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Manual Laboratory Balances PCE-PCS



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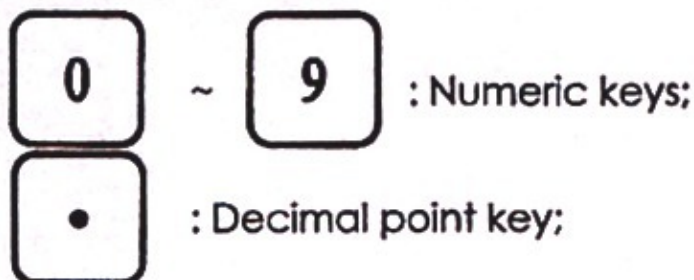
I. Overview

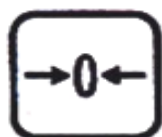
The PCE-PCS series electronic counting scale uses high precision sensors and the latest Microchip technology. It is specially designed and manufactured for accurate weighing and counting functions.

II. Precautions Before Using The Scale

1. Do not let the scale get wet and do not place it in an environment with extreme temperature or humidity.
2. Do not shock the scale and do not exceed the capacity. *Permanent damage can occur*
3. If the power is low and/or the scale will not power on please charge the battery for a full 12 hours before use. Incomplete charging can damage the battery.
4. Before using the scale, place it on a stable platform and adjust its feet to make the scale level.
5. Working conditions;
 - 1) The operating temperature should be: 0°C~40°C
 - 2) Power supply: AC220V±10% or DC6V4A.h Storage batteries.

III. Keypad Functions





: Zero key. Press the key to re-zero the scale.



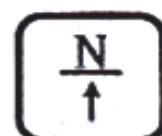
: Tare key. Press the key to subtract the weight of container.



: Used when manually keying in the unit weight.



: Sample Key, Used when keying in a sample amount.



: Use this key to confirm the entry of check number.



: Use this key to cancel checking number.



: Use this key to clear the readings entered.



: This key is used for total count accumulation.



: Use this key to clear the total count accumulation.

IV. Operations

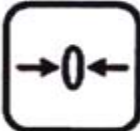
1. Turn the scale ON

Remove all the objects on the tray; push the power switch to "ON" position. The scale will self-test and zero, then turn to weighing mode.


2. Turn the scale OFF

Push the power switch to "OFF" position to turn the scale OFF.

3. Zero function

During using the scale, the weight displayed isn't "0", but there is nothing on the tray. Please press  key to re-Zero and show the zero indicator. When the weight displayed is outside the range of $\pm 2\%$ of Max. Capacity or the scale is in tare mode, pressing the key is invalid.

4. Tare function

In weighing with container instance, please operate as following steps to get the net weight: place the container to the tray; press the key , then the weight displayed is "0", and the tare indicator is shown; place the objects needed to weigh on the tray, then the net weight of the objects is shown; take both container and objects off, the

weight displayed is negative. Press



key again to cancel the tare mode.


5. Unit weight setting

A known unit weight can be imputed directly by entering the value first then followed by pressing



key.

6. Unit weight by sampling

- 1). Put the objects intended for sampling on the pan.
- 2). Input the number of the objects.
- 3). Press  Key, the calculated unit weight will then be shown in the Unit weight display. Now it is ready for counting.

7. Set and cancel checking number

Users can set a number for counting check, when the number of objects on the pan is larger than the preset check number, the alarm will beep out a warning.


Set: Enter in the desired check number, then press




key.

Clear: Press  key.


8. Accumulation


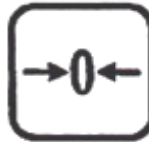
1). Press  key after total count has been calculated and displayed. An accumulating indicator is lightened. The display will show the accumulated times in the Total Weight display and total quantity in the Unit Weight display. The display will show "OL" when the total quantity exceeds the Max. Display range.

2). Press  Key to clear the stored data.




9. Selection of Filter parameter

While the scale is used in a different location, changing the response speed could be desired. You can change the STABLE time and the stability of the scale by setting the filter parameter.

Turn the scale ON and let it self-test. Press and hold  key, now the display will show the current filter parameter.

Press  key again to change. Press the key  to confirm (n**bX** represents a class of filter parameters and the larger "X" is, the faster respond speed is.).




10. Zero tracking range and Zero display range

1) **Selection of Zero tracking range.** Press and hold  through the end of the self-test, "0.0d" or "0.5d", "1.0d", "1.5d", "2.0d", "3.0d" will be displayed. Press  to change, press  to confirm (The following settings use the same function keys as current setting).




2) **Selection of Zero display range.** There are two classes to be selected— **Zero-S** (invalid) and **Zero-L** (when the weight within the range of $\pm 3d$, the display is "0").

3) **Select whether " 0" will be shown while the weight within the range of $-30d \sim 0d$ (optional).** There are two classes to be selected — **30d ON** and **30d OFF**.

11. Division Selection

Turn the scale ON; press and hold  key, the display will show "div x.xx". x.xx is the value of division. Press  key to change and press  to confirm.

12. Counting and Auto-average

Press & hold  until the end of self-test. Function keys:  used for changing the parameters;  used for confirming the entry.

1) **Selection of counting mode.** There are two kinds to be selected — "div" (counting division) and "Code" (counting ISN).

2) **Auto-average.** There are two kinds to be selected— "OFF" (turn auto-average off) or "ON" (turn auto-average on).

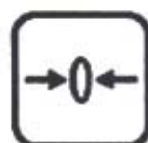
13. Setting backlight

Press and hold  through the end of the self-test, the display will show "AUTO" (AUTO backlight) or "OFF"

(Disable backlight) or "ON" (Backlight is ever lighting). Press




key to alternate; press




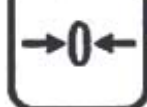
to confirm.

14. Setting of communication (optional)

Turn the scale on; press and hold  key until the end of self-test to enter the select of baud rate parameters.

There are three classes to be selected — **2400bps**, **4800bps**,

9600bps; the display of screen is **bAud 2400**, **bAud 4800**,

bAud 9600. Press  key to select and  key to confirm.

Then enter the setting of the mode of data transmission.

There are two kinds to be selected — **St** (output once when the reading is stable), **Co** (continue output). Press



key to select and  key to confirm.

RS-232 Communication format

Baud Rate :2400、4800、9600

Data Bit :8

Parity :N(None)

Stop Bit :1

Code :ASCII

Data Format:

G=GROSS N=NET

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
HEAD						DATA						UNIT		CR			
G/N	.	W	.	:	+/-									(K)	g	CRLF	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
HELD						DATA						UNIT				CR				
U	.	W	.	:	+									g	/	p	c	s	CRLF	

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
HELD						DATA						UNIT			CR			
T	o	t	a	l	:	+								p	c	s	CRLF	

EXAMPLE ("Gross weight: 100g; Unit Weight: 0.2g; Total quantity: 500pcs", the display of screen is:)

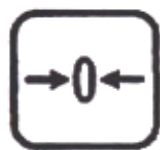
G.W. : + 100 g

U.W. : + 0.2g/pcs

Total : + 500pcs

15. External Calibration

When the scale does not read accurately, you may calibrate it with weight. Turn the scale on; press and hold



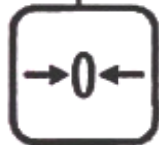
until the end of self-test. It will show "**CAL**". Press key



to show "0"; place a weight (2/3 of the Max.

Capacity is recommended) on the tray; input the value of the weight via numeric keys. The unit is kg. (Ex. The Max.

Capacity is 3kg; the weight should be 2kg; then enter 2).



after reading is stable. The calibration now is

complete. (External calibration will not work when the error is outside the range of $\pm 10\%$ of Max. Capacity).

16. Recharging the battery

When the battery voltage is low, the LOW POWER indicator will be shown. Please turn the scale off and then fully recharge it, otherwise the scale will automatically turn off. When recharging, a yellow LED will light up on the panel. It will turn RED when fully charged. It takes approximately **12 hours** to fully charge the battery. To ensure the battery voltage is in full, we recommend charging an extra 3~4 hours.