# 1 Product Summary

## 1.1 Product Profile

MOTORCYCLE Battery Tester adopts currently the world's most advanced conductance testing technology to easily, quickly and accurately measure the actual cold cranking amps capability of the motorcycle starting battery, healthy state of the battery itself, which can help maintenance personnel to find the problem quickly and accurately, thus to achieve quick motorcycle repair.

1. Test all automotive cranking lead acid battery, including ordinary lead acid battery, AGM flat plate battery, AGM spiral battery, and Gel battery, EFB battery, etc.
2. Directly detect bad cell battery.
3. Polarity reverse connection protection, reverse connection will not damage the tester or affect the motorcycle and battery.
4. Directly test the battery with loss of electricity, no need to full charge before testing.
5. Testing standards include currently the world's majority of battery standards, CCA, BCI, CA, MCA, JIS, DIN, IEC, EN, SAE, GB.
6. Support multi-languages as the user's request, English is the basic version.

## 1.2 Product Function

Main functions of MOTORCYCLE battery tester include: battery test, and other additional functions.

**Battery test** is mainly targeted to analyze the battery healthy status to calculate the actual cold cranking capability of the battery and the aging extent, which provide reliable analysis evidence for the test and maintenance of the battery. It notifies the user to replace battery in advance when the battery getting aged.

**Additional functions** include: Set language, voltmeter and screen brightness adjustment.

## 1.3 Technical Parameters

1. Cold Cranking Amps Measure Range:

| Measure Standard | Measure Range |
|---|---|
| CCA | 20-1000 |
| BCI | 20-1000 |
| CA | 20-1000 |
| MCA | 20-1000 |
| JIS | 26A17—150F51 |
| DIN | 20-700 |
| IEC | 20-700 |
| EN | 20-1000 |
| SAE | 20-1000 |
| GB | 2-120 |

2. Voltage Measure Range: 8-30V DC

## 1.4 Working Environment Requirement

Working Environment Temp.: -20°C-60°C

It is applicable for automotive manufacturers, automotive maintenance and repair workshops, automotive battery factories, automotive battery distributors, and educational organizations, etc.

## 2 PRODUCT INFORMATION

## 2.1 Tool Description



- ● **Up / Down keys:** Select upwards or downwards via white UP and DOWN keys.
- ● **Exit key:** Exit to previous menu via blue EXIT key.
- ● **ENTER key:** Confirm the selection via green ENTER key
- ● **Mini-USB Socket (in the side of the product):** Connect to computer for print via USB cable.

## 2.2 Product Specifications

1). Display: LCD, backlit

2). Operating Temperature: 0 to 50°C (-32 to 122 F°)

3). Storage Temperature: -20 to 70°C (-4 to 158 F°)

4). Power—provided via two alligator clip cable

5). Dimensions:

| Length | Width | Height |
|--------|-------|--------|
| 126 mm ( 4.9") | 76 mm ( 3") | 28mm (1.1") |

6). Weight: 200g

## 2.3 Accessories Included

1) User Manual -- Instructions on tool operations

2) USB cable -- Provides link to tool and computer for print..

Lithium Battery Tester Manual
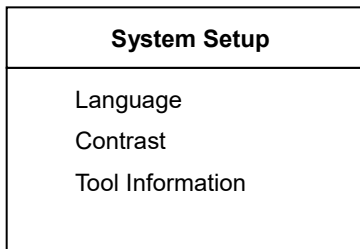
3). CD--- Print software inside.

## 2.4 Product Setup

The tool allows you to make the following adjustments and settings:

1) Language: Selects desired language.

2) Contrast adjustment: Adjusts the contrast of the LCD display.

3) Tool information: The tool show the version and produced date.
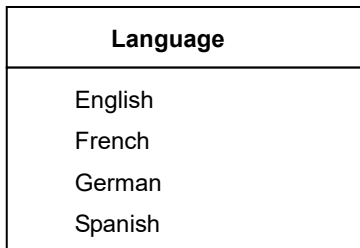
## To enter the Tool Setup menu

From the second startup screen, press Exit button to enter Main menu. Press

Down button to select the Tool Setup function.

| System Setup |
| --- |
| Language |
| Contrast |
| Tool Information |

## Language:

1)    From Tool Setup menu, use Enter button to select Language

| Language |
| --- |
| English |
| French |
| German |
| Spanish |

2) Use UP and DOWN button to select the desired language and press ENTER button to save your selection and return to previous menu.
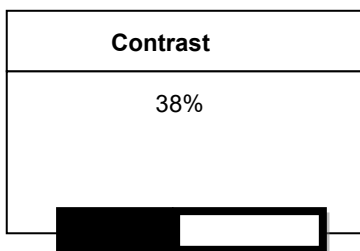
## Contrast

1) From Tool Setup menu, use Enter button to select contrast.

2) Use UP and DOWN button to select the contrast value and press ENTER button to save your selection and return to previous menu.

| Contrast |
| --- |
| 38% |

## Tool Information

From Tool Setup menu, use Enter button to select Tool Information

Press exit to return the previous menu.

| Tool Information |
| --- |
| Software Version: |
| 1.00 |
| Hardware Version: |
| 1.00 |

# 3 Battery Test

After entering battery test program, tester displays the tester model and version

Tester will display the following contents in a sequence, select accordingly.

# 3.1 Quick test

It can make sure the battery status, including voltage, CCA, electronic resistance, rated CCA, charging value, healthy value and testing result in one second for repeat testing.

1). Press UP/DOWN key to select the Quick test, then press ENTER key to confirm.

| Main Menu |
| --- |
| 1.Quick Test |
| 2.Litium Battery |
| 3.Lead-Acid Battery |
| 4.Review Data |
| 5. Print Data |
| 6.System Setup |

2). Then press enter key, the testing result will show one of these, as below

. Battery test result includes 5 types as following:

## 1) Good Battery

| | |
| --- | --- |
| Healthy:96% | 110CCA |
| Charge:98% | 12.54V |
| Internal R=24.66mΩ | |
| Rated: 125A | |
| GOOD   BATTERY | |

The battery is without any problem, please be relaxed to use!

## 2) Good, Recharge

| | |
| --- | --- |
| Healthy:78% | 80CCA |
| Charge:30% | 11.20V |
| Internal R=37.2mΩ | |
| Rated: 125A | |
| GOOD, RECHARGE | |

Good battery but low current, recharge before using.

## 3) Replace

Healthy:46%          40CCA

Charge:80%            9.68V

Internal R=88.1mΩ

Rated: 125A

REPLACE

The battery is near to or already reached the end of the using life, replace battery, otherwise, bigger danger will be followed.

## 4) Bad Cell, Replace

Healthy:0%          0CCA

Charge:20%          10.64V

Internal R=100.2mΩ

Rated: 125A

BAD CELL，REPLACE

Battery interior damaged, bad cell or short circuit, replace battery.

## 5) Charge, Retest

Healthy:39%          100CCA

Charge:20%          12.08V

Internal R=80.1mΩ

Rated: 125A

CHARGE-RETEST

Unstable battery shall be recharged and retested to avoid error. If same test result appears after recharge and retest, the battery is regarded as damaged, replace the battery.

# 3.2. Lithium Battery test

1). Press UP/DOWN key to select the Lithium Battery test, then press ENTER key to confirm.

**Main Menu**

1.Quick Test
2.Litium Battery
3.Lead-Acid Battery
4.Review Data
5. Print Data
6.System Setup

2). Input the lithium battery rated value:---the lithium battery range is 20-1000CCA

**Rated**

30 CCA

3). Then press enter key, the testing result will show one of these, as below

. Battery test result includes 5 types as following:

## 1) Good Battery

```
Healthy:96%          110CCA
Charge:98%           12.54V
Internal R=24.66mΩ
Rated: 125A
   GOOD   BATTERY
```

The battery is without any problem, please be relaxed to use!

## 2) Good, Recharge

```
Healthy:78%          80CCA
Charge:30%           11.20V
Internal R=37.2mΩ
Rated: 125A
   GOOD, RECHARGE
```

Good battery but low current, recharge before using.

## 3) Replace

```
Healthy:46%          40CCA
Charge:80%           9.68V
Internal R=88.1mΩ
Rated: 125A
       REPLACE
```

The battery is near to or already reached the end of the using life, replace battery, otherwise, bigger danger will be followed.

## 4) Bad Cell, Replace

```
Healthy:0%           0CCA
Charge:20%           10.64V
Internal R=100.2mΩ
Rated: 125A
  BAD CELL，REPLACE
```

Battery interior damaged, bad cell or short circuit, replace battery.

## 5) Charge, Retest

```
Healthy:39%          100CCA
Charge:20%           12.08V
Internal R=80.1mΩ
Rated: 125A
    CHARGE-RETEST
```

Unstable battery shall be recharged and retested to avoid error. If same test result appears after recharge and retest, the battery is regarded as damaged, replace the battery.

## 3.3 Lead-Acid Battery Test

Press UP/DOWN key to select the battery location, in motorcycle or out of motorcycle, then press ENTER key to confirm.

Battery in motorcycle means battery is connected with motorcycle generator or motorcycle electrical appliance.

```
           Main Menu

      1.Quick Test
      2.Litium Battery
      3.Lead-Acid Battery
      4.Review Data
      5. Print Data
      6.System Setup
```

Lithium Battery

**Select Battery Type**

After the battery charge status selected, tester will prompt to select battery type, i.e. Regular Flooded, AGM Flat Plate or AGM Spiral, Gel and EFB battery. Press UP/DOWN key to select battery type, then press OK key to confirm

| Battery Type |
|---|
| 1.Regular Flooded. |
| 2. AGM Flat Plate. |
| 3.AGM spiral |
| 4.GEL |
| 5.EFB |

## Battery System Standard and Rating

MOTORCYCLE battery tester will test each battery according to the selected system and rating.

Use UP/DOWN key to select according to the actual system standard and rating marked on the battery. Use UP/DOWN key to select according to the actual system standard and rating marked on the battery. See in the below picture, the arrow indicated location.



CCA: Cold Cranking Amps, specified by SAE&BCI, most frequently used value for starting battery at 0°F (-18°C).

BCI: Battery Council International standard

CA：Cranking Amps standard, effective starting current value at 0°C

MCA: Marine Cranking Amps standard, effective starting current value at 0°C.

JIS：Japan Industrial Standard, displayed on the battery as combination of the numbers and letters, e.g. 55D23,80D26.

DIN：German Auto Industry Committee Standard

IEC：      Internal Electro technical Commission Standard

EN：    European Automobile Industry Association Standard

SAE:      Society of Automotive Engineers Standard

GB：China National Standard

| Select Input |
|---|
| CCA |

## Rating range as following:

| Measure Standard | Measure Range |
|---|---|
| CCA | 20-1000 |
| BCI | 20-1000 |
| CA | 20-1000 |
| MCA | 20-1000 |

| | |
|---|---|
| JIS | 26A17—150F51 |
| DIN | 20-700 |
| IEC | 20-700 |
| EN | 20-1000 |
| SAE | 20-1000 |
| GB | 2-120 |

Input correct test standard and rating, press ENTER key, tester starts to test, and dynamic interface "TESTING" prompted. See below:

**Setting Rate**

**100**

**CCA**

It takes around 3 seconds to display the battery test result.

## Battery Test Result

Battery test result includes 5 types as following:

## 1) Good Battery

Healthy:96%          110CCA

Charge:98%          12.54V

Internal R=24.66mΩ

Rated: 125A

   GOOD   BATTERY

The battery is without any problem, please be relaxed to use!

## 2) Good, Recharge

Healthy:78%          80CCA

Charge:30%          11.20V

Internal R=37.2mΩ

Rated: 125A

   GOOD, RECHARGE

Good battery but low current, recharge before using.

## 3) Replace

Healthy:46%          40CCA

Charge:80%          9.68V

Internal R=88.1mΩ

Rated: 125A

      REPLACE

The battery is near to or already reached the end of the using life, replace battery, otherwise, bigger danger will be followed.

## 4) Bad Cell, Replace

```
Healthy:0%          0CCA
Charge:20%          10.64V
Internal R=100.2mΩ
Rated: 125A
  BAD CELL，REPLACE
```

Battery interior damaged, bad cell or short circuit, replace battery.

## 5) Charge, Retest

```
Healthy:39%         100CCA
Charge:20%          12.08V
Internal R=80.1mΩ
Rated: 125A
    CHARGE-RETEST
```

Unstable battery shall be recharged and retested to avoid error. If same test result appears after recharge and retest, the battery is regarded as damaged, replace the battery.

Attention: If "Replace" resulted from IN-MOTORCYCLE mode, it might be the reason that motorcycle cable is not well connected with the battery. Ensure to cut off the cable and retest the battery under OUT-OF-MOTORCYCLE before making a decision to replace battery.

NOTE: After testing, if need to Exit, press EXIT key to directly Exit to the startup interface.

After testing: if it's "IN-MOTORCYCLE" test state, press ENTER key will bring to Cranking Test.

# 3.4 Review Data

Choose the function of Review Data

```
            Main Menu

        1.Quick Test
        2.Litium Battery
        3.Lead-Acid Battery
        4.Review Data
        5. Print Data
        6.System Setup
```

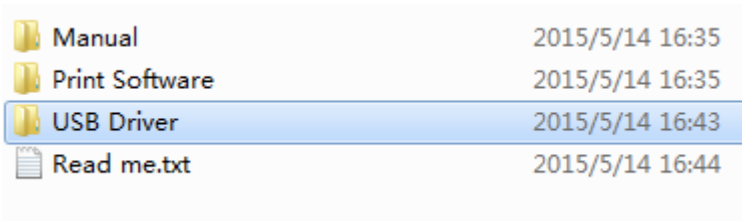Check the history of battery testing result

```
Healthy:96%         110CCA
Charge:98%          12.64V
Internal R=6.1mΩ
Rated:125A
   GOOD   BATTERY
```
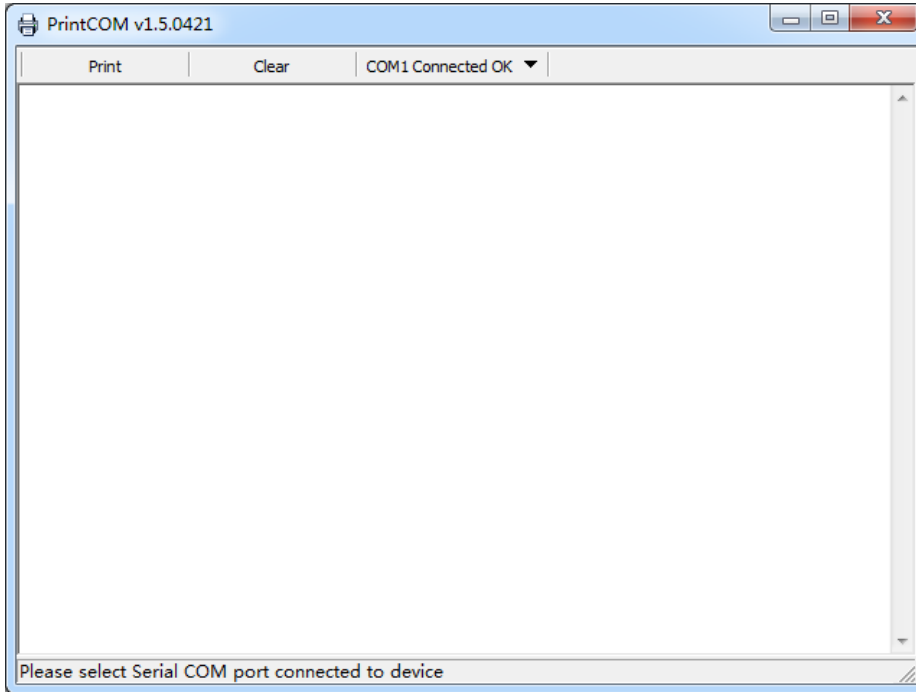
# 3.5 Print Data

Before choose the print data function, it is necessary to connect the tool to the computer via USB cable.

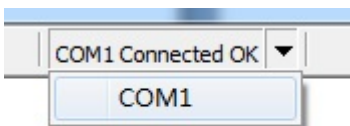Once all are available, please kindly insert the CD to the computer

1.   Install the USB driver firstly.

| | |
|---|---|
| 📁 Manual | 2015/5/14 16:35 |
| 📁 Print Software | 2015/5/14 16:35 |
| 📁 USB Driver | 2015/5/14 16:43 |
| 📄 Read me.txt | 2015/5/14 16:44 |

2. Then open the Print software

```
🖨 PrintCOM v1.5.0421                                    [_] [□] [✕]
┌──────────────────────────────────────────────────────────┐
│   Print      │    Clear    │ COM1 Connected OK ▼ │        │
├──────────────────────────────────────────────────────────┤
│                                                       ▲  │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                          │
│                                                       ▼  │
├──────────────────────────────────────────────────────────┤
│ Please select Serial COM port connected to device        │
└──────────────────────────────────────────────────────────┘
```

3. Choose the COM Port NO.

```
┌─────────────────────┐
│ COM1 Connected OK ▼ │
├─────────────────────┤
│      COM1           │
└─────────────────────┘
```

If there are some data history in print software, please kindly clear them.

4. Choose the function of Print Data in the tool

| **Main Menu** |
|---|
| 1.Quick Test |
| 2.Litium Battery |
| 3.Lead-Acid Battery |
| 4.Review Data |
| 5. Print Data |
| 6.System Setup |

5.Once the data is transferred to the computer, the print software will show these information

| | |
|---|---|
| Healthy:96% | 110CCA |
| Charge:98% | 12.64V |
| Internal R=6.1mΩ | |
| Rated: 125A | |
| GOOD   BATTERY | |

Besides, the tool will turn to below menu.

| Print Data |
|:---:|
| OK |

Press exit to return

# 3.6 System setup

Please kindly review 2.4 Product setup

# 4.WARRANTY AND SERVICE

# 4.1 Limited One Year Warranty

We warrants to its customers that this product will be free from all defects in materials and workmanship for a period of one (1) year from the date of the original purchase, subject to the following terms and conditions:

1.      The sole responsibility of us under the Warranty is limited to either the repair or, at the option of us, replacement of the Scan Tool at no charge with Proof of Purchase. The sales receipt may
be used for this purpose.
2.      This warranty does not apply to damages caused by improper use, accident, flood, lightning, or if the product was altered or repaired by anyone other than the Manufacturer's Service Center.
3.      We shall not be liable for any incidental or consequential damages arising from the use, misuse, or mounting of the Scan Tool. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

# 4.2 Service Procedures

For technical support, please contact your local
store or distributor. If it becomes necessary to return the code reader for repair, contact your local distributor for more information.