DWP-PC SERIES

PRICE COMPUTING SCALE

User's Guide

PLEASE READ THIS MANUAL VERY CAREFULLY BEFORE ATTEMPT TO OPERATE THE INSTRUMENT

Specifications subject to change without prior notice

CONTENTS

1. INSTALLATION

Because of metrological legislation, installation/some metrological parameter settings are limited to be done by authorized personnel only. Do not attempt to change any of the built-in metrological parameters. Contact your dealer for more information and technical assistance.

To ensure performance accuracy, do not use the instrument in where or when the environment condition falls beyond as those listed on **SPECIFICATIONS**.

Do not attempt to open the instrument, no user serviceable parts inside.

2. SPECIFICATIONS

2.1 GENERAL SPECIFICATIONS

DWP-PC Series(resolution 1:6000; unit : lb, kg,g)		
Model#	DWP-30PC	DWP-60PC
Max Capacity	30lb	60lb
Readability	0.005lb	0.01lb

Common Specification

Stabilisation time	2 second typical
Operating temperature	5°C - 35°C
Power supply	AC 110V 60Hz built-in rechargeable battery 6V4AH.
Display	3 windows 6 digits 0. 8'LCD display. and 11 status indication
	Double side display
Zero range	0mV~8mV
Housing	ABS housing and Stainless steel pan(230*290mm)
ADC	Σ-Δ
External Resolution	1/6000
Interface	RS-232 Output

3. KEYS, DISPLAY AND CONNECTIONS
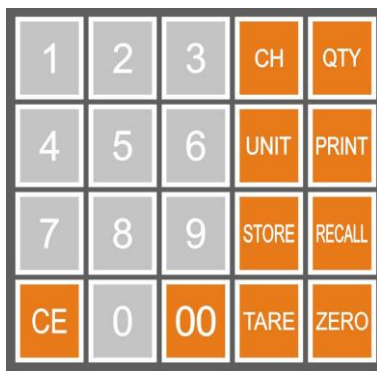
1. CH KEY
Press this key to change status . Payment is entered by numeric keys.

2. WEIGHT UNIT KEY
Press this key to shift among various weight units.

3. STORE KEY
Press this key to store the unit price (200 unit price can be stored by press 0-9 numeric keys.)

4. TARE KEY
Press this key to tare off the weight of a container.
Press this key to enter parameter when scale self-checking after power on

5. QTY KEY
Press this key to enter quantity which total price is calculate by it

6. PRINT KEY
Press this key to send print data to a printer.
Press this key as next parameter when setting

7. RECALL KEY
Press this key to call out the unit price which stored before
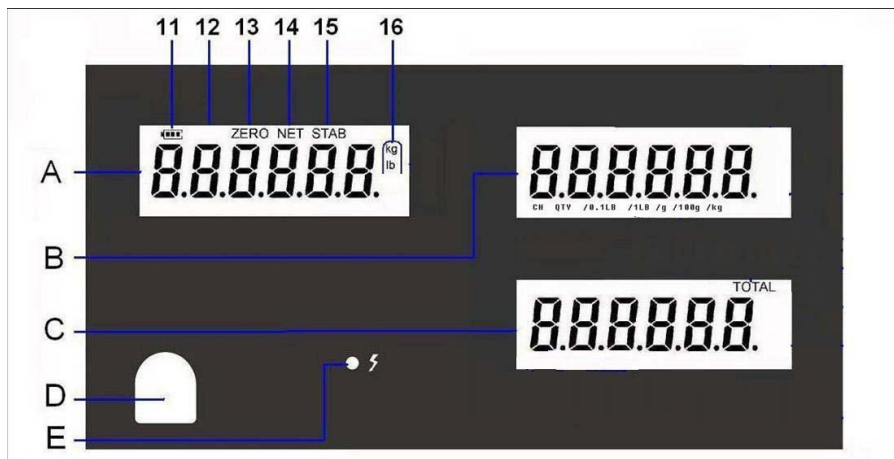Press this key as previous parameter when setting

8. ZERO KEY

Press this key to set weight displayed to zero when an empty scale has drifted away from a true zero reading.

9. CE KEY

Press this key to clear value entered.

10. NUMERIC KEYS

Numeric keys 0 ~ 9 and decimal key.

There are three windows on front panel and rear panel
Weight Panel ; Unit Price Panel ;Total Price Panel
They are LCD display of three windows with 0.8'LCD display.
and 11 status indication

11. BATTERY POWER / LEVEL INDICATOR

This indicator appears to show:-
- The instrument is running on the built-in rechargeable battery,
- It shows the remaining battery level.

12. SPARE

No assignment.

13. ZERO INDICATOR

Visible when instrument at true zero weight status.

14. NET INDICATOR

Visible when tare function is in effect. The weight being shown on **Weight Panel** is net weight.

15. STABLE INDICATOR

Visible when weight reading is stable.

16. WEIGHT UNIT INDICATOR

kg = kilogram, g = gram, lb = pound

17. UNIT PRICE INDICATOR

Enter the unit price according to different weight unit
" /1LB /g /100g /kg"

18.CH INDICATOR

Visible when change status

19. QTY INDICATOR

Visible when calculate total price by quantity

20. TOTAL INDICATOR

Visible when total accumulated PAYMENT is being displayed.

A. WEIGHT PANEL

Weight value is shown here.

B. UNIT PRICE PANEL

Unit piece weight is shown here.

C. TOTAL PRICE PANEL
Quantity value is shown here.

D. BUBBLE LEVEL
Refer to this bubble to obtain a horizontal position for the instrument.

E. CHARGE STATUS INDICATOR
Red = Recharging battery; Green = Charging completed.
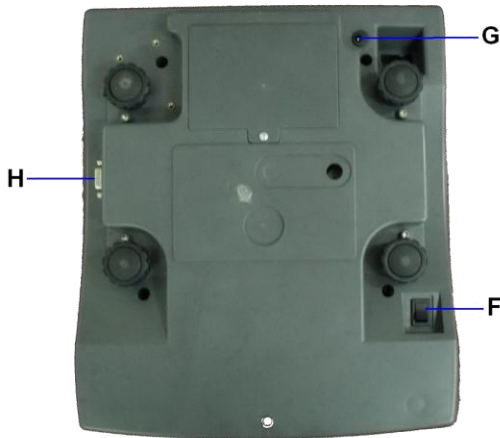
F. ON/OFF KEY
Press this key to turn the instrument on or off.

G. DC JACK INPUT
External power adaptor is plugged in here.

H. RS232 COMPORT
9 pin (DB9) RS232 interface output for connection with computer and other peripherals.

4. GETTING STARTED

In order to obtain accurate weighing and total price result, the instrument must be placed on a strong and level surface horizontally.

Avoid using the instrument in environment where excessive wind flow, vibration and extreme temperature change exist.

The instrument should be installed from any sources of excessive electrical noise.

General warning: -
- **The instrument is not an explosion proof device.**
- **The instrument is not a water proof device.**
- **Do not open the instrument, no user serviceable parts inside. Always contact your dealer for service.**
- **The instrument not to be subject to shock, excessive vibration or extremes of temperature (before or after installation).**

4.1 BUILT-IN RECHARGEABLE BATTERY

The instrument is equipped with a built-in rechargeable battery. Before first time use, recharge it for at least 8 hours to ensure the best battery performance.

4.2 POWER ADAPTOR

Before plugging in the power adaptor, check and make sure the input voltage of the adaptor matches with output voltage of the electricity outlet. If not, contact your dealer immediately.

4.3 CONNECTING OTHER DEVICES

Make sure turn the instrument off before making any connections or disconnections with external devices.

4.3.1. Connecting with a Computer

RS232 COMPORT ON INSTRUMENT: 2 = RXD; 3 = TXD; 5 = GND

5. INITIAL SETUP

5.1 INTERNAL SETTINGS

Preferred application parameters can be checked or set through internal functions. Refer to **5.4** for internal function description and setting procedures.

5.2 HOW TO ENTER AND SELECT INTERNAL FUNCTION

Follow the below steps to enter and select desired parameter of an internal function.

a. Turn the instrument off and on again,
b. Press **[TARE]** during self-checking,
c. The instrument displays **F1**,
d. The instrument is now in internal function,

5.3 KEY FUNCTION DURING INTERNAL FUNCTION SETTING

- **[TARE]** = Enter, save and return,
- **[ZERO]** = Quit without saving,
- **[PRINT]** = Go next,
- **[RECORD]** = Go previous,
- **[CE]** = Clear,

5.4 INTERNAK FUNCTION TABLE

FUNCTIO N NO.	TO CHECK AND SET	PARAMETERS/NOTE DEFAULT=**				
F1	Internal Code	*Press <TARE> to zero the offset value and to observe the span value of exact load added*				
F2	Time	HH/MM/SS				
	To change time.enter a new time through numeric keys then press <TARE>					
F3	Date Format &Date Value	** DD/MM/YY	YY/MM/DD	MM/DD/YY		
	To change date.enter a new value through numeric keys then press <TARE>					
F4	Keypad Buzzer	OFF	**ON			
F5	Price Decimal	0	0.0	**0.00		
F6	backlight Mode	OFF	ON	**AUTO		
	Backlight will be automatically when battery is low.					
F7	Auto Power Off Time(Minutes)	**OFF	1	5	10	20
	Instrument remains powered on when powered by extern power adapter					
F8	Series(RS232)Output	To set various mode parameters of Series(RS232)output				
	Baud(Set Baud Rate)	1200	2400	4800	**9600	19200
	Serial Mode(Set Output Mode)	**PC(Output to Computer)(NOTE A)			Prt(Output to Printer(NOTE B)	

NOTE A:-if PC(output to computer) is selected,set also →int→Stab Cont

→int=time delay interval between each data transmission.4 parameters are available for selection

    0=max transmission speed

    **0,5=0.5 second time delay interval between each transmission

    1.0=1.0second time delay interval between each transmission

    1.5=1.5second time delay interval between each transmission

→Stab Cont=Stable Control

    OFF(Continuous output to computer)

    **ON(Output when weight is stable)

NOTE B:-If Prt(output to printer)is selected,set also →Copy→Stab Cont→Print Form

→Copy=number of copy to be printed.8 parameter are available

    Copy 1=Send 1 copy

    **Copy 2=2 copies

    ...

    Copy 8=Send 8 copies

→Stab Cont=Stable Control

    OFF(data is sent to printer when <print> is pressed)

    **ON(Output to printer is sent only when weight is stable)

→Printer Form=Minimum weight to be printed 21 parameters are available:

0d(Minimum weight to be printed disabled

1d(no printout if weight is below 1d)

...

20d(no printout if weight is below 20d)

Refer to SPECIFICATIONS for d value or contact your dealer for more information.

		MODE 1	**MODE 2
ACC MODE		MODE 1= Accumulate and print at the same time .	
		MODE 2= Accumulate but only print after payment and change	
F9	Weight Unit	kg	g	Lb
F10	Calibration and Parameter	This function is only for authorized dealer/personnel.Do not change any settings or parameters under this function.Contact your dealer for more information.	

6. INSTRUCTION FOR USE

6.1 POWER ON
Powered on the instrument, instrument displays: -
   a. software and revision number and capacity of instrument,
   b. calibration count value,
   c. parameter set count value,
   d. all LCD segments,

Then countdown process starts. After that, the instrument is ready for operation.

6.2 START WEIGHING
   a. If zero weight cannot be obtained when unloaded, press **[ZERO]**. After **[ZERO]** is pressed, **Zero Indicator** appears. Refer to **SPECIFICATIONS** for maximum zero range,
   b. Always place an object onto platter gently. Excessive force applied to platter may cause damages to the weight sensor inside instrument,
   c. Weight of the object is displayed on thus unit automatically,
   d. It is a good practice to remove all loads from platter after weighing. It will prolong the life of the weight sensor inside instrument.

6.3 ABOUT WEIGHT UNIT CONVERSION
The instrument supports conversion among weight units. Press **[UNIT]** to shift between kg, g and lb.
Enter unit price to   /1LB /g /100g /kg . The Total amount will display according to the unit
The price weight unit being employed before power off will be employed when turned on again.

6.4 TARE OFF THE WEIGHT OF A CONTAINER[1]

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[1] The tare weight is deducted from the weighing capacity (Max), reducing the

Tare function is used to temporarily set the instrument to zero (such as cancelling the weight of a box or a container) in order to get the net weight result

How to use function of the printer

Place the weight on the scale, and then key in

the price per lb(example $99), then hit the PRINT button once

the DATE, TIME, NO.,NET,GROSS,PRICE,TOTAL will display on the receipt

then Hit "CH"(Change back$) key in the amount the

Customer gave to you(Example $100) Then hit "PRINT

and the PAYMENT & CHANGE should print on the ticket

6.4.1 Enable / Disable Repeat (Multiple) Tare

Depends on internal function setting, repeated (multiple) tare operation may be enable (**Mode 1**) or disabled (**Mode 2**). Contact your dealer for more information.

When repeat (multiple) tare is enabled: -
1. the instrument will permit multiple tare operations provided that both of the below requirements are fulfilled: -
   - The tare operation does not permit a reduction of the value of the tare;
   - The tare effect can only be cancelled when there is no load on the platter.
2. tare effect can only be cancelled when container is removed and gross weight is zero.

maximum weight that can be displayed.

6.4.2 Manual Tare[2]

When a container is used, follow the below steps to tare the weight of the container off to get a net weight result.

    a. Remove all loads from platter,

    b. Make sure that the **Zero Indicator** is on. If not, press **[ZERO]** to set weight reading to zero,

    c. Place container on platter,

    d. Press **[TARE]**,

    e. **Net Indicator** appears to indicate tare is in effect and weight reading is net weight. Refer to **SPECIFICATIONS** for maximum tare range,

    f. To cancel tare effect, remove all loads and container from platter and press **[TARE]** ,

    g. **Net Indicator** disappears. Tare effect has been removed and weight reading is gross weight.

6.5 Price Computing

Price computing starts with determining the unit price either by keyboard entry or recall store

6.5.1 Entering Unit Price

    a. Refer to **6.2** to **6.4** for zero, selecting preferred weight unit and tare operation,

    b. Place a load on the platter. The weight of the load is displayed on the **Weight Panel**

    c. Enter the unit price which is displayed on the **Unit Price Panel**.

    d. And now the Total amount is displayed on the **Amount Panel**.

6.5.2 Quantity Price Computing

This method is used where Total amount is calculated by quantity, not weight

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[2] a. The tare operation does not permit a reduction of the value of the tare;
    b. The tare effect can only be cancelled when there is no load on the platter.

a. Refer to **6.2** and **6.4** for zero, selecting preferred weight unit and tare operation,
b. Enter the unit price per quantity ,Press **[QTY],** now the unit price is display on the **Weight Panel**
c. Enter the quantity of the sample through the numeric keypad .It will display on the **Unit Price Panel**
d. And now the Total amount is displayed on the **Amount Panel**.
e. Press **[QTY]** ,back to price computing by weight status

6.6 Change paid back
a. Press [CH], Total amount will be display on **Weight Panel**
b. Enter the Total payment Value by numeric keypad
c. Now the change will be shown on **Amount Panel**.

6.7 Store and Recall the Unit price
Store 200 No.s unit price in numeric keys 0-9 .
a. Press unit price by numeric keys .It display on **Unit Price Panel.**
b. Press **[STORE]** ,scale will show "000 store plu"
c. Select the No. (1~200) from keypad then Press TARE to confirm
b. Now the unit price is in memory

Recall the unit price in memory
a. Press **[RECALL]** ,scale will show "000 store plu"
b. Press according No. which is stored in memory
   Press TARE to confirm
c. Now the unit price display on **Unit Price Panel.**

6.8   MEMORY ACCUMULATION FUNCTION
6.6.1 To Accumulate a Transaction to Memory[3] [4]

a. When amount is being displayed on **Amount Panel** , press **[PRINT]**[5] to and accumulate data of current transaction to memory,

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[3]   Transaction with zero amount will not be accumulated.
[4]   All data stored will be erased when the instrument is powered off or print out all accumulated amount

b. The instrument: -
- displays "**ACC**" on **Weight Panel.   ACC** denotes data has been accumulated to memory,
- displays "**n**" on **Unit Price Panel. n** donates the number of transactions which have been accumulated to memory.
- Displays total accumulated value on **Amount Panel**
- output transaction printout(s)[6] through the RS232 comport. The instrument returns to normal operation status after 2 seconds,
c. Repeat **a** for subsequent transactions[7],

6.7.2 Memory Clearance
a. Remove all loads from platter,
b. Follow **6.6 Change paid back**
c. Press **[Print]** to send out total accumulated Amount from memory including payment and change paid back
d. Now the Memory is clearance

NOTE: ONLY AFTER PAYMENT AND CHANGE PAID BACK ,CAN CLEARANCE THE MOMERY

7. RS232 DATA OUTPUT

Data output parameters are fixed as below: -
- Data Bit = 8
- Parity = None
- Stop Bit = 1

There are 2 data output modes (PC and Prt) are available[8]. PC is for communication with computer and other peripherals which accepts and processes continuous data communication. Prt (printer) is for transmission to printer or other peripherals which accept only single or manual data

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[5] Unstable weight will not be accumulated to memory. If **print** is pressed when weight is unstable, the instrument will reject this command and response with 2 beeps.

[6] The number of copies sent = the number of copy set in internal function F8. Refer to **5. INITIAL SETUP** for more information.

[7] Weight reading must return to zero to enable another weight accumulation.

[8] Refer to **5. INITIAL SETUP** for setting information

transmission.

Baud rate has to be set before proceeding to other settings.

7.1 PC (COMPUTER) MODE
Weight status and data are sent under the PC (Computer) Mode). Data is transmitted in ASCII code. Data format is listed on below table.

DATA BIT	DESCRIPTION
1~2	**MOTION STATUS** US = UNSTABLE ST = STABLE
3	**COMMA SEPARATION**
4~5	**NET/GROSS** NT = NET WEIGHT GS = GROSS WEIGHT
6	**SIGN** (Sign of weight reading) Positive = space. Negative = minus (-)
7~13	**WEIGHT VALUE** 7-character string containing the current weight including location of decimal point. If there is no decimal point, then the first character is a space.
14	**COMMA SEPARATION**
15~16	**UNIT** **kg = kilogram** **g_ = gram (_ = blank space)** **lb = pound**
17	**Cr**
18	**LF**

7.2 PRT (PRINTER) MODE

7.2.1 Printing Current Transaction

A standard printout as will be sent through the RS232 Comport when **[PRINT]**[9] is pressed. Refer to **Standard Printout Sample** on next page for description.

Number of copies sent = the number of copy set in internal function F8. Refer to **5 INITIAL SETUP** for more information. If extra copies are needed, press **[PRINT]** again.

7.2.2 Printing the Totalized Accumulated Result

Refer to **Totalized Accumulated Printout Sample** on next page for description.

How to set up printer

  [TARE] = Enter, save and return,

  [PRINT] = Go next,

Presshold **TARE** for 5 seconds as you turn on the scale it should give you **F1   AD** with the **PRINT** button go to **F8 SERIAL** then hit tare **BOUD RATE** should be set to **9600** hit tare to go to **SERIAL MODE** this should be set to **PRT** then hit tare to go to **PRINT COPY** this should be set to **1,** hit tare to go to **STAB CONT** this should be set at **OFF,** hit tare to go to **PRINT FROM** this should be set **0D,** hit tare to save and you went back to **F8 SERIAL**

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[9] Pressing **[PRINT]** will not accumulate transaction to memory. Press **[M+]** to trigger memory accumulation and print function simultaneously

Standard Printout Sample

```
DATE     07.08.2010
TIME       12:08:57

No.          1
TARE      0.1kg
GROSS     0.242kg
NET       0.142kg
PRICE.     30.00
/100g
TOTAL      42.60

No.          2
Q'ty        20
Pcs
PRICE      22.22
/PCS
TOTAL      444.40


PAYMENT    500.00
CHANGE      13.00
```

Description

1. Date of printing,
2. Time of printing,
3. M+ sequent number[10]
4. Tare Weight,
5. Gross Weight,
6. Net weight,
7. Unit price
8. Weight unit(price accordingly)
9. Amount for this item,
10. Total quantity
     (price accordingly)
11. Payment
     (total amount customer pay)
12. Change
     (change paid back to customer)

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[10] When this transaction is accumulated to memory.

8. BATTERY POWER AND RECHARGING

Remaining battery power of the built-in rechargeable battery is displayed on the **Battery Power / Level Indicator.**

8.1 SYMBOLS AND REMAINING POWER: -

[▮▮▮] Full Battery: ≥ 6.3V
[▯▮▮] 2 Blocks: ≥6.0V
[▯▯▮] 1Block: ≥5.7V
[▯▯▯] Frame only: ＜5.7V

8.2 BATTERY OPERATION TIME

Depends on the battery condition, a fully charge new rechargeable battery will usually give: -

- Around 200 hours of continuous operation without backlight, or
- Around 70 hours of continuous operation with backlight on

8.3 RECHARGE BATTERY

When [▯▯▯] appears, (when battery is less than 5.7V), it means the built-in rechargeable battery is at low voltage status. It is recommended to recharge immediately.

To protect the built-in rechargeable battery, the instrument will power off automatically when battery voltage is at extremely low level (when battery is at around 5.4V). Do not attempt to power the instrument on. Recharge the instrument immediately. Fail in doing so may cause unrecoverable damage to the built-in rechargeable battery.

Battery charging status is shown on the dual color **Charge Status Indicator**: -

- Red: - Recharging in process,
- Green: - Charging is completed.

Battery recharge is possible while instrument is in operation. Overcharge protection circuit is built inside to prevent battery damages caused by overcharge.

Heat will be generated during recharging and it is normal to feel minor heat at front panel of the instrument.

9. ERROR CODES

Error Code No.	Description
Err 1	Time value error
Err 2	Date value error
Err 3	Exceed maximum manual zero range
Err 4	Offset out of range / unstable during power on
Err 5	No load cell signal detected
Err 6	Tare operation error
--oL--	Overload (Gross weight is more than Max plus 9d)
UndEr	Under load (Gross weight is less than minus 20d)

10. DAILY CARE AND MAINTENANCE

- Clean the instrument with a soft, damp cloth. If necessary, use a mild detergent in water,
- Do not use any harsh, abrasive material, acetone, volatile solvent, thinner or alcohol for cleaning,
- Verify the accuracy of this unit periodically. Re-calibrate this unit if necessary. In some countries, calibration requires authorized / qualified agent. Contact your dealer for more information,
- Store this unit in a dry and clean place,
- Recharge battery before and every 2 months during long time storage.

Calibration

Turn on the scale and press/hold the tare key for 4 sec then

Let go and it will display F1, with the "Print" button go to F10 Cal

Press "Tare " to enter ,show "P----"; the initial pass ward is   1234 .

("Alarm" for next parameter; "Print" for last parameter)

Press "Tare " to enter to

"P1 Cap"   (capacity : 3kg,5kg,6kg,10kg,15kg,20kg,30kg)

""P2 Inc"   (1,2)

"P3 Zero track " (off, 0.25, 0.5, 1, 1.5 , 2.0)

"P4 Auto zero"   (off,1,2,4,5,10,20)"

"P5 key zero"   (off,1,2,4,5,10,20)"

"P6 Filter"   (1,2,3,4)

"P7 G1"   gravity

"P8 G2"   gravity

"P9 User Cal"   user calibration, Press "tare" to enter

"Cal unit " :   choose kg, lb as calibration unit

    Press "tare" to enter, it show "unload". Clear platform ,press"Tare"

    Show "000000", enter weight value with numeric keys. Add weight

    Press "tare" to show "Ld1 " ; when "stab" on, press "Tare "to succeed

    calibration

"P9 linear Cal"   Press "tare" to enter "Cal unit " :

                  choose kg, lb as calibration unit

    Press "tare" to enter, it show "unload". Clear platform , press "Tare"

    Show "000000", enter weight value with numeric keys. Add weight

    Press "tare" to show "Ld1 " ;

    when "stab" on, enter, it show "unload". Clear platform , press "Tare"

    Show "000000", enter weight value with numeric keys. Add weight

    Press "tare" to show "Ld2" ;

"P11 Pin"   pass ward setting ; press" tare " to show "P1----';

            Enter pass ward with numeric keys

                       Press "tare" to show "P2----'

           Enter pass ward again with numeric keys

        Press "Tare" to done the linear calibration

"P12 tare cont" ,press "tare" to enter "mode 1" or "mode 2"

"P13 Cal count", press "tare to choose "pin" or "Jumper" way to enter calibration mode