OPERATION MANUAL

UC6601 Series

Wire Harness Tester

Ver.1.0

Catalog

Chapter 1 Unpacking installation

This chapter describes some of the checks you must perform when you receive the instrument, and the conditions you must know and have before installing and using the instrument.

1. Open box inspection

Thank you for buying and using our products. After unpacking the case, you should first check whether the instrument is damaged due to transportation.Then confirm according to the following packing list.

UC6601 wire harness conduction tester X1

The power cord X1

Operating instructions X1

Detect probe X1

Flat cable X1

If not, please contact our company or distributor as soon as possible, and have maintained your rights and interests.

2. Power connection

Power supply voltage range: 200 ~ 242 Vac.

Power supply frequency range: 47 ~ 63 Hz.

Power supply range: not less than 100 VA.

The input phase line L, zero line N and ground line E shall be the same as the power plug of this instrument.

This instrument has been carefully designed to reduce clutter due to AC power end input, but it should be used as far as possible in a low-noise environment. If it cannot be avoided, please install a power filter.

Warning: to prevent electrical leakage from causing damage to the instrument or person, the user must ensure that the ground wire of the power supply is reliably connected to the ground.

3. The fuse

The instrument is supplied with a fuse and the user should use the fuse provided by the company.

Warning: before power on, make sure that your fuse is in line with the supply voltage range.

4. Environmental

3.1 please do not use under dusting, vibration, direct sunlight and corrosive gas.

3.2 instruments work normally when the temperature 0 ℃ ~ 40 ℃, relative humidity of 75% or less, so please use under the condition of the instruments, so as to ensure the accuracy of measurement.

3.3 the rear panel of the test instrument is equipped with a radiator to avoid internal temperature rise. In order to ensure good ventilation, do not block the left and right ventilation holes to maintain the accuracy of the instrument.

3.4 the instrument has been carefully designed to reduce clutter interference caused by AC power end input. However, it should be used in a low-noise

environment as far as possible. If it cannot be avoided, please install the power filter.

3.5 instruments do not use for a long time, please put it in the original packaging, or similar box stored in a temperature of 5 ℃ to 40 ℃, relative humidity is not greater than 85% RH ventilation, indoor air should not be corrosion measuring instrument of harmful impurities, and should avoid direct sunlight.

The instrument, especially the test wire connected to the test piece, should be far away from the strong electromagnetic field to avoid interference to the measurement.

5. Matters needing attention for external fixture and connection

Please use the test fixture or test cable provided by our company. The test fixture or test cable made by users or other companies may lead to incorrect measurement results.

Matters needing attention:

5.1 the shorter the connection, the better

Too long external connection load additional lead flux, lead impedance specification test or short circuit end judgment easy to cause false test phenomenon.

5.2 frequently replace the adapter

After the use of the adaptor for a long time, the conduction will be unstable during contact, and the test of low conductivity impedance will lead to the phenomenon of false test.Therefore, if the same good wire is measured for

many times, the leading impedance is bad or the instantaneous break may occur occasionally, and the rotary joint needs to be replaced.

5.3 keep the fixture and adapter clean

After the machine has been used for a long time, there will be some dust in the fixture. When it comes to rainy days or high air humidity, bad insulation will occur, which will affect the insulation resistance specification test.

6. Preheat

In order to ensure accurate measurement of the instrument, the warm-up time should not be less than 15 minutes

Do not switch the instrument frequently to avoid internal data confusion.

Chapter 2 overview

This chapter describes the basic operating characteristics of UC6601 series instruments.Before using the UC6601 series, please read this chapter in detail so that you can quickly learn how to operate UC6601.

1、Front Panel Instruction

Figure 2-1
UC6601 brief instruction of front panel

This chapter describes the basic operation characteristics of the UC6601 series instruments. Before using the UC6601 series of instruments, please read this chapter in detail so that you can quickly learn how to operate the UC6601.

1.1 Display Screen

The instrument uses 800x480 pixels, 7 inch large screen display.

1.2 File Button

Press this button to enter the file page, where internal and external file operations can be performed.

1.3 Setting Buttons

Press this button TO enter THE Settings page, in the Settings page can be "measurement Settings", "System Settings", "diode", "resistance Settings".

1.4 Point Search button

Press this button to enter the point-detecting page.

1.5 Learning Buttons

Press this button to access the learning page, where you can perform single-ended wiring harness, as well as the ordinary loop. Learn and set.

1.6 Measurement Button

Press this button to enter the test page.

1.7 soft keys

Flexible selection of functions for each page.

1.8 Defective indicator

After the test, indicate the test pass and fail.

1.9 Direction Buttons

Selection of directions for each page.

1.10 Confirm the cancel button

Used to confirm and cancel.

2.Rear Panel Instruction

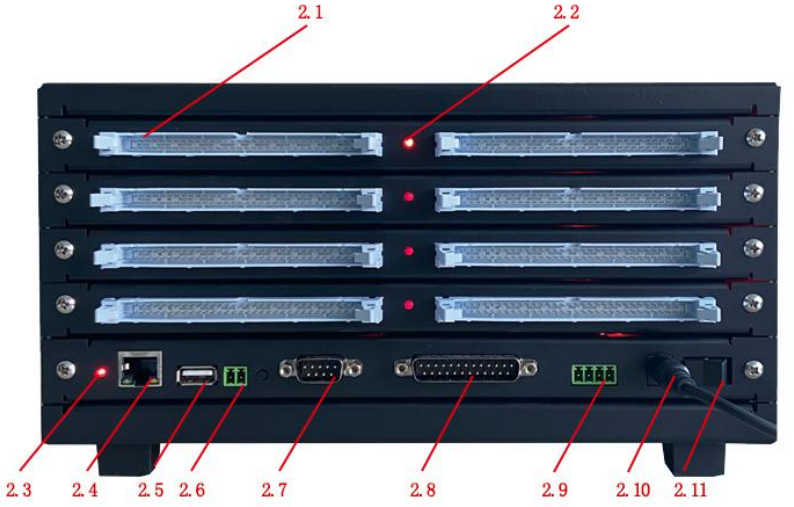


Figure 2-2
UC6601 brief instruction of front panel

2.1 Testing channel board Interfaces

Test the channel.

2.2 Channel board working indicator

When there is data communication, the indicator lights will flash.

2.3 Running Indicators of the Host

When the host is running normally, the indicators blink every second.

2.4 Network Ports

Used for network communication (optional).

2.5 USB Host port

For test file import and export, and instrument firmware upgrade.

2.6 Point-finding interface

On the left of the interface is the hardware unlock button, and on the right of the interface is the point-finding interface.

2.7 RS232 communication port

For data transmission and expansion.

2.8 Channel expansion port

When you need to expand the channel port, you can connect an external expansion channel board.

2.9 Relay outlet

When the test passes or fails, the relay output can be set by software.

2.10 Power ports

External power adapter port. The power input voltage ranges from 15V to 24V.

2.11 Switching on/Off Buttons

After the power is plugged in, press this button to switch the machine on and off.

3. Display area definition

UC6601 adopts a 7-inch widescreen TFT display of 65K color. The contents displayed on the display are divided into the following display areas, as shown in the picture:

3.1 Main display area

This command is used to display the main content of each interface

3.2 the menu area

Use to display menu items, a total of 5

3.3 information area

Displays prompt information, query information, and error information.

Main menu keys and corresponding displayed pages

4. Basic operations

The basic operations of the UC6601 are described as follows:

4.1 Use the menu keys ([File], [Settings], [Find], [Study], [Test],) and soft keys to select the page you want to display.

4.2 Use the cursor keys ([↑] [↓] [←][→]) to move the cursor to the field you want to set. When the cursor moves to a field. The field is highlighted. A field is the area where you can set the cursor. The menu functions of the current cursor domain are displayed in the Menu Area. Select and press the desired soft key. The numeric key, [←] key, and [ENTER] key are used for data input. When a numeric key is pressed, letters and numbers are displayed in the soft key area. Select and press the desired software. When you use the [ENTER] key to end data input, the data unit is the default unit of the corresponding domain parameter: Hz, V, or ω.

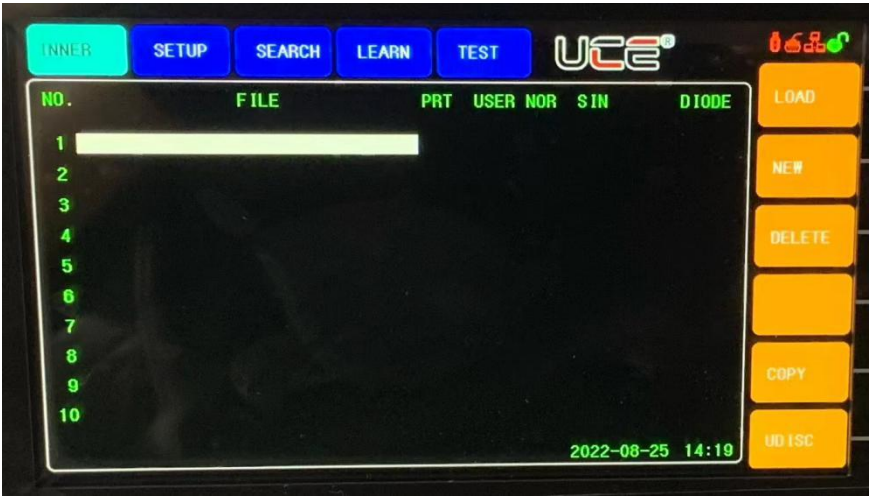
Chapter 3 Detailed operation

1. Starting up

Insert the power plug. Note: Ensure that the power supply voltage and frequency meet the above requirements. The power input voltage is consistent with this description. Turn on the power, press the power switch on the lower left corner of the front panel, the instrument will start, and the startup screen will be displayed. The following figure shows the startup screen of UC6601, the company LOGO, the model of the instrument (UC6601), the version number of the software (Ver 1.1.0) and the number of channels (512).

The system will go directly to the < test > page, or the < Learn > page (when no test file is loaded).

2. File page



Press the module button [File] to enter the < File > page. As shown in figure: The < file > page includes two pages: internal file and external file. The following paragraphs describe each set page in detail.

2.1 Introduction to Internal Files

Note: The instrument file name supports a maximum of 32 characters, followed by "print", "user", "ordinary", "single end", "resistance", "diode", indicates that the test file has this attribute. You can move the arrow keys to disable or enable the corresponding properties.

As shown in the figure above: A "√" below the "common" column indicates that the test file has a common loop test.

Print: Indicates that the document has the printing function.

User: Indicates that this file has a user-defined pin name, which can be

selected and cancelled by the arrow keys.

Common: Indicates that this file has a conventional wire harness test.

Single-ended: Indicates that this file has single-ended wire harness detection.

Resistance: Indicates that this file sets a resistance test.

Diode: Indicates that this document contains a diode test internally.

2.1.1 Loading Files

Click the "Load" button, the instrument will pop up the window, click "Confirm", the instrument will automatically switch to the < test > page. If you return to the page again, the current sequence number will be selected.

2.1.2 Creating a File

Before each test item is created, create a file name. Click "New" and enter the file name. After the file is created, the system automatically loads the file and learns the cable transect.

2.1.3 Deleting a File

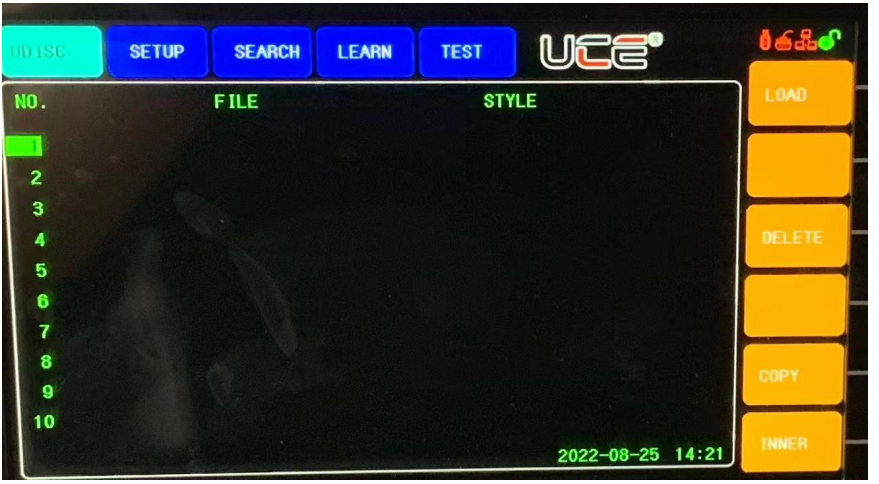
Use the arrow keys to select the file to be deleted and click "Delete". In the dialog box that appears, select "OK". The file will be deleted.

2.1.4 Copying data to a USB Flash Drive

Use arrow keys to select the file to be exported and click Copy to U. After the file is successfully exported, the export node will be displayed in the lower left corner

2.2 External file page instruction

2.2.1 Page Introduction



File types: There are print file, user-defined name file, test file

File name: Name of an external file

2.2.2 Functions

Load: Use to load the test file.

Delete: The user deletes the file

Copy to I: Import the external file to the internal.

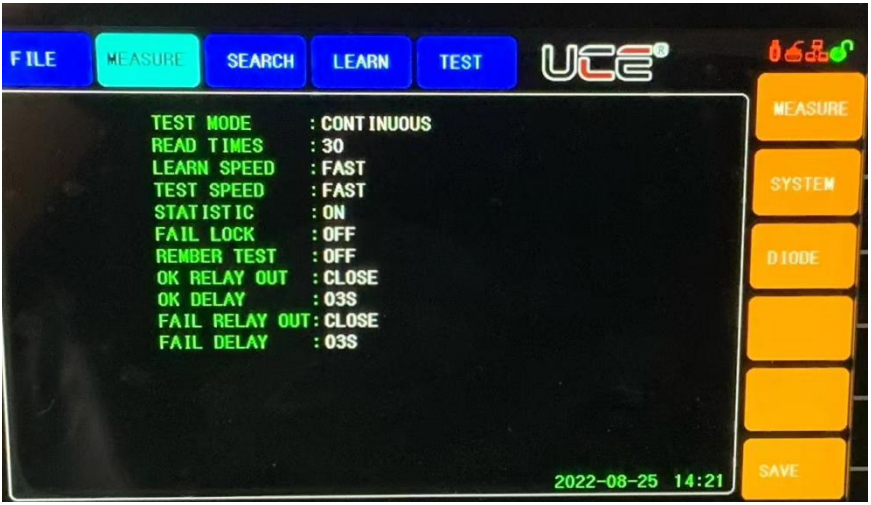
Internal File: Switch to the Internal File page

3. < Settings > page

Press the module button [Settings] to enter the < Settings > page. The < Settings > page includes measurement Settings, system Settings, diode Settings, resistance Settings and other pages. The following paragraphs

describe each set page in detail.

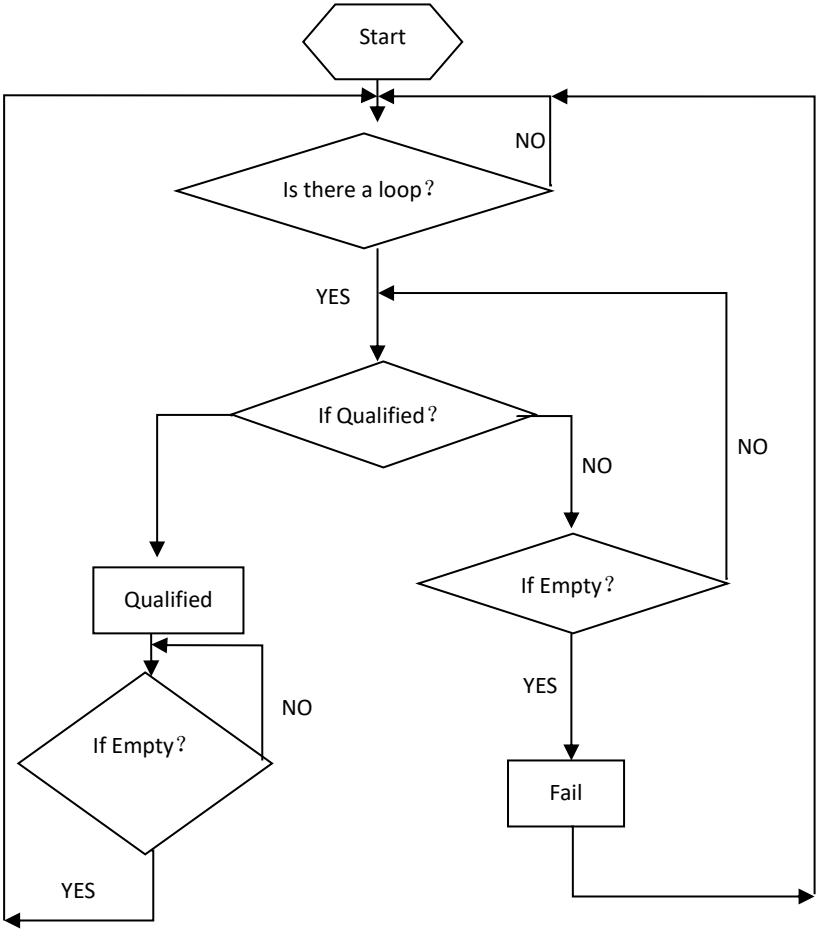
3.1Measurement Setting



This page focuses on measurement related Settings.

3.1.1 Test mode

Continuous: The test flow in this mode is as follows



Single session: It is necessary to detect whether to press the "test" button at the beginning of the test, and then enter the test state.

3.1.2 Number of Reads

The increase and decrease of the reading times are determined according to the length of the wire harness. The default value is 30 in the general system. This value needs to be set only when the wire harness is long, and the longer the wire harness is, the greater the value is to eliminate the capacitance effect on the wire harness. The larger the value the slower the test.

3.1.3 Learning speed

Fast: The unique fast algorithm of this department has a more obvious effect when the more points.

Slow speed: Conventional scanning learning method.

3.1.4 Test speed

Slow speed: Conventional scan test method.

Fast: Fast algorithm test method.

Super Fast: Rapid test mode

3.1.5 Test Statistics

The statistics display in the test state can be manually turned on and off.

3.1.6 Improper locking

When the test is bad, the system is locked and cannot be detected. You must

wait until the system is unlocked before entering the test.

3.1.7 Memory test

After the test passes the circuit will not continue to test, (risk) not recommended. It is usually used when the test fixture is defective.

3.1.8 Qualified output

Qualified relay output switch, can be normally open or normally closed.

3.1.9 Qualification Delay

Qualified output delay time.

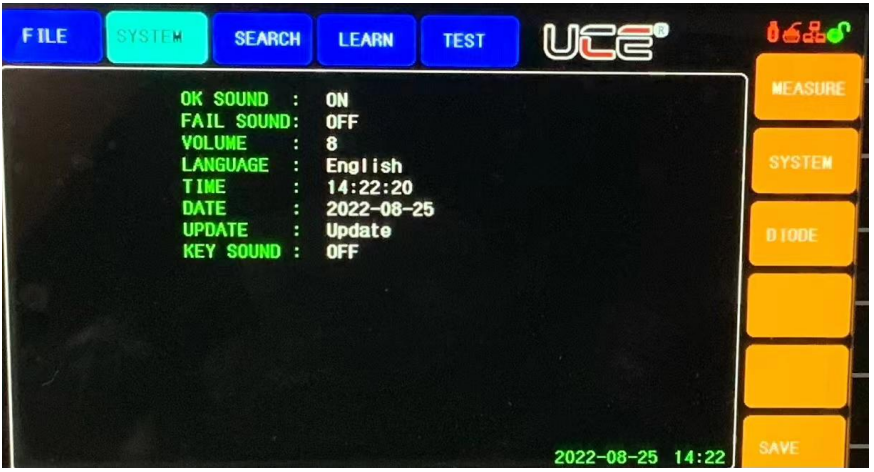
3.1.10 Bad output

Output when the test fails, normally open, normally closed or closed.

3.1.11 Bad delay

Poor relay output delay time.

3.2 System Settings



3.2.1 Qualified Sound

Qualified sound can be turned on or off with this option.

3.2.2 Bad sound

Qualified sound can be turned on or off with this option.

3.2.3 Volume

The value ranges from 1 to 8. The larger the value, the louder the sound.

3.2.4 System Language

You can switch between Chinese and English.

3.2.5 Time Setting

Use arrow keys to select the hour, minute, and second you want to set.

3.2.6 Date setting

With this option, you can set the date year, month, and day.

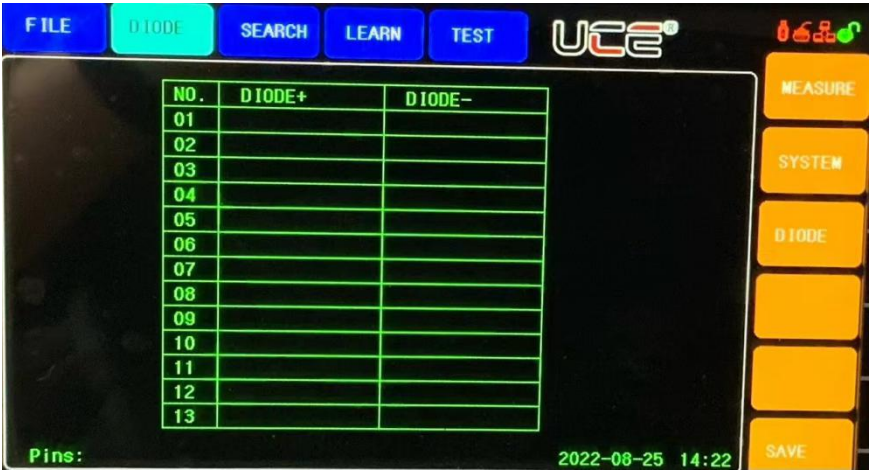
3.2.7 System Upgrade

Select this option, click "Start Upgrade", insert the USB flash drive, the system will automatically upgrade the firmware, after the successful upgrade, the system will automatically restart.

3.2.8 Button Sound

Key sound can be turned on or off with this option.

3.3 Diode Setting



Setting steps:

Step 1: Move to the corresponding setting position by using the arrow keys.

Step 2: Click "Enter" to pop up the input window. Enter the pin name. The pin name format is A01,A02

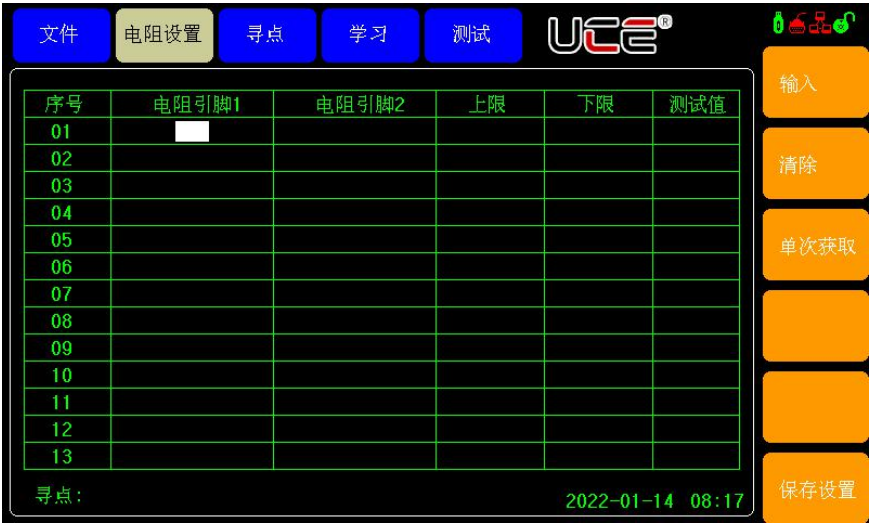
A03... A64 B01, B02... B64.

Step 3: Click Save.

Note: The user can confirm the position of the diode by finding the point of the point finder.

3.4 Resistance Setting(optional function)

Setting steps:



Set resistance pin 2 format as above.

Set the resistance upper limit unit ohm.

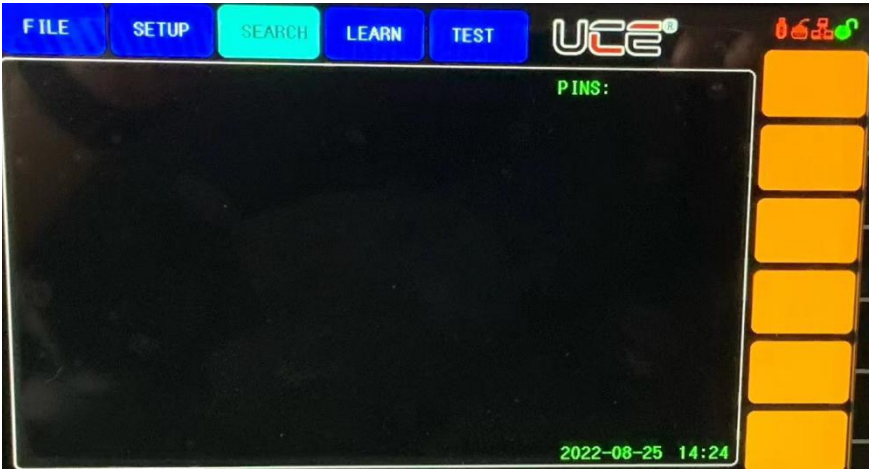
Set the resistance lower limit unit ohm.

Click "Single gain" to test whether the resistance value is obtained correctly.

Click "Save Setting". The setting is complete.

4.<Search point> Page

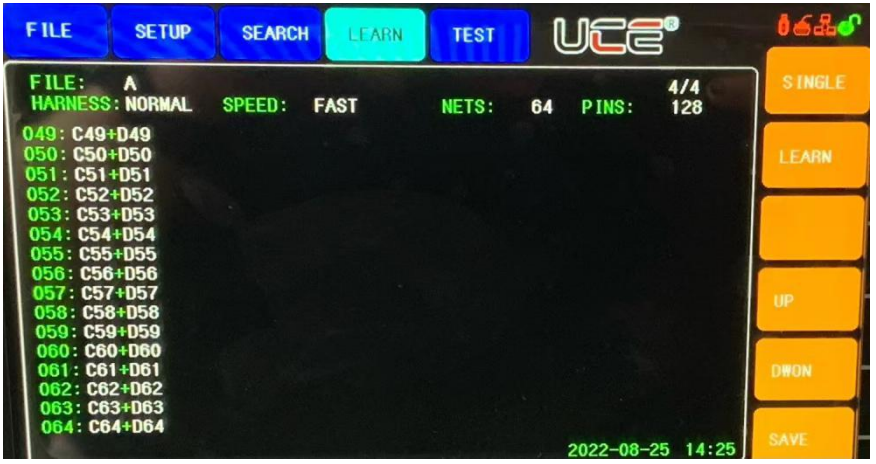
Through the pen can detect the point, display as shown in the figure, showing the inspection point, as well as the total number of pins. At the same time, when the stylus detects the pins, it will emit a beep tone.



5. < Learning > page

Press [Study] to enter the study page. As shown below, there are two learning harness modes on this page, ordinary regular harness (both ends of the harness) and single-ended harness (one end is bare). Two types of wiring harness are illustrated below.

5.1 Ordinary wire harness learning



The main purpose of learning is to obtain the foot structure of the tested piece (namely, the short circuit network table), and then carry out relevant tests according to the short circuit network table.

General loop learning steps:

Before learning, the standard sample should first be inserted into the test port.

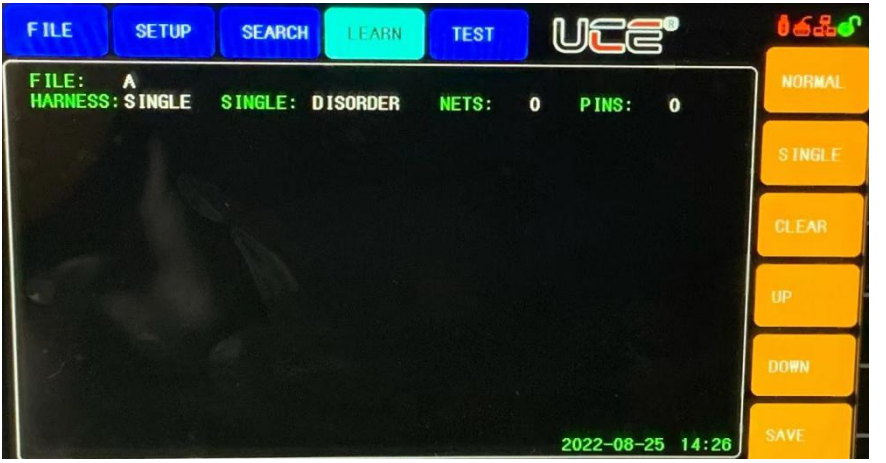
Click the button "Learn" or "One-click learn", the system will automatically scan the loop information.

Confirm whether the total number of loops and pins is correct.

Click "Save File" to save the test loop. (Before saving the file, make sure the file name is correct).

Note: Before the learning loop must first in the file page "new" or "load" file, otherwise will not be able to save the test file.

5.2 Single-end wire harness learning



Single - ended harness, mainly with a bare harness on one side.

Operation Procedure:

Step 1: Insert a transect.

Step 2: Click the single-ended wire harness with a watch pen.

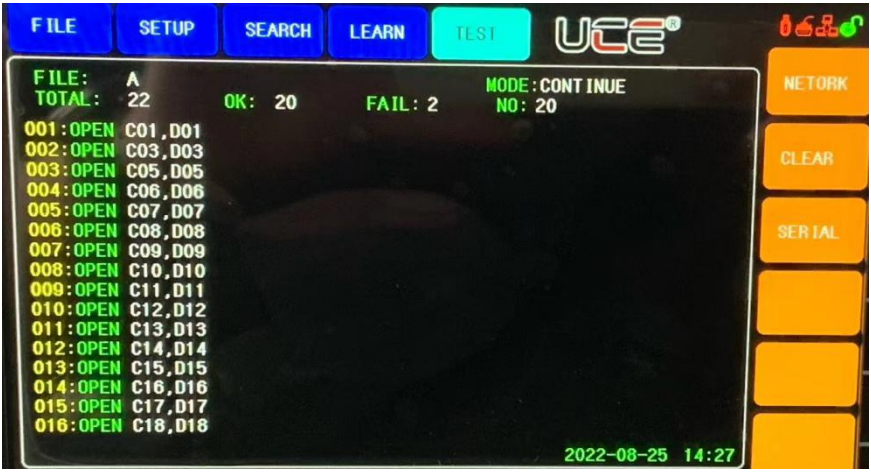
Step 3: Click "Save File" to save the single-end test data.

Single-ended testing has two test modes: ordered and unordered.

Order type: The user must probe the points one by one in a certain order when learning the single-ended loop. The user must probe the points one by one in a certain order during the test to succeed in the test.

Disorder type: The user only needs to probe all loop relationships, not in a certain order.

6. <Measurement>page



Press [Test] to enter the < Test > page. As shown in figure:

6.1 Page Overview

6.1.1 Current Files

Confirm the name of the test file when testing.

6.1.2 Measurement Mode

There are two test modes: continuous and single. To set the test mode, see the "Measurement Settings" page.

6.1.3 Statistics

In the measurement process, the instrument can measure the total number of products, qualified number, bad number statistics, convenient for users to the current batch of product quality, there is a rough assessment.

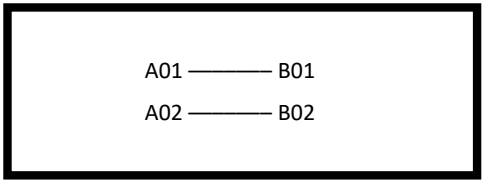
To clear statistics, you can use the "Clear Statistics" menu key to clear statistics.

6.1.4 Measurement results

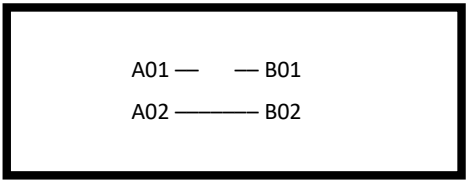
When the measurement is qualified, the main display box will show the word "OK".

When the measurement is unqualified, the main display box will display the wrong link pin, and there are three kinds of error situations.

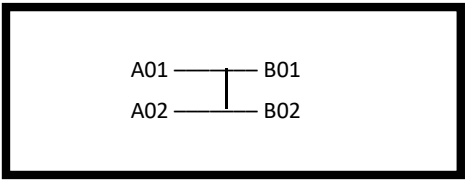
The above error is illustrated below.



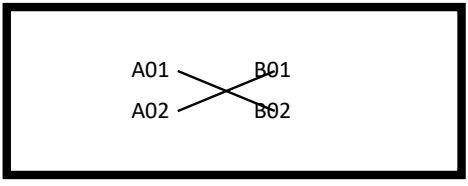
Correct Connect



A01 open circuit



A01、B01 short circuit A02、B02



A01 dislocation B02

A01 dislocation B01

short circuit: connect with other lines

dislocation: cross linked together

cut-off: should have a link pin, there is no connection.

6.2 Overview of the Test Menu

6.2.1 Viewing the Network

This button is used to query the test loop information and display the detailed connection footer of the current test network.

In this page, you can view the general loop, or single - ended loop information.

6.2.2 Clearing Statistics

When this button is pressed, a prompt confirmation box will pop up. If you want to confirm clearing statistics, click the [Confirm] button directly, otherwise click the [Cancel] button.

Chapter 4 communication interface

1. The RS232C interface

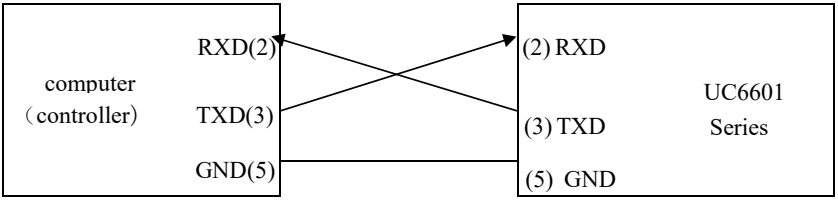
2. RS232 standard

At present, UC6601 adopts the simple RS-232 standard as shown in the following table:

Signal	abbreviation	Connector pin number
Send data	TXD	3
Receive data	RXD	2
Earth	GND	5

The operation of three lines is much cheaper than that of five or six, which is the biggest advantage of using serial port communication.

The connection between instrument and computer is shown in the figure:



As can be seen from the above figure, the used serial port connection line needs 2,3 legs crossed