

Operation Manual

Isolated Conductor Tester_001-0510A

01

Product Picture



02

Product Introduction

- The 001-0521A handheld surface static tester is designed in accordance with ANSI/ESD S20.20, ANSI/ESD TR53, IEC61340-5-1, JESD 625-B, and GJB3007 test standards. The 001-0521A handheld surface static tester provides contact measurement of electrostatic potential on conductive, antistatic, static-dissipative, and insulating material surfaces.
- The tester adopts an elongated sensor probe design, providing flexibility that allows measurements in areas unreachable by typical large and heavy handheld static testers. Through the probe, single-point and various surface area voltage measurements can be performed, achieving higher voltage resolution. This instrument is easy to operate, highly reliable, and used for measuring charge accumulation during manufacturing, transportation, and testing processes. It is suitable for spot inspection of electrostatic generation conditions within the plant to assess and improve electrostatic risk control measures. Applications include engineering, maintenance, quality control, incoming inspection, manufacturing, and training.

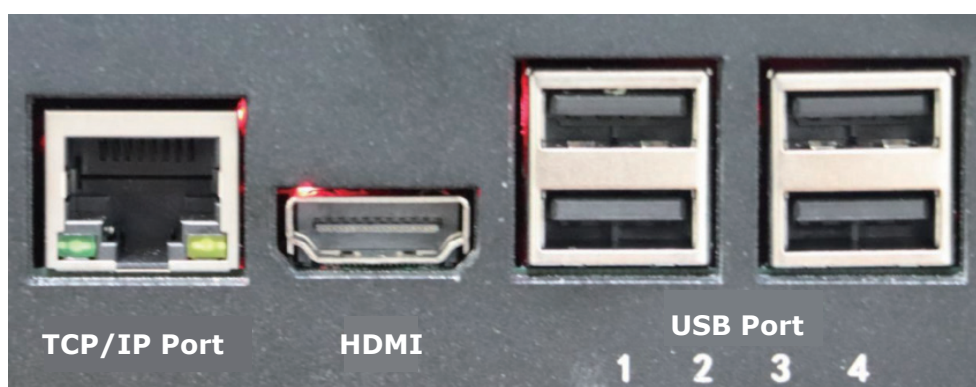
03 Product Features

- 7" high-definition LCD touchscreen;
- Handheld contact measurement;
- The unique design allows the instrument to perform contact voltage measurements on a single point as well as on different surface areas.
- The internal memory can store up to 10,000 test records (supports USB export) and review 1,000 process test records.
- Supports external barcode scanner connection for QR code management of the tested equipment.
- The testing process allows customization of numerical and graphical interfaces.
- Built-in battery for portable operation (external power supply also supported).
- Reserved TCP/IP communication interface (software license required).

04 Accessories List

Component	
Main unit ×1	Grounding cable ×1
Test probe ×1	Charger ×1
Test probe connection cable ×1	Plastic carrying case ×1
Power supply ×1	User manual ×1
Barcode scanner ×1 (optional)	/

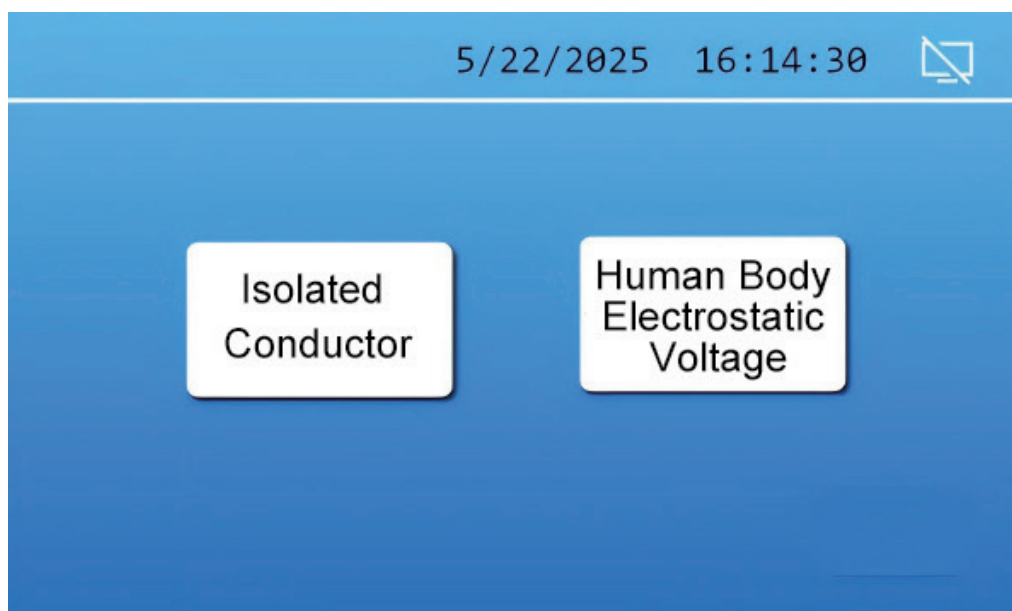
05 Interface Description



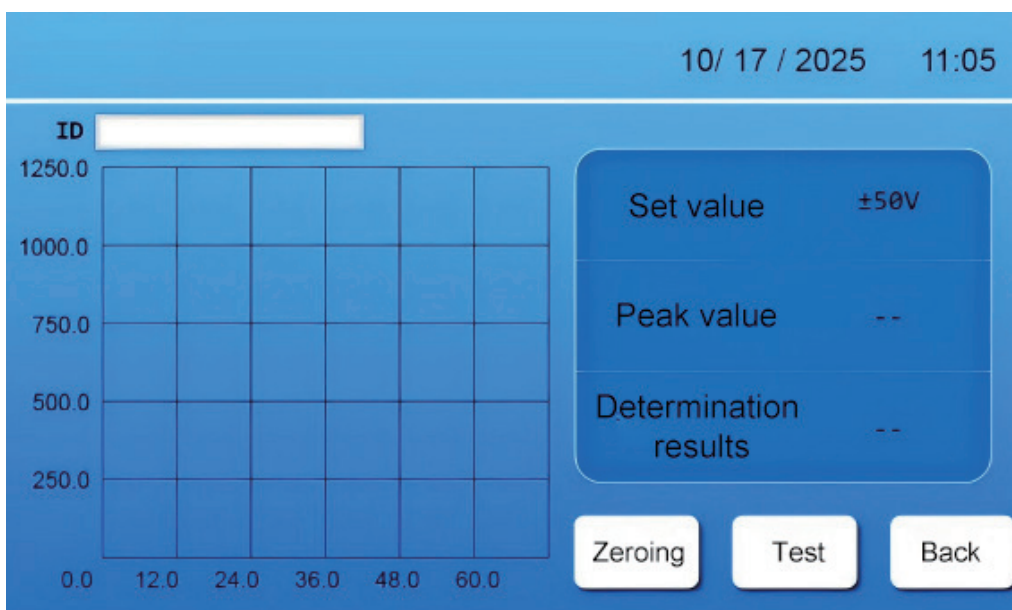
- USB Ports ×4: For software upgrades and data import/export.
- HDMI Port: For external high-definition display (under development).
- TCP/IP Port: For software connection and data communication (license required).

06 Test Preparation and Precautions

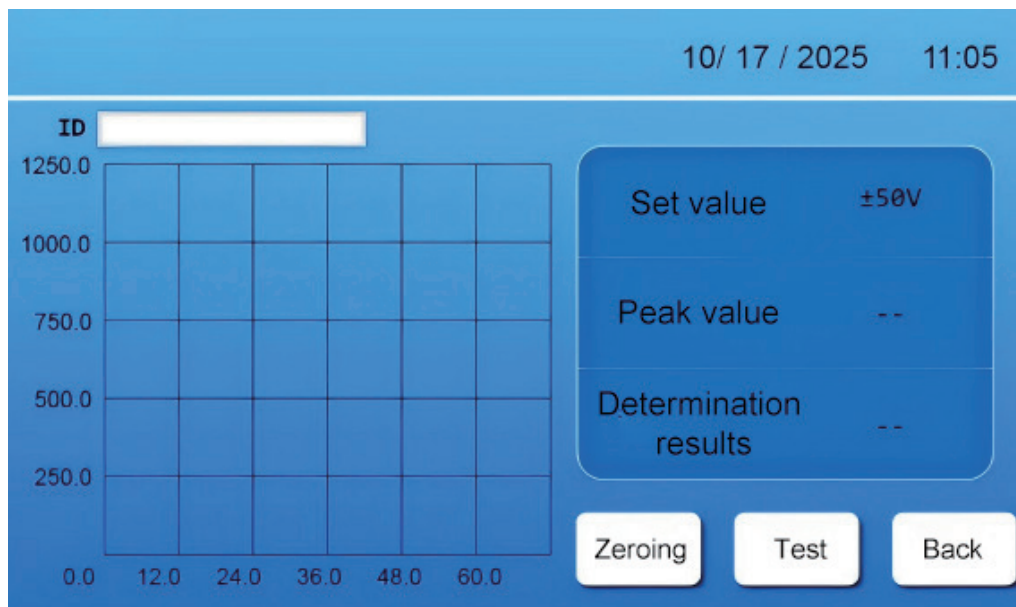
- Connect the test probe to the main unit via the aviation connector.
- Connect the grounding terminal of the instrument to the ESD ground using the grounding cable.
- Press the power button to start the device. The screen is displayed as follows:



- Isolated Conductor Test: Install the copper needle on the test probe. Before each test, touch the copper needle to the instrument's top zeroing point, then manually press the Zero button to ensure accurate test results.

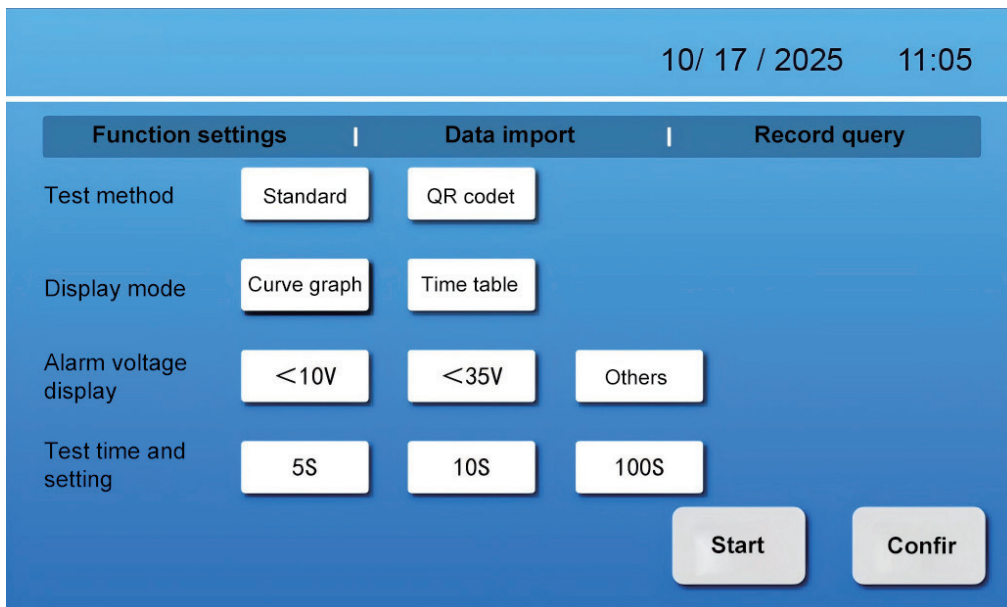


- Human Body Electrostatic Voltage Test: Install the hand-held electrode on the test probe. Before each test, touch the electrode to the instrument's top zeroing point; the instrument will automatically perform zeroing to ensure accurate test results. (Only the test time and threshold need to be set.)



07 > Screen Function Settings

Detailed Description and Configuration of Main Screen Parameters



7.1 Function Settings

- Test Method

Test method

Standard

QR codet

a. Standard Test:

Voltage measurement can be performed on a single point or across different surface areas using the probe.

b. QR Code Test:

The tested object can be assigned an identification number and registered via a QR code. The QR code can be linked to the product name and the submitting department. After scanning the QR code, the test is performed, and the test results are bound to the corresponding QR code.
- Display Mode

Display mode

Curve graph

Time table

a. Curve Graph:

During testing, the LCD screen displays the curve trajectory (XY axis) and records and shows the test results.

b. Time Chart:

The LCD screen displays real-time changes in voltage and time, while simultaneously recording and showing the test results.
- Alarm Display

Alarm voltage display

<10V

<35V

Others

a. Alarm Voltage:

When the voltage of the tested object exceeds the preset value, the stored data color changes to red; when it is below the preset value, the color remains unchanged.
- Test Time Setting

Test time and setting

5S

10S

100S

a. Test Duration:

The test is performed on the object within the set time. Once the preset duration is reached, the test is automatically completed, and the data are recorded and saved.

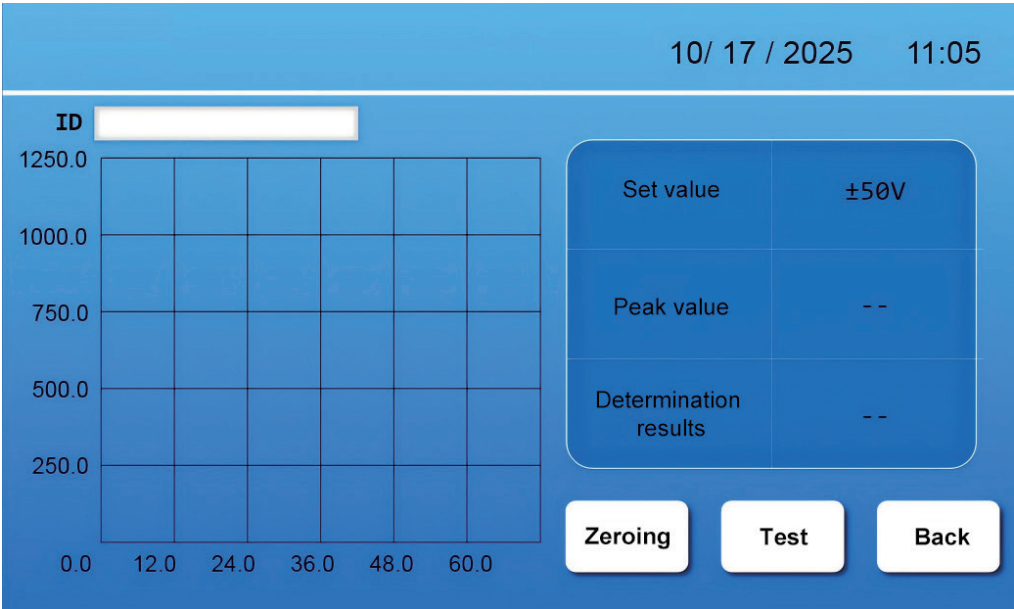
• Click "Confirm"

to save the setting parameters before clicking "Start" to enter the test interface.

7.2 Testing Process: (Touch the test probe to the instrument’s metal zeroing plate to perform hardware zeroing, then click the on-screen “Zero” button to perform software zeroing before proceeding to the testing process.)

- Curve Graph Interface:

The voltage value (Y-axis) varies with time (X-axis).



- Time Table Interface: Displays real-time voltage and time in digital format.

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ID

0

(/V)

0

(/S)

Set value	±35V
Peak value	--
Determination results	--

Zeroing

Test

Back

7.3 Data Import

- Manual Addition
- Batch Import: Insert a USB drive into the USB port to perform batch import. The imported data must follow the fixed template format.
- Double-click on an individual test object entry to edit or delete its information.
- Delete All: Clear all equipment data.

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SN	Product Namet	Submitting Department

Previous

Next

Back

Manual add

Delete all

7.4 Record Query

- Delete or batch delete test records
- Double-click a single record to view detailed process test data
- When a test record exceeds the preset alarm duration or balance voltage, the record is displayed in red font
- Batch Export: Insert a USB drive into the USB port to perform batch export

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SN	Testing Time	ID No	Product Name	Submitting Department	Select All
					☐
					☐
					☐
					☐
					☐

Previous
Next
Back
Delete Selected
Delete All

7.5 Test Result Preview Interface

- After the test is completed, the system automatically enters the test result preview interface and saves the test data, with a storage capacity of up to 10,000 records.

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Set value	±35V
Peak value	172
Determination results	NG

08 System Settings

On the main interface, press and hold the "ESDMAN LOGO", enter 9109 to access network settings, server settings, and system settings.

System Settings

- Language Selection: Simplified Chinese, Traditional Chinese, English
- Time Setting
- Test Record Storage Setting: Maximum of 10,000 records
- Number of Records Cleared per Operation
- Whether to delete local records after exporting test data

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Function settings
Server settings
Function settings

Language selection : Simplified Chinese ▼

Time setting : 10/17/2025 16:45:58 ▲▼

Test record storage quantity setting : 5000

Number of records cleared per operation : 1000

Delete local records after exporting test data : ☐

Apply
Back

09 Technical Parameters

Parameter	Description	Parameter	Description
Measuring voltage range	0~ +/-1KV	Display resolution	1V
Test method	Contact Measurement	Data storage	10000 pcs
Measurement accuracy	0~20V: +/-1V 20~1KV: +/-5%	Power supply	DC 12.6 V AC 110/220V
Operating temperature range	-10 ~ 55	Sampling Rate	1~10 times/s
Operating Humidity Range	0%RH ~ 95%RH	Signal output	USB
Display method	7" LCD Display	Dimension	L360*W148*H68mm

ESDMAN products undergo rigorous factory inspection. In the event of a malfunction, please contact the nearest ESDMAN office and provide detailed information regarding the issue.

Warranty Period

- The warranty period is one year, starting from the date the product is shipped to the purchaser's designated location.

Warranty Coverage

- This product is inspected and approved before shipment. Under normal use within the warranty period, any damage or failure caused by poor design or manufacturing defects will be repaired free of charge.

The following conditions are not covered under warranty

- Buttons are consumable parts and are not covered by the warranty.
- Damage, breakage, or failure caused by abnormal use (e.g., dropping).
- Failures caused by modification, disassembly, or repair performed by personnel not authorized by our company.
- Failures caused by force majeure events such as fire, natural disasters, floods, and earthquakes.
- Failures caused by external factors such as abnormal voltage.