



High Precision Counting Scale

User Manual

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BEFORE USING THE SCALE

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

INSTRUCTIONS FOR USE

1. Please keep scale in a cool and dry place. Do not store at high temperatures.
2. Do not allow any liquids to come into or contact with the scale. If it is happened, wipe the scale dry with a cloth.
3. Avoid objects impacting with the scale. Do not drop loads onto the scale or subject the weigh pan to any strong shock loads.
4. The load placed on the weigh pan must not exceed the maximum weighing capacity of the scale.
5. If the scale is not going to be used for some time, please clean it and store it in a plastic bag in dry conditions. A desiccant sachet may be included to prevent moisture build up.

PREPARING TO USE THE SCALE

1. For accurate weight readings locate the scale on a firm level surface free from vibrations.
2. Avoid operating the scale in direct sunlight or drafts of any kind.
3. Remove any weight that might be on the weigh pan before the scale is switched on and avoid leaving weight on the pan for long periods of time.
4. Once the scale has been switched on, it will go through a LCD display test and then re-zero to be ready for use.
5. The scale requires 15~20 minutes warming up the machine before operation to ensure best accuracy.
6. Please note when  symbol appears on the screen, the dry batteries need to be replaced.
7. All goods weighed should be placed in the centre of the weigh pan for accurate weighing. The overall dimensions of the goods being weighed should not exceed the dimension of the weigh pan.



CHAPTER 1 INTRODUCTION

1-1 FEATURES

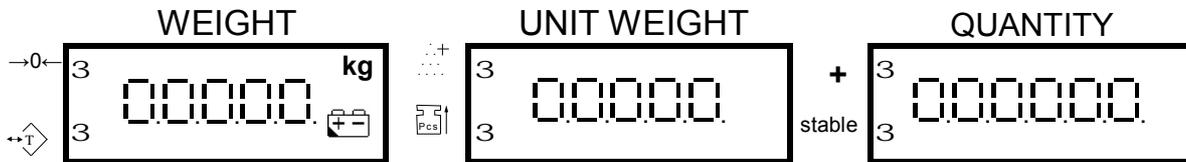
1. Up to 1/30,000 display resolution (Internal resolution 1/600,000)
2. Auto calibration
3. Kilogram (kg) and pound (lb) weighing modes
4. Full range tare, Auto zero tracking, Pre-tare
5. Data accumulations (weight and quantity)
6. Auto average unit weight, 10 preset unit weight
7. Weight and quantity over-limit warning
8. Standby function to keep the scale more stable and accurate
9. Auto temperature linearity compensation
10. Counting by sample or unit weight setting
11. Selectable sampling speed
12. Low power and charging status indication
13. Easily adjusted leveling feet for stability of the scale

1-2 EXPLANATION OF DISPLAY

SCALE WITH TWO WEIGHING UNITS:



SCALE WITH ONE WEIGHING UNIT:



DIGITAL DISPLAY

1. WEIGHT: (5 digits)

To indicate the weight of objects on the platter or the accumulation of total weight, the utmost left digit can be a negative sign “—”.

2. ♦ SCALE WITH TWO WEIGHING UNITS (lb & kg)

UNIT WEIGHT (PER 1000): (5 digits)

To indicate the unit weight ×1000pcs of objects, the decimal point can be floating.

♦ SCALE WITH ONE WEIGHING UNIT (kg or lb only)

UNIT WEIGHT: (5 digits)

To indicate the unit weight of objects, the decimal point can be floating.

3. QUANTITY: (6 digits)

To indicate the quantities of objects on the platter or totality of quantities.



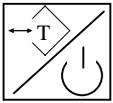
INDICATION SYMBOL “3”

1.  : Showing after deduction of package weight (Tare).
2.  : Showing the scale is in zero position.
3. **M+** : Accumulation.
4. **Stable** : Showing the scale is in stable condition.
5.  : If the sample weight is too small, the sign “ 3 ” will appear. In other words, the sample should be added until the sign “ 3 ” disappear.
6.  : If the unit weight of the object is too small, the sign “ 3 ” will appear. Under this status, the scale can still work but may result a deviation of the accuracy.

1-3 KEY FUNCTION

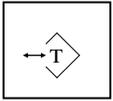
1. **0** - **9** key and the decimal point **.** : For setting the unit weight, total count & package weight.
2. **CE** : Press this key to clear all input digits.
3. **→0←** : Press this key , the display will return to 0.

4. HIGH PRECISION COUNTING SCALE:

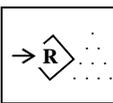


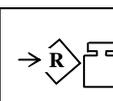
: Press this key to deduct the weight of container and also with “STANDBY” function.

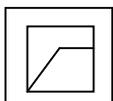
STANDARD COUNTING SCALE:



: Press this key to deduct the weight of container.

5.  : For setting the sample count.

6.  : For setting the unit weight of sample.

7.  : For pre-setting the upper limit of count. If the calculated count is larger than the limit, the scale will send a warning sound.

8. SCALE WITH TWO WEIGHING UNITS:

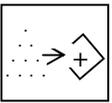


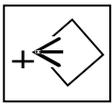
: Press this key to choose the weighing units.

SCALE WITH ONE WEIGHING UNIT (“kg” or “lb” only):



: Press this key to preset the unit weight of sample.

9.  : Press this key, the total count including the previous calculation will be stored in the memory.

10.  : For clearing the stored memory.



1-4 POWER SUPPLY

ALTERNATIVE POWER SUPPLIES

1. AC 115V \pm 10%
2. AC 230V \pm 10%
3. 4Ah internal rechargeable battery
4. 10Ah internal rechargeable battery

POWER CONSUMPTION

About DC 25 mA (without internal rechargeable battery)

About DC 30 mA (with internal rechargeable battery)

LOW BATTERY WARNING

When  appears in the right corner of the WEIGHT display, the battery needs recharging.

When the low battery sign is shown, if the scale can't be charged in time, the power will be auto-cut after 20~30 Hours operation and enter the protection mode for the battery. The scale should be recharged for turn on again.

CHAPTER 2 OPERATION

2-1 MACHINE ON

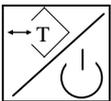
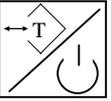
Turn on machine by pressing **ON/OFF** power switch. Then, the display will count down and revert to zero.

F If the machine is equipped with “PRINTER & RS232” options, the display will appear the card no. and revert to zero.

2-2 MACHINE OFF

Turn off machine by pressing ON/OFF power switch.

F The “**High Precision Counting Scale**” can also be switched standby key ().

Please press  key until display appears “” if you don’t use the scale for a short while. In this way, the machine can be kept in a warm-up condition. When you continue to use the scale, press  key once more, the scale will be on again.

« Use the standby key only let you save warm-up time before operation. But please be reminded that the power is still in the consumption when you press “standby” key. If you don’t use the scale for a long period of time, you’d better to turn the main power off by the ON / OFF switch.

2-3 SCALE WITH TWO WEIGHING UNITS

UNIT SELECTION:

Press **[lb/kg]** to choose the weighing unit and the display will be shown “kg” or “lb”.

- ◆ The unit status will be memorized.

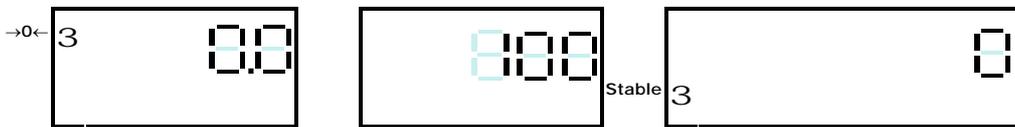
2-4 SCALE WITH ONE WEIGHING UNIT

[[[“kg” or “lb” only

UNIT WEIGHT PRESET:

A. How to preset the unit weight:

(1) Use **[0]** ~ **[9]** to key in the unit weight.



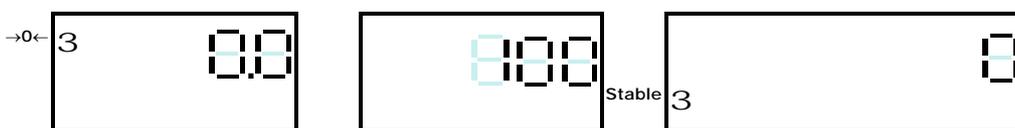
(2) Press **[U.W. PST]** key.



(3) Press **[U.W. PST]** key.



(4) Press one of the key **[0]** ~ **[9]** to preset the unit weight.



B. How to recall the preset unit weight:

(1) Press

U.W.
PST

 key.



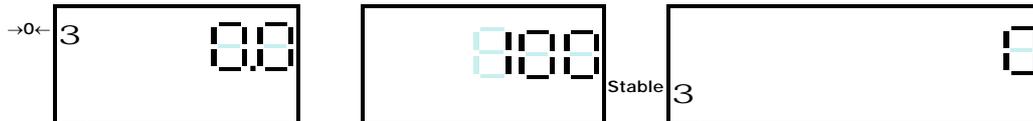
(2) Press one of the key

0

 ~

9

 to recall the preset weight.



F « When scale with two weighing units, the number of “UNIT WEIGHT (PER1000)” display is unit weight ×1000pcs of the object on platter.

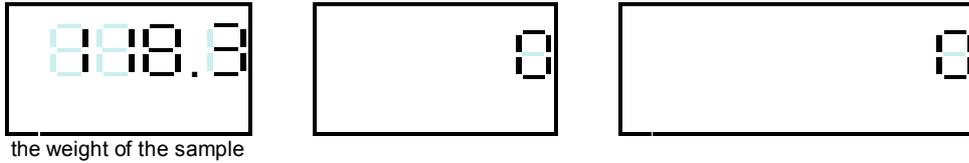
« When scale with one weighing unit, the number of “UNIT WEIGHT” display is unit weight of the object on platter.

2-5 COUNTING

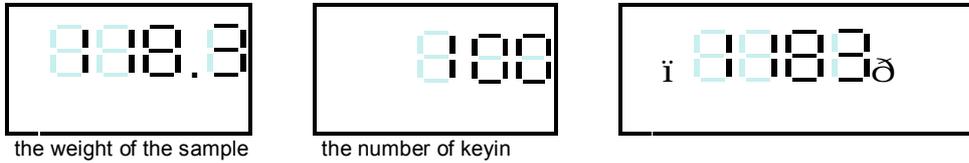
In order to obtain the unit weight of the sample, carry out the sampling formalities before counting.
There are two ways as follow:

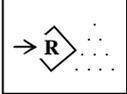
A. The unit weight of the object to be weighed is unknown:

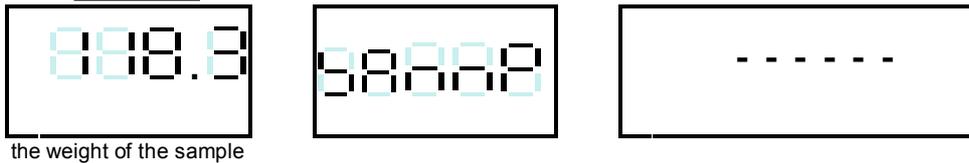
(1) Put the sample on platter.



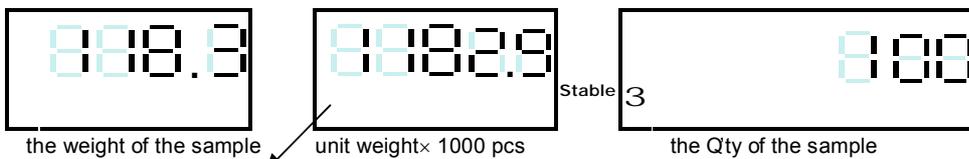
(2) Key in the number of sample which put on the platter.



(3) Press  key.



(4) When the scale is stable, it is finished for sampling and enters in the counting mode.



(if scale with two weighing units, the display will show 1000 pcs weight)

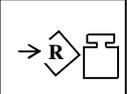
(if scale with one weighing unit, the display will show "unit weight")

B. The unit weight of the object to be weighed is known:

(1) Key in the weight value of 1000 pcs (unit weight × 1000 pcs).

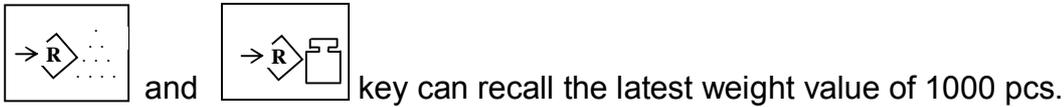
(If scale with one weighing unit, please key in the unit weight.)



(2) Press  key.



◆ When both columns in “UNIT WEIGHT (PER 1000)” & “QUANTITY” are in zero, pressing



◆ If the sampling size is larger, the unit weight will be more accurate.

◆ **PIECE WEIGHT TOO SMALL ()**

High Precision Counting Scale: If piece weight less than 1/5 of a division.

Standard Counting Scale: If piece weight less than 4/5 of a division.

◆ **SAMPLE TOO SMALL ()**

High Precision Counting Scale:

If sample weight less than 20 divisions.

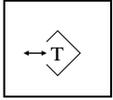
Standard Counting Scale:

If sample weight less than 40 divisions.

F Such condition as above-mentioned, the scale still works, but may result in a deviation of the accuracy.



2-6 DEDUCTION OF PACKAGE WEIGHT

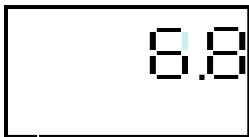


Initiates a tare or cancels a tare.

There are two ways as follow:

A. The weight of the container is unknown (Tare):

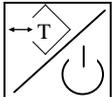
(1) Put the container on the platter.



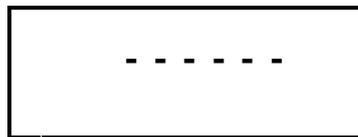
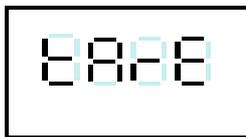
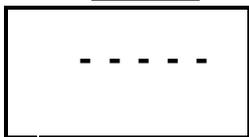
the weight of the container



(2) Press



key.



(3) When the scale is stable and enters the counting mode.



Stable



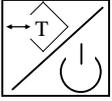
B. The weight of the container is known (Pre-Tare):

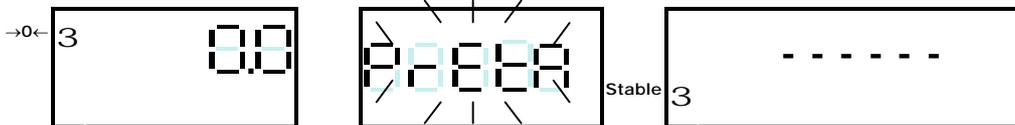
Please refer to page 23 “B. Set the form of “pre-tare” function” first and pre-set the function to “0” or “1”.

B-1) Setting “0” for the form of “pre-tare” :

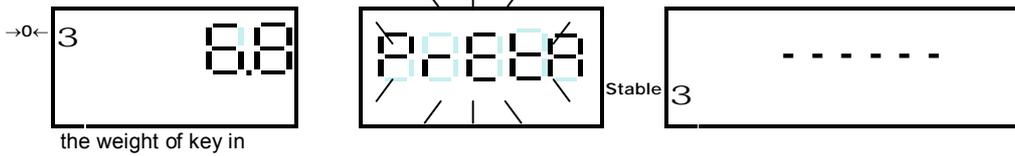
(1) There is no object on the platter.

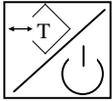


(2) Press  key.



(3) Key in the weight value of the container.

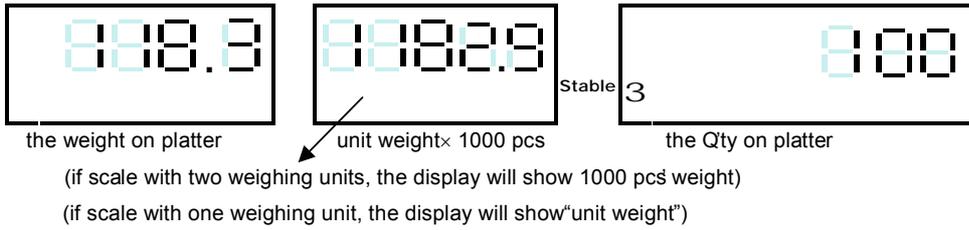


(4) Press  key.



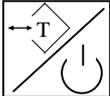
B-2) Setting "1" for the form of "pre-tare":

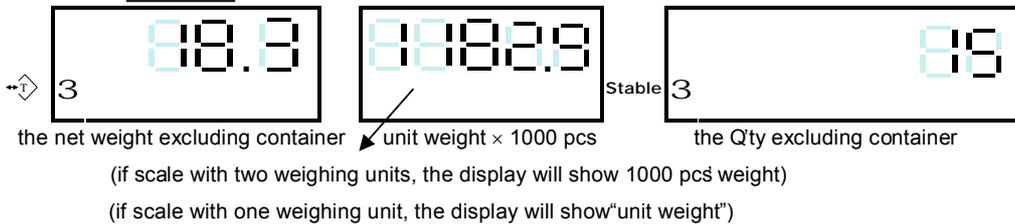
(1) There is object on the platter.



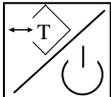
(2) Key in the weight value of the container.



(3) Press  key.



F When no load on the scale and the WEIGHT display shows the negative value of the

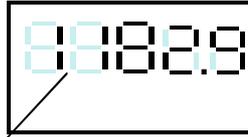
container's weight, press  again can make the display revert to zero. The sign " 3 " of "  " will disappear at this moment.

2-7 ACCUMULATION

(1) Put object on the platter.



the present weight on platter



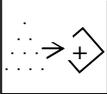
unit weight × 1000 pcs

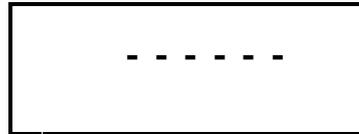
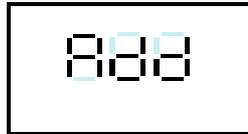
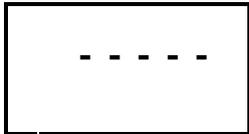


the present Qty on platter

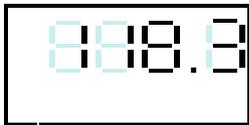
(if scale with two weighing units, the display will show 1000 pcs weight)

(if scale with one weighing unit, the display will show "unit weight")

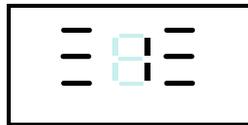
(2) Press  key.



(3) When the scale is stable.



the total weight of accumulation

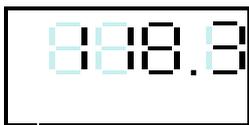


the total accumulative number

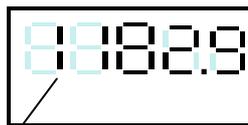


the total Qty of accumulation

(4) After 3 seconds, the scale will return to the counting mode.



the present weight on platter



unit weight × 1000 pcs

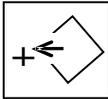


the present Qty on platter

(if scale with two weighing units, the display will show 1000 pcs weight)

(if scale with one weighing unit, the display will show "unit weight")

F « The maximum accumulation is up to 99 times and the maximum display digits is 6 only.

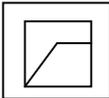
« Pressing  key can clear all accumulated count in the memory, and the sign "3" of "M+" will disappear.

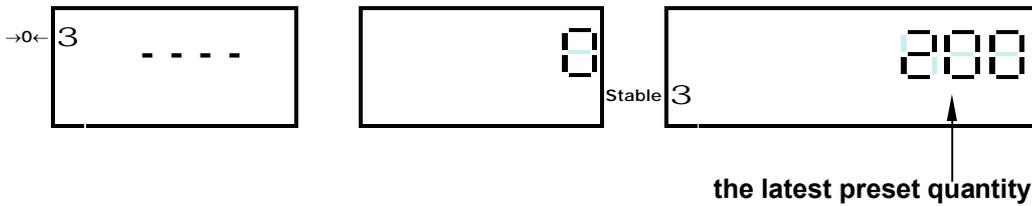
2-8 QUANTITY CHECK-WEIGHING

If the quantity on the scale is over the preset quantity, the beep will sound and the UNIT WEIGHT

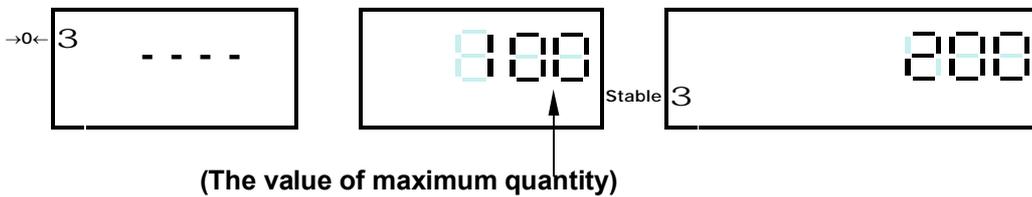
(PER 1000) display will show  and flash.

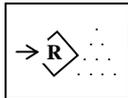
SETTING MAXIMUM LIMIT OF QUANTITY:

(1) Press  key (when the scale is loaded or unload).

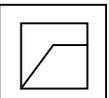


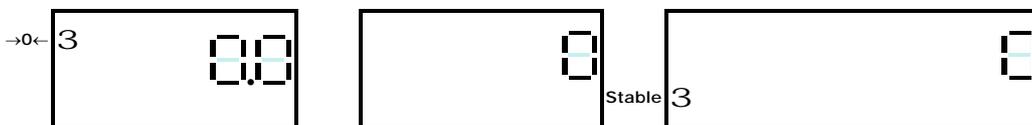
(2) Key in the maximum limit (Use  key to make any change).



(3) Press  key (Use  key to make any change).



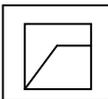
(4) Press  key, the scale will return to the counting mode.

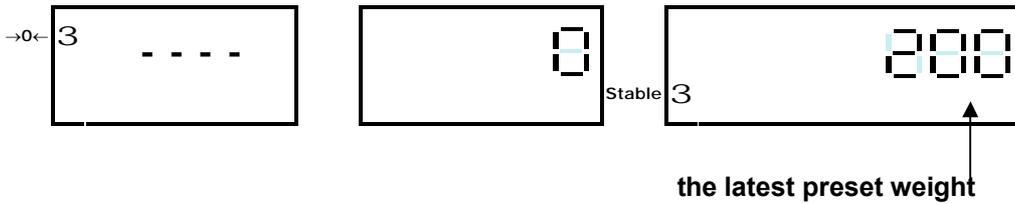


2-9 CHECK-WEIGHING

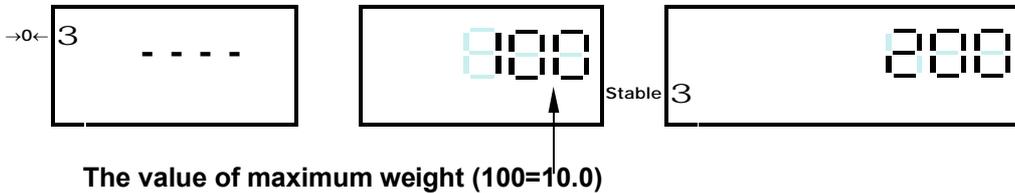
If the weight on the platter is over the preset weight, the beep will sound and the UNIT WEIGHT (PER 1000) display will show  and flash.

SETTING MAXIMUM LIMIT OF WEIGHT:

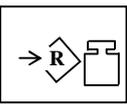
(1) Press  key (when the scale is loaded or unload).

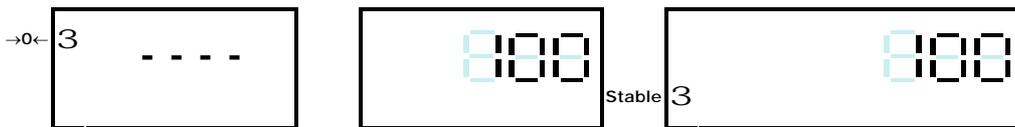


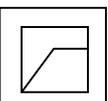
(2) Key in the maximum limit (Use  key to make any change).

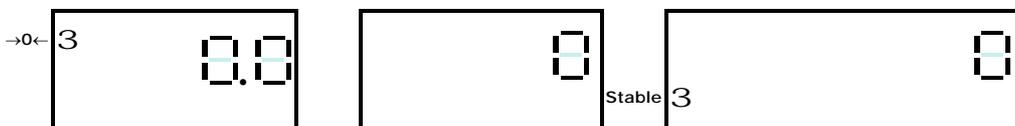


F The weighing unit and decimal of the maximum weight value which you input should be same as WEIGHT display.

(3) Press  key (Use  key to make any change).



(4) Press  key, the scale will return to the counting mode.





CLEARING MAXIMUM LIMIT OF QUANTITY OR WEIGHT:

Clearing maximum limit of quantity or weight, please do the same procedure as above step by step (In procedure (2), key in “0” instead of the other numbers).

2-10 ZERO FUNCTION

There may sometimes be happened Zero point shifts during operating the scale (some minor weight would still appear on the display visor although nothing placed on the scale).

Press **→0←** to reset the display if the reading is not at zero.

F The range of the zero key is 4% ($\pm 2\%$) of the full capacity.

(High Precision Counting Scale will take more time to get “Zero” display.)

2-11 BACKLIGHT FUNCTION

To initiate the backlight function:

- ◆ Press **→0←** followed by **5** to set up the Auto-Backlight. When the scale is loaded (must be over 10d) or pressing any key of keyboard, the backlight will be on. The backlight will be off automatically 5 seconds after the displays return to zero.
- ◆ Press **→0←** followed by **4**. The backlight will be on all the time.

To cancel the backlight function:

Press **→0←** followed by **6** to cancel the backlight.

F The backlight status will be memorized when the next turn on.

2-12 AUTO CALIBRATION

- (1) When the displays are zero, press key then key at the same time. Don't release your fingers from the keys until the weight display is appeared " - - - - - ".



the value of full capacity of the scale

- (2) Put the mass (full capacity) on the platter. The scale will be calibrated automatically when it is stable. While the scale is reverting to zero, please take the mass away from the platter.
- ◆ Press can escape from the calibration mode.

F When the display appears the value of full capacity, you can directly input the value of the weight which you want to calibrate. Then, place the mass (calibrated weight) on the platter. The scale will be calibrated automatically when it is stable.

RECALL THE ORIGINAL VALUES OF CALIBRATION

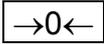
If there is something wrong with the auto calibration, press then at the same time. Release your finger from the then key while the scale is counting down. The scale will return to the original values of which had been calibrated in factory.

- ◆ If scale with one weighing unit, please use key to instead of key.

CHAPTER 3 USER INTERFACE SETTING

There are 6 kinds of interface modes for user to free-setting.

A. Set the appearance of function.

(1) Press  key.



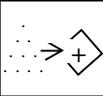
(2) Press  to enter the setting mode.



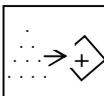
(3) Press  key.



Please choose 0,1 or 2 by pressing ,  or  key

0: The total value in memory will be shown on the display for 3 seconds while pressing  key.

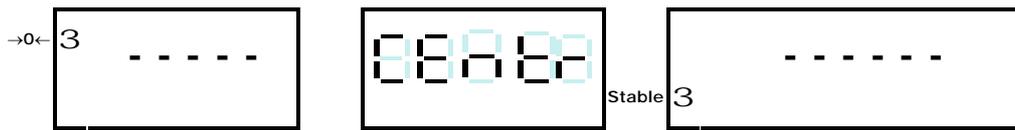
1: The total value in memory is shown on the display and will not disappear until pressing  key.

2: While pressing the  key, the total value in memory will not be shown on the display (hidden) but only has a beep.

If to abandon and escape from the setting mode, press  key.

B. Set the form of “pre-tare” function.

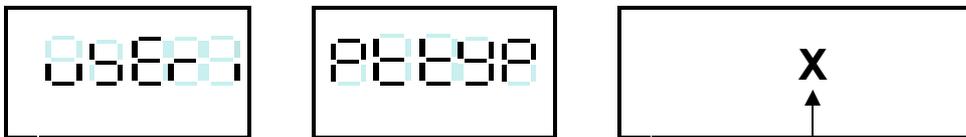
(1) Press key.



(2) Press to enter the setting mode.



(3) Press key.



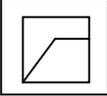
Please choose 0 or 1 by pressing or key

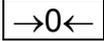
0 : The tare value can not be preset when the scale is loaded.

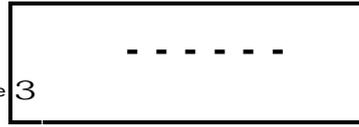
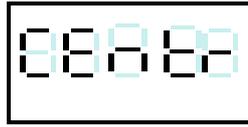
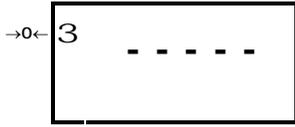
1 : The tare value can be preset when the scale is loaded or unload.

Factory setting ⇒ **1**

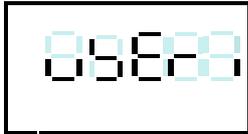
If to abandon and escape from the setting mode, press key.

C. Set the form of  function

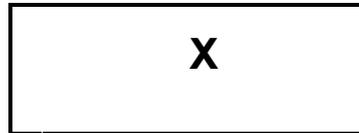
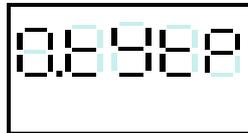
(1) Press  key.



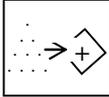
(2) Press  to enter the setting mode.

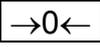


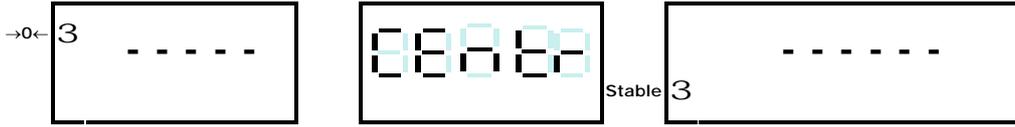
(3) Press  key.

**Function reservation!**

If to abandon and escape from the setting mode, press  key.

D. Set the action of  function

(1) Press  key.



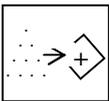
(2) Press  to enter the setting mode.

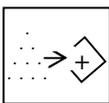


(3) Press  key.



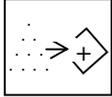
Please choose 0 or 1 by pressing  or  key

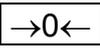
0: The  function can only be used when scale is stable.

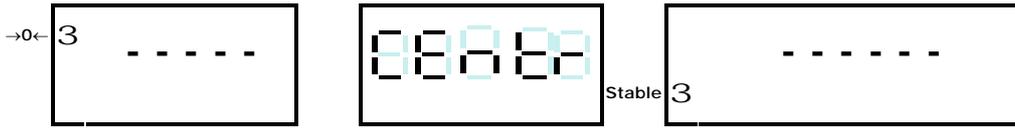
1: However stability it is, the  function can be used.

Factory setting ⇒ **0**

If to abandon and escape from the setting mode, press  key.

E. Set the next action of  function

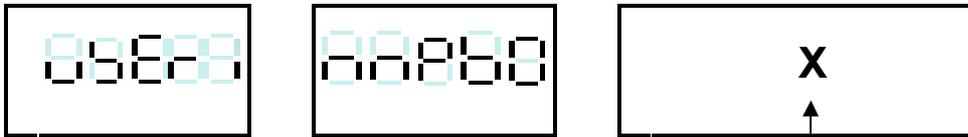
(1) Press  key.



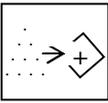
(2) Press  to enter the setting mode.

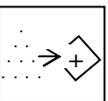


(3) Press  key.



Please choose 0 or 1 by pressing  or  key

0: The  function can not work for the next until the displays show zero.

1: The  function can work for the next accumulation at any time or condition.

Factory setting ⇒ **0**

If to abandon and escape from the setting mode, press  key.

F. How to set the speed of sampling and zero range

The speed of sampling:

The speed setting is from 01~15. The smaller number you set, the slower speed for sampling is. The slower speed you set, the scale will show more accurate. If faster speed you set, the scale will sacrifice the accuracy.

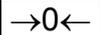
Factory setting for sampling is ⇒ **01**

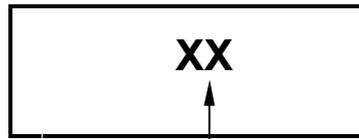
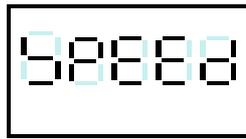
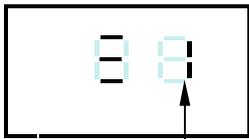
Zero display range:

Zero display range: **0** ⇒ Normal standard status

1 ⇒ The 1st division hidden, not appeared

Factory setting for zero range ⇒ **1**

(1) Press  key followed by  key.

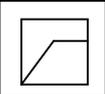


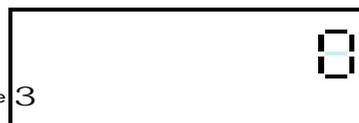
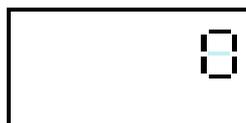
Please use  or  key to input "0" or "1" .

(0) (1)

Please use  or  key to choose the number 01~15 of speed you need.

(#) (\$)

(2) Press  key, the scale will return to the counting mode.





APPENDIX SPECIFICATION TABLE

Standard counting scale:
External resolution: 1/6000

CAPACITY	DIVISION	MINIMUM RESOLUTION
300 g	0.05 g	0.01 g
600 g	0.1 g	0.02 g
1.2 kg	0.2 g	0.04 g
3 kg	0.5 g	0.1 g
6 kg	1 g	0.2 g
12 kg	2 g	0.4 g
30 kg	5 g	1 g
60 kg	10 g	2 g
120 kg	20 g	4 g
300 kg	50 g	10 g
600 kg	100 g	20 g

High precision counting scale:
External resolution: 1/15000

CAPACITY	DIVISION	MINIMUM RESOLUTION
300 g	0.02 g	0.001 g
1.5 kg	0.1 g	0.005 g
3 kg	0.2 g	0.01 g
7.5 kg	0.5 g	0.025 g
15 kg	1 g	0.05 g
30 kg	2 g	0.1 g
75 kg	5 g	0.25 g
150 kg	10 g	0.5 g
300 kg	20 g	1 g



External resolution: 1/30000

CAPACITY	DIVISION	MINIMUM RESOLUTION
300 g	0.01 g	0.0005 g
600 g	0.02 g	0.001 g
3 kg	0.1 g	0.005 g
6 kg	0.2 g	0.01 g
30 kg	1 g	0.05 g
60 kg	2 g	0.1 g
300 kg	10 g	0.5 g
600 kg	20 g	1 g