



G&G GmbH
Koenigstr.34
41460 Neuss
Germany

Operation Manual

For Models:

**TC3K, TC6K, TC10K, TC20K, TC30K, TC10KB, TC3KA,
TC6KA, TC10KA, TC20KA, TC30KA**



To guarantee the best performance of the device, please read this operation manual carefully before use.

G&G GmbH

Content

1. Overview
2. Specifications and Performance indexes
3. Operational Method
4. Structure
5. RS232 Data output demonstration
6. Cautions for operation
7. The Warranty
8. Trash
9. Contact

Operating Manual for TC Series of Electronic Balances
(TC3K, TC6K, TC10K, TC20K, TC30K, TC10KB, TC3KA,
TC6KA, TC10KA, TC20KA, TC30KA)

1. Overview

Manufactured and well-designed by G&G GmbH adopting industrial-class high precision sensors, measurement circuit, dedicated MPU system, and controlling system, TC series electronic balances are high-quality electronic weighing machines. Advanced technology, well-selected, exquisite processing and strict testing make TC series of electronic balances be possession of following strong points:

1.1 High precision, hypersensitivity and fast reaction speed

1.2 Using high precision strain weighing sensor. Can weigh iron, nickel and magnetic materials.

1.3 High quality, strong anti-interference capability, long life, long-term using stability, adapting to the adverse environment and long hours continuous work

1.4 With auto-calibration function.

1.5 Using high-brightness green display. Clear displaying. Intuitive reading.

1.6 With units changing function. Can be changed between “kg” and “lb”.

1.7 Balance is targeting output data interface and can be connected directly to the printer and computer to collect and analyze the data. The balance can even remote controlled by computer.

1.8 With counting function.

In general, with high precision, high stability, high reliability and high efficiency, the “G&G” electronic balances has widely replace the traditional mechanical, tray balances. The “G&G” electronic balances have been widely

used in all callings, in different kinds of measurement and test. Those have played an important role in improving products quality, cost-effectiveness and efficiency.

2. Specifications and Performance indexes

Depending on the difference of range and resolution, TC series electronic scales are classified to 11 types as shown

Model	TC3K	TC6K	TC10K	TC10KB	TC20K	TC30K
Capacity	3kg	6kg	10kg	10kg	20kg	30kg
Resolution Ratio	0.1g	0.1g	1g	0.1g	1g	1g
Calibration Graduation	10g	1g	10g	1g	10g	10g
Tare Scope	3kg	6kg	10kg	10kg	20kg	30kg
Calibrating Weight	2kg	5kg	10kg	10kg	20kg	20kg
Dimension of Platform	340mmX215mm					
Volume	350(W)X325(D)X100(H)mm					
PowerSupply	AC230V 50Hz/60Hz 3W					
Use Temperature	0-40°C					
Use Humidity	≤80%R.H					

Model	TC3KA	TC6KA	TC10KA	TC20KA	TC30KA
Capacity	3kg	6kg	10kg	20kg	30kg
Resolution Ratio	0.5g	1g	2g	5g	5g
Calibration Graduation	5g	10g	20g	50g	50g
Tare Scope	3kg	6kg	10kg	20kg	30kg
Calibrating Weight	2kg	5kg	10kg	20kg	20kg
Dimension of Platform	340mmX215mm				
Volume	350(W)X325(D)X100(H)mm				
Power Supply	AC230V 50Hz/60Hz 3W				
Use Temperature	0-40°C				
Use Humidity	≤80%R.H				

3. Operational Method

3.1 Turn on the power. Open the switch. The displaying windows displays from “F---1” to “F---9” and after a certain time for stabilizing, “0-0” appears; Then preheats for 15 minutes. Instability of the displaying at every beginning is normal; after a certain time, the displaying will stabilize.

3.2 With empty scale platform, the displaying deviates from zero, pressing “TARE” key, then the displaying will return to zero.

3.3 If the scale has not been used for along time or just bought, the scale should be calibrated. Firstly, the scale is fully preheated (over 15 min.) with empty scale platform. Then press “CAL”, the displaying windows hows “C-XX--” and the balance will automatic calibrate (XX should be the weight of standard weights. For instance, “C-10-” means to place the 10kg test weights). At the same time, only place calibrating weights on the scale platform. After stabilizing, the scale displays the weight of the calibrating weights. The weight unit is “kg”. The indicator lightens; till now the calibration is completely finished and the scale can be normally used. If press “CAL”, but display “C---F”, which indicates the Zero point is not stable. Then re-press “TARE” to make “zero” point stable; and re-press the “CAL” to carry out calibration.

3.4 If weight of a weighed article exceeding the scale measuring range, the scale will warn “F---H”.

3.5 If needs to tare, first place the container on the platform, after stabilizing, press “TARE”; the scale displays ”zero”. Then place the article in container, at this time, it shows the net weight of the article. Remove the article and the container. The scale shows a negative value of container weight. Still press “TARE” to return to “zero”

3.6 Count

3.6.1 Choose samples. To precisely count the articles, firstly the quantity

of samples for counting should be chosen in according with the weights of the articles. The quantity of samples can be chosen from “1-10-20-50-100”. For a small number of articles, the larger quantity of samples, the more precise.

3.6.2 Place the samples on the pan, the balance will show the total weights of samples. Then press “Count”, balance will show “1”, and unit will show “pcs”, which indicate that balance is now counting. And all the samples are one unit. Then press “Count”, the displaying will show between 1-10-20-50-100. The quantity of articles must be the same with the quantity of samples, and place the similar articles. The total amount of objects is showed. Pressthe “Count” again back to the normal situation.

3.7 Unit Change: Press “kg/lb”, the units will be changed between “kg” and “lb”. The indicator willlighten.

3.8 Data Output

Balance is targeting data output interface RS232C and can be directly connected to the printer. The following soft wares are needed, when connects to computer:

3.8.1 Transmission format: serial asynchronous

3.8.2 Serial communication protocol:

Baudrat: 600,

data: 8 units,

starting: 1 unit,

ending:1 unit

3.8.3 Data format:

starting	data	symbol	ending	enter
----------	------	--------	--------	-------

2 unit	7 units	3 unit	1 unit	1 unit
--------	---------	--------	--------	--------

3.8.4 Calibration: no calibration

3.8.5 Output pins content (9-core socket): 2 pins: RXD 3 pins: TXD
5 pins: GND

3.8.6 Computer can control balance though RS232. The orders to balance are:

1BH+70H: sending data

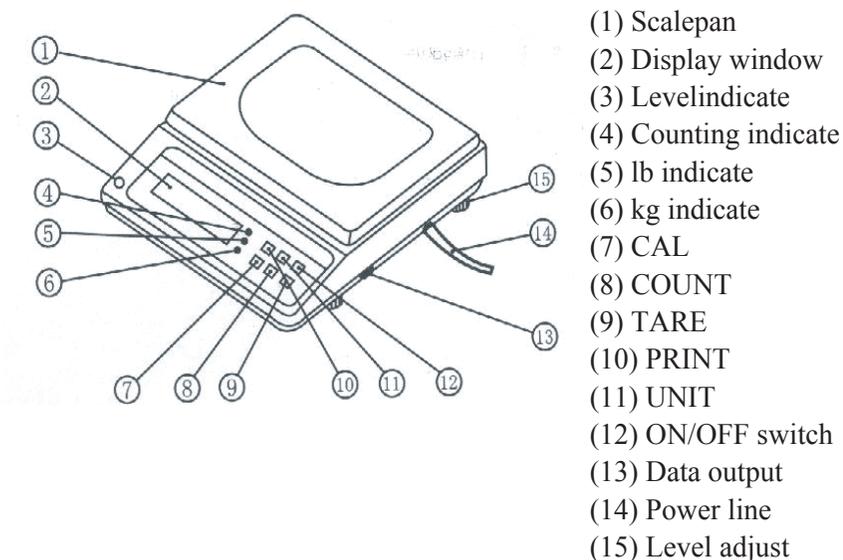
1BH+71H: calibration (like “CAL”)

1BH+72H: count function (like “COUNT”)

1BH+73H: Units change

1BH+74H: Tare

4. Structure



5. RS232 Data output demonstration



6. Cautions for operation

6.1 Using environment: indoor, max. Altitude: 2000m, temperature: 0-40°C, humidity 80%, Power fluctuations less than $\pm 10\%$

6.2 The electronic scale is a precision instrument which needs to be gently handled during the weighing of articles. Avoid impact and heavy load on top (never exceed its max. weighing limit). Any forms of impact or overloading many cause permanent damage to the electronic balance, even in the use of electronic balance without power supply.

6.3 Place the scale on a firm table for operation, and make sure that the operating environment of the balance is free of great vibration and interference of powersupply, and of corrosive gases and liquids.

6.4 Ensure the warm-up time after power-on..

6.5 Warning: If the equipment is used in a manner not specified by this instruction the projection provided by the equipment may be impaired

7. The Warranty

7.1 We provide warranty within the scope of the statutory regulations, however we are entitled to either repair or replace the defective product.

7.2 Within two years after purchase, the producer offers a free repair service to all G&G Product, which become defect under proper usage without human damage. The customers are kindly requested to mail the product as well as its original proof of purchase to the producer. Notification of defects and complaints shall be made in writing after the delivery has been received at the point of delivery. For legitimate notifications of defects and warranty cases we are entitled at our own discretion to either replace the delivery at the prices which were valid at the time of the complaint or to rectify the defect.

7.3 We have the right to try to replace the defective product at most twice. There will be a slight charge for the repair service of those products,

by which the warranty period expires. Defective goods may only be returned to us by the customer with our express approval and at the customer's cost and risk. The notification of the defect does not release the customer from his obligation to pay.

7.4 Please attach the address, postal code and telephone number of the buyer, so that we can mail the repaired product back in time.

8. Trash



Meaning of crossed-out wheeled dustbin:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities.

Contact your local government for information regarding the collection systems available.

If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

When replacing old appliances with new ones, the retailer is legally obligated to take back your old appliance for disposals at least free of charge.

9. Contact

Address: G&G GmbH
Koenigstr. 34
41460 Neuss
Germany

Tel: +49-2131-609-7271

Fax: +49-2131-609-7273

Email: info@gandg.de

Website: www.gandg.de