IDS701C

Weighing Indicator

User's Manual

LIST

1.Main function and technical parameter

1.1 main functions：

Zero,
Peeled
Toggle operation: kg/lb
Boot automatically zero tracking
gross, net
accumulating, counting,
animal -weighing.
Matching weighing function
Pinter
RS232/RS485 serial interface or second display

1.2 technical parameter

Accuracy class	3 class n=3000
Input voltage	-30~30mV DC
Resolution	0.5uV / d
A / D conversion rate	10 times / second
For the bridge voltage sensor	5 VDC, 4-wire cables, the maximum six 350Ω
Supply voltage	180 ~ 240VAC/49 ~ 51HZ
Maximum power	5W
Operating temperature	-10 ~ 40 ℃;
Working humidity	≤ 85% RH
warm-up time	15 minutes

2.Installation and connection

2.1 Installation method

There are 3 installation method for LP7510

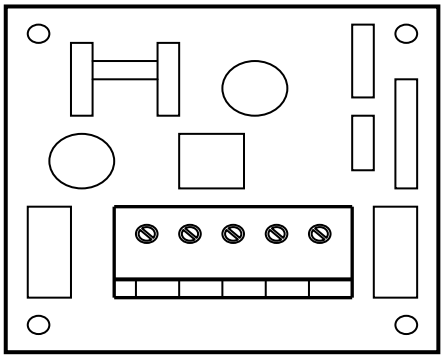
1. Wall mounting: Use screw M5 to fix the base of the weighing display to the wall
2. Table mounting：Adjust the elevation of the weighing display and the base. And then put it on the table.
3. Column mounting：Take off the base, then use screw M8 to fix the feet to the column

2.2 Electrical connections

AC Power Supply Wiring Method:

1, The instrument power cord is connected at the factory, and if the user when necessary in the maintenance of re-wiring, open the rear cover weighing display controller, and sealed with screw-opened after the waterproof connector, the configuration of the power cord of the stripping head end into the rear cover inside;

2. Fix the 3 core line to 5 bit terminal block J1 on the back cover AC power board. Shown as the below picture.



J1 pin	Pin symbol	AC supply power
1	GND	Power ground line（yellow）
2	L	Power fire line（brown）
3	N	Power zero line（blue）

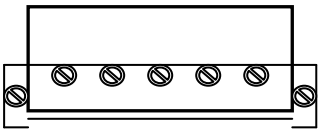
2.3Connection of load cell and indicator

1. Weighing display of the incentives voltage for the load cell is 5VDC, the largest output current 120mA, maximum connect 6 pcs 350-ohm load cell;

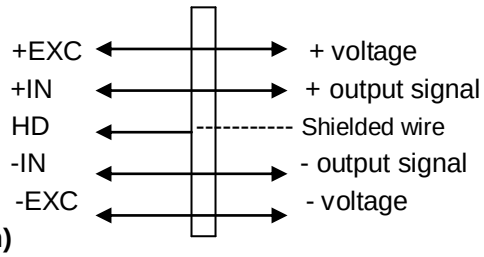
2. Load cell (or the signal cable for the junction box) is connected with 5 bit Connection terminal (J2) on the weighing display circuit-board。

3. Open Weighing display controller back cover, insert signal line into the water-proof joint with "Load cell" signs. And conect signal cable to terminals J2, and make sure screw fixed tightly. Connection as below drawing:

Weighing display **load cell**



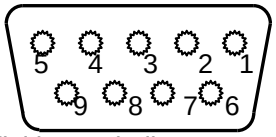
-EXC -IN HD +IN +EXC



2.4 Serial interface connection method(option)

To connect with computers, second display, printer, and other communications equipment, Pls. purchase RS232 with DB9 joint and COM port together with the indicator. better choose the shielded twisted-pair. Length no longer than 15 meters.

1. Through RS232 or RS485 interfaces can be connected to the big screen;
2. Through RS232 or RS485 interfaces can be connected to the computer;
3. Through RS232 or RS485 interfaces can be connected to a printer and have printing function.
4. Serial communication interface at the back of the display controller marked the RS232-joint BD9 as the below drawing:



Pin function and definition as bellows:

DB9 joint	Definition	Function
2	TXD	Sending data
3	RXD	Receiving data
5	GND	Ground interface
6	V+	Printer power (positive)
8	V-	Printer power(negative)

Note： Only 2 pin and 5 pin connecting with second display

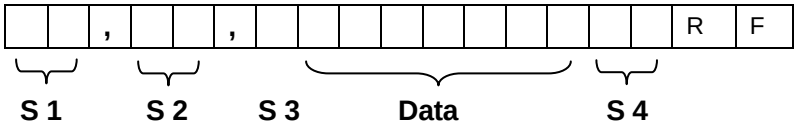
2.5 Serial interface reception command：

RS232COM serial interface can receive simple ASCII command. And Command word and role as follows:

Command	Name	Role
T	Tare off command	Save and clear tare
Z	Zero command	Zero the gross weight
P	Print command	Print the weight
G	Gross/net weight shift command	Gross/net weight shift
R	Read gross/ net weight	Read gross/net weight

6. Continuous output：

Reaction of command "R" are same as continuous output



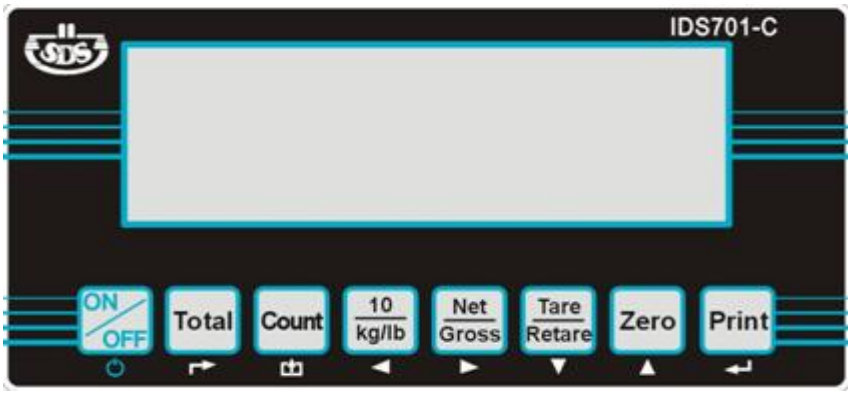
S1: weight status, ST=standstill, US= not standstill,
OL= overload

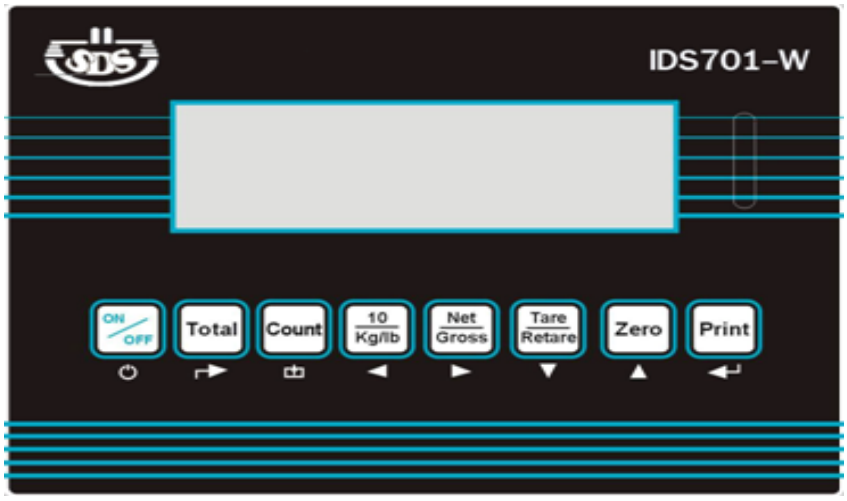
S2: weight mode, GS=gross weight, NT=net weight

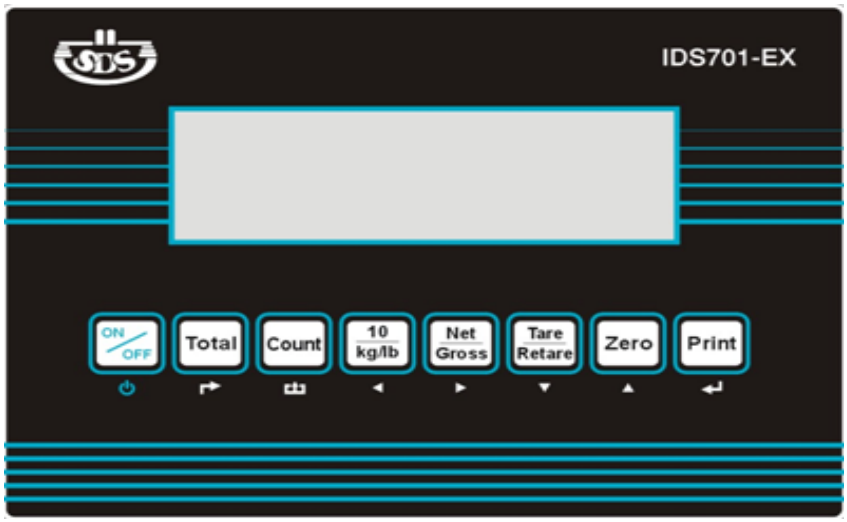
S3: weight value sign, “+” or ” –“
S4: weight unit sign, “kg” or “lb”
Data: weight value, including decimal point
CR: carriage return
LF: line feed

3. Instruction

3.1 Display and main key







【kg】——weight unit sign kg
【lb】——weight unit sign lb
【count】——count function
【  】——in-built battery is working
【  】——weight is zero
【  】——weight is standstill
【gross】——weight is gross
【net 】——weight is net
【tare】——have set tare
【total】——totalizing function level
【over】——weight is over upper limit
【ok】——acceptable weight
【under】——weight is under lower limit
LED light on means- the weighing data show on the display or setting the is working

Key functions of weighing level and operation

total	Press 5s to enter into and leave totalizing-scale operation Press 1s to totalize a weighing value during totalizing on
count	Press 5s to enter into and leave totalizing-scale operation Press 1s to convert pcs mode to weight mode for 4s during counting on
10 kg/lb	Press first times to convert display kg/lb to lb/kg for 4s Press second times to higher resolution display×10 for 4s Remarks: pressing two times continuously is invalid
net gross	Press first times to convert gross mode to net mode Press second times to convert net mode to gross mode
tare retare	Press first times to set gross weight > 0 into memory tare, the weight display changes automatically to net mode and light status of net and tared. Press second times to clear memory tare the weight display changes automatically to gross mode and light status of gross. Conditions: status light of standstill is on

zero	Press to set the gross weight to zero within ±1/4d Conditions: status light of standstill is on & actual gross weight is with zero setting range
print	Press to print current weighing documents Conditions: status light of standstill is on

Open/Close —— open or power off the indicator

3.2 Basic operation

3.2.1 Switch on & off

1. Switch on： pls. connect the power for AC power supply. and connect the battery line for rechargeable battery. Before switch on the indicator. the “kg” light on. It means the connection is ok. then press ON/OFF after 2s. the indicator show”000000-999999”. After the self inspection. It go the weighing mode.

2. Switch off: Press the ON/OFF key, 2s latter. Auto power off, only kg light is on. Take off the AC power supply or the battery. The kg light off.

3.2.2 Zero operation

1. Initial zero setting

When switching on the indicator, if the weight on the scale is within the initial zero range, indicator will put is zero automatically, and gross weight will show zero.

2. Zero setting

It is effective in gross weight status, when the minus data or nonzero data is within the zero setting range. Press zero key. Than go to the zero.

3.2.3 10 times higher resolution and toggle operation.

1. Press UNIT key. the 10 times higher resolution weighing data shown on the display. And after 4s back to weighing status. Press UNIT again, the indicator proceed the toggle operation. And after 4s return.

2. Weight unit---kg/lb toggle operation. If the unit is kg, the kg light is on. Press UNIT key. it change to lb. and lb light on. After 4s back to kg automatically. And kg light on at the same time.

3.2.4 Tare operation

1. Tare function

When gross weight shown on the display, Press TARE key. the TARE light on. Indicator save the data and at same time NET light on. Net weight is zero.

2. Retare function

When NET light on. Press TARE key, the TARE and NET light off .
It means the indicator already clean the tare. And show the gross weight.

3. Tare operation condition.

Only the weight on the scales keep standstill and the light on. The tare operation is effective.

3.2.5 G.W/N.W operation switch

When the indicator show the gross weight. Press net/gross key, the net weight show. And light on. Press net/gross again. Back to gross weight display. And N.W light off. G.W light on.

3.2.6 Weight accumulating operation

1. weight accumulating operation

1. when the weight is zero.. Press total and keep it 2s latter. “SUON” show on the indicator. The light is on at same time.

2. when adding the weight to the scales. if you want the present weight be added. Press total 2s, and “ n 01” (means the first time accumulating)show on the indicator, after 2s back to the present weight.

3. when the first weighing and accumulating is finished. Take off the weight. And enter second weighing. Press total 2s for confirmation “(n 02)(means second accumulating). Then the total weight for the first & second weighing show on the display. After 2s back to the actual weight on the scales. repeat this operation again can accumulating many times.

4. when accumulating finish. Press total for 2s. and “ SU OFF” show on the indicator. Back to normal weighing status.

Note: when weight is accumulated, the weight on the scale should be standstill.

And light on steadily

2. Check the total weight

Press total. Firstly show the accumulating times(for example" n 02) then show the total weight. 2s latter back to the weighing.

3.2.7 Count operation

Two ways for count operation.

1. sampling and then get the average unit weight.:If you don't know the unit weight. firstly get the total weight. Then do sampling and get unit weight. Then input the quantity. and go to the count operation.

2. Input the average unit weight: if already known the unit weight, add the goods. Then input the unit weight. We can get the quantity

How to get the unit weight:

1. Press 置零 to display zero. Then put goods on the scales that you know the quantity.

2. Press count till it show " PC on", then automatically show "000" means it already go to the count

3. Press the count and print key, till " PC 1" show on the display, and 1 means sampling and then get the average unit weight.Press print and "PCS 00" show on the indicator

4. Use ← and → to shift the cursor, and ↑ and ↓ to adjust the parameter. Input the goods quantity on the scales. and suppose there are 5 pcs. Then input " PCS 05"(Note: the sample qty should be below 99)

5. Press print to perform parameter setting. And count.

6.Put goods on the scales. and the quantity show on the indicator. If you want the weight, Press count. It will show on the indicator.

The weight status light and " PCS" light on. 4s latter back to show qty.

3.3 Input the known average unit weight method:

1. when the weight is zero. Put goods that you already known the unit weight.

2. Press count till " PC on" show on the indicator and then "000" automatically show.

Means already into counting.

3. Press count and print 1s and release, and " PCS 1" show on the indicator. use ← and → to shift the cursor, and ↑ and ↓ to adjust the parameter. And change the " PCS 1" to " PCS 2" 2 means input the known average unit weight mode.

4. Press print and input known unit weight to count. " 0000.00"

Show on the indicator. use ← and → to shift the cursor, and ↑ and ↓ to adjust the parameter. Input known average unit weight. Suppose the unit weight is 1 kg, then input "0001.00"

5. Press print perform the set average unit weight to count. Put goods on the scales. and the quantity will show on the indicator. If you want the weight. press count, weight will show on the indicator. And weight & "PCS" status light on. 4s latter automatically show quantity

3.4 Indicator for livestock scales(animal scales)

When the indicator used for livestock scales. only set the digital filter C13 1.and C14 2 is ok. steps as follows

1.Press total and print at the same time, enter into C13 by pressing the ↑ ↓ ← → , press print for confirmation. Then the press ↑ key to change " C13 0" to " C13 3". At last press print again can enter into C14.

2. Press print. Enter into" C14 3". Change "C14 2" to "C14 1" . and the setting for livestock scales finish.

Note: when for livestock weighing, set the digital filter 1 for C13. The No. is bigger, the weighing will be more stable. And change is slower.

Set the digital filter 2 for C14, The No. is smaller. The weighing change faster. Adjust the C13 and C14 . can control the weighing stability and speed suitable for animal weighing.

3.5acklight setting method of operation

Users can use the environment in accordance with instrument backlight feature set

required.

Weighing at a state of click button to enter the application environment parameter setting menu, instrument display [C17 0], press the "left button", "key increment", "reduction key" high-home option. Options are as follows:

[C17 0] = turn off backlight function

[C17 1] = Auto-backlight, when weighing changes backlight automatically lit, stable weighing 10 second automatic turn off backlight.

[C17 2] = permit Backlight, Backlight Always.

4.alibration method and parameter settings

bration and key function in application

In order to make the operation simpler, there are many arrow key below each key for some meaning.

Back: back to last step

Exit：back to the main menu.

Left：move cursor to left

Right：move cursor to right

Up：Add value or choice up

Down: Decrease value or choice down

Enter: confirm and go to next step

4.1alibration

Before calibration. Pls. make sure the the indicator switch CAL is on. The connection between load cell and indicator is ok. and scales calibration is ok.

4.1.1 ibration menu

Press total and print until display C01

Press print [C1 1]. Use ↑ ↓ to choose the unit

Optional unit:

[C1 1] = kg

[C1 2] = lb

Press print enter to C02

C02 Decimal points setting C02

Press print go to [0] choose the decimal digits. Use ↑ ↓ to choose the decimal digits.

optional decimal digits:

[0] = no decimal point
[0.0] = one decimal point
[0.00] = two decimal point
[0.000] = three decimal point
[0.0000] = four decimal point

Press print go to next step [C03]

C03 Division setting.

Press print go to [C3 1]. Set the division. Use ↑ ↓ choose the division needed.

Optional division:

[C3 1] division = 1
[C3 2] division = 2
[C3 5] division = 5
[C3 10] division =10
[C3 20] division = 20
[C3 50] division = 50

Setting finish, press print and save setting. Enter to [C04]

C04 Max. capacity choose C04

Press print go to [000000] set the max.. capacity. Use ← →

Shift the cursor. And ↑ ↓ to adjust the value. Finish the setting and press print go to next step [C05].

C05 Dead load calibration

Press print enter [C5 0]. Giving up the dead load calibration or perform the dead load calibration. And use ↑ ↓ to adjust the value.

Optional result:

[C5 0] no empty scales calibration
[C5 1] perform dead load calibration

Confirm performing dead load calibration. Pls. empty scales firstly. Set [C05 1]

Press print. Display [CAL 10]-----[CAL 0]. Calibration count down. Then. Display [0.00] (two decimal points means ok)Press print enter [C06]

C06 Capacity span calibration

Press print enter [C6 0]. Choose capacity span calibration. Use ↑ ↓ to choose whether perform the capacity span calibration.

Option

[C6 0] No capacity calibration

[C6 1] Perform capacity span calibration

Confirm to perform the capacity span calibration. Set [C6 1]. Add the weight on the scales. recommend use weights above 60% of the Max. capacity.

Press print. Display [SPAN] firstly. Then display[000000]. capacity. Use ← → Shift the cursor. And ↑ ↓ to adjust the weights.

Press print. Display [CAL 10]-----[CAL 0]. Capacity calibration count down. When the count down finish. Display the weight of the added weights. Calibration is over.

Press print enter [C07]. If you want to exit. Press print then back to weighing status.

Note: when calibration is finish. Pls. turn the CAL to off position.

4.2 Application environment parameter setting

After calibration. if not exit You could go on with [C07] setting

If already exit the menu. Press total and print go to parameter setting menu. use ↑ ↓ to adjust the parameter to [C 07].

Press the zero key or the option function I/O card to connect the zero signal and set the gross weight in the acceptable arrange to zero

Press print enter [C7 0]. Choose the zero arrange. Use

↑ ↓ to select the range.

option：

[C7 0] = no initial zero setting

[C7 1] = ±1% Max. capacity

[C7 2] = ±2% Max. capacity

Press print to save the setting. Enter [C08]

C08 Initial zero setting range

When switching on the indicator, the gross weight within the initial zero setting range can be zero automatically.

Press print. Enter [C8 0]. And choose the initial zero setting range. Use ↑ ↓ to select the range

Initial zero setting range：

[C8 0] = no initial zero setting

[C8 2] = ±2% Max. capacity

[C8 4] = ±4% Max. capacity

[C8 10] = ± 10% Max. capacity

Press print. Save the setting. Enter [C09]

Note: Initial zero range can not bigger than zero setting range

C09 Automatic zero tracking range

Automatic zero tracking range is for compensating the change caused by temperature or by the little missed material on the scales.

It take the d as the basic unit for setting.

=

When in [C09] menu. press print enter [09 0.5]. choose the automatic zero tracking range. Use ↑ ↓ to select the range

Options：

[C9 0.0] = no initial zero setting

[C9 0.5] = ±0.5d

[C9 1.0] = ±1.0d

[C9 1.5] = ±1.5d

[C9 2.0] = ±2.0d

[C9 2.5] = ±2.5d

[C9 3.0] = ±3.0d

[C9 3.5] = ±3.5d
[C9 4.0] = ±4.0d
[C9 5.0] = ±5.0d

Press print. Save the setting. Enter [C10].

Note: Initial zero range can not bigger than zero setting range

C10 Automatic zero tracking time

Automatic zero tracking time determine the time interval between the two times automatic zero tracking.

When in [C 10] menu. Press print enter[C10 1] select the automatic zero tracking time. Use ↑ ↓ to select the range

Time setting options

[C10 0] = no automatic zero tracking time
[C10 1] = 1 second
[C10 2] = 2 seconds
[C10 3] = 3 seconds

Press print. Save the setting. Enter [C11].

C11 Overload range

Over load range take d as the basic unit

When in [C 11] menu. Press print enter [C11 09]

Use ← → Shift the cursor. And ↑ ↓ input the overload range.

Over load range：0~99d

[C11 00] =no overload range
•
•
•
[C11 99] = means 99d

Press print to save the setting. Enter [C12].

C12 Negative display range

Set the indicator negative display range. Negative display range 0 means basic setting unit is “d”. and set other options % Max. capacity.

When in [C12] menu. Press print enter [12 10]. Use ← → Shift the cursor. And ↑ ↓

input the negative display range.

Negative display range:

[C12 0] = -9d
[C12 10] = 10% Max. capacity
[C12 20] = 20% Max. capacity
[C12 50] = 50% Max. capacity
[C12 99] = 100% Max. capacity

Press 

to save the setting. Enter [C13].

C13 Digital filter 1

The value bigger, the digital filter is stronger and data is more stable. But the update time is slower.

In [13] status. Press 

enter [C13 3]. Use ↑ ↓ input the digital filter option.

Digital filter 1option

[C13 0] =close digital filter 1
[C13 1] = 1 digital filter strength
[C13 2] = 2 digital filter strength
[C13 3] = 3 digital filter strength
[C13 4] = 4 digital filter strength
[C13 5] = 5 digital filter strength
[C13 6] = 6 digital filter strength

Press 

save the setting. Enter next step [C 14]

Note: Don't set the digital filter 1 in normal weighing. It only for animal weighing or other goods in moving. Refer to the Animal scales operation in user's manual.

C14 Digital filter 2

In [C14] status, press 

enter [C14 2]. Use ↑ ↓ input the digital filter option.

Option for digital filter 2

[C14 0] = close digital filter 2
[C14 1] = 1 digital filter strength
[C14 2] = 2 digital filter strength
[C14 3] = 3 digital filter strength

Press print to save the setting. Enter next step [C 15]

C15 Standstill time

Determine the time of the scales from moving to standstill

Status within the standstill range.

In [C15] status. Press print enter[C15 1], Use ↑ ↓ input the options

Standstill time options:

[C15 0] = close the standstill time

[C15 1] = 1 second

[C15 2] = 2 seconds

C16 Standstill range

Standstill decide the scope of subcontracting scales tend to be non-dynamic conditions, namely the steady state. Scale Dynamic nulling prohibition, peeled and printing operation.

At [C16], press "Enter" to enter the [C16 2], with "key increment" and "reduction key" Enter the required option.

Standstill range options:

[C16 1] = 1d

[C16 2] = 2d

[C16 5] = 5d

[C16 10] = 10d

Press the "confirm button" Save input settings, and enter the next step [C17]

C17 backlight settings

Users can use the environment in accordance with instrument backlight feature set required.

At [17] mode, press the "Enter" to enter the [C17 0], with "key increment" and "reduction key" Enter the required option.

Optional automatic turn off time:

[C17 0] = turn off backlight function

[C17 1] = Auto-backlight, when weighing changes backlight automatically lit,

stable weighing 10 second automatic turn off backlight.

[C17 2] = permit Backlight, Backlight Always.

Press the "confirm button" Save Settings, and enter the next step [C18]

C18 Reserved and no function

Press 

and go to next step [C 19]

C19 Reserved and no function

Press 

and go to next step [C 20]

C20 Open Upper limit alarm value (this feature is not yet open)

Set the upper limit alarm value and lower limit alarm value can control the I/O card output signal.

In [C 20] status. Press 

enter [0000.00]. Use ← → Shift the cursor. And ↑ ↓ input the open upper limit alarm value.

Setting range: Random setting within the full range

Setting finish then press 

to save the it. Go to next step [C21]

C21 Shut off Upper limit alarm value(this feature is not yet open)

In [C21] status. press 

enter[0000.00] and Use ← → Shift the cursor. And ↑ ↓ input stop the upper limit alarm value.

Setting range: Random setting within the full range.

Setting finish then press 

to save the input setting. Go to next step [C22]

C22 Open lower limit alarm value(this feature is not yet open)

In [C22] Status. Press 

go to [0000.00]. and Use ← → Shift the cursor. And ↑ ↓ input the upper limit alarm on value.

Setting range: random setting within full range

Setting finish. Press print and save the setting. Go to next step [C23]

C23 Lower limit alarm off value(this feature is not yet open)

In [C23] status. press print go to [0000.00] and Use ← → Shift the cursor. And ↑ ↓ input the upper limit alarm off value.

Setting range: random setting within full range

Setting finish. Press print and save the setting. Go to next step [C24]

Note: upper limit alarm and lower limit alarm value setting method refer to " classifying scales operation" in the " user's manual".

C24 Reserved and no function

Press print and go to next step [C 25]

C25 Reserved and no function

Press print and go to next step [C 26]

C26 Reserved and no function

Press print and go to next step [C 27]

C27 Serial interface data output method

When the indicator equipped with RS232. RS232 interface connect different serial interface communication terminals equipment, set serial interface data output method.

In [C27] in statue, press print enter [C27 0]. Go to data output setting. Use ↑ ↓ to set input and output data

Data output options

[C27 0] =Close serial interface data output

[C27 1] = Continuous sending（connect big display）

[C27 2] = Printing method，(connect the printer)

[C27 3] = Command request method (connect computer)

Press print ,save the setting and go to next step[C28]

C28 Serial interface baud rate.

Baud rate is the information sending speed. And when RS232 interface connect with different serial interface communication terminals. The baud rate should keep the same.

In [C28] status, press print enter [C28 3]. Choose serial interface baud rate. Use ↑ ↓ input the serial interface.

C29 Bit and parity

In [C29] status, Press print go to [C29 0], Set bit and parity, Use ↑ ↓ input the bit and parity

Option：

[C29 0] = 8 bit，none parity（8，none）

[C29 1] = 7 bit, even parity（7，even）

[C29 2] = 7 bit, odd parity（7，odd）

Press print. Save setting. And go to next step[C30]

C30-C37 Reserved and no function

Press print and go to next step [C 38]

C38 Date

According to the user's need, if connect with printer, we need update the date in the first time and every time restart it

In [C38] status, Press print go to [000000], setting the date.

and Use ← → Shift the cursor. And ↑ ↓ input year, month and day,

C39 TIME

Real-time clock settings can be set: hours, minutes and seconds

In [C 39] statue, press Press print go to [000000], setting the time.

and Use ← → Shift the cursor. And ↑ ↓ input hours. Minutes and seconds

for example: the time is:15:28:30 then set [152830]

after setting finish. Press print and save the input time. Go to next step[C40]

C40 To restore the default values

In [C40] statue, press print go to [C40 0], restore the default values.

Use ↑ ↓ input the options

Options:

[C40 0]= NO restore default value

[C40 1]= Restore default value

After finish it, if confirm to restore default value. Press 

Indicator will automatically restore all the parameter to the original default value.

Note: Pls. not restore the default value without the professional technicians and calibration.

5.Default value

Default value

parameter	instruction	Default value
C01	Calibration unit	1
C02	Decimal digits	0
C03	resolution	1
C04	Max. capacity	10000
C05	Empty scales calibration	0
C06	Capacity calibration	0
C07	Zero setting range	2
C08	Initial zero setting range	2
C09	Automatic zero tracking range	0.5
C10	Automatic zero tracking time	1
C11	Overload range	9
C12	Negative display range	10
C13	Digital filter 1	0
C14	Digital filter 2	2
C15	Standstill time	1
C16	Standstill range	2
C17	Power saving mode	0
C20	Upper limit alarm on value	000000
C21	Upper limit alarm off value	000000
C22	Lower limit alarm on value	000000
C23	Lower limit alarm off value	000000
C27	Communication protocol of Serial interface	0
C28	Baud rate of serial interface	3
C29	Bit and parity	0
C38	Date	000000
C39	Time	000000

C40	Default parameter	0

6. Error messages and handle routine maintenance

Error code list

Error code	Reason	Resolution
UUUUUU	Overflow: measuring value is above FSD + overload range	1. Take off the goods from scales 2. Recalibration 3. Check load cell 4. Chang main board
nnnnnn	Underflow: measuring value is below negative display range	1. Recalibration 2. Check load cell 3. Chang main board
ERR1	During calibration: no enter the calibration weight value	Input weight of the calibrated weights
ERR2	During calibration: the used calibration weight value is too low	Add weights. Recommend the weights is 15-80% the Max. capacity
ERR3	During calibration: input voltage is negative	1. Check the installation is ok or not 2. Check the connection for load cell is ok or not
ERR4	During calibration: measuring value is not standstill	Check the scales installation is ok and the make sure the goods on the scales is stable
ERR5	Checksum error of EEPROM	1.Power off the indicator and re open again 2. Change main board
Lobat	The voltage of rechargeable battery is too low	Recharge the battery

Daily maintenance

1. Regularly clean the panel and body with soft cotton sheets and cleaning detergent. Industrial cleaning solvents can not be used to clean keyboard and display panel, and the solvent can not spray directly on the instrument.

2. In order to ensure indicator display clearly and useful life, the instrument should not be placed directly on sunlight. And can not be placed on dust and vibration serious area.

3. Sensors and indicator should be well connected , the system should have a good ground, away from strong electric field, magnetic field, sensors and indicator should stay away from flammable and explosive materials.