



140 Indicator Operation Manual

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Contents subject to change without notice

Declarations of compliance

United States

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la Classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

Warnings Electrical installation

For your protection, all mains (110V or 230V) equipment used where damp or wet conditions may occur, must be supplied from a correctly fused source and protected by an approved ground fault protection device (RCD, GFCI etc.).

IF IN DOUBT SEEK ADVICE FROM A QUALIFIED ELECTRICIAN.

To avoid the possibility of electric shock or damage to the machine, always isolate from the mains power supply before carrying out any routine maintenance.

Cleaning the scale

Harsh abrasives, solvents, scouring cleaners and alkaline cleaning solutions, should not be used especially on the display windows. Under no circumstances should you attempt to wipe the inside of the machine.

The outside of the machine may be wiped down with a clean cloth moistened with water containing a small amount of liquid soap.

EMC compliance

The following warning may be applicable to your machine.

WARNING: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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140 Indicator Operation Manual

Thank you for purchasing the 140 indicator. Please read all operating instructions carefully before use and keep the following points in mind:

- * Avoid lengthy exposure to extreme heat or cold, your scale works best when operated at normal room temperature. Always allow the scale to acclimate to a normal room temperature before use
- * Allow sufficient warm up time. Turn the scale on and wait for a few minutes if possible, to give the internal components a chance to stabilize before weighing.
- * These electronic scales are precision instruments. Do not operate near an in-use cell phone, radio, computer or other electronic device. These devices emit RF and can cause unstable scale readings. If your scale ever performs poorly, try moving the scale to a different room or location.
- * Avoid using in condition of heavy vibration and airflow.
- * Read the weight reading in short time after loading. The output signature of load cell and A/D may be little influenced after weighing for a long time.

I. SPECIFICATIONS:

• **SCALE INDICATOR:**

1. Input signal range: $0\text{mV} \sim +30\text{mV}$
2. Sensitivity: $>0.2\mu\text{V/grad}$
3. Internal Resolution: Approximately 520,000 counts
4. Display Resolution: can be selected between 500-100,000
5. System Linearity: within 0.01% of FS
6. Loadcell excitation Voltage: +4.4 VDC (MAX current: 55mA)
Max 4- 350 ohm loadcells.
7. Calibration Method: Software calibration with long-term storage in EEPROM.

• **SERIAL COMMUNICATIONS:**

1. Mode: Full duplex or only output mode can be selected
2. Baud rate: 1200, 2400, 4800, 9600, or 19200 bps
3. Data format: 8N1, 7E1, 7O1
8data bits, non parity, 1 stop bit
7data bits, 1bit even or odd parity, 1 stop bit
4. Protocol: 7selected protocol (include the one compatible with NCI standard SCP-01)
5. Output data: gross weight, net weight, tare weight, indicator displaying weight, weighing unit etc.

• **OPERATION INTERFACE:**

1. Display: 0.65" (17mm) 7-segment LCD, 5¹/₂ digits
2. Keyboard: 4-key push button

• **POWER:**

1. Alkaline Batteries: 4 x "AAA" size cells

When all displayed segments of LCD flashed, this indicates the batteries are low below 4.9V and you'd better to replace batteries;

When "Lo.bAt" displayed, this indicates the batteries are low below 4.7V and you should replace batteries immediately.

2. AC Adapter: 9VDC, 600mA, with central positive:



3. Work current: $\leq 25\text{mA}$

(when voltage in 5Vdc-8Vdc and not include load cell's consumption)

• **OPERATION TEMPERATURE:** $20^{\circ}\text{C} \pm 15^{\circ}\text{C}$

STORE TEMPERATURE: $-10^{\circ}\text{C} - 70^{\circ}\text{C}$

OPERATION HUMIDITY: $\leq 95\%\text{RH}$ (no condensate)

• **LOADCELL:**

Because of more than one load cell can be used on a scale, following are required on the load cell set to be used with this indicator,

1. Sensitivity: 0.3mV/V --- 3mV/V (must be fit to $>0.2\text{uV}/\text{display grad}$)
2. Input Resistor: $\geq 80\ \Omega$
3. Output Resistor: $<10\ \text{K}\Omega$

• **LOADCELL WIRING:**

PIN 1: RED, EXCITATION +

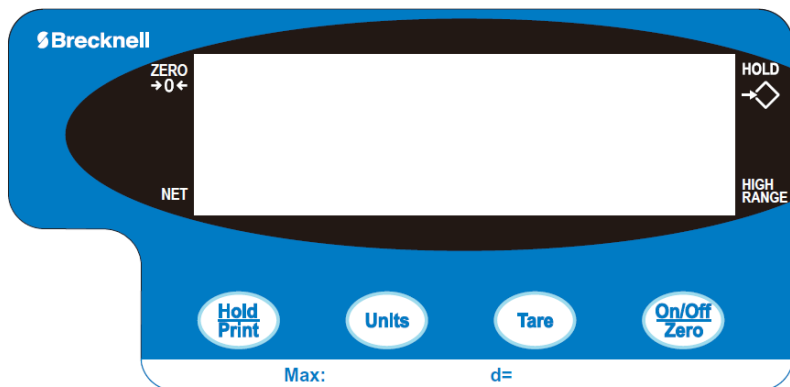
PIN2: BLACK, EXCITATION -

PIN3: GREEN, SIGNAL -

PIN4: WHITE, SIGNAL +

II. KEY FUNCTION:

1. *FACEPLATE:*



2. *DISPLAY SYMBOL MEANING:*

Zero ◀-----The scale is at zero point and the gross weight is 0

Net ◀-----The display reading is net weight, and the tare weight is not 0.

▶ **Hold** -----The scale is under HOLD mode.

It displays the current live weight when ▶ flashed, and the locked reading will be shown when ▶ does not flash and comes steady.

▶ **High Range** ----- The current weight is in the high Range

3. *SUMMARY of KEY DEFINITION:*

3.1 In normal weighing mode press and hold down keys for 3 seconds:

<u>HOLD</u> PRINT	UNIT	TARE	ZERO
----------------------	------	------	------

(1)

<u>HOLD</u> PRINT

- If this key is only set for HOLD (P2=0), press this key to enter or exit HOLD mode.
- If this key is only set for PRINT (P2=1), press this key to output the data according to P4 setting.
- If this key is set for both HOLD and PRINT function (P2=2), press this key to

output the data according to P4 setting.

(2)

UNIT

Choose weighing units among kg-lb-lb: oz

Note: The weighing units that can be used are restricted by display division, and calibration weight unit (restricted by P8, P9, and P10):

For example, if the calibration unit is “kg”; calibration display resolution is 50kg (that means: P8=5, P9=0, P10=0), and users press UNIT key to choose weighing units. Lb or lb:oz are not allowed to choose, since the display resolution of 100lb or 2000oz is not available to this indicator.

(3)

TARE

Tare the weight. This function can be activated only when the scale is in stable mode and the gross weight is not negative value.

(4)

ZERO

Zero function. When the weight is within zero range, it will active as ZERO function and clear the tare weight. When the weight is not within zero setting range (P13 set), the scale will show 0⁻ - - - (zero point is over the setting range), or 0_ _ _ _ (zero is below the setting range).

3.2. In normal weighing mode and hold down time longer than 3s:

<u>HOLD</u> PRINT

UNIT

TARE

OFF

(1)

<u>HOLD</u> PRINT

Same meaning with that in 3.1

(2)

UNIT

Same meaning with that in 3.1

(3)



TARE

Same meaning with that in 3.1

(4)

OFF

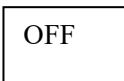

Power off the scale.

- (5)  + 



Hold these two buttons to show firmware version; A/D code or input working voltage of indicator.

- (6)  + 

In normal weighing mode, hold these two buttons to enter setting mode.

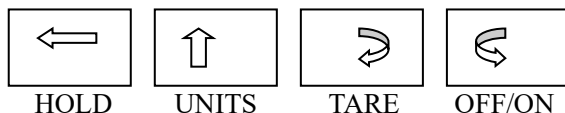
- (7)  + 

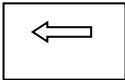
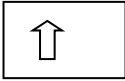


When the scale is off, hold and press the two buttons to enter LCD contraction level selection and division setting menu.

- (8)  + 

Hold these two buttons to enter calibration mode when the sealed calibration switch is on.

3.3 In setting mode:



- (1)  Rotate the flashed position from right to left
- (2)  Change the digit on flashed position. The digit can be changed to 0, 1, 2...9; and be flashed.
- (3)  Confirm receiving and storing the displayed parameters, After the setting of the last parameter, the indicator will not exit the setup mode, and cycles from the first parameters for viewing or modifications.
- (4)  Exit from setting mode to normal work mode

3.4 In displaying A/D code or input voltage mode:

X	$\frac{WT}{VOL}$	FLT	EXT
---	------------------	-----	-----

- (1)

X

 No function

- (2)

$\frac{WT}{VOL}$

 Choose the weight inner code or input working voltage to be displayed. The working voltage range is 4.8V-8V. If the voltage is not within range, it may damage the indicator. Voltage value is shown like this “U x.xx” and its unit is V.

- (3)

FLT





 When A/D code of weight is shown, press this button to choose filtered or un-filtered weight A/D data; when ► is on, the data is filtered.

- (4)


EXT

 Press this button to exit this mode, and auto-reset the indicator, display all segments of LCD, full capacity... just like power on again and then it goes back to normal weighing mode.

3.5 Calibration mode


			
HOLD	UNITS	TARE	OFF/ON

- (1)


--


 Rotate the flashed position from right to left

- (2)




 Change the digit on flashed position. The digit can be changed to 0, 1, 2...9; and be flashed.

- (3)



 Confirm receiving input data and go into next step.

- (4)



 Exit from calibration mode to normal work mode

III. CALIBRATION:

Before calibrating the scale, you should prepare a standard weight (more than

10% of FS weight, and the unit is same as P10 setting) for calibration.

1. Remove any weight from the scale.
2. In normal weighing mode, press and hold **TARE** and **ON/OFF/ZERO** to enter calibration.
3. When "CAL-?" appears, press **TARE** to continue or **ON/OFF/ZERO** to exit.
4. The display will show "CAP.--" followed by your scale's full capacity based on settings (P7, P8, P9, P10).
5. If full capacity exceeds 199,999, it will be displayed in two parts: "Hxxx" (high digits) and "Lxxx" (low digits).
6. Press **TARE** to confirm and proceed.
7. The display will show "d.--" followed by the division options (e.g., 0.0001 kg/lb to 50 kg/lb).
8. Press **TARE** to continue or **ON/OFF/ZERO** to exit.
9. When 'CAL.P0' is displayed, ensure no weight is on the scale. Press **TARE** to confirm.
10. When 'CAL.P1' is displayed, 50% of scale capacity is displayed by default. Load the displayed weight and press **TARE** to confirm.
Alternatively, change the weight from 5%-100% FS by pressing the **PRINT/HOLD** and **UNIT** keys. Load the displayed weight and press **TARE** to confirm.
If successful, the display flashes. If an error appears, restart from step 9.
11. When 'CAL.P2' is displayed, 100% of scale capacity is displayed by default. Load the displayed weight and press **TARE** to confirm.
Alternatively, change the weight from 10%-100% FS and \geq CAL.P1 by pressing **PRINT/HOLD** and **UNIT** keys. Load the displayed weight and press **TARE** to confirm.
If successful, the display flashes. If an error appears, restart from step 9.
12. When 'CAL.P0' is displayed, ensure no weight is on the scale. Press **TARE** to confirm. The display will blink as it saves the data.
If calibration is successful, the scale resets and returns to normal mode. If an error appears, restart from step 9.

Attention: To ensure the accuracy of the scale, it is recommended to use over 75% full capacity weight to calibrate.

IV. WORKING PARAMETER SETUP:

1. When scale is in normal weighing mode, press and hold down **ON/OFF/ZERO** and **UNIT** key until “SEtUP” is shown, that means the scale is in SETUP mode.
2. This indicator has 19 kinds of parameters to be selected and setup by this function.
3. During SETUP mode, press **UNIT** key to change the flashed digits, and **HOLD/PRINT** key to shift the flashed position. Press **TARE** key to confirm and save the set data and enter next setting. Press **ON/OFF/ZERO** key to exit this mode.
4. Display
 - 1) P A.B: Item A parameters and one digit can be input.
 - 2) P A.BC: Item A parameters and two digits can be input

Para- meter	x/xy	Factory Set	Setting	Final Set
P1.xy	0-15	05	Auto-off time: no auto-off; 01-15 minutes auto-off time	
P2.x	0-2	2	0=only Hold function; 1=only Print function; 2=Print and Hold function,	
P3.xy	0-50	2	0=no hold function; 1=hold lager weight reading; 2=auto release hold function when weight is below 10d and auto-hold new stable weight (more than 10d); 3-50=unchangeable reading when the variety is within $\pm 3d$ to $\pm 50d$, the displayed weight data is automatically maintained. When the weight returns to below 10d, the hold function is automatically canceled. When a weight $>10d$ is placed again, the new weight data is automatically maintained after stabilization. d is based on the calibration unit in low range.	
P4.x	0-7	2	0=no RS232 function; 1=output display data when PRINT pressed; 2=output gross, tare and net weight when PRINT pressed; 3=continuously output display	

			data; 4=continuously output gross, tare and net weight; 5=output display data one time when scale is stable; 6=output gross, tare and net weight one time when scale become stable; 7=Bio-RS232 compatible (8 data) to NCI-SP1;	
P5.x	0-4	3	Baud rate for RS232: 0=1200bps, 1=2400bps, 2=4800bps, 3=9600bps, 4=19200bps	
P6.x	0-2	0	RS232 format: <u>0=8N1</u> , 1=7O1, 2=7E1	
P7.xy	0-2	0	Single/Dual Range: =1 indicates single range =2 indicates dual range	
P8.x	0-2	2	Division select: <u>0=1</u> , 1=2, 2=5	
P9.x	0-5	1	Decimal point in calibration: <u>0= x1</u> , 1= x0.1, 2= x0.01; 3= x0.001; 4= x0.0001; 5= x10	
P10.x	0-1	1	Calibration unit: 0=kg, <u>1=lb</u>	
P11.x	0-6	6	Weighing units enable: 0=only kg; 1=only lb; 2=only lb:oz; 3=kg or lb; 4=kg or lb:oz; 5=lb or lb:oz; <u>6=kg, lb, or lb:oz</u>	
P12.x	0-7	7	Power-on zero-point range: 0=calibration zero -point $\pm 1\%$ FS; 1=calibration zero -point $\pm 2\%$ FS; 2=calibration zero-point $\pm 5\%$ FS; 3=calibration zero-point $\pm 10\%$ FS; 4=calibration zero-point $\pm 20\%$ FS; 5=calibration zero-point $\pm 50\%$ FS; 6=calibration zero-point $\pm 100\%$ FS; <u>7=No limitation</u>	
P13.x	0-14	4	Zero range for <u>ZERO</u> button: 0= Power-on zero-point $\pm 1\%$ FS; 1= Power-on zero-point $\pm 2\%$ FS; 2= Power-on zero-point $\pm 3\%$ FS; 3= Power-on zero-point $\pm 4\%$ FS; 4= Power-on zero-point $\pm 5\%$ FS; 5= Power-on zero-point $\pm 10\%$ FS;	

			6= Power-on zero-point $\pm 20\%FS$; 7= No limitation 8= Power-on zero-point $+1\%FS$ 9= Power-on zero-point $+2\%FS$ 10=Power-on zero-point $+3\%FS$ 11=Power-on zero-point $+4\%FS$ 12=Power-on zero-point $+5\%FS$ 13=Power-on zero-point $+10\%FS$ 14=Power-on zero-point $+20\%FS$	
P14.x	0-2	0	Weight signal within power-on zero point range, Choose which data as current power-on zero point; <u>0= current weight</u> ; <u>1=calibration zero-point</u> ; <u>2=switch-off zero-point</u>	
P15.x	0-3	1	Weight signal not within power-on zero point range, Choose which data as current power-on zero point; 0= current weight ; <u>1= calibration zero-point</u> ; 2=switch-off zero-point; 3=continuously display “0 - - - -”	
P16.x	0-8	8	Zero tracking range: 0=0d, no tracking; 1= $\pm 0.25d$; 2= $\pm 0.5d$; 3= $\pm 1d$; 4= $\pm 1.5d$; 5= $\pm 2d$; 6= $\pm 3d$; 7= $\pm 4d$; 8= $\pm 5d$	
P17.x	0-3	2	Data filter intensity: 0=very weak, 1=weak, <u>2=middle</u> , 3=strong	
P18.x	0-9	1	Check weight stability range: 0= $\pm 0.5d$; 1= $\pm 1d$; 2= $\pm 1.5d$; 3= $\pm 2d$; 4= $\pm 3d$; 5= $\pm 4d$; 6= $\pm 5d$; 7= $\pm 6d$; 8= $\pm 7d$; 9= $\pm 8d$	
P19.x	0-9	3	Overload limit range: 0=FS+0d; 1=FS+9d; 2=101%FS; 3=102%FS; 4=105%FS; 5=110%FS; 6=120%FS; 7=150%FS; 8=200%FS; 9=No limitation	
P20.x	0-2	2	Backlight on-off mode: 0= Backlight is always off; 1= Backlight is always on; <u>2= Backlight is auto on and auto off</u> . It is auto off after 10s when scale goes to stable and has no key operation, and it is auto on when scale is unstable or there's some key operation.	

PRIM.N			The resolution of the primary unit (calibration unit) is calculated according to D2. Range: 500~99999	
SECD.N			The resolution of the second unit is calculated based on D2 of the second unit Range: 500~99999	
PRTR.N			The resolution of the primary unit at low range is calculated against the low range capacity and division. Range: 100~99999 This option is not available when selecting single range (P7=1).	
SETR.N			The resolution of the second unit at low range is calculated against the low range capacity and division under second unit. Range: 100~99999 This option is not available when selecting single range (P7=1).	

5. Factory Setting (Set LCD contraction level and division)

- 6.1. When scale is off, press and hold the Unit and On/Off keys to power on the scale, release the keys until the indicatory displays“FAC”.
- 6.2. “CST. X”is displayed (X=0-6), means the LCD contraction level from 0 – 6. Press the Unit key to change the number, press Tare key to confirm. Or press the On/Off key to exit the mode.
- 6.3. “PRIM.N” is displayed (N = 500 – 99999), means the calibration resolution in High Range (D2). Press the Print or Unit key to change the number, press the Tare key to confirm. Or press the On/Off key to exit the mode.
- 6.4. “SECD.N” is displayed (N = 500 – 99999), means the resolution for second measuring unit in High Range based on D2. (If the calibration unit is set to kg, the second measuring unit is lb). Press the Print or Unit key to change the number, press the Tare key to confirm. Or press the On/Off key to exit the mode.
- 6.5. “PRTR.N” is displayed (N = 100-99999), means the resolution for primary measuring unit in Low Range capacity and division. Press the Print or Unit key to change the number, press the Tare key to confirm. Or press the On/Off key to exit the mode. This option is not available when single range (P7=1).
- 6.6. “SETR.N” is displayed (N = 100-99999), means the resolution for second measuring unit in Low Range capacity and division. Press the Print or Unit key to change the number, press the Tare key to confirm. Or press the On/Off key to exit the mode. This option is not available when single range (P7=1).
- 6.7. For example:

Capacity: **0-6 kg x 0.002 kg / 6-15 kg x 0.005 kg**
0-15 lb x 0.005 lb / 15-30 lb x 0.01 lb

P8=2 (5)
P9=3 (0.001)
P10=0 (kg)

PRIM.N=15kg/0.005kg=3000
SECD.N=30lb/0.01lb=3000
PRTR.N=6kg/0.002kg=3000
SETR.N=15lb/0.005lb=3000

V. THE DETAIL ABOUT RS232:

1. RS-232 connects between scale and Host:

Scale -----	Cable-----	Host
(DB9 female)-----	(DB9 male)----	(DB9 female)-----
(DB9 male)		(DB9 male)
TXD 2 -----	2 -----	2 -----2 RXD
RXD 3 -----	3 -----	3 -----3 TXD
GND 5 -----	5 -----	5 -----5 GND
DSR 4 -----	4 -----	4 -----4 DTR
DTR 6 -----	6 -----	6 -----6 DSR
CTS 7 -----	7 -----	7 -----7 RTS
RTS 8 -----	8 -----	8 -----8 CTS
NC 1 -----	1 -----	1 -----1
NC 9 -----	9 -----	9 -----9

Note: The indicator DB9 female's pin4 and pin6 is shorted, pin7 and pin8 is shorted!

2. When P4 is set to 7: the protocol of RS232 is compatible with NCI-SP1, here is the details:

- 2.1) The baud rate and data format is fixed as per P5 and P6 setting. Responses to serial commands will be immediate, or within one weight measure cycle of the scale. One second should be more than adequate for use as a time-out value by remote (controlling) device.

2.2) The length of the weight field will be 7 digit weight data, one for minus sign, one for decimal point, two for measure unit (e.g. “lb”, “kg”). If the unit is lb:oz, another two for “lb” and one for a space (<sp>) after lb. Units of measure abbreviations are always lower case.

a) If the weight is overcapacity, the scale will return nine ‘^’ characters (the field of minus sign, decimal point, weight data is filled by ‘^’).

If the weight is under capacity, it will return nine ‘_’ characters (the field of minus sign, decimal point, and weight data is filled by ‘_’).

If the zero point is error, it will return nine ‘_’ characters.

b) The character will be ‘-’ for negative weight or a space character for positive weight. Minus sign follows after the first digit.

c) Useless leading zero before digits is suppressed.

2.3) Key to symbols used

<LF> Line Feed character (hex 0AH)

<CR> Carriage Return character (hex 0DH)

<ETX> End of Text character (hex 03)

<SP> Space (hex 20H)

H1H2H3 Three status bytes

<p> Polarity character including minus sign for negative weight and a space character for positive weight

W1-W7 weight data

<dp> decimal point

U1U2: measure units, kg, lb, or oz

2.4) Commands and response

(1) Command: W<CR> (57 0d)

Response:

①<LF>^^^^^^^u1u2<CR><LF>H1H2H3<CR><ETX>---over capacity

②<LF>_____u1u2<CR><LF> H1H2H3 <CR><ETX>---under capacity

③<LF>-----u1u2<CR><LF> H1H2H3<CR><ETX>---zero-point error

Note: If the weight unit is lb: oz, U1U2= oz in above item ①②③.

④<LF><p>w1w2w3w4w5w6<dp>w7u1u2<CR><LF>H1H2H3<CR><ETX>

---Scale is stable, and the current weight unit is kg or lb. With or without decimal point and the position is as per the P9 setting and current unit.

⑤<LF><p>w1w2w3w4w5lb<sp>w6w7<o><z><CR>H1H2H3<CR><ETX>

Or <LF><p>w1w2w3w4lb<sp> w5w6<dp>w7oz<CR>H1H2H3<CR><ETX>

----The current unit is lb: oz.

(2) Command: S<CR> (53 0d)

Response: <LF> H1H2H3<CR><ETX>

(3) Command: Z<CR> (5ah 0dh)

Response: Zero function is activated and it returns to current scale status. just like pressing **ZERO/ON/OFF** button:

<LF> H1H2H3<CR><ETX>

If ZERO function cannot be activated, it will return to current scale status.

(4) Command: T<CR> (54 0d)

Response: TARE function is activated, and then returns scale status. just like pressing **TARE** button:

<LF> H1H2H3<CR><ETX>

If TARE function cannot be activated, it will return to current scale status.

(5) Command: U<CR> (55 0d)

Response: Changes units of measure and return scale status with new units, just like pressing **UNIT** button. The new measure unit should be allowed to use as per P11 setting.

<LF>u1u2<CR><LF> H1H2H3<CR><ETX>

If the weight unit is lb:oz, U1U2= lb oz

(6) Command: L<CR> (4c 0d)

Response: If Hold function can be activated, it will enable/disable hold (lock) function, like the **HOLD** key is pressed, and returns scale status.

<LF> H1H2H3 <CR><ETX>

(7) Command: X<CR> (58 0d)

Response: power off the scale, just like press down the **ON/OFF** key to turn off the scale.

(8) Command: all others

Response: Unrecognized command

<LF>? <CR><ETX>

2.5) Output status bit meaning:

Table5: The status bits definition:

Bit	Byte 1 (H1)	Byte 2 (H2)	Byte 3 (H3)
0	0=stable	0= not under capacity	01=normal work mode
	1= not stable	1= under capacity	10= hold work mode

1	0= not at zero point	0= not over capacity	00=not define
	1= at zero point	1= over capacity	11= not define
2	always 0	always 0	0= gross weight
			1= net weight
3	0= eeprom OK	always 0	always 0
	1= eeprom error		
4	always 1	always 1	always 1
5	always 1	always 1	always 1
6	always 0	always 1	always 0
7	parity	Parity	parity

VI. DISPLAYED SYMBOLS:

1. **0----** ----- zero point is over the setting range
2. **0___** ----- zero is below the setting range
3. **Ad---** ----- ADC is over max. range;
4. **Ad__** ----- ADC is below min. range;
5. **-----** ----- weight signal is too large
6. **_____** ----- weight signal is too small
7. **EEP.E0** ----- the EEPROM can't be accessed;
8. **EEP.E1** -----The parameters are not same with backup data;
9. **EEP.E2** -----The setting parameter(s) is not in normal range;.
10. **CAL-Px** -----scale's calibration point;
11. **CAL.Er** -----there is an error in calibration
12. **► Hold** -----hold function is active.
13. **Net ◀**----- The display reading is net weight
14. **Zero ◀**-----The scale is at zero point
15. **CAP.--** -----The the setting full capacity will be displayed
16. **d.--** -----The division will be displayed
17. **Px.y** ----- The No. x parameter is set to y.
18. **Lo.bAt** -----The voltage of batteries or input power is below 4.7V

VII. KEY DEFINITION SUMMARY:

KEY	MODE	DEFINITION
HOLD /PRINT	Normal weighing mode	Enter or exit HOLD mode; output the data as per P4,P5,P6 setting
	Setup mode/Calibration mode	Shift the flashed position from right to left
	Displaying A/D code or input voltage mode	No Function
UNIT	Normal weighing mode	Choose weight units, refer P8, P9, P10, P11 setting and Table3,Table4.
	Setup mode/Calibration mode	Change the digit on flashed position and click this button to add 1.
	Displaying A/D code or input voltage mode	Choose the weight inner code or input working voltage to be displayed.
TARE	Normal weighing mode	Tare the weight
	Setup mode/Calibration mode	Confirm the displayed parameters or input data, and go to next step
	Displaying A/D code or input voltage mode	Choose filtered or un-filtered weight A/D data
ON/OFF/ ZERO	Normal weighing mode	Zero function or Power off the scale.
	Setup mode/Calibration mode/Displaying A/D code or input voltage mode	Exit and back to normal work mode
ON/OFF/ ZERO + HOLD /PRINT	Normal weighing mode (more than 3s)	Go to Show A/D code or input working voltage of indicator mode

ON/OFF/ ZERO + UNIT	Normal weighing mode (more than 3s)	Enter setup mode when sealed calibration switch is on?
	When scale is off	enter LCD contraction level selection and division setting menu
ON/OFF/ ZERO + TARE	Normal weighing mode (more than 3s)	Enter calibration mode when sealed calibration switch is on?



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