



User manual

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Use Environment And Safety Precautions

FA-S series multi-function electronic balances can speed up the weighing speed and improve the weighing accuracy when weighing in conventional laboratory or industrial measurement room conditions. If not, the working environment should be selected according to the following requirements:

- (1) The studio should be kept clean and dry;
- (2) Please use the designated AC adapter. Do not disassemble by yourself. And confirm that the voltage used is within the voltage range of the AC adapter;
- (3) The machine can be powered by dry batteries, but in order to ensure stable voltage and not affect performance, it is only for emergency power supply. An AC adapter is recommended for normal power supply.
- (4) The balance should be placed on a stable and fixed workbench (it is recommended to be placed on a marble platform);
- (5) The workbench should be kept away from the doors and windows, so as to reduce the influence of air flow caused by opening the windows and doors;
- (6) The workbench should be set in a place with less vibration disturbance. The surrounding of the room is less affected by vibration, which is an ideal location for placing the workbench;
- (7) The balance should be placed in a place that is easy to cause temperature changes, such as avoiding direct sunlight and heaters;
- (8) The dry environment is prone to static electricity, and corresponding measures can be taken to avoid the influence of static electricity on the weighing;
- (9) Keep the balance away from objects and equipment that are magnetic or can generate magnetic fields;
- (10) The balance shall not be used in an explosive hazard area;
- (11) Do not use the balance in a high humidity or high dust environment for a long time;
- (12) When the balance is transferred from a cooler environment to another warmer environment, moisture in the air will condense inside the balance, thus affecting the accuracy and reliability of the weighing. In order to eliminate the influence of moisture condensation, the balance can be left unplugged at room temperature for 2 hours before use.

Product Introduction

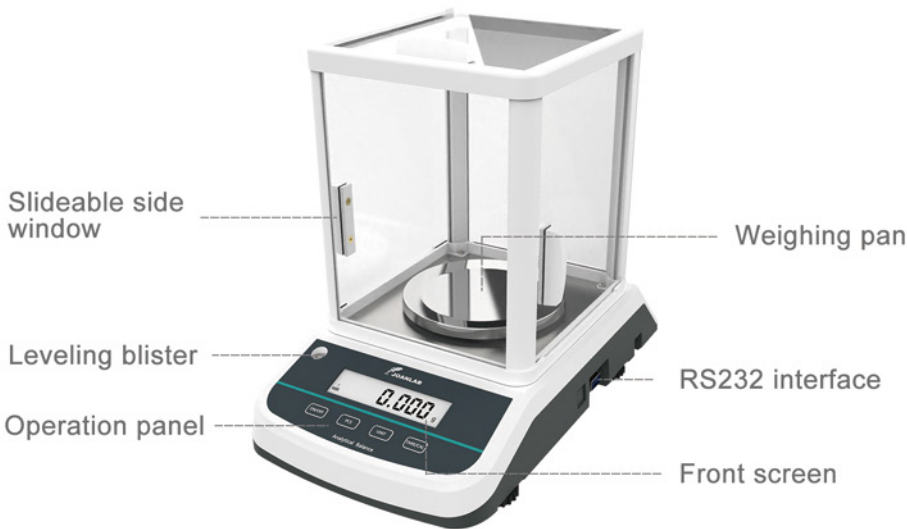
FA-S series electronic balance consists of a high stability sensor and a single chip micro-computer. It is quick in weighing, accurate in speed and simple in operation. It can be widely used in industry, agriculture, commerce, schools, scientific research and other institutions to quickly weighing the quality and quantity of objects.

Product Overview



Product Description

1.Structural Analysis



2.Specifications

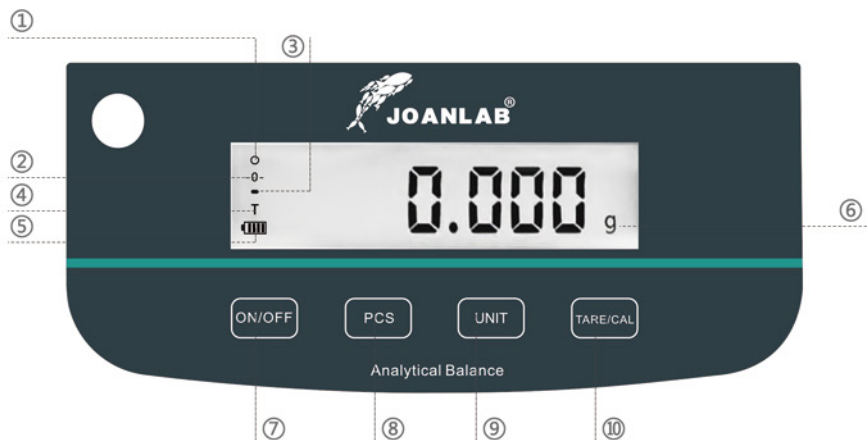
Model	FA2003S	FA3003S	FA5003S
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Product Image



Max Capacity	200g	300g	500g
Accuracy Class	Ⅱ		
Accuracy	0.001g		
Repeatability	±0.002g		
Linearity Error	±0.002g		
Min Readout	0.02g		
Stability Time	≤3S		
Pan Size	φ 90mm		
Dimensions	320*195*280mm		
Voltage	AC110V~240V & 1.5V dry battery*4		
Power	5W		
Calibration Mode	External calibration		
G.W	4.0kg		
N.W.	3.0kg		
Packing Size	375*255*340mm		
Communication Interface	RS232(USB interface optional)		

3.Panel Analysis



NO.	FUNCTION
①	Zero symbol and stability symbol will disapear after reaching weighing stability
②	Zero symbol
③	"-" symbol
④	Tare symbol(Tare weight 4% over the scale capacity)
⑤	Battery symbol
⑥	Optional units (g/kg/ct/T/TAR/dr/PKT/GN/TMR/gsm/tIJ/mo/dwt/oz/lb/tIT/ozt/tIH/%)
⑦	ON/OFF button
⑧	Counting button
⑨	Function switch button
⑩	TARE/CAL button

Operation Guide



1.Preparation

- > Put the balance on a steady flat surface away from vibration, direct sunshine ,air blow or strong magnetic disturbance, adjust four feet to make the bubble in the middle.
- > Plug in the AC adapter.
- > Press“ON/OFF”button,the display shows“0”,“0.0”or“0.00”,the scale enter intothe weighing state.




Remarks: If the display not shows the zero symbol(digital display shows the arrow does not point to the zero positon, the scales not reaches stability state, please change to other place to use.

2.Calibration

(1) One point calibration (Take FA2003S for example)

- > Press function key “TARE/CAL” to clear the readings to “0.0g”.
- > Remove all loads from the platter, press and hold“TARE/CAL”button for 3 seconds, release the botton when  is shown on the display. when the display shows , put a standard weight on the pan accordingly. (put on 2kg weight) .when the display shows the weight figure□remove the weight□finish the calibration.

(2) Multi-point calibration (Take FA2003S for example)


- > Remove all loads from the platter, press and hold “CAL”button for 3 seconds,release the button when  is shown on the display. when the display shows , press and hold“PCS”button for 3 second, release the button when  is shown on the display, put on the standard weight accordingly, remove when stable,put on the standard weight again, till the scale shows “0.0g”to finish the multi-point calibration.

REMARKS:

Model	Calibration	Linear calibration
FA2003S	100g	50g, 100g, 200g
FA3003S	200g	100g, 200g, 300g
FA5003S	500g	200g, 400g, 500g

3.Usage

(1) Piece counting

- > Press“PCS”button, the display shows  ---- 

- > Put on 10pcs objects on the pan (objects size, shape, weight need to be the same, deviation <5%, and each pc weight >d)
- > Press“PCS”button again□wait for the figure on the display is stable□scale starts piece counting mode.
- > Press“PCS”button under piece counting mode□exit piece counting mode.

(2) Percentage

- > Scale unit is“g”, put on the object of reference of percentage weighing
- > Press“UNIT”button, till the display shows unit “%”, the scale enter in percentage programming
- > Put on the object you need, display shows the percentage according to the object of reference.

(3) Unit conversion

- > Press “UNIT”button to select weighing unit.

(4) Overload

- > When the weight of object exceed the max capacity of scale. the display will shows -----, remove the object immediately□to prevent the damages to the scale.

(5) Low battery indication

- > Press“PCS”and hold on, till the scale skips piece counting procedure, when display shows LO--OFF, scale enter in low battery mode setting,“off”will be shown on the display all the time.
- > Then press“PCS”, display shows LO-- 1, low battery mode start. (1 for 1second) when scale pan without object and the figure back to “0”, display will shut up after 1 second.

(6) Baud rate setting (232 interface)

- > Press“PCS”and hold on, till the scale skips piece counting procedure, when display shows LO--OFF, Press“TAR”button till display shows C3-- 2, press“PCS”button to set BRS.

C3-3----BRS 4800

C3-4----BRS 9600

C3-5----BRS 19600

(7) Print Settings

- > Press and hold the "PCS" key, and after the skip count program appears LD--OFF, press the "CAL" key to L2-- 2. Press the count key to adjust the printing method;

(8) Speed Settings

- > Long press the "PCS" key, and after the skip count program appears LD--OFF, press the "TARE/CAL" key to L2-- 2. Press the count key to adjust and adjust the reaction speed. (It is not recommended to adjust privately.)

Fault Comparison Table

Error prompt	Reason	Solution
Underscore -----	Negative readings	Recalibrate with weights
Upper line -----	Overweight alarm	Remove the weighed object and recalibrate

Transport And Storage

- > In the case of factory packaging, the electronic balance is allowed to be transported by general vehicles. During transportation, it should be protected from severe vibration, rain and sunlight.
- > The electronic balance should be stored in a dry and ventilated warehouse with a relative humidity of -10°C-55°C and a relative humidity of not more than 85%. There should be no corrosive gas or liquid in the warehouse, and the storage time should not exceed one year.

Packaging List

Name	Quantity
Balance host	1
Weighing pan	1
Power adapter	1
Manual	1
Certificate	1
Warranty card	1

Product Certificate of Conformity

Product Name : **Multifunction Electronic Balance**

Product Model : ☐ FA2003S ☐ FA3003S ☐ FA5003S

Production Date : _____

Manufacturer : Joan Lab Equipment (Zhejiang) Co.,Ltd.