

AgriEID Load Bars - Weight Indicator

User Manual

Before Use

1.1 Safety precautions



WARNING!

- ▲ Do not use the weighing terminal in hazardous area! Do not use it within areas classified as hazardous division 1/2 or zone 0/1/2/21/22 because of combustible or explosive atmospheres.
- ▲ Never immerse it in corrosive chemical liquid.
- ▲ Static sensitive device, it must be handled only by qualified technicians. Improper handling may damage the circuit card and the device, which is not covered by the warranty.



DANGER!

Electric shock hazard!

- ▲ Make sure the indicator is grounded well.
- ▲ Always unplug AC cable before performing any service work on the indicator! And wait for at least 30 seconds before any operation on the indicator.



Disposal

In conformance with the European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE), this device may not be disposed of in domestic waste. This also applies to countries outside the EU as per their specific regulations.

Please dispose of this product in accordance with local regulations at the collecting point specified for electrical and electronic equipment.

If you have any questions, please contact the responsible authority or the distributor from which you purchased this indicator.

Should this indicator be passed on to other parties (for private or professional use), the content of this regulation must also be related.

The indicator has a rechargeable internal battery. The battery contains heavy metals. Please observe the local regulations on the disposal of environmentally hazardous materials.

Index

1. Technical Specifications	4
2. Model Identification	4
3. Packing List	5
4. Connecting	5
4.1 Power board	5
4.2 Load Cell	5
4.3 RS232	6
5. LCD Display	6
6. Keypad	7
7. Parameter setting and calibration	7
7.1 Prepare for configuration	7
7.2 Parameters configuration	7
7.3 Calibration	9
8. A/D Internal Code Check	10
9. Reset Configuration	10
10. Standard Operation	10
10.1 Switch On/Off	10
10.2 Zero	10
10.3 Tare	10
10.4 Print	11
10.5 Accumulate and Print	11
10.6 Weight Unit Exchange	11
11. Accumulated Record Retrieve and Clean	11
12. User Setting Menu	11
13. Weighing Mode Set	12
14. Communication | Print Configuration	12
15. Percentage Weighing	14
16. Setpoints	14
17. Counting	15
17.1 Sampling	15
17.2 Counting	15
17.3 Counting Records and Clean	15
18. Positive/Negative Weighign	16
19. Minus Weighing	16
20. Automatic Tare	16
21. Clock Adjust	16
22. Weight Record Retrieve and Print	16
23. Communication Protocol | Print Format	17
24. Setpoints Output	19
25. Trouble Shooting	20
26. Precaution	20

1. Technical Specifications

Enclosure Type	Stainless Steel
Product Dimension	240x160x110mm (A7)
	220x140x130mm (A7a)
	214x162x143mm (A7b & A7i)
	250x205x68mm (A7s)
Accuracy	Class III
Display Resolution	1/3,000 – 1/30,000
Input Signal	±10mV
A/D Resolution	1,000,000
A/D Speed	10times/s
Display	1.35"LCD (FSTN)
Power	100-240V AC
	6V1200mA-6V4000mA Lead-acid battery
	7.4V6800mA Li-ion Battery
Display	FSTN LCD with mutli-color backlight
Load cell No.	4*350ohm or 8*700ohm
Excitation voltage	5 VDC
Units	Kg | lb, g | oz
Operating Temperature	-10°C~40°C
Storage Temperature	-25°C~55°C
Relative humidity	85%Rh non-condensing
Communication	RS232*2, Optional Bluetooth/WiFi/4-20mA
Baud Rate	2400 | 4800 | 9600 | 14400 | 19200
Records	2000
Shipping Weight	2.3-2.8kg

2. Model Identification

Model: A7 A - US 1 0
 Corresponding: A B C D E

A = Main model name

B = Housing & Protection: -None: ABS+PBT, IP67
 -a: ABS, IP30
 -s: Professional Stainless Steel, IP65
 -b: Stainless Steel (rectangular), IP54
 -i: Stainless Steel (rectangular), IP65

C = Plug type, examples:

USA = American Type

- D = Output:
- 0 = RS232*2
 - 1 = Bluetooth
 - 2 = WiFi
 - 3 = 4-20mA
 - 4 = Relay
- E = Battery Type
- 0 = 6V1.2Ah
 - 1 = 6V2.8Ah
 - 2 = 6V4.0Ah
 - 3 = 7.4V6.8Ah Li-ion

3. Packing List

After the weighing terminal received, please open the box carefully and check the following items included:

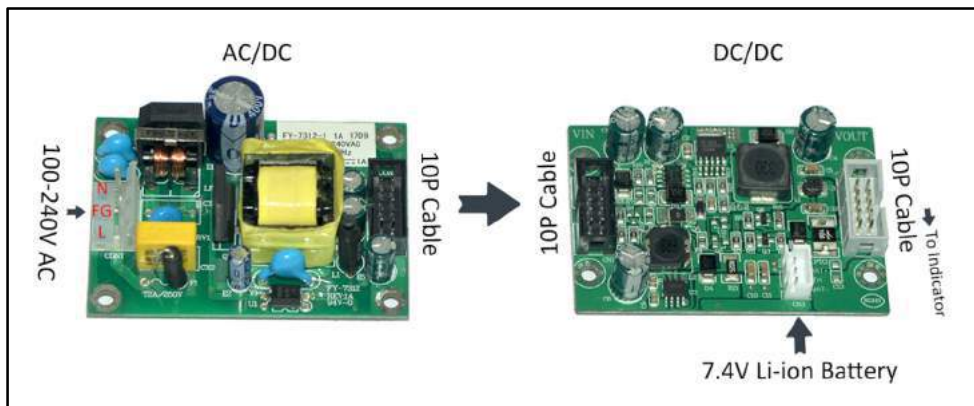
- Indicator x 1
- S.S bracket with screws x 1 (A7a without)
- Connectors and screws bag x 1
- Manual x 1
- Other parts depend

4. Connecting

4.1 POWER BOARD

For Lead-acid battery, only AC/DC power PCB installed.

For Li-ion battery, both AC/DC and DC/DC power PCB installed.



4.2 LOAD CELL

For A7, A7s and A7i, open the rear case of the indicator and put the load cell cable through the PG gland and connect it to the mainboard:

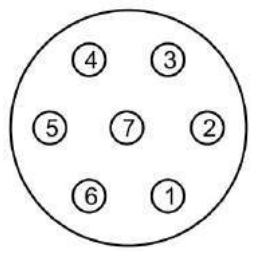
For 6-wire load cells

+EXC	.....	Excitation +
+SEN	.....	Sense +
+SIG	.....	Signal +
SHIELD	.....	Shield
-SIG	.....	Signal -
-SEN	.....	Sense -
-EXC	.....	Excitation -

for 4-wire load cells (short connect: +EXC and +SEN, -SEN and -EXC.)

+EXC	.....	Excitation +
+SEN	.....	Excitation+
+SIG	.....	Signal +
SHIELD	.....	Shield
-SIG	.....	Signal -
-SEN	.....	Excitation -
-EXC	.....	Excitation -

For **A7a** and **A7b**, connect the load cell to the 7-pin connector, for 4-wire load cells, short connect +EXC and +SEN, -SEN and -EXC.)



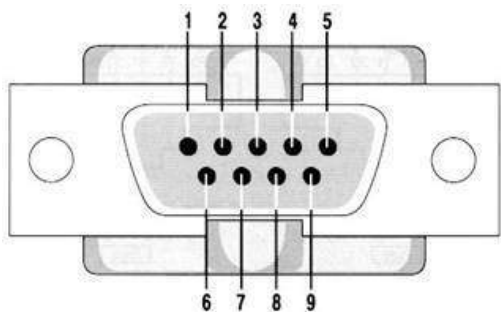
+EXC (1)	.....	Excitation +
+SEN (2)	.....	Sense +
+SIG (3)	.....	Signal +
-SIG (4)	.....	Signal -
-SEN (5)	.....	Sense -
-EXC (6)	.....	Excitation -
SHIELD (7)	.....	Shield

4.3 RS232

For **A7**, **A7s** and **A7i**, put the RS232 cable through the PG7 gland and connect to the RS232 terminal on the mainboard:

A7 **Computer/Printer, etc.**
 TXD..... RXD
 RXD..... TXD
 GND..... GND

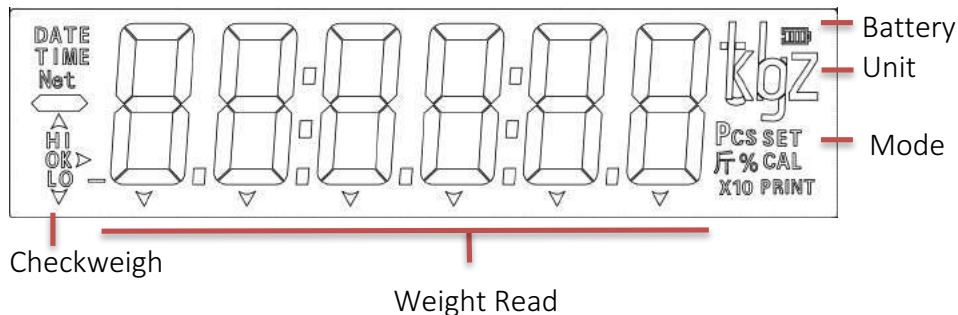
For **A7a** and **A7b**,



INDICATOR		COMPUTER
Pin3	---TXD---	Pin2
Pin2	---RXD---	Pin3
Pin5	---GND---	Pin5

5. LCD Display








1.35" FSTN LCD with backlight, clearly read even in the bright sunlight.



6. Keypad

A7 series indicator with 7 function keys:



BUTTON	FUNCTIONS	SHORT ON THE MANUAL
	Power Off	[ON]
	Power On <i>ESC</i>	[OFF]
	Print <i>Long press to display time/date</i>	[PRINT]
	User function set <i>Long press to exchange weight unit</i> <i>Enter function during parameters configuration</i>	[FN]
	Accumulate <i>Long press to retrieve weight records</i> <i>Move digits to right during parameters configuration</i>	[ACCU]
	Tare <i>Long press to display percentage function</i> <i>Increase the digits during configuration</i>	[TARE]
	Zero <i>Decrease the digits during parameters configuration</i>	[ZERO]

7. Parameter Configuration and Calibration

⚠️ Only authorized technician allowed to operate! ⚠️

7.1 Prepare for configuration

Method 1: Jump the calibration switch on the mainboard (JP1, put the switch on the position of EN)

Method 2: For internal use version, push [ZERO] and [ON] key at the same time, to switch on the indicator.

7.2 Parameters Configuration

Operation	Display	Explanation
<i>Push [ON]</i>	Self-checking from 000000 to 999999, and version no.	It displays SET on the LCD display, ready for configuration
<i>Push [FN]</i>	[CAL SP]	Enter calibration
<i>Push [FN]</i>	[-SET-]	Enter parameters configuration
<i>Push [→] and [↑]</i> <i>Push [FN]</i>	[dd n] [dd y]	n = single division y = double division Push [TARE] to change and [FN] to confirm
<i>Push [↑] or [↓]</i> <i>Push [FN]</i>	[d 1]	Divisions select (default: d = 0.01): 0.001-0.002-0.005-10-20-50-100-200-500-0.10-0.20-0.50-1-2-5-0.1-0.2-0.5-0.01-0.02-0.05
<i>Push [→] and [↑] or [↓]</i> <i>Push [FN]</i>	[6000]	Capacity set, push [ACCU] to move the digit Default: = 150.00
<i>Push [→] and [↑] or [↓]</i> <i>Push [FN]</i>	[- 3000]	Division shift point (if [dd = n], this step pass) If d=1 for 6000 capacity and dd=y, the division will perform: d = 1 for 0-3000, and d = 2 for 3000-6000.
<i>Push [→] and [↑] or [↓]</i> <i>Push [FN]</i>	[FLt 1]	Filter parameters: FLt = 0: Fast speed, for good weighing condition FLt = 1: Standard speed, normal time for stable FLt = 2: Low speed, but more stable (default)
<i>Push [→] and [↑] or [↓]</i> <i>Push [FN]</i>	[AUtP 0 0] ↓ ↓ A B	Automatic power off configuration B = 0, 2, 4 Not automatic power off. B = 1, 3, 5 Automatic power off. A = Zero trace range (0-9): 0=none 1=0.4d 2=0.8d 3=1.2d 4=1.6d 5=2d 6=2.4d 7=2.8d 8=3.2d 9=3.6d. Also, A represents the zero set at start operation: when A=0: zero set upon power on When A≥1: B=0: 2%F.S. zero set upon power on, no auto power off B=1: 2%F.S. zero set upon power on, auto power off B=2: 20%F.S. zero set upon power on, no auto power off B=3: 20%F.S. zero set upon power on, auto power off B=4: 50%F.S. zero set upon power on, no auto power off B=5: 50%F.S. zero set upon power on, auto power off Default: AUtp = 13
<i>Push [→] and [↑] or [↓]</i> <i>Push [FN]</i>	[Adr 00]	Communication address selection Adr=00: continuous output in reverse order Adr=99: continuous output in positive sequence Adr=01-95: command communication
<i>Push [↑] or [↓]</i> <i>Push [FN]</i>	[UnIt]	Calibration unit set = first unit select If select kg, it can exchange from kg to lb.

		If select lb, it can exchange from lb to kg If select g, it can exchange from g to oz If select oz, it can exchange from oz to g If select t, no second unit exchange
<i>Push [→] and [↑] or [↓]</i> <i>Push [FN]</i>	[L00640]	Analog output 4mA adjust
<i>Push [→] and [↑] or [↓]</i> <i>Push [FN]</i>	[H03257]	Analog output 20mA adjust
<i>Push [→] and [↑] or [↓]</i> <i>Push [FN]</i>	[9.7940]	Gravity adjust Default = 9.7940 (gravity of Shanghai)
	[0]	Parameters configuration done

7.3 Calibration

After parameters configuration, please do calibration as below steps:

Operation	Display	Explanation
<i>Push [FN]</i>	[CAL SP]	Calibration mode
<i>Push [→]</i>	[CAL 00]	Start zero calibration Assure empty of the scale, and push [FN]
<i>Push [FN]</i>	[CAL FS]	Full scale calibration (100%F.S.) If the full capacity weight to be used for calibration, put the weight on the scale, and then push [FN]
<i>Push [→] and [↑] or [↓]</i>	[6000]	If the calibration weight to be used if not the full scale, change the weight value to be the same as the weight used. (>60%F.S. suggested)
<i>Push [FN]</i>	[- - - - -] [6000]	Being calibrated After few seconds, it displays the weight value, calibration ok.

Linearity Calibration

<i>Push [FN]</i>	[CAL SP]	Enter calibration mode
<i>Push [↑]</i>	[CAL HS]	Half scale calibration (50%F.S.)
<i>Push [→]</i>	[3000]	Input the weight value, if the calibration weight to be used is not the actual half scale, change the weight value to be the same as the weight used.
<i>Push [FN]</i>	[- - - - -] [3000]	Being calibrated After few seconds, it displays the weight value, linearity adjusting ok.

8. A/D Internal Code Check

Check whether the load cell connecting is correct or not, also can check the A/D internal code, put the calibration switch on the position of EN (or enter technical mode by Method 2 of chapter 7). The correct internal code of zero point is around 170000 ± 50000

Operation	Display	Explanation
Push [FN]	[CAL SP]	Calibration mode
Push [FN]	[- SEt-]	Parameter configuration mode
Push [FN]	[-A-d-]	A/D internal code
Push [→]	[43125]	A/D internal code display
Push [FN]	[0]	Return to weighing mode

9. Reset Configuration

Reset all to default setting: dd=n, d=0.01, FS=150.00, FLt=2, AUtP=13, ADr=00, b=2400, Unit=kg, G=9.7940

Operation	Display	Explanation
Push [FN]	[CAL SP]	Calibration mode
Push [FN]	[- SEt-]	Parameter configuration mode
Push [FN]	[-A-d-]	A/D internal code
Push [FN]	[FACT]	Reset to factory default setting
Push [→]	[0]	Reset and return to weighing mode

10. Standard Operation

10.1 Switch On/Off

Push [ON] key to turn on the indicator

Push [OFF] key to turn off the indicator

10.2 Zero

If the indicator not on zero point and the weight value $< 2\%F.S.$, push [ZERO] key to zero the scale, and the zero arrow will display

10.3 Tare

Manual Tare: Put the container on the scale (weight >0) and after the read stable (also the tare arrow not appear), push [TARE] the scale will remove the weight read and record as tare, and the scale will display the net weight, push [TARE] again, it will display the gross weight (tare + net weight)

Repeat Tare: After the first tare operation, put the 2nd weight on the scale, push [TARE], it will display the gross weight of 1st+2nd weight and push [TARE] again, it will take that gross weight as new tare weight and start the new net weighing operation.

Remove Tare: When the net weight display and the tare arrow appears, push [TARE], it will remove the tare value and display the gross weight, and the tare arrow disappears.

Auto Tare: When the user function (AUT) set to be 10 or 11 and the weight reach to the valve value as it set, the scale will do tare automatically, refer to AUT configuration.

10.4 Print

On manual print/accumulate mode, when the weight value >20d and stable, push [PRINT], it will print the weight bill, and it can be printed once again if you push [PRINT] again.

10.5 Accumulate and Print

On manual print/accumulate mode, when the weight value >20d and stable, push [ACCU], it will print the weight receipt and accumulate to the record (also it will display the accumulation times like [n 12]), next print/accumulating available only after the weight value <20d.

10.6 Weight Unit Exchange

Long press [FN] key for 2 seconds to exchange between the 1st unit and 2nd unit.
Kg and lb, g and oz, t only.

11. Accumulated Record Retrieve and Clean

(on weighing mode)

Operation	Display	Explanation
Long Push [ACCU]	[n 12]	Display accumulated times
Push [↑]	[H 3]	Display the first 4 digits
Push [↑]	[L506.5]	Display the following 4 digits, accumulated weight=3506.5
Push [↓]	[n 12]	When it displays the accumulated times, push [↓] to clean the accumulated record
Push [FN]	[0]	Return to weighing mode

12. User Setting Menu

Push [FN]	[Aut 00]	Weighing mode set
Push [FN]	[000200]	Auto tare valve value (when Aut=10 or 11)
Push [FN]	[PrInt]	Communication, Printing Format and Percentage Set
Push [FN]	[PErC]	Set weight value for percentage weighing (100%)
Push [FN]	[SEtP]	Set setpoints
Push [FN]	[PCS]	Set samples quantity (Aut=07)
Push [FN]	[0.002]	10 times resolution
Push [FN]	[0.00]	Return to weighing mode

13. Weighing Mode Set

Operation	Display	Explanation
<i>Push [FN]</i>	[Aut 00]	User functions set
<i>Push [→] and [↑] or [↓] Push [FN]</i>	[Aut 01]	00: Normal weighing mode, manual print/accumulate 01: Normal weighing mode, automatic print/accumulate after the weight stable, auto arrow appears 02: Normal weighing mode, automatic save the weight value, and print/accumulate it after the load < 20d and auto arrow appears 03: Dynamic weighing mode, automatic print/accumulate after the weight <20d, auto arrow appears 04: Peak hold mode, automatic print/accumulate after the weight <20d, auto arrow appears 05: Dynamic weighing mode, manual print/accumulate 06: Peak hold mode, manual print/accumulate 07: Counting mode, manual print/accumulate 08: Positive/Negative weighing, use for testing the tension or compression force 09: Minus weighing mode 10: Automatic tare mode 11: Continuous automatic tare mode Modify the mode and push [FN] to confirm
<i>Push [FN] Push [↑] or [↓] to modify</i>	[Aut 03] [t 3]	If the Aut=03 or 05, there is the time set for dynamic weighing (average weight during the set time) After set done, push [FN] to confirm.
<i>Push [FN]</i>	[0]	Return to weighing mode

14. Communication | Print Configuration

Operation	Display	Explanation
<i>Push [FN]</i>	[Aut 00]	Weighing mode selection
<i>Push [FN]</i>	[Prnt]	Communication, Printing Set
<i>Push [→] and [↑] or [↓] Push [FN]</i>	[Adr 00]	Communication address selection
<i>Push [→] and [↑] or [↓] Push [FN]</i>	[b1 24]	COM1 baud rate select: 24=2400 48=4800 96=9600 144=14400 192=19200
<i>Push [→] and [↑] or [↓] Push [FN]</i>	[CHE1 n]	COM1 Check mode n: None E: Even check O: Odd check S: Always 0 A: Always 1

<i>Push [→] and [↑] or [↓] Push [FN]</i>	[C1 Ct1]	COM1 Output Ct1: Continuous output Cnd: Command (Modbus) F1: Print format 1 F2: Print format 2 F3: Print format 3 Ct2: Stable output Ct3: Continuous output (format = Ct2)
<i>Push [→] and [↑] or [↓] Push [FN]</i>	[b2 24]	COM2 baud rate select: 24=2400 48=4800 96=9600 144=14400 192=19200
<i>Push [→] and [↑] or [↓] Push [FN]</i>	[CHE2 n]	COM2 Check mode n: None E: Even check O: Odd check S: Always 0 A: Always 1
<i>Push [→] and [↑] or [↓] Push [FN]</i>	[C2 Ct1]	COM1 Output Ct1: Continuous output Cnd: Command (Modbus) F1: Print format 1 F2: Print format 2 F3: Print format 3 Ct2: Stable output Ct3: Continuous output (format = Ct2)
<i>Push [→] and [↑] or [↓] Push [FN]</i>	[dF 2]	Date format 0 = d/m/y 1 = m/d/y 2 = y/m/d
<i>Push [→] and [↑] or [↓] Push [FN]</i>	[tlt 2]	Printing head 0: None 1: On top 2: On bottom 3: Both (top and bottom)
<i>Push [↑] or [↓] and [→] Push [PRINT] or [ON] to next letter Push [FN] to end</i>	[00~077] [01~079] [25~255]	Top head input (total 64 letters): 00: The sequence of letter 087: ASCII code, 087 represents M, 079 represents O... (refer to appendix I) and input 255 to end the head
<i>Push [↑] or [↓] and [→] Push [PRINT] or [ON] to next letter Push [FN] to end</i>	[00~077] [01~079] [25~255]	Bottom head input (total 64 letters): 00: The sequence of letter 087: ASCII code, 087 represents M, 079 represents O... (refer to appendix I) and input 255 to end the head
	[0.0]	Configuration saved and back to weighing mode

15. Percentage Weighing

Operation	Display	Explanation
Push [FN]	[Aut 00]	Weighing mode selection
Push [FN]	[Print]	Communication, Printing Format and Percentage Set
Push [FN]	[PErC]	Set weight value for percentage weighing (100%)
Push [→] and [↑] or [↓] Push [FN]	[3000]	Input the weight value for 100% index
	[0.0]	Back to the weighing mode

Note: Percentage weighing available only when Aut=00, and long press [TARE] for 2 seconds to start the percentage weighing mode.

16. Setpoints

Operation	Display	Explanation
Push [FN]	[Aut 00]	Weighing mode selection
Push [FN]	[Print]	Communication, Printing Format and Percentage Set
Push [FN]	[PErC]	Set weight value for percentage weighing (100%)
Push [FN]	[SEtP]	Set setpoints
Push [→] and [↑] or [↓] Push [FN]	[oP 0]	Setpoints mode: oP=0: no output oP=1: 2 setpoints output oP=2: 4 setpoints output (for 3-LED alarming lights) oP=3: 4 setpoints output
Push [→] and [↑] or [↓] Push [FN]	[ALA 0]	Beeper working mode: ALA=0: No beep ALA=1: It beeps when the weight out of range (Hi/Lo, stable) ALA=2: It beeps when the weight within range (OK, stable)
Push [→] Push [↑] or [↓] Push [FN]	[A00500] [000000] [000200]	A setpoint input
Push [→] Push [↑] or [↓] Push [FN]	[b00700] [000000] [000300]	B setpoint input
Push [→] Push [↑] or [↓] Push [FN]	[C01000] [000000] [000400]	C setpoint input
Push [→] Push [↑] or [↓] Push [FN]	[D01200] [000000] [000500]	D setpoint input
	[0.0]	Back to the weighing mode

17. Counting

17.1 Sampling

Put the samples on the scale (if the scale is not zero, please zero or tare the scale firstly) and it's more precise if there are more samples counted (1-999)

Operation	Display	Explanation
<i>Put the samples on the scale</i>	[26.0]	Display the weight of the samples
<i>Push [FN]</i> <i>Push [→]</i> <i>Push [↑] or [↓]</i>	[Aut 00] [Aut 07]	Select Aut=07 (counting mode)
<i>Push [FN]</i>	[Print]	Communication and Printing Set
<i>Push [FN]</i>	[PERC]	Set weight value for percentage weighing (100%)
<i>Push [FN]</i>	[SEtP]	Set setpoints
<i>Push [FN]</i>	[PCS]	Set the number of samples, this menu appears when Aut=07
<i>Push [→]</i> <i>Push [↑] or [↓]</i>	[Cnt000] [Cnt030]	Input the samples number Example = 30
<i>Push [FN]</i>	[C 30]	Save the samples number Ready for counting operation

17.2 Counting

After sampling saved, put the goods on the scale, it will display the quantity of the goods, like [C 108], push [ON] key to shift the display between the quantity or the weight of the goods, and after the weight stable, push [PRINT] or [ACCU] to print the receipt or accumulated receipt.

17.3 Counting Records and Clean

After sampling saved, put the goods on the scale, it will display the quantity of the goods, like [C 108], push [ON] key to shift the display between the quantity or the weight of the goods, and after the weight stable, push [PRINT] or [ACCU] to print the receipt or accumulated receipt.

Operation	Display	Explanation
	[C 108]	On counting mode
<i>Long press [ACCU]</i>	[n 8]	Display the accumulated times
<i>Push [↑]</i>	[C 532]	Display the total quantity
<i>Push [FN]</i>	[C 108]	Back to counting mode
<i>Push [↓]</i>	[n 8]	When it displays the accumulated times, push [↓] to clean the accumulated value and back to counting mode

18. Positive/Negative Weighing

(Aut=08)

On this mode, the indicator can accept the positive or negative signal, when it displays the positive weight, tare operation is available, when it displays the negative weight, the tare operation can't access. Accumulating and printing is unavailable for this mode.

19. Minus Weighing

(Aut=09)

On this mode, the indicator will display the removed load.

Put the object on the scale, long press [ZERO] to zero the scale, now remove the object and the scale will display the removed weight. Tare/Accumulate/Print is available for this mode.

20. Automatic Tare

After Aut=10 or 11 configured, press [FN], it will display the valve value [000200], set the value by [→] [↑] or [↓], if the decimal point set as 0.0, the [000200]=20.0

(Aut=10) Auto Tare

On this mode, when the weight > the valve value, it will do tare automatically.

When the scale back to zero (empty), it will clean the tare automatically.

(Aut=11) Continuous Auto Tare

On this mode, when the weight > the valve value, it will do tare automatically, and now put more objects on the scale, and after the weight stable, press [PRINT] or [ACCU] to print or accumulated print, the scale will do tare again by itself.

When the scale back to zero (empty), it will clean the tare automatically.

21. Clock Adjust

When it display time or date, press [↑] to shift display of time or date.

Operation	Display	Explanation
	[27]	On weighing mode
<i>Long Press [PRINT] Push [→] and [↑] or [↓] to change</i>	[00:00:80] [09:30:01]	Display time (hour/minute/second) After modifying, push [FN] to confirm
<i>Push [↑] Push [→] and [↑] or [↓] to change</i>	[00.01.01]	Push to [↑] display the date After modifying, push [FN] to confirm
<i>Push [FN]</i>	[0.0]	Back to the weighing mode

22. Weight Record Retrieve and Print

Operation	Display	Explanation
	[27]	On weighing mode
<i>Long Press [ACCU]</i>	[n 8]	Display the accumulated times

<i>Push [→]</i> <i>Push [↑] or [↓] to change</i>	[000008]	Input the serial number of the weight record
<i>Push [FN]</i>	[r 2]	Display the sequence number of that record
<i>Push [PRINT]</i>	[r 3]	Display the next record
<i>Push [ON]</i>	[r 2]	Display the previous record
<i>Push [↑]</i>	[16.06.03]	Display the date of that record
<i>Push [↑]</i>	[14:53:02]	Display the time of that record
<i>Push [↑]</i>	[30.06]	Display the gross weight of that record
<i>Push [↑]</i>	[20.00]	Display the tare weight of that record
<i>Push [↑]</i>	[10.06]	Display the net weight of that record
<i>Push [↑]</i>	[153]	Display the quantity of that record (for counting)
<i>Push [FN]</i>	[27.00]	Push [FN] to return to weighing mode during any data display (date-time-gross weight-tare weight-net weight-quantity)
<i>Push [PRINT]</i>	[16.06.03]	Push [PRINT] to print the record during any data display
<i>Push [→] and [↑] or [↓]</i>	[b 0001]	Push [→] to input the start number of the records (for retrieve)
<i>Push [FN]</i> <i>Push [→] and [↑] or [↓]</i>	[E 0008]	Input the end number of the records (for retrieve)
<i>Push [FN]</i>	[27.00]	It will print all records from 0001 to 0008 and back to weighing mode after the printing ends.

23. Communication Protocol

Byte format: 8 bits; if there is check bit, it's the first digit; one stop bit

Output format:

1. Continuous format (Ct1, Ct2, Ct3): if the display weight = -123.45

Ct1: no matter the weight stable or not, output continuously:

Adr=00-98: =54.3210=-54.3210=-54.3210-...

Adr=99: =-0123.45=-0123.45=-0123.45...

Ct2: When the weight stable, output the following ASCII code:

A B CCCCCC D EE F G

02, 2D, 30, 31, 32, 33, 2E, 34, 35, 20, 6B, 67, 47, 0D

A	B	C	D	E	F	G
Start	Sign	Weight	Space	Unit	G/N	Enter
0x02	>=0, 0x20 (space) <0, 0x2D (-)	include decimal point	0x20	kg/lb/t		0x0D

Ct3: No matter the weight stable or not, continuous output the Ct2 data.

2. Command (Cnd)

COM1: Modbus

COM2: Handshaking, the computer send the request (ASCII) as below:

P – print gross/tare/net weight

G – Print gross weight

B – Print tare weight

N – print net weight

A – Print quantity

Z – Zero

T- Tare

C – Clean tare

3. Print format (F1)

Weighing Bill	Counting Bill (Aut=07)
MOORANGE ELECTRONICS	MOORANGE ELECTRONICS
03-06-2017	03-06-2017
14:58:26	14:58:26
No.0002	No.0002
G: 7.73kg	G: 7.73kg
T: 4.82kg	T: 4.82kg
N: 2.91kg	C: 54pcs
www.moorange.com	www.moorange.com

4. Print format (F2)

Weighing Bill	Counting Bill (Aut=07)
No.0002 03-06-2017 14:58:26 7.73kg	No.0002 03-06-2017 14:58:26 7.73kg 54pcs

5. Print format (F3)

Weighing Bill
0002 03-06-2017 14:58:26 7.73kg 4.82kg 2.91kg
Counting Bill (Aut=07)
0002 03-06-2017 14:58:26 7.73kg 4.82kg 2.91kg 54pcs

6. Accumulated Format

Weighing Bill	Counting Bill (Aut=07)
03-06-2017	03-06-2017
14:58:26	14:58:26
No.0002	No.0002
S: 25.02kg	C: 108pcs
	S: 25.02kg

24. Setpoints Output

A B C D 4 setpoints, $A < B < C < D$

Relay board optional, not included in standard package


- 24.1 oP=1 (2 relay output 1# and 2#)
W<A or W>D: Hi/Ok/Lo LED lights off and no relay output
A ≤ W ≤ B: Lo LED on, 1# relay output
B < W < C: OK LED on, no relay output
C ≤ W ≤ D: Hi LED on, 2# relay output
Relay connecting (sharing with RS232C DB9 interface):
Pin6 & pin7: 1# relay NO (normally open)
Pin8 & pin9: 2# relay NO (normally open)
- 24.2 oP=2 (4 relay output 1#, 2#, 3# and 4#)
If connecting to the 3-LED alarming lights:
1# - yellow, 2# - green, 3# - red, 4# - beeper
- W<A: Lo LED lights on, 1# and 4# relay output
A ≤ W < B: Lo LED on, 1# relay output
B ≤ W ≤ C: OK LED on, 2# relay output
C < W ≤ D: Hi LED on, 3# relay output
W>D: Hi LED on, 3# and 4# relay output
Relay connecting (sharing with RS232C DB9 interface):
Pin1: COM
Pin6: 1# relay NO (normally open)
Pin7: 2# relay NO (normally open)
Pin8: 3# relay NO (normally open)
Pin9: 4# relay NO (normally open)
- 24.3 oP=3 (4 relay output 1#, 2#, 3# and 4#)
- W ≤ A: Lo LED lights on, 1# and 2# relay output
W ≤ B: Lo LED on, 2# relay output
B ≤ W ≤ C: OK LED on
W ≥ C: Hi LED on, 3# relay output
W ≥ D: Hi LED on, 3# and 4# relay output
Relay connecting (sharing with RS232C DB9 interface):
Pin1: COM
Pin6: 1# relay NO (normally open)
Pin7: 2# relay NO (normally open)
Pin8: 3# relay NO (normally open)
Pin9: 4# relay NO (normally open)

25. Trouble Shooting

Problem	Testing Way		Solution
Can't Power On	No Battery Power	Test the battery volume	Charge the battery
	Battery broken	Test the battery volume whether it's lower than 5v	Replace the battery
	No AC power	Whether the cable connected well	Connect it steadily
	No AC power	AC power cable broken	Replace the cable
	Main EEprom broken		Change mainboard or EEprom
RS232 No output	Parameters set wrong	Adr=00 or 99 for continuous output	Choose the right code
	RS232 IC broken	Test the voltage between pin3 and pin5 and it should be between 0.2V-1.2V	Change the IC
Incomplete display		Power on the indicator again to check	Change the LCD
	No backlight	Check the backlight pin loose or not	Re-weld or replace
Display vibrating	Load cell problem	Disconnect the load cell and the display ok	Change the load cell
	Load cell Connect wrong	Disconnect the load cell and the display ok	Check the connecting and correct it
	Battery lower	When the battery volume <10%	Charge the battery
OUER	Overload	The weight >100%F.S. + 9d	Remove the overload weight
	load cell problem	Check the load cell ok and also the connecting correct or not	Recalibrate
-OUER	Minus overload	The weight < -20d or =-100%F.S. on positive/negative weighing mode	Zero/Tare the scale or put the scale pan or cover
	load cell problem	Check the load cell ok and also the connecting correct or not	Recalibrate
Can't Calibrate	IC broken	Test whether there is 2.35-2.6V voltage between +S and -S	Change IC
ERROR	Calibration weight too small	The calibration weight is less than 30%F.S.	Use the right weight
	* Error display may follow by some numbers, it's the same reason		

26. Precaution

- Indicator should be far away from heat resource while using, avoid direct sunlight
- Do not place the indicator in the dusty surroundings or the site vibrant
- Keep out of chemical erosion, operating temperature range will be -10...40°C, relative humidity is no less than 85%, without any corrupt gas in air.
- Never pour the water into the indicator to avoid the damage to the electronic components.
- Housing, head pallet, wire connector should be sealed entirely. Users do not open sealed device or connect with wire without any expert advice. In case any malfunction of indicator occurs, please send the indicator for maintenance.
- The indicator will charge the internal battery at all times when it is connected to the main power.

- When the battery <20%, the battery icon will be empty like [] which indicates the recharge on time, when the battery almost empty, the display will twinkle to indicate the immediate charge.
- When the battery used up, the indicator will power off automatically to protect the over-discharge of the battery
- When the indicator set with auto power off, the backlight will off after 30 seconds no operation
- When the indicator set with auto power off, it will turn off automatically after 30 minutes no operation
- When a problem occurs to the indicator, please switch off it immediately and send back to our authorized dealers or our company, for repair
- The warranty period is one year since the delivery date, covering all manufacturing faults. All man-made problems, battery and freight abroad not covered.
- Life-time technical support