SPTU
Smart Handheld Test Unit

1. Main purpose and scope of application

The SPTU Smart Handheld Test Unit (Hereinafter referred to as handheld device) is a secondary injection handheld test unit. It can be widely used for testing and verification of power distribution cabinet circuit breaker before delivery in commercial and civil construction projects, as well as daily operation and maintenance testing after operation.

2. Model, specification and meaning

SPTU: Standing for smart portable test unit.

3. Normal service, installation, and transportation & storage conditions

3.1 Normal service conditions

-Working environment temperature: -10℃～ +55℃, and the average working temperature for 24 hours shall not exceed+35 ℃ ;

-Storage ambient temperature: -10℃～ +35℃。

-Humidity of the working environment: the relative humidity of the atmosphere should not exceed 80% when the surrounding air temperature is +23 ℃ . Higher relative humidity can be allowed at lower temperatures, such as reaching 90% at+20 ℃ . Appropriate measures should be taken for occasional condensation caused by temperature changes.

-Pollution level: Level 2.

-Ingress Protection: IP20.

3.2 Transportation & storage conditions

-During storage and transportation, the product must not fall down or be attacked by rainwater or corrosive gases.

4. Main technical parameters and performance

The handheld device has many technical parameters, please refer to Table 1 for specific information.

Table 1 Technical Parameters Description

No.	Technical Parameters	Performance
1	Charging Parameters	USB port, 5V/1A
2	Battery Capacity	4000mAh (Typical Value)
3	Working Voltage	3.7V~4.2V
4	Operation Method	Touch based, button based
5	LCD Screen Size	5.46 inches, vertical display
6	Backlight Adjustment	Support
7	Battery Level Detection	Support
8	Wired Communication	Supporting two types of SPTU-USB terminal wire and SPTU-RJ45 terminal wire
9	Charging Cable	Using standard USB Android phone data cable

5. Structural features and working principles

The working principle of the handheld device is to connect to the controller port and to achieve the functions for software programs such as testing, storage, browsing, and exporting test reports, thanks to the hardware circuits.

5.1 Operation panel

The operation panel includes LCD screen, Power key, Return key, Up key, Down key, Left key, Right key, and Enter key, as shown in Fig.1.

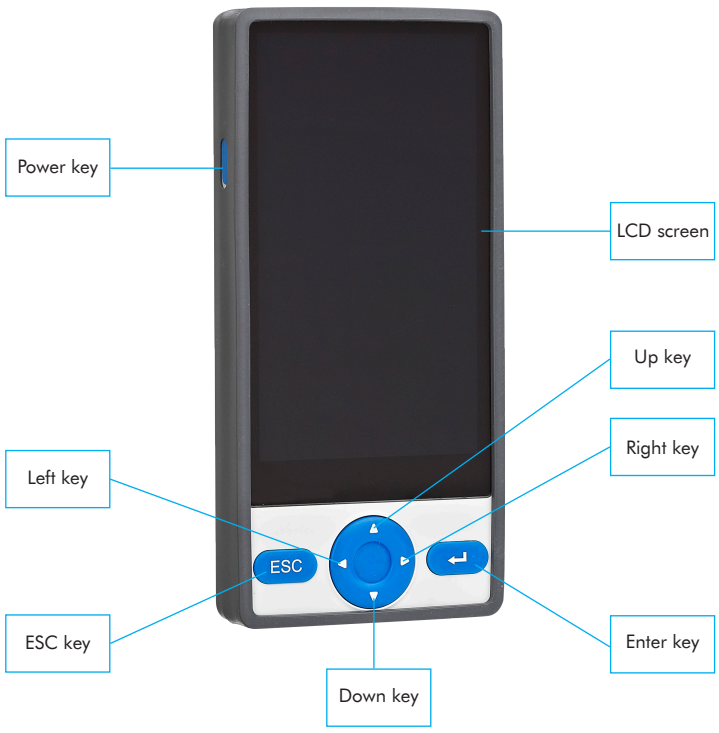

Fig.1 Operation Panel

5.2 Key description

The handheld device has multiple key functions, please refer to Table 2 for specific information.

Table 2 Key Description

No.	Name	Function Description
1	Power key	Short press to turn on, rest screen, wake up; Long press for 3 seconds to turn off.
2	Return key	Return to the previous page.
3	Up/Down/Left /Right key	Select menu item and select parameter item input method.
4	Enter key	Select, confirm and save of parameter item.

5.3 Communication port

There are two communication ports for the handheld device, namely USB port and RJ45 port. The USB port communicates with the ACB model controller through a USB cable, as shown in Fig.2. The RJ45 port communicates with the MCCB model controller through an RJ45 cable, as shown in Fig.3.

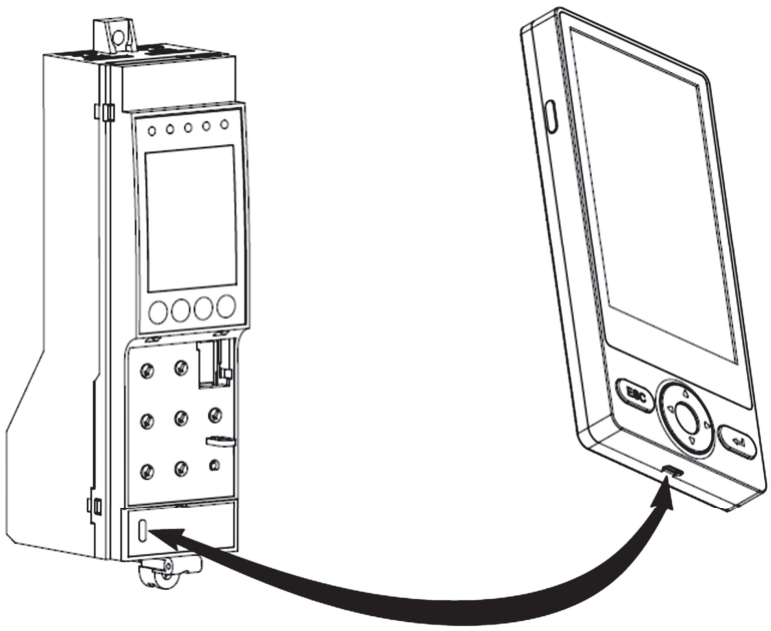

Fig.2 USB Port Connection Diagram

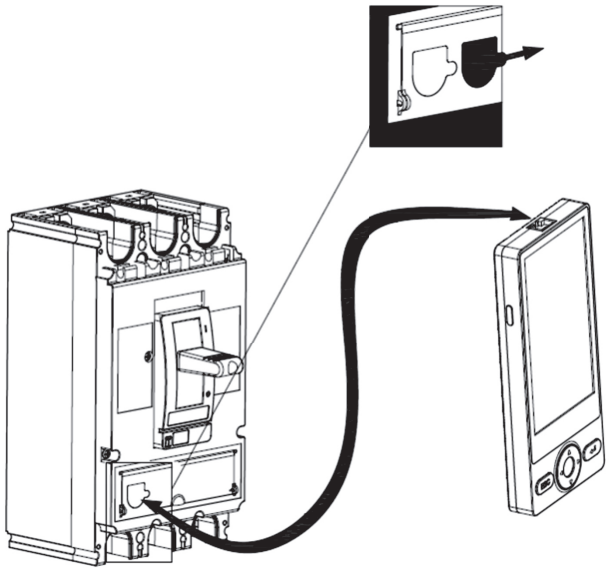

Fig.3 RJ45 Port Connection Diagram

6. Main function of the product

The main function of the handheld device is to test the release function, and the test process includes before test, testing, result, and record.

6.1 Before test

Configure the test type, test mode, and test current, as shown in Fig.4.

6.2 Testing

After the test starts, showing the test status is in testing, as shown in Fig.5.

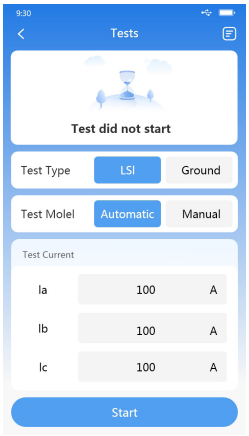

Fig.4 Before Test

Fig.5 Testing

6.3 After test

After the test is completed, the result of this test will be displayed, as shown in Fig.6. If the test mode is selected as manual test, the test personnel should determine whether the test has passed based on the test parameters and trip information; If the test mode is selected as auto test, it will automatically display whether the test has passed.

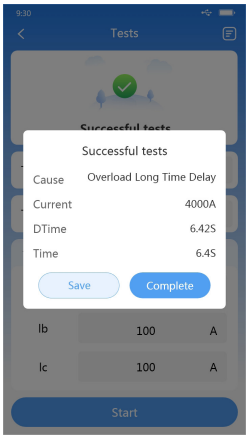

Fig.6 Result

6.4 Record

After the test result is displayed, please enter the test record to view/delete/export the test record, as shown in Fig.7.

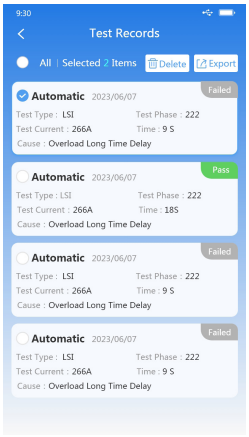

Fig.7 Record

7. Maintenance

The ambient temperature and humidity of the usage site must comply with the relevant provisions of the instruction manual.

8. Overall dimension(unit: mm)

The ambient temperature and humidity of the usage site must comply with the relevant provisions of the instruction manual.

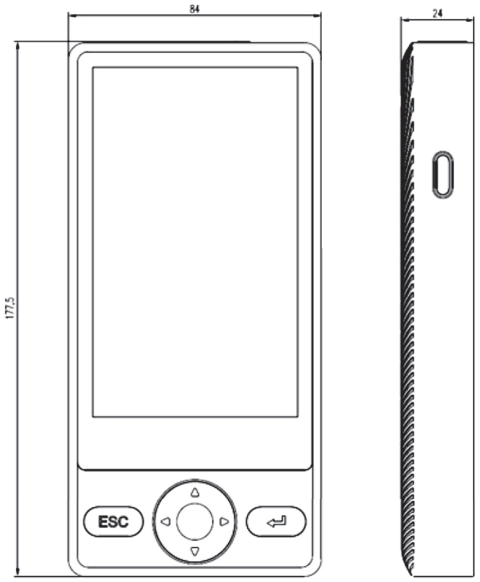

Fig.8 Overall Dimension Diagram

9. Environment protection

In order to protect the environment, when this product or its parts are scrapped, please properly dispose of it as industrial waste; Or to the recycling station for classified disassembly, recycling and reuse according to relevant national regulations.