

# ANYLOAD<sup>®</sup>

## EB100 & EB200 Precision Balance

Operations Manual (V1611.1)



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## 1. Introduction

Thank you for choosing the Anyload EB100 / EB200 Precision Balance Scale. The EB100 and EB200 series precision balance incorporate a fast and stable display with a variety of functions such as auto shut-off, auto calibration, auto zero tracking, counting functions and 16 units of measurement/conversions. These scales' digital balance have an ABS enclosure with a stainless steel removable platform for quick and easy clean ups. Incorporated into the design are adjustable feet to ensure accurate weighing and an RS-232 communication port for easy data transfer to a PC or printer.

This manual provides the user's guide in using the product, safety, installation, features and technical specifications, calibration procedures, configurations and other technical related in using the scale.

## 2. Safety Precautions

All safety messages are identified by the following the words "**WARNING**" and "**CAUTION**". These words have the following meanings,

<b>ΔWARNING</b>	Important information to alert you to a situation that might cause serious injury and damage to your property if instructions are not followed.
<b>ΔCAUTION</b>	Important information that tells how to prevent damage to equipment.

When using the scale/balance, the following safety precautions should always be followed.

### **Δ WARNING**

Use only the AC adaptor with the scale/balance. Other adaptor may cause damage. (AC adaptor is optional)

### **Δ CAUTION**

Avoid placing the scale/balance in direct sun light which may cause discoloration or malfunctions.

Do not mix the type of batteries. Replace all batteries at the same time.

If the scale/balance is not to be used for a long period of time, remove all batteries from the battery compartment to avoid leakage which may cause damage to the instrument.

Avoid overloading that could cause damage to the scale/balance.

Do not drop water into the scale/balance that is not water-resistant. It causes damage, if inside of the scale/balance is wet.

Matter charged static electricity could influence the weighing. Discharge the static electricity. As example, the method is to use the electrification prevention spray, to spray on to both sides of weighing platform

### 3. Features

- Auto calibration
- Auto shut off (optional)
- Auto zero tracking
- Auto backlight (optional)
- Low battery indication
- g/ct/oz/tola conversion(optional)
- Large LCD Display
- Counting function (optional)
- Net weight/stability indication
- 1/120000&1/200000 division available

### 4. Parts Description

#### ▶ RIGHT SIDE

AC adaptor  
Socket



#### ▶ TOP

##### Display

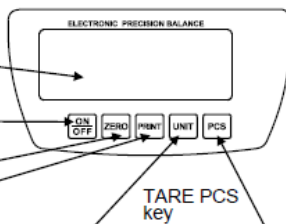
**ON/OFF** key  
turns the scale  
power on/off.

**Zero** key  
set display to zero

**PRINT** key (optional)

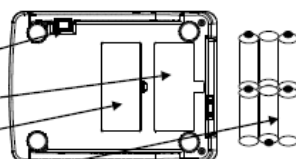
**UNIT** key  
Changes weighing units, g, ct, oz, tola.....

**TARE PCS**  
key



## ▶ BOTTOM

- Switch key
- Battery compartment
- Battery compartment cover
- Batteries
- Use 6 AA batteries



## ▶ DISPLAY

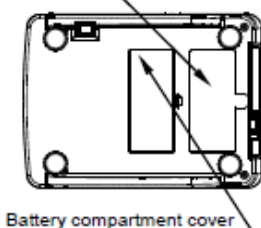
- Low battery indicator
- Negative value indicator
- STABLE** indicator when the reading is stable.
- Print indicator
- weighing unit
- TARE indicator
- ZERO indicator



## 5. Preparation and Installation

### 5.1 Installing batteries/Connecting the AC adaptor

Battery compartment



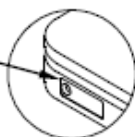
Remove the battery compartment cover and insert six batteries(R6P/LR6 /AA size) into the battery compartment, taking extreme care that the polarities plus and minus is observed.



R6P/LR6/AA size  
Dry batteries.  
(batteries are not included)

### AC adaptor (optional)

AC adaptor socket



Plug the AC adaptor to the AC adaptor socket on the side. The AC input requirement could be 110,120,220,230 or 240Volts (50/60Hz) depending on the area where used, so please verify that the adaptor is correct

## 5.2 Setting up the scale/balance

### **Δ! CAUTION**

Avoid placing the scale/balance in direct sunlight that may cause discoloration or malfunctions. Place your scale/balance on a firm weighing table so that the scale/balance is level. (The scale/balance will not perform accurately when it is not level.)

Place the scale/balance on the firm surface that is flat and level for an accurate weighing

## **6. Weighing**

### **6.1 Before weighing**

Whenever possible, please allow the balance to warm up for 10 minutes after first turning to power on, so that the balance will function properly and accurately.

### **6.2 Error messages**

EEEE: Overload



: Low battery

Calibration may be required before weighing.

Read "CALIBRATION" first and if necessary, calibrate your scale/balance for accurate weighing.

### **6.3 Weighing procedures**

#### **6.3.1 Press [ON/OFF] to turn on the balance.**

When power is turned on, all display segments appear on LCD for a few seconds and finally "0" will appear on the display.

#### **6.3.2 Changing Units**

Press [UNIT] to select a weighing unit, eg. "g"、" ct "、" oz "、" tola " .....

Once the unit has been selected, the selected unit will be displayed to the weight value.

### 6.3.3 Start weighing

#### **If you do not use a container for weighing**

Verify the reading is "0". If not, press **[ZERO]** to display "0".

Place objects on the weighing platform to weigh.

When the reading becomes stable, the stable indicator is displayed.

#### **If you use a container for weighing**

Place an empty container on the platform.

Wait for the stability indicator to be displayed and press **[ZERO]**.

Place the objects to be weighed in the container.

When the reading becomes stable, the stable indicator is displayed.

## 7. Functions Settings

Press **[ON/OFF]** to turn on the scale, the display will show flash digits and then --  
-----,

### 7.1 Setting BAU Value

Press **[PRINT]**, the display will show **b xxx** BAU value (press **[UNIT]** to select among 1200, 2400, 4800, 9600), our default setting is 9600.

### 7.2 Setting Parity Mode

Press **[ZERO]** to enter Parity mode, the display will show **P xxx** PAR, press **[UNIT]** to select odd, even, none (odd stands for 7 data bits with odd parity, even stands for 7 data bits with even parity, none stands for 8 data bit without parity)our default setting is none.

### 7.3 Setting Print Mode

Press **[ZERO]** to enter Print mode, the display will show **n xxx**, press **[UNIT]** to select CON, OFF, KEY, STB (CON stands for continuous print, OFF stands for serial data output disabled, KEY stands for demand mode by press **[PRINT]**, STB stands for automatic print when scale is stable, our default setting is STB. Press **[ZERO]** again to return to weighing mode.

## 7.4 Setting Unit Selection

Press **[UNIT]** to enter unit selecting function, the display will show ON X (X stands for the units: g,oz, lb,twt...tola..), press **[UNIT]** to select ON (activate the selected unit) or OFF ( inactivate the selected unit), press **[ZERO]** again to return to weighing mode.

## 7.5 Setting ZERO track

Press **[TARE]** key to enter ZERO track function setting, display shows **ZRD x.x**, press **[UNIT]** key to select ZERO track value (0.0d-0.5d-1.0d-1.5d-2.0d) , press **[TARE]** key to enter ZERO track function setting display shows **ZRT x.x**, press **[UNIT]** key to select ZERO track time (05. to 4.0 seconds, press **[ZERO]** key to enter ZERO setting, display shows **RZD XXX**, press **[UNIT]** key to select ZERO value (0.8d-1.8d-2.8d-3.8d) , press **[ZERO]** key to enter **FIL** setting, press **[UNIT]** key to select filter range amend (0-1-2-3-4-5-6-7), "2" is default setting, press **[ZERO]** key to select zero range when turn on the scale, press **[UNIT]** key to select percent (**PZR 2**, **PZR 5**, **PZR 10**, **PZR 20**), press **[ZERO]** key to set zero range, press **[UNIT]** key to select percent

## 8. Counting Procedures

### 8.1 Press **[ON/OFF]** to turn on the scale.

Wait for "0" to appear on the display.

### 8.2 Start the Count Procedure

If necessary, press **[ZERO]** key to set the display to "0".

**8.3** Press the **[PCS]** key to put the scale in PCS mode, the display will show P=X X, press **UNIT** to select XX value (10 20 50 100). Place a given number of samples of an item on the pan (the Sample Size should be either 10、20、50 or 100 pieces). The weight of these samples will show on the display.

**8.4** Press the **[PCS]** key, the display will show "XX pcs", then the scale will recall the sample size you selected and show the starting sample size on the display (you can now remove the samples if you want to return the scale to 0).



8.5 Press the [PCS] key to return to the weighing mode

## 9. Calibration

### 9.1 When to calibrate

Calibration may be required when it is initially installed, if the scale/balance is moved a substantial distance. This is necessary because the weight of a mass in one location is not necessarily the same in another location. Also, with time and use, mechanical deviations may occur.

### 9.2 How to calibrate

**9.2.1** Before entering calibration mode, there is a switch key on the bottom of the scale. Turn on the switch key first, press [ON/OFF] to turn the power on for 1minutes.

#### 9.2.2 Enter calibration mode

Press [ON/OFF] to turn the power on, the display will show flash digits and then "-----", Press [ZERO], the display will show "CAL" , Press [ZERO] again , the display will show "X0000 CAL" , X is flash digit. Press [UNIT] key the flash digit will move to right. Press [PCS] key to increase the flash digit. ***(X is the calibration weight which can be set according to your requirement).***

#### 9.2.3 Calibration by the weight

Select the calibration weight. Then place the calibration weight on platform. Then press [ZERO] key, the display returns to the weight value. Now the calibration is complete.

**9.2.4** Press [ON/OFF], turn off the power, press [ON/OFF] to turn on the power again. Place the weight on the platform to make sure whether weighing is correct, if not, repeat steps 2-4.

#### 9.2.5 Return to weighing mode

Press [ON/OFF] to turn the power off. Press [ON/OFF] again to turn on the power and the scale/balance returns to the weighing mode.

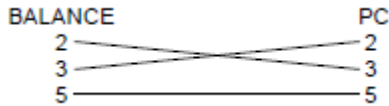
## 10. Parameter Settings

Press "UNIT" in each function to change the setting)

1. Press "ON/OFF" to turn on the balance. When it displays "- - - - -", press "PCS"
2. Display will show "Zrd x.x"  
Zrd is the zero tracking range (0, 0.2, 0.4, 0.6, **0.8**, 1.0, 1.5, 2.0)
3. Press "ZERO", display will show "Zrt x.x"  
Zrt is the speed of zero tracking (0.5, 1.0, 1.5, **2.0**, 2.5, 3.0, 3.5, 4.0)
4. Press "ZERO", display will show "r2d x.x"  
r2d is the range of return to zero display (**0.8**, 1.8, 2.8, 3.8)  
When you put weight on the scale and then take it off. The load cell, in many cases, will not return to the true zero value, it may still have 1d, 2d or 3d of weight internally in the scale depending on the quality of the cell. This setting is to let it display as zero.
5. Press "ZERO", display will show "FIL x"  
FIL x is the range of filter (0, 1, **2**, 3, 4, 5, 6, 7)
6. Press "ZERO", display will show "P2r xx"  
P2r x.x. is the zero range when you turn on the scale (% = 1, 2, 3, 4, 5, 8, 10, **20**)
7. Press "ZERO", display will show "K2r xx"  
K2r xx is the range of return to Zero key (% = 3, **4**, 5, 10)
8. Press "ZERO", display will show "Ktr xxx"  
Ktr xxx is the range of tare allowed (% = **50**, 100)
9. Press "ZERO", display will show "Ovr xx"  
Ovr xx is the range of overload capacity (**9d**, 2%, 5%, 10%)
10. Press "ZERO", display will show "b2 ON" or "b2 OFF"  
b2 is the beeper (**ON**, OFF)
11. Press "ZERO", display will show "Zt ON" or "Zt OFF"  
**Zt ON** is to combine the functions of ZERO and TARE key. For an example 0-4% of full capacity is Zero, 4-50% of full capacity is Tare, or 4-100% is Tare.  
**Zt OFF** is to separate the Zero and Tare keys. This function is used in balances with two separate ZERO and TARE keys.
12. Press "ZERO", display will show "A XX"  
A XX is the setting of auto shut off (minutes 3, 5, **10**, OFF)
13. Press "ZERO", display will show "L XXX"  
L XXX is the setting of light (**AUTO**, OFF, ON)
14. Press "ZERO" to return to the weighing mode.

## 11. RS232 Data Interface

### 10.1 Connector: DB9



### 10.2 Transmission Settings

Mode: Simplex Asynchronous Serial	Baud Rate: 9600
Data Bit: 8	Parity Bit: None
Stop Bit: 1	Data Format: ASCII

### 10.3 Transmission Information Format : 20 Byte , blank=20H

1~2	3	4~13	14~18	19	20
W: '	P	DATA	UNIT	CR	LF

W: Start of Data Transmission=57H+3AH

P : Polarity '+' = 2BH = Positive '-' = 2DH =Negative

DATA: ' 12.345' = 20H+20H+20H+20H+31H+32H+2EH+33H+34H+35H

UNIT: 'g' =67H+20H+20H+20H+20H

'oz' =6FH+7AH+20H+20H+20H

'lb' =6CH+62H+20H+20H+20H

'dwt' =64H+77H+74H+20H+20H

'ozt' =6FH+7AH+74H+20H+20H

'ct' =63H+74H+20H+20H+20H

'tl.T' =74H+6CH+2EH+54H+20H

'tl.H' =74H+6CH+2EH+48H+20H

'tl.J' =74H+6CH+2EH+4AH+20H

'GN' =47H+4EH+20H+20H+20H

'dr' =64H+72H+20H+20H+20H

'MM' =4DH+4DH+20H+20H+20H

'tola' =74H+6FH+6CH+61H+20H

'gsm' =67H+73H+6DH+20H+20H

'T/A/R' =54H+2FH+41H+2FH+52H

'T/M/R' =54H+2FH+4DH+2FH+52H

'pcs' =50H+43H+53H+20H+20H

CR: = 0DH

LF: = 0AH

## 12. Specifications

### 11.1 EB100

Model number	Capacity	Division
EB -100	3000g	0.05g/0.1g
Platter	170 x 180mm	Platter
Net/gross weight	1350g/1500g	Net/gross weight
Package	Standard carton: 34×22×14(cm3)	
	6 Units in one box: 47.5×38.5×45(cm3)	
Operating Temperature	0-40 °C(32 °F)	
Power source	6xAA batteries or AC/DC	
	Adapter 10~12V/150mA (optional)	

### 11.2 EB200

Model number	Capacity	Division
EB -200	600g	0.01g/0.005g
Platter	φ115mm	
Net/gross weight	3800g/4700g	
Package	Standard carton: 34×22×14(cm3)	
	6 Units in one box: 47.5×38.5×45(cm3)	
Operating Temperature	0-40°C(32-104°F)	
Power source	recharge or AC/DC	
	Adapter 10~12V/150mA (optional)	

**13. Error Codes**

<b>Error Code</b>	<b>Reason</b>	<b>Solution</b>
ERR-0	Over load	Make sure the load is within the full scale capacity
ERR-2	1).exceed Zero tracing range when power on. 2). Forgot to place platform when linearity calibration	1). tack off the weight when power on 2). place platform and then recalibration
ERR-5	inner code unstable when power on	1). load cell was being toughed 2). E+ power supply unstable 3). there are capacitance creepage of C1AD~C6AD
ERR-C	forgot to input calibration weight when calibrating	CAL~000000~ press [UNIT] and [PCS] (TARE) key to input calibration weight
ERR-P	counting setting error	place sample when counting