

# FAYA®

## E350、E310、TSC、E218

### Manual

2020-4

●Please read the manual carefully before using



Manufacturing Serial Number:00000875

## Indicator Using Notice

Thank you for choosing this product. In order to effectively help you use our products correctly, please read the operation manual carefully, which will be helpful to correct operation and extend the service life of the product, and reduce the chance of failure.

1. After unpacking, please confirm the battery capacity. In case of power shortage, please use the original configuration or recommended power source to charge the scale for about 5~6 hours
2. When the external power supply is connected, please confirm whether the electrical parameters meet the requirements.
3. Please place the electronic scale on a level and stable ground.
4. Please place the electronic scale to meet the requirements of the temperature and humidity environment, to avoid the impact of sharp changes in temperature airflow on the use of products.
5. Do not place the electronic scale in a place with strong vibration.
6. Please preheat the machine for 15-20 minutes before use.
7. Do not hit, heavy weight, do not use more than the maximum scale.
8. The center of gravity of the weighing object must be placed in the center of gravity point of the scale plate, the object shall not go beyond the scope of the scale plate, to ensure the accuracy of weighing.
9. Indicator are strictly prohibited to rain or wash with water, and don't use corrosive solution to clean it.
10. If long time don't use, please charge it every three months.
11. If no need using scale, please power off and take out the battery, and charge it per three months.
12. When the scale display shot battery or "Lobat", please charge it in time, and power off to charge it.
13. TSC series scale, please take out the bottom screws and then to use it.
14. The products are not used for trading goods.
15. Thanks for using our product, and please point it out if having any questions.

# Thanks for choosing FAYA products, please read the manual carefully before use.

FAYA has the right to revise the manual.

## 1.0 Brief

FAYA-E218 indicator, using high performance intelligent main control chip, high precision  $\Delta\Sigma$  A/D converting chip, can using in many weighing situations.

Main function: Calculate、UP/LL、RS232 communication、unit convert、power battery indicating function.

### Technical Parameter:

◆ Standard:

GB/T 7724-2008

◆ Accuracy Class:

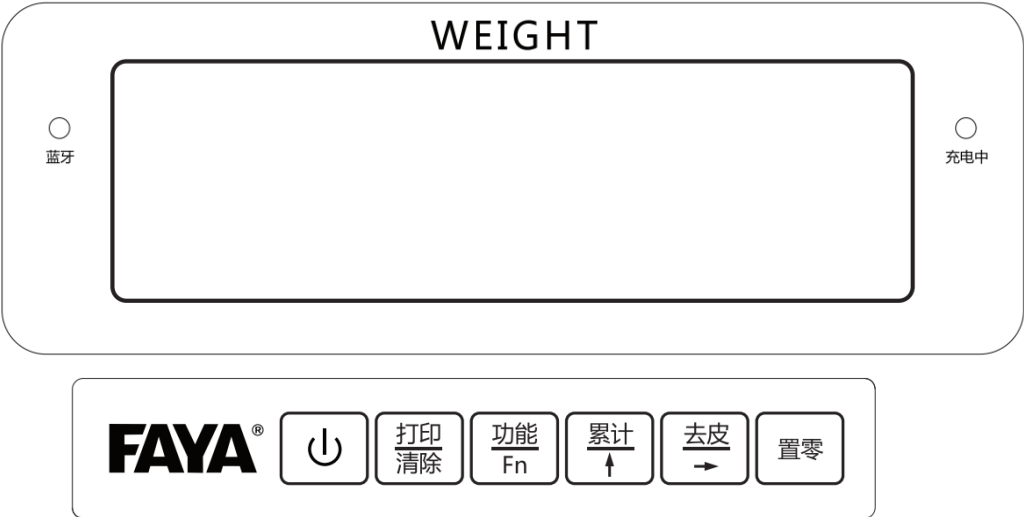


Devision; n=3000

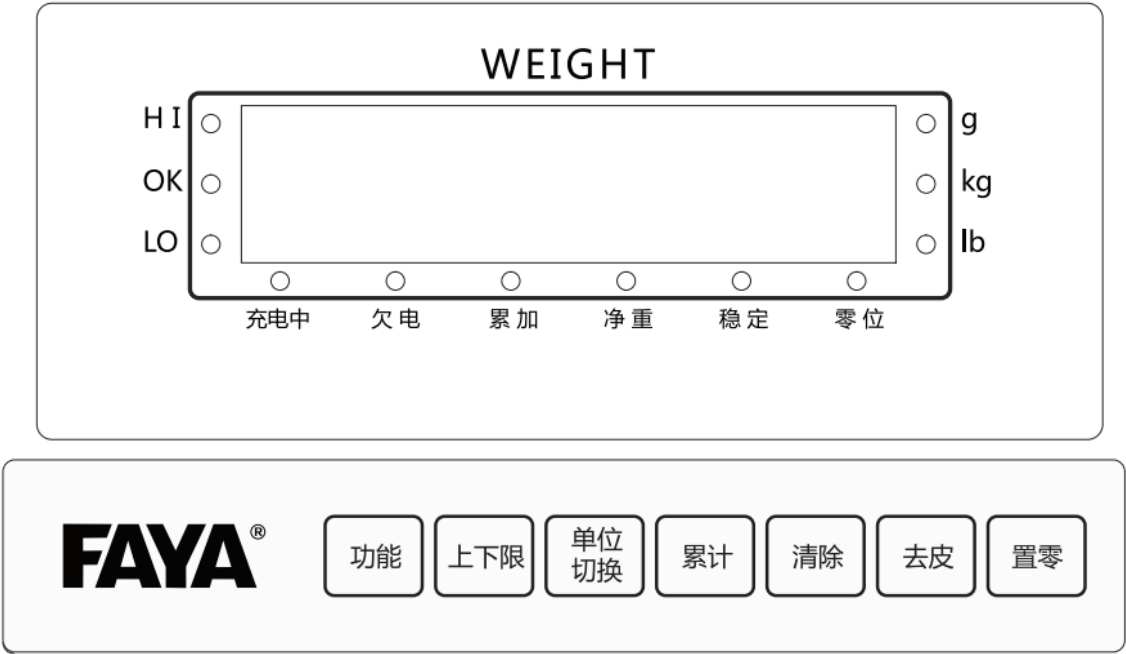
- ◆ A/D Conversion: using  $\Delta - \Sigma$  technology, 10 times per second
- ◆ Input sensitivity:  $\geq 1.5\mu V/e$
- ◆ E218 load cell bridge voltage: DC 3.3V, to connect with a 350ohm load cell of strain guage ;
- ◆ Signal inputting range: -16mV~18mV
- ◆ Load cell connect method: 4 wire method
- ◆ Devision: 1/2/5/10/20/50 can be choosen
- ◆ E218 power: AC220V, 50Hz; inner E2184V/4AH lead acid battery;
- ◆ Working temperature: 0°C~40°C, Humidity10%~85% (RH), non-condensing。
- ◆ Saving temperature: -20°C~60°C, Humidity10%~85% (RH), non-condensing。

2.0 Fixing

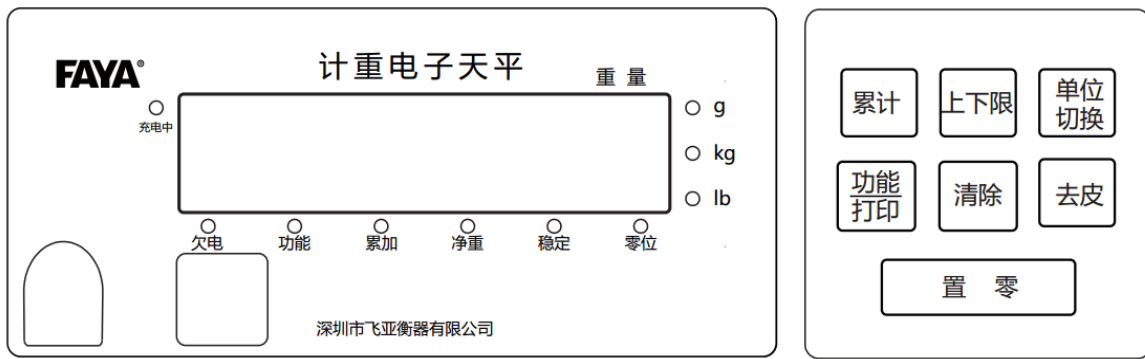
2.1 Panel picture



E350 panel

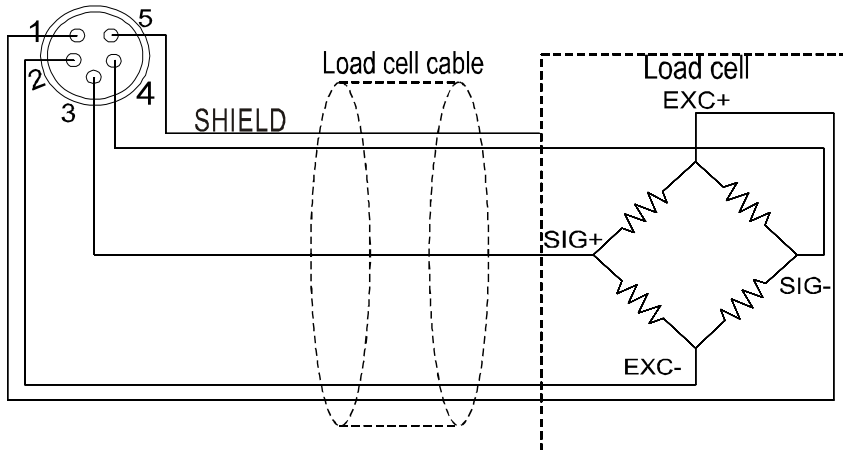


E310 ,E218 Panel

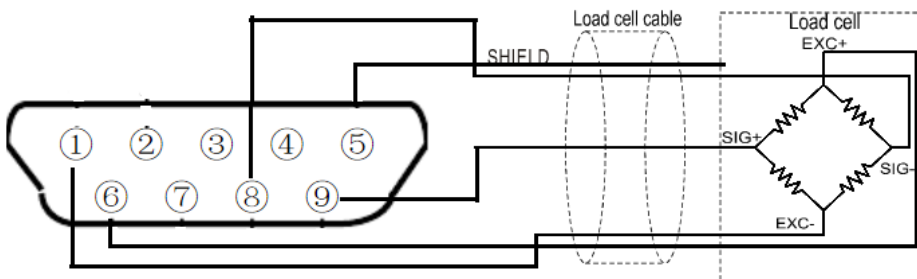


## TSC Panel

### 2.1.1 E350 & E218 Load cell connect with indicator



### 2.1.2 E310 Load cell connect with indicator



### 2.1.3 Serial port communication wire connection

Port instruction	
①	RXD (Scale receiving)
②	TXD (Scale sending)
③	GND
④	Big screen current loop output
⑤	Big screen current loop input

Port instruction	
②	TXD (Scale sending)
③	RXD (Scale receiving)
⑤	GND

▲ Load cell connect with indicator need be reliable, load cell shielded wire and metal cover need be ground connection reliably. The connecting wire is not allowed to be plugged in and out when

the indicator is using, to avoid broke the indicator or load cells.

▲ Load cell and indicator are electrostatic sensitive devices, need take prevent-electrostatic actions when using, don't electro-welding or strong electricity on scales, During the thunderstorm season, reliable lightning protection measures must be implemented to prevent the damage of sensors and instruments caused by lightning, and to ensure the personal safety of operators and the safe operation of weighing equipment and related equipment

3.0 Operating instructions:

### 3.1 Button instructions

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Button	Function 1: Slightly press when weighing	Function 2: Long press when weighing	Function 2: After enter into parameter setting	
Fn	User-defined button function, refer to 3.8	Enter into parameter setting refer to 3.6	Exit parameter setting	
Calculative ↑	Calculative refer to 3.5	Convert anti-vibration button refer to 3.7	Change parameter	
Tare →	Tare operation refer to 3.5	---	Digital scintillation bit moves to right	
Zero	Zero operation	---	Saving the setting parameter	
Print Clear	Serial port print output refer to 3.6	Clear calculative value	---	Only E350 indicator
Upper/ lower limit	Setting Upper/ lower limit	---	Multi-point calibration	E310、TSC、E218
Unit convert	---	Convert unit g、kg、lb refer to 3.3	---	E310、TSC、E218
Clear	Clear calculative value	---	---	E310、TSC、E218

### 3.2 Zero operation

In the use of electronic scale, occasionally encounter zero drift phenomenon, such as empty scale, there is still weight display on the platform, at this time can press the zero button to set the zero weight display window will display “0”。

### 3.3 Convert unit operation

E310、TSC、E218 long press “Convert unit”, until buzzer rings, circularly convert g, kg, lb。the converted unit will be saved automatically , next power on is the current unit。

E350, when the function parameter is: 【Fn Prt】, press “Fn” button, circularly convert g, kg, lb。

### 3.4 Tare operation

**Put the item to be buckled on the scale, press the tare key and the weight display window will display “0”, and the single weight display window will display the net weight symbol.**

### 3.5 Calculative, Clear calculative operation

Calculative operation

- (1) Platform setting zero
- (2) Put goods on platform, the weight need be more than 5d。
- (3) Press “Calculative ” button and then come off, scale will automatically calculate , Stop for 3 seconds to display calculative value and symbol。
- (4) Can't meet calculative qualification , such as unstable, over load, didn't be zero, repeated calculating, calculative value exceed the capacity, display last calculative value when calculating。

Calculating display

When the scale display zero, press “calculative” button, display calculative value for 3 seconds.

Clear calculative

Press “Clear” will clear calculative value 。 Power off and then power on the calculative value will be cleared。

### 3.6 Printing Operation

When the communication parameter is **【CSn 3】**, E350 indicator press “print”, the serial port will send current weight.

When the communication parameter is **【CSn 3】**, function parameter is **【Fn Prt】**, E310 & TSC press “Fn” button, the serial port will send current weight.

### 3.7 Animal scale operation & instruction (TSC、E350 without such function)

When using in live animal weighing situation to run animal scale function.

- (1) Enter into Fn interface setting **【Fn Ani】** run animal scale function.
- (2) Weighing result is not suitable, enter into interface **【L\*\*\*\*\*】**, **【r \*】**, **【t \*】**; animal scale run three parameters :low limit, stable time and calculating time.
- (3) Weight is less than low limit, “L” light is lighting.
- (4) When it is service, weight is more than low limit to run animal scale mode. When the weight change is under **【r \*】** to calculate weight, “OK” light is lighting. When time exceed **【t \*】** to display stable result. “OK” light is lighting always.
- (5) If re-calibrating , **【L\*\*\*\*\*】**, **【r \*】**, **【t \*】** & **【Ao \*】** will initialized.

### 3.8 Function parameter setting and instruction

Step	Display	Function Description	Operation Description
0	Weight	Is weighing	Long press “Fn” button until the buzzer rings to come off
1	<b>【Fn **】</b>	Setting “Fn” button function: <b>【Uit】</b> : E350 unit convert function, “Fn” setting to unit converting function, to press “Fn” to convert. <b>【--】</b> this button without function; <b>【Prt】</b> : E310、TSC “Fn” button to send communication data.	Press “calculative” button to choose the function of the self-defining button. Press “Zero” button enter into step2
2	<b>【bL **】</b>	E350 black light mode chosen : <b>【oFF】</b> : black light off; <b>【oN】</b> : black light on; <b>【Aut】</b> : auto black light, unstable black light on, stable for 10 seconds black light off.	Press “calculative” button to choose the black light mode Press “Zero” button enter into step3
2	<b>【PS **】</b>	E310、TSC、E218 power saving mode chosen: <b>【oFF】</b> : power saving mode off; <b>【oN】</b> : power saving mode on;	Press “calculative” button to choose the power saving mode , Press “Zero” button enter into step3
3	<b>【br****】</b>	Set communication baud rate: 600~9600bps can choose	Press “calculative” button to choose the baud rate; Press “Zero” button enter into step4
4	<b>【Co *】</b>	Set communication format: kinds of format can be chosen,	Press “calculative” button to choose the communication format, Press “Zero” button enter into step5
5	<b>【Add *】</b>	Communication address setting , use for multi-machine communicate.	Press “calculative” button to choose the communication address , Press “Zero” button enter into step6
6	<b>【CPd *】</b>	Set communication data sending frequency , 1,0.01, 9,0.09, 0~9can be chosen.	Press “calculative” button to choose the sending frequency , Press “Zero” button enter into step7
7	<b>【CSn *】</b>	Ste the sending mode of the communication data: 0, Continuously send 1, Stable Continuously send 2, After zero to weigh, stable to send one time	Press “calculative” button to choose the sending mode, Press “Zero” button enter into step8

		3, Sending print button E350 print button is printing function, E310 print button is function button.	
8	【H*****】	Setting upper limit weight alarm value E310、TSC can use “Upper/lower limit” button to enter into this interface	Press “Tare” to move flashing position , Press ”calculative” button to upper move the number , input the weight , Press “Zero” button enter into step9
9	【L*****】	Setting upper limit weight alarm value Weight is more than the upper limit, the “HI” is lighting; Weight is less than the lowwer limit,the “LO” is lighting ; Weight is between upper limit and lower limit,the “OK” is lighting 。	Press “Tare” to move flashing position , Press ”calculative” button to upper move the number , input the weight , Press “Zero” button enter into step10
10	【Ao *】	Setting buzzer alarm method: 0、Close buzzer alarm function。 1、More than upper limit buzzer alarm 2、Less than lower limit and more than zero, buzzer alarm 3、Weight is between upper limit and lower limit ,buzzer alarm 4、Less than lower limit or more than upper limit, buzzer alarm 5、Close upper/lower limit function , don’t display the upper/lower limit symbol , and don’t output.	Press ”calculative” button to choose send mode, Press “Zero” button to save parameters , return to weigh.
11	【r *】	Animal scale stable setting range: According to animal moving scope to set suitable stable range , during the stable range to run animal scale calculating。Exceed stable rage then display unstable	Press “Tare” to move flashing position Press ”calculative” button to upper move the number , input the weight , Press “Zero” button enter into step 12。
12	【t *】	Animal scale stable time setting: 1~9 seconds the weight calculating time of animal scale , the time is more longer more better。	Press ”calculative” button to choose time; Press “Zero” button save parameter and return weighing.

Step 3、4、5、6、7, indicator E218 without these function。Step 11、12, TSC 、E350 without these function

### 3.9 Battery maintenance and matters needing attention

E350 with inner 4.2V/4Ah lithium battery, E310、TSC with inner 6V/4Ah lead-acid battery, E218 with inner 4 V/4Ah lead-acid battery。 Only connect with one load cell under full battery, without power saving mode, work continuously one week , with power saving mode can work longer time。 The indicator automatically charges when the external power is connected, The charging light of the indicator will indicate according to the charging situation when it is turned off to charge: when battery is shortage the light is red; it is green light when full battery ; turn off to charge need 8-10 hours to full charge。

Note: TSC & E218 charging light is unique , without full charge indicating function.

**Battery is consumables, not belong to common guarantee area.**

★ In order to extend the service life of the battery, be sure to fully charge before use

**If the scale don’t use for long term, need charge every two months, and each time charge 8-10 hours.**

★In handling or installation must be carefully put, avoid strong vibration, avoid impact or impact, prevent the battery internal electrode short circuit, damage to the battery .

### 4.0 lower voltage alarm and auto power off

E350 only use battery to work, when battery is shortage (voltage is lower 3.7V) will lower voltage indicate , indicator voltage shortage will lighting , and indicate【Lo Bat】 need to charge soon; when battery is serious shortage (voltage is lower 3.65V), indicator will be auto power off.

E310、TSC only use battery to work, when battery is shortage (voltage is lower 5.7V) will lower voltage indicate, indicator voltage shortage will lighting, and indicate 【Lo Bat】 need to charge soon; when battery is serious shortage (voltage is lower 5.4V), indicator E310 will be auto power off, **TSC will cut off load cell power, but don’t power off, always battery shortage indicating.**

E218 only use battery to work, when battery is shortage (voltage is lower 3.8V) will lower voltage indicate,

indicator voltage shortage will lighting, and indicate **【Lo BAt】** need to charge soon; when battery is serious shortage (voltage is lower 3.7V), **will cut off load cell power, but don't power off, always battery shortage indicating.**

#### 4.1 Error info indicating

Scale display	Explain
<b>Er 1</b>	Exceed zero scope
<b>OVER</b>	Weight is overload or load cell dose not connect well
<b>Err o</b>	Weight is unstable when calibration
<b>Err o</b>	Load calibration error , load weight is too light or calibrated weight is too light or AD is
<b>Err 6</b>	Not satisfy tare requirements, scale platform is not stable or overload
<b>Err 9</b>	Data read to calibrate is error, data saving chip is broken;
<b>LO BAT</b>	Short battery