[PRECAUTIONS]

The scale or indicator should always be used in an environment which is free from excessive air currents, corrosives, vibrations, temperatures and humidity extremes. These factors will affect displayed weight readings.

DO NOT use the scale or indicator

Next to open windows or doors causing drafts or rapid temperatures changes! A temperature between 0 ~ 40 degree Celsius is recommended. Near air conditioning or heat ventilations! Near vibrating, rotating or reciprocating equipment! Near magnetic fields or equipment that generates magnetic fields. On a rough work surface!

Leveling the scale

(when the indicator is connected to a platform)

Always adjust the scale to a level position with level adjusters until the bubbles appear in the center circle of the level indicator!

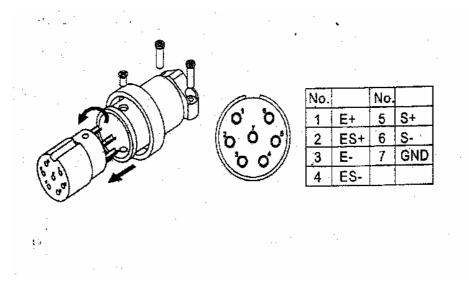
Battery

Recharged the battery whenever the symbol is flashing; this indicates that battery level is low. Charge the battery with the DC 9V / 1A adaptor attached. And when the battery is charging, the LED is red and when is fully charged the LED turns green. (it takes approximately 6 hours to charge battery completely)

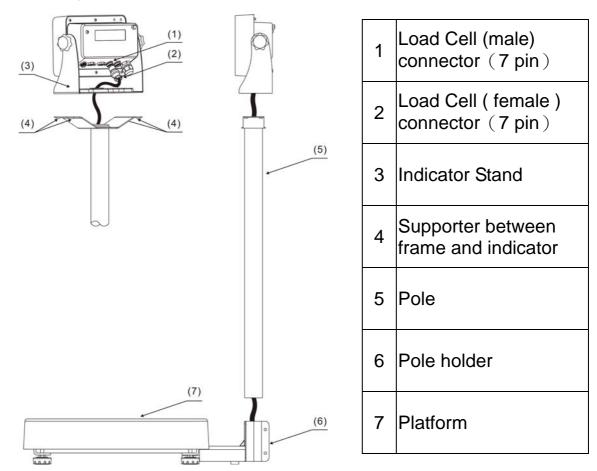
[Installation]

Load Cell connections

7 pin Load Cell connections



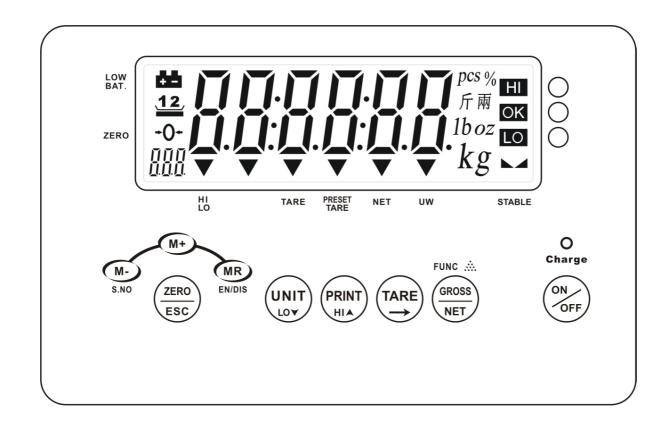
Setting up the platform



Assemble the scale by the following steps (refer to the diagram

above)

- 1. Pull the load cell cable through pole holder (6) up. Install pole (6) into the pole holder (5), and fix the pole with cross-headed screws.
- 2. Pull load cell cable through indicator supporter (4) to connect to the indicator.
- 3. Install Indicator supporter (4) and indicator stand (3) together.
- 4. Adjust the indicator to adequate viewing angle and tighten the screws located on each side of the Indicator.



LCD display and function of each key

LCD display and explanation

LCD display	Explanation	
kg	Weighing unit in Kilograms or Grams	
-0-	" ZERO " sign	
	Stable sign when the weight reading is stable	
pcs	<i>pcs</i> Piece counting function	
%	Percentage function	
▼	Indication sign for insufficient unit weight, net weight, tare, pre-tare, Hi-Lo limits.	
	Operation message display	
HI OK LO	HI, OK and LO limits indication	
1b oz	Additional weighing units	
<u>ā</u> ā	Battery Power is weak	

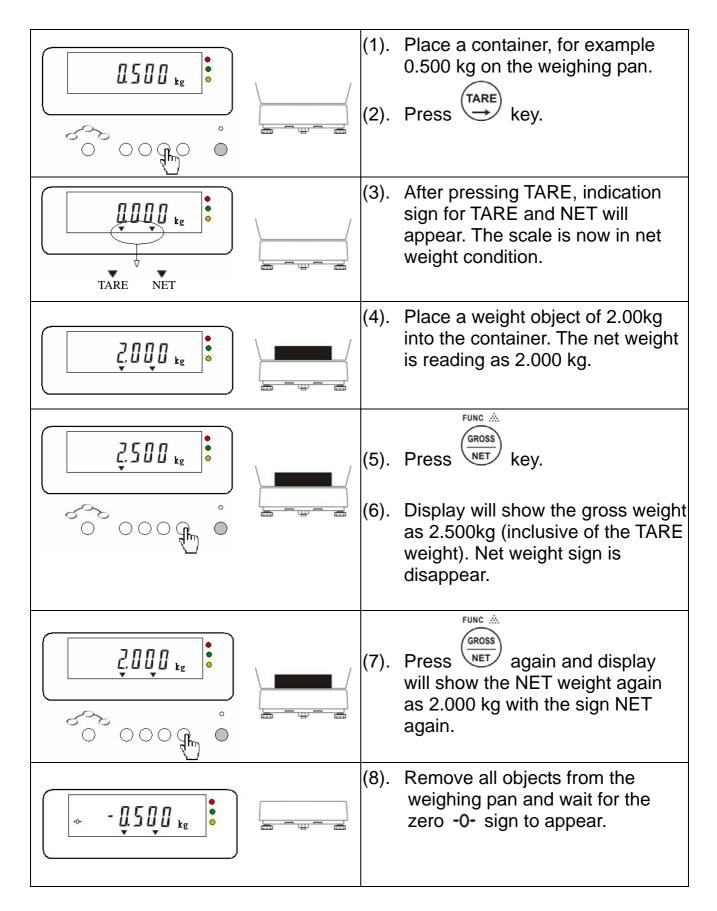
Explanation of each key

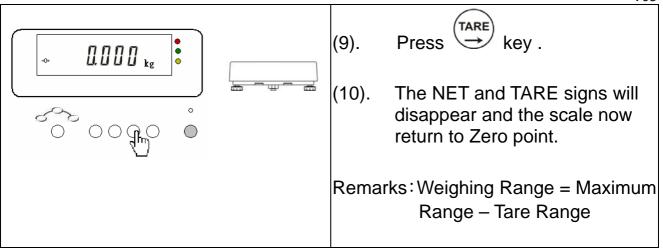
Posi- tion	Keys	Main function	Secondary functions
	ON	Turns the indicator on or off	
1	M- S.NO	certain number of accumulated weight	 change the digit when in parameter mode (decreased) change the number when in HI-LO checking mode setting of serial number setting of date & time

	-		V03
2	(M+)	Accumulation	 Change the digit when in parameter model (increased)
			 Change the number when in HI-LO checking mode
			 Press this key to enter the testing mode
			 Change the setting of accumulation mode.
3		Set the display to zero	 Press to escape from parameter setting without saving.
			2. Cancel function
4	MR	Recall total accumulation weights or certain number of accumulated weights	 Enable or disable the HI-LO checking function
	EN/DIS		2. Capacity / division setting
		Switch the weighing unit from one to another	 To enter to weighing units setting mode
5			2. To enter into HI-LO checking mode and key in the LO limits
			Setting the space when in printing format mode
	PRINT	Send the data stored in memory to PC or printer when pressed	1. To enter to printer mode
6			2. To enter into HI-LO checking mode and for key in HI limits
		Tare	1. To enter to pre-tare mode
7			2. Move the cursor to left when in parameter setting mode
8		between GROSS/	1. To enter to internal parameter setting
			2. Sample storing mode when in piece counting mode
			 Reset the serial number when in serial number mode
			 To enter to print format setting mode

[ZERO]

O+ O	 (1). The indicators zero point -0- sign is shown in the left diagram. When the display is at zero, this sign will appear.
	 (2). Press (ZERO) to return to zero when the display is without the +0+ sign.
	 (3). Now, the -0- sign appear and the scale is in zero point. Remarks: The range of zero point is +/-2% of the max capacity. Example : the zero range of 60kg is +/- 1.2kg



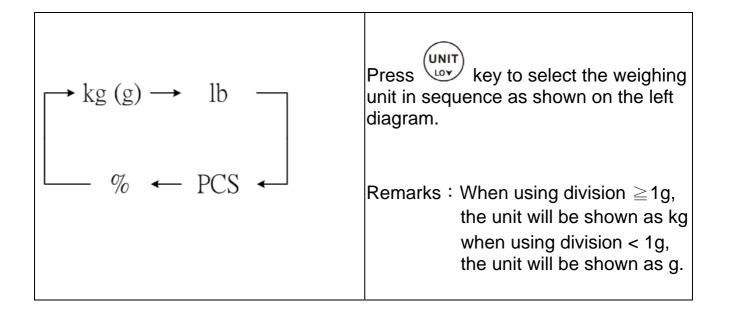


[PRE-TARE]

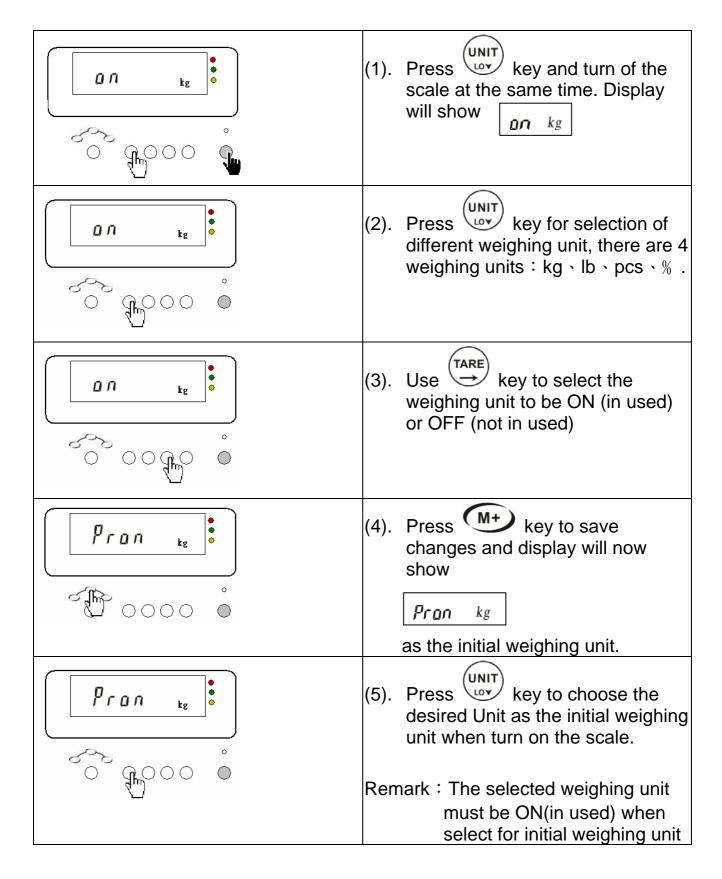
	 Under normal weighing mode, press key for 3 seconds, the display will show the pre-tare mode with last digit flashing. At the operation message display, you can see "<i>Lr</i>"
	(2). Press $\stackrel{\text{TARE}}{\longrightarrow}$ key to start the setting of the Pre-Tare value .
	(3). Press key to move the cursor to the desired digit which needs to be changed . Example : $M M kg$.
	(4). Press (M+) key to change the digit in increasing manner and (M-) press s.No key to change the digit in decreasing manner. For example : Successful kg,number 5 will be blinking .
- 5 DD kg · · · · · · · · · · · · · · · · · · ·	(5). Press (GROSS) NET key to save the pre-tare changes and return to weighing mode .Now the display will show –5.000kg and zero point tare, pre-tare, net weight signs \will appear in display!

 V03
(6). Place the container (5.000kg) and weight mass(20.000kg) to the weighing pan. The display will show 20.000kg, the zero sign will disappear and this 20.000kg will be the Net weight.
(7). Press (GROSS) NET key and now the display will show 25.000kg, arrow pointing to NET disappear. This 25.000kg will be the gross weight of the weight object with the container.
(8). Remove the container and weight object, display will show –5.000kg again.
(9). Press key and all the arrows pointing to NET, TARE, Pre-Tare will disappear. The scale returns to normal weighing mode with the zero sign on.
Remarks: Weighing Range = Maximum Range – Tare Range

[SELECTION OF WEIGHING UNIT]



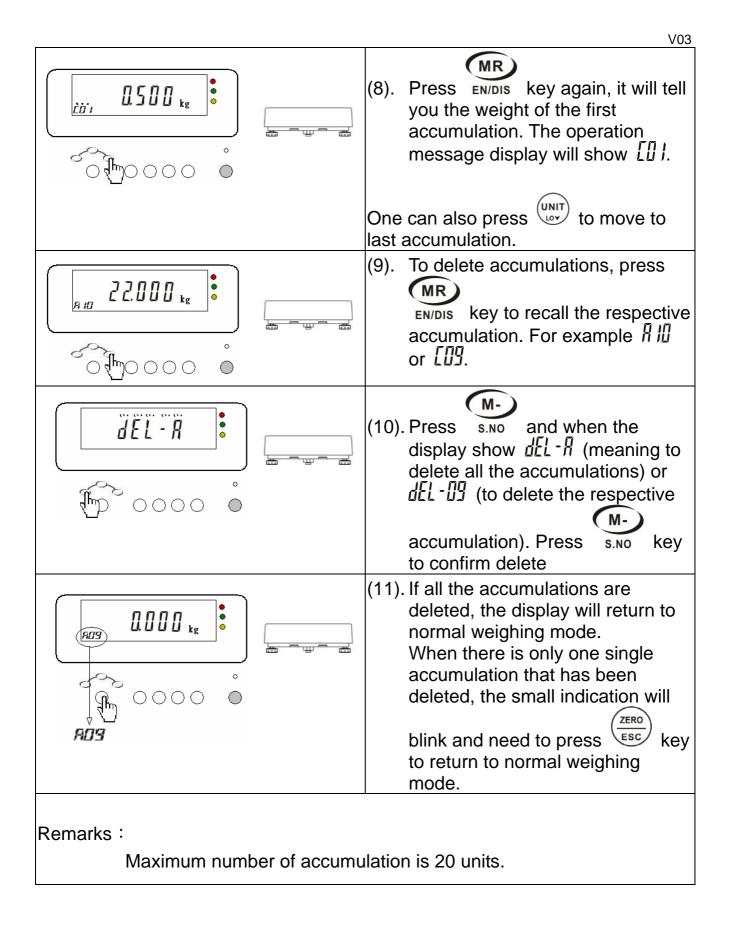
[INITIAL WEIGHING UNIT SETTING]



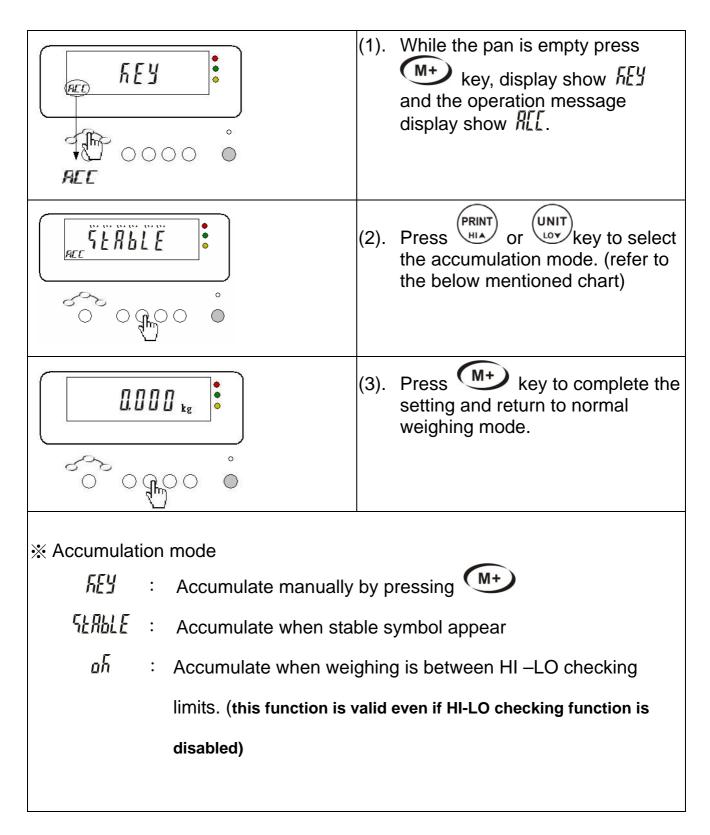
 V03
(6). Press (M+) key to save changes and return to normal weighing mode.

[ACCUMULATIONS]

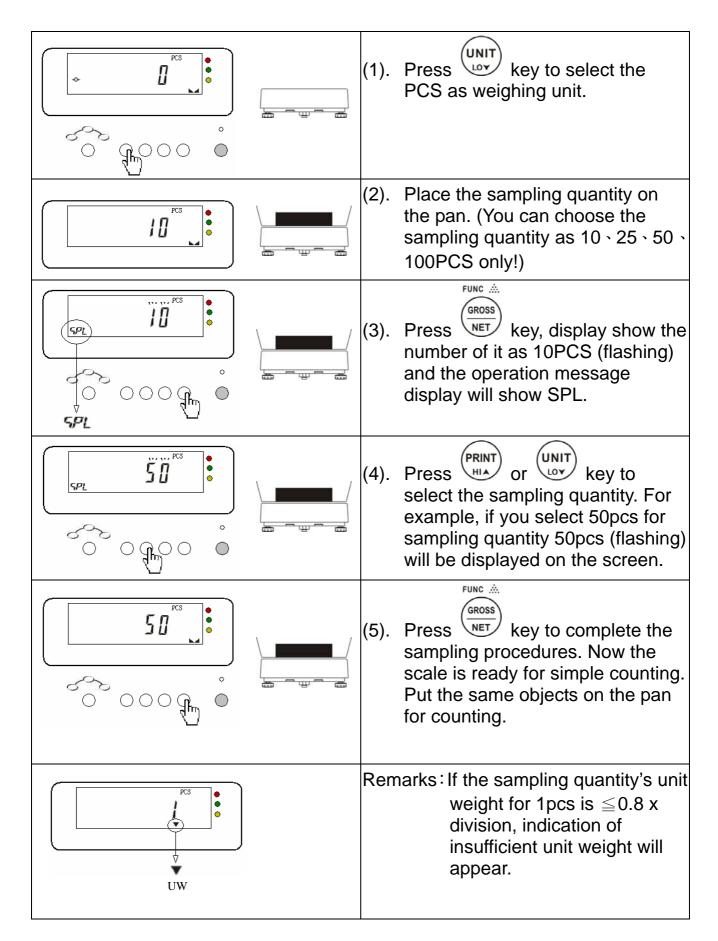
	(1).	Place an object on the pan wait for the stable sign and press key.
	(2).	Display will show "ACC 1", and also the weight of the object. At the same time, you can see the sign "A01" on the operation message display.
	(3).	Remove the first object and place the next object on the pan, press key when stable.
	(4).	The display will show "ACC 2" and the weight of the second object. The sign "A02" will appear on the operation message display.
	(5).	Repeat procedures (3) and (4), for the desired accumulations Press EN/DIS key now, display will show the weight of the last object. The operation message display at left will show $L \times \times$ (flashing). For example if there are 10 accumulations, it will show L III.
	(7).	Press EN/DIS key again and you will see all the 10 accumulations' total weight.



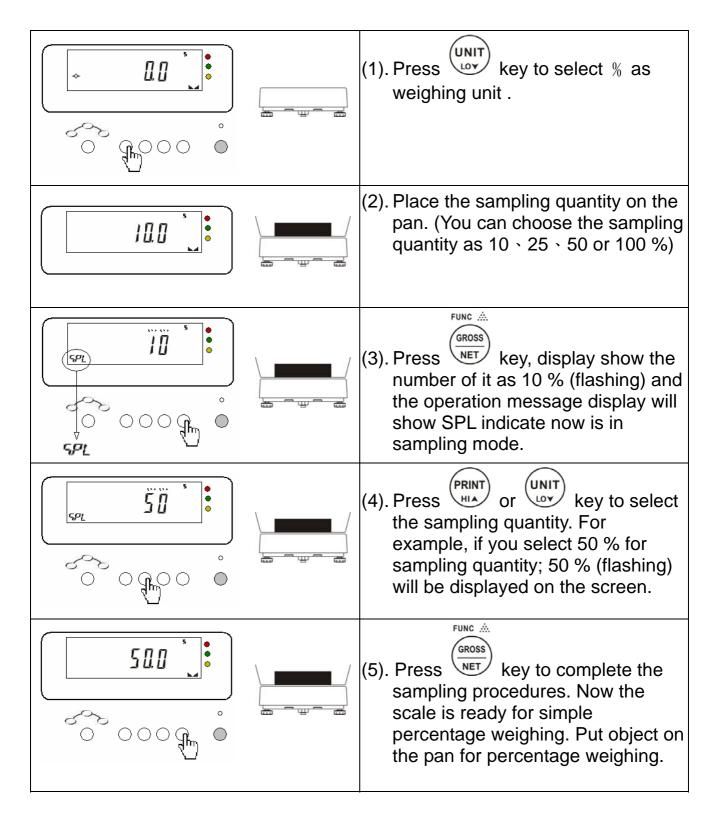
[ACCUMULATION MODE SETTING]



[SIMPLE COUNTING]



[PERCENTAGE %]



[HI / LO Checking for weight]

	 (1). Press RINT key, indicator is ready for entering the value of the HI limit, the HI indication on the right will appear and the operation message display will appear Hi Remark : If the parameter 3(P3) is not set as no-HIE, press Fint for 3 seconds to set this function.
	(2). Press key to move the cursor to the digit you want to change.
	(3). Press (M+) or S.NO key to enter the number.
° 0000 ℃	(4). Repeat (2) (3) to complete the setting of HI limit.
	(5). Press key, indicator is ready for entering the value of the LO limit, the LO indication on the right will appear and the operation message display on the left will show <i>La</i> .
	(6). Repeat (2) (3) (4) to complete the setting of LO limit.

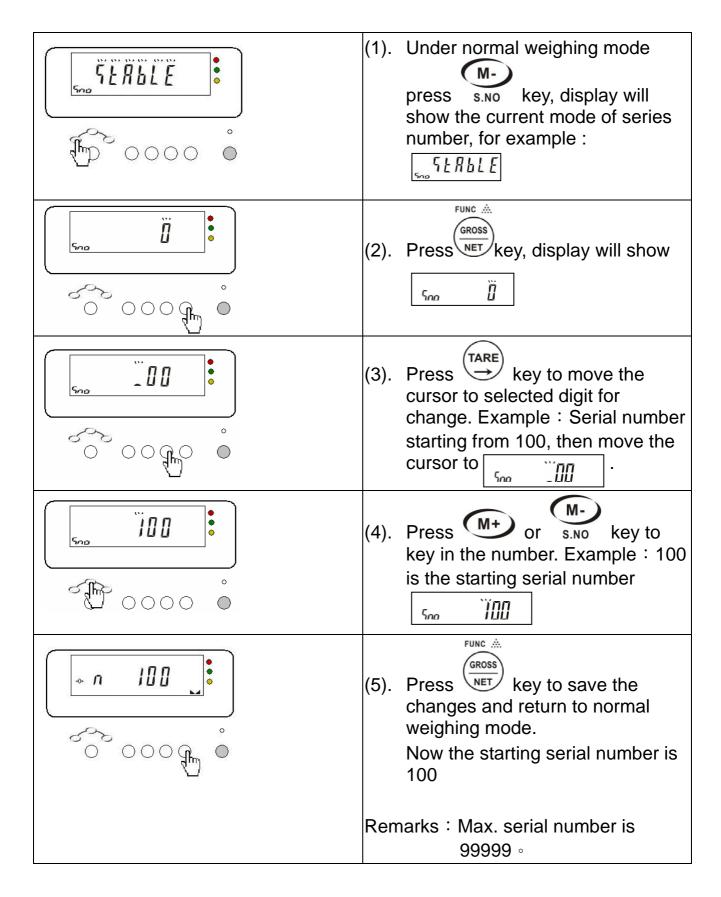
 (7). Press EN/DIS key to enable the checking function and the scale returns to the normal weighing mode. The arrow pointing to HI, LO will appear and the HI, LO function is ready for operation.
(8). To cancel the function of HI-LO checking, press Rey when the indication of HI-LO indication signs is on the LCD.
 (9). Followed by pressing EN/DIS key . HI 、 LO indication signs will disappear and this function is disabled. Remarks : LO limits must be ≤ HI limits

[SERIAL NUMBER]

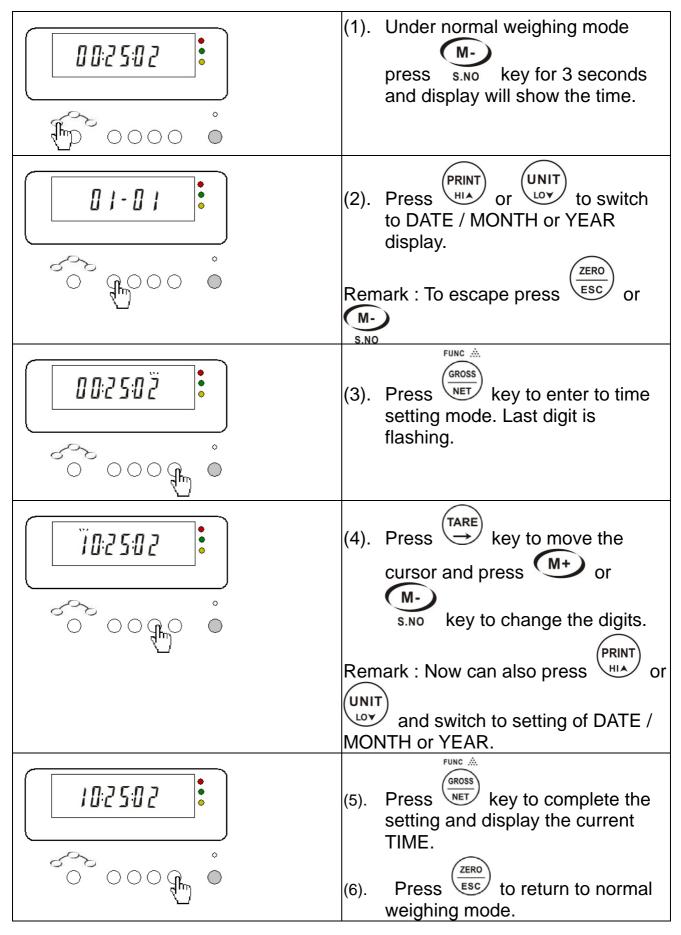
Imp 0000	(1). Press s.vo key display will show aff (flashing) and operation message display will show أחם.
	(2). Press PRINT or UNIT , to select the desired serial number mode. Please refer to below diagram.
	 (3). After select, press s.No key to return to weighing mode, display will now show n l for serial number, except if the setting is in aFF mode.
Mode of serial number :	

oFF	: No action.
SEAPPE	$^{:}$ The serial number plus 1 (+1) when the stable sign appear.
oĥ	$^{:}$ Serial number plus 1 (+1) when the weights is in between
	HI –LO checking limits this function is valid even if the HI-LO
	checking function is disabled.
SEoP	[:] Pause! No adding of serial number but display will still show
	the last serial number when there is nothing on the pan.

[SERIAL NUMBER SETTING]

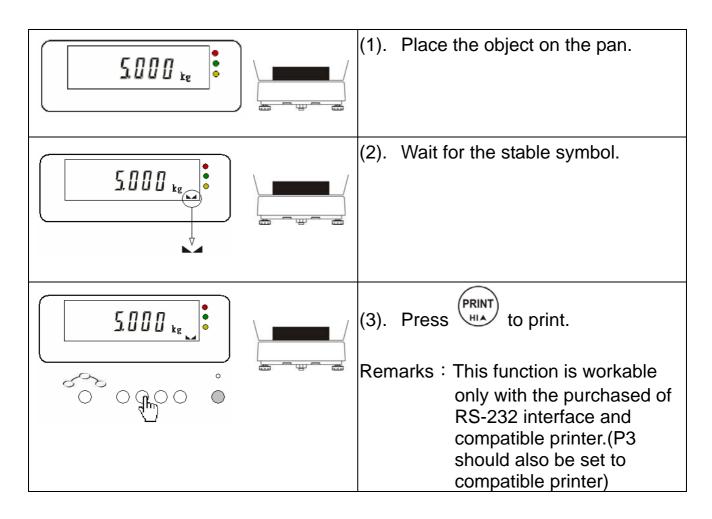


[TIME SETTING]



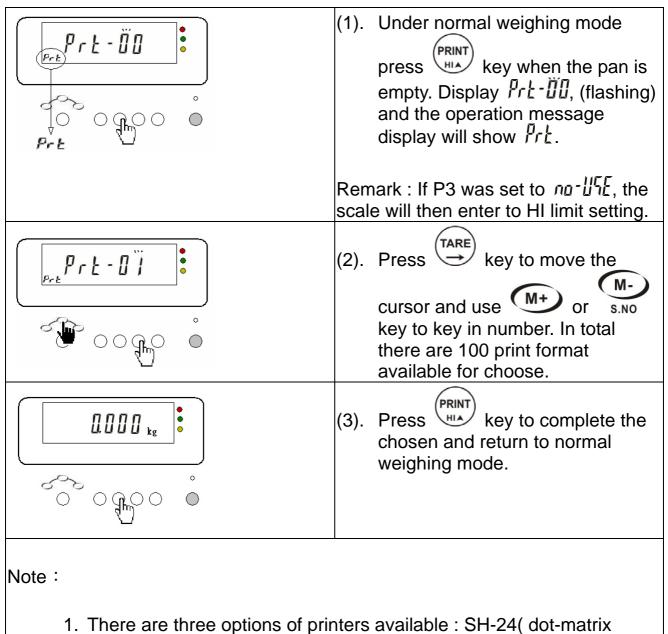
Remarks : After switching off the
indicator, the date/time will
be erased unless if this
indicator is equipped with
RTC + Rs232.

[PRINT]



[PRINT FORMAT SETTING]

This function is applicable only when the Parameter P3 - Printer Type is set to normal, SH-24, BP-443D or EZ-2P.



printer), BP-443D(Label printer) or EZ-2P(Label printer).

[SPACE BETWEEN LINES WHEN PRINTING]

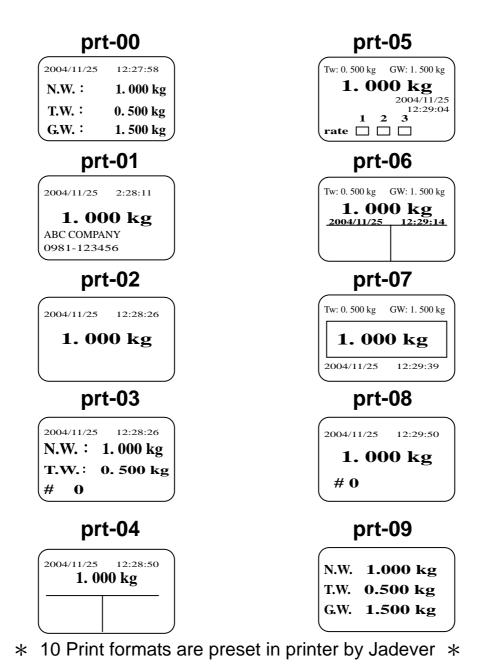
(1). In parameter for printer(P3) choose the setting to SH-24 / NORMAL. (2). While the pan is empty press • П Prt-PRINT key and display shows PrE - I The operation message display will show $P_{r_{k}}$ UNIT (3). Press (3) key, display show • LinE-I $L_{I} n E^{-} \tilde{I}$. The operation message display will show *Prt*. \mathbb{P}_{000} \bigcirc Prb **M**-• Pre Lin E-Z M+ (4). Press key to or S.NO set the number of empty lines (space) when printing. 0000 {minimum =0, maximum=9} \bigcirc PRINT • [] [] [] [] _{kg} (5). Press \bigvee key to complete the setting and return to normal weighing mode. \bigcirc

Only available for SH24 / normal

[PRINTING MODE SETTING]

* This function is applicable only wh set to normal, SH-24 , BP-443D , or E	en the Parameter P3 - Printer Type is Z-2P.
Prt-DÖ Prt-DÖ Prt Prt	(1). Press key. Display show
SERBLE COOL	(2). Press key. Display will show the printing mode. Example : ILADLE
	(3). Use PRINT or with key to select the printing mode. (refer to the below mentioned chart)
	(4). Press key to save changes and return to normal weighing mode.
Display. קבחבר Display. קבחבר Print after stable symb קלה Print when weight is b	en connecting to PC or large LED

[SAMPLES OF BP-443D / EZ-2P PRINTING FORMAT]



- Note : (1) Please contact your supplier/-dealer for additional EZ-2P &

BP-443D print formats.

- (2) A memory card has to be installed in EZ-2P.(BP-443D memory card is standard)
- (3) The print formats are installed into the printers through PC. Please email your specific requirement to us and we will make the requested print format for you.

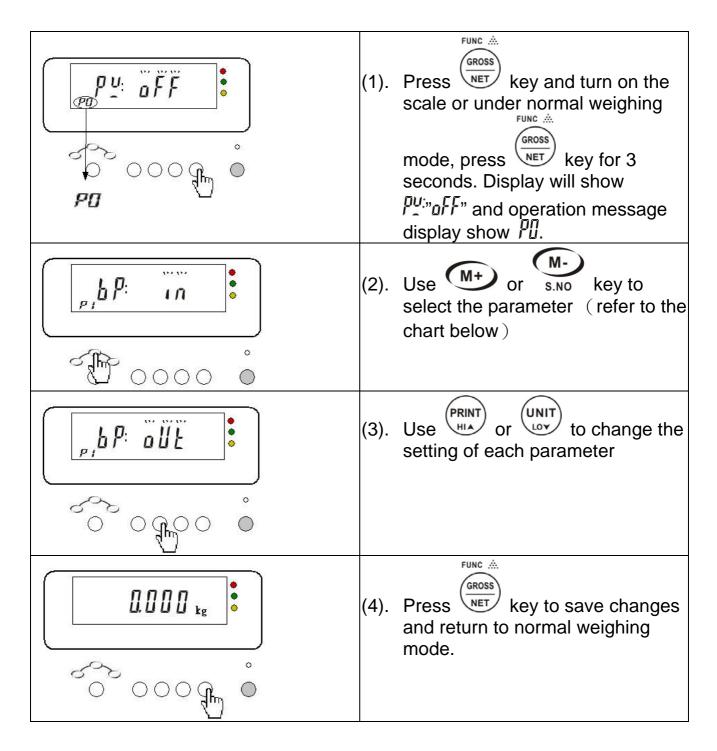
[SAMPLES OF SH-24 PRINTING FORMATS]

When RLLB appear under display of accumulation,

Prt-00	0.379kg	press key the p
Prt-01	2002/01/01 00:09:23 0.379kg	2002/01/01 00:09:23 (1) 0.100 kg
Prt-02	#1 0.379kg	(2) 0.100 kg (3) 0.100 kg
Prt-03	2002/01/01 00:09:23 #1 0.379kg	0.300 kg
Prt-04	N.W: 0.379 kg T.W: 0.100 kg G.W: 0.479 kg	
Prt-05	2002/01/01 00:09:23 N.W: 0.379 kg T.W: 0.100 kg G.W: 0.479 kg	
Prt-06	#1 N.W: 0.379 kg T.W: 0.100 kg G.W: 0.479 kg	
Prt-07	2002/01/01_00:09:23 #1 N.W: 0.379 kg T.W: 0.100 kg G.W: 0.479 kg	

key the print-out will like as following. V03

[PARAMETERS]

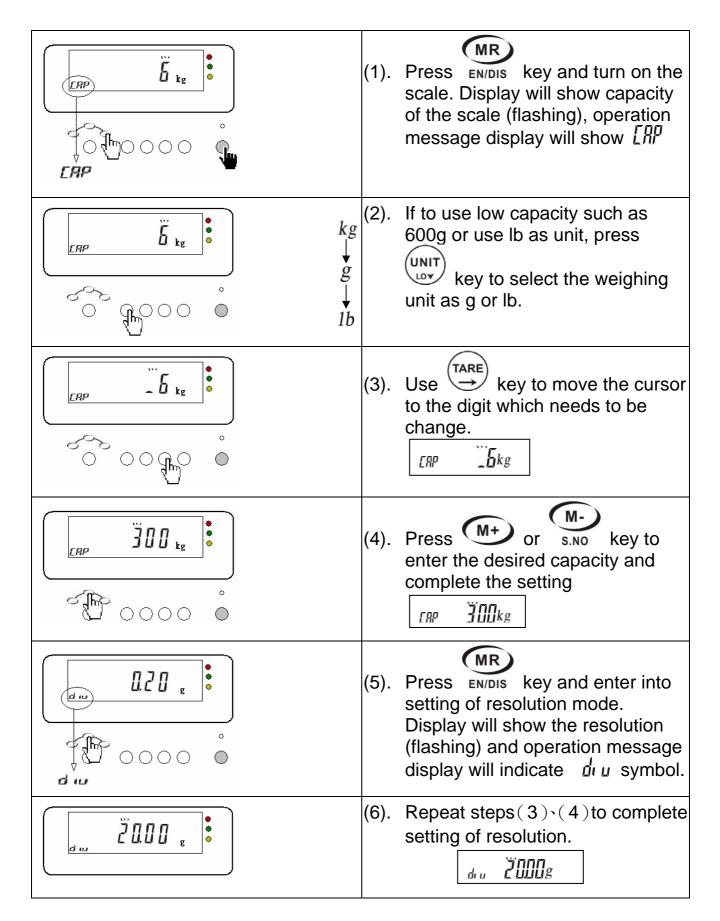


[EXPLANATION OF PARAMETERS]

No	Function	Display	Detail
		oFF	Off (No action)
		5	5 minutes
PO	Auto Power Off	Ш	10 minutes
FU	(weights < 20d)	30	30 minutes
		x 50	60 minutes
		90	90 minutes
	Beeping	ά in	Scale : Enable the HI-LO checking functions , beeps when the range is between HI & LO
P1	(The effect of this parameter is to determine when to have beep sounds	ollt	Scale : Enable the HI-LO checking functions, beeps when the range is out of HI & LO
	during HI/OK/LO checking.)	Ein	Option : Relay with light tower : beeps when the range is between HI & LO
		Eollt	Option : Relay with light tower : beeps when the range is out of HI & LO
		☆ off	No action of Hold
P2	HOLD (able to hold the displayed weight after load is remove)	חם	Able to hold the displayed weight and print at the same time after pressing print key (when there is loading). Press key (ESC) to clear. *This function will work only when P3-Printer Type is set as NORMAL or SH-24.
	Printer type	☆ <i>no-USE</i>	No connection to any printer
De	Setting of this parameter	norin	N/A
P3	determines the data format for the	58-24	Normal dot-matrix printer
	connected printer	<u> </u>	Label Printer
	type	E7-2P	Label Printer
P4	RS-232 Baud Rate	2400	
	Setting of this parameter	4800	
	determines RS-232	$\stackrel{\sim}{\simeq}$	

			V03
	data transmission rate.	19200	
P5	RS-232Data Format Setting of this parameter determines the RS-232 transmission data format.	<pre>☆ n81</pre>	
P6	Backlight		No Backlight Backlight is on always Off automatically 5 seconds after stable weighing Auto (backlight is actuated when weight loading is over 20d)

[CAPACITY / RESOLUTION SETTING]



	V03
205813	 (7). Press ENDIS key and display will show the internal self checking value and stop. This means that setting of capacity/resolution is completed. Example : 2050 13 Turn off the scale and turn on again.
Note : Maximum capacity to be set for th	his indicator is 400000kg.

Minimum division to be set for this indicator is 0.01g.

Whenever the capacity / resolution is set or changed, be sure to re-calibrate according to calibration procedure on service manual.

[DIVISION CONFIGURATION CHART]

Kg	g	lb
Max 5000kg	Max 5000g	Max 500lb
2000kg	2000g	200lb
1000kg	1000g	100lb
500kg	500g	50lb
200kg	200g	20lb
100kg	100g	10lb
50kg	50g	5lb
20kg	20g	2lb
10kg	10g	1lb
5kg	5g	0.5lb
2kg	2g	0.2lb
1kg	1g	0.1lb
0.5kg	0.5g	0.05lb
0.2kg	0.2g	0.02lb
0.1kg	0.1g	0.01lb
0.05kg	0.05g	0.005lb
0.02kg	0.02g	0.002lb
0.01kg	0.01g	0.001lb

[TESTING MODE]

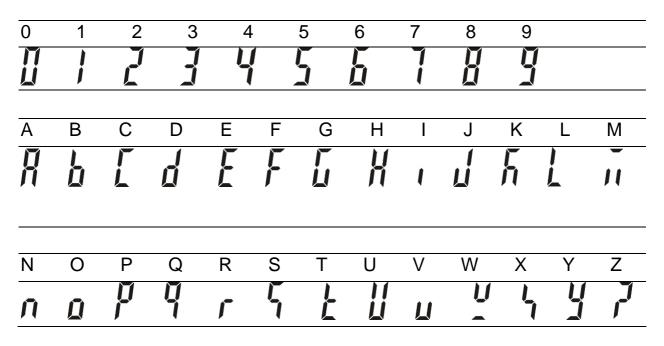
 (2). Press key, display will show the setting of capacity, the operation message display will show <i>LHP</i>. (3). Press + key and all segments in display are appearing. This is to check if the display is in good condition. (4). Press + key, display show 2, this is to check the key function condition. (5). After testing completed press + key to switch off. * Relative position: Memory Cancel S Hemory Cancel S Unit Accumulation Print Zero / Esc Gross / Net 			(1)	Press key and turn on the scale. Display will show the internal count value and operation message display show
 Segments in display are appearing. This is to check if the display is in good condition. (4). Press + key, display show 2, this is to check the key function condition. (5). After testing completed press (5). After testing completed press (6). After testing completed press (7). Free key to switch off. (8). Press + key to switch off. (9). Press + key to switch off. (1). Press + key to switch off. (2). After testing completed press (3). After testing completed press (4). Press + key to switch off. (5). After testing completed press (6). Press + key to switch off. 		300 kg	(2)	show the setting of capacity , the
Image: Constraint of the set of the			(3)	segments in display are appearing. This is to check if the
 Relative position: 1 : Memory Cancel 5 : Unit 2 : Accumulation 6 : Print 3 : Zero / Esc 7 : Tare 		7 •	(4)	\mathcal{L} , this is to check the key
1: Memory Cancel5: Unit2: Accumulation6: Print3: Zero / Esc7: Tare	60° C		(5)	ON
1: Memory Cancel5: Unit2: Accumulation6: Print3: Zero / Esc7: Tare	∦ Relativ	e position:		
3 : Zero / Esc 7 : Tare		•	5	: Unit
	2	: Accumulation	6	: Print
4 : Memory recall 8 : Gross / Net	3	: Zero / Esc	7	: Tare
	4	: Memory recall	8	: Gross / Net

[ERROR MESSAGES]

Error Message	Reasons / Possible Caused	Solutions
E0 no EE	The CPU unable to read the EEPROM	Contact the manufacturer or nearest agent
E1 [RL-d	Unable to read the 3 points calibration range	Refer to "service manual" for calibration procedures
E2 기위	Zero Point is too high	 Make sure the pan is empty when turn on the scale or perform the 3 points calibration. Check the connections of
E3 7Lo	Zero Point is too Low	 wires (1) Make sure the pan is on the scale or perform the 3 points calibration. (2) Check the connections of wires.
E4 Un5£8	Unstable zero point	 Make sure there is no winds or vibration . Check the connections of wires.
E5 [[-of	(1)Load cell spec. notcompatible.(2)calibrating weights mistake	 Replace with a compatible load cell. Change with correct calibrating weights.
E6 no L[Load cell read out always the same	(1)Check if load cell wire are connected correctly.
E7 00-20	The last accumulation is more than the preset accumulation allowed.	Press s.No key twice to clear all the accumulation or press on off key to return to normal weighing mode.
E8 1[-out	(1). Load cell specification is out of the ADC range(2). Wrong setting for calibration	 (1). Choose the compatible load cell. (2). Re-calibrate the scale.

			V03
E10 [].	<u>-</u> -	Optional RS-232(RTC) batteries run out	Replace the batteries
E11 di F	Ţ	Unable to accumulate. Two objects are with different units.	Press <i>w</i> - s.NO twice to clear all accumulation data or press <i>zero</i> and return to normal weighing mode.
E12 ou -	XX	Accumulation data exceed preset maximum	Press .No twice to clear all accumulation data or press and return to normal weighing mode.
E13 Loi	рХи	Hi / Lo setting incorrect	Press (PRINT) key and reset Hi / Lo value.
E20 XXX	XXX	External division over Maximum (XXXXX is external resolution)	Press EN/DIS and reset Capacity / Resolution
E21 dul	[xx	Capacity / Resolution Setting inaccurate.	Press EN/DIS and redo Calibration (make sure the calibrate weight is correct).
		Overload (Maximum display= max .capacity + 9e)	Remove the object from the weighing pan.
		Indicator unable to Switch On when pressing key	Use a tool to press the RESET key located at the back of the indicator to turn on the scale and clear the problem.

[LCD CHARACTERS]



[CONNECTER]

Scale To Printer

Connecter for EZ-2P/BP-443D		Connecter for	SH-24
SCALE RXD TXD GND 50	PRINTER 0 2 0 3 0 5 GND	SCALE RXD 2 0 TXD 3 0 GND 5 0 0 0	PRINTER O O 2 O 7 O O O O O O O O O O O O O
DSUB9	DSUB9	DSUB9	DSUB25

Scale To PC

When you want a scale to transmit data to PC continuously.

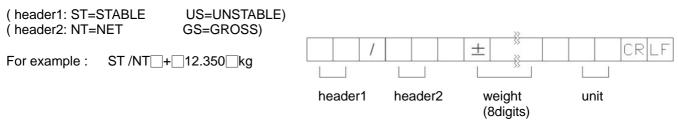
- (1) Using a cable as following to connect Scale and PC
- (2) Set printer mode as continue
- (3) Scale data will be sent to PC continuously. (of course, you must have the receiving software on the PC)

SCALE	PC
RXD 20	
TXD 30	
GND 50	O 5 GNE
	0 8 CTS
\bigcirc	\bigcirc
DSUB9	DSUB9

Only pin 2,3 and 5 are used.

[DATA PROTOCOL]

• Output Data when Print Mode set as Continue



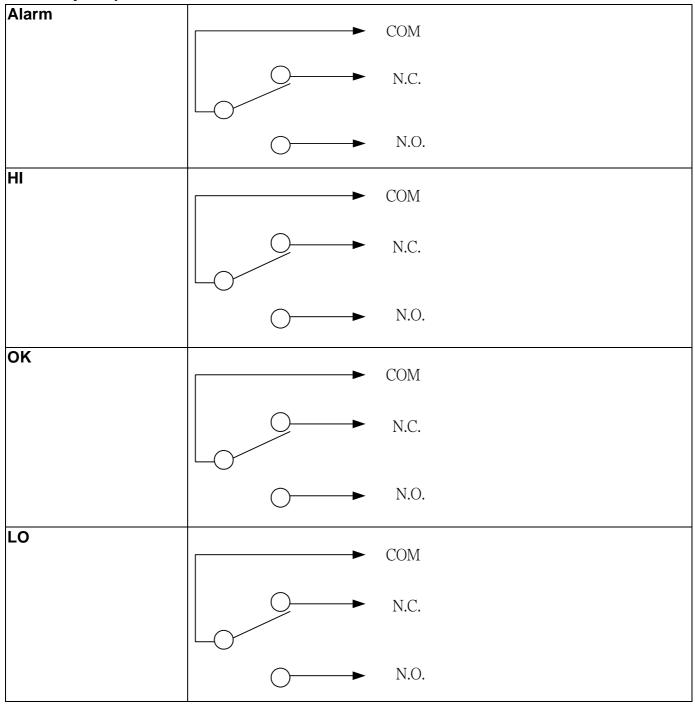
• Input commands

"T"=perform TARE function

"Z"=perform ZERO function

[RELAY MODULE DIAGRAM]

Relay Output :



Relay Contact Spec

1A/24VDC , 0.5A/125VAC , 0.25A/250VDC

[PRODUCT SPECIFICATIONS]

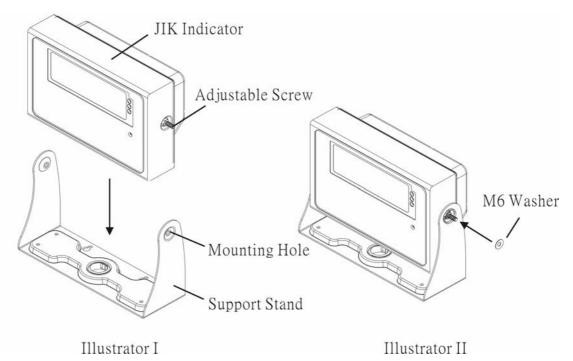
1. General

Enclosure	ABS	S/S
Demensions	230(W) * 150(H) * 90(D) mm	
Display	6digit 30mm(H) & 3digit 10mm(H) LCD(include EL backlight)	
Units	kg or g, lb, 台斤.兩, 港斤.兩, pcs, %	
Power	Adaptor 9V/1A Recharging Battery 6V/3Ah	Adaptor 9V/1A Recharging Battery 6V/3Ah can be selected
Weight(include Battery)	Approx. 2.5kg	Approx. 2.8kg

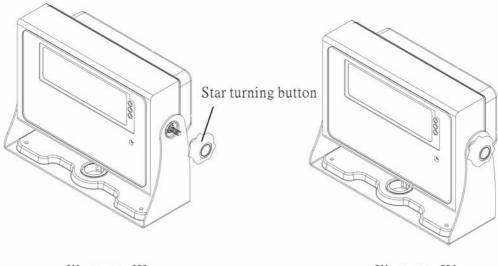
2. ADC and Loadcell

Mode1		Basic
ADC	Transform Mode	Δ - Σ
	Internal Resolution	Approx. 1,000,000 counts
	External Resolution	Max. 30,000d(non-OIML)
	Conversion Speed	10 times/sec
System Linearity		Within 0.01% of FS
Loadce11	Excitation	5VDC \pm 6% , 120mA(drives up to 8 * 350 L.C.)
	Full Scale	-2 ~ 18mV(include dead load)
	Input Sensitivity	Min. 0.16uV/d(non-OIML)

[ASSEMBLY MANUAL OF JIK INDICATOR AND SUPPORT STAND]



- 1. Using adjustable screw to pass through mounting hole. (illustrator I)
- 2. Put M6 washer onto adjustable screw. (illustrator II)



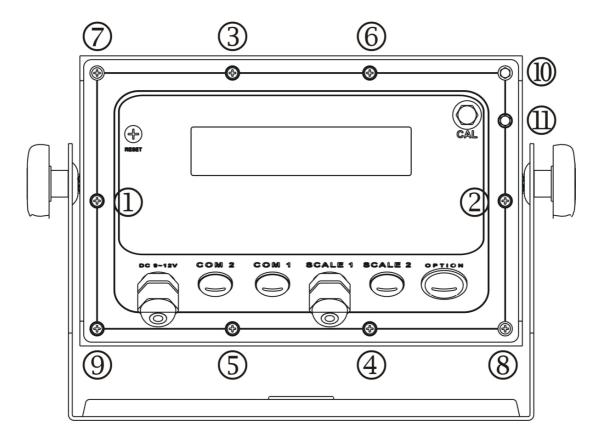
Illustrator III

Illustrator IV

3. Rotating the star turning button into adjustable screw. (illustrator III)

4. Adjust the indicator to the best view, and then rotate it tight via star turning button. (illustrator VI)

[FIXING SCREW INSTRUCTION FOR JIK-XSX]



- After connecting load cell and optional devices (RS-232, RELAY), fix all screws attached fallow the above numeric sequence.
- If using an electric screwdriver, set the torque range to 5-7 kgf.cm.
- Sealing screws are to be located at sequence 10 and 11.

V03

SINGLE POINT CALIBRATION FOR WEIGHT

Step I (Enter into calibration mode)		
Step VI (Single-point Calibration) Note: If to perform three-point calibration, skip this		
step.		
Press $\overset{(\text{TARE})}{\longrightarrow}$ key and the flickering digit will shift to the right; press $\overset{(\text{M-})}{\longrightarrow}$, $\overset{(\text{M-})}{\longrightarrow}$ to adjust the		
value; input the weight value to be calibrated, and put the correct weight onto the weighing pan,		
then press key to save and confirm, once PASS is shown, take away the weight on the		
weighing pan and restart the machine for normal use.		
Step VII (Three-point Calibration)		
Press key for 3 seconds until C-1 is shown at the lower left corner.		
First Point C-1: Press key and the flickering digit will shift to the right; press,		
$\mathbf{M}_{s,NO}$ key to set values; input the weight value to be calibrated, and put the correct weight onto the		
weighing pan, press key to confirm and perform calibration.		
Second Point C-2: Put the weight to be calibrated onto the weighing pan, the weight value will		
be shown automatically on the screen; press key to confirm and perform calibration.		
Third Point C-3: Put the weight to be calibrated onto the weighing pan, the weight value will be		
shown automatically on the screen; press $\underbrace{MR}_{EN/DIS}$ key to confirm and perform calibration. Once		
PASS is shown, take away the weight on the weighing pan and restart the machine for normal		
use.		
FUNC &		
Recalibration: If any error occurs during calibration, press key to return to zero point		
calibration mode and perform calibration according to the calibration procedures.		
Note: The weight value in three-point calibration shall comply with $C-1 < C-2 < C-3$.		
use key to extend the range of stb (it is recommended to adjust one segment each		
time), after confirmation, press \overbrace{TARE}^{TARE} key to save setting and the zero point calibration will		
be performed automatically.		