

# BSW – Series Bench Scale



BSW – 60 / BSW – 150 / BSW – 300 / BSW – 500

## OPERATION MANUAL



UTE Weight Technology Co., Ltd

# INDICATOR

**BSWI / BSWS**

## Operators Manual

## 1 Introduction

- Simple operation
- Keyboard calibration and configuration
- Weighing up to 1:30,000 divisions
- Excitation voltage: DC 5V; Up to 4 , 350  $\Omega$  load cells can be used
- Manual or automatic memory accumulation facility
- High Resolution ( $\times 10$ ) Display
- Selectable digital filtering
- Selectable automatic power off
- 6-bit Display: 0.8 inches LED
- Selectable display resolution:  
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
- RS-232C The interface , optional RS-485 interface 1200 2400 4800 9600 Baud rate continuous ASCII data output
- External Power supply: 230V(115V) AC. Internal rechargeable 6V DC Battery
- Operating temperature: 0°C to 40°C.Storage temperature: -25°C to 55°C
- Relative humidity:  $\leq 85\%$  non-condensing
- Dimensions: 256mm wide  $\times$  165mm high  $\times$  130mm deep

## 2 keypad functions

**【STOP】** Whenever the indicator is dead locked or keeps beeping accompanied by

abnormal

**【①】** On/Off function

**【.:】** 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 high resolution increment the flashing digit during configuration or setting preset tare;

**【→0←】** Zero the display, set the zero point or enter a tare value

## 3 Display status

<b>【AC】</b>	Mains power is applied to the indicator
<b>【→T←】</b>	A weight has been tare display is showing the net weight
<b>【□】</b>	Battery capacity less than 30%
<b>【→0←】</b>	The scale is Zero
<b>【-AUTO-】</b>	The automatic accumulation function is active



The Weight is stable

lb



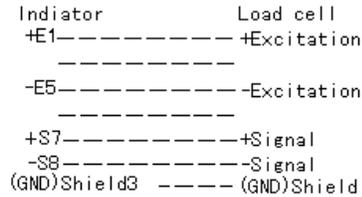
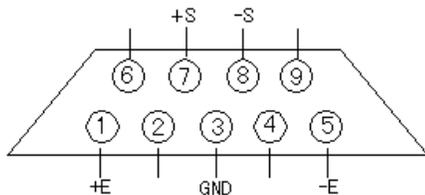
The unit of weighing is lb



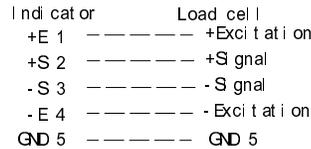
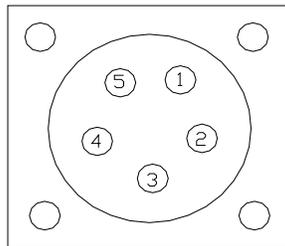
$\times 10$  The display is temporarily set to high resolution

## 4 Technical Description

### 4.1 Load cells to indicator D-B 9 Pin plug



### 4.2 Load cells to indicator 5 Pin plug



### 4.3 RS-232C D-B 9

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

### 4.4 Continuous ASCII RS-232 data output format

#### 4.4.1 Automatic Output

##### 4.4.1.1 Address: Adr = 00

The ASCII data format is “=,X1,X2, X3,X4,X5,X6”

<stx> = , X1 , X2, X3 , X4, X5, X6 <cr>

X1, X2, X3, X4, X5, X6 is weight data.

If the weight is  kg, the continuous output is = 00.001 = 00.001=

##### 4.4.1.2 Address: Adr = 99

The ASCII data format is “=,X6,X5,X4,X3,X2,X1”

<stx> = , X6 , X5, X4 , X3, X2, X1 <cr>

X6, X5, X4, X3, X2, X1 is weight data..

If the weight is  kg, the continuous output is = 100.00 = 100.00=

#### 4.4.1.3 Manual and Automatic Printing Output

**Address: Adr = 01—98**

## 5 Power

In power off states, press  key turn on the indicator . The indicator will check the LED and display battery capacity  for 1.5 second.

In power on states, press  key for two seconds will display battery capacity

[[bPt 82]] for 1.5 second and then powers off the indicator.

## 6 Configuration

Connect load cells to the indicator and set following configuration parameters

Step	Operation	Displaying	Contents
1	Press 【→0←】 【Ⓢ】	Self test from [[UEr 2.6]] [[0]] to [[9]] [[ 0]]	In power off states, press 【→0←】 key and 【Ⓢ】 turn on power, segment check, and display [[UE--2.6]] edition No 1.5 second.
2	Press 【.】	[[CAL SP]]	Enter of the scale
	Press 【.】	[[SEt-]]	Enter the configuration setting modal
3	Press 【→】	[[d 1]]	The number of scale divisions selected
	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 【.】	[[ 6000]]	Sets scale F·S  For example : F·S=3000
	Press 【→】	[[000000]]	
	Press 【→】	[[001000]]	
	Press 【↑】	[[002000]]	
	Press 【↑】	[[003000]]	
	Press 【↑】		
5	Press 【.】	[[FLt 10]]	Sets digit Filter parameters :00-99 The display will updata faster and filter faster as The filter parameter is changed from 99-00 For example : FLt = 00
	Press 【→】	[[FLt 00]]	
6	Press 【.】	[[AUtP00]]	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): 1:0.4 d 2:0.8 d 3:1.2 d 4:1.6 d 5:2d 6:2.4 d 7:2.8 d 8:3.2 d 9:3.6 d 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%FS For example : AUtP=10 (AUtP=10 when leaving the factory)
	Press 【→】	[[AUtP00]]	
	Press 【→】	[[AUtP00]]	
	Press 【↑】	[[AUtP10]]	
7	Press 【.】	[[Adr 00]]	continuous output :Adr=00
8	Press 【.】	[[b 2400]]	Baud rate range : 1200→2400→4800→9600 For example : b=4800
	Press 【↑】	[[b 4800]]	
9	Press 【.】	[[ 1000]]	No :1 setpoint output Weight < 1000 display LO☆
10	Press 【.】	[[ 2000]]	No :2 setpoint output 1000 < Weight < 2000 display OK Weight > 2000 display HI ☆
	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.

- ☆ Optional LO—OK—HI and two setpoint output PCB
- ☆ Press **[→]** key for two seconds, LCD display for LED are turned on(A1GB-L)

## 7 Calibration

Calibration should be done after setting the parameters

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

Pressed **[.]** key three times during calibration or configuration, The indicator will display.

To view the A/D counts, press the **[→]** key when **[[ -A-d- ]]** is displayed

press the **[.]** key to return to weighing mode.

## 8 Zero

When the weight is stable, Press **[→0←]** key for two seconds to set the zero point and zero the display. the **[→0←]** status LED is turned on.

## 9 Tare

### 9.1 Digital tare

press **[→]** key , set tare with **[→]** and **[↑]** key , then press **[→0←]** key , the input data is tare , Tare status LED is turned on.

### 9.2 Acquire tare

When Tare status LED is off and the weight is stable, press the **[→0←]** 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 **[→0←]** 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 High resolution display mode

In this display mode , press **[↑]** , switch to high resolution display mode. (10 times normal display) The last decimal point is light on. Press **[↑]** key return to normal weight display mode.

## 12 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
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1	Press <b>【·】</b>	[[n 12]]	to display times of accumulation
2	Press <b>【·】</b>	[[AUt 0]]	<p>the selection of manual/automatic accumulation  AUt = 0, manual accumulation  AUt = 1, automatic accumulation and print when weight is added, [[AUTO]] indicator is lit.</p> <p>AUt=2 , automatic memorize displayed value when weight is added. Accumulate and print final stable values after load down to below 20d. [[AUTO]] indicator is lit.</p> <p>AUt=3,dynamic weighing method. At weighing &gt;20d: the buzzer sounds “du”and lock is displayed for 6 seconds. When a new data is fixed, lock is displayed again for 6 seconds. Then lock is released for weighing &lt;20d; automatic accumulation and print. Suggest FLt&gt;30, [[AUTO]] indicator is lit.</p> <p>AUt=4, peak value fixed weighing method. At weighing&gt;20d, the buzzer sounds“du”and lock is displayed. When weighing &lt;20d, fixed data displays with flash, automatic accumulation and print. Lock can be released by pressing any key. [[AUTO]] indicator is lit.</p> <p>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</p>
3	Press <b>【↑】</b>	[[AUt 0]]	digit displays with flash
4	Press <b>【↑】</b> Press <b>【↑】</b> Press <b>【↑】</b>	[[AUt 0]] [[AUt 1]] [[AUt 2]] [[AUt 3]]	<p>Sets F·S  Move blinking digit to the right bit  e.g. AUt=3 expresses dynamic weighing method</p>
5	Press <b>【·】</b>	[[ 0]]	return to normal weighing status

□ note: (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 <b>【→】</b> press <b>【→】</b>	[[ Cnt000 ]] [[Cnt000]]	ready to input sample's quantity decimal digit display with flash
3	press <b>【↑】</b> press <b>【↑】</b> press <b>【↑】</b>	[[Cnt010]] [[Cnt020]] [[Cnt030]]	
4	press <b>【·】</b>	[[ 27]]	display sample's weight:27, <b>【·】</b> is a confirmation key, sample collection completed
5	press <b>【↑】</b>	[[C 30]]	display sample's quantity, <b>【↑】</b> is change-over key between weight and quantity display

(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. Accumulation can be done only at counting status.

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

(3) accumulate inquiries and delete: both at weighing stage and counting status

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

### 13 Clear memory

Press [→0←] key If the memory has previously been cleared the display will show

[[n 0]] followed by zero weight when the [∴] key is pressed.

### 14 How to set datum

Press [→] key move and blinks the current digit to.

Press [↑] key increment the current digit to the next available value

### 15 Battery capacity

When the indicator is being power on/off.battery capacity will be displayed

[[PBt 85]] for 1.5 seconds

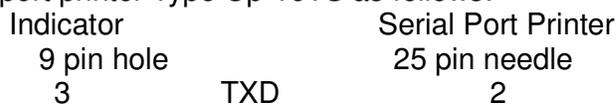
- When the battery is capacity less than 20%,the display will start to blink, power off the indicator to avoid over discharging battery or connect the external main. Power supply
- When the battery capacity ≤ 10%,the indicator automatic turn off to avoid battery over discharge
- In auto power off mode,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

### 16 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.

### 17 Connection to Mini-printers

Connect serial port printer Type Up-16TS as follows:





# LOAD CELLS



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