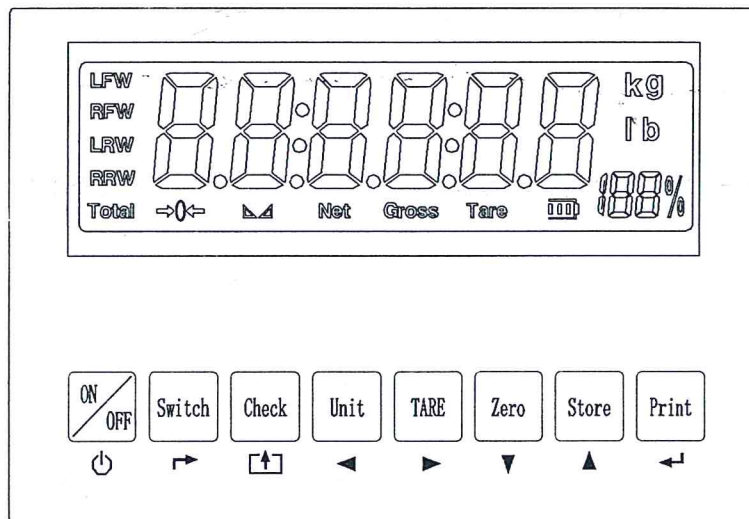


Portable Static Wireless Weighing Indicator User's Manual





Safety Instruction

For safety operation pls. follow the safety instruction.



WARNING

Setting, Calibration Inspection and Maintain of the indicator is prohibited by Non-professional staff.



WARNING

Pls. make sure the weighing display have good ground in using.



WARNING

The indicator is the static and sensitive equipment, cut off the power during electrical connections, internal components touched by hand is prohibited, and please take the measure of anti-static.

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1. Product Introduction

1.1 Main Function

Portable Static Wireless Weighing Indicator is designed for static axle scale. It can connect with 1,2,3,4,6 transmitters to weigh the truck. Transmitter effective distance of 100 meters. Indicator startup will automatic wake up transmitter and shutdown after transmitter automatically enters the sleep. It owns manual weighing mode and automatic weighing mode. It can be normal weighing or accumulative weighing. Varied weighing ways to meet different requirements.

LCD display (size: 136mm x 36.5mm) show the real weight date on the weighing pad. The unit kg/lb display can be adjusted by the key on the instrument. At same time, the percentage of each pad on the total weighing is displayed too. Other function includes tare, zero, print, save, check, delete.

Indicator Instrument power supply by 6V/4Ah battery and it can be recharged by 9V/1A adapter. Transmitter power supply by 3.7V/2000mA/h battery and it can be recharged by 4.2V/1A charger. Built-in needle printer, several printing formats; The calendar is in the software. Date and time can be checked easily. Easy operation, high precision, good application.

1.2 Technical parameter

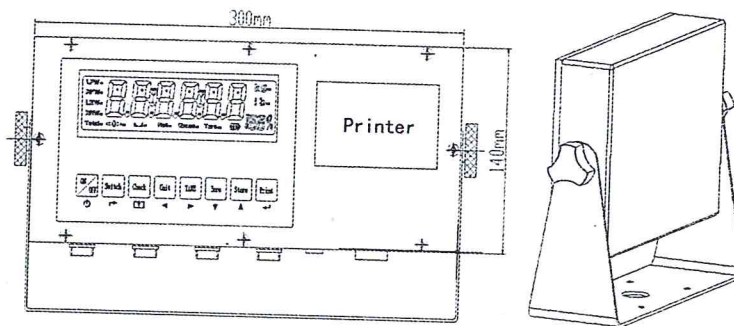
1. Instrument Technical parameter

>> Accuracy class	III
>> Initial zero range	±10%Max
>> Manually zero range	±2% Max
>> Zero Range	100% Max
>> Zero Tracking	0.5d/s
>> AC power	110~240VAC,50/60HZ
>> Operation temperature humidity	-10°C ~ +40°C,≤85%RH

2. Transmitter Technical parameter

>> Sensitivity	1uv/d
>> Input voltage	-10~10mV
>> Excitation circuit	3VDC,4wire connection, Maximum connect 8 load cell of 350Ω
>> AC power	110~240VAC,50/60HZ
>> Operation temperature humidity	-10°C ~ +40°C,≤85%RH

1.3 drawing



1.4 Storage Battery instruction

1. when you use the internal battery first time, you should charge the battery fully, to prevent low voltage resulted from self leakage of battery.
2. when the "□" is flashing, it means low battery. please charge it in time.
3. when "□" and no flashing, it means fully charged.
4. if battery is not used for long time, take it out to avoid the leakage.
5. In order to keep the battery in best using condition, it is suggest that you fully discharge the battery every month, the method is that using the indicator till it is automatically power off.

1.5 Lithium Battery instruction

1. when you use the internal battery first time, you should charge the battery fully, to prevent low voltage resulted from self leakage of battery.
2. when the □ flashes on the left side of LCD, it means low battery. please charge it in time, the red light of charger turns on. (Remarks : If □ turns off, transmitter will shut down in few minutes. when the ● turns off transmitter shut down, which at the left from □.)
3. when green light of charger turns on, it means fully charged.
4. if battery is not used for long time, please charge it once two month.
5. In order to keep the battery in best using condition, it is suggest that you fully discharge the battery every month, the method is that using the indicator till it is automatically power off.

2. Installation and calibration

2.1 Check

Open the box and check all items according to the packing list. If some missed or broken, please contact with our company immediately.

2.2 Power supply connection

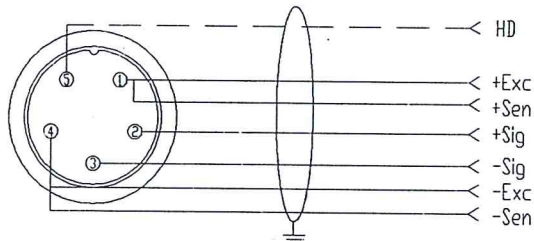
The Instrument is powered by adapter, you plug the adapter directly into the "DC" pin at the back cover the indicator is ok.

Note: Instrument adapter and transmitter adapter is different.

2.3 Connection of load cell and Transmitter

Each transmitter can connect with 4 weighing pads or 24 pcs of load cells 350Ω at most.

Load cells on the Transmitter:M16-5 Pin definition as below.



2.4 Connection of Transmitter and indicator

The indicator can connect with 6 Transmitter equipments by RF. The number of Transmitter equipments correspond to the weighing modes. If the pads or load cells are connected at the wrong way, the indicator can't work. Please pay attention to the below.

Number of Transmitter equipments	F11 Set	Channel Display
1	[F11 1]	LW1
2	[F11 2]	LW1,RW1
3	[F11 3]	LW1,RW1,LW2
4	[F11 4]	LW1,RW1,LW2,RW2

5	[F11 6]	LW1,RW1,LW2,RW2,LW3,RW3
---	---------	-------------------------

Example: Weighing mode [F11 2], power on the indicator. Both the TXD and RXD flashes on the Transmitters. There are two □ turns on on the left side of LCD. If LCD displayed ERR01~ ERR04, please check the Transmitter's power still flashes or not.

Normal weighing mode and accumulative weighing mode can work with the printer to print the weighing data.

Normal Weighing mode:

To set the printing format "1", the indicator is in normal weighing mode. It can connect 1/2/3/4/ 6 transmitter equipments to weigh and "Print" the weighing data and save.

Example: 3 weighing transmitter equipments connect with indicator to weigh the airplane.

- a. The pads should connect with LW1, RW1, LW2 transmitter;
- b. parameter setting: working mode [F11 3] setting "3"; printing format [F33 1] setting "1";
- c. Drive the plane on the pads. Press "switch" button, indicator can display the total weight and the weight of each pad and the percentage of each pad weight from the total weight. If weigh mode setting "1" [F41 1], the weighing data can print automatically and save after stable. If weigh mode setting "0" [F41 0], the weighing data will print and save manually.

Accumulative weighing mode:

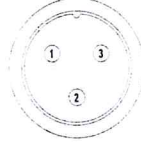
To set printing format "2" [F33 2], the indicator is in accumulative weighing mode. Now 2/4 /6 pads should be connected with the transmitter. And press "store" button to accumulate the axle weigh and print. Then press "printing" to print the final accumulative weight and save.

Example: Two pads work with the indicator to weigh a truck with three axles.

- a. The pads should connect with LW1, RW1 transmitter;
- b. Parameter setting: working mode [F11 2] setting "2"; printing format setting "2" [F33 2]; Axles setting "3" [F42 03].
- c. Drive the first axle of the truck on the weighing pads. Press "Switch" button, indicator can display the axle weight and the each weight of the wheels and the percentage of each wheel weight from the axle weight. If weigh mode setting "1" [F41 1], the weighing data can print and save automatically after weighing stable; if weigh mode setting "0" [F41 0], the weighing data will print and save manually by press "store" button.
- d. Drive the second axle of the truck on the weighing pads and repeat the operation same as step C, accumulate and print the second axle weight.
- e. Drive the second axle of the truck on the weighing pads and repeat the operation same as step C, accumulate and print the third axle weight.
- f. After finishing the weight for three axles, if weigh mode setting "1" [F41 1], the total weight will print and save automatically; if weigh mode setting "0" [F41 0], it will print manually by press "print" button.

2.5 Communication interface

RS232 :M16-3B Pin definition as below.



Pin function and definition as follows:

M16-3B joint	Definition	Function
1	TXD	Sending data
2	RXD	Receiving data
3	GND	Ground interface

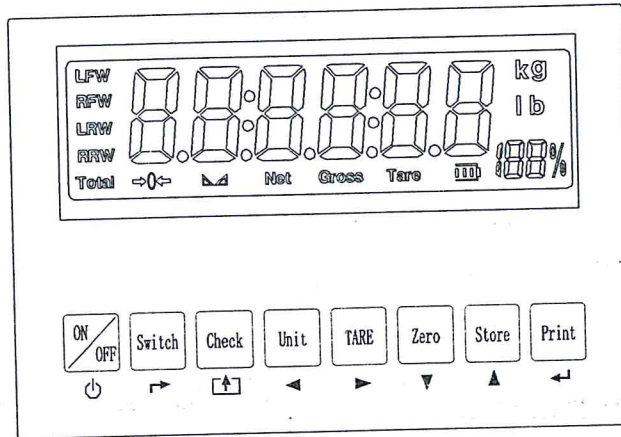
3. Basic operation

3.1 LCD

LCD	Instruction
	Weighing data
kg/lb	Weighing unit: kg/lb
	Percentage, show how many percentage the pad weight take on the whole weight
Tare	Tare
Gross	Gross weight
Net	Net weight
	The weighing data is stable
	Weight is zero
LW1	The weight of the lw1 wheel
RW1	The weight of the rw1 wheel
LW2	The weight of the lw2 wheel
RW2	The weight of the rw2 wheel
LW3	The weight of the lw3 wheel
RW3	The weight of the rw3 wheel
Total	Go to accumulation mode
	Transmitter's connectivity and battery power
	Indicator's battery power


(Remakes:LW1~RW3 turns on ,when we view each Transmitter's information separately.)

3.2 keypad



Keys function

keys	Key name	Key function
Print	Print	1.Printing the weighing data as weighing. 2.Working with the switch button to get into the menu of calibration.
Store	Store	In accumulative weighing mode, to accumulate the axle weight and print the weight data.
Zero	Zero	Zero the weight within tolerance
Tare	Tare	At G.W mode, get the tare weight. At N.W mode, clear the tare, get the G.W
Unit	kg/lb convert	Covert between kg and lb
Check	Check	Check and read the saved weight data to print.
Switch	Switch	Switch the weight between the pad weight and the total weight.

	Power on/off	Press 1 seconds to power on or power off
---	-----------------	--

3.3 Power on & off

Press 1 seconds to power on or power off. After power on, indicator self inspection, please check the display is normal or not, LCD light then show the voltage of the battery. Finally into weighing mode.

3.4 Zero operation

Within the tolerance, "Zero" key clear the weight on all weighing pads. When the pads unstable or loading over zero range or on tare mode, indicator can't ZERO and show ERROR.

3.5 Tare operation

In normal weighing mode, press "Tare" button to make the load be tare weight; In accumulative weighing mode, press "Tare" button to preset the tare weight and press "print" button to confirm the tare weight. The lights on the keypad is showing. In Tare mode, press "Tare" button to deduct the tare weight from the total weight and show the net weight.

NOTE:Tare mode only show on the total weight display.

3.6 Unit Switch

To press "Unit" button for switching the unit between "kg" and "lb".

3.7 Checking

Weighing mode, press "Check" button to show "C 0030" (30 records existing), input "C 0020" and press "Print" to check 20th record. Display show "REAd-0". Choosing "1" to show date, time, axle, tare weight and total weight one by one. Then "Print 0", choosing "1" to print this record and back to the Checking display "C 0020". Press "Check" Button again to quit and back to weighing mode.

3.8 Switching

Weighing mode, press "Switch" button to change the display between the axle weight and the total weight.

3.9 Printing

Manual weighing, press "print" button to print when the pad is stable.

Note:

1. Automatic accumulative weighing mode, press "Print" to print the total weight even if the number of axle don't reach the setting number.
2. Press "store" and "print", to add the current weight data printing.

4. Calibration and Parameter setting

4.1 Enter setting

Press " Switch" button and " Print" button together to enter into the menu for setting F1-F5.

The key functions in setting:

↵ ENTER

▲ UP

▼ DOWN

▶ LEFT

◀ RIGHT

⏏ EXIT THE MENU

4.2 Step of calibration operation

F1 menu: setting working mode, unit, decimal, graduation and span.











Step	Operation	Display	Remark
		[F 1]	F1 menu
1	press ↵	[F11 2]	Weighing pad working mode: 1/2/3/4/6 Note: after the adjustment of the work





			mode, it is recommended to restart the instrument.
2	press ▲ or ▼ press ↵	[F12 0]	Unit:0/1(kg/lb)
3	press ▲ or ▼ press ↵	[F13 2]	Point number:0/1/2/3/4
4	press ▲ or ▼ press ↵	[F14 05]	Graduation setting:1,2,5,10,20,50.
5	press ▲ or ▼ / ▶ or ◀ press ↵	[0500.00] [1000.00]	Setting the Single max span Default division:10000, display 500.00. The max. span is 1000.00







F2 menu: Zero, loading calibration, save the calibration parameter.

Step	Operation	Display	Remark
		[F 2]	F2 menu
1	press ↵	[F21 2]	Pad choose:calibration for the 2 nd pad
2	press ▲ or ▼ press ↵ or press ↵	[F22 0] [F22 1] [9] [0]	Zero Calibration: 0=No need calibration 1= need calibration
3	press ▲ or ▼ press ↵ or press ↵	[F23 0] [F23 1]	0=No need loading calibration 1=loading calibration
4	press ▲ or ▼ / ▶ or ◀ press ↵	[0100.00] [9] [0]	Loading calibration: Setting loading 100,00 an put the 100kg weight on the 2 nd pad. Loading choice: load the weight as possible As max capacity, at least 10%

4.3 Application function parameters setting chart

Step	Operation	Display	Remark
		[F 3]	F3 menu
1	press 	[F31 00]	Cargo number setting
2	press  or  press 	[F32 00]	Operator number setting
3	press  or  press 	[F33 0]	Printing format setting 0: No printing 1:normal printing format for normal weighing. 2:Accumulative printing format for accumulative weighing.
4	press  or  press 	[F34 0]	Printing coupon numbers setting 0: No printing coupon 1/2/3: Printing coupon 1/2/3











Step	Operation	Display	Remark
		[F 4]	F4 menu
1	press 	[F41 0]	Weight mode setting: 0/1 0: manual weighing 1: automatic weighing
2	press  or  press 	[F42 00]	Setting of axle number: Use in the mode of automatic weighing





Step	Operation	Display	Remark
		[F 5]	F5 menu
1	press  or  press 	[F51 0]	Transmitter Baud rating setting 0:600; 1:1200; 2:2400; 3:4800 4:9600; 5:19200; 6:38400 7:57600; 8:115200
2	press  or  press 	[F52 1]	Communication setting 0: communication off. 1: communication format 1 for PC. 2:communication format 2 for second display(YAO HUA MODEL). 3.communication format 3 for second




			display(TOLEDO MODEL).
3	press ▲ or ▼ / ► or ▲ press ◀	[F53 00]	Automatic power off setting: 00: no power-off Time limit of 99 minutes
4	press ▲ or ▼ / ► or ▲ press ◀	[F54 00]	Low power setting 00: no low power Time limit of 99 minutes Note: In zero condition and no operation. The whole system enters a low power state
5	press ▲ or ▼ press ◀	[F55 0]	Date format setting. 0: month day year 1: year month day 2: day month year
6	press ▲ or ▼ / ► or ▲ press ◀	[15.09.19]	Date setting: [15.09.19]
7	press ▲ or ▼ / ► or ▲ press ◀	[09:15:11]	Time setting: [09:15:11]

Step	Operation	Display	Remark
		[F 6]	F6 menu
1	press ◀	[S 0560]	560 records in indicator. Max. recording is 2000 cps.
2	press ◀	[HE 1.0A]	PCB version
3	press ◀	[SE 1.01]	Software version

Step	Operation	Display	Remark
		[F 7]	F7 menu
1	press ◀	[U XXXX]	Inquire instrument battery voltage
2	press ◀	[LW1 code]	Check the lw1 wheel ad code
3	press ◀	[RW1 code]	Check the rw1 wheel ad code

4	press 	[LW2 code]	Check the lw2 wheel ad code
5	press 	[RW2 code]	Check the rw2 wheel ad code
6	press 	[LW3 code]	Check the lw3 wheel ad code
7	press 	[RW3 code]	Check the rw3 wheel ad code
8	press 	[LW1 Battery]	Check the lw1 wheel Battery
9	press 	[RW1 Battery]	Check the rw1 wheel Battery
10	press 	[LW 2 Battery]	Check the lw2 wheel Battery
11	press 	[RW2 Battery]	Check the rw2 wheel Battery
12	press 	[LW 3 Battery]	Check the lw3 wheel Battery
13	press 	[RW3 Battery]	Check the rw3 wheel Battery

Step	Operation	Display	Remark
		[F 8]	F8 menu
1	press 	[F81 0] [F81 1]	0:Not deleting the weighing record. 1:Deleting the weighing record.
2	press  or  press 	[F82 0] [F82 1]	0:Not deleting all the records. 1:deleting all the records.

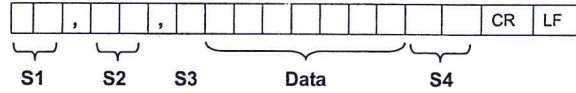
Step	Operation	Display	Remark
		[F 9]	F9 menu
1	press  or  press 	[F91 0] [F91 1]	0: Not Init the calibrated parameters 1: Init the calibrated parameters

5.Serial interface reception command

5.1 Command 1

(RS232COM serial interface can receive simple ASCII command)

RS232 parameter:9600Bit/S Baud rate,8 digits,no check point,1 stop.



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

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

S3: weight of positive and negative, "+" or "-"

S4: Measurement unit, "kg" or "lb"

Data: weight value, including decimal point

CR: carriage return

LF: line feed

5.2 Command 2

(workable with second display from Yaohua, Baud rate 600)

5.3 Command operate function

CP menu set to 4, and set corresponding baud rate, then send command byte to perform the corresponding operation or read weight data.

Command as follows:

T Command

Send 'T', execute TARE command.

Z Command

Send 'Z', execute ZERO command.

3. C Command

Send 'C', execute UNIT Switch command.

R Command

Send 'R', Read the current selected channel weigh values.

Return: STX POL XXXX.XX SP LB/KG SP GR/NT CR LF

N Command

Send 'N', Read the current selected channel AD values.

Return: STX SP SP SP XXXXXX SP IC SP IC CR LF

6. 1 Command

Send '1', Read the LFW channel weigh values.

Return: STX POL XXXX.XX SP LB/KG SP GR/NT CR LF

7. 2 Command

Send '2', Read the RFW channel weigh values.

Return: STX POL XXXX.XX SP LB/KG SP GR/NT CR LF

8. 3 Command

Send '3', Read the LRW channel weigh values.

Return: STX POL XXXX.XX SP LB/KG SP GR/NT CR LF

9. 4 Command

Send '4', Read the RRW channel weigh values.

Return: STX POL XXXX.XX SP LB/KG SP GR/NT CR LF

10. S Command

Send 'S', Read the Total weigh values.

Return: STX POL XXXX.XX SP LB/KG SP GR/NT CR LF

6.Print format

6.1 Normal Printing format

Single pad :	Double pads :	Three pads:	Four pads :
WEIGHING REPORT	WEIGHING REPORT	WEIGHING REPORT	WEIGHING REPORT
NO. : 0575	NO. : 0575	NO. : 0575	NO. : 0575
Date: 2013-11-02	Date: 2013-11-02	Date: 2013-11-02	Date: 2013-11-02
Time: 09:59:04	Time: 09:59:04	Time: 09:59:04	Time: 09:59:04
Vehicle:	Vehicle:	Vehicle:	Vehicle:
Cargo:34	Cargo:34	Cargo:34	Cargo:34
LW1: 429.0kg	LW1:429.0kg	LW1: 429.0kg	LW1: 429.0kg
-----	RW1:413.5kg	LW2: 319.0kg	RW1: 413.5kg
Net: 429.0kg	Axle1:842.5kg	RW2: 293.0kg	Axle1: 842.5kg
Tare:0.0kg	-----	Axle2: 612.0kg	LW2: 319.0kg
Gross: 429.0kg	Net:842.5kg	-----	RW2: 293.0kg
Operator:	Tare:0.0kg	Net: 1041.0kg	Axle2: 612.0kg
	Gross: 842.5kg	Tare:0.0kg	-----
	Operator:	Gross: 1041.0kg	Net: 1454.5kg
		Operator:	Tare:0.0kg
			Gross: 1454.5kg
			Operator:

6.2 Accumulative printing format

Double pads (Double axles)	Four pads : (Four axles)
WEIGHING REPORT	WEIGHING REPORT

NO. : 0594
 Date: 2013-11-02
 Time: 11:10:41
 Vehicle:
 Cargo:34
 LW1: 420.5kg
 RW1: 419.5kg
 Axle01: 840.0kg
 LW2: 309.5kg
 RW2: 297.0kg
 Axle02: 607.0kg

Net: 1447.0kg
 Tare:0.0kg
 Gross: 1447.0kg
 Operator:

NO. : 0594
 Date: 2013-11-02
 Time: 11:10:41
 Vehicle:
 Cargo:34
 LW1: 420.5kg
 RW1: 419.5kg
 Axle01: 840.0kg
 LW2: 309.5kg
 RW2: 297.0kg
 Axle02: 607.0kg

LW1: 420.5kg
 RW1: 419.5kg
 Axle03: 840.0kg
 LW2: 309.5kg
 RW2: 297.0kg
 Axle04: 607.0kg

Net: 2894.0kg
 Tare:0.0kg
 Gross: 2894.0kg
 Operator:

7.Maintenance

7.1 Regular error and solution

ERROR	REASON	SOLUTION
UUUUUU	1.Overload 2.wrong connection with load cell 3. load cell has quality problem.	1. reduce the weight 2. check load cell connection 3. inspection load cell. Check the input and output
nnnnnn	1.calibration is no good 2. wrong connection 3. load cell has quality problem	1. check scale is resisted or not, foot is kept level or not. 2. check load cell connection. 3. checking load cell

ERR01	left front wheel connect timeout	1. check transmitter is low power or not 2. Distance is too far 3. Restart instrument
ERR02	right front wheel connect timeout	4. check transmitter is low power or not 5. Distance is too far 6. Restart instrument
ERR03	left back wheel connect timeout	7. check transmitter is low power or not 8. Distance is too far 9. Restart instrument
ERR04	right back wheel connect timeout	10. check transmitter is low power or not 11. Distance is too far 12. Restart instrument
ERR10	Zering, not on stable weighing condition.	Zering, on stable weighing condition
ERR11	Zero and tare at same time.	Back to G.W, then Zero
ERR12	Out of the zero range	Move the extra load
ERR15	Tare, no on stable weighing condition	Tare after stable weighing
ERR16	Tare when no load	To load some, then tare
ERR17	Out of tare range	Decrease the tare weight
ERR20	tare state is not allowed to unit switch	Back to G.W, then kg/lb
ERR25	The S/N number wrong when checking the weighing record	Assure the S/N number within the Number of records
ERR30	Printing format wrong at accumulative weighing mode	Printing format setting"2"
ERR31	Working mode wrong at accumulative weighing mode	Working mode setting"2/4"
ERR32	Weighing over the span Or display range or unstable or failure of zero at accumulative weighing mode.	Load properly at zeroing, then printing after data stable.

ERR33	Display Error, Printing with the indicator at accumulative weighing mode.	Print the total weight after accumulating the weight of axles.
ERR34	Printing error at normal Weighing mode.	Stable then printing
ERR35	Printing format wrong at normal weighing mode.	Printing format Setting"1"
ERR41	F1 Menu setting error	1. Re execute once 2. Restart instrument
ERR42	F2 Menu setting error	1. Re execute once 2. Restart instrument

7.2 Daily maintain

1. Protect the indicator from strong sunlight to prolong the using life.
2. Good connection between load cell and transmitter. Far from away from strong electric field, magnetic field.
3. Power off the indicator when lightning.
4. Power off the indicator firstly before plug and unplug.

7.3 Packing list

Packing list

S/N	ITEM	NAME	UNIT	QTY	PACKING
1	Weighing indicator		PCS	1	
2	Transmitter equipment		PCS	4	
3	Plastic bag		PCS	1	
4	Accessories bag		PCS	1	
5	Adapter	US/DC9V	PCS	1	
		UK/DC9V	PCS	1	
		EU/DC9V	PCS	1	
		AU/DC9V	PCS	1	
		OTHERS	PCS	1	
6	Charger	US/DC4.2V	PCS	1	
		UK/DC4.2V	PCS	1	
		EU/DC4.V	PCS	1	
		AU/DC4.2V	PCS	1	
		OTHERS	PCS	1	
7	USER MANUAL		PCS	1	
8	RS232	DB9	PCS	1	
9	LOADCELL PLUG	5 PIN Quick disconnect	PCS	4	
10	Bracket	Wall-mounted	PCS	1	
11	Certificate		PCS	1	
12	Packing list		PCS	1	