

Weighing Indicator

Operation Instruction (LCD display)



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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 “” display on window, the internal 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. Multiple weighing units: kg , lb, oz, ct(Hong Kong use only)
2. Working temperature: 0°C~40°C.
3. User-friendly design:
 - ✧ Auto calibration
 - ✧ AC / DC power supply
 - ✧ LCD display with auto backlight function
 - ✧ Brightness control of backlight.
 - ✧ Auto power-off design to ensure the performance stability
 - ✧ Check-weighing function, HI / LO / OK annunciate & alert buzz.
 - ✧ Simple counting function.
4. Variable calibration settings depending on the different calibration division.
 - ✧ Standard division (under 10,000 internal resolutions): Capacity and weight calibrations are available

for accurate weighing.

- ◇ High precision division (over 10,000 to 40,000 internal resolutions): Linearity, capacity and weight calibrations are available for accurate weighing.

◇

5. Options

- ◇ RS-232 interface

6. High performance in A/D converter

- ◇ Conversion speed: up to 10 times / second
- ◇ Internal resolution: 400,000
- ◇ External resolution: 1/1000 ~ 1/15000
- ◇ Non-linearity: < 0.016% of full scale
- ◇ Input range of load cell: 1.0 ~ 3.0mv / v
- ◇ Load cell excitation: + DC5V
- ◇ Load cell drive capacity: up to 4 350Ω or 1000Ω load cell

7. External dimension: 210 x 140 x 88mm

8. Gross weight: 1kg

B. POWER SUPPLY

1. Internal Rechargeable battery: DC 6V / 1.2Ah.
2. Adapter power: AC 100~220V, 50Hz / DC 12V, 500mA.
3. Dry battery

C. LOW BATTERY WARNING

Please note when  symbol is displayed on the window, 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

lb

: 'lb' unit



: 'Net weight' indication

kg

: 'kg' unit

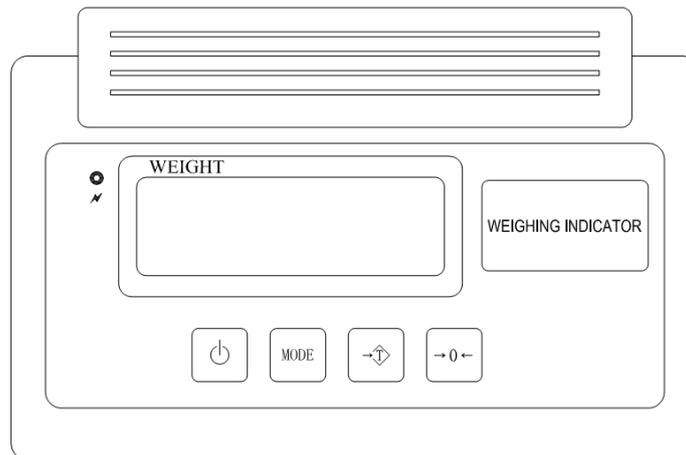


: 'Gross Weight' indication



: 'Stable' indication

V. KEYBOARD FUNCTION



FRONT PANEL

1.  : Turn on / off. The indicator will be turned on when pressing the key. Press and hold the key for 1.5 seconds, the battery charge percentage “ bPt - -” will show on the Screen, then the indicator will power off. When the Indicator is on, press key fast, it also shows “ bPt - -” about current capacity of battery.
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 weighing Unit convert in normal weighing mode. Press and hold it for 1.5 second to turn on/off backlight when in weighing mode.

VI. BASIC FUNCTION (In weighing mode)

The following operation can be performed when the scale is in weighing mode.

6.1. Setting off automatic power off

Press and hold  for 1.5 second, the screen displays “**OFF - -**”, “ - - ” refers to preset automatic shut down time. Preset time is from 0~60minutes. Press  to set time and press  to confirm.

* Default time is 00 minute.

6.2 Buzzer

After setting the function of automatic power off, the screen will display “**bP On**” or “**bP OFF**”.

Press  to select ‘On’ or ‘OFF’ to turn on/off the buzzer. Press  to confirm.

6.3 Backlight function

After setting the Buzzer function, the screen displays “**bAn X**”.

X= 0, means backlight function is off.

X= 1, means backlight turn on/off by manual. Press  to switch.

X= 2, means auto-backlight function Mode-1, when it turn on when weighing; then when it is zero, the backlight will be off.

X= 3, means auto-backlight function Mode-2, when loading, after 10 seconds, the backlight will be off.

Select a desire setting; it will save more battery power.

Press  to select the mode of backlight. Press  to confirm.

6.4 Setting of check weighing mode

After setting the function of backlight, the screen displays and shines “**X.XX HI**”.

The indicator has a check weighing function which allows scale to check weigh, making the set point weight quick and accurate.

- When display “**XXXX HI**”, “**XXXX**” means the Highest weight, if scale is over this weight, screen

will shows “**HI**” and alert buzzing. Set the point weight through pressing  & , then press  to confirm and next to set “**XXXX LO**”.

- When display “**X.XX LO**”, “**XXXX**” means the Lowest weight, if scale is under this weight,

screen will shows “**LO**” and alert buzzing. Same operation as above to set the point. Then press  to confirm the setting and next step.

For example: For one 150kg scale, desired weight is 100kg, deviation value is ± 0.1 kg.

Step 1: Press  &  to set 100.10kg, screen will display “ 100.10 HI”, then press  to conform and next to set lowest value.

Step 2: When it show “ XXXX LO”, same operation for setting a 99.90kg. Final, press  to finishing.

Step 3: After back to normal weighing, load the goods in scale, if over or under this two set point weight, the screen will display “ **HI** ” or “ **LO** ” and have a alert buzz to annunciate to user.

6.5 Setting of auto shutdown for low battery

After setting a check weighing function, it will display “ **PLO XX**”. “XX” means Percentage of battery capacity. When the capacity of battery is lower than the setting value, the indicator will be shutdown and need to be charged. It is very helpfully to increase the life of battery. Default is “20%”.

Press  &  select and press  to finish and back to normal weighing mode.

VII. COUNTING FUNCTION OPERATION

Attention: In counting mode, the indicator isn't allowed for weight unit switching function. The function must be set in “CONFIGURATION SETTINGS” (refer to Step 4)

This mode is used to indicate the number of pieces of an item that placed on the pan. To ensure accuracy, the parts that counted must be consistent in weight.

The scale uses a sampling method to determine the average pieces weight of the items that counted. For example, 30kg scale, sample weight is 200g, it is 100pcs sample units.

7.1 How to enter in Counting weighing mode.

Press  to switch between standard weighing mode and counting mode.

7.2 How to operation

Step 1: Place the sample items on the pan/container all at once.

Step 2: When the weight display stable with STB indication.

Step 3: Press  enter to Counting Mode. The screen displays “n **XXXXXX**”.

“ **XXXXXX**” means the number of items that placed in the pan. Press  for 2 seconds and the “n **XXXXXX**” will be shining.

Step 4: Press  &  to input the sample number, then press  to confirm.

Step 5: Upload the sample unit and place the item in the pan that need to be counted. The screen displays the total pieces of items. If need to set new sample, do same

operation as above again.

For example: said 30kg scale, sample weight is 200g, it is 100pcs sample units.

Step 1: Place the 200g sample unit in the pan.

Step 2: Press  enter counting mode and it displays “n XXXXX”.

Step 3: Press  &  to input the sample number, and it displays “n 00100”.

Step 4: Press  to confirm and upload the sample unit.

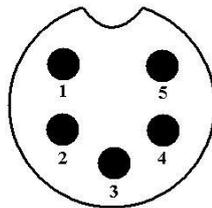
Step 5: Loading the weight, said to “400g”, the screen will be display “n 200”.

Step 6: Press  to exit and change to standard weighing mode.

VIII. CONNECTION OF INTERFACE

A. CONNECTION OF LOAD CELL SIGNAL WIRE

For better performance of the electronic scale, make sure to connect the 5 round pin plug to the 5 pin socket firmly and tighten the screw up. Please see figure 1:



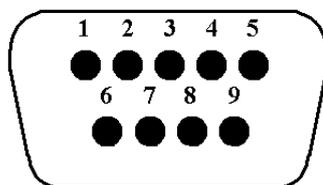
1: Pin +IN	+signal
2: Pin -IN	-signal
3: Pin AGND	shield
4: Pin +E, +S	+excitation, +feed back
5: Pin -E, +S	-excitation, -feed back

Figure 1: Diagram of 5 round pin plug of the load cell

NOTE: For 6 pin load cell, please connect +E, +S and -E, -S in short circuit.

B. CONNECTION OF RS-232 (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	9: Pin TXD 2
5: Pin GND	

Figure 2: Diagram of RS-232 slot

IX. MEANS OF POWER SUPPLY

A. RECHARGEABLE BATTER

The rechargeable batter is 6V / 1.2Ah. 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.

C. Dry battery.

The indicator allows using 6pcs dry battery when no others power sources.

X. CALIBRATION

1. Open up the outer case of indicator before calibrate, plug the circuit breaker JP1 into 'on' .
2. Press and hold  for 2 seconds, the screen displays “CAL SP”.
3. Press  to enter mode of automatic zero correction and displays “CAL 00” and “- - - - -” will display. After few seconds, the previous weight will show on the screen.
4. Load weight on the scale, say weight of 20kg.
5. Press  &  to select the value of calibration weight. Not to select when you want to do Calibration with previous weight.
6. After stable indication displays, press  to confirm.
7. ‘- - - - -’ will display on the screen automatically after finished the operation as Point 4 describe, indicating the scale enter into calibration and weighing mode.
8. If ‘20kg’ displays on the screen, it denotes the consistency with weigh value; in case of none consistency, please recalibrate again.
9. Upload the weight, reading ‘0.00kg’ will display and  will show denoting there is nothing being weighted on the scale.
10. The scale will return to weighing mode after calibration is finished.

Attention: Do remember to plug the circuit breaker into 'off' position.

XI. CONFIGURATION SETTINGS

Please open up the outer case of indicator before setting, 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 configuration setting menu.

Step 2: Reading division

"d XXXX" will display in the screen. It means to choose the reading division.

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

Please refer to Table 1 for division values.

Press  to change the values.

Press  to confirm and enter into the next step.

Step 3: Display Resolution

"n XXXX" will display in the screen. The value shown is the display resolution.

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

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

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

Press  to change the value.

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

"UtABXY" 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 unit to Second unit by pressing



When XY set below value, it will be different function:

00= kg only,

01=kg / lb switching,

10=lb / kg switching

11 = lb only

02 = kg / oz switching

22= oz only

03 = kg / ct switching (Hong Kong use only)

0n = Standard weighing mode / Counting mode switching.

Press  &  to select and 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 and enter in to the next step.

Step 6: Communication format of RS-232 port

“rS = xx” will display on screen. It means the Communication format with computer.

HI: means the weigh value is sending from High location. Say weight is 2.00. It sends data with “2.00”.

LO: means the weigh value is sending from Low location. Say weight is 2.00. It sends data with “00.2”.

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

Step 7: 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 8: 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=1~4 is animal weighing mode, it will reading fast and stable with different time.

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

Step 9: Brightness control of backlight

“LCD X” will display on screen. It can be adjusted the brightness of backlight for saving power. Brightness increases by number. “0” is the slowest, “7” is fastest.

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

Step 10: Save the Setting

“ – PASS –” will display in screen. This step is for saving all above operation. Press  to save

the setting and exit to weighing mode. If need cancel all setting, press  to cancel and repeat setting from the beginning.

Step 11: Configuration is done

Plug the circuit breaker JP1 into ‘off’.

XII. 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.

XIII. 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.

Table 1

No.	Capacity	Division d1	Division d2
1	1.5000kg	0.0001, 0.0002, 0.0005	0.0001kg(0~0.6kg), 0.0002kg (0.6~1.5kg), n=1500

2	3.0000kg	0.0002, 0.0005, 0.001	0.0002kg(0~1.5kg),	0.0005kg (1.5~3kg), n=1500
3	6.0000kg	0.0005, 0.001, 0.002	0.0005kg(0~3kg),	0.0001kg (3~6kg), n=1200
4	15.000kg	0.001, 0.002, 0.005	0.001kg(0~6kg),	0.002kg (6~15kg), n=1500
5	30.000kg	0.002, 0.005, 0.01	0.002kg(0~15kg),	0.005kg (15~30kg), n=1500
6	60.000kg	0.005, 0.01, 0.02	0.005kg(0~30kg),	0.01kg (30~60kg), n=1200
7	150.00kg	0.01, 0.02, 0.05	0.01kg(0~60kg),	0.02kg (60~150kg), n=1500
8	300.00kg	0.02, 0.05, 0.1	0.02kg(0~150kg),	0.05kg (150~300kg), n=1500
9	600.00kg	0.005, 0.1, 0.2	0.05kg(0~300kg),	0.1kg (300~600kg), n=1200
10	1000.0kg	0.1, 0.2, 0.5	0.1kg(0~600kg),	0.2kg (600~1000kg), n=10000
11	1500.0kg	0.1, 0.2, 0.5	0.1kg(0~600kg),	0.2kg (600~1000kg), n=15000
12	2000.0kg	0.2, 0.5, 1	0.2kg(0~1t),	0.5kg (1t~2t), n=10000
13	3000.0kg	0.2, 0.5, 1	0.2kg(0~1.5t),	0.5kg (1.5t~3t, n=15000
14	5000.0kg	0.5, 1, 2	0.5kg(0~3t),	1kg (3t~5t), n=10000
15	8000.0kg	1, 2, 5	1kg(0~4t),	2kg (4t~8t), n=8000
16	10000kg	1, 2, 5	1kg(0~5t),	2kg (5t~10t), n=10000
17	15000kg	1, 2, 5	1kg(0~6t),	2kg (6t~15t), n=15000
18	20000kg	2, 5, 10	2kg(0~10t),	5kg (10t~20t), n=10000
19	30000kg	2, 5, 10	2kg(0~15t),	5kg (15t~30t), n=15000
20	40000kg	5, 10, 20	51kg(0~30t),	10kg (30t~40t), n=8000