EBC-B20H Battery Capacity Tester
（**User Manual**）

Release Date 2020-07-01
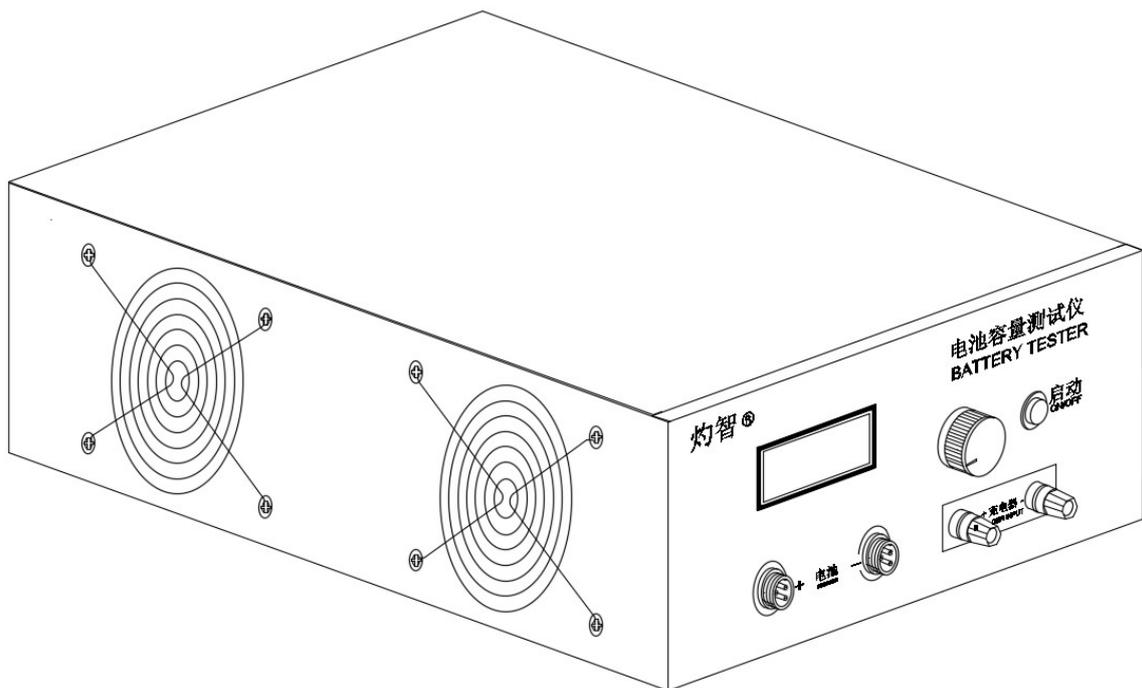
1. Features

The tester is designed for capacity test of 12-72V battery packs. You can set up discharging current and cut-off voltage. The tester supports automatic discharge and with a portable external battery charger it allows automatic charge. Connect it to a computer for a complete test graph and extensive functions.

2. Specifications

1) Input power: AC 100-240V

2) Cut-off voltage: 9.00-88.00V, stepper 0.01V

3) Discharge current: 0.10-20.00A, stepper 0.01A (to discharge 12V battery packs the max current is 10A)

4) Discharge voltage: 0.10-89.00V, stepper 0.01V

5) Capacity detection:

< 10Ah, 0.001Ah;

10-100Ah, 0.01Ah;

> 100Ah, 0.1Ah

6) Test mode DSC: the tester can discharge the battery packs at a constant current and it stops automatically when the testing voltage reaches below the set value.

Test mode CHG: the tester can charge the battery packs with an external charger and it stops automatically when the current reaches below the set value.

7) Four lines: voltage and current channels separated for high test accuracy

8) LCD display: voltage, current, time, capacity, and etc.

9) PC connection: the tester can connect to a computer through a designated USB-TTL cable for more functions, like graphs, calibration, firmware upgrade, and test circulation.

3. Connecting pattern

3.1 Battery connector

You can connect batteries to two aerial sockets on the front panel of the tester. Connect the battery positive pole to the left socket and negative pole to the right one.

3.2 Charger connector

You can connect a portable external charger to two posts on the back panel. Connect the charger positive pole to red post and negative pole to the black post.

3.3 PC connection

The tester can connect with a computer through a designated USB-TTL cable (with aerial sockets).

4. Display and setting

4.1 Buttons

SET —— setting knob (rotate to left/right and press)

ON —— start/stop

4.2 Testing interface

```
00.00V 00.00A OF
DSC  00.00Ah
Time 00:00:00
Connect to PC
```

The first line shows voltage, current and working state (ON,OF).

The second line shows testing mode (DSC/CHG), capacity (automatically switch from 0000mAh to 00.00 Ah, 000.0Ah).

The third line shows test time (hour: minute: second).

The fourth line shows only when the tester is connected to a computer.

Testing mode:

DSC- the tester supports battery discharge at a constant current. It allows you to set discharge current and termination voltage. Discharging stops when voltage reaches below the set termination voltage. Discharging stops automatically when the set test time ends.

CHG- the tester supports battery charge through a portable external charger. Charging stops automatically when current reaches below set current.

When you see the testing interface, press "ON" to start testing and the testing mode reads ON. If you press one more time, the testing stops and the testing mode reads OF.

A long time press on the "ON" button will continue last test (time and capacity continue from last records).

Stop testing and press "SET" knob for two seconds to open setting interface (this function will be invalid when the tester is connected to a computer).

TO Rotate "SET" knob to left and right allows you to read capacity and time of each step.

```
Test Data:
DSC1 00.00Ah 000
```

(Mode   Capacity   Time)

4.3 Setting interface

Discharging test:

```
STEP:1 DSC 000
00.00A 00.00V
```

The first line shows step (1-5), mode and time (000-999 minutes, no limit when it's set 0).

The second line shows discharging current and termination voltage.

Charging test:

```
STEP:1 CHG 0.00A
```

The first line shows step (1-5), mode and termination current.

The second line doesn't show.

Mode set includes DSC, CHG and END. If you set END the test stops and following steps won't work. Set CHG (step 1), DSC (step 2) and END (step 3) for one charging-discharging circle – test won't stop until the step 5 completes if you don't set END.

The cursor sets automatically on the steps and you can move it to the option you want to change. One press on the "SET" button to move one step to right. Rotate "SET" to left and right to change the value. When the cursor is on the last value press the "SET" button to return to the initial position. The value will change automatically if values set exceed limitation. Press the "ON" button to switch to next setting option.

In setting mode, press "SET" knob for a long time to save data and return to testing interface. When setting completes, press "ON" button to start test. A five minute interval is set automatically between two steps to cool batteries and it shows WAT on the screen.

4.4 Setting examples

1) Set steps

- ✦ Turn on the battery tester.

- ✦ Connect battery and you can read the battery voltage on the testing interface on the screen.

- ✦ Press "SET" knob for more than two seconds to open the setting interface.

- ✦ Set testing values.

- ✦ Press "SET" knob for more than two seconds to return to testing interface.

- ✧ Press "ON" button to start testing.

- ✧ When testing completes rotate the knob to left and right to read test results.

- ✧ Remove the battery and turn off the tester.

2) 3-LiPo in series – only discharging:

```
STEP:1 DSC 000
05.00A 09.00V
STEP:2 END 000
00.00A 00.00V
```

END shows the test stops and no more step will continue.

3) 3-Lipo in series – discharging and charging (an external charger required):

```
STEP:1 DSC 000
05.00A 09.00V
STEP:2 CHG 0.10

STEP:3 END 000
00.00A 00.00V
```

5. Precautions

1) Positive and negative connections should never be reversed. Improper connection could damage the tester.

2) Always use the tester within the allowed range.

3) PC connection software: EB Tester Software, download it from www.zketech.com.

4) PC connection: follow EB Tester Software User Manual.

5) Technical support: tech@zketech.com

6) Business consultant: sale@zketech.com

We always focus on innovation and improvement and will keep upgrading the software. Please frequently visit our official website: www.zketech.com to download the latest manuals.