Weighing Scale

User Manual

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1. Introduction

This manual contains installation and operation instructions for the JWO Series weighing indicator. Please read the manual completely before installation and operation.

2. Precautions

- Place the scale on a flat and stable surface (Refer to Section 3-3).
- Verify that the input voltage and the plug type matches the local AC power supply (Refer to Section 4-3).
- Lifetime for battery is about 1 year. Please change a new one when it does not work.
- Warm up the scale for 15 minutes before using it for the first time.
- Make sure power cord won't cause a potential obstacle or tripping hazard.
- Keep the scale away from EMI noise, strong wind and vibration, which might cause incorrect reading.
- © Avoid sudden temperature changes (suitable operating temperature is 0°C~ 40°C.)
- O Do not drop loads on the platform.
- O Disconnect the power supply while cleaning the scale.
- O Do not immerse the scale in water or other liquids.
- Over 2 years without using the scale for the first time, please charging fully before utility.
- Please cut off the charging power after the battery is fully charged.
- If the charge indicator indicates red light (24 hours or more) when the battery is charged, please check the scale or replace a new battery.
- O 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
- Weighing pan
- Power cord
- User manual

3-2 Installing Components

1) Before using the scale, remove the delivery protection screw (rotate counterclockwise), which located underneath the scale, and cork the plug buckle.

Note: the JWO-30K model is shipped without the shipping protection screw.

2) Cover the weighing pans on the scale body properly.

3-3 Leveling the Scale

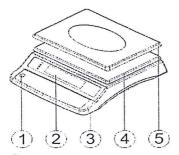
To compensate for small irregularities or inclinations at the location, the scale can be leveled. The scale is equipped with a level indicator at the front panel. Adjust the leveling feet until the air bubble in the indicator is centered as shown.



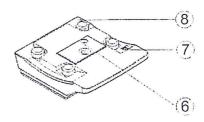


Note: The scale should be leveled each time once its location is changed.

4. Product Introduction



- 1 Leveler
- ② Keypad
- 3 Adjusting feet
- ④ Plastic weighing pan
- 5 Stainless Steel weighing pan



- ⑤ Transport protection screws
- 7 On/Off switch
- Power socket

4-1 Specifications & General Feature

Specifications

Model	JWO-3K	JWO-6K	JWO-15K	JWO-30K
Capacity (Kg)	3	6	15	30
Display	LCD(liquid crystal display), digits 25mm high			
Pan size	310 x 225 x 13.5mm			
Scale Dimensions	352 x 310 x 104mm			
Power Supply	DC9V/400mA or built-in rechargeable battery (6V/4A)			

General Features

- Built-in rechargeable batteries or DC alternative
- Multiple functions: tare, preset tare, simple counting, check weighing, accumulation and display for every deal
- Large bright backlit LCD with prominent 25mm high digits and LED backlight
- Software filtering design and adjustable weighing displaying speed according to different environments

- Easy operation with big keys and high weighing resolution
- Single point calibration and linear calibration available
- RS-232 serial communication interface and Relay optional (PC or printer)

4-2 Display

4-2-1 LCD Display





Low battery indication

NET Tare or Preset Tare Indication

ZERO Center of Zero Indication. The zeroing range is ±2% of weighing capacity.

M+ Accumulation indication

HI lamp ON The weight on the weighing pan is greater than the upper limit.

OK lamp ON The weight on the weighing pan is between upper and lower limits.

LOW lamp ON The weight on the weighing pan is smaller than lower limit.

ozpes

台港厅%

tkglb Units of measure

MA

Stable indication

4-2-2 Keyboard





Short press steps through activated weighing units, release on desired one.

3

G/N	Displays gross and net weight by turns
TARE	 Tares the weight of the container or accepts the keypad tare entries Cancel the tare Select the later parameter in the same level Select the later record when checking the accumulation record Shift keys rightwards
ZERO	Zeros the display (within 2% of max capacity) Exits from certain operation without save
M- SET	Long press to enter function setting Deletes accumulation records Delete the present accumulation record for the sake of wrong accumulation operation under the accumulation mode.
M+ SAVE	Adds the indicated weight into accumulation memory During editing, save and return to the higher option
■ MR	Select the former parameter in the same level Select the former record when checking the accumulation record Shift keys leftwards
PRINT	 During setting value, add 1 to the current value Set the upper limit of the check weighing Print
HOLD	 During setting value, deduct 1 to the current value Set the lower limit of the check weighing Hold function

4-3 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 300mW without backlight

About 380mW with backlight

Low Battery Warning

When the appears in the upper left corner of the weight window, the battery 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.

5 Function Setting and Description of Parameter Values 5-1 Function Setting

- 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
- Press M-/SET to enter the parameter setting
- 5. Press M+/SAVE to save and return
- 6. Press ZERO/ESC to exit without saving

5-2 Description of Parameter Values

THITT 1. LILLII Offset value

Displays the offset value and the keypad testing can be conducted

1 []] 2. L IIIIL Backlight mode

Off: No backlight

Auto: Auto-on once gets 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 = the backlight lasts forever with more than 9d placed on the pan) when it is stable.

On: Backlight on

3. Uff IL current using units setting

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. / [[] 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. Mal & 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. Lim 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. Lill 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. DEE 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. External device

PE =Computer

Line Connecting the weighing managing system

น็บบัติ = Godex printer

buff = Birch printer (BP545,TDP643)

רבו ה ח= Zebra printer

 $\int_{\mathcal{U}} P = \text{Adhesive sticker label printer (paper size 5cmx3cm)}$

in = Dot matrix printer (SH-24)

E L=Large LED display

[5 = CX large screen display (version 0.02)

= Thermal printer (Chinese available)

¿€ant=the output format is compatible with Toledo Continuous Mode

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

 $\xi = \xi = \xi = \xi$ work with the function of "Use Serial Keys" in Windows in outputting the data to

Excel or others. 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.

LP-50= Self-adhesive Printer.

10 ບໍ່ກັບບໍ່ RS-232 Serial Transmission Rate

9600, 4800, 2400

11. True 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. Fr 5 printing format setting: prt01~prt03

Use the numeric key to set the format directly.

13. 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. 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. \ddot{u} of Zero-Offset function.

ON display the previous weight when powering on again

OFF not display the previous weight when powering on again

16. c & Et Initialization

Press M-/SET then press M+/SAVE to start initialization and the window display

7

6. Calibration

Note: Before calibration, please set the unit first. The unit used in calibration must be the one that has been set before ($\lim_{n \to \infty} \frac{1}{n} \int_{-\infty}^{\infty} \frac{1}{n} \int$

Here we take 3kg/1g as an example

- 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.
- 3. Wait till the window displays the first calibration value.
 - 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.
 - **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.
- Add another mass to the current weight. The window will show the total weight. Press TARE to complete.
- 6. Press **M+/SAVE** to save. After the window displays "f n l l, 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 1000.0g, gross weight. (The desired weighing unit should be selected before weighing, refer to section 7-5.)

7-2 Manual Tare & Preset Tare

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

Manual Tare

- 1) Under the weighing mode, place the container on the weighing pan, wait till stable symbol appears, and press the key *TARE*. The container is tared.
- 2, with the container. The weight displayed is the net weight.
- 3) Remove all items from the weighing pan; the screen displays the tare value.

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.
- Press ◆/MR or TARE/► to move leftwards or rightwards. Press+/PRINT/HI or HOLD/LO/- to change the value. Press M+/SAVE to save and return to weighing mode.
- 3) Put the load on the container, the scale will automatically deduct the value of the container from the total value.

NOTE: Press Key *G/N* to display gross and net weight by turns.

4) Clear the load on the container, and press TARE/► or ZERO/ESC to cancel the pre-tare.

7-3 Check Weighing

Lower limit setting

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

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

Upper limit setting

- 1. Begin by holding down key +/PRINT/HI. The scale is now in digital inputting mode with the right-most digit blinking.
- To set the value of upper limit, press key
 In shift leftwards, key TARE/> to shift rightwards, key +/PRINT/HI to increase setting values and key HOLD/LO/- to decrease setting value.
- 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". Note: Ensure to activate the unit "pcs" before operating, see the parameter setting of Unit
- 2. Long press key G/N, the ex-factory default sample quantity (10 pcs) is displayed.

- 3. Use key +/PRINT/HI or HOLD/LO/- to choose the sampling amount. Available options are10, 20, 50, 100, 200, 500, 1000(pieces).
- 4. Put the corresponding samples on the weighing pan, and then press key TARE/.
 - "This " is displayed momentarily before the display reverts to the sample quantity.

- 5. Remove the samples and put the load on, the scale calculates the quantity 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 "F" 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 "\"". "notiful!" 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.

EXX= total accumulation event : "XX= 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 $\frac{d^2C}{d^2C}$ (
- 2. Press *M-/SET* to enter the external device setting. Press *◄/MR* or *TARE/*► to choose the printer model
- 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 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 scale 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.

Z=zero

T=tare

C=cancel tare

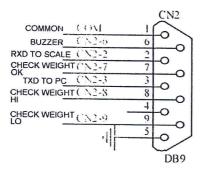
R/P=reading / print

8. Serial Interface

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

Note: RTC is unavailable.

8-1 RS-232 Diagram



9. Troubleshooting and Error Message

Error Message	Problem	shootings
ERR0	Exceed the zero range	The item should be within 2% of full load
ERR2	R2 Exceed the initial zero point 1. Check whether there are articles on the scale pan, articles. 2. LOAD CELL failure, which	1. Check whether there are other alien articles on the scale pan, remove those
ERR3	Exceed the A/D resolution range	Check whether it is A/D failure, if yes, please replace AD. 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 weighs 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	C.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 LT GW + 100, 00 kg LT NW - 200, 00 kg ST NW - 200, 90 kg ST: stable; UT unstable; NW: net weight; GW: gross weight
	prt-05	ST, 6S, + 100, 00kg LS, 6S, + 100, 00kg LS, 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
	prt-07	+ 1. 000 kg

	prt-08	02 + mark + data (6 digits without decimal point) + decimal place + XOR checksum high + XOR checksum low + 03
	prt-09	:=801.000 Note: 0.108
	prt-10	US NT 0000.201
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
СК	prt-02	G.W.: 1.48 kg T.W.: 0.00 kg N.W.: 1.48 kg
DMP	prt-01	+ nnn kg
	prt-02	G.W.: 100.00 kg T.W.: 0.00 kg N.W.: 100.00 kg
	When $\vec{n} \; \vec{u} \; \vec{J}$ 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
ET	prt-01	EtOut: 1.00 kg

U-key	prt-01	0.985
	prt-02	0.985 kg

NOTE:

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

- 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

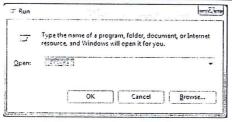
- Use transmitting serial wire or USB wire to connect scale and pc. Note: pls install usb driver first, if you use usb wire.
- 2. Parameter settings in scale:

"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

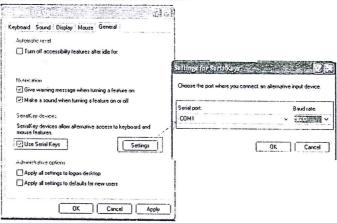
Set Windows XP as a example:

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



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.



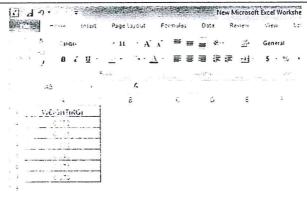
3. Test if Serial Keys works well.

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.



3. Use "Format Cells" to beautify Excel:



Troubleshooting

- Enable "Fast User Switching" function will disable "Use Serial Keys" in the computer.
 Note: Start->"Control Panel "->"User Account"-> "Fast User Switching" function.
- The data export requires only "GND+RX+TX" three lines, while some wire include nine lines (including usb 9-25pin adapter), which may cause abnormal function.
 Note: cut other useless line to check if these three lines work well.

Appendix 3: U.KEY Connector

1. Introduction

Connect the scale with PC and set the parameter of external device as "U.KEY" 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.

Most importantly, you don't need any setup in computer, but only use U.KEY connector to link computer system directly, such as EXCEL, Express System, ERP system and so on. This connector is compatible with windows2000/xp/Vista/win7/win8/Linux/Android system, and the weighing data will show on the position where the mouse cursor in.

With one USB port, you could connect scale to computer easily.

2. Precaution

- 2.1.Close the input method program before connecting.
- 2.2.Ensure the decimal point digit is same as the parameter setting of scale, if use EXCEL file in computer.

For Example:

Scale shows:

Total Weight: 1.000KG, Unit Weight: 0.001g, Total: 1000PCS

EXCEL Setting: the decimal point digit should be 3 for total weight and unit weight column, and the decimal point digit should be 0 for total column.

3. Setting

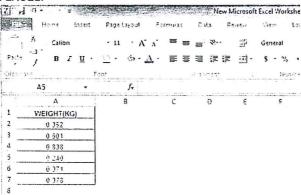
- 3.1. Prepare one computer with windows2000/xp/Vista/win7/win8/Linux system or Android pad.
- 3.2. Scale setting:

```
"PERI" = "U.KEY" (External devices)
"BAUD" = "9600" (Baud)
"PRT.M"= "KEY"/"STABLE" (Print Mode)
"RTC" = "ON"/"OFF" (Time)
```

3.3. Open the receiving port such as EXCEL or ECR system, and the weighing data will show on the position where the mouse cursor in

4. Example:

4.1. EXCEL:



4.2.ERP System:

