

GMC-206/215/230 Digital Desktop Weighing Scale OPERATION MANUAL

Version 2.1



Gamma Scale

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1. Technical Parameters and Specifications

- 1.1 Accuracy class: OIML III
- 1.2 Internal resolution ratio: 270000
- 1.3 Display resolution ratio: 30000
- 1.4 Zero point temperature drift $\leq 0.15 \text{ uV}/^\circ\text{C}$
- 1.5 Sensitivity temperature drift $\leq 10 \text{ ppm}/^\circ\text{C}$
- 1.6 Load cell excitation voltage: DC5V
- 1.7 Operation temperature: 0 - 40°C
- 1.8 Storage temperature: -25°C ~ 55°C
- 1.9 Relative humidity: $\leq 90\%$ (no condensation)
- 1.10 Power supply: 110VAC, 6V/3.2Ah rechargeable storage battery option
- 1.11 Display 6 digit 1 inch LCD (with backlight)
- 1.12 Continual working time of storage battery
- 1.13 Platter size (mm): 250 x 300
- 1.14 Capacity: 6kg, 15kg, 30kg (15lbs/30lbs/60lbs)
- 1.15 Units: kg/lbs switchable

2. Main Functions

- 2.1 Auto zero when power on
- 2.2 Full range tare
- 2.3 Auto zero tracking
- 2.4 Filter selection
- 2.5 Fixed value output (warning)

- 2.6 Unit conversion
- 2.7 Low battery voltage indicating
- 2.8 Backlight selection (LCD display)
- 2.9 Auto shut-off
- 2.10 Key beep sound selecting
- 2.11 Simple rectifying
- 2.12 RS-232C output (option)

3. Construction

Cursor and Description:

- 0← Appears when the loaded weight is within $\pm 0.25e$
- AC Appears when AC power on
- ■ ■ ■ Appears when the battery is low voltage
- Lb Weight unit selected is "pound"
- Kg Weight unit selected is "kilogram"
- Auto Off Appears when auto shut-off function is started
- BL Appears when the backlight is started (only LCD display)
- ~ Appears when the scale is stable
- G Appears when displaying Gross Weight
- N Appears when displaying Net Weight and tare deduction is effective
- Charge Light on when battery being recharged

4. Operation Keys

4.1 ON / UNITS / ←

- a. Turn on PCB power
- b. Weight unit conversion
- c. Select digital place in calibration mode

4.2 OFF / ↑

- a. Turn off PCB power
- b. Make options to change successively in data setting
- c. To change digit in 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 sequence

4.3 ZERO / BL

- a. Zeroing within allowable range
- b. Used when calibration
- c. Switch on backlight (only LCD display)

4.4 TARE / ENTER

- a. Tare deduction on platform
- b. Used when calibration

5. Operation and Setting

5.1 Power-on

- a. Adjust bearing support to make sure the scale is level.
- b. While using AC power, insert power supply plug (or connect it with the power adaptor). At the same time, if need to turn on DC power or charge the storage battery, switch on the storage battery switch at "I" side.
- c. Press [ON], display window displays a version number after giving out a beep sound and at the same time its backlight (only LCD display) is switched on, then displays its Max. capacity in about 1 second. After self checking, if zero position is normal, "0.00" displays.
- d. If the ■■■■ indicating cursor is on, charge the storage battery in time.

5.2 Zeroing

When the weight is under $2\%F \cdot S$, it displays "0" after pressing ZERO. The accumulated zero range is $5\%F \cdot S$.

Note: When the cursor "N" appears or indicating "NET" is on, zero operation doesn't work.

5.3 Tare

When needs to tare, press [TARE], the indicator will display "0", and the cursor indicating "N" will appear or indicating "NET" is on. While press [TARE] again, it returns to the original tare and at the same time the cursor "N" changes to be "G" or the indicating "NET" is off.

5.4 Weight unit conversion

When the function is allowed, press [ON], the weight unit will be changed once between "kg" and "lb" and the relevant cursor will also appear.

5.5 Overload warning

The value is Max. Capacity plus $9e$ ("e" refers to division value) according to regulations when the products leave our company. For example, if the scale is 6kg Max. Capacity with 1g division, its warning value is 6.009kg. When the loaded weight is not less than the setup value, the scale gives out beep sound and at the same time displays "FULL".

5.6 Backlight selection

Under non-calibrating state, if the backlight is not switched on, keep on pressing [ZERO] about 3 seconds and then release the key, now the backlight is switched on and the cursor pointing to "BL" appears at the same time. When the backlight has been switched on, press [ZERO] about 3 seconds and then release this key, the backlight will

be switched off and the relevant cursor will disappear.

Note: No matter whether its backlight function has been switched on or not, the backlight will automatically switch on about 1 second once powered on.

5.7 Auto Shut-off

If this function enabled, the scale will automatically shut off in 4 minutes after operation stop, at this time the indicating cursor "Auto Off" will appear. The result of auto shut-off is the same with pressing [OFF].

Prompt: The meaning for operation stop is that all the operation keys are not operated when the scale is remained at zero position.

5.8 RS-232C output

The scale transmits RS-232C signal in continuous mode by MCS-51 way 1, the data to be sent is ASCII code, every group has 16 frames including 1 frame of start character (02), 2 frames of state mark, 1 frame of empty case character, 6 frames of displaying data and 6 frames of tare data. Every frame consists of 10 digits. The first is start bit, "0". The tenth is stop bit, "1". The other eight are data bits (from low to high), the patterns is as follows:

Start Bit D0 D1 D2 D3 D4 D5 D6 D7 Stop Bit

Note: The Baud rate for its data output is usually set at t200 when the scale leaves the company, and you may amend the Baud rate in calibrating state according to your need.

6. Storage Battery Maintenance

6.1 When the low voltage indicate light appears, it means the battery voltage is too low for the scale to work normally. At this time, charge the battery. With AC power, charge can be processed while operating. If do not charge the low voltage battery in time, and continue to operate it, the scale will be forced to shut off in several minutes.

6.2 If it automatically shut off as soon as DC power turns on, it means its battery voltage is too low, at this time, charge the battery at once.

6.3 If the working time of storage battery is rather short than fully charged, it is recommended to change the storage battery. Open the battery box cover, pulling up the positive and negative metal pieces and removing the old storage battery. While opening the cover, be careful to make sure the battery will not drop. Be sure of correct connection of the storage battery's electrode.

6.4 If the scale is not used for a long time, be sure that the storage battery is in power-off status.

7. Use Guide

7.1 The scale should be levelly placed. Though the scale has good protection, it is suggested to use in clean and stable condition.

7.2 While weighing, place the load in the center of the platform as far as possible.

7.3 Never use high corrosive solvent to clean it.

7.4 Don't weigh (tare included) exceeds its Max. Capacity plus 9e ("e" refers to division), when the weight exceed the value, the indicator displays FULL.

7.5 Never over-load it. Don't place weighing goods on the scale platform for a long period of time. Never bump the platform with weighing goods; otherwise the load cell shall be damaged.

7.6 Be sure that AC power plug is properly grounded.

7.7 Don't disassemble it without authorization.

7.8 If the display don't change while loading, or don't respond after pressing [OFF] with AC power switch off. At this time, turn off the battery switch and after a moment turn on the switch again, and then press [ON] to start again. That assures the reset of CPU after power off.

7.9 Turn off power supply and pull off its power plug at once if it is out of order. Unprofessional staff can't fix it without authorization; Contact our sales agent in local area for help.

7.10 If recalibrate is needed, do it after the scale warms up on for 30 minutes.

NOTICE

GMC-2XX Serial Digital Desktop Weighing Scale and the manual may change without further notice. For service, please contact your location provider.

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