Price Computing Scale Service Manual 200127

Power Source

100~240V 50/60hz AC INPUT

12V/1A DC OUTPUT 12W

6V/4AH Lead-acid rechargeable battery included

Power Consumption

Approx. 30mA

Approx. 65mA with backlight

Approx. 77mA with backlight and RS232 interface

Battery hours per charge

Approx. 130 hours (backlight off)

Low battery warnings

The display battery symbol lights up when battery voltage is lower than 5.6 V

The display battery symbol starts to flash when battery voltage is lower than 5.5V

The scale will shut off automatically when battery voltage is lower than 5.4V

Option

RS232 Interface

LOADCELL connection (for indicator)

PIN1 : E +	PIN2 : E-	PIN3 : S+	PIN4 : S -
PIN5 : SEN +	PIN6 : SEN-	PIN7 : GND	

Keyboard with 10 PLU keys (20 PLUs)：

P06 P16	P01 P11	7	8	9		
P07 P17	P02 P12	4	5	6		
P08 P18	P03 P13	1	2	3		
P09 P19	P04 P14	0	.	C	Zero	Tare
P10 P20	P05 P15	P1 P2	PLU	ON		OFF

Function keys descriptions：

OFF ：

Press and hold the OFF key and the weight window will display “off” for 2 seconds then the scale will turn off automatically

ON ：

Press the ON key to turn on the scale. The scale will start self-adjusting sequence then will stabilize in 0

0 ~ 9 ：

Numeric keys from 0~9

. /Units/00 ：

Single price unit:

Fixed cent (fraction) works as 00 (double zeros)

Manual cent (fraction) works as decimal point for cents

Multiple price units:
Fixed cent (fraction) works to change price units (can be changed by press 1-6)
Manual cent (fraction) works as decimal point for cents, press two times to change price units (unit price has to be 0),and it can be changed by press 1-6

C **:**
Clear Entry key: To clear unit price
When there is accumulated value and no unit price, press the CE key to display total accumulated counts and total accumulated price

Z **:**
Zero key: To reset the weight to 0, but the displayed weight value has to be less than ± 2% of maximum capacity

T **:**
Tare key: To subtract the container weight. Maximum tare = full capacity

PLU **:** Pn (PLU number key): P1~P20
Price Look Up key, Long press is effective,to store a unit price into Pn key, simply enter desired unit price and press the PLU key, then press selected Pn key and the unit price will be stored into designated Pn key.

P01 ~ P10 **:**
When unit price have been stored into P01 ~ P10 keys, press P01 ~ P10 keys to recall stored unit price and it will be displayed at Unit Price window.

P1/P2 :
To switch between PLU page 1 and PLU page 2

P06	P01
P07	P02
P08	P03
P09	P04
P10	P05

Press P1/P2
← →

P16	P11
P17	P12
P18	P13
P19	P14
P20	P15

Error messages

Err H	Initial zero too high (over FULL SCALE + 10%)
Err L	Initial zero too low (under FULL SCALE — 10%)
Err N	Unstable internal value
hhhhhh	Overload, when the weight is heavier than the full capacity + 9d of the scale
------	Total price over 999999

Calibration and Functions Setup

※When the scale is brand new and has not been calibrated; it will start automatically with Spec Calibration and Weight Calibration.

In weighing mode:

Press and hold [T] key and [1] key – Spec and Weight Calibrations (CAL_ON Calibration switch at ON position)

Press and hold [T] key and [2] key – Weight Calibration (CAL_ON Calibration switch at ON position)

Press and hold [T] key and [3] key in weighing mode – G value look up or calibration. Spec and Weight Calibrations (CAL_ON Calibration switch at ON position or G value calibration set as non-approval standard calibration)

Press and hold [T] key and [4] key – Standard Functions Setup

Press and hold [T] key and [5] key – Keyboard test, displays calibration weight internal resolution and version number

Press and hold [T] key and [6] key – Displays battery voltage, internal value and ADC internal value

Spec Calibrations and Weight Calibration：

The SW1 calibration switch on the main board switched to ON position

Press the [T] key and the [1] key in weighing mode to start Spec Calibration and Weight Calibration

Keys descriptions:

[PLU] = [ENTER] key　　[0] ~ [9] numeric keys

[Z] = [<] key　　[T] = [>] key

[C] = [ESC] key

Description :

Enter specs t 0 0 0 0 0

D1 D2 D3 D4 D5

D1 D2 Division setup

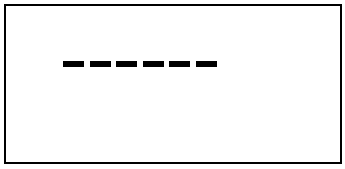
D3 Unit Price and Total Price decimal point (cent) setup

D4 G value ON or OFF for standard (external) calibration

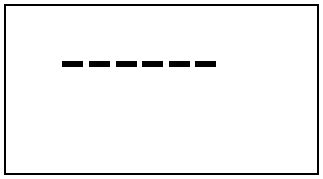
D5 P1/P2 key setup

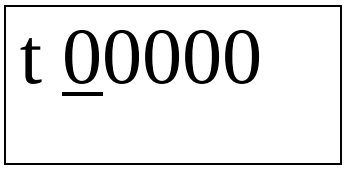
※ Refer to Spec Calibration setup

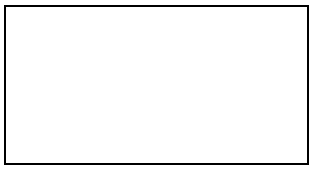
If “CAL off” is displayed, the calibration has not been switched to ON position. Please switch the calibration switch SW1 to ON and the scale will automatically start countdown sequence and back to weighing mode.







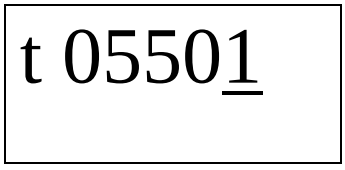


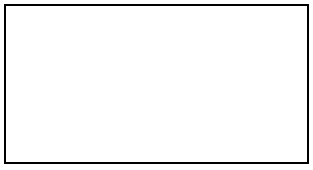


D1 D2 D3 D4 D5

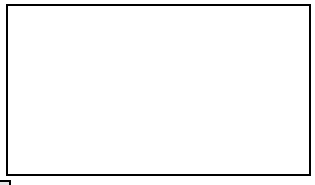


Press the T key and then 1 key in weighing mode to start Spec Calibration and Weight Calibration

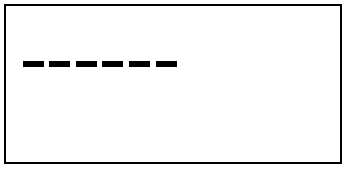


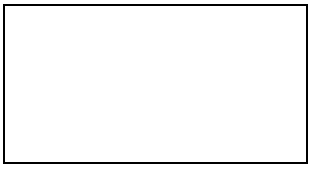


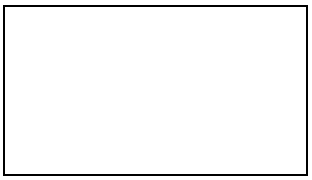
D1 D2 D3 D4 D5



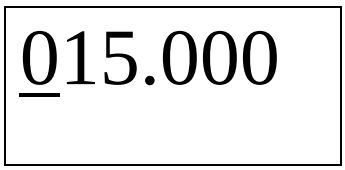
Press [0] ~ [9] [<] [>] keys to enter specifications , Press the [ENTER] key to start the weight calibration, (Press the [ESC] key to exit back to weighing mode. Exit before calibration is completed; all data will not be saved)

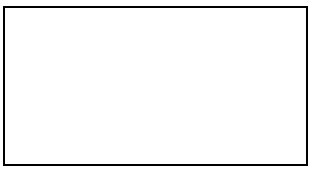






The scale will read zero point for approximately 1 second. The platter must keep free of any objects

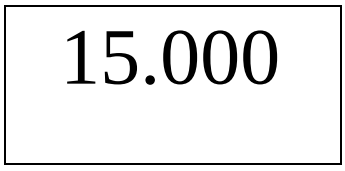


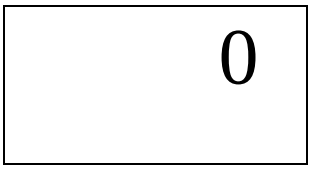


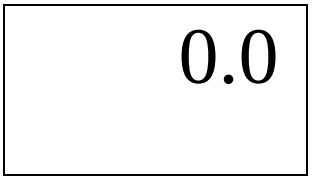


Place calibration weight or press the [0] ~ [9] and [<] [>] keys to change the weight to be calibrated. Place the calibration weight and press the [ENTER] key

※ Calibrate with maximum capacity of the scale is suggested ensuring the accuracy of the scale.

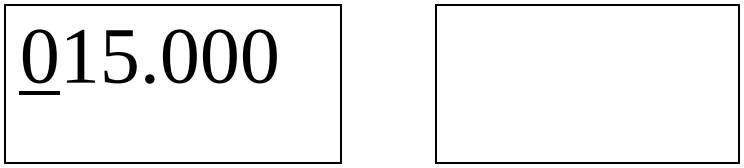






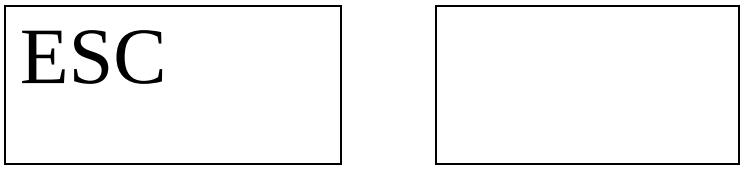
Return back to weighing mode.

When proceed with Spec Calibration and not Weight Calibration



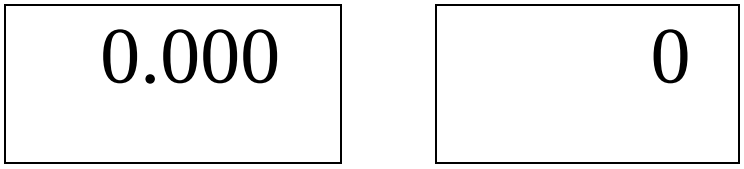


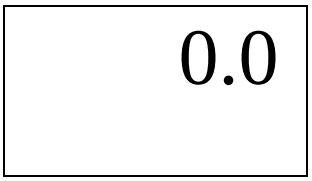
Do not place any weight onto the platter and press the ENTER key





Display for 2 seconds





Return back to weighing mode

Spec Calibration detail description

D1 D2: (Capacity Table)

D1 D2	Capacity and Division	Price Unit	Range	Weighing Unit	Resolution
01	3000g * 1g	100g	One Range	No display	3000
02	6000g * 2g	100g	One Range	No display	3000
03	3.000kg*1g	kg	One Range	No display	3000
04	6.000kg*2g	kg	One Range	No display	3000
05	15.000kg*5g	kg	One Range	No display	3000
06	30.00kg*10g	kg	One Range	No display	3000
07	60.00kg*20g	kg	One Range	No display	3000
08	150.00kg*50g	kg	One Range	No display	3000
09	300.0kg*0.1kg	kg	One Range	No display	3000
10	600.0kg*0.2kg	kg	One Range	No display	3000

D1 D2	Capacity and Division	Price Unit	Range	Weighing Unit	Resolution
11	3000.0g * 0.5g/1g Divide at 1500.0g	100g	Dual Range	No display	3000
12	6000g * 1/2g Divide at 3000g	100g	Dual Range	No display	3000
13	3.0000kg* 0.5g/1g Divide at 1.5000kg	kg	Dual Range	No display	3000
14	6.000kg* 1g/2g Divide at 3.0000kg	kg	Dual Range	No display	3000
15	15.000kg*2g/5g Divide at 6.000kg	kg	Dual Range	No display	3000
16	30.000kg*5g/10g	kg	Dual	No	3000

	Divide at 15.000kg		Range	display	
17	60.00kg*10g/20g Divide at 30.00kg	kg	Dual Range	No display	3000
18	150.00kg*20g/50g Divide at 60.00kg	kg	Dual Range	No display	3000
19	300.00kg*50g/100g Divide at 150.00kg	kg	Dual Range	No display	3000
20	600.0kg*0.1kg/0.2kg Divide at 300.0kg	kg	Dual Range	No display	3000

D1 D2	Capacity and Division	Price Unit	Range	Weighing Unit	Resolution
21	3000g * 1g	kg/100g	One Range	g	3000
22	6000g * 2g	kg/100g	One Range	g	3000
23	3.000kg*1g	kg/100g	One Range	kg	3000
24	6.000kg*2g	kg/100g	One Range	kg	3000
25	15.000kg*5g	kg/100g	One Range	kg	3000
26	30.00kg*10g	kg/100g	One Range	kg	3000
27	60.00kg*20g	kg/100g	One Range	kg	3000
28	150.00kg*50g	kg/100g	One Range	kg	3000
29	300.0kg*0.1kg	kg/100g	One Range	kg	3000
30	600.0kg*0.2kg	kg/100g	One Range	kg	3000

D1 D2	Capacity and Division	Price Unit	Range	Weighing Unit	Resolution

31	3000.0g * 0.5g/1g Divide at 1500.0g	kg/100g	Dual Range	g	3000
32	6000g * 1/2g Divide at 3000g	kg/100g	Dual Range	g	3000
33	3.0000kg* 0.5g/1g Divide at 1.5000kg	kg/100g	Dual Range	kg	3000
34	6.000kg* 1g/2g Divide at 3.0000kg	kg/100g	Dual Range	kg	3000
35	15.000kg*2g/5g Divide at 6.000kg	Kg/100g	Dual Range	kg	3000
36	30.000kg*5g/10g Divide at 15.000kg	Kg/100g	Dual Range	kg	3000
37	60.00kg*10g/20g Divide at 30.00kg	Kg/100g	Dual Range	kg	3000
38	150.00kg*20g/50g Divide at 60.00kg	Kg/100g	Dual Range	kg	3000
39	300.00kg*50g/100g Divide at 150.00kg	Kg/100g	Dual Range	kg	3000
40	600.0kg*0.1kg/0.2kg Divide at 300.0kg	kg/100g	Dual Range	kg	3000

D1 D2	Capacity and Division	Price Unit	Range	Weighing Unit	Resolution
41	3000g * 1g 6.000lb * 0.002lb	kg/lb	One Range	g/lb	3000
42	6000g * 2g 12.000lb * 0.005lb	kg/lb	One Range	g/lb	3000
43	3.000kg* 1g 6.000lb*0.002lb	kg/lb	One Range	kg/lb	3000
44	6.000kg* 2g 12.000lb*0.005lb	kg/lb	One Range	kg/lb	3000
45	15.000kg*5g 30.00lb*0.01lb	Kg/lb	One Range	kg/lb	3000
46	30.00kg*10g 60.00lb*0.02lb	kg/lb	One Range	kg/lb	3000
47	60.00kg*20g 120.00*0.05lb	kg/lb	One Range	kg/lb	3000

48	150.00kg*50g 300.0lb*0.1lb	kg/lb	One Range	kg/lb	3000
49	300.0kg*0.1kg 600.0lb*0.2lb	kg/lb	One Range	kg/lb	3000
50	600.0kg*0.2kg 1200.0lb*0.5lb	kg/lb	One Range	kg/lb	3000

D1 D2	Capacity and Division	Price Unit	Range	Weighing Unit	Resolution
51	3000g * 1g 4.15.36hk jin.hk liang*0.02hk liang 6.09.84 lb*0.04oz	kg/100g /hk jin/hk liang/lb/oz	One Range	g/ No display/ lb	3000
52	6000g * 2g 9.14.72 hk jin.hk liang*0.04 hk liang 13.03.68lb.oz*0.08oz	kg/100g /hk jin/hk liang/lb/oz	One Range	g/ No display/ lb	3000
53	3.000kg*1g 4.15.36 hk jin.hk liang*0.02 hk liang 6.09.84lb*0.04oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	3000
54	6.000kg*2g 9.14.72 hk jin.hk liang*0.04 hk liang 13.03.68lb.oz*0.08oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	3000
55	15.000kg*5g 24.12.8 hk jin.hk liang *0.1 hk liang 33.01.2lb.oz*0.2oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	3000
56	30.00kg*10g 49.09.6 hk jin.hk liang*0.2 hk liang 66.02.4lb.oz*0.4oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	3000
57	60.00kg*20g 99.03.2 hk jin.hk liang*0.4	kg/100g /hk jin/hk	One Range	kg/ No	3000

	hk liang 132.04.8lb.oz*0.8oz	liang/lb/oz		display/ lb	
58	150.00kg*50g 248.00 hk jin.hk liang*1 hk liang 330.12lb.oz*2oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	3000
59	300.0kg*0.1kg 496.00 hk jin.hk liang*2 hk liang 661.08lb.oz*4oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	3000
60	600.0kg*0.2kg 992.00 hk jin.hk liang*4 hk liang 1323.00lb*8oz	kg/100g /hk jin/hk liang/lb/oz	One Range	Kg/ No display/ lb	3000

D1 D2	Capacity and Division	Price Unit	Range	Weighing Unit	Resolution
61	3000g * 0.5g 4.15.36 hk jin*0.02 hk liang 6.09.84 lb*0.04oz	kg/100g /hk jin/hk liang/lb/oz	One Range	g/ No display/ lb	6000
62	6000g * 1g 9.14.72 hk jin.hk liang*0.04 hk liang 13.03.68lb.oz*0.08oz	kg/100g /hk jin/hk liang/lb/oz	One Range	g/ No display/ lb	6000
63	3.000kg*0.5g 4.15.36 hk jin.hk liang*0.02 hk liang 6.09.84lb*0.04oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	6000
64	6.000kg*1g 9.14.72 hk jin.hk liang*0.04 hk liang 13.03.68lb.oz*0.08oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	6000
65	15.000kg*2g 24.12.8 hk jin.hk liang*0.1	kg/100g /hk jin/hk	One Range	kg/ No	7500

	hk liang 33.01.2lb.oz*0.2oz	liang/lb/oz		display/ lb	
66	30.00kg*5g 49.09.6 hk jin.hk liang*0.2 hk liang 66.02.4lb.oz*0.4oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	6000
67	60.00kg*10g 99.03.2 hk jin.hk liang*0.4 hk liang 132.04.8lb.oz*0.8oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	6000
68	150.00kg*20g 248.00 hk jin.hk liang*1 hk liang 330.12lb.oz*2oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	7500
69	300.0kg*0.05kg 496.00 hk jin.hk liang*2 hk liang 661.08lb.oz*4oz	kg/100g /hk jin/hk liang/lb/oz	One Range	kg/ No display/ lb	6000
70	600.0kg*0.1kg 992.00 hk jin.hk liang*4 hk liang 1323.00lb*8oz	kg/100g /hk jin/hk liang/lb/oz	One Range	Kg/ No display/ lb	6000

D1 D2	Capacity and Division	Price Unit	Range	Weighing Unit	Resolution
91	40kg * 10g	kg	One Range	No display	4000

D3 : Unit Price Decimal Point (Cent)

0	Unit Price/Total Price : Fixed no cent
1	Unit Price/Total Price : Fixed 0.0
2	Unit Price/Total Price : Fixed 0.00
3	Unit Price/Total Price : Fixed 0.000
4	Unit Price : Manual cent 0.00

	Total Price : Fixed no cent
5	Unit Price : Manual cent 0.00 Total Price : Fixed cent 0.0
6	Unit Price : Manual cent 0.00 Total Price : Fixed cent 0.00

D4: G Value available for standard calibration or not

0	G value not available for standard calibration
1	G value available for standard calibration

D5: [P1/P2] key setup

0	P1/P2 deactivate
1	P2 starts from P11
2	P2 starts from P21
3	P2 starts from P31

Weight Calibration：

The SW1 calibration switch on the main board switched to ON position

Press the [T] key and the [2] key in weighing mode to start Weight Calibration

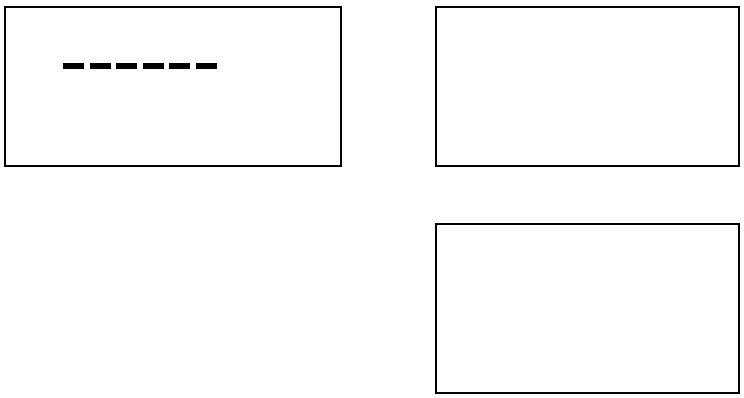
Keys descriptions:

[PLU] = [ENTER] key　　[0] ~ [9] numeric keys

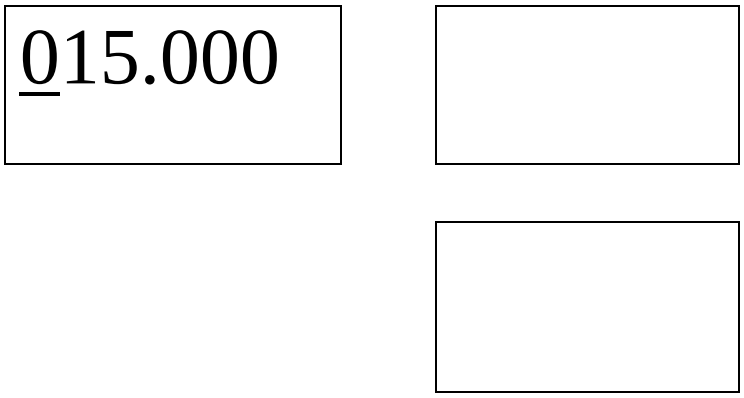
[Z] = [<] key　　[T] = [>] key

[C] = [ESC] key

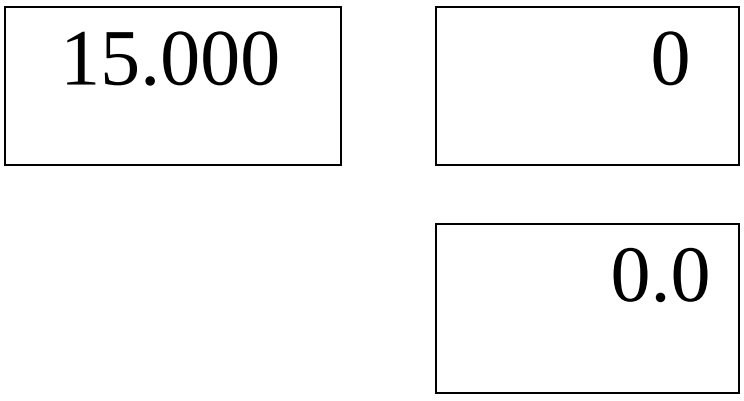
※ Weight Calibration will not be accessible when SW1 calibration is on CAL_OFF position



The scale reads the calibration zero for 1 second, do not place anything onto the scale.

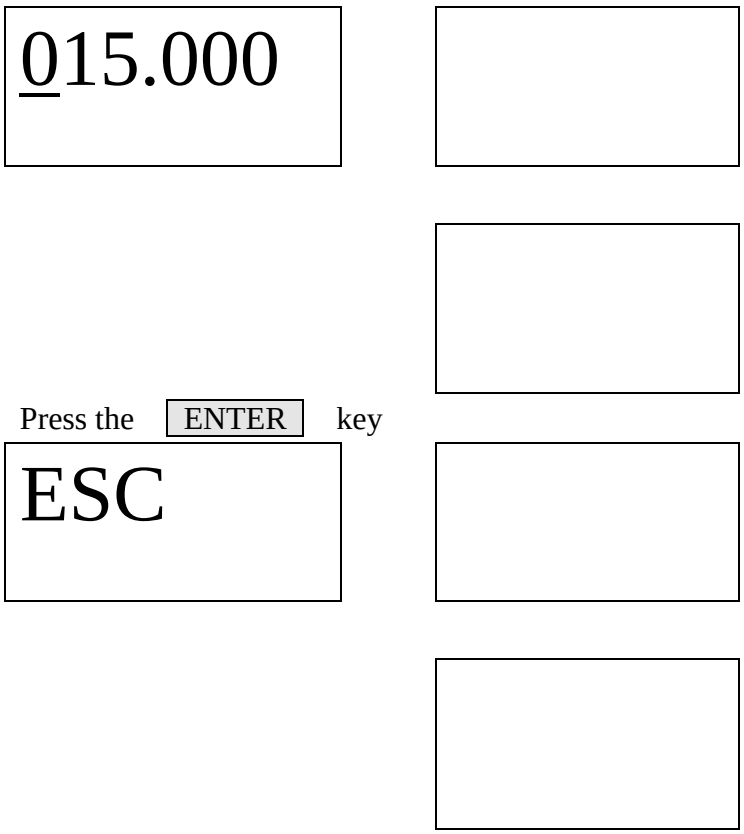


Place the weight mass or use [0] ~ [9] [<] [>] keys to change the weight value. Place the weight mass and place the [ENTER] key



The scale returns back to weighing mode

To calibrate only the initial zero and not weight calibration, just



And scale return back to weighing mode

G Value Calibration and how to view G value :
Press the T key and the 3 key in weighing mode to start G value calibration

or to view G value

Keys descriptions:

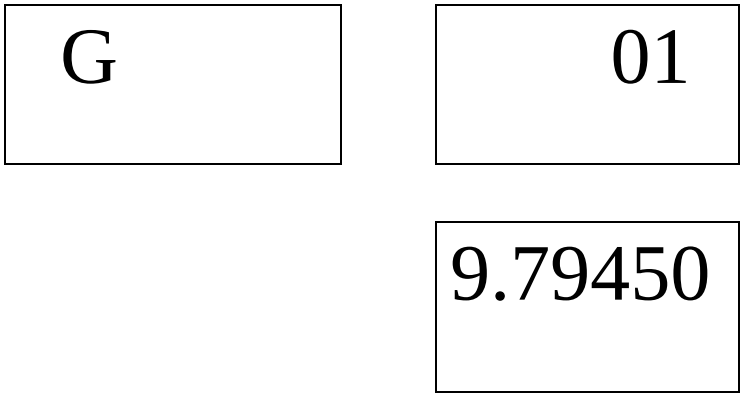
PLU = ENTER key	0 ~ 9 numeric keys
Z = < key	T = > key
C = ESC key	

G 值說明 ：

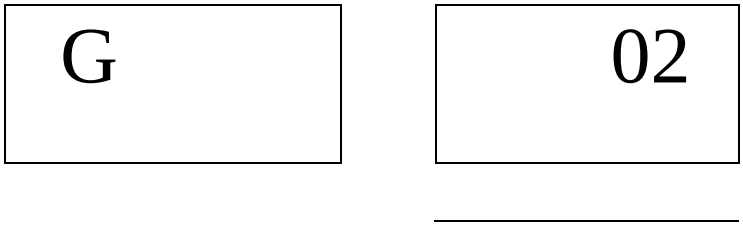
1. 10 G values can be entered
2. **Only one G value can be entered when the calibration switch is at CAL_ON position**
3. Make sure the G value entered is correct to avoid inaccurate weighing
4. The G value will be denied when the value is greater than 9.83217 (Polar G value) or less than 9.78031 (Equator G value)

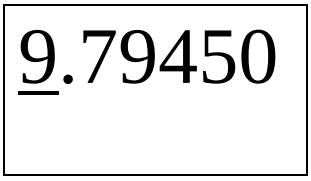
※ G value cannot be entered when the G value is set not accessible for standard calibration and SW1 calibration switch is at CAL_OFF position

※ **Factory default 9.79423**



To display last G value, press the < key to view previous G value
press the > key to view next G value
press the ENTER key to start G value calibration
press the ESC key to return back to weighing mode

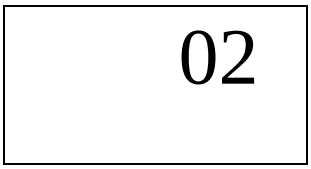


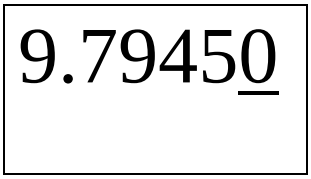


Press 0 ~ 9 < > keys to enter G value

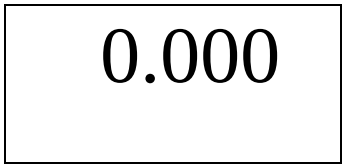
Press the ESC key to abort calibration and return back to weighing mode

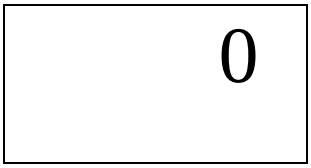


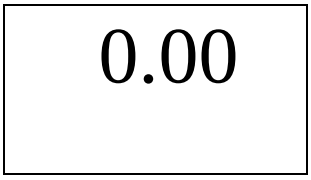




Press the ENTER key to save the G value







And return back to weighing mode

Functions Setup :

Press the [T] key and the [4] key in weighing mode to start Functions Setup

UF1 Backlight

UF2 RS232 Communication

UF3 RS232 Baud rate

Keys descriptions:

[PLU] = [ENTER] key [0] ~ [9] numeric keys

[Z] = [<] key [T] = [>] key

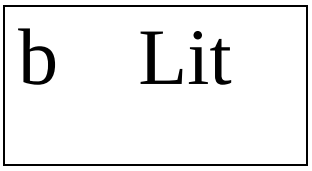
[C] = [ESC] key

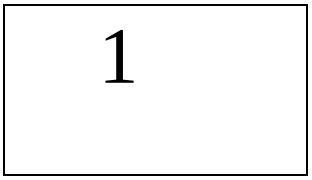
※ For more information about RS232 communication protocol refer to Appendix I

1. Backlight :

0 Backlight OFF 1 Auto-Backlight (Default Auto-Backlight)





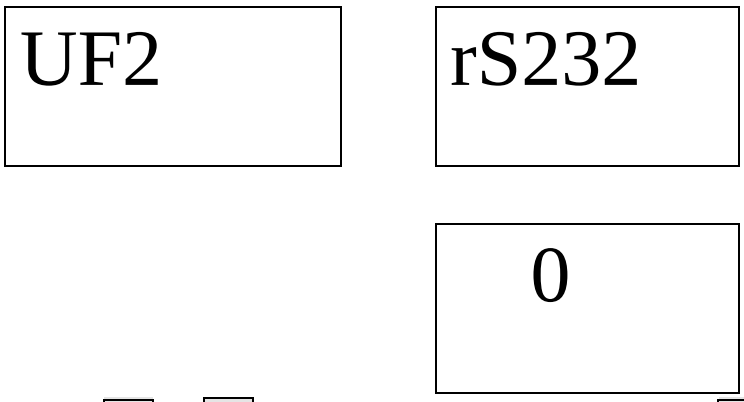


Press [0] ~ [1] keys to select condition. Press the [>] key to go to the next function setup. Press the [ENTER] key to save the change and return back to weighing mode. Press the [ESC] to abort setup and back to weighing mode

2. RS232 :

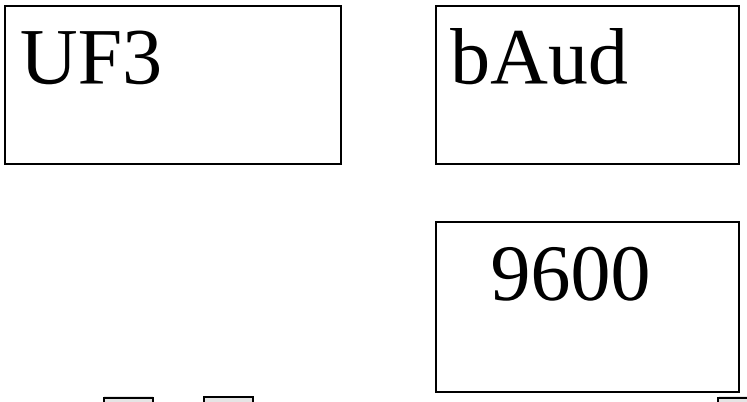
0 OFF 1 Stable Output 2 Stream Output

3 Accumulation Output(keyboard output) (Default OFF)



Press [0] ~ [6] keys to select condition. Press the [>] key to go to the next function setup. Press the [ENTER] key to save the change and return back to weighing mode. Press the [ESC] to abort setup and back to weighing mode
Note: [4] ~ [6] can connect LP50 printer.

3. RS232 Baud Rate :
   0 1200 1 2400 2 4800 3 9600 4 19200
   (Default 9600)



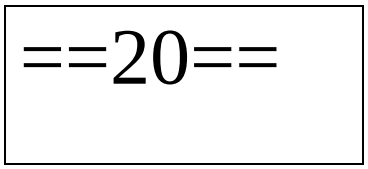
Press [0] ~ [3] keys to select condition. Press the [>] key to go to the next function setup. Press the [ENTER] key to save the change and return back to weighing mode. Press the [C] to abort setup and back to weighing mode

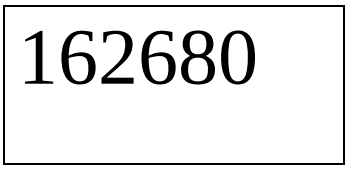
Keyboard testing, to display calibration weight mass internal value and version number :

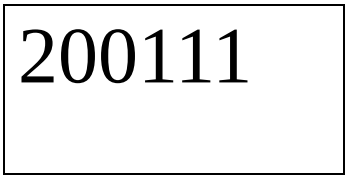
Press the [Tare] key and the [5] key in weighing mode to test keyboard, to display calibration weight mass internal value and version number

Keys description :

[PLU] : [ENTER] key







Weight window displays key quantity

Unit Price window displays calibration weight mass internal value

Total Price window displays version number

Press the [ENTER] key and the scale will countdown and back to weighing mode

Key corresponding table

Key location (1) 10 sets of PLU：

P06 P16	P01 P11	7	8	9		
P07 P17	P02 P12	4	5	6		
P08 P18	P03 P13	1	2	3		
P09 P19	P04 P14	0	.	CE	Zero	Tare
P10 P20	P05 P15	P1 P2	PLU	ON		OFF

Corresponding keys

06	05	04	03	02	01	00
16	15	14	13	12	11	10
46	45	44	43	42	41	40
26	25	24	23	22	21	20
36	35	34	33	ON		OFF

Corresponding keys

08	07	06	05	04	03	02	01	00
18	17	16	15	14	13	12	11	10
48	47	46	45	44	43	42	41	40
28	27	26	25	24	23	22	21	20
38	37	36	35	34	33	ON		OFF

Display battery voltage detected internal value and AD internal value

Press the [T] key and the [6] key in weighing mode to display battery voltage detected internal value and AD internal value

Keys description :

[PLU] : [ENTER] key

[C] : [ESC] key

Description :

Idle AD internal value if higher than 350,000 lower 75,000 mean it is out of calibration range

battery voltage detected internal value,

when lower than 386 (approx. 5.6V) the battery indicator lights up

when lower than 380 (approx. 5.5V) the battery indicator flashes

when lower than 374 (approx. 5.4V) the scale turns off automatically

Regular battery voltage is between 360~450

bAt469	Ad
	220856

Weight window displays Battery voltage detected internal value
Total Price window displays AD internal value

0.000	0
	0.0

Press ENTER key or ESC key to return back to weighing mode

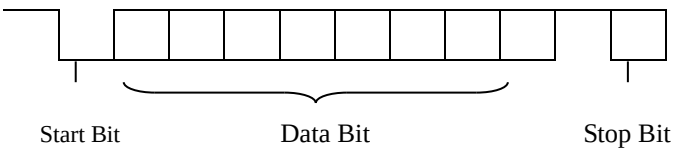
Appendix I

RS232 Output

UART signal of EIA-RS232 C

Format:

1. Serial Output: 2400 / 4800 / 9600/19200 BPS
2. Data Bit: 8 BITS
3. Parity Bit: None
4. Stop Bit: 1 BIT



Format 1 (RS232 1 RS232 2) :

HEAD1 (2 BYTES)	HEAD2 (2 BYTES)
OL - Over Load	
ST - Stable	NT - Net Weight
US - Unstable	GS - Gross Weight

Fixed 18 BYTES ASCII (kg g lb)

1	2	1	1	2	1	1	2	3	4	5	6	7	8	1	2	1	2

HEAD1 , HEAD2 , DATA UNIT CR LF

Fixed 21 BYTES ASCII (hkg lboz)

1	2	1	1	2	1	1	2	3	4	5	6	7	8	9	1	2	3	4	1	2

HEAD1 , HEAD2 , DATA UNIT CR LF

Output examples

1. Example +0.87kg of stable net weight :

S	T	,	N	T	,	+			0	.	8	7	k	g	0D	0A

2. Example +576 g of stable net weight :

S	T	,	N	T	,	+				5	6	7		g	0D	0A

3. Example -1.568lb of unstable gross weight :

U	S	,	G	S	,	-			1	.	5	6	8	l	b	0D	0A

4. Example + 1.15.40hkgof stable net weight :

S	T	,	N	T	,	+		1	.	1	5	.	4	0		h	k	g	0D	0A

5. Example -20. 5.40lboz of unstable gross weight :

U	S	,	G	S	,	-	1	0	.		5	.	4	0	l	b	o	z	0D	0A

Format 2(RS232 3) press PLU key

I	**T**	**E**	**M**											**0**	**1**
N	**W**								**1**	**.**	**0**	**0**	**0**	**k**	**g**
T	**W**								**0**	**.**	**0**	**0**	**0**	**k**	**g**
U	**/**	**P**									**3**	**0**	**/**	**k**	**g**
T	**P**										**3**	**0**	**.**	**0**	**0**