CONTENTS

1. Introduction	1
2. Precautions	
3. Before Using the Product	1
3-1 Unpacking and Checking	1
3-2 Installing Components	1
3-3 Leveling the Scale	1
4. Product Introduction	2
4-1 Display	2
4-2 Keypad	3
5. Analog Section	4
6. Setting mode	4
7. Dual Channel	
7-1 Diagram of sub channel connector	5
7-2 Installation Process	5
7-3 Setup	6
7-4 Maximum Capacity & Division Setting	6
7-5 Calibration	7
7-6 Set AD gain of remote platform	8
7-7 Switch between Main scale and Remote platform	8
8. Operation	8
8-1 Zero-point	8
8-2Tare & Preset Tare	8
8-2-1Tare	8
8-2-2Preset Tare	9
8-2-3 Auto-tare	9
8-3 Counting method	10
8-3-1Key in a known unit value	10
8-3-2 Sample counting	10
8-3-3 ACAI	11
8-4 Accumulation	11
8-4-1Choose Accumulation Mode	11
8-4-2Set the Max Account of accumulation	11
8-4-3Manual Accumulation	
8-4-4Accumulation display	
8-4-5Print while display of accumulation	13
8-4-6Delete accumulation	13

8-5 Print	13
8-5-1 Set A Print form	13
8-5-2 Set Print mode	14
8-6 Serial number	14
8-6-1Set Serial Number Mode	14
8-6-2Set Max Serial Number	14
8-6-3Change the Current Serial Number	15
8-7 Quantity checking	15
8-7-1Set the high limit of quantity	15
8-7-2Set the low limit of quantity	15
8-7-3Enable / Disable the quantity limit function	15
8-8 Weight checking	16
8-8-1Set the high limit of weight checking	16
8-8-2Set the low limit of weight	16
8-8-3Enable / Disable the weight limit function	16
8-9 Unit weight ID	17
8-9-1Saving ID method 1	17
8-9-2Saving ID method 2	17
8-9-3Call up ID	17
8-10 Label	18
8-11Time Setting	18
8-12 Error message	19
8-13 Problem & Solution	19
9. Option	20
10. Relay Module Diagram	25

1. Introduction

Thank you for deciding to purchase a JCAII counting scale. This goods has the excellent performance and splendid properties under severe quality management. It is recommended to read this manual in full before using it for good function application.

2. Precautions

- O Place the scale on a flat and stable surface. See 3-3 Leveling the Scale for details.
- O Verify that the input voltage and the plug type matches the local AC power supply.
- © Keep the scale away from EM Inoise, strong wind and vibration, which might cause incorrect reading.
- O D is connect the power supply when cleaning the scale.
- O Do not immerse the scale in water or other liquids.
- © Service should be performed by authorized personnelonly.

3. Before Using the Product

3-1 Unpacking and Checking

Open the package and check the instrument for transport damage. Immediately inform your dealer if you have complaints or if parts are missing. The package should contain:

• Sc de body

- User manual
- Stainless steel pan
- Wire (power cord)

3-2 Installing Components

Cover the stainless steel pan on the top housing properly before using the scale.

Important:

Please find the delivery protection screw in the bottom of the scale. Loose it according to the instruction sticker next to it

Before use the scale Loose the screw counter-clockwise to the end

Before move the scale Tighten the screw <u>clockwise</u> to the end

3-3 Leveling the Scale

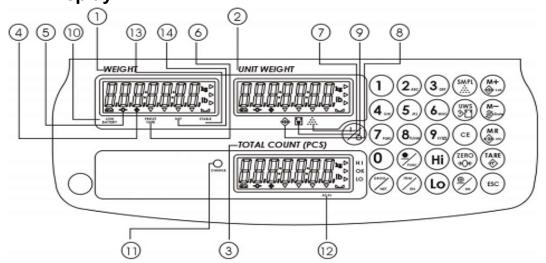
To compensate for small irregularities or inclinations at the location, the scale can be leveled. The scale is equipped with a level indicator at the front panel .Adjust the adjusting feet until the air bubble in the indicator is centered as shown.



Note: The scale should be leveled each time its location is changed.

4. Product Introduction

4-1 Display



- 1) Weight Window: displays weight of object on weighing pan, or accumulated weight value.
- 2) Unit Weight Window: displays the average piece weight value, or number of weighments.
- 3) **Total Count Window:** displays the calculated number of pieces on the weighing pan, or accumulated piece count value.
- 4) Tare or Preset Tare indication.
- 5) Center of Zero Indication, The zeroing range is ±2% of weighing capacity.

PRESET

- 6) TARE Symbol "▼" points at "PRESET TARE" when Tare value entered via numeric keys.
- 7) Under the sample counting mode, Symbol "▼" points at "SMPL" when calculated unit weight is lower than 4/5 of scale division or the quantity of sample is less than 10 pieces.
- 8) ** "Accumulation" function is enabled under weighing mode.
- 9) Under entering a known unit weight mode, Symbol "▼" points at "UW" when entered unit weight is lower than 4/5 of scale division. Unit weight is too small for ensuring accurate quantity calculations.
- 10) Low Battery Indicator: When "+- " appears, the battery power requires recharging.
- 11) CHANGE Charge Lamp

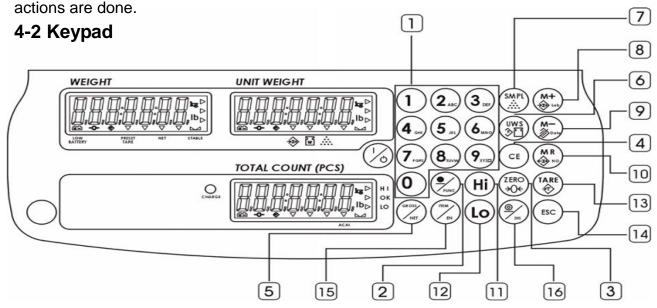
Red--- battery is charging

Green---battery is fully charged

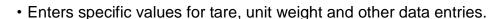
ACAI Symbol "▼" points at "**ACAI**" when Automatic counting accuracy improvement is functioning.

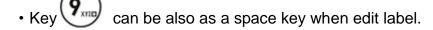
STABLE Stable indication, Symbol " appears at the top of "**STABLE**" when scale is in stable condition.

NET Gross weight minus Tare. Symbol "▼" points at "NET" when manual Tare or preset are











- Decimal point
- Initiates function setting
- Sets the weight to zero.



Clears the indicated input values.



Displays gross and net weight by turns



Inputs unit weight



Enters the sampling mode



- Switches between main scale and remote platform
- Adds the indicated weight or piece count value into Accumulation memory.
- Enters label editing mode
- Steps to next parameter

















- Display year, date, time
- Go back to previous parameter
- Recalls and displays the accumulated data
- Selects/ sets the Hi Value of weight or piece
- change the next content of parameter
- Selects the Lo value of weight or piece
- Changes to previous content of parameter
- Tare

Give up any setting and return to normal weighing

- Call up unit weight ID
- Enable / switch on relay output function under HI/LO setting.
- Print
- Disable/ switch off relay output function under HI/LO setting.

5. Analog Section

Input sensitivity	1~4mV/V
Zero adj. Range	20% FS
A/D conversion rate	10 times per second.
Load cell excitation	5V DC
Number of load cells.	up to 4x350 ohm loadcells
Resolution.	1/30,000

6. Setting mode

1. Under the weighing mode, long press key



for 3 seconds to enter basic parameter setting

mode.











to switch between parameters from P-00 to P-07

- to step through all the available setting options. 3. Press key
- to save the setting and return to weighing mode.

Parameter description

- 1. P-00 Power (default: off) Set the period of inactivity before the scale automatically turns off. Options are Off =non power-off, 10, 20,30,40,50, 60, 70, 80 and 90 (minutes).
- 2. P-01 Backlight (default: auto)

IIII = always off ที่มีเนื้=turn on when the weight is over 20e

3. P-02 Serial number display (default: off)

nrr =never display

4. P-03 Beep sound (default: in)

when check is Hi/Lo (in, all = using scale's buzzer) (E-m, E-alleusing light tower's buzzer) E- m=when check is OK E-allt=when check is Hi/Lo

5. P-04 ACAI (default: off)

Options: off/5/10/15/20/25/30/35/40/45

6. P-05 Printer model (default: normal)

Options: normal / EZ-2P / BP-443D (normal as SH-24 or compatible printer)

7. P-06 Rs-232 Baud Rate (default: 9600)

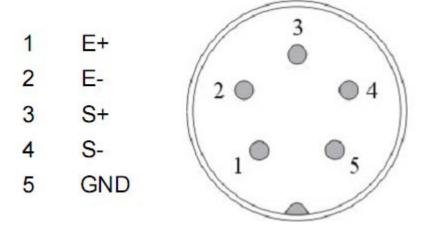
Options: 19200 / 9600 / 4800 / 2400

8. P-07 Data (default: n81)

Options: n81 / o81 / e81 / n71 / o71 / e71

7. Dual Channel

7-1 Diagram of sub channel connector



7-2 Installation Process

- 1. Turn on the main scale
- 2. Connect the remote platform to JCAII main scale

7-3 Setup
1) Under the weighing mode, long press key for 3 seconds to enter basic parameter setting
mode. P-III UNIT WEIGHT TOTAL COUNT (PCS)
2) Long press key to enter advance parameter setting mode.
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS)
3) Press key or to select parameter A-08.
4) Press key (Hi) or (Lo) to step through all the available setting items.
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS)
Docine Using main scale together with the remote platform
Use the remote platform only
บุ๊กเกี ∩=Use the main scale only
5) Press key to save the setting and return to weighing mode.
7-4 Maximum Capacity & Division Setting
1) Press and hold while turning on the scale. Do not release till rim is
displayed in the Total Count window. WEIGHT UNIT WEIGHT TOTAL COUNT (PCS) Count window.
2) Use numeric keys together with to input the new capacity, press key to clears the
indicated input values. WEIGHT UNIT WEIGHT TOTAL COUNT (PCS)
3) Press key (Lo) advance to division setting. Use numeric keys to input the new division.
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS)
4) Press key to advance to Maximum Capacity & Division Setting of the remote platform.
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS) (5.00
5) Repeat step 2-3 to complete the settings.

to save the settings and return to weighing mode. 6) Press key

7-5 Calibration

านั้น= remote platform

יוֹתוּ חַ= main scale

Note:

- Please calibrate the main scale first.
- to switch the calibration for the main scale or remote platform before the zero Press key point calibration.
- You can only do the calibration for the remote platform after you have set the max. capacity and division of the remote platform.

Here take JCAII-6K as an example.

1. Press key and hold while turning on the scale. Do not release is displayed in the Unit Weight window.

UNIT WEIGHT TOTAL COUNT (PCS) บได้ เก

to start the zero point calibration and wait till 2. Press key Weight window. Input the first calibration weight value by the numeric key (6K model, 1/3 of full load is 2kg). And then put the corresponding weights on.



and wait till is displayed in the Unit Weight window. And then put 3... Press key the corresponding weights on.



and wait till is displayed in the Unit Weight window. And then put the 4. Press key corresponding weights on.



and wait till is displayed in the Total Count window. 5. Press key WEIGHT UNIT WEIGHT TOTAL COUNT (PCS) 6. Press key to save the settings and return to weighing mode 7-6 Set AD gain of remote platform for 3 seconds to enter the basic parameter setting. 1. Under normal weighing mode, press for 3 seconds to enter the advanced parameter setting. UNIT WEIGHT TOTAL COUNT (PCS) to select parameter A-07 to select the AD gain. (Options: 1/2/4/8/16/32/64) 4. Press to save and return to normal weighing mode. 5. Press 7-7 Switch between Main scale and Remote platform Press to switch between main scale mode and sub channel mode (remote platform) **Note**: When accumulation is already in one channel, it can't be accumulated in another channel. When Hi/Lo checking is enable in one channel, Hi/Lo setting can't be accessed and enable in another channel. 8. Operation 8-1 Zero-point if you do not see "┡️Û़ " but symbol "▶️◢" appears 8-2 Tare & Preset Tare 8-2-1 Tare 1. Under the weighing mode, place a container weighing (eg. 0.100kg) on the pan. WEIGHT UNIT WEIGHT TOTAL COUNT (PCS)

TARE
2. Press key to complete tare action. The symbol appears with symbol ▼ pointing
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS)
at "NET".
3. Put the load on the container. The display shown is the Net weight. Press key to see the
Gross weight.
4. To clear tare, with an empty pan, press key
8-2-2Preset Tare
1. Input the tare value using the numeric key together with key .
2. Press key TARE symbol appears with a symbol ▼ pointing at "NET" and another
▼ pointing at "PRESET TARE"
3. Put the load on the container. The display shown is the Net weight. Press key
Gross weight.
TARE
5. To clear tare, with an empty pan, press key
8-2-3 Auto-tare
Set the high limit of the tare value
1. Press Hi under normal weighing mode. Effet appears in the Total Count window.
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS) TOTAL COUNT (PCS) (If not, press TARE
2. Use numeric key to input the high limit value. Eq. 0.1kg
2. Use numeric key to input the high limit value. Eg. 0.1kg.
3. Press Hi to save and return.
Set the low limit of the tare value
1. Press under normal weighing mode. EffrE appears in the Total Count window.
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS) TARE LUUUU (If not, press)

WEIGHT UNIT WEIGHT TOTAL COUNT (PCS)
2. Use numeric key to input the low limit value. Eg. 0.1kg.
3. Press to save and return.
Enable/disable the Auto-tare function
1. Under normal weighing mode, presetti or lo . Effr appears in the Total Count window.
(If not press (TARE))
2.If you want to enable auto-tare function, press
If you want to disable auto-tare function, press
8-3 Counting method
8-3-1Key in a known unit value
1. Use numeric key to input the unit weight value(eg.1.2g), then press key
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS)
2. Put the article on the pan, and the scale starts counting
Note: Symbol "▼" points at "UW" when entered unit weight is lower than 4/5 of scale division. Unit
weight is too small for ensuring accurate quantity calculations.
 8-3-2 Sample counting Note: Do tare or zero-point before doing the following steps 1. Put samples onto the weighing pan and input the quantity with the numeric key.
(eg. 0.300kg, 20pcs) Weight Unit Weight Total count (PCS)
2. Press key . The unit weight is calculated
3. Remove the samples and put on the articles, the scale begins to count
Note: Symbol ▼ appears pointing at " " in the Unit Weight window when sample quantity is

less than 10 pieces.

8-3-3 ACAI

Automatic Counting Accuracy Improvement (ACAI) results in a more accurate count by increasing the reference weight without the need to count additional parts. A higher reference weight is important when there is a risk of inconsistent piece weights or if the reference weight is close to the minimum. ACAI uses an initial averaging unit weight to count additional weight that is placed on the scale. After a few seconds, the scale gives a beep as a new higher reference weight is used to recalculate the averaging unit weight. The process can be repeated as long as the additional weight is less than the less than previous reference weight. Once the limit is exceeded ACAI is turned off.

Note:

- If you set the average parameter (P4) to OFF, it means that the scale will do the ACAI in all situations.
- If you set the average parameter to 15, the scale will not work if there is an object shortage or more than \pm 15% of the unit weight.
- Whether it works or not, depends on the object's tolerant of weight.

8-4 Accumulation

Note: Do tare or zero-point before accumulation

8-4-1 Choose Accumulation Mode

1.Press



with no load on the pan.

2.Press (**Hi**)



to choose the accumulation mode

iiRnUR=Manual

5£RbL = Auto-accumulate when ▶ ✓ symbol appears

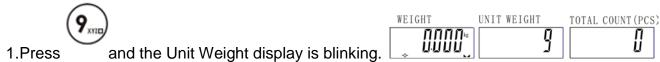
PrEEE = Auto-accumulate when quantity is between HI - LO limits

"E, GH = Auto-accumulate when weight is between HI – LO limits

3.Press (M+) to save and return.

8-4-2 Set the Max Account of accumulation

The max accumulation number is 50. You can change the max accumulation number as following: For example, if you want to change the accumulation number to 9



2. Press (M+) to save and return. And now you can accumulate up to 9 times only.

Note: You can change the max accumulation back to 50 times by repeating the above steps.
It will beep for 3 seconds when accumulate to the max account (eg. Max accumulation=9) and the
weight UNIT WEIGHT TOTAL COUNT (PCS) is blinking is blinking
Under this condition, you have the following options:
• Press , it will print every set and total, in is still blinking. (It is only for normal printer
SH-24. Label printer could not do it.)
Press to return to normal weighing mode, and still keep accumulation.(But if you try to
accumulate another set, it will appear בּוֹלֵים to warm)
Press twice to delete all accumulation,
9.4.2 Manual Accumulation
 8-4-3 Manual Accumulation 1. Put the article on the pan. Press key 3. The symbol "ILL I" is blinking in the Unit Weighting
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS) Window. This is the first accumulation.
2. The symbol ▼ will appear pointing at the " ♣ " after the blinking.
WEIGHT UNIT WEIGHT TOTAL COUNT (PCS)
3. Repeat step 1.
4.Press to return to normal weighing mode.
8-4-4 Accumulation display
1.Press to see the last accumulation value.
2. Press once more to see the total accumulations value.
3. After the above two steps, press again, it will display every accumulation value one by one.

4. Skip 2-3 steps, press any numeric key to see a certain accumulation. For example, if you want to

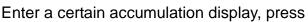
see the 12th accumulation, press key

to return to normal weighing mode.

8-4-5 Print while display of accumulation

Note: Only for SH-24

Print a certain accumulation





Print total accumulation

Enter total accumulation display, press



8-4-6 Delete accumulation

Delete a certain accumulation

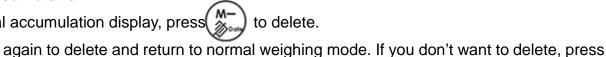
1.Enter a certain accumulation display, press



to return to normal weighing mode.

Delete total accumulation

Enter the total accumulation display, press





to return to normal weighing mode.

8-5 Print

Put the load on the pan and press key



8-5-1 Set A Print form

EZ-2P/BP-443D set 0~99 forms; SH-24 set 0~15 forms





with no load on the pan.







2. Key in the Form Number with numeric key. For example, if you want to choose the 9th form,

press









to complete and return to weighing mode.

8-5-2 Set Print mode

1.Press key with no load on the pan. WEIGHT TOTAL COUNT (PCS) 2.Press key The display shown is to choose the print mode 3. Press key ນທີ່ມູ້ທີ່= Manual Think Print after appears If [Print when quantity is ok(with check function) Print when weight is ok(with check function) โมกเล ี่⊓ี่มื=No action to complete and return to weighing mode. 4. Press kev 8-6 Serial number 8-6-1 Set Serial Number Mode TOTAL COUNT (PCS) WEIGHT 1. Under normal weighing mode, press . It will shown as (If not, press to choose the serial number mode 2.Press iiRnUR=No action 5ERbL= The serial no. plus 1 when ▶ ✓ symbol appear. PrEEE=The serial no. plus 1 when quantity is between HI-LO limits "E, bH=The serial no. plus 1 when weight is between HI-LO limits. 3. Press to save and return. 8-6-2 Set Max Serial Number The max serial number is 9999, but you can change the max serial number as shown below. For example: if you want to change the max serial number to 9, do as the following.

 $oldsymbol{9}_{ ext{ iny mod}}$ and the Unit Weight display is blinking.

1.Press \

TOTAL COUNT (PCS)

2. Press (MR) to save and return.

Note: When the serial number reaches the max, the Unit Weight display will flash and beep for 3 seconds and then return to normal weighing mode.

And because it has reached the max serial number, it will reset to 1 when the serial number do increase 1.

8-6-3 Change the Current Serial Number

For example: if you want to change the serial number to 9, do as the following.

1. Press and the Unit Weight display is blinking.

weight unit weight to save and return.

Note: the serial number is starting from 9.

8-7Quantity checking

8-7-1 Set the high limit of quantity

1.Press Hi under normal weighing mode. The last high limit value of quantity is blinking in the Total Count window while the arrow is pointing at HI. (If not, press (SMPL))



- 2.Use numeric key to input the high limit of quantity you want.
- 3.Press (Hi) to save and return.

8-7-2 Set the low limit of quantity

1.Press Lounder normal weighing mode. The last low limit value of quantity is blinking in the Total Count window while the arrow is pointing at LO. (If not, press (SMPL))

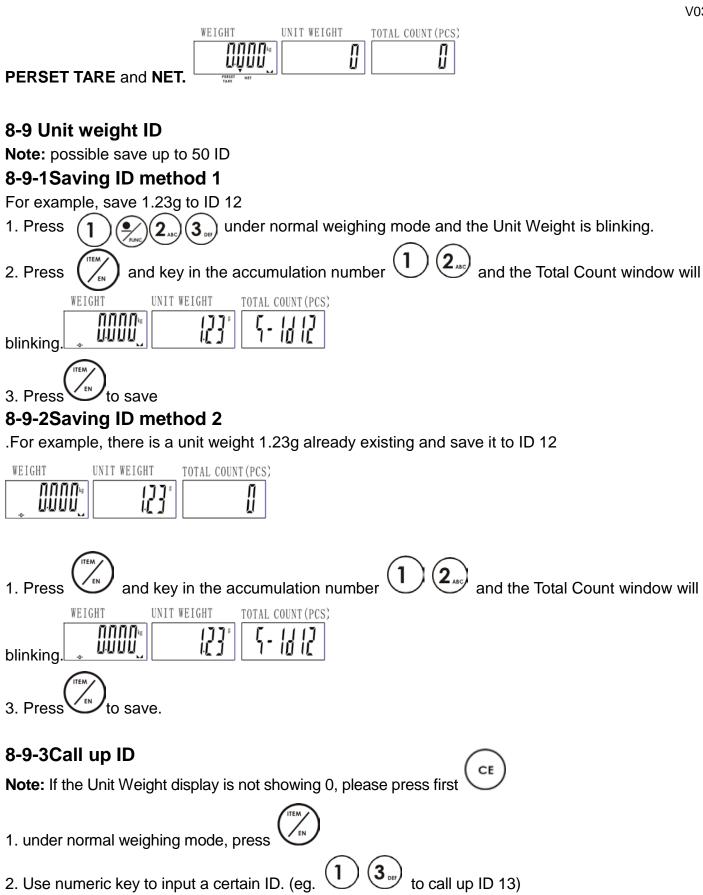


- 2.Use numeric key to input the low limit of quantity you want.
- 3.Press(Lo) to save and return.

8-7-3 Enable / Disable the quantity limit function

1.Under normal weighing mode, press Hi or Lo. The display in the Total Count window is blinking. (If not press (SMPL))

2. If you want to enable the function, press If you want to disable the function, press **Note:** When the **HI & LO** checking function is enabled, there will be an arrow pointing between UNIT WEIGHT TOTAL COUNT (PCS) WEIGHT PERSET TARE and NET. 8-8 Weight checking 8-8-1Set the high limit of weight checking 1.Press under normal weighing mode. The display of the weight is blinking in the Weight window while the arrow is pointing at HI in the Total Count window. (If not, press WEIGHT UNIT WEIGHT TOTAL COUNT (PCS) Ũ [เกทก Eg. 111pieces. 2. Use numeric key to input the high limit of weight you want. 3. Press to save and return. 8-8-2Set the low limit of weight under normal weighing mode. The display of the weight is blinking in the Weight 1. Press(I 👝 window while the arrow is pointing at LO in the Total Count window. (If not, press WEIGHT UNIT WEIGHT TOTAL COUNT (PCS) П Ũ E.g. 111pieces. Use numeric key to input the low limit of weight you want. to save and return. Press 8-8-3Enable / Disable the weight limit function 1. Under normal weighing mode, press The display in the Total Count window is blinking. (If not press/ uws 2. If you want to enable the function, press If you want to disable the function, press Note: When the HI & LO checking function is enabled, there will be an arrow pointing between



WEIGHT

 $\Pi\Pi\Pi\Pi\Pi$

UNIT WEIGHT

TOTAL COUNT (PCS)

3. Press to confirm and the scale is ready for counting. 8-10Label Set your own label WEIGHT UNIT WEIGHT TOTAL COUNT (PCS) **Note:** The label can save up to 32 characters until you see the display as shown 1. Keep pressing & Arrow "▶" pointing at HI means that the first 16 characters can be edited. 2. Keep pressing and releasing (2^{*}) . The display will show (1,0,0,1) in order. Choose (1,0,0,1) for example, or do nothing for a while to edit the next character. Press to move leftwards to move rightwards. and 4. Repeat 2-3 steps to complete the first 16 characters. to complete the next 16 characters. The shown is Press pointing at LO means that the last 16 characters can be edited. WEIGHT UNIT WEIGHT TOTAL COUNT(PCS) 6. Do as steps 2-4 to save and return to normal weighing mode. 8-11Time Setting WEIGHT under normal weighing mode. 2. Press to enter adjusting mode. to move leftwards and to move rightwards. Use numeric key to input the 3. Press adjustment

4. Press

to save and return.

8-12 Error message

E note = EEPROM can not be read

=Zero point is too high

Zero point is too low

E Linstable zero point

=Overload

בעם - בים The last accumulation is more than the preset accumulation allowed.

8-13 Problem & Solution

Printer can not print out

- Make sure the parameter P-05 is set correctly.
- Make sure the parameter P-06 and P-07 match the printer.
- If EZ-2P or BP-443D is being used, they should have download the printer format before.

HI & LO checking do not work

- Make sure the function is enabled.
- The value of LO is greater than HI.

No sound in HI & LO checking function

Make sure the parameter P-03 is set correctly.

Reset the time every time when the scale is turned on

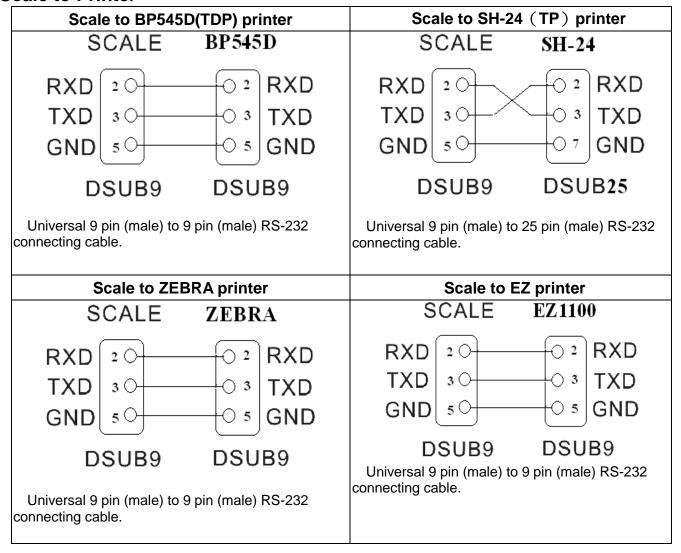
Connect an optional RTC

How to check whether the printer is compatible to the scale

- Under the parameter P-05, select "normal" printer.
- Check the baud rate (P-06) and the data (P-07) is compatible to printer. If not, please change the setting accordingly.
- Under the normal weighing mode, press to print. If the printer is able to print, it means that this printer can replace the SH-24 printer.

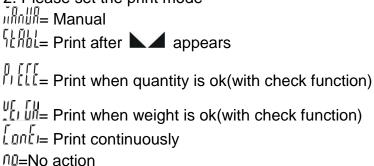
9. Option

Scale to Printer

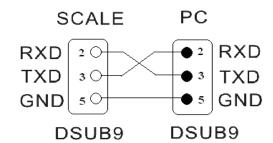


Scale to PC

- 1.. Connect the scale and computer by using the RS232 cable as the following picture.
- 2. Please set the print mode



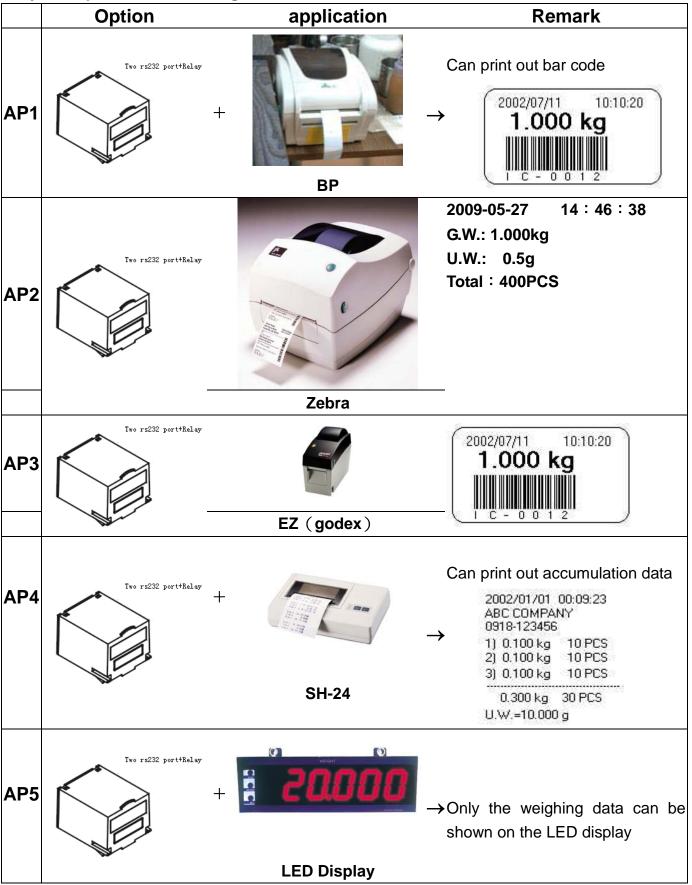
3. Get receiving program ready on your computer.

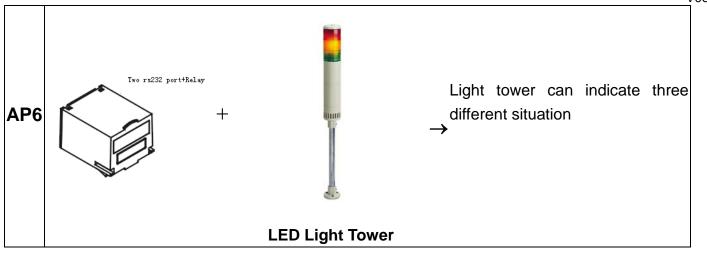


Commonly used 9 female ~9male RS232 connecting cable.

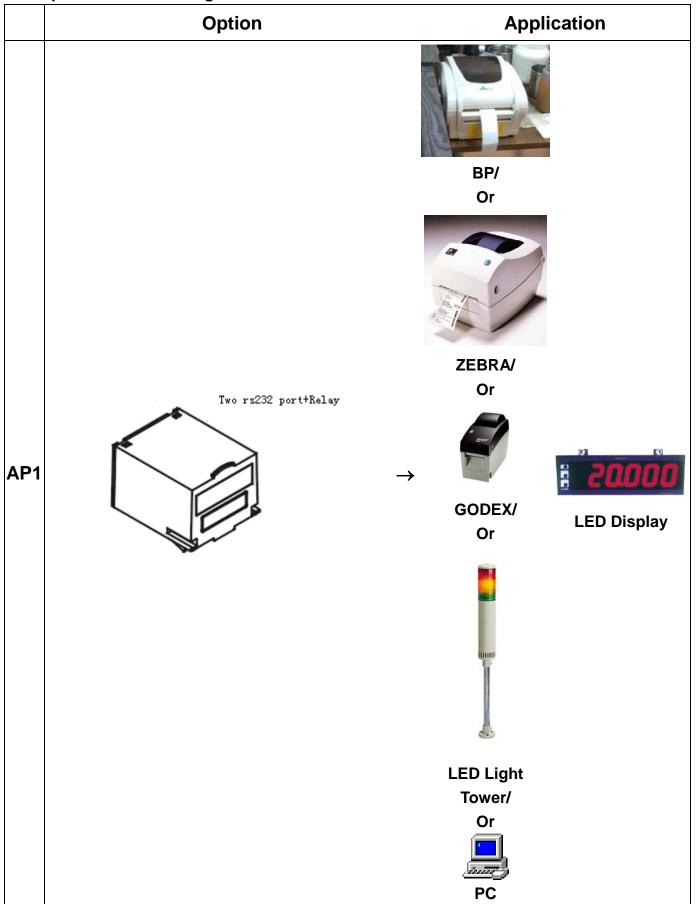
Note: The hollow dots represent male connectors and the black dots represent female connector.

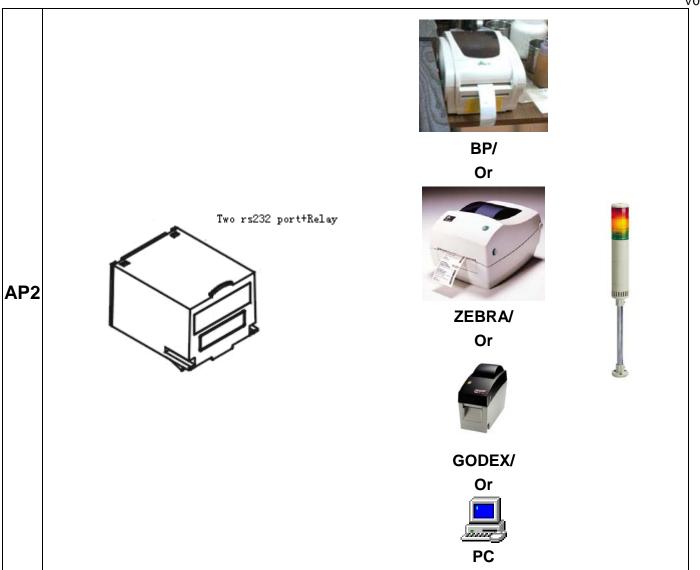
Only one optional device being used

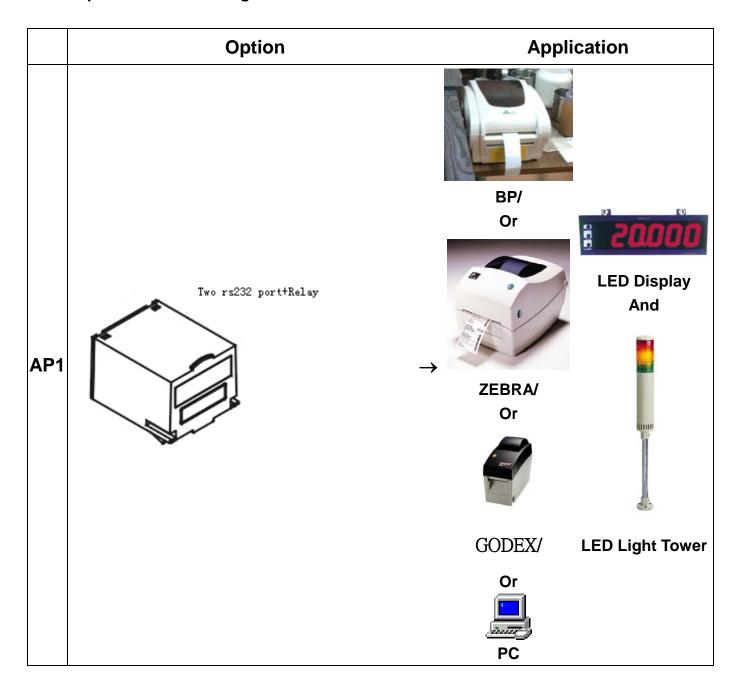




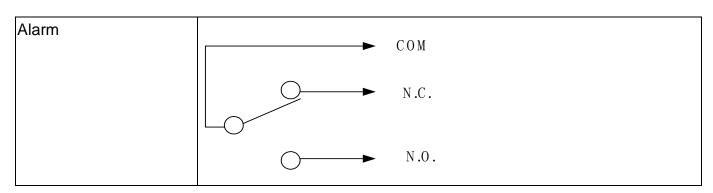
Two optional devices being used

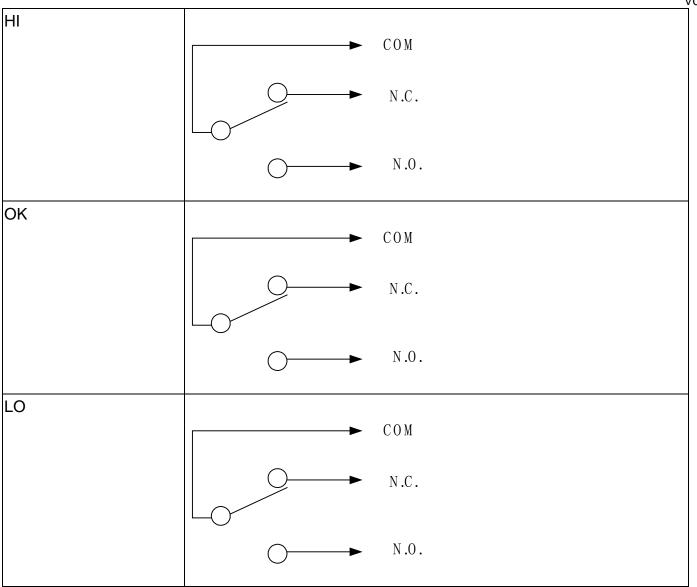






10. Relay Module Diagram RELAY OUTPUT:





RELAY CONTACT SPEC

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