DS822-7

series

Digital weighing
Technical specification

DING SONG

(Chinese version V7.2)

Hangzhou Dingsong Automatic Control

Equipment Co., LTD

ⓂⒸjiangno. 00000505

(1) F key operation: F key operation is added to dingsong 7 series truck scale instrument

F01- Indexing value (P4)

F02- Decimal number (P4)

F03 - range (p4)

F04- Number of Sensors (P4) (*)

F05- Select Automatic Print and Save (P4)

F06- Type of Printer (P4)

F07- Select print format (P5)

F08- Minimum automatic printing weight (P5)

F09- Number of paper lines after printing (P5)

F10- Startup and button zero range (P5)

F11- Zero tracking range (P5)

F12- Filtering intensity (P5)

F13- Communication Mode (P14)

F14- Mailing address or Serial format (P14)

F15- Communication Baud Rate (P14)

F16-b Various function selection (P4)

F17-c Various function selection (P5)

F18-y Various function selection (P5)

F19- Range switching weight cut-off point 1(P5)

F20- Automatic range switching indexing value 1(P5)

F21- Range switching weight cut-off point 2(P5)

F22- Automatic range switching indexing value 2(P5)

F23- Digital Sensor Protocol Version (P5) (*)

F24- Save power automatic shutdown time (P5)

Communication mode of PORT F25-2 (*)

F26-2 Communication port continuous transmission format (*)

F27-2 communication port Baud rate (*)

F31- Automatic correction of angular (or axial) error (P6)

F32- Weight compensationcalibration (P6)

F33- View and modify calibration coefficient (P7)

F36- Semi-automatic Correction of Angle error (or axis error) (P7) (*)

F37- Nonlinear correction (P8)

F38- Adjust sensor number (P6) (*)

F40- Password Change or Registration (P18)

F41- View meter information

F42- Test keys

F45- View inside code of digital Sensor (P4)

F46- Test serial port

F48- test micro printer

F50- View seal password (*)

F54- Check the battery voltage

F56- Timed shutdown and other special functions (P19)

F57- Restore factory Settings

Note: for the analog table X7,X7P, without (*), F31 is the same as by [zero] calibration zero

(2) 99 axis correction or segment correction:

When F36 (or calibration 6) automatically corrects the Angle difference, if the Angle number is entered at 99, the meter automatically corrects the deviation by axis or segment. This is useful when there is no weight and only the front, middle and rear of the truck scale can be calibrated.

(1) Connection and test of sensors

(1.1), D7T(P), DS7T(P) digital instrument and digital sensor connection:

(1) Sensor interface of instrument: 1 pin - positive power supply, 2 pin -485A, 3 pin -485B, 4 pin - negative power supply, 5 pin - shield

(2) The output power supply is DC12V and 350mA. If the high level of F23 is set to 1 or 3, the output power supply will rise to about 18V, which is suitable for the longer distance of the instrument and sensor.

(3) Digital sensor and instrument are connected with 4 core wires, respectively for power supply (+V, -V) and signal (485A, 485B).Our company produces digital sensors: red - +V, black -V, green - 485A, white - 485B

After the connection, set the number of channels of the digital sensor to the corresponding number (parameter CH), and the meter will automatically check the code immediately

1、According to〔 *****〕indicates that the connection is correct and the next calibration and parameter setting can be entered

2、According to 〔E-n nn〕Indicates that nn digital sensors and meters are disconnected.

3、display 〔E-1 nn〕indicates that the digital sensor meter numbered NN cannot be connected.

4、according to 〔E-2 nn〕Indicates that the digital sensor whose number is NN does not match the seal of the meter.

5、according to 〔E-6 nn〕Indicates that the internal analog part of the digital sensor numbered NN is faulty.

6、Display〔Err 03〕or display weight flashing and buzzer indicating overload alarm signal, measurement range or calibration should be modified

7、show〔LLLLLL〕weight is too negative, calibration zero can be.

(1.2), X7(P), XS7(P) Analog instrument and analog sensor connection:

The excitation voltage of the controller is DC5V, the maximum excitation current is 350mA, and it can be connected with 8 350 ω sensors.The figure below shows the meaning of each pin.

(1) The connection of the sensor of this controller is 6-wire (long line compensation method), and the connection of the sensor must use 6-shielded wire, and it should be separated from the line with strong interference (power equipment wiring, etc.) and AC line.

(2) If the sensor uses a 4-core shielded wire, connect 1 and 2, 6 and 7 to the sensor plug on the controller end.If not connected, the controller will not work.

E - F - P

One, two, three, four, five

6 7 8 9

E + F + S - S +
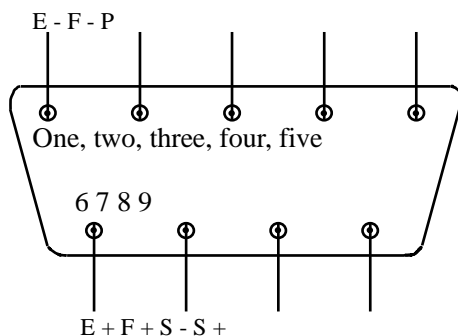
The plug end no.	meaning
1 (E)	Excitation voltage negative
2 (F -)	Negative feedback voltage
5 (P)	shielding
6 (E +)	Positive excitation voltage
7 (F +)	Positive feedback voltage
8 (S -)	Signal is negative
9 (S +)	The signal is

(1.3) Sensor Test (F45)

(1.3.1), D7T(P) or DS7T(P) digital table and digital sensor code correctly, in the state of test 5, can display the corresponding number of the digital sensor code

Operating as a	show	explanation
Press [Test][5]	[St 05]	Input number of sensor to be checked after display [cel 01], such as sensor 2 input number 2, display [CEL 02]
[enter]	[cEL 01]	
Enter sensor number NN and press [Enter]	[******]	If the sensor is normal, the output code of nn sensor is displayed. You can check whether the code of the sensor is stable and whether it changes with the force to judge the quality of the sensor. If sensor cannot communicate, display "E-1 NN" Display "E-2 NN" if sensor seal does not match "E-6 NN" is displayed if the weight signal inside the sensor fails.
At this time hold down the [peel] key, display the sensor relative to the empty scale zero code (net change); Press and hold the button to display the weight of the sensor Press and hold the [Print] button at this time, and the number of communication errors will be displayed after the sensor is turned on		

Note: When displaying the inner code, you can also select the sensor to be viewed by pressing the [left arrow/Move paper] [right arrow/Add] key

(1.3.2), X7(P) or XS7(P) analog table, after pressing [Test][5][input], the signal output of the sensor can be directly displayed in millivolts.

(2) Parameter setting

(2.1). During parameter setting, press [left arrow/Move paper] [Right arrow/Add] to scroll forward or backward.

(2.2) If [P-----] is displayed, the operation is subject to password control and a password is required. The default password is 822.

Note: The "F04" and "F23" tubes in the table below are not available in XS7(P) for simulation table X7(P)

Parameter number	keystrokes	show	explanation
		In the weighing state	Please refer to page 18 if you need to press the calibration seal button and password
	[calibration]	[5EL 0]	0- Parameter Settings 1- Automatic Angle correction or axis correction 2- calibration 3- check and modify standard rate 6- Semi-automatic Angle correction or axis correction 7- 15 point nonlinear correction 8- Sensor number 9- Restore the calibration coefficient of each sensor to 1.0
F01	[enter]	[d 010]	Input indexing value (1,2,5,10,20,50,100 optional)
F02	[enter]	[P 0]	Enter the decimal number displayed (0,1,2,3,4)
F03	[enter]	[FULL]	The scale's maximum range prompt
	[enter]	[******]	The maximum range of the input scale
F04	[enter]	[cH 8]	Number of connected digital sensors (please set this parameter before installing the meter for the first time)
F05	[enter]	[AUto 0]	0- Manual print storage 1- Automatic printing storage;
F06	[enter]	[tYPE 1]	0- Print invalid 1- own micro printer 2-24 pin no Chinese character library printer 3-24 pin with Chinese character library printer 5- thermal pos printer
F07	[enter]	[Arr 44]	Print format: Y =0: record format Y =1-3:1-3 joint single format Y =4, 5, 6, 7, 8, respectively, correspond to the commonly used filling printing format in the market, and users can choose by themselves. For example, F07: "Arr" =6, F09: "FED" =10 correspond to the filling printing format of Yaohua A9. F09 is to adjust the spacing of single paper, y=9: Custom format, y=10,11 corresponds to the print format of the thermal POS machine

Parameter number	keystrokes	show	explanation
F08	[enter]	〔Pdn 〕	Minimum auto print weight prompt
	[enter]	〔********〕	Enter the minimum automatic print weight
F09	[enter]	〔FEd 03〕 〔FEd- 00〕	"FED" prints the weighing list and automatically moves the number of lines "FED-" automatic paper return lines before printing weighing list (some printers cannot set paper return)
F10	[enter]	〔r-o XY〕	X -- boot zero range, Y -- key zero range (percentage of full range). 0-1-2-3-5% 2% 1% 0% 10% 4-5-20% of 6-50% (7-100%
F11	[enter]	〔r-A 0.5〕	Zero trace range: 0.0 -- no zero trace 0.1 ~ 9.9 -- Zero point tracking range is 0.1 ~ 9.9 degrees
F12	[enter]	〔FLt 1〕	Filter coefficient, can be set to 1-4
F13	[enter]	〔ñod 02〕	Communication methods
F14	[enter]	〔Adr 01〕	Mailing address/Continuous sending mode Sending format
F15	[enter]	〔bt 8〕	Communication baud rate: 1-600, 2-1200, 3-1800, 4-2400, 5-4800 6-9600, 7-19200, 8-38400, 9-57600, 0-115200
F16	[enter]	〔b dEF9〕	D=1: the axle load function is enabled. D=0: the axle load function is disabled E=1: automatic closing of range automatic switching and nonlinear correction after calibration E=0: automatic range switching and nonlinear correction are not automatically closed after calibration F=1: unstable can be stored F=0: stable can be stored G=0: Weight unit is kg. G=1: Weight unit is T
F17	[enter]	〔c HI Jト〕	H=1: negative gross weight automatically returns to zero I=1: use the article number. I=0: do not use the article number J=1: the vehicle number is used. J=0: the vehicle number is not used K=1: automatically compensates the whole system temperature drift K=0: does not compensate the whole system temperature drift
F18	[enter]	〔Y LñnP〕	M=1: tare will be cleared automatically when the weight is returned to zero after storage. M=0: tare will not be cleared automatically
F19	[enter]	〔FUL-1 〕	Range automatically switches to the first weight cutoff prompt
	[enter]	〔********〕	The first weight cut-off point at which the input range automatically switches
F20	[enter]	〔d1 001〕	The minimum dividing value of the input range for automatic switching
F21	[enter]	〔FUL-2 〕	Second weight cutoff prompt for automatic range switching
	[enter]	〔********〕	Second weight cut-off point for automatic switching of input range
F22	[enter]	〔d2 001〕	Input the intermediate degree value of automatic range switching, for example: FULL=30000(kg), D =10 FUL-1= 6000(kg), D1 = 2, FUL-2= 15000(kg), d2= 5 In this way: when the weight is below 6000kg, the instrument automatically takes 2kg as the indexing, 6000kg-15000kg section automatically takes 5kg as the indexing, when it is greater than 15000kg, takes 10kg as the indexing.
F23	[enter]	〔Ad 05〕	Single-digit: indicates the communication protocol version of the digital sensor. If the sensor is early, set this parameter to 1, indicating that it is the first-generation communication protocol. If this parameter is set to 5, it is the fifth-generation dynamic encryption communication protocol, which has the highest cheating capability Ten digit: if set 1, the sensor supply voltage rises to about 18V; If 2 is set, the seal protection level is improved. If set to 3, both capabilities are available. Modifications to F23 require the highest level of access control: enter a seal code or insert an electronic stamp
F24	[enter]	〔t-oF 〕	Automatic shutdown time (unit: minutes) (for AC-DC instrument only)
	[enter]	〔 *****〕	Return to weigh status

(3) Calibrate zero

1. Press the "zero" key in the calibration and debugging state to calibrate zero; if not, press the "zero" key to set zero within the zero range and stable;

2. Press the calibration button at the lead seal, the instrument will beep "drip", and the instrument will enter the calibration and debugging state. If you want to exit the calibration and debugging state, just power on the instrument again.

3. For the simulation table X7(P),XS7(P), "F31" in the operation of "F" key is also calibrated zero

(4) Calibration loading point (compensation calibration)(F32)

steps	Operating as a	show	explanation
1	Please refer to page 18 if you need to press the calibration button and password		
2	[calibration] [2]	[SEL 2]	Selection method: 2-calibration loading point
3	[enter]	[AdLoAd]	Load a certain weight, the closer it is to the full scale, the better. Input the load weight number after the stability
4	[5] [0] [0] [0]	[005000]	Such as the 5000 kg
5	[enter]	[5000]	After calibration, return to weighing state (auto close range auto switch and nonlinear correction, reset if necessary)

(5) Weight method to adjust the number of digital sensor (F38), only for digital table D7(P), DS7(P)

steps	keystrokes	show	explain
		In the weighing state	Please refer to page 18 if you need to press the calibration button and password
1	[calibration] [8]	[S E L 8]	Select operation mode: See the preceding table. If 8 is selected, you can adjust the sensor number
2	[enter]	[* * - 0 0]	"**" on the left shows the number of the sensor with the largest increase in the current force compared to the empty scale, for example, standing a person on the horn of platform 1. "-" on the left shows the number of the sensor at the station, for example, 5, showing [05-00], but in fact, the Angle is expected to be 1. Press [1] to display [05-01], and then press [Input]. If the instrument shows [02-00], it means that the sensor number is correct. If it is not correct, press [2] and then press [Enter] again, and so on. Press [Cancel] to exit after all completion.

If you do not want to stand, and just want to change the number of sensor 8 and 12, you can follow the following steps: Also go to the third step above, display [**-00], press [8] to display [**-08], then press [left arrow/paper walk] key, display [08-00], then press [1] [2] to display [08-12], and then press [input], it will complete the number of no. 8 and 12 sensor exchange

If [P -----] is displayed, the operation is subject to password control. You need to enter the password. The default password is 822.

(6), automatic correction of four corners, axis error automatic correction (F31), only for digital table D7T(P), DS7T(P)

steps	keystrokes	show	explain
		In the weighing state	Please refer to page 18 if you need to press the calibration button and password
1	[calibration] [1]	[S E L 1]	Select operation mode: see above table, select 1 to indicate automatic quadrangle correction
2	[enter]	[Ad J * *] [oF]	A fixed weight is loaded at any corner (sensor support point).Wait for full stability, press [input] key, instrument display [OK] about 1 second and then return to display [Adj **].

steps	keystrokes	show	explain
3	[enter]	[Adj　　**]	Move the fixed weight to another corner of the platform and repeat step 3 until the last corner is finished, then automatically return to the weighing state and the four corners correction will be completed.

(7), semi-automatic correction Angle difference, semi-automatic correction axis difference (F36), only for digital table D7T(P), DS7T(P)

steps	Operating as a	show	explanation
1	Please refer to page 18 if you need to press the calibration button and password		
2	Load is applied to the corresponding Angle to be corrected		
3	[calibration] [6]	[SEL　　6]	Option: 6- Semi-automatic correction quadrangle
4	[enter]	[Adj　　**]	Show which sensor to correct
5	[enter]	[　　*****]	Current weight display value
6	Enter the corrected target weight value	[　　*****]	
7	[enter]	Return to weigh status	

"99" axis correction:
When [Adj **] is displayed, "**" corresponds to the number of the sensor whose current force increases the most than that of the air balance. At this time, press [9][9][Input], and the meter automatically corrects the axis and segment differences. The meter first displays the current weighing, and then enters the target weight with digital keys and presses [Input]
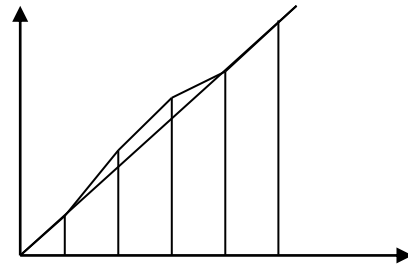
(8) Check and modify standard rate (F33)

steps	Operating as a	show	explanation
1	Please refer to page 18 if you need to press the calibration button and password		
2	[Calibration] [3]	[SEL　　3]	Selection: 3- Check to modify the standard rate
3	[enter]	[r-01　　]	Calibration coefficient prompt for the first sensor
4	[enter]	[　　*****]	The calibration coefficient of the first sensor can be manually corrected by modifying R01-R63
5	[enter]	[r-02　　]	Calibration coefficient prompt for the second sensor
6	[enter]	[　　*****]	Calibration coefficient of the second sensor
7	...	-	...
	[enter]	[r-0　　**.*]	The higher 3 bits of the total calibration coefficient
	[enter]	[　　******]	The lower 6 bits of the total calibration coefficient
	For example, if the top 3 bits of r0 are 00.1 and the bottom 6 bits are 666730, then r0=0.1666730. For the digital sensor produced by our company, the full range output code is 180000, the theoretical value of R0 = sensor range /180000 For example, the sensor of truck scale is 50 tons (no matter how many sensors), R0 =0.2777777(theoretical value) For example, the sensor of truck scale is all 30 tons (no matter how many sensors), R0 =0.1666667 (theoretical value) For example, the sensor of truck scale is all 20 tons (no matter how many sensors), R0 =0.1111111(theoretical value)		
	The analog table corresponding to X series has no correction coefficient for each sensor, only an overall coefficient n0. Its theoretical value = the sum of the range of the sensor/the sensitivity coefficient of the sensor.The factory value is N0 =90000.0		
	[enter]	[　　******]	Return to weigh status

(9) 15-point nonlinear correction (F37)

1, DS822-D series display has the function of nonlinear correction of 15 points, in order to meet the requirements of higher accuracy;

2. Input the original value (displayed value without modification) and target value of each point through the panel keyboard;

3. The original values of each point must be entered in ascending order. If the original value of a point is set to zero, this point and the points following it are ignored.

4. Examples:

(1) : Set the original value of point 1 (P01) to 0 to close nonlinear correction.

(2) : five-point nonlinear correction:

The	prompt	The original	The target
1	P01	1000	1000
2	P02	2200	2000
3	P03	3250	3000
4	P04	4000	4000
5	P05	5000	5000
6	P06	O	any

5. Input method:

steps	Operating as a	show	explanation
1		Please refer to page 18 if you need to press the calibration button and password	
2	[calibration] [7]	⌐SEL 7⌐	Selection method: 7---- 30 point nonlinear correction
3	[enter]	⌐PO1 ⌐	Point 1 prompt
4	[enter]	⌐ ******⌐	The peeling indicator lights up and input the uncorrected value of point 1
5	[enter]	⌐ ******⌐	The gross weight indicator is on, input the modified target value at point 1
6	[enter]	⌐PO2 ⌐	The second prompt
...	...	...	...
		Return to weigh status	

(1) Power on, power off

1. After the power is switched on, the display enters the self-test and displays in the following order: 1. Scroll*(888888)* and shift to display ".3.4.5.6.7.8.9. "; 3.**0.1.2**

During the rolling display *(888888)*, all the six status indicators should not be on, otherwise, it indicates that the instrument self-check is faulty.If skinoff is on ----, system data saved in the RAM memory may be lost.

> If gross weight is on ----, system data saved in the ROM memory may be lost.
>
> If net weight is on ----, the keys on the panel may be faulty.
>
> If date is on ----, the real-time clock is incorrect.
>
> If time is on ----, an error occurs during power-off detection.
>
> If stable is on ----, a critical error occurs in the RAM memory.

The following is valid for AC/DC meters only

2. The power switch on the back of the instrument does not affect charging.

3, if there is AC 220V input: the "undervoltage" lamp is not on, the "charge" light means that is charging, the "charge" lamp means that the battery is full.

4, if there is no AC 220V input: at this time, the "charge" light flashing means that the instrument is powered by the battery, "under voltage" light, means that the battery voltage is insufficient, but also can continue to use the time is not much, the battery voltage continues to drop to 5.8V below, the instrument will automatically shut down, shutdown before showing "LO-BAT" 3 seconds.When the battery voltage is below about 5.4V, the meter cannot be turned on.When using battery power, the instrument can set the automatic shutdown time, refer to the "tOF" parameter in the calibration parameter setting, the setting range is 1-60 minutes, if set to 0, it will not automatically shut down;In the absence of any key operation or weight change, the meter will automatically dim the brightness after 1 minute to save battery power, and the meter will automatically restore the brightness after any key operation or weight change.In the last 10 seconds before the scheduled shutdown time, the meter sounds "drip, drip, drip..."The beep and display "OFF 10" to the timer.Any key action or weight change during this time will automatically resume the instrument.

(2) Set the boot to zero and the button to zero

1. Conditions for starting zero :(1) stable weight must be sampled within 6 seconds after starting;(2) The stable weight sampled must be within the set range of starting zero.

2, button zero: only when the weight is displayed within the range of button zero, and the stable light is on, zero will work.Press [zero] key, you can make the display back to zero, at this time the zero indicator light.

3. For setting of zero range, refer to parameter (F10) "R-O" in the Chapter of Calibration (see page 4).

4, after pressing the calibration button at the seal, press the [zero] key to set the full range of zero, that is, the calibration zero.

(3) Remove skin

General peeling: in the weighing display state, when the displayed weight is positive and the stable light is on, press the [peeling] key to deduct the displayed weight as tare weight. At this time, the net weight on the display is 0 and the peeling indicator is on.

Preset TArE: in weighing display state, press [skin] key, display [TArE], then press [Input] key, display: [000000], use digital keys to enter TArE, then press [Input] key.

Call tare by vehicle number: in weighing display state, press [vehicle number] key, display display [o *****], with the number key into the correct vehicle number, and then press [peeling] key, the display will find the tare value corresponding to the vehicle number from the memory to use

In the weighing display state, and when the peeling indicator is on, press the [peeling] key again, the display will clear the tare value.Peeling indicator off, the display shows the gross weight value.

(4) Setting of date and time

steps	keystrokes	show	Solution • release
1		In the weighing display state	
2	[clock]	〔 Ｙ Ｙ . ᴍ̄ ᴍ̄ . ｄ ｄ 〕	The "Date" indicator is on, yy, MM and DD are year, month and day respectively
3	[enter]	〔 Ｈ Ｈ . ᴍ̄ ᴍ̄ . Ｓ Ｓ 〕	The "Time" indicator is on and hh, MM, and SS respectively last for one second
4	[enter]		Returns the weighing display status

(5) Storage of data records

Display 〔LoAd 〕: Display for about 1.5 seconds during data storage to prompt the operator

Display〔Err 11〕: (1) Can not be stored when the gross weight is less than or equal to zero or unstable;

(2) The same weighing cannot be stored repeatedly. If you want to remove this restriction, you can set the lower limit of (F06) "Pdn" printing to more than 2 times of the range

Data is stored in the following three ways:

1, use [store 2] key twice storage: that is, empty car first, and then heavy car, or heavy car first, and then empty car storage twice to form a set of complete records.

a) The "peeling" indicator light of the instrument should not be on twice during storage.If the "peeling" indicator light is on, press the [peeling] key once.

b) When the instrument shows 〔LoAd〕 for the first storage, the storage is completed. When the record is complete for the second storage, the instrument can print the weighing list.
In weighing display state: press [Store 2] → display 〔o*****〕→ input vehicle number
Press [Enter] → display 〔Hn**〕→ Enter the article number and press [Enter] → finish

2, with [store 1] key a storage: a storage tare can be divided into the following three situations

(1) When the peeling indicator of the display lights up, the current tare value will be stored in the group of records.

(2) When the peeling indicator light of the display is not bright, it will automatically find the tare value under the vehicle number in the memory, and store the group of records with the tare value.

(3) When the peeling indicator light of the display is not on, and there is no tare value under the vehicle number in the memory, 0 will be used as tare value and stored in the group of records

3, automatic storage:

(1) Whether automatic storage depends on the setting of "AUto" of (F04) parameter Settings

(2) The method of obtaining the tare value of automatic storage is stored at the same time with [Store 1] key.

(3) Automatic storage can not be manually stored, that is, [save 1], [save 2] keys are invalid.

(4) The vehicle number and article number stored shall be the vehicle number and article number that have been set up before storage.

(6) Printing

Display〖Print 〗: indicates that data is being transferred between the monitor and the printer

If 〖Err P〗is displayed, the printer is disconnected or a printer error occurs. Press any key to exit

1、 The following parameters affect printing: **Auto, type, Arr, Pdn, and FEd**. For details, see page 4.

2、 If print is set to valid, use the [Save 1] or [Save 2] key to print out the weight list of each set of weight records at the same time as the complete set of records is stored.

3、 In the weighing display state, press the [Print] key to supplement and print the weighing list of the last storage record.

If the last stored record is an incomplete record, the printed result will print the weight in the tare value position with both gross and net weights of 0.

3. Use the [Query] key to query the stored data record. When you find the record you need, press the [Print] key to print the weight list of the record.

4. Print all kinds of reports

The weighing display can print the following reports:

(1) Daily report (print a detailed list of all records of a day, statistical report by vehicle number, statistical report by article number)

steps	keystrokes	show	explanation
1	[query]	〖rEAd 1〗	In the weighing state.
2	[enter]	〖 d **.**〗	Enter the corresponding date
3	[print]	〖Prnt 〗	Start printing the daily report

(2) Print all the detailed records of a vehicle number

steps	keystrokes	show	explanation
1	[Query], [2]	〖rEAd 2〗	In the weighing state.
2	[enter]	〖 o *****〗	After entering the corresponding vehicle number
3	[print]	〖Prnt 〗	Start printing the daily report

(3) Print all the detailed records of a certain article number

steps	keystrokes	show	explanation
1	[query], [3]	〖rEAd 3〗	In the weighing state.
2	[enter]	〖Hn **〗	After entering the corresponding article number
3	[print]	〖Prnt 〗	Start printing the daily report

(4) General report 1 (print all record details report) : Press [Print report] and [Enter] in weighing state

(5) General Report 2 (print all records according to the vehicle number of the statistical report) :

In weighing state, press [Print report][2][Enter] key

(6) General Statement 3 (print statistical statement of all records according to article number) :

In weighing state, press [Print report][3][Enter] key

(7) General Statement 4 (print all vehicle numbers and memory tare weight) :

In weighing state, press [Print report][4][Enter] key

(8) General report 5 (print total accumulated data) : Press [Print report][5][input] in weighing state

(9) General report 6 (Print goods name list in Chinese characters) : Press [Print report][6][input] under weighing state

(7) Deletion of data records:

1、 When selecting different ways to delete records, the meter will display [SUrE 0] when confirming clearing, which means waiting for your confirmation. In this case, press [1][enter], which means confirming, and press [0][enter], which means denying.

2、 Please refer to page 18 for the calibration button and password required to delete records

3、 Operation methods for deleting different contents:

（1） In weighing state, press [Clear][1][Enter] key to display *clr 1* and clear all records after reconfirmation.

（2） In weighing state, press [Clear][2][Input] key to display *clr 2* and clear all vehicle numbers after reconfirmation.

（3） In weighing state, press [vehicle no.] key, and the instrument will display vehicle no. Use [→][←] key to select vehicle no. In memory, then press [Clear] key and confirm to clear the vehicle no. And the corresponding memory tare.

（4） In weighing state, press [Query][1][Input] key, then press [Clear] key after entering date and confirm, all records of a certain day can be cleared.

（5） In weighing state, press [Query][2][Input] key, then input vehicle number and press [Clear] key and confirm, all records of a vehicle number can be cleared.

（6） In weighing state, press [Query][3][Input] key, then enter the item number and press [Clear] key and confirm, to clear all records of a certain item number.

（7） In weighing state, press the [Query] key, and press the [Clear] key after a certain record is queried and confirmed, the single record can be cleared.

(8) Check of data records:

steps	operation	According to	explain
1	In the weighing state [query] [0]	*rEAd 1* *rEAd 0*	*rEAd=0--vIEYALLrEcordS* 1 -- Check all records for a given day 2 -- Check all records of a particular vehicle number 3 -- Check all records of an article number
2	[enter] [enter] [enter] [enter] [enter] [enter] [enter]	*[no 0001]* *[**.**.**]* *[**.**.**]* *[o *****]* *Hn **]* *[******]* *[******]*	First count down Date (date indicator light on) Time (time indicator light) Car number The article number Gross weight (gross weight indicator light) Tare weight (peeling indicator light)

| 2 | [enter]
[enter]
[enter]
[enter]
... | ⟨　　****** ⟩
⟨no　　0002⟩
⟨　　**.**.**⟩
⟨　　**.**.**⟩
··· | Net weight (net weight indicator light)
The penultimate record
Date (date indicator light on)
Time (time indicator light)
... |
| 3 | [enter] | ⟨　　　End⟩ | The end of the |

Note: 1. In query, use [→][←] key to scroll backward and forward a record.

2. Press [Print] to print the record weighing list being queried

(9) Memory tare input method:

In this display can long-term memory 255 tare values, input methods have three.

1. Input tare weight with digital keys: (* : original setting value)

steps	Keys for	According to	explain
1	[number]		In the weighing state
2	Enter the car number [enter]	⟨o　***** ⟩ ⟨o　11111⟩	Bus number: 11111
3	Enter the tare weight [enter]	⟨P　***** ⟩ ⟨P　00100⟩	Feed tare such as: 100 (kg)
		Return to weigh display	The end of the

2, weighing method tare weight:

Under the condition of gross weight display, put the empty car on the weighing platform, wait until the weighing is stable, press [vehicle number], and then press [skin storage] after feeding the vehicle number.Or press the [skin] key first, and then enter the vehicle number and press the [enter] key.

(10) static axle load measurement

1. Whether the function of axle load measurement can be used should be determined according to "B" of (F16) in the calibration parameter, please refer to page 4

2, in the weighing state, press the [axle weight] key, the current weight can be used as axle load accumulation, the instrument shows the accumulated weight, press the [Cancel] key to switch the display of the accumulated weight and the current weighing.Press [Save 1] or [Save 2] when displaying the accumulated weight to store the accumulated weight as the vehicle weight.Press the [end] key to clear the accumulated weight.

(1) Connection method

The serial port uses a 9-core RS232 pin. The signal of the serial port is RS232. The big screen is connected with RS232 communication mode and current loop communication mode.

TXD   RXD   GND

(9) core

1   2   3   4   5

6   7   8   9

GND

+   -

Big   Screen
(232)   signal

Large   screen
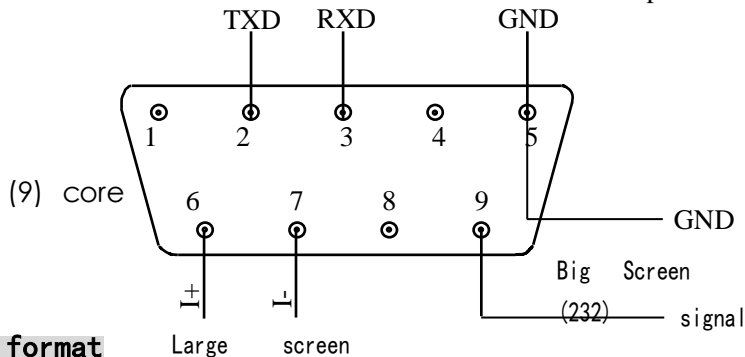
(2) Data format

Serial port communication data format: 1 start bit, 7 data bits, 1 check bit, and 1 stop bit.The mode of communication is determined by (F13) "ñod ".

The following three of the parameters described on page 4 are related to communication.

(F13) "ñod " -- Communication method:

0 -- Instruction reply mode, data format :7 bit ASC code +1 bit parity check bit

1 -- Instruction response mode, data format: 7-bit ASC code + 1-bit parity bit

2 -- Instruction reply mode, data format: 8-bit ASC code no parity bit

3 -- Instruction response mode, data format :7 bit ASC code +1 bit parity bit but accept data, do not check whether the check word (CHK) is correct or not.

4: Continuous transmission mode, data format: 7-bit ASC code + 1-bit parity bit

5: Continuous transmission mode. Data format: 7-bit ASC code + 1-bit parity bit

6: Continuous transmission mode, data format: 8-bit ASC code No parity bit

7: Continuous transmission mode, data format: 7-bit ASC code + 1-bit parity bit

8 - For serial print output, can be connected to the top loose micro printer

10 - MODBUS RTU: 8-bit data bit and 1-bit parity bit   1 bit Stop bit

11 - MODBUS RTU: 8 data bits and 1 parity bit   1 bit Stop bit

12 - MODBUS RTU: 8-bit data bit None parity bit   Two stop bits

(Note 1: Maximum block read bytes for MODBUS RTU are 16)

(Note 2: Simulation table X7(P),XS7(P) does not have MODBUS RTU protocol at present)

(F14) "Adr " -- used as the correspondence address in the reply mode: 1 ~ 26 corresponding to A ~ Z,

Continuous mode is selected as the send format

(F15) "bt " -- Baud rate of communication signal:

1-600, 2-1200, 3-1800,   4 minus 2400, 5 minus 4,800

6-9600, 7-19200.   8 -- 38400, 9 -- 57600, 0 -- 115200

(3) Continuous transmission mode of serial port

In this way, the display continuously sends out the current weighing information.

(F13) "ñod " should be set to 4, 5, 6, 7

Adr = 1 (XON) AA (±) nnnnnnptttttteff (CHK) (XOF)
  (Same as "A" command in instruction mode)

Adr = 2   Contents to be sent continuously when 7 bits of weight data are separated by equal signs, first low, then high and finally sign bits. For example, if the instrument shows "-70.15", "=51.0700-=51.0700-=..." is sent continuously., can replace XK3190-D2+

Adr = 3   continuously send content :(XON) (ADD) c $p_1d_1p_2d_2p_3d_3p_4d_4p_5d_5p_6d_6$(CHK) (XOF)
  (Same as "C" command in instruction mode)

Adr = 4   8142 mode (no parity word)

Adr = 5   8142 mode (with parity word)

Adr = 6   1705 Mode: "ST,GS,+0012.34,kg(CRLF)"

Adr = 8   Germain mode

Adr = 9   Send the current time mode

Adr = 11 Taiwan AC-8500TS serial port continuous mode

Adr = 12 hours xK3190-A9

Adr = 14 HBM WE2110 format

Adr = 15 yew Wah new D2+ format

Adr = 16 top loose continuous send: "[7F... 7F7F02]GGG111222....NnnMC"

Adr = 17 Constant day continuous sending format

Adr = 19 Formosa Plastics HB8212 format

Adr = 20 The format is EX2001

(4) Instruction mode of serial communication

(A) : Take the current weighing and status
        Host command :(XON) (ADD) A (CHK) (XOF)
        (XON) (ADD) a(±) NNNNNNpTTTTTTEff (CHK) (XOF)
    Where :(±) NNNNNN is the net weight   P is the decimal position
           TTTTTT is tare value, e is error state, ff is state
            The following F is blank, and the preceding F is D0- peeling label and D5- stabilization label
                (CHK) is all the previous union sum tests
              (XON) = HEX (02H) (XOF) = HEX (03H)
    (C) : Take the current display
        Host command :(XON) (ADD) C (CHK) (XOF)
        A. have b. have C. have D. have$_1d_1p_2d_2p_3d_3p_4d_4p_5d_5p_6d_6$(CHK) (XOF)
        P_1 Is 0, the decimal point of the ith character is off, and the corresponding indicator is off
            When is 1, the decimal point of the ith word is on, and the corresponding indicator is off
            When is 2, the decimal point of the ith word is off, and the corresponding indicator is on
            When is 3, the decimal point of the ith word is on, and the corresponding indicator is on
        d_i Is the display content of the ith display word, and F is the display status of each indicator light

(K) : Perform the function of a key

    Host command :(XON) (ADD) K kk (CHK) (XOF)

    K (OK) (CHK) (XOF)

    At the same time from the machine to execute the "KK" button function

(M) : Read the weight of a sensor this command is only for digital tables D7T(P), DS7T(P)

    (XON) (ADD) M nn (CHK) (XOF)

    (XON) (ADD) MNN (±) DDDDDD (CHK) (XOF)

    Nn - Sensor number, DDDDDD - Weight of the sensor

(N) : Indicates the earliest record

    Host command :(XON) (ADD) N (CHK) (XOF)

    Answering from the machine:

    (1), (XON) (ADD) nNo (CHK) (XOF) indicates no record

    (2), (XON) (ADD) n yYMmdd HHNNSS CCCCC UU GGGGGG TTTTTT (OK) (CHK) (XOF)

        (GGGGGG is gross weight, TTTTTT is tare weight)

(O) : Clears the earliest record

    Host command :(XON) (ADD) O (CHK) (XOF)

    (XON) (ADD) (OK) (CHK) (XOF)

(V) : Set the date and time

    Host command :(XON) (ADD) V yymmdd HHNNSS (CHK) (XOF)

    (XON) (ADD) v (OK) (CHK) XOF

    (YY, mm, DD, HH, NN and SS are year, month, day, hour, minute and second respectively)

(5) Serial communication MODBUS RTU mode, only for digital table D7(P), DS7(P)

Function	instructions		
4x0000	Definition by bit (D0-D15) : D0- peeling lamp state, D1- gross weight lamp state D2- net weight lamp status, D3- date lamp status, D4- time lamp status D5- Steady lamp state, D6- undervoltage, D7- AC, D8- charging D9- overload, D10- error in weighing,		2 bytes unsigned read-only
4x0001	The first and second	The lower 5 bits (D0-D4) : 0-31 correspond to 0-9,A and B respectively	2 bytes unsigned
4x0002	The third and fourth	C, d, E, F, H, I, j, k, L, m, n, o, P, w, r, t, U, y, -, the blank space	2 bytes unsigned
4x0003	The 5th and 6th digital		2 bytes unsigned
4x0004	Gross weight		4 bytes signed
4x0006	Tare weight		4 bytes are signed
4x0008	Button command		2 bytes unsigned
4x0009	Dividing the value		2 bytes unsigned
4x0010	Displays the decimal number of the weight		2 bytes unsigned
4x0011	Number of sensors		2 bytes unsigned
4x0012	Zero range		2 bytes unsigned

Function address	instructions	
4x0023	The total number of records stored in the meter	2 bytes signed read-only
4x0024	The date of the last entry	2 bytes signed read-only
4x0025	The date of the last record	2 bytes signed read-only
4x0026	The minute and second of the last record	2 bytes signed read-only
4x0027	Low number on the last record	2 bytes signed read-only
4x0028	The last number on the record high number plus article number	2 bytes signed read-only
4x0029	The gross weight of the last entry	4 bytes signed read-only
4x0031	The tare weight of the last entry	4 bytes signed read-only
4x0033	Date of last revision (month and year)	2 bytes signed read-only
4x0034	Time when the standard rate was last modified (hourly)	2 bytes signed read-only
4x0035	Time when the standard rate was last modified (in seconds)	2 bytes signed read-only
4x0095	Correction coefficient for angular difference of sensor no. 1	2 bytes unsigned read-write
...	...	...
4x0126	Angle correction factor for sensor 32	2 bytes unsigned read-write
4x0127	The code value of sensor one, 20000000< inner code value <40000000 indicates sensor communication failure. If the internal code value is greater than 40000000, the sensor password does not match	4 bytes signed read-only
...	...	...
4x0189	The internal code value of sensor 32 20000000< inner code value <40000000 indicates sensor communication failure. If the internal code value is greater than 40000000, the sensor password does not match	4 bytes signed read-only
4x0191	Zero of sensor number one	4 bytes signed read-only
...	...	...
4x0253	Zero on sensor 32	4 bytes signed read-only
The DS822-D12 table has the following		
4x0512	1# Sensor Angle correction coefficient	2 bytes unsigned read-write
4x0513	2# sensor Angle correction coefficient	2 bytes unsigned read-write
...	...	...
4x0575	64# sensor Angle correction factor	2 bytes unsigned read-write
4x0768	1# Sensor internal code value	4 bytes signed read-only
4x0770	2# Sensor internal code value	4 bytes signed read-only
...	...	...
4x0894	64# sensor internal code value	4 bytes signed read-only
4x0896	Zero of sensor number one	4 bytes signed read-only
4x0898	Zero on sensor number two	4 bytes signed read-only
...	...	...
4x1024	Zero on sensor 64	4 bytes signed read-only

Press the calibration button and press the [Test] button in the weighing display state to test the hardware functions of the meter. The operation method is as follows: Press the [Test] button in the weighing display state to display [tSt 01] and enter the test selection

At this time: press [0] [enter] ---- password management, special Settings

Press [1] [enter] ---- to check the date and number of the meter

Press [2] [type] ---- to check whether the keys on the keyboard work properly

Press [5] [input] ---- to detect the sensor output signal (to determine whether the sensor is normal).

Press [8] [type] ---- to check whether the micro printer is normal

Press [10] [enter] ---- to view the seal number

Press [14] [enter] ---- to check the battery voltage (only for AC-DC meters).

(1) Password Management (F40)

For some important operations, you can set password control to prevent errors caused by misoperations. The operations that can be set as password control include: 1. Press [Test] key to enter the test; 2. Press [Calibrate] key to enter the calibration process 3. Set the clock. 4

To set password control and change passwords, perform the following steps: (Note: * is the original value)

steps	keystrokes	show	explanation
1		In the weighing display state, press the small button inside the calibration cap to obtain the permission	
2	[test]	[tSt 01]	
3	[0]	[tSt 00]	
4	[enter]	[P *****]	Indicates that you need to enter a password (factory setting 822).
5	[8] [2] [2]	[P 00822]	If you forget your password, you can also enter it (99999- random code displayed)
6	[enter]	[L Abcd]	A - Press the [test] key to enter the test whether the calibration button needs to be pressed; B - Press the [calibration] key to enter the calibration whether the calibration button needs to be pressed; C -- Modify whether the calibration button needs to be pressed for setting clock; D - Press the [Clear] key to clear the record whether the calibration button needs to be pressed; If b = 1, it means that the calibration button needs to be pressed to enter the calibration.
7	[enter]	[Y EFGH]	F - Press the [calibration] key to enter the calibration password control; G - Change whether to set password control for the clock H - Press [Clear] key to clear records whether password control; If f = 1, the password is required to enter the calibration.
8	[enter]	[n -----]	Please enter a new password
9	[enter]	[r -----]	Please enter the new password again
10	[enter]	Return to the weighing state	The setting is complete.

(2) Special functions (F56) :

steps	keystrokes	show	explanation
1	Press the calibration button		In the weighing display state.
2	[test]	[tSt 01]	
3	[0]	[tSt 00]	
4	[enter]	[P *****]	Enter 3# advanced password (factory setting: 59565) to enter special function Settings.
5	[5] [9] [5] [6] [5]	[P 59565]	
6	[enter]	[SELL 1]	Select special features:. [0], [enter] -- Change the 3# advanced password [1], [Input] - - Set the scheduled shutdown time [2], [Input] -- Set overload limit [3], [Input] -- View overload records [4], [Input] -- clear overload records [5], [input] -- Print overload records [6], [Input] -- Opening of special function bits [7], [Input] -- Set the phone number displayed on startup
...	...	...	...

1, modify 3# advanced password operation method

steps	keystrokes	show	explanation
1	Press the calibration button		In the weighing display state.
2	[Test] [0] [input]	[P *****]	Enter the 3# advanced password (factory: 59565).
4	[5] [9] [5] [6] [5] [enter]	[SELL 1]	
5	[0] [enter]	[PP3-n]	Type a new password, such as "12345"
6	[1] [2] [3] [4] [5] [enter]	[PP3-r]	Enter the new password again
	[1] [2] [3] [4] [5] [enter]	complete	

2. Set the operation method of regular shutdown time

steps	keystrokes	show	explanation
1	Press the calibration button		In the weighing display state.
2	[Test] [0] [input]	[P *****]	Enter the 3# advanced password (factory: 59565).
3	[5] [9] [5] [6] [5] [enter]	[SELL 1]	
4	[enter]	[t-oF *]	If t-of is set to 0, you can exit directly. If t-of is set to 1, you can start the automatic shutdown. Go to the next step
5	[enter]	[dY ***]	Set the number of days after the automatic shutdown
6	[1][0][0]	complete	For example, set it to 100 days

3. Operation method of setting overload limit

steps	keystrokes	show	explanation
1	Press the calibration button		In the weighing display state.
2	[Test] [0] [input]	(P　★★★★★)	Enter the password 3# (factory setting: 59565).
4	[5] [9] [5] [6] [5] [enter]	(SELL　1)	
5	[2] [enter]	(★★★★★★)	Displays the overload limit set previously
6	[8] [0] [0] [0] [0] [enter]	complete	For example, set it to "80000"

4. Check the operation method of overload record

steps	keystrokes	show	explanation
1	Press the calibration button		In the weighing display state.
2	[Test] [0] [input]	(P　★★★★★)	Enter the password 3# (factory setting: 59565).
3	[5] [9] [5] [6] [5] [enter]	(SELL　1)	
4	[3] [Input]	(n★★★★★★)	Total number of overloads: Set the overload limit to the range Total weighing times: Set the overload limit less than the minimum weighing value
5	[enter]	(no　01)	Last to last overload record
6	[enter]	(★★★★.★★)	Date (date indicator light) year, month, day
7	[enter]	(★★★★.★★)	Time (time indicator light) hours, minutes, seconds
8	[enter]	(t　★★.★★)	Length of time (minutes, seconds) for overload weight scale
9	[enter]	(★★★★★★)	Overload weight value (skinless, gross weight, net weight light)
10	[enter]	(no　02)	The second to last overload record
	.	.	.

5, clear the operation method of overload record

steps	keystrokes	show	explanation
1	Press the calibration button		In the weighing display state.
2	[Test] [0] [input]	(P　★★★★★)	Enter the password 3# (factory setting: 59565).
4	[5] [9] [5] [6] [5] [enter]	(SELL　1)	
5	[4] [Input]	(SUrE　0)	Press [1] and then [Enter] to confirm
6	[1] [enter]	complete	

6. Operation method of printing overload records

steps	keystrokes	show	explanation
1	Press the calibration button		In the weighing display state.
2	[Test] [0] [input]	(P　★★★★★)	Enter the password 3# (factory setting: 59565).
3	[5] [9] [5] [6] [5] [enter]	(SELL　1)	
4	Insert the print line and press [5][Input]	(Print　)	Start printing

7. Opening of special function bits

steps	keystrokes	show	explanation
1	Press the calibration button		In the weighing display state.
2	[Test] [0] [input]	[P *****]	Enter the password 3# (factory setting: 59565).
3	[5] [9] [5] [6] [5] [enter]	[SELL 1]	
4	[6] [Input]	[Y 1 0]	0- Normal, 1- cancel all skins, 2- cancel all skins, one storage
5	[enter]	[Y2 0]	0 - The first time is used when recording the two times of storage 1 - When storing twice, use the second time when recording
6	[enter]	[Y3 0]	0 - Weight display flashes when overloading 1 - Display error when overloading 2 - Large screen showing gross and net weights (D12 only) Clock encryption (emulated table only) 4 - Large screen output custom Taiwan (analog table only)
7	[enter]	[Y4 0]	0 - Normal, 1 - Clock encryption (digital table only) No key tone (analog table only) The 2-zero area shows the weight 4 - Display refresh 5 times/second (emulated table only) 8 - No key tone (digital table only)
8	[enter]	complete	Return to weighing state

8. Set the phone number to be displayed upon startup

steps	keystrokes	show	explanation
1	Press the calibration button		In the weighing display state.
2	[Test] [0] [input]	[P *****]	Enter the password 3# (factory setting: 59565).
3	[5] [9] [5] [6] [5] [enter]	[SELL 1]	
4	Press [7] [Enter] again	[Y5 0]	1 - Indicates that the phone number of the manufacturer is displayed upon startup 0 - Indicates the normal startup display
5	[1] [enter]	[n01 00]	FIrSt dI9It dISPLAY(SAmEbELoY totAL 14dI9ItS dISPLAY)
6	[enter]	[n02 05]	SEcond dISPLAY
.	.	.	.
19	[enter]	[n14 10]	FoUrtEEnt HdISPLAY
20	[enter]	complete	Return to weigh status

For example, set it to 0571-88730818

Y5=1 n01=00 n02=05 n03=07 n04=01 n05=11 n06=08 n07=08
n08=07 n09=03 n10=00 n11=08 n12=01 n13=08 n14=10

Note: 11 indicates "-" (horizontal bar), 10 indicates a space (that is, not displayed), and 0-9 corresponds to 0-9

(1) main functions of DS822-7 series digital weighing display

1、 **Full digital automatic correction of Angle or shaft error makes debugging more worry and labor saving (D series)**

2、 **Automatic code, no manual intervention, plug and play (D series)**

3、 **Digital stamp function, others have no right to use your digital sensor and digital meter**

4、 **Personalized printing: users can print their own pound sheet format, print the user's own unit name, dozen**

Print the name of goods in Chinese characters

5、 **15 point nonlinear correction**

6、 **Automatic range switching**

7、 **With shaft metering function**

8、 **The maintenance phone number of the user can be displayed when the machine is turned on**

9、 It can almost be used with all kinds of needle printers, can print a variety of Chinese weighing records, can print the date

Report form, classified statistics report form, all kinds of general report form, display work parameter and standard rate report form

10、 Complete data records storage, inspection, deletion, printing and other processing.Can store 1024 groups of records

11、 With accurate clock, calendar, automatic leap year, leap month, not affected by power outages

12、 Zero tracking range, boot zero range and key zero range can be set

13、 With complete self - check function and a variety of error message prompt

14、 RS232 serial communication interface (continuous, instruction two ways can be set) and isolated large screen display interface

15、 Supports MODBUS RTU protocol

16、 Ac/DC dual use, charging: constant current + constant voltage, over discharge protection, to ensure the battery life of 3-5 years

(2) Technical indicators of DS822-7 series weighing display

1、 Power supply voltage AC100-240V

2、 Built-in lithium battery DC7.4V, 4000mAH(optional 5600mAH)

3、 Operating temperature -10℃ ~ +40℃

4、 Storage and transportation temperature -40℃ ~ +80℃

5、 Relative humidity 85%RH(non-frosting)

6、 Power supply for sensor D series digital meter :DC12V/18V,350mA;X series analog table :DC5V,350mA

7、 Maximum number of connected sensors A maximum of 63 digital sensors are supported

Analog sensors :20 350 ohm or 40 700 ohm sensors

8、 General size (mm) 295×216×155(plastic case); 310×235×120(stainless steel)

9、 Packing size (mm) 360×345×200(plastic case); 388×320×188(stainless steel)

10、 Approximately weight (kg) Molded case: 2.4(net weight);3.4(Total package weight)

Stainless steel case: 3.8(net weight);5.4(Total Package weight)