EPT20-15ET2P

1.5 ton electronic scale electric truck

- Small size, light weight, easy to operate;
- Different needs, multiple choices;
- Add intelligent weighing system, more efficient;
- Parts kits that have been tested in the market for many years, the quality is guaranteed.

REDDOT EQUIPMENT LIMITED

REDDOT electric trucks have passed the anti-slope test and verification. The products meet the national TSG 07-2019, TSG N0001-2017, GB/T10827.1, GB/T26949.1, GB/T18849 standards, please rest assured to buy.

PRODUCT FEATURES

01 Intelligent weighing system

The new weighing system comes standard with 6 sensors and a split weighing tray to improve the performance and service life of the vehicle.

02 Small size and light weight

An all-electric weighing truck suitable for small spaces and high cost performance.

03 Different needs, multiple choices

There are two options for the display instrument, the standard version without printer and the high version with printer (printing paper with self-adhesive), different needs, multiple choices.

04 Parts kits that have been tested in the market for many years, the quality is guaranteed

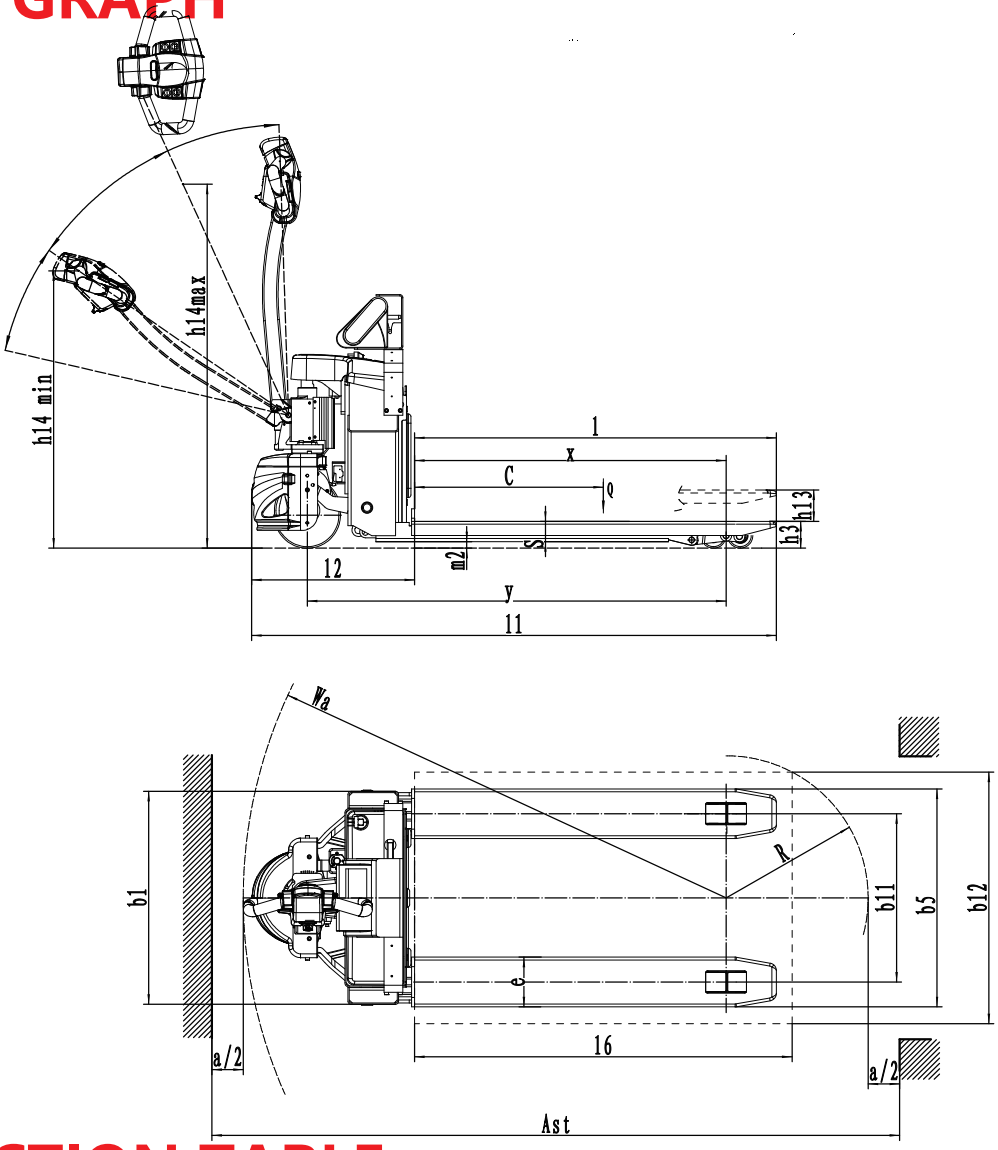
The main parts and components are all used in the second-generation small King Kong truck with a sales volume of more than 500,000 units. After years of market verification, the quality and performance of the vehicle are guaranteed.

PRODUCT PARAMETERS

Feature	1.1	Manufacturer			REDDOT
	1.2	Model designation			EPT20-15ET2P
	1.5	Rated capacity	Q	kg	1500
	1.6	Load center distance	c	mm	600
	1.8	Load distance	x	mm	934/990
	1.9	Wheelbase	y	mm	1272/1331
Weight	2.1	Service weight （include battery		kg	220
	2.2	Axle loading, laden driving side/loading side		kg	567/1128
	2.3	Axle loading, unladen driving side/loading side		kg	155/40
Tires/Chassis	3.1	Tyre type driving wheels/loading wheels			PU/ PU
	3.2	Tyre size, driving wheels （diameter×width		mm	Φ210x70
	3.3	Tyre size, loading wheels （diameter×width		mm	Φ80x61
	3.5	Wheels, number driving， caster/loading (x=drive wheels)		mm	1x，— /4
	3.6	Track width, front,driving side	b10	mm	—
	3.7	Track width,rear,loading side	b11	mm	410 （535）
Size	4.4	Lift height	h3	mm	110
	4.9	Height drawbar in driving position min./max.	h14	mm	750/1170
	4.15	Lowered height	h13	mm	85
	4.19	Overall length	l1	mm	1670
	4.20	Length to face of forks	l2	mm	518
	4.21	Overall width	b1/b2	mm	568 （693）
	4.22	Fork dimensions	s/e/l	mm	63/158/1150
	4.25	Outside width of the forks	b5	mm	568 （693）
	4.32	Ground clearance, center of wheelbase	m2	mm	20
	4.34.1	Aisle width for pallets 1000 × 1200 crossways	Ast	mm	2335
	4.34.2	Aisle width for pallets 800 × 1200 lengthways	Ast	mm	2187
	4.35	Turning radius	Wa	mm	1535
Performance Parameters	5.1	Travel speed, laden/ unladen		km/h	4.5/5
	5.2	Lifting speed, laden/ unladen		m/s	0.024/0.03
	5.3	Lowering speed, laden/ unladen		m/s	0.059/0.05
	5.8	Max. gradeability, laden/unladen		%	5/16
Electric Motor	6.1	Drive motor rating S2 60 min		kW	0.75
	6.2	Lift motor rating at S3 15%		kW	0.8
	6.4	The maximum allowed size battery		V/Ah	24/65

The above content is the product introduction. The chart shown may contain non-standard configurations. If there are improvements in appearance, technical parameters or configuration, we will try to update the information in time. However, in individual cases, these information may still be different from the latest situation. , please contact the business manager for confirmation before placing an order.

LINE GRAPH



SELECTION TABLE

Serial number	Options	EPT20-15ET2P
1.1	Fork length	●1150○800~1300
1.2	Fork width	●560○685
1.3	Minimum fork height	●85
2.1	Type of load wheel	●Double wheel○Single wheel
2.2	Loading wheel material	● Polyurethane
2.3	Driving wheel	● Polyurethane
2.7	Battery capacity	●65Ah○85Ah
2.8	Charger	●24V-10A Built-in charger
2.9	Electricity meter	●Timing
2.16	Front panel LOGO	●REDDOT
3.3	Universal wheel	●none○Available and not customizable
3.16	Vertical handler working	●none○Available and not customizable
3.21	Electronic scale	●Available and not customizable
3.22	Electronic scale with printing	●none○Available and not customizable
Note: ●Standard	○Optional	-This item does not match this product

INSTRUCTIONS FOR INTELLIGENT WEIGHING SYSTEM

Chapter 1 Main Parameters

Serial number	Options	Content
1	Model designation	XK3190 - A12+(E) Weighing indicator
2	Accuracy	Level 3,n=3000
3	Sampling speed	10 times/sec
4	Sensor sensitivity range	1.5～3mV / V
5	Graduation value	1/2/5/10/20/50 Optional
6	Display	6-digit LCD/LED, 6 status indications
7	Large screen display interface	Adopt serial output mode, current loop signal, transmission distance ≤2000 meters
8	Communication interface	RS232C； Baud rate 1200/2400/4800/9600 optional
9	Using electric	Maintenance-free lead-acid battery DC6V/4AH
10	Operating temperature	0～40℃
11	Storage temperature	-25～55℃
12	Humidity	≤85%RH

INSTRUMENT FEATURES

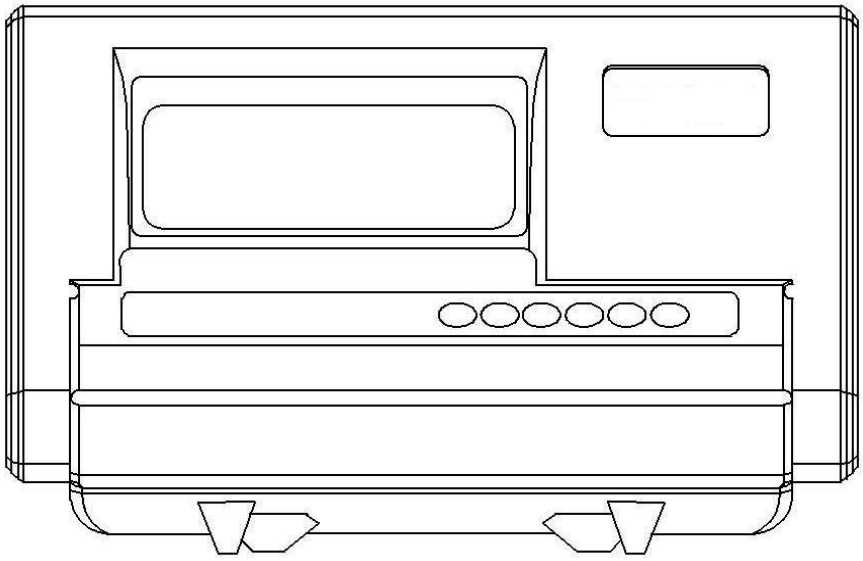
- High precision A/D conversion, readability up to 1/30000;
- It is convenient to call the internal code and display, and replace the weight observation and analysis tolerance;
- Special software technology to enhance the anti-vibration capability of the system;
- The speed, amplitude and stable time of digital filtering can be set; weighing counting function (single piece weight has power-off protection);
- A variety of backlight modes are available;
- Optional RS232 communication port, optional baud rate, optional communication mode; optional 20mA current loop large screen communication port;
- Customizable non-standard modified varieties (can be customized according to customer needs)

  (1) Modified type with kg/lb conversion function;
  (2) Special reformed type of livestock scale;
  (3) Modified type with 2 fixed value output (TTL) functions;
  (4) Modified type with peak hold;

Chapter 2 Appearance and Connection

1. Schematic diagram of instrument display and keyboard function

Figure 1 (Schematic diagram of instrument chassis)



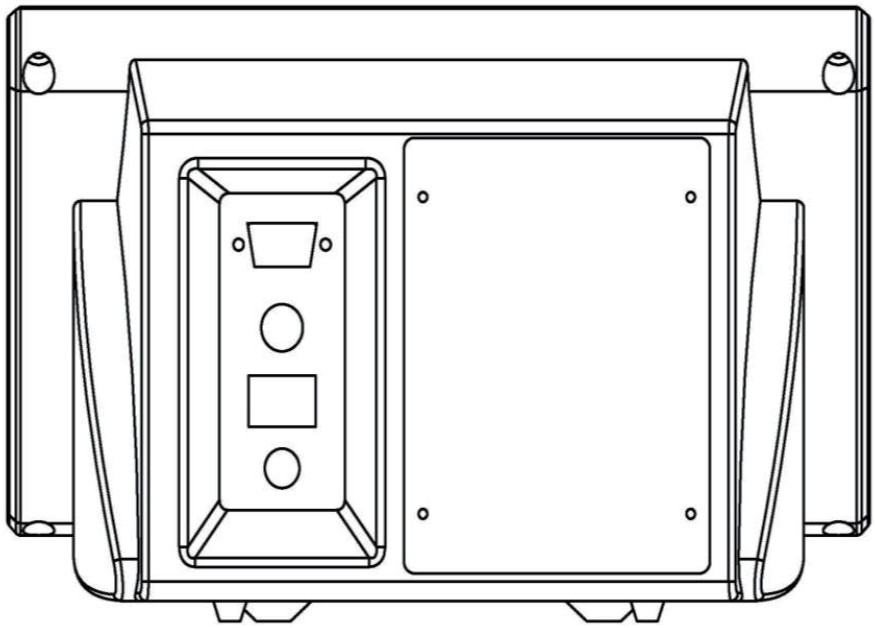


Figure 2 (Schematic diagram of instrument keyboard)

#	Function	*	Peeling	Zero	switch (A12+E does not have this key)

2. Keyboard function

1. [#]: Press and hold this key during POST to enter calibration mode.
2. [Function]: In weighing state, press this key for more than 5 seconds to enter user setting mode. Press this key for less than 5 seconds to enter the counting state.
3. [*]: In the counting state, press this key to enter the sampling number input state.
4. [Peeling]: In weighing state, press this key to remove tare weight.
5. [Zero]: In weighing state, press this key to display zero weight.
6. [On / off]: In the off state, press this key to turn on, and in the on state, press this key to turn off. (A12+E does not have this key)

3. Connection of sensor and instrument

1. The connection of the sensor adopts a 9-pin socket. Figure 3 shows the meaning of each pin.
2. **Please use six-core shielded cable to ensure good metering performance of the meter. If there are only four-core shielded cables on site, you can short-circuit pins 1 and 2, and short-circuit pins 6 and 7 at the 9-core sensor connector.**

▲! The connection between the sensor and the instrument must be reliable, and the shielding wire of the sensor must be grounded reliably. The connecting wire is not allowed to be plugged or unplugged when the instrument is powered on to prevent static electricity from damaging the instrument or sensor.

▲! Sensors and meters are static-sensitive equipment, and anti-static measures must be taken in use. It is strictly forbidden to perform electric welding operations or other strong electric operations on the weighing platform; during the thunderstorm season, reliable lightning protection measures must be implemented to prevent the sensor and the sensor from being caused by lightning The damage of the instrument ensures the personal safety of the operator and the safe operation of the weighing equipment and related equipment.

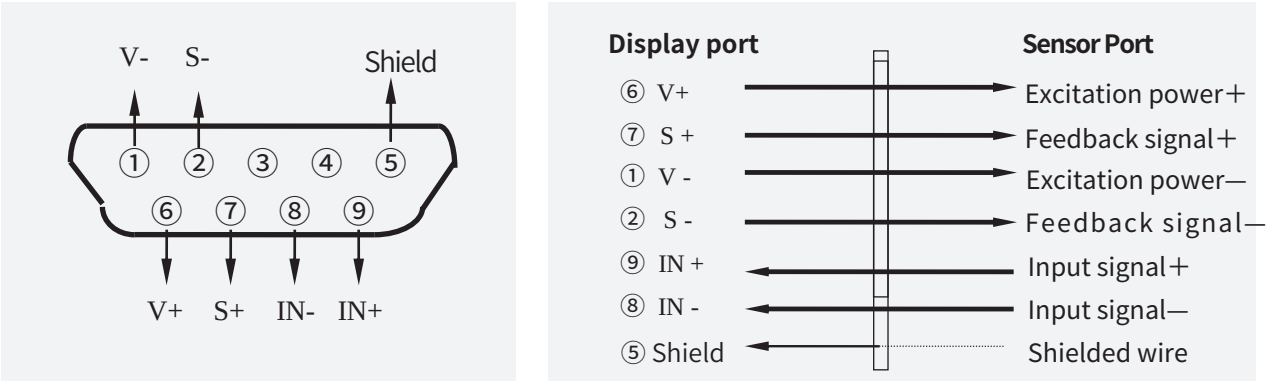


Figure 3 (Sensor connection diagram)

If using a four-core shielded cable, please short V- and S-, V+ and S+. If S- and S+ are not connected, the meter display value may drift.

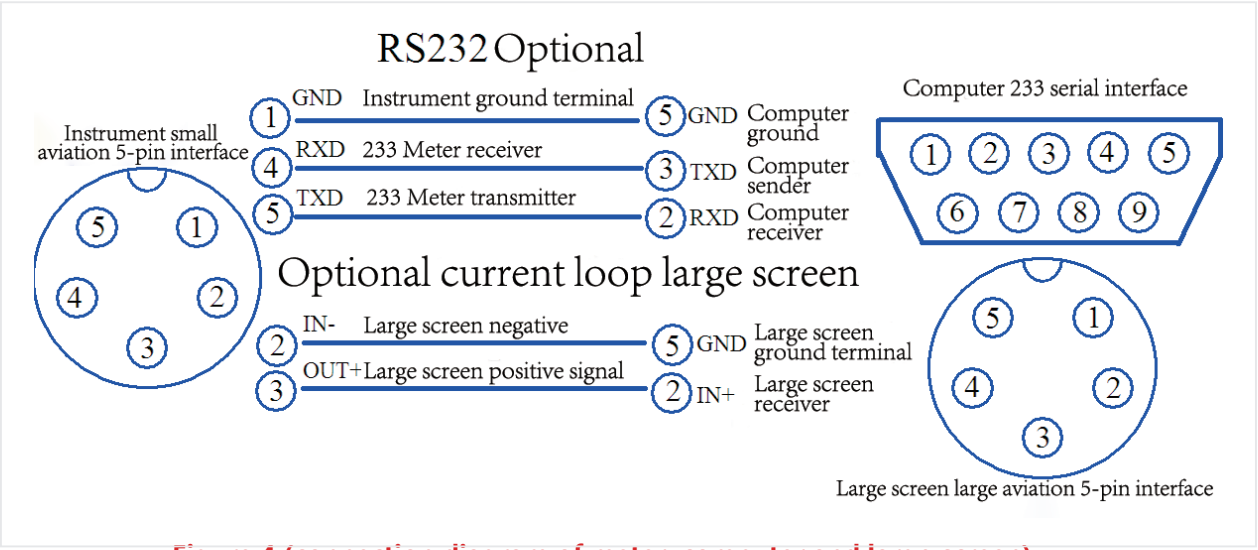


Figure 4 (connection diagram of meter, computer and large screen)

4.The connection between the large screen and the instrument (optional function)

The large screen signal is a 20mA constant current current loop signal, which is serially output in binary code with a baud rate of 600. Please refer to Figure 4 for the connection method between the meter and the large screen.

The connection between the large-screen output lead of the instrument and the large-screen display must be accurate. If the connection is wrong, it will damage the output port of the meter or the input port of the large-screen display, and may even seriously damage the meter and the large-screen display. It is required to use the matching special connection cable.

5. The connection between the serial communication interface and the instrument (optional function)

The connection between the output lead of the communication interface and the computer must be accurate. If the connection is wrong, the output port of the instrument or the communication input port of the computer will be damaged, and even the instrument, the computer and the corresponding external equipment will be seriously damaged. The computer communication must have the necessary computer technology and programming ability, and must be participated or guided by professional technicians. Non-professionals, please do not connect at will.

XK3190-A12+ (E) The instrument has an RS232 serial communication interface, which can communicate with the computer. Please refer to Figure 4 for the connection method between the instrument and the computer.

The communication interface adopts RS232C, and all data are ASCII codes. The data format is 1 start bit, 8 data bits, 1 stop bit, no parity. There are two ways of communication:

(1) Continuous mode: The data transmitted is the current weighing (gross, net or tare).
Gross weight format is: ww000.000kg or ww000.000lb Net weight format is: wn000.000kg or wn000.000lb
Tare format is: wt000.000kg or wt000.000lb
Note: The above decimal point position is determined according to the decimal point position setting of the instrument.

(2) Command mode (command words are all ASCII characters): The instrument performs corresponding operations according to the instructions sent by the upper computer.
Command R The instrument receives the command and sends the weight data once (the format is the same as the continuous mode)
Command T The meter receives the command, the meter is tare (same as the tare key), does not receive the command, the meter returns CR LF
Command Z The instrument receives the command, and the instrument is set to zero (same as the zero key), if no command is received, the instrument returns CR LF

Chapter 3 Operation Instructions

1. Start-up and start-up automatic zero setting

1. After the power is turned on, the meter performs a stroke self-check of "000000～999999", and enters the weighing state after the initialization is completed.
2. When starting up, if the weight of the weighing platform deviates from the zero point, but is still within the set zero setting range, the meter will automatically zero; if it is outside the set zero setting range, the meter will alarm "Err 3", indicating that it exceeds the zero setting range , at this time, it is necessary to remove the weight on the scale platform or adjust the zero position of the scale body or re-calibrate and set.

2. Manual zero setting (semi-automatic zero setting)

1. In the weighing state, if there is a deviation when the scale is empty, press the [Zero] key to reset the instrument to zero.
2. When the displayed value deviates from the zero point but is still within the zero setting range, press the [Zero Setting] key to take effect. Otherwise, pressing the [Zero] key will not work. (At this time, you must re-calibrate or set the zero parameter)
3. Only when the stability indicator is on, the zero-setting operation can be performed.

3. Peeling function

In the weighing display state, when the displayed weight is positive and stable, press the [Tare] key to deduct the current weight as the tare weight. At this time, the indicator shows that the net weight is 0, and the net weight symbol is on.

4. Counting function

In the weighing display state, press the [Function] key to enter the counting state, display count, put a certain amount of heavy objects, after it is stable,

Press[*]key to display C00000, press[tare]key to move the selection position corresponding to the small triangle,

Press[Zero]key, the corresponding digit of the small triangle is incremented by one, input the number of samples,

Press[*]key to enter the counting state, the small triangle corresponding to the counting state lights up,

Press[Function]key to return to weighing state. After entering the counting state, count is displayed,

Press the [*] key twice to directly enter the counting state, and the meter will calculate and display according to the last sampling result. (During this process, if "ERR 4" appears, it means this sampling failed, and the instrument keeps the last sampling result).

5. Accumulation function

In the weighing state, press the [*] key, the meter will accumulate the current weight, and press the [*] key again to return to the weighing state;

Press【*】key in zero position to display the current accumulated value; in accumulative state, press【Function】key to clear. Note: The weighing platform must be returned to zero before each accumulation! Otherwise, the next accumulation operation cannot be performed.

6. Animal husbandry scale function

1. In weighing state, press and hold the "Function" key to enter the setting, press the * key to switch to P14, then press "Tare" to select the function, select 0 to close the livestock scale function, select 1 to use the livestock scale function, and short after the setting is completed. Press "Function" to exit the setting;
2. If P14 selects the animal husbandry scale function, in the weighing state, short press the [#] key to execute the animal husbandry scale function. At this time, after a certain delay, the weight will be displayed fixedly, and the indicator lights will be all on. When pressing the [#] key again or the weight returns to zero, it will return to the weighing state (P13 is the filter strength of the livestock scale, which can be set according to the actual situation).

7. User function settings

In the weighing state, press the [Function] key for more than 5 seconds to enter the user setting mode. There are twelve parameter settings from P1 to P12 in the user setting mode. Press the [Tare] key to change the value, and press the [*] key to select the next a parameter. The parameters are described as follows:

1、P1 x —— kg/Lb convert

x=1: kg display

x=2: Lb display

2、P2 x —— Auto power off setting
(A12E does not have this function)

x=1: No automatic shutdown function

x=2: 10 mins

8、P8 x —— Zero key range

x=2: 4%FS

x=3: 10%FS

x=4: 20%FS

x=5: 100%FS

x=3: 20 mins

x=4: 30 mins

3、P3 x —— Baud rate setting

x=1: 9600

x=2: 4800

x=3: 2400

x=4: 1200

4、P4 x —— RS232 Output net weight, gross weight selection

x=1: output net weight

x=2: output gross weight

x=3: output tare

5、P5 x —— RS232 output mode selection

x=1: Do not send (RS232 stop)

x=2: continuous transmission

x=3: Send continuously when stable

x=4: Command mode (Z: set to zero, T: tare, R: send weight data once)

x=5: large screen display

x=6: Simultaneous use of large screen and RS232

6、P6 x —— A12:Backlight setting; A12+E: Power saving function setting

x=1: A12:no backlight A12+E:No power saving function

x=2: A12:Automatic backlight A12+E:Has power saving function

x=3: A12:Always bright A12+E:None

7、P7 x —— Zero tracking range

x=1: 0.5e

x=2: 1.0e

x=3: 1.5e

x=4: 2.0e

x=5: 2.5e

x=6: 3.0e

x=7: 5.0e

x=8: 禁止跟踪

9、P9 x —— Start-up zero range

x=1: 2%FS

x=2: 4%FS

x=3: 10%FS

x=4: 20%FS

x=5: 100%FS

x=6: Prohibit boot to zero

10、P10 x —— Digital filter time intensity

x=1: fast

x=2: medium

x=3: slow

11、P11 x —— stable schedule

x=1: fast

x=2: medium

x=3: slow

12、P12 x —— Stable range

x=1: Low

x=2: Medium

x=3: High

13、P13 x —— Livestock Scale Strength

x=1: Weak

x=2: Medium

x=3: Strong

x=4: Very strong

14、P14 x —— Livestock scale switch

x=0: Turn off the livestock scale function

x=1: Turn on the livestock scale function

Chapter 4 Maintenance and Precautions

1. In order to ensure the clear display and service life of the instrument, the instrument should not be used in direct sunlight, and the place should be relatively flat.

2. It should not be used in places with severe dust and vibration, and avoid using it in a humid environment.

3. Sensors and instruments must be connected reliably, the system should be well grounded, away from strong electric fields and magnetic fields, and sensors and instruments should be kept away from strong corrosive objects.

Keep away from flammable and explosive materials.

▲! Before plugging and unplugging the sensor cable, the power supply of the instrument must be cut off (shut down)!

▲! Before plugging and unplugging the large screen connection cable, you must first cut off the power of the instrument and the large screen!

▲! Before plugging and unplugging the communication cable, the power supply of the instrument and the host computer must be cut off!

4. It is strictly forbidden to use strong solvents (such as benzene, nitro-based oils) to clean the casing.

5. Do not inject liquid or other conductive particles into the instrument to prevent instrument damage and electric shock.

6. Before plugging and unplugging the instrument and the external equipment, the power supply of the instrument and the corresponding equipment must be cut off!

▲! Do not use it where there is flammable gas or flammable vapor; do not use it in a pressure vessel canning system.

▲! In areas where lightning occurs frequently, reliable arresters must be installed to ensure the personal safety of operators and prevent lightning strikes from damaging the instrument and corresponding equipment.

▲! Sensors and meters are all electrostatic sensitive equipment, and anti-static

Sensors and meters are static-sensitive equipment, and anti-static measures must be taken in use. It is strictly forbidden to perform electric welding operations or other strong electric operations on the weighing platform; during the thunderstorm season, reliable lightning protection measures must be implemented to prevent the sensor and the sensor from being caused by lightning The instrument is damaged to ensure the personal safety of the operator and the safe operation of the weighing equipment and related equipment.

7. The company advises customers: the instrument should be tested and accepted before using the company's instrument. The company is only responsible for the quality of the instrument itself, and the maximum compensation amount is in the case of failure.The value of the instrument itself is less than 2 times, and it is not responsible for the system problems in which the instrument is located.

8. The external interface of the instrument must be used in strict accordance with the method marked in the instruction manual, and the connection shall not be changed without authorization. If the watch fails during use, unplug it immediately and send it to a professional factory for repair. Generally, non-professional manufacturers of weighing instruments should not repair them by themselves to avoid greater damage. **he instrument is not allowed to be opened at will, otherwise the warranty will be voided.**

9. Within one year from the date of sale, under normal use conditions, non-artificial failures are within the scope of warranty. Users are requested to send the product and warranty card (No. match), and send them to the special maintenance point or supplier together. The manufacturer implements life-long maintenance on the instrument.

10. Meter charging instructions:

When charging the A12+ meter, you need to plug in the AC power first, turn on the rocker switch behind the meter, the green AC indicator on the meter panel is on, and the meter enters the charging state. When the LCD display is turned on and the meter is working normally, if the AC power is plugged in, the meter also enters the charging state. The charging mode is constant voltage current limiting charging. Charging time is about 10 hours. When charging the A12+E meter, you need to plug in the AC power first, turn on the rocker switch behind the meter, the red AC indicator light on the meter panel is on, and the meter enters the charging state. Note that the A12+E meter needs to be powered on for charging. When charging, the LED digital tube will also display the weight. The charging mode is constant voltage current limiting charging. Charging time is about 10 hours.

Chapter 5 Information Tips

Error message prompts and countermeasures:

1. Err 1 Indicates: AD value is too small during full scale calibration. (Please select the sensor with the appropriate weighing)
2. Err 2 Indicates: the zero point exceeds the allowable range during zero point calibration. (Please check if there is any heavy object on the scale)
3. Err 3 Indicates: the zero position is out of the setting range when the machine is turned on. (The weight on the scale should be kept at zero when the machine is turned on)
4. Err 4 Indicates: counting state, when the sample is sampled, the number of input samples is zero. (After ERR 4 is displayed for 1 second, it enters the counting working state, At this time, it works according to the results of the last sample sampling, and the number of samples cannot be zero when re-sampling)
5. Err 5 Indicates: the calibration state, when the full scale is calibrated, the input weight is zero. (Please enter the same weight data as the weight on the weighing platform)
6. Err 6 Indicates: counting state, when the sample is taken, the weight of a single piece is less than 0.25e. (please re-enter the number of samples)
7. bAt-Lo Indicates: The battery voltage is insufficient. (please charge as soon as possible)
8. Err7 Indicates: The sensor connection is faulty, and the AD code increases negatively when the calibration is loaded. (Please check whether the sensor signal line is reversed)

▲! Warning: After the electronic weighing instrument is assembled with this instrument, the product must have a mark that conforms to the relevant national regulations.

CALIBRATION SPECIFICATION

1. General calibration method

Before calibration, please insert a short-circuit ring at the calibration switch CN7 of the main board, and the calibration switch is turned on by default.

During the boot initialization process, press and hold the [#] key until the stroke self-test is over, the meter will enter the calibration state and display [d X]. Follow the steps below step by step,

1.

Graduation value setting

Display [d X]

—— According to[Peeling]key choose 1、2、5、10、20、50——

According to[＃]key confirm，Automatically enter the setting of the next parameter - press the [Tare] key to automatically step and cycle display

Display 【d X 】

Display 【d 1 】

Display 【d 2 】

Display 【d 5 】

Display 【d 10 】

Display 【d 20 】

Display 【d 50 】

Display 【d 1 】

For example, when [d 5] is displayed, press the [#] key, the division value is set to 5, and the decimal point setting state is automatically entered.

2. Decimal point setting:

Display 【P X 】

—— Press【Tare】key to select 0, 1, 2, 3 decimal places

—— Press【#】key to confirm, automatically enter the next parameter setting—— Press【Tare】key to automatically step and cycle display

Display【P 0 】

Display【P 0.0 】

Display【P 0.00 】

Display【P 0.000】

Display【P 0 】

For example, when [P 0.000] is displayed, press the [#] key, the decimal point will be set to 0.000, and it will automatically enter the maximum weighing setting state.

3. Maximum weighing setting:

Display 【FULL 】

—— Press【Tare】key to enter the digital input state.

Display 【0 0 0 0 0 0】

—— Press the [Tare] key, and move the symbol ▼ to the right to select the digital input position,

—— Press【Zero】key to automatically increase the corresponding digit by one step, until the desired number appears,

—— Then press the [Tare] key symbol ▼ to move to the right to select the digital input position,

—— Press【Zero】key to automatically increase the corresponding digit by one step, until the maximum weighing value appears,

—— Press【#】key to confirm, automatically enter the next parameter setting.

For example, it displays【0 2 5 0 0 0】and press【#】key to confirm, and it will automatically enter the zero calibration state.

4. Zero calibration：

Dispaly 【noLoAd】

There is nothing on the weighing platform, wait until the stable symbol ▼ appears, press the [#] key, the zero point calibration is completed, and the range calibration state is entered.

5. Full scale calibration:

Display 【AdLoAd】

—— Place the weight on the weighing platform and press the [Tare] key to enter the input state.

Display 【0 0 0 0 0 0 】

—— Press the [Tare] key, and move the symbol ▼ to the right to select the digital input position,

—— Press【Zero】key to automatically increase the corresponding digit by one step, until the desired number appears,

—— Then press the [Tare] key symbol ▼ to move to the right to select the digital input position,

—— Press 【Zero】key to automatically step up the corresponding digit until the displayed number is equal to the weight of the weight. When the stability symbol ▼ appears, press【#】key to confirm and end the range calibration state.

Display 【 End 】

6. Old: touch the calibration switch button on the back of the instrument, the instrument will save the parameters and return to the weighing state.

New: Turn on the meter calibration switch (insert a short-circuit ring at CN7), the meter is turned on by default and automatically exits the calibration state.

2. The rapid calibration method

During the boot initialization process, press and hold the [#] key until the stroke self-test is over, the meter will enter the calibration state and display [d X]. Follow the steps below step by step,

1. **Fast zero calibration:**

   At any time before displaying [noLoAd], press the [Function] key to keep the original parameter settings of division value, decimal point, and maximum weighing unchanged, and the instrument directly enters the zero-point calibration state. Wait until the stability indicator ▼ appears, press the [Zero] key, and display [End], which means that the original full-scale calibration parameters are retained, and the instrument calibration switch is turned on (the short-circuit ring is inserted at CN7), the instrument is turned on by default, and the instrument will save the parameters. , to return to the weighing state.

2. **Directly enter the full-scale calibration state:**

   At any time before displaying 【AdLoAd】, press【 * 】key, keep the original division value, decimal point, maximum weighing parameter settings unchanged, keep the original zero point parameters unchanged, and directly enter the full scale calibration state.