
XK3190-A9+

Weighing Indicator

USER' S MANUAL

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DEAR USERS:

**PLEASE READ THIS USER'S MANUAL CAREFULLY BEFORE USING
THE INDICATOR**

Chapter One Technical Parameter

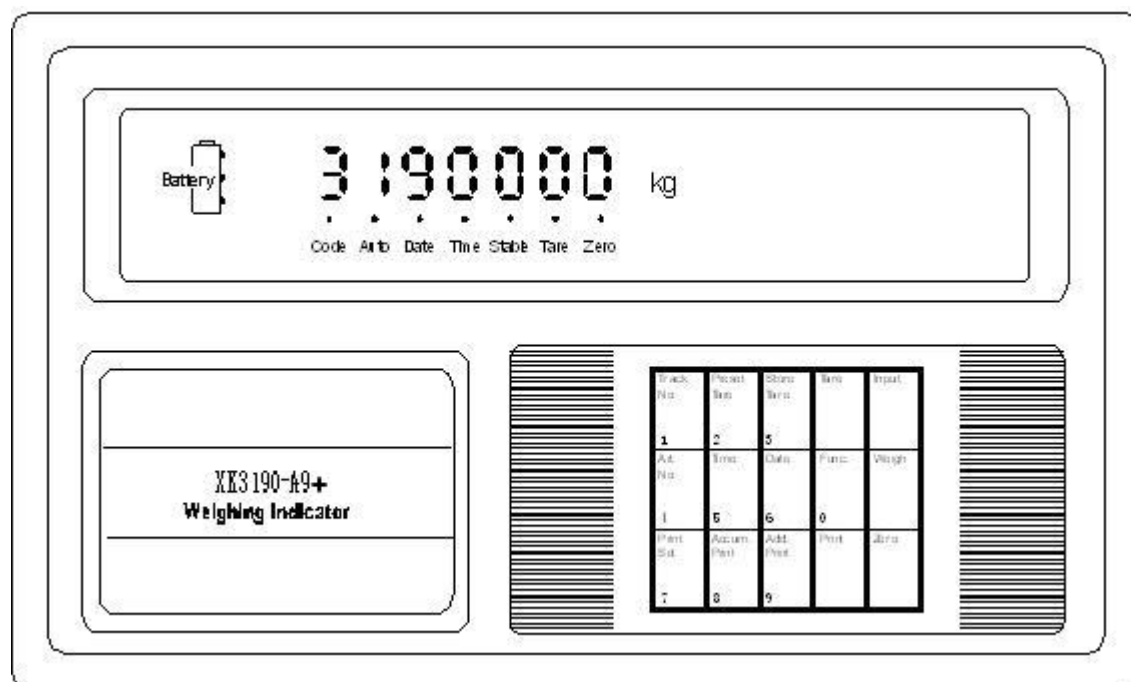
Model	XK3190-A9+
Accuracy	Class III, n=3000
Conversion	$\Delta-\Sigma$ type of A/D
Input signal range	-16 mV \sim 18 mV
Conversion speed	10 times/second
A/D resolution code	1 million code
Calibration	All operation made by keys
Excitation power	DC, 5V, able to connect with 8pcs of 350 Ω load cells or 16pcs of 700 Ω load cells
Load cell connection method	6 wire method, long wire auto compensation
Display	7 LED digit, 7 status indicating lights, 3 battery indicating lights.
Display circulation	100ms
Division	1/2/5/10/20/50/100 optional
Clock	Can display year/month/day, hour/minute/second, auto reap year and moth
Number keys	0~9
Function keys	15 (10 of them are share with number keys for combine application)
Material for keys	Light touch type of pellicle
Scoreboard connection interface	Serial output
Transmission method	Current loop/ RS232 signal
Transmission data type	11 bytes
Baud rate	600
Transmission distance	\leq 30m
Serial communication interface	
Transmission method	RS232C/RS422(optional)/ RS485(optional)
Baud rate	Baud rate option 600/1200/2400/4800/9600

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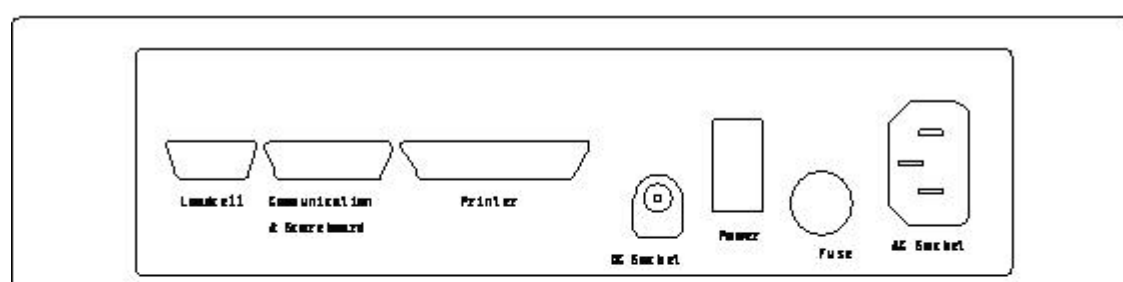
Transmission data format	10 bytes: 1 byte is start, 8 data bytes (ASC II code), 1 byte is stop.
Transmission distance	RS232: ≤30m RS422/RS485: ≤1200m
Standard parallel output interface	To connect with TpuP 16 micro printer; wide line printer like M800、KX—P1121、KX—P1131、LQ300K+、LQ1600K; POS58, T58D thermal micro printer.
Built-in printer (for A9+P)	Printing system: dot-matrix (96 dots each line), adopts M-150 II printing head or TpuP-16B printing head.
	Printing paper: standard blank paper, width: 44.5±0.5mm, thickness: 0.07mm, paper roll external diameter less than 50mm
	Life span for Printing head: 0.5×10 ⁶ lines
	Printing ribbon: blue ribbon are installed in the removable ribbon box, its life span is 1×10 ⁶ lines
Data saving	1000 units of truck No. and tare, 201 unit of cargo, 1001 unit of weighing record
AC power	AC 220V (-15%~+10%) ; 50Hz (-2%~+2%)
DC power	Adopts 6V/10AH battery (external)
Battery application	About 24h (fully charge without using the built-in printer)
Battery charging	About 30h
AC fuse	500mA
Application temperature	0℃ -- 40℃
Storage temperature	— 25℃ -- 55℃
Relative humidity	≤85 %RH
Pre-heat time	15 min
Appearance	310×195×186 (mm)
Weight	About 2.5kg

Chapter Two Installation

I. Indicator front and back scheme



(Graph 2-1) Front View



(Graph 2-2) Back View

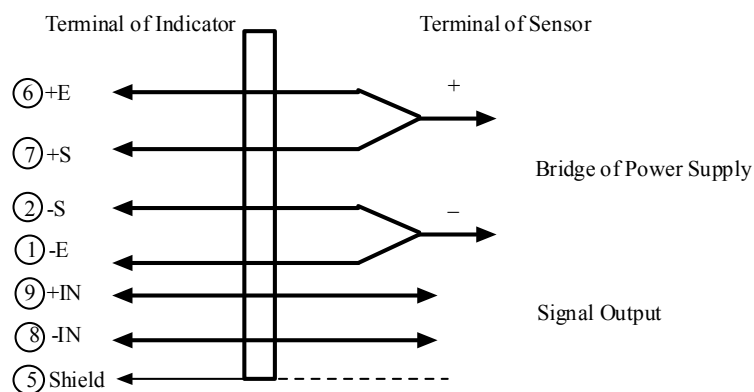
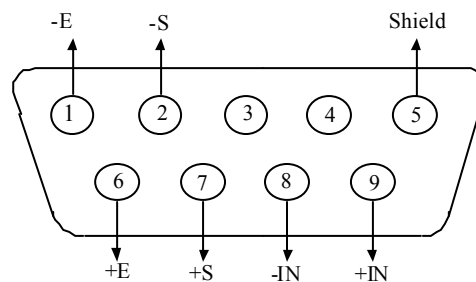
II. Connection between Load cell and Indicator

1. The 9-pin socket is used for connection with load cell, which foot definition is

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shown in graph 2-3.

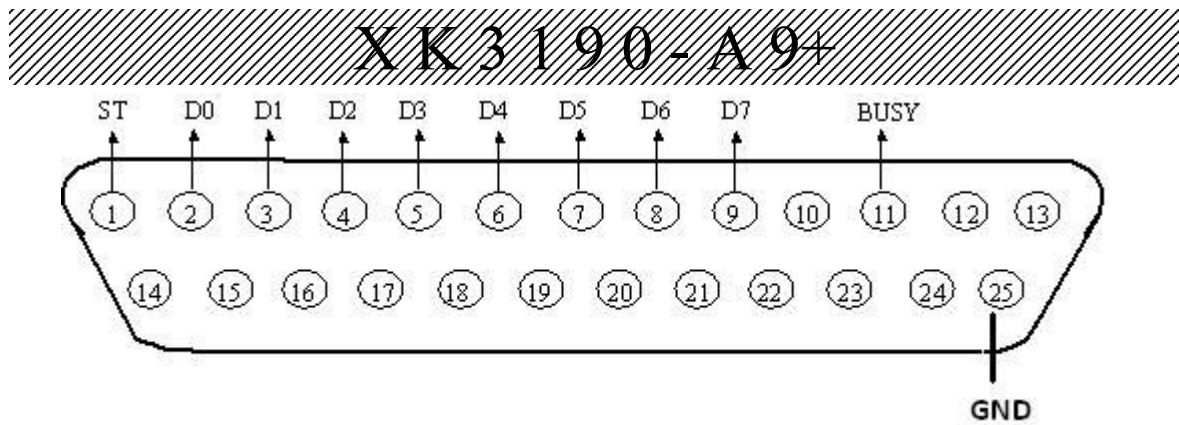
2. If 4-core shielded cable is used, +S must be short connected with +E, so did -S and -E.
3. **▲ ! Indicator must be reliably connecting to Load cell and shielded-cable of load cell must be reliably connected to underground. If indicator is powered on, the user should not plug or unplug in order to protect the indicator and load cell.**
4. **▲ ! Load cell and indicator are static sensitive devices; you must adopt anti-static measures. In order to protect the operator, indicator, and relevant devices, you should install lightning rod in the thunderstorm frequently happening area**



Graph 2-3: Connection of the load cell

III. Connection between Printer and Indicator

1. The printing interface adopts the standard parallel interface. The 25-pin RS232 socket is illustrated below:



2. Caution for Printing

▲ ! Printing function must be set in indicator before using it.

▲ ! Printer and Indicator's interface must be connected by professional printer connection wire. If the connection of each foot is wrong, it will damage indicator's output interface or printer's input interface, or worse will be damage of indicator or printer.

▲ ! When you use printer, you must make sure each pin of the interface is correctly connected, then turn on the indicator, and turn on the printer at last. When you stop using the printer, you must turn off the printer first, then off the power of indicator, and then disconnect the wires. If the order is wrong, it may damage the indicator and printer. Please NOTICE THAT!

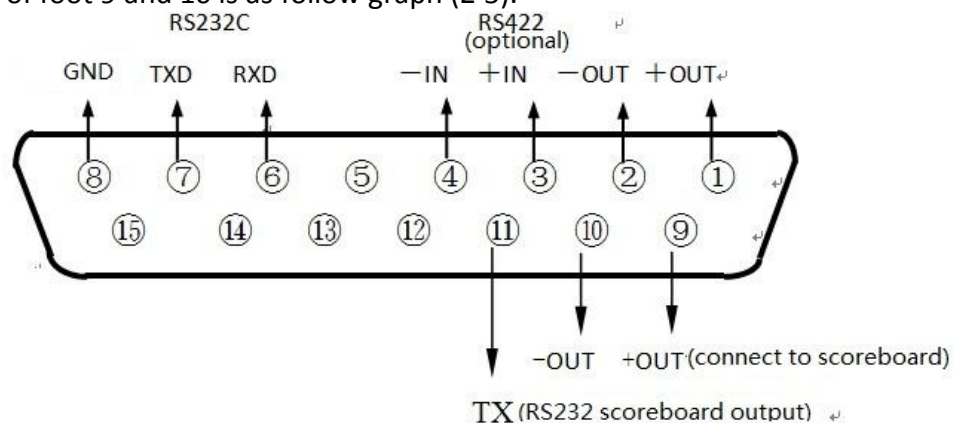
▲ ! Due to the various type of printer exists in the market which has different function and capability, please use the printer with the model which we recommended.

▲ ! Printer must connect with GND reliably. Otherwise, it may interfere the normal function of indicator or damage the indicator and printer.

IV. Connection between Scoreboard and Indicator

▲ ! Interface of indicator for scoreboard's and scoreboard's connection must be correct, if there is any mistake on that, it will damager the indicator interface and scoreboard's input interface, or even worse, the indicator and scoreboard will be damaged. The wire for connection must be assorted professional connection wire.

1. Scoreboard adopts 15 core RS232C socket (share with serial communication interface), the definition of foot 9 and 10 is as follow graph (2-5).



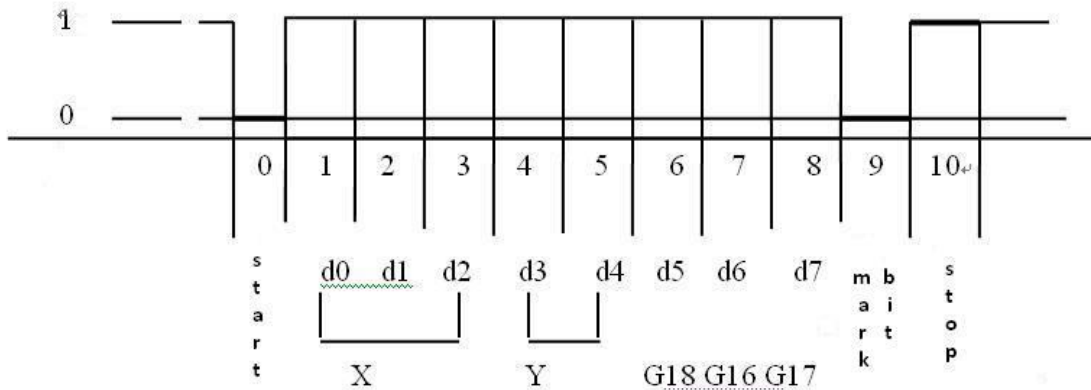
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(Graph 2-5) serial communication and scoreboard output interface

2. Scoreboard adopts current loop or RS232 by ASCII code serial output, baud rate is 600. Each frame has 11 bytes of data, 1 start bit (0), 8 data bit (lower bit is in the front), 1 stop bit (1).

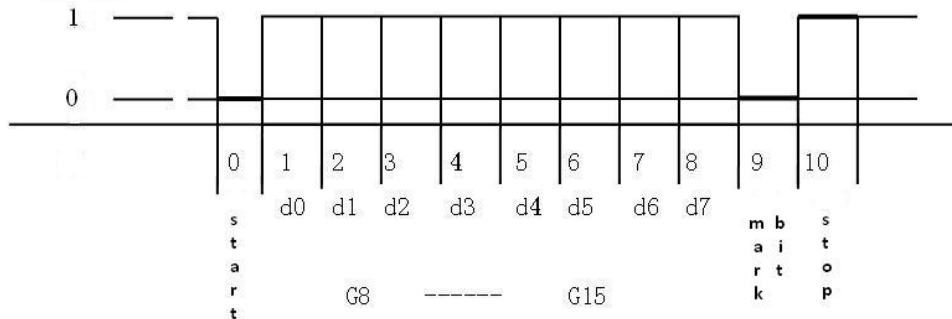
3. Every unit of data is send out in every 100ms, each unit of data contains 3 frames data, its definition is as follow (2-6):

First frame:



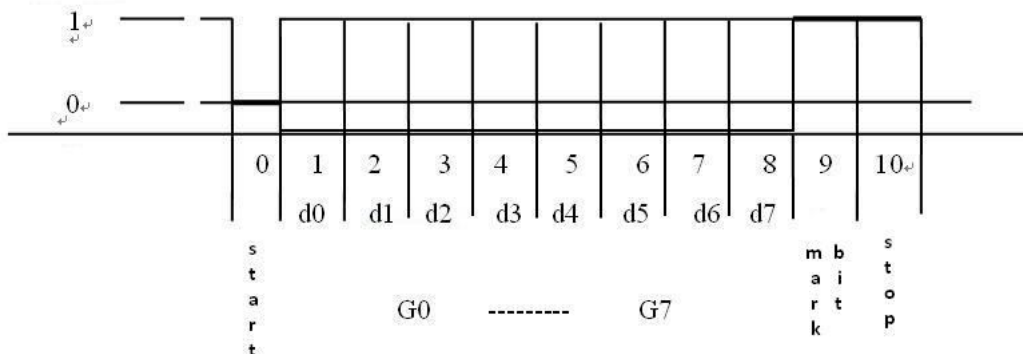
(Graph 2-6.1) first frame wave graph

Second frame:



(Graph 2-6.2) second frame wave graph

Third frame:



(Graph 2-6.3) third frame wave graph

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First frame data: mark bit is 0

X : D0、D1、D2 — is the location of decimal (0~4)

Y : D3 — is weight symbol (1—negative、0—positive)

D4 — back up

G 18~G16: Weight (N.W.) data

Second frame: mark bit is 0

G15~G8: Weight (N.W.) data

Third frame: mark bit is 1

G7~G0 : Weight data

G0~G18: 19 digits ASCII code of weight (N.W.) consist by the digits from low to high

V. Connection between Serial communication interface and indicator

▲ ! communication interface output line should connect with computer correctly, if there is any mistake on that, it will damage indicator output interface or computer communication input interface or even damage indicator and computer and its external devices.

▲ ! For computer communication, it requires knowing computer technology and programming ability. Unprofessional people, please don't connect it at your will.

XK3190-A9+ has RS232/RS422 (optional)/RS485 (optional) serial communication interface, can communicate with computer.

1. Communication interface adopts 15-core RS232 socket (share with scoreboard), its definition of foot is shown in Graph 2-5 (foot 6,7,8) RS232 or foot 1, 2, 3, 4, 8 (RS422/RS485)

2. All data is of ASCII, every unit of data consist of 10 bytes, first bit is start bit, 10th bit is stop bit, 8 bit in the middle is data bit, communication method divided as follow:

(1) Continuous method (Tf=0):

The sending data is the current weight (G.W or N.W). each frame of data consist of 12 unit of data. Format as follow:

X th bit	Content and note
1	02(XON) start
2	+ or - symbol bit
3	Weighing data high bit
:	Weighing data :
:	Weighing data :
8	Weighing data low bit
9	Decimal No. from right to left (0~4)
X th bit	Content and note
10	XOR checking 4 bit in high bit
11	XOR checking 4 bit in low bit
12	03(XOFF) end

$$\text{XOR} = 2 \oplus 3 \oplus \dots 8 \oplus 9$$

(2). Order method (tF=1):

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Indicator output corresponding data according to upper monitor's order. Each order each frame of data. Upper monitor sending order as follow:

X th bit	Content and note	
1	02(XON)	start
2	A~Z	address S/N
3	A~F	order A: handclasp
		order B: read G.W.
		Order C: read TARE
		Order D: read N.W
		Order E: read truck No.
		Order F: read cargo No.
4	XOR checking	4 bits of high bit
5	XOR checking	4 bits of high bit
6	03(XOFF)	end

$$\text{XOR} = 2 \oplus 3$$

Indicator output content:

X th bit	Content and note	
1	02(XON)	start
2	A~Z	address S/N
3	A~F	Order A: handclasp
		Order B: send G.W.
		Order C: send TARE
		Order D: send N.W
		Order E: send truck No.
		Order F: send cargo No.
4	Output corresponding data according to order	
:	Output corresponding data according to order	
n-1	Output corresponding data according to order	
n	Output corresponding data according to order	
n+1	XOR checking	4 bits of high bit
n+2	XOR checking	4 bits of low bit
n+3	03(XOFF)	

$$\text{XOR} = 2 \oplus 3 \oplus \dots \oplus (n-1) \oplus n$$

Indicator output 4~n data content as follow:

Order A	No Data	6 units of data for each
Order B	G.W, format:	14 units of data for each
	a: symbol (+ or -)	
	b: G.W. (6 bits)	
	: (from high to low)	
	g	
	h: decimal from right to left (0~4)	

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Order C	Tare, format:	14 units of data for each
	a: symbol (+ or -)	
	b: Tare (6 bits)	
	: (from high to low)	
	g	
	h: decimal from right to left (0~4)	
Order D	N.W, format:	14 units of data for each
	a: symbol (+ or -)	
	b: N.W (6 bits)	
	: (from high to low)	
	g	
	h: decimal from right to left (0~4)	
Order E	Truck No., format:	11 units of data for each
	a: highest bit of Truck No.	
	b: second bit of Truck No.	
	: (from high to low)	
	e: lowest bit of Truck No.	
Order F	Cargo No., format:	14 units of data for each
	a: highest bit of Cargo No.	
	b: second bit of Cargo No.	
	c: third bit of Cargo No.	

Note 1: confirmation of XOR checking 4 bits of High and low: if it is ≤ 9 , then to plus 30h, and being ASCII to send. For example: if it is 6, plus 30h, then it equals 36h that is 6 in ASCII code to send out; if it is > 9 , then plus 37h that will become a letter of ASCII to send out. For example: it is B, plus 37h equals 42h that is B in ASCII to send out.

3. Upper monitor sending order list (set indicator communication address as 01):

Order type	Order definition	Upper monitor sending order (in hex)
A order	Handclasp	02 41 41 30 30 03
B order	Read G.W	02 41 42 30 33 03
C order	Read TARE	02 41 43 30 32 03
D order	Read N.W.	02 41 44 30 35 03
E order	Read N.W.	02 41 45 30 34 03
F order	Read N.W.	02 41 46 30 37 03

4. Setting of indicator communication parameter:

(1). Communication parameter

Communication parameter consists of communication address, baud rate, and communication method.

(2) Communication parameter setting procedure:

Step	Operation	display	Note:
1	Press [Print setting]	In weighing mode	

2	Press[9][8] Press[Input]	[P 00] [P 98]	Input setting password“98”
3	Press[1] Press[Input]	[Ad r **] [Ad r 01]	Communication address (01~26) For example: 1
4	Press [1] Press [Input]	[b t *] [b t 1]	Serial communication baud rate definition of 0~4: Baud Rate: 600、1200、2400、 4800、9600
5	Input[0] Press[Input]	[t F *] [t F 0]	Serial communication method: 0—continuous method, no receiving 1—order answer method 2—old D2+ continuous communication method, each frame 8 bits 3--- new D2+ continuous D2+ communication method, each frame 9 bits (Note: 2) For example: 0
6		Weighing mode	End of communication parameter setting.

Note 2: old D2+ continuous communication method output data in ASCII, each frame with 8 bits (include decimal). Data transmit from low to high, each frame divided by “=”.
Sending data is N.W (the displaying weight on indicator), if current display weight is 70.15, then indicator continuously sending like this 51.07000=51.07000=51.07000.....

Chapter Three Operation

I. Start and Start with Auto-zero

1. Connect AC or external battery, and turn on the indicator, it will perform “999999-000000” self checking, then it will enter weighing mode.
2. The self checking can be stopped by pushing any key.
3. While indicator is on, if loading weight on the scale deviates from the zero point, but still within zero set range, the indicator will set zero automatically. Start Zero range selecting, setting method, please refer to relative chapters.

While normal operation, the calibration switch should be on the spot of calibration forbidden (Left).

II. Manual zero (semi auto zero)

1. Press [ZERO] key to make indicator zero and the zero indicating light will be on.

2. when display weight deviate from ZERO, but in the range of ZERO, [ZERO] key valid, otherwise [ZERO] will be invalid, the parameter setting and setting method of ZERO range refers to calibration user's manual.
3. Only when STABLE light is on, ZERO is allowed to operate.

III. Tare function

1. Normal Tare :

When Indicator at weighing status and displaying positive weight stably, press [Tare] key, indicator will deduct the displayed weight value as tare weight, and now indicator shows N.W is 0, TARE light is on.

2. Preset tare:

When Indicator at weighing status, press [Pre Tare] key, and indicator will display [P *****], now indicator shows the original TARE weight. If a new TARE weight needs to be set, please input it by Numeric keys, press [Input] to confirm it.

3. Call Tare by truck No.

In weighing mode, press [Truck No.] key, indicator will display [o *****], input correct truck No., then press [Tare], indicator will find the corresponding Tare weight from the RAM.

In weighing mode, continuous TARE is allowed. When tare weight is zero, TARE indicating light is off, when indicator matches the condition of ZERO, press [ZERO] to make TARE as 0, TARE light will be off.

IV. Setting and operation of Date and Time

1. In weighing mode, press [date] to display current date and the date light will be on. If it is correct, press [input] or [weigh] to exit, if the time is wrong, then input the right time by numeric keys then press [input] to confirm.
2. In weighing mode, press [time], time light is on and indicator shows current time and running automatically. If the time is right, press [input] or [weigh] to exit, if it is wrong, input right time by numeric keys, then press [input] to confirm.

V. Battery application

1. When only use battery as power, battery indicting light will tell the volume of battery on the left of display. When battery is full, 3 indicating lights will be on, when voltage is almost full, the 2 indicating lights will be only, when only 1 light is on, that means the battery is low. Then you need to charge the battery, when voltage is around 5.5V, indicator will cut power to protect the battery automatically.
2. connect battery to indicator, then connect the AC power, indicator will charge the battery automatically (fully charge need about 30 hours)
3. The battery should be fully charged for first time running.
4. battery connection line marks red socket is positive (+) connects with battery's

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positive pole, black line is negative (-) is to connect with battery negative pole.

5. if positive and negative pole is connected reversely, it will make fuse broken to protect the battery. Now, connect two poles correctly, and restart the indicator, it will work normally again.

Battery is consuming products, not in the range of guarantee.

VI. Inner code display

1. In weighing mode, press [print set], then input [2], [8], indicator will enter into inner code display mode, and inner code light is ON. Press [print set], input [2], [8], indicator will exit inner code display mode; inner code light will be off.
2. In inner code display mode, only [ZERO], [Print set] key is available, other keys are all unavailable.
3. 20 inner code equals 1 division, E.g. while n=3000, the full scale's inner code is 60000 code.

VII. Saving for Data record

1. Indicator regulates that truck No. should be 5 digits, cargo No. is 3 digits. The maximum storage is 1000pcs of truck No., 201pcs of cargo No.
2. Every complete unit of weighing record is stored; indicator will print out this unit of data. (if printing setting is valid)
3. Data storage has follow 3 methods:
 - (1) Store empty truck, then full truck store; or store full truck store then empty truck store. That is to say, twice storage consists of a complete unit of record.
 - (2) Full truck for weighing and TARE has been obtained, one time storage will form a unit of complete record.
 - (3) The weight object is a kind of cargo, not a truck, then one time storage will form a unit of complete record for always.

In order to automatically recognize the above three types of storage, XK3190-A9+ makes following special agreement.

▲ ! Truck No. must be any number from 00001~99999, that is 00000 can not be a real truck number. If truck No. has been set as 00000, that means it is not a truck but a

cargo.

▲ ! Cargo No. must be any number from 000~200.

▲ ! If the TARE light is on, that means TARE weight is obtained, so one time storage will form a complete record.

▲ ! If the truck No. has been set as any 5-digit number over the range of 00000, and the TARE light is OFF (G.W weighing mode), then twice storage will form a complete unit of record.

4. Storage operation method

(Table 3-1)

Step	Operation	Display	Note
1	Press [Print]	In weighing mode	
2	Press numeric keys to input truck No. Press [Input]	[o *****] [o 03217]	Input Truck No. E.g.: 03217
3	Input cargo No. Press [input]	[hn ***] [hn 035]	Input cargo No. E.g.: 35
4	Press [10] Press [input]	[BFL **] [BFL 10]	Input percentage of deduction ratio E.g. 10
			End of storage

Indicator's data storage can be set as truck No. type or non truck No. type, see chapter of Printing. If set non truck No. type, all operation or printing content related to truck No. will not be existed. Also, indicator's data storage can be set according to cargo No. or non cargo No. details see Chapter of printing setting.

▲ ! When Data is not stable or G.W. ≤ 0 or N.W. ≤ 0 , the data can not be saved.

5. About auto storage or printing.

- (1) auto storage printing setting refers to printing setting chapter
- (2) auto storage of printing does not contains for twice storage method

- (3) Stored truck No. and cargo No is the truck No. and cargo No. which has been stored before.
- (4) Auto storage TARE can be divided as follow three types:
- 1).when TARE light is on, current TARE weight will be saved to this unit of record.
 - 2).when TARE light is off, indicator will find TARE weight under this truck, and take this TARE weight to save in this unit of data.
 - 3).when TARE light is off, and there is no such TARE in RAM, then it will save 0 as TARE weight to this unit of record.
6. If truck No. is over 1000, indicator will show [Err 10], then you can refer to Chapter 7 to clear one truck No. or all truck No.

VIII. Printing operation

1. Printing set (Table 3-2)

Step	Operation	Display	Note
1	Press [print set] Press [9] [7] Press [Input]	[P 00] [P 97]	Input 97
2	Press [1] Press [Input]	[Auto *] [Auto 1]	Selecting Auto/Manual Printing 0- Manual 1- Auto
3	Press [3] Press [Input]	Auto indicating light is on [Type *] [Type 3]	Selecting printer: 0-invalid printing 1-TPup16 micro-printer[English] 2-TM800 printer 3-Panasonic KX-P1121 Printer 4-Epson CQ-1600K, LQ-300K+,Panasonic KX1131 5-Built-in micro-printer (only for A9+P) 6-External thermal printer POS58, T58D etc.

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4	Press [5] [0] Press [Input]	[HL **] [HL 50]	Selecting Printing Restriction 00-print only when display returns zero 25-print only when display <25% F.S. 50- Print only when display <50% F.S. 75- Print only when display <75% F.S. 99 Print even when it is at F.S.
5	Press [3] Press [Input]	[Arr *] [Arr 3]	Selecting Printing format: Arr=0: record format 1: 1-page format 2: 2-page format 3: 3-page format
6	Press [1] [0] [0]	[L *****] [L001.00]	Setting the minimum auto printing weight, L must be larger than 10 divisions. E.g. 1.00
7	Press [0] [5] Press [Input]	[b **] [b 05]	Setting paper rolling lines (0~30) E.g. :05
8	Press [1] Press [Input]	[Ode *] [Ode *]	Selecting blank- filling print format: 0-blank-filling print not selected 1-blank filling print selected 2-apply horizontal page print
9	Press [1] Press [Input]	[Dct *] [Dct 1]	Selecting the deduction rate at blank-filling print form: 0-deduction invalid 1-deduction valid
10	Press [0] [1] [1] Press [Input]	[Y ***] [Y 00011]	Y's definition refers not Note 4. (non "0" number will be all considered as "1")
11	Press [8] Press [Input]	[teln *] [teln 8]	Select Tel. No digits (0~8) 0: no print Tel. No. 1~8: print Tel. No. in continuous

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			sheet form.
12	Press [5] [8] [8] [6] Press [Input]	[tH ****] [tH 5886]	High 4 bits of Tel. setting E.g. 5886
13	Press [0] [0] [0] [3] Press [Input]	[tl ****] [tl 0003]	Low 4 bits of Tel. setting E.g. 0003
		End of operation	

Note1:

- (1) when you use A9+P's built-printer, the parameter of Printer type must be selected "5" to ensure the normal work.
- (2) Step 8 and 9 only valid for Printer model 2.3.4, invalid for other model.
- (3) Tel. No. only can print out when built-in printer is applied, and it is printed at bottom of the weighing bill. Therefore, step 11, 12, 13 is only for printer model is 5 (these steps will be invalid when you select other models.)
 - ① Tel numbers are 7 digits, then tH input 3 digits, and tl input 4 digits.
 - ② Tel numbers are 3 digits, then tl input 3 digits, step 12 will be skipped.
 - ③ Tel numbers are 0 digits, and then step 12 and 13 are skipped.

Note 2:

Y parameter has 5 digits, from left to right is 1—5, each digit's definition is as follow:

- | | |
|---|---------------------------------|
| 1 st : 0 twice weighing printing mode, | 1 once weighing printing mode. |
| 2 nd : 0 invalid power saving, | 1 valid power saving |
| 3 rd : 0 Kg as weighing unit, | 1 T as weighing unit |
| 4 th : 0 weighing record has no cargo NO., | 1 weighing record has cargo No. |
| 5 th : 0 weighing record has no truck NO., | 1 weighing record has truck No. |

Note 3:

1. Only when filling printing type selected, deduction ratio can be applied.

- ★ Printing format refers to appendix
 - ★ Filling printing type can use specialized non-carbon copy and printing paper to fast print in triplicate. Or specialized normal printing paper to fast print in one copy.
 - ★ Users may need specialized format of filling printing, please contact Dealers.
2. Indicator's data storage and printing is simultaneous, use [print] key store a unit of complete data, meanwhile, it is printed out. (if printing setting is valid.)
 3. if there is any reason like printer false which leads incomplete printing, after false is gone, press [supply print] to supplement print the current saved data.
 4. after a series of weighing is done, press [accu print] to print the accumulative weighing result of this group of record.
 5. when twice printing mode is set, use empty to loaded truck or loaded to empty truck, after first storage, indicator only shows [LoAd] about 1.5 seconds to hint the operator without any printing, because this group of data is incomplete. But, if you print [supply print] can still print out this incomplete data.

Print result will be always: ① serial number is blank.

② G.W and N.W. is 0

③ Tare weight is current displayed weight.

(Twice printing mode's setting; please refer to Y parameter of printing setting.)

6. When one time weighing mode is applied, each weighing will be considered as a complete record to store and print. If the indicator is in the TARE mode, then current TARE weight will be considered as record TARE weight. If indicator is not in TARE mode, then it will call the corresponding TARE weight of such truck No. as recorded TARE weight (if there is not memorized TARE weight, then this record's TARE weight will be 0). One time printing mode setting refers to Y parameter of printing setting.
7. When built-in printer is applied (printer model=5) and it is in the weighing mode, [weighing] key will be performs as paper rolling.

IX. Report printing

1. Press [print set], then press [1], press [input] to print sorted statistic daily report of current date. (That is current date's statistic report by time order, report by truck No., report by cargo No.). if you want to print previous daily report, please change system's data to the day you need, then followed the above steps to print it. After printing and change the date back to current data.
2. Press [print setting], press [2], press [input] to printer report 1 (by time order)
3. Press [print setting], press [3], press [input] to printer report 2 (by truck No.)
4. Press [print setting], press [4], press [input] to printer report 3 (by cargo No.)
5. Press [print setting], press [5], press [input] to printer report 4 (all truck No. and its memorized TARE weight statistic report.)

X. Delete of Data record

1. this indicator allows methods of deleting data as follow:
 - ① Delete all record. (Include all truck No. and memorized tare weight.)
 - ② Delete one truck No., this truck No.'s memorized TARE weight and corresponding weighing results.
2. When use any method to delete record, indicator will show [Sure 0], please choose YES or NO to confirm. When [sure]= not O, press [input] to confirm. If you want to deny it, let [Sure]=0, then press [input] or [weigh] to exit.
3. operation method:
 - (1) [Method ①]: in weighing mode and calibration switch is on the forbidden spot (left side), press [Func] to delete all weighing record.
 - (2) [method ②]: in weighing mode, press [truck No.], and input one truck No. then press [ZERO] can delete this truck number and its corresponding memorized TARE weight and corresponding record.

▲ ! Data can't be recovered after delete. Be Cautious on this operation to prevent

lost of DATA.

▲ ! After calibration or amend printing parameter, please delete all weighing record.

XI. How to input memorized TARE weight

Indicator and memorize 1000 TARE weights, input method are as follow:

1. Input TARE weight with numeric keys.(*:is original setting value)

Step	Operation	Display	Note:
1	Press [truck NO.]	In weighing mode	
2	Input truck No. Press [input]	[o *****] [o 35790]	Input truck No E.g. : 35790
3	Input Tare weight Press [input]	[P *****] [P 01000]	Input Tare weight E.g: 1000(kg)
4		Back to weighing mode	End

2. weighing mode to store TARE weight

In TARE weight display mode, drive empty truck on platform, when scale is stable, press [store TARE] key, then input truck No. and press [input].

3. when each group of weighing record is store, if there is no memorized TARE weight of this truck No., then TARE weight of this group of weighing record will be considered as this truck's memorized TARE weight and store to RAM.

XII. Power saving

When power saving function is set to valid, indicator will come to power save mode after the scale is on ZERO point (no TARE has been done) for 30 seconds. (LED display will be off, and keep status indicating light.) Now, you can press any key can wake indicator up.

Power saving function's setting; please refer to Y parameter of printing setting.

XIII. Check the software version

In weighing mode, press [print set] and input password [30] and then press [input], indicator will show [Ver *.*]. *.* is the version of this indicator's software. Press [weigh] to go back to weighing mode.

Chapter Four Maintenance and Cautions

1. To guarantee the clarity and using life, the indicator shouldn't be placed directly under sunshine and should be placed in the flat place.
2. The indicator should avoid dust pollution, vibration and moisture.
3. Load cell should connect with indicator reliably, and the system should be connected into ground properly. The indicator must be kept away from high electrical and magnetic field, high corrosion, flammable and explosive objects.
 - ▲ ! Do not apply this indicator to the environment with flammable gas or steam, and the indicator can not be applied in the system with pressure tank.
 - ▲ ! In the area where thunder is frequent happen, it must install anti-thunder devices to ensure operator's safety and prevent indicator and other device will be damaged by thunder.
 - ▲ ! Load cell and indicator are static sensitive devices; you must adopt static free measure. Strictly forbid welding or other super electric field operation on the platform. In the thunder storm season, it must be installed with reliable anti-thunder device to prevent any damage to load cell and indicator from thunder and ensure operator's safety and weighing device or other related device's safe operation.
4. It is strictly forbidden to clean the case of indicator with intensive solvents (for example: benzene and nitro oils)
5. Liquid and electrical conducting particles should not be poured into the indicator, otherwise the electronic components will be damaged and electric shock is likely to happen.
6. You should cut off power supply of indicator and relevant device before you pull-in and out the connecting line of indicator and external device.
 - ▲ ! You must cut off power supply of the indicator, before you plug the connecting line of the load cell in and out.
 - ▲ ! You must cut off power supply of the indicator and the printer, before you plug in connecting line of the printer.
 - ▲ ! You must cut off power supply of the indicator and the scoreboard, before you plug connecting line of the scoreboard in and out.
 - ▲ ! You must cut off power supply of the indicator and the master computer, before you pull connecting line of communication in and out.
 - ▲ ! You must cut off power supply of the indicator and upper monitor, before you pull connecting line of control output in and out.
7. Company kindly notice: before using our indicator, please check and inspect the indicator. Our company only be responsible to the quality of indicator itself, the maximum compensation of indicator's malfunction will not be over 2 times of indicator's own value. We are not responsible for the problem of the system where indicator is applied.

8. Indicator's external interface must be used strictly according to our user's manual. Random changing of the connection is forbidden. During the using of this indicator, if any problem happened, please unplug the power plug and send back to factory for repair. Unprofessional weighing products manufacturer is not allowed to repair it by them to prevent from more damage and loss. **THIS INDICATOR IS NOT ALLOWED TO OPEN IT AT RANDOM, OTHERWISE NO GUARANTEE WILL BE ENSURING.**
9. Battery is a consuming product, not in the range of guarantee.
 - ▲ ! in order to extend the life span of battery, please use it after fully charged. In a long time not using the battery, please charge is in every 2 months, each time for 20 hours charging.
 - ▲ ! in transportation or installation, it must be handled with care and light operation, avoid any fierce vibration, concussion, hit to prevent inner electronic circuit's short connection and damage of battery.
10. Built-in printer head and printing ribbon is consuming product, not in the range of guarantee.
 - ▲ ! Forbidden to use built-in printer in the environment of dust
 - ▲ ! Please don't use built-in printer while battery is charge.
 - ▲ ! While printing, please don't pull out the paper to prevent damage to printing head.
 - ▲ ! Please keep dry and clean of the printing head to extend the life span.
11. In condition of normal operation, indicator will be guaranteed in one year since the day of purchasing. Non-manual malfunction is in the range of guarantee, please send goods together with guarantee card (S/N must be corresponding) back to supplier for repair. Manufacturer provides lifelong maintenance of the indicator.

Chapter Five Information Indication

I. Normal information

- 1 ----- Wait a moment, inner operating, don't make any operation.
- 2 Prnt Wait a moment, the data are being transmitted between indicator and printer.
- 3 LoAd Data is storing.

II. Error information indicating

- 1 Err 03 Overload warning, unload part of all loading weights.
- 2 Err 19 Zero or Negative weight value, can't be printed.
- 3 Err 11 dissatisfying demands of document format , or printing set is wrong.

Please make new setting.

- 4 Err 12 dissatisfying demands of the printer set. Printer selection or setting is wrong, please select and change the printer.

- 5 **Err 16** Date or Time is illegal, please input right time and date.
- 6 **Err 09** This truck No does not exist.
- 7 **Err 10** The truck No. stored exceeds 1000.
- 8 **Err 28** printing date is smaller than stored weighing record's date. Please delete the larger date record or revise current date and let it not smaller than stored weighing record's date.

III. Wrong connection information indicating

- 1 **Err P** It means the printer has trouble or wrongly connected. Press any key to quit. Reconnect the printer or change the printer.
- 2 **Err 01** It means the load cell signal line is wrongly connected, or its signal is negative or exceeds the range our indicator's input signal.
 - (1) If this scale is in working (previous working good), then can judge that the wire connection is malfunction or load cell is damaged.
 - (2) If this scale hasn't been calibrated, the user should check the load cell's connection wires is correctly connected or load is working properly.
3. **Err 02** It means the load cell's wires are wrongly connected, or the signal value exceeds the A/D converting range.
 - (1) If this scale is in working (previous working good), then can judge that the wire connection is malfunction or load cell is damaged.
 - (2) If this scale hasn't been calibrated, please check as following:
 - a) Check the load cell's connection wires is right or not carefully.
 - b) Check if load cell is suitable or not: It should satisfy the following terms:
 The load cell's empty scale loading capacity+ scale's capacity < load cell's capacity.
4. **Err 05** : AD works in false.
 - 1) If 4-pin shielded cable is applied, please check if you had short-connected the +E and +S, -E and -S.
 - 2) Please check if the connection of load cell is correct.

IV. Error of components and solving method

- 1 **Err 18** Key board has problems, It will indicates for ten seconds, then indicator enters weighing mode. Change the keypad.
- 2 **Err 20** The data is partly lost in RAM. Operator should switch the calibration on and restart the indicator to self-check. If there is no Err 20, then switch the calibration off.
- 3 **Err 21** Calibrating data have been lost in RAM and EPROM, Operator must plug

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in the calibration plug, then re-input the original calibration data, turn on the indicator again or re-calibrate it.

- 4 **Err 22** RAM has been damaged, change the chips and re-calibration.
- 5 **Err 23** EPROM has been damaged, change the chips and re-input the original data, re-start the indicator or re-calibration.
- 6 **Err SP** built-in printer is malfunction, press any key to exit. Exam inner printer connection wire or change the printing head and driver board.

APPENDIX

Appendix I.

Erect bill format:

Weighing bill		Weighing bill		Weighing bill	
S/N	0001	S/N	0001	S/N	0001
Date	2008-01-01	Date	2008-01-01	Date	2008-01-01
Time	12.02.31	Time	12.02.31	Time	12.02.31
Truck.No	12345	Truck.No	12345	Truck.No	12345
C. No.	022	C. No.	022	C. No.	022
G.W.	2.000(kg)	G.W.	2.000(kg)	G.W.	2.000(kg)
TARE	0.300(kg)	TARE	0.300(kg)	TARE	0.300(kg)
N.W.	1.700(kg)	N.W.	1.700(kg)	N.W.	1.700(kg)

Horizontal bill format:

Weighing bill							
S/N	Date	Time	Truck.	Cargo. No.	G.W	TARE(kg)	N.W (kg)
0001	2008-01-01	12.03.24	12345	033	2.00	0.300	1.700

Record format:

Weighing bill				date: 2008-01-01		
S/N	Time	Truck No.	Cargo	G.W. (Kg)	TARE (Kg)	N.W. (Kg)
0002	12.03.24	12345	033	2.000	0.300	1.700
0003	12.03.24	00888	033	2.000	0.300	1.700
0004	12.04.11	00888	022	2.000	0.300	1.700
Total:		G.W: 8.000(kg)		N.W.: 6.800(kg)		

Filling type format: (printing only needs 5 seconds.)

过磅单	
WEIGHT	BILL
第1联司磅员留存	Operator
序号 SERIAL No.	123
日期 DATE	2008-01-01
时间 TIME	12.35.28
车号 VEHICLE No.	
货号 CARGO No.	
总重 GROSS	1580 kg
皮重 TARE	80 kg
扣率 DISCOUNT	10 %

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净重 NET	1350	kg
备 注 REMARK		

Appendix 2: report format example (applicable for printer type=2, 3)

Daily report 1

Date: 2008-01-01

S/N	Time	Truck No.	Cargo	G.W.(kg)	TARE (kg)	N.W.(kg)
0002	12.03.24	12345	033	2.000	0.300	1.700
0003	12.03.24	00888	033	2.000	0.300	1.700
0004	12.04.11	00888	022	2.000	0.300	1.700
Total:		G.W.: 8.000(kg)		N.W.: 6.800(kg)		

Daily report 2

Date: 2008-01-01

S/N	Truck No.	Truck weight (kg)	Times	Total weight(kg)	Total N. W. (kg)
0001	12345	0.300	0002	4. 000	3. 400
0002	00888	0.300	0002	4. 000	3. 400

Daily report 3

Date: 2008-01-01

S/N	Cargo No.	Times	Total N. W. (kg)
0001	022	0002	3.400
0002	033	0002	3.400

Appendix 3:Micro printer format (Applicable for printer type=5)

Folding format:

S/N 0001
 DATE 02—03—14
 TIME 10 . 57 . 27
 T.No. 00001
 C.No. 001
 G.W. 10 . 00kg
 TARE 1 . 00kg
 N.W 9 . 00kg
 tel: 1 2 3 4 5 6 7 8

T.G.W:

10 . 00kg

T.N.W:

9 . 00kg

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Record format:

DATE 02—03—14
 S/N weight kg
 0001 9 . 00
 0002 9 . 00
 TOTAL:
 18 . 00kg

Appendix 4: Printing operation examples

I. One time manually pre-set TARE printing weighing bill

Step	Condition	Operation	Display	Note:
1	Goods on platform	Press [preset TARE]	[P00.000]	
2	Input pre-set TARE weight	E.g.[1000]	[P1. 000]	
3		Press [input]	[*****]	Minus TARE weight
4		Press [print]	[o *****]	Original truck No.
5	Input truck No.	E.g. [00123]	[o 00123]	If needs original truck No. press [input] directly, no need to change.
6		Press [input]	[hn ***]	Original cargo No.
7	Input cargo No.	E.g.[11]	[hn 011]	If needs original cargo No. press [input] directly, no need to change.
8		Press [input]	[Prnt]	Print weighing bill

II. One time manually print cargo weighing bill directly.

Step	Condition	Operation	Display	Note:
1	Goods on platform	Press [print]	[o *****]	Original truck No.
2	Input“0”	E.g.[0]	[o 00000]	“0” truck No. means the weighing object is cargo.
3		Press [input]	[hn ***]	Original cargo No.
4	Input cargo No.	E.g.[11]	[hn 011]	If needs original cargo No. press [input] directly, no need to change.
5		Press [input]	[Prnt]	Print weighing bill

III. Print weighing bill (twice weighing storing method,that is empty and loaded truck or loaded and empty truck)

Step	Condition	Operation	Display	Note:
1	Empty truck on platform (wait for stable light is	Press [print]	[o *****]	Original truck No.

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	on)			
2	Input new truck No.	E.g.[00123]	[o 00123]	If needs original truck No. press [input] directly, no need to change.
3		Press [input]	[hn ***]	Original cargo No.
4	input new cargo No.	E.g. [11]	[hn 011]	If needs original cargo No. press [input] directly, no need to change.
5		Press [input]	[LoAd]	Back to weighing mode in 1.5 seconds.
6	loaded truck on the platform(wait for stable light is on)	Press [print]	[o 00123]	Truck No. of step 2.
7		Press [input]	[hn 011]	Cargo No. of step 3.
8		Press [input]	[Prnt]	print weighing result.

★ Note 5: if the first step is loaded truck, then step 6 should be empty, other operation is the same.

IV. Pre-set TARE weight and auto printing weighing bill

Step	Condition	Operation	Display	note
1		Press [print set]	[Auto *]	Select 1 auto printing
2		Press [1]	[Auto 1]	
3		Press [input]	[type *]	Following no need to amend
4		Press [weigh]	[0]	Back to weighing mode
5		Press [preset TARE]	[P ***]	
6	Set preset TARE	Input E.g.[100]	[P 00100]	
7		Press [input]	[-100]	
8	Loaded truck on the platform		[400]	Loaded truck 500, minus TARE weight 100
9			[Prnt]	Auto print weighing bill

V. Printing weighing bill by calling TARE weight according to truck No.

step	condition		display	Note
	Truck No. Tare weight has been preset			Has been store in Indicator
1	Loaded truck on platform (wait for stable light is on)	press [truck No.]	[o *****]	Original truck No.
2	Input needed truck No.	E.g. [00123]	[o 00123]	If the original truck No. is corresponding, press [tare] directly, no need of inputting truck No.
3		press	[***]	Minus stored TARE weigh

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		[tare]		
4		press [print]	[o *****]	Needed truck No.
5		press [input]	[hn ***]	Original cargo No.
6	Input new cargo No.	E.g.[11]	[hn 011]	If the original cargo No. is corresponding, press [tare] directly, no need of inputting cargo No.
7		press [input]	[Prnt]	Printing weighing bill
8	Truck leave scale, indicator shows negative weight	press [tare]	[0]	Back to weighing mode.

VI. set various truck preset TARE weight and manually print weighing bill

step	condition		display	Note
1		press [truck No.]	[o *****]	Original truck No.
2	Input new truck NO.	如[00123]	[o 00123]	If original truck No. is needed, press [input] directly, no need to input new truck No.
3		press [input]	[P *****]	Preset tare weight
4	Input preset tare weight	E.g.[100]	[P 100]	
5		press [input]	[000]	Back to weighing mode.
	Store various truck's preset TARE weight	[.....]	Set various truck's preset TARE weight. step1—5
6	Loaded truck is on platform(wait for stable light is on)	press [truck No.]	[o *****]	Original truck No.
7	Input new truck No.	E.g. [00123]	[o 00123]	If the original truck No. is corresponding, press [tare] directly, no need of inputting truck No.
8		press [tare]	[***]	Minus stored TARE weight
9		press	[o *****]	Needed truck No.
10		press	[hn	Original cargo No.
11	Input new cargo No.	如[11]	[hn 011]	If the original cargo No. is corresponding, press [tare] directly, no need of inputting cargo No.
12		press [input]	[Prnt]	Printing weighing bill
13	Truck leave scale, indicator	press	[0]	Back to weighing mode

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	shows negative number	[tare]		
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VII. Printing weighing bill (one time stored type)

step	Condition	operation	display	Note
1	Loaded truck is on platform (wait for stable light is on)	press [print]	[o *****]	Original truck No.
2	Input new truck No.	E.g. [00123]	[o 00123]	If original truck No. is needed, press [input], no need of input new truck No.
3		press [input]	[hn ***]	Original cargo No.
4	Input new cargo No.	如[11]	[hn 011]	If original cargo No. is needed, press [input], no need of input new cargo No.
5		press [input]	[Prnt]	Printing weighing bill

VIII. Daily repot printing (triplicate)

step	operation	display	Note
1	Press [printing	[P 00]	printing selection
2	Press [1]	[P 01]	
3	press [input]	[Prnt]	Print out 3 copies of daily report

Note 6: the date of printed daily report is current date of indicator.

(press [date] to check and modify)

IX. General report printing

step	operation	display	Note
1	Press [print set]	[P 00]	Printing selection
2	Press [2]	[P 02]	02 print general report 1; 03 print general report 2; 04 print general report 3; 05 print general report 4.
3	press [input]	[Prnt]	Print out general report