Weighing Scale Service Manual

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Instructions for Use

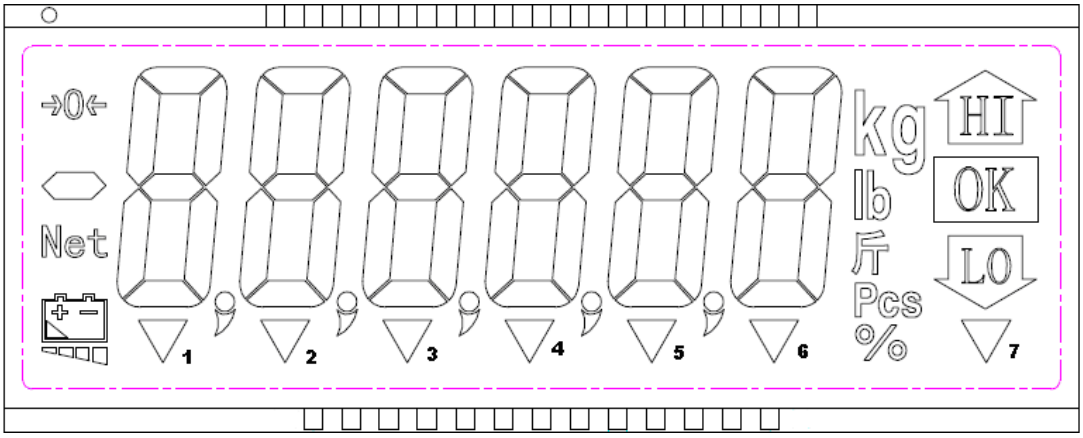
1. Please keep scale in a cool and dry place. Do not store under high temperatures.
2. Please keep the scale clean and free from insect infestation.
3. Avoid impacting with other items or overloaded with excessively heavy weights (The load must not exceed the maximum capacity of the scale).
4. If the scale is not going to be used for some time, please clean it and store it in a plastic bag in dry condition. A desiccant sachet may be included to prevent moisture from building up.
5. Do not mix different types of dry battery or mix used dry batteries with new dry batteries.
6. Any suggestion is warmly welcome.

Preparing to Use the Scale

1. Locate the scale on a firm level surface free from vibrations for accurate weight readings. Adjust the four leveling feet to centre the leveling bubble on the scale.
2. Avoid hot sunshine directly on the scale or near the exhaust port of ventilating system.
3. Please use a separate power source plug, to avoid the disturbance of other electric appliance.
4. There should be no weight on the scale when power is turned on.
5. Commodity should be placed at the centre of platter when being weighed, and its size should not exceed the dimension of the platter.
6. Please warm the scale 15 ~ 20 minutes before using.
7. Please note that when symbol appears on the screen, the scale needs to be recharged.

Chapter 1 Introduction

1-1 Display Description



HI	:	High limit value
OK	:	OK value (The value between HI and LO limit value)
LO	:	Low limit value
→0←	:	“Zero” indication
Net	:	“Net weight” indication
	:	“Low battery power” indication
▽1	:	“Stable” indication
▽2	:	“Pre-tare mode” indication
▽3	:	“Accumulation mode” indication
▽4	:	PRINTER READY(mini printer connected)
▽5	:	“Samples insufficient” indication
▽6	:	“Unit weight insufficient” indication
▽7	:	“Viss” unit (Burma unit)
kg	:	“kg” unit
lb	:	“lb” unit
斤	:	Tael unit (hk)
Pcs	:	Counting mode
%	:	Percent indication

4 Changes of “Range” indication mode

The indicator with 2-segment specification:

▽6 is Range 1 ▽5 is Range 2

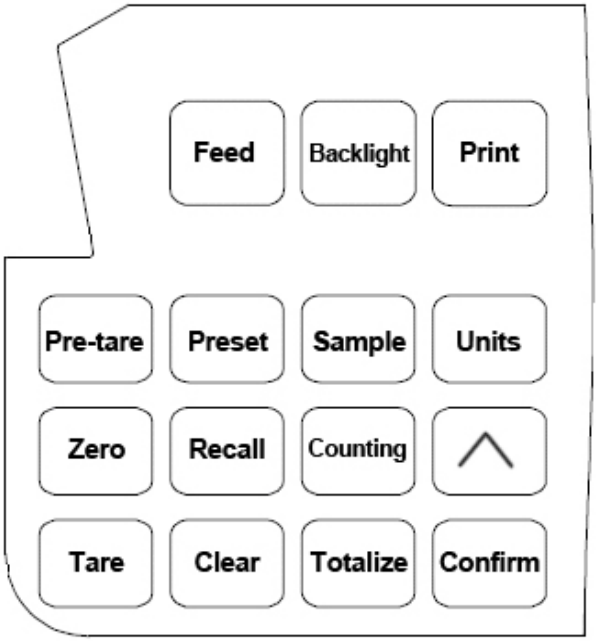
1-2 Keypad Functions Description

15 keys

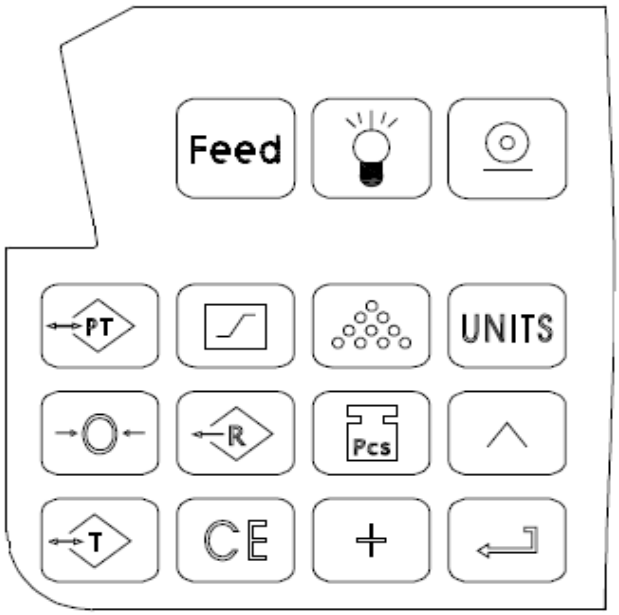
UNITS	:	Press this key to select the required unit from the preset units.
	:	Press this key to preset the weight and quantity.
+	:	Press this key to accumulate the weight value or others.
T	:	Press this key to tare (deduct the container weight)
PT	:	Press this key to preset tare value.
R	:	Press this key to recall the totalization value, preset value and pre-tare value.
CE	:	Press this key to clear the totalization value, preset value and pre-tare value.
0	:	Press this key to zero the scale.
	:	Press this key to confirm.
	:	Press this key to enable/disable backlight
	:	Press this key to go into counting mode
Pcs	:	Press this key to sample
	:	Press this key to print
^	:	Press this key to input number 0~9
Feed	:	Press this key to feed the paper

1-3 Keypad Layouts Description

15-key in table



Relative functions for each button



Actual panel

12-key in Table

Counting	Sample	Units
Pre-tare	Totalization	Presets
Zero	Recall	^ / Backlight
Tare	Clear	Print / Confirm

⇒

	Pcs	UNITS
PT	M+	
→0←	R	^ /
T	CE	/ ↵

4 10 key (HW) model without two keys: and

4key (5key) symbolic description

Zero key Þ

Tare key Þ

Net /gross weight key Þ

Print key Þ

Units key Þ

Chapter 2 General Operation Description

2-1 *Backlight Function*

Press key to select the display backlight mode:

bL. AUto ⇒ "Auto Backlight" mode. When the weight is over 10d or any key is pressed, the display backlight will be switched on. When the weight returns to zero (the weight on platform is less than 10d), the display backlight will switch off after 10 seconds.

bL. on ⇒ Display backlight is on all the time.

bL. OFF ⇒ Display backlight is off.

2-2 Weighing Mode

(1). Units Selection

1. After indicator is turned on, use units key to select a unit from kg, lb, tael or viss, as the screen indicated.
2. The selected unit will be memorized when you turn the indicator off. And the memorized unit will appear after you turn on the indicator next time.

(2). Check Weighing Mode

1. Preset " High limit", "Low limit" and " Beeper value" operation

Use ^ and ↵ key to preset values.

For example:

Preset "Low limit" (Low limit >10d) ***e.g. Low limit = 20 kg***

Press key the display shows 0 - - . - - L

Press ↵ key 1 time the display shows 0 0 - . - - L

Press ^ key 2 times the display shows 0 2 - . - - L

Press ↵ key 4 times the display shows 0 2 0.00 0

Preset "High limit" (High limit ≥ Low limit) ***e.g. High limit = 25 kg***

Press ↵ key 1 time the display shows 0 - - . - - H

Press ↵ key 1 time the display shows 0 0 - . - - H

Press ^ key 2 times the display shows 0 2 - . - - H

Press ↵ key 1 time the display shows 0 2 0 . - - H

Press ^ key 5 times the display shows 0 2 5 . - - H

Press ↵ key 3 times the display shows 0 2 5.00 0

Preset “Beeper value” (Refer to **Note**) ***e.g. Beeper value = 22***

Press	key 1 time	the display shows	ï 0 ð - b
Press	key 2 times	the display shows	ï 2 ð - b
Press	key 1 time	the display shows	2 ï 0 ðb
Press	key 2 times	the display shows	2 ï 2 ðb
Press	key 1 times	the display shows	0.000

4 Preset Single point (preset low limit only):

After “preset low limit” procedures is completed and the display shows ï 0 ð - -.- - H, then press key again, the display shows 0.000. This means that the “preset single point” procedure is completed.

NOTE

_ _ _ X/A X/B b

A Setting for the status that LCD is on and the beeper beep:

0 = when stable, the beeper beeps and LCD is on.

1 = when stable, the beeper beeps; whether stable or not, LCD is on.

2 = whether stable or not, the beeper beeps and LCD is on.

B Setting for the beep status:

0 = No beep

1 = OK (when the weight is over Low Limit & under or equal to High Limit.), the beeper beeps.

2 = When the weight is under or equal to Low Limit & over High Limit, the beeper beeps.

4 Under Status in Preset Low Limit (preset single point only)

The BEEP, LCD mode should be fixed as follows:

b 2 1

When over “Low Limit”, the beeper beeps and LO is off

Whether stable or not, the beeper beeps and LCD indication is on

4 LCD indication:

ï LO ð ï OK ð ï HI ð

| ï ï ï | ï ï ï ï ð ð ð ð | ð ð ð

10d Low Limit High Limit

◆ To exit preset mode, please press UNITS key.

2. Recall Check-weighing Values

Press key then press key ⇒ Recall “Low limit value”

Then press key again ⇒ Recall “High limit value”

Then press key again ⇒ Recall “Beeper value”

Then press key again ⇒ Back to the beginning

3. Clearing Check-weighing Values

Press key then press key, and then press CE key ⇒ Recall “Low limit value”

Then press CE key again ⇒ Clear “High limit value” and “Beeper value”

Press key then press key 6 times continuously ⇒ Clear all values.

(3). Totalizing

1. Weight Totalizing

Place goods on the platter, after stable and press + key to save the weight value. Then the display shows the total number of additions and the totalized weight value. And the (M+) indication “ 6 ” will flash on the display. The indicator will recover to show the weight value of the goods on the platter after 3 seconds and the (M+) indication “ 6 ” is on.

- The indicator allows the next totalizing operation, even when the weight value does not return back to zero. The + key is functional, when the weight value changes by more than 10d. The indicator will save the totalized weight value after the weight is stable.
- The indicator can totalize positive or negative weight but can’t do both at the same time. The totalized weight store must be reset to zero before it is possible to select positive or negative totalizing mode.
- The totalizing function can be used up to a maximum of 9999 times before it must be reset. The totalizing display is limited to 6 digits maximum.
- When totalizing, RS-232 and Mini Printer will also output. (Refer to F5 setting)

2. Clear Totalized Weight Values

- Press then CE key to clear all totalized weight values.
- When changing between weighing and counting mode, or selecting weighing unit, the indicator will automatically clear all the totalized weight values.
- The indicators will automatically clear all the totalized weight values after turning on.

3. Recall Totalized Weight Values

Press key to display the total number of additions and the totalized weight value. And the (M+) indication " 6 " will flash on the display. The indicator will return to the weighing mode after 3 seconds.

4 The indicator will not display the negative sign "-" for negative totalized weight values when recalling a totalized weight value, but when printing, the negative sign "-" will be printed out (transmitted serially) for each negative weight and negative totalized weight.

(4). Zero Function

Press key to re-zero the display with no load on the platter. When zero is set, the ( ) symbol will be displayed.

(5). Tare Function

1. When the weight of the container is unknown **(** **)**

Œ Place the container on the platter, after stable and press key, the weight value returns to zero and net indication (Net) is on.

- Place goods into the container, then the indicator shows the net weight of goods.

Ž Clear tare value

When removing the container and goods, the display shows the negative weight value of the container. Then press key to clear tare value. The indicator returns to zero and net indication (Net) is on.

- Recall tare value

Press then key ⇒ the display shows tare value

4 Multiple tare operation ⇒ Users can continuously increase or decrease the tare value by pressing the key.

4 The total tare value (tare value + pre-set tare value) can equal the full capacity of the indicator.

2. When the weight of the container is known **( )**

Œ Press key and the display shows ï ð - - . - - P.

Use and keys to input weight value of the container. After finishing the procedures, the net indication (Net) and pretare indication " 6 " is on.

- Place goods into the container, then the indicator shows the net weight of goods.

Ž Clear pretare value

Press then key, and then press CE key to clear pretare value.

When the indicator returns to zero, net indication (Net) and pretare indication " 6 " are off.

- Recall pretare value

  Press [R] then [PT] key ⇒ the display shows pretare value

4 In Tare mode, the Preset tare function is disabled.

4 The indicators with two weighing ranges can NOT pre-set the tare value larger than the first weighing range. For example: a 30 kg indicator is set by two weighing ranges. The first range is 0 to 15 kg, and the second range is 15 to 30 kg. The pre-set tare value can not be larger than 15 kg.

(6). Printing Function (Option; only for FB model)

F5	Function	Press [+] key	Press [◎] key	Press [◎] key twice after zeroing
r n p 0	RS-232 closed Printer closed	RS-232 and Printer do not transmit	RS-232 and Printer do not transmit	RS-232 and Printer do not transmit. Totalized values do not clear off
r n p 1	When weight is stable, RS-232 transmits automatically (when re-zeroed, RS-232 transmits next time after stable.) Printer closed	RS-232 and Printer do not transmit	RS-232 and Printer do not transmit	RS-232 and Printer do not transmit. Totalized values do not clear off
r n p 2	RS-232 continuously transmits Printer closed	RS-232 transmits Printer does not transmit	RS-232 transmits Printer does not transmit	RS-232 transmits Printer does not transmit Totalized values do not clear off
r n p 3	RS-232 totalizes and transmits	RS-232 transmits when weight changes by over ±10d	RS-232 transmits when weight changes by over ±10d	RS-232 prints TOTAL and clears totalized values
	Printer totalizes and transmits	Printer transmits when weight changes by over ±10d	Printer transmits when weight changes by over ±10d	Printer prints TOTAL and clears totalized values
r n p 4	RS-232 totalizes and transmits	RS-232 transmits when weight changes by over ±10d	RS-232 transmits when weight changes by over ±10d	RS-232 prints TOTAL and clears totalized values
	Printer totalizes and transmits	Printer transmits when weight changes by over ±10d	Printer transmits when weight changes by over ±10d	Printer prints TOTAL and clears totalized values
r n p 5	When weight is stable, RS-232 totalizes and transmits automatically (when re-zeroed, RS-232	RS-232 does not transmit	RS-232 does not transmit	RS-232 prints TOTAL and clears totalized values

	transmits next time after stable and. weight changes by over +10d)			
	When weight is stable, Printer totalizes and transmits automatically (when re-zeroed, Printer transmits next time after stable and. weight changes by over +10d)	Printer does not transmit	Printer does not transmit	Printer prints TOTAL and clears totalized values

rnp 6	RS-232 totalizes and transmits	RS-232 transmits when weight changes by over ±10d	RS-232 transmits when weight changes by over ±10d	Printer prints TOTAL and clears totalized values
	Printer totalizes and transmits	Printer transmits when weight changes by over ±10d	Printer transmits when weight changes by over ±10d	Printer prints TOTAL and clears totalized values
rnp 7	RS-232 totalizes and transmits	RS-232 transmits when weight changes by over ±10d	RS-232 transmits when weight changes by over ±10d	Printer prints TOTAL and clears totalized values
	Printer totalizes and transmits	Printer transmits when weight changes by over ±10d	Printer transmits when weight changes by over ±10d	Printer prints TOTAL and clears totalized values
rnp 8	After RS-232 is stable , press key to transmit	RS-232 does not transmit	RS-232 transmits when weight changes by over ±10d	RS-232 and Printer do not transmit. Totalized values do not clear off
	Printer closed	Printer does not transmit	Printer does not transmit	

2-3 Counting Function

(1). Sampling

Œ Press key to select sample quantity from 10, 20, 50,100 and the display shows 10, 20, 50, 100 accordingly.

- Select sample quantity and then place samples on the platter, and then press key, the display shows "SAmP".

  After stable, the scale enters into counting mode and the display shows sample quantity.

♦ Sample Too Small ( ) ⇒ Sample is less than 20 divisions.

♦ Unit Weight Too Small ( ) ⇒ Unit weight is less than 0.2 division. (0.1 d for Brazil regulation)

- When sampling, the above two symbols indications are on. Under such conditions, the scale can still work, but may result in lower count precision.
- When using 2-segment weighing mode, the above two symbol indications change to Range 2 and Range 1 and the two symbol indications are off.

(2). Check Weighing

Refer to the operation of check weighing in weighing function.

(3). Totalizing

Refer to the operation of totalizing in weighing function.

2-4 Power Description

Power Selection

1. 6 V Rechargeable battery
2. 110 / 220 V ±15 % AC

Recharge Voltage

1. AC 110 V +10% , -15%
2. AC 220 V +10% , -15%

Power Consumption (without mini printer)

Power Consumption	State
About 26 mA	(System+ Load Cell)
About 32 mA	(System+ Load Cell + Backlight)
About 40 mA	(System+ Load Cell + Backlight: double-side-display)

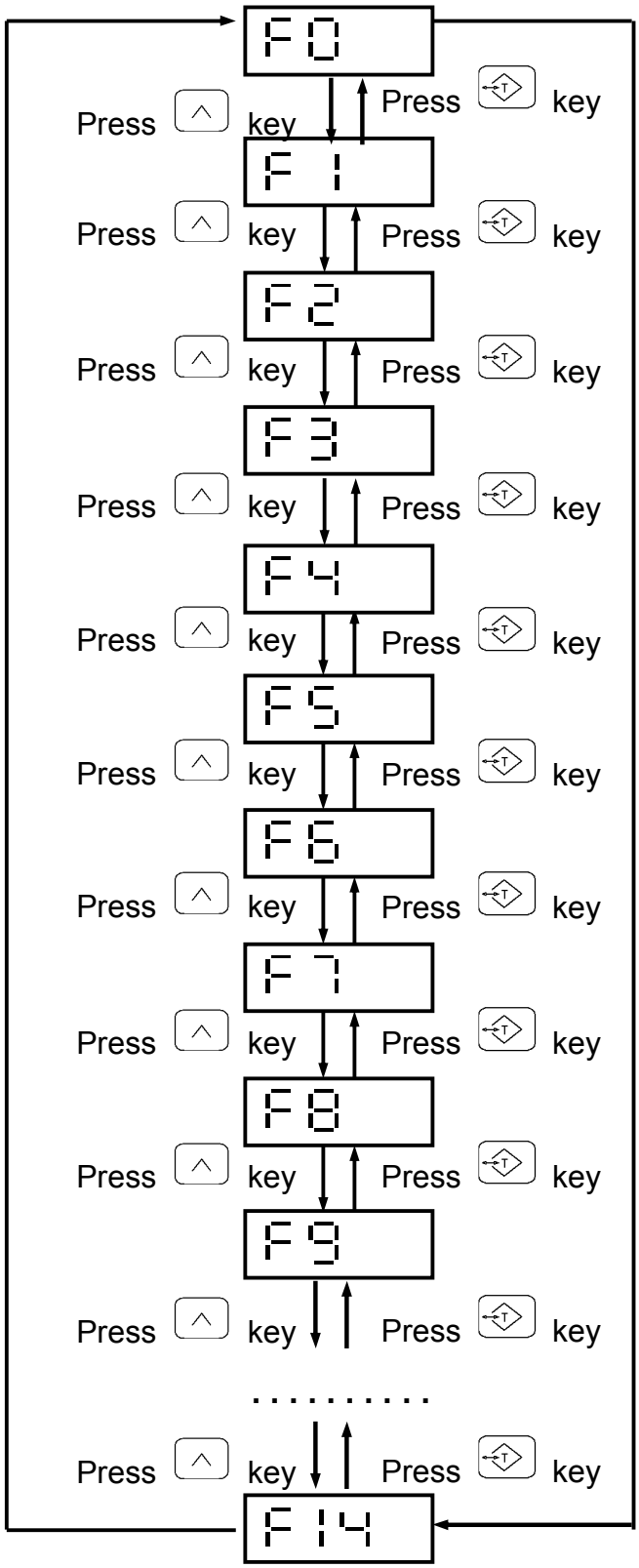
Low Power Alarm

Please note when the () symbol keeps flashing on the left down corner of the display, the batteries should be recharged.

- The scale will turn off automatically after a few hours when the low battery warning symbol shows up. The scale must be fully recharged, before operating again.

Chapter 3 General Function Setting

- Switch on the scale. While the scale is counting down to zero, press and hold [-0-] key until the display shows the software program version number 020 18
  Release the [-0-] key, the scale enters into the configuration setting mode and F0 is showed on the display.



F0 ⇒ Weight calibration*
F1 ⇒ Specification setting
F2 ⇒ Environmental factor setting*
F3 ⇒ Zero point revert display range setting*
F4 ⇒ Check-weighing configurations
F5 ⇒ RS-232 Interface output Setting
F6 ⇒ Exit setting mode
F7 ⇒ Internal value display mode
F8 ⇒ Weight hold mode setting*
F9 ⇒ Regional zero-setting *
F10 ⇒ G Value adjustment
F11 ⇒ ID code setting
F12 ⇒ Print key ([◎]) function setting
F13 ⇒ Tare setting*
F14 ⇒ Printing orders when F5 is set as
rnP6 or rnP7

Note:

*** marks stand for functions in non-approval model only. *Before calibration*, please switch SWA1 MINI JUMPER to ADJ on the PC board. *After finishing calibration*, SWA1 MINI JUMPER to LOCK on the PC board.**

F0 Þ Weight Calibration (for non-approval model only)

- Before calibration, please switch SWA1 MINI JUMPER to ADJ on the PC board.
- After finishing calibration, SWA1 MINI JUMPER to LOCK on the PC board.
  (**LOCK mode assures precision of the scale**)

Use key or key to choose **F0** Function⇒Screen displays F0

F0

Press key

Zero

Press key

ï 0 ð --.--C kg

With models having more than two units, use UNITS key to choose calibration unit as "kg" or "lb"
If F15 setting is 1, you neeed to enter the maxiun weight value for Certification.

Here is to revise calibration zero point. Press CE to quit.

Use key and key to input weight value.

003.00 ï 0 ð kg

Press key.

3.000 kg

key = counting above key (input number 0,1,2,3,4,5,6,7,8,9)

key =confirm key

CE key = quit and to return F0 mode

Put 3kg of weight,

Press key.

"Weight value"* ⇒ any weight value above 0, below load

YA ,t

When stable,
Beeper sounds once.

3.000 kg

Weight Calibration finished. Getting into weighing mode

SPAN calibration (no zero point calibration)

- Before calibration, insert SWA1 MINI JUMPER to ADJ on the PC board.
- After finishing calibration, insert SWA1 MINI JUMPER back to LOCK on the PC board.

(*LOCK mode make sure precision of scale*)

Switch on to enter into weight mode

0.000 kg

Put test weight,
But value display not right

e.g.: test weight=2kg

1.990 kg

Insert calibration switch to ADJ .
Hold zero point key after 3 sec
Screen displays F0 ,to enter
calibration mode .

F0

Press ↵ key

ï 0 ð - - . - - C kg

Press ^ key and ↵ key.
Input weight on the scale .
Display flickers
value input .

2.000 kg

Press ↵ key.
Calibration finished,
getting into weight mode

2.000 kg

F1 Þ Specification Setting

- Before calibration, insert SWA1 MINI JUMPER to ADJ on the PC board.
- After finishing calibration, insert SWA1 MINI JUMPER back to LOCK on the PC board. LOCK mode assures precision of scale.
- Please refer to Appendix 1," Specification Setting Reference Table".

Use ^ key or →T key to select **F1** function ⇒ display shows F 1

F 1

Press ↵ key

SEt

⇒ Keypad internal test code:

33	23	13	03
31	21	11	01
30	20	10	↵

Press ↵ key

273027

⇒ ***Internal value display*** E6 ⇒ TOO HIGH (< 550000)
E7 ⇒ TOO LOW (< 150000)

Press ↵ key

ï U ð00000

^ key = up count key (to enter 0,1,2,3,4,5,6,7,8,9 digits) ↵ key = right shift key →0← key = confirm key CE key = clear key

Use ^ key and ↵ key to enter value

12ï3ð000

⇒ **Unit Selection Mode**

1 = kg 2 = lb 4 = Hk tael 5 = viss

e.g. sing unit "kg" , enter 100xx0
single unit "lb" , enter 200xx0
dual unit "kg"、"lb" , enter 120xx0
3 units, "kg"、"lb"、"HK tael" , enter 124xx0
3 units, "kg"、"lb"、"viss" , enter 125xx0

Unit Display Selection Mode

Fourth Place 0 = kg displayed、1 = g displayed
Fifth Place 0 = lb displayed、1 = lb,oz displayed

Press →0← key

ï C ð00000 kg

Use ^ key and ↵ key, to enter value

00300ï9ð kg

⇒ ***Max. Capacity + 9d*** **(Max. "lb" capacity = Max. "kg"capacity´2)**

e.g. **"3kg´1g" and "30kg´10g" and "300kg´100g" need enter 003009**
"6kg´2g" and "60kg´20g" and "600kg´200g" need enter 006018
"15kg´5g" and "150kg´50g" need enter 015045

When entering by 2 ranges, please enter the value of second range's max. capacity + 9d.

Press →0← key

ï d ð00000 kg

Use ^ key and ↵ key, to enter value

13000ï0ð kg

F15 = 1

Press →0← key

CErt

Press ↵ to key in cert. spec.

F15 = 0

F0

⇒ ***Weight Specification***

First Place Þ Division (1,2,5) （First range division）
Second Place Þ Decimal place (<= 5)
Third Place Þ 1: division x 10 (10,20,50)
0: division not to x 10
No effect when 0 is set.
Fourth Place Þ zero point proximity setting
0 = 10d 1 = 1d 2 = 2d 3 = 3d 4 = 4d
5 = 5d 6 = 6d 7 = 7d 8 = 8d 9 = 9d
Fifth Place Þ 1 = multi-interval 0 = No division mark
2 = multi-range
Sixth Place Þ Fixed as "0" , no effect

F2 Environmental Factor setting

(for non-approval model only)

Coefficient of stability setting is different depending on Environmental Factor (10~99)。

- Environment is not good; coefficient of stability of setting is bigger.
- The better the coefficient stability is, the less time the stability is, resulting in bad precision.
- Coefficient of stability's **factory default** value is "55"
- When setting is (hold) mode (F8), this option can not be available

Press key or key to choose F2function ⇒screen displays F2

F2

Press key.
Screen displays
factory Default value.

F.L 55

Press key to
input coefficient of stability.

F.L 53

key= up-count key
(to input number 10~99)

Press key

F2

F3 Þ Zero Return Range (for non-approval model only)

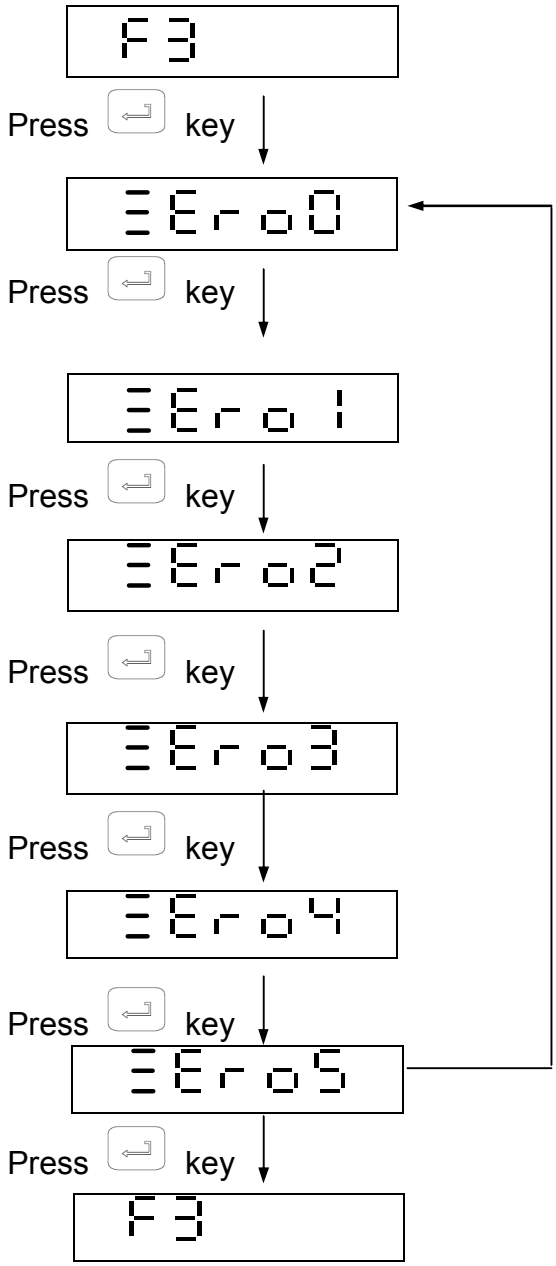
When to use

- When resilience of LOAD CELL is not good, you can choose higher setting value (highest is 5)
- When resilience of LOAD CELL is good, you can choose lower setting value (lowest is 0)

♦ Switch on the indicator. While the indicator is counting down to zero, press and hold key until the display shows the software program version number. Release the key, the indicator enters into the configuration setting mode and F0 is shown on the display.

♦ When setting is hold mode (F8), this option is not available

Press key or key to choose F3function⇒screen displays F3



ZEro0 Þ Normal mode

ZEro1 Þ 1 division not displayed

ZEro2 Þ 2 divisions not displayed

ZEro3 Þ 3 divisions not displayed

ZEro4 Þ 4 divisions not displayed

ZEro5 Þ 5 divisions not displayed

Note: press key in order, screen displays cyclically ZEro0 ~ ZEro5 according to requirement and to choose zero return range then press key, the setting is finished.

F4 Þ Check Weighing Configurations

- F8 (Hold) affects accessing to F4. If F8 is set, accessing to F4 is denied.

Press [^] or [T] key to select F4 function Þ the display shows F4

F4

↓

ï 0 ð - -.- - L kg

Press [↵] key for 5 times to clear HI, OK, LO values → 000.00 ï 0 ð kg

Press [↵] key ↓

F4

Preset "LO value"
(LO value > 10d)
Press [^] and [↵] key to set " LO value"
E.g. LO value = 2 kg

002.00 ï 0 ð kg

Press [↵] key

ï 0 ð - -.- - h kg

Preset "HI value"
(HI value ≥ LO value)
Press [^] and [↵] key to set "HI value"
E.g. LO value = 2.5 kg

002.50 ï 0 ð kg

Press [↵] key

ï 0 ð - b kg

Preset "Beeper value"
Press [^] and [↵] key to set "HI value"
E.g. Beeper value = 22

2 ï 2 ð b kg

Press [↵] key

F4

[^] key = Increase the flash value by one (from 0 to 9)

[↵] key = Confirm key

- - - C C b
A B

A ⇒ 0 = After stable, the beeper beeps and the indications are on
1 = After stable, the beeper beeps; whether stable or not, the indications are on.
2 = whether stable or not, the beeper beeps and the indications are on.

B Þ 0 = No beep
1 = OK (when the weight is between Low limit & High limit.), the beeper beeps.
2 = When the weight is under or equal to Low limit (must be over 10d) & over or equal to High limit, the beeper beeps.

- LCD indication description:

ï LO ð ï OK ð ï HI ð
½ï ï ï½ï ï ï ï ð ð ð ð½ð ð ð
10d Low limit value High limit value

F5 Þ RS-232 Interface Output Setting

- J1 and J3 on the RS-232 interface are short when the RS-232 interface is connected to a computer.
- The mini printer interface must be set at 9600, N, 8, 1, and it also contains the RTC setting.
- Our company provides the printing title editing software. If you would like this service, please contact your local dealer.

Press ^ or ⇧ key to select F5 function Þ the display shows F5

F5

Press ↵ key
The display shows the default setting of transmission mode

rnP0

Press ^ key
Select transmission mode (from 0 ~ 8)

rnP4

Press ↵ key
The display shows the default setting of RS-232 baud rate

2400

Press ^ key
Select RS-232 baud rate (1 200, 2 400, 4 800,9 600)

9600

Press ↵ key

Next Page

^ key = Increase the flash value by one (from 0 to 8) or selecting baud rate from 1 200, 2 400,4 800 and 9 600(default setting).

↵ key =Confirm key

rnP0 Þ No transmission

rnP1 Þ Stable transmission *

rnP2 Þ Continuous transmission *

rnP3 Þ Press ↵ key to transmit in simple mode. * m

rnP4 Þ Press ↵ key to transmit in complete mode. * m

rnP5 Þ Stable transmission in totalizing mode. The format is as same as rnP3 * m

rnP6 Þ EZ-2 printer mode. The format is as same as rnP4

rnP7 Þ EZ-2 printer mode. Press ↵ key to transmit.

rnP8 Þ Press ↵ key to transmit. The format is as same as rnP1 and rnP2. (RS-232 is open.) *

rnP9 Þ Continuous Transmission (specific form)

rnP10 Þ M+ or key Transmission (specific form)

* RS-232 is open

m mini printer is open

Note: For Brazil regulations, when unit weight is under 0.1d, the RS232 function won't be functional.

Connect to Mini Printer before continue

Last Page

Press ^ key
to select printing language

CHAr 0

Press ↵ key

rtC F0

Press ^ key to select printing date order

Press ↵ key

dAtE

Press ↵ key

0.00000

Press ↵ key

t ïmE

Press ↵ key

0.0000

Press ↵ key

FS

Mini Printer Printing Languages

CHAr 0	Iranian
CHAr 1	English
CHAr 2	Traditional Chinese
CHAr 3	Simplified Chinese

Date Printing Order Setting

rtC F0	YY MM DD
rtC F1	MM DD YY
rtC F2	DD MM YY

Default setting: YY MM DD

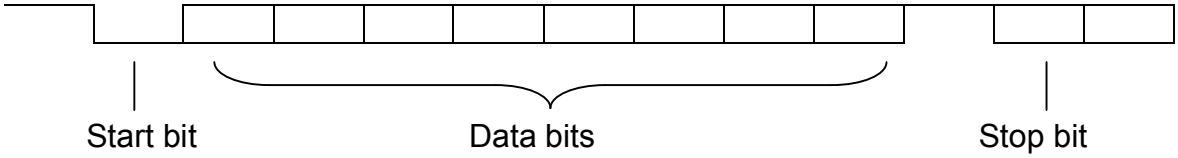
– – – Refer to Pages 22~30 for details of DATA FORMAT – – –

RS-232 Interface Format

Ⅰ. Mode : UART Signal of EIA-RS0232 C

Ⅱ. Format :

1. Baud rate : 1 200, 2 400, 4 800, 9 600 bits/second
2. Data bits : 8 bits
3. Parity bit : None
4. Stop bits : 1 bit
5. Code : ASCII (Exchange code of American standard)

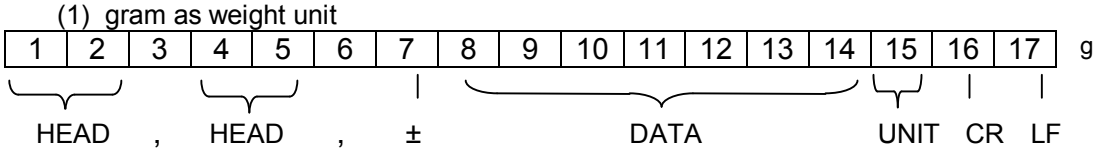


RS-232 Data Format

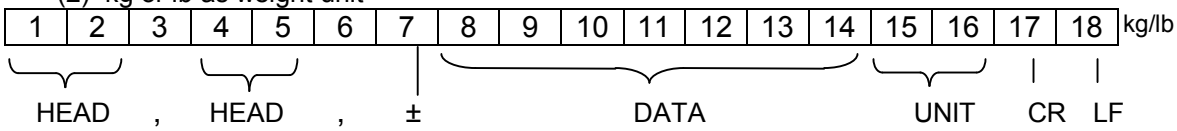
Stable transmission (rnP 1), Continuous transmission (rnP 2),

Press key to transmit (rnP 8)

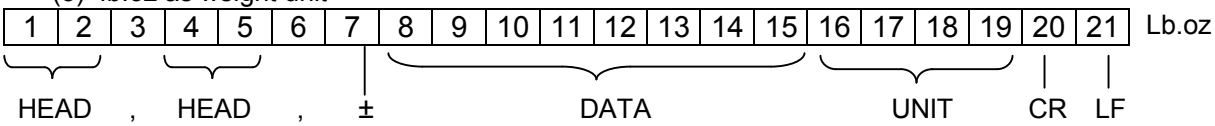
(1) gram as weight unit



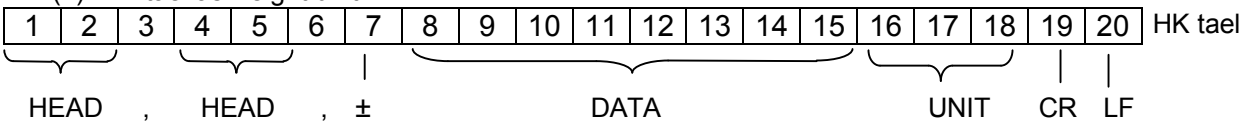
(2) kg or lb as weight unit



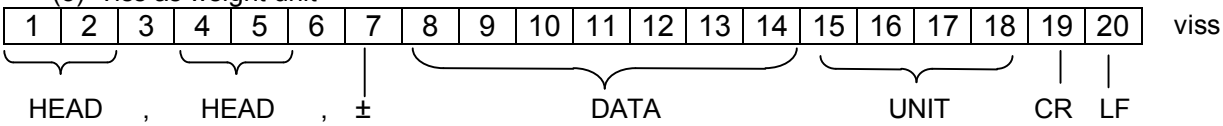
(3) lb.oz as weight unit



(4) HK tael as weight unit



(5) viss as weight unit



HEAD1 (2 BYTES)	HEAD2 (2 BYTES)
OL - Overload , Under load	TR - TARE Mode
ST - Display is Stable	NT - NET Mode
US - Display is Unstable	GS - GROSS Mode

DATA (7 or 8 BYTE)

2B (HEX) = " **+** " (PLUS)
2D (HEX) = " **–** " (MINUS)
2E (HEX) = " **.** " (DECIMAL POINT)

UNIT (2、3 or 4 BYTE)

kg = 6B (HEX) ; 67 (HEX)
lb = 6C (HEX) ; 62 (HEX)
HK tael = 68 (HEX) ; 6B (HEX) ; 67 (HEX)
Viss = 76(HEX); 69(HEX); 73(HEX); 73(HEX)

Transmission examples:

Data format for rmP 2 RS-232 continuous transmission are as below:

1. The gross weight (+0.876 kg) shows as below, after stable: (under tare mode)

S	T	,	G	S	,	+			0	.	8	7	6	k	g	0D	0A
HEAD1		,	HEAD2		,		DATA							UNIT		C	LF

2. The net weight (-1.568 lb) shows as below without weight stability: (under no tare mode)

U	S	,	N	T	,	-			1	.	5	6	8	l	b	0D	0A
HEAD1		,	HEAD2		,		DATA							UNIT		C	LF

3. The net weight (+15.0624 HK tael) shows as below, after stable: (under no tare mode)

S	T	,	N	T	,	+	1	5	.	0	6	.	2	4	h	k	g	0D	0A
HEAD1		,	HEAD2		,		DATA								UNIT			C	LF

4. The net weight (+1.245 viss) shows as below, after stable: (under tare mode)

S	T	,	T	R	,	+			1	.	2	4	5	v	i	s	s	0D	0A
HEAD1		,	HEAD2		,		DATA								UNIT			C	LF

Press [◎] key to transmit (simple mode) rnP 3

S/N	WT/UNIT (kg / lb)		
- - - - - - - - - - - - - -			
0001	1.0000	**E**	Press [◎] or [+] key
0002	1.0000	**E**	Press [◎] or [+] key
0003	1.0000	**E**	Press [◎] or [+] key
0004	1.0000	**E**	Press [◎] or [+] key
0005	1.0000	**E**	Press [◎] or [+] key
- - - - - - - - - - - - - -			
0005	5.0000	**E**	Press [◎] twice to print TOTAL

Press key to transmit (complete mode) r mP4

4-key serial

TICKET NO .0001
G 1.000kg
T 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

TICKET NO .0002
G 1.000kg
T 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

TICKET NO .0003
G 1.000kg
T 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

TOTAL NUMBER
OF TICKETS 0003
TOTAL
NET 3.000kg

(3 blank lines)

E Press TOTAL twice to print

15 or 12-key serial

TICKET NO .0001
G 1.000kg
T 0.000kg
PT 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

TICKET NO .0002
G 1.000kg
T 0.000kg
PT 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

TICKET NO .0003
G 1.000kg
T 0.000kg
PT 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

TOTAL NUMBER
OF TICKETS 0003
TOTAL
NET 3.000kg

(3 blank lines)

E Press TOTAL twice to print

4 G = GROSS T = TARE PT = PRE-TARE N = NET

Stable Transmission (totalizing mode) rmP 5

S/N	WT/UNIT (kg / lb)		
- - - - - - - - - - - - - -			
0001	1.0000	**E**	The scale is stable
0002	1.0000	**E**	The scale is stable
0003	1.0000	**E**	The scale is stable
0004	1.0000	**E**	The scale is stable
0005	1.0000	**E**	The scale is stable
- - - - - - - - - - - - - -			
0005	5.0000	**E**	Press twice to print TOTAL

RTC setting rmP 6 , the format is the same with rmP 3

Press key to transmit (simple mode) rmP 3(The date and time will not be transmit without mini printer.)

DATE:2008/02/25
TIME : 14:30:21

S/N	WT/UNIT (kg / lb)		
- - - - - - - - - - - - - -			
0001	1.0000	**E**	Press or key
0002	1.0000	**E**	Press or key
0003	1.0000	**E**	Press or key
0004	1.0000	**E**	Press or key
0005	1.0000	**E**	Press or key
- - - - - - - - - - - - - -			
0005	5.0000	**E**	Press twice to print TOTAL

RTC setting rnP 7. The format is the same as rnP4

Press key to transmit (complete mode) rnP 4 (The date and time will not be transmit without mini printer.)

English font

4-key serial

DATE: 2008 / 02 / 25
TIME: 14 : 30 : 00
TICKET NO .0001
G 1.000kg
T 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

DATE: 2008 / 02 / 25
TIME: 14 : 30 : 20
TICKET NO .0002
G 1.000kg
T 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

DATE: 2008 / 02 / 25
TIME: 14 : 30 : 40
TICKET NO .0003
G 1.000kg
T 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

DATE: 2008 / 02 / 25
TIME: 14 : 31 : 10
TOTAL NUMBER OF TICKETS 0003
TOTAL NET 3.000kg

(3 blank lines)

E Press TOTAL twice to print

15 or 12-key serial

DATE: 2008 / 02 / 25
TIME: 14 : 30 : 00
TICKET NO .0001
G 1.000kg
T 0.000kg
PT 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

DATE: 2008 / 02 / 25
TIME: 14 : 30 : 00
TICKET NO .0002
G 1.000kg
T 0.000kg
PT 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

DATE: 2008 / 02 / 25
TIME: 14 : 30 : 00
TICKET NO .0003
G 1.000kg
T 0.000kg
PT 0.000kg
N 1.000kg

(3 blank lines)

E Press or key

DATE: 2008 / 02 / 25
TIME: 14 : 30 : 00
TOTAL NUMBER OF TICKETS 0003
TOTAL NET 3.000kg

(3 blank lines)

E Press TOTAL twice to print

4 G = GROSS T = TARE PT = PRE-TARE N = NET

Continuous Transmission (specific form) rnP 9

The print out is as below:
If display shows 70.15kg, the number RS-232 export is 51.07000
If display shows -70.15kg, the number RS-232 export is 51.0700-
If it is ol, then it won't do anything.

M+ or key Transmission (specific form) rnP 10

Froe example:
PT 0.3KG
T 0.7KG
G 1.2KG
N 0.2KG
PCS 20

Then the printing form is:
FR"WT3N "
?
1,200
0,700
0,300
0,200
20
000020001000000020
P1,1

Then, clear the print form:
FR"520T "
?
1
0,200
20
000001000200000020
P1,1

RS232 and Mini Printer output format in *HOLD MODE*

Please set rnP8 in FS.

4 RS232 and mini printer data transmission format in HOLD condition

Please set rnP8 in FS.

When CHAr is set as 0 or 1 (English or Iranian font),

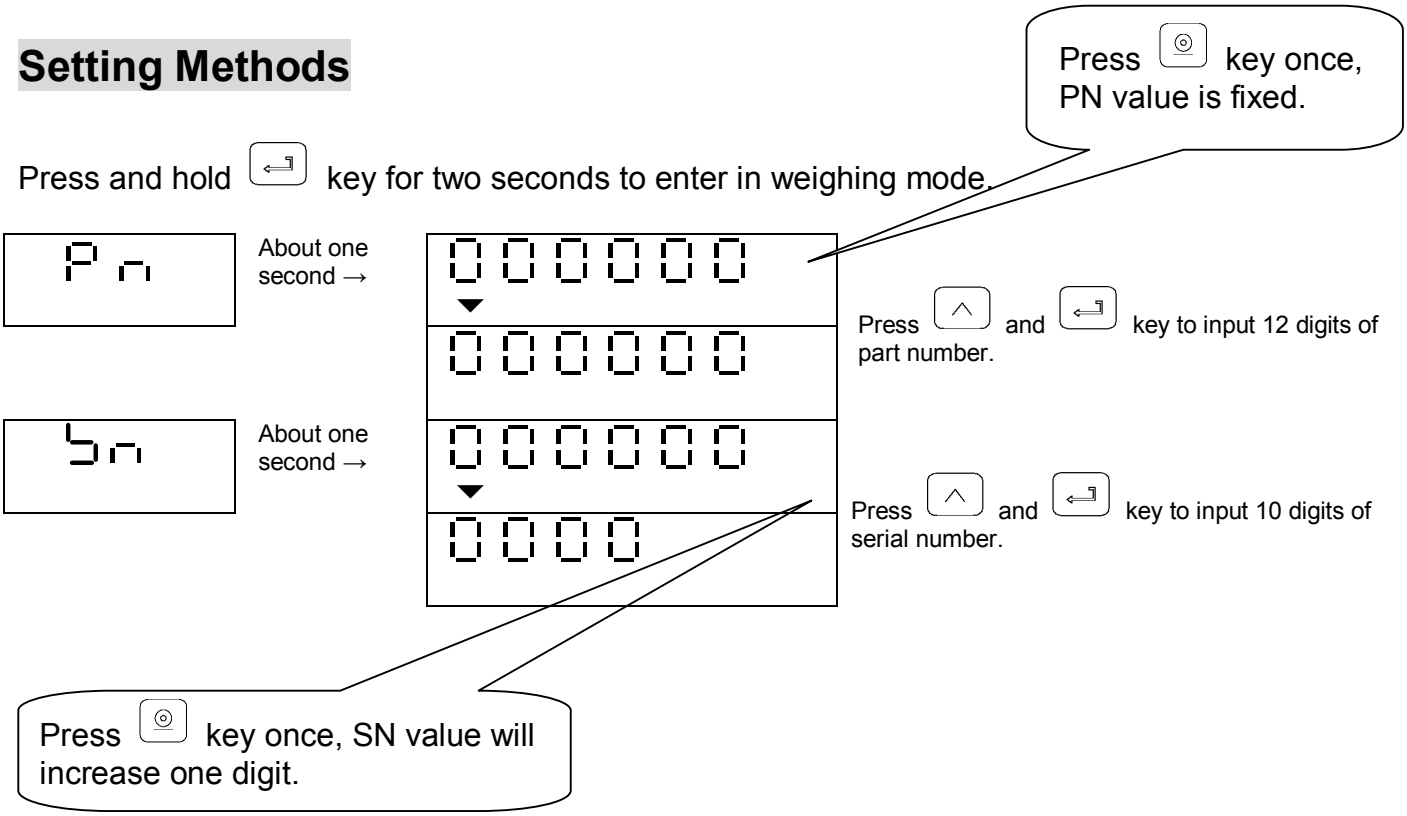
The format for 1.000kg is as follows:

			1	.	0	0	0	k	g	0D	0A

PN (Part No.)
SN (Serial No.)

Setting Methods

Press and hold ↵ key for two seconds to enter in weighing mode.



Remarks

1. PN and SN values will come back to zero when switched off.
2. Printer fonts differ from different countries.
3. RS232 is always in English font (ASCII)

4 Self-test Function of Printer (optional)

Hold key and switch on the printer, it will automatically print self-test data.

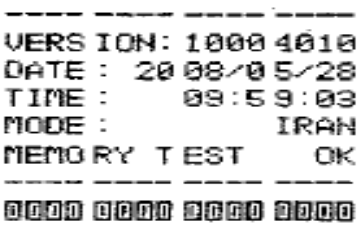
```
------------
VERSION：   10004010      E Program version
DATE：      2000/01/04    E Printer date
TIME：      20：06：50    E Printer time
MODE：      TAIWAN        E Printer language
MEMORY TEST    OK         E Printer status
```

The test of Printer

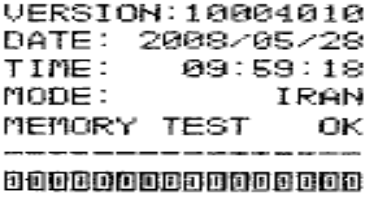
1. Press and hold key to enter into.

Default：20

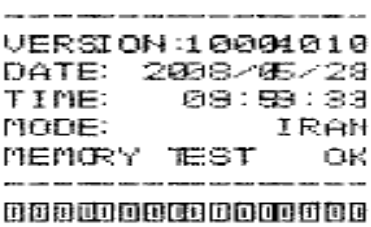
2. Press or key to adjust the number.
3. Press key to print.
4. Input the proper value to adjust the word space. An example is shown below.



(word space too high)



(good word space)



(word space too low, please adjust it to a higher value)

5. Press key to restart the printer.

F6 Þ Exit Setting Mode

Press ^ or T key to select F6 function ⇒ the display shows F6

F6

Press ↵ key ↓

Counting down to zero and exit setting mode

F7 Þ Internal Value Display Mode

Press ^ or T key to select F7 function ⇒ the display shows F7

F7

Press ↵ key ↓

internal value

Press ↵ key ↓

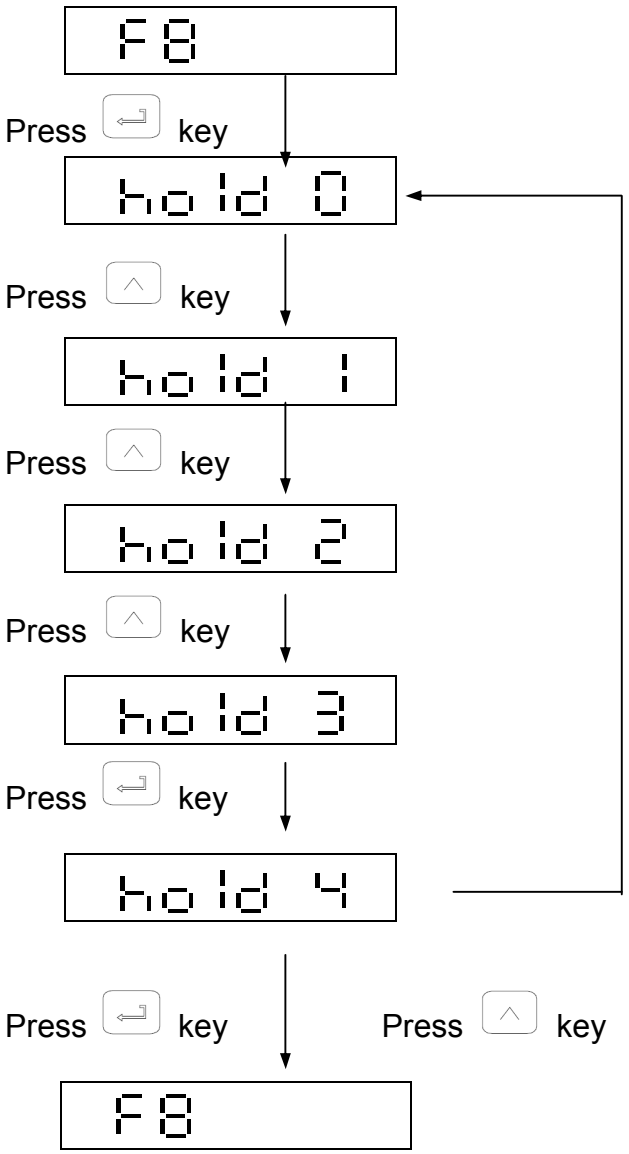
F7

F8 Þ Weight Hold Mode setup (for non-approval model only)

4 In hold mode, press key, to print the hold value as shown on display.
(It's not related to the settings of F5 transmission mode, but it needs to select the proper Baud rate according to the transmission of the receiver.)
(To setup transmission rate, please refer to page 22, F5-- RS-232 Interface (option) and Mini Printer Output Setting)

- Before setup, please switch the SWA1 on MINI JUMPER to ADJ position
- After setup, please switch the SWA1 on MINI JUMPER back to LOCK position

Use key or key choose **F8** function ⇒the display shows F8



Press key, and the display shows hold 0 ~ hold 4 in order to select a hold mode.

Press key to complete setup.

hold 0 = No hold function

hold 1 = For varying weighing value, the scale will automatically hold the maximum weighing value to display. To exit hold mode, press any key.(except the key)

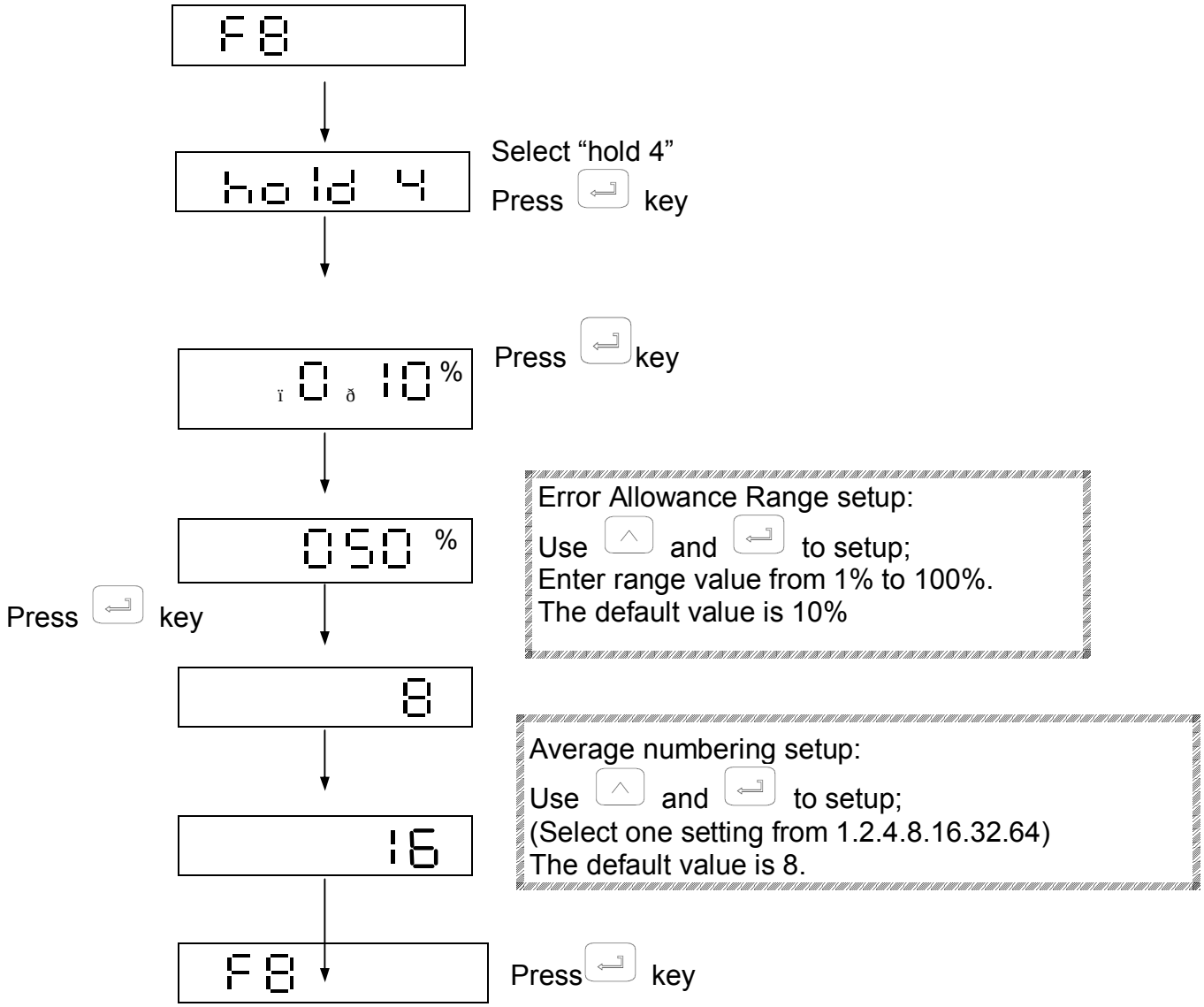
hold 2 = After the scale is stabilized, the scale will automatically hold the display value(not changeable due to external variables)

To exit hold mode, press any key.(except the key)

hold 3 = After the scale is stabilized, the scale will automatically hold the display value(not changeable due to external variables).After zero return (or weight is less than 10d), the scale exits the hold mode automatically.

hold 4 = Animal Scale function. When animal is on the scale platter and is stable, the scale will automatically hold the display value (not changeable due to external variables). After the animal is off the scale platter, the scale exits the hold mode automatically.

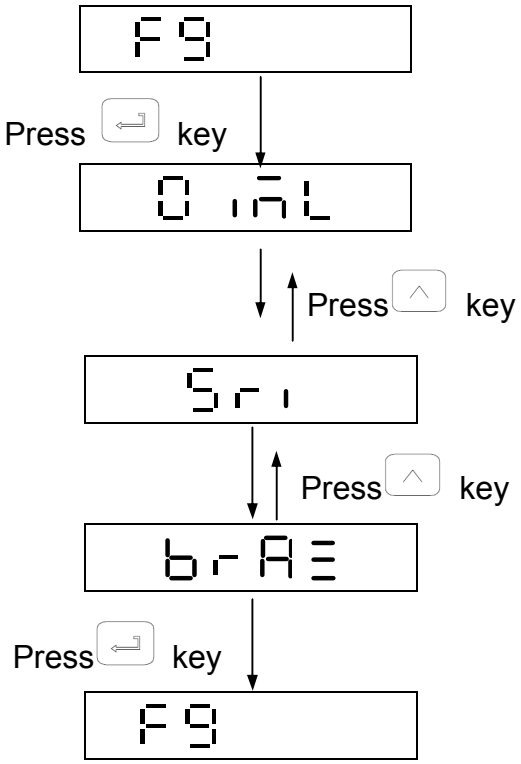
Animal Scale Hold Function Setup hold 4



F9 Þ Regional Zero-setting (for non-approval model only)

- ♦ Before setup, please switch the SWA1 on MINI JUMPER to ADJ position
- ♦ After setup, please switch the SWA1 on MINI JUMPER back to LOCK position

Use ^ key or T key to select **F9** function⇒ the display shows F9



0 inL = European Regulations
Sri = Sri Lanka Regulations
brAZ = Brazil Regulations

European / Brazil Regulations:
Zero-setting range is ±2%d
Sri Lanka Regulations:
Zero-setting range is ±3%d

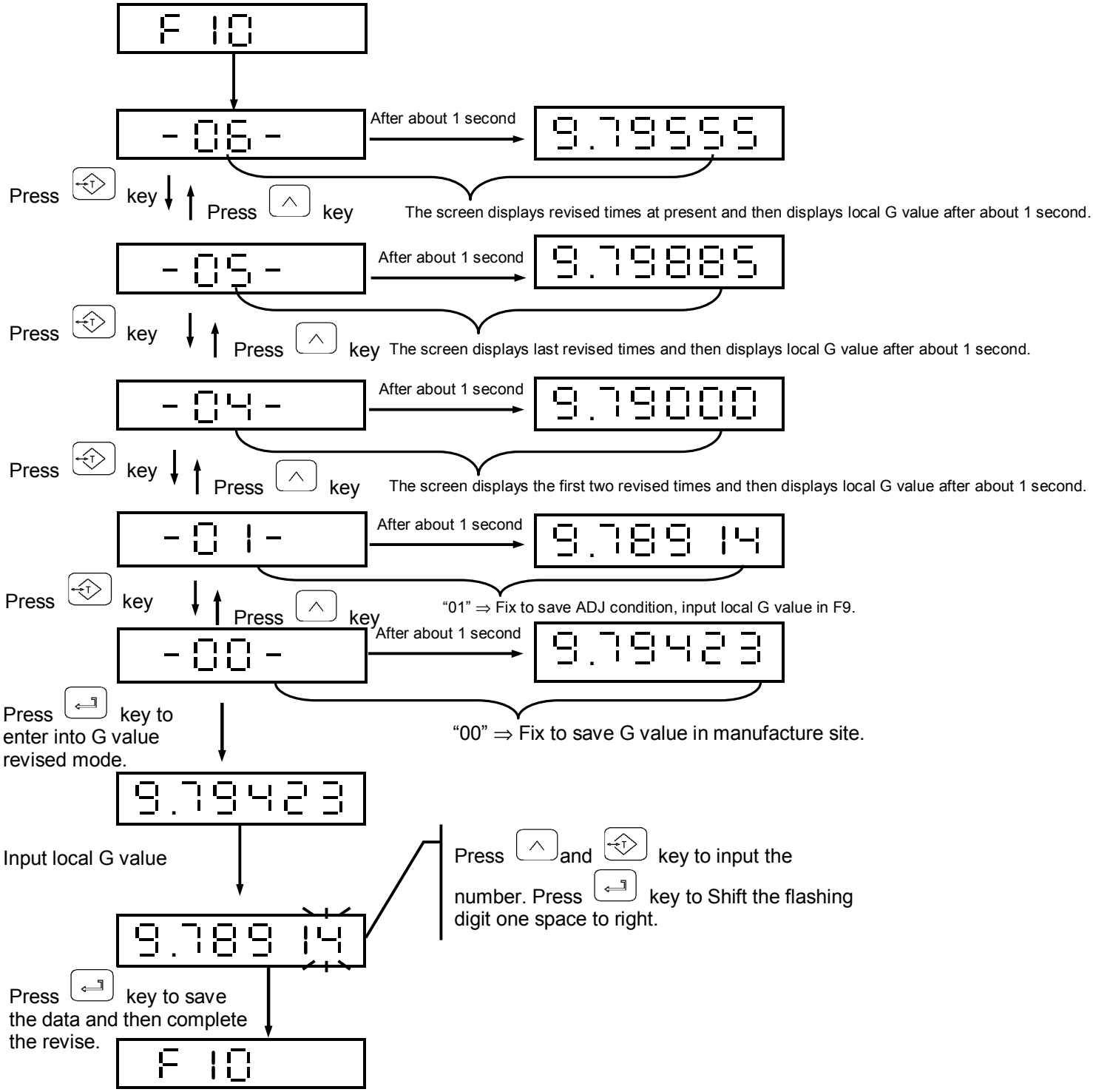
Press ^ key, and the display shows 0 inL , Sri or brAZ .
Select regulation mode in need. Then press key to complete setup.

C2 *Initial zero range setting* should be set due to different select of regulations.

F10 Þ G value Calibration

Press ^ key or T key to select F10 function. ⇒ The display shows F 10.

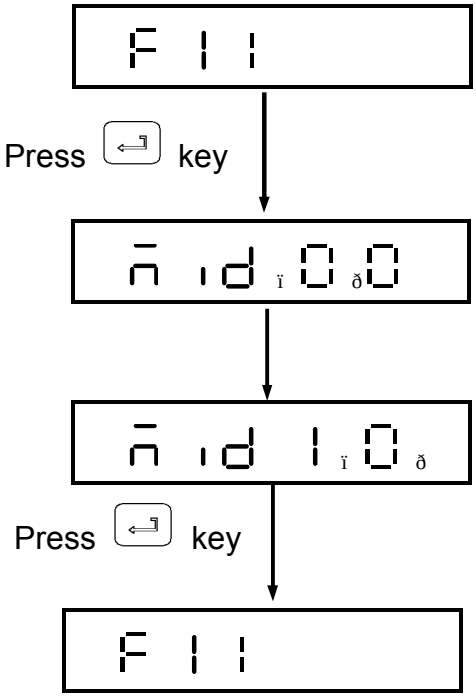
- You can input at most 9 sets of G value's data. The historic data can be found out and not to be revised.
- After do weight calibration, G value will reserve the last data and other historic data will be cleared.



F11 Þ ID Code Setting

(Use must be in coordination with *F5* rnP 1, 2, 8 of F5)

Press [^] key or [⇄] key to select F11 function ⇒ the display shows F 1 1



Machine ID code setting:
Press [^] and [↵] to set 01 ~ 99.
Default setting: 00

Machine ID code setting:
(1) “00”: RS-232 does not transmit Machine ID.
(2) “01~99”: RS-232 transmits Machine ID.

RS232 DATA FORMAT

Stable transmission (rnP 1), Continuous transmission (rnP 2),
Press [◎] key to transmit (rnP 8)

1. e.g. Machine ID code is 10.

The gross weight (+0.876 kg) shows as below, after stable: (no tare or under pre-tare mode)

1	0	S	T	,	G	S	,	+	0	0	0	.	8	7	6	k	g	0D	0A
ID		HEAD1		,	HEAD2		,	DATA								UNIT		C	LF

2. e.g. Machine ID code is 00. (Not using Machine ID function.)

The net weight (-1.568 lb) shows as below without weight stability: (under tare or pre-tare mode)

U	S	,	N	T	,	-	0	0	1	.	5	6	8	l	b	0D	0A
HEAD1		,	HEAD2,				DATA							UNIT		C	LF

F12 Print Key ( ) Function Setting

Press key or key to select F12 function ⇒ the display shows F12

F12

Press key

PrF 0

Press key

F12

Press and to set 0 ~ 2.

Default setting: 0

PrF 0 ⇒ Press key to print current weight if weight variation is within ±1d ~ ±10d, or to print accumulated weight if weight variation is over ±10d.

PrF 1 ⇒ Press key to print the current weight at once. (no totalization)

PrF 2 ⇒ Press key to print the current weight if it is within the lower and upper limits. (no totalization)

F13 Þ Tare setting (For non-approval model only)

First SWA1 on ADJ to adjust

Use [^] key or [T] key to select **F13** function⇒ the display shows F13

F13

Press [↵] key

tFun ï 0 ð

Local ID code setting:
Use [^] and [↵] to set
0 ~ 1
Default setting: 0

Press [↵] key

F12

tFun 0 → **Tare with stability judgment**

tFun 1 → **Tare without stability judgment**

F14 Þ Printing orders when F5 is set as

rnP6 or rnP7

No.0	No print.
No.1	TICKET NO.
No.2	G
No.3	T
No.4	PT
No.5	N
No.6	P/N
No.7	S/N
No.8	DATE
No.9	TIME

F14 contains a 9-digit code
Example:
if F14 contains 896 123 450

Press  **key or + key to print out**
DATE: 2011/04/11
TIME: 11:29:20
P/N 012345678910
TICKET NO. 0001
G 75.01kg
T 0.00kg
PT 0.00kg
N 75.01kg

If F14 contains " 890000000 **"**

Press  **key or + key to print out**
DATE: 2011/04/11
TIME: 11:29:20

rnP 6

DATE: 2011/04/11
TIME: 11:28:21
S/N WT/UNIT (kg / lb)

if F14 contains 890000000

- - - - - - - - - - - - - -

0001	1.0000	**E** Press key or Press + key
0002	1.0000	**E** Press key or Press + key
0003	1.0000	**E** Press key or Press + key
0004	1.0000	**E** Press key or Press + key
0005	1.0000	**E** Press key or Press + key

- - - - - - - - - - - - - -

0005	5.0000	**E** Press key twice to print the total

DATE: 2011/04/11
TIME: 11:29:20
P/N 012345678910
TICKET NO. 0001
G 75.01kg
T 0.00kg
PT 0.00kg
N 75.01kg
S/N WT/UNIT (kg / lb)

if F14 contains 896 123 450

- - - - - - - - - - - - - -

0001	1.0000	**E** Press key or Press + key
0002	1.0000	**E** Press key or Press + key
0003	1.0000	**E** Press key or Press + key
0004	1.0000	**E** Press key or Press + key
0005	1.0000	**E** Press key or Press + key

- - - - - - - - - - - - - -

0005	5.0000	**E** Press key twice to print the total.

rnP 7

DATE:2011/04/11
TIME : 11:28:21

if F14 contains 890000000

DATE: 2011/04/11
TIME: 11:29:20
TICKET NO. 0001

G	75.01kg
T	0.00kg
PT	0.00kg
N	75.01kg

if F14 contains 89 1234500

P/N (part No.)
S/N (Serial No.)

Setup method:

In weighing mode, hold ⏎ key for 2 seconds to setup.

Pn

1 second ->

000000

000000

Use ^ , ⏎ key to enter 12-digit Part number

Sn

1 second ->

000000

0000

Use ^ , ⏎ key to enter 10-digit Serial number

P.S. After power-off, S/N will reset as 1.

P/N will be saved in memory, available during next power-on.

F15 Enable the certified spec. modification (non-approval models only)

Use [∧] key to enter F15

F 15

Press [↵] key

CErt 0

Default setting = 0

Use [∧] key to change status

CErt 1

Press [↵] key

F 15

CErt 0 ⇒ Certification spec can't be modified

CErt 1 ⇒ Certification spec can be modified

After F0, F1 calibration, the certified resolution will be shown on the screen when restart the scale.

Hold [CE] and [-0-] keys for 3 sec to switch the status, and the screen will show rEAL or CErt

The scale will restart automatically and remain the status which was set last time.

Chapter 4 Load Cell Pin Description (input signal)

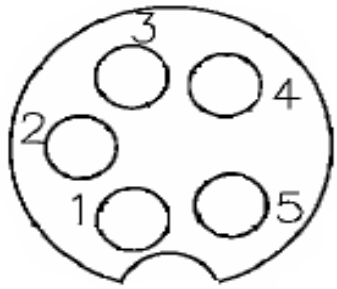
Pin1 ⇒ E + (EXCITAION +)

Pin2 ⇒ E - (EXCITAION -)

Pin3 ⇒ S + (SIGNAL +)

Pin4 ⇒ S - (SIGNAL -)

Pin5 ⇒ GND



Chapter 5 Optional Function Description

RS-232 output description

1. Please refer to F5 function settings for transmission mode, baud rate setting and data format.
2. RS232(DB25PIN) Pin Description

˙ J1, J3 SHORT; J2, J4 OPEN (default setting)
Pin 2 ⇒ TXD
Pin 3 ⇒ RXD
Pin 5 ⇒ GND
Other pins are disabled.

˙ J2, J4 SHORT; J1, J3 OPEN
Pin 2 ⇒ RXD
Pin 3 ⇒ TXD
Pin 5 ⇒ GND
Other pins are disabled.

Error Messages

oL ⇒ Weight exceed ＋9e of maximum capacity

E1 ⇒ Zero value after power on is over +10% FS.

E2 ⇒ Zero value after power on is less than -10% FS.

E4 ⇒ Unstable zero return, unstable over 10 sec. Press to leave E4.

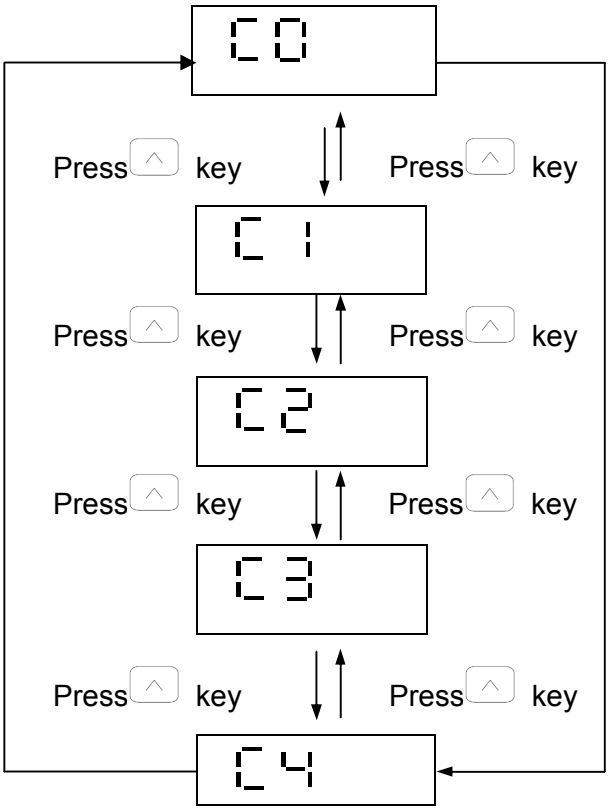
E6 ⇒ Zero is too high when calibrating. (over 350 000)

E7 ⇒ Zero is too low when calibrating. (under 80 000)

Chapter 6 Linear Calibration Description

- Switch on the scale, while it's doing zero return, hold [T], and display shows 036
- Before Calibration, insert SWA1 MINI JUMPER to ADJ on the PC board

  After releasing [T] key, display shows C0 to go into Linear Calibration Mode.



C0 ⇒ Linear Calibration

C1 ⇒ Switch-on zero point setting

C2 ⇒ Initial zero range setting

C3 ⇒ Auto tare setting clearance

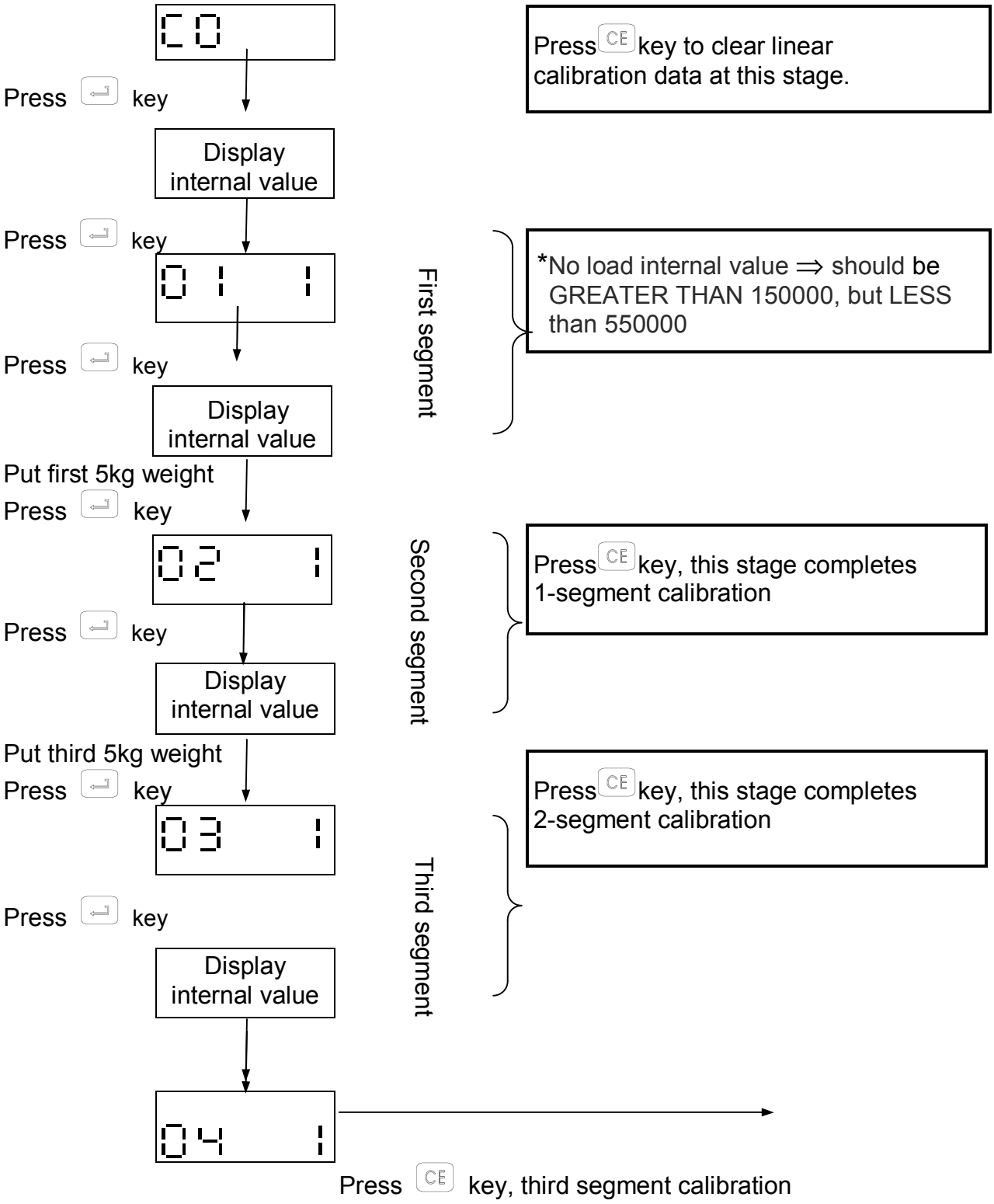
C4 ⇒ Exiting setting mode

C0 Þ Linear calibration

- Linear Calibration has 10 segments at maximum, the BIGGER segment is, the better the scale linearity is.
- Before Calibration, switch SWA1 MINI JUMPER to ADJ on the PC board.
- After finishing calibration, switch SWA1 MINI JUMPER back to LOCK on the PC board.

Eg : Full Loaded 15kg , 3 segment totally Þ 5kg, 5kg, 5kg

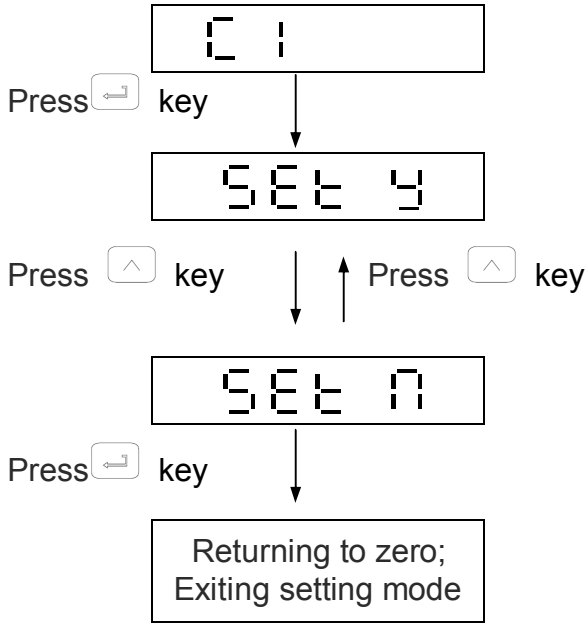
Press key or key to select C0 function ⇒ display shows C0
(please confirm that nothing is on the scale platter)



Calibration finished
Returning to zero

C1 Þ Switch-on zero point setting

Press key or key to select C1 function ⇒ display shows C 1



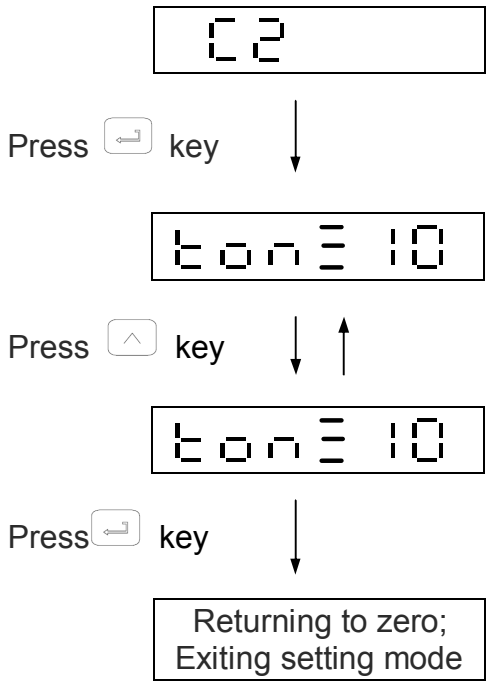
SEt y ⇒ zero point capture at switch-on

SEt n ⇒ No zero point capture at switch-on

- Factory Default value is: SEt y

C2 Þ Initial zero range setting

Press key or key to select C2 function ⇒ display shows C2



tonE 10 ⇒ Initial zero range ±10%d at switch-on

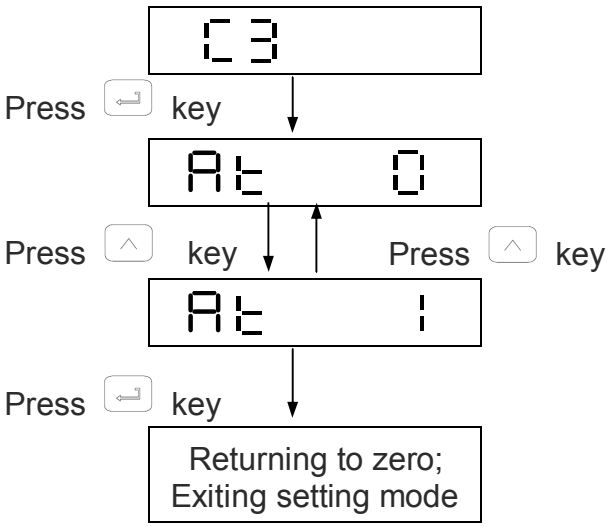
tonE 20 ⇒ Initial zero range ±20%d at switch-on

- Factory Default value is: tonE 10
- Parameter adjustment range is

01 % ~ 99 %

C3 Þ Auto tare setting clearance

Press ^ or T key to select C3 function ⇒ display shows C3



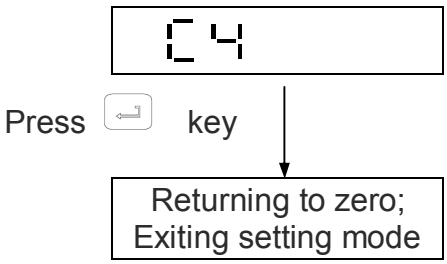
At 0 ⇒ To clear tare setting automatically when zero-return

At 1 ⇒ Tare setting remain un-cleared when zero-return

- Factory Default value is : At 1

C4 Þ Exiting setting mode

Press ^ key or T key to select C4 function ⇒ display shows C4



Appendix 1 7-Segment Display Characters

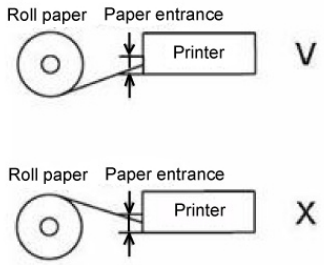
Number	Display	Letter	Display	Letter	Display
0		A		N	
1		B		O	
2		C		P	
3		D		Q	
4		E		R	
5		F		S	
6		G		T	
7		H		U	
8		I		V	
9		J		W	
		K		X	
		L		Y	
℃		M		Z	

Appendix 2 Printer Installation

A. Roll paper installation and problems solution

1.Installation roll paper:

- Use designated roll paper with a width 44.5 ± 0.5 mm and internal diameter 50 mm.
- Fix the roll paper into the paper entrance of the Printer.
- Cut the edge of the paper leveling and then install the paper (refer to **V** of picture A). And then use **Feed** key to complete installation (make sure the paper is parallel with the printing location. Avoid operating as **X** of picture A)
- The paper should not be folded or broken.



Picture A

2.Uninstall roll paper:

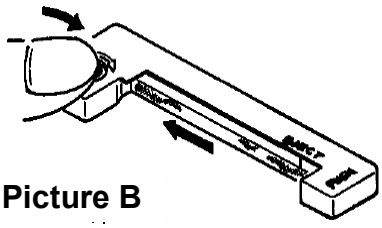
- Cut up the paper at the entrance of Printer, and then pull out the paper from the exit of Printer.

3.Paper jam solutions procedures:

- Uninstall the paper first.
- Use a nipper or others to clear remain wastepaper.

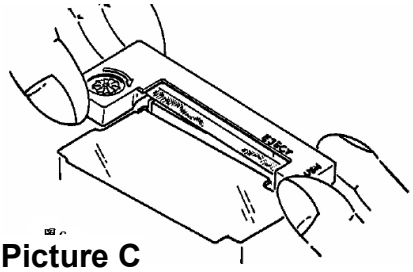
B. Ribbon installation

- Use designated ribbon. (ERC-05)



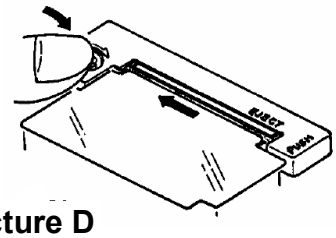
Picture B

- Uninstall the roll paper before install the ribbon. (Picture B)
- Turn and tighten the ribbon before installation.
- Sway the ribbon to proper location according to Picture C. If the ribbon loosens during installation, retighten it according to Picture D.



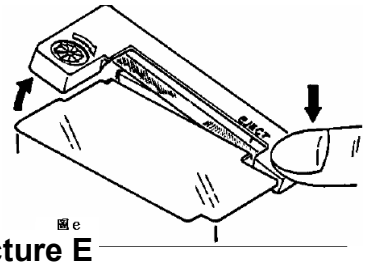
Picture C

- To uninstall the ribbon, press gently the location in Picture E, and then take it out with proper adjustment.



Picture D

- The ribbon of the model received may deviate its location during its transportation, and this may lead to the breakdown of the Printer. To solve this problem, reinstall the ribbon according to the above procedures.



Picture E

Appendix 3 Load Hook Installation

Please install the load hook (only for FB-630) according to correct order as follows.