Table of Contents

1. Introduction

Thank you for deciding to purchase a JCE counting scale from Jadever. This goods has the excellent performance and splendid properties under severe quality management .It is recommended to read this manual in full before using it for good function application.

2. Precautions

◎ Place the scale on a flat and stable surface. See 3-3 Leveling the Scale for details.
◎ Verify that the input voltage and the plug type matches the local AC power supply. See 4-3 Power supply.
◎ Warm up the scale for 15 minutes before using it the first time.
◎ Keep the scale away from EMI noise, strong wind and vibration, which might cause incorrect reading.
◎ Avoid sudden temperature changes (suitable operating temperature is between -5℃~ 40℃.)
◎ Disconnect the power supply when cleaning the scale.
◎ Do not immerse the scale in water or other liquids.
◎ Service should be performed by authorized personnel only.

3. Before Using the Product

3-1 Unpacking and Checking

Open the package and check the instrument for transport damage. Immediately inform your dealer if you have complaints or if parts are missing. The package should contain:
● Scale body　　　　　　● User manual
● Stainless steel pan　　　● Wire (power cord)

3-2 Installing Components

1) Before using the scale, remove the shipping protection screw (rotate counterclockwise), which located underneath the scale. This screw ensures protection of the load cell during transport.
  2) Cover the stainless steel pan on the plastic pan properly.

3-3 Leveling the Scale

To compensate for small irregularities or inclinations at the location, the scale can be leveled. The scale is equipped with a level indicator at the front panel .Adjust the adjusting feet until the air bubble in the indicator is centered as shown.
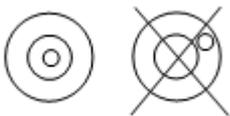
Note: The scale should be leveled each time its location is changed.

4. Product Introduction
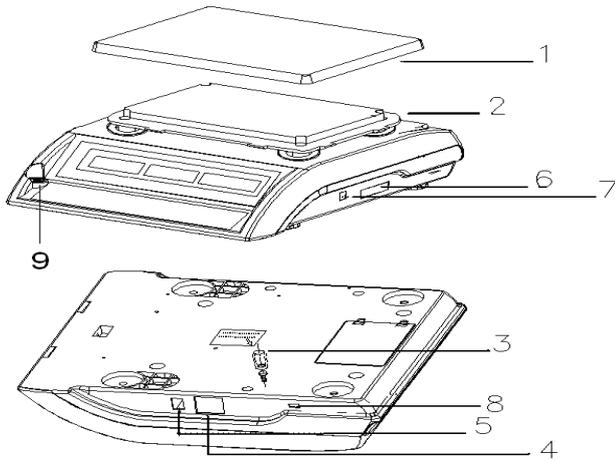
1) Stainless steel weighing pan
2) Plastic weighing pan
3) Transport protection screw
4) Power socket
5) On/Off switch
6) HI-LO-OK signal output and bi-direction RS-232 standard interface
7) Print button
8) Two–stage switch（110V&220V)
9) Bubble level indicator

4-1Specifications& Features

Specifications

Model	JCE-3K	JCE-6K	JCE-15k	JCE-30k
Capacity	3 Kg	6 Kg	15kg	30kg
Division	0.1g	0.2g	0.5g	1g
Countable Unit Weight	0.02g	0.04g	0.1g	0.2g
Pan size	334mm×245mm Stainless steel			
Units	Lb ,g			
Operating temp.	-5℃ ~ 40℃（23℉ ~ 104℉）			

Display	Weight：6 Digits, Unit Weight：5 Digits, Total Count：5 Digits
Power	AC 110V/220V (AC±10%) or Rechargeable battery（6V/4A）
Interface	Bi-direction RS-232 (Optional)
Maximum Humidity	85%

Features

· 1/30,000 display resolution
· Water-resistant durable keypad
· Auto power off / Auto backlight
· HI/LO/OK setting can be stored
· HI/LO/OK alarm function
· Soft-ware filtering
· Stainless steel weighing pan is for long-term operation
· Operated by power supply or rechargeable battery
· Internal battery charger
· Clear LCD display with backlight
· Overweight and delivery protection
· Option: bi-direction RS-232 interface

4-2 Front Panel
4-2-1 Display
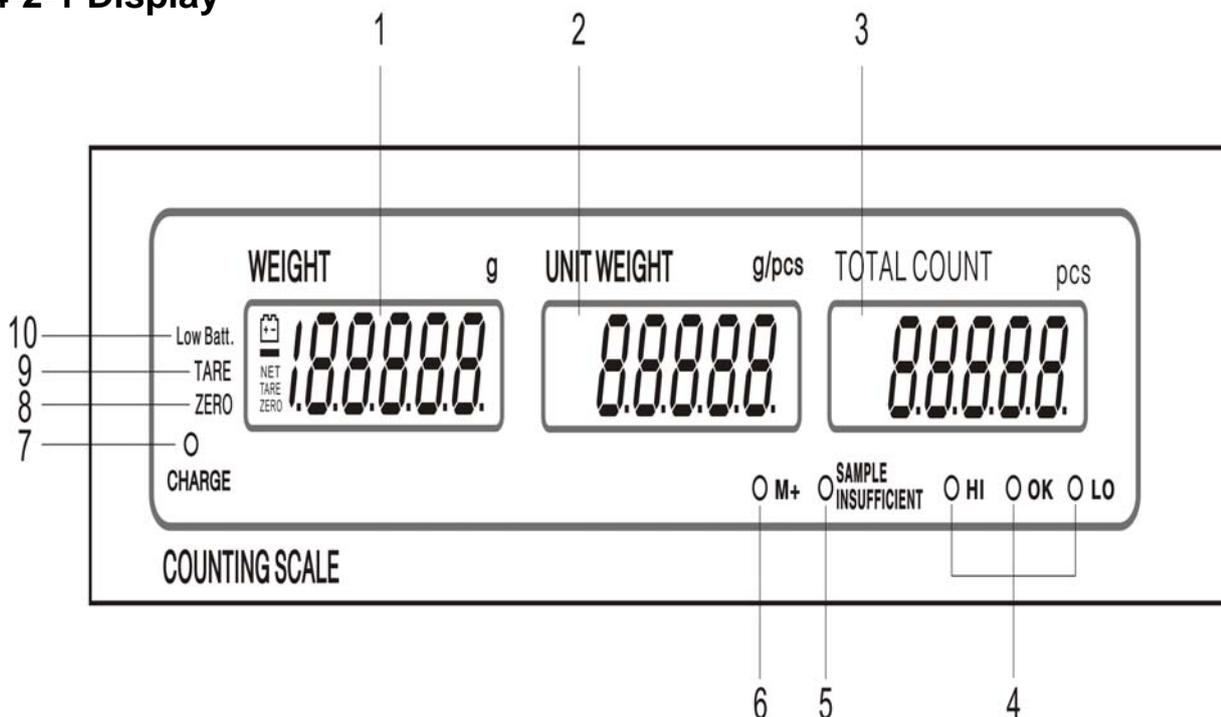
1) **Weight Window:** displays weight of object on weighing pan, or accumulated weight value.
2) **Unit Weight Window:** displays the average piece weight value, or number of weighments .

3) **Total Count Window:** displays the calculated number of pieces on the weighing pan, or accumulated piece count value.

4) **HI Lamp:** ON ,Indicating parameter item $\overline{u}n$ is selected when setting buzz sounds.(see 7 setting mode, setting buzz sounds)

   Ok Lamp: ON, Indicating parameter item in or no is selected when setting buzz sounds.

   LO Lamp: ON Indicating parameter item Lo is selected when setting buzz sounds.

5) **Sample Insufficient Lamp:** ON when unit weight is lower than 4/5 division or the quantity of sample is less than 10 pieces.

6) **Accumulation Lamp:** ON when the "Accumulation" function is enabled under weighing mode.

7) **Charge Lamp:** The charge lamp turns green from red when the recharging is completed (which takes about 8 hours)

8) **Zero Indicator**: when **"ZERO"** indicator appears, the scale is in zero status.

9) **Tare Indicator:** when **"TARE"** indicator appears, the current weight is memorized as tare weight.

10) **Low Battery Indicator:** When "▬▬" appears, the battery power requires recharging.

4-2-2Keyboard
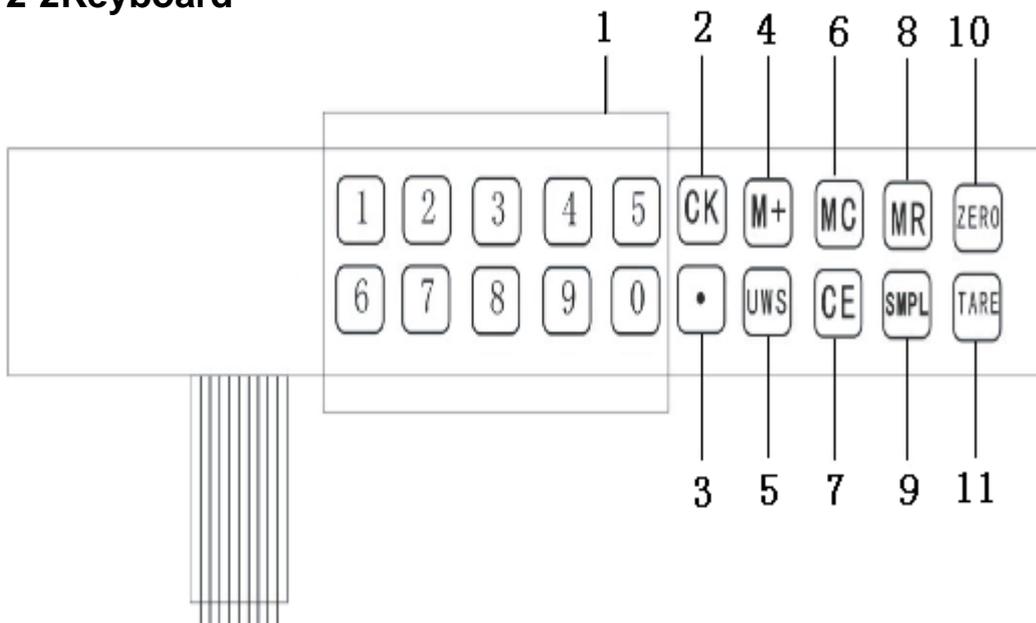
1) [0] ~ [9] numeric keys   Enters specific values for tare, unit weight and other data entries.

2) [CK] Enables the quantity checking function.

3) [•] Decimal point; toggles between upper limit and lower limit setting when HI-LO-OK function is enabled.

4) [M+] Adds the displayed quantity /weight into the accumulating memory.

5) Inputs the indicated unit weight value entered via numeric keys.

6) Deletes accumulation records.

7) Clears the indicated input values.

8) Recalls and displays the total Accumulation data (weight, total count and number of weightments) and the first 10 records in details

9) Short press enters the sampling mode.

10) Zeros the display (within 2% of max. capacity) or cancels Tare action.

11) Inputs the weight of the object on the weighing pan as a Tare value ; Inputs the indicated value entered via the numeric keys as a pre-set Tare value ; cancel tare action.

4-3 Power Supply

Please verify the local AC power source and switch the two-stage switch (110V/220V) to the proper place before plugging into the power outlet.

Alternative Power Supply

1) AC 110V/220V (AC±10%)
2) (6V/4A) Internal Rechargeable Battery

Power Consumption

About 300mW, 80hrs (without backlight)
About 380 mW, 65hrs (with backlight)

Low Battery Warning

When " " appears in the upper left corner of the weight window, the battery power requires recharging. The charge lamp turns green from red when the recharging is completed (which takes about 8 hours).Disconnect the scale from power supply when it is fully charged. Note: Battery is to replaced only by an authorized service dealer .Risk of explosion can occur if replaced with the wrong type or connected improperly.

5. Operation
5-1 Basic Weighing
5-1-1 Weighing

Place item to be weighed on the scale pan. The weight window shown is 1000.0g, gross weight.

5-1-2 Tare & Preset Tare

Tare

When weighing a sample that must be held in a container, taring stores the container weight into memory.

1) Under the weighing mode, place the container on the scale, weight window shown is

500.0g. Press key *TARE* to complete tare action. The TARE and NET symbols appear

On the weight window. `5000` `0.` `0` → `NET TARE 0.0` `0.` `0`

2) To clear tare with an empty pan, Press down key *TARE* or *ZERO* after the appearance

of " ZERO". `NET TARE ZERO 5000` `0.` `0` → `ZERO 0.0` `0.` `0`
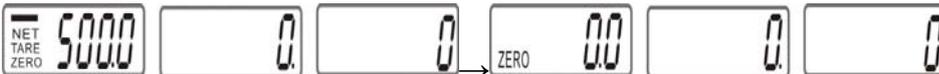
Preset Tare

1) Under the unload condition , Enter tare value using the numeric keypad together with key

" • " , then press *TARE*. The weight window displays the tare value.

`NET TARE ZERO 5000` `0.` `0`

2) Put the load on the container, the scale will automatically deduct the value of the container from the total value.

Note: during the process of Tare or Preset Tare ,if the load and container are not removed, press key *zero* to check the gross weight.

5-1-3 Unit Switch Operation

1) Press key *SMPL* while powering on the scale to enter setting

mode. ` ` `0.` `0`

2) Use the numeric keypad to input 1132. ` ` `1132.` `0`

3) Again press key *SMPL* to enter unit selection mode. Key *"1"* is to toggle between g and

lb units. `SEtU` ` ` `-g-`

4) Press key *SMPL*, then key *ZERO*, the scale will return to the weighing mode in 2

seconds.

5-2 Basic Counting

5-2-1Upper & Lower Quantity Limit Checking

1) Under the weighing mode, press key *CK* to enable checking function

CK	0.	Hi.

2) Use numeric keys to set upper limit /lower limit. key " • " is to save upper limit value and advance the lower limit setting.

CK	500.	Hi.	CK	100.	Lo.
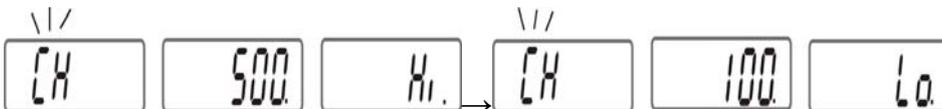
3) When setting is completed, Again press key *CK* t o save and return to weighing mode.

4) cancel checking action ,press key *CK*, then press " • " twice.

CK	500.	Hi.	CK	100.	Lo.	ZERO 0.0	0.	0

5-2-2 Entering a Known Unit Weight

1) Under the weighing mode , use the numeric keys together with key " • " to input unit weight value, then press key *UWS*.

ZERO 0.0	20000	0

2) Put the article on the weighing pan, the scale starts counting.

4000.0	20000	20

Note: when unit weight is lower than 4/5 of   scale division, the Sample Insufficient Lamp will be on.

5-2-3 Sample Counting & ACAI

Sample Counting

1) Place samples onto the weighing pan (or into a tared container) and input the quantity with numeric keys, then press key *SMPL*. The unit weight is calculated.

10000	20.	0	10000	49999	20
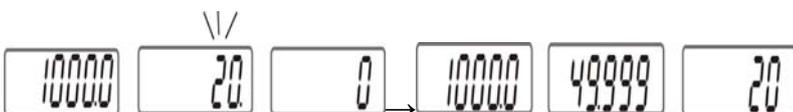
●The larger the sample size, the more accurate unit weight.
●The Sample Insufficient Lamp will be on when the quantity of sample is less than 10 pcs or the unit weight is lower than 4/5 scale division.
2) Remove the samples and put the load on, the scale begins to count.
3) Press key *CE* to return to the weighing mode.

ACAI

Automatic Counting Accuracy Improvement (ACAI) results in a more accurate count by increasing the reference weight without the need to count additional parts. A higher reference weight is important when there is a risk of inconsistent piece weights or if the reference weight is close to the minimum. ACAI uses an initial averaging unit weight to count additional pieces that are placed on the scale .after a few seconds, the scale gives a beep as the new higher reference weight is used to recalculate the averaging unit weight. The process can be repeated as long as the additional weight is less than the previous reference weight. Once this limit is exceeded ACAI is turned off.

| 1000.0 | 4.9999 | 20 | → | 1500.0 | 50.000 | 30 |
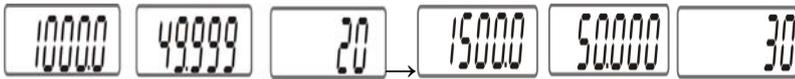
5-2-4 Accumulation, Accumulation Display and Accumulation clear

Accumulation

1) Enter the indicated unit weight, press key **UWS** and put first piece of load on the weighing pan (or into a tared container). (Refer to 5-2-2)

| 1000.0 | 1.2000 | 833 |

2) Press key **M+** , the first accumulation event is displayed momentarily before the accumulation lamp lights up .The display reverts to normal weighing mode in a second .Remove the first piece of load .

| 1000.0 | ALL01 | 833 | → | 1000.0 | 1.2000 | 833 | → (ZERO) | 0.0 | 1.2000 | 0 |

3) Put the second piece of load on, then Press key **M+** to add the second accumulation event into memory.

4) Repeat step 2-3, till accumulation" actions are finished.

Note: 99 pieces of accumulated records is the maximum.

Accumulation Display

Press key **MR** to displays the total accumulation data (weight, count and number of weighments) and the first 10 accumulation events in detail.

Accumulation clear

To clear the total accumulation data or the first 10 accumulation events, Press key **MC** while the data is displayed. Accumulation lamp will be off when the total accumulation data is deleted.

6. Calibration

1) For best results, calibrate the scale at regular intervals. Temperature changes, geographic gravity variations, altitude changes and abuse are few reasons why a scale may need recalibration.

2) Here we take JCE-6K as an example.

6-1 Single Point Calibration

1) Press and hold key **SMPL** while powering on the scale.

| | | 0. | 0 |

2) Input 11 with numeric keys

| | | 11. | 0 |

3) Again press key **SMPL** to enter the zero point calibration modes.

| CAL | 0. | -kg- |

4) Wait till "CAL" flashes , press numeric key "**1**" to select calibration weight .Options are 1/3 of full load, 2/3 of full load and full load. E.g., options for JCE-6K are 2, 4 and 6(kg).Put the corresponding weights on the weighing pan.

5) Press key " • " to confirm

| CAL | 2. | -kg- |
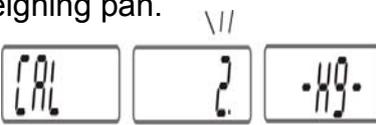
6) The calibration procedure is completed with a "PASS" flashing on the weight screen. Now, remove all the weights.

7) Press key **SMPL**, then key **ZERO** to return to the weighing mode.

6-2 Linear Calibration

1) Press and hold key **TARE** while powering on the scale

| SEt | 0. | 0 |

2) Again press key **TARE** to enter zero point calibration mode, with "Un 0" flashing on the weight screen.

| Un 0 | | |

3) Wait till "Un 1 "appears and flashes on weight window, put weights of 1/3 of full load on (e.g. 6k model, 1/3 of full load is 2kg.)

| Un 1 | | |

4) Wait till "Un 2 "appears and flashes on total weight screen, put weights of 2/3 of full load on (for 6k model, 2/3 of full load is 4kg)

5) Wait till" Un 3 "appears and flashes on total weight screen, put weights of full load on(for 6k model,   full load is 6kg)

6) The calibration Procedure is finished with a symbol of "PASS"flashing, and then take away the weights.

7) Press key **TARE** to return to weighing mode.

7. Setting Mode

1) Turn on the power while pressing key **ZERO** and setting mode starts.

| SEt | SCALE | FunC |

Note: The following Steps (2) ~ (11) do not require to operate in order.

2) Press numeric key **"0"** to shift backlight modes. Options are On, OFF and OnOFF.

| SEt0 | Light | OnOFF |

onoFF=Auto-on with items greater than 9d placed on the pan.

oFF= No backlight

on= Backlight

3) Press numeric key **"2"** to set the level in which the stable indication turns on (filtering) .The lower the setting, the faster stabilization time.

| SEt2 | FiLt. | -2- |

4) Press numeric key **"3"** to set the period of inactivity before the scale automatically turns off . Options are OFF(Non power-off) 、 5 、 10 、 30 and 60 (minutes).

| SEt3 | OFFt | OFF |

5) Press numeric key "**4**"to set the range in which the zero indication turns on .Options are d0, d1, d2, d3, d4 and d5. (d= scale division)

| SEt4 | ZEro | d0 |

6) Press numeric key **"5"** to set serial transmission rates. Options are 9600, 4800 and 2400.

| SEt5 | bAUd | 9600 |

7) Press numeric key **"7"**to set buzz sounds. Options are Un，In，no，Lo and nbEEP.

| SEt7 | bEEP. | Lo |

Un=There will be a warning sound when the quantity of the articles exceeds upper limit.

In=There will be a warning sound when the quantity of the articles is between the upper and lower limit (including the upper and lower limits).

no= There will be a warning sound when the quantity of the material exceeds the upper and lower limits, and the weight of the material is more than 20 divisions.

Lo = There will be a warning sound when the quantity of material is less than the preset lower limit and the weight of the material is more than 20 divisions.

$nbEEP$ = No sound alarm.

8) Press numeric key **"8"** to select whether to save the upper & lower limit of quantity checking. | $SEt8$ | | $ii.On$ |

$ii.oFF$ = Previously set quantity checking values are not retained when the unit is turned on.

$ii.On$ = Previously set quantity checking values are retained when the unit is turned on.

9) Press numeric key **"9"** to shift print modes .Options are Prt.Pr, Prt.Co and Prt.St. If PrtCo is chosen as the print mode, PC will be automatically selected as the external devices. | $SEt9$ | $Print$ | $PrtCo$ |

$Prt.Pr$ = manual print

$Prt.Co$ = continuous print

$Prt.St$ = Stable printing (the weight of weighted articles should be more than 9 divisions. Weighted articles should be removed and the scale goes back to zero before print out the next record.)

10) Press key **CK** to select external devices. Options are PC，AX，TP，Godex ,SH，EZ， TDP and ZEBRA. | $SEt9$ | $Print$ | PC |

11) Press **MR** to switch On or OFF RTC function.

| $SEt9$ | rtC | On |

12)   When setting is completed, press **ZERO** to save and return to weighing mode.

8. Serial Interface

If external interface is needed, please select the proper two-in-one board first, which integrates RTC (time display), RS-232 and relay (weight checking) functional module onto one circuit board. Only when this board is adopted, the three functions can be enabled.

8-1 RS-232 connector
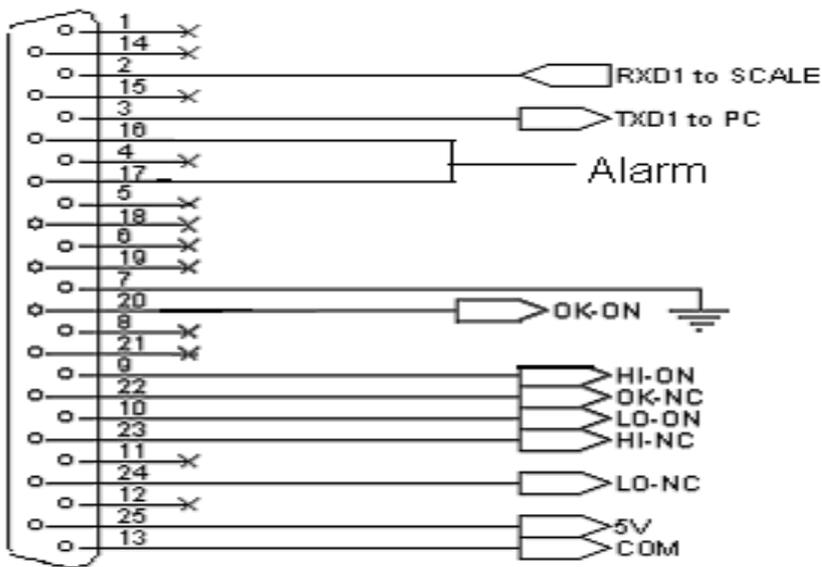
RS232/RELAY

8-2 Single option

1) RS-232+RTC+Relay+ TDP / SH-24（TP）/ ZEBRA / GODEX printer
2) RS-232+RTC+Relay+ LED Light Tower (Applicable to the quality control of the factory product quantity or weight and that of the total production line.)
3) RS-232+RTC+Relay+Computer

8-3 RS-232 Output Format

Baud Rate ： 2400、4800、9600
Data Bit ： 8
Parity ： N (None)
Stop Bit ： 1
Code ： ASCII
Bit Format ：

	LSB							MSB		
	0	1	2	3	4	5	6	7	8	
Start Bit									Parity	Stop Bit

Data Format：

Kg

G/N	.	W	.	:	+/-						k	g	CR	LF
							weight							
U	.	W	.	:						g	/	p	c	s	CR	LF
				Unit weight										
T	o	t	a	l	:					p	c	s	CR	LF
						pcs								

Example
G.W. ： + 2.2352 kg
U.W. ： + 0.5352 g/pcs
Total ： 4176 pcs

Lb

G/N	.	W	.	:	+/-							l	b	CR	LF
weight															
U	.	W	.	:						l	b	/	p	c	s	CR	LF
Unit weight															
T	o	t	a	l	:					p	c	s	CR	LF	
pcs															

Example
G.W. : + 2.2352 lb
U.W. : + 0.5352 lb/pcs
Total : 4pcs
G = GROSS   N = NET

9.Error Message and Troubleshooting

Error Message	Problems	Solutions
Err2	Initial zero point exceeds +/-30% (take 30% as reference basis)	1. To check whether there are other alien articles on the scale pan, remove those articles. 2. LOAD CELL failure, which requires to be changed or to contact our Service.
Err3	Higher or lower than A/D resolution range.	Check whether it is A/D failure, if yes, please replace AD. 2. LOAD CELL failure, replacement is required or contacts our Service.
Err4	EEPROM Chksum failure	Re-sold EEPROM or contact our Service.
Err5	The weighed articles are overload.	Remove weight that is greater that the scale capacity from the pan.
Err 7	The accumulated number of weighments, weight and quantity exceed display range.	No more accumulations.
OUER	The unit weight exceeds the display range during sampling.	--------------------------------------
(battery icon)	Low battery	Recharge the battery, the scale can be used while it is charging.