Contents

Summary

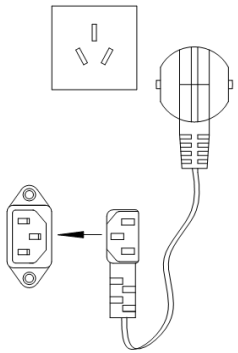
The Balance is a kind of intelligence digital electronic balance which adopts high-stable load cell and high precision modulus convert IC system (AD), and integrated with single chip microcomputer. It posses multiple unit conversion, counting, percentage, RS232, dynamic weighing, AC/DC workable, memory etc. functions, high accuracy weighing, fast speed and stable for the operation and it is easy handling. Our balances are widely used in industry, agriculture, trading, school etc. areas for fast measuring the quality and quantity. It meets the GB/T26497-2011 (for electronic balance) standard.

1. Operation preparation

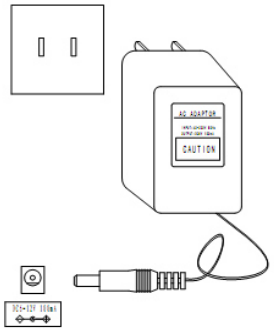
Put the balance on the stable, flat place, to avoid shake, static electricity, sun light, airflow and electromagnetic wave interference.

2. Starting up

a. Plug in one end of the power adapter or power line to the balance input, another end Connecting the AC power supply.

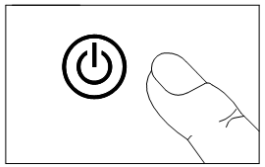


N,K,C,CH, B,T,A,G series connection sketch

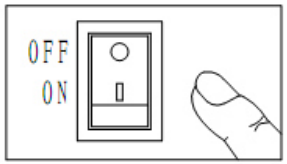


X,L series connection sketch

b. Turn on the power

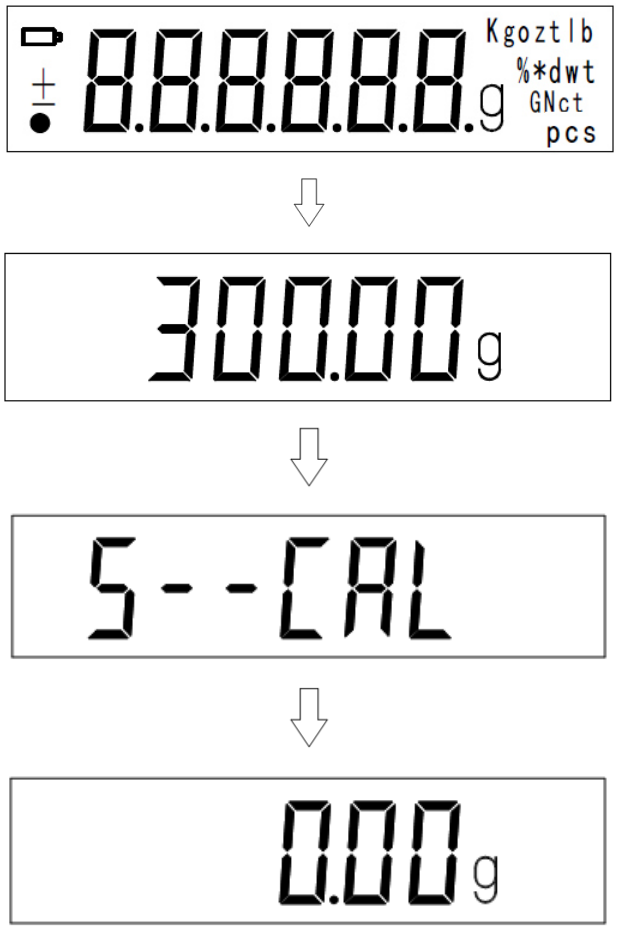


N,K,C,CH,B,T,A series turning on sketch



X, L models turning on sketch

Taking 300g/10mg for example, after turning on the balance, it will display in order:



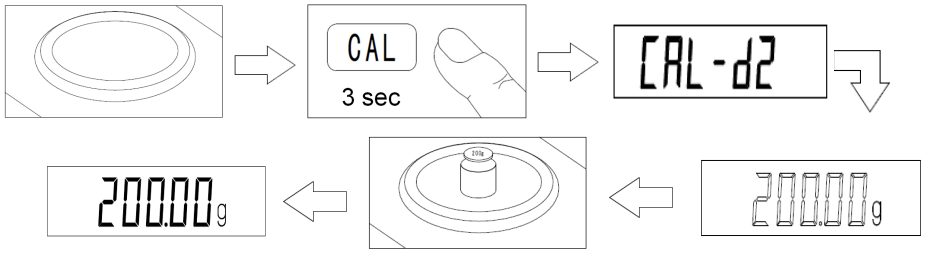
3. Calibration

a. Turning on the power, preheating it for half an hour, then start calibration, it could be more accuracy.

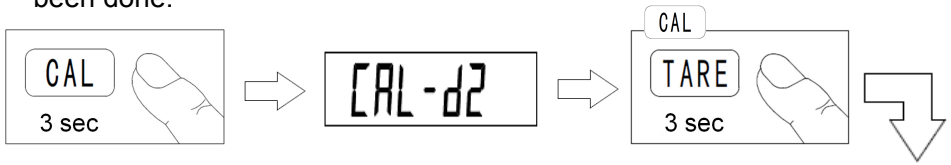
b. Calibration operation

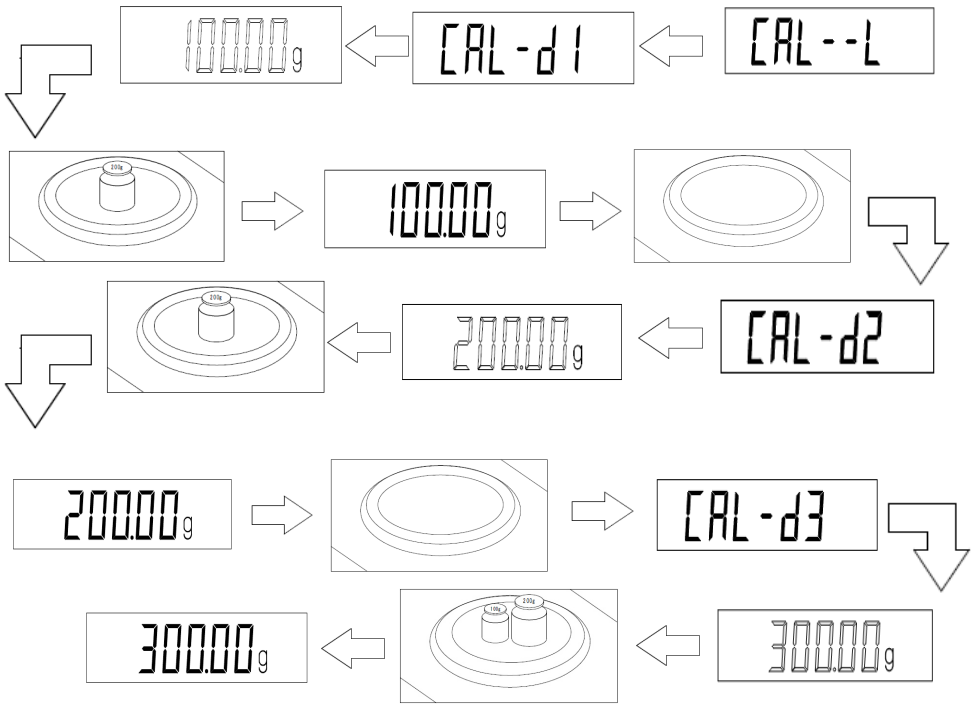
Taking 300g/10mg for example:

1) Press “ CAL (calibration) “ by 3 seconds. when no any subject on the balance. It enters the calibration status, it appears “ CAL-d2”, then “ 200.00g “ flashing appears. Put 200g weight on , it displays “ - - CAL- “, and then “ 200.00g” on display, it means entering the weighing status. If the weighing is not accuracy, then repeat the above said calibration steps.



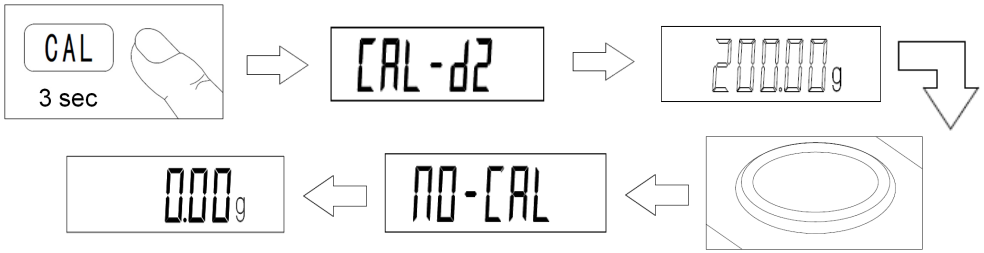
2) Linear calibration: Press “ CAL (calibration) “ for 3 seconds, it enters the calibration status, then press TARE till it appears “ CAL-L”, it enters the linear calibration, put on the weight in accordance with the data on display, one point for calibration has been done, and a fixed calibration data will be on display. Take off the weight, the next calibration data is on flashing, put on the weight accordingly, till all points for calibration have been done.





Note:

If not put on the weight within 10 seconds after entering the calibration status,"no CAL"will be appeared, It means no calibration has been done, to quit the calibration.



4. Weighing

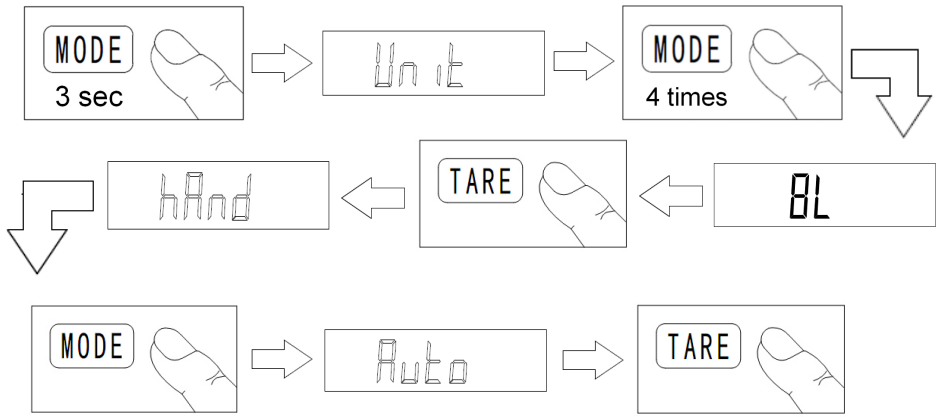
a. After preheating or calibration, put the subject on the balance, till a black point on the bottom left side disappears, the value of the subject can be read out.

b.The max. capacity of the balance +9e is appeared when it is turning on,

(e=10d, d is a minimal readout to be appeared)

5. Tare : Press TARE , the tare weight of the pan can be taken out.

6. Backlit: The backlit is on when turning on the balance. Press BL to turn off the backlit. The service time of the balance can be prolonged if to switch off the backlit in case of using the rechargeable battery or dry battery .

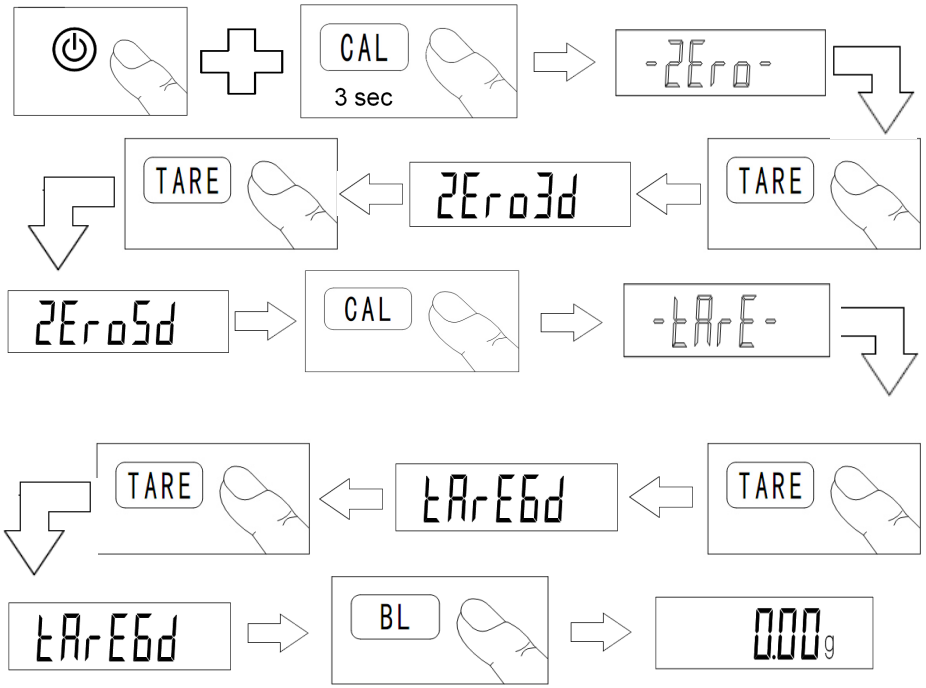


7. Zero-Tracking & Auto. Tare

a. Press CAL at the same time of turning on the power (within 3 seconds) till “- Zero-“flashing, press TARE, “Zero*d” on display, press TARE repeatedly, Class Ⅰ”*” variation from “ 0 – 20 “, class Ⅱ”*” variation from “ 0 – 5 “, “ Zero0d “ means no Zero point tracing.

b. Press CAL again, “ – tArE – “ flashing, press TARE, “ tArE*d “ on display, press TARE again, class Ⅰ “*” variation from “ 0 – 30 “, class Ⅱ “*” variation from “ 0 – 9 “, “ tArE0d “ means no auto tare.

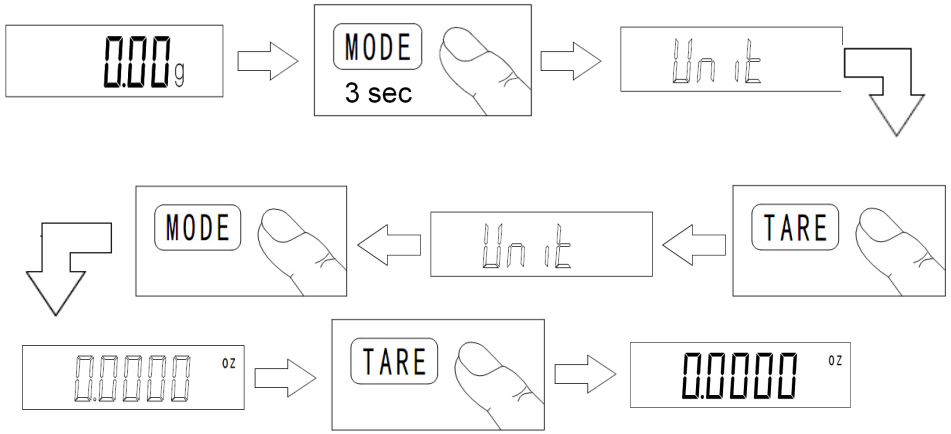
c. Setting end, press BL, it restarts and is back to normal weighing mode



8. Other function

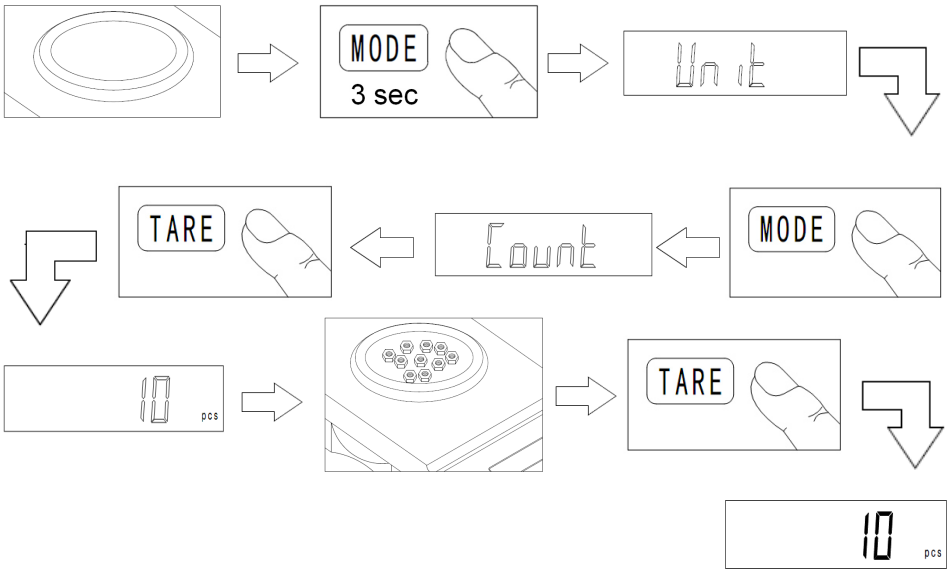
8.1 Unit conversion: press MODE for 3 seconds till “ Unit “ flashing on, press TARE, “Unit *” flashing on, press MODE, to choice the unit required, press TARE to make sure, unit conversion has been done.

Taking the unit “ g “ converses to unit “ OZ” for example:

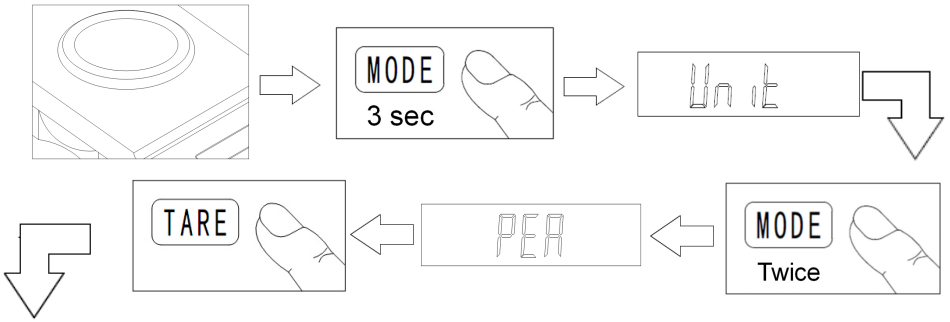


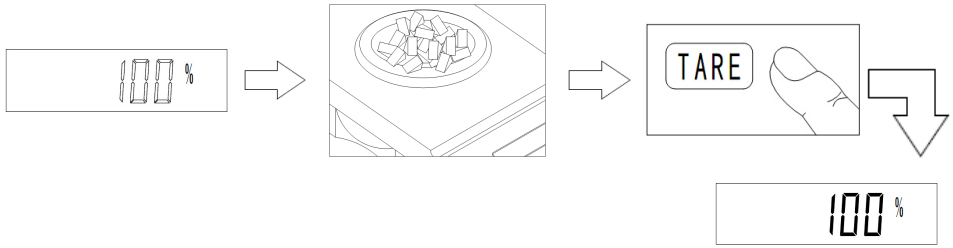
8.2 Counting: press MODE for 3 seconds till “Unit ‘ flashing on, press MODE again, “ Count “ flashing on, press TARE to make sure, “ 10pcs “ flashing on, (press MODE, basic counting number can be change from “10pcs “ to “500pcs”, the bigger the number, the higher the counting accuracy). Put on the same number of the articles as per flashing data on display, press TARE to make sure, “ - - - - - - “ on display, then counting setup has been done. When a single article for counting is less than 2d, it shows “ no-Cou”, the counting set up can not be done.

Taking an article of 10 pcs counting for example:

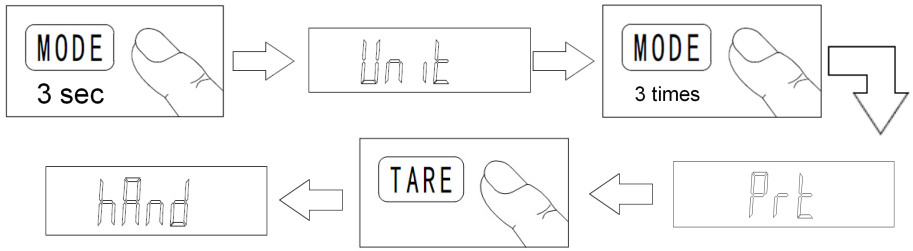


8.3 Percentage : Press MODE for 3 seconds till " Unit " flashing on, Press MODE two times, "PEA" flashing on, press TARE to make sure, "100%" flashing on, put on the article to be set as 100%, press TARE, "100%" on display, take out the article, and put on other substance, the percentage on display is that one of the substance vs former article. In case the value of the setting article divided by 100 is less than 2d, " no-PER " is on display, it means that percentage setting up can not be done, the mass of the article to be setting has to be increased.





8.4 Printing : Press MODE for 3 seconds till "Unit ' flashing on, press MODE three times, " Prt' on display, press TARE to make sure, "hAnd " on display .



a. Manual printing **m**ode: Press TARE again to make sure. Press PRT or printer code key to end the printing set up .

b. Auto printing mode: after above mentioned "hAnd " on display, press MODE again, "Auto" on display, press TARE to make sure, put on the substance which should be bigger than 5d, the weight value on display will be printed out after the black point for stable reading disappears .

c. Continuous printing mode: after above mentioned "hAnd " on display, press MODE two times, press TARE to make sure, the data can be printed out continuously.

RS232 communication protocol

It adopts general RS232 UART signal, a 10BIT for each data frames, frame format as below:

bit1	Bit2	bit3	bit 4	bit 5	bit 6	bit 7	bit 8	bit 9	bit 10

BIT1: Data symbol

BIT2~BIT9: Data bits.

BIT10: Stop bit

Baud rate:9600bps, No parity Stop bit 1.

Data frame format +/- symbol + data + unit + frame end

a. Data symbol: 1byte ASCII code: " + " or " – ". Symbol +: 2B -: 2D

b. Data field: 7bytes ASCII code, one byte is radix point " . ", its position is as the same as the display position.

c. unit: 3 bytes ASCII code, if unit is less than 3 bytes, filled up by blank(20).

lb: 6c 62 oz:6F 7A GN:47 4E Kg: 6B 67

d. frame end: enter new line ASCII code, 0DH, 0AH

Serial pot connection line (9 core) connected with the computer: 2pins to 2pins, 5pins to 5 pins.

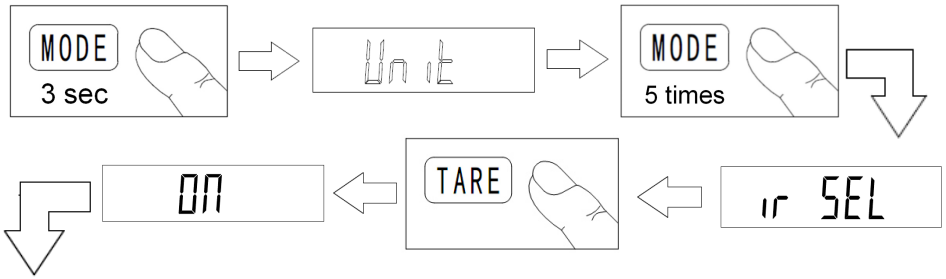
8.5 IR sensor control function (G series)

Put the finger above the "IR sensor " (IR sensor window), it can control and carry out the calibration and tare operation. For Tare operation, just put the finger above the IR window shortly, it can be done. For the calibration, put the finger above the IR window for 3 seconds, it can be calibrated. When the IR sensor is working, its red indicator lights on .

a. To touch two IR windows, the function shut down, the function can be restored when turn on the balance again.

b. For Mode function, it can be turned on or turned off .

The steps for shut down IR sensor function as below:



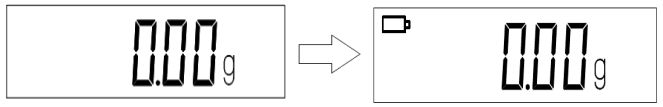
c. The IR sensor control function could be possibly affected by strong light or in case of near by the windows.

d. After turning on the balance, If a black arrows appears on the upper right side of the screen, it means that IR sensoring function has been shut down automatically, so please adjusting its position, and turning on the balance again.

e. During the operation, if a single sensoring red indicator lights up, just move the balance to the position where the red indicator lights off, and it will start to work normally after the data on display comes to zero.

8.6. low voltage indication :

In case the dry battery or rechargeable battery are used, to replace with the new one, if a symbol of battery appears on the upper side of the screen.



9. Precaution for use

a. To preheating it as per the rule before use it .

b. The total mass of tare and weighing substance should not exceed the limitation of Max. capacity.

c. If weighing is inaccurate, please to calibrate the balance by weight.

d. In case of taking out the round pan, please first turn it around clockwise and take out. Do not put out upward hardly, so as to avoid the damage of the load cell.

10. Accessories:

Scale Main Frame····· 1unit

Scale Pan·····1unit

User's Manual·····1unit

AC Adapter·····1unit

OPT:

Calibration Weight ·····1unit

Rechargeable Battery·····1unit

Trouble shooting methods

One. Unable to turn on the balance .

1. Check the power adapter properly plugged in.
2. To replace with new adapter if it is damaged.
3. Insert the overlay connection wire or replace with new one if the overlay disconnected or damaged.
4. Main board damaged

Two. All characters on display after turning on and unable to return to normal weighing status

1. The balance crashed due to AD chip affected. To turn off the balance and turn on it again after 30 minutes.(fit for all models)
2. The switch of overlay is damaged, to replace with new one.(fit for K, N, G, A, B, C models).

Three. "S-CAL" or "UER2.0" on display after turning on, unable to work normally.

1. The balance crashed due to AD chip affected. Turn off the balance and turn on it after 30 minutes.
2. To replace with new AD chip if it is damaged.
3. Load cell wire disconnected. Check the wire connector.
4. To replace with new one if the load cell damaged .

Four. "zero" appears after turning on, even after put on the weighing substance, unable to work.

1. The balance crashed due to AD chip affected. Shout down the balance and turn on it after 30 minutes.
2. Load cell wire disconnected. Check the wire connector.

3. To replace with new one if the load cell damaged .

Five.”-------”on display after turning on the balance and unable to come to zero after press TARE

1. Load cell wire disconnected. Check the wire connector.
2. To replace with new one if the load cell damaged .

Six.”Zero” on flashing after turning on the balance.

‘‘ Calibration “ button damaged. To replace with new one (fit for X, B, A models) or replace with new overlay (fit for N, K, G, C models).
The “ calibration “ function affected by hard lights for the IR sensoring function. To move the balance position till the red indicator of “ calibration “ sensoring window lights off.

Seven. The G series with IR sensoring function comes to zero after turning on, and not on effect.

Two IR sensoring windows auto shut down due to affected by hard light. To move the balance to the position and turning on it again till two IR windows working normally .

Eight. Nothing on display after turning on the balance, except backlit on flashing.

Pin 12 or pin13 of the program slices (D78F0511A) on main board have faulty soldering with pin 6 or pin 7of screen driving chip (BL55066). To have them soldered firmly

Nine. No Max. capacity appears initially on the screen after turning on but only the random numbers or white screen on display.

Main board storage chip (BL24C02) damaged, to replace it with new one.

Ten. Zero point not stable, put on small substance, the reading data on display is much more than its real weight or “----”appears. Unable to have a normal calibration after press CAL button .

Put on wrong weight when calibration or the weighing substance is much less than calibration weight which leads to inner criterion amplified. Press CAL till “ CAL-d * “ on display (it has different d on display by different capacity), press TARE repeatedly till “ CAL- d “ which is as same as max. capacity, then keep waiting till “ CAL- d “ flashing on the screen, put on the weight corresponding to the data on display.

Eleven . Reading data unstable during weighing process

1. There are airflow or vibration around the working area. To change the working place.
2. Maybe the pan or load cell are touched by some other things. To make the surroundings of the pan and load cell clean enough.
3. The plug of between load cell and indicator looseness or its touch spot oxidation (or B, L, D models only). To tighten and fasten it, if still not working, should replace the plug on the indicator (9 core serial port socket)
4. Indicator Inner power voltage unstable, just to have the battery recharged or connected to the main power supply.
5. Indicator inner AD chip (CS5530) or load cell power circuit (GM6155) damaged. To replace AD chip or checking the power supply voltage, to replace the chip (GM6155).

Twelve. Reading value stopped suddenly during the weighing process, and kept unchanged even by adding the substance weight.

The balance crashed due to static electricity interference, To shut down and restart it. If it is happened frequently, please contact our company for the solution.

Thirteen.“ no Cou “ appears during counting process.

A single substance weight for counting purposes is less than 2d (d is a actual division value which is also a minim readings on display)

Fourteen.“no PEA “ appears during percentage process.

The substance sample weight for percentage measuring is less than 200d (d is a actual division value which is also a minim readings on display). It has to be greater than 200d so as to carry out the percentage function normally .

Fifteen. The balance with RS232C serial communication automatically shut down or the data on display as well as screen are all flashing at the same time.

RS232 serial communication chip (MAX232) on main board damaged. To replace it with new one.

Sixteen. The printer can not print out by pressing PRT after the balance with RS232Cserial communication feature connected to the printer.

1. Setup error for print output. Among the balance mode functions, to setup data output mode as manual print mode.
2. Printing connection line disconnected. Check up connection line plug, to open the plug and check it, if necessary.
3. “print “ button damaged. To replace it with new one.

The content related to this instruction book could be changed due to the production upgrade, and should take the real product as the criterion if there are differences comes out or consult with us. We expect your forgiveness with non prior notification from us.