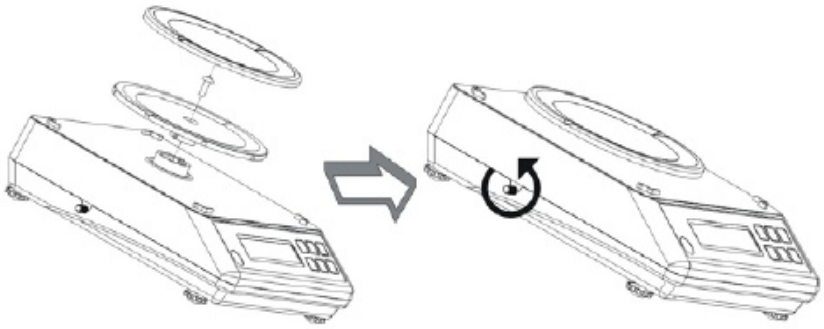
Contents

Procedure of balance-pan fixing



In installing the balance pan, the fixing screw in the center of the plastic balance pan should be tightened.

Then loose the transport protection rod on the side of the balance body.

Procedure of disassembling the protection device

1. There is a transport protection rod device on the left side of the balance when facing the front of SNUG III analytical balance.

2. Before using SNUG III analytical balance, turn the protection rod

counterclockwise to loose it and then release.

3. Before transporting SNUG III analytical balance, press the protection rod inward and turn it clockwise to tighten.

Installation mode

1. When conducting the weight calibration of the product, pay attention to the environment and avoid wind and vibration.

2. Usage of unsuitable cells or wrong connection of the wire may bring danger.

Description of keys

ON/OFF	Key to power on and power off the balance.
ZERO	Key for zeroing, which will function only within ±2% of the maximum weighing capacity; when in TARE mode, if the tare weight is smaller than ±2% of the maximum weighing capacity, the tare can be cancelled and it can be zeroed; if the tare weight is greater than ±2% of the maximum weighing capacity, the tare can be cancelled.

TARE	Key for deducting the weight; to deduct the weight of articles on the balance.
MODE	Key for mode shifting. The mode shifts in the sequence of weighing, counting, percentage and printing time.
UNIT	Weighing unit shifting key (13 kinds of units)
SMPL	In the weighing mode, it is the key for Backlight switch (valid only when Light is set to ON or OFF); in counting and percentage modes, it is the key for sampling, press it continuously, you can select from five sampling numbers- 20, 50, 100, 200 and 500.(Capable of automatic averaging).

Weighing：

Press 「ON/OFF」key， the screen will fully display and count down. One minute later, the screen will display 0.00 X, and the weighing can begin. If backlight is needed, please press 「SMPL」key.

Counting：

Press 「MODE」after the balance is powered on, the screen will display XXXX pcs, , then press 「SMLP」key, the screen will display SE 0pcs . Continuously press「TARE」key to select from the five sampling numbers -20, 50, 100, 200 and 500. After the selection, put the articles to be sampled on the balance pan, press 「SMLP」key and you can begin counting when a beep is heard.

Percentage：

Press 「MODE」key after the balance is powered on, the screen will display XXXX % , ,then press 「SMLP」key, the screen will display SE 0 % . Continuously press「TARE」key to select from the five sampling numbers -20, 50, 100, 200 and 500. After the selection, put the articles to be sampled on the balance pan, press「SMLP」key and you can begin calculating percentage when

a beep is heard.

Print time setting:

Press 「MODE」key after the balance is powered on, the screen will display time XXXX T ,then continuously press 「UNIT」key to shift to month XX.XX D and year XXXX Y. Press 「TARE」key to select the setting position , press 「SMPL」key to modify and press 「MODE」key to exit.

Notes: 1. The minimum sample weight ≥9 resolution. (For example, the sample weight for 600g shall not be smaller than 0.09g.)

2. When the weight is unstable, the unit flashes.

3. The balance will warm up for five minutes after it is powered on.
4. When the weight is greater than full load + 9e, Err 5 will display.

Operation of weight single point calibration

Step1: Please first power off the machine, press and hold down 「MODE」key , then press 「ON/OFF」 to power on the machine, release 「MODE」 key and the screen will display as follows:

Count

Step 2: Press 「MODE」key once again and the screen will display as follows:

CAL

Step 3: Press 「UNIT」key to begin the zero calibration, please do not put any article on the pan, the screen will display as follows:

ZEro

Please wait for a while until the screen displays

Step 4: Press「TARE」key to select the calibration point, on1 is 1/3 load and on2 is 2/3 load and on3 is full load. Put the corresponding weight on the pan after selection, wait for the “beep”, and the screen will display as follows:

PASS

Step 5: The single point calibration is now completed, clear the pan. Press「MODE」key and then press「SMPL」key to enter countdown mode.

Operation of weight linear calibration

Step1: Please first power off the machine, press and hold down 「ZERO」and 「TARE」keys, then press 「ON/OFF」 to power on the machine, release 「ZERO」and 「TARE」 keys and the screen will display as follows:

L-CAL

Step 2: Clear the pan, then press 「TARE」 key and the screen will display as follows: (zero calibration)

on0

Step 3: After a “beep”, the screen will display as follows:

on1

Step 4: Put the 1/3 load on the pan, after a “beep” , the screen will display as follows:

on2

Step 5: Put the 2/3 load on the pan, after a “beep”, the screen will display as follows:

on3

Step 6: Put the full load on the pan, after a “beep” , the screen will display as follows:

PASS

Step 7: The linear calibration is completed. Clear the pan and then press「TARE」key to enter countdown mode.

The corresponding loading values in the linear calibration for various models of SNUG III balances

MODEL	SNUG III-150	SNUG III-300	SNUG III-600	SNUG III-1500	SNUG III-3000
Linear calibration on1	50g	100g	200g	500g	1000g
Linear calibration on2	100g	200g	400g	1000g	2000g
Linear calibration on3	150g	300g	600g	1500g	3000g

Calibration Table

Setting method

Press and hold down the「MODE」key , then press「ON/OFF」key, release「MODE」key to enter the setting status:

「MODE」key: for function shifting.

「UNIT」 key: selecting key for enter and exit a function and function setting;

「SMPL」key: for selection of function setting and for ending the setting.

LCD display	Function Description	Function setting selection	Function setting selection	View content
「**MODE**」**key**：		「**UNIT**」 **key**：	「**SMPL**」	
Count	internal value displays			Note 1 on Page 10
↓				
CAL	Single point automatic calibration			Page 4
↓				
unit	Selection of unit	g、ct、lb、oz、dr、GN、ozt、dwt、MM、tl.j、tl.T、tl.H、t	ON/OFF	Note 2 on Page10
↓				
InitU	Selection of unit when powering on	g、ct、lb、oz、dr、GN、ozt、dwt、MM、tl.j、tl.T、tl.H、t		Note 3 on Page 10
↓				

Auto	Selection of automatic power off	Au-no/5/15/30/60	Note 4 on Page 10
↓			
bAud	Selection of transmission speed	2400/4800/9600	Note 5 on Page 10
ZEro	Selection of automatic zero range	d0/1/2/3/4/5	Note 6 on Page10
↓			
Fil	Selection of vibration prevention	Fil1/2/4/8	Note 7 on Page11
↓			
LigH	Selection of backlight function	onoFF/oFF/ON	Note 8 on Page11
↓			
Print	Selection of printing mode	St/Co	Note 9 on Page11
↓			

Pr Fu	External equipment	PC/ SH-24	Note 10 on Page11

1. When the Count is displayed on the screen, press 「UNIT」 key, you can see the present internal value. Press 「UNIT」key again and then press「MODE」 key to return to the display of Count .

2. When unit is displayed on the screen, press 「UNIT」 key to enter the mode of selection of unit . The screen will display on g or oFF g ，whereas "on " represents the use of this unit and " oFF "is represents the disuse of this unit. Press 「SMPL」key to shift between ON and OFF 【set "on" for the units to be used and "oFF" for the units not to be used】. Press 「UNIT」 key, you can select from the thirteen units. When the selection is completed , press 「MODE」 again to return to the display of unit .

3. When InitU is displayed on the screen, press 「UNIT」 key to enter the mode of selection of unit when powering on. InitU xx X represents the selection of this unit for use when powering on. Press「UNIT」 key to shift among the units until the desired unit is selected. Then, press 「MODE」 key to return to the display of InitU .

4. When Auto is displayed on the screen, press 「UNIT」 key to enter the mode of selection of automatic power off. The screen displays XXX X represents the selection of automatic power off. Press 「UNIT」 key to shift until the desired automatic power off is selected. Then, press「MODE」key to return to the display of Auto . 『Au-no-means not to select automatic power off, while 5-means 5 minutes, 15- 15 minutes, 30- 30minutes and 60- 60 minutes』 (Automatic power off is not executive at unstable state).

5. When bAud is displayed on the screen, press 「UNIT」 key to enter the mode of selection of setting the RS-232 transmission speed. The screen displays XXXX .X represents the RS-232 transmission speed. Press 「UNIT」 to shift until the desired RS-232 transmission speed is selected. Press 「MODE」 key again to return to the display of bAud .『2400, 4800, 9600』

6.When ZEro is displayed on the screen, press 「UNIT」 key to enter the mode of selection of automatic zeroing range. The screen displays dX X represents the automatic zeroing range. Press 「UNIT」 key to shift until the

desired automatic zeroing range is selected. Press 「MODE」 key again to return to display of ZEro 。『d0, 1, 2, 3 , 4, 5』(the higher the value, the larger the automatic zeroing range is).

7. When FiL is displayed on the screen, press 「UNIT」 key to enter the mode of selection of the vibration prevention. The display of FiL X X represents the vibration prevention grade. Press 「UNIT」 key to shift until the desired vibration prevention grade is selected. Press「MODE」key again to return to the display of FiL 。『FiL1, 2, 4, 8』(the higher the value, the higher the vibration prevention grade is).

8. When LigH is displayed on the screen, press 「UNIT」 key to enter the mode of selection of backlight function setting. The screen displays XXXX X represents the backlight function setting. Press 「UNIT」 key to shift until the desired backlight function is selected. Press 「MODE」 key again to return to the display of LigH 。『onoFF-is automatic backlight, oFF-is without backlight and ON- is backlight』.

9. When Print is displayed on the screen, press 「UNIT」 key to enter the mode of selection of printing method. The screen displays Pr-XX X represents the printing method. Press 「UNIT」 key to shift until the desired printing method is selected. Press 「MODE」 key again to return to the display of Print. 『Pr-Co-is continuous printing and Pr-St –stable printing』

10. When Pr Fu is displayed on the screen, press 「UNIT」 key to enter the mode of selection of external equipment. The screen displays XXXX X represents the external equipment. Press 「UNIT」 key to shift until the desired external equipment is selected. Press「MODE」key again to return to the display of Pr Fu. 『-PC—is to connect to the computer and SH-24 –is to connect to the dotted micro-printer』

11. If it is not to enter the mode of function setting, press「**SMPL**」**key** to end the function setting and return to normal weighing mode. Press 「**MODE**」 **key** continuously to shift between the function setting options in rotation.

RS-232 serial interface

The 9PIN connector at the right back of SNUG III balance is a RS-232 standard

interface, with No. 2PIN for output, No. 5PIN for ground and others useless.

BAUD RATE：2400 OR 4800 OR 9600 bps

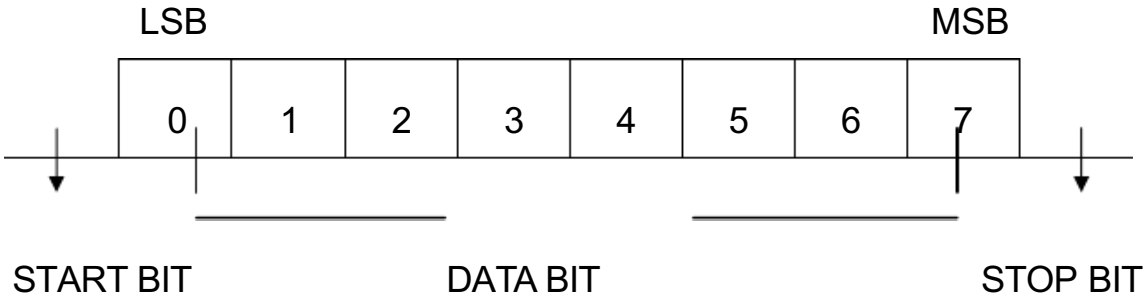
DATA BIT： 8

PARITY BIT：N（NONE）

STOP BIT：1

CODE：ASCII

BIT FORMAT：



DATA FORMAT：

N/G/T	.	W	.	:		+/-												LF	CR

SP WEIGHT SP UNIT

N.W：net weight

G.W：gross weight

T.W：tare weight

SP：space

Example:

2007-04-10 08:32:46

T. W.: + 0.00g

N.W.: +499.98g

G.W.: +499.98g

Computer program：10 OPEN 〝COM1:9600,N,8,1,RS,DS,LF〞 AS #1

(BASICA) 20 INPUT #1,A$

30 PRINT A$

40 GOTO 20

50 END

Operation instruction of USB interface

Precautions for using USB device:

1. This USB interface device can only communicate with computer.

2. The computer should be installed with the driver of the USB interface equipment which can be downloaded from the company's website.

3. After the driver is installed, the communication between this device and the computer behaves as a serial communication, and the serial transmission rate should be set correspondingly.

The operation of USB interface equipment is as follows:

1. Use USB line to connect the electronic balance and the computer. Turn on the electronic balance. If USB driver is not installed on the computer, prompt information will be displayed on the computer to prompt you that a new hardware is found and its driver is needed to be installed.

2. After the driver is installed, use the hyper terminal of the computer to test if there is data transmission. Procedures for opening the computer hyper terminal is: "start" ⟶ "all programs" ⟶"accessory"⟶ "communication" ⟶"hyper terminal". Enter the name, click confirm, select COM3 or COM4 □ and click confirm. Select the corresponding serial transmission rate (If the balance is set

at 9600, select 9600), click confirm, then the communication can be made.

3. The communication mode of USB is the same as that of RS-232. If user has his own computer receiving terminal, it can be used for the communication.

USB interface is an optional device. User can select USB interface device or RS-232 interface device according to his need.

Unit Conversion Table

1	ct	[MET.CARAT]	=	0.1999694 g
1	lb	[AVORIRDUPOIS POUND]	=	453.59237 g
1	oz	[AVORIRDUPOIS OUNCE]	=	28.349523125 g
1	dr	[AVOIRDUPOIS DRAM]	=	1.7718451 g
1	GN	[GRAIN](U.K)	=	0.06479891 g
1	ozt	[TROY OUNCE]	=	31.1034768 g
1	dwt	[PENNY WEIGHT] (U.K)	=	1.55517384 g
1	MM	[MOMME] (JPN)	=	3.749996 g
1	tl.j	[HONG KONG JEWELRY TAEL]	=	37.4290018 g
1	tl.T	[TAEL](TWN) (Vietnam)	=	37.49995 g
1	tl.H	[HONG KONG TAEL]	=	37.799375 g
1	t	[TOLA] (INDIA)	=	11.6638038 g