Wireless digital scale

User’s manual

TPS

CÂN ĐIỆN TỬ THỊNH PHÁT

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1. Product Features

OCS-SZ digital wireless crane scale is composed of two parts, a scale and a force indicator. The scale uses a patented high precision resistant-strain transducer and employs a reliable force transfer structure. Combined with the multi-function intelligent indicator, the weighing system is very capable for application in specified range of weighing operation.

Display

- Compact and light weight for portable operation
- Backlighting equipped LCD display for great visibility under low light operation environment.
- Build-in calendar and clock
- Build-in Epson micro printer that can print up to 9999 set of weighing data according to the measurement date, order or weighing sequence
- Large memory space to store up to 2,900 lines of data.
- Battery power level monitor for scale and indicator
- Overload warning for safe operation

Scale body

- Circular crane scale，crashproof,waterproof and antimagnetic
- Ringlike crashproof antenna protection seat in case of various working condition
- Exclusive patented load cell which is stable and reliable with long lifetime
- Auto-off when the scale remains inactive for over 2 hours

2. Key Technical Specification and Basic Parameters

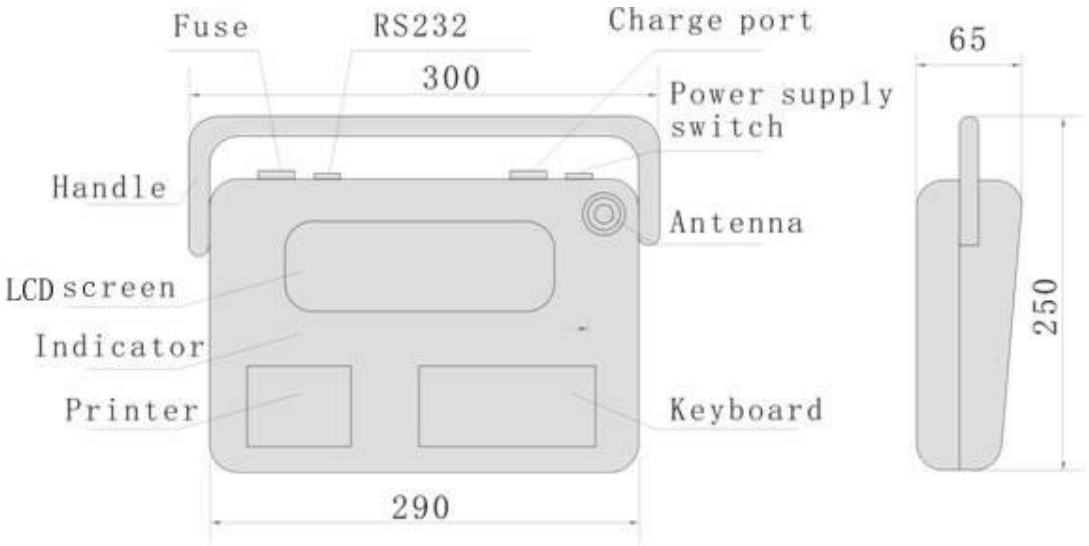
- Accuracy Class: GB11883-2002 (International R76 equivalent)
- Power Source: 6V/4AH Nd-H battery for indicator; 6V Lead-acid battery for scale
- Radio Frequency: 433MHz (32 frequency band)
- Load Cell Activation Power: DC 5V±5%
- Operation Temperature: indicator 0℃-40℃ , scale body -20℃-50℃,(thermal)normal temperature~70℃
- Radio Transmission distance:（normal）≥150m unobstructed,（high power ）≥300m unobstructed.

1. Model Specifications

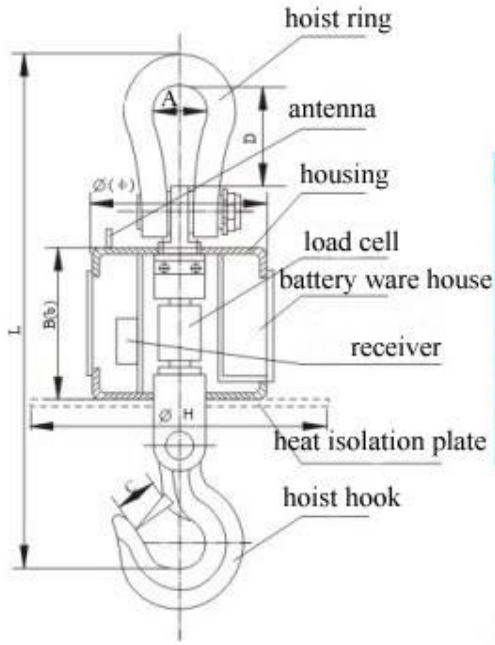
Model Type	Maximum Capacity（kg）	Division (kg)	Weight Limit（kg）
OCS-SZ-1	1000	0.5	1004.5
OCS-SZ-2	2000	1	2009
OCS-SZ-3	3000	1	3009
OCS-SZ-5	5000	2	5018
OCS-SZ-10	10000	5	10045
OCS-SZ-15	15000	5	15045
OCS-SZ-20	20000	10	20090
OCS-SZ-30	30000	10	30090
OCS-SZ-40	40000	20	40180
OCS-SZ-50	50000	20	50180

2. Schematics

- Indicator



- Scale



Type	A	B(b)	C	D	L	ø(ϕ)	ø(H)	weight
SZ-C-1t	76	105	34	95	460	190	500	33
SZ-C-2t	76	105	34	95	460	190	500	33
SZ-B-3t	70	195(140)	50	95	500	300(240)	500	33(32)
SZ-B-5t	75	195(190)	44	92	620	300(270)	500	47(40)
SZ-B-10t	106	195(190)	60	117	712	320(270)	500	52(46)
SZ-B-15t	140	220(210)	90	118	897	320(210)	550	82(73)
SZ-B-20t	140	220(210)	90	118	897	320(320)	550	82(73)
SZ-B-30t	150	220(210)	100	172	1050	345(320)	550	163(155)
SZ-B-40t	214	300(270)	105	274	1263	375(375)	600	268(260)
SZ-B-50t	214	300(270)	105	274	1263	375(375)	600	268(260)

Heat isolation plate only high temperature scale

3. High temperature wireless scale

Specially modidfied for smelt or metal processing factories：

◆ Unique load cell for thermal scale.

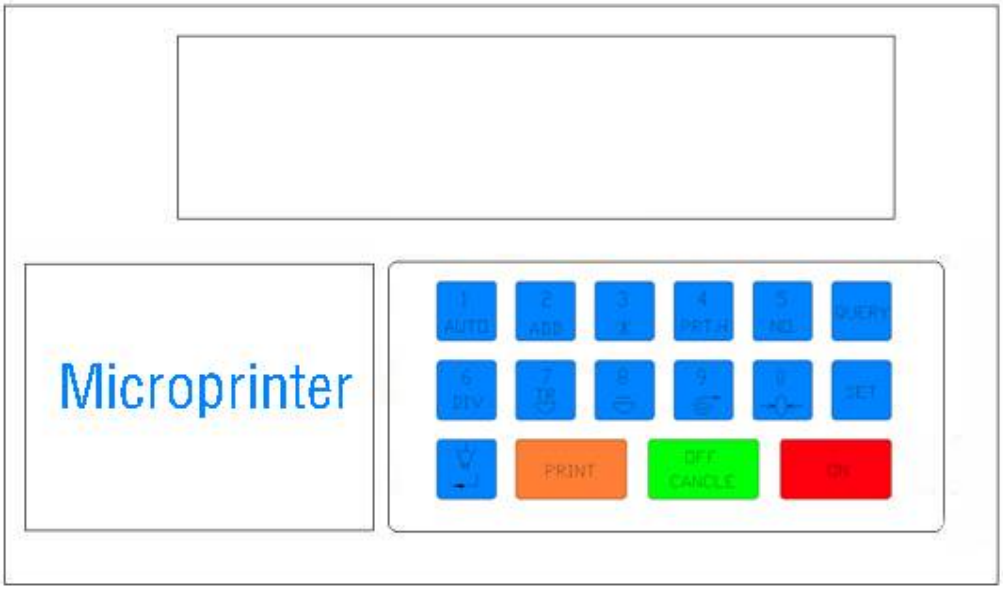
◆ Special equipped heat isolation plate for thermal radiation,Additional heat isolation layer inside the scale cavity to stop heat diffusion。

◆ Subtract function is specially designed for steel milling or molding operation。

The distance between hook and heated as follows：

The temperature of heated	Safe distance
1000℃	1200mm
1200℃	1500mm
1400℃	1800mm
1600℃	2000mm

4. Indicator Panel



5. Key Pad Functions

Keys	Function descriptions
0~9	Numerical keys, they can also be used with other function keys
	Zero the current weight display.
AUTO	Start or End auto storing or printing function.
ADD	Add current stable weighing data to the internal memory, including parameters, such as sequence number, index, date and time, etc.
*	Show the total weighing number and total weight
PRT.H	Print the header for the data sheet
NO.	Change the current order number (0000~9999)
DIV	Set the division number or the minimum display variable number
TR	Set the known tare number (0000.0 ~9999.9)
	This function is mainly used for milling or molding application to indicate the amount of weight subtracted.
	Forward the print paper for four lines without printing
QUERY	Search the existing weighing data
SET	Set the system index
	Turn on the backlighting when the display is for weight or time. Confirm for others.
PRINT	Print the weighing data (two types of printing method)
OFF/CANCLE	Turn off the indicator or cancel specified operating steps
ON	Turn on power supply to the system

6. Introduction - Mode of operation

Immediately after the indicator is turned on, it will go through self-check sequence, including the version of the operating interface, measurement capacity limit, then the numbers from 999999, 88888, 777777, ….to 111111. There will be 0.5 second interval between each set of numbers.

After the completion of self-check sequence, the time mode will be displayed as Fig. 1. If there is weighing signal detected, the display will change into Weigh mode from time mode as shown in Fig. 2. Otherwise the display will remain in Time mode.

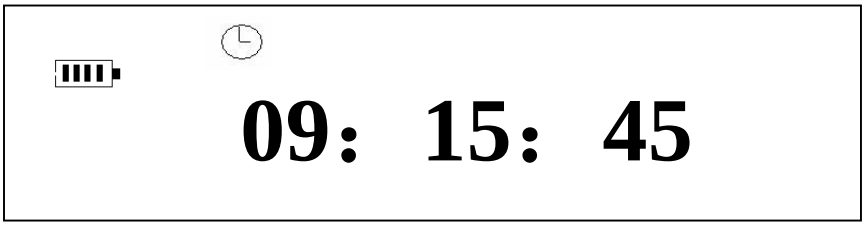


Fig.1

As shown in Fig. 1, the battery power level indicator is located in the upper left corner of the LCD display. Four-bar indicates the battery is at full charged full, one-bar means the battery power is low. In that case, the indicator needs to be charged to prevent it from data lost. 09:15:45 is the current time.

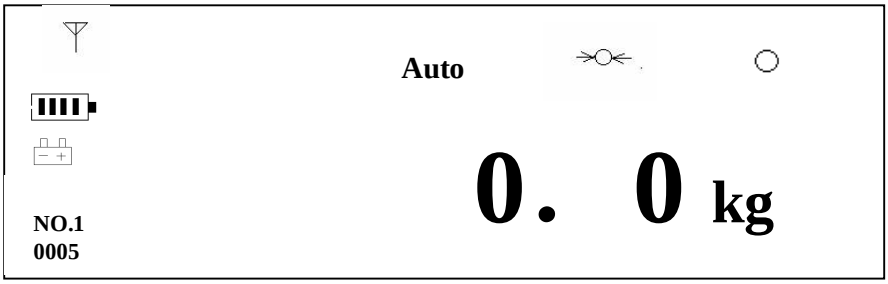


Fig.2

In Fig.2, RECEIVE indicates there is weighing signal detected by the indicator and the indicator is in weighing mode; AUTO means that the indicator is in automatic store and print states; STABLE means the measured weight has been at stable condition; ZERO indicates that there is 0 weight; the number under Sequence is the current weighing number (as shown as 005 in Fig. 2). Scale Power Low indicates that the scale battery needs to be changed so to maintain proper signal transmission.

7. Basic Operations

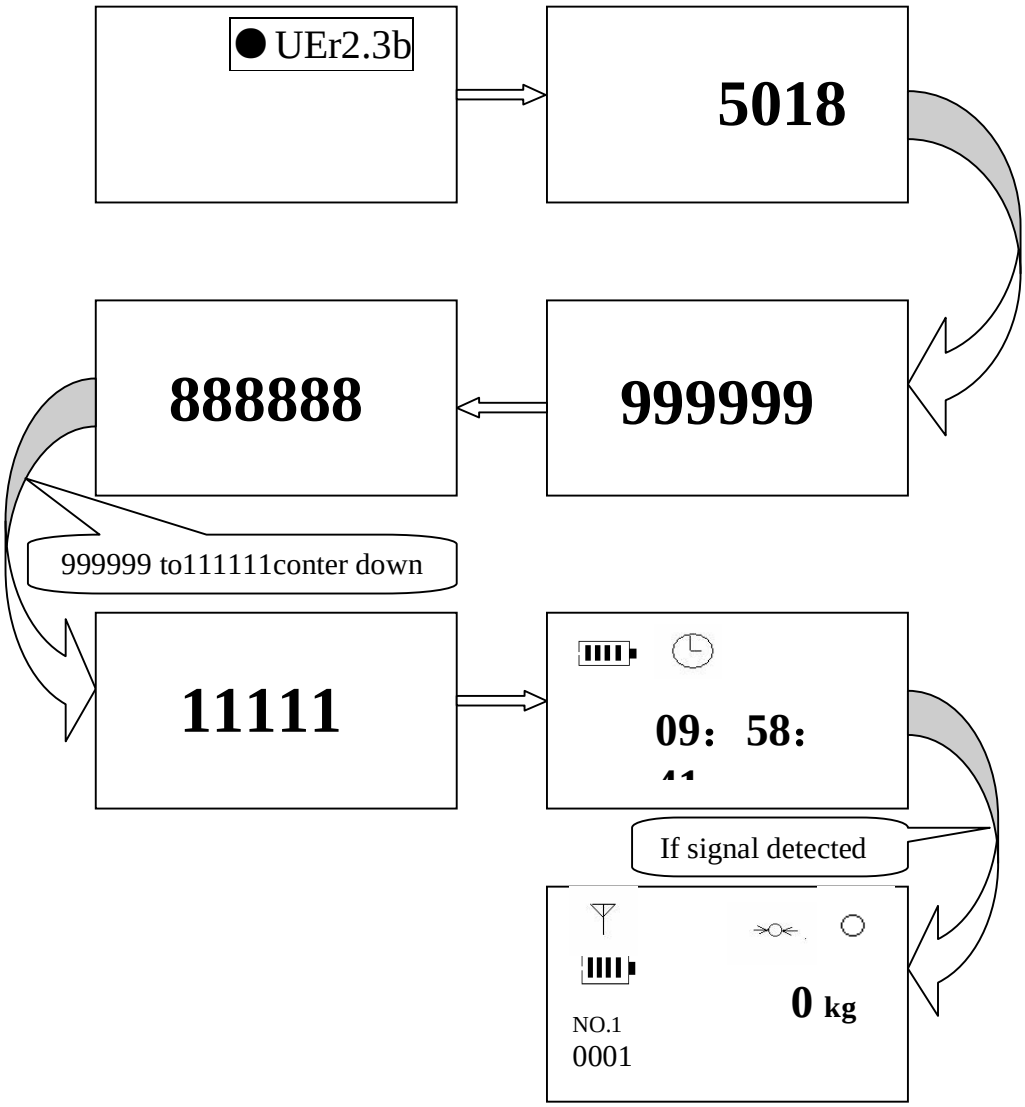
The basic operations for the indicator are described below.

a) Power ON - For simple weighing operation, it can be done by following operating sequence:

i. For initial use, connect the battery of the crane scale:
   1) open the battery housing using a flat-tip screw driver and connect the battery to the power cable;
   2) Switch the power to ON position. The scale is powered on when a long beep is heard.

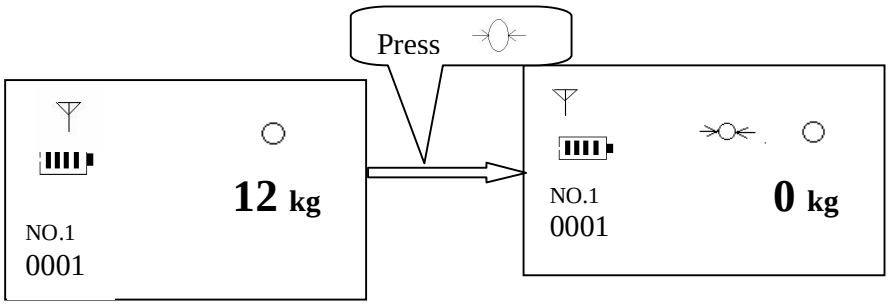
ii. 30 seconds after the scale is powered on, turn on the indicator power. Press ON key on the indicator. The display will show the software version first (such as "UEr2.3b" as shown in figure below) and then the weight value limit (as shown as "5018" in this case). After that, the display will cycle from "999999" all the way down to "111111". If there is no weight signal received from the scale, the display will remain in Time mode as shown in Fig. 1. If there is weight signal received, the indicator will change to WEIGH mode (Fig.2).

iii. After the load is craned up through the scale and STAB is continuously shown on the upper right corner of the display, the weight value displayed is the weight of the load.



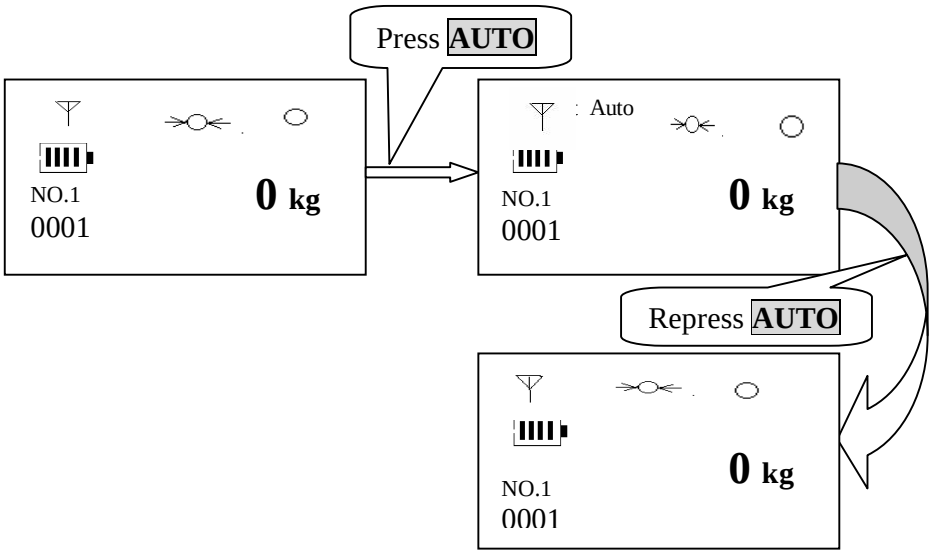
b) ZERO

The indicator should show “0.0” under non load condition. In case there is residual value displayed under zero loading, such as 12kg as shown in figure below; it has to be zeroed before weighing operation. Press [ ] to zero it out. The weight display should be 0kg and [ ]is lit. Zeroing function is only effective when the residual display is less than 20% F.S. of the scale.



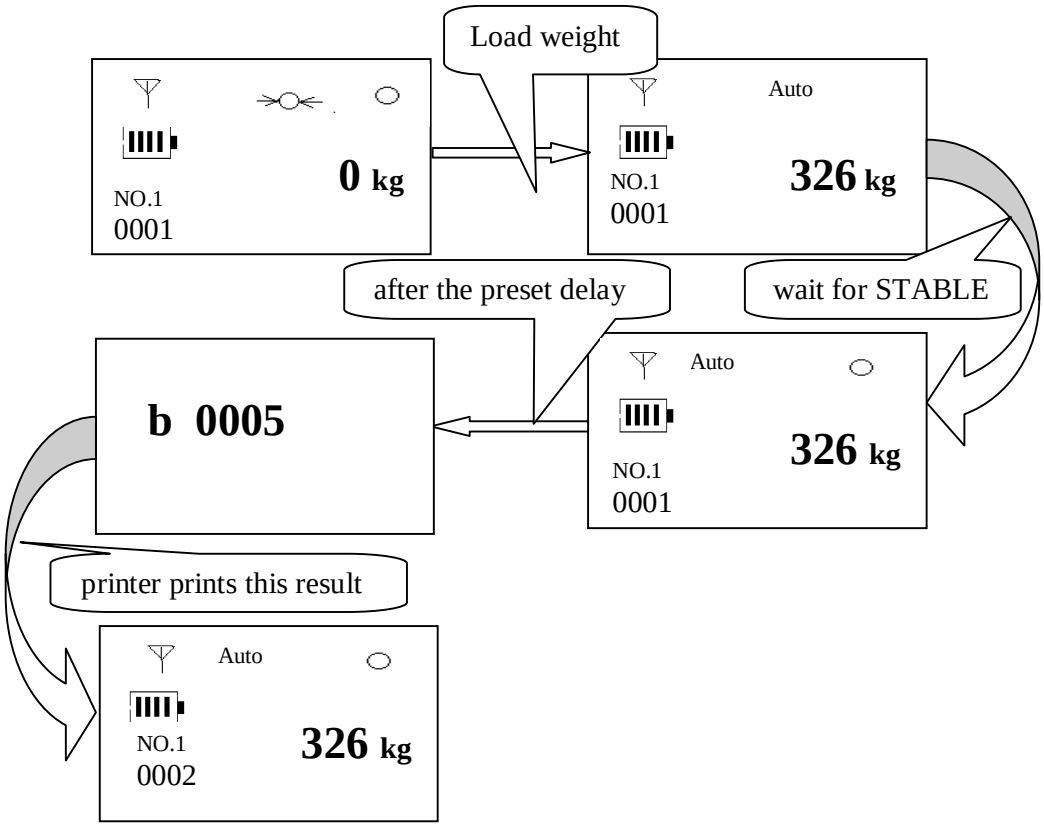
c) AUTO

In WEIGH mode, press AUTO key and AUTO is lit. Now the system is in automatic mode of operation for date storage and print. Press Auto key again, AUTO indicator is off. In this mode, the system is operating in manual mode. Any weight data has to be manually totaled to be saved.



With AUTO shown on the display, each weighing result is automatically saved in the data memory after preset time delay (see Auto-print stable time setup). The result is being stored and printed with its weight and weighing sequence number.

This AUTO process is illustrated in the diagram below:



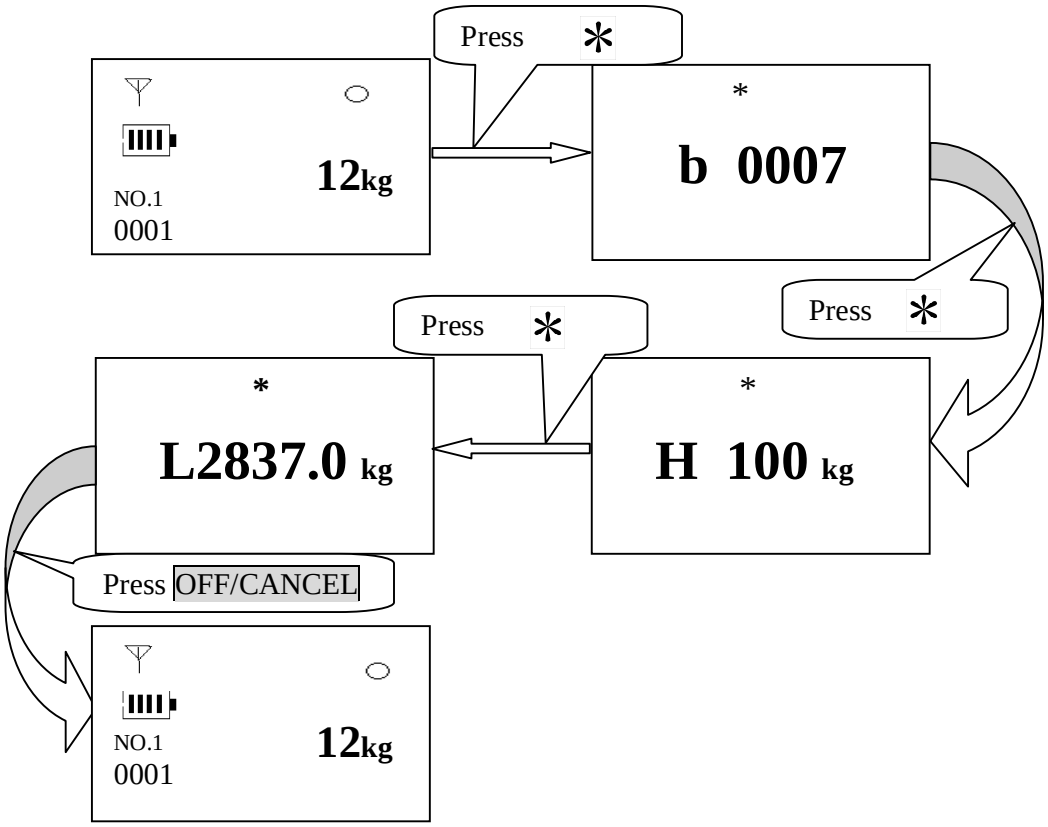
***Note: "b 005" means that the current saving is for weighing load No. 5.**

d) ADD (description is effective only when using PRT.H key):
After pressing PRT.H, indicator will accumulate the records every time , then press ADD after weighing and recording for several times ,the indicator will automatically print a stripping .then it will print the times of weighing and total weight .

e) Total display （display all weighing number）

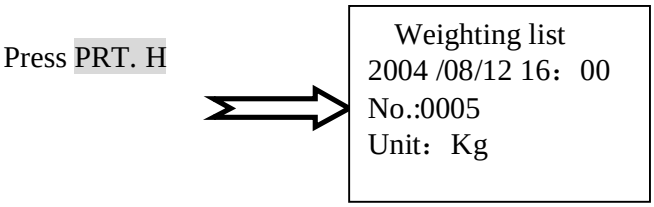
f) In WEIGH mode, press [✻] key and the "✻ " sign will light on the display. Under " ✻ ", "b 0007" is shown, for example. "b" indicates weighing and "0007" indicates the total weighing number meaning there are 7 set weighing ✻

data saved so far. Press[ ] again, and the display shows “H 100”, for example. “H” indicates the data’s high digit, “100” indicates that the total weight high digit is 100. Press [✻] again, the display shows “L 2837.0kg”. “L” means the data’s lower digits, “2837.0kg” means the total weight lower digit is 2837.0, So the total weight should be 1,002,837kg. Press OFF/CANCLE to exit total weight display.

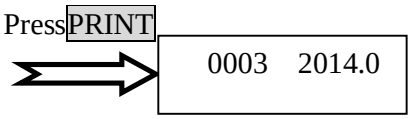


g) Print Header

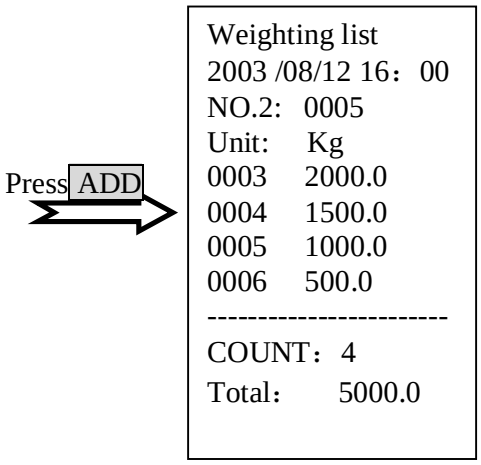
In WEIGH mode, press PRT. H will print the weighing results in the following format:



Press this key can also perform statistic print function. In the above example, after printing header and when the indicator shows a stable weight measurement, press PRINT. The printer will print the following results:



"0003" is the current sequence number and "2014" is the current load weight. Both numbers will be saved in the data memory. Sequentially, the following data set will be saved and printed with sequence number "0004", "0005", "0006"… Upon weighing completion, press ADD, the indicator will summarize and print the total weight by the total weighing numbers, starting from Print H:

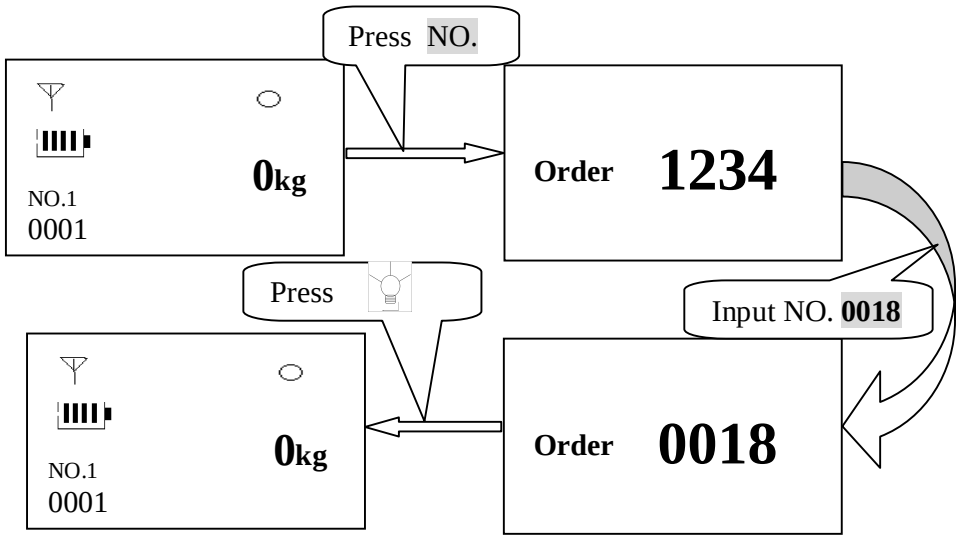


Note: The scale needs to be zeroed between each weighing operation.

h) NO.

When NO. is pressed, "Order" is highlighted with the current indexing number, such as "Order 1234". If the order number needs to be modified, use the numerical keys (0~9) to input and then press [ ] to confirm changes or press OFF/CANCEL to cancel the operation. In the following example, the order number is changed from 1234 to 0018.

The modification range of order number is from 0000 ~ 9998. In case the input order number is 9999 and press[ ], the indicator will show "XXXXX". "XXXXX" is actually the current received A/D value. Press OFF/CANCEL to return to WEIGH mode of operation.

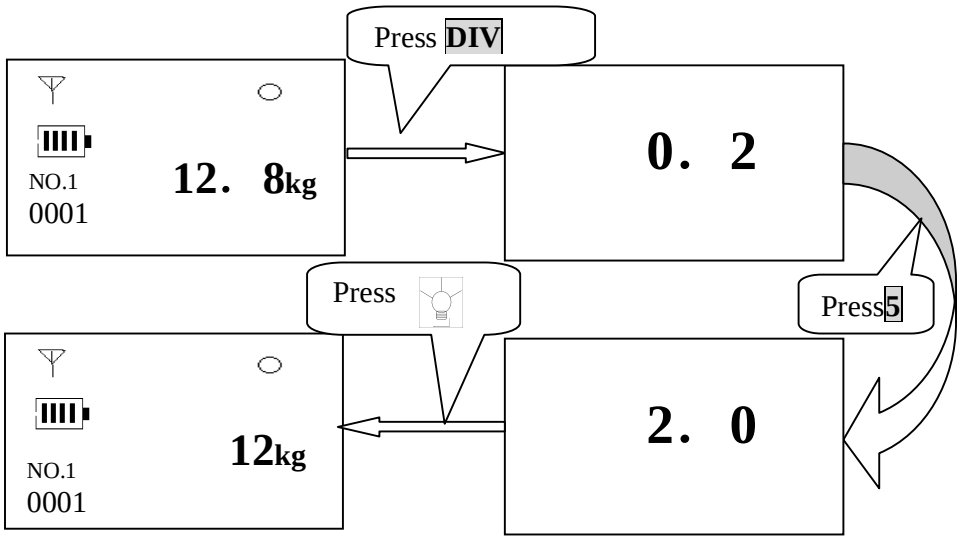


i) Division

Press DIV key to display the current division number. Use numerical keys 0~9 to select desired division number. Press[ ] to confirm or OFF/CANCEL to cancel. The correspondence between numerical number and division number are as following:

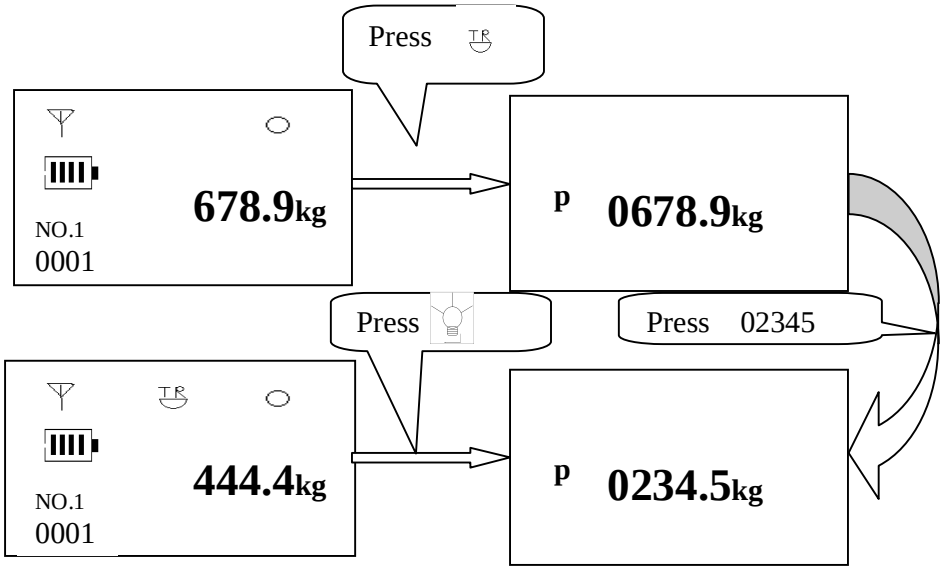
1 – 0.1
2 – 0.2
3 – 0.5
4 – 1.0
5 – 2.0
6 – 5.0
7 – 10.0
8 – 20.0
9 – 50.0

The following example is to change the division value from 0.2 to 2.0.



j) TARE

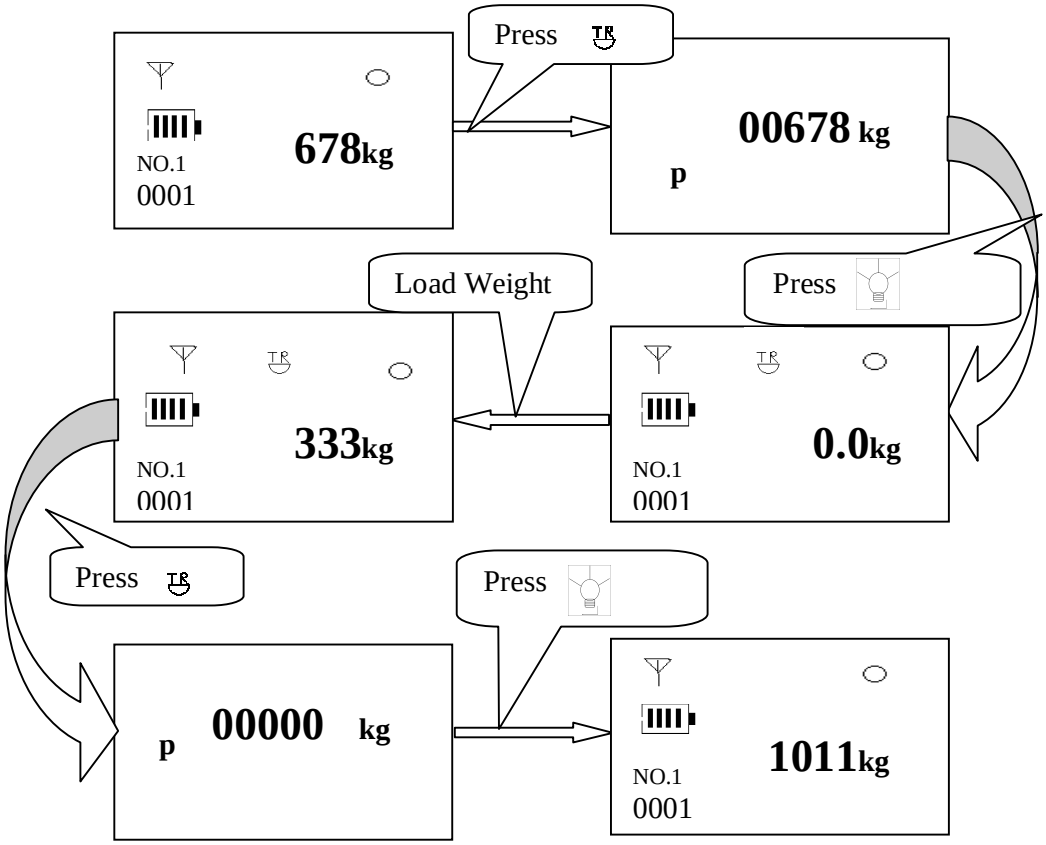
In TARE mode, use numerical keys(0~9) to enter the tare value then press[ ]. The weighing results afterward will be net weights.



In this example, 234.5kg is the tare and 444.4kg is the net.

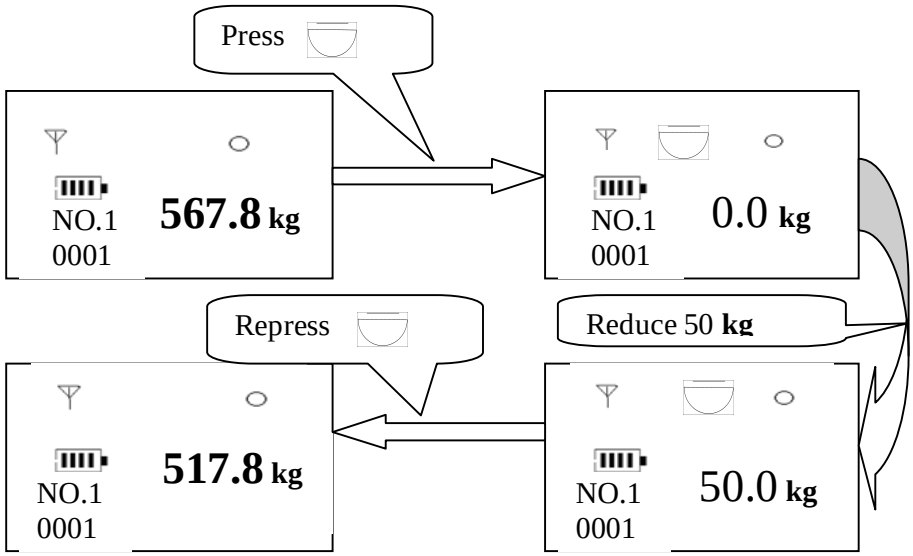
When[ ] key is pressed, the indicator will display P XXXX.Xkg. This is the current Tare weight. If there is no tare weight defined, press [ ]key, XXXX.X is the current weight value. Press [to define the weight as tare. [ ] indicator is lit while the net weight is displayed. With tare defined, the display will show the net weight of the load.

Press [ ]again to change XXXX.X to 0.0000. Now press [ ] to show the gross weight (including tare):



k) Subtract

Subtract function is specially designed for steel milling or molding operation. Under the normal weighing operation for example, the weight of a load is 567.8kg. Now enter the Subtract mode of operation by pressing [ ] so the displayed weight value becomes “0.0 kg”. When a 50kg of load is removed, the indicator will show the 50kg as subtraction. Press [ ]again, the left weight is shown (as normal weight). The diagram below shows an example of Subtract operation.

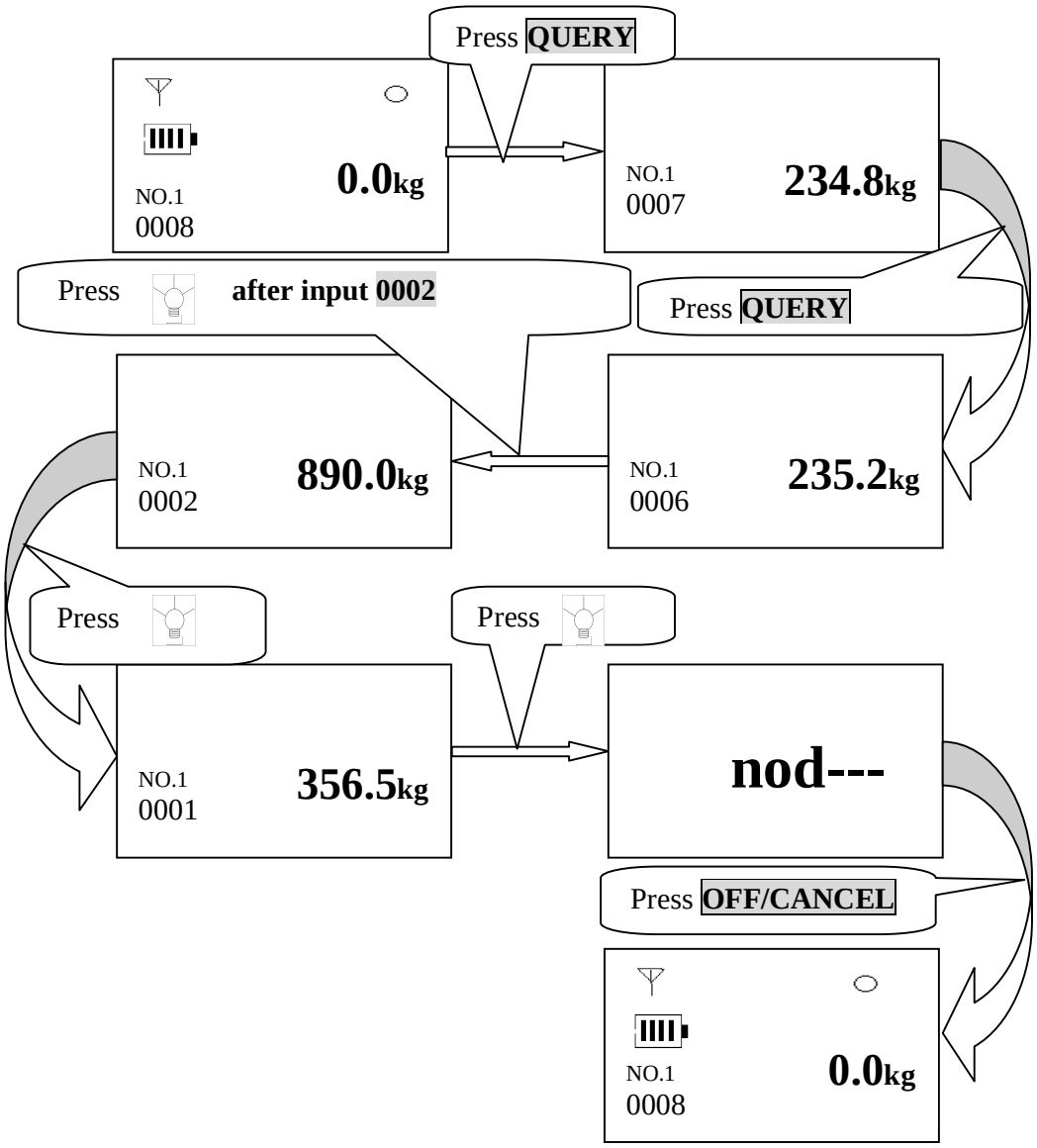


l) Feed

When [ ] key is pressed, the paper will be forwarded 4 lines without printing.

m) QUERY

When QUERY key is pressed, the display will show the weighing result prior to the current sequence number. Press QUERY key again, the indicator will show the weight result for the previous sequence until Sequence number 0001. If one keeps pressing QUERY key, "nod---" will be displayed, indicating all the weighing data have been displayed already. Press OFF/CANCEL to return WEIGH mode. In addition, one can search any weighing result by entering the four-digit sequence number to show its weight record. Press [ ]to continue to the previous sequence until the end. In case there is no weight record for the sequence entered, the display will show "Nod---". Press OFF/CANCEL to return to WEIGH mode.
When you searched the weight record and want to print it, press PRINT key, the four-digit Sequence number and net weight will be printed.



n) Backlight/Confirm

In WEIGH mode, press [ ]key to turn on the backlight. Press it again will turn the backlight off. If there is no weighing activity 2 minutes after the backlight is turned on, the indicator will turn the light off to preserve battery power. Under other operating conditions, the key is used as confirmation.

o) print

In manual storage print mode, if the weighing values stable and before weighing values instability and ever under 50 indexing value, press this button, instrument will present weighing values in storage, and print out a record. There are two different ways of printe, if the PRT.H key has not been pressed, instrument will print out the following weighing list:

Weighting list 2004 /08/12 16：00 Unit: Kg NO.2: 0008 CODE: 00001 Tare : 568 n.w: 1332 g.w: 1900

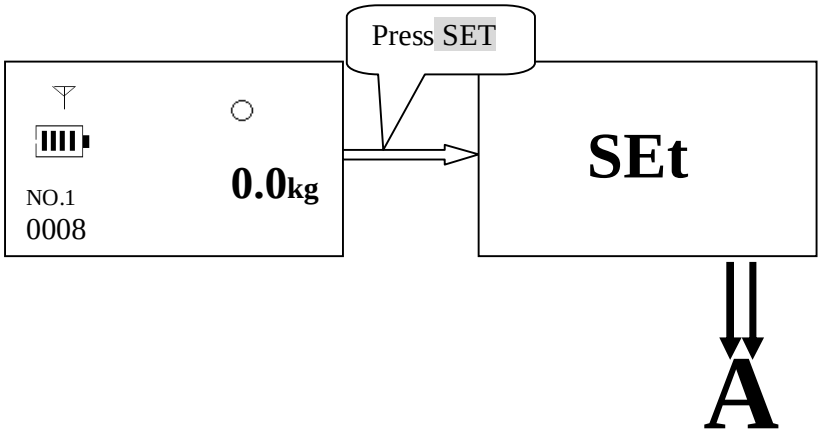
If the PRT.H key has been pressed, a line with number and net weight will be printed, like: 0008 1332

It should be pointed that the weighing values cannot be printed repeatedly, it means if the weighing values has no change after printing ,it is useless to repress the PRINT key.

If the instrumentation is in automatic storage print mode, if the weighing values stable and greater than 50 division values, whereas previously reached 50 division value below, instrument will print a line according to the second method above automatically, no matter the PRT.H key has been pressed or not.

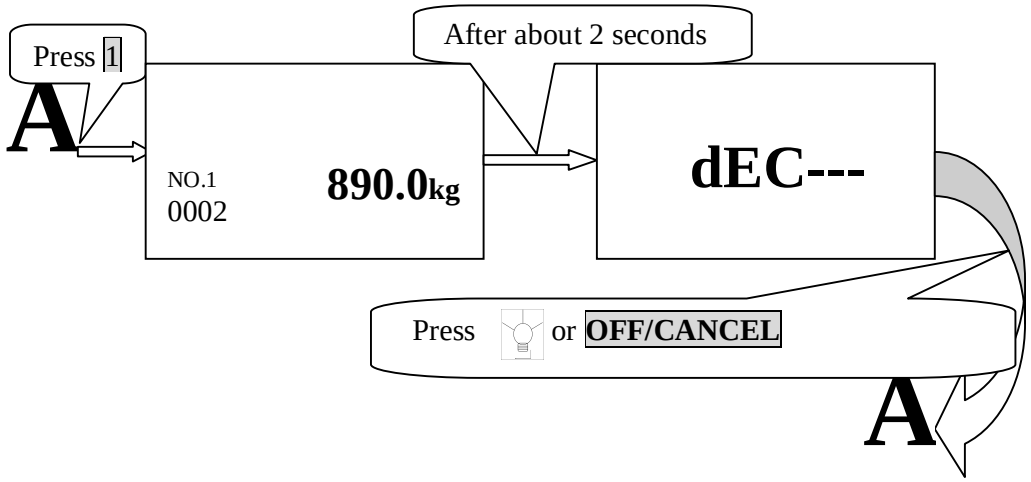
p) SET

Press SET key to enter setup mode of operation. “SEt” is displayed. Press numerical key to select the desired function. The numerical key represents the function in SET mode as below:



1 – Clear

When 1 is pressed under SET mode, the last entry (the weight record with highest sequence number) will be displayed. A few seconds after, “dEC---“ is showing. Press [ ]to clear or OFF/CANCEL to return to SEt mode.



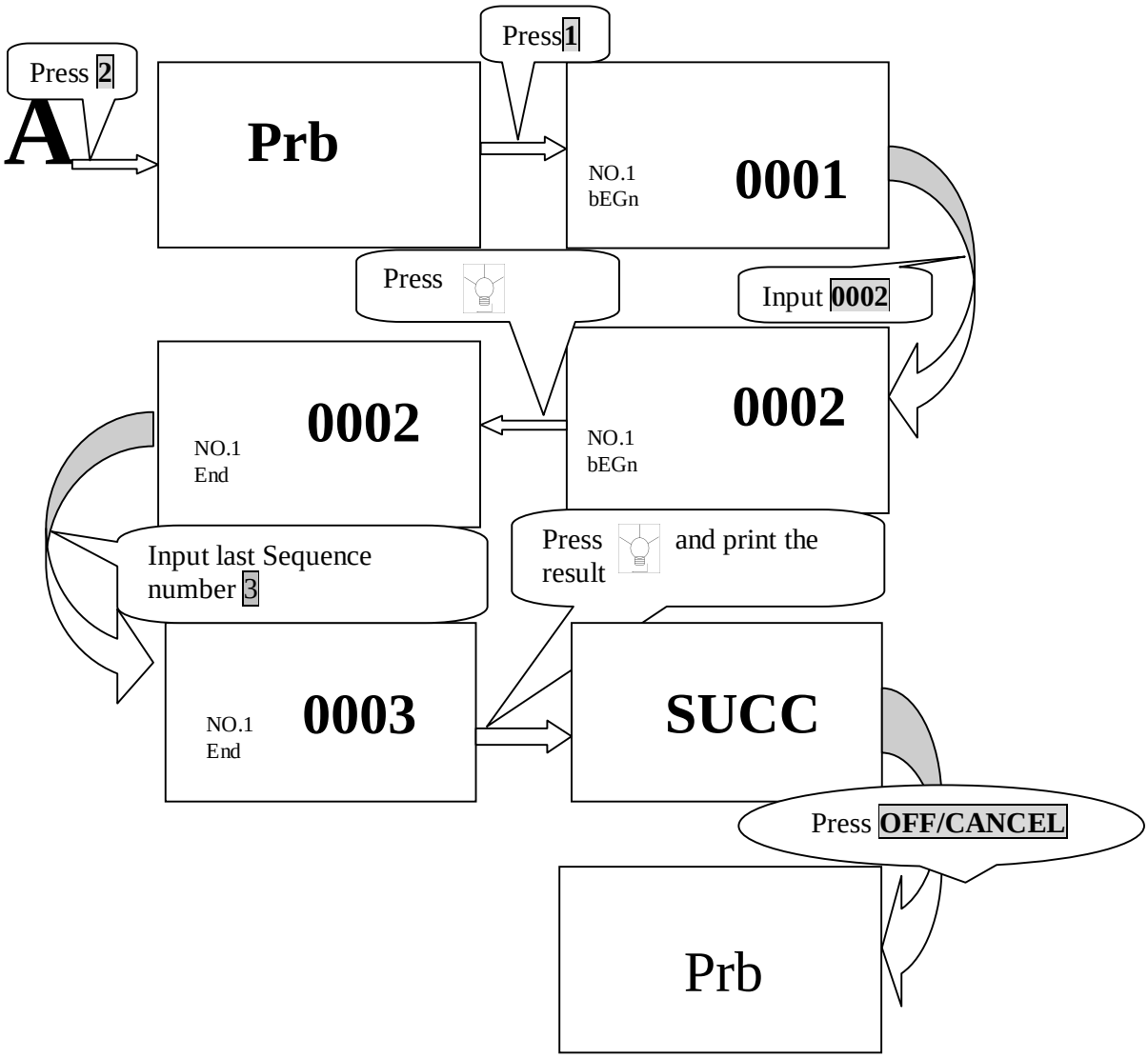
If there is no stored weight data, the display will show “nod---”. Press **OFF/CANCEL** to return to WEIGH mode.

2 – Summarize

Press 2 key under SET to enter Print Summery mode and “Prb” is showing. In the Prb menu, there are three options, Prb1, Prb2 and Prb3:
Prb1 means to print summary according to sequence number.
Prb2 means to print summary according to order number.
Prb3 means to print summery according to weighing date.

Input the desired sequence number, order and date for the summary after selecting the summary method. One can go direct printing by entering the sequence, order or date data. SUCC will be displayed upon printing completion and FAIL indicates otherwise. Regardless SUCC or FAIL, press [ ]to return to input mode to continue. Press **OFF/CANCEL** to return to Prb mode.

i. Printing per Sequence number

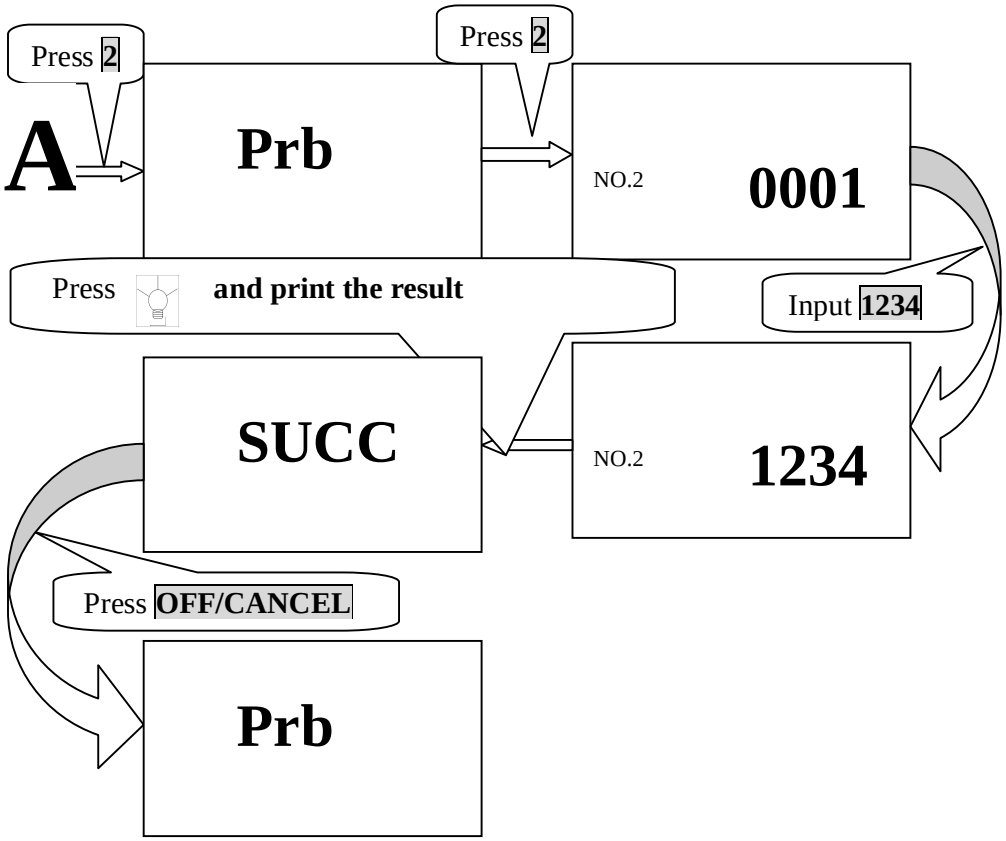


The result is below：

Weighting list
2005/07/19 14：42
Unit： kg
0002 1500
0003 2999

TIMES： 0002
Total： 4499

ii Printing per Order Number

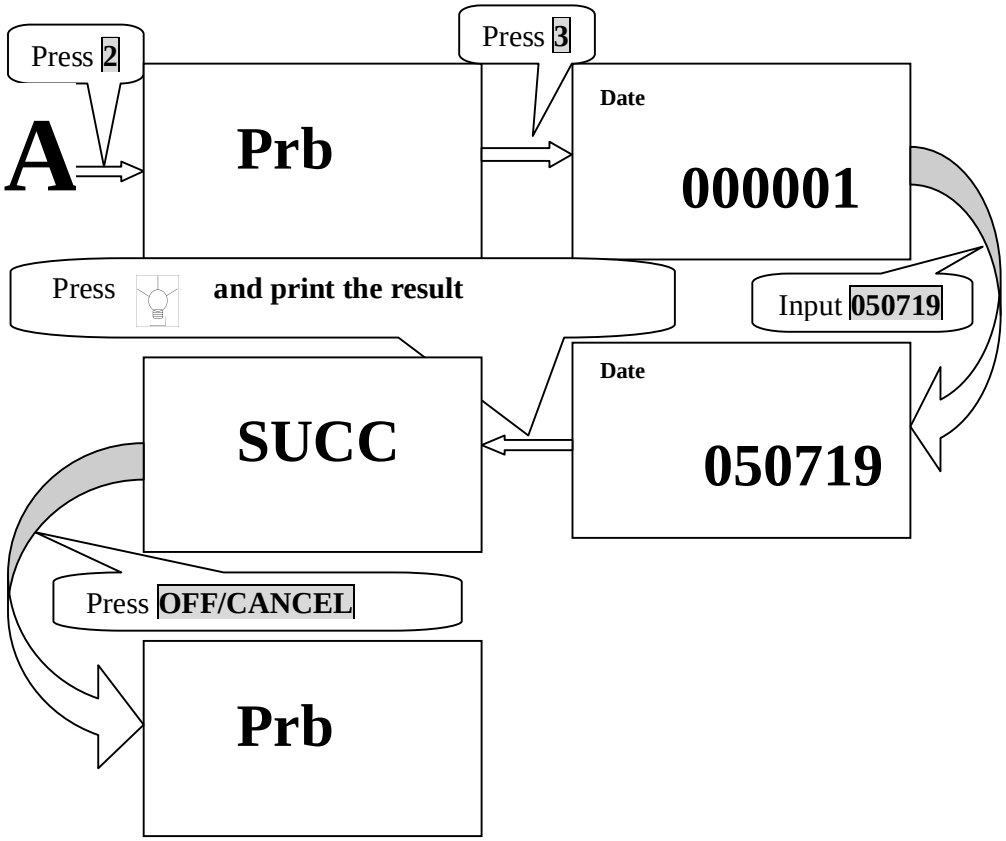


The result is below:

Weighting list
2005/07/19 14：55
NO.2：1234
Unit：kg
0002 1500.0
0003 2999.0

TIMES： 0002
Total： 4499.0

iii Printing per Weighing Date (insert Diagram)



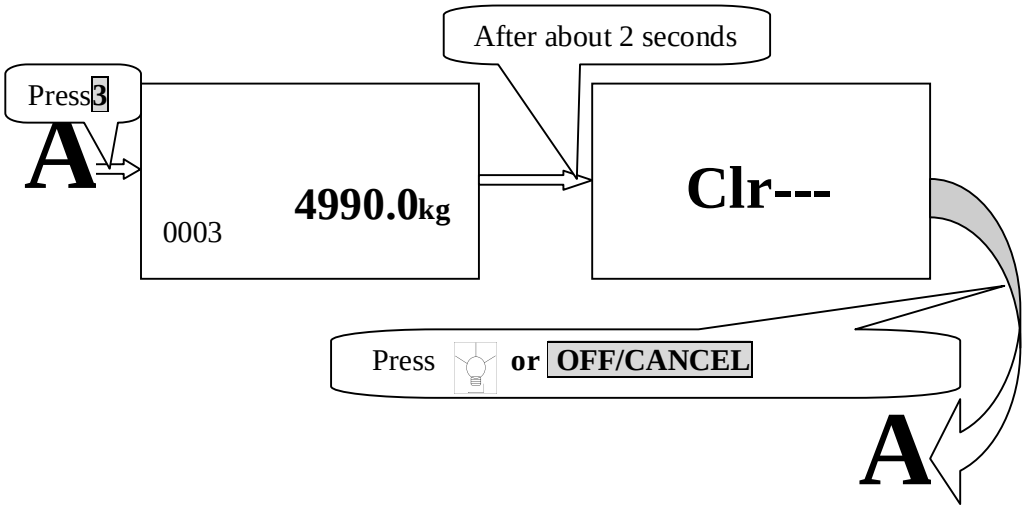
The result is below:

Weighting list
2005/07/19
Unit： kg
0001 500.0
0002 1500.0
0003 2999.0
0009 1000.0

COUNT ： 0004
Total ： 5999.0

3 – Total Clear

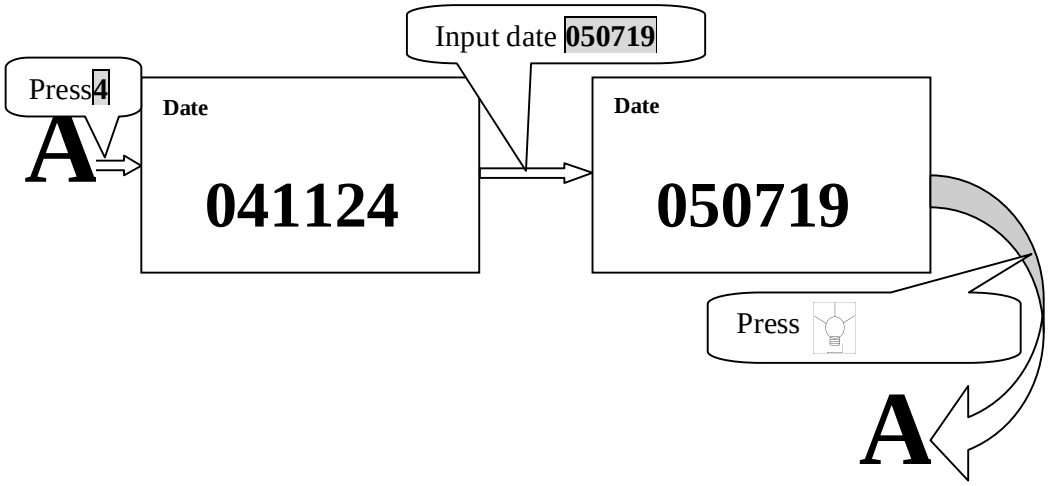
Press 3 under SEt menu, the total number of weighing and the total weight are shown first. In the below example, "0003" indicates the total number of weighing and "4990.0" is the total weight. After about 2 seconds, the "Clr---" comes up. Press[ ]to clear all the existing data in the memory. Press OFF/CANCEL to quite. After clearing, the current sequence becomes 0001.



4 – Set Date

Press 4 under SEt menu to show the current date: i.e.04.11.24 (mm/dd/yr). Press[ ] to complete or OFF/CANCEL to quit.

Please follow the below example for date change.

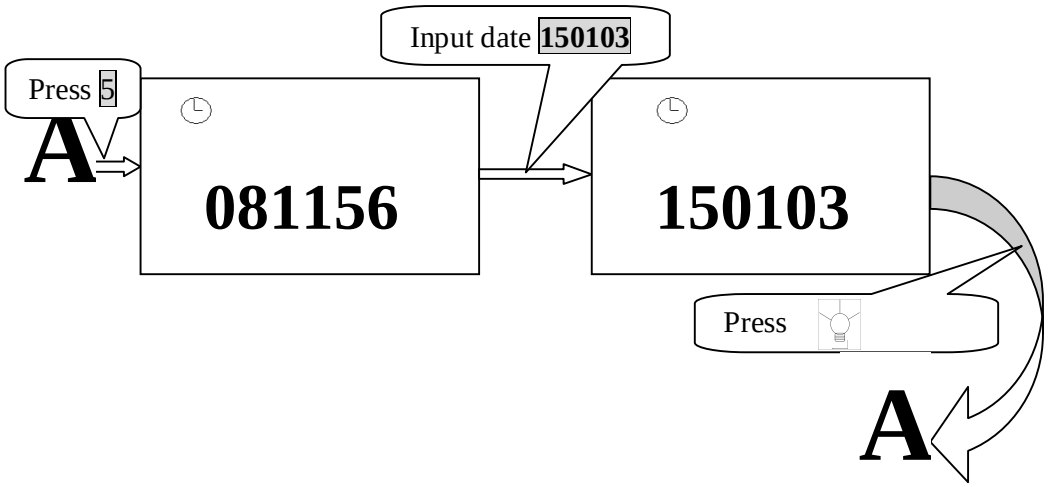


5 - Set Time

Press 5 under SEt menu key to show the current time: i.e. 08:11:56

Press[ ] to complete or OFF/CANCEL to quit.

Please follow the below example for time change.

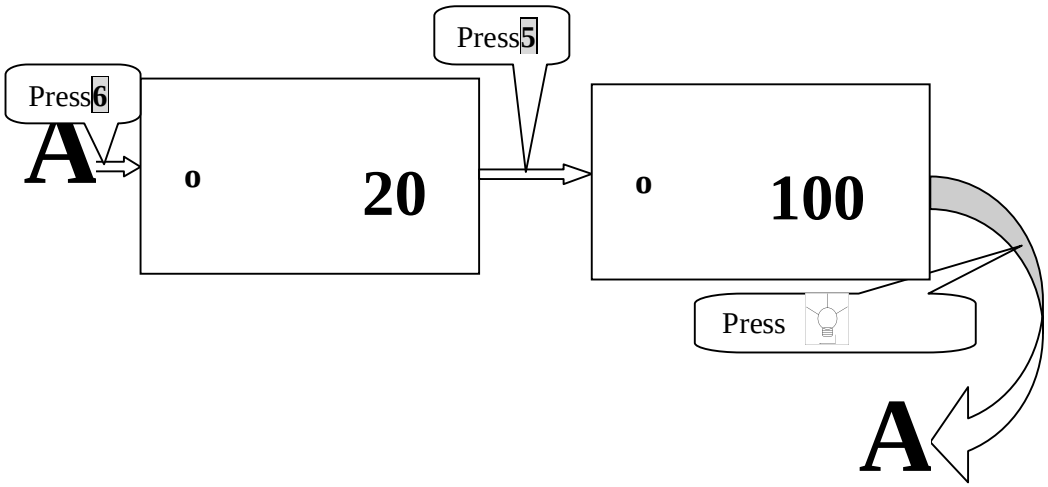


6- Initial Zero Range

Press 6 key under SEt menu, “0 20” is shown. “0” is the high digit which indicates the initial zero range at power up. The low digit indicates the exact zero range (%F.S). For example, “10” means that any drift value which is less than 10% F.S will be directly zeroed. The selections of zero range at power up are as below:

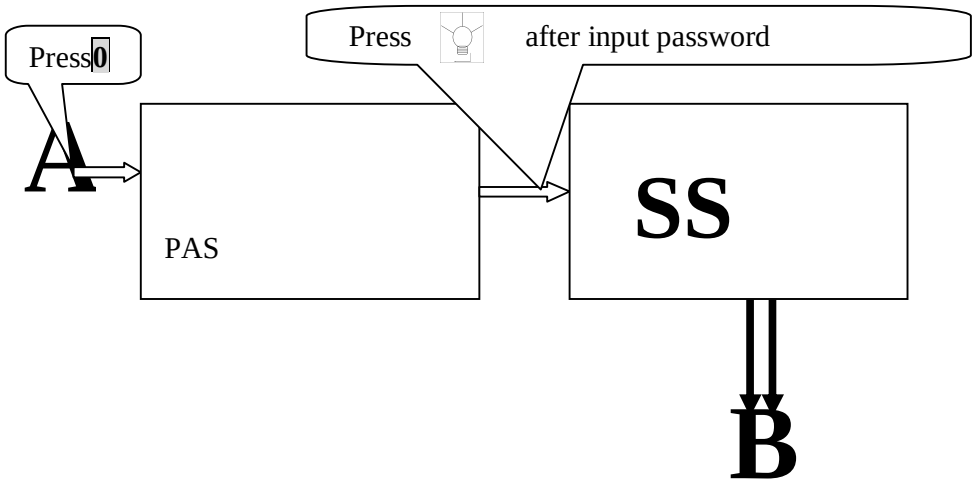
1 – 2%
2 – 10%
3 – 20%
4 – 50%
5 – 100%

In the example below, the zero range is changed from 20% F.S to 100%F.S:



0 – Others to enter submenu (password required)

Press 0 key to enter submenu. After "PAS" prompt, enter the correct password " xxxxxx" then press **[ ]**. SS indicates the entry of secondary menu.



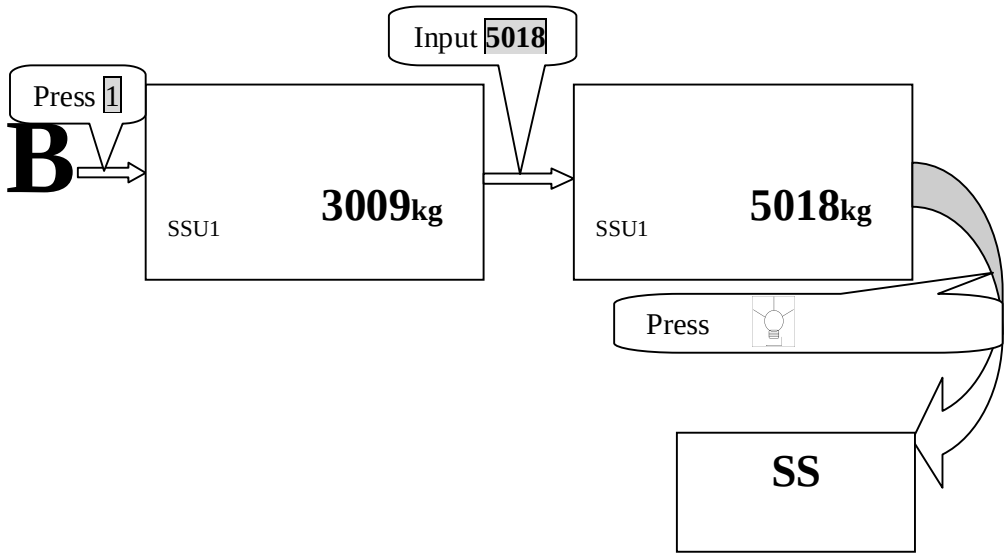
There are below selections:

★ Set Weight Limit and Default Setting

After Select 1 in Subset menu, "SSU1 5018kg" is displayed, for example. Here "SSU1" indicates that the 1st item in the Subset menu is selected and "5018" is the weight capacity limit of the scale. To modify this number, input the new value and press **[ ]** to finish. Otherwise press OFF/CANCEL to quit, press **[ ]**

And "LoAd dEEPAr" is shown, press **[ ]** again, set the default value,Otherwise press OFF/CANCEL to quit, in either case, it will return back to Subset Menu.

In the below example, the weight capacity limit is changed from 3009kg to 5018kg.

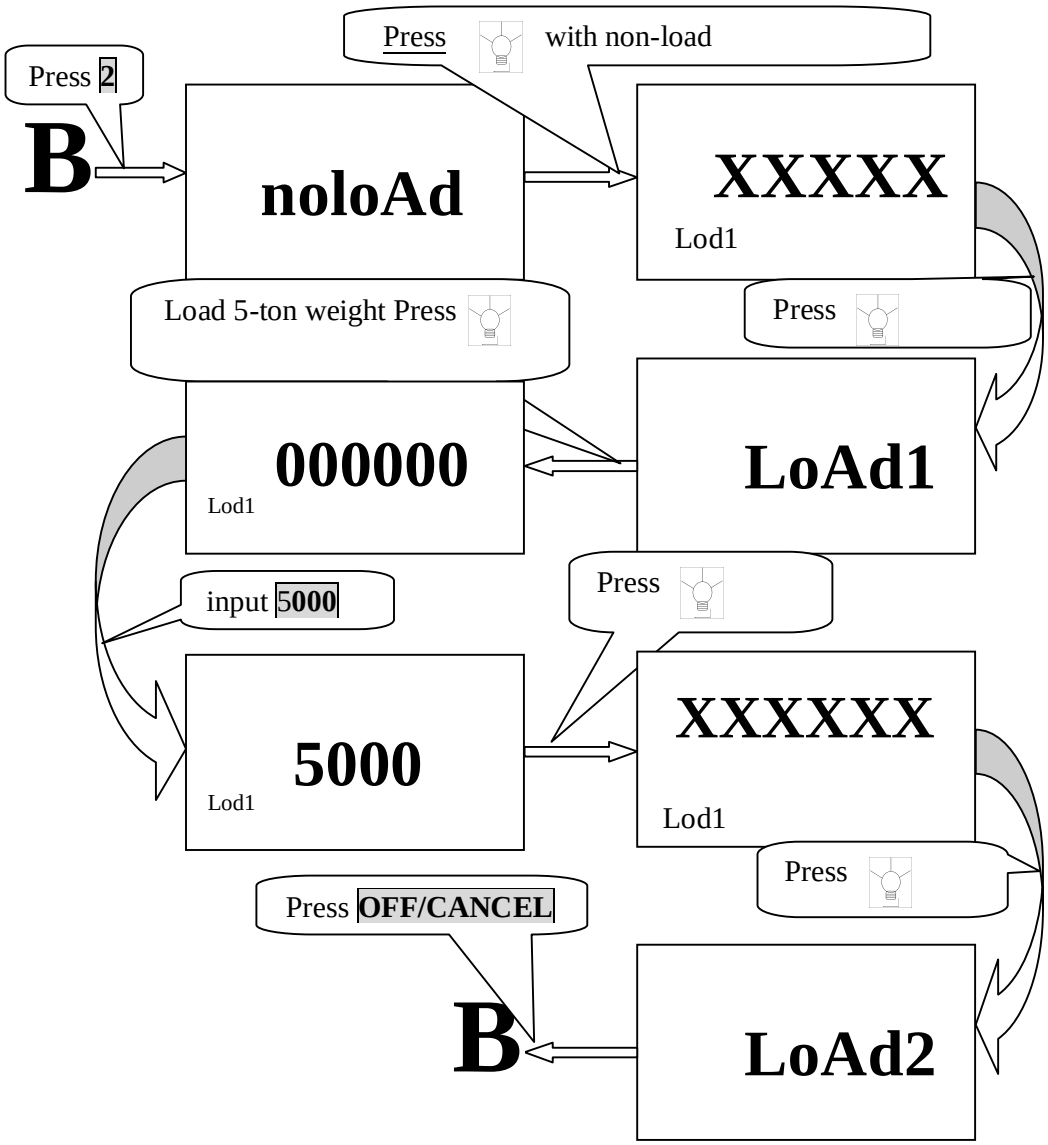


★ Calibration

When 2 key is pressed under Subset menu, “noloAd” is shown, indicating the system is in calibration mode. The calibration procedure is as below:

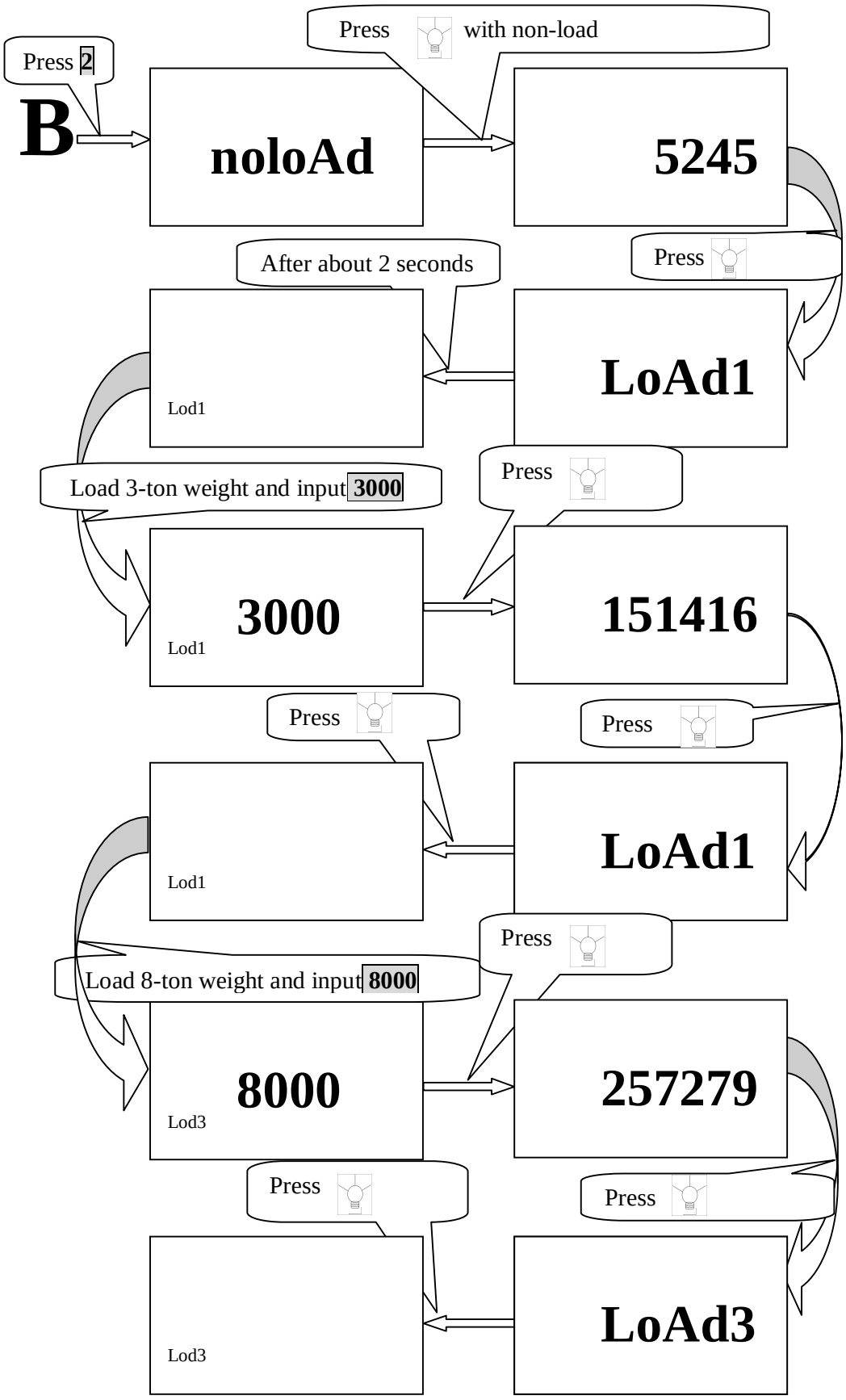
Linear Calibration:

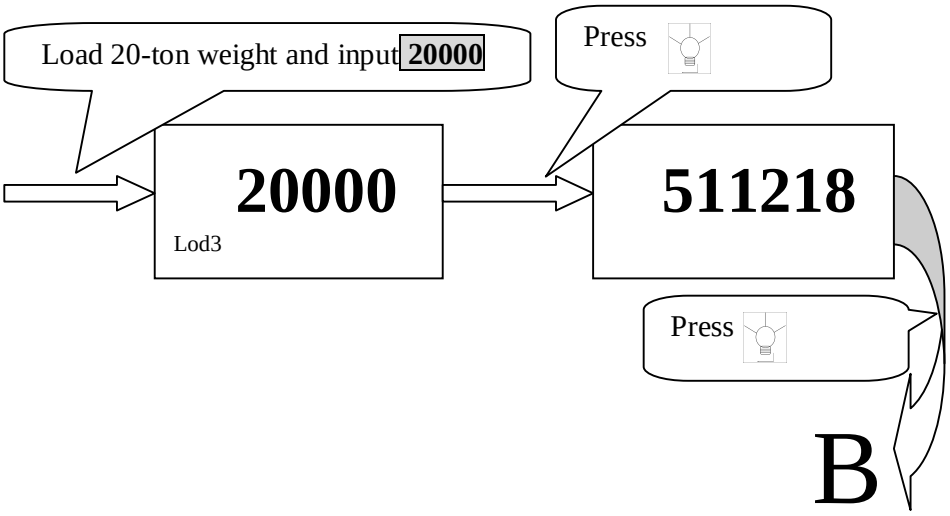
Removal any load from the digital scale. After the system is in calibration mode and “noLoAd” is shown, press [ ]to start calibration. The display will show “Lod 0 XXXXXX” which is the internal code for zero. Press OFF/CANCEL to return to Subset menu if not Calibration. After the code is stable,press [ ]and “LoAd1” is shown, hang the weigh, press [ ]“Lod1 000000” is showed, now enter the load weight value. Press[ ] The display will show “Lod1 XXXXXX” which is the internal code for the load weight #1. After the code display becomes stable, press [ ], “Load2”is shown, or press OFF/CANCEL to complete the linear calibration between 0 and Load1. If[ ] is pressed, the system is going to non-linear calibration. The following example is the linear calibration process for a 5-ton crane scale:



Non-linear Calibration:

Press 2 under Subset Menu to enter calibration mode and “noLoAd” is shown. Removal any load from the digital scale, press[ ], The display will show no more than 6 internal code for zero, After the code is stable,press [ ]and “LoAd1” is shown,.To start calibration, press[ ] after adding weigh near the maximal range, “Lod1” is showed in the bottom left,”00000” is showed in the middle right, press[ ] after enter the load weight value. no more than 6 internal code of load weight #1 is showed in the middle. After the code display becomes stable, press[ ], “LoAd2”would be showed. Press Off/Cancel to quit if only doing the linear calibration. It will return back to Subset Menu. If more nonlinear operation need to be done, repeat the operation as above. The instrument supports no more than 4 point calibration including zero. load weight #3 must be higher than load weight #2, load weight #2 must be higher than load weight #1 when doing non-linear calibration
The below is an operating example that a 20-ton crane scale is non-linear calibrated with 3-ton, 8ton and 20-ton weight.

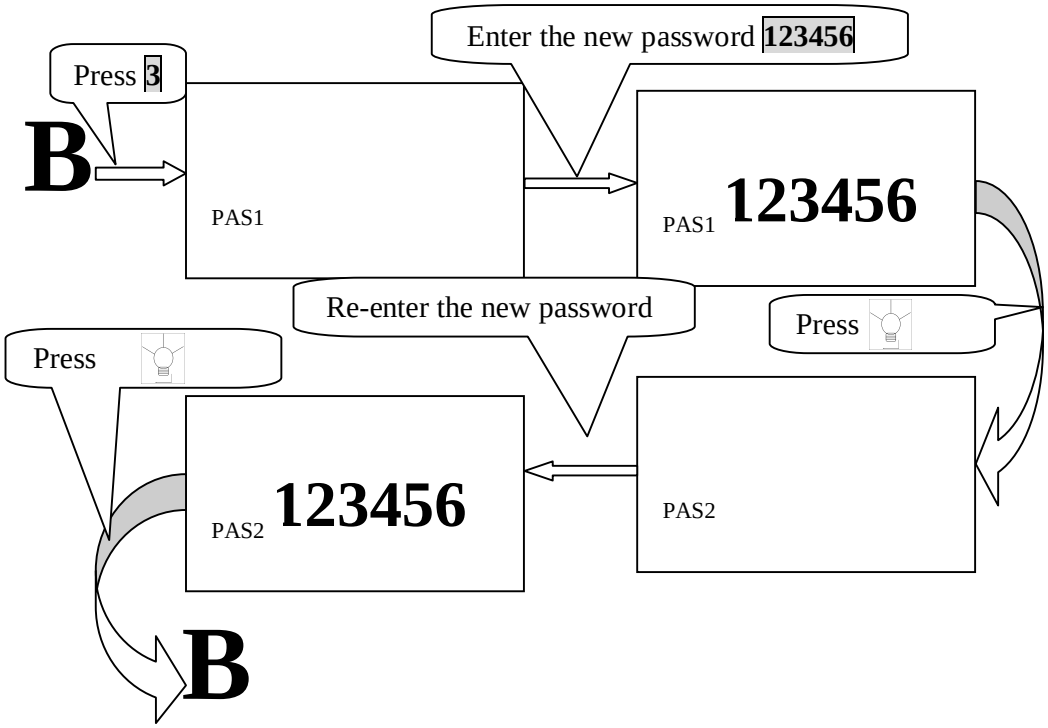

Press with non-load
Press 2
B
noloAd
5245
Press
After about 2 seconds
Lod1
LoAd1
Load 3-ton weight and input 3000
Press
3000
Lod1
151416
Press
Press
Lod1
LoAd1
Press
Load 8-ton weight and input 8000
8000
Lod3
257279
Press
Press
Lod3
LoAd3



★ Change Password

In Subset Menu pressing 3 key, enter the new password when “PAS1” is shown. Press **[ ]**upon completion. Enter the new password one more time when the display is showing “PAS2” and press**[ ].** If both passwords entered are identical, the password modification is complete. Otherwise return to Subset Menu and repeat the above process to complete the password modification.

The below example is showing the procedure to change the password to “123456”.



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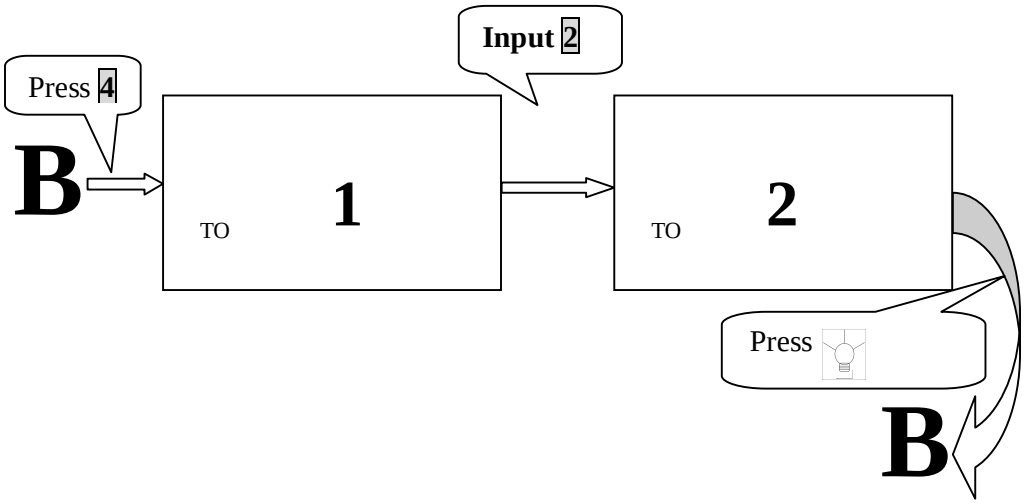
★Zero-point Track Range

When 4 key is pressed under Subset menu, TO 1 is displayed. "TO" indicates the range of zero point tracking and the digit "1" indicates the detail of this range. There are several selections with their correspondence with the numerical keys.

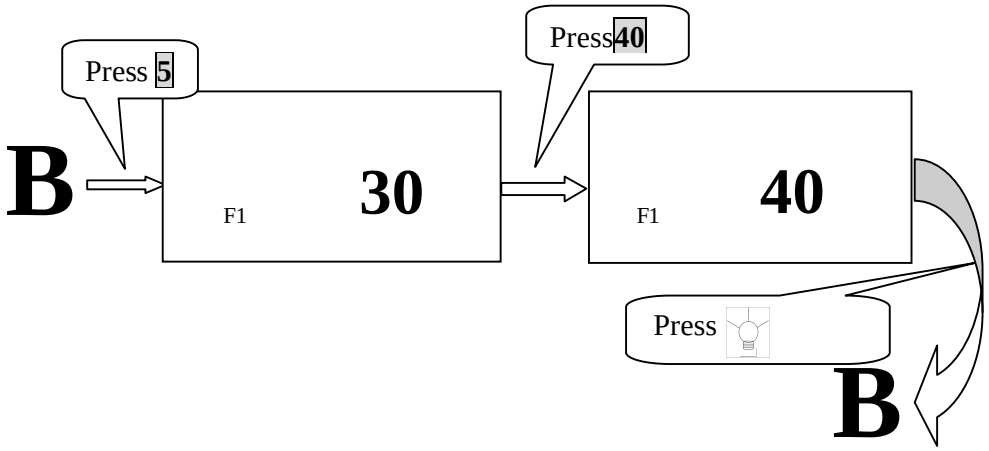
1 – Off
2 – Small
3 – Moderate
4 – Large

The below example is to change the tracking range from Off to Small.



★ Filter Setup

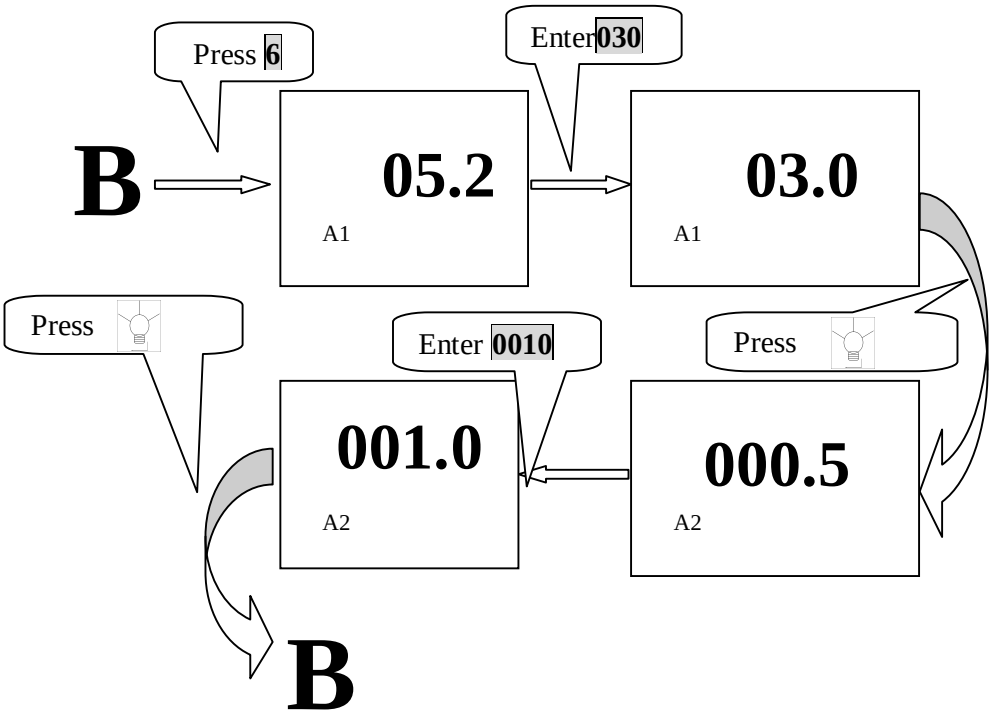
Press 5 key under Subset menu to enter Filter Setup. The display, for example, is "F 30". "F 30" is the extent of filtering. If no filtering change is needed, press OFF/CANCEL to quit. Otherwise press **[** **]**to proceed to Filter Setup. In the example below, the filter is set from 30 to 40.



★Auto Print Setup

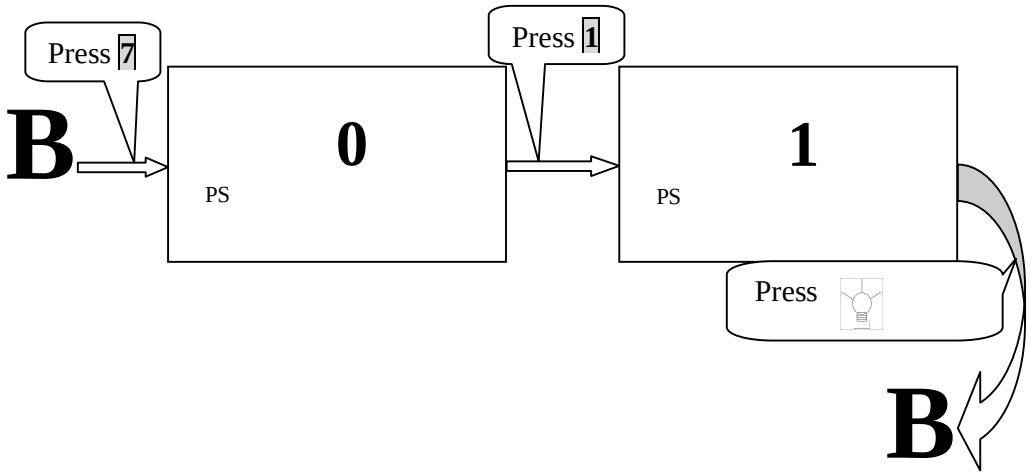
In Subset menu, press 6 key. The display is “A1 ” in the bottom left,“x.x”is displayed in the right side. Shows that in automatic storage print mode if the weighing value comes back to zero(less than 50 division values), if the weighing values stable and greater than 50 division values for XX.X second, the record will be stored and printed automatically.if press **OFF/CANCEL** to return to Subset Menu ,if press**[ ]** directly,then enter A2 change interface without changing A1 parameter .when input no more than 3 effective digital ,then press **[ ]**then enter A2 change interface after changing A1 parameter. The display is “A2 ” in the bottom left,“x.x”is displayed in the right side .it means the Sentenced to steady range is X.X division values,press OFF/CANCEL if do not want to change the parameter, otherwise press Backlight/Confirm after input more than 2 effective digital to quit,both methods to quit will return to Subset menu.

In the following example, the auto-print time delay is changed from 5.2 seconds to 3 seconds and the stable range is from 0.5d to 1d.



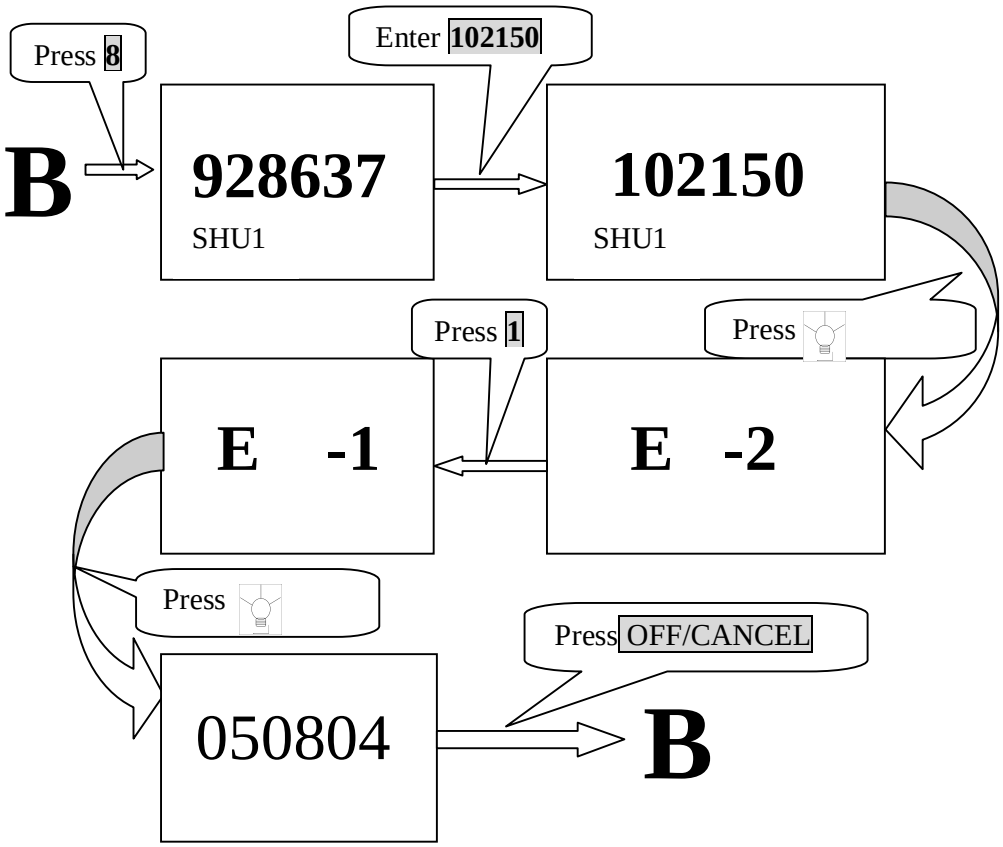
★Printer Setup

In Subset menu, press 7 key. The display shows “PS X”. “PS” is the printer setup and “X=1” indicates that there is a printer (“X=0” means there is no printer). Enter “0” to skip printing or enter “1” to select printing. Press **[ ]**to return to Subset menu.



★ Indicator Exchange

Press 8 key in Subset Menu and the indicator shows “XXXXXX”on the right side. XXXXXX is the calibration factor. If there is a change, input no more than 6 effective digital, the high-order should not be “0”in order to ensure the precision of the coefficient, then press[ ], otherwise press[ ] directly and the indicator shows “E-Y”on the right side, “Y” means the index of calibration factors of the first standard fixed-point (SHU1),the whole calibration factors SHU1= $0.XXXXXX*10^{-y}$, if the index of SHU1 would be changed, press [ ]after input 1, otherwise press[ ] directly and the indicator shows “CALO”on the bottom left, “XXXXXX” on the right side, means the zero code generated in calibration. In similar, press backlight/confirm after input no more than 6 effective digital, otherwise press[ ] directly and the indicator shows “shu2”on the bottom left, “XXXXXX” on the right side, means the index of calibration factors of the second standard fixed-point, for the linear calibration instrument swaps, press OFF/CANCEL to return to Subset Menu to complete the swap of calibration instrument. for the nonlinear calibration instrument swaps, continue the behind operation according to the front steps.



10.Extended function and digit transmission of the indicator

There is a serial output port in the top left of the indicator （refer to the dimension figure）,which is a aciform plug seat through which the current data can be transmitted by RS232 or 4-20MA electric current.

7.1 RS232

When transmitted by RS232, DB8's third foot connect to TXD,5th foot connect to GND ,wave rate is 1200bps,communicate by different steps, every letter should be transmitted by 8N2 which means 1 start seat ,then 2 stop seat following 8 digit .If the receiving port is 8N1, you can receive the right data .There are 3 frames selectable also refer to user's need .The port has big screen and the distance between indicator and screen should be less than 15m ,or you should consider the wireless scale.

7.2 4-20MA output

Displayed value is not more than zero, output 4AM, when displaying fully capacity ,output 20MA,the middle data vary linearly.

Note: ordinary indicator doesn't have the function of data transmission

7.3 big screen

Use it when reading distantly , big wireless screen is available and or directly connected big screen .

7.4 remote ON/OFF and radio frequency adjusting

If the user need to operate at distance , adjust radio frequency and so on ,please advice when placing order.

7.5 maintain the peak value

This edition indicator means the function of peak value memory and holding function for many dynamometry occasions .

11.Battery Charging Method

Both scale and indicator are powered by the batteries. For the scale, the battery can be charged either while it is installed on-scale or it can be taken out of scale and charged. Battery should be charged promptly once the indicator power monitor shows the low battery power. This is to prolong the battery life without over discharge. The power supply for the charger is 220V. It will take over 5 hours to fully charge the battery (depending on the battery power level at the time of charge).

12.Precautions

Digital crane scales are precision measurement equipments. Proper maintenance is important to prolong their usable lifetime. Please note the following:

- **i.** Read carefully the user guide before operating the scale and the indicator.
- **ii.** Do not overload the scale.
- **iii.** The crane motion should be up/down in vertical. Do not drag or carry the weight load through the scale.
- **iv.** The scale can not be used extensively under high ambient temperature. Even with thermal isolation apparatus, effort should be made to minimize the scale's heat exposure. A rule of thumb is to the scale body is cool enough to touch (or below 70° C) so it can operate normally.
- **v.** Avoid hard banging and wafer from the scale.
- **vi.** Avoid personal injury by properly hanging of the scale body.
- **vii.** Minimize the usage of backlighting to preserve battery power.
- **viii.** Nd-H batteries are used for the scale and the indicator. Do not operate under low charge condition to prolong battery life. It is recommended that the battery to be disconnected from the scale if the scale is inactive for over 2 hours. Power off the indicator main if it is inactive for over a week. Charge the batteries each month even without usage.
- **ix.** The indicator should be stored under dry and cool environment.
- **x.** Use only the supplied charger and avoid over charging.
- **xi.** Handle gently the indicator handle. To pull out an angle with uniform stress in both sides when adjusting.
- **xii.** Keep a safe distance when operating the crane scale from the weight load to prevent personal injury from falling objects.
- **xiii.** For Subset menu operation, do not attempt to alter the setup without proper training.
- **xiv.** Any product has a certain life cycles. The company will produce more and more new products, new products may have a little differences with this explanation, please forgive us.

13.Trouble- shooting

xv. Beeper continuous beeps – load weight is exceeding the weight capacity of the scale. Please reduce the weight of load for normal operation.

xvi. The indicator shows only the time but no weight number – no signal reception from the scale. Please check if the A/D convert is properly connected and the battery is properly charged (>6Volts). If there is no reception within 10 meters, please check if the scale antenna has good contact or if it is damaged. Use backup antenna if needed.

xvii. The indicator has no display even LCD screen is lit. It is either due to a bad or lowly charged battery. If the problem persists after recharge of the battery, change the battery.

xviii. If the indicator receives signal from the scale, however the weight display remains at 0 regardless of the weight, please follow the instruction on page **13**. Enter 9999 and press[ ]. Then pull the scale slightly to see if there is change in internal code. If there is no change, it indicates that the transducer (or load cell) has bad contact. Please check the connection wire.

xix. During the printing process, if there is only printing sounds without paper out, then there is no more printing paper. Please reload. To load the paper, please follow these steps:

1. Turn off the power supply and open the printer cover.
2. Feed the paper through the entry slot. Turn on the power and press Feed. The printer paper should feed automatically.
3. Close the printer cover.

xx. If the indicator displays “ERR0R0” at power on and no head printing with Print head, they indicate that the printer for the indicator is broken. Please contact the vendor for a new printer.

In case the printing is illegible, the color ribbon need to be changed.To change the color ribbon, please folow these steps:

1. Open the printer cover
2. Carefully remove the old color ribbon. Do not touch the printer bearings.
3. Insert the new ribbon box gently into the left end of bearing axis with right side slightly up. If the ribbon box is not reach the bottom, please press the knob on the ribbon box and rotate slightly by following the arrow indicator. Until the left side of ribbon box hits the bottom, low the right end of the box.
4. Check if the ribbon is straight. If not, please rotate the knob on the left side of ribbon box to straight it out.
5. Reinstall the printer cover.

Please note:

The printer model and its accessories are as below:

1. Roll paper: width: 44.5±0.5mm, thickness 0.07mm. Roll paper OD is ⩽40mm.
2. Ribbon specification: EPSON ERC-05.
3. Printer Model: EPSON-150II.

14.After Sale Service

Please feedback any problem encountered during the usage of the scale to our sales representative. This will ensure us to provide timely technical support and quality service. Please do not attempt to fix the problem which may void the existing warranty.

15.Packaging List

Item	Name	Quantity
1	Scale	1
2	Instrument Box	1
3	Indicator	1
4	Ribbon(EPSON ERC-05)	1
5	Printer Paper	2
6	Indicator Battery Charger	1
7	Scale battery Charger	1
8	User's Guide	1

Người Nhận	Số Điện Thoại Liên Lạc
Hotline	(08)62.888.666 - (08) 62.999.111
Võ Hồ Thái Cường (24/24)	0915.999.111
Tăng Văn Xa	0974.000.333
Tăng Thị Kim Cương	0908.444.000