

NINGBO DEVELO PRECISION MAC CO.,LTD

Calibration Manual

Draft of: Technical department

[Http://www.develoscale.com](http://www.develoscale.com)

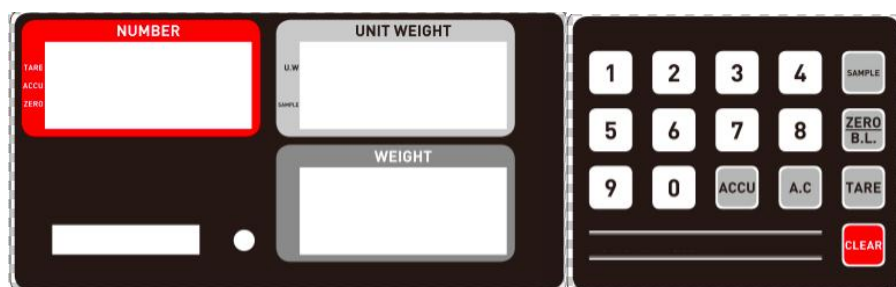
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Contents

JCS-A.....	2-3
JCS-AI.....	4-5
JCS-B.....	6-7
JCS-BI.....	8-9
KTACS-A4/Q1/Q1I/Q3/Q3I/Q5/Q5I/Q7/Q7I/Q9I/X1.....	10-17
HS-K.....	18
BL-H2 300g~1500g.....	18
BL-H2 2000g/0.01g.....	19
DJ LED.....	20
DJ LCD.....	21
HWA/HWB.....	22
NLD-LARGE LCD/NLD SS.....	23-25
NLD-C.....	26-27
NLD-W.....	28-29
DVL-16.....	30

JCS-A

Counting Scale



During self checking, press “【Sample】+【8】” key at the same time, after the self check, the three windows will display as: Unit 、 g 、 can use 【Tare】 key select the unit (in here have Kg and g available), press the number key input “090316” press 【ACCU】 key enter to set process.

1. “Capacity choose”., three windows display as:

FULL 、 SCALE 、 XXX (xxx mean the capacity) can use number key input the capacity (example: 30Kg scale, that input 30, if unit is g, that input 30000) press 【ACCU】 key confirm.

2. “Division choose”, three windows display as:

..... 、 d-g 、 x.x (x.x means the div.) press 【TARE】 key choose you want the division (in there have 1/3000-1/600000 available) press 【ACCU】 key confirm it.

3. “Zero track range chosen”, the three windows shows as:

..... 、 Zero 、 1.5 press 【TARE】 key (in there has 0.5 1.5 2.5 3.5 available, if you choose the value bigger, the zero track rang will bigger) ,press 【ACCU】 confirm.

4. “Calibration mode chosen”, press 【TARE】 key chosen calibration mode., in here has

A: “Calibration by any weight, B: “calibration by two point” and C: “calibration by three point”.

Operation as below:

A: 1 、 LOAD 、 for calibration by any weight, press 【ACCU】 key confirm, display the capacity value, at this time can input the weight value by keyboard, then put the weight same just input that weight value on the pan. press 【ACCU】 key when display is stable and on the weight

windows show the number same the weight value.the calibration finish.

(note: when you select the calibration by any weight,the weight value couldn't smaller than 1/3 full of capacity)

B、 、 、 for calibration two point,Press **【ACCU】** key show AD inner code,when press**【ACCU】**key show “HALF”,put on1/2 full of capacity, After the number stable,press **【ACCU】** key again ,will show “FULL”,please put on full of capacity and stable after,press **【ACCU】** key confirm it.the scale will display the weight value and the calibration finished it.

C、 、 、 For calibration three point.press **【ACCU】** key display AD inner code,press **【ACCU】** key again display “LOAD1”, put on 1/3 full of capacity weight,press **【ACCU】** key confirm,display “LOAD2”,this time put on 2/3 full of capacity weight,press **【ACCU】** key confirm,when display “LOAD3”,put on full of capacity weight, press **【ACCU】** key confirm.the scale will display the weight value and the calibration finished it.

(note:during the set,can press **【A.C】** key return back to up menu.)

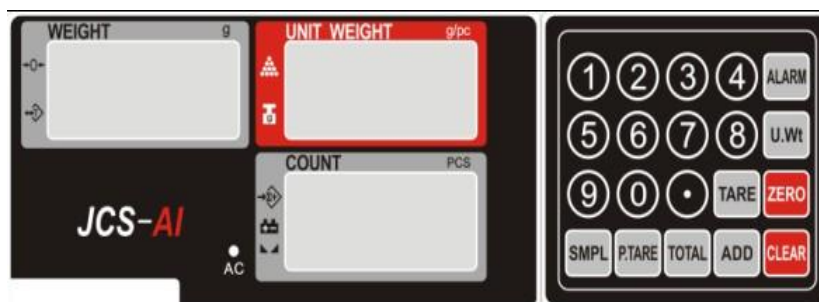
◆ Simple calibration:

During any weighing,press **【A.C】** key about 3seconds,that three windows will show as :

, , input calibration weight value by number key and put on the weight, when the stable sign appear it, press **【ACCU】** key confirm,the calibration finished it.

JCS-AI

Counting Scale



During self checking, press “【Sample】+【8】” key at the same time, after the self check, the three windows will display as: Unit g can use 【Tare】 key select the unit (in here have Kg and g available), press the number key input “090316” press 【TOTAL】 key enter to set process.

1. “Capacity choose”., three windows display as :

FULL SCALE XXX (xxx mean the capacity) can use number key input the capacity (example: 30Kg scale, that input 30, if unit is g, that input 30000) press 【TOTAL】 key confirm.

2. “Division choose, three windows display as:

..... d-g x.x (x.x means the div.) press 【TARE】 key choose you want the division (in there have 1/3000-1/600000 available) press 【TOTAL】 key confirm it.

3. “Zero track range choosen”, the three windows shows as:

..... Zero 1.5 press 【TARE】 key (in there has 0.5 1.5 2.5 3.5 available, if you choose the value bigger, the zero track rang will bigger) ,press 【TOTAL】 confirm.

4. “Calibration mode choosen”, press 【TARE】 key choosen calibration mode., in here has

A: “Calibration by any weight, B: “calibration by two point” and C: “calibration by three point”, Operation as below:

A、 1 LOAD for calibration by any weight, press 【TOTAL】 key confirm, display the capacity value, at this time can input the weight value by keyboard, then put the weight same just input that weight value on the pan. press 【TOTAL】 key when display is stable and on the weight windows show the number same the weight value. the calibration finish.

(Note: when you select the calibration by any weight, the weight value couldn't smaller than 1/3 of full capacity)

B、 、 、 .for calibration two point, Press【TOTAL】key showAD inner code,when press【TOTAL】key show “HALF”,put on1/2 full of capacity, wait the number stable,press 【TOTAL】 key again ,will show “FULL”,please put on full of capacity and stalbe after,press 【TOTAL】 key confirm it.the scale will display the weight value and the calibration finished it.

C、 、 、 . For calibration three point.press 【TOTAL】 key display AD inner code,press 【TOTAL】 key again display “LOAD1”, put on 1/3 full of capacity weight,press 【 TOTAL 】 key confirm,display “LOAD2”,this time put on 2/3 full of capacity weight,press 【TOTAL】 key confirm,when display “LOAD3”,put on full of capacity weight, press 【TOTAL】 key confirm.the scale will display the weight value and the calibration finished it.

(Note:during the set,can press 【ADD】 key return back to up menu.)

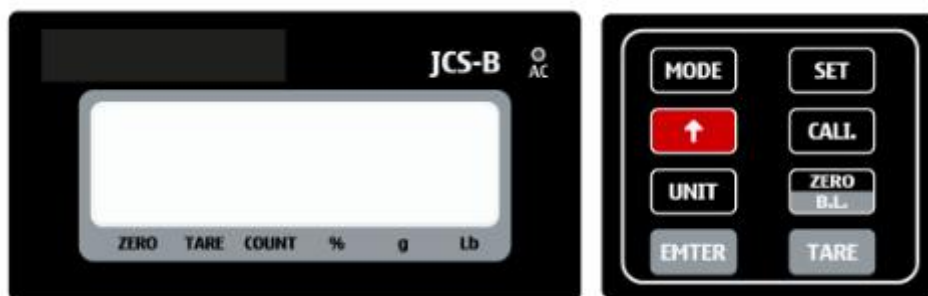
◆ Simple calibration:

During any weighing,press 【ADD】 key about 3seconds,that three windows will show as :

, , input calibration weight value by number key and put on the weight, when the stable sign appear it, press 【TOTAL】 key confirm,the calibration finished it.

JCS-B

Weighing Scale



1. Switch on,during the process of self-check ,press"**Enter**"+"**Cali.**"two keys at the same time,After self-checking it shows"**xxxxx**" on screen ,(xxxxx means full of capacity).can press "**↑**"key+ "**Enter**" input set password "**090316**", press "**Enter**" key into next step:
2. Unit select can press "**↑**"key, (g or kg)press "**Enter**" key into next step decimal number select.
3. when show dot X (X means decimal number.in here have 0.1.2.3.4. can press "**↑**"key select you want and press "**Enter**" key into next step.
4. On the scale show xxx.xxx,and the first number will flicker,can press "**↑**"key+ "**Enter**"key choosen you want the capacity number(example: 30kg,thus input 30kg)is ok.press "**Enter**"key confirm it into next step.
5. at this time on the window shows ZEX.X (X means Zero track range)can press "**↑**"key choosen :1.0 ; 1.5; 2.0; 2.5; 3.0; 3.5. press "**Enter**"key will display -0-.press "**Enter**"key again will display AD inner code.press "**Enter**"key again will into weight calibration mode set.
6. at this time on the window shows the "**Half**",this means mentiond you put 1/2 full of capacity weight on it,press "**↑**"key choose the
 - (1)"1 LOAD....."for calibration by any weight,when display shows "**HALF**",At this time put the 1/2 of full capacity weight on the platform. waitting 2seconds,when the stable indicate appear,press "**Enter**"key confirm, at this time will mention "**FULL**", please put the full of capacity weight on the scale pan,waitting stable indicate appear it,press "**Enter**"key confirm,also display the number same just weight.the calibration finished it.
 - (2) "2 LOAD....."when the scale in calibration by any weight mode,press "**Enter**"key will display xxx.xxx,this means full of capacity number and the first number is flicker,at this time need put the weight on it and input just same weight number,press "**Enter**"key,on the scale will show the number same just put on that weight.the calibration finished it.

Note: In calibration procedure , "**↑**"key for select, and the "**Enter**"key for make sure.and by shift,in every set step.can press "**Mode**"key return back last step.

Simple calibration:

When the scale display 0.00,press"**Cali.**" Key always.till show the "**CAL**"after loosen it,press "**SET**"key display the full of capacity,can press "**↑**" and "**Enter**"key input you want the weight value,and put same just you input the weight on the scale platform,press "**Enter**"key ,the calibration will be calibration.

Division;Zero and Speed Set:

Switch on and during weighing mode,press"**Enter**"+"**Cali.**"two keys,till show the d xxxxx after

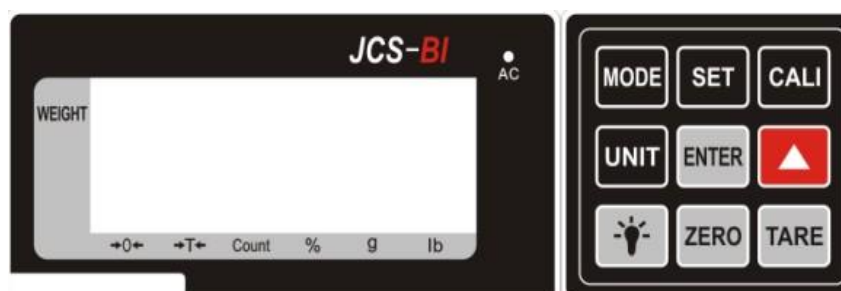
loosen it.(xxxxxx means division value)can press "↑"key select you want the division value,(1;2;5;10) can select it)and press "**Enter**"key confirm,at this time on the windows show the ZE X. x means zero track range,,can press "↑"key select,and press

"**Enter**"key,on the windows show the SPD-0,this is for "SPEED", can press "↑"key select you want(on here has: 0;1;2 can select),ensure after press "**Enter**"key confirm.

(the factory default value is 0) The process finished.

JCS-BI

Weighing Scale



1. Switch on,during the process of self-check ,press"**Enter**" + "**Cali.**"two keys at the same time,After self -checking it shows"**xxxxx**" on screen ,(xxxxx means full of capacity).can press "**↑**"key+ "**Enter**" input set password "**090316**", press "**Enter**" key into next step:
2. Unit select can press "**↑**"key, (g or kg)press "**Enter**" key into next step decimal number select.
3. when show dot X (X means decimal number.in here have 0.1.2.3.4. can press "**↑**"key select you want and press "**Enter**" key into next step.
4. On the scale show xxx.xxx,and the first number will flicker,can press "**↑**"key+ "**Enter**"key choosen you want the capacity number(example: 30kg,thus input 30kg)is ok.press "**Enter**"key confirm it into next step.
5. at this time on the window shows ZEX.X (X means Zero track range)can press "**↑**"key choosen :1.0 ; 1.5; 2.0; 2.5; 3.0; 3.5. press "**Enter**"key will display -0-.press "**Enter**"key again will display AD inner code.press "**Enter**"key again will into weight calibration mode set.
6. at this time on the window shows the "**Half**",this means mentiond you put 1/2 full of capacity weight on it,press "**↑**"key choose the
 - (1)"1 LOAD....."for calibration by any weight,when display shows "**HALF**",At this time put the 1/2 of full capacity weight on the platform. waitting 2seconds,when the stable indicate appear,press "**Enter**"key confirm, at this time will mention "**FULL**", please put the full of capacity weight on the scale pan,waitting stable indicate appear it,press "**Enter**"key confirm,also display the number same just weight.the calibration finished it.
 - (2) "2 LOAD....."when the scale in calibration by any weight mode,press "**Enter**"key will display xxx.xxx,this means full of capacity number and the first number is flicker,at this time need put the weight on it and input just same weight number,press "**Enter**"key,on the scale will show the number same just put on that weight.the calibration finished it.

Note: In calibration procedure , "**↑**"key for select, and the "**Enter**"key for make sure.and by shift,in every set step.can press "**Mode**"key return back last step.

Simple calibration:

When the scale display 0.00,press"**Cali.**" Key always.till show the "**CAL**"after loosen it,press "**SET**"key display the full of capacity,can press "**↑**" and "**Enter**"key input you want the weight value,and put same just you input the weight on the scale platform,press "**Enter**"key ,the calibration will be calibration.

Division;Zero and Speed Set:

Switch on and to be zero states ,press"**Enter**" + "**Cali.**"two keys,till show the d xxxxx after loosen

it.(xxxxxx means division value)can press "↑"key select you want the division value,(1;2;5;10;20;50 can select it)and press "**Enter**"key confirm,at this time on the windows show the ZE X. x means zero track range,,can press "↑"key select,and press

"**Enter**"key,on the windows show the SPD-0,this is for "SPEED", can press "↑"key select you want(on here has: 0;1;2 can select),ensure after press "**Enter**"key confirm.

(the factory default value is 0) The process finished.

KTACS-A4/Q1/Q1I/Q3/Q3I

Price computing scale

KTACS-Q5/Q5I/Q7/Q7I/Q9I/X1

Calibration procedure



1. Calibration way:

1.1 Enter to Calibration

- (1) **First way:** Short the circuit switch on the scale, enter to Set mode, press **【ZERO】** key enter to calibration;
- (2) **Second way:** After Switch on the scale, input **【9】【0】【3】【1】【6】** + **【TARE】** key will enter to calibration, the scale will display as follows:

WEIGHT	UNIT PRICE	TOTAL PRICE
Cal.weight	Cal	Set

- ① **Weight window:** display the last time calibration weight
- ② **Unit Price window:** Cal.means in the calibration mode.
- ③ **Total Price window:** display “Set”

1.2 Calibration step.

- (1) Ensure the calibration weight and choice the zero for calibration.

Enter to calibration mode, press **【TARE】** key choice the weight and zero for calibration.

(**Remark:** When calibration weight for 0, that can not operation) after enter to next step.

- (2) Put the weight begin to calibration

WEIGHT	UNIT PRICE	TOTAL PRICE
Inner code	Load	Set

- ① **Weight window:** display the current inner code and zero different value
- ② **Unit Price window:** Load means put the weight
- ③ **Total Price window:** display “Set”

A. In this step could press **【0】** key choice the zero for calibration be more times.

B. Put on the weight and after stable,press **【TARE】** key calibration,after get the stable value display as follows:

WEIGHT	UNIT PRICE	TOTAL PRICE
Inner code	Pass	Set

C. display 0.5 seconds after,return back to normally weighing.

2. The Functions Set.

2.1. Enter to set mode:

(1) When the weight for zero,input **【1】【5】【8】【8】【8】** + **【TARE】** key,enter
To set.

(2) Short the circuit and switch on the scale enter to set directly.

Exit the set mode:

(1) if short the circuit enter to set.on Set mode press **【ZERO】** key enter to Calibration

(2) if used password enter to calibration,on the Set mode press **【ZERO】** key return back to weighing

WEIGHT	UNIT PRICE	TOTAL PRICE
30.005	Fun	Set

2.2. Kg/Kilo shift:

On the set mode press **【0】** key enter to shift mode,press **【0】** key by shift function, on the weight window show the:

WEIGHT	UNIT PRICE	TOAL PRICE
1000	Fun-0	Set

(1) 500 : Open the Kilo function

(2) 1000: Close the Kilo function

Press **【TARE】** key save just choice and return back to set,press **【ZERO】** key not save and exit to Set mode.

2.3. Capacity set:

During on the set mode press **【1】** key enter to shift mode,input by number key,on the windows show the:

WEIGHT	UNIT PRICE	TOTAL PRICE
30.000	Fun-1	Set

Press **【TARE】** key save just choice and return back to set,press **【ZERO】** key not save and exit to Set mode.

2.4.Division Set.

On the set mode press **【2】**key enter to shift mode,press **【2】**key change to division,on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
5	Fun-2	Set

Division could choice it by cycle: 1 / 2 / 5 / 10

Press **【TARE】** key save just choice and return back to set,press **【ZERO】** key not save and exit to Set mode.

2.5. Decimal point Set:

Press **【3】** key change the decimal point place,on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
3	Fun-3	Set

Decimal point place could choice it by cycle:: 0 / 1 / 2 / 3 / 4

Press **【TARE】** key save just choice and return back to set,press **【ZERO】** key not save and exit to Set mode.

2.6.The price round down set:

Press **【4】** key by shift function,on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
5- 5	Fun-4	Set

(1) 5-10: Open the price round down function.

(2) 5- 5 : Close the price round down function.

Press **【TARE】**key save just choice and return back to set,press **【ZERO】**key not save and exit to Set mode.

2.7. Decimal point Set for unit price windows:

Press **【5】** key change the decimal point place,on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
3	Fun-5	Set

Decimal point place could choice it by cycle:: 0 / 1 / 2

Press **【TARE】** key save just choice and return back to set,press **【ZERO】** key not save and exit to Set mode.

2.8. Zero tracking:

On the set mode press **【6】** key enter to zero tracking,on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
6	Fun-6	Set

Press **【CLEAR】** key to delete the current display value and enter the correct number you want.

Press **【TARE】** or **【ZERO】** key return back to set mode.

2.9. Shift by14/24 key.:

Press **【7】** key by shift function, on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
14	Fun-7	Set

(1) 14 : 14 Key function

(2) 24 : 24 Key function

press **【TARE】** key save and return back to set,press **【ZERO】** key not save and exit to set.

2.10.Change the compensate range:

Press **【8】** key by shift function,on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
0	Fun-8	Set

Press **【8】** key to change the compensate rage from -10d~10d

Press **【TARE】** key save just choice and return back to set, press **【ZERO】** key for discard changes and exit setup.

2.11.Change the power 4V or 6V function:

Press **【9】** key enter to chose mode and use the same keys to change, on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
4.0	Fun-9	Set

(1) 4.0 means 4V battery

(2) 6.0 means 6V battery

Press **【TARE】** key save just choice and return back to set,press **【ZERO】** key for discard changes and exit setup.

2.12.Change the single or duel division:

Press **【.】** key enter to change mode and use the same keys to choice, on the windows show

(1) Single division:

WEIGHT	UNIT PRICE	TOTAL PRICE
1 -1	Fun-A	0.00

(3) Duel division:

WEIGHT	UNIT PRICE	TOTAL PRICE
1 -2	Fun-A	0.00

2.13 Sleeping mode set:

Press **【M1】** key enter to chose mode,on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
E-Sd	Fun-B	Set

(1) E-Sd : Sleeping mode.(During weighing,2seconds after will only show – symbol)

(2) E-bSd:Weighing mode.(During weighing,show the number on the scale always)

press **【TARE】** key save and return back to set,press **【ZERO】** key for discard changes and exit setup.

3. RS232 transmission protocol:

3.1. UART BAND RAT

Press **【M2】** key during the set mode, on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
2400	Fun-C	Set

On the WEIGHT windows show the band rate value, change the value of band rate by**【M2】**keys,there are **2400/4800/9600/19200** available.

press **【TARE】** key save and return back to set,press **【ZERO】** key for discard changes and exit setup.

3.2. UART transmit the term of touch

Press **【M3】** key during the set mode,on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
Stb	Fun-D	Set

On the WEIGHT windows show the terms of touch, change the way of transmit by **【M3】** key,there are

Stb/Etb/Ser/CLOSE available.

press **【TARE】** key save and return back to set,press **【ZERO】** key for discard changes and exit setup.

- Stb: After stable to transmit;
- Etb: After UART received commend <PWI> (ASCII code) to transmit;
- Ser: Continue to transmit;
- CLOSE: Closed UART to transmit.

3.3. UART SEND THE DATA OF INFORAMTION

Press **【M4】** key during the set mode,on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
1 Line	Fun-E	Set

On the WEIGHT windows show the send data information and press **【M4】** key to change the way of transmit, 1Line /3 Line can be worked.

- 1Line: Only send the “Weight” value ;
- 3Line: Send the value of “Weight”, “Unit Price” and “Total price” .

3.4. UART RECEIVE COMMAND SETTING

Press **【M5】** key during the set mode, on the windows show:

WEIGHT	UNIT PRICE	TOTAL PRICE
P	Fun-F	Set

On the WEIGHT windows show the receive command and press **【M5】** key to change the way of transmit, P/W/I (Capital letter).

- P: Send the data by “P” command.
- W: Send the data by “W” command.
- I: Send the data by “I” command.

4. Serial communication protocol(ASCII code)

There are 2 ways for send the data: the first one is only send the weight and the second is send all value for “Weight,Unit price and total price”.

4.1.Send Weight..

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9	Byte10	Byte11	Byte12
W	Blank	symbol	weight	weight	weight	weight	weight	weight	K	g	0x0D	0x0A

When the weight to be overweight,Byte5~Byte6 send OL ASCII code, **【 OL Kg】**

4.2. Send Unit Price..

Byte13	Byte14	Byte15	Byte16	Byte17	Byte18	Byte19	Byte20	Byte21	Byte22	Byte23
U	Blank	blank	U/Price	U/price	U/Price	U/Price	U/price	U/price	0x0D	0x0A

4.3. Send Total Price

Byte24	Byte25	Byte26	Byte27	Byte28	Byte29	Byte30	Byte31	Byte32	Byte33	Byte34
T	Blank	T/price	T/price	T/price	T/price	T/price	T/Price	T/price	0x0D	0x0A

Example:

- When you choice the way of transmit is 1Line and the weight is 1.000Kg:
Send the data is: **【1.000Kg】**
- If you choice the way of transmit is 3Line and the weight is 1.000Kg,U/price =1.23,Total price = 1.23:
Send the data is:
【W 1.000Kg】
【U 1.23】
【T 1.23】

4.4. Accumulative transmission

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9	Byte10	Byte11	Byte12
Blank	blank	T	O	T	A	L			blank	blank	0x0D	0x0A

Byte13	Byte14	Byte15	Byte16	Byte17	Byte18	Byte19	Byte20	Byte21	Byte22	Byte23
C	=						1	0	0x0D	0x0A

Byte24	Byte25	Byte26	Byte27	Byte28	Byte29	Byte30	Byte31	Byte32	Byte33	Byte34
T	blank	Price	Price	Price	Price	Price	Price	Price	0x0D	0x0A

-
- Only send 1time when display the accumulative.
 - When the accumulative is “0”,that do not send.
 - Only transmit when the data to be 3 lines.

Example:

Accumulative 10 units,total price is 200.00,send the data as follows:

【 TOTAL】

【C= 10】

【T 200.00】

HS-K

Kitchen scale

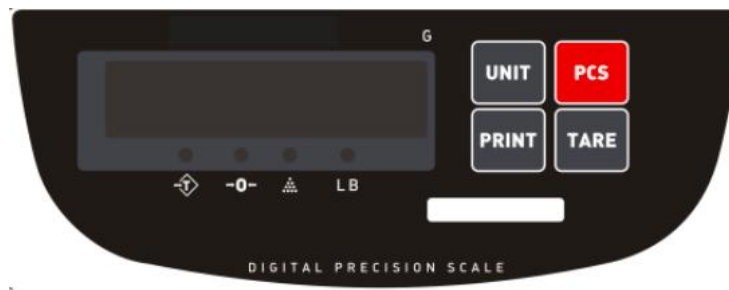


1. Press the **【UNIT】** key, then press **【ON/OFF】** key switch on the scale, at this time on the windows show the "CAL".also showing inner code.
2. Press the **【UNIT】** key always, then press **【TARE】** key select you want the Capacity, ensure after loosen this two keys. and enter to next step weight calibration.
- 3.. Press the **【TARE】** key windows show the 1/2 of full capacity and then show the "0" g , which should be put on the weight refer to the display (example: if scales capacity for 1000g, that at this step please put on the 500g weight on it) when the stable sign appear, press the **【TARE】** key confirm it. then on the windows show the Full of capacity number and show the "0" g, which should be put on the weight refer to the display (example: if scales capacity for 1000g, that at this step please put on the 1000g weight on it), when the stable sign appear, press **【TARE】** key confirm it, after on the windows show the "PASS" and show the number same just the weight value.

Switch off and take off all the weight, then switch on, the scale can be used.

BL-H2

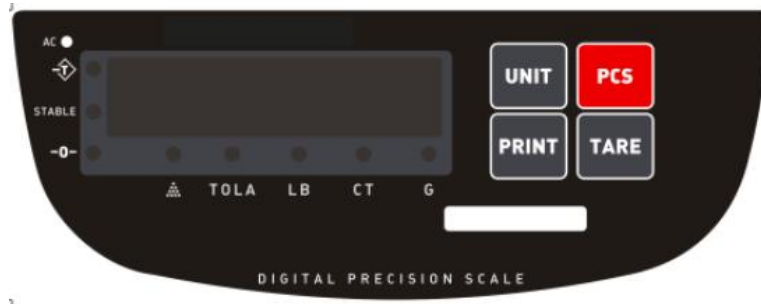
Electronic Balance 300g~1500g



Press the **【TARE】** key for about 2 seconds, the display will show the "calibration weight value". put the same weight on the pan, press the **【TARE】** key after the stable symbol appear, when the weight value display, the calibration procedure is finished.

BL-H2

Electronic Balance 2000g/0.01g



Press & hold the **TARE** button for 3 seconds, then it shows "LOAD-2".

Select the "LOAD-2" "LOAD-3" or "LOAD-4" by through the **PCS** key.

There are two ways to calibrate:

a. **Fixed range load:** Press **TARE** key again, then it will show a weight number, put that weight on the scale. then it shows "ZERO". Now remove the weight & it will show another weight. Put that weight on the scale & the calibration completed.

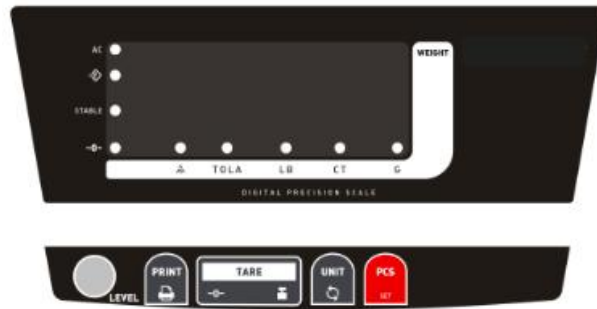
b. **Random load:** Select the "LOAD-1" by through the **PCS** key.

After to choosing press the **TARE** key confirmation.

when the display flashing, press "PCS" key change the number and press "Tare" key to move the position & until to the last digit, enter to next step, you selected the number flashing & put that weight on the scale, then it shows the weight number and while scale is stable, the calibration procedure is finished.

DJ LED

Electronic Balance



Press & hold the **TARE** button for 3 seconds, then it shows "LOAD-2".

Select the "LOAD-1" "LOAD-2" "LOAD-3" or "LOAD-4" by through the **PCS** key.

There are two ways to calibrate:

a. Fixed range load: Press **TARE** key again, then it will show a weight, put that weight on the scale. then it shows "ZERO". Now remove the weight & it will show another weight. Then Put that weight on the scale & the calibration completed.

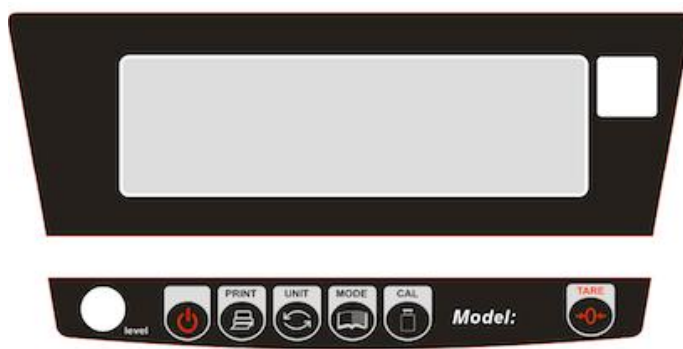
b. Random load: Select the "LOAD-1" by through the **PCS** key.

After to choosing press the **TARE** key confirmation.

when the display flashing, press "PCS" key change the number and press "Tare" key to move the position & until to the last digit, enter to next step, you selected the number flashing & put that weight on the scale, then it shows the weight number and while scale is stable, the calibration procedure is finished.

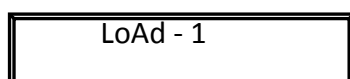
DJ LCD

Electronic Balance



Auto calibration

Long Press **【CALI.】** key to enter CALIBRATION mode, and the display will show the “LoAd-1”, enter to Auto calibration.



Please use **【MODE】** **【UNIT】** key to selecting the calibration method, include: LoAd-1, LoAd-2, LoAd-3, LoAd-4. press **【TARE】** key to confirm the calibrate method.

- After you choose **Load-1**, The mass values will Choose by self for calibrate. please use **【MODE】** key for select the number and confirmed by **【TARE】** key. after all the numbers in flashing PLS put the same mass on the scale accordingly display, While scale is stable and shows the value, then take away the weight ,the scale will return back to weighing mode. The calibration procedure is finished.
- The other mode the mass values will depends scales spread equally as full capacity.

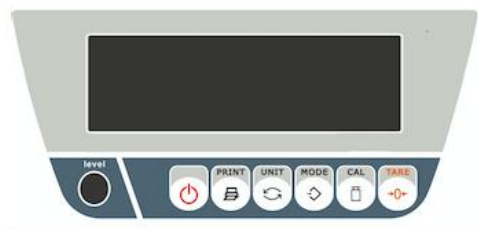
When the display is flashing and showing the weight values, put the mass on scale accordingly display. While scale is stable and display “ZERO”, then take away the weight.....until to finished the last calibration value, the scale will return back to weighing mode. The calibration procedure is finished.

NOTE:

- **Mass Value:** Any over(full calibration x10%)weight of key in value is acceptable to calibrate.
- Suggestion: Generally. if the calibrated weight is over half load capacity or full capacity, it will be good for getting the precision accuracy.
- During in calibration procedure, you can press the **【PRINT】** key to return last menu.

HWA/HWB

Electronic Balance



Long Press  key to enter CALIBRATION mode, and the display will show the "LoAd-1", enter to Auto calibration.

LoAd - 1



Please use ,  key to selecting the calibration method, include:



LoAd-1, LoAd-2, LoAd-3, LoAd-4. press  key to confirm the calibrate method.

- After you choose **Load-1**, The mass values will Choose by self for calibrate. please use  key for select the number and confirmed by  key. after all the numbers in flashing PLS put the same mass on the scale accordingly display, While scale is stable and shows the value, then take away the weight, the scale will return back to weighing mode. The calibration procedure is finished.
- The other mode the mass values will depends scales spread equally as full capacity.

When the display is flashing and showing the weight values, put the mass on scale accordingly display. While scale is stable and display "ZERO", then take away the weight.....until to finished the last calibration value, the scale will return back to weighing mode. The calibration procedure is finished.

NOTE:

- **Mass Value:** Any over (full calibration x10%) weight of key in value is acceptable to calibrate.
- **Suggestion:** Generally, if the calibrated weight is over half load capacity or full capacity, it will be good for getting the precision accuracy.



- During in calibration procedure, you can press the  key to return last menu.

NLD-LARGE LCD/NLD-SS

Weighing Indicator



1. Connect loadcell, press the **【TARE】** and **【MODE】** key, switch on the scale, then loosen this two keys. The display shows:

- (X means zero track range)

press **【UNIT】** key chosen, press **【MODE】** key to confirm and enter into next step (Choose capacity)

2. Choose capacity

The display shows:

Press **【UNIT】** key move the number position, press **【←】** and **【→】** key to select the capacity, press **【MR】** key Choosing dot position, press **【MODE】** key to confirm and enter into next step (Choose accuracy value)

3. Chosen accuracy value

The display shows:

,

Press **【UNIT】** key to change the value

Press **【MODE】** key to confirm and enter into next step (choose calibration weight)

4. Chosen calibration weight value:

The display shows:

,

press **【UNIT】** key move the number position

press **【←】** and **【→】** key to select the number

press **【MODE】** key to confirm, the display shows for AD inner code, when display that

three stable arrow appear it also "di" sounds. press **【MODE】** key to confirm and enter into next step (Calibration)

5. Calibration

The display shows:

for AD inner code

At this time which should be put on the weight refer to the chosen, when display that three stable arrow appear it, press **【MODE】** confirm. the calibration procedure is finished. Switch off, and take off all the weight, then switch on, the scale can be used.

SAMPLE: (capacity 30kg division 2g)

1. While pressing [CHECK/MODE], [TARE/<] and turn on power switch, it will show version code (230005) for three seconds
2. Display "FI 3", press [MODE] selects it.
3. Display "ZE 6", press [MODE] select it
4. Display "C XXXXX", adjust "XXXXX" to "30.000" by [SHIFT], [TARE] and [ZERO]. Press [MODE] confirms it.
5. Display "d XXXXX", adjust "XXXXX" to "0.002" by [SHIFT]. Press [MODE] confirms it.
6. Display "E XXXXX", adjust "XXXXX" to "20.000" (2/3 capacity) by [SHIFT], [TARE] and [ZERO]. Press [MODE] confirms it.
7. Display "C XXXXX". When the sign of stable appear, press [MODE].
8. Display "L XXXXX", load 20kg weight. After several seconds a beep sound appears. If the beep doesn't appear, press [MODE] key to finish weight calibration directly. Or reset the indicator.

6. Selection Of Units

This function is used for setting the default unit. The unit selected will be kept in the scale when turn on the scale each times. There are four units (g, lb, t and oz) to be selected. kg is base unit, it can't be selected

Press [MODE] key to select the desired unit, and select "on" or "off" by [Shift] key. After final unit is selected, Press [MODE] key to enter Power on status

7. [PRINT]

Serial port 1:

Data format: 10-bit (bit) ----- 1-bit start bit, 8-bit data bit, 1-bit stop bit.

The serial port sends data in a continuous manner in the following format (all in ASCII): =, X1, X2, X3, X4, X5, X6, and the symbol weight sends the low bit first, then the high bit. When the weight is positive, the symbol is blank space; When the weight is negative, the symbol is "-".

For example: the instrument with a weight of 123.45kg sends:

=54.321 =54.321 =54.321

The weight is 12345kg. The instrument sends:

=543210 =543210 =543210

The weight is — 123.45kg. The instrument sends:

=54.321—=54.321—=54.321—.....

Baud rate: 9600

Sending method: continuous sending

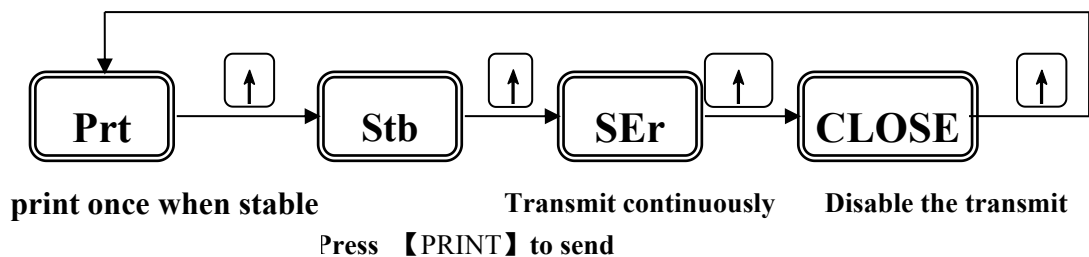
Serial port 2: RS232 communication protocol

Press and hold the **【ZERO or HOLD】**+**【M+】** key at the same time to switch on the machine, then release it, the screen will display "CLOSE" (the default is CLOSE), press the **【MODE】** and **【UNIT】** key to select the sending method:

Set transmission method

Press the **【UNIT】** key to choose the method of: “**Stb**” = output when stable, “**Prt**” = output once when **【PRINT】** key is pressed, “**SEr**” = series (continuous output), or “**CLOSE**” = output disabled. Then press **【UNIT】** key to select method or press **【Mode】** to confirm and set the next parameter.

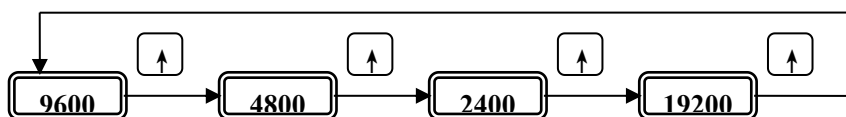
(The default mode is “close”.)



(2) Baud rate Setting

Press **【UNIT】** key to select the desired baud rate among “19200” “2400” “4800” “9600”, then press **【MODE】** to confirm the selection and exit setting.

(The default baud ratio is 9600.)



Frame format:

The general RS232 UART signal is adopted, and every 10BIT is a data frame. The frame format is as follows:

bit bit bit bit bit bit bit bit bit bit

1 2 3 4 5 6 7 8 9 10

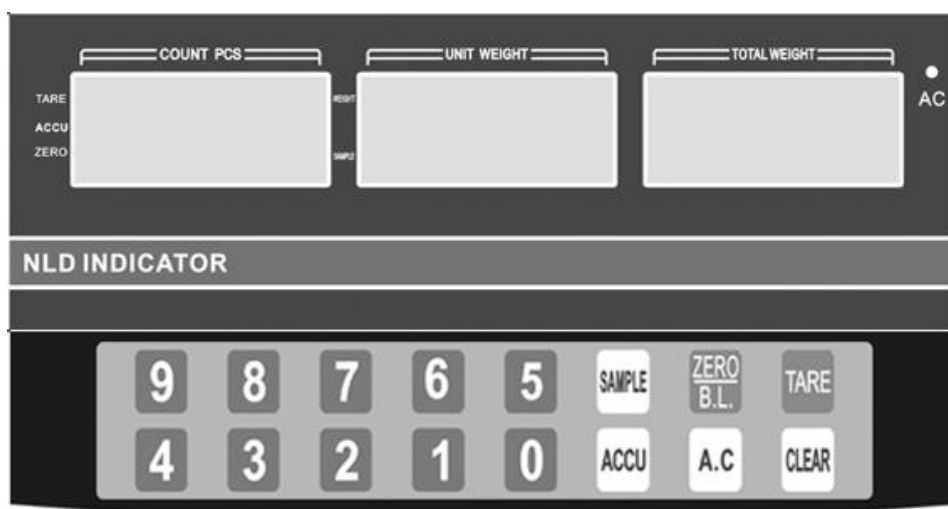
Bit1: start bit; Bit2-bit9: data bit; Bit10: stop bit

Weight: (invalid 0 removed)

Byte7	Byte8	Byte9	Byte10	Byte11	Byte12	Byte13	Byte14
Symbol	Num	Num/Dot	Num/Dot	Num/Dot	Num/Dot	Num/Dot	Num/Dot

NLD-C

Counting Indicator



During self checking, press “**【Sample】**+**【8】**” key at the same time, after the self check, the three windows will display as: Unit 、 g 、 can use **【Tare】** key select the unit (in here have Kg and g available), press the number key input “090316” press **【ACCU】** key enter to set process.

1. “Capacity choose”., three windows display as :

FULL 、 SCALE 、 XXX (xxx mean the capacity) can use number key input the capacity (example: 150Kg scale, that input 150, if unit is g, that input 150000) press **【ACCU】** key confirm.

2. “Division choose, three windows display as:

..... 、 d-g 、 x.x (x.x means the div.) press **【TARE】** key choose you want the division (in there have 1/3000-1/600000 available) press **【ACCU】** key confirm it.

3. “Zero track range choosen”, the three windows shows as:

..... 、 Zero 、 1.5 press **【TARE】** key (in there has 0.5 1.5 2.5 3.5 available, if you choose the value bigger, the zero track rang will bigger) ,press **【ACCU】** confirm.

4. “Calibration mode choosen”, press **【TARE】** key choosen calibration mode., in here has

A: “Calibration by any weight, B: “calibration by two point” and C: “calibration by three point”,

Operation as below:

A 、 1 、 LOAD 、 for calibration by any weight, press **【ACCU】** key confirm, display the capacity value, at this time can input the weight value by keyboard, then put the weight same just input that weight value on the pan. press **【ACCU】** key when display is

stable and on the weight windows show the number same the weight value.the calibration finish.

(Note: when you select the calibration by any weight,the weight value can not smaller than 1/3 full of capacity)

B、 、 、 .for calibration two point, Press **【ACCU】** key showAD inner code,when press **【ACCU】** key show “HALF”,put on1/2 full of capacity, wait the number stable,press **【ACCU】** key again ,will show “FULL”,please put on full of capacity and stalbe after,press **【ACCU】** key confirm it.the scale will display the weight value and the calibration finished it.

C、 、 、 . For calibration three point.press **【ACCU】** key display AD inner code,press **【ACCU】** key again display “LOAD1”, put on 1/3 full of capacity weight,press **【ACCU】** key confirm,display “LOAD2”,this time put on 2/3 full of capacity weight,press **【ACCU】** key confirm,when display “LOAD3”,put on full of capacity weight, press **【ACCU】** key confirm.the scale will display the weight value and the calibration finished it.

(Note:during the set,can press **【A.C】** key return back to up menu.)

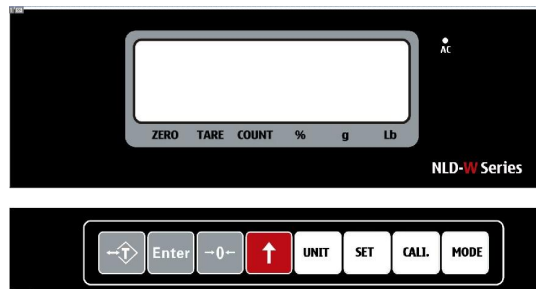
◆ Simple calibration:

During any weighing,press **【A.C】** key about 3seconds,that three windows will show as :

, , input calibration weight value by number key and put on the weight, when the stable sign appear it, press **【ACCU】** key confirm,the calibration finished it.

NLD-W

Weighing Indicator



1. Switch on, during the process of self-check, press "Enter" + "Cali." two keys at the same time. After self-checking it shows "xxxxx" on screen, (xxxxx means full of capacity). can press "↑" key + "Enter" input set password "090316", press "Enter" key into next step:

2. Unit select can press "↑" key, (g or kg) press "Enter" key into next step decimal number select.

3. when show dot X (X means decimal number. in here have 0.1.2.3.4. can press "↑" key select you want and press "Enter" key into next step.

4. On the scale show xxx.xxx, and the first number will flicker, can press "↑" key + "Enter" key choose you want the capacity number (example: 30kg, thus input 30kg) is ok. press "Enter" key confirm it into next step.

5. at this time on the window shows ZEX.X (X means Zero track range) can press "↑" key choose :1.0 ; 1.5; 2.0; 2.5; 3.0; 3.5. press "Enter" key will display -0-. press "Enter" key again will display AD inner code. press "Enter" key again will into weight calibration mode set.

6. at this time on the window shows the "Half", this means mentiond you put 1/2 full of capacity weight on it, press "↑" key choose the

(1) "1 LOAD....." for calibration by any weight, when display shows "HALF", At this time put the 1/2 of full capacity weight on the platform. waiting 2 seconds, when the stable indicate appear, press "Enter" key confirm, at this time will mention "FULL", please put the full of capacity weight on the scale pan, waiting stable indicate appear it, press "Enter" key confirm, also display the number same just weight. the calibration finished it.

(2) "2 LOAD....." when the scale in calibration by any weight mode, press "Enter" key will display xxx.xxx, this means full of capacity number and the first number is flicker, at this time need put the weight on it and input just same weight number, press "Enter" key, on the scale will show the number same just put on that weight. the calibration finished it.

Note: In calibration procedure, "↑" key for select, and the "Enter" key for make sure. and by shift, in every set step. can press "Mode" key return back last step.

◆ Simple calibration:

When the scale display 0.00, press "Cali." Key always. till show the "CAL" after loosen it, press "Mode" key display the full of capacity, can press "↑" and "Enter" key input you want the weight value, and put same just you input the weight on the scale platform, press "Enter" key, the calibration will be calibration.

◆ Division; Zero and Speed Set:

Switch on, press "Enter" + "Cali." two keys, till show the d xxxxx after loosen it. (xxxxxx means division value) can press "↑" key select you want the division value, (1; 2; 5; 10; 20; 50 can select it) and press

"Enter"key confirm,at this time on the windows show the ZE X. x means zero track range,,can press
"↑"key select,and press"Enter"key,on the windows show the SPD-0,this is for "SPEED", can press
"↑"key select you want(on here has: 0;1;2 can select),ensure after press "Enter"key confirm.(the factory
default value is 0) The process finished.

Wireless code to code

Switch on/off and after self checking, Press the "ENTER" key for 3seconds when the scale display "no" ,
enter to code to code states.

Steps:

1. Display "24L01",press 【 ↑ 】 key input the number "1",then press 【 Enter 】 key enter to code matches.
If input other numbers that means exit the code to code.
2. Display "P XX", display the automatic choice frequency, press 【 Enter 】 key to next step.
3. Display "XXXX", display the automatic choice the communication address, press 【 Enter 】 key to next
step.
4. If the code matched successful, display "done", the code matching finished. If display "plfs" please
check the sending device has the states in coding. Whether the wireless module works.

Marks: Only display "no" can work for the code - to - code settings.

DVL-16

Weighing Indicator



Connect load cell properly, then turn on the indicator, press [#] key while it is initialization, it will enter into the calibration mode and calibrate as following:

STEP	OPERATION	DISPLAY	NOTES
1	Press [TARE] for selection of division	[d X]	Select division optional(1/2/5/10/20/50),press [#] for confirm Example: 20
2	Press [TARE] for selection of DECIMAL POINT selection	[P X]	Select decimal point optional: 0~3, press [#] for confirm Example:3
3	Set the full range	[FULL]	Press [TARE] for selection of the digit bit; Press [ZERO] for selection of the digit; Press [#] for confirm the input of full range
4	Zero point calibration: Press [#] when the stable signal is on	[noload]	Assure there is no load
5	Full range point calibration: Press [#] when the value input is the same as the loaded weight and the stable signal is on	[AdLOAD]	While inputting the loaded weight, Press [TARE] for selection of the digit bit; Press [ZERO] for selection of the digit; when the input value is the same as the loaded weight and the digit bit is at the highest bit, press [#] when the stable signal is on
6		[End]	