WEIGHT INDICATOR **X8**

User Manual

v.201811

Before Use

WARNING!

▲ Do not use X8 weighing terminals 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.

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1. INTRODUCTION

- Accuracy: Class III
- Display resolution: from 1/3000 up to 1/15000
- Excitation voltage: DC 5V; up to 4 load cells 350 Ω, 8 load cells 700 Ω.
- Minimum input voltage: 0.5mV
- Weight unit: Kg|Lb
- Communication interface: RS232
- Rate continuous ASCII data output: 1200| 2400| 4800| 9600 Baud.
- External power supply: 100-240V AC.
- Internal rechargeable battery: 6V1.8Ah Ni-Mh Batteries
- Battery operation time: 15 hours
- Battery full charge time: 8 hours
- Operating temperature: -10ºC-40ºC
- Storage temperature: -25ºC-55ºC.
- Relative humidity: ≤ 85 % non-condensing.
- Selectable display resolutions: 1|2|5|0.1|0.2|0.5|0.01|0.02|0.05|0.001|0.002|0.005|10|20|50|100|200|500|0.10|0.20|0.50|0.010|0.020|0.050
- 6-bit display: 0.56" red LED(14mm)
- Dimensions: 242 mm(L) x 90mm(W) x 41mm(T)
- Approximate weight: 1.1kg

2. KEYBOARD FUNCTIONS
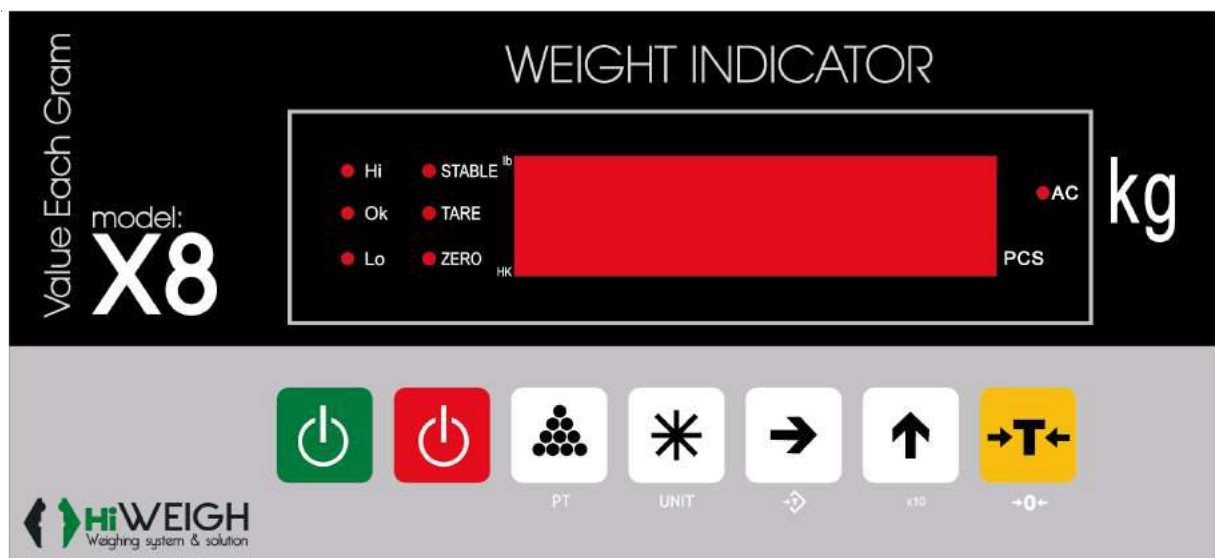
	Power off
	Power on.
	Manual accumulation function
	Function selection during normal operation and configuration
	Move the flashing digit to the right during configuration or setting preset tare.
	The display is temporarily set to 10 times resolution Increase the flashing digit during configuration or setting preset tare
	Zero the display, set the zero point or enter a tare value.

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3. SYMBOLS OF THE DISPLAY

AC   Main power is applied to the indicator.

PCS   A weight has been tared, display is showing the net weight.

ZERO   The scale is Zero.

TARE   Weight is tared

STABLE   The weight is stable.

Hi   The weight is higher than superior limitation

Ok   The weight is within the range of limitation

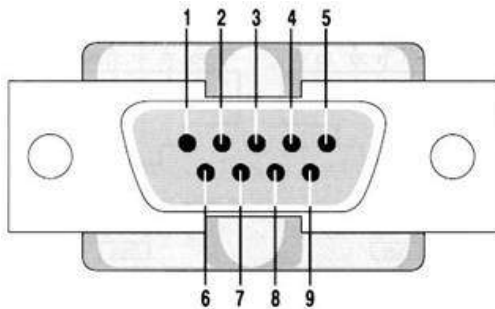Lo   The weight is lower than the inferior limitation

4. TECHNICAL DESCRIPTION

4.1 Connection of the load cells to indicator. 5 pin plug
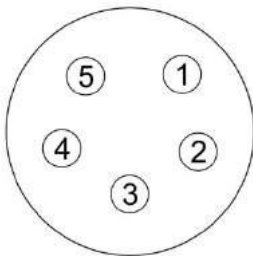
INDICATOR		LOAD CELL
+E (1)	-------------	+Excitation
-E (4)	-------------	-Excitation
+S (2)	-------------	+Signal
-S (3)	-------------	-Signal
GND (5)	-------------	(GND) shield

For 6 wire load cells, please short connect +E/+F, -E/-F

4.2 RS-232 D-B 9

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

Pin 3: Output (TXD)   Pin 5: Signal Ground (GND)

4.3 Continuous ASCII RS-232 data output format

4.3.1 Address: Adr=00

The ASCII data format is "=, *1, *2, *3, *4, *5, *6"

<stx> =, *1, *2, *3, *4, *5, *6"

*1, *2, *3, *4, *5, *6" are weight data.

If the weight is ⌐100.00⌐ kg, the continuous output is "=00.001=00.001="

4.3.2 Address: Adr=99

The ASCII data format is "=. *6, *5, *4, *3, *2, *1"

<stx>=, *6, *5, *4, *3, *2, *1

*6, *5, *4, *3, *2, *1 are weight data.

If the weight is ⌐100.00⌐ kg, the continuous output is "=100.00=100.00="
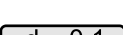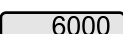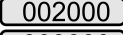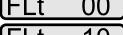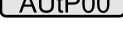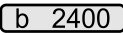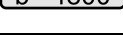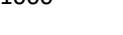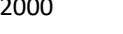
4.3.3 Address: Adr=1—98 manual and automatic printing output

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5. POWER

In power off states, press [power key] key turn on the indicator. The indicator will check the LED and display battery capacity [**bPt****]..

6. CONFIGURATION (only authorized technician can access!)

Connect load cells to the indicator and set following configuration parameters.

Step	Operation	Displaying	Contents
1	Press ✦T✦ and ⏻ at same time	Self test from 0-9	In power off states, press those two keys at the same time to turn on, segment check, and displaying [UER *.*] edition No 1.5 second.
2	Press ✳ Press ✳ Press →	CAL SP -SET- d 1	Enter of the scale. Enter the configuration setting mode The number of scale divisions selected.
3	Press ↑ Press ↑	d 2 d 0.1	0.001-0.002-0.005-10-20-50-100-200-500-0.10-0.20-0.50-0.010-0.020-0.050-1-2-5-0.1-0.2-0.5-0.01-0.02-0.05 For example：d = 0.1
4	Press ✳ Press → Press ↑ Press ↑ Press ↑	6000 000000 001000 002000 003000	Sets scale F·S Moves the digit at right. For example: F·S=3000
5	Press ✳ Press → Press ↑ Press ↑ Press ↑	FLt 10 FLt 00 FLt 10 FLt 20 FLt 30	Sets display Filter parameters: 00-99 The display will update faster and filter faster as the filter parameter is changed from 99-00. For example: FLt=30
6	Press ✳ Press → Press → Press ↑	AUtP00 AUtP00 AUtP00 AUtP10	Sets automatic power off function. AUtP=00 Not automatic power off. AUtP=01 Automatic power off. Digit express the choice of zero trace range (1-9): 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. Decimal digit express the choice of zero set. Decimal digit=0 no zero set at start operation. Decimal digit >1 zero set at start operation 20% F·S. For example: AUtP=10 (AUtP=10 when leaving the factory)
7	Press ✳	Adr 00	Continuous output: Adr=00
8	Press ✳ Press ↑	b 2400 b 4800	Baut rate range: 1200 → 2400 → 4800 → 9600 For example: b=4800
9 (LCD)	Press ✳	1000	No.1 setpoint output, weight<1000, display LO *
10 (LCD)	Press ✳	2000	No.2 Setpoint output, 1000<weight<2000, it displays OK, weight >2000, shows HI *
9	Press ✳	0	Press to confirm configurations and go to calibration menu.

Note: *one time accumulation is allowed for weighing once. Following accumulation is allowed for weighing only when displayed value is below 20 d.*

*LCD display with Hi-Ok-Lo function

7. CALIBRATION (only authorized technician can access!)

Calibration should be done after setting the parameters

Step	Operation	Displaying	Comments
1	Press ✱ Press →	CAL SP CAL 00	Enters calibration. Zero the scale.
2	Press ✱	- - - - - - 3000	Starts zero calibration and wait for zero calibration to complete.
3	Load the standard weight for F·S on the platform, press ✱ *	- - - - - - 3000	Starts calibration and wait for calibration to complete.*

! Calibration must be done once the parameters are configured!

A|D check: *Pressed* ✱ *three times during calibration or configuration, the indicator will display –A-d. To view the A|D counts, press the* → *key when* -A-d- *is displayed. Press the* ✱ *key to return to weighing mode.*

* If the standard weights can't reach to F.S., 2|3 is recommended to use, press → and ↑ to change the numbers displayed (to be the weight value of the weight you use) and then press ✱ to confirm.

Example: *If only 2000Kg weights for calibration of the 3000Kg scale, after zero calibration, put 2000Kg weights on the platform and press* → *and* ↑ *to change the number to be 2000 and then press* ✱.

8. ZERO

When the weight is stable, press →T← key for two seconds to set the zero point and zero the display. The **ZERO** status LED is turned on.

9. TARE

9.1 Digital tare.

Press → key, set tare with → and ↑ key, then press →T← key. The input data is tare. The status LED **TARE** is turned on.

9.2 Acquire tare

When Tare status LED is off and the weight is stable, press the →T← key to acquire tare and switch to net mode. The Tare status LED is turned on.

9.3 Remove tare

When Tare status LED is on, press →T← key will switch to gross mode and removed tare. The Tare status LED is off.

10. MANUAL WEIGHT ACCUMULATION

When weight is stable, press ⊞ key to accumulation the current weight to the total weight. The total number of accumulation will be displayed for n   12 1.5 seconds.

11. AUTOMATIC MEMORY ACCUMULATION

Selection of manual|automatic accumulation function (Selection of manual| automatic print function). Selection of animal scale, peak value retain and counting function.

Step	Operation	Displaying	Contents
1	Press ✱	n 12	To display times of accumulation.
2	Press ✱	AUt 0	The selection of manual|automatic accumulation AUt = 0, manual accumulation AUt = 1, automatic accumulation and print when weight is added AUt=2, automatic memorize displayed value when weight is added. Accumulate and print final stable values after load down to below 20 d.

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			AUt=3,dynamic weighing method. At weighing >20d: the buzzer sounds "du" and lock is displayed for 6 seconds. Then lock is released for weighing <20d; automatic accumulation and print. Suggest Flt>30. AUt=4, peak value fixed weighing method. At weighing>20d, the buzzer sounds "du" and lock is displayed. When weighing <20d, fixed data displays with flash, automatic accumulation and print. Lock can be released by pressing any key. AUt=5,dynamic weighing method. Manual accumulation and print. AUt=6, peak value fixed weighing method. Manual accumulation and print. AUt=7, counting function. *note
3	Press ↑	AUt 0	Digits displays with flash.
4	Press ↑ Press ↑ Press ↑	AUt 0 AUt 1 AUt 2 AUt 3	Move flashing digit to the right bit. e.g. AUt=3 expresses dynamic weighing method.
5	Press ✳	0	Return to normal weighing status.

12. SAMPLING AND COUNTING

12.1 Sampling: when net weight on scale is zero (tare can be removed by pressing tare key if net weight is not zero), the sample, which must be <200 pieces, i.e. between 1 to 199, is put on the scale. Press → and ↑, input quantity of the sample (e.g.30), Cnt030 is displayed.

Press ✳, confirm the completion of sampling. Weighing status is redisplayed. Sampling is memorized even with power off.

Step	Operation	Display	Description
1	Place sample		Place selected sample, weight: 27, quantity: 30.
2	Press → Press →	Cnt000 Cnt000	Ready to input sample's quantity. Decimal digit display with flash.
3	Press ↑ Press ↑ Press ↑	Cnt010 Cnt020 Cnt030	
4	Press ✳	27	Display sample's weight: 27, ✳ is a confirmation key, sample collection completed.
5	Press ↑	C 30	Display sample's quantity, ↑ is change-over key between weight and quantity display.

12.2 Counting operation: place the object on scale, weight is displayed, press ↑, C 255 is displayed, and the display changes over to the quantity of the object. When the display is stable, press ⬚, accumulate the weight and quantity. Counting accumulation operation can be done during counting (after pressing ↑)

Step	Operation	Display	Description
1	Place object	230	Object weight: 230
2	Press ↑	C 255	Object quantity: 255
3	Press ⬚	n 4 C 255	Display after 1.5 seconds at counting status.

12.3 Counting checking

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Step	Operation	Display	Description
1	Press ✱	C 1203	Display the total quantity of the object: 1203
2	Press ↑	H 0	Display accumulated weight 4 digits higher.
3	Press ↑	L 1085	Display accumulated weight 4 digits lower = 1085
4	Press ↑	C 1203	Back to counting status.
5	Press →0←	C 0	Delete accumulated quantity.

Note: Accumulation inquires and delete: both on weighing mode.

13. HOW TO CHANGE THE DIGITS

Press → key move and blinks the current digit to right digit

Press ↑ key increment the current digit to the next available value.

14. BATTERY CAPACITY

- When the indicator is being poer on|off, battery capacity will be displayed PBt 85 for 1.5 seconds.
- When the battery capacity is less than 20%, the display will start to blink, power off the indicator to avoid over discharging battery or connect the external main power supply.
- When the battery capacity ≤ 10%,the indictor automatic turn off to avoid battery over discharge
- In auto power off mode, If weight is stable and no key operation for more than >3 minutes, The indictor displays [-   ] to conserve battery
- When auto power off setting is action, If weight is stable and no key operation > 30 minutes automatic turn off power
- A full charged battery life is approximately 30 hours.

15. UNIT OF WEIGHING (kg and lb)

kg or lb is selectable. The unit of weighing is kg normally. You can change it to lb by pressing and holding ✱ key 2 seconds at least.

16. CONNECTION TO MINI-PRINTERS

Connect serial interface printer with the following way:

```
Indicator          Mini Printer
  3    ----TXT----     2
  5    ----GND----     7
```

Note: *Before connection to printer, communication address is set as Adr=01; baud rate is set as b=2400.*

Print operation with serial port printer is as follows:

16.1 Print: at weighing status, weighing data >20d and display is stable, press ⬚, weighing sheet is printed out. The second printing can be operated only when the weighing data is back to <20d.

16.2 Accumulated print: at weighing status, press ✱, then press ⬚, accumulated printing can be operated.

16.3 Auto Print: set to be automatic accumulation status, i.e. automatic print.
On weighing mode: weighing data >20d and display is stable, weighing sheet is printed out. The second printing can be operated only when the weighing data is back to <20d and more weight is loaded.

Following with print sample:

Normal printing	Accumulation printing
No:1 (serial number) Gross: 3940 kg (gross weight) Tare: 2000 kg (tare weight) Net: 1940 kg (net weight)	No:9 (serial number) W: 8225 kg (accumulated weight)

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17. Checkweigh (Hi-Ok-Lo configuration)

2. Light indication:

[Lo]: The display value is lower than setpoint B.

[HI]: The display value is higher than setpoint C.

[OK]: The display value is betwen setpoint B and setpoint C

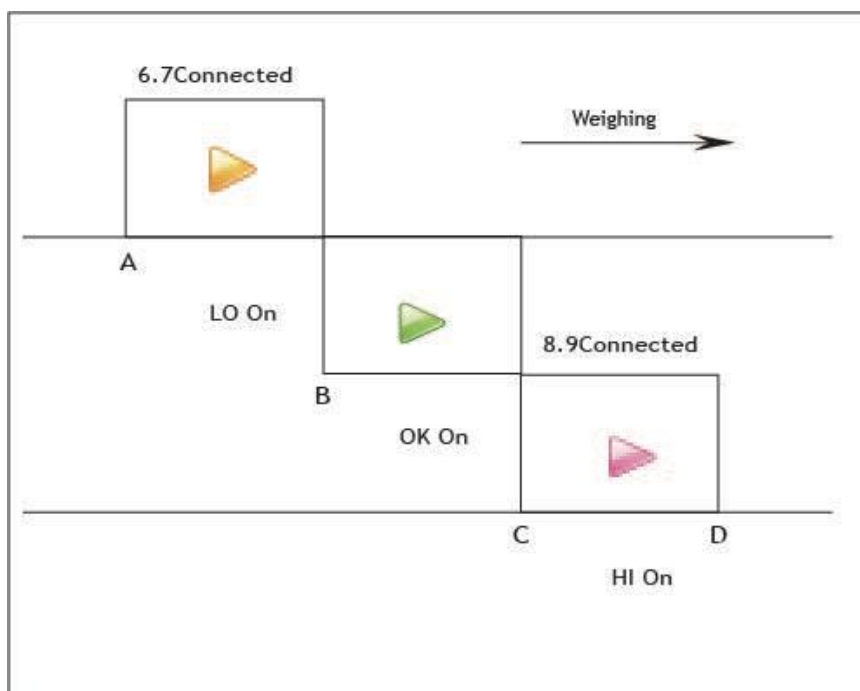3. Opeartion to set setpoints

3.1. Set the fixed value:

(Two fixed value can be set by setting four setpoints A|B|C|D)

STEP	OPERATION	DISPLAY	NOTES
1	PRESS [↑] and [⏻]	[0] - [9] [0]	In power off states, press [↑] and [ⓞ] at the same time to turn on, segment check, and displaying [UER *.*] edition No 1.5 second.
2	PRESS [↑]	[A. 0]	Set the starting point for the first fixed value by [→] [↑]
3	PRESS [✳]	[B. 0]	Set the ending point for the first fixed value by [→] [↑]
4	PRESS [✳]	[C. 0]	Set the starting point for the second fixed value by [→] [↑]
5	PRESS [✳]	[D. 0]	Set the ending point for the second fixed value by [→] [↑]
6	PRESS [⏻]		Turn off

3.2. Time sequence for operation (checkweigher):

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Hi WEIGH
Weighing system & solution