JWI-3000W Series / IDS933

Weighing Indicator

User Manual

Content

1. Introduction

This manual contains installation and operation instructions for the JWI-3000W weighing indicator. Please read the manual completely before installation and operation.

2. Precautions

- Place the indicator on a flat and stable surface.
- Verify that the input voltage and the plug type matches the local AC power supply, see 3-4.
- Warm up the scale for 15 minutes before using it for the first time.
- Keep the indicator away from EMI noise, strong wind and vibration, which might cause incorrect reading.
- Avoid sudden temperature changes (suitable operating temperature is between 0℃~ 40℃.)
- Disconnect the power supply when cleaning the indicator.
- Do not immerse the indicator in water or other liquids.
- Service should be performed by authorized personnel only.

3. Product Introduction
3-1 Specifications & Features
Specifications

| Model	JWI-3000W
Input sensitivity	0.13uV/DIV
Input voltage range	-0.5mV to 16.5mV
Load cell excitation	Up to 4 ×350 ohm load cells
System linearity	0.003% of full capacity
Input impedance	10M ohm or more
A/D conversion mode	$\triangle$-Σ
A/D internal resolution	700,000 count
A/D conversion speed	8 times/second
External display resolution	15,000 count
Display	6 digits
Power supply	AC 110V/220V (AC±10%) or Rechargeable battery (6V/4A)

Features

- Backlit LCD display with prominent 29mm high digits
- Gross or net weight switchable
- Low battery /Charging indication
- Adjustable stand for bench scale

© Manual tare, pre-tare, simple counting, HOLD, Check weighing and accumulation

© Adjustable filtering level for weighing under various conditions

© Rechargeable battery or AC power

© Suitable for a wide range of bases and load cells

© Adjustable capacities, resolutions and parameters (division from 300 to 300000)

3-2 Front Panel
3-2-1 Display
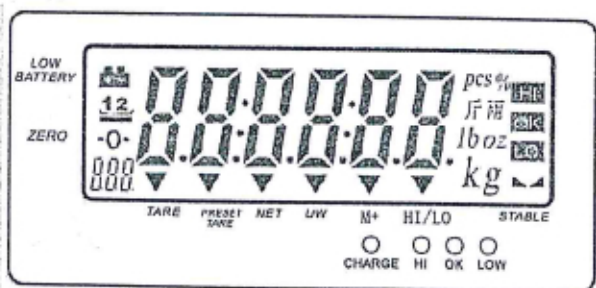
🔋 Low battery indication

⌣ Tare or Preset Tare Indication

-0- Center of Zero Indicat ion. The zeroing range is ±2% of scale capacity

0.0.0.
0.0.0. Auxiliary display (parameter, accumulated number of weighments)

TARE Symbol "▼" points at "TARE" when the weight of the container is tared .

PRESET TARE Symbol "▼" points at "Preset Tare" when Tare value entered via keypad.

NET Net weight--Gross weight minus Tare. Symbol "▼" points at "NET" when Tare or Preset Tare action are done.

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

pcs %
斤 两
lb oz
kg Units of measure

HI The weight on the weighing pan is greater than the upper limit(with HI lamp on)

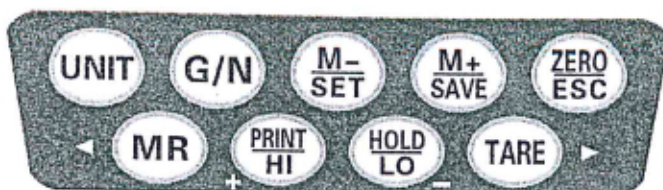OK The weight on the weighing pan is between upper and lower limits.(with OK lamp on)

LO The weight on the weighing pan is smaller than lower limit. (with LOW lamp on)

▲▲ Stable indication

○
CHARGE Charge Lamp

3-2-2 Keyboard

(UNIT)	Short press steps through activated weighing units, release on desired one.
(G/N)	Displays gross and net weight by turns
(TARE)▶	1. Tares the weight of the container or accepts the keypad tare entries 2. Select the later parameter in the same level 3. Select the later record when checking the accumulation record 4. Shift keys rightwards
(ZERO ESC)	1. Zeros the display (within 2% of max.capacity) 2. Exits from certain operation without save
(M– SET)	1. Long press to enter function setting 2. Deletes accumulation records 3. Delete the present accumulation record for the sake of wrong accumulation operation under the accumulation mode.
(M+ SAVE)	1. Adds the indicated weight into accumulation memory 2. During editing, save and return to the higher option 3. Used in capacity and division settings
◀(MR)	1. Memory recall 2. Select the former parameter in the same level 3. Select the former record when checking the accumulation record 4. Shift keys leftwards
(PRINT HI)	1. During setting value, add 1 to the current value 2. Set the upper limit of the check weighing 3. Print
(HOLD LO)	1. During setting value, deduct 1 to the current value 2. Set the lower limit of the check weighing 3. Hold function

3-3 Rear Panel

1) Port for connecting load cell.
2) RS-232 port : Serial interface port
3) Power socket
4) Power ON/OFF switch
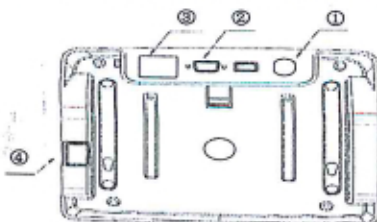
3-4 Power supply

Please verify the local power source before plugging into the power outlet, and use the individual power socket and original adaptor.

Alternative power supply
1) (9V/400mA) Adaptor
2) (6V/4A) Internal Rechargeable Battery

Power Consumption
 About 300 mW without backlight
  About 380 mW with backlight

Low battery warning
When "▦" appears in the upper left corner of the weight window, the battery power requires recharging. The charge lamp turns green from red when the recharging is completed (which takes about 8 hours). Disconnect the scale from power supply when it is fully charged.
Note: Battery is to be replaced only by an authorized service dealer .Risk of explosion can occur if replaced with the wrong type or connected improperly.
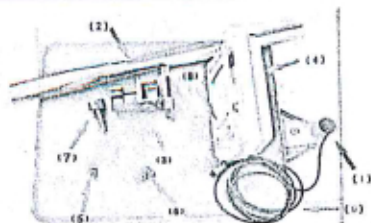
4 Installation

4-1 Load cell connection
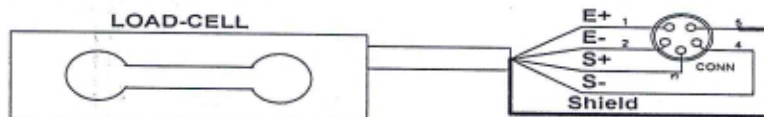
	PIN	SIGNAL
LOAD CELL	1	E+
	2	E-
CONNECTION	3	S+
	4	S-
	5	SHIELD

4-2 Assembly Description of Upright Pole

(1) Rod seat

(2) Upright pole

(3) Bracket

(4) Indicator

(5) Screw (for fixing the upright pole)

(6) Screw (for fixing bracket)

(7) Knob pole
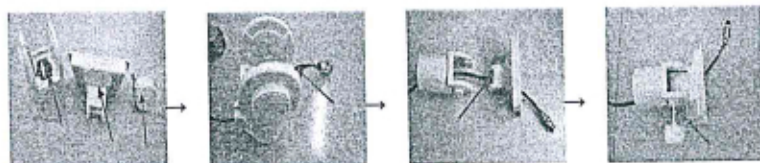
(8) Bracket slot

(9) Load cell wire

Step 1: Thread the wire of the Load Cell (9) on the rod seat (1) through the upright pole (2). Insert The upright pole into the rod seat and then lock it with two screws (5).

Step 2: After threading the Load Cell wire Through the bracket (3), attach the bracket to the Upright pole and then lock it with the screw (6).

Note: if the load cell connector is too big to thread through the bracket, separate the bracket by removing the Knob pole (7), see the following pictures.

Step 3: Install the Indicator (4) on the bracket, with the bracket aligning with the bracket slot (8) of the indicator.

Step 4: After connecting load cell connector to load cell port, the installation is completed.

Note: Use the knob pole (7) to adjust the inclination angle of indicator and the screw (6) to adjust direction of the indicator. After adjusting the indicator to an optimal position, lock the screw.

5. Setting Mode

5-1 Maximum Weighing Capacity & Division Setting

1. Press *M+/SAVE* while powering on the scale. When the window displays "*CAP 300.00 KG*", release the key and it enter the capacity setting.

2. Press *+/PRINT/HI* or *HOLD/LO/-* to choose capacity. Press *◄/MR* or *TARE/►* to shift key leftward or rightward and press *UNIT* to choose kg, g, lb or 台斤.

3. If the capacity needed is not within the default common used value, press *M-/SET* to enter capacity free setting while the number leftest blinking. Press *◄/MR* or *TARE/►* to shift key leftward or rightward. Press *+/PRINT/HI* or *HOLD/LO/-* to change the value or shift the decimal point and press *UNIT* to choose kg, g, lb or 台斤.
   Press *M+/SAVE* to save and enter to the division setting while press *ZERO/ESC* to return to capacity setting without saving.

4. The window displays *Div0.02kg* when entering division setting after finishing capacity setting.

5. Press *+/PRINT/HI* or *HOLD/LO/-* to choose division. Press *+/PRINT/HI* or *HOLD/LO/-* to shift the decimal point

6. If the division needed is not within the default common used value, press *M-/SET* to enter division free setting based on the principle of 1/2/5 minmum division while the number rightest blinking.press *◄/MR* or *TARE/►* to shift key leftward or rightward. Press *+/PRINT/HI* or *HOLD/LO/-* to change the value or shift the decimal point.
   Press *M+/SAVE* to save and enter to the calibration setting while press *ZERO/ESC* to return to capacity setting without saving.

7. The window displays *CAL* when entering the calibration setting after finishing division setting. Press *TARE/►* to enter calibration setting. Press *ZERO/ESC* to return without saving.

5-2 Function Setting

1. Press and hold *M-/SET* while powering on or long press *M-/SET* under normal weighing mode to enter function setting. The window displays "*check*". Setting item "*P00*" displays momentarily at the left bottom.

2. Press *◄/MR* or *TARE/►* to shift between the functions

3. Press *M-/SET* to enter the parameter setting.

4. Press *+/PRINT/HI* or *HOLD/LO/-* to shift between the function parameters

5. Press *M+/SAVE* to save and return. Press *ZERO/ESC* to exit without saving.

5-3 Description of Parameter Values

1. **P00:** $CHECH$ **Offset value**

   Displays the offset value and the keypad testing can be conducted

2. **P01:** $LiGHC$ **Backlight mode**

   Off : No backlight

   Auto : Auto on once get a stable weigh data or any key is pressed. But auto off after N
   seconds (N=2s, 5s, 10s, 20s, ever) with no action.

   Ever= It is always on when the weights over 9e

   On : Backlight on

3. **P02:** $Unit$ **current using units setting**

   Init : Press key **Unit** to select the default unit when powering on the scale: pcs, ₣, lboz, g,
   kg, final .(final=keep the final being used unit when power off)

   Use: Press key **Unit** to select the weighing unit. **on:** Enable the unit **off:** Disable the unit

4. **P03:** $ZEro$ **zero range setting: d0, d1, d2, d3, d4, d5.**

   d0 (one division) , d1 (2 divisions), d2 (3 divisions), d3 (4 divisions), d4 (5 divisions) and d5 (6
   divisions)

5. **P04:** $HoLd$ **Hold function**

   HoLd 0 : no hold function

   HoLd 1 : Peak hold. Press any key to release

   HoLd 2 : Hold after stable. Press any key to release

   HoLd 3 : Hold after stable. Release after moving away the article. The hold value is based
   on the current value and its range could be set in sub menu. Accumulation hold function is
   available, that is you could add article after hold the first value.

   HoLd 4 : Press key **HOLD/LO/-** to hold. Press any key to release

   Sub menu for Hold 3:   INF (default: infinity) /10 /20 /50 /100 /200 /500 /1000 2000 /5000
   /10000 /20000 /50000

   H=current hold value, R=hold value range, d= division, W= actual weight

   Keep to hold the value when |W-H|<=R*d, or the scale will exit the hold function. The scale
   will cancel the hold function when empty the weighing pan, if choose INF setting.

6. **P05:** $LhJi$ **whether to save the upper & lower limit of quantity checking: on, off**

   OFF = previously set quantity checking values are not retained when the unit is turned on.

   ON   = previously set quantity checking values are retained when the unit is turned on.

7. **P06:** CASE **Check weighing function**

on: Check weighing under the condition that the weight is within the limits and the stable indication appears

off: Check weighing under the condition that the weight is within the limits

8. **P07:** bEEP **Check Weighing buzzer beep**

Hi : There will be a warning sound when the weight of articles exceeds the upper limit, and the weight is equal or more than 20d

LO: There will be a warning sound when the weight of articles exceeds the lower limit, and the weight is equal or more than 20d

ok : There will be a warning sound when the weight of articles is between the upper and lower limit (including the upper and lower limits), and the weight is equal or more than 20d

out : There will be a warning sound when the weight of articles is beyond the upper & lower limit, and the weight is equal or more than 20d

no.beep : no beep

9. **P08:** PEr 1 **External device**

b ir CH= Birch printer (BP545,TDP643)

GodE h= Godex printer

7EbrA= Zebra printer

GP = Adhesive sticker label printer (paper size 5cmx3cm)

diiP= Dot matrix printer (CK,SH-24)

E t=Large LED display

PC =Computer

CH = CX large screen display(version 0.02)

CA = Thermal printer(Chinese available)

t.Cont=the output format is compatible with Toledo Continuous Mode.

Note: Special setting is needed by distributor if you want to print in Chinese.

EHCEL: Work with the function of "Use Serial Keys" in Windows in outputting the data to Excel.

Reference user manual: http://www.jadever.com.cn/Download.aspx

U.KEY: U.KEY connector works with PC to send the weighing data to computer (WinXP/Win7) in form of Excel and so on.

10. **P09:** bAud **RS-232 Serial Transmission Rate**

9600 · 4800 · 2400

11. **P10:** Prtn **Print mode**

contin : Continuous print

stable : Printing automatically when get a stable weight (more than 20d)

key : Manual print by pressing the key *PRINT*

12. **P11:** P_rtF **printing format setting: prt01~prt03**

Use the numeric key to set the format directly.

13. **P12:** F_iL **Filtering setting**

Set the filtering level in which the stable indication turns on. The higher the setting, the slower stabilization time

Options: **1 , 2 , 3 , 4**

14. **P13 :** P_-t **Precondition for zeroing or taring setting: stable, auto, always**

stable : Taring or zeroing can be not action without stable indication after pressing the key *TARE* or *ZERO*

always: Taring or zeroing can be action without stable indication after pressing the key *TARE* or *ZERO*

auto: Press key *TARE* or *ZERO*, but it works only when get the stable indication.

15. **P14:** $0-off$ **zero off-set function**

OFF: not display the previous weight when powering on again

ON: display the previous weight when powering on again.

16. **P15:** $rESEt$ **Initialization**

Press *M-/SET* to start initialization and display RESET.

6.Calibration
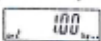
Note: Before calibration, please set the unit first. The unit used in calibration must be the one that has been set before (**P02:** Un_it). During the calibration procedure, press *ZERO/ESC* to return to normal weighing mode without saving.
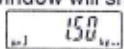
Here we take 3kg/10g as an example

1. Press and hold *TARE* while powering on. Do not release it till the window displays "*CAL*".

2. With no load on the weighing pan, press *TARE* to start zero point calibration. " $on\ 0$ "is blanking at the left bottom.

3. Wait till the window displays the first calibration value. "$on\ 1$"appears at the left bottom.

   Note: The first calibration value is default. With the same capacity, the last first calibration point value can be recorded. If the capacity has been changed, the default value is 1/3 of full load. If you need to change the value, do as the following: Press *M-/SET* to enter the value setting. Press ◀

/MR or TARE/▶ to move leftwards or rightwards. Press +/PRINT/HI or HOLD/LO/- to change the value. Press M+/SAVE to save.

4. Put the corresponding weight on the weighing pan, and then press TARE to complete the first point calibration. "on 2" appears at the left bottom. ⌊ₑⱼ 100ᵤ⌋
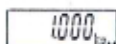
   Note: After the first point calibration, the window can display the weight value. If no need for the other point calibration, move to step 6 to finish the calibration procedure.

5. Add another mass to the current weight. The window will show the total weight. Press TARE to complete. "on 3" appears at the left bottom. ⌊ₑⱼ 150ᵤ⌋

6. Press M+/SAVE to save. After the window displays "PASS", it will return to normal weighing mode.

7.Operation

7-1 Weighing

Begin with no load on the scale, the display reads zero. Place item(s) to be weighed on the scale. The display shown is the gross weight. (The desired weighing unit should be selected before weighing.) ⌊0· 0.000ₖₒ⌋   ⌊1000ₗₒ⌋
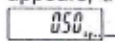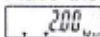
7-2 Tare

Manual Tare

When weighing a sample that must be held in a container, tare and store the container weight into memory.

1. Under the weighing mode, place the container on the weighing pan, wait till stable symbol appears, then press the key TARE/▶. The container is tared.
   ⌊ 050ᵤₚⱼ⌋ → ⌊, ,000ᵤⱼ⌋

2. Place the item(s) to be weighed into the container. The weight displayed is the net weight.
   ⌊, 200ᵤⱼ⌋

3. Remove all items from the weighing pan; the screen displays the tare value. ⌊ₜ,,050ᵤₜⱼ⌋

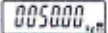4. To clear tare with an empty pan, press down key TARE/▶ or key ZERO/ESC

Preset Tare

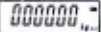1. Long press key TARE/▶ for 3 seconds. The scale is now in digital inputting mode with the left-most digit blinking. ⌊000000ᵤⱼ⌋

2. Press key ◄/MR to shift leftwards, key TARE/► to shift rightwards, key +/PRINT/HI to increase setting values and key HOLD/LO/- to decrease setting value. E.g. here we set the Preset Tare value as 0.500kg `000050`

3. Press key M+/SAVE to save and return to weighing mode. `T  050`

4. Put the load on the container, the scale will automatically deduct the value of the container from the total value.

5. To clear tare with an empty pan, press down key TARE/► or key ZERO/ESC

7-3 Check Weighing
Lower limit setting

1. Begin by pressing down key HOLD/LO/-. The scale is now in digital inputting mode with the right-most digit blinking. `000000`

2. To set the value of lower limit, press key ◄/MR to shift leftwards, key TARE/► to shift rightwards, key +/PRINT/HI to increase setting values and key HOLD/LO/- to decrease setting value. Key M-/SET to enable or disable the weighing checking function. `005000`

3. To save the Lower limit and return to weighing mode, Press key M+/SAVE

Upper limit setting

1. Begin by pressing down key +/PRINT/HI. The scale is now in digital inputting mode with the right-most digit blinking. `000000`

2. To set the value of upper limit, press key ◄/MR to shift leftwards, key TARE/► to shift rightwards, key +/PRINT/HI to increase setting values and key HOLD/LO/- to decrease setting value. `050000`

3. To save the upper limit and return to weighing mode, press key M+/SAVE

    Place the sample on the weighing pan, if the sample weight is under the lower weight range while over or equal 20d, the LOW lamp will light up. If the sample is within the lower and upper weight range while over or equal 20d, the OK lamp will light up. If the sample is over the upper weight range while over or equal 20d, the HI lamp will light up.
    When changing the Hi-Lo value, the scale will activate the weighing checking function automatically. If the Lo value is higher than Hi value, then the Hi value will become the same value as Lo data.

7-4 Simple Counting

1. Press key *UNIT* to select the unit "PCS". `|·____0″_|`

   Note: Ensure to activate the unit "pcs" before operating, see the setting of P02: Ůп іŁ

2. Press key *G/N*, the ex-factory default sample quantity (10 pcs) is displayed. `|_5: 10_|`

3. Use key *+/PRINT/HI* or *HOLD/LO/-* to choose the sampling amount. Available options
   are 10、20、50、100、200、500、1000(pieces) . `|_5: 20_|`

4. Put the corresponding samples on the weighing pan, and then press key *TARE/►*. ▾SñP ·
   is displayed momentarily before the display reverts to the sample quantity.

   `|___SñP___|` → `|___20″_|`

5. Remove the samples and put the load on, the scale calculates the amount of the load.

6. To go back to the normal weighing mode, remove the load and press key *UNIT* to select the
   proper weighing unit.

Note:

1. The larger the sample size, the more accurate unit weight.

2. Symbol "▾" points at "UW" when calculated unit weight is lower than 4 / 5 of scale division.

7-5 Accumulation, Accumulation Display and Accumulation clear

Accumulation

Under the weighing mode, put the item on the weighing pan. Press key *M+/SAVE* at the
appearance of "▲▾". "Rddñ|" is displayed momentarily before the display reverts to the weight
of the item.

Remove the item and the display goes back to zero before the next accumulation can register.
(The maximum is 99 pieces, display the latest 10 accumulation events in details)

Accumulation Display

Press key ◄/MR to display the accumulation data.

Press key ◄/MR or *TARE/►* to check a total accumulation event and each accumulation
event in detail.

The number of accumulated weight is indicated at the left bottom.

ŁXX= total accumulation event : ᵘXX= the single accumulation

Accumulation Clear

To clear accumulation data (total accumulation data or one of the latest 10 accumulation events),
press key ◄/MR to display the accumulation data needed and press key *M-/SET* to clear

data chosen. When clear total accumulation data, the accumulation signal " ▼ " will disappear and back to normal weighing mode. If need to exit without clearing data and return to normal weighing mode , press key *ZERO/ESC*.

7-6 Printer initialization by the indicator operation

1. Press *M-/SET* while powering on to enter parameter setting. Use key ◄/MR or TARE/► to shift to P09 *PEr*.

2. Press *M-/SET* to enter the external device setting. Press ◄/MR or TARE/► to choose the printer model.

3. After choosing one printer model, press *M-/SET* and the window will show "UNSUP" or "INIT?"

   "UNSUP" means the printer can't be initialized by scale. Press *ZERO/ESC* to return.

   "init?" means the printer is should be initialized. Press *MR/SAVE* to initialize the printer. When the initialization is finished, the window will show "ok". And then displays the printer model. Press *ZERO/ESC* to return.

7-7 Input commands

Connect the indicator to computer. Run serial port debugging program on the computer. Input the capital number "Z", "T", "R" , "C" , "P" in the sending area, and the indicator can conduct the corresponding actions.

R/P=Reading Weighing

Z=zero

T=tare/cancel tare

C=Cancel Tare

8. Serial Interface

If external interface is needed, please select the proper RS 232 board or Relay port firstly, and only when this board is adopted, the functions can be enabled.

Note: RTC & RELAY is unavailable.

8-1 RS-232 Diagram

		CN2
COMMON	COM	1
BUZZER	CN2-6	6
RXD TO SCALE	CN2-2	2
	CN2-7	7
TXD TO PC	CN2-3	3
	CN2-8	8
		4
	CN2-9	9
		5

DB9
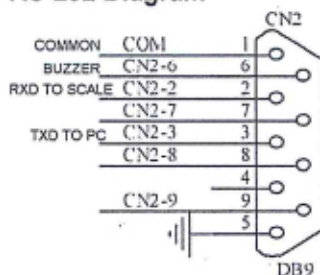
9. Error message

Error Message	Problem	shootings
ERR0	Exceed the zero range	The item should be within 2% of full load
ERR2	Exceed the initial zero point	1. Check whether there are other alien articles on the scale pan, remove those articles. 2. LOAD CELL failure, which requires to be changed or to contact our Service.
ERR3	Exceed the A/D resolution range	1. Check whether it is A/D failure, if yes, please replace AD. 2. LOAD CELL failure, replacement is required or contact our Service.
ERR4	EEPROM failure	Re-sold EEPROM or contact our Service.
ERR5	Overload condition	Remove weight that is greater than the scale capacity from the pan.
ERR6	Exceeds the display range	--
ERR7	Accumulated number of weights exceeds the display range	Delete the exceeding weights
ERR8	Weight limit value is higher than the full load value	Reset the weight limit value.
ERR9	Exceed tare or pre-tare range	The tare value should be over zero and less than or equal to full load.
ERR10	Wrong calibration weights	Place the right weights(the calibration value ≤ full load)

Appendix 1: printing format (Optional)

Printing Device	Format	Sample
PC	prt-01	1. 000 kg
	prt-02	G.W.: 1. 500 kg T.W.: 0. 500 kg N.W.: 1. 000 kg
	prt-03	1. 000 kg
	prt-04	ST GW + 100. 00 kg UT GW + 100. 00 kg UT NW - 200. 00 kg ST NW - 200. 00 kg ST: stable; UT: unstable; NW: net weight; GW: gross weight
	prt-05	ST, GS, + 100. 00kg US, GS, + 100. 00kg US, NT, - 200. 00kg ST, NT, - 200. 00kg ST: stable; UT: unstable; NW: net weight; GW: gross weight
	prt-06	ST, + 100. 00kg ST, - 100. 00kg "ST," is the prefix

BIRCH/GODEX/ZEBRA/GP /CK	prt-01	1. 000 kg
	prt-02	G.W.: 1. 500 kg T.W.: 0. 500 kg N.W.: 1. 000 kg
CK	prt-02	G.W.: 1.48 kg T.W.: 0.00 kg N.W.: 1.48 kg
DMP	prt-01	1. 000 kg
	prt-02	G.W.: 100.00 kg T.W.: 0.00 kg N.W.: 100.00 kg
	When ЯЦЗ appear under display of accumulation, press key PRINT to the print out.	(01) 1.765 kg (02) 1.760 kg (03) 1.760 kg ------------------ (03) 5.285 kg

NOTE:

The printing sample could be of different kinds of formats. When there is specific demand about the format, conduct as follows

1) As for **BRICH/GODEX/ZEBRA/GP** printers, the factory designs the format as planned and email to the user. Add the format into the previous format file via computer. Then it is successful to add the new format and able to print the new format.

2) As for **DMP/CK** printer, it needs to change the scale design

Appendix 2: Exporting data to PC in the form of EXCEL

Introduction:

Connect the scale with PC and set the parameter of external device as "EXCEL" on the scale, then you could export the weighing data to PC in the form of EXCEL. With this function, you could record/accumulate/average/data statistical analysis the testing data, which we could call it as **scale-computer data management function.**
Note: pls enable "Use Serial Keys" function in the computer.

Hardware connection and settings

1. Use transmitting serial wire or USB wire to connect scale and pc.
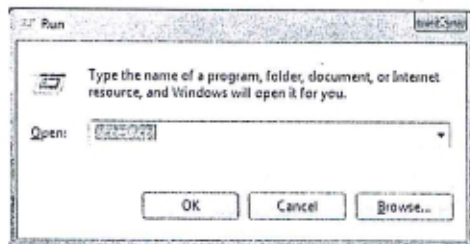   Note: pls install usb driver first, if you use usb wire.

2. Parameter settings in scale:
   "PERI" = "EXCEL"   (external device)
   "BAUD" = "2400"/"4800"/"9600"   (baud rate)
   "PRT.M"= "KEY"/"STABLE"   (printing model)
   "PRT.F" = "PRT.F01"   (printing format)

Enable the function of "Use Serial Keys" in the computer

Set Windows XP as a example:

1. Press "Start" ->"Run", and enter "access.cpl" ->"OK".

2. In the dialog box "Accessibility Options", enter General option, choose "Use Serial Keys" and press "Settings".
   In the dialog box "Settings for SerialKeys" , set the corresponding Serial port and Baud rate, which should be same as Baud rate in scale.
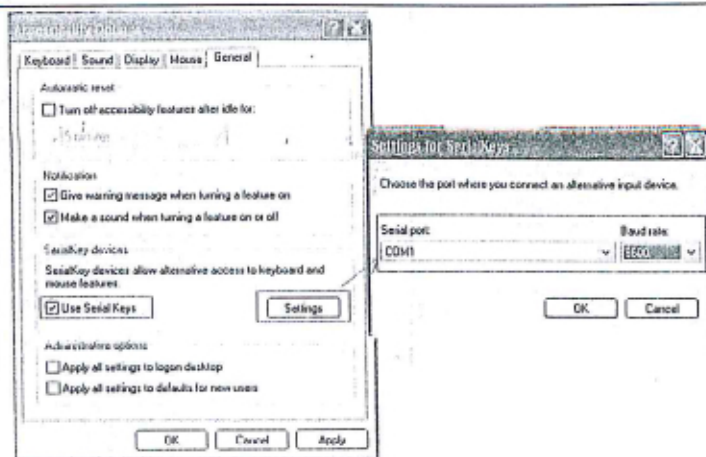
3. Test if Serial Keys works well.

   Open a Text Document, and press the Print buotton on the scale. The Serial Keys works well, if pc exports the weighing data to Text.

Export weighing data to Excel

1. Open Excel.

2. Press [Print], then Excel will show Weighing data.