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1.0 INTRODUCTION

1.1 Technical parameters

- 6-digit 1.6-inch LCD, various indicating lamps, long service life and good shock resistance

- 7 buttons, simple operation
- Protection level: IP5x
- Excitation voltage: +5VDC
- Load capacity of sensor: at most four 350 Ω simulation sensors
- Input signal range at null point: 0~5mV
- Input signal range at full scale: 1~10 mV
- Inner resolution: 1 million
- Display division: 1000~30000
- A/D sampling rate: 120times/sec
- Power supply mode

Battery: 7.4V/4AH lithium battery

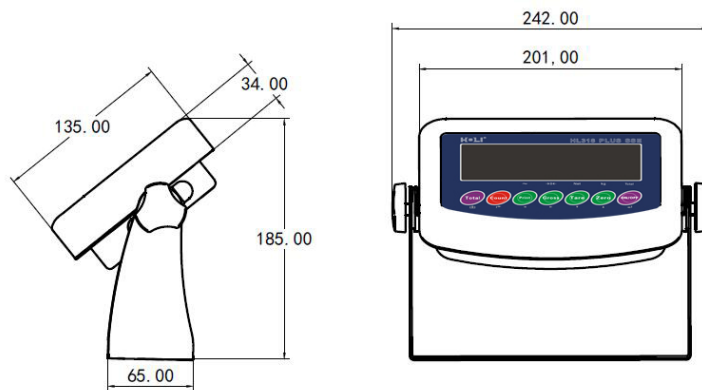
Adaptor: input voltage 100-240VAC; output voltage 8.4V/1.2A; frequency: 50-60Hz

- RS232
- Working temperature: -10°C-40°C, relative humidity: below 85 %
- Storage temperature: -20°C-60°C, relative humidity: below 85 %

1.2 Main Functions

- Basic functions: zero and tare
- Totalization, counting
- Auto power-save
- Parameter redundancy backup
- Real-time clock
- Auto power-off

1.3 Dimension



1.4 Model

HL318 Plus SSC

2.0 Interface

2.1 Power supply

	1Pin(inner core): DC+ 2Pin(outer core): DC-
---	--

2.2 RS232

	1Pin: TXD (红) 2Pin: RXD (绿) 3Pin: GND (黑)
---	---

2.3 Load cell

	1Pin: +V (红) 2Pin: +SN (蓝) 3Pin: +S (绿) 4Pin: 屏蔽 (黑) 5Pin: -S (白) 6Pin: -V (黑) 7Pin: -SN (黄)
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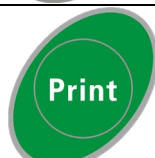
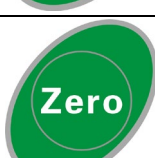
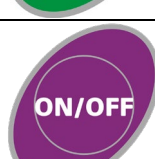
3.0 Operation

3.1 Indicating Lamps

Sign	Meaning	Specification
~	Dynamic/static	When the scale is dynamic the lamp is on; otherwise, the lamp is off.
➔0<	Zero-center	When the absolute weight value is less than

		±d/4 the lamp is on; otherwise, the lamp is off.
Net	Gross/net weight	The lamp is on at net weight and off at gross weight.
kg	Weight unit	The lamp indicates the weight unit in use.
Total	Totalization	When the totalization function is in use the lamp is on.

3.2 Buttons

Button	Name	Normal	Setting
	〔TOTAL〕	Totalization function in use Short press: add weights to total Long press: check/clear	None
	〔COUNT〕	Counting function in use Short press: switch between quantity and weight Long press: no definition	Return/exit
	〔PRINT〕	Short press: print	Move cursor to left
	〔GROSS〕	At gross weight: no definition At net weight: add skin weight to net weight (net weight--->gross weight)	Move cursor to right
	〔TARE〕	Remove skin weight (gross weight ---> net weight)	Decrease
	〔ZERO〕	Zeroing	Increase
	〔ON/OFF〕	Power on/off	Confirm

4.0 Setting

4.1 Setting Entry

Normally press **[[CAL]]** until **【SEtUP】** shows. Press **[[ON/OFF]]** to enter into the menu setting interface to set parameters from F1~F5. Normally, press **[[GROSS]]** until **【SEtUP】** shows. Press **[[ON/OFF]]** to enter into the menu setting interface to set parameters from F2~F5. Below shows where the **[[CAL]]** button is.

Open the back cover →



4.2 Detailed Parameter Setting

F1 Scale Parameter Setting

F1.1 Capacity

Selectable parameters: 3~200000 (default: 6)

F1.2 Decimal

Selectable parameters: 0-----no decimal

1----- 1 decimal

2-----2 decimals

3-----3 decimals (default)

4-----4 decimals

F1.3 Division

Selectable parameters: 1 (default), 2, 5, 10, 20, 50

Note: when F1.2, F1.3 or F1.4 is being set, division value should not be beyond 10000.

F1.4 Zero Calibration

【E_5CL】 remove weights off scale and press **[[ON/OFF]]**. The indicator shows **【10 CAL】** and it decreases to **【00 CAL】**. Finally, **【End】** appears for one second

and zero calibration ends.

F1.5 Load Calibration

【LOAD】 add weights

Add weights to scale and make sure: full capacity *50% ≤ weights ≤ full capacity. Press

『ON/OFF』. **【000000】** Enter the same value as the weights. Wait until the scale is stable and press 『ON/OFF』. The indicator shows **【10 CAL】** and it decreases to **【00 CAL】**.

Finally, **【End】** appears for one second and load calibration ends.

F1.6 Auto zero-tracking rate

Selectable parameters: OFF, 0.5d (default)

At net weight status, zero-tracking is ineffective.

F1.7 Auto zeroing range at power-on

Selectable parameters: OFF (default), ±2 %, ±10 %

F1.8 Zeroing range by button

Selectable parameters: OFF (default), ±2 %

F1.9 Digital filter

Selectable parameters: 0~9, default: 5

F1.10 Scale function setting

Selectable parameters: 0-----Totalization (default)

1-----Counting

F 1.11 Restoring factory default

Selectable parameters: 0-----No restore

1-----Restore parameters from F1 to F4 while scale parameters
unaffected

F 2 Applicable Parameter Setting

F 2.1 Sampling method

Selectable parameters: 0----weight on scale sampling (default)

1----manual input

F 3 Indicator Parameter Setting

F 3.1 Date format setting

Selectable parameters: 0-----year.month.day (default)

1-----month.day.year

2-----day.month.year

F 3.2 Date setting (see F 3.1)

F 3.3 Time setting (format: hour.minute.second)

F 3.4 Overtime backlight shutdown time setting

Selectable parameters: 0~999 second (default: 0)

If 0 is set, this function is shutdown.

F 3.6 Auto power-off time setting

Selectable parameters: 0~60min (default: 0)

If 0 is set, this function is shutdown.

F 4 Serial Communication

F 4.1 Method

Selectable parameters: 0-----no output (default)

1-----serial output (only when the scale is stable)

2-----printing output (see Appendix III)

F4.2 Data and verification setting

Selectable parameters: 8_N_1 ----8 digits, no verification (default)

7_E_1-----7 digits, odd verification

7_O_1 ----7 digits, even verification

8_E_1 ----8 digits, odd verification

8_O_1-----8 digits, even verification

F 4.3 Baud rate

Selectable parameters: 2400, 4800, 9600 (default), 19200

F 4.4 New line

Selectable parameters: 0~9 (default: 0)

F 5 Maintenance and Service

F 5.1 Button test

When the indicator displays **【PrESS】**, press **〔ON/OFF〕** **〔ZERO〕** **〔TARE〕** **〔GROSS〕** **〔PRINT〕** and **〔COUNT〕** in order and the indicator displays “on.off” “Zero” “Tare” “Gross” “Print” and “Count”. Press **〔TOTAL〕** to exit.

F 5.2 Display test

The indicator conducts an auto-inspection to make sure there is no lack of strokes. Press **〔TOTAL〕** or **〔ON/OFF〕** to exit.

F 5.3 Inner code

The indicator shows the after-filtering inner code. Press [COUNT] or [ON/OFF] to exit.

5.0 Functions

5.1 Totalization

F 1.10=0

Operation: Normally add weights to scale and press [TOTAL]. The screen shows “Add-” and returns to the main weighing interface. Remember to zero the scale before putting things on scale every time; otherwise, there is no totalization.

Check and clear: Normally long press [TOTAL] and “TOTAL ” shows for one second. Then the total quantity interface “Cn xxx” and the total weight interface “t xx.xx” show. Press [Print] or [GROSS] to switch between the above two interfaces. Press [ZERO] to clear the total quantity or the total weight value. Press [ON/OFF] to confirm and press [COUNT] to exit.

5.2 Counting

F 1.10=1

Operation: Normally press [COUNT] to switch between the weight and quantity display.

Sampling: Long press [COUNT] until “SAMPLE” shows. Press [ON/OFF] and as “Sn XXX” shows, put in the correct quantity. If F 2.4=0, put the corresponding quantity on scale and press [ON/OFF] to confirm the sample quantity and weight; if F 2.4=1, press [ON/OFF] and as “XXXXXX” shows, put in the corresponding weight and press [ON/OFF] to confirm the sample quantity and weight.

Appendix I Indicator Prompt Message

Normally the indicator is stable and reliable. If the indicator fails, restart it first. Find out what the error is before repairing it. Repair the indicator according to the error codes.

No.	Code	Error	Countermeasure
1	【 _EEE 】 【 EEE 】	Unable to zero after startup	1. Make sure there's no load on scale at startup. 2. Redo zero-calibration.
2	【┌-----┐】	load above upper limit	Reduce load
3	【└-----┘】	load less than lower limit	Press [Zero] to reset
4	【┌~00~┐】 【└~00~┘】	Out of zeroing range	Remove load on scale if any.

5	【--00--】	Invalid	
6	【Err 03】	EEPROM verification and error	Press [ON/OFF] to restore and then restart. If the code shows again, return the indicator to factory; if there's no code re-calibrate the indicator. Note: Restoring factory default includes restoring all parameters.
7	【Err 07】	The scale is dynamic during calibration	Check the scale
8	【Err 08】	Wrong date or time	Set date and time as required
9	【Err 09】	Wrong AD initialization	Restart. If the error shows again return the indicator to factory.
10	【LOAD 】	load calibration: load weight to scale	Add weights to scale as required
11	【SETUP 】	Enter into menu setting	Press [ON/OFF] to continue setting.
12	【End 】	The end of zero/load calibration	
13	【Ld--- 】	Load default value	

Appendix II Serial output format

Serial output format

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
HEAD1			HEAD2			DATA								UNIT		CR/LF	

HEAD1: OL overload, underload or no zeroing at start-up

ST the scale is stable

US the scale is unstable

HEAD2: GS gross weight

NT net weight

DATA: data display

UNIT: kg/lb

CR/LF: New line

Example 1: stable, gross weight: 18.000kg, sp = space.

S	T	,	G	S	,	s	s	1	8	.	0	0	0	k	g	0	0a
						p	p									d	

Example 2: unstable, net weight: -0.200kg, sp = space.

U	S	,	N	T	,	-	s	s	0	.	2	0	0	k	g	0	0a
							p	p								d	

Appendix III Printing Output Format

LIST	
Date	2018/04/14
Time	15:08:46

Gross	2.061kg
Tare	0.000kg
Net	2.061kg

LIST	
Date	2018/04/14
Time	15:10:18

Count	206PCS