



BK603B

6 V & 12 V SLA Battery Capacity Analyzer
with Record Storage



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Overview

- ➔ Test 6 and 12 volt batteries up to 100 Ah
- ➔ Test both open and loaded battery voltage
- ➔ Powered by the battery under test (no need to replace battery)
- ➔ Fast test cycle time for quick sorting of batteries
- ➔ Measurements are stored to internal memory
- ➔ Pre-load up to 50 test configurations from the computer via USB
- ➔ Test configurations include site, panel, battery information and more
- ➔ Real-time clock for date and time stamp of measurement records
- ➔ Export record data to a CSV file for further analysis
- ➔ User configurable Pass/Fail criteria
- ➔ Twist-lock test leads can be changed in seconds
- ➔ Closed case calibration and firmware updates via USB



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Overview



Model	603B	601B	600B
Powered by battery under test	✓	✓	✓
Test 6 and 12 volt batteries	✓	✓	12V only
Instant on with voltage reading	✓	✓	✓
Fast test cycle time	✓	✓	✓
State of charge (SOC) %	✓	✓	✓
Open and loaded voltage	✓	✓	✓
Battery internal resistance (IR) test	✓	✓	✓
Charger circuit test with open and loaded voltage	✓		
DC load test	✓		
Record mode for storing test configurations and results	✓		
Removable test leads	✓		
Price	645 €	450 €	315 €



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Front Panel




Bright display

Rubber keypad


Reverse polarity LED

USB type B interface

Test leads
Two types of test leads are included, one set with terminal type connectors, and the other set with tab type connectors.



Terminal type connectors



Tab type connectors

Removable test leads
Twist-lock connectors make it easy to change test leads. Two sets of test leads are included. One set is for connecting to smaller tab terminals and one for larger screw terminal batteries.



Terminal type test leads



Tab type test leads



Charger adapters



Operation highlights

Quick test mode



```
VO = 12.78 Volts
ENTER AH, Nominal IR
AH = 007, NIR = N/A
Press TEST to start
```

```
<BATTERY QUICK TEST>
VO: 12.77 SOC: 90%
VL: 12.28
IR: 24mΩ RS: N/A
```

```
<BATTERY QUICK TEST>
VO: 12.66 SOC: 90%
VL: 12.22
IR: 25mΩ RS: PASS
```

Simply enter the battery's Ah value and press the Test button.

Results display in seconds and include the following:

VO → Voltage open
VL → Voltage loaded
IR → Internal resistance
SOC → State of charge percent remaining

The last settings used are stored in memory to support quick testing of batteries of the same type.

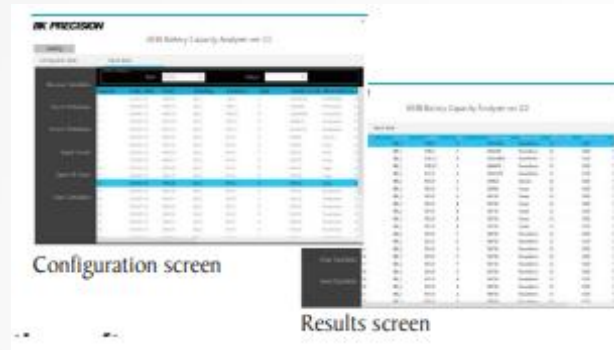
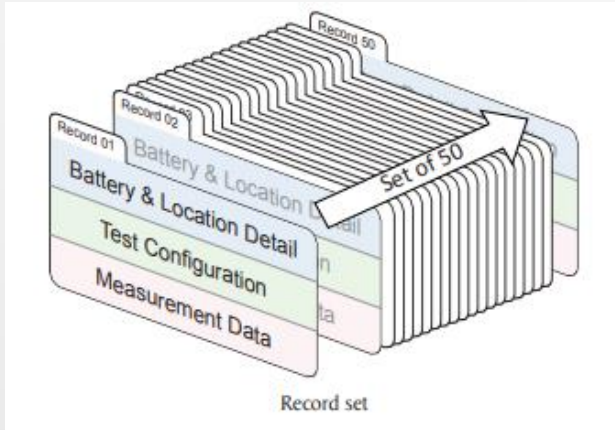
By providing the nominal internal resistance (NIR), the pass/fail indicator makes it easy to identify a battery that has reached the end of its useful life.

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Operation highlights



Built-in database

The 603B stores battery and location details, test configuration, and measurement data within the 50 battery records available in the unit. These records are easily transferred to a computer, which allows for storage of an unlimited number of record sets.

Application software

Used to upload and download record sets. Edit and save records in row and column format. Resulting measurement data can be viewed or exported in spreadsheet format for detailed analysis.

Internal resistance

The internal resistance (IR) is a useful indicator of the battery's health. As the battery reaches its end of life, the IR will ramp up quickly, which reduces the battery capacity and the amount of current available. In Record mode the IR measurement is recorded in the 603B memory and can be uploaded to a computer for later analyses.



Operation highlights



```
Adjust TMP: ▲▼
VO: 12.82 SOC: 90%
UL: 12.31 TMP: 23
IR: 24mΩ RS: PASS
```

Temperature record

Keeping records of the battery's operating environment such as temperature is helpful for understanding the battery's life. The 603B records the predefined temperature and prompts the user for adjustment after the test is completed.

```
→Setting 12V SOC #1
Setting 12V SOC #2
Setting 12V SOC #3
Setting 6V SOC #4 ▼
```

```
SOC Profile - SOC1
→100% = 12.800V
90% = 12.650V
80% = 12.500V
```

State of Charge (SOC) profiles

SOC profile tables are used to evaluate the battery's state of charge. One default and 3 user-configurable tables are available for characterizing 6 V and 12 V batteries. The user defined tables allow advanced users to tune the 603B to meet their specific needs.

```
→SOC Weighting On ▲
Firmware Version
Fan Start
```

State of Charge (SOC) weighting

When the battery's internal resistance (IR) is above the user-set nominal value, the open voltage measurement no longer results in an accurate SOC value. The 603B uses weighted values to more accurately represent the SOC. This feature can be enabled by the user and its state is recorded in Record mode.



Operation highlights



```
<CHARGER TEST>
OCV: 13.74
LCV: 13.42   REC:001
Press TEST or CANCEL
```

Charge circuit testing

Both the open voltage (VO) and the voltage under load (VL) are displayed to provide additional information about the charger regulator circuit. Using Record mode enables storage of results to internal memory. An adapter is included to make it easy to connect to standard tab-type charger circuits.

```
LC:12.25A  LT:2.0sec
VO:12.13V  UC:11.95V
Arrow Keys to Set
TEST Key to Test
```

Load test mode

At the core of the 603B is a programmable DC electronic load. This load can be programmed in the field to test control panel outputs or end of line output circuits. Load current can be set from 0.5 to 10 Amps and the time can be set from 0.5 to 5.0 seconds. Open and loaded voltage is displayed after the test is completed.

```
→Voltage Calibration
Current Calibration
Load Calibration
```

Closed case calibration and firmware updates

The 603B can be calibrated by the user through the USB port using a computer and reference power supply. Firmware updates are also installed via the USB port.

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Price Information



Pricing: 645€

Warranty: 1 Year

Included Accessories: USB (Type B) Cable, Alligator Clip Test Leads (2 Sets), Adapter for Testing Charger Circuit, Calibration Certificate and Test Report, User Manual (available for download)

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Accessories



TLBA1

Replacement test leads for terminal type applications



TLBA2

Replacement test leads for tab type applications



TLBA3

Replacement test leads for testing battery charge circuits



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