



User's Guide

JK628

HANDHELD LOW RESISTANCE TESTER

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Statement

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Security Information



WARNING



DANGER: To avoid possible electric shock and personal safety, follow these guidelines.

Disclaimer

Before you start using the instrument, please read the following safety information carefully. Jinko Instruments will not bear any responsibility for personal safety and property damage caused by the user's failure to comply with the following terms.

Instrument grounding

To prevent the risk of electric shock, connect the power ground wire.

Do not use the instrument in explosive atmospheres

Do not use the instrument in a flammable or explosive atmosphere, steam or dusty environment. Using any electronic device in such an environment is a personal risk.

Do not open the instrument case

Non-professional maintenance personnel must not open the instrument case in an attempt to repair the instrument. There is still a clean charge that has not been discharged for a period of time after the instrument has been switched off, which may cause an electric shock hazard to personnel.

Do not use the instrument in a manner not specified in this manual

Outside the range, the protection provided by the instrument will be invalidated.



Warning: Do not apply DC voltage or current to the test terminal, otherwise it will damage the instrument.



Safety sign: equipment is protected by double insulation or reinforced insulation



Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96 / EC

Do not throw away in the trash

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Changzhou Jinailian Electronic Technology Co., Ltd.
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1. Installation and setup wizard

Thank you for purchasing our products! Please read this chapter carefully before use. The following descriptions are mainly based on JK628.

In this chapter you will learn the following:

- Packing list
- Power requirements
- Operating environment
- cleaning
- Replace the battery
- Adjust support

1.1 packing list

Before using the instrument officially:

1. Check whether the appearance of the product is damaged or scratched;
2. Check the instrument packing list for missing accessories.

If it is damaged or the accessories are insufficient, please contact Jinke Instrument Sales Department or the distributor immediately.

1.2 Power requirements

The instrument can only use our special AC power adapter and lithium battery.

AC power adapter:

Input voltage: 90V-260VAC, 49Hz ~ 62Hz

Power: 10VA max

Warning: Do not use power adapters of other specifications. The instrument can only use our company's power supply and rechargeable lithium battery!

1.3 Operating environment

JK628 must be used under the following environmental conditions:

Temperature: 0 °C ~ 55 °C,

Humidity: less than 70% RH at 23 °C

Altitude: 0 ~ 2000 meters

1.4 Cleaning

Do not clean the inside of the instrument.

Note: Do not use solvents (alcohol or gasoline, etc.) to clean the instrument.

Use a clean cloth and a little water to clean the case and panel.

1.5 Replace the battery

The instrument has a built-in rechargeable lithium battery. The battery is already installed in the battery compartment of the instrument when it leaves the factory. If you replace the battery, follow these steps

Figure 1-1 Replacing the battery



1. Use a screwdriver to loosen the screws on the battery cover and remove the battery cover.
2. Remove the plug from the old battery and plug in the new battery, paying attention to the direction of the plug.
3. Insert the new battery into the battery compartment, close the battery cover, and tighten the screws.

1.6 Adjusting the support

The instrument supports two positions for user convenience: 60 degrees and 45 degrees.

Use the 45-degree position for more stable instrument support.

Figure 1-2 Support position at 60 degrees



Fold the bottom of the support slightly upward to achieve a 45-degree support position.

2. Overview

In this chapter you will learn:

- Introduction
- Main specifications
- Main functions

2.1 Introduction

Thank you for purchasing the JK628 Handheld DC Low Resistance Tester.

Jinke Instrument JK628 handheld DC low resistance tester is a high-precision, wide-range, portable handheld instrument controlled by a high-performance 32-bit ARM microprocessor. The built-in large-capacity lithium battery enables long-term passive component testing in any occasion Accurate and convenient measurement.

JK628 is equipped with a 5.6 "high-definition color LCD display. The large font display makes it easier for you to read data. The instrument can test resistances from $10\mu\Omega \sim 200K\Omega$ with a maximum display of 20,000. It has a current test mode that can adapt to different requirements. Mini-USB communication interface for remote control and data acquisition and analysis.

JK628 handheld low resistance tester can measure a variety of high, medium and low value resistors. JK628 handheld low resistance tester is widely used in various switch contact resistances; connector plug resistance; relay wire package and electric shock resistance; transformer, inductor, motor, deflection coil winding resistance; wire resistance; car, boat, aircraft Metal riveting resistors' printed board lines and hole resistance

2.2 Main specifications

JK628 hand-held series of technical specifications, including the basic technical indicators of the instrument and the scope of the instrument test allowed. These specifications are achievable at the factory.

- Basic accuracy: 0.1%
- Maximum display digits 20000 numbers
- Seven-range automatic, manual or nominal test-provides $10\mu\Omega \sim 200K\Omega$ test range.
- High-speed and high-precision test at a test speed of 3 times per second can still maintain 0.1% accuracy and a maximum reading of 20,000.
- Four-terminal test
- Provide high current and low current test modes-different test modes can be suitable for test pieces of different properties.
- Display-5.6 "inch true-color LCD with simultaneous display of measurement values and sorting results (GD / NG).

2.3 Main functions

2.3.1 Calibration function

Full-scale short-circuit clear function.

2.3.2 Comparator function (sorting function)

Built-in sorting data for GD / NG judgment of DUT.

- Comparison method:

Absolute tolerance \pm TOL sorting: The absolute deviation between the measured value and the

nominal value is compared with the limit of each file.

Percent Tolerance TOL Sorting: The percentage deviation between the measured value and the nominal value is compared with the limit of each file.

Sequential comparison sorting: the measured value is directly compared with the upper and lower limits

- Sound setting:

Users can set OFF / GD / NG sound according to their needs.

2.3.3 System Settings

1. Keyboard lock function
2. Switch between Chinese and English
3. Date and time settings
4. Baud rate setting
5. Backlight setting
6. Automatic shutdown time setting
7. U disk timing

2.3.4 Remote control

Supports a maximum baud rate of 115200bps, compatible with SCPI protocol and ASCII transmission.

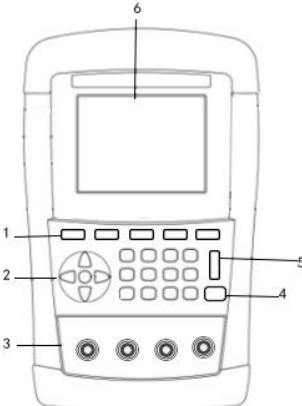
3. Get started

In this chapter you will learn:

- front panel
- Interface panel
- Use of external power
- boot
- Test connection

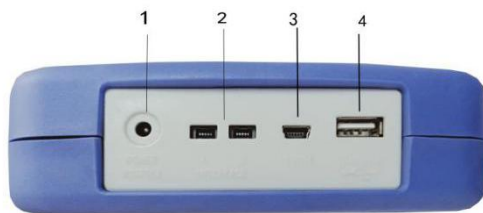
3.1 front panel

Table 3-1 Front panel function description

Front panel	No.	Function
	1	Task bar function keys
	2	cursor keys
	3	test terminal
	4	Power switch
	5	ESC Enter
	6	LCD display window

3.2 Interface Panel

Figure 3-1 Interface panel function description



- 1: external power supply and charger interface
2. Mini-USB communication interface for remote communication.
3. RS485 expansion interface.
- 4.USB interface can save data.

3.3 Use of external power

The instrument comes standard with a power adapter.

In addition to supplying power to the instrument, this power supply also charges the lithium battery inside the instrument. Therefore, the power adapter cannot be replaced. It is recommended to use our company's special power supply.

Figure 3- 2 Connecting the external power adapter to the instrument



Plug the power adapter into the AC adapter input jack on the instrument.

3.3.1 Battery charging function

If the battery is not fully charged, the instrument's charging circuit will automatically start to charge the internal lithium battery after the power adapter is plugged in, and the built-in indicator of the instrument's power key will light up to indicate that charging is in progress. This indicator will light up even after the instrument is turned off, until it goes out when the battery is fully charged.

3.4 Turn on the instrument

The keys are light, touch keys. Press the power key to turn the instrument on or off.

3.5 Test connection

The instrument uses four-terminal tests to improve accuracy.

Before testing, please insert the test lead of the instrument into the instrument jack.

Figure 3-4 Connect the test terminal



Warning: Do not apply DC voltage or current to the test terminal, otherwise it will damage the instrument.

Warning: When testing a charged device, make sure that its charge is discharged before measuring.

3.5.1 Test fixtures and cables

According to our company's long-term survey of users, user-made or other company's test fixtures or test cables may cause incorrect measurement results. We recommend that you use our test fixtures or test cables.

The contact springs of our test fixtures are silver-plated or gold-plated, which will cause abrasion of the electroplated surface during long-term work (for example, 1 ~ 2 years). It is recommended that you replace the new fixtures in time when you find obvious deviations in several tests.

4. [Meas] Measurement display

In this chapter you will learn about all measurement display functions:

- <Measurement display> page
- Short circuit clear
- <comparator settings> page

4.1 <Measurement Display> page

No matter what page you are on, you only need to press the [Display] shortcut key to enter the <Measurement Display> page.

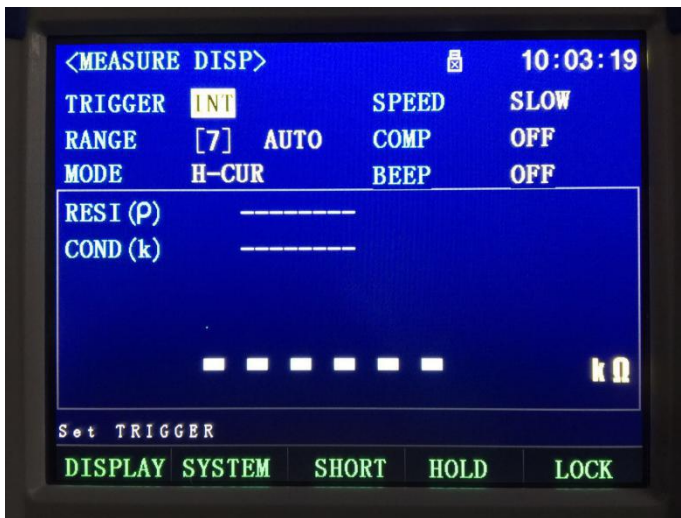
The <Measurement Display> page mainly highlights the measurement results. When comparison is on, sorting results and sorting parameters are displayed.

There are 6 common functions that can be set on this page, including:

- Trigger – trigger method
- Range-range setting.
- Mode-current mode
- Speed-measurement speed
- Compare-sorting settings
- Slam – Slam settings

Note: The measurement data and sorting results are only valid on the <Measurement Display> page.

Figure 4-1 <Measurement Display> page



4.1.1 Measurement [Trigger]

The instrument has 3 trigger modes: internal trigger and manual trigger.

Table 4 - 1 Trigger Mode Description

Trigger method	Description
Internal	also called continuous test. The trigger signal is continuously tested by the instrument according to the inherent cycle.
Manual	Each time the [Enter] key is pressed, the instrument performs a measurement cycle, and the instrument is in a waiting state at other times.

■ Set the trigger mode steps:

Step 1	Select the [Display] function key in the upper column to switch to the <Measurement Display> page	
Step 2	Use the cursor keys to select the [Trigger] field	
Step 3	Use [Enter] to select the trigger mode	
	Function key	Function
	Internal	Manual trigger mode
	Manual	Manual trigger mode

4.1.2 Measurement [Range]

The instrument has 3 measuring ranges: automatic measuring range, manual measuring range and nominal measuring range.

Table 4-2 Test range description

Way	Description	Advantages	Disadvantages
Automatic	The instrument automatically selects the best test range according to the resistance value, and the range number in the range field is set automatically.	The user does not need any participation.	The automatic range needs to predict the range, and the test speed will be lower than the manual range mode.
Manual	The instrument will always use the user-specified range for testing	fastest test speed	Users need to participate in range selection
Nominal	The instrument will automatically select the best range for the test based on the nominal value.	The best way to sort the test. The fastest speed.	Only suitable for sorting test

Table 4-3 Range and corresponding measurement range

Range number	Range definition	Resistance measurement range
7	200k Ω	20k Ω ~ 200k Ω
6	20k Ω	2k Ω ~ 20k Ω
5	2k Ω	200 Ω ~ 2k Ω
4	200 Ω	20 Ω ~ 200 Ω
3	20 Ω	2 Ω ~ 20 Ω
2	2 Ω	200m Ω ~ 2 Ω
1	200m Ω	20m Ω ~ 200m Ω
0	20m Ω	0 ~ 20m Ω

Note: For detailed specifications of JK628, please refer to the table on the specification page.

■ Steps for setting test range:

Step 1	Select the [Measurement Display] function key in the upper bar to switch to the <Measurement Display> page	
Step 2	Use the cursor keys to select the [Range] field	
Step 3	Use [Enter] to select the range mode	
	Function key	Function
	Automatic range	The instrument will automatically select the range
	maintain	The instrument is locked at the current range
	Nominal range	The instrument will select the best range

		based on the nominal value
	Increase +	increase the range number and change the range to manual range
	Decrease-	Decrease the range number while changing the range to manual range



When the range is automatic, the instrument performs range prediction every measurement cycle, so the test speed is slightly slower than the locked range. Moreover, during automatic measurement, frequent range changes will cause slow response. Usually when the instrument is used for sorting measurement, the automatic range method is not suitable. For sorting users, please select the nominal range method.

4.1.3 Measurement [Mode]

The instrument has 2 current modes: high current and low current modes. (AT518L has no low current mode).

Table 4-4 Relationship between range and current mode

Range number	High current mode	Low current mode
0	100mA	100mA
1	100mA	100mA
2	100mA	10mA
3	10mA	1mA
4	1mA	100uA
5	1mA	100uA
6	100uA	10uA
7	10uA	10uA
8	/	/
9	/	/

Note: For the parameters of JK628 working current and accuracy, please refer to the table on the specification page.

■ Steps for setting current mode:

Step 1	Select the [Measurement Display] function key in the upper bar to switch to the <Measurement Display> page	
Step 2	Use the cursor keys to select the [Mode] field	
Step 3	Use the [Enter] function key to select the current mode	
	Function key	Function
	High current mode	High current measurement mode
	Low current mode	Low current measurement mode

4.1.4 Measurement [Speed]

The instrument provides 3 sampling rates: slow, medium, and fast. The slower the speed, the more accurate and stable the test results (AT518L only has a slow speed).

■ Steps for setting the sampling rate:

Step 1	Select the [Measurement Display] function key in the upper bar to switch to the <Measurement Display> page	
Step 2	Use the cursor keys to select the [Speed] field	
Step 3	Use [Enter] to select the sampling rate	
	Function key	Function
	Slow	Measurement slow, about 3 times / second
	Medium	speed Measure medium speed, about 15 times / second
	Fast	measurement fast, about 30 times / second

4.1.5 Measurement [Comparison]

The relevant parameters of the comparator are set on the <comparator settings> page. This page only sets the comparator on or off.

■ Steps for setting sorting status:

Step 1	Select the [Measurement Display] function key in the sidebar to switch to the <Measurement Display> page	
Step 2	Use the cursor keys to select the [Compare] field	
Step 3	Use the sidebar function keys to select the comparison status	
	Function key	Function
	On	Only the comparison results are displayed on the <Measurement Display> page, and the related parameters of the comparison are displayed below
	Off	Close the <Measurement Display> page to compare the results and related parameters, other pages will not process

4.1.6 Measurement [Beep]

Sound settings include: turn off sound, turn sound on.

■ Steps for setting the sound

Step 1	Select the [Measurement Display] function key in the sidebar to switch to the <Measurement Display> page	
Step 2	Use the cursor keys to select the [Compare] field	
Step 3	Use the sidebar function keys to select the beep state	
	Function key	Function
	On	The beep is turned on

	Off	The beep is turned off
--	-----	------------------------

4.1.7 Information bar on <Measurement Display> page

Below the instrument test results, the instrument also displays the sorting results and related parameters. These information are modified in the <Compare Settings> main page and are here for reference.

All pages include a status bar and task bar. When you use the cursor keys to make a selection, the status bar will prompt related help information, but you cannot operate the status bar. When using Mini-USB communication, characters can be printed on the status bar.



4.1.8 Task bar on <Measurement Display> page

Below the status bar is the task bar, which includes:

- Hold-the data remains unchanged and the instrument stops measuring
- System-Switch to the <System Configuration> page
- Key lock – locks the keyboard, but does not affect the measurement on the <Measurement Display> page
- Time-show time

4.1.9 Icon of <Measurement Display> Page

Table 4-5 Icon Functions

Icon	Function
	Currently used internal power source, lithium battery.
	External power is currently being used. At this time, the side light on the observation screen: On means charging is on; Off means charging is complete. Or observe the battery icon: there is a change in charge indicating that charging is in progress; no change indicates that charging is complete.
	USB flash drive is currently inserted
H	The current data is held
T	Temperature compensation is on (not available in AT518L).
20.0°C (example)	Measured temperature (not available in AT518L).

4.2 Short-circuit clear

Press the [Display] shortcut key, and then press the [Short Circuit] function key in the upper bar to clear the short circuit.

Users can complete the short-circuit zero calibration of the full range or single range under this page to compensate for external interference factors.



In order to achieve the accuracy specified by the technical indicators, short-circuit clearing is necessary. Replace the test fixture or test cable. Short-circuit again. When the temperature changes greatly, please perform short circuit reset in time.

Before starting to zero, please short the test clip as follows.

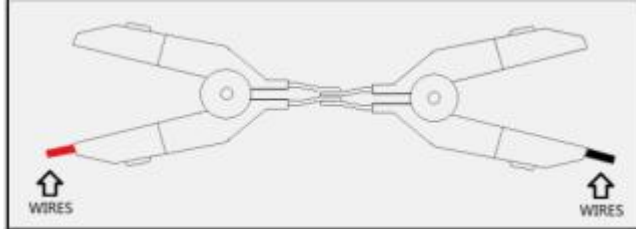
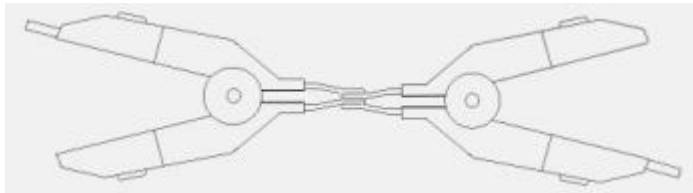


Figure 4-2 Correct test terminal short circuit method
The following example is wrong!



4.2.1 [Short circuit] Clear

The short-circuit calibration function of the instrument compensates for any remaining resistance (R) that may exist from the calibration surface determined by the length of the test cable to the connection point of the device under test.

■ Short-circuit clearing steps:

Step 1	Press the [Display] shortcut key to enter the measurement <measurement display> main page
Step 2	Press the [Short Circuit] function key in the upper side bar again, and it will prompt: "Clearing"
	When cleared, there will be a progress bar at the bottom of the page After the zeroing is completed, the progress bar disappears.

4.3 <Comparator Settings> page

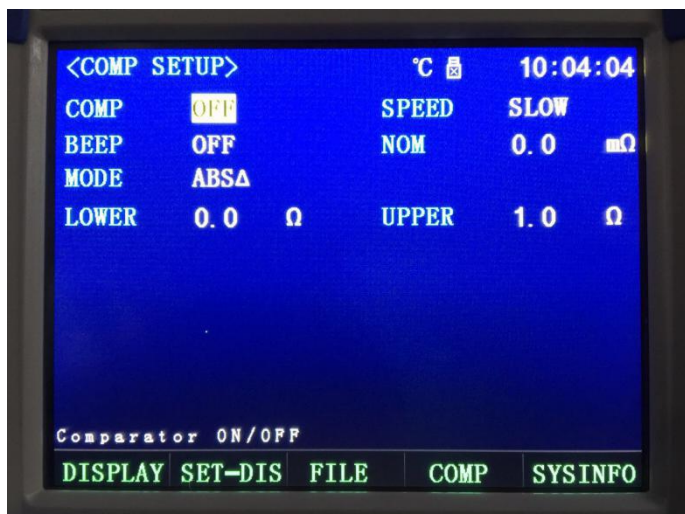
Press the [Display] shortcut key to enter the <Measurement Display> page, press the [System] function key in the upper bar to enter the <System Settings> page, and press the [Comparator] function key in the upper bar to enter the <Comparator Settings> page

The <comparator settings> page helps users to configure the parameters related to the sorting results. This page can set 6 common functions, including:

- Comparison-sorting settings (refer to <Measurement Display> page)
- Beep – Beep settings (refer to <Measurement Display> page)
- Method-Sorting method
- Nominal-Enter the nominal value
- Lower Limit-Enter the lower limit

- Upper limit-enter the upper limit

Figure 4-4 <Comparator Settings> page



4.3.1 Comparator [Method]

The instrument's built-in comparator has three comparison methods: absolute value, relative value, and direct reading value.

- Set the comparison mode steps:

Step 1	Press the [Display] shortcut key to enter the measurement <measurement display> main page.	
Step 2	Press the [System] function key in the upper bar to switch to the <System Settings> page.	
Step 3	Press the [Comparator] function key in the upper bar to switch to the <Comparator Settings> page.	
Step 4	Use the cursor keys to select the [Compare] field	
Step 5	Use the [ENTER] function key to select the comparison mode.	
	Function key	Function
	Absolute value Δ	measured value-nominal value
	percentage%	(Measured value-nominal value) / nominal value × 100%
	Direct Reading SEQ	Compare Direct Reading Measurements with Upper and Lower Limit Ranges

4.3.2 Comparator [Nominal]

The absolute value and relative value comparison method must enter a positive nominal value. The direct reading value comparison method does not consider the nominal value, and it does not matter whether it is set or not.

- Enter nominal value steps:

Step 1	Press the [Display] shortcut key to enter the measurement <measurement display> main page
Step 2	Press the [System] function key in the upper bar to switch to the <System Settings> page
Step 3	Press the [Comparator] function key in the upper bar to switch to the <Comparator Settings> page.
Step 4	Use the cursor keys to select the [Nominal] field
Step 5	Use the numeric keys to enter the data. After the input is completed and the unit is selected, press the [enter] function key.

4.3.3 Comparator [Lower Limit], [Upper Limit]

Regardless of the comparison method, the upper limit should be greater than the lower limit. Regardless of whether the absolute or relative sorting method is selected, in general, the nominal value is between the lower limit and the upper limit, that is, the upper limit enters a positive value and the lower limit enters a negative value.

- Absolute value Δ — input the absolute value of the measurement parameter in the comparison mode, the unit is the measurement parameter unit.
- Relative value $\Delta\%$ — Enter the relative value of the measurement parameter in comparison mode, the unit is%.
- Direct reading value SEQ — Enter the direct reading value of the measurement parameter in the comparison mode. The unit is the measurement parameter unit.

■ Enter the upper and lower limit steps (refer to the step of entering the nominal value)

Step 1	Press the [Display] shortcut key to enter the measurement <measurement display> main page
Step 2	Press the [System] function key in the upper bar to switch to the <System Settings> page
Step 3	Press the [Comparator] function key in the upper bar to switch to the <Comparator Settings> page.
Step 4	Use the cursor keys to select the [Lower Limit] field
Step 5	Use the numeric keys to enter the data. After the input is complete, press the [enter] function key.
	The relative value $\Delta\%$ method does not need to select a unit magnification, please enter a percentage value. Absolute value Δ and direct reading value SEQ method Please use the sidebar function keys to select the unit.
Step 6	Use the cursor keys to select the [Lower Limit] field
Step 7	Use the numeric keys to enter the data. After the input is complete, press the [enter] function key.

4.4 <File Settings> page

The measurement data of the instrument can be saved in the U disk at regular time for easy viewing in the

computer.

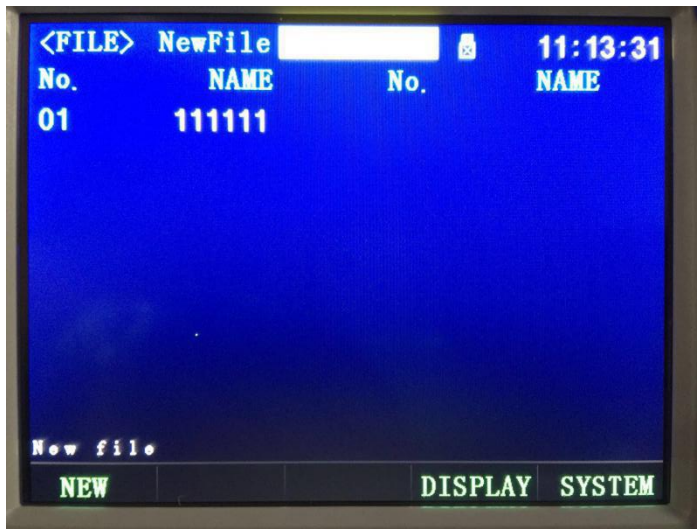
Insert the USB flash drive into the USB-DISK slot on the top of the instrument, press the [Display] key, and then press the function key [System] to enter the <System Settings> page, and then press the function key [File Settings] to enter the <File Settings> page

Users can complete the setting of U disk files under this page.

There are 16 record files to choose from. Use the function keys [Previous Page] and [Next Page] to turn pages.

The following settings are valid only after a USB flash drive is inserted.

Figure 4-5 <File Settings> Page



4.4.1 [File]

■ To create a new file:

Step 1	Press the [Display] shortcut key to enter the measurement <measurement display> main page
Step 2	Press the [System] function key in the upper bar to switch to the <System Settings> page
Step 3	Press the [File Settings] function key in the upper bar to switch to the <File Settings> page
Step 4	Use the cursor keys to select the [New File] field
Step 5	Use function keys to select
	To create a new file, use the function keys and numeric keypad to enter the file name and press [Enter] to end. The file format is * .csv.

4.4.2 [File name]

Before recording, you need to select the file to be saved and open it.

■ File operation steps:

Step 1	Press the [Display] shortcut key to enter the measurement <measurement display> main page.
Step 2	Press the [System] function key in the upper bar to switch to the <System Settings>

	page.	
Step 3	Press the [File Settings] function key in the upper bar to switch to the <File Settings> page.	
Step 4	Use the cursor keys to select the corresponding [File name] field	
	Function key	Function
	Import	Open the currently selected file and record the data in this file
	Cover	Cover the currently selected file
	Delete	Delete the currently selected file

5. [Setup] setting display

In this chapter you will learn about all the setting functions”

- <setting display> page
- Temperature correction
- Temperature reset

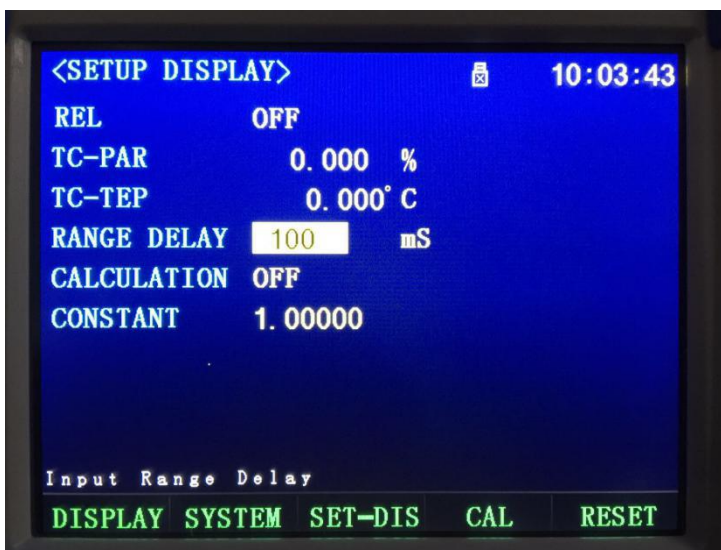
5.1 <Set Display> page

At any time, as long as you press the [Setup] shortcut key, you can enter the <Setup Display> page.

The <setting display> page can complete all measurement-related settings, but the instrument does not display measurement results and sorting results, and the instrument is in a waiting state. These settings include the following parameters:

- Temperature compensation-compensation status
- Temperature coefficient-Enter the percentage temperature coefficient
- Reference temperature-Enter the reference temperature
- Range delay-
- Calculation-
- Electrode constant-

Figure 5 - 1 <Setup Display> page



5.1.1 Setting [Temperature Compensation]

Temperature settings include: on and off (not available in AT518L).

■ Set temperature compensation steps

Step 1	Press the [System] key to enter the <System Settings> main page	
Step 2	Press the [Set Display] key to enter the <Set Display> main page	
Step 3	Use the cursor keys to select the [Temperature compensation] field;	
Step 4	Use the function keys to select	
	Function key	Function
	Off	Temperature compensation is switched off and the icon T disappears
	On	Temperature compensation is on and icon T is displayed

5.1.2 Setting [Temperature Coefficient]

According to the material of the test object, enter the coefficient after multiplying the temperature coefficient at the reference temperature by 100, in percentage units. For example: at 20 °C of pure copper material, the corresponding temperature coefficient is 0.00393, then enter 0.393 (%) to complete the operation

■ Enter temperature coefficient steps:

Step 1	Press the [System] key to enter the <System Settings> main page
Step 2	Press the [Set Display] key to enter the <Set Display> main page
Step 3	Use the cursor keys to select the [Temperature Coefficient] field;
Step 4	Use the numeric keys to enter data and press the [Enter] key

5.1.3 Setting [Reference temperature]

Enter the reference temperature value (usually 20 °C), depending on the user's situation.

■ Enter temperature coefficient steps:

Step 1	Press the [System] key to enter the <System Settings> main page
Step 2	Press the [Set Display] key to enter the <Set Display> main page
Step 3	Use the cursor keys to select the [Reference temperature] field;
Step 4	Use the numeric keys to enter data and press the [Enter] key

5.1.4 Setting [Range Delay]

■ Input range delay steps:

Step 1	Press the [System] key to enter the <System Settings> main page
Step 2	Press the [Set Display] key to enter the <Set Display> main page
Step 3	Use the cursor keys to select the [Range Delay] field;

Step 4	Use the numeric keys to enter data and press the [Enter] key
--------	--

5.1.5 Setting [Calculation]

■ Set calculation steps:

Step 1	Press the [System] key to enter the <System Settings> main page	
Step 2	Press the [Set Display] key to enter the <Set Display> main page	
Step 3	Use the cursor keys to select the [Calculation] field;	
Step 4	Press [Enter] to select	
	On	Open calculation
	Off	Close calculation

5.1.6 Setting [electrode constant]

■ Electrode constant setting steps:

Step 1	Press the [System] key to enter the <System Settings> main page	
Step 2	Press the [Set Display] key to enter the <Set Display> main page	
Step 3	Use the cursor keys to select the [electrode constant] field;	
Step 4	Use the numeric keys to enter data and press the [Enter] key	

5.2 Temperature correction

Because the temperature probe is installed inside the instrument, it will cause temperature deviation. In particular, the backlight brightness is adjusted to the brightest, and the deviation is obvious. When you need the temperature compensation function, you need to correct the current actual temperature. It is recommended to adjust the backlight to below 50% brightness and warm-up time greater than 15 minutes.

■ Enter temperature coefficient steps:

Step 1	Press the [System] key to enter the <System Settings> main page
Step 2	Press the [Set Display] key to enter the <Set Display> main page
Step 3	Press the [Temperature Calibration] function key
Step 4	Prompt whether to correct the current temperature, select the [OK] function key in the sidebar
Step 5	Enter the actual value of the current ambient temperature and press [Enter] to complete the calibration.

5.3 Temperature reset

When you need to know the temperature inside the machine or the actual temperature measured by the

probe, select this function key to achieve it (AT518L does not have this function).

■ Temperature reset steps:

Step 1	Press the [System] key to enter the <System Settings> main page
Step 2	Press the [Set Display] key to enter the <Set Display> main page
Step 3	Press the [Temperature Reset] function key
Step 4	Prompt whether to perform temperature reset, select the [OK] function key in the sidebar to complete the reset

6. System settings

In this chapter you will learn about the system settings of the instrument:

- System Settings Page
- System Information Page

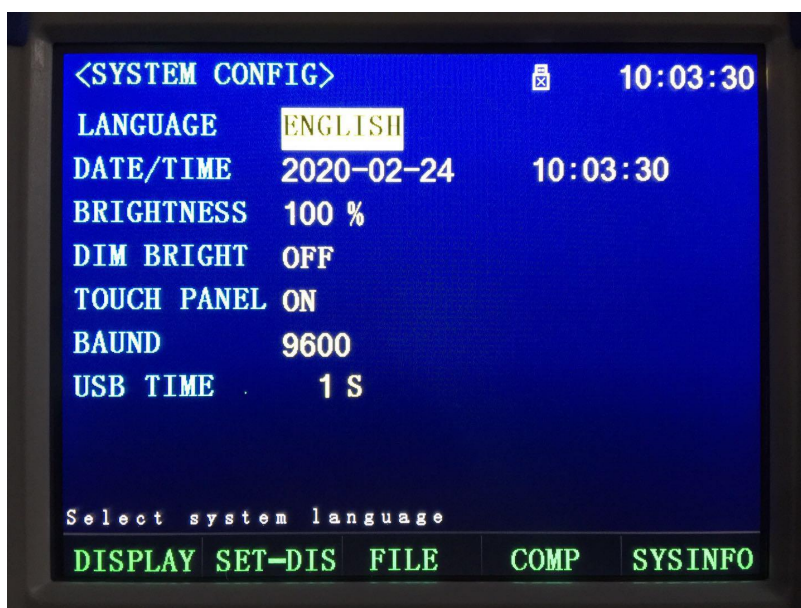
6.1 <System Configuration> page

The <System Configuration> page includes the following settings:

- Language
- Date / time setting
- Backlight setting
- reduce brightness
- Touch screen
- Baud rate
- U disk timing

All the settings on the <System Configuration> page will be automatically saved in the system and will be loaded automatically at the next boot.

Figure 6-1 <System Configuration> page



6.1.1 System [Language]

The instrument supports Chinese and English languages.

■ Set the language steps:

Step 1	Press the display button to enter the main page	
Step 2	Select the [System] button in the task bar to enter the <System Settings> page	
Step 3	Use the cursor keys to select the [Language] field	
Step 4	Press the [enter] key to set the language	
	Function key	Function
	CHINESE	CHINESE
	ENGLISH	ENGLISH

6.1.2 System [Date], [Time]

The instrument uses a 24-hour clock.

■ Set date steps:

Step 1	Press the display button to enter the main page	
Step 2	Select the [System] button in the task bar to enter the <System Settings> page	
Step 3	Use the cursor keys to select the [Date / Time] field	
Step 4	Press the [enter] key to set the date	
	Function key	Function
	Year +	+1 year
	Year -1	-1 year
	Month +	+1 month
	Day +	+1 day
	Day -	-1 day

■ Set time steps:

Step 1	Press the display button to enter the main page	
Step 2	Select the [System] button in the task bar to enter the <System Settings> page	
Step 3	Use the cursor keys to select the [Date / Time] field	
Step 4	Press the [enter] key to set the date	
	Function key	Function
	Hour +	+1 hour
	Hour -	-1 hour
	Minute +	+1 minute
	Minute -	-1 minute
	Second +	+1 second
	Second -	-1 second

6.1.3 System [Backlight]

The darker the backlight, the lower the power consumption of the meter and the longer the usage time. The instrument is equipped with 5 kinds of backlights to meet the requirements of different light.

■ To set the backlight:

Step 1	Press the display button to enter the main page
--------	---

Step 2	Select the [System] button in the task bar to enter the <System Settings> page	
Step 3	Use the cursor keys to select the [Backlight] field	
Step 4	Press the [enter] key to set the backlight	
	Function key	Function
	Brightness 10%	
	Brightness 25%	default brightness
	Brightness 50%	from external power to internal power, the backlight will be adjusted to this brightness
	Brightness 75%	
	Brightness 100%	It will automatically adjust to this brightness when using external power

6.1.4 Reduce brightness

The user can select the time when the screen is turned off to save power and increase the use time when not in operation.

■ Set the brightness reduction steps:

Step 1	Press the display button to enter the main page	
Step 2	Select the [System] button in the task bar to enter the <System Settings> page	
Step 3	Use the cursor keys to select the [Decrease Brightness] field	
Step 4	Press the [enter] key to set the brightness	
	Function key	Function
	Off	Brightness reduction is off
	5	The screen automatically decreases brightness after 5 minutes
	10	The screen automatically decreases brightness after 10 minutes
	15	The screen automatically decreases brightness after 15 minutes
	30	The screen automatically decreases brightness after 30 minutes

6.1.5 Touch screen

The user can choose to use the touch screen,
Requirements.

■ Steps for setting the touch screen:

Step 1	Press the display button to enter the main page	
Step 2	Select the [System] button in the task bar to enter the <System Settings> page	
Step 3	Use the cursor keys to select the [touch screen] field	
Step 4	Press the [enter] key to set the touch screen	
	Function key	Function
	On	Touch screen on
	Off	Touch screen off

6.1.6 Baud rate

Set [baud rate]

The instrument has a built-in Mini-USB interface. After sensing the signal conversion of the Mini-USB interface, the instrument communicates with the host at the set baud rate immediately, and the keyboard is locked.

In order to communicate correctly, please make sure that the baud rate is set correctly. If the baud rate between the host computer and the instrument is different, the communication cannot be performed correctly. Mini-USB is programmed using SCPI language.

The Mini-USB configuration is as follows:

- Data bits: 8 bits
- Stop bit: 1 bit
- Parity: None
- Baud rate: configurable
- Set the baud rate steps:

Step 1	Press the display button to enter the main page	
Step 2	Select the [System] button in the task bar to enter the <System Settings> page	
Step 3	Use the cursor keys to select the [Baud Rate] field	
Step 4	Press the [enter] key to set the baud rate.	
	Function key	Function
	9600	
	19200	
	38400	
	57600	
	115200	communicates with the host computer. It is recommended that you use this high-speed baud rate.

6.1.7 U disk timing

The instrument will write the measurement data to the open file regularly according to the time set by the record [Interval]

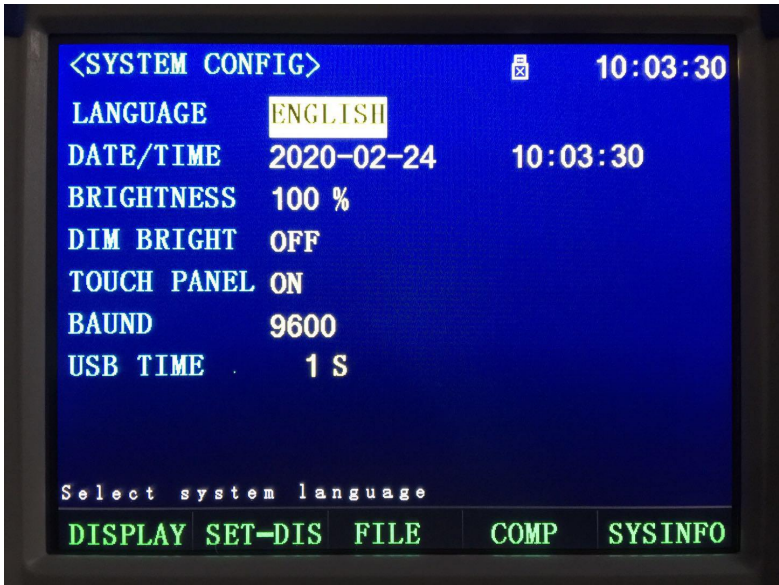
To set the recording interval:

Step 1	Press the display button to enter into the main page
Step 2	Select the [System] button in the task bar to enter the <System Settings> page
Step 3	Use the cursor keys to select the [U disk timing] field
Step 4	Press the [enter] key to set the recording interval.
Step 5	Use the numeric keyboard to enter the time value (fastest 1 second, slowest 3600 seconds), and then press [Enter] to complete the setting

6.2 <System Information> page

The <System Information> page has no user-configurable options.

Figure 6-2 <System Information> Page



■ View system information steps:

Step 1	Press the display button to enter the main page
Step 2	Select the [System] button in the task bar to enter the <System Settings> page
Step 3	Select the [System Information] button in the task bar to enter the <System Information> page

7. Specifications

In this chapter you will learn:

- Basic technical indicators
- Specifications

7.1 Technical indicators

The following data were measured under the following conditions:

- Temperature condition: 23 °C ± 5 °C
- Humidity condition: 65% R.H.
- Zero value adjustment: test short clear
- Warm-up time: > 60 minutes
- Calibration time: 12 months

Measurement environment:

- Index: Temperature 15 °C ~ 35 °C Humidity <80% RH
- Operation: Temperature 10 °C ~ 40 °C Humidity 10 ~ 90% RH
- Storage: temperature 0 °C ~ 50 °C humidity 10 ~ 90% RH

7.1.1 High current test

Sampling rate:

Fast: about 30 times / second

Medium speed: about 15 times / second

Slow: about 3 times / second

Test current accuracy: 10%

JK628

Range		Maximum reading	Resolution	Fast Speed	Medium /Slow speed	Test current	Test terminal open circuit voltage
0	20mΩ	20.00mΩ	10μΩ	≤0.5%±5	≤0.5%±3 字	100mA	<1V
1	200mΩ	200.00mΩ	10μΩ	0.1%±3 字	0.05%±1 字	100mA	<1V
2	2Ω	2.0000Ω	100μΩ	0.1%±3 字	0.05%±1 字	100mA	<1V
3	20Ω	20.000Ω	1mΩ	0.1%±3 字	0.05%±1 字	10mA	<1V
4	200Ω	200.00Ω	10mΩ	0.1%±3 字	0.05%±1 字	1mA	<1V
5	2kΩ	2.0000kΩ	100mΩ	0.1%±3 字	0.05%±1 字	1mA	<5V
6	20kΩ	20.000kΩ	1Ω	0.1%±3 字	0.05%±1 字	100μA	<5V
7	200kΩ	200.00kΩ	10Ω	0.1%±3 字	0.05%±1 字	10μA	<5V

7.1.2 Low current test

Only suitable for resistance 200mΩ ~ 200kΩ, other ranges have the same high current

Sampling rate:

Fast: about 30 times / second

Medium speed: about 15 times / second

Slow: about 3 times / second

Test current accuracy: 10%

Range		Maximum reading	Resolution	Fast/ Medium/Slow speed	Test current	Test terminal open-circuit voltage at I
0	20mΩ	20.00mΩ	10μΩ	≤0.5%±5 字	100mA	<1V
1	200mΩ	200.00mΩ	10μΩ	0.1%±3 字	100mA	<1V
2	2Ω	2.0000Ω	100μΩ	0.1%±3 字	10mA	<1V
3	20Ω	20.000Ω	1mΩ	0.1%±3 字	1mA	<1V
4	200Ω	200.00Ω	10mΩ	0.1%±3 字	100μA	<1V
5	2kΩ	2.0000kΩ	100mΩ	0.1%±3 字	100μA	<1V
6	20kΩ	20.000kΩ	1Ω	0.1%±3 字	100μA	<5V
7	200kΩ	200.00kΩ	10Ω	0.1%±3 字	10μA	<5V

7.2 Specifications

- 5.6 inches, true color 16M color, TFT-LCD display.
- Fresh and colorful two-color cast plastic shell
- Battery and external power supply
- Three trigger modes: internal, manual and remote
- Three measurement modes: automatic, manual and nominal

- Absolute deviation (ABS), relative deviation (PER) and sequence (SEQ)
- Comparator (sorting) function: built-in sorting record, GD / NG sorting result display.
- Full-scale short-circuit clear
- Temperature compensation
- Data retention
- Custom sorting sound
- Keyboard lock function
- Switch between Chinese and English
- Backlight adjustment
- Auto power off setting
- Four-terminal test
- Built-in Mini-USB communication interface
- Compatible with SCPI instruction set
- 8.4V, Li, 2200mAh rechargeable battery
- Battery charging time <5h
- Maximum power consumption $\leq 5W$
- Long continuous working time $\geq 8h$
- Length, width and height: 229mm * 148mm * 46mm
- Weight: 650g

JK628 user manual-
Simplified English version
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