GW Professional Weighing Scale

User Manual

Table of Contents

Specifications

Basic specification

|	
Display Digit	LCD, height 17mm, 6/6(Parameter/WEIGHT)
Pan Size(mm)	280 x 200 (WxL)
Dimensions(mm)	280x300x110(WxLxH)
Net Weight(kg)	3.6kg
Operating Temperature	0° C to +40° C
Relative Humidity	Less than 85%
Power	DC9V / 500mA, AC adapter; Built in 6V Rechargeable Battery
Interface	RS-232C (optional)

Series specification(EC TYPE/OIML APPROVED)

Model	GW-6D	GW-15D	GW-30D
Max_1 / Max_2=	3kg / 6kg	6kg / 15kg	15kg / 30kg
Min_1 / Min_2=	20g / 3kg	40g / 6kg	100g / 15kg
e_1 / e_2=	1g / 2g	2g / 5g	5g / 10g
Accuracy	1/3000(Dual)	1/3000(Dual)	1/3000(Dual)

Series specification(NON-APPROVED)

Model	GW-3H	GW-6H	GW-15H	GW-30H
Max. Capacity	3kg	6kg	15kg	30kg
d =	0.1g	0.2g	0.5g	1g
Accuracy	1/30000	1/30000	1/30000	1/30000

Display and keypad

LCD Display
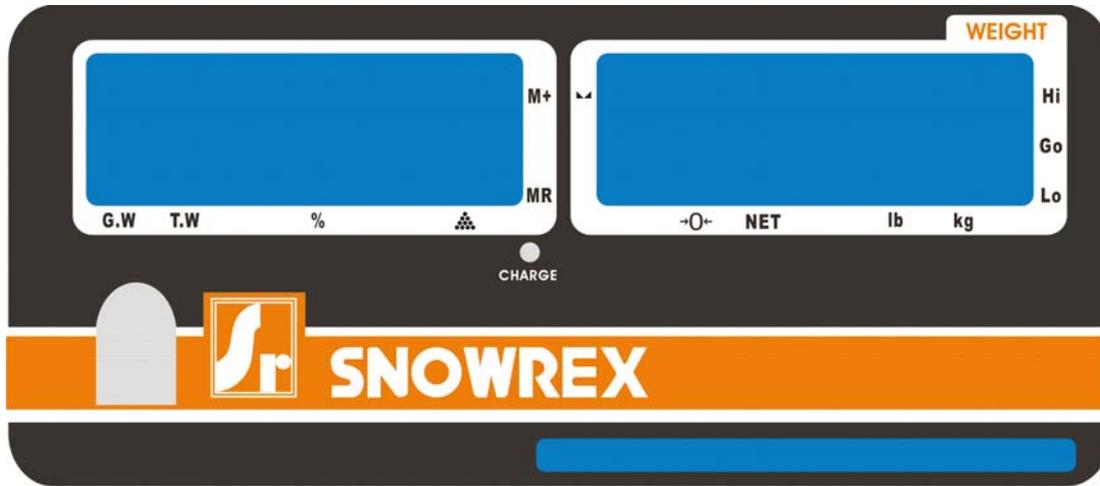
🔳🔳🔳🔳🔳🔳	Numerical display to display weight, ID number
◣◢	Indicates the weight is stable.
→0←	Indicates the weight is at zero.
MR	Indicates the total weights in memory
M+	Indicates the accumulation weights in memory.
G.W	When ▼ is shown above the G.W. indicator, the Gross Weight is displayed.
NET	When ▼ is shown above the NET. indicator, the Net Weight is displayed.
T.W	When ▼ is shown above the T.W. indicator, the Tare Weight is displayed.
Hi	When the weight is over the weight upper bound, ► is flashing next to the Hi indicator.
Go	When the weight is between the weight upper bound and lower bound, ► is flashing next to the Go indicator.
Lo	When the weight is under the weight lower bound, ► is flashing next to the Lo indicator.
⚫ (counting icon)	▼ is shown above the ⚫ when in counting mode.
%	▼ is shown above the % when in percentage mode.
kg & lb	Indicate the unit of weight

Keypad
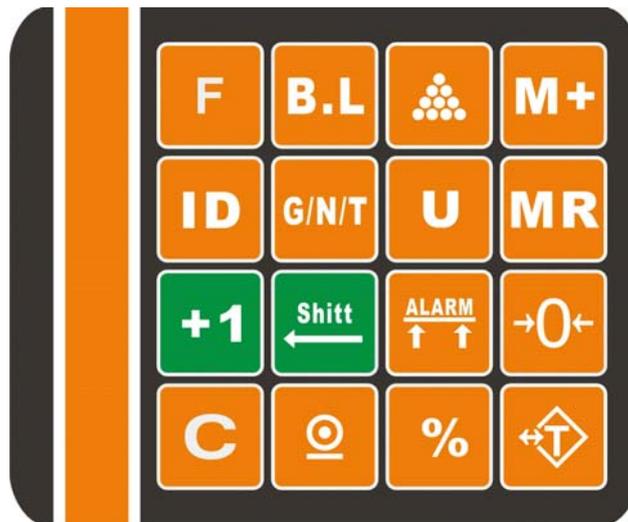
Key Icons	Keypad	Descriptions
→0←	Zero key	Press to absorb trivial weight on the pan and set the scale to zero.
↔T	Tare key	Press to perform tare operation.
+1 & Shitt	Number setting keys	Press "+1" key to increase number and press "shift" to shift the digit.
C	Clear key	Press to clear the input data.
M+	M+ key	Press to accumulate piece counting and weighing results.
MR	MR key	Press to recall total number of accumulation and total weighing.
ALARM	Alarm key	Press to set alarm for weight upper and lower bound.
B.L	Backlight key	Press to set backlight on or off.
F	Function key	Press to toggle among weighing, percentage and counting modes.
⚬ (sampling)	Sampling key	Press to set up sample quantity.
%	Percentage key	Press to set up percentage of the given sample.
⊙	Print key	Press to print the weight data.

	Unit key	Press to switch between kg and lb.
	ID key	Press to enter the ID mode. Use the numeric keypad to enter the user's ID number.
	Gross/Net/Tare key	Press to toggle among Gross Weight, Net Weight, and Tare Weight on the display.

Using the weighing scale

Counting function

1. Put certain pieces of objects on to the scale pan.

2. In weighing mode, press ![icon], and then use ![+1] & ![Shitt] keys to set the piece counts.

3. Press ![icon] to confirm.

4. Now you are ready to perform parts counting for the specific samples.

Percentage function

1. Put certain pieces of objects on to the scale pan.

2. Press ![%] and then use ![+1] & ![Shitt] keys to enter the percentage of the sample,

3. Press ![icon] to confirm.

4. Place objects of desired piece counts on the weighing pan. The percentage of the objects will be calculated automatically.

Operation of M+

1. When there is a load on the weighing pan, press ![M+] and after a beep sound, the ▶ indicator let to **M+** icon will light up on the LCD, indicating a data has been recorded.

2. Clear the load and put another load on the weighing pan. When the scale become stable, press ![M+] to record another load weight

- *After each recording, if the load on the weighing pan is not cleared, pressing ![M+] will result in the beep and the scale won't be able to record the next weighing result.*
- *The stored memory can memorize up to 180 weighing results.*

Operation of MR

1. In weighing mode, press ![MR] to display the accumulated weighing result. The LCD display will show the total number of accumulation and the total weight alternatively. For instance, if you added two weighing results and the total weight add up to 4.0 kg. The scale will show **tot.002**, and **4.000** kg

2. Press ![M+] to exit the MR mode without clearing the data in memory.

Alarm function

1. Press ![ALARM] key to set the upper bound of the weight. The **Hi** is showing in the left window.

2. Set up the weight upper bound with the ![+1] & ![Shitt] keys. Press ![T] to confirm to save your Hi setting. And then move to Lo setting.

3. The **Lo** is showing in the left window. Press the ![+1] & ![Shitt] keys to set the lower bound of the weight.

4. Press ![T] to confirm to save your Lo setting. And then back to weighing mode.

Note:

- *While the weight exceeds the upper bound of Weight Upper Bound, or lower than the Weight Lower Bound, or between the lower and upper bound and is not zero, the scale may beep for warning.*

You may change the beep settings in CAL 1 menu.

Settings and Calibration

1. Press and hold any key while turning the scale ON. **CAL 1** is shown on the LCD display.

2. Press ![C key] key to toggle among the **CAL 1**, **CAL 2**, **CAL 3**, **and CAL 4** menus.

3. Select **CAL 1**, press ![button] to enter General Settings menu.

4. Select **CAL 2**, press ![button] to enter the Print Settings menu

6. Select **CAL 3**, press ![button] to enter Calibration procedure.

7. Select **CAL 4**, press ![button] to enter Linearity Calibration procedure.

Note: To perform CAL 3 and CAL 4 calibration, you must remove the JP3 jumper from the PCB first. Put the JP3 back after calibration is complete.

General Settings (CAL 1)

In the General Settings menu, press ![C button] to toggle among the options, and ![button] to confirm.

1. Aut.oFF– Auto Off Setting

Display	Descriptions
A.oFF 0	Disable auto shutdown function.
A.oFF 1	If there is no operation, the scale will shut down in 5 minutes.
A.oFF 2	If there is no operation, the scale will shut down in 10 minutes.
A.oFF 3	If there is no operation, the scale will shut down in 20 minutes.
A.oFF 4	If there is no operation, the scale will shut down in 30 minutes.

2. Pcnt.dP – Percentage decimal Setting

Display	Descriptions
Pcnt.dP 0.0	100.0 %.
Pcnt.dP 0.00	100.00 %

3. bbH - Hi Beep Setting

Display	Explanation
bbH_ 0	Disable Hi alarm sound.
bbH_ 1	Set Hi alarm sound as continual short beeps.
bbH_ 2	Set Hi alarm sound as continual long beeps.

4. bbS - Go Beep Setting

Display	Explanation
bbG_ 0	Disable Hi alarm sound.
bbG_ 1	Set Hi alarm sound as continual short beeps.
bbG_ 2	Set Hi alarm sound as continual long beeps.

5. bbL – Lo Beep Setting

Display	Explanation
bbL_ 0	Disable Hi alarm sound.
bbL_ 1	Set Hi alarm sound as continual short beeps.
bbL_ 2	Set Hi alarm sound as continual long beeps.

Print Settings (CAL 2)

Press ![C] to toggle among the options. Use the numeric keys to input data and press ![T] to save your settings.

1. Print Settings

Display	Descriptions
Pr.dEFA	Set the print format to default settings.
Pr.LP50	Set the print format to LP-50 printer.

2. Printout setting

Display	Descriptions
P. PrESS	Press M+ to print single weighing result. Press C in MR mode to print accumulated weighing result and total accumulation.
P. StAb.1	Print weighing result (Net wt, Pc. wt, Pc. count) when the scale is stable and weight > 0. * Pressing M+ and MR do not print.
P. StAb.2	Print Net wt when the scale is stable and weight > 0. * Pressing M+ and MR do not print.
P. ALL.1	Press M+ to print single weighing result. Press C in MR mode to print accumulated weighing result and total accumulation. Print weighing result (Net wt, Pc. wt, Pc. count) when the scale is stable and weight > 0.

P. ALL.2	Press M+ to print single weighing result. Press C in MR mode to print accumulated weighing result and total accumulation. Print Net wt when the scale is stable and weight > 0.
P.Count	Continuous printing weight data. Usually used for sending weight data to PC.
P. oFF	Print function disabled.

3. Baud Rate

Display	Descriptions
br2400	Set the baud rate to 2400
br4800	Set the baud rate to 4800
br9600	Set the baud rate to 9600

4. Parity Setting

Display	Descriptions
PA. 7-E-1	Set the parity to 7-E-1
PA. 7-o-1	Set the parity to 7-o-1
PA. 7-n-2	Set the parity to 7-n-2
PA. 8-n-1	Set the parity to 8-n-1
PA. 8-E-1	Set the parity to 8-E-1
PA. 8-o-1	Set the parity to 8-o-1

Calibration Procedure (CAL 3)

Please remove the JP3 jumper before you start the calibration process.

In Calibration menu, press [C icon] to toggle among the menu options. And press [↕T icon] to confirm.

1. SEL maximum capacity

Display	Descriptions
LoAd **06d**	Set maximum capacity as 6 kg.
LoAd **15d**	Set maximum capacity as 15 kg.
LoAd **30d**	Set maximum capacity as 30 kg.

2. A0

Display	Descriptions
A0 0(off)	Zero tracking function is disabled.
A0 1(on)	Zero tracking function is activated.

3. Zero Point Calibration

Display	Descriptions
Pnt. 0 XXXXXX	The right window shows AD Value of Zero weight. Wait until the AD value becomes stable, press [↕T icon] to confirm.

4. Setup calibration weight

Display	Descriptions
Pnt. CAL XXXXXX	Put 1/3 or 2/3 or 3/3 of full load on the weighing pan. The right window shows AD Value of the load. Wait until the AD value becomes stable, press [↕T icon] to confirm.
Display	**Descriptions**
Pnt. CAL 1/2/30000	The right window will cycle display the 1/3,2/3,3/3 of full load. When the weight displayed equal to the load weight, press [↕T icon] to confirm. The window will show "done".

Remove the load from the weighing pan, and the scale will restart and the calibration is done.

Linearity Calibration Procedure (CAL 4)

Note: This section can only be operated by engineers.

Please have the jumper JP3 switch OFF before you start the calibration process.

In Calibration menu, press to toggle among the menu options. And press to confirm.

1. Zero Point Calibration

Display	Descriptions
Pnt 0	The AD Value is then displayed in the right window.

Make sure the weighing pan is empty. Wait until the AD value becomes stable, press to proceed.

2. Calibration by 1/3 of the maximum capacity

Display	Descriptions
Pnt 1	The AD Value of 1/3 of the full load is then displayed.

Put on poise of the 1/3 weight by the maximum capacity. Wait until the AD value becomes stable, press to proceed.

3. Calibration by 2/3 of the maximum capacity

Display	Descriptions
Pnt 2	The AD Value of 2/3 of the full load is then displayed.

Put on poise of the 2/3 weight by the maximum capacity. Wait until the AD value becomes stable, press to proceed.

4. Calibration by the maximum capacity

Display	Descriptions
Pnt 3	The AD Value of the full load is then displayed.

Put on poise of full capacity of the scale. Wait until the AD value becomes stable, press . The linearity calibration is complete.

RS232C Connection: DB-09 (Male)

Pin setup: 2 (TXD)   3 (RXD)   5 (GND)   others (NC)

Bi-directional RS232C Setting

This section is applicable only for models with RS-232C module.

OUTPUT FORMAT

STA	SIGN	W_6	W_5	W_4	W_3	W_2	W_1	W_0	SPACE	U_1	U_0	CR	LF

STA	'U' (55h) indicates it's an unstable weight.
	'S' (53h) indicates it's a stable weight.
SIGN	'-'(2Dh) means it's a negative weight.
	' ' (20h) space char indicates it's a positive or zero weight.
W_6…W_0	Weight data, decimal point included.
SPACE	20h
U_1, U_0	'k' (6Bh) 'g' (67h) indicates that the unit is kilogram.
	'l' (6CH) 'b' (62h) indicates that the unit is lb.
CR	0Dh
LF	0Ah

Command:

COMMAND	Actions	Response
<ENQ> (05h)		the weight string (not available when the print format is set to OFF or PRESS.)