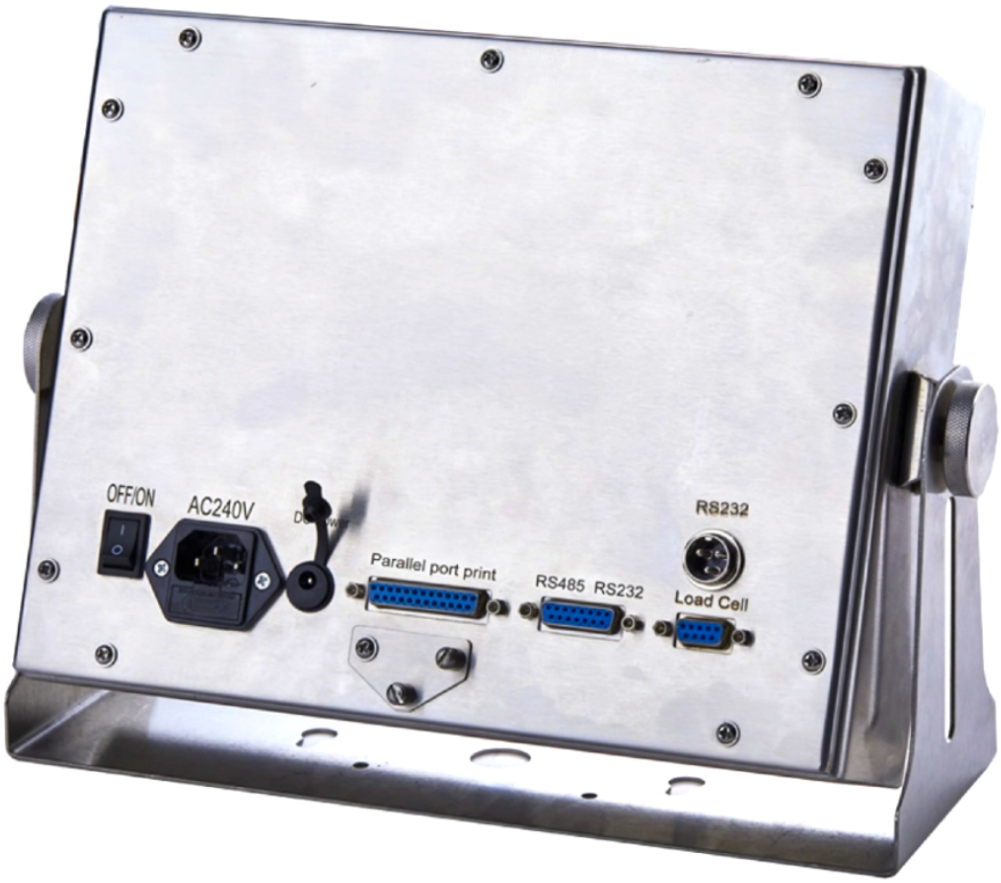
LIBERTY SCALES INC
Precision Beyond Imagination

# LS-7581-TS

## USER MANUAL - TRUCK SCALE INDICATOR

# LIST

# 1. Instruction

This weighing indicator supports both AC and battery power supply. It is applicable to vehicle and floor scale . This weighing indicator is designed with stainless steel housing, enclosed with a high - performance 32 - bit processor and a high – precision 24 - bit ADC, it has a powerful function and excellent performance. This weighing indicator has a rich communication function interface, the interface are used to plug-in connector, which is easy to use.

## 1.1 Main function

**Basic function:**

>>Zero function,zero tracking,Initial zero function
>>Tare,preset tare function
>>1000 groups of vehicle ID tare weight record
>>1000 groups of weighing record (date,time,vehicle,cargo,net weight,tare weight,gross weight)
>> 200 groups of weigh-in record storage (twice weighing)
>> Real-time clock,time display
>>Printing report
>>Recall function
>> Overload prompting function

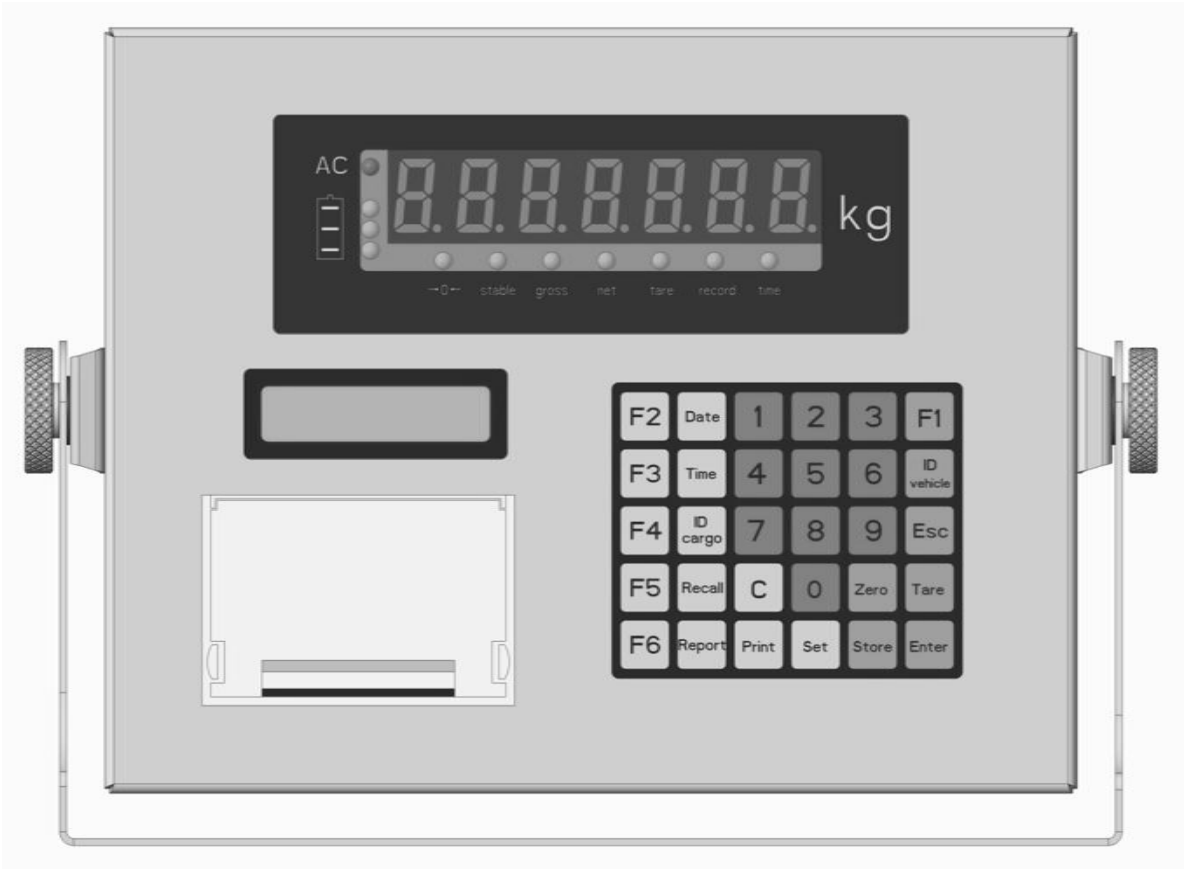
**Communication function:**

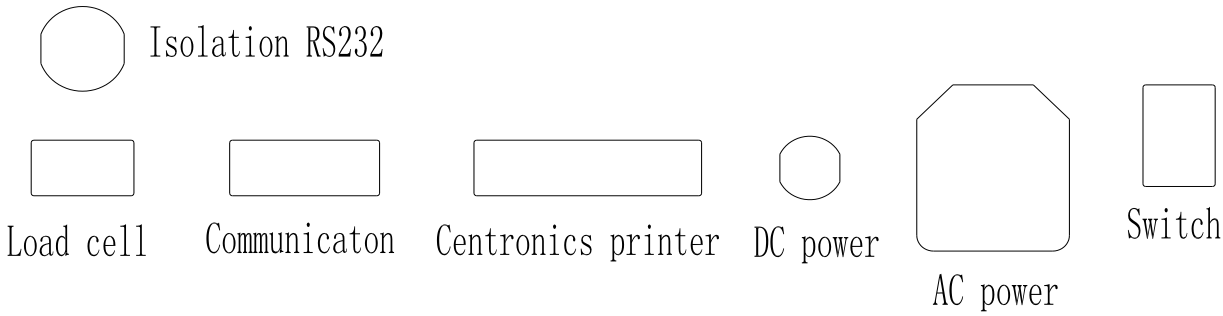
>> Printing function(RS232/parallel port）
>>Big display function（RS232）
>> Computer communication （USB VCP/RS232/RS485）

## 1.2 Technical parameter

| | |
|---|---|
| Accuracy class | 6000 e,III |
| Resolution | display: 30,000 ADC: 2,000,000 |
| Sensitivity (internal) | 0. 3 μV /d |
| Signal range | -30~30mV DC |
| Excitation circuit | 5 VDC,Maximum connect 12 pcs of 350Ω load cells |
| AC power | AC220V |
| Battery parameters | 12V 7Ah 20 hours using |
| digital display hight 7 digits LED 20mm | |
| Keys | 5*6 Matrix keyboard |
| Product weight | 3.6KG |
| Shipping weight | 6.0KG |
| Product size | 260*160*80mm |
| Packing size | 360*350*120mm |
| Operation temperature and operation humidity | - 10 °C ~ + 40 °C ≤85%RH |
| Storage temperature | - 40 °C ~ + 70 °C |

### 1.3 Physical Dimension



# 2. Installation and calibration

### 2.1 Unpacking and Inspection

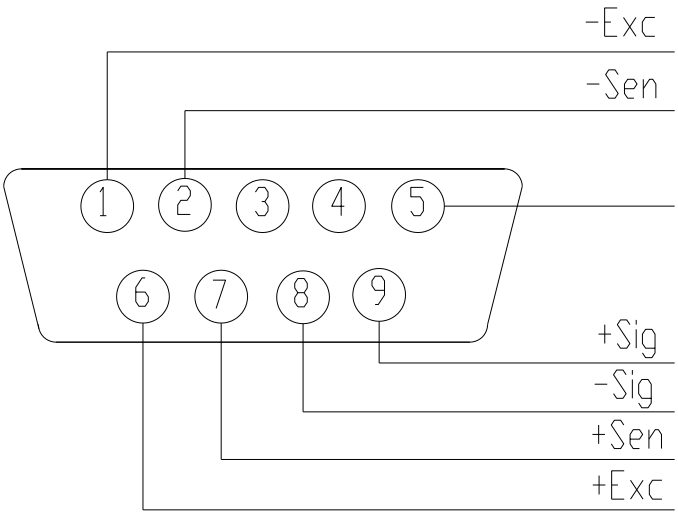
Open the packing box and check the completeness of the parts according to the packing list attached to the instructions.

### 2.2 Power connection

The instrument can be powered by an external AC power supply, and can also be supplied by the 12V7Ah lead acid battery, which power on or off by pressing the power switch. It has battery charging circuit inside, when connected to AC power and lead acid battery, it will charge the lead acid accumulator.

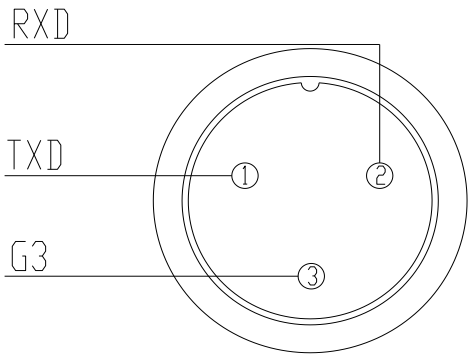
### 2.3 Load cell connection

The indicator can connect with 12 pcs of 350Ω load cells at most. 4 wires or 6 wires load cell are both ok.

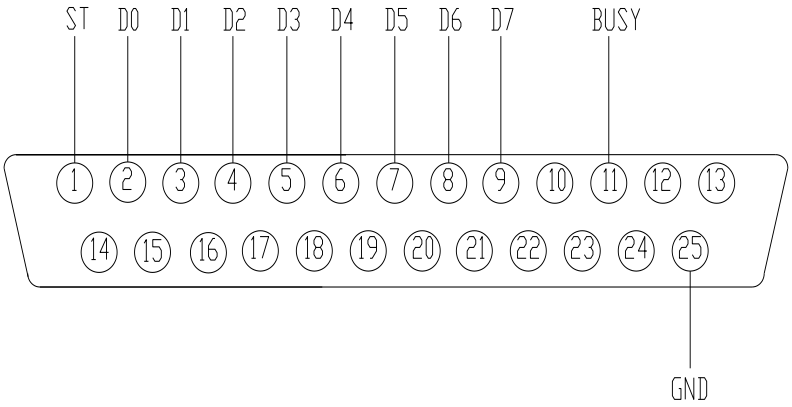



When using a 4wiresload cell,EXC+ and SEN+，EXC- and SEN- are needed to be short-connected respectively.

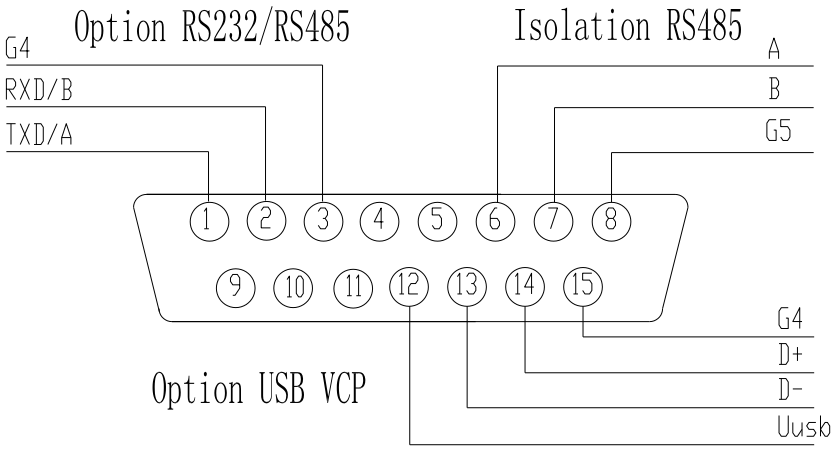
### 2.4 Communication interface




The standard isolation RS232 interface uses 3 pin M16 quick connector, defined in figure.
You can select commands,print and continuous transmission by parameter T01.



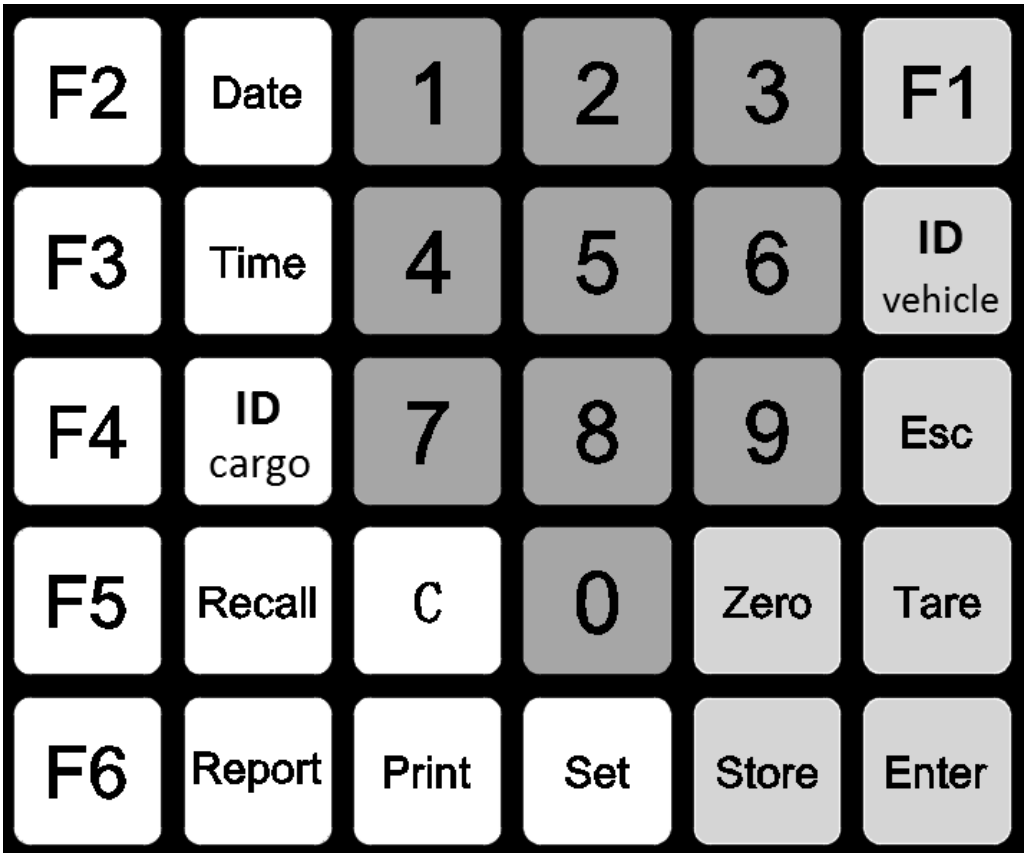

Stylus printer use standard parallel output, using DB25 terminal connection, defined as figure.
You can choose whether to open parallel printing function by parameter T51.




DB15 contains two communication interfaces, RS485 and Optional interface.
Choose one of Select isolated RS232 or isolated RS485 or USB VCP. Parameter T 02 select commands, prints and sends continuously.

# 3. Basic operation

### 3.1 Keypad and display




### 3.2 Zero operation

Zero the indicator within the allowable zero range

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 10 | Stability,Gross weight | |
| Zero | 0 | Zero position,Stability,Gross weight | |

### 3.3 Tare operation

3.3.1 General tare

The current weight is deducted from the tare weight and the indicator shows net weight

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 500 | Stability,Gross weight | |
| Tare | 0 | Zero position,Stability,Gross weight,Tare | |

3.3.2 Presetting tare

Input tare weight deduction through 0 ~ 9 numbering key, the indicator shows net weight value

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 500 | Stability,Gross weight | |
| “0~9” number keys | 000200 | | |
| Tare | | Stability,Net weight,Tare | |

3.3.3 Call tare weight

By entering the vehicle number, the indicator gets the corresponding deduction tare weight and shows the net weight

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 3000 | Stability,Gross weight | |
| Vehicle | o 00001 | | |
| “0~9” number keys | o 00002 | | Input vehicle number 00002 |
| Enter | P 1000 | | Call corresponding tare weight |
| Tare | 2000 | Stability,Net weight,Tare | |

3.3.4 Clear tare weight

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 2000 | Stability,Net weight,Tare | |
| Tare | 3000 | Stability,Gross weight | |

**3.4 One time weighing storage function**

Storage Store the current weighing record, input vehicle number, cargo number

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 2000 | Stability, Net weight, Tare | Tare removal completed |
| Store | o 00002 | | Input vehicle number |
| Enter | H 02 | | Input cargo number |
| Enter | Store | | Store current weighing information and print |

**3.5 Twice weighing storage function**

F1 First empty vehicle then the heavy vehicle, or the first heavy vehicle then the empty vehicle, twice weighing, and input of the vehicle number to form a set of weighing records to store.

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 2000 | Stability,Gross weight | Empty vehicle on |
| F1 | Entvid | | |
| Enter | o 00003 | | Input vehicle number |
| Enter | In | | Record current information |
| | 2000 | Stability,Gross weight | Return to weighing state |
| | 0 | Zero position,Stability,Gross weight | Empty vehicle off |
| | 3000 | Stability,Gross weight | Heavy vehicle on |
| F1 | Entvid | | |
| Enter | o 00003 | | Input vehicle number |
| Enter | H 02 | | Input cargo number |
| Enter | out | | Store current weighing information and print |
| | 3000 | Stability,Gross weight | Return to weighing state |

**3.6 Vehicle tare weight storage function**

3.6.1 Tare weight and store Store the current weight as tare weight

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 1000 | Stability,Gross weight | |
| Vehicle | o 00001 | | |
| “0~9” number keys | o 00010 | | Inputvehicle number 00010 |
| Tare | 0 | Zero position,Stability,Net weight,Tare | Tare and store |

3.6.2 Input the tare weight Store the tare weight by input 0 ~ 9 numbering key.

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 1000 | Stability,Gross weight | |
| Vehicle | o 00010 | | |
| “0~9” number keys | o 00005 | | Input vehicle number 00005 |
| Enter | P 1000 | | Show corresponding tare weight |
| “0~9” number keys | P000800 | | Input tare weight 800 |
| Tare | 200 | Stability,Net weight,Tare | Tare and store |

3.6.3 Store the tare weight automatically
After twice weighing, the indicator automatically stores the tare weight

### 3.7 Vehicle tare weight deletion function

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| | 2000 | Stability,Gross weight | |
| Vehicle | o 00010 | | |
| “0~9” number keys | o 00005 | | Input vehicle number 00005 |
| Enter | P 1000 | | Show corresponding tare weight |
| C | 2000 | Stability,Gross weight | Remove vehicle tare weight and return to weighing |

### 3.8 Recall function

3.8.1 Incomplete query records

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| Recall | read 00 | | |
| “0~9” number keys | read 01 | | Input 01 to query incomplete records |
| Enter | n 2 | | 2 incomplete records |

Press "Print" to print the incomplete record through parallel port;
Click "Enter + C" to delete all incomplete records;
Press "ESC"to return to the weighing state.

3.8.2 Vehicle tare weight query

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| Recall | read 00 | | |
| “0~9” number keys | read 02 | | Input 02 to query vehicles tare weight |
| Enter | n 3 | | 3 vehicles tare weight |

Press "Print" to print the incomplete record through parallel port;
Click "Enter + C" to delete all vehicles tare weight records;
Press "ESC" to return to the weighing state.

3.8.3 Weighing record query

| Key | Display | Indicator light | Instruction |
|---|---|---|---|
| Recall | read 00 | | |
| “0~9” number keys | read 03 | | Input 03 to query weighing records |
| Enter | n 5 | | 5 weighing records |

Press "Print" to print the weighting record through parallel port;
Click "Enter + C" to delete all weight records;
Press "ESC" to return to the weighing state.

### 3.9 Report function

The report prints the corresponding weighing record through the parallel port .Print Report : Press ”Report”, display " P 00 "

Input 1 ,press “Enter”,print the daily report of the day ,the statistics report by time ,the vehicles number statistics report ,and the cargo number statistics report .

Input 2 ,press“Enter”,print the total report 1 , the statistics report by time.

Input 3 ,press“Enter”,print the total report 2 , the statistics report by vehicles number.

Input 4 ,press “Enter”,print the total report 3 , the statistics report by cargo number .

# 4. Calibration and Parameter setting

### 4.1 Enter setting

The parameter setting is divided into 4 groups

| | | | |
|---|---|---|---|
| C | xx | Calibration parameters | Prompt CAL |
| E | xx | Application environment | Prompt Env |
| U | xx | User parameters | Prompt User |
| T | xx | Communication parameters | Prompt Tran |

Calibration parameters CAL and application environment Env are protected from the seal,it only works when calibration switches on.

### 4.2 Parameter key operation instructions

The input parameters of navigation and parameter settings through the numeric keypad, complete the required parameters setting, and press “ESC” to return to the weighing state.

For example:

The input parameters of navigation shows 

Then input the parameter number which you need. Press [2] displays 

Then press [Enter] into parameter setting ,displays 

Press [1] to modify parameter 

Then press [Enter] into next parameter 

**4.3 Parameter description**

4.3.1Indicator calibration

C01 Unit setting

Display [01],press[Enter].

[C01 01],unit is KG.

Press [Enter],go into next step.

C02 Decimal position setting

Display [02],press[Enter].

[C02 00],no decimal point

[C02 01],one decimal point

[C02 02],two decimal point

[C02 03],three decimal point

[C02 04],four decimal point

Press [Enter],go into next step.

C03 Division value setting

Display [03],press[Enter].

[C03 00],division value =1

[C03 01],division value =2

[C03 05],division value =5

[C03 10],division value =10

[C03 20],division value =20

[C03 50],division value =50

Press [Enter],go into next step.

C04 Maximum capacity setting

Display [04],press[Enter],display [010000],input the maximum capacity through the numeric keypad.Press[Enter],go into next step.

C05 Zero calibration

Display [05],press[Enter],display [C05 00],press[1],display[C05 01],remove the cargo, empty scales,press[Enter],display[CAL 9]~[CAL 1],go to the next step.

C06 Full capacity calibration

Display[06],press[Enter],display[C0600],press[1],display[C0601],press[Enter],display [SPAn],and load weight,display[010000],input the load weight through the numeric keypad,press[Enter],display[CAL 9]~[CAL 1],go to the next step.

C07 Restore the default parameters

4.3.2 Application environment

E01 Manually zero

[E01 00] Turn off manual zeroing

[E01 01] Manual zero range ± 1 % maximum capacity

[E01 02] Manual zero range ± 2 % maximum capacity

[E01 04] Manual zero range ± 4 % maximum capacity

E02 Initial zero

[E02 00] Turn off initial zero

[E02 01] Initial zero range ± 1 % maximum capacity

[E02 02] Initial zero range ± 2 % maximum capacity
[E02 05] Initial zero range ± 5% maximum capacity
[E02 10] Initial zero range ± 10 % maximum capacity
[E02 20] Initial zero range ± 20 % maximum capacity

E03 Automatic zero tracking range
[E03 0.0] Turn off automatic zero tracking range
[E03 0.5] ±0.5d
[E03 1.0] ±1.0d
[E03 2.0] ±2.0d
[E03 3.0] ±3.0d
[E03 4.0] ±4.0d
[E03 5.0] ±5.0d
Note:1.d indicates the division value set by the indicator
2.Automatic zero tracking range is not bigger than manual setting range

E04 Automatic zero tracking time
[E04 00] Turn off automatic zero tracking time
[E04 01] 1 second
[E04 02] 2 seconds
[E04 03] 3 seconds

E05 Overloading range
[E05 00] Turn off overloading range
01d～99d Note: d indicates the division value set by the indicator

E06 Negative display range
[E06 00] -9d
[E06 10] 10% maximum capacity
[E06 20] 20% maximum capacity

E07 Stable time
[E07 00] Fast
[E07 01] Moderate
[E07 02] Slow

E08 Stability range
[E08 01] 1d
[E08 02] 2d
[E08 05] 5d
[E08 10] 10d

Note: d indicates the division value set by the indicator

E09 Dynamic filtering
[E09 00] Turn off dynamic filtering
[E09 01] First-class filtering intensity
[E09 02] Second-class filtering intensity
[E09 03] Third-class filtering intensity
[E09 04] Forth-class filtering intensity
[E09 05] Fifth-class filtering intensity
[E09 06] Sixth-class filtering intensity

Note : Please set the dynamic filter strength with caution.The setting level should not exceed class 3.Otherwise,the normal weighing will be affected due to excessive weight display stability time.

E10 Noise filtering

[E10 00] Turn off noise filtering

[E10 01] First-class filtering intensity

[E10 02] Second-class filtering intensity

[E10 03] Third-class filtering intensity

E11 Tare memory

[E11 00] Turn off tare memory

[E11 01] Allow tare memory

E12 Hold mode

[E12 00] Turn off hold function

[E12 01] Peak hold mode

[E12 02] Data hold mode

[E12 03] Auto hold mode

[E12 04] Animal scale hold function

Description:

Peak (peak hold):The value displayed in the indicator is the maximum value measured .

Hold(Data hold):The value displayed in the indicator is the measured current weight value. It is mainly used for animal weighing and other tests.

4.3.3 User parameters

U01 Power saving mode

[U01 00] Turn off power saving function

[U01 01] Turn off the display when no change in weight within 3 minutes

[U01 02] Turn off the display when no change in weight within 5 minutes

U02 Automatic power off

[U02 00] Turn off automatic power off function

[U02 01] No change within 10 minutes the indicator automatically power off

[U02 02] No change within 20 minutes the indicator automatically power off

[U02 03] No change within 30 minutes the indicator automatically power off

[U02 04] No change within 40 minutes the indicator automatically power off

[U02 05] No change within 50 minutes the indicator automatically power off

[U02 06] No change within 60 minutes the indicator automatically power off

U03 Prompt tone setting

[U03 00] Turn off prompt tone

[U03 01] Turn on prompt tone

U04 Upper limit alarm value

Can be set in the indicator within the maximum capacity according to the need for arbitrary setting.

U05 Lower limit alarm value

Can be set in the indicator within the maximum capacity according to the need for

arbitrary setting.

U06 Check inner code

Enter the function set,directly into the U06 code to display the current meter.

U07 Reserved

4.3.4 Communication settings

T01 Isolation RS232 serial port mode

[T01 00] Close the serial port

[T01 01] Command mode

[T01 02] Print mode

[T01 03] Continuous transmission mode

T02 Optional serial port mode

[T02 00] Close the serial port

[T02 01] Command mode

[T02 02] Print mode

[T02 03] Continuous transmission mode

Continuous transmission function

T11 Communication format

[T11 00] Turn off communication format

[T11 01] Communication format1

[T11 02] Communication format 2

[T11 03] Communication format 3

T12 Baud rate

[T12 00] Baud rate 600

[T12 01] Baud rate 1200

[T12 02] Baud rate 2400

[T12 03] Baud rate 4800

[T12 04] Baud rate 9600

[T12 05] Baud rate 19200

[T12 06] Baud rate 38400

[T12 07] Baud rate 57600

[T12 08] Baud rate 115200

T13 Parity check

[T13 00] 8n

[T13 01] 70

[T13 02] 7e

T14 Interval time

[T14 00] No limit

[T14 01] 100ms

[T14 02] 200ms

[T14 03] 500ms

[T14 04] 1s

[T14 05] Stable transmission

T15 Check sum

[T15 00] No
[T15 01] Yes
T16 Support simple commands
[T16 00] Don't support
[T16 01] Support
Command response
T21 Command methods
[T21 00] Turn off command method
[T21 01] Simple command
[T21 02] Standard command
T22 Baud rate
[T22 00] Baud rate 600
[T22 01] Baud rate 1200
[T22 02] Baud rate 2400
[T22 03] Baud rate 4800
[T22 04] Baud rate 9600
[T22 05] Baud rate 19200
[T22 06] Baud rate 38400
[T22 07] Baud rate 57600
[T22 08] Baud rate 115200
T23 Parity check
[T23 00] 8n
[T23 01] 70
[T23 02] 7e
T24 Response format
[T24 00] Communication format 1
T25 Multiple computer address 0~99
Printing method
T31 Choosing printer
[T31 00] Turn off the printer
[T31 01] Normal printer
T32 Baud rate
[T32 00] Baud rate 600
[T32 01] Baud rate 1200
[T32 02] Baud rate 2400
[T32 03] Baud rate 4800
[T32 04] Baud rate 9600
[T32 05] Baud rate 19200
[T32 06] Baud rate 38400
[T32 07] Baud rate 57600
[T32 08] Baud rate 115200
T33 Parity check
[T33 00] 8n
[T33 01] 70

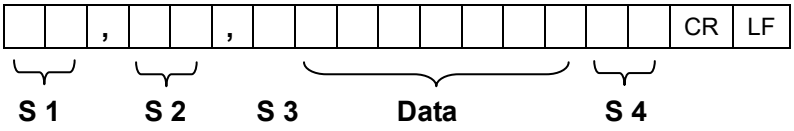
[T33 02] 7e
Parallel port printing mode
T51 Choosing printer
[T51 00] Turn off parallel port print
[T51 01] Normal parallel stylus printer
T52 Print type
[T52 00] Vertical sheet
[T52 01] Transverse sheet
[T52 02] Filling sheet
T53 Sheet format
[T53 00] Recording mode continuity
[T53 01] Sheet 1
[T53 02] Sheet 2
[T53 03] Sheet 3
T54 Walking paper n lines*5.08mm

4.3.5 Exit setting
After you have finished setting the required parameters, press exit to weighing state.

# 5. Output format

### 5.1 Continuous transmission mode communication format

Communication format 1




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: “kg” or “lb”
Data: weight value, including decimal point
CR: carriage return
LF: line feed

Communication format 2

| Output continuous format | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STX | SWA | SWB | SWC | X | X | X | X | X | X | X | X | X | X | X | X | CR | CKS |
| 1 | 2 | | | 3 | | | | | | 4 | | | | | | 5 | 6 |

STX is ASCII 02H

| State A | | | |
|---|---|---|---|
| Bits0,1,2 | | | |
| 0 | 1 | 2 | Decimal point position |
| 0 | 1 | 0 | XXXXXXX |
| 1 | 1 | 0 | XXXXX. X |
| 0 | 0 | 1 | XXXX. XX |
| 1 | 0 | 1 | XXX. XXX |
| Bits3,4 | | | Division |
| 0 | 1 | | X1 |
| 1 | 0 | | X2 |

| State B | |
|---|---|
| BitsS | function |
| Bits0 | gross=0, net=1 |

| | |
|---|---|
| Bits1 | Symbol: positive =0,negative =1 |
| Bits2 | Overload(or under zero)=1 |
| Bits3 | dynamic=1 |
| Bits4 | unit：lb=0, kg=1 |
| Bits5 | Constant 1 |
| Bits6 | Constant 0 |

| State C | | | |
|---|---|---|---|
| Bit2 | Bit1 | Bit0 | unit |
| 0 | 0 | 0 | Kg or lb |
| 0 | 0 | 1 | g |
| 0 | 1 | 0 | t |
| Bit 3 | | | printing=1 |
| Bit 4 | | | Extend display=1 |
| Bit 5 | | | Constant 1 |
| Bit 6 | | | Constant 0 |

Communication format 3

| X Byte | Content and annotation |
|---|---|
| 1 | 02(XON) Begin |
| 2 | +or- Symbol bit |
| 3 | Weighing data high |
| : | Weighing data: |
| : | Weighing data: |
| 8 | Weighing data low |
| 9 | Decimal digits from right to left (0~4) |
| 10 | Four bit high parity check |
| 11 | Four bit low parity check |
| 12 | 03(XOFF) End |

Exclusive or ＝2⊕3⊕……8⊕9

### 5.2 Command mode communication format

#### 5.2.1 standard command

using ASCII code command response

transmit：

| format | STX | ADDRESS | COMMAND | VERIFY | ETX |
|---|---|---|---|---|---|
| detail | 02 | A~Z | A~F,T,Z | 3H 3L | 03 |

Six byte

response：

| format | STX | ADDRESS | COMMAND | REPLY | VERIFY | ETX |
|---|---|---|---|---|---|---|
| detail | 02 | A~Z | B~D | (W) | 3H 3L | 03 |
| detail | 02 | A~Z | A,T,Z,N,X | | 3H 3L | 03 |

W: sign + weight + decimal point

Return 6/14 byte

Command list：

A: handshake

B: gross weight

C: tare weight

D: net weight

T: tare

Z： zero

N：cannot be executed

X：no command

### 5.2.2 simple command

Simple ASCII command，command list：

| Command | Name | Function |
|---|---|---|
| T | Tare | Save and clear tare weight |
| Z | Zero | Zero gross weight |
| P | Print | Print the current weight |
| R | Reply | Reply the command 1 |

## 5.3 print mode format

Date: 2017.05.24
Time: 10:18:29
ID 000025
Cargo 25
Net 1660kg
Tare 3600kg
Gross 5260kg

# 6. Maintenance

### 6.1 Regular error and solution

| ERROR | REASON | SOLUTION |
|---|---|---|
| UUUUUU | 1.Overload<br>2.Wrong connection with load cell<br>3.Loadcell has quality problem. | 1.Reduce the weight<br>2.Check load cell connection<br>3.Inspection load cell. Check the input and output |
| nnnnnnn | 1.Platform calibration not good<br>2.Wrong connection with load cell<br>3. load cells has quality problem | 1.Check the platform<br>2.Check load cell connection.<br>3.Inspection load cell. Check the input and output |
| ERR1 | During calibration,not input the weights or the weight is overload | Input the correct weights |
| ERR2 | During calibration ,the weights is below than Min. required weights | The minimumcalibration weights is 10% ofMax.cap.Recommend 60%-80% of Max. Cap. |
| ERR3 | During calibration,the input signal is negative | 1.Check the connection is correct<br>2.Check load cell is no problem<br>3.Re-calibrate ,if there is still an error ,change the PCB |
| ERR4 | During calibration,the signal is unstable | After checking the platform is stable,then start calibration |
| ERR5 | EEPROM error | Change PCB |
| ERR6 | Exceed zero range | Remove the load weight |
| ERR9 | Query serial number is too large | Check input data and input again |
| ERR10 | No information to delete | Cumulative information is empty |

### 6.2 Daily maintain

1. Protect the indicator from strong sunlight to prolong the using life.
2. Good connection between load cell and indicator. 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.

### 6.3 Use of batteries

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.On the left side of the indicator display window ,there is an indicator light of the battery power ,which can intuitively know the electric quantity of the battery .

3.When the “red” light is flash,means low battery,please charge it in time

4.Connect the power of the AC power and AC indicator lights. When charging,the battery power indicator flashes all the time.Normal charge time is 12 hours.

5.All lights lit when he battery is full of electricity and it can continue to use alternating current without removing the battery

6.If battery is not used for long time,take it out to avoid the leakage.

### 6.4 Restore default parameter

Go to the settings menu,set C07 to 1,press [Enter] ,all parameters are restored to the default setting,then press [ESC] return to the weighing interface.

Note: non-technical personnel and in the absence of adjustment of the scale conditions,please do not lightly restore the default value.

**Default parameter**

| Group | Name | Instruction | Default | Options |
|---|---|---|---|---|
| C | C01 | Calibration unit | 1 | 1 |
| | C02 | Decimal digits | 0 | 0，1，2，3，4 |
| | C03 | Resolution | 1 | 1，2，5，10，20，50 |
| | C04 | Max. capacity | 10000 | 1~999999 |
| | C05 | Empty calibration | 0 | 0，1 |
| | C06 | Load calibration | 0 | 0，1 |
| | C07 | Restore default | 0 | 0，1 |

| Group | Name | Instruction | Default | Options |
|---|---|---|---|---|
| E | E01 | Manual zero | 2 | 0，1，2，4（10，20，100） |
| | E02 | Initial zero | 10 | 0，2，5，10，20 |
| | E03 | Automatic zero tracking range | 0．5 | 0.0，0.5，1.0，2.0~5.0 |
| | E04 | Automatic zero tracking time | 1 | 0，1，2，3 |
| | E05 | Overload range | 9 | 0~99 |
| | E06 | Negative display range | 10 | 0，10，20（50，100） |
| | E07 | Stable time | 1 | 0，1，2 |

| | | | | |
|---|---|---|---|---|
| | E08 | Stable range | 2 | 1，2，5，10 |
| | E09 | Dynamic filtering | 0 | 0，1，2，3，4，5，6 |
| | E10 | Noise filtering | 2 | 0，1，2，3 |
| | E11 | Tare weight memory | 0 | 0,1 |
| | E12 | Retention function | 0 | 0，1，2，3，4 |

| Group | Name | Instruction | Default | Options |
|---|---|---|---|---|
| U | U01 | Power saving mode | 0 | 0，1，2 |
| | U02 | Automatic shutdown | 0 | 0，1，2，3，4，5，6 |
| | U03 | Tone switch | 1 | 0，1 |
| | U04 | Upper limit alarm | 000000 | 0~MAXLOAD |
| | U05 | Lower limit alarm | 000000 | 0~MAXLOAD |
| | U06 | Code display | | 200214~585945 |

| Group | Name | Instruction | Default | Options |
|---|---|---|---|---|
| T | T01 | Isolating RS232 serial port | 0 | 0，1，2，3 |
| | T02 | Selection of serial port | 0 | 0，1，2，3 |
| | Continuous transmission function | | | |
| | T11 | Communication format | 1 | 0，1，2，3 |
| | T12 | Baud rate | 4 | 0~8 |
| | T13 | Parity test | 0 | 0，1，2 |
| | T14 | Interval time | 1 | 0，1，2，3，4，5 |
| | T15 | Checksum | 0 | 0，1 |
| | T16 | Support for simple command | 0 | 0，1 |
| | Command response | | | |
| | T21 | Command mode | 1 | 0，1，2 |
| | T22 | Baud rate | 4 | 0~8 |
| | T23 | Parity check | 0 | 0，1，2 |
| | T24 | Response format | 0 | 0 |
| | T25 | Multi-machine address | 0 | 0~99 |
| | Printing mode | | | |
| | T31 | Printer selection | 1 | 0，1 |
| | T32 | Baud rate | 4 | 0~8 |
| | T33 | Parity check | 0 | 0，1，2 |
| | Parallel port printing | | | |
| | T51 | Printer type | 0 | 0，1 |
| | T52 | Parallel port print type | 0 | 0，1 |
| | T53 | Parallel port format | 2 | 0，1，2，3 |
| | T54 | Waling lines on paper | 5 | 0~30 |

## 6.5 Packing list

**Packing list**

| S/N | ITEM | SPECIFICATION | UNIT | QTY | PACKING CONFIRM |
|---|---|---|---|---|---|
| 1 | Weighing indicator | | PCS | 1 | |
| 2 | Plastic bag | | PCS | 1 | |
| 3 | Accessory bag | | PCS | 1 | |
| 4 | Power line | | PCS | 1 | |
| 5 | User manual | | PCS | 1 | |
| 6 | Base | U bracket | PCS | 1 | |
| 7 | Certificate | | PCS | 1 | |
| 8 | Packing list | | PCS | 1 | |

After you open the box,please check to see if the products and accessories are complete according to the configuration of the instruments you have selected,if there are any missing accessories or other problems. Please contact the local agent or contact us at the bottom of this instruction sheet in time,we will solve it in the shortest time.

## Appendix I Commonly used button function quick check

●Zero:When there is no normal load on the platform,but there is a display value on the indicator, please press”Zero”and back to gross weight”0”.

●Tare:When an empty container in the weighing platform,press"Tare",the indicator display net weight ”0”. If you know container weight,you also can directly press the numbering key to input the tare weight value.

●Clear tare weight:Press"C"to remove the tare weight,the indicator displays the gross weight.

●Time and date adjustment:Press "Date / Time" to set the correct date and time.

●Vehicle number / tare weight storage: If vehicle need to store the tare weight,press the “Vehicle”,directly input the vehicle number,and then press the "Tare".

●Vehicle number / tare weight recall:Press "Vehicle",input the vehicle number "o 00001",then press the "Enter" key,the corresponding tare weight is automatically transferred out.

●Reprint:Press”Print”,reprint the weighing value list. Weighing tickets are printed automatically after first and second weighting.

●Print the report:Press the “Report”,display “P00”.
Input 1,press "Enter"to print the daily report, followed by the statistical report（by time）,the vehicle number statistics report and the cargo number statistics report. Input 2,press "Enter" to print general weighing report1,Statistical report by time.
Input 3,press "Enter" to print general weighing report 2,Statistical report by vehicle number.
Input 4,press "Enter" to print general weighing report 3,Statistical report by cargo number.

●Total clear vehicle number / tare weight table: Press"Recall",display "read 2",press"Enter",display "n XX",press "Enter+C", all vehicle number tare weight will be deleted.

●The total weight data:Press"Recall",display "read 3",press the "Enter", display "n XX",press the "Enter+C",all weighing data will be deleted.

Application Cases

Case 1 : one time weighing

Truck No.12345 which itself weight 10 tons, needed to weigh 20 tons of steel.

■The indicator displays gross weight 0 and the zero indicator light is on.

■The truck drives to platform ,and the indicator displays " 30000kg "when it isstably.

■Input the truck weight directly by numeric keypad : " 10000 ",then press "Tare", switch the indicator to the net weight status and the net weight cursor is on.

■Press “Store” to input the number " o 12345 " and press “Enter” key.

■Input the cargo number " H 01 " and press "Enter", display the " store ",then the data is stored and printed .

■Complete weighing,truck goes down.

Case 1 : Twice weighing

Unknown weight truck No."000002"which loaded 20 tons needed to weigh.

First weighing with cargo:

■The indicator displays gross weight 0 and the zero light is on.

■The truck drives to platform ,and the indicator displays " 35000kg "when it is stably.

■Press "F1" to input the vehicle number,display "Entvid"then press “Enter”,display "000002" and press “Enter”key,display “In”.The Vehicle number and tare weight will be saved in the database.

■The truck goes down.

The second time weighing,the truck was unloaded and empty.

■The indicator shows gross weight 0 and zero light is on.

■Truck drives to the platform, the indicator shows "15000kg"when it is stably.

■Press "F1" to input the vehicle number,display"Entvid"then press "Enter",display "000002";Press "Enter",then input the cargo number "H02"and press "Enter",display "out" to store data at the same time. Serial number automatically adds 1.

■After 3 seconds, complete weighing, truck goes down.

# Appendix II Print report format

Vertical format:

Weighing Ticket

| | |
|---|---|
| SN | 000002 |
| Date | 2017-05-24 |
| Time | 15:04:50 |
| Vehicle | 000018 |
| Cargo | 16 |
| Net | 1128(kg) |
| Tare | 2088(kg) |
| Gross | 3216(kg) |

Weighing Ticket

| | |
|---|---|
| SN | 000002 |
| Date | 2017-05-24 |
| Time | 15:04:50 |
| Vehicle | 000018 |
| Cargo | 16 |
| Net | 1128(kg) |
| Tare | 2088(kg) |
| Gross | 3216(kg) |

Horizontal format：

Weighing Ticket

| SN | Date | Time | Vehicle | Cargo | Net（kg） | Tare（kg） | Gross（kg） |
|---|---|---|---|---|---|---|---|
| 0003 | 2017-05-24 | 15:06:56 | 000026 | 26 | 1043 | 1842 | 2885 |

recall table format：

Recall Table 1

| SN | Vehicle | Tare（kg） |
|---|---|---|
| 0001 | 000011 | 4106 |
| 0002 | 000012 | 4592 |

Recall Table 2

| SN | Vehicle | Tare（kg） |
|---|---|---|
| 0001 | 000014 | 3148 |
| 0002 | 000015 | 3428 |

Daily report format:

Daily report 1 Date：2017-05-24

| SN | Time | Vehicle | Cargo | Net（kg） | Tare（kg） | Gross（kg） |
|---|---|---|---|---|---|---|
| 0001 | 10:18:29 | 000025 | 25 | 1660 | 3600 | 5260 |
| 0002 | 10:20:04 | 000016 | 16 | 905 | 4306 | 5212 |
| 0003 | 15:01:08 | 000017 | 17 | 1709 | 5192 | 6901 |
| 0004 | 15:04:50 | 000018 | 16 | 1128 | 2088 | 3217 |
| 0005 | 15:06:56 | 000026 | 26 | 1043 | 1841 | 2885 |
| Total： | | Net ： 6445 kg | | Gross：23475kg | | |

Daily report 2 Date：2017-05-24

| SN | Vehicle | Tare（kg） | Count | Total N（kg） | Total G（kg） |
|---|---|---|---|---|---|
| 0001 | 000025 | 3600 | 01 | 1660 | 5260 |
| 0002 | 000016 | 4306 | 01 | 905 | 5212 |
| 0003 | 000017 | 5192 | 01 | 1709 | 6901 |
| 0004 | 000018 | 2088 | 01 | 1128 | 3217 |
| 0005 | 000026 | 1841 | 01 | 1043 | 2885 |

Daily report 3 Date：2017-05-24

| SN | Cargo | Count | Total N（kg） |
|---|---|---|---|
| 0001 | 25 | 01 | 1660 |
| 0002 | 16 | 02 | 2033 |
| 0003 | 17 | 01 | 1709 |
| 0004 | 26 | 01 | 1043 |

Total report format：

Weighing report

| SN | Date | Time | Vehicle | Cargo | Net（kg） | Tare（kg） | Gross（kg） |
|---|---|---|---|---|---|---|---|
| 0001 | 2017-05-19 | 17:32:54 | 000014 | 14 | 797 | 3148 | 3945 |
| 0002 | 2017-05-19 | 17:33:46 | 000015 | 15 | 2140 | 3428 | 5569 |
| 0003 | 2017-05-20 | 11:25:55 | 000123 | 23 | 4122 | 1000 | 5122 |
| Total： | | | Net：7059 kg | | Gross：14636kg | | |

Vehicle Transaction table

| SN | Vehicle | Tare（kg） | Count | Total N（kg） | Total G（kg） |
|---|---|---|---|---|---|
| 0001 | 000014 | 3148 | 01 | 797 | 3945 |
| 0002 | 000015 | 3428 | 01 | 2140 | 5569 |
| 0003 | 000123 | 1000 | 01 | 4122 | 5122 |

Cargo Transaction table

| SN | Cargo | Count | Total N（kg） |
|---|---|---|---|
| 0001 | 14 | 01 | 797 |
| 0002 | 15 | 01 | 2140 |
| 0003 | 23 | 02 | 5664 |