JCAII Series

User Manual

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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

◎ Place the scale on a flat and stable surface. See 3-3 Leveling the Scale for details.

◎ Verify that the input voltage and the plug type matches the local AC power supply.

◎ Warm up the scale for 15 minutes before using it the first time.

◎ Keep the scale away from EMI noise, strong wind and vibration, which might cause incorrect reading.

◎ Avoid sudden temperature changes (suitable operating temperature is between -5℃~ 40℃.)

◎ Disconnect the power supply when cleaning the scale.

◎ Do not immerse the scale in water or other liquids.

◎ Service should be performed by authorized personnel only.

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:

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

3-2 Installing Components

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

Important:

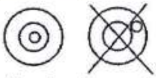
Please find the delivery protection screw in the bottom of the scale. Loose it according to the instruction sticker next to it

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

Before move the scale **Tighten the screw clockwise to the end**

3-3 Leveling the Scale

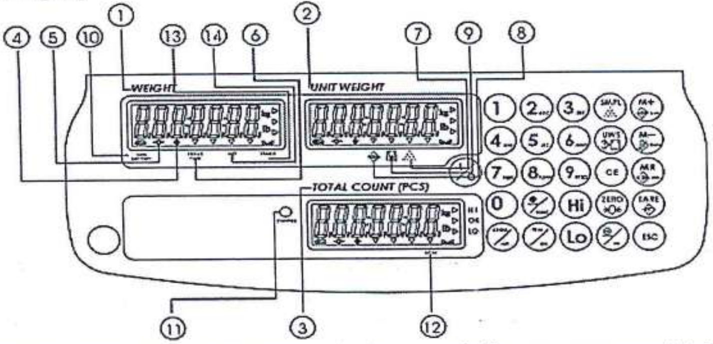
To compensate for small irregularities or inclinations at the location, the scale can be leveled. The scale is equipped with a level indicator at the front panel .Adjust the adjusting feet until the air bubble in the indicator is centered as shown.



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) →T→ Tare or Preset Tare indication.
5) →0← Center of Zero Indication, The zeroing range is ±2% of weighing capacity.
6) PRESET 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) Σ "Accumulation" function is enabled under weighing mode.
9) W 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

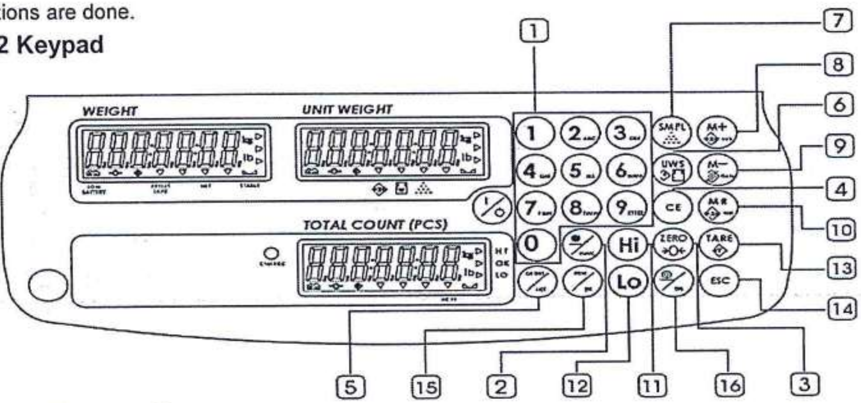
Green---battery is fully charged

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 actions are done.

4-2 Keypad


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
HI
OK
LO
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
SMPL
M+
UWS
M−
CE
MR
ZERO
TARE
ESC
Hi
Lo

0 ~ 9	• Enters specific values for tare, unit weight and other data entries. • Key 9 can be also as a space key when edit label.
FUNC	• Decimal point • Initiates function setting
ZERO →0←	• Sets the weight to zero.
CE	• Clears the indicated input values.
GROSS / NET	• Displays gross and net weight by turns
UWS	• Inputs unit weight and run its counting function
SMPL	• Enters the sampling mode and change its scale choice(scale 1 or 2) • Switches between main scale and remote platform
M+	• Adds the indicated weight or piece count value into Accumulation memory. • Enters label editing mode • Steps to next parameter

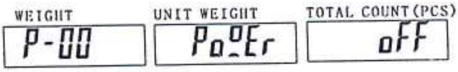
M−	• Deletes accumulation records • Display year, date, time • Go back to previous parameter
MR	• Recalls and displays the accumulated data
Hi	• Selects/ sets the Hi Value of weight or piece • change the next content of parameter • units switch for the pre-tare function
Lo	• Selects the Lo value of weight or piece • Changes to previous content of parameter
TARE	• Tare
ESC	• Give up any setting and return to normal weighing
ITEM / EN	• Call up unit weight ID • Enable / switch on relay output function under HI/LO setting.
DIS	• 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 FUNC for 3 seconds to enter basic parameter setting mode.



2. Press M+ or M− to switch between parameters from P-00 to P-07

3. Press key Hi or Lo to step through all the available setting options.

4. 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)

OFF=always off On=always on AUto=turn on when the weight is over 20e

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

OFF=never display On=will display when price is zero

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

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

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/ BP/SH/ZEBRA (normal as compatible printer)

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

Options: 19200 / 9600 / 4800 / 2400

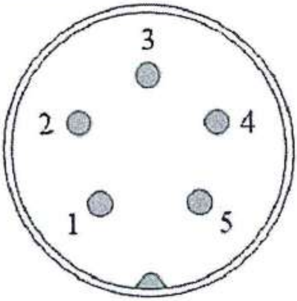
8. P-07 Data (default: n81)

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

7. Dual Channel

7-1 Diagram of sub channel connector

1	E+
2	E-
3	S+
4	S-
5	GND



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 FUNC for 3 seconds to enter basic parameter setting mode.

WEIGHT	UNIT WEIGHT	TOTAL COUNT (PCS)
P-00	PoWEr	oFF

2) Long press key GROSS/NET to enter advance parameter setting mode.

WEIGHT	UNIT WEIGHT	TOTAL COUNT (PCS)
A-00	ZEro	d2

3) Press key M+ or M− to select parameter A-08.

WEIGHT	UNIT WEIGHT	TOTAL COUNT (PCS)
A-08	dUAL	botH

4) Press key Hi or Lo to step through all the available setting items.

WEIGHT	UNIT WEIGHT	TOTAL COUNT (PCS)
A-08	dUAL	SUb

botH= Using main scale together with the remote platform

SUb= Use the remote platform only

mAin=Use the main scale only

5) Press key FUNC to save the setting and return to weighing mode.

7-4 Maximum Capacity & Division Setting & Unit

1) Press and hold GROSS/NET while turning on the scale. Do not release GROSS/NET till r-mAin is displayed in the Total Count window.

WEIGHT	UNIT WEIGHT	TOTAL COUNT (PCS)
6.0000	2	r-mAin

2) Use numeric keys together with FUNC to input the new capacity, press key CE to clears the indicated input values.

WEIGHT	UNIT WEIGHT	TOTAL COUNT (PCS)
3.0000	2	r-mAin

3) Press key Lo advance to division setting. Use numeric keys to input the new division.

WEIGHT	UNIT WEIGHT	TOTAL COUNT (PCS)
3.0000	1	r-mAin

4) Press key SMPL to advance to Maximum Capacity & Division Setting of the remote platform.

WEIGHT	UNIT WEIGHT	TOTAL COUNT (PCS)
15.00	1	r-SUb

5) Repeat step 2-3 to complete the settings.

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

7) Press key UWS to change its unit: kg, lb, g.

7-5 Calibration

SUb= remote platform

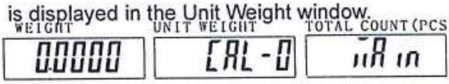
mAin= main scale

Note:

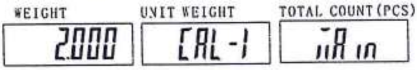
- Please calibrate the main scale first.
- The calibration steps of main scale and remote platform are the same. Press key SMPL to switch the calibration for the main scale or remote platform before the zero point calibration.
- You can only do the calibration for the remote platform after you have set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

Here take JCAII-6K as an example.

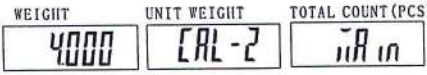
1. Press key M+ and hold while turning on the scale. Do not release M+ till CAL-0 is displayed in the Unit Weight window.


WEIGHT
0.0000
UNIT WEIGHT
CAL-0
TOTAL COUNT (PCS)
mAin

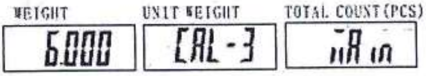
2. With no load on the weighing pan, press key ZERO to start the zero point calibration and wait till CAL-1 is displayed in the Unit Weight window. Input the first calibration weight value by the numeric key (6K model, 1/3 of full load is 2kg). And then put the corresponding weights on.


WEIGHT
2.000
UNIT WEIGHT
CAL-1
TOTAL COUNT (PCS)
mAin

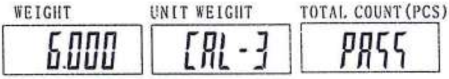
3... Press key ZERO and wait till CAL-2 is displayed in the Unit Weight window. And then put the corresponding weights on.


WEIGHT
4.000
UNIT WEIGHT
CAL-2
TOTAL COUNT (PCS)
mAin

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


WEIGHT
6.000
UNIT WEIGHT
CAL-3
TOTAL COUNT(PCS)
mAin

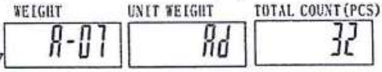
5. Press key ZERO →0← and wait till PASS is displayed in the Total Count window.


WEIGHT
6.000
UNIT WEIGHT
CAL-3
TOTAL COUNT(PCS)
PASS

6. Press key ZERO →0← to save the settings and return to weighing mode

7-6 Set AD gain of remote platform

1. Under normal weighing mode, press FUNC for 3 seconds to enter the basic parameter setting.
2. Press GROSS/NET for 3 seconds to enter the advanced parameter setting.
3. Press key M+ or M− to select parameter A-07


WEIGHT
A-07
UNIT WEIGHT
Ad
TOTAL COUNT(PCS)
32

4. Press Hi or Lo to select the AD gain. (Options: 1/2/4/8/16/32/64)
5. Press FUNC to save and return to normal weighing mode.

7-7 Switch between Main scale and Remote platform

1. Press SMPL to switch between main scale mode and sub channel mode (remote platform)
2. The SSSSS flashed in the Weight Window.
3. When SSSSS flashing disappear, means that you are in the sub channel mode (remote platform). Now the remote platform could be used
4. To change back to the main scale mode just press SMPL and ----- will flash in the Weight Window.
5. When ----- flashing disappear, means that the scale have returned back to main scale mode.

8. Operation

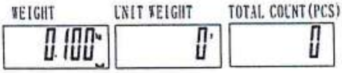
8-1 Zero-point

Press ZERO →0← if you do not see "→0←" but symbol "◣◢" appears

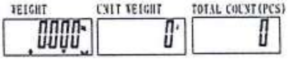
8-2 Tare & Preset Tare

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)
0.100
0
0

2. Press key (TARE) to complete tare action. The →T> symbol appears with symbol ▼ pointing at "**NET**".


WEIGHT
UNIT WEIGHT
TOTAL COUNT(PCS)
0000
0
0

3. Put the load on the container. The display shown is the Net weight. Press key (GROSS/NET) to see the gross weight.

4. To clear tare, with an empty pan, press key (TARE)

8-2-2Preset Tare

1. Input the tare value using the numeric key together with key (FUNC), and press (Hi) to switch units(g / kg). (scale will beep if the tare value is larger than full capacity.)

2. Press key (TARE). The →T> symbol appears with a symbol ▼ pointing at "**NET**" and another ▼ pointing at "**PRESET TARE**"

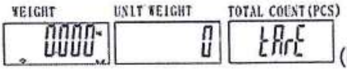
3. Put the load on the container. The display shown is the Net weight. Press key (GROSS/NET) to see the gross weight.

4. To clear tare, with an empty pan, press key (TARE)

8-2-3 Auto-tare

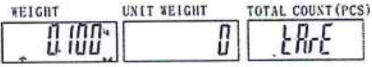
Set the high limit of the tare value

1. Press (Hi) under normal weighing mode. tArE appears in the Total Count window.


WEIGHT
UNIT WEIGHT
TOTAL COUNT(PCS)
0000
0
tArE

(If not, press (TARE))

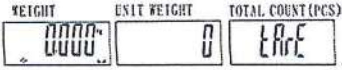
2. Use numeric key to input the high limit value. Eg. 0.1kg.


WEIGHT
UNIT WEIGHT
TOTAL COUNT(PCS)
0.100
0
tArE

3. Press (Hi) to save and return.

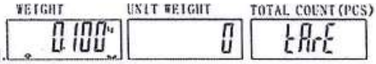
Set the low limit of the tare value

1. Press (Lo) under normal weighing mode. tArE appears in the Total Count window.


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
0
tArE

. (If not, press TARE)

2. Use numeric key to input the low limit value. Eg. 0.1kg.


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0.100
0
tArE

3. Press (Lo) to save and return.

Enable/disable the Auto-tare function

1. Under normal weighing mode, press (Hi) or (Lo). tArE appears in the Total Count window.

(If not press TARE)

2. If you want to enable auto-tare function, press ITEM/EN

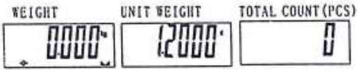
If you want to disable auto-tare function, press DIS

Note: the unit of normal weighing and tare setting are same.

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 UWS


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
1.2000
0

2. Put the article on the pan, and the scale starts counting

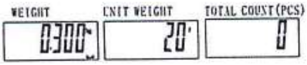
Note: Symbol "▼" points at "UW" when entered unit weight is lower than 4/5 of scale division. Unit weight is too small for ensuring accurate quantity calculations.

8-3-2 Sample counting

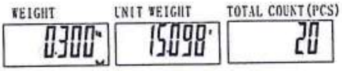
Note: Do tare or zero-point before doing the following steps

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)
0.300
20
0

2. Press key SMPL . The unit weight is calculated


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0.300
15.098
20

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 ±15% of the unit weight.
- Whether it works or not, depends on the object's tolerant of weight.

8-3-4 Simple Recipe Function

1. Hold the (FUNC) for 3 seconds under the normal weighing mode, then press (GROSS/NET) to set the advance parameter. Press key (M+) or (M−) to select parameter A-10, and press (Hi) or (Lo) to activate or disable this function.
2. Press (FUNC) to save the setting and return to normal weighing mode.
3. Activate the simple recipe function, and press (M+) after put the item on the weighing pan, then the scale will tare automatically when keeping the item. Repeat the same operation until get all material needed for a recipe.
4. Press MR to check all accumulation items.
5. Clear the weighing pan and press TARE to continue a second recipe weighing.

8-4 Accumulation

8-4-1 Choose Accumulation Mode

1. Press (M+) with no load on the pan.
2. Press (Hi) or (LO) to choose the accumulation mode

MAnUA=Manual

StAbL= Auto-accumulate when ◣◢ symbol appears

PiECE= Auto-accumulate when quantity is between HI – LO limits

WEiGH= Auto-accumulate when weight is between HI – LO limits

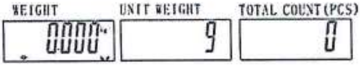
3. Press (M+) to save and return.

8-4-2 Set the Max Account of accumulation

The max accumulation number is 99. You can change the max accumulation number as following:

For example, if you want to change the accumulation number to 9

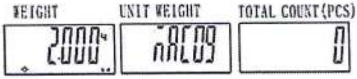
1. Press (9) and the Unit Weight display is blinking.



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 99 times by repeating the above steps.

It will beep for 3 seconds when accumulate to the max account (eg. Max accumulation=9) and the MAC-09 is blinking

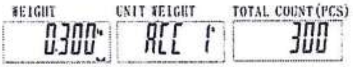


Under this condition, you have the following options:

- Press (%), it will print every set and total, MAC-09 is still blinking. (It is only for normal printer SH-24. Label printer could not do it.)
- Press (ESC) to return to normal weighing mode, and still keep accumulation.(But if you try to accumulate another set, it will appear MAC-09 to warm)
- Press (M–) twice to delete all accumulation,

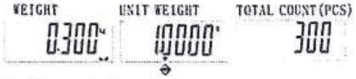
8-4-3 Manual Accumulation

1. Put the article on the pan. Press key (M+). The symbol "ACC 1" is blinking in the Unit



Weighting window. This is the first accumulation.

2. The symbol ▼ will appear pointing at the " Σ " after the blinking.



3. Repeat step 1.

4.Press ESC to return to normal weighing mode.

8-4-4 Accumulation display

1. Press MR to see the last accumulation value.

2. Press MR once more to see the total accumulations value.

3. After the above two steps, press MR again, it will display every accumulation value one by one.

4. Skip 2-3 steps and press any numeric key to see a certain accumulation. For example, if you want to see the 12th accumulation, press key 1 2.

5. Press ESC to return to normal weighing mode.

8-4-5 Print while display of accumulation

Note: Only for SH-24

Print a certain accumulation

Enter a certain accumulation display, press ◎/DIS

Print total accumulation

Enter total accumulation display, press ◎/DIS
Weight on the scale will print out every set and total
No weight on the scale will just print out the total

8-4-6 Delete accumulation

Delete a certain accumulation

1. Enter a certain accumulation display, press M– to delete.

2. Press ESC to return to normal weighing mode.

Delete total accumulation

1. Enter the total accumulation display, press M− to delete.

2. Press M− again to delete and return to normal weighing mode. If you don't want to delete, press ESC to return to normal weighing mode.

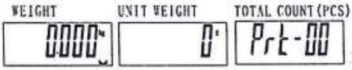
8-5 Print

Put the load on the pan and press key DIS to print. (Note: the weight should be more than 20e)

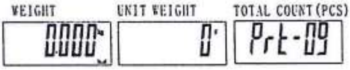
8-5-1 Set a Print form

EZ/BP/GP set 0~99 forms (The printer should be initialized first); SH-24 set 0~15 forms

1. Press key DIS with no load on the pan.

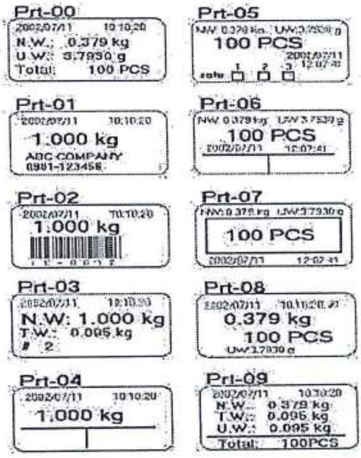

WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
0
Prt-00

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


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
0
Prt-09

3. Press key DIS to complete and return to weighing mode.

Samples of BP/ EZ /GP Print Forms (Preset 10 forms, at most 100 forms)


Prt-00
2002/07/11 10:10:20
N.W.: 0.379 kg
U.W.: 3.7930 g
Total: 100 PCS
Prt-01
2002/07/11 10:10:20
1.000 kg
ABC COMPANY
0981-123456
Prt-02
2002/07/11 10:10:20
1.000 kg
Prt-03
2002/07/11 10:10:20
N.W: 1.000 kg
T.W.: 0.095 kg
# 2
Prt-04
2002/07/11 10:10:20
1.000 kg
Prt-05
100 PCS
2002/07/11
1 2 3
Prt-06
100 PCS
Prt-07
100 PCS
Prt-08
0.379 kg
100 PCS
Prt-09
2002/07/11 10:10:20
N.W.: 0.379 kg
T.W.: 0.095 kg
U.W.: 0.095 kg
Total: 100PCS

Note：

(1) Please contact your supplier/-dealer for additional EZ /BP/GP print forms.

(2) The print forms are installed into the printers through PC. Please email us and we will make the requested print form for you. (Note: for Prt-02, we suggest to use large label with the width of 100mm as the bar code is longer.)

Samples of SH-24 Print Forms

```
Prt-00  0.379kg 3.7930g 100PCS

Prt-01  2002/01/01 00:09:23
        0.379kg 3.7930g 100PCS

Prt-02  ABC COMPANY
        0918-123456
        0.379kg 3.7930g 100PCS

Prt-03  2002/01/01 00:09:23
        ABC COMPANY
        0918-123456
        0.379kg 3.7930g 100PCS

Prt-04  #1
        0.379kg 3.7930g 100PCS

Prt-05  2002/01/01 00:09:23
        #1
        0.379kg 3.7930g 100PCS

Prt-06  ABC COMPANY
        0918-123456
        #1
        0.379kg 3.7930g 100PCS

Prt-07  2002/01/01 00:09:23
        ABC COMPANY
        0918-123456
        #1
        0.379kg 3.7930g 100PCS
```

When ALL03 appear under display of accumulation, press .the printout will be as following.

```
2002/01/01
00:09:23
ABC COMPANY
0918-123456
1) 0.100 kg   10 PCS
2) 0.100 kg   10 PCS
3) 0.100 kg   10 PCS
-------------------------
  0.300 kg   30 PCS
U.W.=10.000 g
```

Prt08-15 print forms with unit weight

```
Prt-08  N.W:  0.379 kg
        U.W:  3.7930 g
        TOTAL:  100 PCS

Prt-09  2002/01/01
        00:09:23
        N.W:  0.379 kg
        U.W:  3.7930 g
        TOTAL:  100 PCS

Prt-10  ABC COMPANY
        0918-123456

        N.W:  0.379 kg
        U.W:  3.7930 g
        TOTAL:  100 PCS

Prt-11  2002/01/01
        00:09:23
        ABC COMPANY
        0918-123456
        N.W:  0.379 kg
        U.W:  3.7930 g
        TOTAL:  100 PCS

Prt-12  #1
        N.W   0.379 kg
        U.W:  3.7930 g
        TOTAL:  100 PCS

Prt-13  2002/01/01
        00:09:23
        #1
        N.W;  0.379 kg
        U.W:  3.7930 g
        TOTAL:  100 PCS

Prt-14  ABC COMPANY
        0918-123456
        #1
        N.W   0.379 kg
        U.W:  3.7930 g
        TOTAL:  100 PCS

Prt-15  2002/01/01
        00:09:23
        ABC COMPANY
        0918-123456
        #1
        N.W   0.379 kg
        U.W:  3.7930 g
        TOTAL:  100 PCS
```

Prt08-15 print forms with tare weight

```
Prt-08  N.W:  0.379 kg
        T.W:  0.100 kg
        G.W:  0.479 kg

Prt-09  2002/01/01
        00:09:23
        N.W:  0.379 kg
        T.W:  0.100 kg
        G.W:  0.479 kg

Prt-10  ABC COMPANY
        0918-123456

        N.W:  0.379 kg
        T.W:  0.100 kg
        G.W:  0.479 kg

Prt-11  2002/01/01
        00:09:23
        ABC COMPANY
        0918-123456
        N.W:  0.379 kg
        T.W:  0.100 kg
        G.W:  0.479 kg

Prt-12  #1
        N.W:  0.379 kg
        T.W:  0.100 kg
        G.W:  0.479 kg

Prt-13  2002/01/01
        00.09:23
        #1
        N.W:  0.379 kg
        T.W:  0.100 kg
        G.W:  0.479 kg

Prt-14  ABC COMPANY
        0918-123456
        #1
        N.W:  0.379 kg
        T.W:  0.100 kg
        G.W:  0.479 kg

Prt-15  2002/01/01
        00:09:23
        ABC COMPANY
        0918-123456
        #1
        N.W:  0.379 kg
        T.W:  0.100 kg
        G.W:  0.479 kg
```

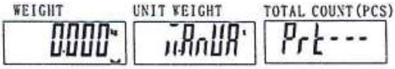
Note: (1)If you wish the SH-24 should be able to print date & time, the scale needs an optional module RS-232+RTC.

(2)If you have a printer that you think is compatible with the SH-24, then just connects the scale and the printer and remember to choose print model norMAL (even it is not the SH-24). Please choose own of the print formats from Prt-00 to Prt-15 and if the print appears correct, means that the printer is compatible with the SH-24.

8-5-2 Set Print mode

1.Press key DIS with no load on the pan.

2.Press key FUNC. The display shown is



3. Press key Hi or Lo to choose the print mode

MAnUA= Manual
StAbL= Print after ◣◢ appears

A.CCC= Print when quantity is ok (with check function)

WEI.GH= Print when weight is ok (with check function)
ContI= Print continuously
no=No action

4. Press key DIS to complete and return to weighing mode.

8-5-3 Select the Printer Model

1. Under normal weighing mode keep pressing FUNC for about three seconds to enter parameter setting.

2. Press M+ or M− to switch between the parameters and select P-05

3. Press Hi or Lo to choose printer model

bP= BP printer output (Automatic-sticking), paper size: 5cm*3cm

ZEbrA= ZEBRA printer output (Automatic-sticking), paper size: 5cm*3cm
SH= SH-24 printer output (dot-matrix)
EZ= EZ printer output (Automatic-sticking), paper size: 5cm*3cm

norMAL= Normal compatible printer

Et = LED display

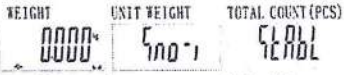
GP = Adhesive sticker label

8-6 Serial number

8-6-1 Set Serial Number Mode

Note: The weight should be less than 20e and there is no accumulation data.

1. Under normal weighing mode, press (MR). It will show as



(If not, press (FUNC)). Scale would appear the accumulation data, if there is acc record. Delete the acc data firstly, then set the serial number function.

2. Press (Hi) or (Lo) to choose the serial number mode

mAnUA=No action

SErbL= The serial no. plus 1 when ◣◢ symbol appear.

PiECE=The serial no. plus 1 when quantity is between HI-LO limits

WEiGH=The serial no. plus 1 when weight is between HI-LO limits.

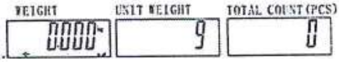
3. Press (MR) to save and return.

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.

1. Press (9) and the Unit Weight display is blinking.



2. Press (MR) to save and return.

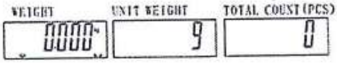
Note: When the serial number reaches the max, the Unit Weight display will flash mASno and beep for 3 seconds and then return to normal weighing mode.

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 (9) and the Unit Weight display is blinking.



2. Press (GROSS/NET) to save and return.

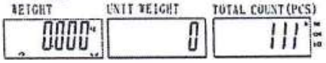
Note: the serial number is starting from 9.

8-7Quantity check

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 the value in Total Count window is not blinking , press (SMPL))

Eg. 111pieces.

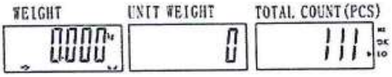

WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
0
111
HI
OK
LO

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 (Lo) under 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 the value in Total Count window is not blinking, press (SMPL))

Eg. 111pieces.


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
0
111
HI
OK
LO

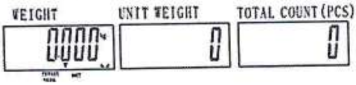
2. Use numeric key to input the low limit of quantity you want.
3. Press (Lo) to save and return.

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

1. Under normal weighing mode, press (Hi) or (Lo). The display in the Total Count window is blinking. (If the value in Total Count window is not blinking press (SMPL))
2. If you want to enable the function, press (ITEM/EN)

   If you want to disable the function, press (DIS)

Note: When the **HI & LO** checking function is enabled, there will be an arrow pointing between **PERSET TARE** and **NET.**


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
0
0
PRESET TARE
NET

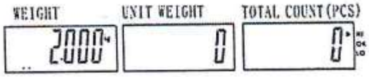
8-8 Weight check

8-8-1Set the high limit of weight

1. Press (Hi) 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 the value in Weight window is not blinking, press UWS)

Eg. 2kg.

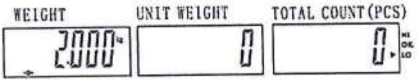

WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
2000
0
0
HI
OK
LO

2. Use numeric key to input the high limit of weight you want.
3. Press Hi to save and return.

8-8-2Set the low limit of weight

1. Press Lo under normal weighing mode. The display of the weight is blinking in the Weight window while the arrow is pointing at **LO** in the Total Count window. (If the value in Weight window is not blinking, press UWS)

E.g. 2kg.


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
2000
0
0
HI
OK
LO

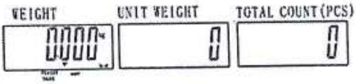
2. Use numeric key to input the low limit of weight you want.
3. Press Lo to save and return.

8-8-3Enable / Disable the weight check function

1. Under normal weighing mode, press Hi or Lo. The display in the Weight window is blinking. (If the value in Weight window is not blinking, press UWS)
2. If you want to enable the function, press ITEM/EN

   If you want to disable the function, press DIS

Note: When the **HI & LO** checking function is enabled, there will be an arrow pointing between **PERSET TARE** and **NET.**


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
0
0

8-9 Unit weight ID

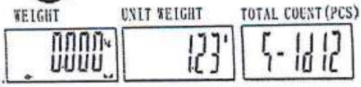
Note: possible save up to 50 ID

8-9-1Saving ID method 1

For example, save 1.23g to ID 12

1. Press 1 • 2 3 under normal weighing mode and the Unit Weight is blinking.

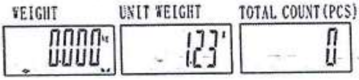
2. Press (ITEM/EN) and key in the accumulation number ① ②. The Total Count window will blinking.


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
123
S-Id12

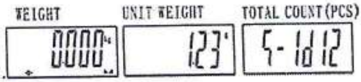
3. Press (ITEM/EN) to save

8-9-2Saving ID method 2

.For example, there is a unit weight 1.23g already existing and save it to ID 12


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
123
0

1. Press (ITEM/EN) and key in the accumulation number ① ② and the Total Count window will blinking.


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
123
S-Id12

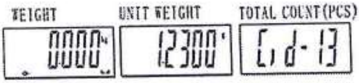
3. Press (ITEM/EN) to save.

8-9-3Call up ID

Note: If the Unit Weight display is not showing 0, please press first (CE)

1. under normal weighing mode, press (ITEM/EN)

2. Use numeric key to input a certain ID. (e.g. ① ③ to call up ID 13)


WEIGHT
UNIT WEIGHT
TOTAL COUNT (PCS)
0000
12300
Cid-13

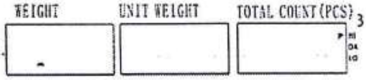
3. Press (ITEM/EN) to confirm and the scale is ready for counting.

8-10Label

Set your own label

Note: The label can save up to 32 characters

1. Keep pressing M+ until you see the display as shown.



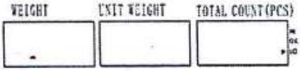
Arrow "▶" pointing at **HI** means that the first 16 characters can be edited.

2. Keep pressing and releasing 2. The display will show 2, A, b, C in order. Choose A for example.

3. Press Lo or do nothing for a while to edit the next character. Press Hi to move leftwards and Lo to move rightwards. Press CE to clear.

4. Repeat 2-3 steps to complete the first 16 characters.

5. Press Lo to complete the next 16 characters. The shown is



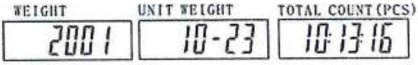
Arrow "▶" pointing at **LO** means that the last 16 characters can be edited.

6. Do as steps 2-4

7. Press M+ to save and return to normal weighing mode.

8-11Time Setting

1. Press and hold M- under normal weighing mode.



2. Press FUNC to enter adjusting mode.

3. Press Hi to move leftwards and Lo to move rightwards. Use numeric key to input the adjustment.

4. Press M- to save and return.

8-12 Error message

Error Message	Reasons	Solutions
E noEE	The CPU unable to read the EEPROM	Return to the Manufacturer
E CALF	Unable to read the 3 points calibration range	Do the 3 points calibration
ZHi	Zero Point is too high	Make sure the pan is empty when turn on the scale or perform the 3 points calibration.

ZLo	Zero Points is too low	Make sure the pan is on the scale or perform the 3 points calibration.
E UnSt	Unstable Zero Point	(1)Make sure there is no winds or vibration. (2)Change the stability /vibration parameter accordingly.
CLK-b	Battery for RTC is too weak	Replace a new battery or press ESC to abort.
- - - - -	Overload (The weights on the pan is more than +9e of the max. capacity)	Take away the overloaded objects.
ouEr	The value in the Total Weight window or Total Count Window exceeds the display range	(1)Press M- key twice to clear the all the accumulation or press ESC key to return to normal weighing mode . (2)Change another bigger unit weight
ou- 15	The last accumulation is more than the preset accumulation allowed .	Press M- key twice to clear the all the accumulation or press ESC key to return to normal weighing mode .

8-13 Problem & Solution

Printer cannot 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 or BP 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

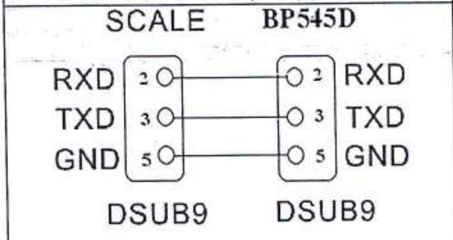
How to check whether the printer is compatible to the scale

- 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

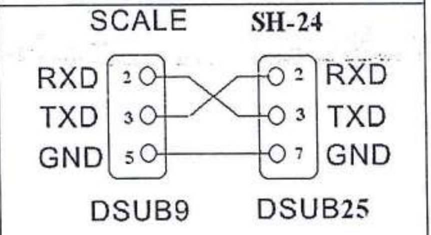
Scale to Printer

Scale to BP545D(TDP) printer


SCALE
BP545D
RXD
TXD
GND
2
3
5
2
3
5
RXD
TXD
GND
DSUB9
DSUB9

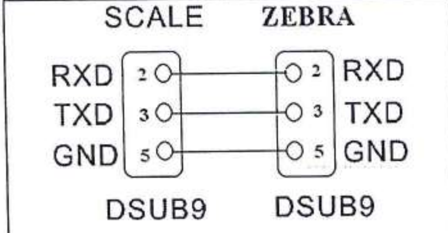
Universal 9 pin (male) to 9 pin (male) RS-232 connecting cable.

Scale to SH-24 (TP) printer


SCALE
SH-24
RXD
TXD
GND
2
3
5
2
3
7
RXD
TXD
GND
DSUB9
DSUB25

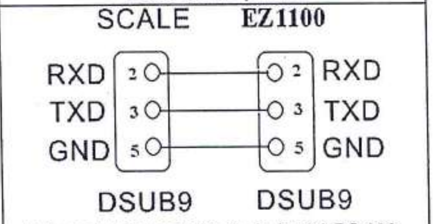
Universal 9 pin (male) to 25 pin (male) RS-232 connecting cable.

Scale to ZEBRA printer


SCALE
ZEBRA
RXD
TXD
GND
2
3
5
2
3
5
RXD
TXD
GND
DSUB9
DSUB9

Universal 9 pin (male) to 9 pin (male) RS-232 connecting cable.

Scale to EZ printer


SCALE
EZ1100
RXD
TXD
GND
2
3
5
2
3
5
RXD
TXD
GND
DSUB9
DSUB9

Universal 9 pin (male) to 9 pin (male) RS-232 connecting cable.

Scale to PC

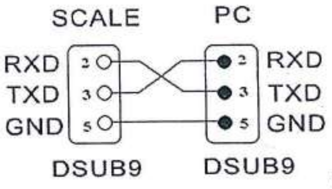
1. Connect the scale and computer by using the RS232 cable as the following picture.
2. Please set the print mode

MANUA= Manual

STABL= Print after ◣◢ appears

P.CEC= Print when quantity is ok(with check function)

WE.CH= Print when weight is ok(with check function)


SCALE
PC
RXD
TXD
GND
2
3
5
2
3
5
RXD
TXD
GND
DSUB9
DSUB9

Conti= Print continuously

no=No action

3. Get receiving program ready on your computer.

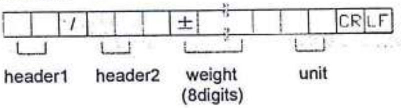
Commonly used 9 female ~9male RS232 connecting cable. The pin2 and pin3 should be exchanged.

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

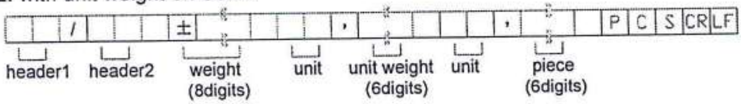
Data Protocol

- **Output Data When Print Mode Set As Continue**

Case1: No unit weight on Scale


/
±
CR
LF
header1
header2
weight
(8digits)
unit

Case2: with unit weight on Scale


/
±
,
,
P
C
S
CR
LF
header1
header2
weight
(8digits)
unit
unit weight
(6digits)
unit
piece
(6digits)

(header1: ST=STABLE US=UNSTABLE) (header2: NT=NET GS=GROSS)

examples for Case1:

ST /NT□+□12.350□kg

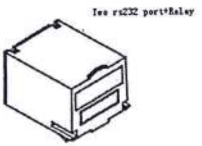
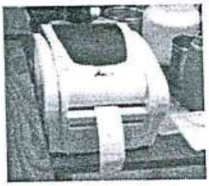
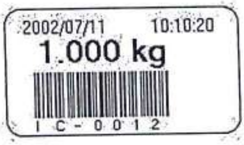
US/GS□+□30.000□lb

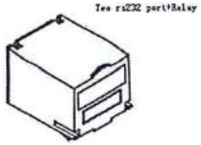
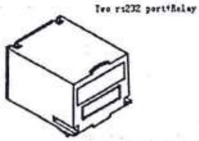
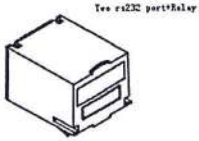
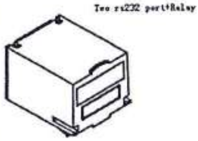
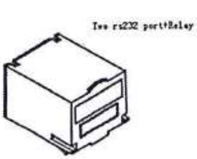
examples for Case2:

ST /NT□+□10.000□kg,1.0000□□g, □10000□PCS

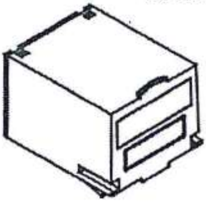
US/GS□+□30.000□l b,0.0010□ l b, □30000□PCS

Only one optional device being used

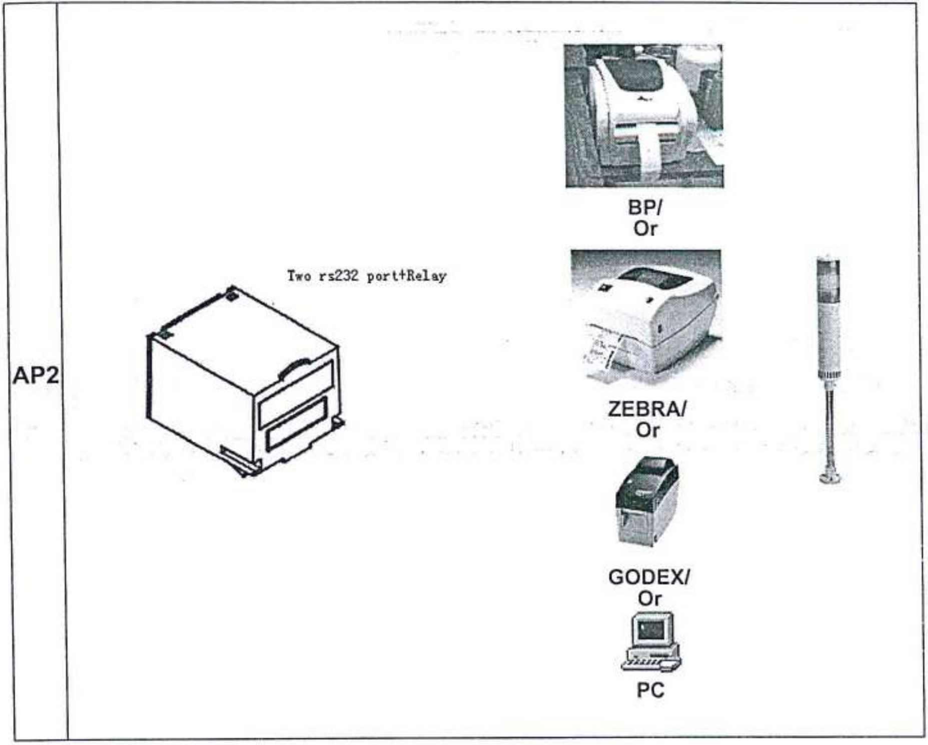
	Option	application	Remark
AP1	 Two rs232 port+Relay +	 BP →	Can print out bar code  2002/07/11 10:10:20 1.000 kg I C - 0 0 1 2

AP2	 Two rs232 port+Relay		 **Zebra**	**2009-05-27 14 : 46 : 38** **G.W.: 1.000kg** **U.W.: 0.5g** **Total : 400PCS**
AP3	 Two rs232 port+Relay		 **EZ (godex)**	2002/07/11 10:10:20 1.000 kg I C - 0 0 1 2
AP4	 Two rs232 port+Relay	+	 **SH-24**	→ Can print out accumulation data 2002/01/01 00:09:23 ABC COMPANY 0918-123456 1) 0.100 kg 10 PCS 2) 0.100 kg 10 PCS 3) 0.100 kg 10 PCS 0.300 kg 30 PCS U.W.=10.000 g
AP5	 Two rs232 port+Relay	+	 **LED Display**	→Only the weighing data can be shown on the LED display
AP6	 Two rs232 port+Relay	+	 **LED Light Tower**	→ Light tower can indicate three different situation

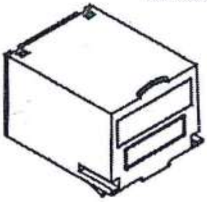
Two optional devices being used

	Option	Application
AP1	Two rs232 port+Relay 	→ BP/ Or ZEBRA/ Or GODEX/ Or LED Display LED Light Tower/ Or PC

V03

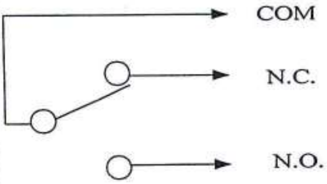

AP2
Two rs232 port+Relay
BP/
Or
ZEBRA/
Or
GODEX/
Or
PC

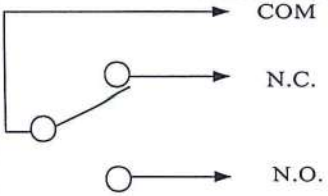
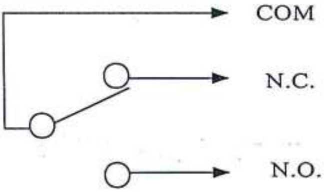
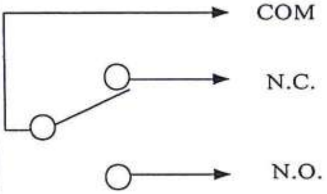
Three optional devices being used

	Option	Application
AP1	Two rs232 port+Relay  →	 BP/ Or ZEBRA/ Or GODEX/ Or PC LED Display And LED Light Tower

10. Relay Module Diagram

RELAY OUTPUT：

Alarm	

HI	
OK	
LO	

RELAY CONTACT SPEC

1A/24VDC，0.5A/125VAC，0.25A/250VDC