G&G ®

Operating manual

Apply for the following series of electronic scale

TJ3KY-0.1	TJ6KY-0.1
TJ15KY-0.5	TJ30KY-1

In order to better use of your electronic balance and keep

it good working condition, Please read the manual carefully,

and properly preserved for future reference.

G&G MEASUREMENT PLANT

Contents

1. Overview

TJ-Y series counting scales are widely used in the electronic precision weighing and counting, the performance of devices with their excellent range of data settings, alarm and other functions, it will meet the greatest variety of users' applications.

1.1 High precision, hypersensitivity and fast reaction time (within 2 seconds).

1.2 Using high precision single point load cell, to overcome the general high-precision electronic scale's defects that can not measure iron, nickel and other magnetic materials.

1.3 Advanced line mode, excellent selection and manufacturing process, thus products with high reliability, anti-interference capability and full lifetime. Good stability for full lifetime using also can be used to adapt to harsh environment and long time working.

1.4 With external calibration, zero tracking, counting, tare, pre-tare, units' conversion, presetting and alarming capable.

1.5 Large easy to read LCD backlit display.

1.6 With RS232C communications port and PRINT key, the scale can be connected directly to the printer or computer to collect and analyze the data. It can even be operated by PC-Telecontrol.

1.7 Runs on AC power or Large Rechargeable Battery. One single charge scale can work for more than 100 hours without backlight;

Scale can be used during charging, which can not affect the functions of the scale.

2. Specifications and performance indexes

Depending on the difference of range and resolution, TJ-Y series scales are classified to 4 types as shown:

Model	TJ30K-1	TJ15K-0.5	TJ6K-0.1	TJ3K-0.1
Capacity	30kg	15kg	6kg	3kg
Resolution	1g	0.5g	0.1g	0.1g
Calibration Graduation	10d	10d	10d	10d
Tare Scope	30kg	15kg	6kg	3kg
Calibrating Weight	20kg	10kg	5kg	2kg
Min. sampling value	20g	10g	2g	2g
Min. unit weight value	0.5g	0.25g	0.05g	0.05g
Dimension of Platform	300×220mm			
Volume	300(W)×300(D)×100(H)			
Power Supply	Power Adapter Input AC 220V±10％ 50Hz±1Hz Output DC 12V/600mA Or DC 6V/4Ah lead-acid batteries			
Use Temperature	0--40℃			
Use Humidity	≤80％R.H			
Interface	RS232			

3. Shape and Installation of scale

1. Scale pan   2. Battery symbol   3. Liquid leveling indicator

4. Functions   5. Decimal point   6. Clear

7. Numbers   8. Adjustable feet   9. LCD display

10. RS232 data output   11. Power socket

4. Precaution before using the Scale

4.1 Using environment: indoor, max. Altitude: 2000m, temperature: 0-40℃, Humidity ≤80%, fluctuations less than ±10%. The scale should be avoided great temperature changing, intensive air flowing and ground vibration. And do not let the scale get wet and do not place it in an environment with extreme temperature or humidity.

4.2 Before using the scale, place it on a stable platform and adjust its feet to make the scale level.

4.3 Please use a separate power socket, and avoid using the power supply, in order to avoid disruption of scale.

4.4 Electronic scale is the precision instrument, objects should be handled with great care and avoid exceeding the max. range, any overload or impact may cause permanent damage to electronic scale, even without power.

4.5 15 minutes Power on before using.

4.6 When the battery voltage is low, the LOW POWER indicator will be shown. Please turn the scale off and then fully recharge it, otherwise the scale will automatically turn off to protect there chargeable battery.

4.7 Because of long-term not using, the scale must be placed in dry-ventilated place and recharge every three months. Charging is necessary before or during re-using.

4.8 Daily use should be careful; it should be cleaned with the cloth that infiltrates the neutral cleaning agent. Prohibit using the solvent with solubility or chemical treatment.

4.9 Warning: before using electronic scale, please carefully read the manual, according to operating correctly. Improper use may cause damage to the scales easily.

5. Operational method

The newly bought or long-time not used balances should be connected with power supplier before using. In order to charge the battery, adjust its feet to make the scale level. <u>15 minutes Power on</u> before using.

5.1 Keypad Functions:

5.1.1 "ON/OFF" key: holding down the "ON/OFF" key till the displaying windows displays "ON", then displays the battery voltage, scale range, at last, displays from "F----1"to "F-----9" and after a certain time for stabilizing, "0"appears. Holding down the "ON/OFF" key till the displaying windows displays "OFF", the scale will turn off automatically.

5.1.2 "Tare"

5.1.2.1 With empty scale platform, the displaying deviates from zero, pressing "TARE" key, then the displaying will return to zero.

5.1.2.2 If the weight of the article for which the packaging is to be removed is unknown, place the packaging container on the weighing platform, wait till the weight display is stable before pressing the "TARE" key. The zero is displayed for the weight. Then place the article to be weighed in the container. Now, the weight window displays the net weight of the article. When the article and its container are removed, the weight display window displays the negative value of the weight of the container. Nevertheless, press the

"TARE" key so that zero is displayed for the weight.

5.1.2.3 If the weight of the article for which the packaging is to be removed is known (pre-tare), key-in the weight (in g) of the container by means of number keys, then press the "TARE" key and the weight display window displays the net weight of the article excluding the weight of the container. Remove the article and container, the display window displays the negative value of the weight of the container. Nevertheless, press the "TARE" key and the Packaging Removal function is canceled and zero is displayed for the weight.

5.1.3 Quantity setting

In the numbers input status, press the "SMPL" key to set the current input as number.

When the unit weight of the article to be weighed is unknown, place the article to be sampled on the weighing platform, key-in the quantity of the article to be sampled, press the "SMPL" key and the unit weight display window displays the unit weight of the article to be sampled, the quantity display window displays the quantity of the article to be sampled, thus ends the sampling and it is in the counting state. The larger the quantity of the article to be sampled, the more accurate the calculated unit weight value is. The weight display window indicates value must be greater than zero when quantity setting, if not, setting quantity is zero.

5.1.4 Unit weight setting

In the numbers input status, press the "UNIT W.T." key to set the current input as unit weight.

When the unit weight of the article to be weighed is known, key-in the unit weight value of the article to be weighed, then press the "UNIT W.T." key, (If no key is pressed for entering after 5s when numbers are keyed in, the entered number in the unit weight window is deemed as the unit weight value of the article to be weighed.) and thus ends the setting and it is in the counting state.

5.1.5 Unit conversion

Press "kg/lb" key and the displayed value for weight display window switches between "kg"（kilogram）and "lb"（pound）and the indicator for relevant unit lights. The unit conversion in the weight window does not affect the unit in the unit weight window (which is always in g).

5.1.6 Presetting of quantity

For counting, the upper limit can be preset. For each of the subsequent counting, alarm is actuated when this limit is exceeded and "--H--" flickers in the unit weight display window. Key-in the upper limit of number to be set, press the "QTY PST" key and thus ends the presetting of the quantity. When the presetting of quantity is "0", the upper limit can not set. When you press the "QTY PST" key without

data entered, the quantity display window displays the current value of preset quantity. It indicates the current value after 5 seconds.

5.1.7 Clear presetting

Clear the alarm of the quantity presetting.

5.1.8 Weight accumulation

Press the "M+" key to enter the accumulation state and the accumulation indicator lights displays. The max. Number of operations for accumulation is 99 and the max. Number to be displayed in the quantity display window is 99999. When weight data display is stable in the weight display window, press the "M+" key and the weight display window displays the total weight with the unit weight window displaying the accumulated number of operations and the quantity display window displaying the total quantity. After about 5s, you are again in the counting state where the weight display window displays the current weight, the unit weight window displays the unit weight and the quantity display window displays the current quantity. When the weight display window displays zero, press the "M+" key and you will view again the accumulated value. Next accumulation must after the weight back to zero.

5.1.9 Clear accumulation

Press the "MC" key and you can clear the accumulated value and are out of the accumulation state.

5.1.10 Backlight

press "LIGHT" key to choose the backlight mode, "B OFF" backlight always off， "B ON" backlight always on， "B AUTO" backlight on when the data changes and shut down automatically when data stability after 3 seconds.

5.1.11 Numbers

0-9 Keys for entering numbers

5.1.12 Decimal point

In the number-entering state, it is a key for decimal. When not in the number-entering state, it is the printing key.

5.1.13 Clear

In the number-entering state, it clears the entered numbers. When it is not in the number-entering state, it clears number of pieces.

5.2 Calibration method:

If the scale has not been used for a long time or just newly bought (when the scale does not read accurately), the scale should be calibrated. Firstly, the scale is power on(over15 minutes), calibration need to press "TARE" first, then press "kg/lb", the weight displaying window shows "XXXXXX" and the unit weight displaying window shows "-CAL-", the scale enter calibration,(XXXXXX should be the weight of standard weights, for example: when displaying showing "10.000" expressed the need to place a standard weight 10kg), at the

same time, only place calibrating weights on the platform, after stability, the weight displaying window shows the weight of the calibrating weights and the unit weight displaying window shows"0", till now the calibration is completed and the scale can be normally used and count. Under the calibration status, press "TARE", it will quit.

5.3 Charge the battery:

When battery is near empty, one single charge more than 10 hours and battery symbol dynamic display, after filled, the battery symbol is not indicated, at the same time, it can continue charge. Scale can work normally when charging.

6. Display information of counting scale

6.1 The weight display window displays the following information:

F----1   Date over display scope

F----2   A/D-switch is defect

F----3   Key is defect

F----5   Sensor signal is defect

F----L   Lower zero position of sensor signal

F----H   Object weight over capacity

C----F   Calibration error, instability or not at zero point during

calibrating

C----H   Calibration error, items on the pan or at higher zero point during calibrating

E-----   Storage calibration data error, re-calibration is necessary

o   Calibration zero instruction, when the empty of platform, back to zero shows, if not, it need to be re-calibrated.

g   Showing when stability, current weight unit is "g"

kg   Showing when stability, current weight unit is "kg"

lb   Showing when stability, current weight unit is "lb"（1lb=0.4536kg）

Battery symbol Instructions of battery when using battery, fully charged battery shows full grid. When the battery runs low, display spaces and a warning sound, this time should be charged, if not, it only work of 1-2 hours. Battery symbol dynamic display when charging, after filled, the battery symbol is not indicated.

6.2 Unit weight display window displays the following information

-CAL-   In the calibration state

$\equiv$ X$\equiv$ The displayed value is the number of operations for accumulation. The weight field displays the total weight and the number-of-pieces field displays the total weight.

H   Meaning the preset quantity is exceeded and an audible warning is given.

Sampling less instruction: when the total sampling amount is less than the min. sampling value. Now, add the number of samples till the indicator is out. Set by re-sampling to ensure the accuracy.

Unit weight less Lights: when the average or set unit weight is less than the min. unit weight value. Now, the counting weighing apparatus remains serviceable but error may happen during the counting. It is recommended that counting weighing apparatus with high resolution is used

6.3 The quantity field displays the following information:

F---1   The value of the number-of-pieces exceeds the range of display

7. **Setting of adjustable parameters**

Holding down the "kg/lb", then press the "ON/OFF", the scales are in the setting mode , and pressing "kg/lb" can change the parameters; pressing "TARE" can change the values of parameter.

C1---- Sensitivity setting 0 1 2 3 4, the larger number is, the less sensible but the better stable. Default setting is 2 or 1

C2---- Filtering strength setting 0 1 2 3, the larger number is, the lower reaction speed but the better stable .Default setting is 2 or 1.

C3---- Baud rate setting 2(600) 3(1200) 4(2400) 5(4800) 6(9600)，

Default setting is 6 .

C4---- Communication setting. "TARE" changes the lower unit. "M+" changes the high unit. This date is the first date during communication. Default setting is 27.

Holding down the "TARE" and power on , all the parameters can be reset to default settings, re-calibration before using.

8. Serial communication

8.1 Serial communication protocol: baud rate: 600-9600 can set, the default settings is 9600; data units: 8 units; ending unit: 1 unit; no calibration unit.

8.2 Data format: 41-bit data output（ASCII code）。

WT	space	negative	data	unit	enter	
2 unit	1 unit	1 unit	7 unit	3 unit	1 unit	
UW	space	data	unit	enter		
2 unit	1 unit	6 unit	2 unit	1 unit		
QT	space	data	unit	enter	linefeed	
2 unit	1 unit	5 unit	4 unit	1 unit	1 unit	

When data is not negative, the negative unit is space, no showing data is also space.

For example: weight showing 12.345 kg, unit weight showing 12.34,

pieces showing 1000 and the output data is WT□□□12.345□kg↓UW□□12.34□g↓QT□□1000□Pcs↓←41 bits。

To display accumulation

MW□□12345.6□kg↓ 15 bits

MN□□□12□□□□↓ 12 bits

MQ□12345□Pcs↓← 14 bits

8.3 Receive order：need to receive the communication, then receive order.

When the communication setting is 27(default statue), in other words Hexadecimal system 1BH, the orders to scale are:

1BH+70H(ACSⅡ code p): print（scale required to send date once）;

1BH+71H(ACSⅡ code q): calibration;

1BH+72H(ACSⅡ code r): count;

1BH+73H(ACSⅡ code s): unit conversion;

1BH+74H(ACSⅡ code t): tare;

1BH+75H(ACSⅡ code u): backlight;

8.4 RS232C output pins content (DB9 socket): 2 pins: RXD; 3 pins: TXD; 5pins: GND. With computer RS232C socket (DB9 socket) connected:

2 —— 3

3 —— 2

5 —— 5

For example: when setting C3---6 C4—27 (default statue), the communication program of VB is

```
MSComm1.Settings = "9600,n,8,1"

MSComm1.Output = Chr(&H1B) + Chr(&H70) 'send a print order

'or MSComm1.Output = Chr(27) + Chr(112)

'or MSComm1.Output =Chr(27) +"p"

Do

        DoEvents

Loop Unti MSComm1.InBufferCount = 41

a = MSComm1.Input

Print a
```

The important instructions and software could be downloaded from our website http://www.gandg.com.cn

9. Parking list

Name	Quantity	Remark
Operating manual	1 copy	
Power line	1 piece	
Scale pan	1 set	
Warranty card, certification	1 set	

10. Warranty issues

10.1 CHANG SHU G&G MEASUREMENT PLANT produces the G&G balance, the product implements the three bags by our factory.

10.2 Products for sale since the date of one year, under the correct installation and use conditions, the non-human failure is the scope of warranty, please send the balance together with the original product packing to factory for free repair. Our factory responsible for the receipt of the date of repaired and sent within one week, or be replaced.

10.3 Beyond the Warranty time, the repair fee charged.

  In this case, the user can contact by phone with manufacturers, it is possible in the factory under the guidance of their own troubleshooting.

10.4 Our products have faulty   self-test function, start to display from "F----2"to"F----9", if it remained a particular one and it indicates that scale has been self-test failure range or device, in this case, the user can contact by phone

with manufacturers, it is possible that users can clear fault themselves under the guidance of manufacturers.

10.5 Scales need repair can send the following address:

G&G MEASUREMENT PLANT   service group

ADD：xushi town,changshu,jiangsu

TEL：0512-52671954

FAX：0512-52671339

Zip code：215535

The company must provide the detailed address, zip code, the recipient and the telephone, so that our factory could send the balance in time after repairing.