DIGITAL BATTERY TESTER
BDT4000 USER MANUAL

SPECIFICATION

Battery Test Technology

Multifunctional Battery Conductance & Electrical System Tester Technology

Applications

Individual 12-volt automotive starting batteries

12-volt charging systems

Rating System

CCA = 50 – 1400

SAE = 50 – 1400

EN = 50 – 1400

IEC = 50 – 800

DIN =50 – 800

Operating Temperature

0 to 120   (-18 to 55   )

Voltage Range

1.5 – 17 Volt DC

Display

LCD Displays

Housing Material

Acid / impact-resistant ABS

Product Dimensions

270 mm ✕ 107 mm ✕ 62 mm

Product Weight

(570g)

Power Requirements

Use power of battery under test

Warranty

From shipping date standard one-year warranty

Features

- Expanded measurement range from 50 – 1400 CCA
- Text and graphics for fast decisions on starter & electrical system testing
- High/low voltage capture for improved starter/charging system testing
- Proven conductance technology and test algorithms required for warranty testing
- Accurate battery test decisions in seconds
- No user interpretation required
- Tests discharged batteries
- Voltmeter mode for testing both the starter and the charging system
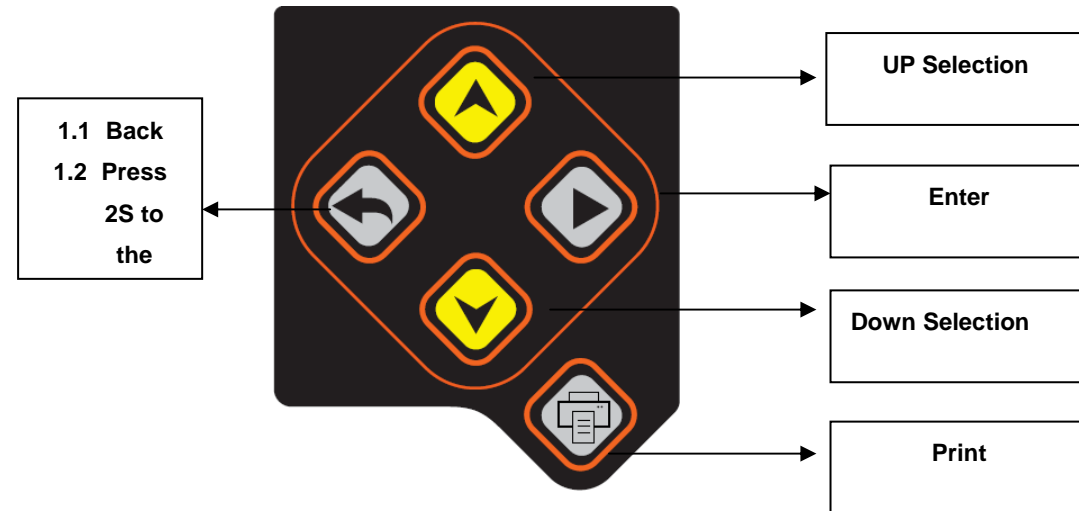- Shows available power in CCA's at the end of each test
- Bad cell detection

Testing Out-of-Vehicle

Clean the battery posts or side terminals with a wire brush. For testing side–post batteries, install and tighten the lead terminal stud adapters. Failure to properly install the stud adapters, or using stud adapters that are dirty or worn, may result in false test results. Do not use steel bolts.

Testing in-Vehicle

Turn off the vehicle and all accessory loads. Testing with the ignition switch on or vehicle loads on may cause inaccurate readings.

If the vehicle was running prior to testing, turn on the headlights for 30 seconds to remove the surface charge. Let the battery rest for 1 minute to recover before testing.

Operation details

UP Selection	
1.1 Back 1.2 Press 2S to the	**Enter**
	Down Selection
	Print

1. Connection

Connect the tester clamps to the battery: red to the positive (+) terminal, black to the negative (-) terminal. For a good connection, rock each clamp back and forth.

1.1 The LCD will display as follow (first Main Menu) if the print paper install and full:

```
VOLTS:    12.46 V
PRESS ENTER TO
CONTINUE…
14-02-18   11:30:47
```

Press Print for more than 1s and paper will move.

1.2 If the printer is without paper, the LCD will display as follow:

```
VOLTS:    12.46 V
CHECK PRINT PAPER


14-02-18   11:30:47
```

1.3 If poor connection, reverse connection and voltage at clamp terminal is above 18V, the LCD will display as follow:

```
VOLTS:    12.46 V
CHECK CONNECTION


14-02-18   11:30:47
```

1.4 If connection is well and paper ready, press ENTER, the LCD will display as follow (Function Selection Menu):

```
SELECT FUNCTION:
TEST BATTERY
TEST STARTER
TEST ALTERNATOR
```

```
SELECT FUNCTION:
VIEW TEST RESULT
SET DATA&TIME
SELECT LANGUAGE
```

Press UP and DOWN to choose different functions.
Press ENTER to enter relative function.
Press BACK to come back to main menu.

↓

2. TEST FUNCTION

2.1 Battery Test

2.1.1

```
SELECT FUNCTION:
TEST BATTERY          ↓
TEST STARTER
TEST ALTERNATOR
```

"TEST BATTERY" twinkle and Press ENTER，reach "SELECT INPUT".

```
SELECT INPUT:
  CCA      DIN
  IEC      EN
  SAE      JIS#
```

Press UP and DOWN to fix standard, then press ENTER to reach "SET RATING".

```
SET RATING:


  500    CCA
```

Press UP and DOWN to fix rating，then press ENTER to reach "TESTING…."

```
TESTING…


  500    CCA
```

After 3S，show test result.

```
BATTERY   GOOD
12.82 V    4.32 mΩ
480 CCA   96%
14-02-18 11:33:29
```

2.1.2

Press BACK to come back to "SELECT   FUNCTION".

Press BACK 2S to return to main menu.

2.1.3 Problem shooting

If poor connection or voltage at clamp terminal is above 18V, will back to main
    menu automatically.

If press PRINT and printer temperature is above 75degrees centigrade，will
show below:

```
BATTERY   GOOD
12.82 V    4.32 mΩ
480 CCA   96%
TEMP OVER
```

Press PRINT，if voltage at clamp terminal is below 10V，no print.

2.1.3 Battery test result:

Test result＜10：show BAD；

10≤Test result＜Rating*75%：show REPLACE；

Rating*75%≤Test   result ＜ Rating*90%   and   voltage ＜ 12.6V: show
GOOD-LOW；

Rating*75%≤Test result＜Resting*90%   and voltage ≥12.6V：show GOOD；

Test result ≥Rating*90%: show GOOD.

2.2 STARTING SAYTERM TEST:

2.2.1

```
SELECT FUNCTION:
TEST BATTERY         ↓
TEST STARTER
TEST ALTERNATOR
```

"TEST STARTER" twinkle and Press ENTER，reach
"TEST STARTER"

```
START THE VEHICLE.
```

After starting, test result will show automatically.

```
STARTER   GOOD
Vmin        10.89 V
14-02-18 11:34:47
```

2.2.2

Press BACK to return to"SELECT   FUNCTION".

Press BACK 2S to return to main menu.

2.2.3 Problem shooting:

Press PRINT and if without paper, will show:

```
STARTER   GOOD
Vmin        10.89 V
CHECK PRINT PAPER
```

Press PRINT and if printer temperature is above 75degrees centigrade, show below:

```
STARTER   GOOD
Vmin       10.89 V
TEMP OVER
```

Press PRINT，if voltage at clamp terminal is below 10V，no print.
If poor connection or voltage at clamp terminal is above 18V, will back to main menu automatically.

2.2.4 Starter test result:
The cranking voltage is greater than 9.6V. The starting system is OK.
The cranking voltage is less than 9.6V which indicates a starting system problem. Check the connections, wiring and starter.

2.3 CHARGING SYSTEM TEST
2.3.1

```
SELECT FUNCTION:
TEST BATTERY        ↓
TEST STARTER
TEST ALTERNATOR
```

"TEST ALTERNATOR" twinkle and Press ENTER，reach "TEST ALTERNATOR"

```
REV THE ENGINE AT
2000 RPM FOR 15 S.

AND PRESS ENTER
```

After above, press ENTER and show charging system test result.

```
ALTERNATOR   GOOD
Vmax:       14.62 V
14-02-18 11:35:24
```

2.3.2
Press BACK to return to"SELECT FUNCTION".
Press BACK 2S to return to main menu.
2.3.3 Problem shooting:
Press PRINT and if without paper, will show:

```
ALTERNATOR   GOOD
Vmax:       14.62 V
CHECK PRINT PAPER
```

Press PRINT and if printer temperature is above 75degrees centigrade, show below:

```
ALTERNATOR   GOOD

Vmax:      14.62 V

TEMP OVER
```

Press PRINT，if voltage at clamp terminal is below 10V，no print.
If poor connection or voltage at clamp terminal is above 18V, will back to main menu automatically.

2.3.4 Charging system test result:

If the highest average charging voltage is between 13.3V and 15.5V. The charging system is OK.

If the highest average charging voltage is less than 13.3V or greater than 15.5V, which indicates a charging system problem. If less than 13.3V, check the connections, wiring and alternator. If greater than 15.5V, check the regulator.

2.4 VIEW TEST RESULT

2.4.1

```
SELECT FUNCTION:
VIEW TEST RESULT
SET DATA&TIME
SELECT LANGUAGE
```

"VIEW TEST RESULT" twinkle and Press ENTER，view battery tester result.

```
BATTERY   GOOD

12.82 V   4.32 mΩ

480 CCA   96%

14-02-18 11:33:29
```

Press DOWN to view starting system test result.

```
STARTER   GOOD

Vmin        10.89 V

14-02-18 11:34:47
```

Press DOWN to view charging system test result.

```
ALTERNATOR   GOOD

Vmax:      14.62 V

14-02-18 11:35:24
```

2.5 SET DATA&TIME

2.5.1

```
SELECT FUNCTION:
VIEW TEST RESULT
SET DATA&TIME
SELECT LANGUAGE
```

"SET DATA&TIME" twinkle and Press ENTER to fix date and
time.

```
14-02-18 11:34:28
```

2.5.2

Press UP to add 1。

Press DOWN to minus 1

Press ENTER to move to right side; press ENTER to come back to left beginning after move to end.

Press ENTER more than 2S to keep the changes and back to main menu.

Press BACK to give up changes and back to "SELECT FUNCTION".

2.6 SELECT LANGUAGE

```
SELECT FUNCTION:
VIEW TEST RESULT
SET DATA&TIME
SELECT LANGUAGE
```

"SELECT LANGUAGE" twinkle and Press ENTER to enter "SELECT LANGUAGE".

```
ENGLAISH FRANÇAIS
DEUTSCH   PORTUGUÊS
ITALIANO ESPAÑOL
```

3   Print test result.

```
          Battery Test
               GOOD
VOLTS:        12.47 V
IR:           4.32 mΩ
RESULT:       480 CCA
HEALTHY:      96%
D&T: 14-02-18 11:33:29


          Starter Test
               GOOD
Vmin:         10.89 V
D&T: 14-02-18 11:34:47


         Alternator Test
               GOOD
Vmax:         14.62 V
D&T: 14-02-18 11:35:24
```