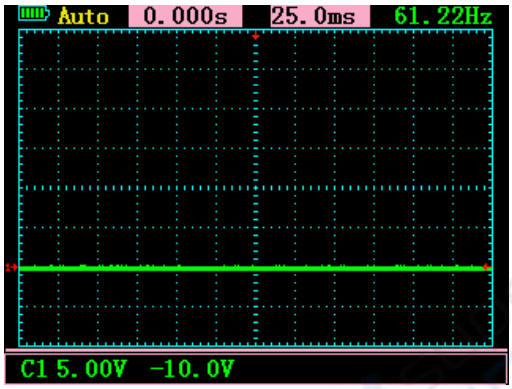
Return Return to the previous menu

Routine:

Select the solenoid valve, after the OK button is confirmed, there will be corresponding notices:



At this time, press the OK key again to enter the waveform test (you can also press the return key to return to the previous menu)



bus:

The main function of the bus menu is to help customers quickly set the commonly used bus signal parameters of the oscilloscope.

Button function under bus menu:

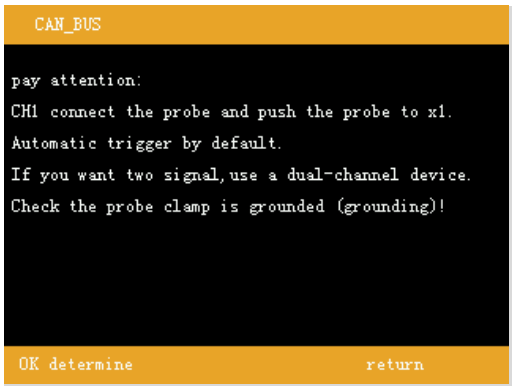
OK determine

↑ ↓ Select function

return Return to the previous menu

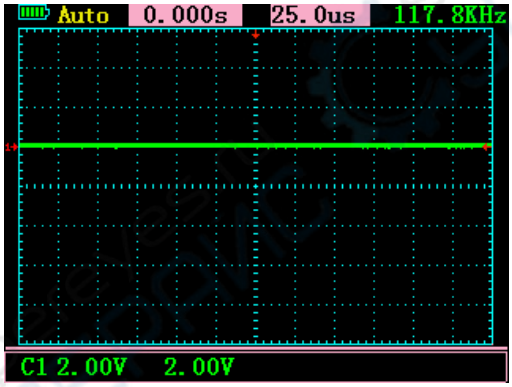
Routine:

After selecting the can bus and OK button to confirm, there will be corresponding notices:

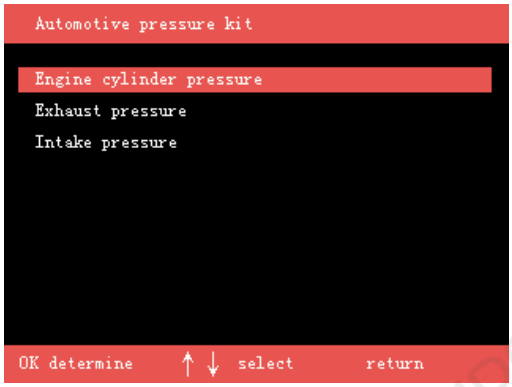


Note: This is a single-channel device, and the accelerator pedal is a two-wire output. To observe the two-wire, you need to use 2022Q.

At this time, press the OK key again to enter the waveform test (you can also press the return key to return to the previous menu)



Auto repair kit:



The main function of the car kit menu is to help customers quickly set the relevant parameters of the oscilloscope when using the specified accessories.

Button functions under the car kit menu:

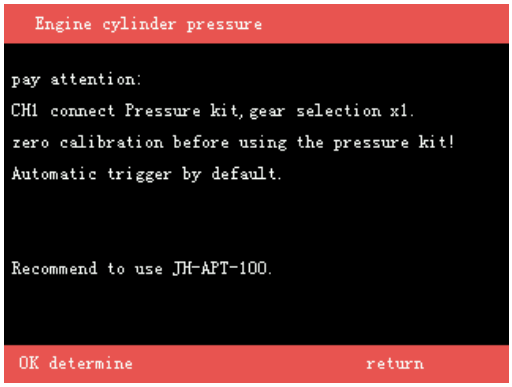
OK determine

↑ ↓ Select function

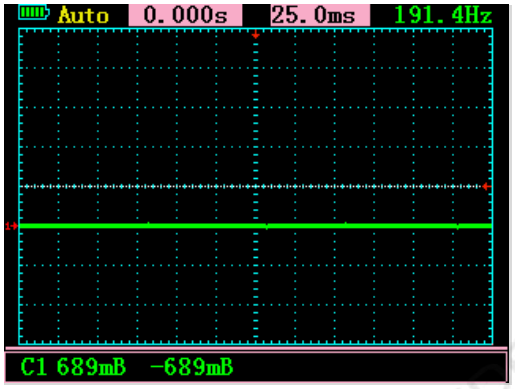
return Return to the previous menu

Routine:

Select the engine cylinder pressure and confirm with the OK button, there will be corresponding notices:



At this time, press the OK key again to enter the waveform test (you can also press the return key to return to the previous menu)



Note: At this time, the relevant parameter values of the oscilloscope interface have been adjusted to the pressure unit Bar, and all pressure parameters can be directly read.

Load test:

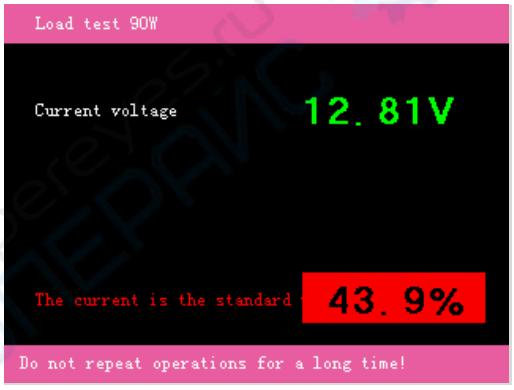
Car load test is mainly to test the car circuit, whether the power supply is sufficient under the condition of heavy load.

Check whether the power supply of the car circuit is normal.

Use the multimeter pen to carry the positive and negative ends of the power cord.

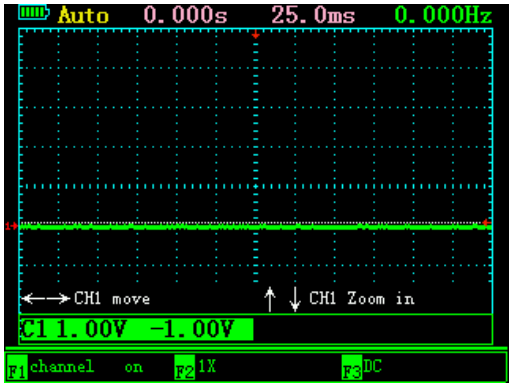
If the power supply meets the current responsible demand, the buzzer will beep for a long time and the green text will be displayed at the same time.

If the power supply cannot meet the current demand, the buzzer will alarm and flash red letters.



Oscilloscope:

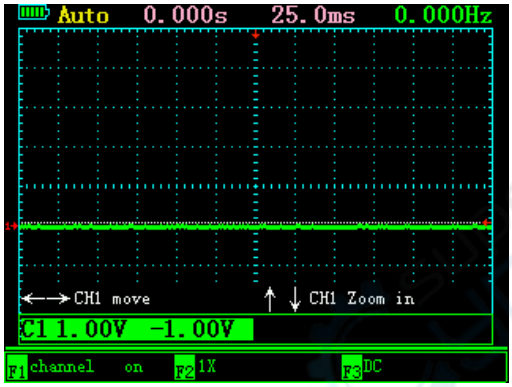
After selecting the oscilloscope in the main menu, you will enter the custom oscilloscope interface.



The function buttons of the oscilloscope are classified as follows:

Channel 1:

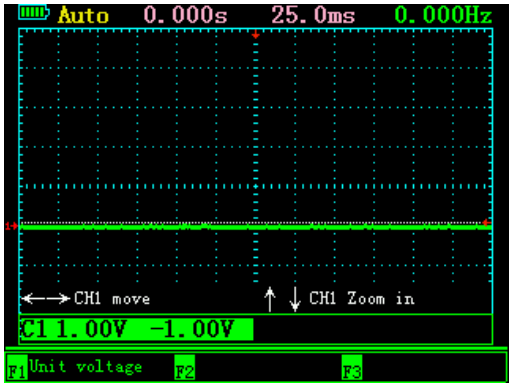
Press the channel 1 button to enter the channel menu.



Under the channel 1 button, the function keys have the following functions:

F1	Channel 1 display switch
F2	Unit number x1, x10, x100 selection
F3	AC/DC coupling options
OK	Save reference waveform when reference waveform A and B are open
←	CH1 mobile
→	CH1 mobile
↑	CH1 Gear adjustment
↓	CH1 Gear adjustment

Press the channel 1 button again to enter the channel unit display menu:



Under the channel 1 button, the function keys have the following functions:

F1 Channel 1 unit selection (voltage, current, pressure)

F2 invalid

F3 invalid

OK Save reference waveform when reference waveform A and B are open

← CH1 mobile

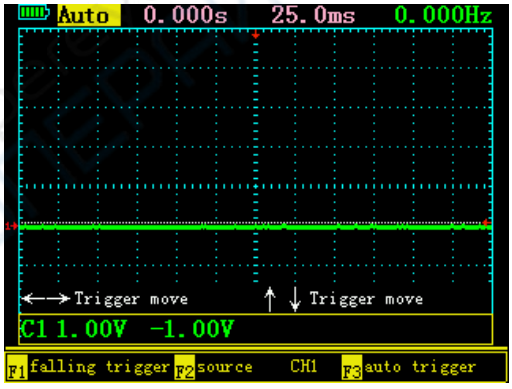
→ CH1 mobile

↑ CH1 Gear adjustment

↓ CH1 Gear adjustment

TRIG:

Press the TRIG-MATH key for the first time to enter the trigger menu.



Under the trigger menu, the function keys have the following functions:

F1 Rising edge and falling edge trigger selection

F2 Select triggerCH1

F3 Select automatic trigger, normal trigger or single trigger

OK Save reference waveform when reference waveform A and B are open

← Trigger movement (when smart trigger is off)

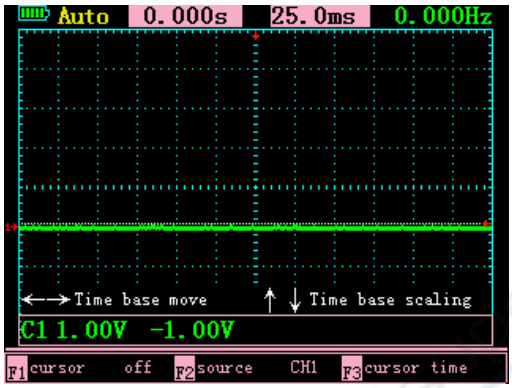
→ Trigger movement (when smart trigger is off)

↑ invalid

↓ invalid

HORI

Press the time base key to enter the following menu:



Under the time base menu, the function keys have the following functions:

F1 Whether the ruler is displayed

F2 The object of the ruler isCH1

F3 The unit of the ruler (time, voltage or current or pressure)

OK Save reference waveform when reference waveform A and B are open

← Trigger reference point movement

→ Trigger reference point movement

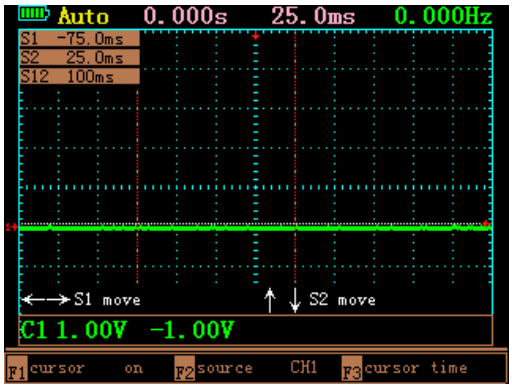
↑ Time base adjustment

↓ Time base adjustment

Ruler:

In the time base menu, choose to open the cursor, and you will enter the ruler menu:

The upper foot of the interface will display the parameters of scale 1, 2



Under the time base menu, the function keys have the following functions:

F1 Whether the ruler is displayed

F2 The object of the ruler isCH1

F3 The unit of the ruler (time, voltage or current or pressure)

OK Save reference waveform when reference waveform A and B are open

← Ruler 1 moves

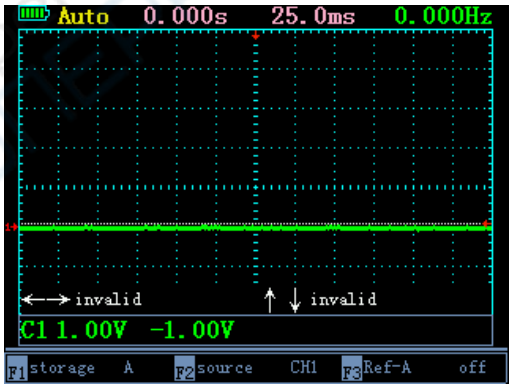
→ Ruler 1 moves

↑ Ruler 2 moves

↓ Ruler 2 moves

MENU

Press the menu key for the first time to enter the following interface.



Under the menu, the function key functions are as follows:

F1 Reference waveform A or B

F2 Reference waveform saveCH1

F3 Whether reference waveform A or B is open

OK Save reference waveform when reference waveform A and B are open

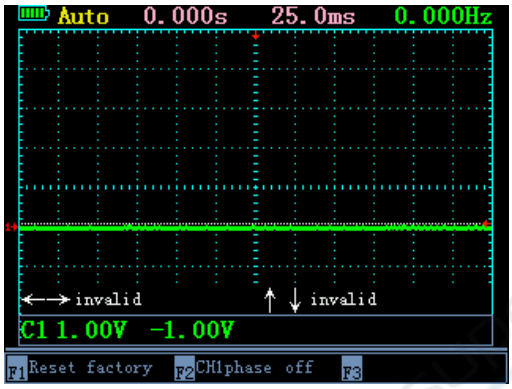
← invalid

→ invalid

↑ invalid

↓ invalid

Press the menu button for the second time to enter the following interface.



Under the menu, the function key functions are as follows:

F1 Enter the factory reset menu

F2 CH1 Whether the waveform is inverted

F3 invalid

OK Save reference waveform when reference waveform A and B are open

← invalid

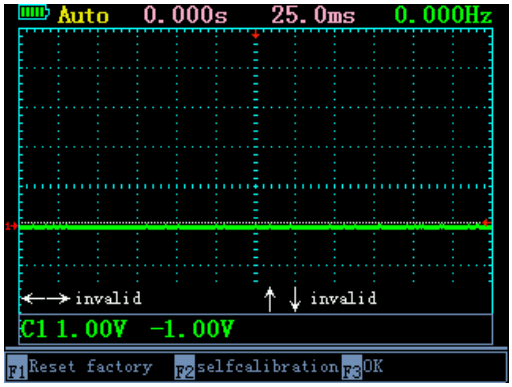
→ invalid

↑ invalid

↓ invalid

Factory reset and self-calibration:

Select factory reset in the menu and enter the following menu.



Under the menu, the function key functions are as follows:

F1 invalid

F2 Self-calibration

F3 Confirm factory reset

OK Save reference waveform when reference waveform A and B are open

← invalid

→ invalid

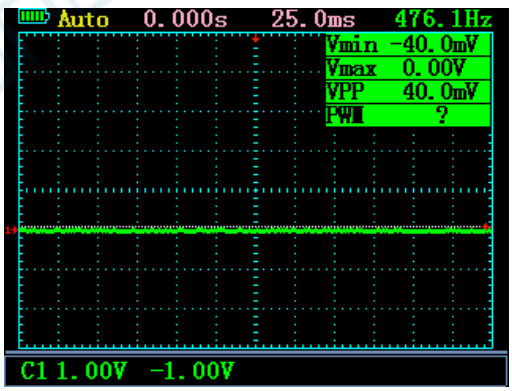
↑ invalid

↓ invalid

(Note: Do not connect to any external equipment during self-calibration to ensure that the channel is disconnected!)

Parameter display:

Press the parameter key, the parameters of each channel will be displayed in the upper right corner of the screen:



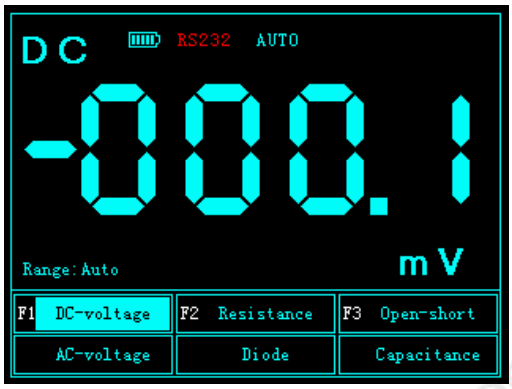
Vmin Minimum voltage (will be displayed as the unit of the relevant channel changes, current, pressure)

Vmax Maximum voltage (will be displayed as the unit of the relevant channel changes, current, pressure)

VPP Amplitude value (will be displayed as the unit of the relevant channel changes, current, pressure)

PWM Duty cycle

multimeter:



F1 Select DC voltage or AC voltage

F2 Choose resistor or diode

F3 Choose on-off or capacitance

← invalid

→ invalid

↑ invalid

↓ invalid

Set up:

Setting options description:

Language	Currently supports 5 languages (Chinese, English, Russian, Spanish, Portuguese)
sound	Choose to turn on or off the key sound
Backlight	Screen brightness adjustment 1-5 levels
Smart trigger	Turn smart trigger on or off
Screenshot preview	View the previous screenshot locally
Waveform browsing	View the previously saved waveform locally

Smart trigger:

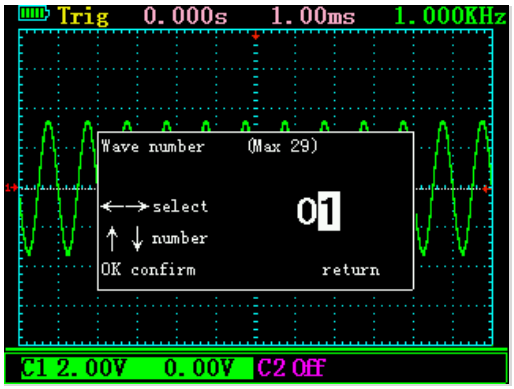
When the smart trigger is turned on, in the oscilloscope, when the waveform meets the trigger condition, the trigger arrow will automatically find the appropriate trigger point and trigger. It saves the manual adjustment step.

This function is only valid in automatic trigger mode, normal trigger and single trigger do not support this function!

Screenshot preview:

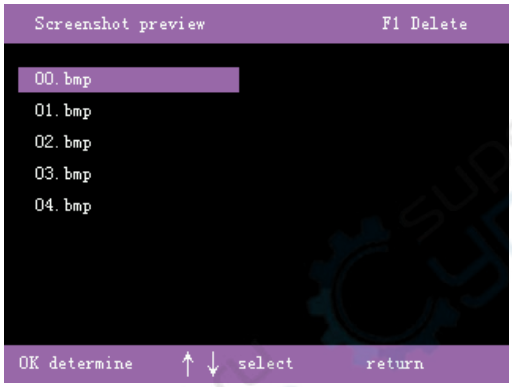
This device supports one-click capture of the current screen.

Press and hold the parameter key for 2 seconds, you will hear 2 beeps, and the screenshot will start in the background. After the screenshot is completed, a dialog box for customizing the screenshot number will pop up.



After editing the number (currently supports 0-7 up to 8 pictures), press ok to save.

After the screenshot is completed, select the screenshot preview in the settings, and enter to see the current screenshot.

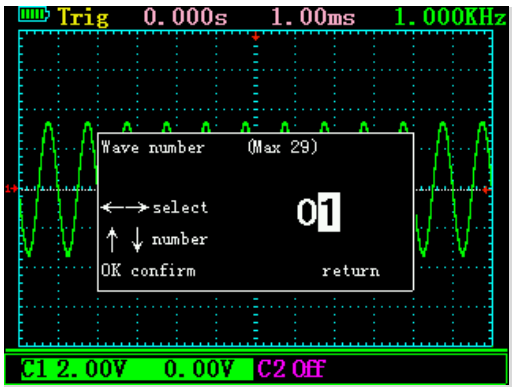


In this interface, you can use the ok key to view the screenshots locally, or use the F1 key to delete the pictures.

Waveform browsing:

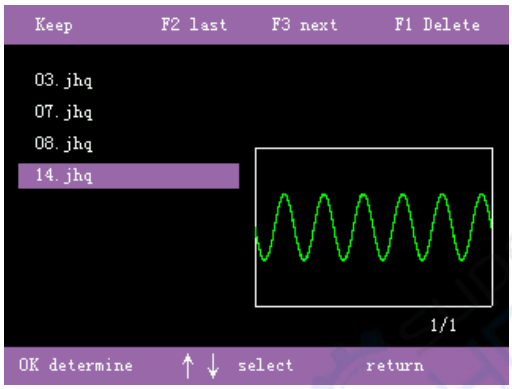
In oscilloscope mode, this device supports the function of saving the current waveform with one key.

Long press the OK button for 2 seconds, a dialog box for customizing the waveform number will pop up.



After editing the number (currently supports up to 30 groups of waveforms from 0-29), press ok to save.

After the waveform is saved, you can view the currently saved waveform in the set waveform browser.



In this interface, you can see the preview of the saved waveform, and at the same time, you can choose to view the waveform with the OK key.

All the data of the waveform will be copied to the oscilloscope, and the oscilloscope can perform arbitrary operations on the waveform.

Parameter Description:

Oscilloscope parameters	
Number of channels	1
Maximum real-time sampling rate	Single channel CH1 200MSa/s
Bandwidth	Single channel 50M
Vertical resolution	8Bit
Vertical gear	10mV - 5V (Probex1), 100mV - 50V (Probex10) 1,2,5 stepping
Impedance	1M Ω , 25pF

Coupling	DC, AC
Display mode	Y-T
Input voltage	40V (Probex1); 400V(Probex10); Use high-voltage probes, the maximum voltage is determined by the quality of the probe.
Time base range	12.5ns - 5s, 100ms - 5s, scan mode(scan)
Storage depth	Per channel 3K
Trigger mode	Automatic, normal and single
Trigger type	Rising edge, falling edge
Automatic detection	50Hz - 20MHz
Cursor measurement	Time, voltage, current, pressure (manual mode)
Can record contrast waveform	2
Screenshot function	stand by
Self-calibration	stand by
Number of screenshots available	7
Number of waveforms that can be saved	30
Multimeter parameters	
Count value	4000 count
DC voltage	0 - 1000V (CAT II area)
AC voltage	0 - 750V (CAT II area)
Resistance	0 - 40M Ω
Capacitance	0 - 100 μ F, (At 100 μ F, the charging time is more than 30 seconds)
Diode	0 - 1.5V
On-off detection	Sound when lower than 30 Ω