XK3190-D18

Weighing Indicator Controller

Users' Manual

V 2.00

Table of Contents

Chapter I Technical Parameters

1. **model**: XK3190-D18 weighing indicator

2. **accuracy**: class Ⅲ, n=5000

3. **analog part**:

a/d conversion method:	-
maximum conversion code:	24bit
conversion speed:	50times/second~200times/second
input signal range:	-20 ~ 20mV
nonlinearity:	≤0.0015%FS
zero temperature drift:	≤0.05uV/℃
bridge voltage:	AC 5V，250mA，12pcs 350Ω sensors or 24pcs 700Ω sensors connection
full-scale sensitivity :	0.5uV/d
Sensors connection method :	6 wires, auto compensation for long distance

4. **Display**:

D18+s(TFT) high contrast ratio FSTN 240×64 dot matrix LCD display
D18M2 double window display 6 bit LED+128×96 dot matrix LCD display

5. **Keyboard**:

Number button:	0 ~ 9
Function button:	23pcs（10pcs combine with number button）

6. **clock**: it can display year,month,day leap year,leap month

Clock accuracy: ±5s/24h，not affect by power off

7. **Scoreboard display interface** :

Transmission method serial output method，20mA current loop signal （constant current source output）（RS232 interface method is optional）

Transmission method :	11 bit binary number
Transmission baud rate:	600
Transmission distance:	≤2000m

8. **Serial communication interface:**

Transmission method :	RS232,RS422/RS485（optional）
baud rate:	600/1200/2400/4800/9600(optional)
Transmission data format:	10bit binary number，1 start bit,8 data bit（ASCII code），1 stop bit
Transmission distance:	RS232 ≤15m；RS422/RS485 ≤1000m

9. **Print interface:**

1）panel thermal printer:

Print paper： thermal print paper，paper width 57mm，roll of paper outer diameter<40mm.

2）standard parallel print interface:
Equipped with wider printer such as ESPON LQ-300K、KX-P1131、KX-P1121 and so on .

10．Data storage:

Available to store 1000 sets of vehicle tare weight, 1000 sets of cargo names, 1000 sets of weighing records and 50 sets of Overload records

11. Working Environment:

Power supply: AC 110V~220V, 50~60Hz, Current: ≤0.3A DC 6V-8V (optional), Current: ≤0.6A when not printing while ≤3A for printing

Working temperature: 0℃~ 40℃
Storage temperature: -25℃ ~ +55℃
Relative humidity: ≤85%RH
Preheating time: 10～30min

12. Indicator features:

●32-bit ARM processor with high speed and high performance, and built-in operating system are adopted to make real-time and correct accumulation, calculation, memory, inquiry and printing of the weight data;

●Humanized operating interface, two-dimensional rolling menu bar management, quick positioning of required parameters menu by directional keys, and abundant information of operation prompt;

●Integrated input of English/number/sign, similar to T9 input mode of mobile phone;

●Optimized digital filtering feature and good temperature feature, effectively assuring the stability and high precision of weighing data;

●Complete set functions of measured parameter for general truck weighing indicator;

●Available to store 1000 sets of vehicle number, tare weight, 1000 sets of cargo names, 1000 sets of weighing records and 50 sets of Overload records;

●Functions of storage, prompt intelligent inquiry and deletion for weighing records;

●Static weighing function per axle;

●Optional 10M/100M adaptive Ethernet interfaces, available for transmission and management of weighing records through LAN and Internet Net;

●Optional USB data interface, available for connection with computer via USB data wire;

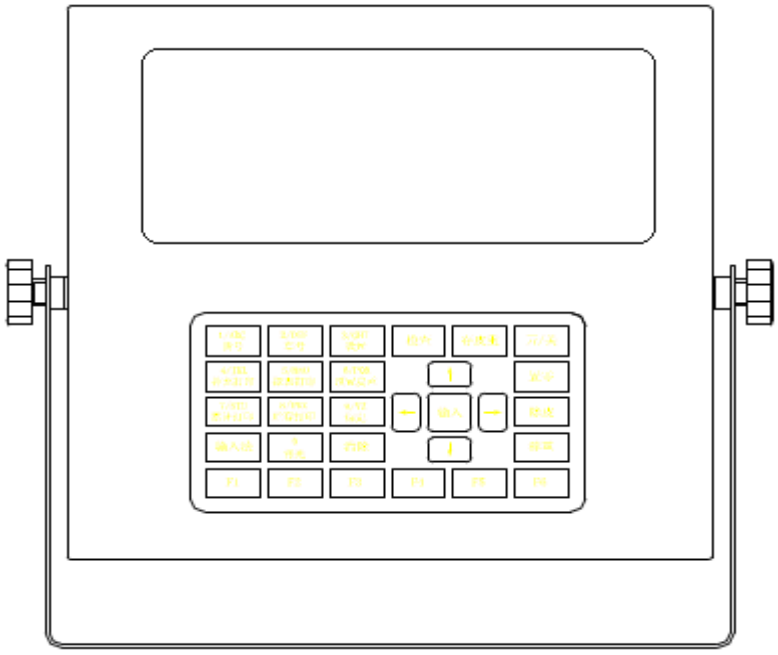
●Optional PS/2 keyboard interface, available for indicator operation via general PS2 keypad of computer.

13.XK3190-D18 series indicators model name difference:

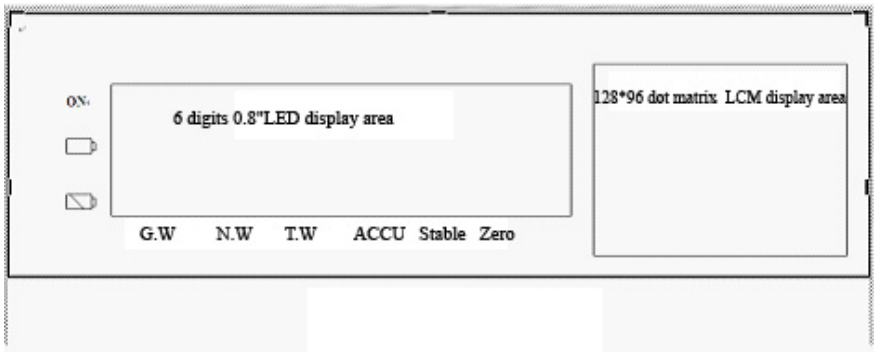
XK3190-D18+s(TFT)	s-type waterproof s/s housing, single-window indicator, Adoption of FSTN 240×64 Dot matrix LCD with high contrast, No PS/2 interface, Ethernet interface or USB interface.
XK3190-D18+m2(TFT)	m2-type cast aluminum housing, double-window indicator, Adoption of 6-bit 0.8-inch LED display window + 128×96 Dot matrix LCD, With PS/2 interface, Ethernet interface and USB interface.

Chapter II Indicator Connection

1. Diagram of indicator



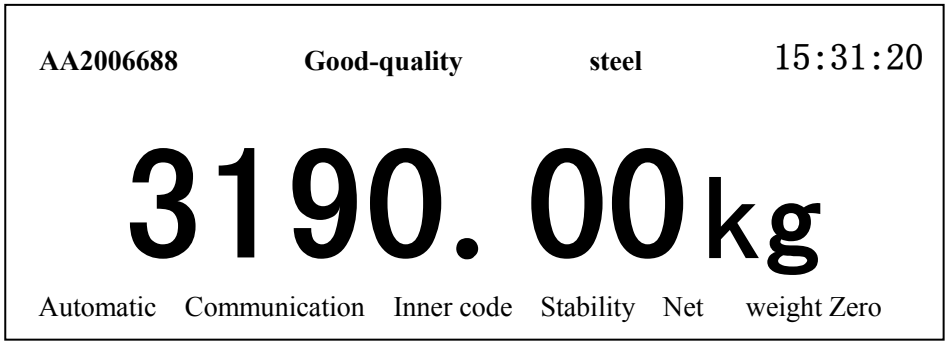
(Fig.2-1)Diagram for Front Panel of Single-window Indicator



(Fig. 2-2) Diagram for Front Panel of Double-window Indicator

2. Main Interface Display of Single-window Indicator (Weighing Interface)

VEH No.: 10 characters CGO No.: 10 characters Time



Note: The main interface of double-window indicator is similar to that of single-window indicator, and only the layout of displayed information is different.

3.Connection between Load cell and Indicator

(1). D-sub 9 pin socket socket is used for the connection of load cells. The meaning of each pin is listed in Fig. 2-3.

(2) +E and +S, -E and -S must be short connected if 4-core shield cable is used.

▲The connection between load cell and indicator must be reliable and the shield cable must be well grounded. The connecting line can not be plugged in and out when the indicator is powered on in order to prevent any damage to the indicator or load cell by static electricity.

▲ The load cell and indicator are both static sensitive equipments, so anti-static measures must be taken during the use. It is strictly forbidden to carry out welding operation or other operations with high current on the weighing platform. In the stormy season, lightening prevention measures must be taken reliably to prevent any damage to load cell and indicator caused by lightening stroke, and to guarantee the personal security of operators and safe running of weighing devices and relative equipments.

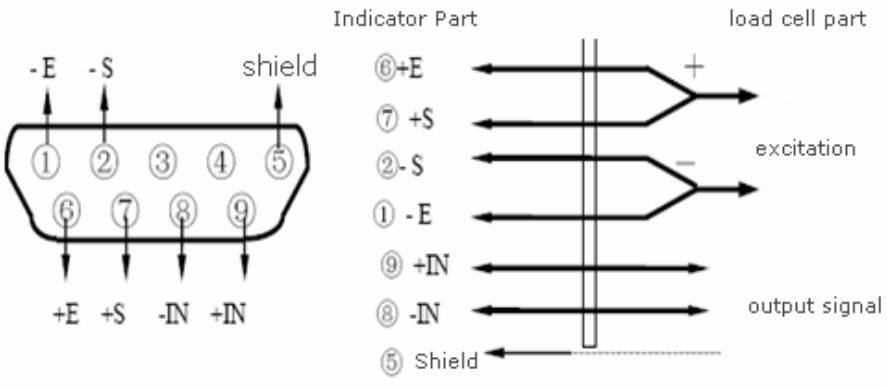
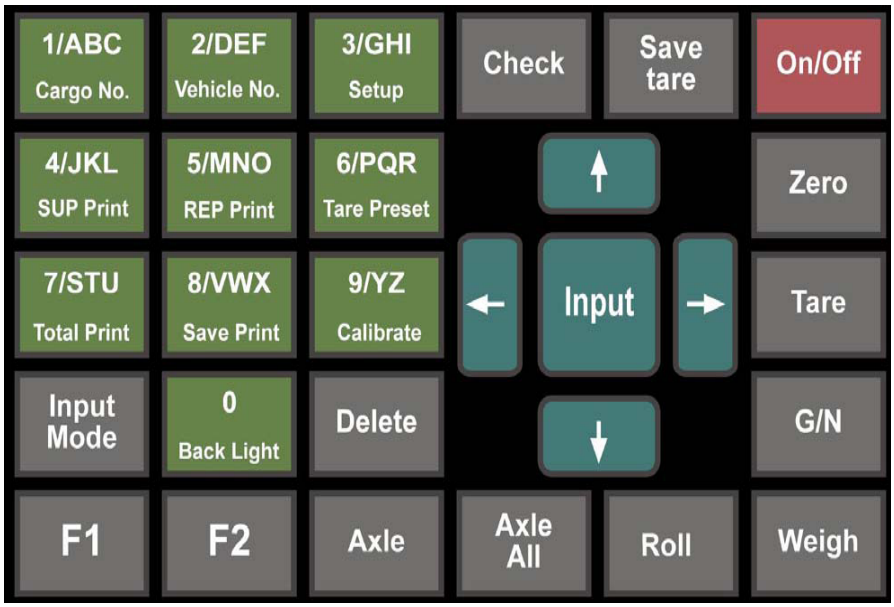


Fig. 2-3 Connecting Diagram of Load cell

Chapter III Measuring Operation

I. Keyboard Chart



II. Instruction of Keyboard

In this instruction,【××】【××】refer to the key-pushing sequence. For example,【Set】【 】【Input】 mean to push these keys 【Set】【 】【Input】in sequence.(【 】【 】 and 【 】【 】are exception, which refers to execution of selected operation according to the direction keys. And each arrow key may be pressed more than one time.Here it is just as an indication.Under the operation status of main page, the functions under frequent use are realized via the operation of single key, while the functions under infrequent use are realized via the key-pushing sequence.

Key name	Instruction
【1 / ABC CGO No.】	Input CGO No. setup in weighing mode; Input number 1 or letter ABC under setup status
【2/DEF VEH No.】	Input VEH No. setup in weighing mode; Input number 2 or letter DF under setup status
【3 / GHI Set】	Input function setup menu in weighing mode; Input number 3 or letter GHI under setup status
【4 / JKL Fill PRT】	Execute Fill PRT in weighing mode; Input number 4 or letter JKL under setup status

【 5/ MNO Report Print】	Execute Report Print in weighing mode; Input number 5 or letter MNO under setup status
【 6 / PQR Preset Tare】	Input Preset Tare set in weighing mode; Input number 6 or letter PQR under setup status
【7/STU Sum Print】	Execute Sum Print in weighing mode; Input number 7 or letter STU under setup status
【 8/VWX Save Print】	Execute Save Print in weighing mode; Input number 8 or letter VWX under setup status
【9 / YZ Calibration】	Input calibration setup in weighing mode Input number 9 or letter YZ under setup status
【0 Back Light】	Turn on/off back light under non-setup status Input number 0 under setup status
【Tare】	Execute Tare operation in weighing mode
【Zero】	Zero operation in weighing mode
【Input mode】	Conversion input modes under setup status
【Check】	Input record check interface
【Input】	Save the input parameters
【Weighing】	Press this key to go back to main weighing interface.
【Clear】	Clear the records or clear one by one the input value
【On/off】	Realize reset function under AC power supply, and turn on/off the device under DC power supply
【Save Tare】	Input interface of storing tare weight
【 】	Direction key for previous page of menu or record
【 】	Direction key for next page of menu or record
【 】	Direction key, back to the previous menu or Input the left menu bar “Left sign” in the input mode of phoneticism and sign
【 】	Direction key, for the next menu or the right menu bar “Right sign” in the input mode of phoneticism and sign
【Axle】	Confirm axle measurement
【Axle All】	Completion of axle measurement and display of total weight
【Select】	Conversion display of gross weight / net weight
【Roll】	For printing roll

【F1】	When using PS2 keyboard, the conversion between keyboards can be realized. There will be a long prompting sound in the indicator if conversion is successful.
【F2】	Extension key for functions, temporary

III. Measuring Operation

1. Initialization and Auto Zero upon Start

(1) When power-on, the indicator indicates start image and then Inputs weighing status in several seconds automatically.

(2) When the device is turned on, if the weight deviates from zero but still within the zero parameter scope, the indicator will automatically return to zero. Please see the Chapter: Menu Operation for the details of parameter selection and setting method of zero scope upon start,

2. Manual Zero (Semi-automatic Zero)

(1) Push 【Zero】key and the indicator returns to zero. The zero sign is on at this time.

(2) When the indicating value deviates from zero but still within zero scope, the 【Zero】 key is enable, otherwise it is not. Please see the Chapter: Menu Operation for the details of parameter selection and setting method of zero scope upon start.

(3) Only when the stability sign is on, the zero operation can be executed.

(4) If the tare weight of the indicator is not zero, first press 【Preset Tare】key and set the value as 0. Zero setting can't be performed until back to the weighing interface.

3. Operation of Tare Function

Three tare methods are provided by the indicator:

(1) **General Tare:**

In weighing mode, when the indicating weight is positive and stable, press the 【Tare】 key, then the indicating weight will be deducted as tare weight. At this time, the indicator indicates the net weight as 0 with the weight sign on.

(2) **Preset Tare:**

Under the gross weight status of weighing interface, press the 【Preset Tare】 key and then the indicator comes into interface of Preset Tare. At this time, the indicating tare weight value is the original tare value. If a new tare value is required to be set, use the number keys to input once again and then press the 【Input】key for confirmation. Press【 】key for back to weighing interface.

As for detailed setting method, please see the Chapter: Menu Operation.

(3) **Calling Tare Weight According to VEH No**.:

In weighing mode, press the 【VEH No.】 key and the indicator comes into setting interface for VEH No./Tare. After input correct VEH No., press 【Input】 key to call the relative tare weight value of this VEH No. from the memory. If there is no need to revise the tare weight, press 【Tare】key to take the tare weight value as the current tare weight and meanwhile return to weighing interface.

4. Measuring Operation for Axle:

D18 has the measuring function of axle.

First, set the parameters of "measuring function of axle" to "using measuring of axle" according to the method described in the chapter "Menu Operation", and set the "unblocking threshold of axle" to the required value. After pressing 【Weigh】key for back to weighing status, the indicator Inputs axle measuring with the sign of "axle " on. The steps are as follows:

(1) The first group of axle is moved on the platform for measuring. After it stops, wait until the stability light of the indicator on. Then press 【Axle】key to lock and record the value;

(2) Remove the first group of axle from the platform and the axle locking is disable. The indicator returns to zero. Then put the second group of axle on the platform and repeat the operation of Step (1);

(3) After measuring all axles, press【Axle All】key. The indicator displays the 【Truck Weight】sign and the whole car load. Press 【Save Print】 key to save and print the weight. Press【Weigh】 key to Input new measuring status of axle again.

Chapter IV Menu Operation

Among XK3190-D18 series, the menu items of double-window indicator are same as that of single-window indicator, so is the operation method. The only difference is the layout sequence on the display. The operation of menu items of single-window indicator is mainly described below.

I. General Menu List

Key operation	Menu item	Sub-menu	Factory default setting
【CGO No.】		『Cargo Name』	-
【VEH No.】		『VEH No./Tare』	-
【Save Print】		『Save Print Set』	-
【Preset Tare】		『Preset Tare』	0
【Save Tare】		『VEH No./Tare』	-
【Report Print】	『 Report by Time』	『Report Print』	-
	『Report 1』		-
	『Report 2』		-
	『Report 3』		-
	『Report 4』		-
	『Report 5』		-
	『Report 6』		-
【Calibration】	『CAL PWD』		888888
	『Calibration』	『Division』	1
		『 Number of Decimal Point』	3
		『F.S』	3000
		『Zero』	
		『Loading』	3000
	『 Zero Track Speed』		0
	『 Zero Track Range』		0.5
	『 Manu Zero Set』		4%

	『 Initial Zero Set』		20%
	『 Filter Degree』		2
	『Unit』		kg
	『 A/D Ivert Rate』		50Hz
	『 Signal Range』		10mV
	『 Applicate Range』		Not for trade
	『 Calibrate Para.』	『Zero Point』	99545
		『 CAL Coefficient』	0.02094
		『Nonlinear』	1.00000
【Check】	『REC Search』	『Record Search』	-
	『 VEH No. Search』		-
	『 CGO No. Search』		-
	『 Overload REC』		-
	『Scan Record』		-
	『Delete All』		-
	『 Delete Overload』		-
【FUNC PWD】	『Print Setup』	FUNC PWD	888888
		『Print Method』	Manual Print
		『Printer Type』	Micro printer
		『 Back Zero Limit』	50
		『Print Format』	3Link Format
		『 Min. PRT Weight』	0.010
		『 Fill PRT Option』	Fill PRT is not applied.

	『 Comm Setup』	『Comm Method』	Continuous mode
		『Comm Address』	1
		『Baud Rate』	1200
	『USB Setup』		USB function disable
	『Net Setup』	『Net Enable』	Net function disable
		『IP Address』	192.168.002.175
		『Subnet Mask』	255.255.255.000
		『MAC Address』	3190
		『 Default Gateway』	192.168.002.001
	Date/Time Setup	『CAL PWD』	888888
		【 Date/Time Setup】	08/01/01 1:30:30
	Date/Time Disp		Time Display
	CGO No. Enable		Use of CGO No.
	VEH No. Enable		Use of VEH No.
	Axle Mode Enable		Axle measuring is not used.
	Axle Lock Value		1%
	Display Contrast		5
	LED Brightness		4
	CAL PWD Change		888888
	Time PWD Change		99/99/99

	Company Name		Shanghai Yaohua Weighing System Co., Ltd.
	Inner Code		-
	System Test	Micropri Test	-
		Software	-

Note:【***】in the table refers to the corresponding push-key;【***】refers to the name of menu bar displayed on screen, belonging to the first-level menu;【***】refers to the set menu of parameter value, belonging to the second-level menu.

Note: The factory default can be restored according to the following operation when the indicator runs abnormally because of the wrong set of parameter value or memory fault. Push【Calibration】in weighing mode and input password "100000", then push【Input】key. The indicator displays "Initialization" and this process begins. Do not push any key at this time and wait for about 2 minutes. The indicator parameters are then restored to default.

II. Instruction of Operational Mode of Indicator

The indicator provides three operational modes according to the spot operation of truck weighing in order to finish all operations more quickly, intelligently and conveniently.

1. Single-key Function Mode:

Relative operation can be executed by directly pushing one function key.

Corresponding function keys:【REP Print】,【Zero】,【Tare】,【Back Light】,【Axle】,【Alex All】,【G/N】,【Roll】,【Weigh】,【Input mode】

For example: Push【Zero】key in weighing mode to execute zero operation.

2. Single-key Menu Mode:

For the operation requiring input parameters, just push one function key to Input the corresponding interface of parameter set.

Corresponding Function keys:【CGO No.】,【VEH No.】,【Preset Tare】,【Save Print】.

For example: Push【CGO No.】in weighing mode to directly enter the following interface of『Cargo Name』for setting. The input area highlighted and the input status is displayed in the upper right of the screen. Users can push【Input mode】to switch the method. And then input

number/English/character/sign according to the input mode.

Then push 【Input】key to keep the input content and then push 【 】key to the main interface.

Cargo Name 【123】
Val: Good-quality Steel Code: 0
Input cargo name
【←】Back 【Input】Confirm

3. Management Mode of Menu Bar

As for the setting of parameters which are not used often but complicated, unified management can be carried out through the menu bar, which shall be convenient for the users to search according to the parameter types. According to different functions, five function keys are set for menu management. See the above list for menu Structure.

Corresponding Keys:【Set】,【Check】,【Report Print】,【Calibration】,【Clear】

For example: Push【Set】key in weighing mode and input the password to Input the following menu structure. Similar to the interface of the mobile phone, the highlighted refers to the current selected menu item. Push direction keys to move the optional bar and select the pre-set menu item according to the following operation prompts on the screen.

Print Setup	Date/Time Setup
Comm Setup	Date/Time Display
USB Setup	CGO No. Enable
Net Setup 【 】Option	【Input】Confirm

And then push 【Input】 to Input the interface of menu setup or the next menu optional bar. If『CGO No. Enable』 is required to be set, move the display bar to corresponding menu item. See the following chart:

Print Setup	Date/Time Setup
Comm Setup	Date/Time Display
USB Setup	CGO No. Enable
Net Setup 【 】Option	【Input】Confirm

Then push 【Input】enter and 【 】【 】 keys to select the VAL.

CGO No. used
CGO No. not used
【←】 Back 【↑】 Option 【Input】 Confirm

Push 【Input】 key to save and then push 【 】 key back to the previous menu or push【Weigh】 key to directly return to the weighing mode.

III. Instruction of Menu Operation

1. 『Cargo Name』 Setup

Under weighing interface, push 【CGO No.】, then the indicator displays

Cargo Name 【123】
VAL: Good-quality Steel Code: 1
Input cargo name
【←】Back 【Input】Confirm

After inputting value in the set area and pushing 【Input】 key, the indicator shall automatically search whether there is corresponding code in the memory. If so, relative code will be indicated; if not, new code will be formed and indicated. If user knows the corresponding code of the VAL, he can directly input it in the code area. Then the indicator shall automatically search the corresponding VAL and indicate it, which will avoid relatively complex operation of input mode. If the code is input and there is no corresponding CGO No. searched, the indicator shall indicate “fault”.

Push 【Input】 key for confirmation after input and then push 【 】 key for going back to the weighing interface.

2. 『VEH / Tare』 Setup

Under weighing interface, push 【VEH No.】 or 【Tare Save】 keys and then the indicator displays:

Cargo Name 【123】
VAL: Good-quality Steel Code: 1
Input code for cargo
【←】Back 【Input】 Confirm

When the input area is highlighted, it indicates that the value can be input here. Either VEH No. or tare weight can be input,after inputting value in the set area and pushing 【Input】 key, the indicator shall automatically search whether

there is corresponding code in the memory. If so, relative code will be indicated; if not, new code will be formed and indicated. If user knows the corresponding code of the VEH, he can directly input it in the code area. Then the indicator shall automatically search the corresponding VEH and indicate it, which will avoid relatively complex operation of input mode. If the code is input and there is no corresponding VEH No. searched, the indicator will indicate "fault".

The VEH No. can be input with mixture of English and number. And input mode can be switched by pushing【Input mode】 key.

After inputting the VEH No. and code, it is switched into tare weight setting automatically. The tare weight column indicates the corresponding value of the above saved VEH No. If there is no memory, the default tare weight is 0. If the tare weight value needs to be changed, input directly the new tare weight and push 【Input】 to keep the VAL and then push 【 】 back to the weighing mode. If the code of VEH No. is 0, it indicates single cargo weighing and tare weight value can not be input.

3．Print parameter setup

Press【Setup】 in weighing status，input the password（888888）and then come into function parameter menu status .

Print Setup	Date/Time Setup
Comm Setup	Date/Time Display
USB Setup	CGO No. Enable
Net Setup 【 】Option	【Input】Confirm

（1） Print setting

Please check chapter printer set .

（2） Communication setting

Please check chapter Communication .

(3) USB function setting

Press【 】【 】and choose『USB function setting』and operate by the screen prompts

Setting value	Instruction
USB function	Indicator allows USB& Upper computer communication
USB function is forbidden	Indicator forbids USB& Upper computer communication

press【 】【 】key to choose the corresponding setting and press

【Input】，indicator save the parameter automatically.

(4) Network function setting

Press【 】【 】and choose the 『network function setting』 press【 】【 】choose 『IP address』and then press【Input】,

IP Address 【123】 VAL: 192.168.002.175 (IP ADDR,range:000-255) 【 】Back 【Input】Confirmation

Input area	Input mode	Instruction
value	number	Input IP address by number button and 12 numbers can be input at most

Press【 】【 】and choose『MAC address』and then press【Input】,

MAC Address 【123】 VAL: 3190 (MAC Address:0-9999999) 【 】 Back 【Input】 Confirm

Input area	Input mode	Instruction
value	number	Input MAC address of indicator by number button .

Press【 】【 】and choose『Default Gateway』and then press【Input】,

Default Gateway 【123】 VAL: 192.168.002.001 (Gateway range:000-255) 【 】 Back 【Input】 Confirm

Input area	Input mode	Instruction
value	number	Input indicator default gateway by number button and 12 numbers can be input at most.

Press number button input and then press【Input】，indicator save the parameter automatically.

(5) Date/Time Setup

Push 【 】【 】 keys to select 『Date/Time Setup』and push 【Input】 key to Input the password protection status. CAL PWD is required to be input and then input the date ,

Input Area	Input mode	Instruction
Date	number	Input 6-digit date value and display it while shifting towards left, with 2 digits respectively for year, month and day.For example: if the date is November 17, 2006, then input "061117".
Time	number	Input 6-digit time value and display it while shifting towards left, with 2 digits respectively for hour, minute and second. For example: if the time is 13:08:30, then input "130830".

After inputting time, push 【Input】 key to save it and then the date is displayed cyclically. Push 【 】for returning to the previous menu.

（6）Date/Time Disp

Push 【 】【 】 keys to select 『Date/Time Display』and push 【Input】 key.

（7）CGO No. Enable

Push 【 】【 】 keys to select 『CGO No. Disable』and push 【Input】 key.

（8）VEH No. Enable

Push 【 】【 】 keys to select 『VEH No. Enable』and push 【Input】 key.

Value	Instruction
VEH No. applied	VEH No. name can be set in the indicator and VEH No. shall be displayed in the print list.
EH No. not applied	VEH No. name is forbidden to set in the indicator and VEH No. shall not be displayed in the print list. The 【VEH No.】 key has no function of setting VEH No. in weighing mode.

（9）Axle Mode Enable

Push 【 】【 】 keys to select 『Axle Enable』and push 【Input】 key.

Value	Instruction
Axle not applied	The indicator Inputs normal measuring mode
Axle applied	The indicator Inputs static axle mode.

Push 【 】【 】 keys to select relative set and then push 【Input】 key. The indicator saves parameters automatically.

（10）Axle Lock Value

Push 【 】【 】 keys to select 『Axle Lock Value』and push 【Input】 key.

Input Area	Input Mode	Instruction
Value	Number	3-digits can be input at most. The axle unlocking threshold is limited between 0-100%. The percentage refers to the proportion of locked axle value.

（11）Display Color

Push 【 】【 】 keys to select 『Display contrast』and push 【Input】 key.

Input Area	Input Mode	Instruction
Value	Number	1-digit can be input at most and the display contrast is limited to 0-9; The number 0 means that the brightness of screen is the lowest; The number 9 means that the brightness of screen is the highest.

（12）CAL PWD Change

Push 【 】【 】 keys to select 『CAL PWD Change』and push 【Input】 key.

FUNC PWD 【123】
VAL
(Input correct FUNC PWD)
【 】 Back 【Input】 Confirm

Push 【Input】 key after inputting the CAL PWD. If it is correct, then

enter into the next step. Otherwise, there shall be fault reported and it needs to be input again. If three mistakes are made, the indicator will return to the previous menu.

Push 【 】 key and the indicator directly return to the previous menu.

Input Area	Input Mode	Instruction
Value	Number	Input 6-digit for password value and each "*" stands for one number. The first 6 digits are defaulted if over 6 digits are input.

Push 【Input】 key after inputting new CAL PWD,and input the new password again. If the new password input between two times is consistent, then the indicator shall update the CAL PWD and then return back to the previous menu. Otherwise, revision of CAL PWD shall not be allowed and the indicator will directly returns to the previous menu. Push 【 】 key for going back to the previous menu.

（13）Time PWD Change

Push 【 】【 】 keys to select 『Time PWD Change』and push 【Input】 key. After inputting the calibration password you can set the power off time .

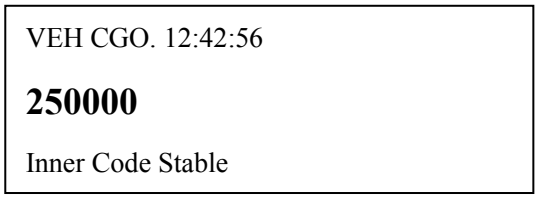
Input Area	Input Mode	Instruction
Value	Number	Input 6-digit date value and display it while shifting towards left, with 2 digits respectively for year, month and day. For example: if the date is November 17, 2006, then input "061117". When the input value is "999999", timing power-off function is canceled automatically.

（14）Company Name

Push 【 】【 】 keys to select 『Company Name』and push 【Input】 key. Input the company name and can be printed on the weighing list. Mixed input with English, number and sign is allowed. 23 characters can be input at most. Push 【Input】 key to save after input.

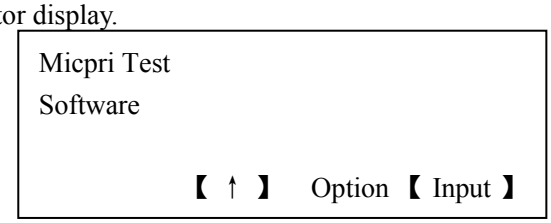
（15）Inner Code

Push 【 】【 】 keys to select 『Inner Code of Indicator』and push 【Input】 key. The indicator displays the current inner code.



（16）System Test

Press【 】【 】and choose 『System Test』and then press【Input】, and indicator display.



1) Micropri Test

Push【 】【 】keys to select【Micropri Test】and push【Input】key. If there is fault for the micro-print, the indicator displays fault prompt..

2) Software Info

Push【 】【 】keys to select【Software】and push【Input】key. The indicator displays:

-

I. Profile of input mode

This indicator adopts the input mode with number/English/Sign mixed. The operational way is similar to that of T9 input mode which is popular among mobile phones at present.

II. Operation of Input mode

When inputting the parameters of【VEH No.】,【CGO No.】, and【Company Name】, the input mode with number, English ,Pinyin and Sign mixed can be used, while just number can be input for other parameters. When the mixed input mode is allowed, push【Input mode】key to switch the status. Push【Clear】key to clear the input characters one by one.

Display in the upper right corner of the screen	Input mode Status
【123】	Input Status of Number
【ABC】	Input Status of Capital English
【abc】	Input Status of Minuscule English
【.?!】	Sign Input Status

(1) Input Status of Number

Input the number according to the corresponding number on the keyboard.

(2) Input Status of Capital/Minuscule English

First push 【Input mode】to switch into capital/minuscule English input status and then push the corresponding keys of the letters. (For example, if letter C should be input, push 【Number 1/ABC】 key.)

1) Constantly push the same character key within 1 second, the input character shall be switched among the character groups corresponding with this key.1) Constantly push the same character key within 1 second, the input character shall be switched among the character groups corresponding with this key.

2) Push the character key for over 1 second, the first character corresponding with this key shall be input. If other characters are required to input, repeat the operation in the above 1), i.e, push the character key within 1 second corresponding with the letter.

For example, if you want to input "hai", constantly push 【3/GHI】 key twice for input of letter "h" (the interval shall be less than 1 second), push 【1/ABC】 key in one minute for once input of letter "a", and then push 【3/GHI】 for three times input of letter "i" in one minute (the interval shall be less than 1 second). Then the input can be finished.

(3) Input Status of Sign

First push 【Input mode】to switch into sign input status.

1) All the optional signs are displayed in the screen below. After pushing【 】【 】 keys to select the required sign, the chosen sign highlighted. Push 【Input】 key and the indicator shall list the chosen sign in the input area and then automatically switches into Pinyin input status to wait for the next character input.

2) If you want to continue to input sign, push 【Input mode】 key to switch into the sign input status and then select the optional sign. After input, push 【Input】 key to save it.

Chapter VI Calibration

I. Calibration

First open the lead seal, toggle the calibration switch inside to enable it to allow calibration. In weighing mode, press【Calibration】and the indicator will show as follows:

CAL PWD 【123】
VAL:
Input right calibrate PWD
【 】Back 【Input】Confirm

Input area	Input mode	Instructions
value	number	Input a 6- digit password. Each"*"stands for one digit The first 6 digits are defaulted if more than 6 digits are input. The default password is "**888888**"

After inputting the valid password, press 【Input】 to input the calibration setup interface. If password is invalid, error report will appear to require another input. After three incorrect inputting, the indicator will return to weighing interface. Press 【 】to directly return to weighing interface.
Calibration setup interface is as follows:

Calibration Manual Zero Set upon Initialization
Zero track speed Filter degree
Zero track range Unit
Manual Zero Set 【 】Select 【Input】confirm

On the calibration setup interface, press 【 】【 】for video reversed bar to select 『Calibration』. Press 【Input】to Input the setting process interface of calibration.
First appears the division value setting,

Division 【123】
VAL：1
(1,2,5,10,20,50 select)
【 】 Back 【Input】Confirm

Input area	Input mode	Instructions
value	number	For division value, only 1，2，5，10，20，50 can be input. Error report will appear if other numbers are input.

After inputting division value, press 【Input】 to set decimal points.

Decimal point 【123】
VAL: 3
(Input: 0,1,2,3,4)
【 】Back 【Input】Confirm

Input area	Input mode	Instructions
value	number	For scaling position, only 0，1，2，3，4 can be input. Error report will receive if other numbers are input.

After setting decimal point, press 【Input】 for full scale capacity setting

F.S. 【123】
VAL: 3.000 kg
(Input F.S. value)
【 】Back 【Input】Confirm

Input area	Input mode	Instructions
value	number	At most 6 digits are accepted

After inputting F.S value, press 【Input】 for zero point confirmation

VEH. CGO 14:31:48
1569
Calibration AD code Stable Zero point

Wait for ad code to stabilize in idling stage under no load statue. Press【Input】, and the indicator will input the load confirmation stage.

VEH. CGO 14:31:48
298568
Calibration AD code Stable Zero point

To load standard weight, wait for AD code to stabilize, then press 【Input】to come into the interface for load value setup interface (if AD code jumps slightly, it can be considered stabilized)

Loading 【123】
VAL: 3.000 kg
(Input loading value)
【 】Back 【Input】Confirm

Input area	Input mode	Instructions
value	number	At most 6 digits are accepted

After inputting loading value, press 【Input】 key to finish calibration. The indicator indicates "Calibration End" and returns to weighing mode.

Generally speaking, calibration can be completed with the above-mentioned steps. The default values upon delivery from the factory can be adopted for other measuring parameters. To meet some special requirements, the operating procedures of *the* chapter M*enu* S*etup* can be followed to do the corresponding setting for the related parameters.

(2) Zero Track Speed

Press【 】【 】 and choose 『Zero track speed』, and then press【Input】 then display the following interface.

Zero Track Speed 【123】
VAL: 0
(From 0 to 4)
【←】Back 【Input】 Confirm

Input area	Input mode	Instructions
Value	Number	Only allowed input 1 digit at most， Only can input0, 1, 2, 3,4 ； Error report will receive if other numbers are input.

After inputting by number button, press 【Input】 key to save. The indicator can not save and directly back to function menu by press【 】button.

(3) Zero Track Range

Press【 】【 】 and choose 『Zero track range』, and then press【Input】 then display the following interface.

Zero Track Scope 【123】 VAL: 0.5e (From 0.0 to 4.5, 0.5/Interval) 【←】Back 【Input】 Confirm

Input area	Input mode	Instructions
Value	Number	Only allowed input 2 digits at most Only can input 0.0 , 0.5 , 1.0 , 1.5 , 2.0 , 2.5 , 3.0 , 3.5 , 4.0 , 4.5 ； Error report will receive if other numbers are input.

After input by number button, press 【Input】 key to save. The indicator can not save and directly back to function menu by press【 】button.

（4）Manual Zero Set

Press【 】【 】 and choose 『Manual Zero Set』, and then press【Input】 then display the following interface.

Zero Scope 【123】 VAL: 20% (0,2,4,10,20,40,100 select) 【←】Back 【Input】 Confirm

Input area	Input mode	Instructions
Value	Number	Only allowed input 3 digits at most Only can input 0 , 2 , 4 , 10 , 20 , 40 , 100；Error report will receive if other numbers are input.

After input by number button, press 【Input】 key to save. The indicator can not save and directly back to function menu by press【 】button.

（5）Initial Zero Set

Press【 】【 】 and choose 『Initial Zero Set』, and then press【Input】 then display the following interface.

Zero Scope upon Initialization 【123】
VAL: 2%
(0,2,4,10,20,40,100 select)
【←】Back 【Input】 Confirm

Input area	Input mode	Instructions
Value	Number	Only allowed input 3 digits at most Only can input 0 , 2 , 4 , 10 , 20 , 40 , 100；Error report will receive if other numbers are input.

After input by number button, press 【Input】 key to save. The indicator can not save and directly back to function menu by press【 】button.

（6）Filter Degree

Press【 】【 】 and choose 『Filter Degree』, and then press【Input】 then display the following interface.

Filter Degree 【123】
VAL: 2
From 0 to 4
【←】Back 【Input】 Confirm

Input area	Input mode	Instructions
Value	Number	Only allowed input 1 digits at most,and filter degree limited from 0～4. Input value bigger and weight value will be more stable and the speed will be more slowly .

		And input value is smaller and the speed will be more faster but is will less stable , **Note : please consider the stable and the speed as the customer requires before setting ,**

After input by number button, press 【Input】 key to save. The indicator can not save and directly back to function menu by press【 】button.

(7) Unit

Press【 】【 】 and choose 『Unit』, and then press【Input】then display the following interface.

kg
t
lb
【←】Back 【↑】 Option 【Input】

Value	Instructions
kg	Indicator display and weighing record unit is“kg”
t	Indicator display and weighing record unit is“t”
lb	Indicator display and weighing record unit is“lb”

Press【 】【 】key choose the weight unit and press【Input】save, and press【 】key indicator will directly returns to the previous menu.

（8）A/D Invert Rate

Press【 】【 】and choose 『A/D invert rate』,press【Input】and display the follow interface.

Value	Instruction
50Hz	A/D conversion speed is 50Hz
100Hz	A/D conversion speed is 100Hz
150Hz	A/D conversion speed is 150Hz
200Hz	A/D conversion speed is 200Hz

Input by number button and press【Input】key save；The indicator can not save and directly back to function menu by press【 】button.

（9）Signal Type

Press【 】【 】key choose the 『Signal type』 and press【Input】indicator will display the following interface:

10mV
20mV
【 】Back 【Input】 Confirm

Value	Instruction
10mV	Load cell signal source range is -10mV~10mV
20mV	Load cell signal source range is -20mV~20mV

Input by number button and press【Input】key save；The indicator can not save and directly back to function menu by press【 】button.

（10）Application Range

Press【 】【 】key choose the 『Application Range』 and press【Input】 indicator will display the following interface:

Not for Trade
Trade Purpose
【←】Back 【↑】 Option 【Input】 Confirm

Value	Instruction
Non trade occasion	Non trade occasion allows illegal operation
Trade occasion	Trade occasion forbidden illegal operation

Input by number button and press【Input】key save；The indicator can not save and directly back to function menu by press【 】button.

（11）Calibrate Para.

This menu can check or amend parameter state after the indicator calibration.Press【 】【 】key choose the 『Calibrate Para』 and press 【Input】indicator will display the following interface:

Zero 【123】
VAL: 2145
(Input zero AD code)
【←】Back 【Input】 Confirm

Input Area	Input mode	Instruction
Value	Number	It can be input 6 digits at most and only the indicator was replaced and no re-calibration can amend this value,Zero value must follow the parameter value of replaced indicator. **For precision of the indicator ,it is better re-calibration after replace the indicator!**

Press【Input】key，

CAL Coefficient 【123】
VAL: 0.44336
Input CAL coefficient of indicator
【←】Back 【Input】 Confirm

Input Area	Input mode	Instruction
Value	Number	It can be input 6 digits at most and only the indicator was replaced and no re-calibration can amend this value,calibration value must follow the parameter value of replaced indicator. **For precision of the indicator ,it is better re-calibration after replace the indicator!**

Press【Input】 key ，

Non-linearity 【123】
VAL: 1.00000
(Input non-linearity)
【←】Back 【Input】 Confirm

Input Area	Input mode	Instruction
Value	Number	It can be input 6 digits at most and the range is：0.99500～1.00500 Nonlinearity modified value definition ： Modified value ＝ 1 ＋ half full capacity weight tolerance/full capacity value For example： Full capacity is 3000,and test the half full capacity is 1505，so Nonlinearity modified value＝1＋5/3000=1.00167； Full capacity is 3000,and test the half full capacity is1495，so Nonlinearity modified value＝1－5/3000=0.99833；

Chapter VII Communication

I. Serial communication interface

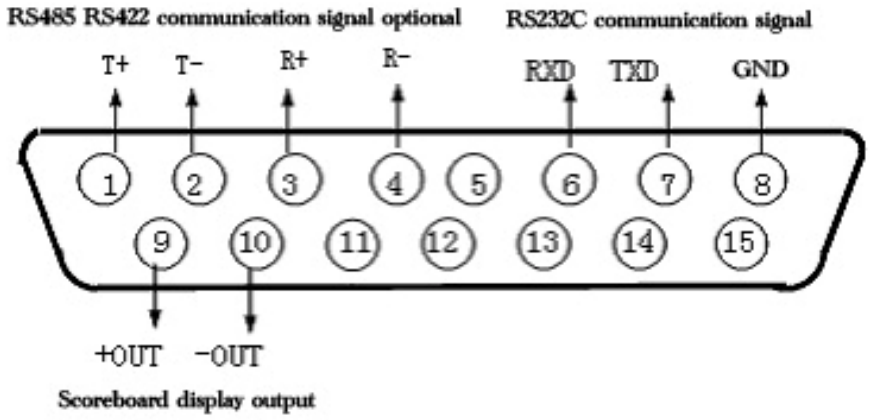
Notes:
1.The connection of the output lead of communication interface with the computer must be correct. Or otherwise, the output terminal of indicator and the communication input terminal of computer will be damaged, even causing , severe damage of indicators, computer and corresponding peripheral equipments.
2.Computer communication requires certain computer skill and programming ability of the operator, who must be accompanied or led by some professional technicians.
Non-professionals are not supposed to connect without authoritarian.

XK3190－D18 type weighing indicator can realize data communication with upper computer through Comm Setup Two communication manners are selectable: continuous mode and instruction mode. In the instruction manner, one upper computer can work with multiple indicators. （rs422/rs485）

1．Communication Method

(1) Communication interface of this indicator adopts a D-sub 15 pin socket. Signals of each pin are shown as 6-, 7-, 8-pin （rs232）, or 1-, 2-, 3-, 4-, 8-pin （rs422/rs485），in Fig.（7-1）. Serial communication and scoreboard display share one socket.

This only applies to Yaohua Communication Interface Protocol. For any special requirements, users can make connection according to the leading wire definition.



(7-1) Serialport communication and scoreboard display output interface signal

(2) For connecting wire, 4-pin shielded cable is recommended, whose shield layer should be grounded at the host computer side.

2. Interface signal parameters

(1) Signal: rs232/rs422/rs485 signal

(2) Baud rate: 600/1200/2400/4800/9600 is selectable for setting

(3) Address range: 26 locations（A～Z）

3. Serial port communication setting

Press【 】【 】choose『Serial port communication setting』then press【Input】

Comm Method
Comm Address
Baud Rate
【 】 Back 【 】 Option 【Input】

1）Command Mode

Press【 】【 】and choose『Communication method』,press【Input】display

Command Mode
Continuous mode
【 】 Back 【 】 Option 【Input】

Value	Instruction
Command method	Communication mode adopts command method between indicator and upper computer, and corresponding communication mode instruction please check the communication chapter
Continuous method	Communication mode adopts continuous method between indicator and upper computer, and corresponding communication mode instruction please check the communication chapter

Press【 】【 】button and choose corresponding set and then press【Input】, and the indicator will save the parameter automatically.

2）**Comm Address**

Press【 】【 】and choose 『Comm Address』,press【Input】and indicator display following interface.

Comm Address 【123】
VAL: 1
(From 1to 26)
【 】 Back 【Input】 Confirm

Input area	Input mode	Instruction
Value	Number	It can be input 2 digits at most , and communication address range is 1～26

Input by number button and press【Input】save the parameter.

3）**Baud Rate**

Press【 】【 】and choose『Baud Rate』 and then press【Input】and indicator display following interface.

Baud Rate 【123】
VAL: 1200 b/s
(Input 600, 1200, 2400. 4800 and 9600)
【 】 Back 【Input】 Confirm

Input area	Input mode	Instruction
Value	Number	It can be input 4 digits at most , Only can input 600，1200，2400，4800，9600 Input other number will cause fault report

Input by number button and press【Input】save the parameter.

4 **.Continuous transmission manner of serial communication**

The data transmitted are the weighing result displayed on the indicator of the current load (gross weight or net weight). Each frame contains 12 groups of data in the following form:

x-th byte	Content and explanation
1	02(XON) begin
2	+or- Sign bit
3	Weighing value High-Command bit
x-th byte	content and explanation
:	Weighing data :
:	Weighing data :
8	Weighing data low-Command position
9	Decimal digits from right to left（0～4）
10	XOR Calibration high 4-digit
11	XOR Calibration low 4-digit
12	03(X0FF) end

xor＝2⊕3⊕ ……8⊕9

4． Command mode of serial communication

The indicator outputs corresponding data as per the command of upper computer. Every time when the upper computer gives out an instruction, the indicator should output 1 frame of data.

Commands from upper computer:

n-th group	Content and explanation
1	02（XON） Begin
2	A～Z Address code
3	A～I Command A: handshake
	Command B: read gross
	Command C: read tare
	Command D: read net
	Command E: access VEH No.
	Command F: access CGO No.
	Command G: Delete All
	Command H: set to zero
	Command I; tare
4	XOR Calibration high 4-digit
5	XOR Calibration Low 4-digit

6	03（XOFF） end

Output content of indicator:

x-th group	Content and explanation
1	02（XON） Begin
2	A～Z Address number
3	A～I Command A：handshake
	Command B：transmit gross weight
	Command C：transmit tare
	Command D：transmit net weight
	Command E：transmit VEH No..
	Command F：transmit CGO No...
	Command G: no data
	Command H：no data
	Command I：no data
4	Output corresponding data as per the command content
x-th group	Content and explanation
5	Output corresponding data as per the command content
6	Output corresponding data as per the command content
7	Output corresponding data as per the command content
8	Output corresponding data as per the command content
:	Output corresponding data as per the command content
:	Output corresponding data as per the command content
n-1	Output corresponding data as per the command content
n	Output corresponding data as per the command content
N+1	XOR Calibration high 4-digit
N+2	XOR Calibration low 4-digit
N+3	03（XOFF） End

The content of 4～n are as follows when the indicator is outputting data:

Command A	no data	Each frame consists of 6 groups of data
Command B	as gross weight form：	Each frame consists of 14 groups of data
	4： sign（＋or－）	
	5～11： gross weight value（6 digits and one decimal digit）	
Command C	as tare， form：	Each frame consists of 14

	4： sign（＋or－）	
	5～11：tare value（6 digits and one decimal digit）	
Command D	as net weight form：	Each frame consists of 14 groups of data
	4： sign（＋or－）	
	5～11： net weight value（6 digits and one decimal digit）	
Command E	VEH No.. form： 4 ～13: 10 characters	Altogether 16 characters are transmitted. Chinese characters are allowed (one Chinese ideograph takes space of two characters). When VEH No. Is shorter than 10 characters, use space to fulfill.
Command F	CGO No.. form： 4 ～13: 10 characters	Altogether 16 characters are transmitted. Chinese characters are allowed (one Chinese ideograph takes space of two characters). When CGO No. Is shorter than 10 characters, use space to fulfill.

xor＝2 ⊕ 3 ⊕ ……10 ⊕ 11

Note: definition of XOR Calibration of high & low 4 digits:

1. If the XOR Calibration sum of high & low 4 digits are less than or equal to 9, then it is transmitted as ASSCI code number after adding add 30h.

For example: if the high 4 digit of XOR Calibration is 6, 36h is obtained after adding 30h, i.e., 6 in ASCII code is then transmitted.

2. If the XOR Calibration sum of high & low 4 digits is more than 9, then it is transmitted as ASCII code number after adding 37h. . For example: the high 4 digit of XOR Calibration is b, 42h is obtained after adding 37h, i.e. b in ASCII code is then transmitted.

II. Connection and usage of scoreboard with indicator

The connection of the output lead of large screen with the display must be correct. Or otherwise, the output terminal of indicator and the input port of display of large screen will be damaged, even causing severe damage of indicators, display of large screen. Self-contained exclusive wires are required for the connecting.

1. **Scoreboard display interface adopts 15-pin D-sub socket (share one socket with serial communication interface). Functions of its pins are shown as** 9-, 10-pin in Fig. (7-1). (This is an output manner of current loop, a standard connection manner of wires on departure from factory)

2 . **Scoreboard signal is** current loop, serial output by binary code, with baud rate of 600. Each frame has 11 bits, 1start bit (0), 8 data bits (low bits come first), 1 flag bit, and 1 stop bit (1).

3. One group of data is transmitted per 100ms. Each group contains 3 frames. See Fig (7-2) for its meaning.

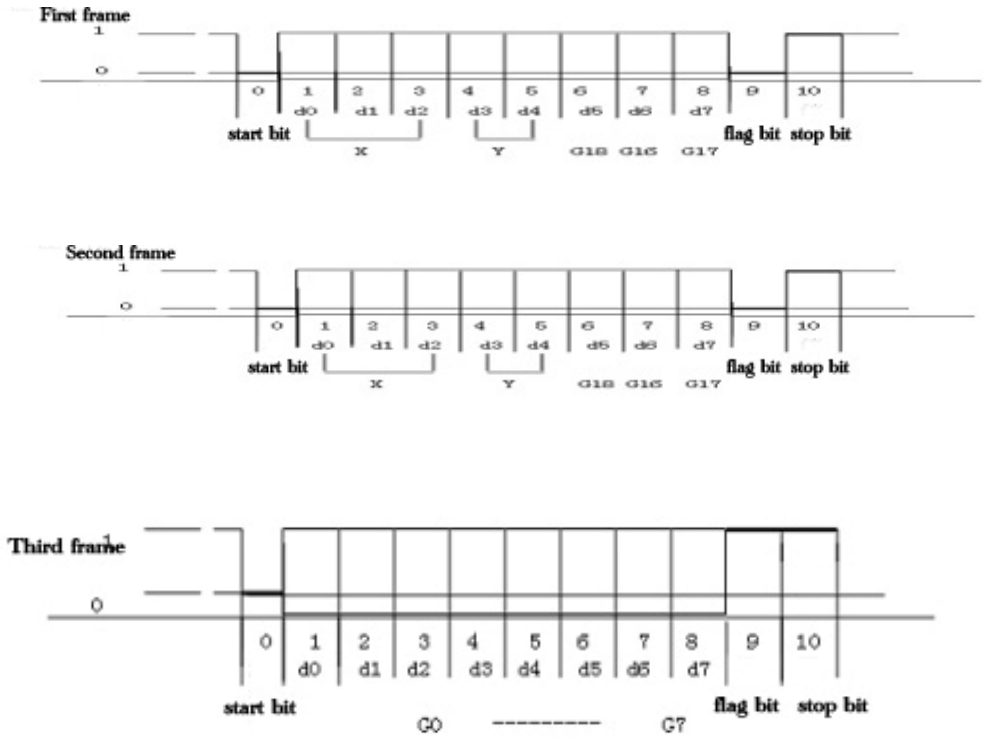


Fig (7-2) oscillogram of data format

The first frame: the flag bit is 0

x : d0, d1, d2 –are decimal bits (0～4)

y : d3 — is weight sign (1－negative, 0－positive)

d4 —spare

G18～G16：weight data

The second frame: the flag bit is 0

G:15～G8：are weight data

The third frame: the flag bit is 1

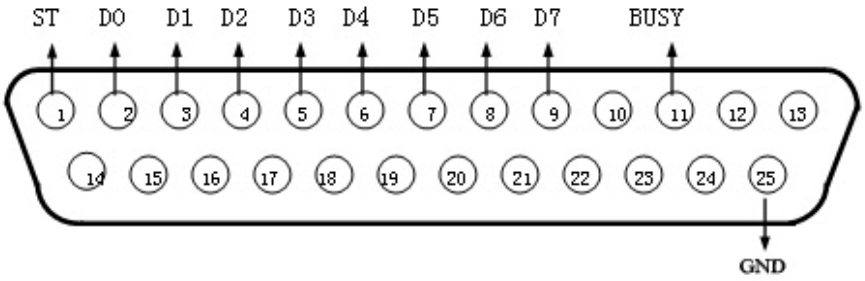
G:7～ G0 ：are weight data

G0～G18： from low to high to form the 19-bit binary code for the (net) weight

Chapter VIII Print and Record Processing

I. Connection of the indicator with printer

The printer interface adopts standard parallel output. Socket connector uses 25-pin rs232 socket. Definition of each pin is as follows in Fig.（8-1）



(Fig.8-1) Interface signal of printer

Notes for printing:

1. Printing function comes into normal use only after setting.

2. The connection of the printer output lead of the indicator with the printer must be correct. Self-contained exclusive wires are required for the connecting. Or else wrong connection will injure the indicator output port and input port of the printer, even severely damage the indicator and the printer.

3. To use the printer, the wires must be connected before the indicator is powered on. Then the printer can be turned on. After the use of printer, turn off the printer first, then cut off the indicator power, finally take off the connecting wires. If theses procedures are performed in a wrong order, the indicator and printer can possibly be damaged. Please pay attention!

4. The printers have large variety, with different properties. Some are incompatible with the indicator. So please select the recommended printer.

5. The grounding of printer signal is forbidden to connect with that of power supply. This will cause damage to both the indicator and printer

II. Storing and printing of the weighing records

1. The indicator specifies 10 characters both for VEH No. and CGO No. (1 Chinese ideograph takes space of two characters). At most 1000 VEH No and CGO No. can be stored.

2. Each group of data is printed out every time when a complete group of

records is stored. (if the printer is set valid)

3. There are three manners of data storage:

(1) No load data storage before full load data, or full load data before no load data. That's to say, such two data are required to form a set of record.

(2) When tare is known for a full load truck, one storage operation will make a complete record.

(3) If the weighed material is goods instead of the loaded truck, one storage operations will make a complete record

To distinguish three storage methods, XK3190－D18 stipulates as follows:

1． License code *zero* means the goods to be weighed; no tare is required, which is permanently set to be 0. The VEH No. can not be cleared either. During displaying and in printing, it reads "----------".

2． If the tare sign is on, it means the tare is known, so one storage operation will make a complete record.

3． If the License code is not 0, nor the current tare is 0, two storing operations are required to make one complete

（1）Print set

Press【 】【 】button choose『print set』and then press【Input】and enter into print function item. Press【 】key back to previous menu.

Print Setup	Date/Time Setup
Comm Setup	Date/Time Display
USB Setup	CGO No. Enable
Net Setup 【 】Option 【Input】Confirm	

1 Print Method

Press【 】【 】and choose 『Print Method』,press【Input】and display the following interface

Print Method	Min. PRT Weight
Printer Type	Fill PRT Option
Back Zero Limit	
Print Format 【↑】 Option 【Input】	

Value	Instruction
Auto print	auto print and save the current weighing data during the weighing process
Manual print	Print and save the current weighing date by press【Save Print】or【REP Print 】during the weighing process.

Press【 】【 】key to choose the corresponding setting and then press【Input】indicator save the parameters automatically.After that press【 】back to previous menu ， if press【Weight】will back to weighing interface.

2）Printer Type

Press【 】【 】and choose 『printer type』,press【Input】and display the following interface.

Print Invalid EPSON LQ-1600K
Micro printer
EPSON KX-P1121
EPSON TM800 【↑】 Option 【Input】

Value	Instruction
Prohibit print	Print function of indicator is forbidden.
thermal printer	Adopts build-in thermal micro printer
EPSON KX-P1121	External printer adopts EPSON KX-P1121 model printer（Chinese character library ）
EPSON TM800	External printer adopts EPSON TM800 model printer（Chinese character library ）
EPSON LQ-1600K	External printer adopts LQ-1600K model printer（Chinese character library ）

Press【 】【 】key to choose the corresponding setting and then press【Input】，indicator save the parameters automatically.

3）Zero Limit for Print

Press【 】【 】and choose『Zero Limit for Print』,and then press【Input】and display the following interface.

Zero Limit for Print 【123】
VAL: 0%
(Input judging scope for zero: 0～100)
【←】 Back 【Input】 Confirm

Input area	Input method	Instruction
value	number	Can be input 3 numbers at most and input range is 0～100，beyond this range will generate error report. And 0 means that the print can be take efforts only back to zero point , and 100 means there is no limit.

Press【Input】save the parameter after input by number button.

4） Record Format

Press【 】【 】and choose『Record Format』,and then press【Input】display the following interface.

Record Format
1 Link format
2 Link draft format
3 Link Format 【↑】 Option 【Input】 Confirm

Value	Instruction
Record format	Printer print the weighing record according the record format and corresponding format instruction please check the appendix
1 DD double draft format	Printer print the weighing record according the 1 DD double draft format and corresponding format instruction please check the appendix
2 DD double draft format	Printer print the weighing record according the 2 DD double draft format and corresponding format instruction please check the appendix .
3 DD double draft format	Printer print the weighing record according the 3 DD double draft format and corresponding format instruction please check the appendix .

Press【 】【 】key to choose the corresponding setting and then press【Input】，indicator save the parameters automatically.

5） Min. PRT Weight

Press【 】【 】and choose『Min. PRT Weight』,and press【Input】display the following interface.

Min. PRT Weight 【123】 VAL: 0.010kg (VAL ≥10e) 【 】 Back 【Input】 Confirmation

Input area	Input method	Instruction
Value	Number	6 digits numbers can be input at most ,and the minimum print weight must above or equal to 10 divisions. After each time calibration, the indicator will amends minimum setting value of minimum print weight automatically according to the setting divisions.

Press【Input】save the parameters after input by number button.

6） Fill format print choose method

Press【 】【 】and choose 『Print Fill Format』and then press【Input】display the following interface.

value	Instruction
Fill Format Disable	Printer adopts fill format disable mode and the corresponding print mode please check the appendix
Fill Format Enable	Printer adopts fill format enable mode and the corresponding print mode please check the appendix

Press【 】【 】key to choose the corresponding setting and then press【Input】, indicator save the parameters automatically.

（Ⅲ）. Save print operation method .

Press【Save Print】in weighing status and indicator enter to the following interface ,

Print Information 【123】 VEH: A12345 Code: 1 CGO: --- Code: 1 【 】Back 【Input】Confirm

Press【Input】key after input the VEH,

Print information 【123】 VEH**:** A12345 Code: 1 CGO: --- Code: 1 【 】Back 【Input】Confirm

Code value will be generated automatically according to the VEH, you can input code value here and press【Input】key if did not input VEH before.

Print information 【123】 VEH: A12345 Code: 1 CGO: --- Code: 1 【 】Back 【Input】Confirm

After input the CGO number and press【Input】key，

Print Information 【123】 VEH: A12345 Code: 1 CGO: --- Code: 1 【 】Back 【Input】Confirm

Code value will be generated automatically according to the CGO, you can input code value here and press【Input】key if did not input CGO before.,indicator will do the save and print operation.

Input area	Input method	Instruction
VEH	Number/English/Pinyin/Sign	10 characters can be input at most（1 Chinese character occupies 2 characters）
code(top)	Number	3 numbers can be input at most
CGO	Number/English/Pinyin/Sign	10 characters can be input at most（1 Chinese character occupies 2 characters）
code(bottom)	Number	3 numbers can be input at most

Note :(1)When there is white display on the input area means can input value here . VEH/CGO and code area either one can be choose and input..
(2)If input in the VEH / CGO number area and press 【Input】, indicator will check there has the corresponding code number or not in the memory . If there has the corresponding code will display it , if there is not , will generate and display the new code automatically .

If user know VEH/CGO No.'s corresponding code, he can directly input the code in code area , and indicator will check the corresponding VEH/CGO No. automatically and display it , this way can avoid the complicated input method operation . VEH/CGO NO. can be input in mixed Chinese character/English/Number, and press 【Input MODE】can switch the input method . Press【Input】save setting value and do the saving print operation after

finish switch four input area; if press 【 】will cancel the print and back to weighing status.

(3)Data storage of indicator can be set VEH use method or VEH not use method (Please check chapter "menu operation" for details).If set to VEH not use method, VEH code is fixed as "0" and can not be change.

(4)Data storage of indicator can be set CGO NO. use method or CGO NO. not use method (Please check chapter "menu operation" for details).If set to CGO NO. not use method, CGO NO. code is fixed as "0" and can not be change.

(5)When the data is not stable or gross weight ≤0 or Net weight ≤0 , the data storage operation will be invalid.

5. About the auto save and print .

(1)The setting of the auto save and print please check chapter "menu operation".

(2)When auto save and print take effects , there is no twice save method existed.

(3)When auto save and print take effects ,the VEH and CGO No. saved is the value set before .

(4) There are three kinds auto save tare weight value .

1)When the tare weight symbol indicate light is on , the current tare weight value will be save to this group record .

2)When the tare weight symbol indicate light is off , the indicator will check the VEH gross weight in the memory automatically ,and save this gross weight value to this group record .

3)When the tare weight symbol indicate light is off , and there is not VEH gross weight in the memory ,"0" will be save as the gross weight value to this group record .

6. If the VEH No. above 1000 , it need next chapter introduction of remove some VEH No. or all the records. If the weight record above 1000 groups, the indicator will save the current record and clear the first group record automatically .

Ⅳ. An example for print operation

1． Print the weighing sheet with tare manually preset for one time

Step	Situation	Operation	Display	Instruction
1	Item loaded	press 【 preset tare】	Setup interface of preset tare	
2	input the preset tare	For example: 1000	VAL: 1.000 kg	
3		press【Input】		Save the VAL. The preset tare comes into effect
4		press 【 】		Return to weighing interface
5		press 【 Save Print】	Interface of input VEH No. & CGO No.	
6	input VEH No.	e.g.: aa1245, press 【Input】to save	VEH No.: aa1245	the previous VEH No. is required, directly press 【Input】without changing VEH No.
7		press 【Input】		Input code area.
8	Input VEH No.	1． If no VEH No. Is input, the code must be input. 2． If the VEH No. has been input, input nothing here.	code：1	1. If the VEH No. has been input already, the code will be automatically generated. Press 【Input】 to skip directly. 2. If no VEH No. is input, input the code here.
9		press【Input】		Input the item setting
10	Input CGO No.	E.g.: rolled steel. Press 【Input】 to save.	CGO No.: rolled steel.	if the previous CGO No. Is wanted here ,

				directly press 【 Input 】 to reserve and the CGO No. Need not any change.
11		press 【Input】		Input code region
12	Input item Code.	1． If no CGO No. is input, here code must be input. 2． If CGO No. is already, input nothing here.	code：0	1. If the CGO No. has been input already, the code will be automatically generated. Press 【Input】 to skip directly. 2. If no CGO No. is input, input the code here
13		press 【Input】		Save the code. Begin the printing and weighing

2． Direct manual printing of the weighing sheet for one time

Step	Situation	Operation	Display	Instruction
1		press 【Save Print】	interface of inputting VEH No./ CGO No.	Press keys in the weighing interface
2		press 【Input】		No need to input VEH No. Directly press【 Input 】to Input code area.
3	Input VEH code“0”	input 0	code：0	**VEH code“0”means item weighing permanently, which cannot be cleared**
4		press 【Input】		Save the code and Input the setting of CGO No.
5	input CGO No.	For example:rolled steel. Press【Input】 to save	CGO No.: rolled steel.	If the previous CGO No. is required, directly press 【Input】without changing the CGO No.

6		Press 【Input】		Input code area
7	input CGO Code	1. If no CGO No. is input, input code here. 2. If CGO No. is already input previously, it is not required to input here	code：0	1. If no CGO No. is input, input code here. 2. If CGO No. is already input previously, it is not required to input here
8		Press 【Input】		Save the code to begin to print the weighing sheet.

3. Print the weighing sheet (two times storage mode, first empty load then full load, or first full load then empty load)

Step	Situation	Operation	Display	Instruction
1	Empty truck is loaded (wait until the sign stabilize)	press 【 Save Print】	Interface of input VEH No. & CGO No.	Press keys on the weighing interface.
2	input new VEH No.	e.g. ： aa1245, press 【Input】to save	VEH No.: aa1245	If the previous VEH No. is required, directly press 【Input 】 without changing the VEH No..
3		press 【Input】		Input code area
4	Input VEH code	1. If no VEH No. is input, input code here. 2.If VEH No is already input previously, no need to input it here	code：1	1. If the VEH No. has been input already, the code will be automatically generated.Press【Input 】to skip directly 2. If no VEH No. is input, input the code here.
5		press 【Input】		Save the code and Input the setting of items no.
6	input CGO No.	For example: rolled steel.	E.g. rolled steel.	If the previous CGO No. is required,

		Press 【Input】to save	Press【Input】to save	directly press 【Input 】, without changing the CGO No...
7		press 【Input】		Input code area
8	input CGO No.. Code	1． if no CGO No.. Is input already, input code here. 2． if CGO No. is already input previously,. Needless to input anything here	code：1	1.if CGO No. is already input, code will be produced automatically. Press【Input】 to skip. 2． If no CGO No. is input yet, input the code here.
9		press 【Input】	Record incomplete, not print right now!	Save the code and return to the weighing interface
10	heavy truck is loaded (wait until the stabilize sign on)	Press【Save Print】	interface of input VEH No. / CGO No.	Display the VEH No. and CGO No. previously input
11	VEH No. input state	press 【Input】		no need to input anything
12	VEH code input state	press 【Input】		no need to input anything
13	CGO No.. input state	press 【Input】		no need to input anything
14	CGO code input state	press 【Input】	Printing…	no need to input anything. Press【Input】key to print out weighing sheet

Attention: if heavy load is weighed for the first time, the empty load should be weighed next time. Other operations are similar.

4． Automatic printing of the weighing sheet with tare preset

Step	Situation	Operation	Display	Instruction
1				Set 『printing method 』 as "automatic printing" according to the requirements of chapter Menu Operations , and press 【Weight】to return to weighing interface.
2	input the preset tare	For example:100	VAL: 100 kg	
3		press【Input】		Save the VAL. The preset tare comes into effect
4		Press【 】		Return to weighing interface
5	heavy truck is loaded (wait until the stabilizing sign on)		The weight reads 400 kg	Heavy load is 500, with tare 100 to be reduced
6			Printing....	Print automatically the weighing sheet when the weight display stabilizes

5. Print the weighing sheet while calling the tare as per VEH No.

Step	Situation	Operation	Display	Instruction
1	Tare of the VEH No. has been preset			Already stored in the indicator
2	Heavy truck is loaded (wait until the stabilize sign on)	Press 【VEH No.】	Press 【VEH No.】	Display the previous VEH and tare
3	Input the required VEH No.	For example: aa00123 press 【Input】	VEH No.: aa00123	If consistent with the previous VEH No., directly press

		to save		【Tare】. There is no need to input VEH No.
4		press【Input】		Input the setting of VEH code.
5	input the required VEH Code	press【Input】		1.If the VEH code. has been input,directly press 【Input】 without input anything. 2.If no VEH No. is input previously, input the VEH No. and press 【 Input】 to save
6		press 【Tare】	return to the weighing interface and display the net weight value. Net weighing sign shine	The value after deducting the saved tare
7		Press 【 Save Print】	Interface of input VEH No./CGO No.	press key under weighing interface
8	input new VEH No.	For example: aa1245 press 【Input】 to save	VEH No.: aa1245	If the previous VEH No. Is required, directly press 【 Input 】 without changing the VEH No..
9		press【Input】		Input code area
10	input VEH code	1. If no VEH No. is input already, input code here. 2． If VEH No. is already input previously, no need to input anything here	code：**	1. If VEH No. is already input, code will be produced automatically. Press 【Input】 to skip. 2. If no VEH No. is input yet, input the code here.

11		press【Input】		Save the code and Input the setting of CGO No.
12	input CGO No.	For example: rolled steel press 【Input】 to save	CGO No.: rolled steel.	If the previous CGO No. Is required , directly press 【Input】without any need to change the CGO No.
13		press【Input】		Input code area
14	input item code	1. If no CGO No. is input, input code here. 2. If CGO No. is already input previously, no need to input anything here	code：0	1 . The code will generated automatically if input the CGO No already, and press 【Input】to skip directly 2.If not input CGO NO. yet can input code here.
15		press【Input】		Print the weighing sheet
16				Return to weighing state

6. Print the weighing sheet manually with varied truck tares preset

Step	Situation	Operation	Display	Instruction
1		press 【 VEH No.】	interface of setting VEH/ tare	Press keys on the weighing interface
2	Input new VEH No.	For example:aa00123, press 【Input】to save		If the existing VEH No. is required, press 【Input】 without transmitting new VEH No..
3		press【Input】		Input code area
4		press【Input】		Code is automatically generated according to the previously input VEH No. No need to set it here. Press【Input】to Input the tare input area【Input】,

5	transmit the preset tare	e.g.: 100, Press 【Input】 to save	Tare: 100 kg	
6	Store preset tare for varied truck	1. Press【Input】 to input new VEH No. Cynically and input the setting of next vehicle 2. If VEH No./tare are all input, press 【 】to return to weighing. interface		
7	Continue the operations as per above table "Print the weighing sheet while calling the tare as per VEH No."			

7. Periodic printing of reports (three copies)

Step	Situation	Operation	Display	Instruction
1		press 【 Report Print】		on the weighing interface
2		press【Input】		select the report by time
3		press number keys to input starting date		input the starting date of the printed
		press number keys to input finishing date		input the finishing date of the printed record
4		press【Input】		print the related three reports

8. Print general report

Step	Situation	Operation	Display	Instruction
1		press 【Report Print】	Report Type	in weighing mode
2		press 【 】		select Report 1
3		press【Input】		Report Print 1

4	Report 2～6	press 【 】 to select other types for the second step		print out the reports respectively

Note: See appendix for the style of report by time form and report for

Ⅴ. Enquiry of the weighing record

Press【check】in the weighing interface to Input record-checking interface

Record Search	Scan Record
VEH No. Search	Delete All
CGO No. Search	Delete Overload
Overload REC 【 】select 【Input】Confirm	

Press【 】【 】 keys to select the check mode. Press 【 】to return to the weighing interface

VAL	Instruction
Record Search	scan the weighing record as per record time
VEH No... Search	scan the weighing record as per the recorded VEH No.
CGO No. Search	scan the weighing record as per the recorded CGO No.
Overload REC	scan the past Overload REC
Scan Record	scan all the weighing record
Delete All	scan the valid CGO No. reserved
Delete Overload	scan the past Overload REC

Chapter IX Information prompts

S.N	Indicator prompts	Instruction	Solutions
1	Time REC DEL?	Record the confirmation operation before	Select whether to clear according to the prompts

		deletion to prevent any wrong deletion.	
2	VEH No. Rec DEL?	Record the confirmation operation before deletion to prevent any wrong deletion.	Select whether to clear according to the prompts
3	CGO No. Rec DEL ?	Record the confirmation operation before deletion to prevent any wrong deletion.	Select whether to clear according to the prompts
4	No CGO No. Rec.!	Prompt of no corresponding record	
5	No VEH No. Rec.!	Prompt of no corresponding record	
6	No Eligible Rec.!	Prompt of no corresponding record	
7	No Overload REC	Prompt of no corresponding record	
8	REC DEL! Wait!	Prompt of deletion process by indicator	Wait for the completion of deletion
9	Time power-off!	It's time to turn off. The indicator is locked	Re-input the timing power-off time as per the set password
10	Overload!	the indicator is overloaded	Unload the whole or partial weight
11	Printing...		
12	Not meet print!		Follow the standard Save Printing

			specifications Not print when unsteady Resetting to zero is not made after previous printing. The indicator must be reset to zero. Not print when the weight is below ● zero
13	Not complete record,print pending		Second weighing is needed
14	EEPROM ERROR!! Default value take the place	Parameter save by EEPROM is wrong, possibly due to the first use of indicator or damage of EEPROM	For delivered indicators, maybe EEPROM is damaged need change the new chip.
15	Printer error!	Printer not connected or damaged; or printer model not compatible with the indicator	Check the connection of printer and indicator, or change for a compatible printer.
16	Upgraded	Prompt that data is saved	
17	Invalid	The input data is beyond the range	Input data correctly as per the prompt of the indicator parameter range
18	Records full	Memory of weighing records is full	1. All or part of the records need deleting to make room for later records 2. Memory needs

			initializing
19	No record	No weighing record in the memory	
20	Deleted	Prompt of records deletion	

Chapter X Maintenance & Notes

I. To ensure the clarity and service life of the indicator, it must be kept away from direct sunlight during using,
and the ground where the indicator stands must be smooth.
II. It is improper to use this indicator in a dust or vibrant or damp environment.
III. The load cell and indicator need good connection. System must have a

good ground connection, and kept away
from strong electric field, strong magnetic field. The load cell and indicator must be kept away from strong corrosive
substances and inflammable& explosive materials.

! **Do not use it where inflammable gases or steams exist. Don't use it for canning system of compressive container.**

! **In the area where lightning and thunder happen frequently, reliable lightning arrester should be installed to ensure the personal safety and to prevent any damage to the indicator and relative equipment caused by lightning stroke.**

! **The load cell and indicator are both static sensitive equipments, so anti-static measures must be taken during the use. It is strictly invalid to carry out welding operation or other operations with high current on the weighing platform. In the stormy season, lightening prevention measures must be taken reliably to prevent any damage to load cell and indicator caused by lightening stroke, and to guarantee the personal security of operators and safe running of weighing devices and relative equipments.**

IV. Strong solvents such as benzyl and nitro oils are forbidden for cleaning the housing.

V. Don't inject any liquid or other conductive particles so as to avoid any damage of indicator and electric shock.

VI. Before plugging in or out of the connecting line between indicator and external equipment, the power of both indicator and equipment should be cut off

! **Before plugging in or out of the connecting line of load cell, the power of indicator should be cut off!**

! **Make sure that the indicator and the printer are powered off before inserting the connection line of printer.**

! **Make sure that the indicator and the scoreboard are powered off before plugging in or out of the connection line of the scoreboard!**

! **Make sure that the indicator and the upper computer are powered off before plugging in or out of the communication connection line.**

VII. Advice of the company: our company is responsible for the indicator quality, but not responsible for the problems of the system where the indicator locates. Your attention is required when making purchase.

VIII. Please use the indicator outward interfaces strictly as per the operating instruction manual. Do not change the connection at random. If

failure occurs in the using process, draw the plug immediately, and send it for professional factory for reparation. Non professional balance manufacturers are not supposed to do the repairing to avoid any worse damage. It is not allowed to open the indicator at will, or else, repairing will be refused.

IX. If non artificial defects and failures happen after normal use within one year after the sale date, the users can mail the product and guarantee repair card (with correct code) to the appointed reparation station or supplier. The manufacturer guarantees the life-time maintenance for the indicator

Appendix

1. Print Format

Report 1 by Time Date: 07/12/20 – 07/12/21

	Date	Time	VEH	CGO NO.	G.W（kg）	T.W（kg）	N.W（kg）
1	07/12/20	11:26:16	A000001	rolled steel	1000	100	9

							0 0
2	07/12/20	11:29:16	A000001	rolled steel	1200	100	1 1 0 0
3	07/12/20	11:32:16	A000001	rolled steel	1400	100	1 3 0 0
Total:		G.W：3600 kg				N.W： 3300 kg	

Note: Records in Report 1 by Time is to be listed in time order

Report 2 by Time Date：07/12/20 – 07/12/21

S.N	VEH	Truck weight（kg）	T.N	Total T.W（kg）	Total N.W（kg）
1	---------	0	5	5000	5000
2	A000001	0	3	3600	3300
3	B000001	0	4	4000	3600

Note: Records in Report 2 by Time is to be listed in VEH No. Order

Report 3 by Time Date：07/12/20 – 07/12/21

S.N	G.W	T.N	Total N.W（kg）
1	----------	5	4500
2	rolled steel	3	3300
3	stone	10	5600

Note: Record in Report 3 by Time is to be listed in S.N No. order.

Total report 1

S.N	Date	Time	VEH	G.W	G.W（kg）	T.W (kg)	N.W(kg)
1	06-11-22	11:26:16	-------	-------	1200	0	1200
2	06-11-22	12:20:17	A0001	oil	1500	200	1300
3	06-11-25	10:20:15	B0001	rolled steel	5600	600	5000
Total:		T.W：8300 kg			N.W：7500 kg		

Note：Records in Total Report 1 is to be listed in time order

Total report 2

S.N	VEH	VEH WEIGHT（kg）	T.N	Total G.W（kg）	Total N.W（kg）
1	----------	0	5	2600	2600
2	A000001	100	4	5600	5000
3	B000001	100	4	6600	6100

Note: Record in Total Report 2 is to be listed in VEH No. Order

Total report 3

S.N	G.W	T.N	Total N.W（kg）

1	----------	5	2600
2	rolled steel	4	5000
3	Oil	4	6100

Note: Record in total Report 3 is to be listed in G.W No. order

Total report 4

S.N	Code	VEH	VEH WEIGHT（kg）
1	0	----------	0
2	1	A000001	100
3	2	B000001	100

Note: Report 4 shows the code and truck weight corresponding with the VEH No.

Total report 5

S.N	Code	G.W
1	0	----------
2	1	rolled steel
3	2	oil

Note: total Report 5 shows the S.N corresponding with the code.

Total report 6

S.N	Date	Time	G.W（kg）
1	06-11-21	10:14:20	2000
2	06-11-22	10:15:00	5600
3	06-11-23	12:17:30	4000

Note: Report 6 shows the Overloadreco rds

Micro printer format

Weight Bill

……

S.N.: 62
Data: 11/05/25
Time: 15:31:32
VEH: APPLE
CGO: AIRPLANE20
G.W.: 500(kg)
T.W.: 0(kg)
N.W.: 500(kg)

2. Expandable function instruction

PS/2 keyboard

Summary:

XK3190-D18 indicator can be added PS/2 keyboard interface. For the convenience of users to connect the indicator to popular key board, PS/2 interface adopts USB-A socket, which functions only as an interface. Insert the Plug of the indicator to the PS/2 keyboard at the back panel of the indicator, and the PS/2 keyboard is enabled to control the work of the indicator, Input all kinds of parameters.

Operation instructions:

The function keys F1~F12, backspace key, cursor direction key of PS/2 keyboard correspond to the function keys of D18, see the table below for detailed correspondence relation:

Table Correspondence Relation between PS/2 Keyboard and XK3190-D18 Function Keys

XK3190-D18	F1	F2	G.W	VEH	SETUP	Check	SAVE Tare	REP Print
PS/2	F1	F2	F3	F4	F5	F6	F7	F8
XK3190-D18	SUP Print	Tare Preset	Zero	Total Print	Save Print	Calibrate	Input	Clear
PS/2	F9	F10	F11	F12	PrtScr	Scroll Lock	Enter	Backspace
XK3190-D18	Input Mode	Back Light	Axle	Axle All	Roll	Weight	G/N	Tare
PS/2	Insert	Break	Home	End	PgUp	PgDn	Tab	Del
XK3190-D18								
PS/2								

In the characters inputting status, the switchover of capitalization is same as

that on the computers. When input Chinese characters, they appear in the Pingyin area. And the characters on the keyboard can be Input directly.

USB interface:

USB interface of XK3190-D18 is a device interface, adopting USB-B socket, available for connection to the upper computer with the equipped USB cable, and to transmit weighing data and records to the upper computer. The data transmission format is same as RS-232C interface.

Ethernet interface:

XK3190-D18 is an expandable Ethernet interface, with specifications of 10Base-T/100Base-TX. It can be connected to upper computer via LAN, and to internet by gateway, and transmit weighing data and records to the upper Computer.

DC 6V Power Interface:

XK3190-D18 is an expandable DC 6V direct current power interface, and accept 6V storage battery with an input voltage of 5.5~8V, which is displayed on the equipment. When the battery voltage is low, the running of micro printer is stopped. When the battery voltage is too low, the equipment powers off automatically.

Expand ABLE interface:

On the Main board of XK3190-D18, there are expandable interfaces，through which, 4-20m electric current loop,CAN interface can be added.