

BK PRECISION®



INSTRUCTION MANUAL

FOR

BATTERY CAPACITY

ANALYZER

Model 602

BK PRECISION®

22820, Savi Ranch, Parkway, Yorbalinda, CA 92887. USA.

Tel : (714) 921-9095 Fax : (714) 921-6422

Website : www.bkprecision.com

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MODEL NO. OF THE INSTRUMENT

602

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General Description

1.1 INTRODUCTION

BK's Battery Capacity Analyser Model 602 measures the terminal voltage, internal resistance & % capacity left in a battery. By just selecting proper AH range & pressing TEST switch, user can get the terminal voltage, % Balance capacity & internal resistance as per the selections.

Model 602 supports 24V & 42V storage type lead acid batteries with wide range of AH capacity. No external power (Mains or DC) is required. The unit works on BUT (Battery Under Test).

1.2 APPLICATIONS

As the information age develops, it is likely that the demand for UPS units will increase for use in hospitals, offices, labs etc. It is expected that the importance of battery maintenance will increase alongwith increasing demand for UPS.

Looking forward to the future developments the Battery Capacity Analyser can fulfill many applications.

The instrument can be applicable for Automobile Service Stations, UPS Manufacturing, Maintenance and Field Servicing, QC Department, Battery Systems in Railways, Tele-communications, Ships / Submarine etc.

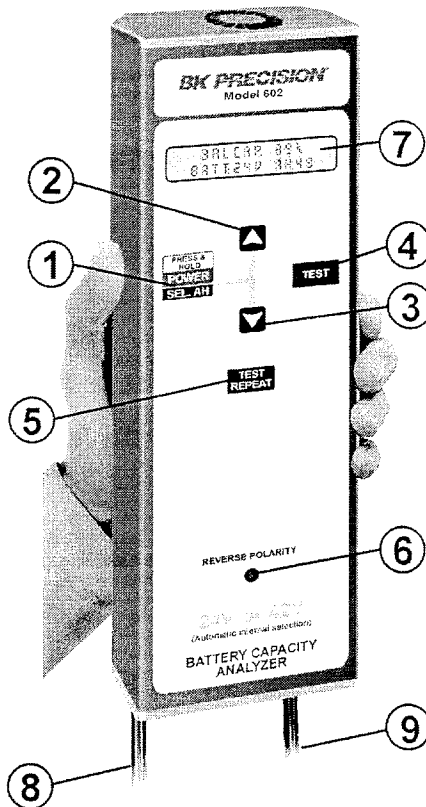
1.3 SPECIFICATIONS

Voltage Ranges	: 24V, 42V automatically selected.
Display	: i) Capacity 0% to 100%. ii) No load voltage & loaded voltage. iii) Internal Resistance.
Min. Input Voltage	: 19.2V.
Max. Input Voltage	: 50V.
AH Selection	: Programmable 2-100AH in steps of 1AH.
No Load Voltage Accuracy	: $\pm 0.2\%$ ± 1 counts.
Voltage Resolution	: 10mV.
Dimensions (WxHxD)	: 3.5" x 11" x 2.12" (89 x 280 x 54mm)

Operation

2.1 FRONT PANEL CONTROLS

1. **PRESS & HOLD POWER / SEL. AH KEY**
After you connect the BUT to the battery analyzer, you need to press & hold this key to activate the battery analyzer.
After activation user can select the AH values as per BUT rating using this key.
2. **UP KEY**
This key is used to increase the AH values.
3. **DOWN KEY**
With this key, the user can decrease the AH values.
4. **TEST KEY**
On pressing this key the measurement will begin.
5. **TEST REPEAT KEY**
This key is used to repeat previously performed test.
6. **REVERSE POLARITY**
This LED glows when the battery is reverse connected.
7. **LCD**
This is 16x2 line alphanumeric display. It displays various messages & results of tests as per AH value selected.



8/9. TEST LEADS

These are used to connect the BUT to the Battery Analyzer. The Red test lead is to be connected to the +ve terminal of BUT & black is used to connect to the -ve terminal of BUT.

2.2 OPERATING PROCEDURE

Follow the steps as outlined below :

2.2.1 Connection Procedure

Connect Battery Capacity Analyser (602) to Battery Under Test (BUT). Connect the +ve terminal of 602 to +ve terminal of Battery. Connect -ve terminal of 602 to -ve terminal of Battery. The 602 is powered by BUT. To power on the unit, press & hold the POWER key. On power up, 602 performs a memory test & displays open circuit voltage on LCD.

CAUTION : Do not connect the +ve terminal of 602 to -ve terminal of BUT and -ve terminal of 602 to +ve terminal of BUT. On doing so, the 'Reverse Polarity' LED glows.

2.2.2 Operation Procedure

On Power up, following screens will appear.

**BK-PRECISION
BK - 602**

Next the unit under goes the memory test. Following message will be displayed.

MEMORY TEST

If memory test is OK.

**FOUND PREVIOUS
SETTINGS**

If the memory test fails.

**NO SETTINGS FOUND
LOADING DEFAULTS**

If the flash memory is corrupted, following message is displayed.

**INT MEMORY ERROR
LOADING DEFAULTS**

Next screen directs the user to the menu to select the submenus. The battery is auto-sensed & the defaults are loading accordingly.

After memory test, the open circuit voltage is displayed on the first line of LCD, the required AH value can be selected using up & down keys.

**OPEN CKT : 24.00V
SELECT AH : 050**

On selecting the required AH value, press SELECT AH & then press the TEST key, the measurements will begin & following message is displayed. Backlight will switch off during the test.

**TEST IN PROGRESS
24.00V 050AH**

The results will be displayed as follows.

**23.77V 90.00% CAP
IR: 88.0 mOhm**

The first field indicates the battery terminal voltage when battery was loaded during test, the second field shows the balance capacity in percentage. IR indicates the internal resistance in milli ohms.

After the test, follows a cooling period of approximately 15 seconds. If user tries to perform a test during this period, the following message will be displayed.

**TO BEGIN NEXT
SESSION, WAIT...**

In case the open circuit voltage of BUT exceeds 50.00Volts, the following screen will be continuously flashed and you will not be able to enter the test mode.

**X HIGH VOLTAGE X
REMOVE BATTERY**

Once the test period elapses the following screen will be displayed.

**OPEN CKT: 24.00V
SELECT AH: 050**

To start a new test, press SELECT AH key & in order to repeat the same test, press TEST REPEAT key.

To prevent unnecessary discharge of BUT, BATTERY ANALYZER will switch off automatically after 5 minutes of non-operational period.

CAUTION

- 1) Do not connect Model 602 to a voltage source more than 50V.
- 2) Do not connect the unit to a battery connected in circuit.