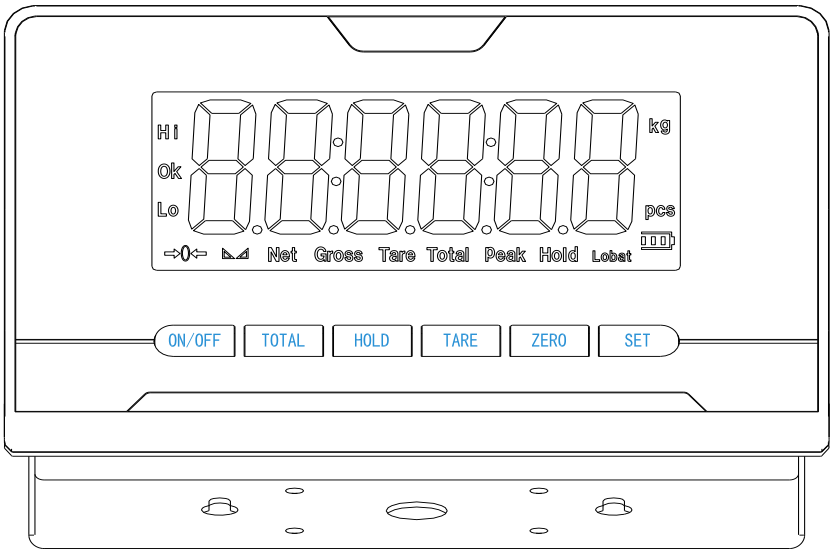
Weighing Indicator
User manual



safety instruction

For safety operation, please follow the safety instruction.

WARNING
Forbidding unprofessional staff to do calibration setting, inspecting and fix the weighing indicator.

WARNING
Please make the weighing indicator earth well.

	WARNING
	The indicator is electrostatic sensitive device, please power off during electrical connections. Any hand touching internal components is prohibited and please take the anti-static protection.

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1. Summary

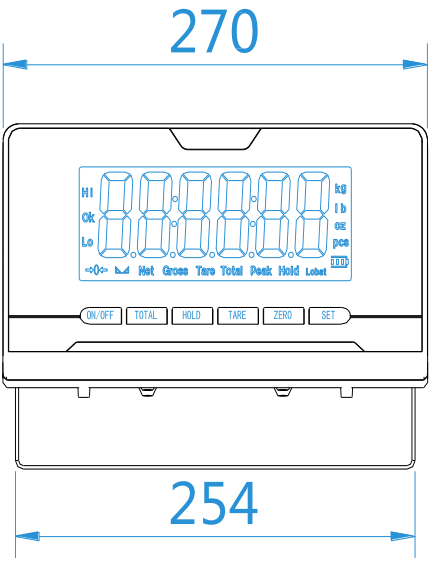
1.1 Main function

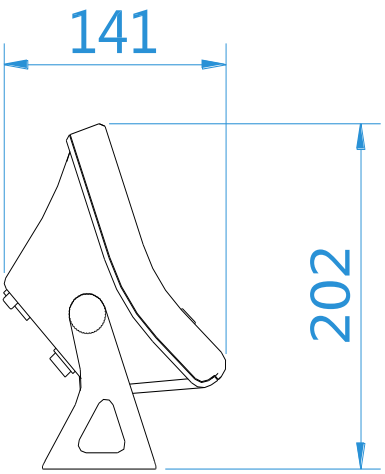
》General weighing: zero tare
》Animal weighing: Peak-hold, Data-hold, Auto-hold
》Accumulation
》RS232: second display, printer, PC
》Low battery reminding
》Power off automatically

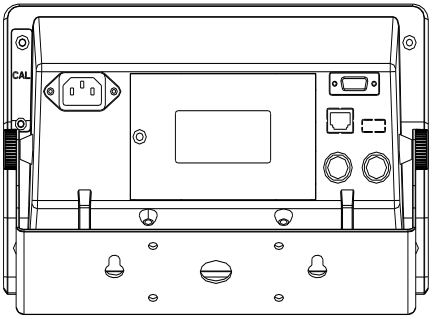
1.2 Technical parameter

》Stimulating voltage: +5 VDC
》A/D converting speed: 10 SPS
》Load signal range: -19mV ~ +19mV
》load capacity: it can connect 4 x 350Ω load cells at most.
》weight unit: kg
》Resolution: 3000e
》Interval: 1/2/5/10/20/50
》Display: 6-digits LED/LCD ; display height: 50mm
》key: ON/OFF, TOTAL, HOLD, TARE, ZERO, SET
》Interface: RS232C Baud rate option: 1200/2400/4800/9600
》Operation condition: temperature -10℃～40℃, humidity ≤85%RH
》Storage temperature: -20℃ ～ +60℃
》Power supply: 6V/4Ah rechargeable battery or 110/220 VAC.

1.3 Outline and installation picture



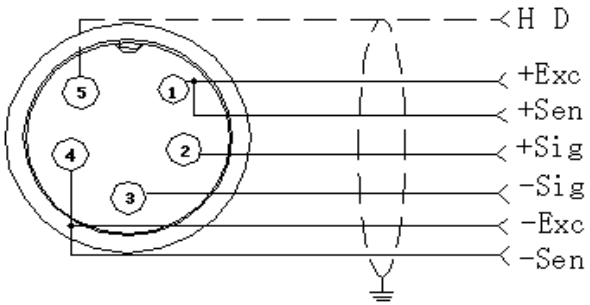




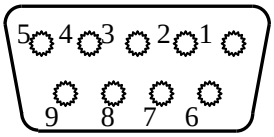
2. Installation and Calibration

2.1 connection indicator with load cell

It can connect 4 x 350Ω load cells at most, supporting four and six line load cell. For convenience, quick connector is applied.
The following diagram for connection.



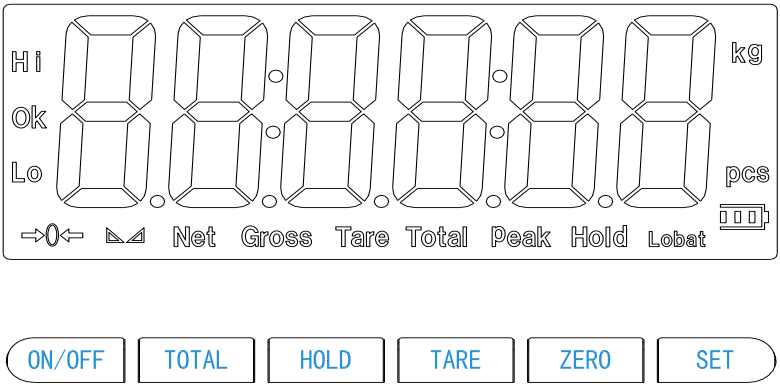
2.2 communication interface



PIN2 -------- TXD
PIN3 -------- RXD
PIN5 -------- GND

3. Basic operation

3.1 Key and display



LP7552 Display instruction

LED display	instruction
	Weighing data display
Kg	Weight unit
HOLD	Hold the data

Tare	Tare status
Net	Net weight
Gross	Gross weight
	Weight stable
	zero, indicating zero weight
Battery	Using battery
Hi	Over Limit
OK	Within Limit
Lo	Below Limit
Total	Accumulation

Key symbol	Key name	Key function
	ON/OFF	Press it 3 seconds to power on or power off
	TOTAL	1. accumulating operation 2. working with “ set” to check the total weight.

	HOLD	Enter and exit “hold” mold
	TARE	1.At Gross mode, tare the loaded weight 2.At Net mode, display gross weight after deduct tare
	ZERO	Clear weight within zero range
	SET	1. work together with “on/off” enter and exit calibration 2. press 1 seconds to print

3.2 Power on/off

Power on then self-checking and go to weighing mode.
Press 3 seconds to power off
Automatic power off without enough power
Automatic power off at the time that setting in C09.

3.3 Zero setting

Within zero range, press “zero” to clean the current weight. Not workable when the scale unstable.

3.4 TARE

At the gross weight mode, if the weight is stable, press “Tare” to make the current weight as tare and display zero to get in tare weight mode with Tare and Net light appearing

At the tare mode, press “Tare” to quit tare mode and show the gross weight. Gross light appearing.

3.5 HOLD

C11=0 “hold” function unworkable

C11=1 PEAK HOLD

Press” HOLD” key, the Hold light is on, and show the Maximum data on the weighing indicator. Press “ HOLD” key again to exit the hold function

C11=2 Data-hold

Press” HOLD” key, the Hold light is on, and show the data on the weighing indicator. Press “ HOLD” key again to exit the hold function

C11=3 Auto-hold

If the weight on the scales above 20d and keep stable, the indicator will show the data for 6 seconds and the “ hold” light Is on , after 6 seconds the indicator back to general weighing, and the “ hold” light is off

C11=4 Special Animal weighing function

Press” Hold” key, the indicator will show” LOC” for 3 seconds, the “ hold” light is on, During the 3 seconds, the indicator will catch the average weight and show it. Press” HOLD” key again to exit it

3.6 TOTAL

Accumulation operation:
At zero status, load weight till stable, press “TOTAL” key into accumulating mode; “ total ” light on and display “ n001 ”, then display current loaded weight; unload weight, back to zero, load weight again till stable, press “TOTAL”, display“002”, then show the current loaded weight. Repeat this process, maximum 999 times.

Check the total weight operation:
Press “SET” key first and press “TOTAL” key at the same time, display “nxxx” ,that is all accumulated times, then display total weight.
There are total 8 digits showed one after another. First, it shows 4 digits, then the other 4 digits.
For example, the first 4 digits is “0012”, the other 4 digits is”34,56”
It means the total accumulated weight is “1234.56”.

Exit the total weight mode:
When the indicator display the other 4 digits after the operation of checking the total weight, press “TOTAL” key for a while, the indicator show “clr n”, it means don’t clear the total accumulated weight, then press “SET” key to exit ; if to clear total accumulated weight, when the indicator show “clr n”, press “ZERO” or “TARE” key, “clr n” change to “clry” it means clear the total accumulated weight, then press “SET” to clear and exit the total mode.

3.7 Up and Low limit alarm

Please set C13= Up limit, C14=Low Limit, when the weight is over up limit, the “HI” light will on, and indicator will make a sound to alarm.; when the weight is below the low limit, the “LO” light will on. When the weight is within the limit, the “OK” light is ok.

3.8 Print function

When the data is stable, connecting with printer, it will be printed after press “ SET ” 1 second.

Note：print the gross weight when at tare mode , if the net weight is zero. Can not print.

4. Calibration & parameter setting

4.1 Enter calibration

There have two methods to enter the setting menu:
1. When the switch “CAL” is off, press “SET” first and press “ON/OFF” at the same time, holding for a while, then enter C08-C39 setting.

2. Take out the sealing screw on the back of indicator, then put the switch “CAL” on. Press “SET” first and press “ON/OFF” at the same time, holding for a while, then enter C01-C39 setting.

4.2 Key functions in the setting menu

“ON/OFF” ----Save the setting and exit
“Total” ---- Left move of the flickering digit
“Hold” ----Right move of the flickering digit
“Tare” ----Decrease the flickering digit
“Zero” ----Increase the flickering digit
“Set” ----Confirm the setting and enter next menu

4.3 Step of calibration operation

According to the second method which can enter setting menu, C01-C39

C01 UNIT
[C01] Press “Set”
[C1 1] unit is kg
Press “Set”, go to next step
C02 Set decimal digits
[C02] Press “Set”
option：0/1/2/3/4
[C2 0] no decimal point
[C2 1] one decimal point
[C2 2] two decimal point
[C2 3] three decimal point

Press “Set”, go to next step

C03 Division setting

[C03] Press “Set”

[C3 1] d=1

[C3 2] d=2

[C3 5] d=5

[C3 10] d=10

[C3 20] d=20

[C3 50] d=50

Press “Set”, go to next step

C04 Maximum capacity

For example: max weighing capacity100kg:

set [0100.00]

Press “Set”, go to next step

C05 Zero calibration

[C05 0], press “Zero”, [C05 1], ensure the scale is without any weight and “stable” on, then press “Set”, [CAL 10] ~[CAL 0], display [0.00]. Press “Set” enter next menu.

C06 Loading calibration

[C06], Press “Set” show [C06 0], press “Zero” change to [C06 1], Press “Set”, display [SPAn],

Basic on max capacity setting, add suitable weight on scale. close to the max capacity, heavier than 10% max at least.

For example: the weight is 80kg

As bellows:

[0080.00]

[CAL 9]

……

[0080.00]

[CALEnd]

count down over, indicator shows loaded weight , loading calibration finish.

If you want to set application parameter. Press “Set” ff you want to exit. Press “ON/OFF”

C07 Default parameters setting

[C07 0] non-restore default parameters

[C07 1] restore default parameters

Note: after the above parameters setting finish, please do not set default parameters often, avoid the original setting parameters lost.

4.3 Application parameter setting

C08 warning tone

[C8 1] open warning tone

[C8 0] close warning tone

C09 Power off automatically

[C9 0] Non-power off

[C9 10] keep still within 10 min. power off automatically

[C9 30] keep still within 30 min. power off automatically

[C9 60] keep still within 60 min. power off automatically

C10 Power saving setting

[C10 0] close backlight

[C10 1] close backlight after 1 minute

[C10 2] always backlight

C11 Hold

[C11 0] No Hold function

[C11 1] Peck hold

[C11 2] Data hold

[C11 3] Auto-hold

[C11 4] Animal weighing

C12 Hold time (if you choose C11=4, you can set the time)

[C12 3] 3 seconds

[C12 5] 5 seconds

C13 Upper limit alarm value

C14 Low limit alarm value

C15 Check inner code

4.4 Communication setting

C18 Serial interface setting

[C18 0] No sending

[C18 1] Big display

[C18 2] Print format output

[C18 3] Command mode(Z =zero T=tare R=Reply weight

[C18 4] continuous sending

C19 BAUD RATE

[C19 0] 1200bit/s

[C19 1] 2400bit/s

[C19 2] 4800bit/s

[C19 3] 9600bit/s

4.5 Application setting

C20 Manually Zero

[C20 00] no Manually Zero

[C20 01] Manually Zero range ±1% Max. capacity

[C20 02] Manually Zero range ±2% Max. capacity

[C20 04] Manually Zero range ±4% Max. capacity

[C20 10] Manually Zero range ±10% Max. capacity
[C20 20] Manually Zero range ±20% Max. capacity
[C20100] Manually Zero range ±100% Max. capacity
C21 Initially zero
[C21 0] No initially zero
[C21 1] Initially zero range±1% Max. capacity
[C21 2] Initially zero range±2% Max. capacity
[C21 5] Initially zero range±5% Max. capacity
[C21 10] Initially zero range±10% Max. capacity
[C21 20] Initially zero range±20% Max. capacity
C22 Zero tracking range
[C22 0.0] No zero tracking
[C22 0.5] ±0.5d
[C22 1.0] ±1.0d
[C22 2.0] ±2.0d
[C22 3.0] ±3.0d
[C22 4.0] ±4.0d
[C22 5.0] ±5.0d
C23 Zero tracking time
[C23 0] No zero tracking
[C23 1] 1 second
[C23 2] 2 seconds
[C23 3] 3 seconds
C24 Overload range
[C24 09] Over 9d than max. capacity
C25 Negative display
[C25 00] Less than -9d
[C25 10] Less -10% Max. capacity
[C25 20] Less -20% Max. capacity
[C25 50] Less -50% Max. capacity

[C25100] Less -100% Max. capacity

C26 Standstill time

[C26 0] Quick

[C26 1] Medium

[C26 2] Slow

C27 Standstill range

[C27 1] ±1d

[C27 2] ±2d

[C27 5] ±5d

[C27 10] ±10d

C28 Dynamic filter

[C28 0] close dynamic filter

[C28 1] Low dynamic filter

[C28 3] Medium dynamic filter

[C28 5] High dynamic filter

C29 Noisy filter

[C29 0] Close noisy filter

[C29 1] Low noisy filter

[C29 2] Medium filter

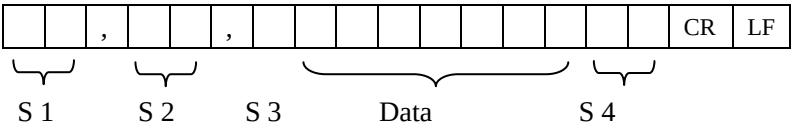
[C29 3] High filter

4.6 Exit setting

For example [C10 1], Press “Set”, confirm it then press “ON/OFF” to exit and save it

5. Output data format

5.1 Computer continuous sending format



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 Big display continuous sending format

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

State A
Bits0,1,2

0	1	2	Decimal point position
1	0	0	XXXXXX0
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 lower 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

5.3 Serial interface reception command

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

Command	name	role
T	Tare off command	Save and clear tare
Z	Zero command	Zero the gross weight
P	Print command	Print the weight
R	Read gross/ net weight	Read gross/net weight

5.4 Print output format

NO. 004 （NO.）
G.W: 8.88kg (gross，example for two decimal point)
T.W: 2.88kg （tare）
N.W: 6.00kg （net）

5.5 Print the accumulated output format

NO. 004 （NO.）
Total: 003 (accumulate times，example for 3 times is 003)
Total.W: 2.88kg （accumulate weight）

6. Maintenance

6.1 Regular Error and maintain method

Error	Reason instruction	Solution
Display UUUUUU	1. the loaded weight excess overload range of max. capacity 2. wrong connection with load cell or no connection with it. 3. load cell unworkable	1.decrease loaded weight 2. check load cell connection 3. checking load cell：check input and output resistance to judge it is good or not.
Display nnnnnn	1. calibration is no good 2、cell single line is connect a wrong line. 3、the cell is bad.	1. check scale is resisted or not, foot is kept level or not. 2. check load cell connection. 3. checking load cell：check input and output resistance to judge it is good or not.
ERR1	during calibration, no input added weight or input weight exceed max capacity.	Input the correct weight

ERR2	during calibration, the added weights not enough	Added weight at least 10%of Max. capacity, Recommend the weights is 60-80% the Max. capacity
ERR3	during calibration, input single is negative.	1..Check connection is correct or not. Check load cell is damaged or not. 3. renew calibration, if still wrong. pls replace the PCB
ERR4	During calibration, single is unstable	Ensure added weight and scale is stable, start calibration
ERR5	EEPROM check error	change PCB.

6.2 Daily maintenance

1. In order to ensure indicator display clearly and prolong use life, the indicator should not be placed directly on sunlight.

2. Load cell and indicator should be well connected , the system should have a good ground, away from strong electric field, magnetic field.

3. Do not use indicator outside in rainy, better keep it power off.

4. Power off firstly while plug and unplug

6.3 Battery

1. when you use the internal battery first time， you should charge the battery 10-12 hours, to prevent low voltage resulted from self leakage of battery.
2. The battery voltage could be checked from the light on the right bottom of the display. When low-voltage, “battery marking” flickering and LOBAT shining on LCD dislay; Red light flickering on LED display, then please recharge the battery.
3. Charge time: 10-12 hours. And it works 30 hours.
4. When the battery light turns green on LED display or “battery marking” all full on LCD display , it means charging finish
5. If you don’t use the indicator for a long time, please take out the battery to protect the indicator from the battery leakage.

6.4 Restore default parameters

Enter setting menu, set C07= 1,press “Set” then press “ON/OFF” exit saving setting, all parameters will be back to default setting.
Note：Pls. do not restore default parameter easily if you are not professional and have not scale calibration.

Default parameter form

parameter	instruction	Default value
C01	Calibration unit	1
C02	decimal digits	0
C03	Division value	1
C04	Max capacity	10000
C05	Empty scales calibration	0
C06	Capacity calibration	0

C07	restore the default parameters	0
C08	Warning tone	1
C09	Automatic power off	0
C10	Power saving mode	0
C11	Hold function	0
C12	Animal weighing mode	0
C13	Upper limit warning	000000
C14	Lower limit warning	000000
C15	Inner code display	
C16	Date	
C17	Time	
C18	Serial interface data output methord	0
C19	Serial interface Baud rate	3=9600
C20	Manual zero setting	2
C21	Initical zero setting	10
C22	Automatic zero tracking range	0.5
C23	Automatic zero tracking time	1
C24	Verload range	9
C25	Negative display range	10
C26	Standstill time	1
C27	Standstill range	2
C28	Dynamic filter	0
C29	Noisy filter	2
C30~C40	Reseverd menu	