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LCR-P1

TRANSISTOR TESTER

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CATALOG

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NOTICE TO USERS

- This manual provides detailed instructions on how to use the product, precautions, and relevant information. Please read the manual carefully before using the product to ensure optimal performance.
- Do not use the instrument in flammable or explosive environments.
- Dispose of used batteries and discarded instruments according to national or local regulations; they should not be disposed of with household waste.
- If there are any quality issues with the instrument or if you have any questions about its use, please contact "FNIRSI" online customer service or the manufacturer. We will resolve your issue promptly.

1.PRODUCT INTRODUCTION

The Transistor Tester is a high-precision, multifunctional electronic testing device designed specifically for electronic engineers, technicians, and enthusiasts.This device is intended for detecting and analyzing the performance and characteristics of semiconductor components such as transistors, diodes, triodes, and field-effect transistors (FETs).Equipped with a color screen, it allows for multi-parameter measurement of various components, automatically identifies the type and pin arrangement of the tested component, simplifying the operation process and enhancing testing efficiency.

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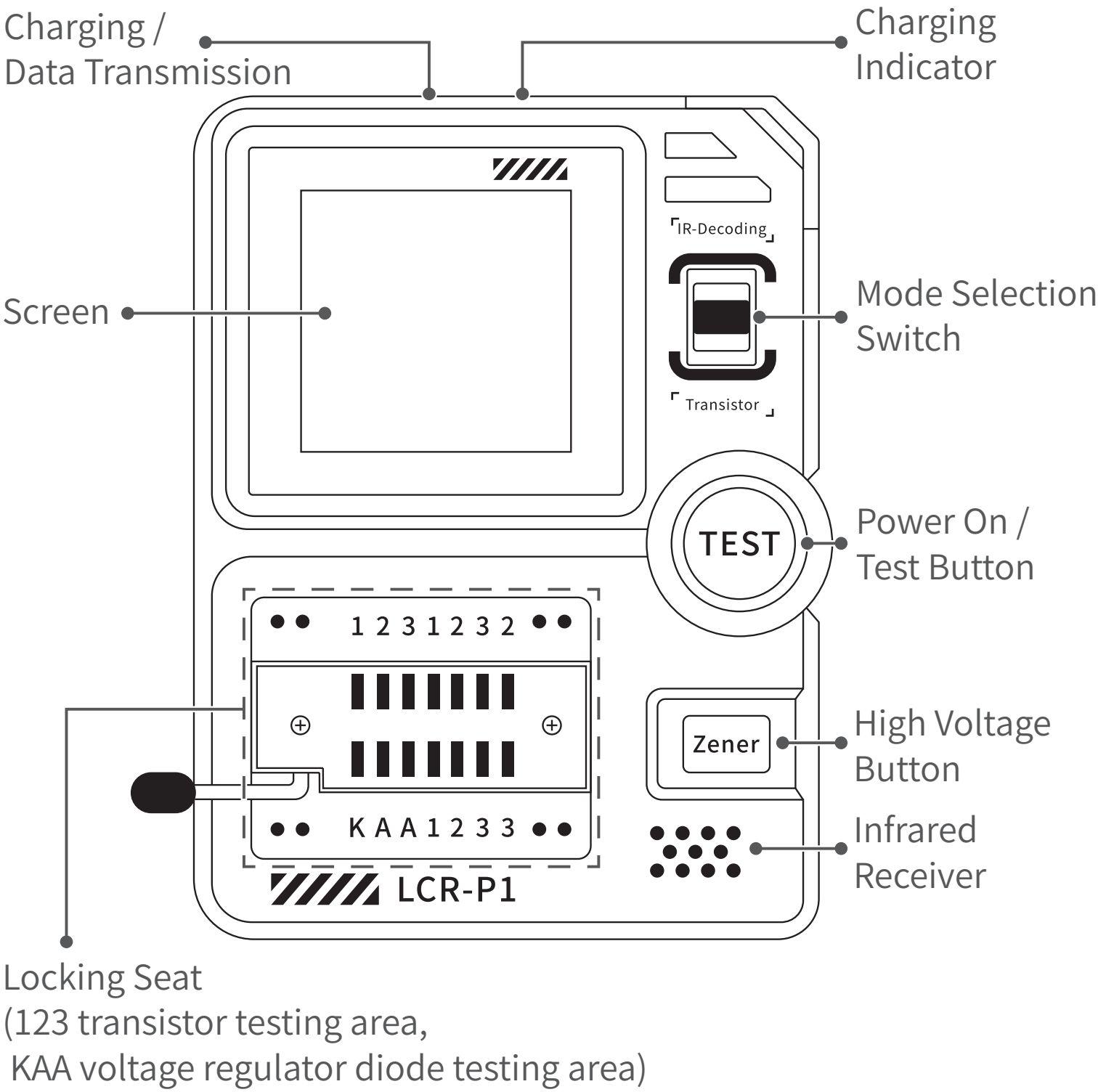
2.PANEL INTRODUCTION



3.PARAMETER INTRODUCTION

【3.1】Host parameters

Product Model	LCR-P1
Display Screen	1.44 inches
Battery Capacity	300mAh lithium battery
Charging Specification	USB Type-C, 5V/1A
Product Size	71×87×28mm

【3.2】Component Test Parameters

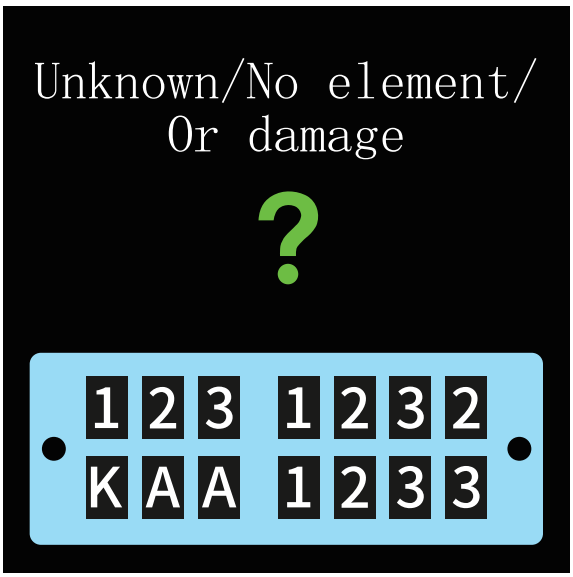
Category	Range	Explanation
Transistor	10＜β＜600	DC current gain hfe, base-emitter voltage drop Ube, Ic/Ie, collector-emitter reverse cutoff current Iceo, Ices, forward voltage drop Uf.
Diode	Forward voltage drop＜4.5V	Forward voltage drop, junction capacitance, reverse leakage current.
Voltage Regulator Diode	0.01-4.5V 0.01-32V	(1-2-3 Testing Area) Forward voltage drop, reverse breakdown voltage. (K-A-A Testing Area) Reverse breakdown voltage.

Category	Range	Explanation
Field-Effect Transistor	JFET IGBT MIOSTET	·Gate capacitance Cg, drain current Id at Vgs, forward voltage drop of protective diode Uf. ·Id at Vgs, forward voltage drop of protective diode Uf. ·Threshold voltage Vt, gate capacitance Cg, drain-source resistance Rds, forward voltage drop of protective diode Uf.
Unidirect-ional SCR Bidirect-ional SCR	Turn-on voltage < 5V, gate trigger current < 6mA	Gate voltage
Capacitor	25pF~100mF	Capacitance value, loss coefficient Vloss, equivalent series resistance ESR.
Resistor	0.01Ω-50MΩ	Resistance value.
Inductor	10uH-1000uH	Inductance value, DC resistance.
Battery	0.1-4.5V	Voltage value, polarity.
Infrared Remote Control Decoding	NEC protocol infrared code	Display user code and data code, and display corresponding infrared waveform.

***SCR:**Silicon Controlled Rectifier

4.OPERATING INSTRUCTIONS

【4.1】Power On / Power Off

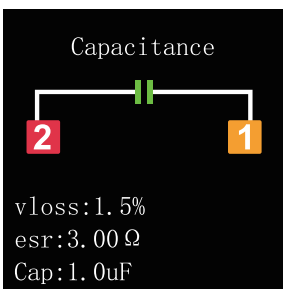


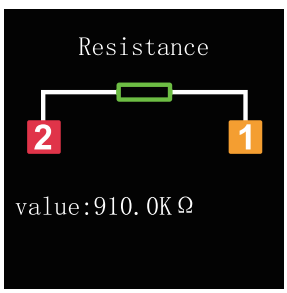
Power On: Press the TEST button while in the power-off state to enter the testing interface.

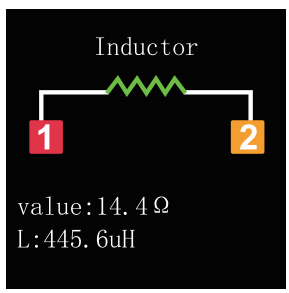
Power Off: Long press the TEST button on any non-measurement screen to power off.

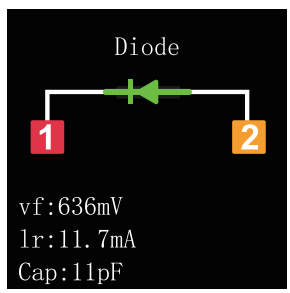
【4.2】Testing of Two-pin Components such as Capacitors, Resistors, Inductors, Diodes, and Batteries

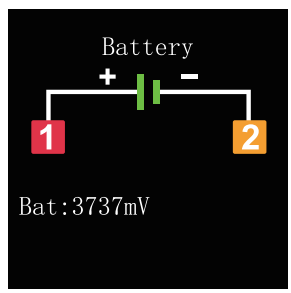
Insert the component pins into two different numbered test holes (e.g., 1, 3 or 1, 2 or 2, 3), press down and lock the clamping rod, then press the TEST button to initiate testing. Upon completion of the measurement, the corresponding test parameters and pin sequence will be displayed.





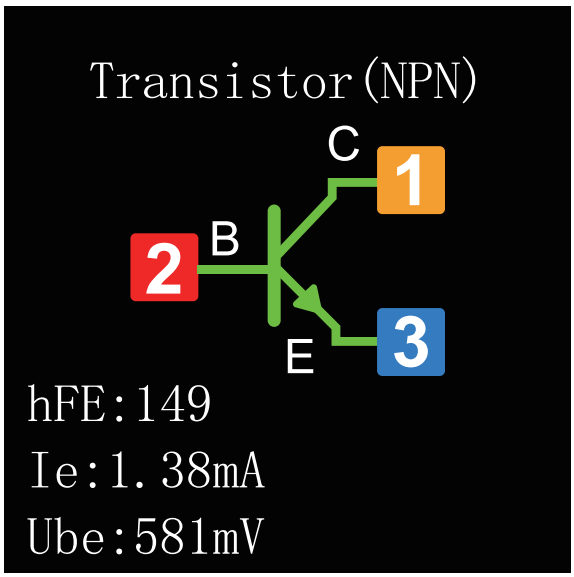


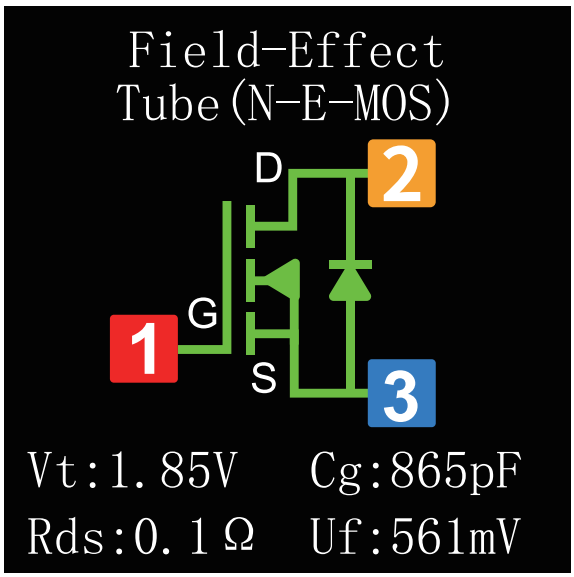




【4.3】Testing of Three-pin Components such as Transistors, MOSFETs, etc

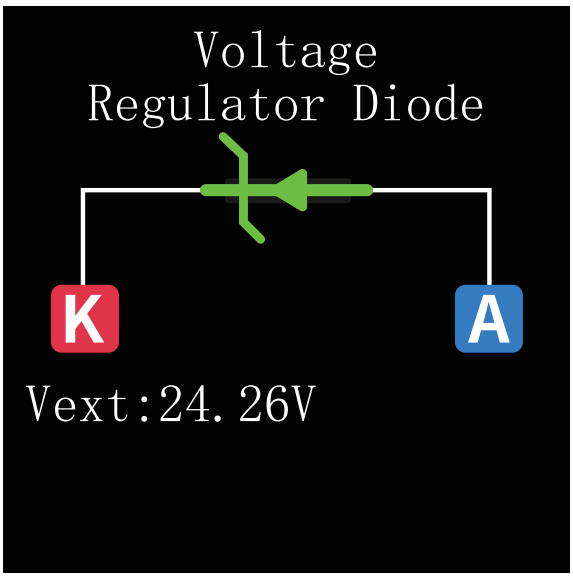
Insert the three pins into test holes numbered 1, 2, and 3 respectively. Press down and lock the clamping rod, then press the TEST button to initiate testing. Upon completion of the measurement, the corresponding test parameters and pin sequence will be displayed.

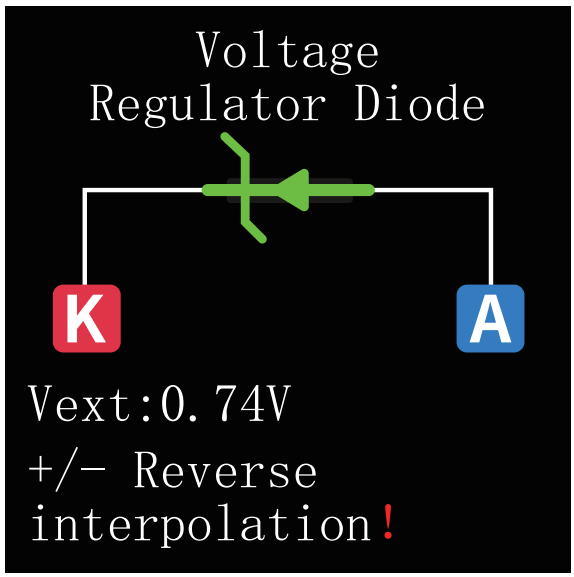




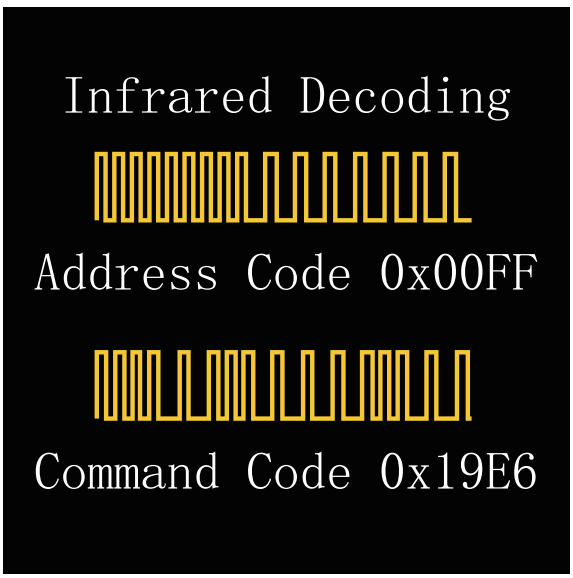
【4.4】Testing of Zener Diodes

Press the Zener button to enter Zener diode testing mode. Insert the anode of the Zener diode into test hole A, and the cathode into test hole K (there will be a reverse connection prompt). Press down and lock the clamping rod, then press the TEST button to initiate testing. The measurement results will be displayed accordingly.





【4.5】Infrared Decoding

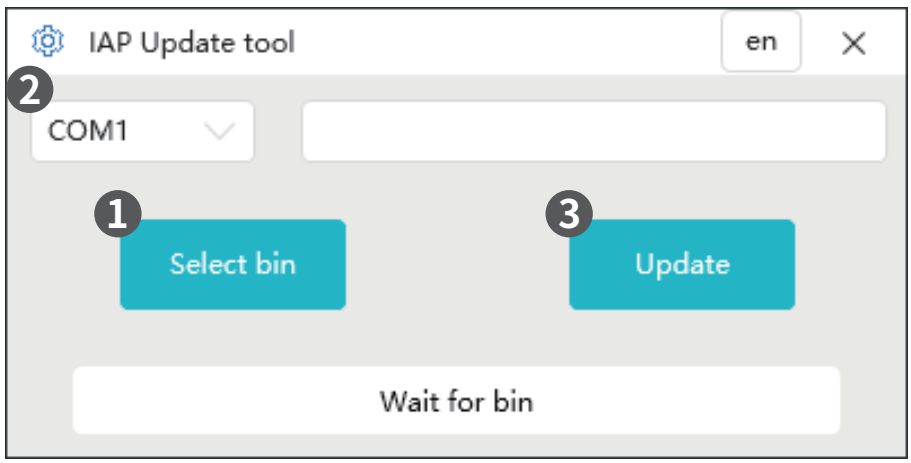


Switch the mode selection switch upward to enter Infrared decoding test mode. Aim the device at the Infrared receiver and send an Infrared signal. The device will automatically decode the signal. After decoding, it will display the address code, user code, and waveform.

5.FIRMWARE UPDATE

- Power off the device, then press and hold the **Zener** button (high voltage button) followed by the **TEST** button (power button) to enter the firmware upgrade interface.
- Connect to a computer via Type-C cable.
- Select the firmware and COM port of the current device, then click 'Start Upgrade'.
- The upgrade will succeed and the device will automatically restart.

Device upgrade interface



Connect computer interface

6.PRECAUTIONS

- When measuring capacitors without prior discharge, sparks may occur at the moment of insertion and locking, which can discharge the capacitor. This function serves as a safety measure to prevent forgetting to discharge capacitors before testing. However, it is still recommended to manually discharge capacitors before testing for proper usage.
- During non-measurement processes, the 1-2-3 locking interface is in a conductive state, which prohibits direct insertion of batteries.
- Testing component parameters outside the specified range may result in incorrect identification of component types.