



DFT-6102

Battery Conductance Tester

Users Manual



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Chapter 1 Overview

1.1. Purpose

The battery Conductance Tester adopts the most advanced AC discharge test method, which can accurately test the voltage and conductance at both ends of the battery, and then judge the advantages and disadvantages of the battery capacity and technical status. Customers can also choose the results of the conductance test, voltage test and capacity estimation of the battery according to their own situation as the basis for the conductance matching when the new battery is matched; Testing the conductance of the battery before and after discharging is used to identify the real invalid battery.



1.2. Feature

- (1) Smart, digital, fully English operation menu for accurate Test & simple operation.
- (2) Weight does not exceed 0.45Kg, handheld design, single operation, automatic Test of the whole process.
- (3) To meet various battery conductance detection standards, it is necessary to include a complete database of battery conductance parameters, and can define the battery standard conductance according to different batteries.
- (4) The test method is simple, which will not affect the working state of the battery and will not produce safety

hazards.

(5) The tester itself can store a large amount of test data, and can be conclusive query and analysis on the tester, and the battery test data can also be exported to the computer software with a U disk to generate charts and curves for analysis.

(6) The test report can be easily imported into Excel and Word files, and printed into a report in the specified format for easy management to reduce the workload.

(7) 4-line multi-purpose test clamp, set test clamp, probe and other functions in one, can adapt to more than 98% of the battery connection installation mode and battery pole form.

1.3. Advantages of the 4-line test clamp:

4-line test clamp is suitable for most test occasions, Its front section of the fixture protrudes 6cm metal test head & only 3mm thickness, which is convenient to reach directly into the pole under the connecting plate, and the inside of the metal head is serrated to facilitate the removal of oxides and direct contact with the pole, thus ensuring the stability and accuracy of the test results.

1.4. Advantages of test probes

(1) 4-line test ensure that the inner needle is completely insulated from the outer barrel!

(2) Inner needle 1.3 mm diameter & outer barrel 3 mm diameter are suitable for a variety of connection strip gaps, can be fully inserted from the pole sheath hole!

(3) Metal needles and syringes adopt beryllium copper gold plating process, which can adapt to various test frequencies and currents!

(4) The length of the line is 1.8 meters, the length of the test pen is 0.36 meters, and the entire set of batteries is tested without mobile equipment!

(5) The test pen adopts the two-stage design of the extended rod, which is convenient to carry and adapt to long-distance testing!

(6) It is more convenient and accurate to cooperate with the automatic test PC Sof5twear of the conductance tester!

(7) The aviation plug adopts Taiwan PLT's supply, adapts to various frequencies and currents, and escorts accurate testing!

1.5. Function


No	Item	Description
1	Battery Test	The conductance Test and performance evaluation of single cell batteries, String batteries, batteries + connection conductance (optional)
2	Data management	Open and play back the data records, dump the U-disk, delete and other operations, and format the data records at the same time.
3	System management	including clock settings, parameter calibration, language selection, test waveforms, file management and software version information and other functions

1.6. Technical parameters

Item	Parameters
Measuring range	Conductivity:10.0S—99999.99S Voltage:0.000v--20v
Tiebar Measuring range (option)	Conductivity:10.0S—99999.99S
Min. measurement	conductivity: 10.0S
Resolution	Voltage: 1mV
Measurement accuracy	Conductivity: 1% Voltage: 0.5%
Display	4.3" TFT-LCD touch screen 272×480
Host Size	186mm×98mm×40mm
Host Weight	0.45KG
Memory capacity	Stores 100,000 battery measurement data
Working power supply	4000mAH rechargeable battery as full for 8~ 12 hours
External power supply	AC100~240V/DC5V-1A power adapter/charger
Communication interface	USB interface (pluggable U-disk)

Chapter 2 Operation instructions

2.1. The Tester Power on/off

There is a power switch  on the left side of the tester, dial the upper end to Power and the down end to Power off. Refer to Boot the main menu as follows:

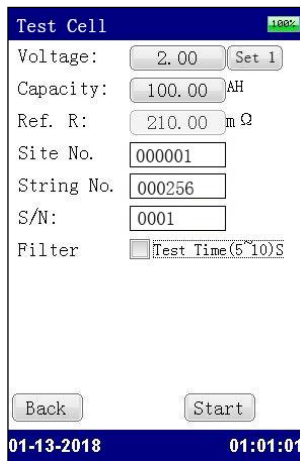


The main menu consists of three parts: upper, middle and lower. On the upper left is the menu name, and on the right is the battery level indicator. The bottom edge is the time bar, and the middle is the display and operation area;

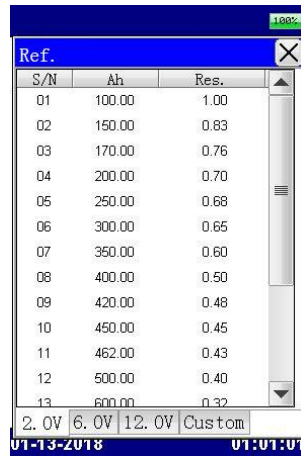
When using the touch screen, you can tap the menu task item directly, and then tap the selected menu task item to execute. If you are using a keyboard, use the TAB key to toggle the selected menu task item and press Confirm to execute.

2.2. Single-Cell Test

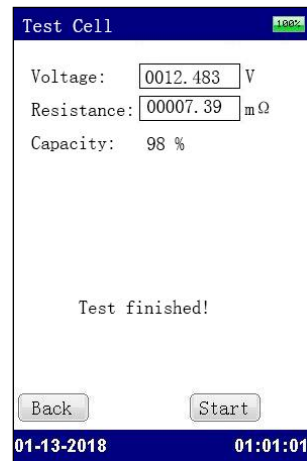
After entering the single-cell test, select the battery voltage type, battery model, test parameters, and site number to test. The test interface is shown in the following figure:



Setting interface



Testing interface



End interface

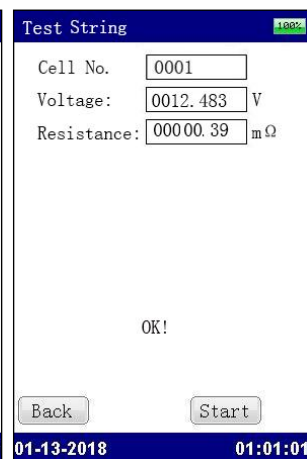
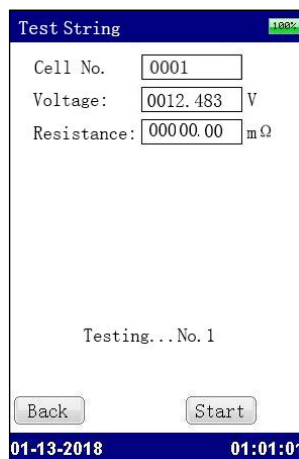
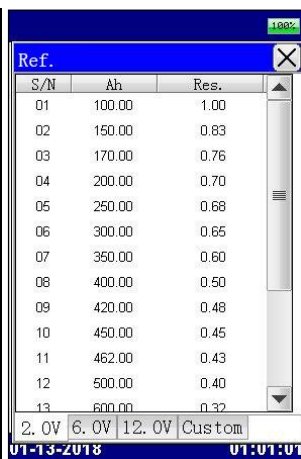
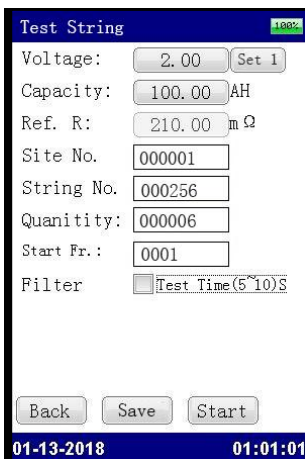
2.2.1 (Optional) Test instructions with connection conductance's (same Test in Strings)

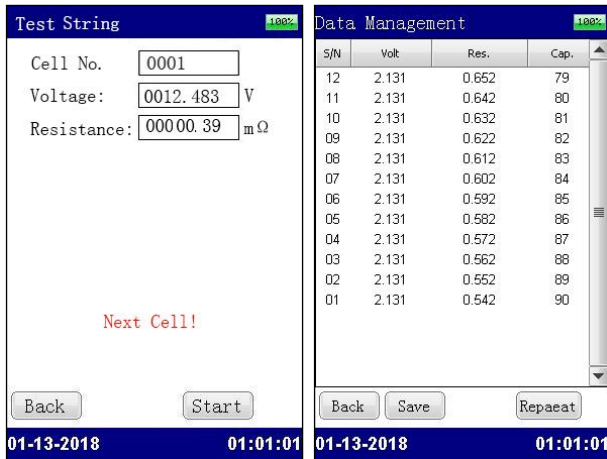
3-wire & 3-clamp simultaneous Test. The red clamp is connected to the connection conductance, the red and black clamp is connected to the end of the positive pole of the battery and the connection conductance, the black clamp is connected to the negative electrode of the battery, click the Test, you can complete the Test of the conductance and the connection conductance, and so on.

(Note that in general, the first section of the positive electrode of the electrical Test does not have a connecting strip, you can connect the red clamp with the red and black clamp at the positive end of the battery, direct Test, then the connection conductance value of the first section is 0)

2.3. Battery String Test

The Battery String Test interface is as follows, and its Test operation method is similar to that of single cell Test, but the number of battery cells is increased, and before a String of batteries is tested, it can be tested continuously without operating the interface. Click the touch screen Start Test button to take the Test.





2.3.1 Custom standard parameters

Click the "Unit" button on the right side of "Battery Voltage", pop up the custom parameter dialog window, set the custom parameters, click "Save". After saving, you can see that the "V" of the button changes to "Custom x", indicating that the customization was successful.

2.3.2 Standard parameter selection

Click the button on the right side of the "Battery Voltage" or "Standard Capacity" character to pop up the list of standard parameters, select a parameter according to the needs, click again to set the parameters, and the main interface updates the display. After clicking the "Save" button at the bottom of the "String Test" interface, the set parameters will be saved permanently and the switch will not be lost again, and there is no need to set the parameters repeatedly, which is convenient for the next test.

2.3.3 Operating instructions

Click the "Operation Instructions" button, and the dialog window that pops up details the operation process and precautions of the entire single-cell Test.

2.4. Data management function

Click on the "Data Management" menu item on the main interface to enter the data management function interface, including single-cell battery Test data and Battery String Test data, which can be opened and played back on the data records. Dump U-disks. Delete and other operations, while also can format data records. The interface for data management is shown in the following figure:

S/N	File	Time
14	REM00014	13-01-18 14:15:16
13	REM00013	13-01-18 14:14:15
12	REM00012	13-01-18 14:13:14
11	REM00011	13-01-18 14:12:13
10	REM00010	13-01-18 14:11:12
09	REM00009	13-01-18 14:10:11
08	REM00008	13-01-18 14:09:10
07	REM00007	13-01-18 14:08:09
06	REM00006	13-01-18 14:07:08
05	REM00005	13-01-18 14:06:07
04	REM00004	13-01-18 14:05:06
03	REM00003	13-01-18 14:04:05
02	REM00002	13-01-18 14:03:04
01	REM00001	13-01-18 14:02:03
00	REM00000	13-01-18 14:01:02

Buttons: Open, Export, Delete, Format

01-13-2018 01:01:01

Data management interface

S/N	Volt	Res.	Cap.
12	2.131	0.652	79
11	2.131	0.642	80
10	2.131	0.632	81
09	2.131	0.622	82
08	2.131	0.612	83
07	2.131	0.602	84
06	2.131	0.592	85
05	2.131	0.582	86
04	2.131	0.572	87
03	2.131	0.562	88
02	2.131	0.552	89
01	2.131	0.542	90

Buttons: Back, Save, Repeat

01-13-2018 01:01:01

Open recording interface

2.5. Clock settings

When operating by using the touch screen, you can tap the input or key directly, and the input number can be achieved by scrolling up and down. If you use the keyboard to operate, then the "TAB" key toggles the input items after selecting good years. Month, Day, Hours, Minutes, Seconds, press "↑" or "↓" key increments or decreases the number.

Date: Time:

D: [▼] 02 [▲] H: [▼] 02 [▲]

M: [▼] 02 [▲] M: [▼] 02 [▲]

Y: [▼] 02 [▲] S: [▼] 02 [▲]

Buttons: Back, Save

01-13-2018 01:01:01

2.6. System Administration

Once you enter system settings, the system settings submenu appears. Click the task item to enter the system settings surface, and click the back button to return to the main menu. The menu content is shown in the following figure:

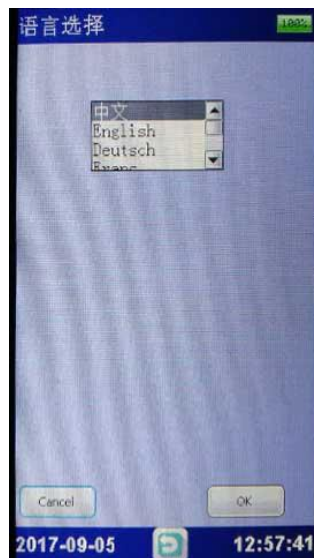


2.6.1 File management

The tester can upgrade the system software through the U-disk, first put the upgraded software image file into the U disk, Power Off; then connect the U-disk and the tester through the OTG cable, press back key to boot and Power-on, and then wait for the upgrading, the interface prompts the upgrade progress, and automatically starts to the running interface after the upgrade is successful.

2.6.2 Language selection

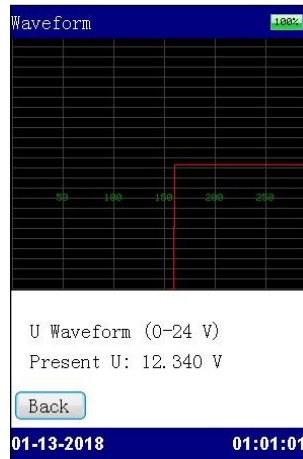
The software supports 5 languages of Chinese, English, French, Spanish, **German**; the software needs to reserve a multi-language switching mode. The language selection interface refers follows:



In the language selection interface, select the language you want to use, click Confirm, and then switch the display interface. Press the Back key to return to the system setup interface.

2.6.3 Test the waveform

As an auxiliary function, it can test 0~ 200V DC voltage of, which is convenient for users 'auxiliary tests.



2.6.4 Software Version information

Double-click the "Version Info" menu item under the system management menu page to view the teetered system software version and Tester series number (S/N), as shown in the figure:



Chapter 3 Tester Main Parts Structure

3.1. Package List

Battery Conductance Tester		
DFT-6102 Host	1pc	
Test clamp (or Probe)	1kit	
Host Charger	1kit	
U-disk	1pc	
Data line	1pc	
Box	1pc	
User manual	1pc	
Packing list	1pc	

3.2. DFT-6102 Host

The host is used for field testing by operation, calculation, test results display, Storage and other use. (Quantity: 1 unit)



3.3 Testing Line

Testing Line is either-or of Testing Line clamp or Testing Line probe



3.4 Host Charger

Host Charger is for Host inside battery charging. (Quantity: 1pc)



3.5 Data Line

Data Line is for data communication from host to PC by U-disk.



3.6 Box

Used to pack the main host and accessories. (Quantity: 1pcs)



Chapter 4 Tester storage instructions

4.1. Storage hardware

Tester & U-disk can both store data including boot screen data, Test data & etc

4.2. Data Type

There are several types of tester data: :

- 1) Boot screen data: Logpic.BMP. (Length X width 272X480).
- 2) Test result data: File name: "AAACCCC. DAT", AAA is REM, CCCCC is serial number. Such as REM00035 .DAT

4.3. Data management

Under the "Data Management" function in the main menu of the gauge. Data files can be opened & export (dump U-disk). Delete (single piece of data), format (delete all data), and so on. The data file is transferred to a U-disk in THE DAT file format, such as REM00035.DAT.

Chapter 5 Routine maintenance

5.1. Cleaning maintenance

(1) Cleaning and maintenance of the host

Wash the main unit with a soft damp cloth and a mild detergent. Please do not use abrasive type. Dissolving cleaners or alcohol, etc., so as not to scratch the host panel or damage the text on the host.

(2) Cleaning and maintenance of voltage test cable clamps

Use a soft damp cloth with a mild detergent to clean the voltage clamps. After cleaning, wash it with clean water and dry it. Do not scratch the metal part of the probe to avoid poor contact and errors in the test results

5.2. Storage

After used, the host should be placed in the chassis in time. All clamps and cables should be organized and placed in the appropriate position in the chassis. In order to keep the battery in optimal condition, it is recommended to charge the battery regularly (once a month)

5.3. Tester's Battery maintenance

(1) Battery charging

At the time of delivery, the battery may not be charged and should be charged before use. Power on to check the charging status, if the battery voltage is too low to turn on the machine, recharge a few minutes and then look.

After full charge, the battery can generally be used for 5 to 6 hours.

When charging, connect the charger and the console to charge without turning on the system. (It is recommended to start charging)

If charged for a long time, such as during the entire weekend, it will not cause damage to the tester



Note: person must supervised standby if long time charging

(2) Extend battery operating time

Fully charge before use, and the tester power off when not measuring for a long time during use.