BL 224 Basic

User Manual

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Warning and safety use instructions

- To avoid damage of the balance, please read the operation manual carefully
- before use.
- Please do not use it in dangerous environment.
- Please cut off the electricity without use for more than one week.
- Please power off the balance when it connects with output device or before cut off the connection.
- Magnet or static interference will affect the accuracy of balance, when these
- interference removed, balance will recover to normal use.

Spare Parts

- The spare parts we used are the most compatible with the balance.
- Any revision to the balance or use the third party's cable and other device, it's end user's responsibility to check and correct the power and voltage.
- Please do not open the out case, if the safety label is damaged, warranty
- will not be guaranteed.

Overview

- LCD backlight display, easy and clear.
- Operator-friendly, direct weigh, directly read the weighing result.
- Highly smart, tare and back to zero within the whole weighing scope, overload
- display.
- Multi-mode choice: counting, percentage weigh, density weigh.
- RS-232C interface, easy to connect with printer and PC

Remarks

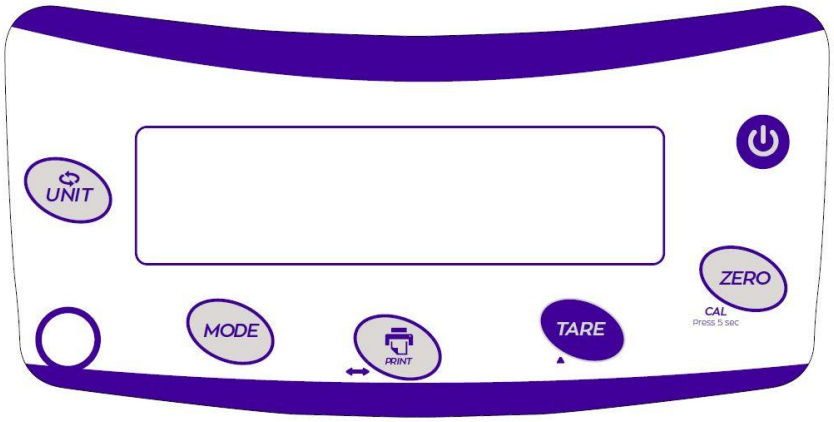
- Do not wash with water;
- Do not install the balance in places where is too hot or too wet, with vibration,、corrosion, strong magnet or with the risk of explosion;
- Do not load excess samples (not over the max capacity
- If the balance is not used for a long time , please clean it up ,pack it by plastic bag with drier in ;
- Please pre-heat for 60 minutes before use the balance.

Preparation before Use

- Adjust level before use.
  Use the air bubble and feet under the front to adjust the level until the bubble move to the centre of the circle.
- Put the balance on the stable and flat table, not on shaking or vibrating plate, to make the balance stable. (Recommend to use aseismic marble)
- Avoid to put balance in place with big temperature change or air flow, such as the place with direct sunlight or cold air outlet.

- Please use the separate power socket to avoid the interruption by other device.
- Please do not put anything on the scale when power on the balance.
- Make balance adjust itself to the change of temperature.
  When change the balance from lower temperature to higher temperature or reverse, please put the balance in the new environment for about 2 hours, then pre-heat the balance , make it conform with the new room temperature.

Keypad



Button	*Description*
On / Off	Switch On-Off the balance
Zero / Cal	Short press: When measure is ≤ 6g – back to zero Long press: Enter calibration procedure
Tare	Tare – Scroll menu and number in setup
Print	Print – Change the position in settings
Mode	Function selection (weigh – PCS counting - Percentage…)
Unit	Short press: Unit conversion Long press: 1d / 10d conversion

Normal weighing

Preparation

- Connect the power supply.
- Press On/Off button to switch on the balance.
- Pre-heat Time
  In order to ensure the precision of weighing, please preheat the balance completely reference to technical parameter form (page 19-20), then start the following operation .
- Measure.

Example

Basic weigh operation（balance already pre-heated,

		Display
1	Zero position stable	0.0000 g
2	Put the container on the plate	50.0000 g
3	Tare the balance (TARE key)	0.0000 g
4	Put the sample in the container	68.3357 g

Calibration

In order to ensure the precision of weighing, please preheat the balance completely before the calibration

Procedure

		Display
1	Zero position stable	0.0000 g
2	With no load on the plate, keep pressed CAL key for 5 seconds	CAL
3	Scale value blinks for 3 seconds	200.0000 g
4	Put the correspondent external certificated weight on the plate	----------
5	Display the calibrated valued Calibration complete	200.0000 g

Function Operation

To choose the operating mode keep pressed MODE key for 3 seconds:

All functions are displayed, in a cycle:

Normal weighing mode	NORMAL	g
Pieces counting	COUNT	Pcs
Percentage weigh mode	PERCENT	%
Density measure mdoe	DENSITY	d

Press MODE to confirm the selection.

Density measure mode is an option, if you need please contact our company or authorized Distributor

PCS counting

By this procedure the user measures the total weight of the certain samples which with similar single weight, then divided by the single sample weight to get the final quantity of the sample.

Procedure

		Display
1	Select COUNT mode	COUNT pcs
2	Display asks for sample number	20 pcs
3	Use Tare to select an alternative number	10, 20, 100 …
4	Put the correspondent numbers of samples on the pan	----------
5	Press CAL to confirm the sample number	20 pcs
6	Unload the pan	0 pcs
7	Putt all your samples on the pan	167 pcs

- In Count Mode, to reset the sample number value, press MODE.
- To Exit the Count Mode: Keep pressed MODE key, and then choose the normal weigh mode.

Percentage

The end user can make a certain weight as definition 100%, then make other weight displayed as the percentage of the definition weight.

Procedure

		Display
1	Select Percent Mode	PERCENT %
2	Press TARE to select the precision of percentage	
3	Put on the pan the chosen % sample (es. 100,00%)	100,00 %
4	Press CAL to confirm sample 100%	100,00 %
5	Take off the sample	0,00 %
6	Put the unknown % sample	8,00 %

- In PERCENT Mode, to reset the sample % value, press MODE.
- To Exit the PERCENT Mode: Keep pressed MODE key, and then choose the normal weigh mode.

Density

By using this procedure user can measure the density value for solid or liquid so that judge the sample desirable or not. (need to buy the optional density kits).
First measure the solid density in air, and then the density of the solid in a certain liquid (the density of the liquid must be known in advance)

Procedure

		Display
1	Select Density Mode	DENSITY d
2	Press CAL to confirm the solid density measurement	SOLID
3	Balance asks for the liquid temperature coefficient (refer to Form1)- CAL to confirm	01.00000 d
4	The balance reminding to weight in air	HI
5	Put the sample and weight in air	6.8135 g
6	Press Cal to record the value	LO
7	Take off the solid	0.0000 g
8	Put the solid in liquid	1.3518 g
9	Press Cal to record the weight in liquid	OK
10	Display show the solid density calculated	1.2398 g^d

Result 1.2398 g/cm³

- If you want to measure different solid's density, please repeat step 4-8.
- In the solid density measure mode, if you want to reset the liquid density coefficient, press MODE to re-enter the coefficient setting.
- Exit the density mode: Long press MODE and choose the normal weigh mode

Settings Menu

To enter in the settings menu, keep pressed TARE + ZERO keys for 3 seconds, display shows *Cod0000.*

TARE *: scroll the numbers or chose the parameters*
PRINT *: change position*
ZERO *: confirm and enter in the next step.*

Code	*Mark display*	*Description*	*Setting range*
Cod 0001	Zero – x.x	Zero range	*0.0 d – 6.0 d*
	Stdy - x.x	Start sensitive range	*0.0 d – 6.0 d*
	Sens – x	Inner sensitivity grade	*1,2,3,4,5,6*
	Filt – x	Stability Filter	*1,2,3,4,5,6,7 -- 1 weakest – 7 strongest*
	Speed	Weighing speed	*1,2,3 -- 1 slow - 3 fast*
	BL – xxx	Backlight	*On, Off, AUTO*
	BEPxxx	Beeper	*On, Off*
	ModRec	Function mode	*0: switch on always in normal mode* *1: switch on in the last weighing mode used*
	Tadj	Display temperature	*-1.9 to +1.9*
	Baud xx	Baud rate	*12; 1200; 24; 2400; 48; 4800; 96; 9600.*
	Con – xxx	Communication	*NON: no communication* *CON: continuous* *STY: print when stable* *KEY: print when press PRINT key* *SOFT: software exchange* *Txxx: timing print, xxx is the time set, in sec*
	BLANk	Output the blank line	*Line 0,1,2,3,4,5,6,7,8,9*
Cod 0002	Unit - xxx	Unit on display	*On, Off*

Software Exchange

List of command which the communicating device can send in software exchange mode. (ASCII code)

No.	*Command*	*Function*
1	?	Sample
2	P	Print
3	T	Tare
4	Z	Back to Zero
5	U	Unit

Data sheet

Model	**XS BL 224**
Capacity	220 g
Precision level	I
Division	0.0001 g
Repeatability	± 0.0003 g
Linearity	± 0.0003 g
Stable time	≈ 3 sec
Warmup time	60 – 120 minutes
Operation temperature	20 ± 2,5 °C
Plate diameter	90 mm
Overall dimensions	325mmX205mmX305mm（L*W*H）
Chamber dimensions	180mmX175mmX200mm（L*W*H）
Net weight	≈ 6kg
Adapter power supply	460mmX360mmX400mm（L*W*H）

Maintenance

Cleaning

- Unplug the power adapter from the socket.
  If there is cable connecting with the balance interface, unplug the cable as well .
- Clean the balance by a cloth soaked in neutral flush (soap).
- After cleaning, wipe the balance by a soft dry cloth.
- Taking up the bracket to check the weighing system not damaged.

Don’t make the liquid flow into the shield of balance; Don’t use the corrosive flush(solvent) to clean the stainless steel surface.
All the stainless steel parts need to be flushed frequently, take out of all the stainless steel parts and flush them completely, use the wet cloth or sponge to clean the stainless steel parts.
Only use the homely flush suitable to clean stainless steel parts.

Warranty

We offer two years warranty for the balance from the date it sold out.
Damages not caused by misuse or vandalism all belong to warranty exclude the following case:

- Balance out of warranty.
- Damage caused by misuses such as long time under sunshine or receive corrosion.
- The user does not obey the operation manual such as overloading the balance.
- If the user disassembly the balance on his own, without authorized technician support.
- Any brute force application caused the damage of balance. E.g. throw the heavy loads to the pan, open or shut the chamber door violently.

If you have any quality problem, please pack the product well together with the
warranty card, then contact the distributor.
The sensor is not within warranty range.
Any product out of warranty or caused by misuse will be charged a reasonable repairing fee.

Disposal of electronic devices

The electrical and electronic equipment marked with this symbol cannot be disposed of in public landfills. According to the WEEE Directive 2012/19/EU, the European users of electrical and electronic equipment can return it to the dealer or manufacturer upon purchase of a new one. The illegal disposal of electrical and electronic equipment is punished with an administrative fine.