Ⅰ. Precautions Before Using The Scale

Environment

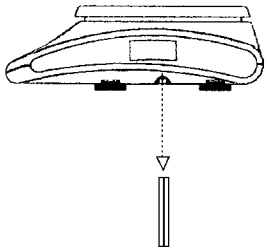
The scale should always be used in an environment, which is free from excessive air currents, corrosives, vibration, and temperature or humidity extremes. These factors will affect displayed weight reading.

DO NOT install the scale:

- Next to open windows or doors causing drafts or rapid temperature changes.
- Near air conditioning or heating vents.
- Near vibrating, rotating or reciprocating equipment.
- Near magnetic fields or equipment that generates magnetic fields.
- On an unstable work surface
- In a dusty environment
- In direct sunlight.

Protection in the transportation

When the initial use, please refer to the following drawing to take off the protection screw. When the transportation will be made, please install the protection screw on the machine to avoid any damage sensitive components.



1.

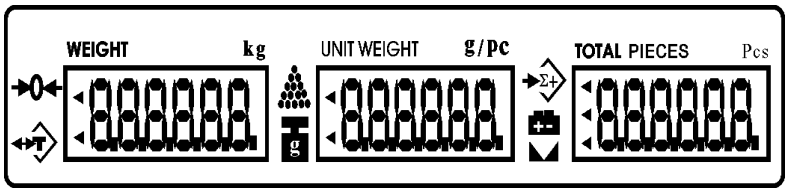
Leveling the Scale

The scale is equipped with a level indicator on the left bottom side of the front panel and four adjustable leveling feet. Adjust the leveling feet until the bubble appears in the center circle of the indicator.

Turn on Scale

Do not turn on scale with anything on the platform. The switch is located on the side of the scale. The scale will start to count down from nine to zero and will display the min. capacity of the scale in the WEIGHT display. The scale is then ready for use. Give a warm-up for 15~30 minutes before use.

II. Explanation Of Display Symbols



Display Windows

- Weight Display –
  Totals 6 digits for weight accumulated or being measured on the pan.
- Unit Weight Display –
  Totals 6 digits for unit weight or times of weight accumulated.

- Total Pieces Display –
  Totals 6 digits for number accumulated or being counted on the pan.

Indicated Symbols

 : Scale is in TARE mode.

 : Scale is in ZERO mode.

 : Scale is in ACCUMULATION mode.

 : The display reading is in STABLE condition.

 : Lack of Sample Weight

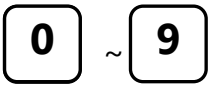
If the total sample weight on the pan is less than **10 display divisions**, a triangular annunciator will appear to remind the user to add more samples until the annunciator disappears.

 : Lack of Unit Weight

If the unit weight is less than **1/10 display divisions**, a triangular annunciator will appear to remind the user that the displayed unit weight is too small for getting accurate quantity calculations.

 : Low Voltage

III. Keypad Functions



: Numeric keys


: Decimal point key

or **CLEAR**: Use this key to clear out the displayed numeric readings.


or **ZERO**: If there is a minor weight displayed without anything on the pan, hit the zero key to clear the display.


or **TARE**: Use this key to subtract the container's weight. Indicates that the current weight reading is net weight.


or **SMPL**: Use this key to input sample size.

or **U.Wt**: Use this key to input the known unit weight of item to be counted.


or **ALARM**: Use this key to input the HIGH & LOW weight/quantity limit for check function.

or **ADD**: Use this key to accumulate weight/quantity measured.

or **TOTAL**: Use this key to recall total weight, count &

accumulation times.

or **P.TARE**: Use this key to preset TARE weight.

IV. Operations

(I) Switch on & off

Push the ON/OFF switch to **"I"** position to turn on the scale & to **"O"** position to turn off the scale.

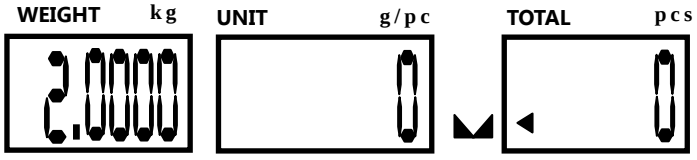
(II) Zero the scale

Press or **ZERO** key to return the display to zero in case there is any zero drifting while unloaded.

(III) Sampling before counting

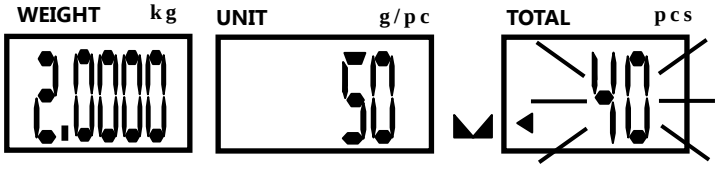
Unknown unit weight

1. Place a few pieces of item to be counted on the pan.



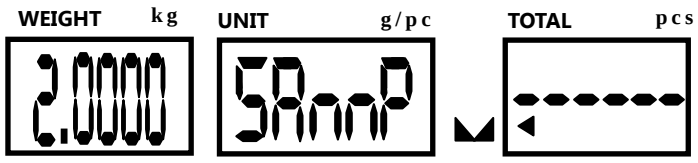
Sample Weight

2.Input the quantity of item on the pan.



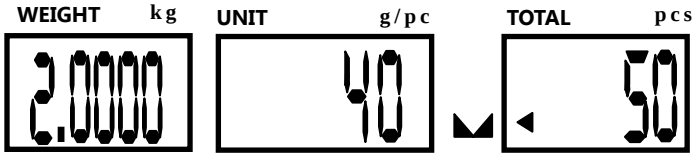
Sample Weight Input sample size

3.Press  or **SMPL** key



Sample Weight (SAMPLE)

4.The sampling operation is completed while stable display appears as below :



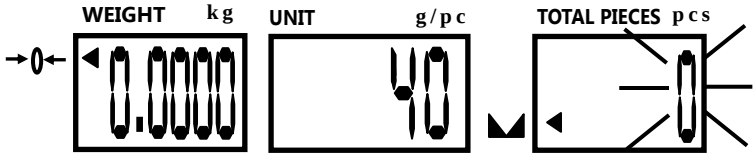
Sample Weight Unit Weight Sample size

★ The larger sample size, the more accurate unit weight

★ Press or **SMPL** key to recomputing unit weight during counting process.

Known unit weight

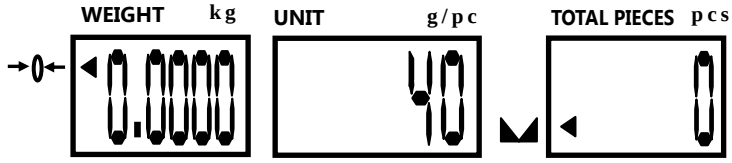
1. Input the known unit weight.



Known unit weight

2. Press g/N or **U.Wt** key to complete sampling

operation & enter into counting mode.

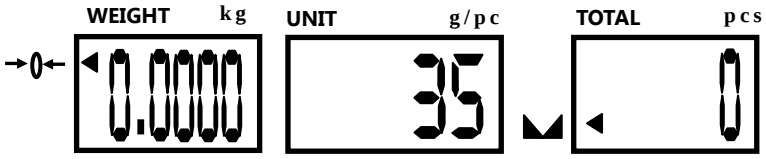


(IV) Preset unit weight in numeric keys

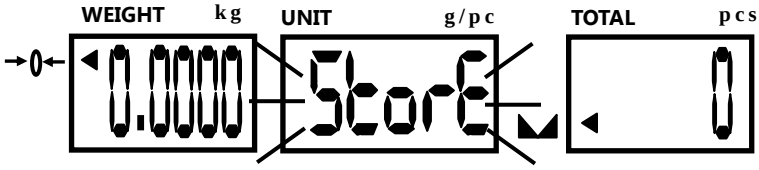
How to store unit weight in memory cells

1. To obtain unit weight by inputting the known value

(ex.35g) or by sampling operation mentioned before.



2. Keep pressing g/N or **U.Wt** key for approx.2 seconds



3. Press any of the numeric keys (0 9) to store the unit weight in this selected numeric key.

How to recall the unit weight stored

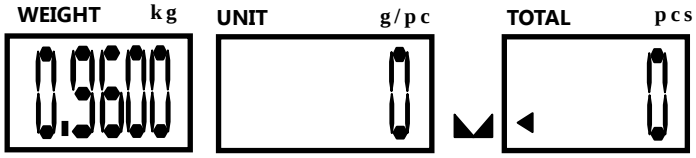
Press the numeric key with stored unit weight inside & keep pressing or **g/N** **U.Wt** key twice.

The stored unit weight will appear in the unit weight display.

(V) Subtract container's weight

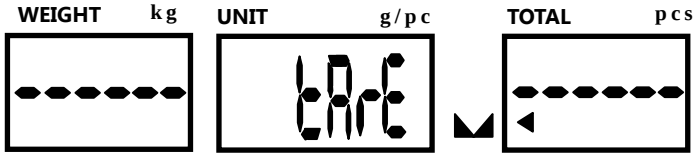
Container's weight unknown

1. Place a container on the pan.

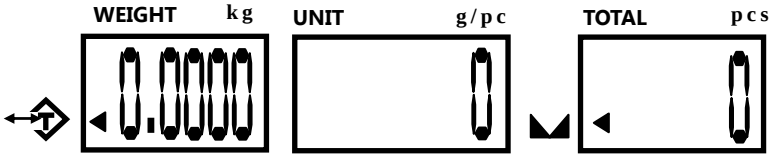


Container's weight

2. Press or **TARE** key

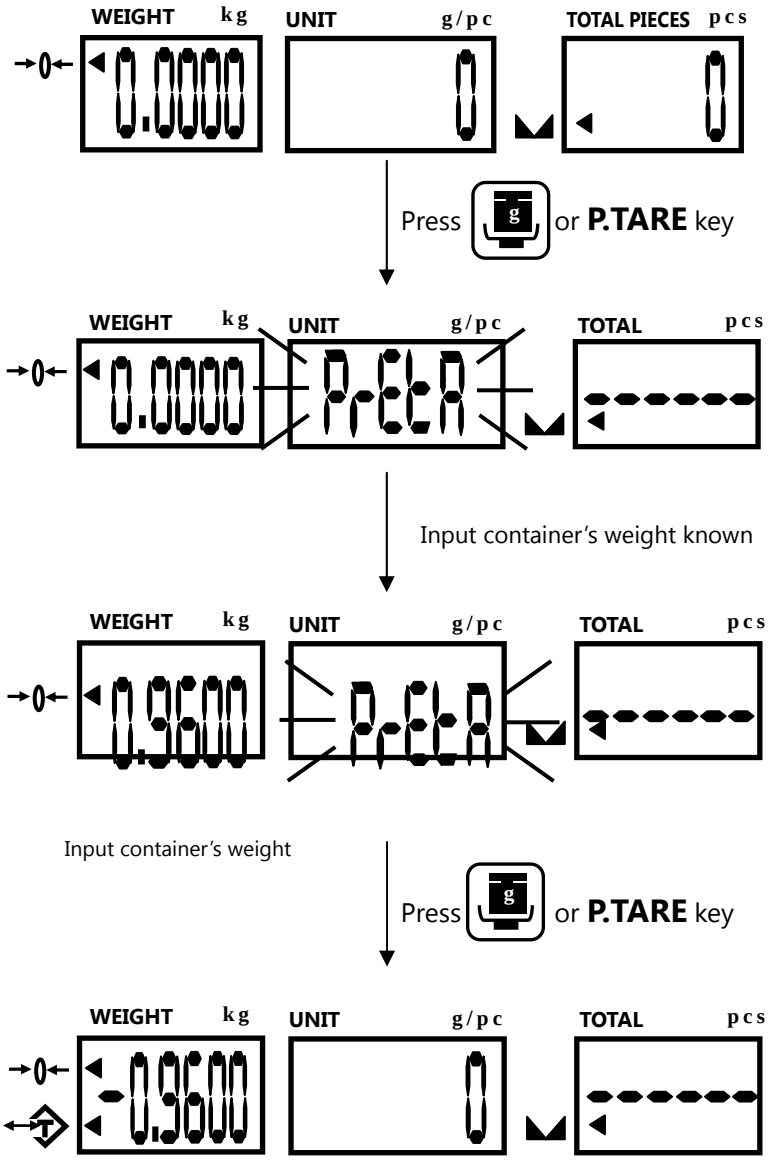


3. The scale will enter into counting mode while stable display appears as below.

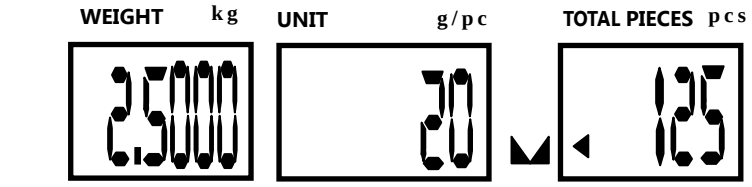


Container's weight known

1. Nothing on the pan



2. Scale is loaded

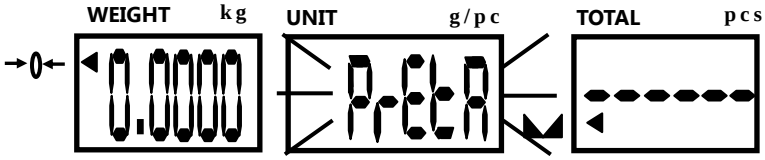


Gross weight on the pan

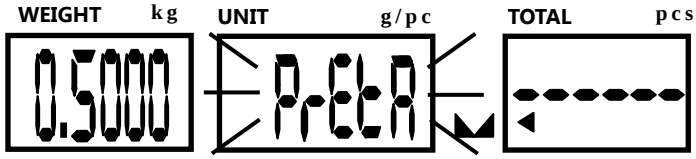
Unit weight of item to be counted

Gross count

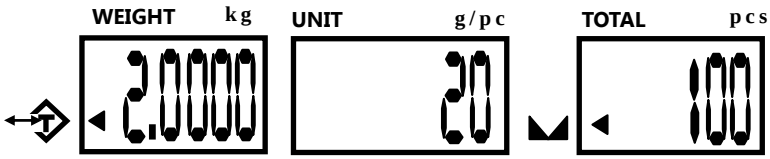
Press  or **P.TARE** key



Input container's weight known



Press  or **P.TARE** key



Net weight on the pan

Unit weight of item to be counted

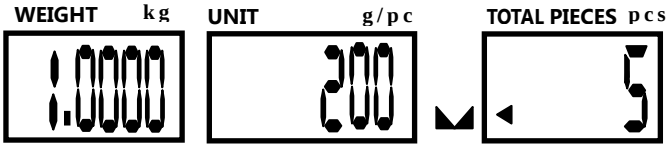
Net count

Eliminate TARE

Remove all on the pan & the weight display will show a negative (**-**) container's weight. Pressing  key at this moment will bring the weight display to zero and TARE triangular annunciator ( ) will disappear.

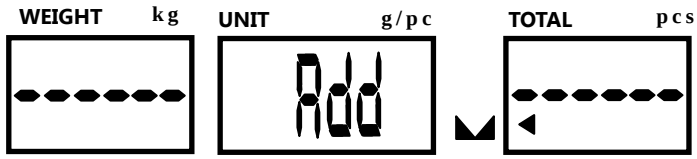
(VI) Weight/Quantity accumulation

1. Place item to be weighed/counted on the pan.

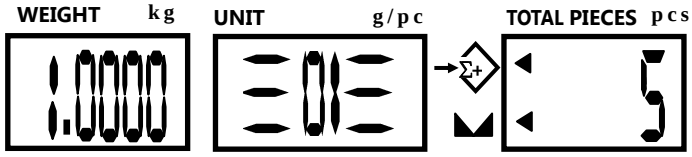


Weight on the pan

2. Press  or **ADD** key



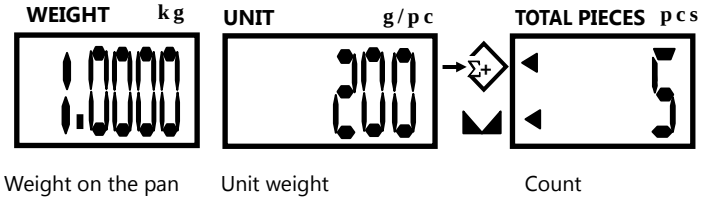
3. Display readings to be stable as below.



★ **Accumulation effective only when stays at zero.**

Adding operation enables only 99 times every time.

4.Press Σ→ or **TOTAL** key or wait approx. 2 seconds, the scale will return to counting mode.



5.Press Σ→ or **TOTAL** key to enter into accumulation status mode. At this moment, total accumulated weight is shown In WEIGHT window, total accumulation times is

shown in UNIT WEIGHT window and TOTAL PIECES window displays accumulated count.

Press Σ→ or **TOTAL** key again to revert to counting mode.

Clear accumulation

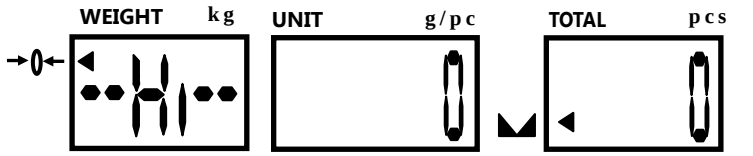
Press Σ→**TOTAL** key to enter into accumulation status mode and press or **CLEAR** key to clear all accumulated data.

(VII) Preset counting check range

Users can set a Hi – Lo range for counting check, when the number of objects on the pan is within the preset counting check range, the alarm will sound beeps repeatedly.

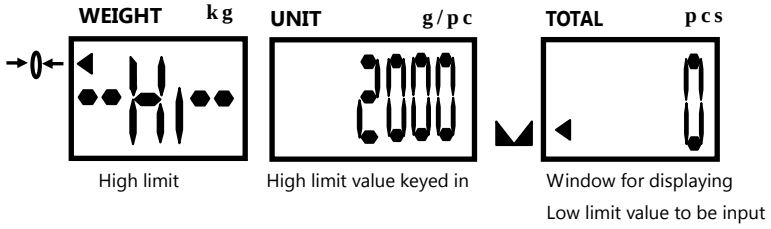
Procedures

1. Press ↕ or **ALARM** key while the scale is either loaded or unloaded.

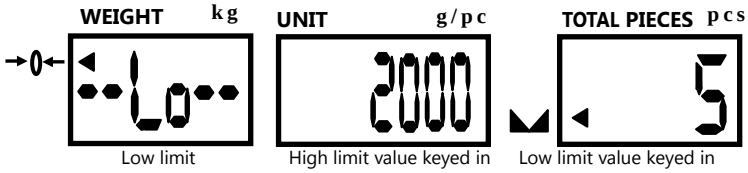


2. Key in the desired high limit value.

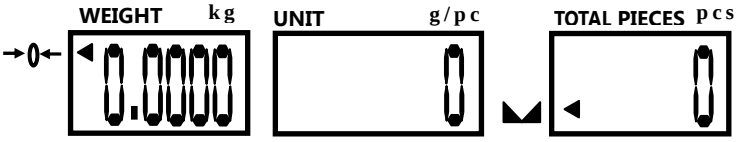
(use C or **CLEAR** key to erase the value keyed in)



3. Press  or **ALARM** key again and key in the desired low limit value as indicated below. (Low limit value effective only after high limit is preset)



4. Press  or **SMPL** key to complete counting check range preset procedures and return to normal counting mode.



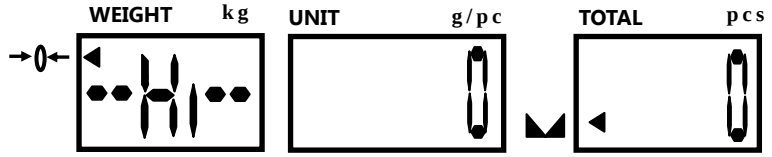
(VIII) Preset weight check range

Users can set a Hi – Lo range for weight check when the weight of objects on the pan is within the preset weight check range, the alarm will sound beeps repeatedly.

Procedures

1. Press  or **ALARM** key while the scale is either

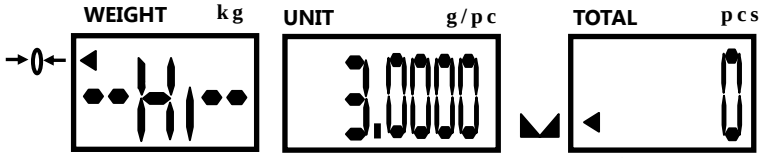
loaded or unloaded.



High limit | Window for displaying high limit value to be input | Window for displaying low limit value to be input

2. Key in the desired high limit value.

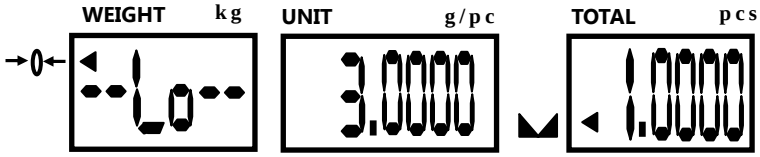
(Use C or **CLEAR** key to erase the value keyed in)



High limit | High limit value keyed in | Window for displaying low limit value to be input

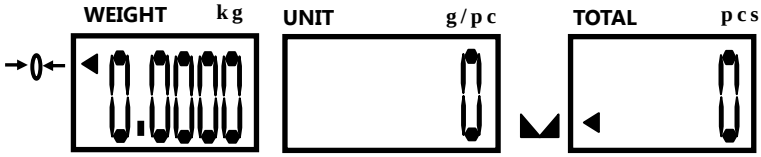
3. Press ↕ or **ALARM** key again and key in the desired low limit value as indicated below.

(★ low limit value effective only after high limit is preset)



Low limit | High limit value keyed in | Low limit value keyed in

4. Press g/N or **U.Wt** key to complete weight check range preset procedures and return to normal counting mode.



➨ Clear high / low value preset

Follow the above preset procedures and key in " 0 " or press **C** or **CLEAR** key directly for high and low limit value.

V. User Programming Functions

(I) Auto. shut off time span

1. Turn on the scale & press **5** key 4 times one after another during counting down (self-check) to zero to enter into USER PROGRAMMING FUNCTION MODE.

   The displays will indicate as below eventually.

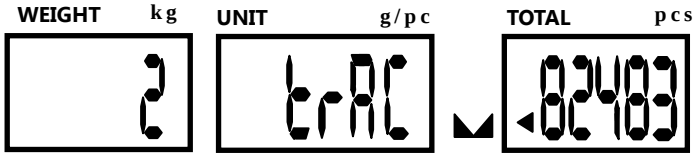
Auto. shut off time span previously set | Auto shut off | Internal count

2. Press **T** or **TARE** key to revolve the system-preset time span (2 min., 5 min., 8 min., and o)
3. Press **C** or **CLEAR** key to determine and return to

normal counting mode or press Σ→ or **TOTAL** key for determination and move to next.

(II) Zero Tracking Range

1. Keep pressing Σ→ or **TOTAL** key in USER PROGRAMMING FUNCTION MODE and release until the following displays appear.



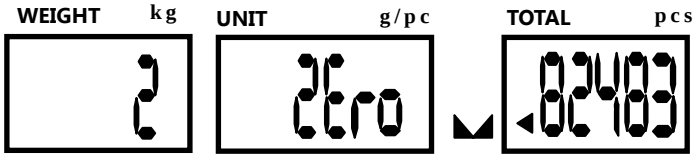
Zero tracking range (0 ~ 4)　　Zero tracking　　Internal count

2. Press T or **TARE** key to revolve the system-preset zero tracking range (0, 1, 2, 3, 4). The larger number selected, the wider range.
3. Press C or **CLEAR** key to determine and return to normal counting mode or press Σ→ or **TOTAL** key for determination and move to next.

(III) Zero display range

1. Keep pressing Σ→ or **TOTAL** key in USER

PROGRAMMIN FUNCTION MODE and release until the following displays appear.



Zero display range (0 ~ 4) | Zero display | Internal count

2. Press T or **TARE** key to revolve the system-preset zero display range (0, 1, 2, 3, 4). The larger number selected, the wider range.
3. Press **C** or **CLEAR** key to determine and return to normal counting mode or press Σ→ **TOTAL** key for determination and move to next.

(IV) Stable class range

1. Keep pressing Σ→ or **TOTAL** key in USER PROGRAMMING FUNCTION MODE and release until the following displays appear.

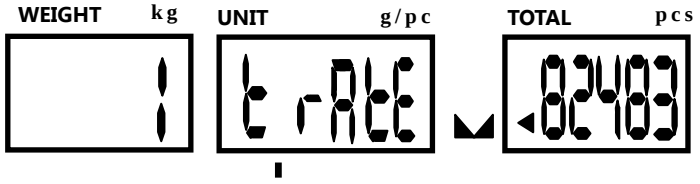
Stable class range (0 ~ 5) | Stable class | Internal count

2. Press or **TARE** key to revolve the system-preset stable class range (0, 1, 2, 3, 4, 5). The bigger number selected, the shorter time for display stability.

3. Press **C** or **CLEAR** key to determine and return to normal counting mode or press **TOTAL** key for determination and move to next.

(V) Zero return range

1. Keep pressing or **TOTAL** key in USER PROGRAMMING FUNCTION MODE and release until the following displays appear.



Zero return range (0 ~ 5)　　Zero return　　Internal count

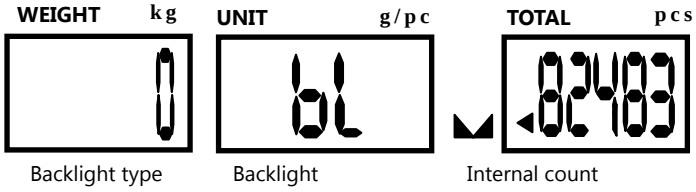
2. Press or **TARE** key to revolve the system-preset zero return range (0, 1, 2, 3, 4, 5). The larger number

selected, the more stable zero point.

3. Press **C** or **CLEAR** key to determine and return to normal counting mode or press **Σ→** **TOTAL** key for determination and move to next.

(VI) Backlight type

1. Keep pressing **Σ→** or **TOTAL** key in USER PROGRAMMING FUNCTION MODE and release until the following displays appear.



2. Press **T** or **TARE** key to revolve the system-preset backlight type(0 – auto. backlight, 1 – manual backlight)

3. Press **C** or **CLEAR** key to determine and return to normal counting mode or press **Σ→** **TOTAL** key for determination and move to next.

- Auto. backlight

  Backlight will be going on automatically whenever the scale is loaded by objects weigh greater than **9 display resolution** or any of keys is pressed. And it will be going off also automatically approx. 5 seconds after the scale returns to zero.

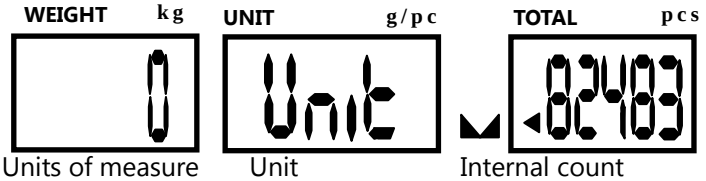
- Manual backlight

  Press [●] (decimal point) key to switch on and off backlight.

★ Scale will keep the backlight type selected in memory for next use.

(VII) Change unit of measure from kg/g to Pound

1. Keep pressing [Σ→] or **TOTAL** key in USER PROGRAMMING FUNCTION MODE and release until the following displays appear.



Units of measure Unit Internal count

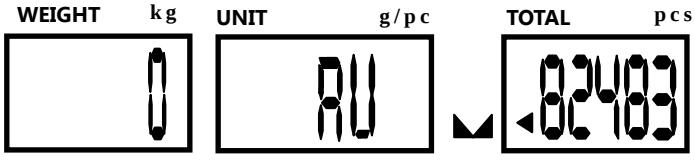
2. Press [→T] or **TARE** key to revolve the system-preset

units of Measure. (0– kg or g , 1 – lb)

3. Press C or **CLEAR** key to determine and return to normal counting mode or press Σ **TOTAL** key for determination and move to next.

(VIII) Unit weight recomputing

1. Keep pressing Σ or **TOTAL** key in USER PROGRAMMING FUNCTION MODE and release until the following displays appear.



Recomputing mode Averaging Internal count

2. Press T or **TARE** key to revolve the system-preset Recomputig modes.

   0 – disable recomputing function

   1 – enable recomputing function

3. Press C or **CLEAR** key to determine and return to normal counting mode or press Σ **TOTAL** key for determination and move to next.

★ The unit weight will be averaged again if you add the

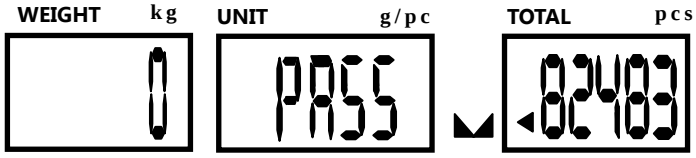
remaining quantity, gradually, by several lots. This will help eliminate errors caused by the **possible weight variation among each object** and lead to more accurate results.

When adding objects to the pan, be sure that the quantity is LESS THAN those already on the pan. The alarm will sound a beep when the unit weight is averaged again.

★ Recomputing function effective only after sampling operation is done.

(IX) Check alarm type

1. Keep pressing  or **TOTAL** key in USER PROGRAMMING FUNCTION MODE and release until the following displays appear.



2. Press  or **TARE** key to revolve the system-preset check alarm types.

0 – Inside type , 1 – Outside type

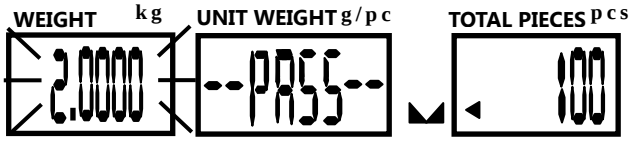
3. Press C or **CLEAR** key to determine and return to normal counting mode or press Σ→**TOTAL** key for determination and move to next.

★ Inside type

The alarm sounds beeps only when either total weight or total count falls inside the set range.

Ex. 1 Counting check alarms

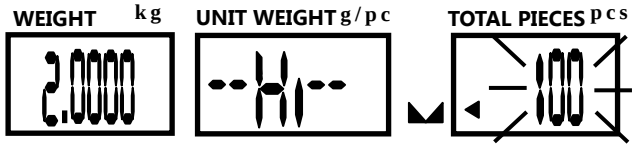
EX. 2 Weight check alarms



★ Outside type

The alarm sounds beeps only when either total weight or total count falls outside the set range.

Ex. 1 Counting check alarms



Over high limit

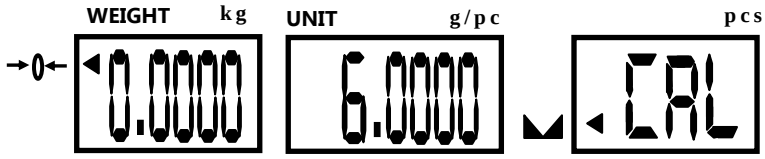
Ex. 2 Weight check alarms

Below low limit

★ **Turn off the scale after all USER PROGRAMMING FUNCTIONS are set and restart for use.**

VI. Calibration (can only be done in kg)

1. Turn on the scale and be sure it is zeroed.
2. Keep pressing →0← or **ZERO** key until the following displays appear.(Take 6kg scale for instance)



Required weight (6 kg) for calibration

3. Put a weight same as what exactly shown in the UNIT WEIGHT window on the pan.
   The displayed reading in the UNIT WEIGHT window starts blinking. The scale will stop blinking and return to normal

counting mode.

Calibration is now completed.

★ Required weight for calibration can be changed by using numeric keys while in step 2 above.

★ Press →0← or **ZERO** key to escape from calibration mode at any time.

VII. Power supply & battery operation

POWER SUPPLY

- AC 220V
- DC 12V/800mA

BATTERY OPERATION

The scale can be operated from the battery if desired. The battery life is approximately 80 hours.

When the battery needs charging a symbol " + - " on the TOTAL PIECES display will turn on. The battery should be charged when the symbol is on. The scale will still operate for about 10 hours after which it will automatically switch off to protect the battery.

To charge the battery, simply attach the power supply module to the scale and plug in. The scale does not need to be turned on.

The battery should be charged for 12 hours for full capacity.

There is an LED to indicate the status of battery charging on the right of display. When the scale is plugged into the mains power the internal battery will be charged. If the LED is **Green** the battery has been charged. If it is **Red** the battery is nearly discharged and **Yellow** indicates the battery is increasing the charge level.

As the battery is used it may fail to hold a full charge. If the battery life becomes unacceptable then contact your distributor.

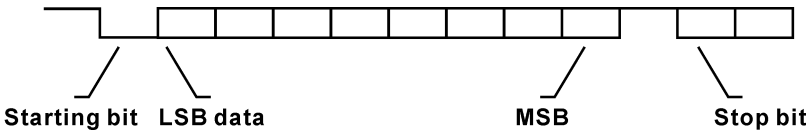
Note: The battery should be recharged every 3 months if the scale is not used for long time.

Ⅷ.RS-232 OUTPUT

The scale can be ordered with as optional RS-232 output.

1. Mode E1A-RS 232C's UART signal
2. Format:

Baud rate: 2400 (Only) BPS
Data bits: 8 BITS
Stop bit: 1 BIT
Code ASCll
Connector:9 Pin Socket
Pin3 Output
Pin5 Signal Ground



3. Transmit Format, when it is in Accumulation model and transmit by pressing the following keys:

Press the  or **ADD** key

Record#01

Net 02000.0 g

U/W 000000 g

Pcs 000000

Press the  or **ADD** key again

Record#02

Net 03000.0 g

U/W 000000 g

Pcs 000000

Press the  or **TOTAL** key

Total

Net 05000.0 g

Pcs 000000

Net=Net Weight Pcs=Quantity U/W=Unit Weight

Ⅸ.ERROR CODES

During the initial power-on testing it is possible the scale may show error message.

The meaning of the error messages is described below.

ERROR CODE	POSSIBLE CAUSES	HANDLING
E1,E2,E3	1. The scale pan is placed incorrectly.	Place the scale pan correctly.
	2. Turn on scale with something on the scale pan.	Take away the goods, and switch on again.

OL	1.If the “  ” symbol appears, the battery has provided low-voltage.	Recharge the battery.
	2. Overload	Take off the weight immediately.

If the error message still is shown after above ways, please recalibrate. If the problem still can not be solved then contact your dealer for further support.