Operating Manual for JJ-A Series of Electronic High Precision Balances

1. Overview

Manufactured and well-designed by G&G Measurement plant, adopting industrial-class high precision sensors, measurement circuit, a G&G dedicated single-chip computer system, and high-quality electronic balance has been wildly used in a variety of purposes of weighing measurement, detection tests, to improve product quality, cost-effectiveness and efficiency have played an important role. Electronic balance has the following characteristics:

1.1 High precision, hypersensitivity and fast reaction time

1.2 Using high precision single point load cell, to overcome the general high-precision electronic scale's defects that can not measure iron, nickel and other magnetic materials.

1.3 Auto calibration function

1.3 Advanced line mode, excellent selection and manufacturing process, thus products with high reliability, anti-interference capability and full lifetime. Good stability for full lifetime using also can be used to adapt to harsh environment and long time working.

1.4 Unit conversion function with 7 weighing units

1.5 Large easy to read LCD backlit display.

1.6 Runs on AC power or rechargeable Battery. One single charge scale can work for more than 80 hours Scale can be used during charging, which can not affect the functions of the scale.

1.7 With RS232C communications port and PRINT key, the scale can be connected directly to the printer or computer to collect and analyze the data. It can even be operated by PC-Telecontrol.

2. Specifications and Performance indexes

Depending on the difference of range and resolution, G&G Brand JJ-B and JJ-A series electronic scales are classified to 6 types as shown

Model	JJ200A	JJ300A	JJ500A	JJ600A	JJ1000A
Capacity	200g	300g	500g	600g	1000g
Resolution Ratio	0.01g	0.01g	0.01g	0.01g	0.01g
Calibration Graduation	10d	10d	10d	10d	10d
Tare Scope	200g	300g	500g	600g	1000g
Calibrating Weight	200g	200g	500g	500g	1000g
Dimension of Platform	Φ135mm				

Model	JJ2000A	JJ3000A	JJ5000A	JJ6000A	JJ10KA
Capacity	2000g	3000g	5000g	6000g	10kg
Resolution Ratio	0.1g	0.1g	0.1g	0.1g	0.1g
Calibration Graduation	10d	10d	10d	10d	10d
Tare Scope	2000g	3000g	5000g	6000g	10kg
Calibrating Weight	2000g	2000g	5000g	5000g	10kg
Dimension of Platform	205mm×190mm				
Volume	325(W)×211(D)×110(H) mm				
Power Supply	AC220V±10%　50Hz±1Hz				
Use Temperature	0-40° C				
Use Humidity	≤80%R.H				

PS: When using the scale, be sure to use only a adapter of the same rating ,otherwise it will be dangerous.

3. Operational Method

3.1 Turn on power source; open the switch, the displaying windows displays from “F----1”to “F----9”;after stabilizing for a certain time, “0” appears; Before using, scale should be on for 15 min.;

3.2 Tare

3.2.1 With empty scale platform, the displaying deviates from zero, pressing “TARE” key, then the displaying will return to zero.

3.2.2 If the weight of the article for which the packaging is to be removed is unknown, place the packaging container on the weighing platform, wait till the weight display is stable before pressing the “TARE” key. The zero is displayed for the weight. Then place the article to be weighed in the container. Now, the weight window displays the net weight of the article. When the article and its container are removed, the weight display window displays the negative value of the weight of the container. Nevertheless, press the “TARE” key so that zero is displayed for the weight.

3.3 Calibration

If the scale has not been used for a long time or just newly bought (when the scale does not read accurately), the scale should be calibrated. Firstly, the scale is power on(over15 minutes), calibration need to press “TARE” first, then press “kg/lb”, the weight displaying window shows “XXXXXX” and the unit weight displaying window shows “-CAL-”, the scale enter calibration,(XXXXXX should be the weight of standard weights, for example: when displaying showing “5.00” expressed the need to place a standard weight 5kg), at the same time, only place calibrating weights on the platform, after stability, the weight displaying window shows the weight of the calibrating weights and the unit weight displaying window shows“0”, till now the calibration is completed and the scale can be normally used and count. If the weight displaying shows “C·····F”, press “TARE”, then try to calibration again.

3.4 “ ” for unit conversion, counting, printing, default setting is unit conversion

3.4.1 Unit conversion

Press “ ” key and there are 7 weighing units: g, ct, ozt, oz, GN, dwt, lb

3.4.2 Counting

(1) Choose the quantity of samples: To precisely count the articles, firstly the quantity of samples for counting should be chosen in according with the weights of the articles. The quantity of samples can be chosen from“1-10-20-50-100”. For a small number of articles, the larger quantity of samples, the more precise.

(2) Place one or more samples on the empty pan, the balance will show the total weights of samples. Then press “ ”, the displaying will show “1”, at the same time, the right of the displaying show unit “pcs”, with indicate that scale is now counting. And all the samples are one unit. Then press “ ”, the displaying will show between“1-10-20-50-100”. The quantity of articles and samples must be the same, and place the similar articles. The total amount of objects is showed, press the “ ” again back to the normal situation.

3.4.3 Print

When balance and micro-printer connection, pressing the print button ,the balance send data and print.（PS：Unit change, counting and printing are the same key “ ”,so it must be set before using

the printing function, setting method see the point 5 on page 5.）

3.5 Data output function

This scale have RS232 data output, can connect to the computer and printer

3.5.1. Transmission format: serial asynchronous

3.5.2. Serial communication protocol: baud rate: 600-9600 can set, the default settings is 600; data units: 8 units; ending unit: 1 unit; no calibration unit.

3.5.3. Data format:

Negative	data	unit	ending	enter
2 unit	7 unit	3 unit	1 unit	1 unit

3.5.4. Calibration: no calibration

3.5.5. Output pins content (9-core socket): 2 pins: RXD 3 pins: TXD 5pins: GND

3.5.6. Computer can control balance though RS232. The orders to balance are:

1BH+70H: sending data
1BH+71H: calibration (like “CAL”)
1BH+73H: Units change
1BH+74H: Tare

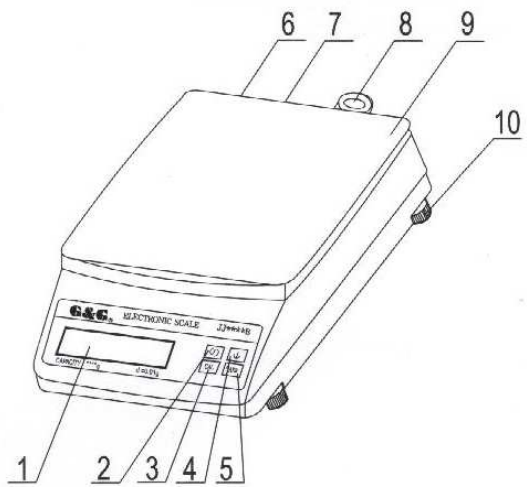
3.5.7. Instructions and software download: http://www.gandg.com.cn

Attachment: settings and meanings

1. Press “CAL” and do not loose till balance enter in setting mode, then pressing “CAL” can change the parameters; pressing “TARE” can change the values of parameters.
2. C1------ sensitivity setting 0 1 2 3 4, the larger number is, the less sensible but the better stable. Default setting is 3 or 2
3. C2------filtering strength setting 0 1 2 3, the larger number is, the lower reaction speed, but the better stable. Default setting is 2 or 1
4. C3------Baud rate setting 2(600) 3(1200) 4(2400) 5(4800) 6(9600). Default setting is 2
5. C4------communication setting. “TARE” changes the lower unit. “COUNT” changes the higher units. This data is the first data during communication. Default setting is 27.
6. C5------units change. 0 is for units changing, 1 for printing, 2 for counting. Default setting is 0.

Press “TARE” and do not loose till “F----3” (Balance should be switched on). All the parameters can be reset to default settings. Re-calibration before using

4. Structure



1)Display
2) UNIT
3) CAL
4)ON/OFF Switch
5)TARE
6)Power
7)Data output
8)Water level
9) Scale pan
10) Adjustment

5. Precaution before using the Scale

5.1 Operation environment: indoor, max. Altitude: 2000m, temperature: -10-40℃, Humidity ≤98%, fluctuations less than ±10%. The scale should be avoided great temperature changing, intensive air flowing and ground vibration. And do not let the scale get wet and do not place it in an environment with extreme temperature or humidity.

5.2 When the battery voltage is low, the LOW POWER indicator will be shown. Please turn the scale off and then fully recharge it, otherwise the scale will automatically turn off to protect the rechargeable battery.

5.3 Connect to AC power, the AC indicator " " on, for the battery charging, the battery symbol " " flashes, when fully charged, it disappeared. One single charge scale can work for 100 hours.

5.4 When the scale long-term not using, the scale must be placed in dry-ventilated place and take out of the batteries, one single charge every three months, lead-acid battery for sale since the date of three months.

5.5 Electronic scale is the precision instrument, objects should be handled with great care and avoid exceeding the capacity, any overload or impact may cause permanent damage to electronic scale, even without power.

5.6 Daily use should be careful; it should be cleaned with the cloth that infiltrates the neutral cleaning agent. Prohibit using the solubility or chemical treatment of the solvent.

5.7 Warning: before using electronic scale, please read the manual carefully.

6. Display information

Problems	Possible causes	Measure to take
Display shows nothing	1. lead-acid battery is defect 2.internal circuit is defect 3. the ON/OFF switch is defect	1. connect to AC power and examine the battery 2. Return to the factory to repair 3. the ON/OFF switch must be changed
The message F--3	Key short-circuit	Replace the key
The message F--5, F--L, F--2	1. Sensor is defect 2.A/D switch problem	1. Replace the sensor 2. Return to the factory to repair
The message F--H	1.Object weight beyond capacity 2.Error by calibration	1.Remove the object 2.Press the "TARE", reading the backup data and then re-calibrate the balance
The message C--F by calibration	Unstable zero or zero not correctly set	Press the "TARE" key with empty pan, the balance shows 0,then calibrate
The message C--H by calibration	1.Object weight beyond capacity 2. Sensor zero is high	1. Remove the object from the pan, press the "TARE" and show "0", then calibrate 2. Adjust the internal zero adjustment of short-circuit chip, exceed the adjust range, replace the sensor.

7. Packing list

Name	Quantity	Remark
Operating manual	1 copy	
Power line	1 piece	
Warranty card, certification	1 set	
Scale pan	1 piece	
Weights	1 set	Except for JJ2000A, JJ3000A,JJ5000A, JJ6000A, JJ10KA

8. Warranty issues

8.1 CHANG SHU G&G MEASUREMENT PLANT produces the G&G balance, the product implements the three bags by our factory.

8.2 Products for sale since the date of one year, under the correct installation and use conditions, the non-human failure is the scope of warranty, please send the balance together with the original product packing to factory for free repair. Our factory responsible for the receipt of the date of repaired and sent within one week, or be replaced.

8.3 Beyond the Warranty time, the repair fee charged

8.4 The company must provide the detailed address, zip code the recipient and the telephone, so that our factory could send the balance in time after repairing.

G&G MEASUREMENT PLANT

ADD：Xushi town, Changshu city, Jiangsu province

TEL：0512-52671954

FAX：0512-52671339

Zip code：215535