

# **330 WEIGHING**

**HIGH PRECISION WEIGHING SCALE**

## **Operation Manual**

### **CONTENTS**

<b>Specification, key &amp; basic operation:</b>	pg 1
<b>Operation:</b>	pg 1
<b>Counting &amp; Check Weighing :</b>	pg 2
<b>Troubleshooting:</b>	pg 2
<b>RS232 transmission method :</b>	pg 3

## Specification:

- Rechargeable battery inside, you can use the scale during recharge.
- Auto zero.
- Auto zero tracking.
- Selectable weighing, counting, percentage.
- Power supply: AC 220V (±10%) / 50 Hz, (Rechargeable battery).
- Working temperature range: 0 °C ~ +40 °C/
- Relative humidity: ≤ 85 % RH

## Keyboard instruction:

1. **[Mode]** To choose different function model: Weighing, Counting, percentum.
2. **[Unit]** kg, lb - select.
3. **[Set]** To choose high and low limits range in weighing mode.  
To sample the weight in counting and percentage mode.
4. **[Zero]** To re-zero when there's nothing on the platform.
5. Press this key continuously for 2-4 second to activate / deactivate backlight.
6. **[Tare]** To activate / deactivate tare.
7. **[↑]** To input.
8. **[Enter]** To confirm.
9. **[**] To make the Backlight, Automatic, ON, OFF.

## Operation:

The scale must be placed on a stable and flat surface then switch on the power. The scale cannot be used for a long time under tare state or the function of zero tracing will disappear and the zero will move.

The scale will go into the weighing mode after the power on. The "Zero" and "kg" LED will activate Press **[Mode]** to choose between the three mode: weighing, counting, percentage.

Backlight on/off: Press **[Zero]** key continuously for 2-4 second, the backlight will be switched on or off.

### **[Weighing mode]**

Choosing Unit: Press **[Unit]** to choose "kg" and "lb". The corresponding LED will activate.

### **Tare Function:**

Put the container on the platform. Press **[Tare]** to make scale display "Zero" after the weight is stable.

When the "Tare" activates, the weight display is Net Weight. Remove the weight, the weight window displays negative. Press **[Tare]** again, the weight window displays "Zero". The "Tare" LED disappears.

Zero Function: Press **[Zero]** to re-zero indicator.

(Zero range: ≤4%FS, it is invalid under tare state.)

## 【Counting mode】

Press **【Set】** to sample weight in the counting mode. It displays “SAP X” (X is the sample number).

1. Press **【↑】** to choose a sample number from 10, 20, 50, 100 and 200. Press **【Enter】** confirm.
2. The scale displays “LOAD-C” after the sample number is chosen. Put samples on the scale then press **【Enter】** to finish sampling.
3. There are two instances of unit weight lacking:
  - a. When the weight window displays “-LAC-”, it means the unit weight of sample is less than 80% of division. You still can count but the counting may be inaccurate. The signal will disappear after about 3 seconds.
  - b. When the weight window displays “-CSL-”, it means the unit weight of sample is not enough at all. Please press **【Set】** to re-sample. Press **【Enter】** to exit back to the counting mode.

Press **【Set】** to exit. **【Percentage mode】**

1. Press **【Set】** in the percentage mode to display “LOAD-P”. There are two ways to sample:
  - a. Put 100% press **【Enter】** to finish sample.
  - b. Press **【Unit】** then the scale displays “000000”. Press **【↑】** and **【Enter】** to input the value.
2. When the sample weighs less than 0.1% FS., the weight window displays “-CSL-”. It means the sample is not enough. You should re-sample. Press **【Set】** to re-sample. Press **【Enter】** to exit back to the weighing mode. Press **【Set】** .

## Check weighing Function:

1. High limit Press **【Set】** Scale will display the set weight high limit and display “-HH-”. Press **【Enter】** to confirm and set the low limit. Press **【↑】** to set the number. In the process of inputting the number, you may press **【↑】** . Press **【Enter】** to confirm and set the next digit. When done press **【Enter】** to set the low limit.
2. Low limit setting--It will display the set weight low limit and display “-LL-” . The operation is the same as setting high limit. It will go into the alarm method setting after the low limit settings finished.
3. Alarm setting—Range alarm activates when the scale displays “-IN-”. range alarm activated when the scale displays “-OUT-”. No alarm when the scale displays “-NO-”. Press **【↑】** to switch. Press **【Enter】** to confirm.  
Press **【Set】** to exit from check weighing. The set value is invalid.

## Troubleshooting:

1. “-OF-” with continuously alarm sound when the weight is over 100%FS+9d. If the ADC overflows, the weight window displays “-Adc-”with continuous alarm. For these instances, remove all weight.
2. If the voltage of the battery is low, the weight window displays “-Lo-” while the weight is zero (The weight display will recover to normal when it is loaded ). Under this condition, you can use the scale for a short time, but you should plug in the AC plug as soon as possible to recharge the battery.
3. The weight window displays “HHHH” or “LLLL” when the zero is higher or lower than the permitted range.
4. When you switch on the scale. The weight window will display “UNSTA” if the scale is not stable. It maybe because the resolution is too low or the platform is near wind or vibration. You may strengthen the platform or avoid the shake.
5. If it display “-SYS-” when you switch on the scale please re-calibrate or send it in for repair. If it display “-Set-”, it means the alarm setting is wrong, please reset the alarm value.

## RS232 transmission method:

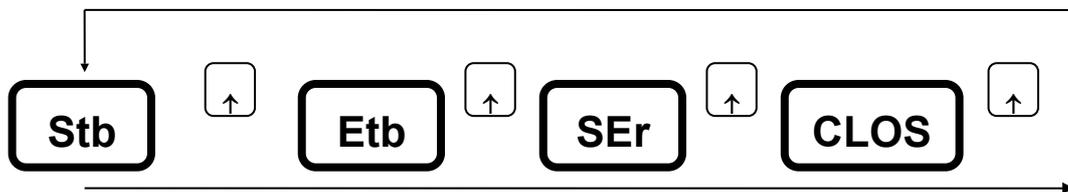
1. **RS232 setting** Press **[Mode]** and **[Tare]** key when self-testing, release both keys when you hear the buzzer sound and enter the RS232 transmission setting.

- (1) Set transmission method

Press the **[set]** key to choose the method of: “**Stb**” = output when stable, “**Etb**” = output when **[Enter]** key is pressed, “**SEr**” = series (continuous output), or “**CLOSE**” = output disabled. Then press **[↑]** key to select method or press **[Enter]** to confirm and set the next parameter.  
(The default mode is “close”.)

- (2) Baud rate Setting

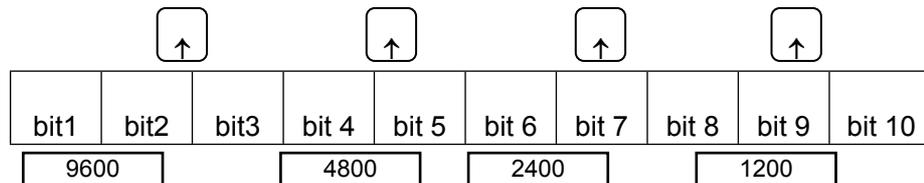
Press **[↑]** key to select the desired baud rate “1200”“2400”“4800”“9600”, then press **[Enter]** to confirm the selection and exit setting. (The default baud rate is **2400**.)



2. RS232 interface

- (1) **Frame format**

The scale have a standard RS232 UART signal, Each data frames has 10bits. The detail information of frames is as follows :



bit1 : start bit

bit2~bit9 : data bit

bit10 : stop bit

- (2) **Data format : Every message include 6 bytes, they are following:**

No. 1: D0~D7 — 0FFH (Message Flag)

No. 2: D0~D2 — Decimal point (0-5)

D3~D4 — Current mode: 00 - weighting; 01- counting; 10 - percentum;

D5 — 1 means weight is negative, otherwise is positive

D6 — 1 means weight is stable, otherwise is unstable

D7 — 1 means weight is overflow, otherwise is normal

No. 3: D0~D7 — BCD1 (LSB)

No. 4: D0~D7 — BCD2 (MSB)

No. 5: D0~D7 — BCD3 (HSB)

No. 6: D0~D7 — Unit for weight: 1 - lb; 0 - Kg;