Instruction Manual
USS-DBS series
Digital Analytical Balance Scale

Thank you for choosing our electronic balance scale.

Outline

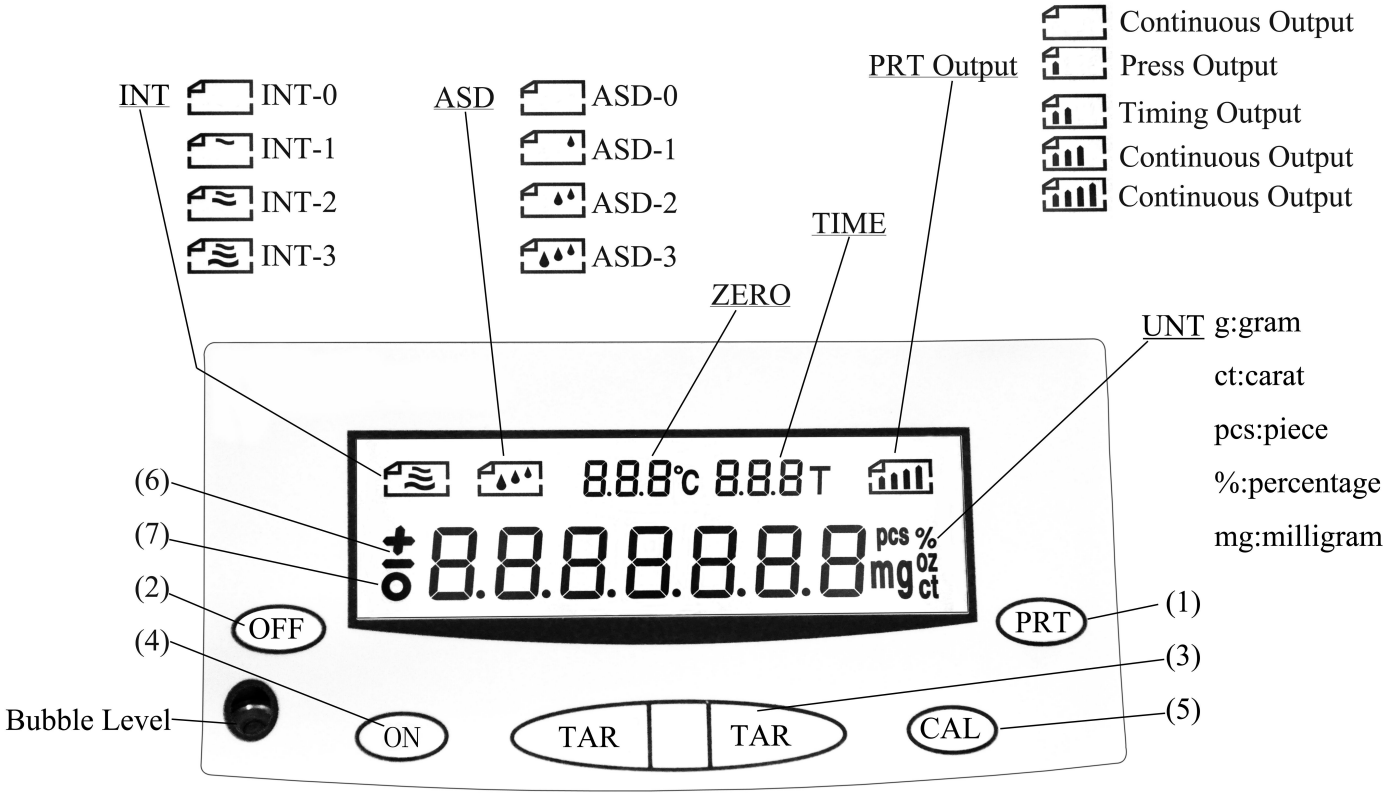
Thank you for purchasing USS-DBS 0.1mg series electronic balance scale.

The USS-DBS 0.1mg models adopt high precision electromagnetic force balance sensor which makes the scales capable of fast and accurate weighing function and better reliability.

The USS-DBS 0.1mg series balance scales have multiple operation keys, which make it easier to use the scales.

To ensure that you can make full use of the performance of your USS-DBS 0.1mg series balance scales, please read this instruction manual carefully and use the balance scale correctly in accordance with the directions in the manual. When you have finished reading the manual, keep it in a safe place together with the balance so that you can refer to it at any time.

Function Keys



1. PRT key: for printing and menu.
2. OFF: Turn off key.
3. TAR: Tare key
4. ON: Turn on key.
5. CAL: Calibration key
6. “±” Symbol
7. Stability Symbol

Specifications

Model	USS-DBS4	USS-DBS5	USS-DBS6	USS-DBS7	USS-DBS8	USS-DBS9	USS-DBS10	USS-DBS11	USS-DBS12	USS-DBS13
Max.Capacity	100g	120g	160g	180g	200g	210g	220g	300g	310g	320g
Min.Capacity	10mg	10mg	10mg	10mg	10mg	10mg	10mg	10mg	10mg	10mg
Division	0.0001 g									
Verification Value	0.001 g									
Linearity	±0.0003 g									
Repeatability	±0.0002 g									
Accuracy Class	I (Chinese Standard)									
Max. Permissive Error(MPE)	0≤m≤50g, ±0.5 mg 50 g<m≤200 g, ±1.0mg m>200 g, ±1.5 mg									
Settling time	≤8 seconds									
Operating Temperature	17.5°C~22.5°C,fluctuation range<1°C/h									
Relative Humidity(RH)	50%~75%									
Pan Size	Φ80 mm									
Windshield (L*W*H)	225 mm * 220 mm * 265 mm(L*W*H)									
Dimensions (L*W*H)	340 mm * 215 mm * 350 mm(L*W*H)									
Net Weight	7.2 kg									
Power Supply	AC110 - 240V 50/60Hz DC 9 V-2.2A by using the universal adapter									

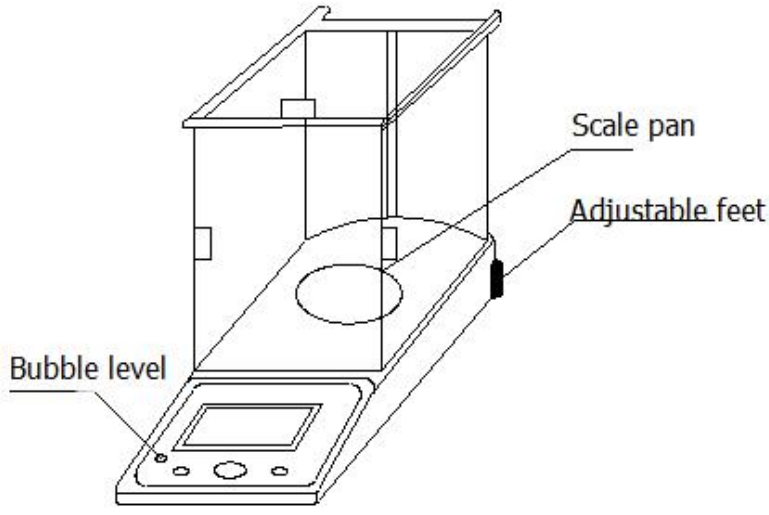
Setting

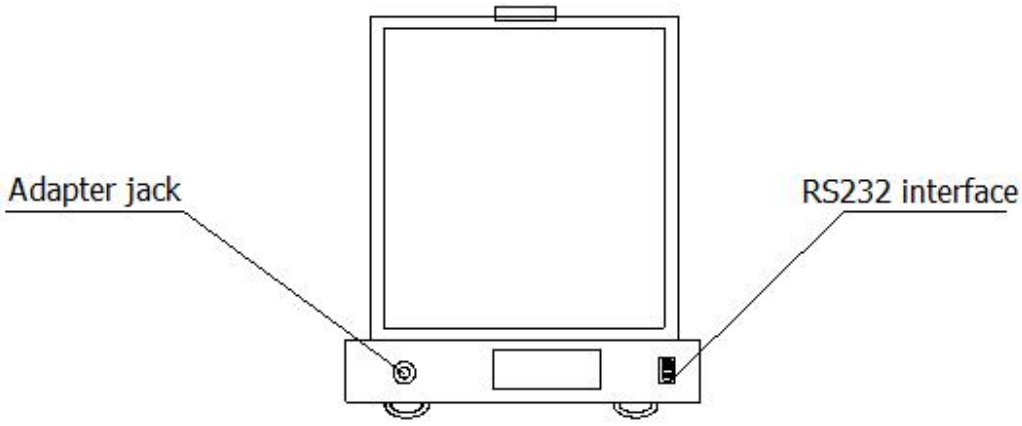
1. Assembling

Please open the packaging carefully and take out the balance scale and other articles gently. Keep the packing material so as to reuse.

Contents of the box:

1) Balance Body
2) Stainless Steel Pan
3) Power Wire(AC adapter)
4) Product Manual
5) Maintenance Card
6) Weight
7) Textile Protection.





2. Working condition

When USS-DBS 0.1mg series multi-functional electronic balance scale is used under routine test lab or Industrial measuring room, the weighing speed will be much quicker and the result more accurate. Below are the standards of working condition.

1) The working room should be clean and dry.
2) The balance scale should be placed on the steady, fixed table.
3) Better to place the table far away from the door and window in order to avoid the influence of airflow.
4) The table should be put at a place with less vibration such as the corners in the room.
5) The balance should be put far away from sunlight and radiation.
6) Put the balance far away from magnetism.

7) Don’t use the balance in dangerous place of explosion.
8) Don’t use the balance under the condition of high humidity and high dust for long.
9) When moving the scale from a colder place to a warmer place, the accuracy and reliability will be influenced by the moisture condensation inside. In order to eliminate this influence, it’s best to put the scale in the working place without power supply for 2 hours.
10) Avoid extremes of temperature. Do not place in direct sunlight or near air conditioning vents.Best temperature for the scale is 20°C-25°C with fluctuation less than 1°C/h.
11) Keep the balance scale clean. Do not stack stuff on the balance scale when not in use. .
12) Working voltage: AC110 - 240V 50/60Hz DC5V-2A by using the universal adapter.

Operating

A. Adjustment

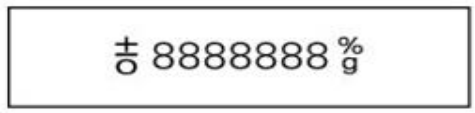
• Check the level meter before operation. If the bubble is not in the center, correct the adjustable feet to make the bubble in the center.

B. Start

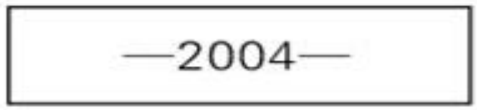
• Select an appropriate line voltage and set the voltage switch to the corresponding position.

• For best performance, let the balance scale warm up for 30-60 min. and calibrate it before using.

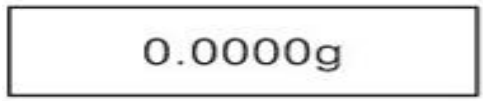
• Press the key “ON”, the display will light up.



Check the function of the display. About 2 seconds later, the model of the balance will be displayed. For example:

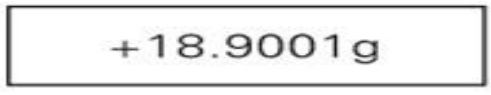


Then the weighing mode:

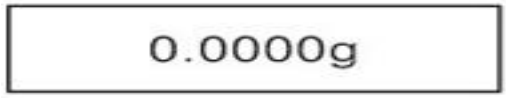


Press slightly the button “OFF”, the display will go out. If the balance will not be used for a long time, the power plug should be disconnected.

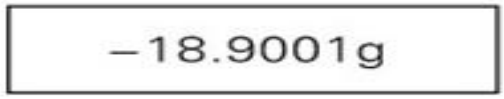
“TAR” Clear and Tare
Put the container on the pan, the weight of the container should be displayed.



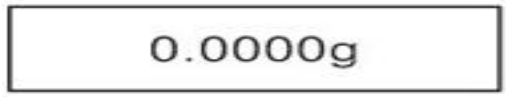
Press “TAR” button, the display will go out and the display will be all zeroes. Taring is completed:



When the container is removed, a negative value of the container weight will be displayed.



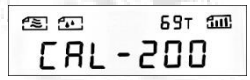
Press “TAR” again, the display will be all zeroes, i.e. the balance clears.



C: Calibration

1. Press “CAL”

The weight value will flash.



The calibration record is being output.

2. Place the calibration weight on the pan.

Open the glass door in the windshield, place the weight on the pan, and shut the glass door again. Wait until the flashing weight value display changes to “200.0000g”.

3. Take the weight off the pan.

Open the glass door in the windshield, remove the weight from the pan and shut the glass door again.

“0.0000g” will show up and the balance will return to the weighing mode.

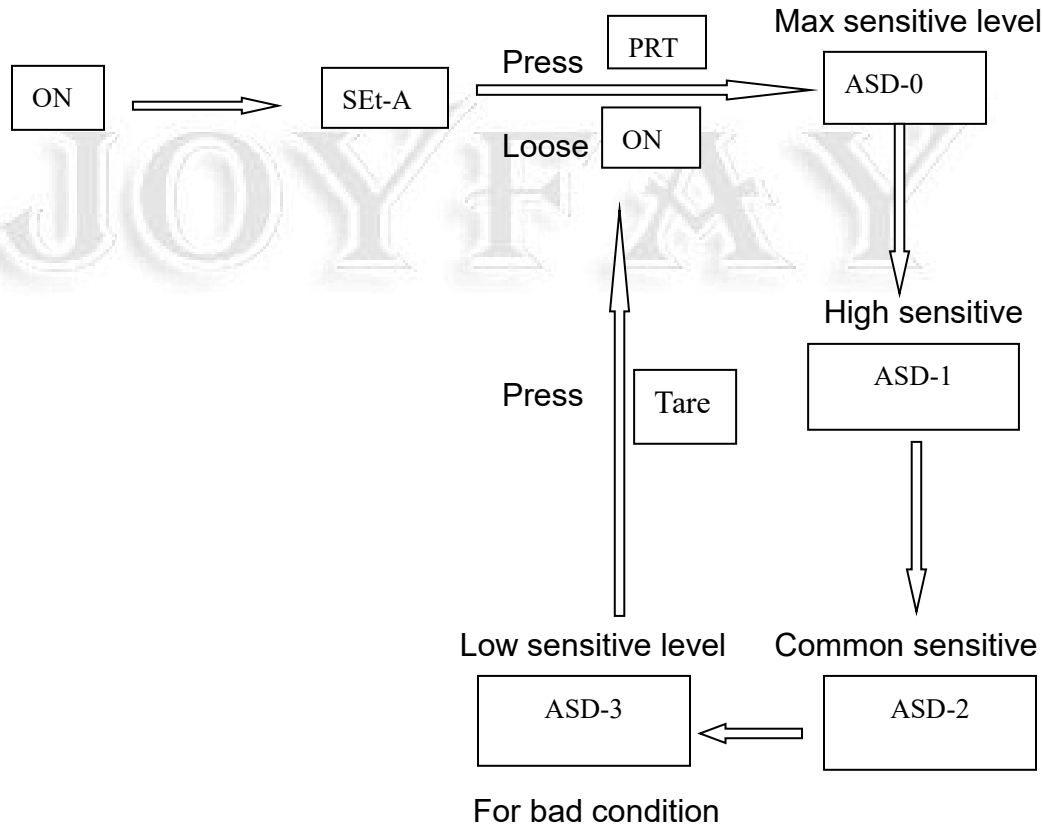
Standard Weight

Choose standard weight as requirement according to different types.

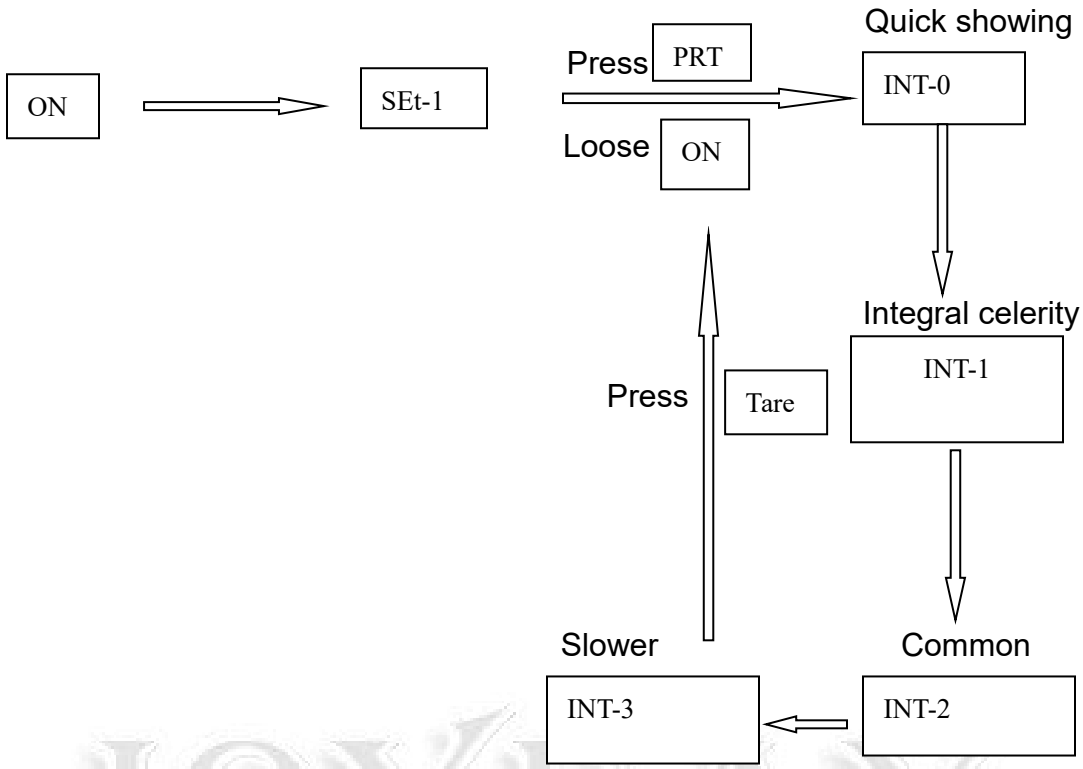
Model	Standard weight
USS-DBS4 USS- DBS5 USS-DBS6 USS- DBS7	100g
USS-DBS8 USS- DBS9 USS-DBS10 USS-DBS11	200g

USS-DBS series balance should be warmed up for 0.5 - 1 hour

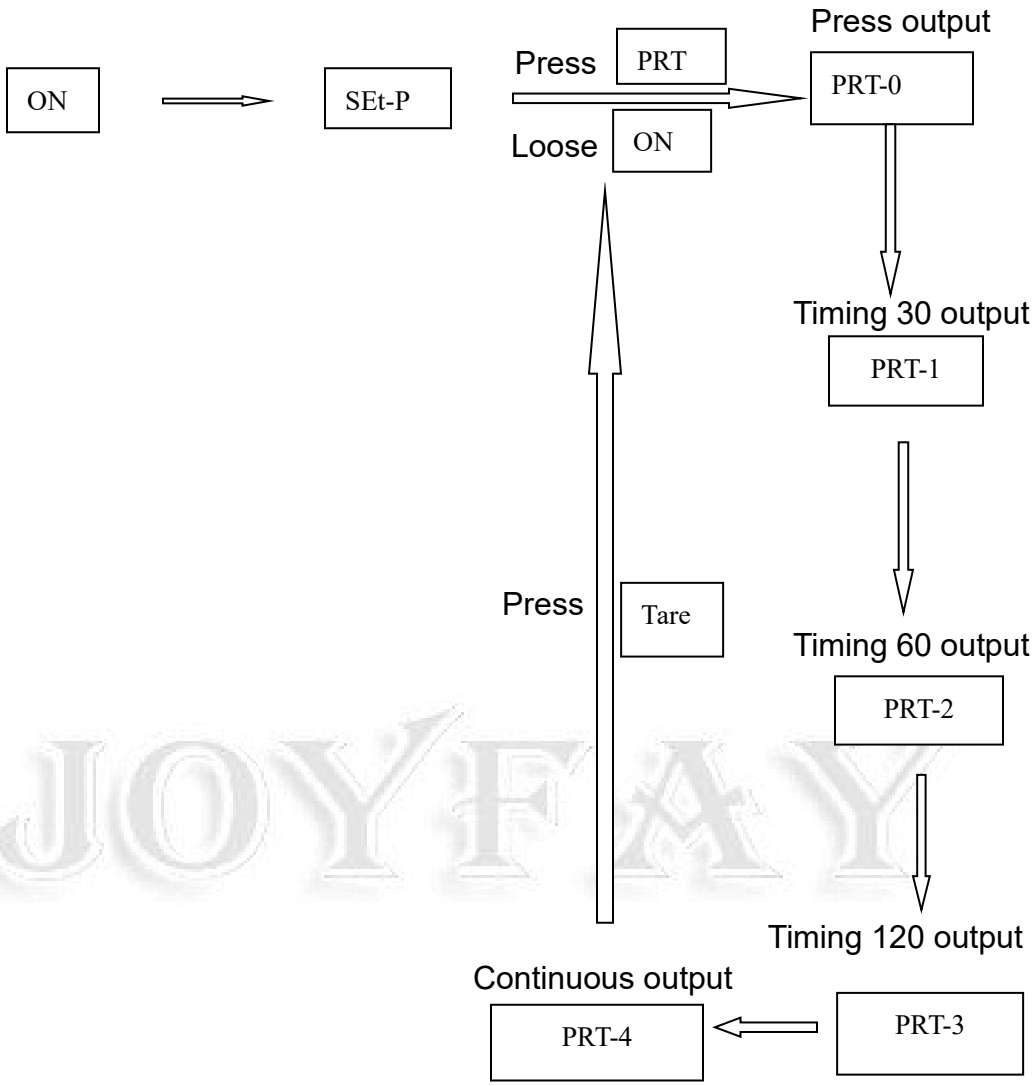
Sensitive Setting



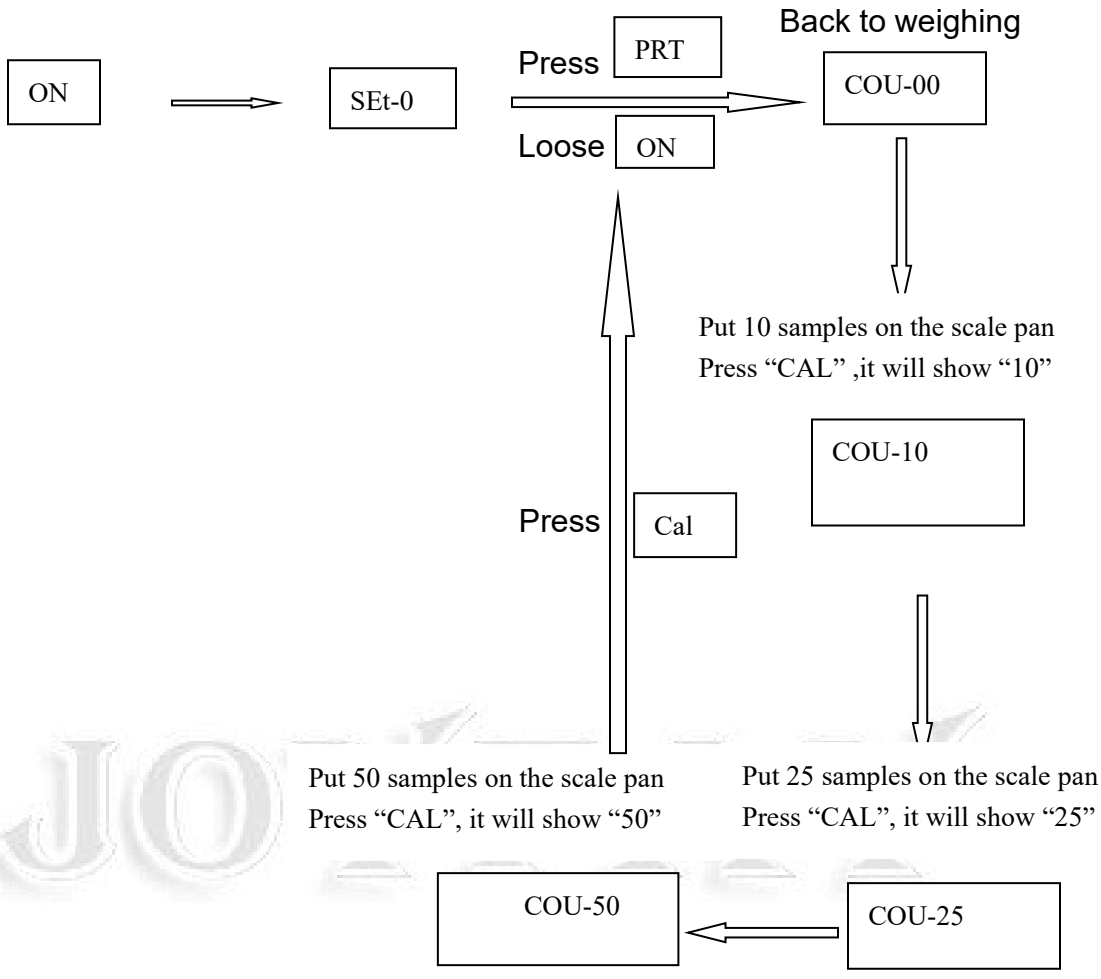
Speed Setting



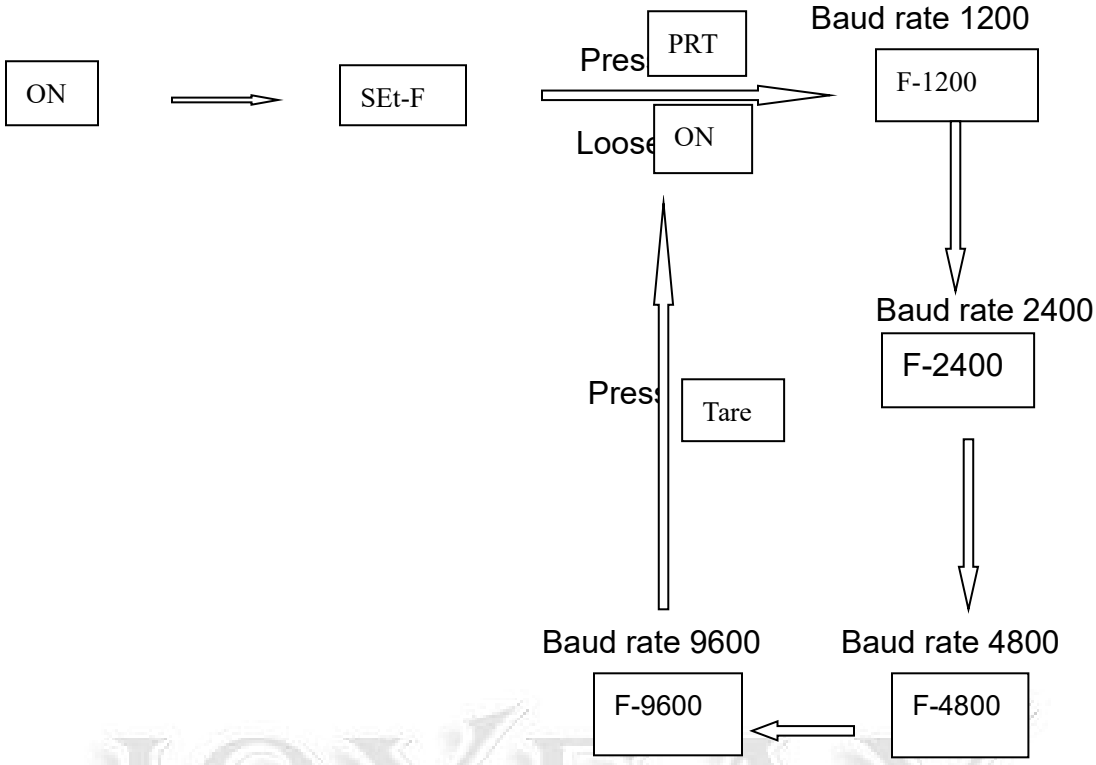
Output setting



Counting


ON
SEt-0
Press
PRT
Loose
ON
Back to weighing
COU-00
Put 10 samples on the scale pan
Press “CAL” ,it will show “10”
COU-10
Press
Cal
Put 50 samples on the scale pan
Press “CAL”, it will show “50”
Put 25 samples on the scale pan
Press “CAL”, it will show “25”
COU-50
COU-25

Output interface



Interface

A) To meet customers' needs, RS-232C interface is installed on to the scale.

Ways of connection:

Scale (nine cores) Micro-kit (nine cores)

RXD (Input) 2…… 3

TXD (Output) 3…… 2

GND (Earth) 5……5

B). (1) Default Baud rate of connection orifice is 1200bps.

(2) Data format: 10 bits, 0 as start bit, 1 as stop bit, 8 digits (ASCII code)

(3) No odd and even numbers adjusting.

C). Data output: Default continuous output.

According to the manual, the output mode can be changed. PRT-0 is for “press output”, PRT-1, PRT-2, PRT-3 is for “timing output”, PRT-4 is for continuous output.

D). Output data format.

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

Trouble shooting and solutions

Malfunction	Cause	Elimination
No Display	No power supply;	Plug in the adapter.
	Something wrong with fuse;	Change the fuse;
	Power transformer is broken;	Change the power transformer;
Unstable Display	Bad Working Condition;	Improve the working condition, avoid vibration and airflow.
	Windshield is open.	Close the windshield.
	Something between the scale pan and working table.	Take out foreign object.
	The power exceeds its permissible value and is unstable	Connect AC 110 -240 V Power supply.
	Unstable goods(moisture evaporation)	Change scale.
Difference between displayed value and actual value	The scale hasn’t been calibrated.	Calibration
	Not return to zero	Tare
	Not on a flat surface.	Adjust level.

Maintenance

USS-DBS 0.1mg series multi-functional electronic balance scale is an exact intelligent measuring instrument and needs maintenance.

1) Press the keys with hands other than sharp objects (such as pencils and ball-point pen);

2) Don’t let the goods fall from high to the scale pan.

3) Don’t expose the scale under high humidity and high dust.

4) Cover the scale with hood after use.

5) Keep the scale clean and dry.

Tips

Before cleaning, pull out the power supply;

Don’t use caustic cleanser (such as solvent).

Add some neutral detergent to a gentle cloth to clean the scale.

Don’t drop the water into the scale.

Dry the scale after cleaning.

Components

Serial No.	Content	No.
1	Main scale	1
2	Scale pan	1
3	Adapter	1
4	Product manual	1
5	Calibrated weight	1
6	Cleaning cloth	1

Appendix

The scale connecting to the computer:

1. Press “start"--- -Process----Attachment ----Communication----Super terminal
2. Input the name; choose the icon, then press confirmation.
3. Ignore the first two steps,, choose “N”: com 1”, press confirmation.
4. Choose:

    (1) Baud rate: 1200 (or 2400 according to the manual);

    (2) Data bit: 8

    (3) Check out of odd and even: No

    (4) Stop bit: 1

    (5) Control of the data flow: hardware

Press confirmation and it will show the measuring value on the computer.

Contact

Feel free to visit our website www.ussolid.com.

You can email us at service@ussolid.com.

You can call one of our friendly customer service representative at

+1(800) 209-4177.