Good Scale

PORTABLE ELECTRONIC SCALE

User Manual GL-6000L Series

- Please read this manual before using.
- Keep this manual in safe location after reading

GTech

NTEP NATIONAL CONFERENCE ON WEIGHTS AND MEASURES

G Tech
Portable Electronic Scale has the following benefits.

Multi-purpose electronic scale with hand carrier for easy mobility.

Portable and convenient to use anywhere.

Upgraded wider LCD display.

Excellent visibility to check measured value at a glance.

Able to use outside with battery.

Auto-off function to reduce battery consumption
(time setting between 3 ~ 60min.)
Continuous hours of use: 300 hours with alkaline battery.

Screen reverse function.

Press zero Key for three seconds, to check measured weight in both the normal and reverse ways.

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Introduction

Thank you for purchasing G-Tech Portable Electronic Scale GL-6000L Series. This product has passed strict QC test and guarantees excellent performance. Please read this manual carefully before using the product to understand the characteristics of the product and how to use it.

1. Safety Precaution

It is important to handle this product in the right way. If it is not used properly, it may cause unexpected accidents resulting in personal injury or property damage.

- In this manual, possible hazardous situations are informed in order to prevent any accident. Such situations are displayed in different categories (Warning, caution and notice).

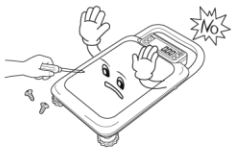
Warning	A serious damage can happen when the instruction is not followed.
Caution	User's loss including damage or disadvantage may be incurred when the instruction is not followed.
Notice	Important information to maintain and operate the device safely.

(1) Unauthorized duplication of this manual in part or in whole is prohibited.
(2) The contents of this manual are subject to change without notice.
(3) If there is any incorrect or missing information in this manual, or if you have any questions, please contact the place of purchase or your nearest dealer.
(4) Please be informed that G-Tech does not accept any liability for loss or claim for loss due to the operation of this device regardless of (2) and (3).

Warning

Do not disassemble, repair or modify the product.

It is excluded from the warranty and may cause electric shock, fire or damage to the product.

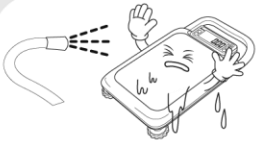


Keep flammable spray or fire away from the product.

It may cause fire on the product.

Make sure the product is not wet and used in humid places.

It undermines the insulation of the parts, which causes electronic shock, fire or weight error.

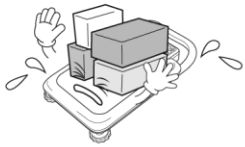


Do not expose to direct sunlight, or hot objects such as stove.

It may cause discoloration or malfunction.

Do not use the product to measure objects heavier than the allowed weight.

It causes deviations in the product which is led to measurement errors.



Do not touch the power plug with wet hands. Do not damage or deform or pull or bend the power cord by force.

Damages to the power cord may cause fire and electronic shock.

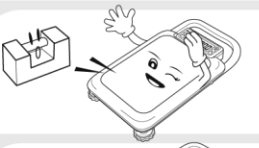
Do not use in a place with strong wind.

It may cause measurement errors.

Caution

Check if there is any measurement error to ensure accurate measurement.

Accurate measurement is not guaranteed if it is out of allowable error due to carelessness or other causes.



Please use the specified type of battery and remove the batteries while not in use for a long time.

The leakage of batteries may cause fire and malfunction.

Do not drag or move the product while grabbing the platform and the display.

It can damage the product which makes accurate measurement impossible.

Do not subject the product to a sudden physical impact.

It can damage the product which makes accurate measurement impossible.

When installing the product, please keep the product level for accurate measurement.

Use the leveling rubber feet to adjust the level.

Do not use in a place where there is sudden temperature change or severe vibration.

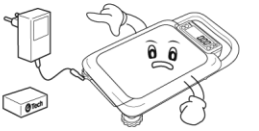
It can cause measurement error and malfunction.

Do not use in a place where excessive electromagnetic wave is generated.

It can cause measurement error.

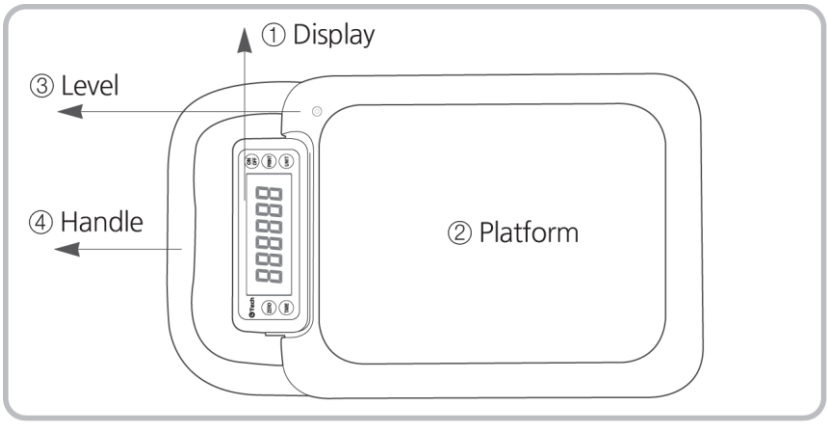
Please use the specified types of adapters only.

The use of an adapter that does not meet the specifications may cause overheating or fire.

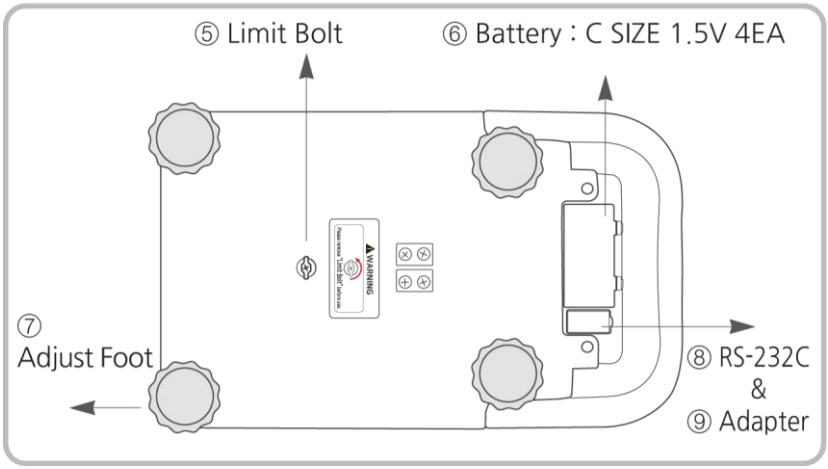


2. Name of Each Part and Product Size

2-1. Name of Each Part

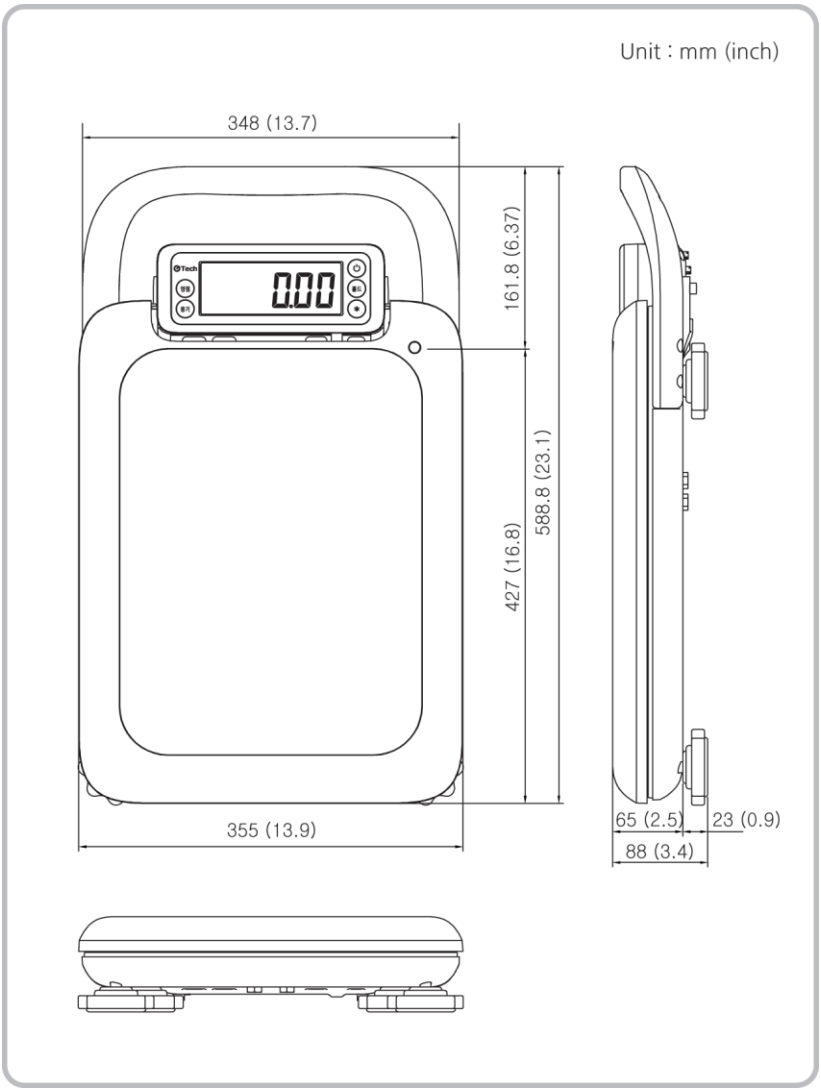


① Display: Displaying the current weight on the platform
② Platform: Placing an object to be weighted
③ Level: Checking if the product is level
④ Handle: Convenient when moving the product

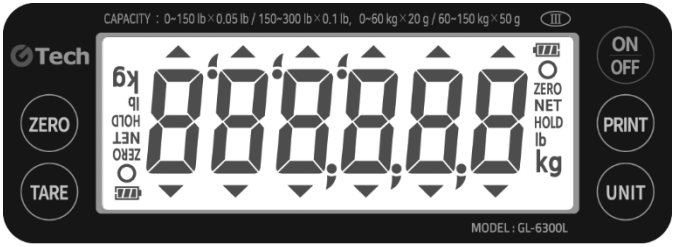


⑤ Limit Bolt: Load cell limit bolt ⑥ Battery: C SIZE 1.5V 4EA
⑦ Adjust Foot: Used to level the product
⑧ Communication Port: RS-232C type, ⑨ Adapter Jack

2-2. Product Size



2-3. Display and Keys



Symbol		Description
○	Stabilization display lamp	It is turned on when the weight is stable.
ZERO	Zero display lamp	It is turned on when the weight is “0”.
NET	Tare display lamp	It is turned on while net weight is displayed (when tare function works).
lb / kg	Measurement unit display lamp	It displays measurement unit.
	Remaining battery display lamp	It displays remaining battery. (3 stages)

Key	Description
ZERO	1) It sets the current weight "0" within a certain degree of the maximum weight. 2) When the '**Zero**' Key is long pressed, the direction of LCD display is reversed.
TARE	1) It is used to set / release tare function. 2) When the Key is long pressed, you can adjust the upper Limit / lower limit of value.
PRINT	1) When the '**PRINT**' Key is pressed after placing an object on the platform, the current weight is transmitted via communication port. (Refer to Communication/Printer Output Setting Mode on p.13) 2) When the '**PRINT**' Key is pressed without an object on the platform, the total amount of weight is printed out. (when printer output is used)
UNIT	1) When pressed short, measurement unit changes. 2) When pressed long, the upper limit/lower limit function is turned '**ON/OFF**'.
ON/OFF	1) It turns '**ON/OFF**' the power.

3. User Setting Mode

3-1. How to Enter User Setting Mode

■ While pressing (ZERO) Key and (TARE) Key, turn (ON/OFF) on to show `At-oFF` on the display and enter the User Setting Mode.

Change setting value using the following Keys.

■ (UNIT) : It changes setting mode or setting value.

■ (PRINT) : It confirms settings.

3-2. Description of User Setting

① Auto Off Time Setting

Type	Initial Value	Setting Value	Description
`At-oFF`		disable	It sets auto off time. If the scale is stable for the preset time, it is turned off automatically. **Notice**: If the auto off time is set 10min., the product is automatically turned off after 10 minutes.
		3min	
		5min	
	●	10min	
		20min	
		30min	
		40min	
		50min	
		60min	

② Backlight Brightness Setting

Type	Initial Value	Setting Value	Description
bL-br1		darkest	It adjusts the brightness of the backlight.
		bright1	
		Bright2	
		Bright3	
	●	Bright4	
		Bright5	
		Bright6	
		Bright7	

③ Backlight Time Setting

Type	Initial Value	Setting Value	Description
bL-tim		5s	It sets backlight auto off time. If the scale is stable for the preset time, the backlight is automatically turned off. **Notice**: It is set 20s, the backlight is turned off after 20 seconds.
		10s	
	●	20s	
		30s	
		40s	
		50s	
		60s	
		on	
		off	

④ Communication & Printer Output Setting

Type	Initial Value	Setting Value	Description	
rS-out		disable	Not used	It sets Communication & Printer Output Mode.
	●	stre-s	Serial (Stream)	
		comm-s	Serial (Command)	
		stab-s	Serial (when the weight is stable)	
		keyz-s	Serial (when the PRINT Key is pressed)	
		stab-p	Printer (when the weight is stable)	
		keyz-p	Printer (when the PRINT Key is pressed)	

⑤ Baud rate Setting

Type	Initial Value	Setting Value	Description
bAud		br-24	It sets baud rate. **Notice**: It communicates in 9600bps when setting br-96.
		br-48	
	●	br-96	
		br-192	

⑥ Parity Bit Setting

Type	Initial Value	Setting Value	Description	
rS-PAr	●	n81	8bits,Non Parity	It sets parity bit.
		e81	8 bits, Even parity	
		o8	8 bits, Odd parity	

⑦ Print Format Setting

Type	Initial Value	Setting Value	Description
rS-For		Form-1	It sets printer format. Refer to the following format. (This form is printed when "rs-out" is set stab-p or keys-p.)
		Form-2	

Form-1 (Printer Format)

```
Gross   :   30.00 lb
Tare    :    0.00 lb
Net     :   30.00 lb

Gross   :   50.00 lb
Tare    :    5.00 lb
Net     :   45.00 lb
------------------
TOTAL   :   75.00 lb
```

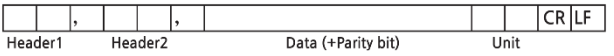
Form-2 (Printer Format)

```
    1       20.00 lb
    2       30.00 lb
    3       50.00 lb
------------------
TOTAL   :   100.00 lb
COUNT   :        3
```

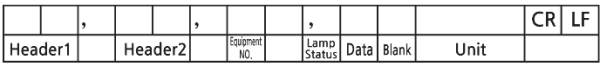
When the 'PRINT' Key is pressed without an object on the platform, the total amount of weight is printed out. (when printer output is used)

	Form-3	It sets RS-232C Communication 18 byte Data Format. (Refer to 5-3. Data Format 1) This form is transmitted when "rs-out" is set stre-s, comm-s, stab-s or keys-s
●	Form-4	It sets RS-232C Communication 22 byte Data Format. (Refer to 5-3. Data Format 2) This form is transmitted when "rs-out" is set stre-s, comm-s, stab-s or keys-s

Form-3 (Data format1 : 18byte)



Form-4 (Data format2 : 22byte)



⑧ Display Speed Setting

Type	Initial Value	Setting Value	Description
FiLtEr		Slow	It sets display speed.
	●	Medium	
		Fast	

⑨ Buzzer Motion Setting

Type	Initial Value	Setting Value	Description	
buZZEr		disable	It disables buzzer sound.	It sets buzzer motion.
	●	enable	It enables buzzer sound.	

⑩ Zero Lamp Display Setting

Type	Initial Value	Setting Value	Description	
Sho"-2	●	Net, gross	Zero lamp is displayed when gross weight/net weight is zero.	It sets zero lamp display.
		gross	Zero lamp is displayed when gross weight is zero.	

⑪ Limit Function Setting

Type	Initial Value	Setting Value	Description	
LIMIT		off	It turns off Limit function.	It sets conditions for the Limit function.
	●	i-side	Lower limit ≤ current weight ≤ upper limit	
		o-side	Current weight < lower limit or current weight > upper limit	
		lo	Current weight < lower limit	
		hi	Current weight > upper limit	

⑫ Buzzer Sound of Limit Function

Type	Initial Value	Setting Value	Description	
LIMIT-b		off	It turns off buzzer sound.	It sets the buzzer sound interval while limit function is on.
		1 t	1 time per second	
	●	2 t	2 times per second	

⑬ Limit Function Setting

Type	Initial Value	Setting Value	Description	
LIMIT-C	●	lit-us	It turns on Limit function whether the weight is stable or not.	It sets Limit function depending on stable/unstable state.
		lit-st	It turns on Limit function only the weight is stable.	

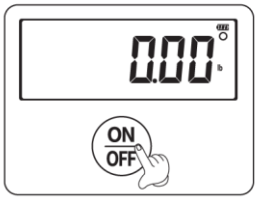
⑭ Saving Settings

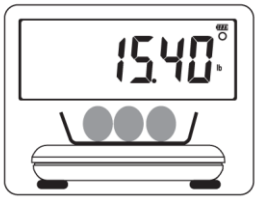
Type	Initial Value	Setting Value	Description
SAVE	●	-	Press **'PRINT'** Key to save change values.

4. Mesaurement Mode and Functions

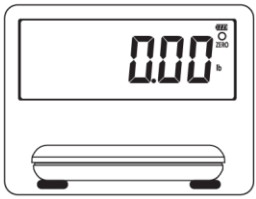
4-1. General Measurement

- Turn on the power using the (ON/OFF) Key to initiate the product, and wait until the weight value is stabilized.
- When the weight on the scale is zero, "ZERO" lamp is turned on.
- While tare function is on, "NET", which is tare display lamp, is turned on.
- When the weight of an object is stabilized, "O", which is stabilization display lamp is turned on.
- If the display does not show zero when there is no object on the platform, adjust the zero point by pressing (ZERO) Key.





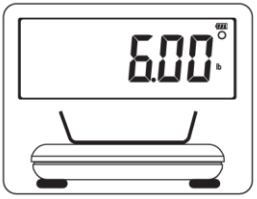
Place an object on the Platform.



when the display shows the stabilization lamp (O). Check the weight and remove the object.

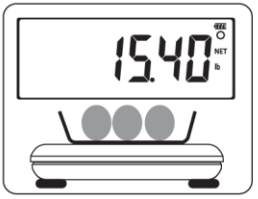
4-2. Tare Function

- In order to measure an object in a tare, use (TARE) Key.
- Place the tare on the platform, press (TARE) Key to display "NET" lamp with the weight at "0.00".
- Put an object in the tare to measure only the weight of the object.
- In order to stop using the function, remove the tare and the object from the platform, and press (TARE) Key again. When the tare function is released, the "NET" lamp will disappear.

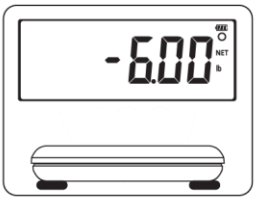


Place the tare on the platform.

Press **TARE** Key.



Put the object in the tare to measure only the weight of the object.



In order to stop using the function, remove the tare.

Press **TARE** Key again to go back to 0 status.

4-3. Limit Function

- Press (UNIT) Key for more than 3 seconds in Measuring Mode to initiate limit function.
- While limit function is on, buzzer sounds according to upper Limit / lower limit conditions.
- Limit Function Setting
  Follow the process (p.11. 3-1. How to Enter User Setting Mode) and set the limit function in ⑪ Limit Function Setting Mode.
- In order to set lower/upper value, press (TARE) Key for more than 3 seconds while the current weight is “0”.

Keys to Change Settings

Keys	Description
ZERO	Add 1 in the flickering digit
TARE	Move the flickering digit to the left
PRINT	Save the settings
UNIT	Exit without saving the settings

4-4. Weight Display Reverse Function

■ Press ZERO Key for more than 3 seconds while "0.00" is shown on the display to switch the display in both the normal and reverse ways.

4-5. Unit Change Function

■ Press UNIT Key to change measurement unit.
(kg -> lb or lb -> kg)

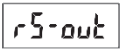
■ Default unit is lb.

4-6. Communication Function

How to Set Communication Function

■ Follow the process in "p.11, 3-1. How to Enter User Setting Mode" and 3-2. Description of User Setting "④ Communication & Printer Output Setting", "⑤ Baud Rate Setting", "⑥ Parity Bit Setting" and "⑦ Print Format Setting."

■ It transmits a measured value in RS-232C communication.

Initial display : 

Setting Value	Description
disable	It disables communication output.
stre-s	It continuously transmit the value currently displayed on the display.
comm-s	The scale is controlled by the commands transmitted from a PC.
stab-s	When the certain amount of weight is stable, it transmit the value currently displayed on the display one time.
keyz-s	After the weight is stabilized after placing an object on the platform, press "**ZERO**" Key to transmit the value just one time.

4-7. Print Function

How to Set Print Function

■ Follow the process in "p.11, 3-1. How to Enter User Settings Mode" and 3-2. Description of User Setting "④ Communication/Printer Output Settings", "⑤ Baud Rate Setting", "⑥ Parity Bit Setting" and "⑦ Print Format Setting".

■ It prints out a measured weight using a printer.

■ How to Set print method.

Initial display : rS-out

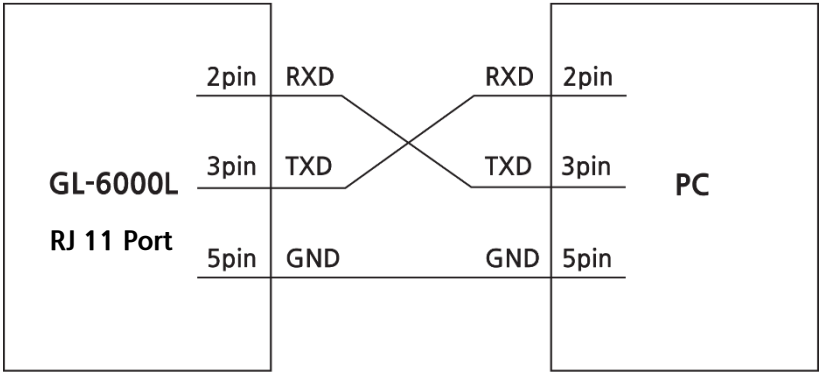
Setting Value	Description
stab-p	When the weight increases from 0 and stabilizes, it prints out the value currently displayed on the display one time. In order to print out the aggregate value, remove the object from the platform and press "**PRINT**" Key.
keyz-p	After the weight is stabilized after placing an object on the platform, press "**PRINT**" Key to print out the value on the display one time. In order to print out the aggregate value, remove the object from the platform and press "**PRINT**" Key.

■ How to Set Printer Output Format

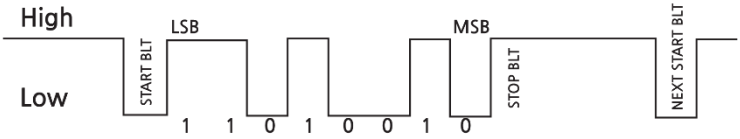
rS-For Set after entering .

5. Communication Interface (RS-232C)

5-1. RS-232C Pin assignment and Connection

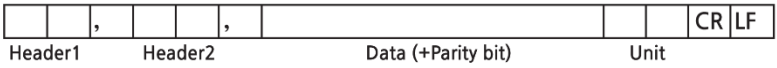


5-2. Signal Format



5-3. Data Format

1) Data Format 1 (18 BYTE)



- Header 1(2 BYTE)
  - "US" : Unstable Display
  - "ST": Stable Display
  - "OL": OVER LOAD
- Header 2(2BYTE)
  - "GS" : Gross Weigh
  - "NT" : Net Weight
- DATA [8 Byte]
  - 2B(H) : " + " PLUS
  - 2D(H) : " - " MINUS
  - 20(H) : " " SPACE
  - 2E(H) : " . " DECIMAL POINT
- Unit
  - " kg"
  - " lb"

2) Data Format 2 (22 BYTE)

		,			,			,				CR	LF
Header1		Header2		Equipment NO.		Lamp Status	Data	Blank	Unit				

- Header 1(2 BYTE)
  - "US" : Unstable Display
  - "ST" : Stable Display
  - "OL" : OVER LOAD
- Header 2(2BYTE)
  - "GS" : Gross Weight
  - "NT" : Net Weight
- Equipment No. : 0 x 0
- Lamp status

Bit 7 1	Bit 6 Stable	Bit 5 0	Bit 4 Hold	Bit 3 Printer	Bit 2 Gross Weight	Bit 1 Tare	Bit 0 Zero Point

- Data (8 BYTE)

  When the weight data including a decimal, for example, 13.5 kg,

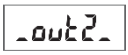
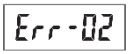
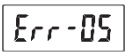
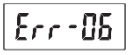
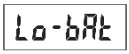
  8 bytes of ASCII code corresponding to "000013.5" are sent.
- Blank (1BYTE)
- Unit
  - " kg"
  - " lb"

3) Command Format

Command		PC -> SCALE	SCALE -> PC
current weight transmission	ASCII	R C_R L_F	ST, GS, + 0020.00 kg
	HEX	52 0D 0A	53 54 2C 47 53 2C 2B 30 30 32 2E 30 30 6B 67 0D 0A

6. Error Messages & Trouble Shooting Guide

■ If there is a problem with the scale, it displays error message for each problem to facilitate inspection and repair.

Message	Cause	Solution
	The object on the platform exceed the capacity.	Remove the object on the platform.
	the object weight exceed 20% of capacity when the power on.	Empty the platform before turning on the power.
	There is a problem in load cell part.	Refer to the service center.
	ZERO or TARE Keys was pressed when the scale is unstable.	Check stabilization status when pressing Keys.
	The value of lower limit exceeds the value of upper limit.	Make sure upper limit is higher than lower limit.
	The upper/lower limit value does not meet the minimum graduation unit.	Set the upper/lower limit value to a multiple of the minimum graduation unit.
	The battery is exhausted.	Replace battery.
	The current weight is below ZERO.	Press **ZERO** Key.

7. Specification

MODEL	GL-6060L	GL-6150L	GL-6300L	GL-6500L
	Dual Interval	Dual Interval	Dual Interval	Dual Interval
Capacity (lbs)	30/60 lbs	60/150 lbs	150/300 lbs	250/500 lbs
Graduation	0.01/0.02 lbs	0.02/0.05 lbs	0.05/0.1 lbs	0.1/0.2 lbs
External Resolution	1/3000	1/3000	1/3000	1/2500
Internal Resolution	1/60000	1/75000	1/60000	1/50000
MAX Tare	-29.99 lbs	-59.98 lbs	-149.95 lbs	-249.9 lbs
Capacity (kg)	15/30 kg	30/60 kg	60/150 kg	100/200 kg
Graduation	5/10 g	10/20 g	20/50 g	50/100 g
External Resolution	1/3000	1/3000	1/3000	1/2000
Internal Resolution	1/60000	1/60000	1/75000	1/40000
MAX Tare	-14.995 kg	-29.99 kg	-59.98 kg	-99.95 kg
Display	LCD 6 Digit			
LCD	5.1 x 1.8 inch / 130 x 48 (mm) / Large LCD			
LCD Symbol	ZERO, NET, ○ (stabilization lamp) lb, kg, BATTERY (3 stages)			
Keys	ZERO, TARE, PRINT, UNIT, ON/OFF: 5 functions in total			
Sensor	Load Cell			
Power	AC Adaptor: (SMPS) Input: 100 V~240 V / 50~60 Hz, Output: DC 6 V / 0.5 A			
Operation Time	Alkaline: about 300 hours, Manganese: about 50 hours			
Operating Temperature	14 °F ~ 104 °F / -10 ℃ ~ +40 ℃			
Interface	RS-232C			
Platform Size	13.9(W) × 16.8(D) inch / 355(W) × 427(D) mm			
Product Size	13.9(W) × 23.1(D) × 3.4(H) inch / 355(W) × 589(D) × 88(H) mm			
Product Weight	About : 15.3 lb / 6.95 kg			
Feature	Setting Upper/Lower Limit and Buzzer Sound.			
Options	DEP-50 Receipt Printer / Battery C-Type (LR14) 1.5V/4EA			

※ The specifications of the product are subject to change without notice for the quality improvement.

MEMO

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