



Balance Analytical Scale **User Guide**

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Use Environment And Safety Precautions

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 secure workbench (it is recommended to be placed on a marble platform);
5. The workbench should be kept away from 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 location that is easy to cause temperature changes, such as 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 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.

1: Product Introduction

Scigiene electric scales consists of a high stability sensor and a single chip microcomputer. 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 weigh the quantity of objects.

Product Overview



Product Description

1. Structural Analysis



2. Specifications

Model Number	FA1003/3S	FA2003/3S	FA3003/3S	FA5003/3S
Max Capacity	100g	200g	300g	500g
Accuracy class	2			
Min readout	20mg			
Accuracy	0.001g			
Repeatability	±0.0002g			
Linearity error	±0.0002g			
Stability time	≤3S			
Working Temperature	15°C ~ 35°C			
Pan Size	φ120mm			
Power Supply	Power adapter & 1.5V dry battery x 4			
Calibration mode	External calibration			
Communication interface	RS232(USB interface optional)			

3. Panel Analysis



#	Description
1	Zero symbol and stability symbol will disappear 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/tlJ/mo/dwt/oz/lb/tlT/ozt/tlH/%)
7	ON/OFF button
8	Counting button
9	Function switch button
10	TARE/CAL button

2: Preparation

- > Put the balance on a steady flat surface away from vibration, direct sunshine, air flow 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 enters into the weighing state.

Remarks: If the display does not show the zero symbol (digital display shows the arrow and does not point to the zero position, the scales has not reached the stability state, please change to another location to use.)

3: Calibration

3.1 One point calibration (Take FA2003S for example)

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

3.2 Multi-point calibration (Take FA2003S for example)

- > Remove all loads from the pan, 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 seconds. Release the button when  is shown on the display, put on the weight accordingly, remove when stable and then put on the standard weight again. Wait until 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

4: Operation

4.1 Piece counting

- > Press “PCS” button, the display shows  ---- 
- > Put on 10pcs of the object 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 to be stable) scale starts piece counting mode.
- > Press “PCS” button under piece counting mode to exit piece counting mode.

4.2 Percentage

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

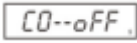
4.3 Unit conversion

- > Press “UNIT” button to select weighing unit

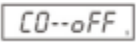
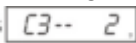
4.4 Overload

- > When the weight of object exceeds the max capacity of scale, the display will show  , remove the object immediately to prevent any damages to the scale.

4.5 Low battery indication

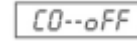
- > Press “PCS” and hold on, until the scale skips piece counting procedure, when display shows  , scale will enter in low battery mode setting, “off” will be shown on the display all the time.
- > Then press “PCS”, display shows  , low battery mode start. (1 for 1 second) when scale pan without object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

4.6 Baud rate setting (232 interface)

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

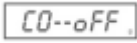
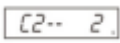
C3 – 2 - - - - BRS 2400
C3 – 3 - - - - BRS 4800
C3 – 4 - - - - BRS 9600
C3 – 5 - - - - BRS 19600

4.7 Print Settings

- > Press “PCS” and hold on until the scale skips piece counting procedure, when display shows  press the “TAR” button until display shows  . Press the “PCS” button to set print mode.

C5 – 0 - - - - continuous printing
C5 – 2 - - - - key printing
C5 – 3 - - - - command printing (connect with computer)

4.8 Display Speed

> Press “PCS” and hold on until the scale skips piece counting procedure, when display shows , press the “TARE” button until display shows . Press “PCS” button to adjust the speed (It is recommended to adjust privately)

4.9 Density function (need to buy density stand and below weighing hook)

- > Fix density device
- > Weighing the object on the scale pan
- > Weighing the object in the medium
- > Calculate the density

5: Error Message Table

Error prompt	Reason	Solution
Underscore “- - - -”	The object is not properly loaded to the balance	Recalibrate the scale
Upper line “- - - -”	Overload	Remove the object and recalibrate the scale

6: Components List

Name	Quantity
Scale	1
Scale pan	1
Power adapter	1
Product Manual	1
Calibration Weight	1



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