


## I. BEFORE USING THE SCALE

To enable you to use this scale correctly, we suggest you read this manual carefully.

1. Do not use scale in areas with excessive water and don't spray the scale or indicator with water when cleaning. Erase all water from the scale and indicator with a clean dry duster cloth.
2. Load placed on platter must not exceed the maximum weighing capacity of the scale.
3. Keep the scale away from high temperature and damp conditions.
4. If the scale is not going to be used for some time, please clean and store it in a plastic bag under dry condition. A desiccant sachet is suggested to be included to prevent moisture build up. In addition, the internal rechargeable battery should be recharged very three months.
5. Before using the scale after a long period of storage, please ensure that the internal battery is fully charged. **Note** : Care should be taken not to leave the internal battery on charge for too long, as this may decrease life of battery.

## II. PREPARING TO USE THE SCALE

1. Put the scale on a firm level surface from vibrations for accurate weight readings.
2. Adjust the four leveling feet to set the level of scale platform.
3. Avoid operating the scale in direct sunlight or drafts of any kind.
4. Take away any weight that might be on the platform before the scale is switched on.
5. Once the scale has been switched on, it will go through a LCD display test and then re-zero to be ready for use.
6. Please note when  displays on the screen, the rechargeable battery needs to be charged.
7. All goods weighed should be placed in the centre of platform for accurate weighing. The footprint of the goods being weighed should not overstep the edges of platform.

## III. INTRODUCTION

### A. FEATURES

1. ABS plastic or Stainless steel house case selectable
2. Dual-weighing units: Kilogram (kg) and pound (lb).
3. Working temperature: -5°C~40°C.
4. User-friendly design:
  - ◇ IP 65 waterproof protection design.
  - ◇ Auto calibration
  - ◇ Simple Counting function.
  - ◇ AC / DC power supply
  - ◇ Large LCD display with wide angle, Auto backlight function
  - ◇ Auto power-off design to ensure the performance stability
5. Variable calibration settings depending on the different calibration division.
  - ◇ Standard division (under 10,000 internal resolution): Capacity and weight calibrations are available for accurate weighing.
  - ◇ High precision division (over 10,000 to 40,000 internal resolution): Linearity, capacity and weight calibrations are available for accurate weighing.

6. Options

- ✧ RS-232 & RS-485 interface
- ✧ Print-out interface


7. High performance in A/D converter

- ✧ Conversion speed: up to 40 times / second
- ✧ Internal resolution: 400,000
- ✧ External resolution: 1/1000 ~ 1/15000
- ✧ Non-linearity: < 0.016% of full scale
- ✧ Input range of load cell: 0 ~ 20 mv
- ✧ Load cell excitation: + DC5V
- ✧ Load cell drive capacity: up to 4 350Ω or 1000Ω load cell

**B. POWER SUPPLY**


1. Rechargeable battery: DC 6V / 4Ah
2. Power source: 110~220V / 500mA

**C. LOW BATTERY WARNING**


Please note when  symbol is displayed on the display , the internal battery needs to be recharged.

- ☆ The scale will power off automatically without recharging after the low battery symbol shows upon for 20 to 30 hours on the display. As a recommendation, the scale should be fully recharged before using the scale again.


**IV. LCD DISPLAY SYMBOLS**

 : 'Zero' indication.


 : 'Battery' indication

 : 'Tare Weight' indication

**HL** : 'HL' unit

 : 'Net weight' indication

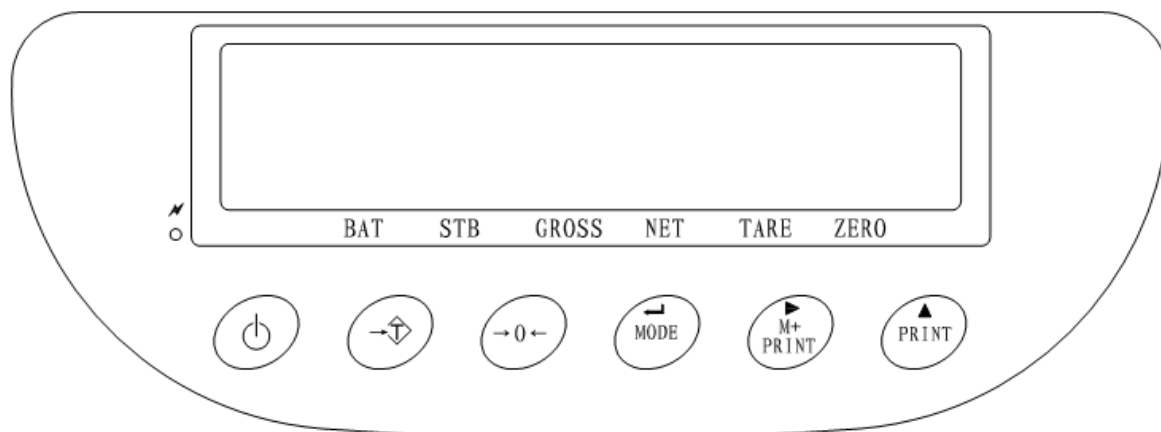
**OZ** : 'oz' unit

 : 'Gross Weight' indication

**lb** : 'lb' unit









 : 'Stable' indication

**kg** : 'kg' unit



### Front panel Keyboard


## V. KEYBOARD FUNCTION

1.  : Turn On / Off. The scale will be turned on when pressing the key. Press and hold the key for 1.5 seconds, the battery capacity percentage “ bpt XX ” will show on the screen, then the scale will power off.
2.  : Deduct the container weight. Press this key to deduct container weight and net weight will display.
3.  : To re-zero the scale. Range of re-zero is  $\pm 2\%$  of full scale.
4.  : For weight units switching / selecting the backlight mode.
  - (1) Press the key to choose the desired Weight units (Kg-Lb).
  - (2) Press and hold it for 1.5 second to turn on/off backlight.
5.  : Press this key to print out the current weight. Press  to clear the current weight
6.  : For printing out the accumulative weight. All the printed weight will be added up and print out accumulatively by pressing this key. Accumulative time and weight will display on the screen for 1.5 second respectively. Press  to clear accumulative weight and time.

## VI. GENERAL FUNCTION

### 6.1. SETTING OF AUTOMATIC POWER OFF

Plug the circuit breaker JP1 into ‘off’, and the following operation can be performed:

*Step1:* Press and hold  for 1.5 second, the screen will display “OFF XX”.

“XX” refers to preset shut down time. There are five choices for preset shut down time: 3, 10, 15, 30

and 0. Choices 3, 10, 15, 30 denote respectively that the scale will power off automatically if there is no changes on weighing value and no operation on keyboard in 3mins, 10mins, 15mins and 30mins. Choice of 0 denotes that automatic power off function is not available.

Step 2: Press  to select then press  to confirm the selected preset time.

## 6.2 BUZZER ON / OFF SETTING

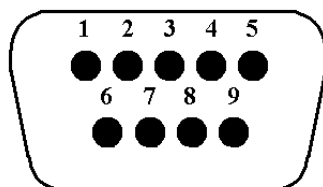
After setting the function of automatic power off, the indicator will display “bp On” or “bp Off”.

Press  to select “On” or “Off” to turn on/off the buzzer. Non-buzzing mode will help decreasing power consumption.

## 6.3 CONNECTION OF INTERFACE

(Please specify in the order if needed)

RS-232 serial interface is a D-SUB-9 needle slot as figure 2 shows:



2: Pin RXD  
3: Pin TXD 1  
5: Pin GND  
9: Pin TXD 2

Diagram of RS-232 slot

## 6.4. MEANS OF POWER SUPPLY

### A. RECHARGEABLE BATTERY

The rechargeable battery is 6V/4.5Ah. The end of red line is positive pole, while the end of black line is negative pole. Connect the wiring terminals and tighten the screw up to fix battery well. The rechargeable battery should be charged through adapter by plugging the adapter into power supply to achieve automatic charge.

### B. AC/DC ADAPTER

Insert DC plug of the adapter, whose specification is 12V/500mA, into a DC socket, insert the other end into relevant AC socket and connect to power supply.

In case there is no AC supply and dry battery is used as substitute, do remember to pull out DC plug of the adapter, otherwise the indicator will fail to work.


## VII. GENERAL OPERATION

### 7.1 Turn on the scale.

Press  to turn on the balance. Then it does the self-test until “  ” displays. **Note:** When possible please allow the balance to warm up for several minutes before operation.





## 7.2 Start to weigh


7.3.1 If you do not use a container for weighing.

Verify the reading is “0.00kg”. If not, wait for the stability indicator to be displayed press  to display “0.00kg”.


Place objects on the weighing platform to weigh. When the reading becomes stable, the “O” is displayed.



7.3.2 If you use a container for weighing.


Place an empty container on the platform. Press  when the reading is stable. The tare weight will be stored into memory and display again when pressing . “” & “” will appear in screen. The weight will be displayed as net weight.



Pres  to cancel the Tare mode.

## 7.4 Simple Counting function



(If you want to do counting with one container, Press  to set the display to “0.00”.)

*Step 1:* In weighing mode, press  and “Count” appears in the screen. Press  to set the sample size.









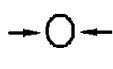
\* If do wrong operation, press  to exit to Weighing mode when “Count” displays in the screen.

*Step 2:* Press  to select the sample size. (The Sample size should be a whole number: 10, 20, 50, and 100pcs). Press  to confirm and enter Count Mode. Place the Item, reading will show the total number of item.

**Note:** Press  to exit Count Mode to Weighing Mode.

In weighing mode, press  and shows “Count”, then press  to enter Count Mode again. The sample size is same as the last operation. But if the scale is turn off and restart again, you should need to set the sample size again.




## VIII. CALIBRATION

1. Open up the outer case of indicator before calibrate, plug the circuit breaker JP1 into 'on' .
2. Press and hold  for 1.5 second, indicator will display 'CAL SP'.
3. Press  to enter calibration mode, 'CAL 00' which denotes that there is nothing being weighed on the scale will display on the screen.
4. Press  to enter mode of automatic zero correction and '- - - - -' will display. After few Seconds, the previous weight will show on the screen.
5. Load weight on the scale, say weight of 20kg. After stable indication  displays, press  to select digit position ( the selected digit position will blink). Digit position will carry forward to the right side when pressing  every time. Press  to set the digit among 0~9. Repeat the above operation till '20.00' is displayed, then press  to confirm.
6. '- - - - -' will display on the screen automatically after finished the operation as Point 4 describe, indicating the scale enter into calibration and weighing mode.
7. If '20kg' displays on the screen, it denotes the consistency with weigh value; in case of none consistency, please recalibrate again.
8. Offload the weight, reading '0.00kg' will display and  will show denoting there is nothing being weighted on the scale.
9. The scale will return to weighing mode after calibration is finished. Do remember to plug the circuit breaker into 'off' position.

## IX. CONFIGURATION SETTINGS

Please open up the outer case of indicator before calibrate, plug the circuit breaker JP1 into 'on'.

### Step 1: Enter Setup

Press and hold  until 'CAL SP' display on the screen. Press  to enter into setup mode and 'SET' will display. Press  to enter menu.

### Step 2: Division


Either 'd1 X.XXX' or 'd2 X.XXX' will display.


'd1' is the division for single range display. (from 0.0001~50)


'd2' is the smaller division for the dual range display. (form 0.0001~50)

Example: For a 60kg scale, if 'd1' is set to 0.02kg, the scale will show a division of 0.02kg among 0kg~60kg.

If 'd2' is set to 0.005kg, the scale will show a division of 0.005kg from 0~30kg and show a division of 0.01kg among 30~60kg.

Press  to switch between 'd1' and 'd2'.

Press  to change division.

Press  to confirm and enter into the next step.

Note: If 'd1' is set, the scale will only be in single range display mode and 'd2' will be ignored.

If 'd2' is set, the scale will only be in dual range display mode and 'd1' will be ignored.

Please refer to Table 1 for division values of 'd1' and 'd2'.

### Step 3: Display Resolution


'n XXX.XX' will display on screen. The value shown is the display resolution.


Display resolution = (division) kg/ (full capacity) kg

For dual range display, please refer to Tale 1 for value of 'n'.

Ignore the decimal point shown and take the value as a whole number.

Example: tale 'n 060.00' as 6000, take 'n 120.00' as 12000.

Press  to change the value of the selected digit.

Press  to confirm value and enter in to the next step.

**Note: Please calibrate the scale again after changing 'Division' and 'Display Resolution' settings.**


### Step 4: Zero range / Zero tracking / Weigh Unit setup



'Ut ABXY' will display.


A: Zero range when power on, 1~9 mean 10%~90% FS to zero, 0 mean not to zero

B: Zero tracking range, 1~9 means 1~9 x 0.3d for tracking range.

X: Basic unit. It display basic and default unit after indicator is power on.


Y: Second unit. It means you can change unit between Basic units to Second unit by pressing .  
(Note: when XY : 00= kg, 10 = kg-lb, 11 = lb, 22=OZ)


Press  to change basic unit and press  to change secondary unit.

Press  to confirm and enter in to the next step..

### Step 5: Baud Rate


'b XXXX' will display on screen. The value shown is the baud rate.


Press  to switch between baud rate of 1200, 2400, 4800 and 9600.


Press  to confirm.



### Step 6: Serial Printout Port Configuration

'Ads XX' will display on screen. XX values decide the print mode.


Press  to select digit position of X.

Press  to change the value of the selected digit.

Press  to confirm and return to normal weighing mode.

1. XX=99: Indicator will not send out weight data unless when  or  is pressed in normal weighing mode.
2. XX=01~98: Indicator will send out data after received command.
3. XX=00: Indicator will send out continuous date automatically reach to 10 times per second.

### Step 7: Automatic Backlight

'bAn X' will display. Press  to change value of 'X'. It is 0, 1, 2, and 3.

X = 0: Non-backlight. Backlight function is off.

X = 1: Manual backlight. Press and hold  for 1.5 second to turn on/off the backlight.

X = 2: Automatic backlight, Mode 1. The backlight will on automatically when weight load on the scale, and will off after unload the weight.

X = 3: Automatic backlight, Mode 2. The backlight will on automatically when weight load on the scale, and will off after 10 seconds.

### Step 8: Weight response speed Filtering setting

"bUF AB" will display on screen.



**A:** It means the response speed when weighing.

Speeder increases by number. “0” is the slowest, “3” is fastest.

**B:** It means filter strength when weighing.

Strength increases by number. “0” is minimum, “3” is maximum.

Press  &  to change value and press  to confirm and enter in to the next step.

### Step 9: Animal weighing setting

“Flt X” will display on screen.


There are 5 degrees of weighing mode. X=0 is normal mode without animal lock time. X=1~5 is animal weighing mode, it will reading fast and stable with different time.

Press  &  to change value. press  confirm and enter in to the next step.

### Step 10: Auto shut down setting

“PLO XX” will display. It means scales will shut down when the rechargeable battery capacity is under preset percent value. It is 10%, 20%, and 30% for choose. Default value is XX=10.

Press  &  to change value.

Press  to confirm and enter in to the next step.

### Step 11: Configuration is done

Plug the circuit breaker JP1 into ‘off’.

## X. ERROR SIGNAL

There will shows error signal when the scale have some problem.

**Error 1:** means calibration isn’t workable, weight is too light or division is too high.

**Error 2:** means wrong zero, check the load cell if it is damaged.

**Error 3:** means displayed value exceeds display range after unit change.

--- **H**---: means overload, loaded weight exceed the full range.

## XI. Warranty

We guarantee one-year of free maintenance since the date of purchase for any non-manmade faults in normal working conditions. For maintenance, please send the equipment with the guarantee card to our sales service.

**Attention:** we are always improving the machine, there is not pre-notice if there are something different comparing with the precious ones.

