

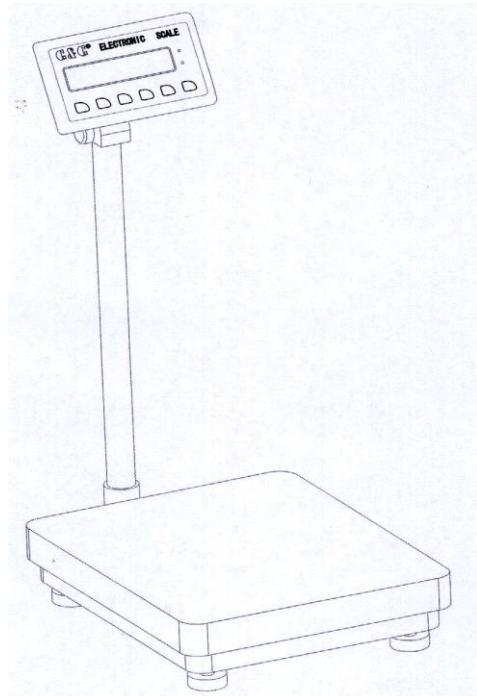


G&G GmbH
Novesiastr. 31
41564 Kaarst
Germany

Operation Manual

For Models:

TC50K TC60K TC100K TC150K
TC200K TC300K TC60KA TC75KA
TC100KA TC150KA TC300KA



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

Content

1. Overview
2. Specification and technical data
3. Operation method
4. Attachment: Configuration and description of function Change
5. Data transmission
6. Structure
7. Caution for Operation
8. Trouble shooting
9. Packing list
10. Disposal
11. Warranty
12. Contact

Operating Manual for TC Series of Electronic High Precision Balances

(for following models: TC50K, TC60K, TC100K, TC150K, TC200K, TC300K,
TC60KA, TC75KA, TC100KA, TC150KA, TC300KA)

1. Overview

Manufactured and well-designed by G&G Measurement Plant, adopting industrial-class high precision sensors, measurement circuit, a “G&G” dedicated single-chip computer system, and controlling system, JJ-A series electronic balances are high-quality electronic weighing machines. Advanced technology, well-selected, exquisite processing and strict testing make JJ-A series of electronic balances be possession of following strong points:

- Simple operations.
- Integrated water level on the scale
- High precision, hypersensitivity and fast reaction speed
- High quality, strong anti-interference capability, long life, long-term using stability, adapting to the adverse environment and long hours continuous work
- With double power supply AC/DC
- With auto calibration
- With Count function, the counting of Object with large quantity simplified
- Unit conversion feature: in two units between arbitrary conversions
- 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.
- High performance rechargeable Battery, hold for about 60 hours
- The voltage of the Battery shows on the display by turn on, operation under the normal voltage can cause damage to the Battery

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, G&G Brand JJ-A series electronic scales are classified to 10 types as shown

Model	TC50K	TC60K	TC100K	TC150K	TC200K	TC300K
Capacity	50 kg	60 kg	100 kg	150 kg	200 kg	300 kg
Resolution(d)	1 g	1 g	5 g	10 g	10 g	10 g
Calibration Gruaduation	10 d	10 d	10 d	10 d	10 d	10 d
Calibrating weight	50 kg	50 kg	100 kg	100 kg	200 kg	200 kg
Tare Scope	0 – 50 kg	0 - 60 kg	0 - 100 kg	0 – 150 kg	0 – 200 kg	0 – 300 kg
Plattform Dimension	520 x 410 mm					
Volume	970 (B) x 515 (T) x 205 (H) mm					
Power Supply	AC 230V / 50Hz - 60Hz / 4W Rechargeable Battery DC 6V / 4Ah / 20HR					
Use Temperature	0 - 40°C					
Use Humidity	\leq 80% R.H					

Model	TC60KA	TC75KA	TC100KA	TC150KA	TC300KA
Capacity	60 kg	75 kg	100 kg	150 kg	300 kg
Resolution(d)	5 g	10 g	10 g	20 g	50 g
Calibration Gruaduation	10 d	10 d	10 d	10 d	10 d
Calibrating weight	50 kg	50 kg	100 kg	100 kg	200 kg
Tare Scope	0 – 60 kg	0 - 75 kg	0 - 100 kg	0 – 150 kg	0 – 300 kg
Plattform Dimension	510 x 410 mm				
Volume	970 (B) x 515 (T) x 205 (H) mm				
Power Supply	AC 230V / 50Hz - 60Hz / 4W Rechargeable Battery DC 6V / 4Ah / 20HR				
Use Temperature	0 - 40°C				
Use Humidity	\leq 80% R.H				

P.S. Only use the provided adapter or the same specifications of the adapter, otherwise there will be dangerous.

3. Operational Method

- 3.1 Turn on the power. Open the switch by pressing  . The displaying windows displays from “F---0”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. By Taring 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”
- 3.3 The units can be changed between “kg” and “lb”. Press  to change the units during weighting
- 3.4 To use the balance in dark place, press the  key to active the background light from display.
- 3.5 To print the weighing data with extern printer, just press “PRINT” key.
- 3.6 If the scale has not been used for a long time or just bought, the scale should be calibrated. Firstly, the scale is fully preheated (over 15 min.) with empty scale platform. Press “TARE” key and then press , the displaying window shows “CXXX” and the balance will automatic calibrate (XXX should be the weight of standard weights). At the same time, only place calibrating weights on the scale platform. After stabilizing, the scale displays the weight of the calibrating weights; till now the calibration is completely finished and the scale can be normally used. If the Display shows the message “C---F” by press “CAL”, but display, 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.

3.7. Count function

- 3.7.1 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.
- 3.7.2 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. Press the “Count” again back to the normal situation.

4. Attachment: settings and meanings

Turn on the Scale by pressing  key, in order to change the configuration and function. the display shows C1 and the relevant number, which can be changed. Pressing  can change the parameters; pressing “TARE” can change the values of parameters.

- 4.1 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
- 4.2 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
- 4.3 C3-----Baud rate setting 2(600) 3(1200) 4(2400) 5(4800) 6(9600). Default setting is 2
- 4.4 C4-----communication setting. “TARE” changes the lower unit. “kg/lb” changes the higher units. This is the first data during communication. Default setting is 27.
- 4.5 Re-pressing  after setting. Then the balance is auto calibrated to 0.
- 4.6 Press “TARE” and do not loose till “F----3” (Balance should be switched on). All the parameters can be reset to default settings. Re-calibration before using.

5. Data Transmission

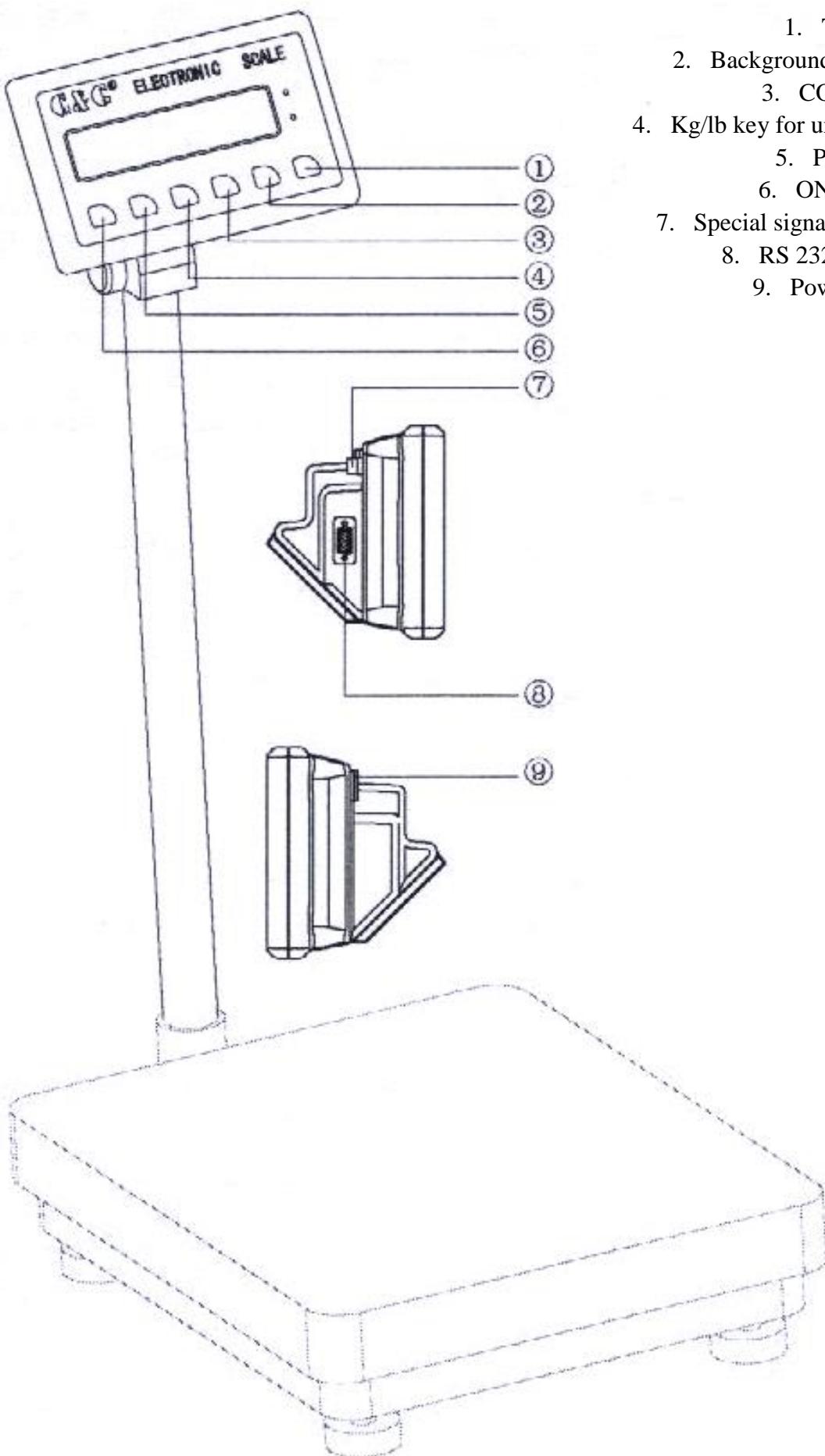
Balance is targeting data output interface RS232C and can be directly connected to the printer. The following soft wares are needed, when connects to computer:

- 3.8.1 Transmission format: serial asynchronous
- 3.8.2 Serial communication protocol: Baud rat: 600, data: 8 units, starting: 1 unit, ending: 1unit
- 3.8.3 Data format:

Starting spaces	data	symbol	ending	enter
2unit	7units	3unit	1 unit	1 unit
- 3.8.4 Check bits: no check bits
- 3.8.5 Output pins content (9-core socket): 2 pins: RXD 3 pins: TXD 5pins: GND
- 3.8.6 Computer can control balance though RS232. The orders to balance are:
 - 1BH+70H: sending data
 - 1BH+71H: calibration
 - 1BH+73H: Units change
 - 1BH+74H: Tare

Sampling demo, connection method of balance and computer, please download from our website: <http://www.gandg.de>

6. Structure



1. TARE key
2. Background light key
3. COUNT key
4. Kg/lb key for unit change
5. PRINT key
6. ON/OFF key
7. Special signal interface
8. RS 232 interface
9. Power supply

7. Cautions for operation

- 7.1 For best performance, the balance should be put on an stable desk, where there is no vibration.
- 7.2 Using environment: indoor, max. Altitude: 2000m, temperature: 0-40°C, humidity \leq 80%, Power fluctuations less than \pm 10%
- 7.3 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.
- 7.4. Please use separate and individual plug for the balance to avoid any possible interference or disturbance.
- 7.5 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 power supply, and of corrosive gases and liquids.
- 7.6 Ensure the warm-up time after power-on.
- 7.7 Remove the object on the pan by turning on the balance
- 7.9 Avoid any water contact with the balance
- 7.10 Warning: If the equipment is used in a manner not specified by this instruction the perfection provided by the equipment may be impaired
- 7.11 Gentle handling in daily using, with dry and clean cotton cloth cleaning.

8. Trouble Shooting

Problems	Possible causes	Measures to take
Display shows nothing	1. The ON/OFF switch is defect 2.Internal Circuit is defect	1.the ON/OFF switch must be changed 2. please contact our service department
The message „F—2“	1.A/D-switch problem 2.Sensor is defect	please contact our service department
The message „F—3“	Keyboard defect	please contact our service department
The message „F—5“	1.Sensor is defect 2.A/D switch problem	please contact our service department
The message „F—L“	1.Error by sensor 2.Error by calibration	restore the fabric configuration
The message „F—H“	1.Object weight beyond capacity 3.Error by sensor	1.remove the object 2. restore the fabric configuration
The message „C—L“ by Calibration	Error by sensor	restore the fabric configuration
The message „C—F“ by Calibration	Unstable zero or zero not correctly set	Press the „TARE“ key with empty pan, the balance shows 0, then calibrieren.
The message „C—H“ by Calibration	1.Object weight beyond capacity 2.Error by sensor	1. remove the object, Press the „TARE“ key with empty pan, the balance shows 0, then calibrieren. 2. restore the fabric configuration
Störung der R-232 Übertragung	1.Parameter configuration Error 2.Cable connection problem or cable is defect 3.internal R232 Chip is defect	1.check the C3 and C4 configuration 2.check the cabel 3. please contact our service department

9. Packing List

Article Description	Quantity	Remarks
Operation manual	1	
Scale pan	1	
Power cable	1	

10. Disposal



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.

12. Contact

Address:	G&G GmbH Novesiastr. 31 41564 Kaarst Germany	Tel:	0049-2131-609-7271
		Fax:	0049-2131-609-7273
		Email:	info@gandg.de
		Website:	www.gandg.de