Labotronics

Classic Electronic Balance

LB-30EBC

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1. Safety Measures

1) Carefully handle the balance avoiding sudden movements, knocks, and free fall of heavy/sharp objects on it.
2) Avoid dismantling any part of the balance to repair it yourself, it could produce a defective use of the whole equipment and a loss of the product warranty.
3) To prevent fire or electric discharges avoid dry or dusty environments. In case it may happen unplug the equipment immediately.
4) Contact your technical assistant, if any doubt regarding setting up, installation, or functioning of the equipment.
5) The balance must be plugged into an earth connection and the socket should be handy and ready to unplug the equipment in case of emergency.
6) Never unplug the balance by pulling the wire, do it from the base.
7) Never use the balance in a wedged location for example a shelf.
8) Do not use sharp objects such as pens or anything related, to pressing the buttons of the control panel, only use your fingers.
9) Avoid placing items on the pan that are heavier than the balance's maximum capacity to avoid damaging the sensor.
10) Do not spill or submerge liquid on it.
11) When the instrument is not arranged for a long time lock the rechargeable battery.
12) If any liquid comes into contact with the electric parts of the balance immediately disconnect it from the net and send it to the technical service.
13) Always use original components and supplies.

2. Introduction

Classic Electronic Balance LB-30EBC is a high resolution table top unit equipped with the maximum weighing capacity of 2000 g. Built with superior precision load cell sensor for accurate weighing and stability. Features easy balance tare and quick stabilization providing reliable weight measurements. The panel features an LCD display for visual monitoring of the measured weight and operational buttons for manual operations.

3. Features

1. Weighing capacity is 2000 g
2. High precision load cell sensor
3. Accuracy of 0.1 g
4. Dynamic weighing with count, percentage and multiple unit conversion feature
5. Dual anti- corrosive SST and ABS pan
6. Automated calibration
7. Fluctuation free readings
8. Rechargeable batteries
9. Large backlight display for visual monitoring of the weight

4. Specifications

Model	LB-30EBC
Weighing capacity	2000 g
Minimum weighing	0.1 g
Pan size	160 mm
Operational temperature	5 °C - 25 °C
Calibration system	Calibrated weight
Interface	RS232
	RS485
Display	LCD
Power	220 V / 110 V
Windshield dimensions	150 × 80 mm
Outer dimensions	300 × 190 × 100 mm
Weight	3 kgs

5. Applications

Classic Electronic Balance LB-30EBC is a significant instrument for the laboratories for precise measurement of chemicals which are used in various experiments and industries such are pharmaceutical research, scientific research, industrial, food research and educational research.

6. Instrument Introduction

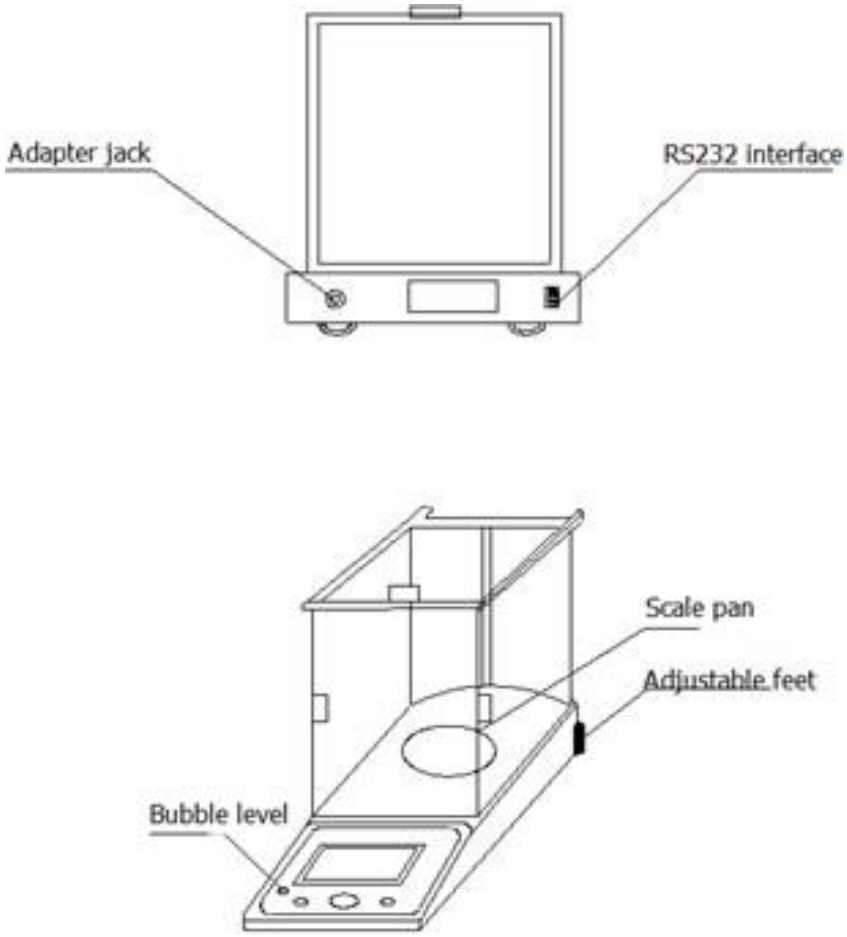

Figure.1

Display and panel description:

- **PRT**: Data print and menu
- **OFF**: Switch **OFF**
- **TAR**: Tare
- **ON**: Switch **ON**
- **CAL**: Calibration
- **"+":** Symbol of positive (over 0) and negative (below 0) weight.

7. Installation

7.1 Installation location

When analytical balances are used in routine test labs or industrial measuring rooms, the weighing speed will be much quicker and the result more accurate. The conditions of installation place of the balance should be as below:

- The workroom should be clean and dry.
- The balance should be placed on a solid, stable, horizontal, and plain flat surface.
- There should not be any direct air flow, air conditioners, or fans.
- Keep the instrument away from direct sunlight or high temperature.
- Do not keep any combustible or corrosive gases.
- When moved from colder to a warmer lace the accuracy and reliability of the scale will be influenced by moisture condensation inside the balance.
- Avoid extreme temperatures or exposure to direct sunlight or air conditioners.
- Keep the balance clean.
- Do not stack material on the balance scale when not in use.

7.2 Unpacking:

Check that all of the items indicated below are included in the package and that nothing has been damaged.

- Balance
- Pan
- Power cable (AC adapter)
- Instruction manual
- External calibration weight.

8. Operations

8.1 Level Adjustment

Once the balance is placed on its location check the bubble level if the bubble is not well centered then turn the adjustable feet so that the bubble moves to the center and the balance is perfectly leveled.

8.2 Start

- Connect the balance to the power supply and press the **ON** key on the panel.
- When the balance is turned **ON** a countdown of 30 mins will be displayed showing the necessary pre-warming time for a better performance and stable state of the balance.
- Once the pre-warming time has passed it is recommended to calibrate the balance and in the internal calibration model once the pre-warming time has passed the balance will automatically make the calibration.
- After calibration the balance will enter the weighing mode.
- To turn the balance OFF, press the **OFF** key on the panel and the display will light **OFF.**
- If the balance is not used for a long time disconnect it from the power supply.

8.3 Calibration:

Internal calibration

- Press the **CAL** key.
- Calibration using the internal weight will be made automatically.
- If the tolerance (error) after internal calibration is too high then it is necessary to make external calibration following the below process:
  - Press simultaneously the **CAL** and **ON** keys until **F** appears at the upper side of the display after releasing the keys **CAL-200** (the value of the necessary weight to make external calibration) will be displayed.
  - Put the calibration weight on the pan and wait until its weight is displayed. (e.g., 200.0000g).
  - Remove the weight and the balance will enter weighing mode.

8.4 External calibration

- Press the **CAL** key and the value of the necessary weight will flash on display.
- Put the calibration weight on the pan for this open the glass door put the weight on the pan and close the door again wait until the value of calibration weight stops flashing and is fixed on display (e.g. 200.000g).
- Remove the weight from the pan for this open the glass door remove the weight from the pan and close the door again.
- The balance will enter weighing mode and will display 0.000g or 0.0000g.

8.5 Tare function

1) Put the recipient on the pan and the corresponding weight will be displayed.

Figure.2

2) Press the **TAR** key and the reading on display will automatically be set to 0.000 g or 0.0000 g and now the tare is complete.

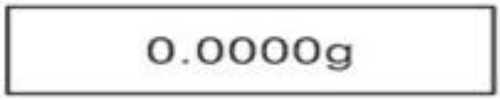

Figure.3

3) If the recipient is removed from the pan the corresponding weight with a negative value will be displayed.

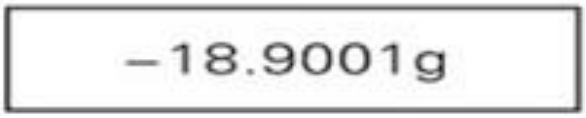

Figure.4

4) Press the **TAR** key again and the display value will be set to zero.

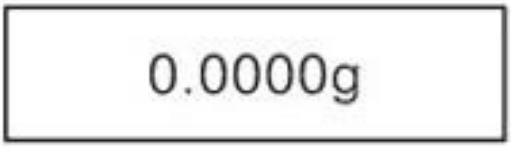

Figure.5

8.6 Weighing Unit Selection

1) Press the **PRT** key to select the desired weighing unit among mg (UNT-0), g (UNT-1), ct (UNT-2), and oz (UNT-3).
2) The weighing unit by default is g.

8.7 Piece Counting Function

1) Keep pressing the **ON** key until the **Set-0** is displayed.
2) Press the **PRT** key to select the reference number of pieces (COU-10, COU-25, or COU-50).
3) Put the corresponding number of pieces on the pan then press the **CAL** key and wait until the number of pieces is displayed.
4) Remove the pieces from the pan and the balance is ready to be used in piece counting mode (weighing until changes from g to pcs).
5) To return to weighing mode keep pressing the **ON** key until **Set-0** is displayed.
6) Press the **PRT** key to select COU-00.
7) Press the **TAR** key and the balance will enter weighing mode.

8.8 Sensitive Setting

To see the symbol displayed for each sensitive level check the display and panel.

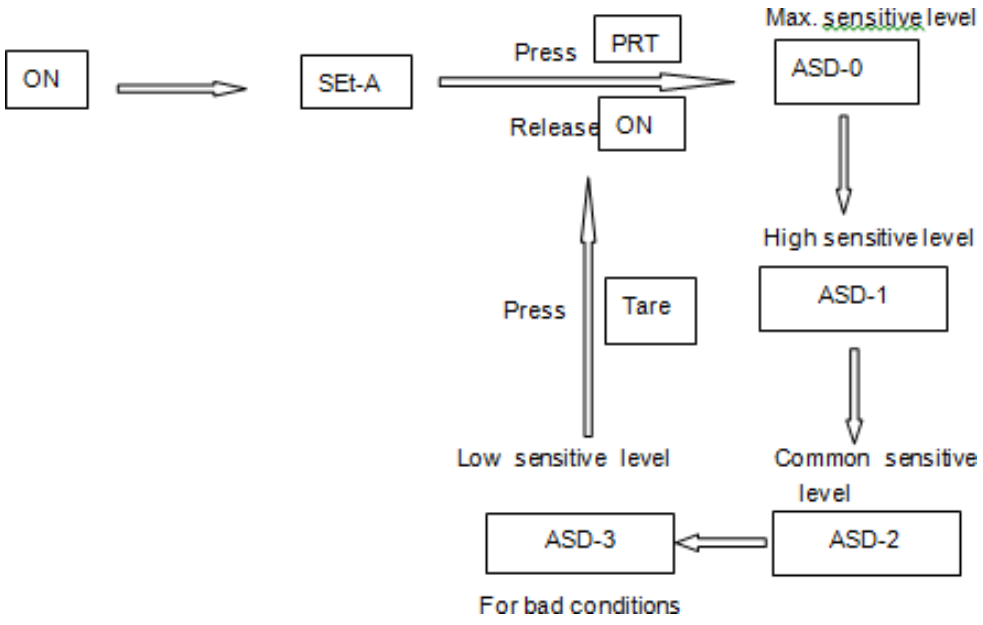

Figure.6

8.9 Weighing speed setting

To see the symbol displayed on each speed level check the display and panel description.

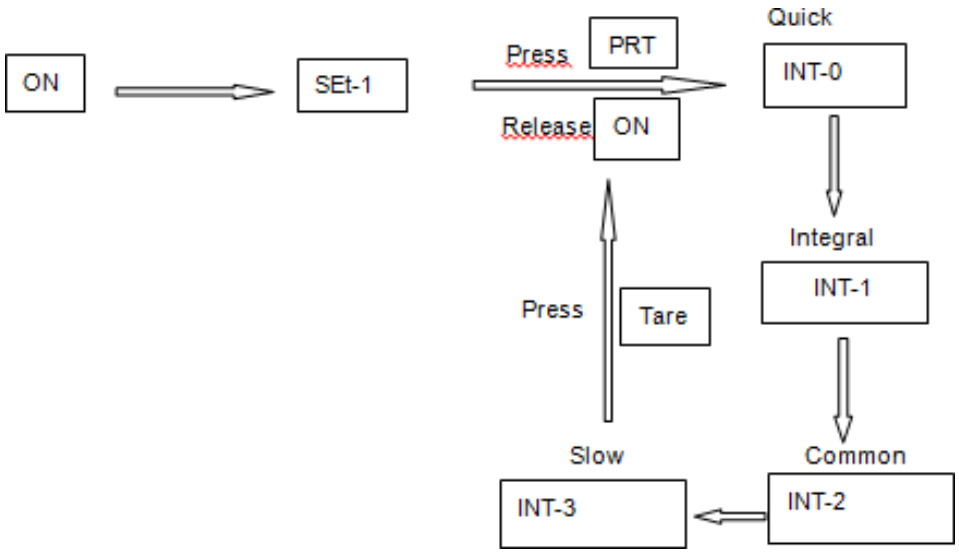

Figure.7

8.10 Data output setting

To see the symbol displayed for data output mode check the display and panel description.

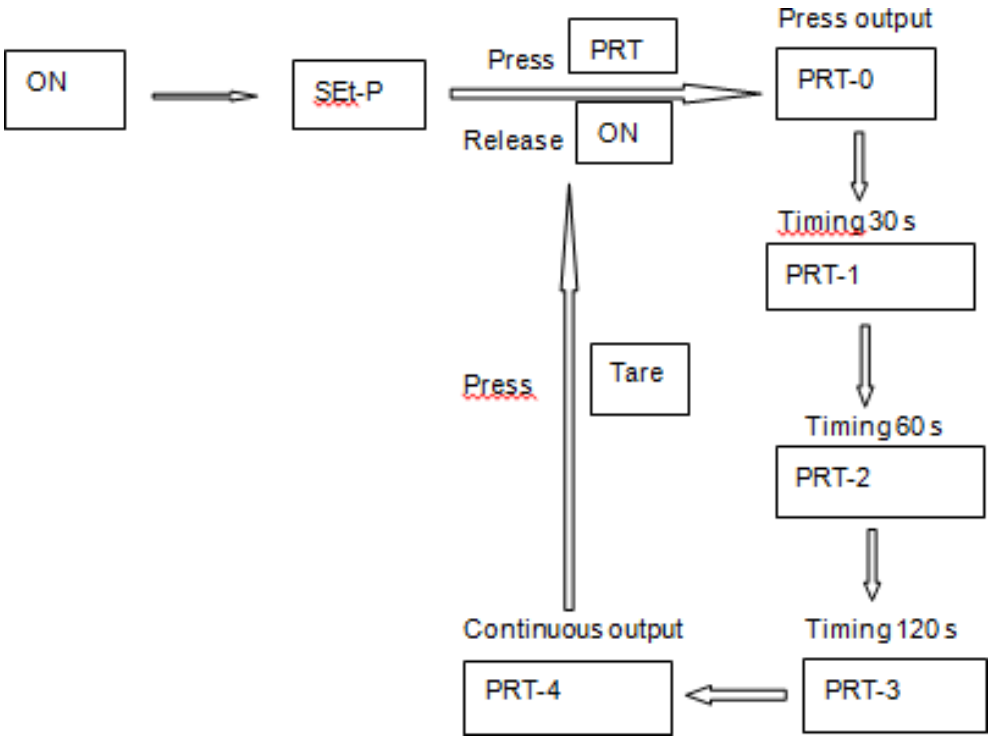

Figure.8

8.11 Baudrate setting:

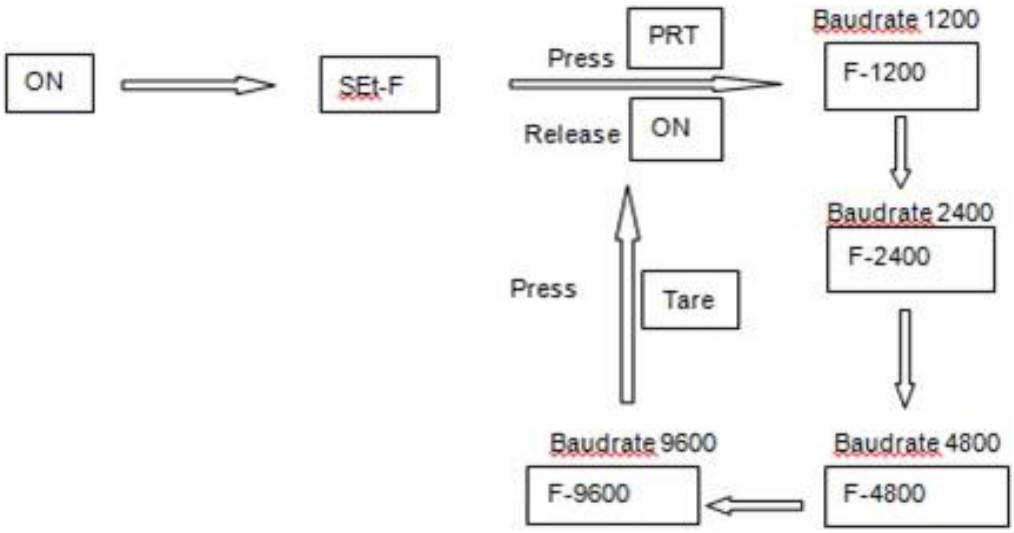

Figure.9

8.12 RS232 interface

Connection	Balance (9 pins)	PC/Printer (9 pins)
RXD (input)	2	3
TXD (output)	3	2
GND (Ground)	5	5

- The baudrate by default is 1200 bps.
- **Data format:** 10 bits, 0 as the start bit, 8 digits (ASCII code)
- No odd and even numbers adjusting
- **Data output:** By default, is continuous mode and the data output mode can be changed into press output.
- Timing output and continuous output.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Type	Space	Space or *	±	Data	Data	Data	Data or dot	Data or dot	Data	Data	Data	Unit 1	Unit 2	End	Return

9. Maintenance

Cleaning

- Never use scourers or substances that can grate for cleaning metallic parts such as stainless steel, aluminum, coatings, etc.
- As they damage the balance and produce an early aging of equipment.
- Use a fluff-free cloth dampened with soaped water that does not contain abrasive.

10. Troubleshooting

Problem	Cause	Solution
No display	• No power supply. • Fuse damaged. • The power transformer is damaged.	• Plug-in adapter. • Change the fuse. • Change the power transformer. • If the problem persists, send the balance to the technical service for repair.
Unstable display	• Bad working conditions. • The windshield is open. • Something between the scale pan and the working table. • The power exceeds its permissible value and is unstable. • Unstable sample weight (moisture evaporation).	• Improve the working condition, avoid vibration and airflow; and Close the windshield. • Remove the pan and clean well the balance surface. • Connect the balance to the power supply 110-220 V AC.
Difference between displayed value and real value	• The balance has not been calibration. • The weight of the recipient has not been tared. • The balance is not horizontal.	• Make calibration. • Make tare. • Adjust the level of balance.

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