Content

1.Introduction

This manual contains installation and operation instructions for the SNUG III balance. Please read the manual completely before installation and operation.

2.Precautions

◎ Place the scale on a flat and stable surface .

◎ Verify that the input voltage and the plug type matches the local power supply.

◎ Warm up the scale for 15 minutes before using each time.

◎ Keep the scale away from EMI noise, strong wind and vibration, which might cause incorrect reading.

◎ Avoid sudden temperature changes (suitable operating temperature is between -5℃～ 40℃.)

◎ Do not drop loads on the platform.

◎ Disconnect the power supply while cleaning the scale.

◎ Do not immerse the scale in water or other liquids.

◎ Service should be performed by authorized personnel only.

3.Production Introduction

3-1 General Features

- Multiple functions: tare, preset tare, simple counting, check weighing, accumulation and display for every deal.

- Single point calibration and linear calibration available

- Equipped with overload and transport protection devices.

- Different capacity and resolution available(resolution up to 300~300000）

- Low battery alarming, inner-built clock, and simple counting function.

- Software filtering design and adjustable weighing displaying speed according to different environments.

- RS-232 serial communication interface(PC or printer)

3-2 Display

3-2-1 LCD Display

🔋 Low battery indication

-0- Return to zero indication, the zeroing range is 2% of weighing capacity.

◣◢ Stable indication

T Tare indication "◈"

3-2-2 Keyboard

◄GROSS/NET 1.Display gross and net weight by turns

2.Long press to enter the sample option

3.Shift keys leftwards

+/PRINT/HI 1.During setting value, add 1 to the current value

2.Print when print model is manual printing

3.Long press to set the upper limit of the check weighing

-/LIGHT /LO 1. During setting value, deduct 1 to the current value

2.Set the backlight on or off

3.Long press to set the lower limit of the check weighing

TARE/ ► 1.Tare manually

2.Hold and enter the preset tare

3.Shift keys rightwards

ZERO/ON/OFF 1.Zeros the display

2.Powers on the scale and exits from certain operation with save

3.Hold and power off the scale

UNIT/SET 1.Switch units

2.Hold to enter the parameter setting

3-3 Power supply

1） (9V/400mA) adaptor

2） 4 * C size dry battery

3） Without the battery charging function

Power Consumption

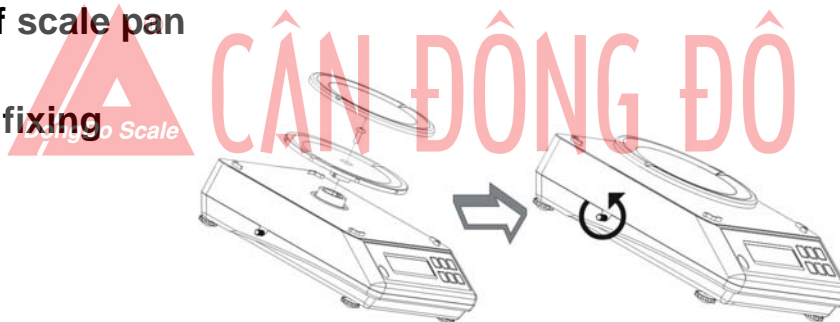140 hours and 190mW without backlight

83 hours and 288mW with backlight

Low Battery Warning

When "▯" appears in the upper left corner of the weight window, the battery requires change or scale should connect adaptor.

4. Installation of products

4-1 Assembly of scale pan

4-1-1 Scale pan fixing

⑴． Use Philips screwdriver to lock fixing screw in the center of plastic base.

⑵． Then loose the transportation protecting screw.

4-1-2 Removal of protecting screws

(1) As shown by the arrow in the right figure, you may turn anticlockwise the transportation protecting screw direct with fingers to loose it.

(2) For locking the screw, you may push gently the screw inwards with fingers meanwhile turn it clockwise.

(3) The transportation protecting screw must be locked while transporting, storing, disassembling or assembling the scale.

Note: the scale will show Err message if the transportation protecting screw is locked or the starting zero exceeds +/-30%.

4-1-3 Installation Notes

⑴．Calibrate the scale under the good environment without the wind and vibration affection.

⑵．Mistake usage of battery or adaptor could cause dangerous issue.

4-2 Adjustment of Leveler

In case the bubble is outside the circle, you should adjusts four adjusting feet at the bottom of the scale with hands direct. The bubble will move towards the highest foot, therefore it is enough to raise the foot that is the opposite direction of the bubble, and the scale will be horizontal.
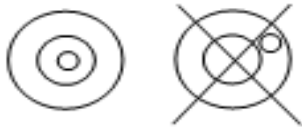
5. Function Setting and Description of Parameter Values

5-1 Function Setting

1. Press **UNIT/SET** to power on the scale, or hold **UNIT/SET** under normal weighing mode to enter function setting, the window displays " **check**".

2. Press **◄GROSS/NET** or **TARE/ ►** to shift between the functions.

3. Press **UNIT/SET** to enter the parameter setting.

4. Then press **◄GROSS/NET** or **TARE/ ►** to shift between the function parameter.

5. Press **ZERO/ON/OFF** to save and return.

6. Press **ZERO/ON/OFF** to exit without saving and return to the normal weighing model.

5-2 Description of Parameter Values

1. CHECK **Offset value**

   Displays the offset value and the keypad testing can be conducted.

2. LIGHT **Backlight mode**

   Off ：No backlight

   Auto： Auto on once get a stable weigh data or any key is pressed. But auto off after N seconds (N=2s, 5s, 10s, 20s, ever) with no action. Ever= It is always on when the weights over 9e

On： Backlight on

Key： Press **LIGHT** button to turn on/off the backlight function

3. ᴬᵘᵗᵒ **Auto-off**

Off：Non power off

5，10，30，60(minutes) : Auto power off after keeping the scale unused for **5，10，30，60**(minutes) with "------" appears

4. ᵁⁿᶦᵗ **Units settings**

 init：stating unit: kg，lb…Final

    Final：keep the final being used unit when power off

 use：usage unit: kg，g，ct，lb，oz，dr，GN，ozt，dwt，MM，tl.T，tl.H，t，pcs

    on-kg ：enable "kg"   off-kg：disable "kg"

 Note：Press UNIT/SET to choose unit, and press ◄GROSS/NET or TARE/ ► to choose unit ON or OFF.

5. ᶻᴱʳᵒ **zero range setting**

   d0, d1, d2, d3, d4, d5: d0 (one division) , d1 (2 divisions), d2 (3 divisions), d3 (4 divisions), d4 (5 divisions) and d5 (6 divisions)

6. Cʰᵘᵢ **whether to save the upper & lower limit of quantity checking: on, off**

   OFF = previously set quantity checking values are not retained when the unit is turned on.

   ON = previously set quantity checking values are retained when the unit is turned on.

7. Cʰˢˡ **Check weighing function**

   on: Check weighing under the condition that the weight is within the limits and the stable indication appears.

   off: Check weighing under the condition that the weight is within the limits.

8. ᵇᴱᴱᴾ **Check Weighing buzzer beep**

   Hi： There will be a warning sound when the weight of articles exceeds the upper limit, and the weight is equal or more than 20d

   LO: There will be a warning sound when the weight of articles exceeds the lower limit, and the weight is equal or more than 20d

   ok：There will be a warning sound when the weight of articles is between the upper and lower limit (including the upper and lower limits), and the weight is equal or more than 20d

   out：There will be a warning sound when the weight of articles is beyond the upper or lower

limit, and the weight is equal or more than 20d

no.beep： no beep

9. $P E r$ **External device:** PC、JMS、Godex 、BIRCH、ZEBRA、GP、DMP、CK、ET、CX、T.CONT、EXCEL、U-KEY。

PC: Computer

JMS: Connecting the weighing managing system

GODEX: Godex printer (paper size: 5cm*3cm)

BIRCH: Birch printer (paper size: 5cm*3cm)

ZEBRA: Zebra printer (paper size: 5cm*3cm)

GP: Adhesive sticker label printer   (paper size: 5cm*3cm)

DMP: Dot matrix printer

CK: Thermal printer (Chinese available)

ET: Large LED display

CX: CX large screen display (version 0.02)

T.CONT：the output format is compatible with Toledô Continuous Mode

EXCEL: Work with the function of "Use Serial Keys" in Windows in outputting the data to Excel or others.

U-KEY: U.KEY connector works with PC to send the weighing data to computer (WinXP/Win7) in form of Excel and so on.

10. $b R U d$ **RS-232 Serial Transmission Rate**

9600、4800、2400.

11. $P r t n$ **Print mode**

Key：manual print by pressing key

stable：print automatically when get a stable weight

Contin：continuous print

12. $P r t F$ **Printing format setting**

Prt 1~2, 100 formats available

13. $F i L$ **filtering setting**

1，2，3，4

The higher the setting, the slower stabilization time.

14. $J\text{-}L$ Precondition for zeroing or taring setting: stable，auto，always.

stable ：Taring or zeroing can be not action without stable indication after pressing the key *TARE* or *ZERO*

always: Taring or zeroing can be action without stable indication after pressing the key *TARE* or *ZERO*

auto: Press key TARE or ZERO, but it works only when get the stable indication.

15. rLC time setting (optional): **on，off**

on ：activate the time setting

off ：disable the time setting

Choose RTC function ON, and press **UNIT/SET** to enter YEAR setting, press **UNIT/SET** to enter value change. Press **◄/GROSS/NET** or **TARE/ ►** to shift rightwards. Press **+/PRINT/HI** or **-/LIGHT /LO** to change value, and press **ZERO/ON/OFF** to save and return. Long press **ZERO/ON/OFF** to return without saving. Press **◄/GROSS/NET** or **TARE/ ►** to enter the TIEM/DATE setting, press **UNIT/SET** to enter value change, and the operation is same as YEAR setting. Press **ZERO/ON/OFF** to return after all setting, and window displays ON, press **ZERO/ON/OFF** to return.

16. $0\text{-}oFF$ Zero-Offset function

OFF：not display the previous weight when powering on again

ON： display the previous weight when powering on again

17. $rE5EL$ **Initialization**

Press **UNIT/SET** twice to start initialization and finish initialization when window display ok.

6. Calibration

Note：(1) Before calibration, please set the capacity need first. The unit used in calibration is the weighing unit set before.

(2) Press **TARE/ ►** while powering on, or press **TARE/ ►** after setting the capacity, and the window displays "CAL".

(3) Press **ZERO/ON/OFF** to save the calibration and return.

Here we take 600g/0.05gas an example:

1. Press and hold **TARE/ ►** while powering on. Don't release it till the window displays "*CAL*".

2. With no load on the weighing pan, press **TARE/ ►** to start zero point calibration. "*0.00*" is

blanking.

Wait till the window displays the first calibration value **"200.00g"** (the first calibration point

`0.50 g` created according to the capacity setting, such as 600g, and its first point is 200g.

the default value is 1/3 of full load.)   If you need to change the value, do as the

following: Press **UNIT/SET** to enter the value setting. Press **◄/GROSS/NET** or **TARE/ ►** to

move leftwards or rightwards. Press **+/PRINT/HI** or **-/LIGHT /LO** to change the value, and then

press **ZERO/ON/OFF** to save.

3.   Put the corresponding weight on the weighing pan, and then press **TARE/ ►** to complete

the first point calibration.

4. After the first point calibration, the window can display the weight value. If no need for the

other point calibration, move to step 6 to finish the calibration procedure.

5. Add another mass to the current weight. The window will show the total weight. Press **TARE/**

► to complete. Repeat this step to finish the linear calibration.

6. Press **ZERO/ON/OFF** to save. After the window displays "*PASS*", it will return to normal

weighing mode.

   Note: the window will displays   "**PASS**" after step 5, and return to normal weighing mode.

7.Operation

7-1Weighing
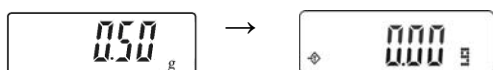
Begin with no load on the scale, the display reads zero.

Place item to be weighed on the scale, the display will show gross weight.

Note: set the weighing unit firstly.

7-2 Manual Tare & Preset Tare

Manual Tare

1. Under the weighing mode, place the container on the weighing pan, wait till stable symbol

appears, and press the key **TARE/ ►** :

`0.50 g` → `0.00 g`

2. Place the item(s) to be weighed into the container. `200.00 g`

   The weight displayed is the net weight.

3. Remove all items from the weighing pan; the screen displays the tare value. `0.50 g`

4. To clear tare with an empty pan, press TARE/ ► or ZERO/ON/OFF.

Preset Tare

1. Long press TARE/ ► for 3 second, and the scale is now in digital imputing mode with the left-most digit blinking:

`000000 g`

2. Press ◄GROSS/NET or TARE/ ► to move leftwards or rightwards. Press +/PRINT/HI or -/LIGHT /LO to change the value. `000050 g`

3. Press ZERO/ON/OFF to save and return to weighing mode.

4. Put the load on the container, the scale will automatically deduct the value of the container from the total value.

5. Clear the load on the container, and press TARE/ ► or ZERO/ON/OFF to cancel the pre-tare.

7-3 Check Weighing
Upper limit setting

1. Long press PRINT/HI to enter the digital inputting mode with the right-most digit blinking `000000 g`

2. To set the value of upper limit, press key ◄GROSS/NET or TARE/ ► to shift leftwards, press +/PRINT/HI or -/LIGHT /LO to change the value. `050000 g`

3. Press UNIT/SET to active or disable the check weighing function.

4. Press ZERO/ON/OFF to save the value setting.

Lower limit setting

1. Long press -/LIGHT /LO to enter the digital inputting mode with the right-most digit blinking `000000 g`

2. To set the value of upper limit, press key ◄GROSS/NET or TARE/ ► to shift leftwards, press +/PRINT/HI or -/LIGHT /LO to change the value. `020000 g`

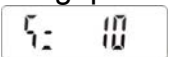3. Press UNIT/SET to active or disable the check weighing function.

4. Press ZERO/ON/OFF to save the value setting.

5. Place the sample on the weighing pan after setting the check weighing value:
   if the sample weight is under the lower weight range while over or equal 20d, the LOW lamp will light up. If the sample is within the lower and upper weight range while over or equal 20d, the OK lamp will light up. If the sample is over the upper weight range while over or equal 20d, the HI lamp will light up.
   When changing the Hi-Lo value, the scale will activate the weighing checking function automatically. If the Lo value is higher than Hi value, then the Hi value will become the same value as Lo data.

7-4 Simple Counting

1. Press **UNIT/SET** to select the unit "PCS". $\boxed{0_{PCS}}$

2. Long press **◄GROSS/NET**, the ex-factory default sample quantity "10pcs" is displayed $\boxed{5:\ 10}$

3. Press **+/PRINT/HI** or **-/LIGHT /LO** to choose the sampling amount: 10、20、50、100、200、500、1000pcs are available. $\boxed{5:\ 20}$

4. Put the corresponding samples on the weighing pan, and then press key **TARE/ ►**. "*SAnP*" is displayed momentarily before the display reverts to the sample quantity.

$\boxed{SAnP}$ → $\boxed{20_{PCS}}$
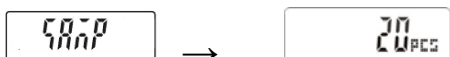
5. Remove the samples and put the load on, the scale calculates the amount of the load.

6. To go back to the normal weighing mode, remove the load and press key **UNIT/SET** to select the proper weighing unit.

Note: ①the unit weigh is too little when calculated unit weight is lower than 4 / 5 of scale division.

②The larger the sample size, the more accurate unit weight.

8. The Control from PC to Scale (Optional)

Connect the scale to computer. Run serial port debugging program on the computer. Input the capital number "Z", "T", "R" ,"C","P" in the sending area, and the indicator can conduct the corresponding actions.
Z=zero
T=tare
C=cancel tare
R/P=reading / print

9. Initialization of the Scale to Printer (Optional)

1. Press **UNIT/SET** key while powering on or long press **UNIT/SET** key in the weighing mode to enter parameter setting. Press key **◄GROSS/NET** or **TARE/ ►** to circle the parameters

2. Press **UNIT/SET** to enter the external equipment choosing. Press key **◄GROSS/NET** or **TARE/ ►** to select the type of printers. Press **UNIT/SET** and the window displays UNSUP or init？. When UNSUP appears, it means the printer needn't initialization. Press key **ZERO/ESC** to return to the printer choosing. It needs to be initialized when init? appears. Press key **UNIT/SET** to start initialization.

3. It displays ok when initialization is finished and shows the type of printer after one second. Press ZERO/ON/OFF to return to weighing mode.

10. Troubleshooting and Error Message

Error Message	Problem	Shootings
ERR0	Exceed the zero range	The item should be within 2% of full load
ERR1	Resolution set exceeds 300-300000 or the wrong capacity	Reset the resolution and capacity
ERR2	Exceed the initial zero point	1. Check whether there are other alien articles on the scale pan, remove those articles. 2. LOAD CELL failure, which requires to be changed or to contact our Service.
ERR3	Exceed the A/D resolution range	1. Check whether it is A/D failure, if yes, please replace AD. 2. LOAD CELL failure, replacement is required or contact our Service.
ERR4	EEPROM failure	Re-sold EEPROM or contact our Service.
ERR5	Overload condition	Remove weight that is greater than the scale capacity from the pan.
ERR6	Exceeds the display range	--
ERR8	Weight limit value is higher than the full load value	Reset the weight limit value.
ERR9	Exceed tare or pre-tare range	The tare value should be over zero and less than or equal to full load.
ERR10	Wrong calibration weights	Place the right weights(the calibration value ≤ full load)

Appendix：Printing format (optional)

Printing Device	Format	Sample
PC	prt-01	100.00 g

	prt-02	G.W.: 150.00 g T.W.: 50.00 g N.W.: 100. 00 g
	prt-03	100. 00 g
	prt-04	ST GW + 100. 00 g UT GW + 100. 00 g UT NW − 200. 00 g ST NW − 200. 00 g ST: stable; UT: unstable; NW: net weight; GW: gross weight
	prt-05	ST, GS, + 100. 00g US, GS, + 100. 00g US, NT, − 200. 00g ST, NT, − 200. 00g ST: stable; US: unstable; NT: net weight; GS: gross weight
	prt-06	ST, + 100. 00g ST, − 100. 00g "ST," is the prefix.
	prt-07	+ 100. 00 g - 100. 00 g
BIRCH/GODEX/ZEBRA/CK/GP	**prt-01**	100. 00 g

	prt-02	G.W.: 150.00 g T.W.: 50.00 g N.W.: 100.00 g
CK	**prt-02**	G.W: 150.00 g T.W: 50.00 g N.W: 100.00 g
DMP	**prt-01**	100.00 g
	prt-02	G.W.: 100.00 g T.W.: 0.00 g N.W.: 100.00 g
U-KEY	**prt-01**	0.985
	prt-02	0.985 kg

Note：

1) As for **BRICH/GODEX/ZEBRA/GP** printers, the factory designs the format as planned and email to the user. Add the format into the previous format file via computer. Then it is successful to add the new format and able to print the new format.

2) As for **DMP/CK** printer, it needs to change the scale design.