

# **FB530/630**

# **Indicator**

# **User manual**

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
### Check Firmware Version

Turn on scale and hold  key during countdown. Display firmware version 02018.

Turn off scale and turn on scale and hold  key during countdown. Display maintenance number 10X where X is ranged from 0~9. Turn off and turn on scale to return to weighing mode.

Thank for your purchasing of our EXCELL Weighing Scale. To guide you to use our product correctly, please read this User Manual carefully to extend the life of machine and to avoid error.

## 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 appliances.
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 charged.
8. Any suggestion is warmly welcome.

## Precautions for Use

1. Please operate or charge the scale in an open area. Do not squeeze the power cord to avoid wire on fire.
2. Please keep scale in a cool and dry place. Do not store under high temperatures.
3. Please keep the scale clean and free from insect infestation.
4. Avoid impacting with other items or overloaded with excessively heavy weights (The load must not exceed the maximum capacity of the scale).
5. 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.
6. Operating temperature: -10°C ~ + 40°C
7. It is recommended to be used indoors and in environments with a height of less than 2000m
8. If the product is used in a manner not specified by the manufacturer, product warranty may be limited.

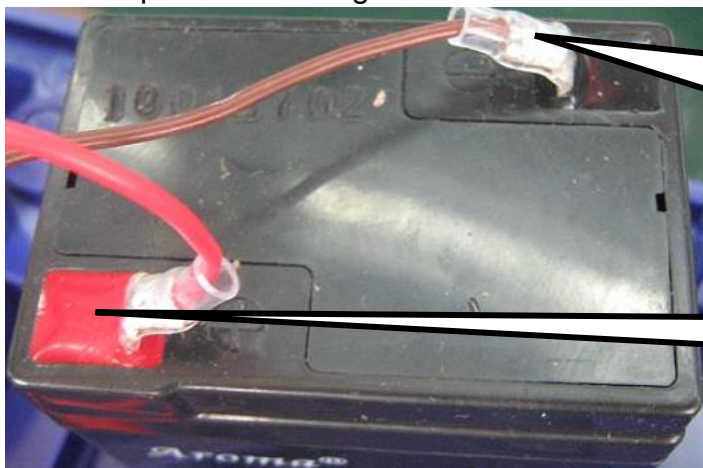
Due to the storage battery adopt the advanced free-maintaining technique, customers need not to replenish electrolyte.

The scale should be recharged every 3 months to prevent failure of the internal rechargeable battery.

1. The battery should be charged for 8~10 hours.
2. The temperature of battery should below 45°C.

## **Maintaining**

1. Please do not discharge with over-current when using the battery. Please charge the battery after discharging current.
2. Please take down the battery when the scale is not used for a long time or break the connection of cathode.
3. Do not short the battery terminals to check whether there is current. Please check whether the connection point is firm to guarantee good connection.
4. The battery should be replaced by specialized person. **No reverse-battery or the product will be damaged.**
  - a) Anode of battery should be connected with Anode of product battery ( usually red cable )
  - b) Cathode of battery should be connected with Cathode of product battery (usually brown cable or black cable)
  - c) See the picture following



Brown cable(or black cable)  
connected with Anode of  
battery

Red cable connected with  
Cathode of battery

## **Safety warnings**

1. The electrolyte of battery is caustic which causes metal, cotton, etc to corrode.
2. The hydrogen will be resolved when using or charging the battery and it will cause explosion when approaches fire.



No burning



Caution Corrosion



Warning explosion



Children faraway

# Chapter 1 Introduction

## 1-1 Production Introduction

### 1. High performance A/D converter

- 0.3 uv/D high sensitivity
- Sampling speed 15 times/second
- non-linear scale 0.01% full scale
- zero point adjustable range -2mV~ +5mV
- use range -4mV ~ +30mV
- load cell stimulate power source 5V DC  $\pm 2\%$  100mA

### 2. According to different resolution to do linearity calibration

- Ordinary resolution models (below 10000)  
Do specification calibration first then do weight calibration
- High resolution models (10000~30000)  
Do linearity calibration first → specification calibration → weight calibration at last

### 3. LCD display with LED backlight, powered by battery or plug-in mains, automatic power-off function to ensure the stability of the scale. When battery voltage is lower than the system voltage, scale is automatically powered off to ensure the accuracy and stability of the scale.

### 4. Check Weighing function for high limit and low limit and OK range.

### 5. 5 HOLD functions including animal scale HOLD

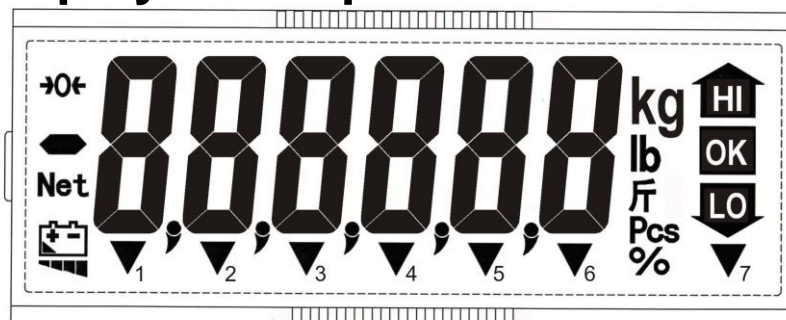
### 6. Depending on actual space, a RS232 card and/or a relay card can be installed.

### 8. FB530 can choose EPSON(M-150II)16L mini printer output as an option, but relay card is not optional in FB530.



### 10. Appearance size: 276 X 172 X 153mm ( L x W x H )(no back display)

276 X 202 X 153mm ( L x W x H )(with backdisplay)

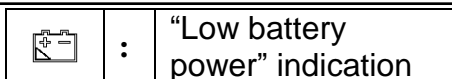
## 1-2 Display Description



HI	:	High limit value
OK	:	OK range within HI and LO limits
LO	:	Low limit value
kg	:	"kg" unit
lb	:	"lb" unit
Pcs	:	Counting mode
%	:	Percent indication
→0←	:	"Zero" indication
Net	:	"Net weight" indication

▼1	:	"Stable" indication
▼2	:	"Pre-tare mode" indication
▼3	:	(M+) "Accumulation mode" indication
▼5	:	(  ) "Samples insufficient" indication
▼6	:	(  ) "Unit weight insufficient" indication
▼7	:	"Viss" unit (Burma unit)

For Dual Range Models, the indicator 5 and 6 will be defined as below:



## 1-3 Keypad Functions Description

	Loop select from the preset units		Go into counting mode
	Preset weight and quantity for weight check or quantity check		Press this key to sample
	Accumulate weight or quantity		Press this key to confirm
	Tare to deduct the container weight		Press this key to enable/disable backlight
	Set preset tare		Press this key to print
	Recall the totalization value, preset value and pre-tare value		Press this key to input number 0~9
	Clear the totalization value, preset value and pre-tare value.		Press this key to feed the paper
	Zero the scale.		

## 1-4 Power Description

Power		Battery	6V 4Ah Rechargeable battery
		Plugged in	110V / 220V AC
Power consumption with 1X350Ω load cell	without printer	No backlight	26 mA
		Single display with backlight	32 mA
		Dual display with backlight	40 mA
	with printer	When not in printing	20mA
		While in printing	40mA

### Low Power Alarm

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

When the low battery warning symbol shows up, scale is turned off automatically after 5~10 hours if it is used without backlight (1~2 hours if it is used with backlight). Then scale must be fully recharged, before operating again.

Please recharge at once when the symbol shows in order to keep the weight accuracy.

### Memory power supply for FB530

When AC battery is cut off and Lead acid battery voltage is lower than 3V, the data in RTC IC can maintain for 24 hours.

## 1-5 Error Messages

oL ⇒ Weight exceeds 9d of maximum capacity. (d=division)


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



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

JP105 on PCB board of AW, HW, FD, RW, TW) and GTW or JP5 on PCB board of FB530:

If short circuit ⇒ E1, E2 warning. If open circuit t ⇒ no E1, E2 warnings

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

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

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

E10 ⇒ The scale is not in level status.(only available with level detector equipment.)


----- ⇒ For weight < -20d without tare or pretare device in operation.

#### E10 Level Switch (option)

Make JP2 on PCB board of FB530 to be open circuited. Then connect signal to CN1 on PCB of FB530. CN1 is open circuited, display shows E10 after 2 seconds and all keys stop working in the mean time. When CN1 is short circuited, display resumes and can continue weighing. If you do not need level switch, make JP2 short circuited.

## 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


#### 2-2-1 Units Selection


1. After indicator is turned on, use  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.

#### 2-2-2 Zero Function

Press  key to re-zero the display with no load on the platter. When zero is set, the (→0←) symbol will be displayed.

#### 2-2-3 Tare Function


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

① Place the container on the platter, after stable and press  key, the weight



value returns to zero and net indication (**Net**) is on.



② Place goods into the container, then the indicator shows the net weight of goods.


③ 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.

④ Recall tare value



Press  then  key  $\Rightarrow$  the display shows tare value

 Multiple tare operation  $\Rightarrow$  Users can continuously increase or decrease the tare value by pressing the  key.

 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 ()

① Press  key and the display shows  $\geq 0 \leq - . - - P$ .

Use  and  keys to input weight value of the container. After finishing the procedures, the net indication (**Net**) and pretare indication “▼” is on.



② Place goods into the container, then the indicator shows the net weight of goods.

③ Clear pretare value


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

When the indicator returns to zero, net indication (**Net**) and pretare indication “▼” off.

④ Recall pretare value

Press  then  key  $\Rightarrow$  the display shows pretare value

 In Tare mode, the Preset tare function is disabled.

 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.


## 2-2-4 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  $\geq 0 \leq - . - - L$

Press  key 1 time the display shows  $0 \geq 0 \leq - . - - L$




Press  key 2 times the display shows  $0 \geq 2 \leq - . - - L$   
 Press  key 4 times the display shows  $0 \geq 2 \leq 0.00 \geq 0 \leq$


Preset "High limit" ( High limit  $\geq$  Low limit ) *e.g. High limit = 25 kg*

Press  key 1 time the display shows  $\geq 0 \leq - - . - - H$   
 Press  key 1 time the display shows  $0 \geq 0 \leq - . - - H$   
 Press  key 2 times the display shows  $0 \geq 2 \leq - . - - H$   
 Press  key 1 time the display shows  $0 \geq 2 \geq 0 \leq . - - H$   
 Press  key 5 times the display shows  $0 \geq 2 \geq 5 \leq . - - H$   
 Press  key 3 times the display shows  $0 \geq 2 \geq 5.00 \geq 0 \leq$

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

Press  key 1 time the display shows  $\geq 0 \leq - b$   
 Press  key 2 times the display shows  $\geq 2 \leq - b$   
 Press  key 1 time the display shows  $2 \geq 0 \leq b$   
 Press  key 2 times the display shows  $2 \geq 2 \leq b$   
 Press  key 1 times the display shows  $0.000$

 **Preset Single point (preset low limit only):**

After "preset low limit" procedures is completed and the display shows  $\geq 0 \leq - - . - - H$ , then press  key again, the display shows  $0.000$ . This means that the "preset single point" procedure is completed.

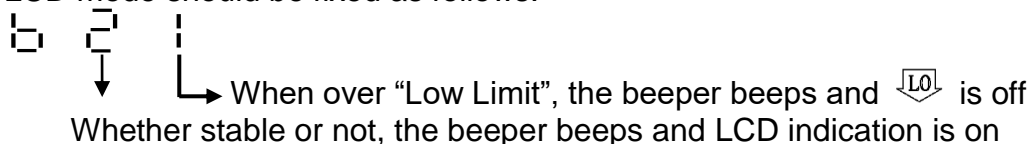
## NOTE

$$- \quad - \quad - \quad \frac{X}{A} \quad \frac{X}{B} \quad \frac{L}{H}$$

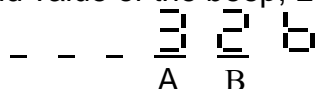
- A** Setting for the status that LCD is on and the beeper beep:  
 0 = when stable, the beeper beeps and LCD is on.  
 1 = when stable, the beeper beeps; whether stable or not, LCD is on.  
 2 = whether stable or not, the beeper beeps and LCD is on.  
 3 = open warning device: when the weight is higher than HI value and the weight is stable, LCD is on and Relay Card open.
- 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.

- Under Status in Preset Low Limit (preset single point only)  
The BEEP, LCD mode should be fixed as follows:



- Warning device setting  
Set HI value and value of the beep, LCD mode should be fixed as follows:





When the weight equals to HI value, Relay Card open and the weight is accumulated. Press **CE** key to dismiss the warning sound and the range of accumulated weight is [000.000]~[999999].


- Clear warning accumulation

- ◆ Press **←R** key first and then press **CE** key to clear all accumulated data.
- ◆ Accumulated data is cleared automatically under in following conditions
  - when shift among weight mode, counting mode and warning accumulation mode.
  - when shift the units
  - turn off the scale

- LCD indication:
 

  
 10d Low Limit

  
 OK

  
 High Limit

- ◆ To exit preset mode, please press **UNITS** key.

## 2. Recall Check-weighing Values

- Press **↖** key then press **←R** key ⇒ Recall "Low limit value"
- Then press **←R** key again ⇒ Recall "High limit value"
- Then press **←R** key again ⇒ Recall "Beeper value"
- Then press **←R** key again ⇒ Back to the beginning

## 3. Clearing Check-weighing Values






- Press **↖** key then press **←R** 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.

## 2-2-5 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 "▼" 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 “▼” 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  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 “▼” will flash on the display. The indicator will return to the weighing mode after 3 seconds.

-  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.


## 2-3 Counting Function


### 2-3-1 Sampling

- ① Press  key to select sample quantity from 10, 20, 50, 100 and the display shows 10, 20, 50, 100 accordingly.

- ② Select sample quantity and then place samples on the platter, and then press  key, the display shows “SAMPLE”.

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.



## 2-3-2 Check Weighing

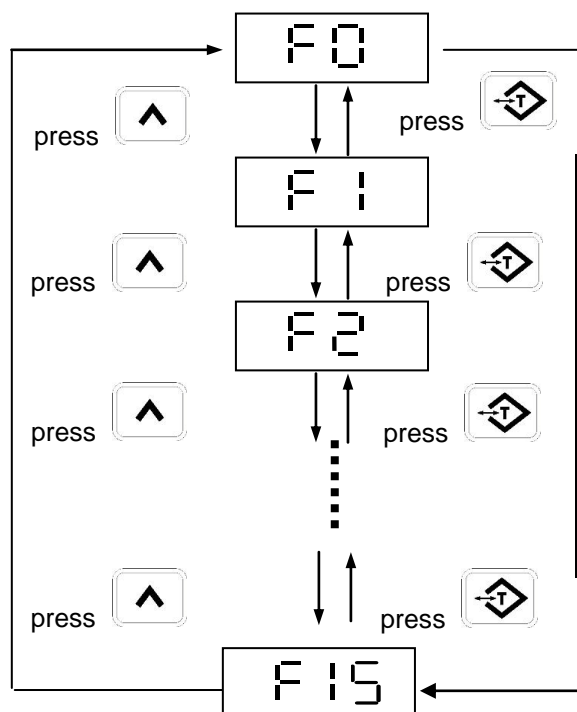
Refer to the operation of check weighing in weighing function.

## 2-3-3 Totalizing

Refer to the operation of totalizing in weighing function.

# Chapter 3 General Function Setting

- ◆ Switch on the scale. While the scale is counting down to zero, press and hold  key until the display shows the software version number 02018. Release the  key, the scale enters into the configuration setting mode and display F0.



F4	Check Weighing Configurations
F5	RS232 and Mini Printer Output Setting (option)
F6	Exit Function
F7	Internal Value Display Mode
F8	Weight Hold Mode Setting
F11	ID Code Setting
F12	Print Key Function Setting
F14	Customized Header Setting (r n P 6, r n P 7)

F0~F3, F9, F10, F13, F15 are reserved.



key ⇒ upward key





key ⇒ downward key

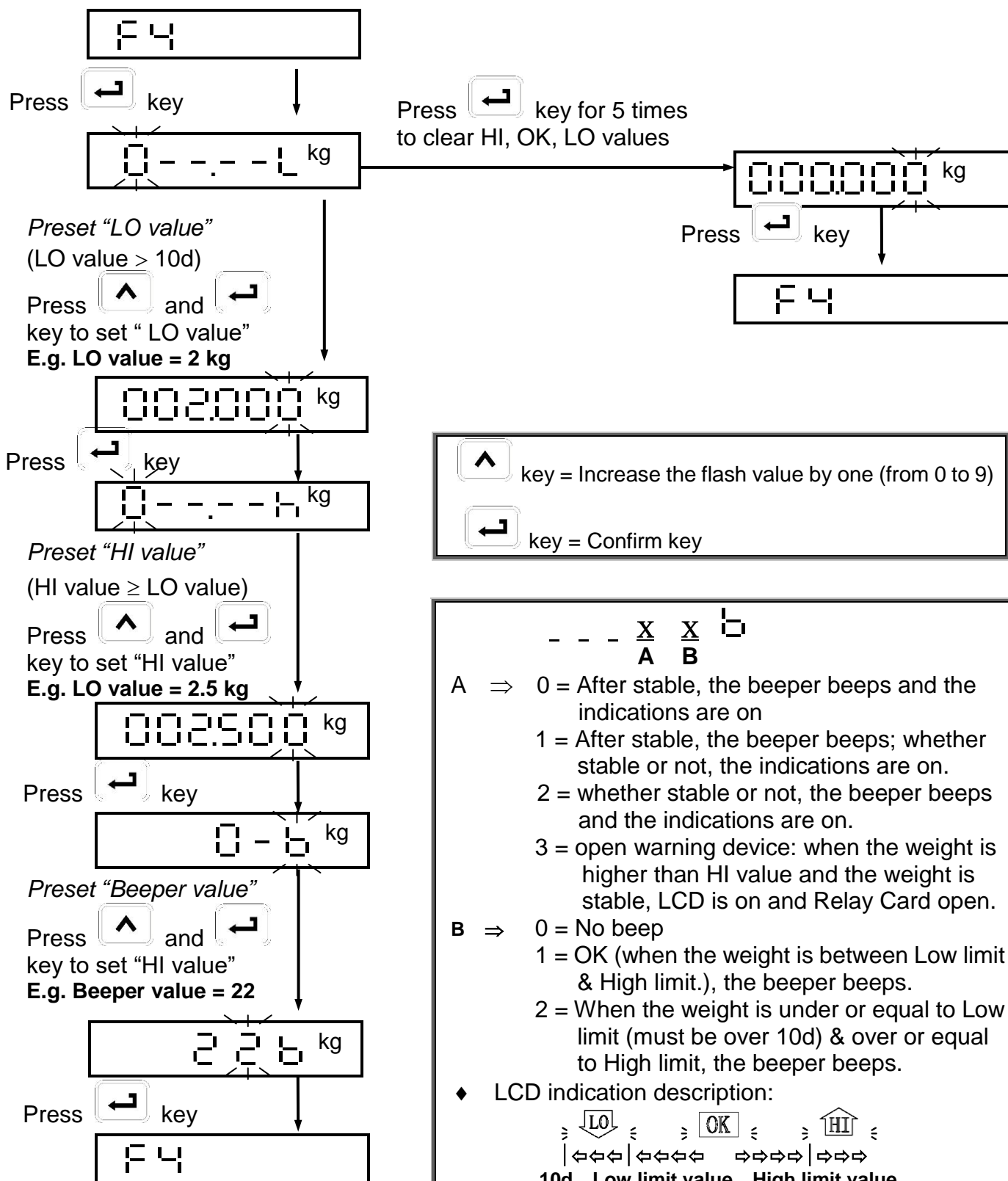


key ⇒ to confirm

### 3-1 F4 Check Weighing Configurations

- ◆ If hold mode (F8) is set, accessing to F4 is denied.

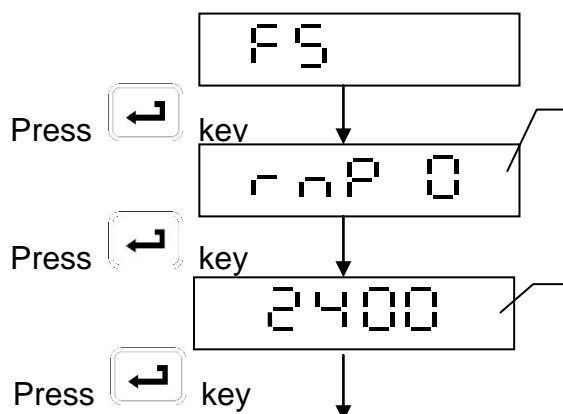
Use  or  key to select F4




## 3-2 F5 RS232 and Mini Printer Output Setting (option)

- ◆ The mini printer interface default setting is 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.

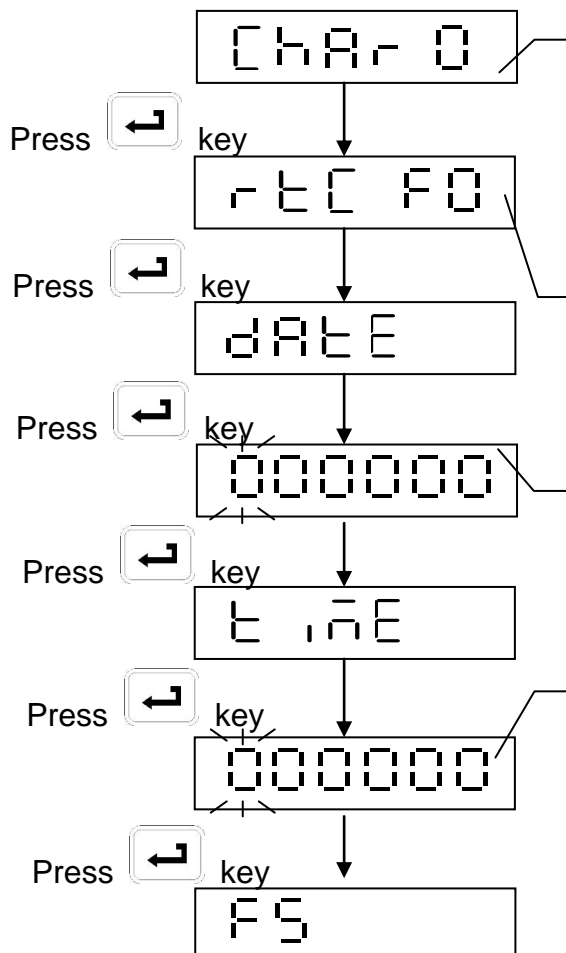
Use  or  key to select F5





**Transmission mode**: use  key to select r n P 0 ~ r n P 14 and press  to save



**RS-232 baud rate**: use  key to select 1200~9600 and press  to save



**Below need to connect to Mini Printer before continue (only available in FB530)**



**Mini Printer Printing Languages**: Use  key to select 0~3, and press  key to save.






Default is 0 ⇒ Iran font (date output is based on the solar calendar)  
1 ⇒ English font; 2 ⇒ Traditional Chinese font;  
3 ⇒ Simplified Chinese font

**Date Printing Order Setting**: use  key to select F0~F2, and press  key to save. Default is F0 ⇒ YY MM DD  
F1 ⇒ MM DD YY; F2 ⇒ DD MM YY

**Input Year, Month, Day**: use  key and  key to enter. F0 ⇒ YY MM DD; F1 ⇒ MM DD YY; F2 ⇒ DD MM YY

**Input Hour, Minute, Second**: use  key and  key to enter HH MM SS



- r n P 0 ⇒ No transmission.  
 r n P 1 ⇒ Stable transmission.  
 r n P 2 ⇒ Continuous transmission.  
 r n P 3 ⇒ Press  key to transmit totalized simple format.  
 r n P 4 ⇒ Press  key to transmit totalized complete format.  
 r n P 5 ⇒ Stable transmission in totalizing mode. Same format as (r n P 3).  
 r n P 6 ⇒ Press  key to transmit simple free format. Please refer to F14.  
 r n P 7 ⇒ Press  key to transmit complete Free format. Please refer to F14.  
 r n P 8 ⇒ While use Hold, press  key to transmit same format as (r n P 1) and (r n P 2).  
 r n P 11 ⇒ Print after removing goods (5% mode).  
 r n P 12 ⇒ Print after removing goods (OK mode).

**When FB530 has mini printer, it only works in r n p 3~ r n p 7, and r n p 1, 2, 8, 11, 12 are disabled.**

## RS-232 Interface Format


I . Mode: UART Signal of EIA-RS0232 C

II . Format :

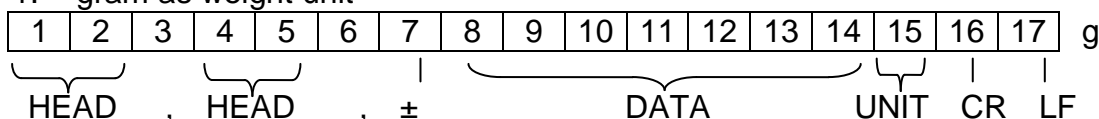
1. Baud rate : 1 200, 2 400, 4 800, 9 600 bits/second
2. Data bits : 8 bits
3. Parity bit : None
4. Stop bits : 1 bit
5. Code : ASCII (Exchange code of American standard)



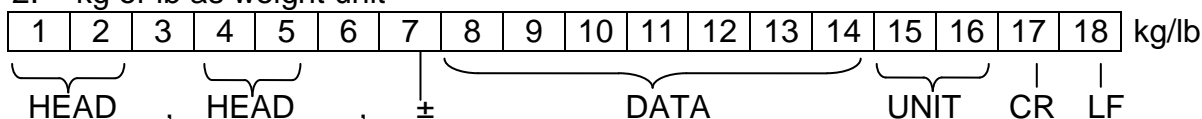
## RS-232 Data Format

**Stable transmission (r n P 1), Continuous (r n P 2), Press  key to transmit (r n P 8)**

1. gram as weight unit



2. kg or lb 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 )

tl.T = 74 ( HEX ) ; 6C ( HEX ) ; 2E ( HEX ) ; 54 ( HEX )

hkg = 68 ( HEX ) ; 67 ( HEX )

viss = 76 ( HEX ) ; 69 ( HEX ) ; 73 ( HEX ) ; 73 ( HEX )

### Transmission examples: (r n P 2) RS-232 continuous transmission

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

S	T	,	G	S	,	+			0	.	8	7	6	k	g	<CR>	<LF>	
HEAD1			HEAD2			DATA									UNIT		CR	LF

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

U	S	,	N	T	,	-			1	.	5	6	8	l	b	<CR>	<LF>	
HEAD1			HEAD2			DATA									UNIT		CR	LF

Press  key to transmit totaled simple format (r n P 3)

S/N WT/UNIT ( kg / lb )

-----

0001 1.0000

➡ Press  or  key

0002 1.0000

➡ Press  or  key

0003 1.0000

➡ Press  or  key

0004 1.0000

➡ Press  or  key

0005 1.0000

➡ Press  or  key

-----

0005 5.0000

➡ Press  twice to print TOTAL

Press  key to transmit totaled complete format (r n P 4)

TICKETS NO. 0001  
G 1.000kg  
T 0.000kg  
N 1.000kg  
(3 blank lines)

→ Press  or  key

TICKETS NO. 0002  
G 1.000kg  
T 0.000kg  
N 1.000kg  
(3 blank lines)


→ Press  or  key

TICKETS NO. 0003  
G 1.000kg  
T 0.000kg  
N 1.000kg  
(3 blank lines)

→ Press  or  key

TOTAL NUMBER  
OF TICKETS 0003  
TOTAL  
NET 3.000kg  
(3 blank lines)

→ Press  twice to print TOTAL

 G = GROSS T = TARE N = NET

**Stable Transmission in totalizing mode (r n P 5)**

S/N WT/UNIT ( kg / lb )

-----  
0001 1.0000  
0002 1.0000  
0003 1.0000  
0004 1.0000  
0005 1.0000  
-----

→ The scale is stable  
→ The scale is stable  
→ The scale is stable  
→ The scale is stable  
→ The scale is stable

0005 5.0000

→ Press  twice to print TOTAL


Press  key to transmit simple free format (r n P 6)

Same format as (r n P 3). Print the complete format for the first time. Then only print NET weight. Please refer to F14 for details.

Press  key to transmit complete free format (r n P 7)

Same format as (r n P 4). Print the complete format all the time. Please refer to F14 for details.

## While use Hold, press key to transmit (r n P 8)

1. If there is only RS232, press  key to print out the HOLD value on display in HOLD MODE.
2. Mini printer data transmission format in HOLD condition  
When ChAr is set as 0, 1 (Iranian or English font),  
The format for 1.000kg is as follows:

		1	.	0	0	0	k	g	<CR>	<LF>
--	--	---	---	---	---	---	---	---	------	------

### Remarks






1. Printer fonts differ from different countries.
2. RS232 is always in English font (ASCII)




## Print after Removing Goods (5% mode) (r n P 11)

Stage	Condition(s)	Action(s)
1: Goods placed and weighed on platter	Weight has become stable. Weight > zero point Weight $\geq 20$ weighing units (i.e. $5\% \times \text{Weight} \geq 1$ weighing unit)	Beeper beeps twice, and printing data (stable weight compliant with conditions on the left) is ready to be sent.
2: Just removed goods from platter	Instantaneous weight reading drops below 95% of last stable weight (stable weight of Stage 1)	Printing data of Stage 1 is sent to the printer (same printing formats as those of (r n P 1)).

## Print after Removing Goods (OK mode) (r n P 12)

Stage	Condition(s)	Action(s)
1: Goods placed and weighed on platter	Weight has become stable. Weight > zero point Check weighing <b>OK</b> status (within a predetermined weight range)	Beeper beeps twice, and printing data (stable weight compliant with conditions on the left) is ready to be sent.
2: Just removed goods from platter	Instantaneous weight reading drops below 95% of last stable weight (stable weight of Stage 1).	Printing data of Stage 1 is sent to the printer (same printing formats as those of (r n P 1)).

F5	Function	Press  key	Press  key	Press  key twice after zeroing
r n p 0	RS232 command mode	Once received read weight command, transmit weight in same format as r n p 1.		
r n p 1	Stable transmission	After return to zero, transmit next stable weight.		
r n p 2	Continuous transmission.	RS232 transmit continuously. Keypad has no effect.		
r n p 3	Press  key to transmit totalized simple format	Transmit when weight change $> \pm 10d$ ,	Transmit when weight change $> \pm 10d$ ,	Print TOTAL and clears totalized values
r n p 4	Press  key to transmit totalized complete format.	Transmit when weight change $> \pm 10d$ ,	Transmit when weight change $> \pm 10d$ ,	Print TOTAL and clears totalized values
r n p 5	Stable transmission in totalizing mode (After return to zero, transmit next stable weight which is $> +10d$ )	No transmission	No transmission	Print TOTAL and clears totalized values


<b>r n p 6</b>	Press  key to transmit simple free format	Transmit when weight change $>\pm 10d$ ,	Transmit when weight change $>\pm 10d$ ,	Print TOTAL and clears totaled values
<b>r n p 7</b>	Press  key to transmit complete free format	Transmit when weight change $>\pm 10d$ ,	Transmit when weight change $>\pm 10d$ ,	Print TOTAL and clears totaled values
<b>r n p 8</b>	While use Hold, press  key to transmit same format as (r n P 1) and (r n P 2)	No transmission	Transmit as stable weight $>\pm 10d$	No transmission, totaled values not cleared
<b>r n p 11</b>	Print after removing goods (5% mode)	After placing item and become stable, beep twice. RS232 transmit item weight after item is removed.		
<b>r n p 12</b>	Print after removing goods (OK mode)	RS232 transmit only "OK" item weight after item is removed. No transmission while in "HI" or "LO".		

When FB530 is installed with optional mini printer, only r n p 3~r n p 7 will work. Other "r n p" formats are closed.

<CR>=ASCII carriage return character, hexadecimal is 0D.

<LF>=ASCII line feed character, hexadecimal is 0A.

## Self-test Function of Printer (option)

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

```




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

### The test of Printer

- Press and hold  key to enter into.

**A J F 20**

Default : 20

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

```

-----
VERSION: 10004010
DATE : 2000/01/04
TIME : 09:59:03
MODE : IRAN
MEMORY TEST OK
-----
0000 0000 0000 0000
  
```

**word space too high  
please adjust it to a lower value**

```

-----
VERSION:10004010
DATE: 2008/05/28
TIME: 09:59:18
MODE: IRAN
MEMORY TEST OK
-----
0000000000000000

```


good word space

```

-----
VERSION:10004010
DATE: 2008/05/28
TIME: 09:59:33
MODE: IRAN
MEMORY TEST OK
-----
0000000000000000

```

word space too low  
please adjust it to a higher value

5. Press  key to restart the printer.

### 3-3 F6 Exit Function

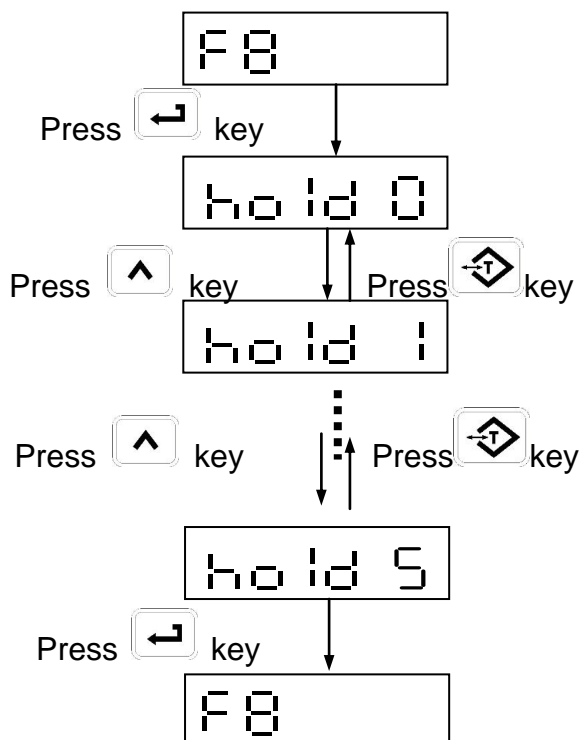
Use  or  to select F6. Then press  to count down to zero and exit the setting.

### 3-4 F7 Internal Value Display Mode



Use  or  to select F7. Then press  to display internal value. Press  again will see F7.

### 3-5 F8 Weight Hold Mode Setting

Use  key or  key choose F8





- ◆ 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

 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 F5 RS-232 Interface Output Setting (option))

Use  key to select a value from hold 0 ~ hold 5 and then press  key to complete setup.



hold 0 = No hold function

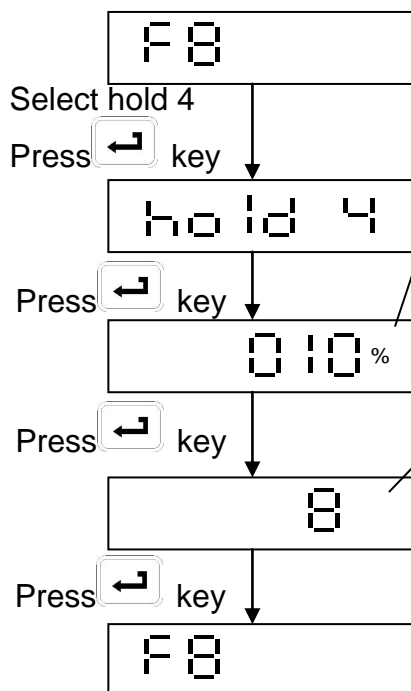
hold 1 = For varying weighing value, the scale will automatically hold the maximum weighing value to display. To exit hold mode, press any key (except the  key).

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 Setup (hold 4)



#### Error Allowance Range setup:


Use  and  to enter value ranged from 1%~100%. **Default is 10%.**

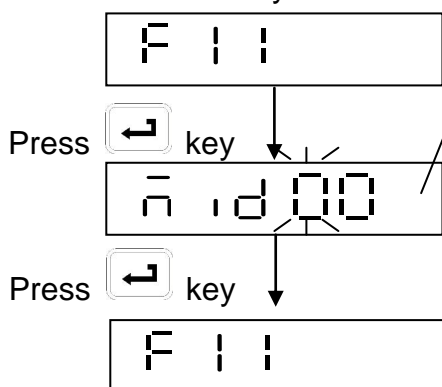
#### Numbers of count to average:

Use  and  to select one of 1, 2, 4, 8, 16, 32, 64. **Default is 8.**



## 3-6 F11 ID Code Setting

(must be used with r n P 1, r n P 2, r n P 8 of F5)


Press  key or  key to select F11



#### Machine ID code setting:

Use  and  to set 01 ~ 99. Default setting: 00  
 (1) "00": RS-232 does not transmit Machine ID.  
 (2) "01~99": RS-232 transmits Machine ID.

## RS232 DATA FORMAT

Stable transmission (r n P 1), Continuous (r n P 2), Press  key to transmit (r n P 8)

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

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

1	0	S	T	,	G	S	,	+	0	0	0	.	8	7	6	k	g	<CR>	<LF>
ID		HEAD1			HEAD2			DATA								UNIT			

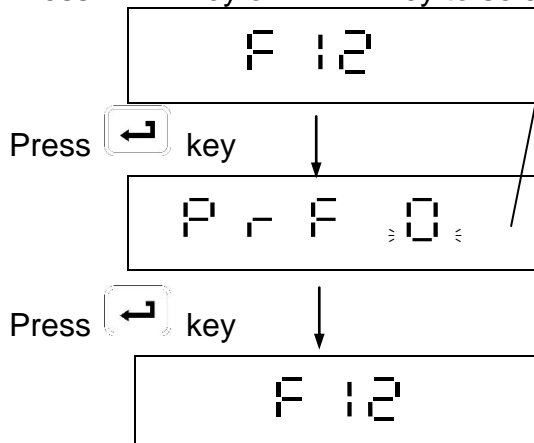
2. e.g. Machine ID code is 00. (Not using Machine ID function.)

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	<CR>	<LF>
HEAD1			HEAD2			DATA								UNIT			


## 3-7 F12 Print Key () Function Setting


Press  key or  key to select F12




### Print key setting:

Use  and  to set 0~2. Default setting: 0

P r F 0 ⇒ If weight variation is beyond  $\pm 1d \sim \pm 10d$ ,  key print totalized weight. Otherwise print current weight. (d=division)

P r F 1 ⇒  key print current weight. No totalization.

P r F 2 ⇒  key print current weight if it is within the lower and upper limits (ok range). No totalization.

### 3-8 F14 Customized Header Setting (r n P 6, r n P 7)

CODE	Description	CODE	Description
0	No print.	5	N
1	TICKET NO.	6	P/N
2	G	7	S/N
3	T	8	DATE (Note: need FB530's MINI_PRINTER to print)
4	PT	9	TIME (Note: need FB530's MINI_PRINTER to print)

F14 contains a 9-digit code. For example: 6 1 2 3 4 5 0 0 0

① F5 = r n P 6 Simple Free Format  
Format

② F5 = r n P 7 Complete Free

P/N 012345678901  
TICKET NO. 0001  
G 1.2500kg  
T 0.2500kg  
PT 0.0000kg  
N 1.0000kg  
S/N WT/UNIT ( kg )

0001 1.0000  
0002 1.0000  
0002 2.0000

Press  or Press  key

Press  or Press  key

Press  twice to print the total

P/N 012345678901  
TICKET NO. 0001  
G 1.2500kg  
T 0.2500kg  
PT 0.0000kg  
N 1.0000kg  
(three empty lines)

P/N 012345678901  
TICKET NO. 0002  
G 1.2500kg  
T 0.2500kg  
PT 0.0000kg  
N 1.0000kg  
(three empty lines)

TOTAL NUMBER  
OF TICKETS 0002  
TOTAL  
NET 2.0000kg

P/N (part No.) and S/N (Serial No.) setup method


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



1 second ⇒

0	0	0	0	0	0
▼					
0	0	0	0	0	0
▼					
0	0	0	0	0	0
▼					
0	0	0	0		
▼					


Use ,  key to enter  
12-digit Part number



1 second ⇒

0	0	0	0	0	0
▼					
0	0	0	0		
▼					
0	0	0	0		
▼					

Use ,  key to enter  
10-digit Serial number

 After power-off, S/N will reset as 1. P/N will be saved in memory, available during next power-on.

# Appendix 1 Option Card Description

## RS232 output

FB530's RS232 card is marked "AD05135" ⇒ 4PIN cable connect CN6 of mainboard

FB530's RS232(DB25PIN) Pin Description

- J1, J3 SHORT; J2, J4 OPEN (default setting)

Pin 2 ⇒ TXD

Pin 3 ⇒ RXD

Pin 7 ⇒ GND

Other pins are disabled.


- J2, J4 SHORT; J1, J3 OPEN

Pin 2 ⇒ RXD

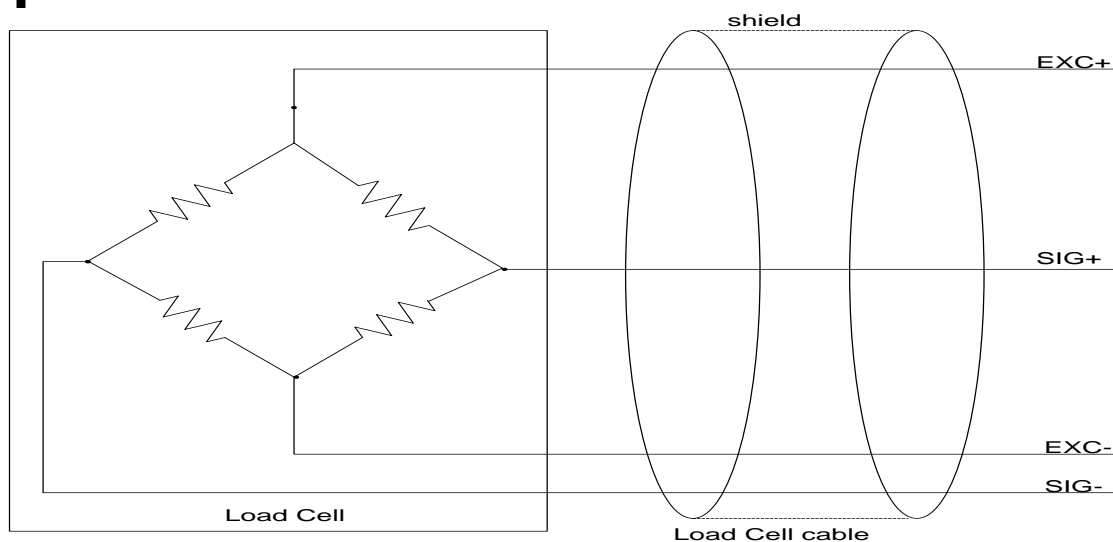
Pin 3 ⇒ TXD

Pin 7 ⇒ GND

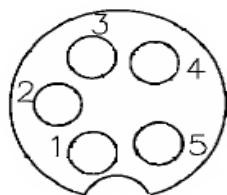
Other pins are disabled.

 Please refer to F5 function settings for transmission mode, baud rate setting and data format.

## Appendix 2 Load Cell PIN



5-pin female connector



Weighing scale  
(AW, HW, FD, RW, TW)

1	EXC+
2	EXC -
3	SIG+
4	SIG -
5	GND

Short JP21, JP22 of FB530's mainboard

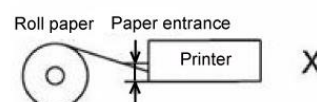
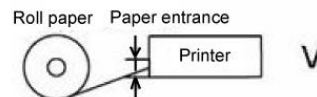
PCB		L/C
(E+)	⇒	EXC+
(E -)	⇒	EXC -
(S+)	⇒	SIG+
(S -)	⇒	SIG -
(FG)	⇒	shield

# Appendix 3 Printer Installation

## A. Roll paper installation and problems solution

### 1. Installation roll paper:

- ☐ Use designated roll paper with a width  $44.5 \pm 0.5$  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.



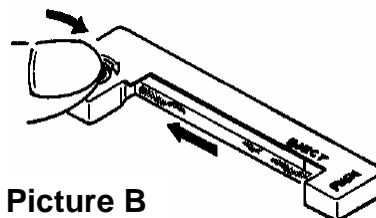
### 2. Uninstall roll paper:

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

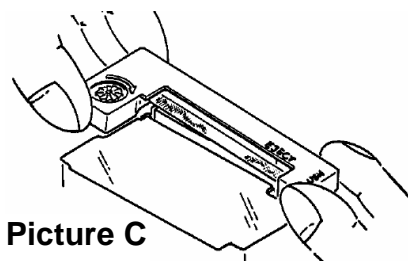
### 3. Paper jam solutions procedures:

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

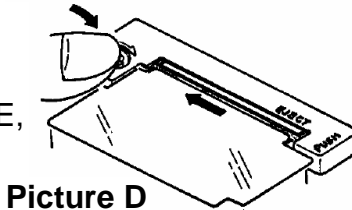
Picture A



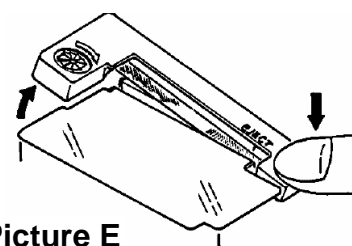
Picture B



Picture C



Picture D



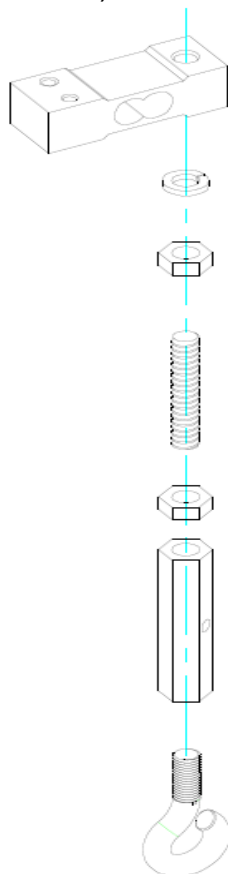
Picture E

## B. Ribbon installation

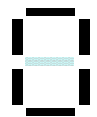
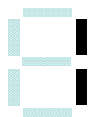

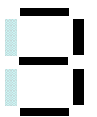




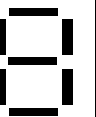

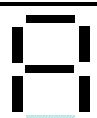







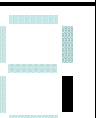

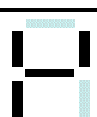
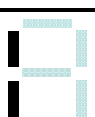


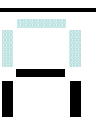


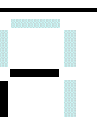

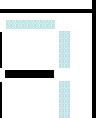
- ☐ Use designated ribbon. (ERC-05)
- ☐ Uninstall the roll paper before install the ribbon. (Picture B)
- ☐ Turn and tighten the ribbon before installation.
- ☐ Sway the ribbon to proper location according to Picture C. If the ribbon loosens during installation, retighten it according to Picture D.
- ☐ To uninstall the ribbon, press gently the location in Picture E, and then take it out with proper adjustment.
- ☐ 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.

## Appendix 4 Load Hook Installation

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



## Appendix 5 7-Segment Display Characters

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