Kingrun Instrument Co.,Ltd.

JYL

Contact（Loop）Resistance Tester-- 50A/100A

Kingrun Transformer Instrument Co., Ltd
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Contents

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Overview

The JYL100A is a new generation micro-resistance testing instrument developed based on modern industrial design concepts. Equipped with an internal lithium battery, it eliminates the need for AC power, making it highly suitable for field use without a power source. The JYL100A employs a "four-wire" current and voltage testing method, capable of measuring small resistances in high-voltage switches, circuit breakers, and relay metal contacts. Powered by efficient PWM synchronous rectification technology, a single charge can support up to 500 measurements. The dual anti-interference design in both software and hardware ensures it meets the usage requirements of 1000KV substations.

Ergonomically designed for comfort, the JYL100A features an insulated and sealed body structure that is leak-proof and resistant to wind and sand. Its corners are protected by soft rubber for shock absorption. The device boasts a high-brightness 5.6-inch color LCD screen with clear, bright characters for both indoor and outdoor use. The large-capacity aluminum housing enhances heat dissipation, extending the product’s lifespan and reducing cooling wait time. The current line output terminals use long-life tapered connectors, ensuring secure and reliable connections. Critical precision circuits are encapsulated with epoxy resin, enhancing moisture resistance. The JYL100A is characterized by its portability, efficiency, precision, and speed, making it an ideal instrument for loop measurements in power generation, transmission, substation, and industrial enterprises.

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Contact Resistance Tester JYL100A :

A **Only 1.9kgs with powerful 50A/100A output current**

B **Adopt mature and stable constant current power supply, which can continuously output strong and stable current for more than 60 seconds**

C **Accuracy can reach to ± 0.1 μ %**

D **With anti-interference power frequency interference capabilities.**

E **One charge can test 500 times Measurement**

F **Can store 100 sets of test data**

JYL100A Technical Specification:

Type	JYL-100A	
Output current	50A	100A
Test range	0.1~10mΩ	0.1~5mΩ
Accuracy	0.5% ± 0.4μΩ	0.5% ± 0.2μΩ
Test Current	DC 50A/100A	
Test Time	Fast, 10~60s optional	
Minimum resolution	0.1μΩ	
Output voltage	DC 10V	
Power supply in operation	AC220V±10%,50Hz	
Test Cable Resistance	≤10mΩ	
Temperature in operation	-20 ~40℃	
Relative humidity	≤80%RH, No dew	
Volume/Weight	L210mm * W150mm * H70mm/1.9kgs	

JYT100A Operation Panel Instruction:

Item	Function
1	“ I+” current output port +
2	“V+” voltage input port +Charging Port
3	Charging port
4	“V-” voltage input port +Charging Port
5	“ I-” current output port +
6	Test/Stop Key
7	Power on/off Button
8	USB Port / RS485
9	LCD Display Screen
Optional	Blue-teeth

Operation Instruction

1. **Switch On and Switch Off**

● Switch on/off

Press ⏻ for two seconds, the power can be switched on/off

●Switch off automatically

If the instrument is not operated for more than 5 minutes, it will be switched off for saving power.

2.**Measuring the resistance**

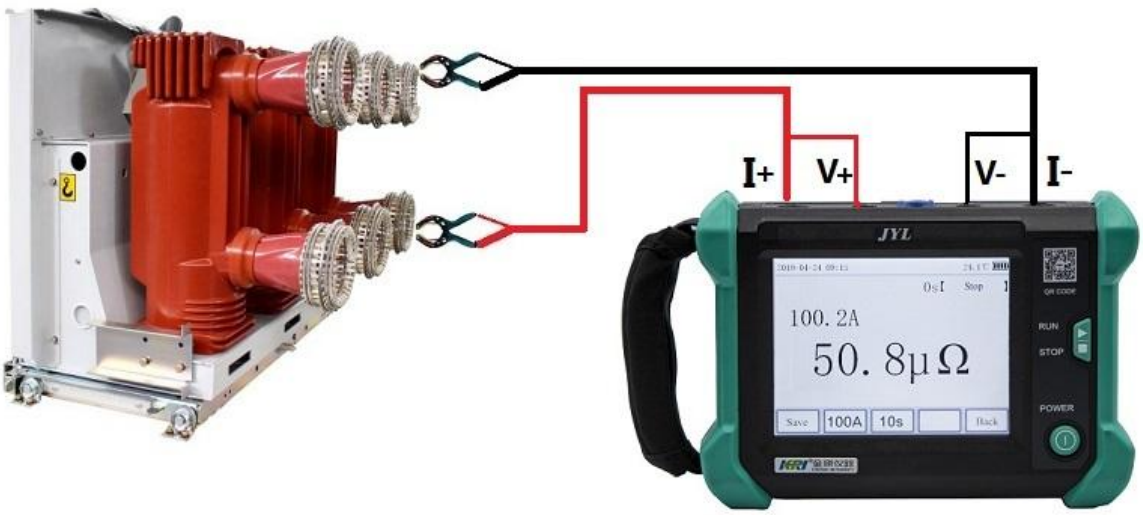
Connect test cables

●The big red cable plug, connect instrument "I+" port;

●The small red cable plug, connect instrument "V+" port;

●The big black cable plug, connect instrument "I-" port;

●The black cable small plug, connect instrument "V-" port;



3.**Correct connection and disconnection method of instrument side:**

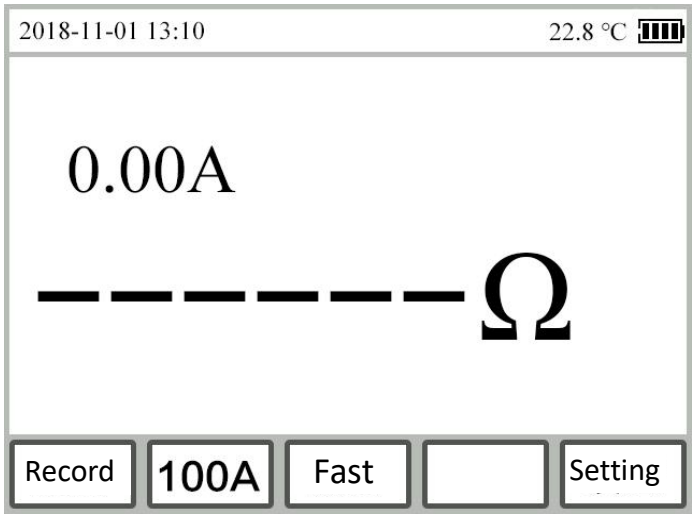
Firstly, the special test cable is inserted vertically into the corresponding port according to the corresponding plug. Then insert the direction of force, while twisting left and right, the cable can be locked.

Remove the plug from the instrument if necessary. First, pull out the direction of force, and then twist left and right, it can be taken out.

*** When there is disturbance on the site, the "V-" port of the instrument should be grounded by grounding wire.**

4.**Correct wiring method at test objects end:**

The special red and black test clamps are respectively clamped to the lead-out terminal of the tested product. Check whether there is oxide layer on the terminal of the tested products. If it exists, the oxide layer should be cleaned firstly and then clamped. The test clamp should ensure that the connection is firm and reliable, so as to prevent the clamp from dropping during the test process.



（**Fig. 2**）

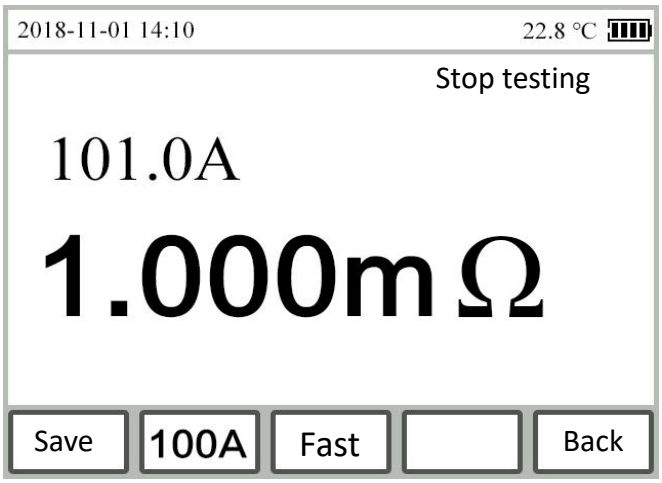
5.**Test Current and Timing Selection**

Firstly, press "⏻" for more than two seconds to switch on the power supply. The LCD screen will light up the company LOGO interface and stay for about one second. The LCD screen will display the interface as shown in Figure 2. Touch or switch 100A or 50A to select current. The current range can be selected according to the resistance value of the tested product. When the resistance value is satisfied, the current should be selected as high as possible for testing. The power of the test objests should also be considered.

Touch timing selection keys select "fast", "10 S", "20 S", "30 S", "40 S", "50 S", "60 S" and other measurement timing.

6. **Check battery capacity**

Switch on firstly, the upper right corner of the display screen is the indicator of battery power. During the normal test process must ensure that the battery is fully charged. (See Battery Maintenance Instructions for details)



（**Fig. 3**）

7.**Start to test**

Confirm the wiring is correct, the test can be started after setting the test current and test timing.

Press the "Test/Stop" button to start the test. The system tests according to the selected current and timing, stopwatch countdown and buzzer sound reminder. At this time, the system can terminate the test by pressing the "test/stop" key at any time, lock the data, or wait for the timing time to automatically stop the test and lock the test data. As shown in Figure 3

Quick Mode tests the data and stops testing for about 2 seconds.

8.**Saving the data**

After the test is completed, as shown in Figure 3, touching “Save” button will save the current data. The memory can save 100 groups. When more than 100 groups are saved, the longest time data will be automatically covered. The important data should be exported to U disk in advance or recorded in writing.

9.**Viewing Memory Data and Importing into U Disk**

Viewing Memory

In the main interface (Figure 2), touch ‘Record’ to enter the viewing and recording interface as shown in Figure 4.

The instrument supports 100 sets of data storage and viewing. Data can be accessed or viewed by touch ⬆ or ⬇. Touch data display box select the edited data, touch the "delete" button can delete records one by one. The number of the record group only represents the serial number. Please view the record data according to the save time.

10.**Importing into U Disk**

First, insert the U disk into the interface of the U disk. At this time, there will be a U disk insertion flag prompt above the screen.

Touch the ‘U disk’ button to import all the data in memory into the U disk.

The file name of the imported U disk is defined as follows:

Firstly, folders are created in units of year, month and day, such as

DT180208DT is the fixed format at the beginning of the file.

"18" is the last two in 2018.

"02 is February;

"08" is No. 8.

Then create files in time and seconds such as SJ092458

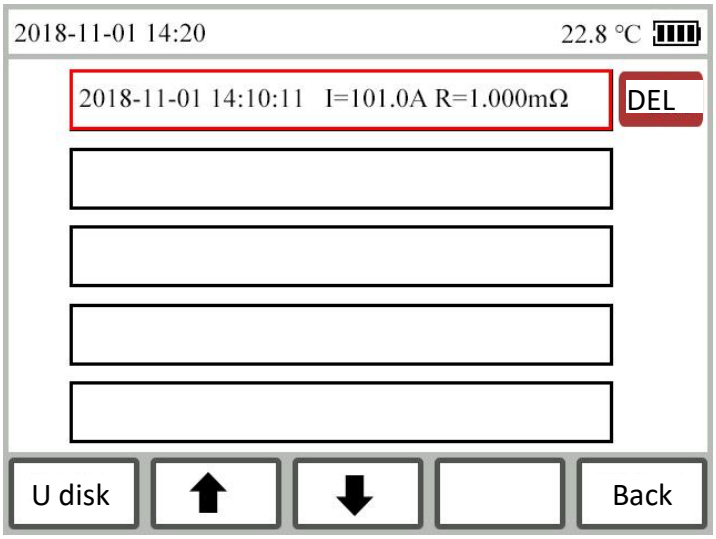
Among them, "SJ" is the fixed format at the beginning of the document; "09" at 9 am; "24" for 24th minute;

"58" is 58th second. Set up the file with the export time as the setup time. (System default)

The file format is *. CSV format, which can be opened by Microsoft Excel software to generate a list of data.

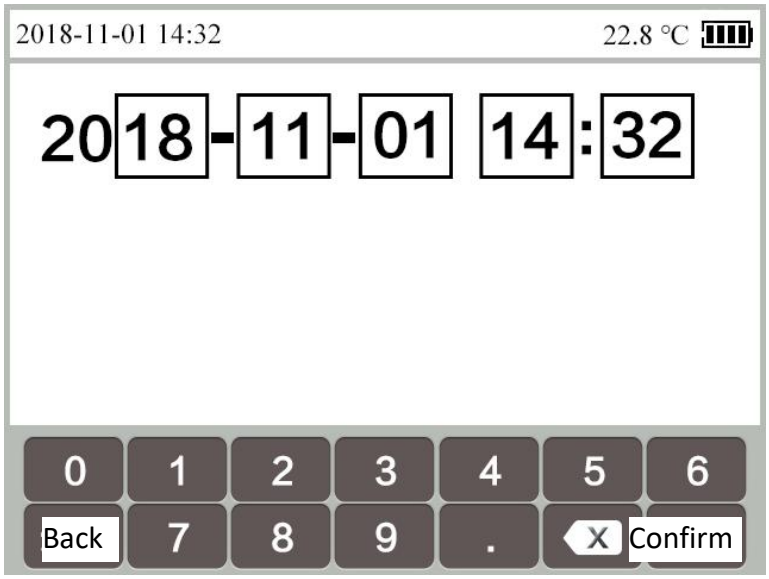
Do not unplug the U disk or turn off the power supply when the export is not completed. This may damage the U disk or file errors.

Touch the "Return" button to exit the data view interface and return to the main interface.



（**Fig. 4**）

Setting System Time



In the main interface, touch ‘Setting’ key will enter the time setting interface, touch time items location need to be modified, cursor flickering, touch keyboard input correct information, touch "confirm" after modification completed. Touch the "Back" button to return to the main interface.

Warning Information

●Check wiring

Start the test and prompt "check wiring" when the current is less than 20A. At this time, we should check whether there is no tested product connected, bad connection, test resistance beyond the test range, etc..

●Temperature protection

When the temperature inside the tester is too high, the "temperature protection" will be prompted. At this time, the testing process will be terminated, the testing button will fail, and when the temperature drops below 50℃, it will return to normal.

●Test values flicker and turn red

The test value flicker indicates that the data is being refreshed during the test process.

The test value turning red means that the data is beyond the range selected. It can also be read at this time, but only as a reference for range reselection, because the error of over-range test is large.

●Battery capacity over low

Battery failure indicates that the battery is almost exhausted. At this time, please charge the battery with a charger as soon as possible to maintain the battery. Over-discharge of batteries may cause permanent damage to batteries.

Battery Maintenance

This instrument is equipped with special rechargeable battery. When the battery power is insufficient, the battery should be charged in time. Please refer to the table below.

The instrument is equipped with charging port and special charger.

Display	Battery voltage	Battery estimation
	14.6V or less	The battery is almost empty
	14.7 V to 15.1V	20% charge remaining
	15.2V~15.5V	50% charge remaining
	15.6V~15.8V	70% charge remaining
	16V or greater	The battery is full

***Do not replace rechargeable batteries other than those approved by the company, as this may cause safety hazard ***

●Battery charging

When the charger indicator lights up in red, it indicates that the charger is charging; when the charger indicator lights up in green, it indicates that the charging is completed.

Lighting flicker indicates that the battery is inadequately connected or not connected to the battery.

●Battery replacement

The battery of this machine is built-in rechargeable battery. Battery replacement should be carried out by professionals or under the guidance of professionals.

* Replacement of rechargeable batteries not provided by our company is strictly prohibited, otherwise it may cause potential safety hazards.*

9. Notes

9.1. Please connect the cable correctly according to the instrument terminal wiring method.

9.2. After confirming that the test is stopped, wire removal can be carried out.

9.3. When choosing the current, refer to the range in the technical index column, and do not exceed the range or under-range. In the case of over-range, the stability of the test result is poor even if the test result is forced to continue because the current can not reach the preset value. When the measuring range is short, the current is too small and the measuring data is unstable. When these two states occur, the range should be checked and the appropriate range should be selected for testing.

Maintenance

Clean the chassis: by wet the surface with clean water with soft cloth or sponge.

In order to avoid damaging the instrument, do not immerse the instrument in water. When the instrument is wet, please dry it before storing it.

When there is a need for calibration or maintenance of the instrument, please submit the instrument to qualified professional maintenance personnel or designated maintenance department for maintenance.

Batteries should be charged and maintained regularly. Batteries should be charged at least once a month.

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