

# High Precision Balances

**iBalance 601**

**iBalance M01**

**(LED Display)**




## Operation Manual




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NOTE: The display will show “ERR 1” if the weight placed on the pan is incorrect.




#### **XIV. Weight response speed**



Press and hold the  key (do not release) and power the scale on. Wait until the display shows "nb0", "nb1", "nb2", or "nb3", or "nb4", or "nb5", or "nb6", or "nb7". You can now release the  key. Press the  key to select your response speed.

Press the  key to confirm it. And you will go to select outer division. The display will show "d xxx"(xxx: current division). You can press  key to select it, and press  key to confirm.

After that the scale will return to the normal weighing mode.

#### **XV. Select the range of zero track and zero display**

Press and hold the  key (do not release) and power the scale on. Wait until the display shows "0.5d. 1.0d. 1.5d. 2.0d 3.0d". Press the  key to select the range of zero tracking and press  to confirm it.

The display will then show "ZEr-S" or "ZEr-L" press the  key to select the zero display range. (ZEr-S means 0d and ZEr-L means  $\pm 3.0d$ ) Press the  key to confirm.

To select the baud rate press the  key to change the baud rate, you can choose between 1200, 2400, 4800 and 9600. Press the  Key to confirm.

#### **I. Attention Notes**

To enable you to use this scale precisely, we suggest you to

read these instructions carefully before operation.

1. Do not get the scale wet. If it gets wet, please wipe it with a dry cloth. If damage occurs due to water it will void your warranty.
2. Do not drop or shock the scale and do not drop any item onto the scale or tray. It may cause permanent damage. Only operate the scale gently and place items on the tray gently. Overloading the balance will damage the weighing sensor.
3. Extreme temperature/humidity fluctuations, shocks and vibrations should be avoided at all times.
4. If the scale will not be used for a long time, please remove or unplug the battery, clean the scale and store in a non-static polybag. A desiccant is suggested to be included.
5. Matter charged with static electricity can affect accuracy. Discharge all static electricity. For example, one method is to use Static-Guard spray, and spray it on both sides of the weighing platform.


#### **II. Transport Protection**

Before the initial use, please refer to the included drawings to remove the protection screw. Please re-install the protection screw before transport to help avoid possible damage.

#### **III. Precautions Before Using the Balance**

1. The balance must be in an exactly horizontal position in

order to achieve accurate measurement results.

2. Please use an independent power outlet to avoid interference by other electrical appliances.
3. In order to bring the balance into a horizontal position, the adjustable feet are turned either clockwise or counter-clockwise until the air bubble is in the center of the marked circle.
4. Don't put any object on scale before powering on.
5. When possible please allow the scale to warm up for several minutes before operation.
6. Items should always be placed on the center of the platform when being weighed.
7. When the display shows  on the screen this indicates the battery needs to be recharged.
8. Operating temperature range : 0°C~ 40°C
9. For optimum accuracy, recalibrate before each use.

#### IV. Specification

model	iBalance601	iBalanceM01
Maximum capacity	600g	1000g
Display scale interval (d )	0.01g	0.01g
Pan size	Ø116mm	Ø116mm
Power source	Rechargeable battery 6V/1.3Ah or 8.5V 0.2A AC/DC adaptor	

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CR= OA (HEX) ; OD (HEX)

#### Transmission example


1. Ex. : stable net + 0.168 g  
 HEAD , HEAD , DATA UNIT CR  
 ST , NT , + 0.168 g OA, OD

#### XI. Power Supply and Recharging the battery

##### Alternative Power Supplies

1. DC 6V/1.3Ah rechargeable sealed lead-acid battery.
2. 8.5V / 0.2A AC/DC power adaptor.






##### Low voltage indication

When the  symbol shows on the display this indicates the battery needs to be recharged. The balance will automatically shut off when power voltage goes down to 5.2V ± 0.15V. Low voltage may also cause inaccuracy or instability.

#### XII. Options

RS-232 interface

#### XIII. Calibration

1. Press and hold  key to power on, then release this key when the LCD show "CAL".
2. Press  key again, it show "00000", this is where you would input the calibration weight you are going to use to calibrate (500 grams is recommended). Use the  Key to cycle through the 6 zeros shown on the screen and use the  key on the selected digit to adjust selected digit. To calibrate a the recommended 500 grams the screen must read "000500" once this is set place the 500 gram calibration weight on the tray.
3. Wait for 3 seconds, then press  to finish calibration.

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readings.

## X. Data transmission – series RS-232 interface

(only for communication )

1. iBalance 0232C's UART signal

2. Format

(1) Baud rate : 1200 bps 2400 bps 4800 bps 9600 bps

(2) Data bits : 8 bits

(3) Parity bit : none

(4) Stop bit : 1 bit

(5) Code ASCII

DATA FORMAT:

HEAD1,	HEAD2,	DATA	UNIT	CR
1 2 3 4 5 6	7 8 9 10 11 12	13 14	15 16 17 18	19 20

HEAD1 (2BYTES)

HEAD2 (2BYTES)

**OL** - overload

**NT** – net weight mode

**ST** – stable

**US** - unstable

DATA(8BYTE)

2D (HEX) = “- ”(negative sign) 20 (HEX) =“ ”(blank)

2E (HEX) =“.”(decimal point)

UNIT (4 byte)

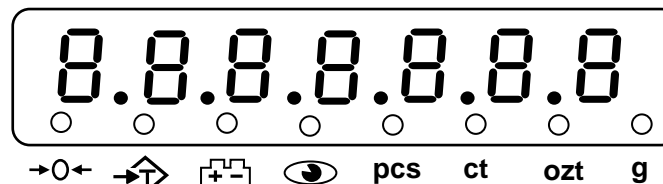
g = 20 (HEX) ; 20 (HEX) ; 20 (HEX) ; 67 (HEX)

kg= 20 (HEX) ; 20 (HEX) ; 6B (HEX) ; 67 (HEX)

ct= 20 (HEX) ; 20 (HEX) ; 63 (HEX) ; 74 (HEX)

ozt= 20 (HEX) ; 6F (HEX) ; 7A (HEX) ; 74 (HEX)

## V. Explanation of display symbols



### Explanation Of Display Symbols

- **→0←** : Scale is in ZERO mode.
- **→T←** : Scale is in TARE mode.
- **+** **-** : Scale needs recharging once this battery appear.
- **👁** : The display reading is in STABLE condition.
- **pcs** : Scale is in COUNT mode.
- **ct** : The unit is ct.
- **ozt** : The unit is ozt.
- **g** : The unit is g.
- **In charge** : Scale is in the process of recharge.

## VI. Keypad functions


: ON/OFF power switch.

: For weight unit (g , ozt & ct ) selection.

: This key is used for sampling & counting.




: This key is used to deduct the weight of an Item or

container. Press tare again to exit the tare mode (when empty), then the tare indication will disappear.

 : Zero key, press this key to return the display to zero if a small weight reading is left while unloaded/empty.

## VII. Counting function


### Sampling

1. Press  key, the display will show "10 Cnr" (means sample size is 10 pcs)
2. Press the  key again and again, 10、 20、 50、 100 pcs will appear in succession. Stop at the one you want to use.
3. Put the exact quantity of samples as desired on the pan and press , the determined sample size will be shown.
4. Keep adding objects to be counted on the pan, the total number of the objects will be displayed.


※ If the unit weight is too small for the counting resolution, " Err" will be shown.



## VIII. Operations

### Weight units

Press  key to choose the preset weight units **g** , **ct** & **ozt**.


### Tare function

Put a container on the pan and press  when the display reading is stable. The tare weight will be stored into memory

and display will be brought to zero. "  " indication in the display will appear. The weight will be displayed as net weight. To cancel the tare mode, press  when no load on the weighing pan.

※Tare range : Up to balance's maximum capacity.

### Zero function

Press  key to return the display to the center of zero if the zero Shifts during operation.



※ Zero range :  $\pm 5\%$  of max. capacity

## IX. Error messages

When the display shows " - - - - - " it means that the balance is overloaded. Please remove the object from the pan immediately so as to avoid damage to the load sensor inside the balance.

### \*\*SPECIAL WARNING\*\*

Cell-Phones, Cordless-Phones, and any radio-frequency device can cause temporary interference and cause the scale to temporarily not work properly. Please do not use any electronic device near the i101. Just like in an Airplane, do not use your cell-phone near the scale when it is in use. While there is NO risk of permanent damage to the scale, interference can cause an incorrect calibration or incorrect weight

You can choose the communication method by pressing the  key to rotate/revolve (Co: send in succession: st: send steadily) press the  for confirmation.

The scale should now return to the normal weighing mode.