



User manual

Electronic analytical scale
BL 224 Basic



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1. Knowing the scale

Thank you for choosing the BL 224 Basic Scale.

This manual will be helpful for installation, accessory using, troubleshooting, general maintenance, etc.

It will also guide you through the different applications. Please read the manual carefully before proceeding to use the scale. For any clarification, please do not hesitate to contact us. The BL 224 Basic is ideal for laboratory and general purpose weighing.

Data sheet:

Model	BL 224 Basic
Capacity	220 g
Resolution	0,0001 g
Repeatability	± 0,0003 g
Linearity	± 0,0003 g
Minimum weight	0,0100 g
Calibration	External
Unit of measurement	g
Stabilization time	≈ 3 Seconds
Working temperature	15°C ... 30°C
Data transmission	RS232
Display	Backlit LCD
Pan size	Φ 90 mm stainless steel
Total size	325 * 205 * 305 mm
Net weight	6 kg
Power supply	Output 15 V – 500 mA (Input 230/240 V – 50 Hz – 150 mA)
Applications	Classic weighing, net weight/tare, piece-counting feature, percentage weighing
Accessories	Power supply, glass protection case, adjustable feet, leveling bubble, 200 g E2 weight

2. Packaging opening

Remove the scale from the packaging carefully by lifting it out of the box.

Inside the box will be everything you need to use the scale.

3. Setting

The scale must not be set up in places where its accuracy could be reduced.

Avoid extreme temperatures.

Do not place the scale near air conditioning and in direct sunlight.

Avoid unsuitable tables: the table and floor should be rigid and stabilized (no shaking of any kind).

Avoid unstable power sources.

Avoid using the scale near large energy users such as welding equipment and large motors.

Do not place the scale near vibrating equipment.

Avoid very humid places that could cause condensation.

Avoid direct contact with water: do not spray or immerse the scale in water.

Avoid air movement such as fans or door openings.

Do not place the scale near open windows or air conditioners.

Keep the scale clean.

Do not add load on the scale when it is not in use.

4. Preparation and installation

Place the scale on a rigid, stable and vibration-free table.

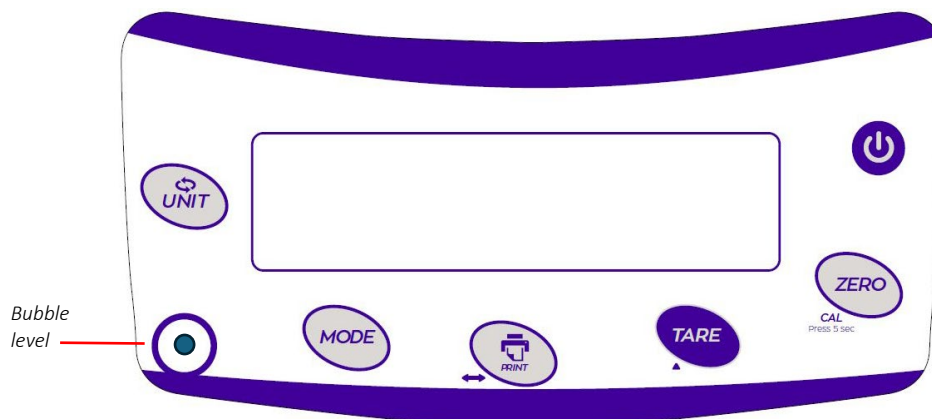
Open the windproof door and gently mount the stainless steel plate.

Level the scale by acting on the height-adjustable feet while looking at the bubble.

Connect the scale's power supply to the mains.

For best performance, leave the scale on for 30-60 minutes, after which perform a calibration.

5. Keypad



	On/Off
	Short pressure: when the measurement is ≤ 6 g, the weighed load will return to zero. Long press: enter the calibration procedure.
	Tare key: the load used for Tare will be subtracted from the total weighing capacity. In configuration mode, it is used to scroll through menus.
	Send the value to the printer or PC. In configuration mode, it is used to change the position.
	Long press: change and select function (Weighing, Piece-Counting or Percentage)
	Long pressure: change resolution (0.0001 g or 0.001 g)

6. Calibration

For best measurement accuracy, let the balance warm up before calibration.

Procedure:

1. stable Zero (on display 0.0000 g);
2. with empty weighing pan, press and hold the ZERO (CAL) key for 5 seconds;
3. the value flashes for 3 seconds;
4. open a window of the case and place the certified mass required by the balance (200.0000 g) on the weighing pan;
5. wait for the balance to recognise the mass and complete the calibration itself;
6. remove the mass used for calibration, wait for the balance to go to 0.0000 g and perform a verification weighing with the same mass.

7. Piece-Counting feature

To choose the function to be used, press and hold the MODE key for 3 seconds.

Functions will be displayed one at a time in the following cycle:

- Classic weighing (NORMAL – g)
- Piece-Counting feature (COUNT – Pcs)
- Percentage weighing (PERCENT - %).

With the Piece-Counting feature, the user can know the count of pieces with the same mass:

1. select the COUNT option from the menu;
2. the sample quantity will be displayed on the display;
3. press TARE to confirm the shown quantity;
4. put the previously selected sample quantity on the weighing pan;
5. press ZERO (CAL) to confirm;
6. remove the samples from the weighing pan and wait for the count to go to zero;
7. place the samples to be counted on the weighing pan.

To reset the sample quantity to zero, press MODE.

To quit Piece-Counting mode, press and hold the MODE key and choose classic weighing mode.

8. Percentage weighing feature

The user can select a mass that will be classified as 100% and see the percentage of another mass in relation to that:

1. select the PERCENT option from the menu;
2. press TARE to select the percentage option;
3. put the sample on the weighing pan, which will be associated with 100%;
4. press ZERO (CAL) to save 100%;
5. remove the sample from the weighing pan;
6. put the other sample you want to know the percentage of on the weighing pan.

To reset the percentage to zero, press MODE.

To exit Percentage mode, press and hold the MODE key and choose classic weighing mode.

9. Settings menu

To enter the settings menu, press and hold TARE + ZERO (CAL) for 3 seconds. **Cod0000** will appear on the display.

- TARE: changing numbers or scrolling through parameters;
- PRINT: changing position;
- ZERO (CAL): confirm and enter the next menu.

<i>Code</i>	<i>Display</i>	<i>Description</i>	<i>Setting range</i>
<i>Cod 0001</i>	Zero – x.x	Zero range	0.0 d – 6.0 d
	Stdy - x.x	Sensitivity range start	0.0 d – 6.0 d
	Sens – x	Internal sensitivity	1,2,3,4,5,6
	Filt – x	Stability filter	1,2,3,4,5,6,7 -- 1 low – 7 high
	Speed	Weighing speed	1,2,3 -- 1 low - 3 high
	BL – xxx	Backlighting	On, Off, AUTO
	BEPxxx	Acoustic warning	On, Off
	ModRec	Features	0: switching on always in classic weighing mode 1: switching the scale on in the last mode used
	Tadj	Display temperature	-1.9 to +1.9
	Baud xx	Transmission rate	12; 1200; 24; 2400; 48; 4800; 96; 9600.
	Con – xxx	Communication	NON: no communication CON: continues STY: print when measurement is stable KEY: print when the PRINT key is pressed SOFT: software change Txxx: after a set time
<i>Cod 0002</i>	BLANK	Black line output	Line 0,1,2,3,4,5,6,7,8,9
	Unit - xxx	Display Unit	On, Off

10. RS232 data trasmission

Elenco dei comandi che il dispositivo comunicante può inviare in modalità di scambio software (Codice ASCII):

<i>No.</i>	<i>Command</i>	<i>Feature</i>
1	?	Sample
2	P	Print
3	T	Tare
4	Z	Back to zero
5	U	Unit



Electrical and electronic equipment with this symbol affixed may not be disposed of in public landfills. In accordance with the WEEE Directive 2012/19/EU, European users of electrical and electronic equipment have the option of returning used equipment to the Distributor or Manufacturer when purchasing new equipment. Illegal disposal of electrical and electronic equipment is punishable by administrative fine.