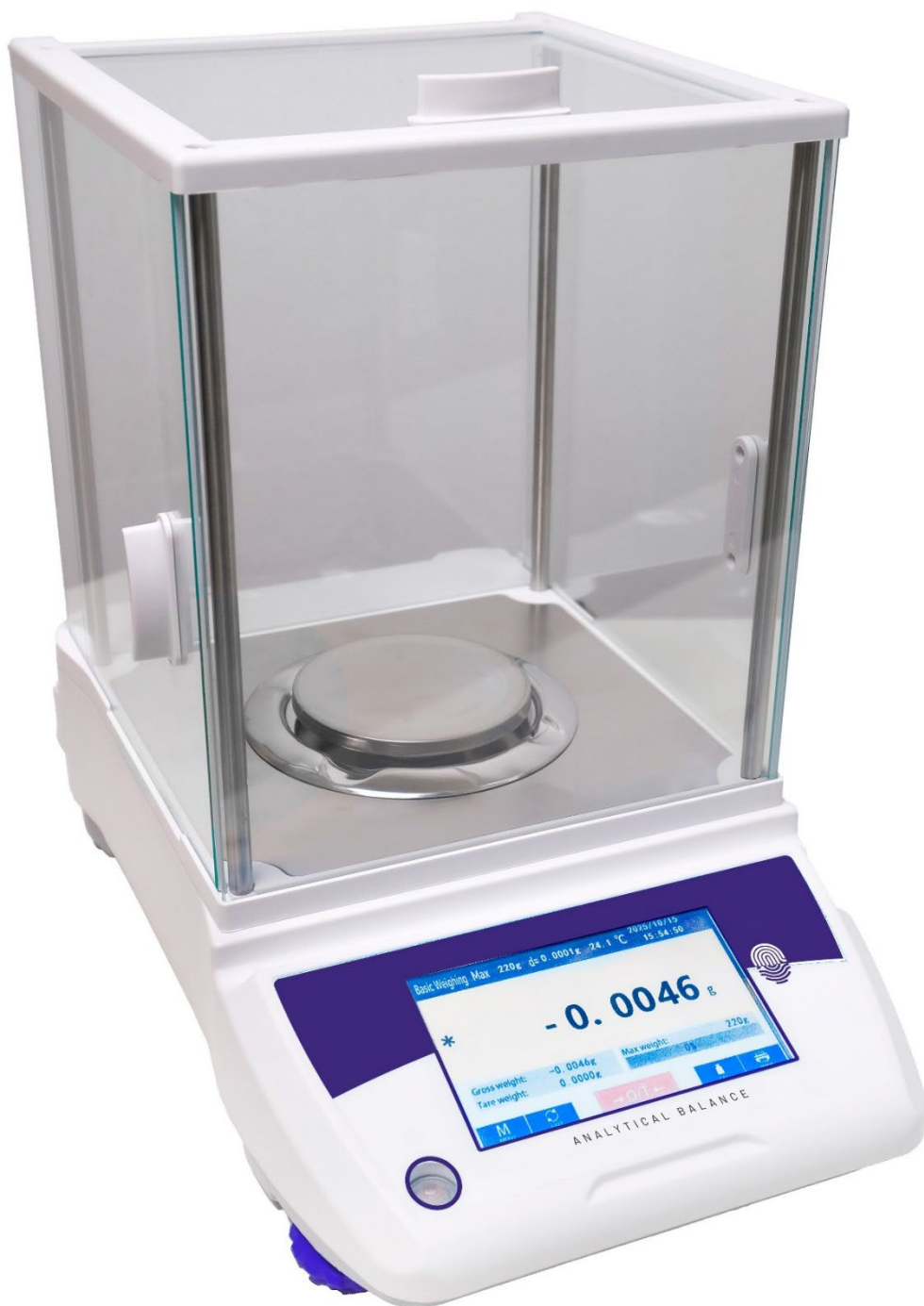




User manual

Electronic analytical scale
BL 224 Touch



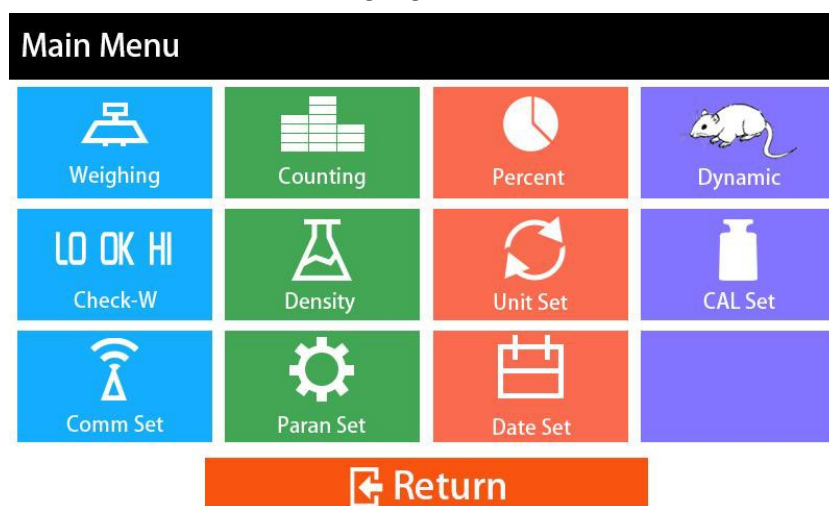
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1. Knowing the scale

Thank you for choosing the BL 224 Touch Scale.

This manual will be helpful for installation, accessory use, 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 Touch is ideal for laboratory and general-purpose weighing. The scale can also be used for advanced weighing functions.



Data sheet:

Model	BL 224 Touch
Capacity	220 g
Resolution	0,0001 g
Repeatability	± 0,0001 g
Linearity	± 0,0002 g
Minimum weight	0,0005 g
Calibration	Internal + External
Unit of measurement	mg – g – oz – ct – oz – lb – gn – ozt – dwt – dr – mm – tmr – tar – tl.l – tl.t – tl.h
Memory	Internal memory for storing 500 weighing data
Response time	≤ 3 Seconds
Working temperature	15°C ... 35°C
Data transmission	RS232
Display	Touchscreen 5"
Plate size	Φ 90 mm stainless steel
Overall size	360 * 220 * 320 mm
Net weight	6,5 kg
Power supply	110 – 240 V, 50 Hz / 60 Hz DC 12 V 1000mA
Applications	Classic weighing, net weight/tare, under-scale weighing, piece counting, density, percentage weighing, Min/Max weight control, animal weighing
Accessories	Power cable, glass protective cover, adjustable feet, levelling bubble, F1 mass 200 g

2. Packaging opening

Remove the scale from the packaging carefully by lifting it out of the box.
Inside the box there will be everything you need to use the scale.

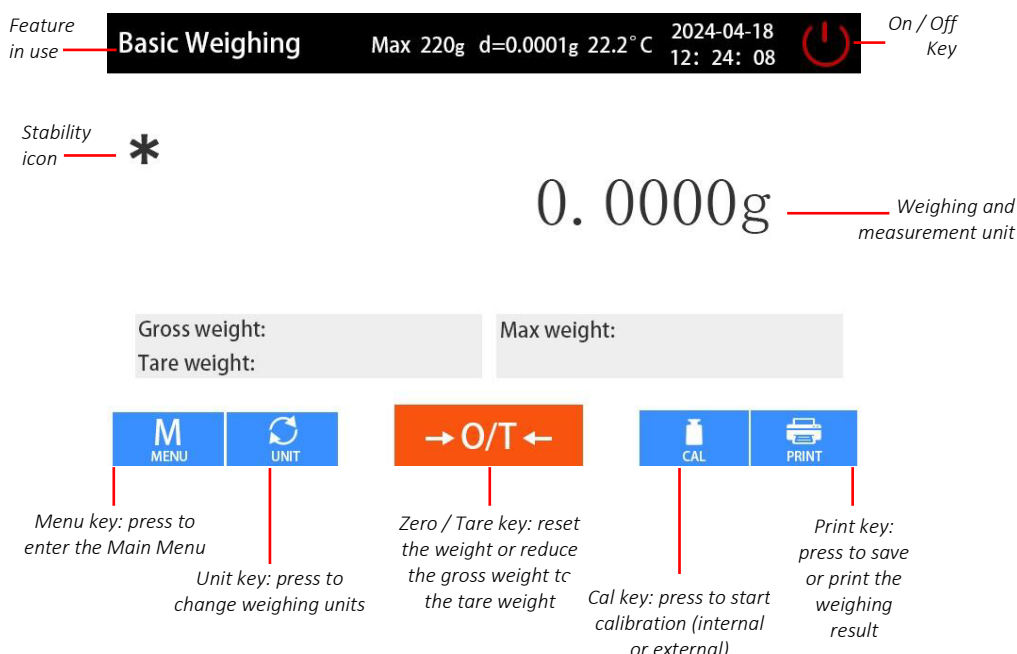
3. Setting

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

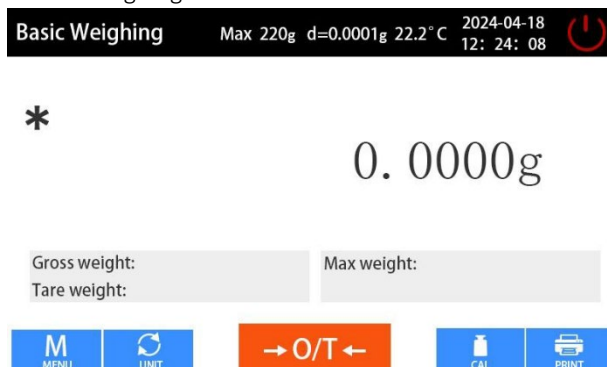
Place the scale on a rigid, stable and vibration-free table.
Open the windproof door and gently mount the stainless-steel plate.
Level the scale by acting on the height-adjustable feet while looking at the bubble.
Connect the scale's power supply to the mains.
For best performance, leave the scale on for 30-60 minutes, after which perform a calibration.

5. Basic settings and keys

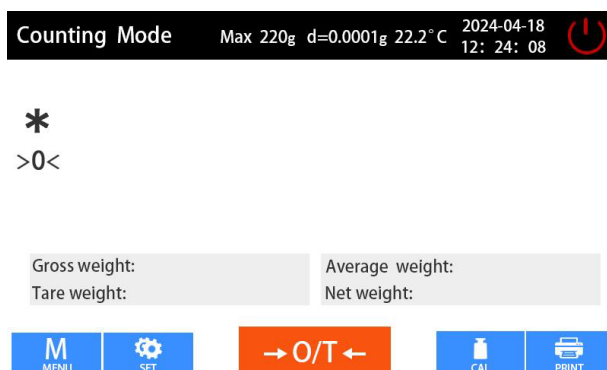


6. Main Menu - Features

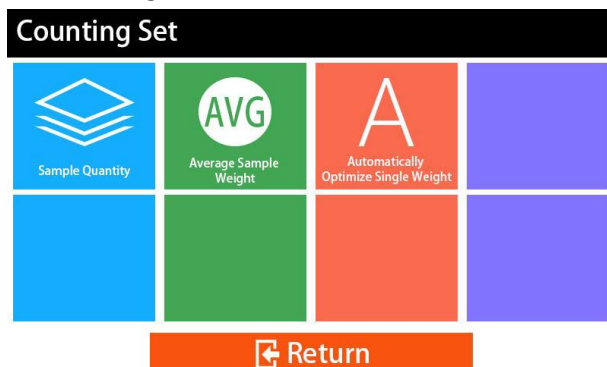
“Classic Weighing” feature: for normal weighing.



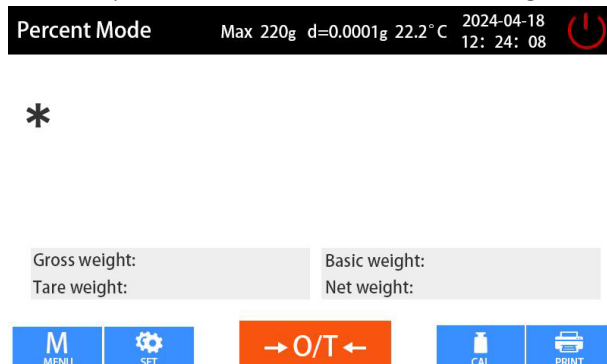
“Piece Counting” feature: it counts the items that are added to or removed from the weighing pan.



Press the “SET” key to enter the count setting data.



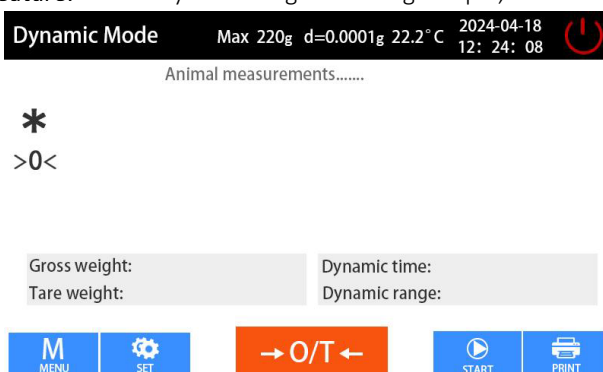
“Percentage Weighing” feature: it allows you to determine the difference in weight as a percentage.



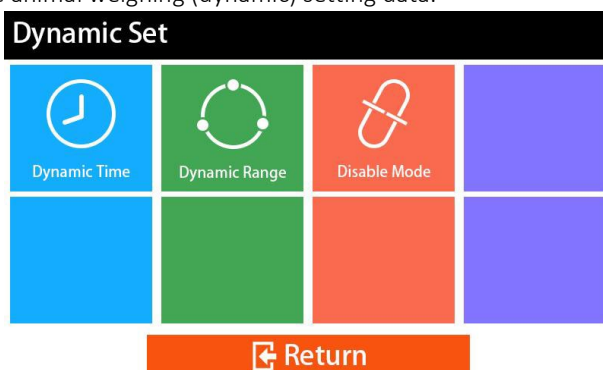
Press the “SET” key to enter the percentage setting data.



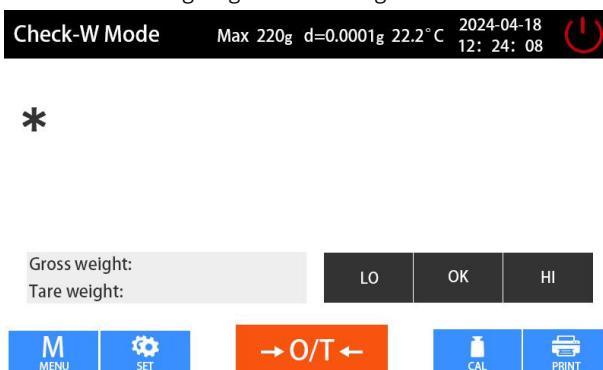
“Animal Weighing (Dynamic)” feature: it allows you to weigh a moving sample, such as a live animal.



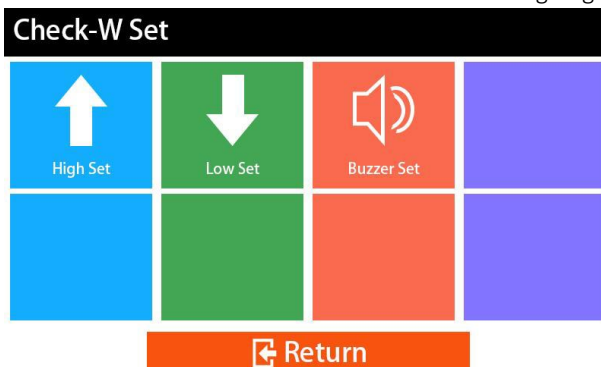
Press the “SET” key to enter the animal weighing (dynamic) setting data.



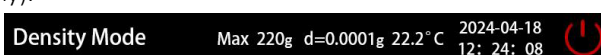
“Min/Max Weight Control” feature: it allows weighing within a range with a minimum and maximum value.



Press the “SET” key to enter the minimum and maximum values for the check weighing.

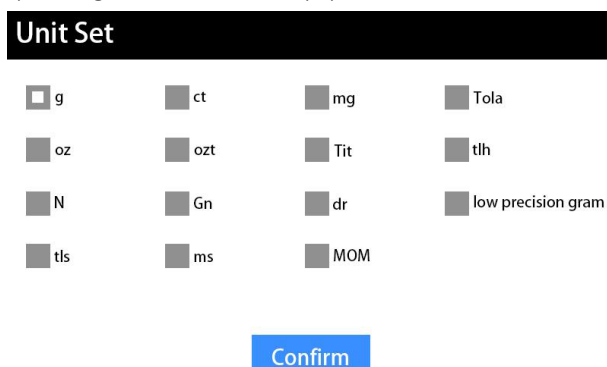


“Density” feature: it allows you to determine the density of a solid. This feature can only be used with the Density Kit for BL 224 Touch (sold separately).



7. Unit of Measurement

The scale can convert the result into different units of measurement by pressing the “UNIT” key. By entering the Main Menu and pressing the “UNIT SET” key, you can select the desired units.



8. Calibration

For more accurate measurements, warm up the scale before calibration. This must be done at the place of use and at regular intervals. You can select two calibration modes: Internal or External. Both are started by pressing the “CAL” key on the “Classic Weighing” screen.

Internal Calibration:

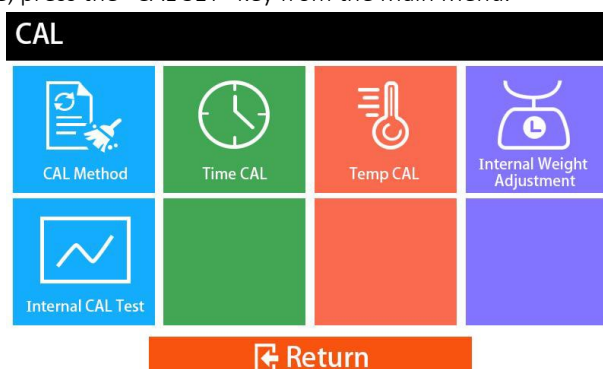
- switch on and wait for the warm-up time
- make sure there is no weight on the plate
- close the glass doors of the case
- the display will show “0.0000 g”
- press the “CAL” key to start the automatic internal calibration process

- when “Calibration Ok” appears, the process is complete and the scale will return to measurement mode.

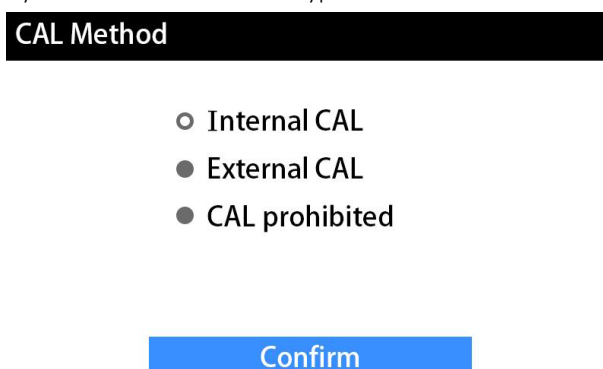
External Calibration:

- switch on and wait for the warm-up time
- make sure there is no weight on the plate
- close the glass doors of the case
- the display will show “0.0000 g”
- press the “CAL” key to start the external calibration process
- the weight to be used for calibration will be displayed
- place the weight in the center of the weighing pan (*the weight must be of a suitable accuracy class*)
- remove the weight and wait for the message “Calibration OK” to appear, the weight to return to “0.0000 g” and the scale to return to measuring mode.

To change the calibration mode, press the “CAL SET” key from the Main Menu.



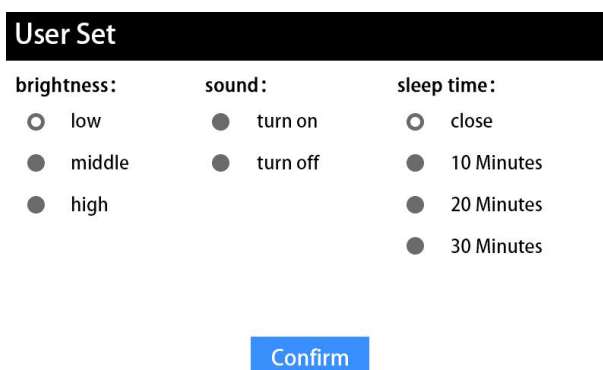
Next, press the “CAL Method” key to select the calibration type and confirm.



9. Other internal settings

Below are some customizable parameters that can be found by pressing the “Paran Set” key from the Main Menu.

User Set: to customize “brightness”, “alarm” and “auto power off”.



Filter Parameters: to customize the “filters” applied to the weighing.

Filter Parameters

☐ 1	☒ 2	☒ 3
☒ 4	☒ 5	☒ 6

Confirm

Weighing Display Speed: to customize the weighing “speed”.

Weighing Display Speed

☐ 1	☒ 2	☒ 3
☒ 4	☒ 5	☒ 6

Confirm

Drift Control: to customize the weighing “sensitivity”.

Drift Control

☐ 0	☒ 1	☒ 2
☒ 3	☒ 4	☒ 5
☒ 6		

Confirm

10. Print and data saving settings

As stated in the technical data sheet, the BL 224 Touch allows you to save up to 500 weighing records in its internal memory and, at the same time as they are saved or later, print them using the XS Balance printer (sold separately). From the Main Menu, press the “Comm Set” key to access the various settings for data storage and printing. The output interface uses a standard 9-pin RS232C port. It can also be connected to a computer. The output communication format is adjusted by setting the baud rate.

Print Set: how to save/print data.

COM-1 Print Set

- ☐ Communication closed
- ☒ Continuous sending (5 weighing data per second)
- ☒ Send 1 piece of weighing data after stabilization
- ☒ Press the button to send a weighing data (default)
- ☒ Command to send data
(computer sends U unit/T tare/R print)

Confirm

Baud Rate Set: the speed at which data transmission is set.

COM-1 Baud Rate Set

- Baud Rate
- | | |
|---------------------------------------|--|
| ☐ 1200 | ☒ 19200 |
| ☒ 2400 | ☒ 38400 |
| ☒ 4800 | |
| ☒ 9600 | |

Confirm

Return

Data Format: customize the saved data.

COM-1 Data Format

- ☐ Weighing data without positive and negative signs and without units should be brought back to the dealer (CR LF)
- ☒ No positive or negative sign, unitless weighing data, no carriage return line (CR LF)
- ☒ Weighing data with positive and negative signs and units should be brought back to the dealer (CR LF)
- ☒ Weighing data without positive and negative signs, with units, brought back to the dealer (CR LF)
- ☒ There are plus and minus signs, with gross weight and stability marks, and weighing data in units, Bring back the carriage key (CR LF)
- ☒ With gross weight, net weight, total weight

Confirm

Next >

COM-1 Data Format

- ☐ Zero point and negative number do not send weighing data
- ☒ Weighing data must also be sent for zero points and negative numbers
- ☐ Choose computer or regular printer
- ☒ Select an editable printer
- ☐ CR characters are not output, suitable for straight lines
- ☒ Does not output CRLF characters, suitable for ordinary serial lines

< Previous

Confirm

Next >

COM-1 Data Format

- ☐ Items need to be removed before weighing data can be sent again.
- ☒ Don't add another item without removing it.
Weight can send data again.
- ☐ The number of times to send data is 5~6 times/(default).
- ☒ Number of data sent 10~ 12 times/5.
- ☐ The clock function is turned on, and the data output has time.
- ☒ The clock function is turned off and the data is output without time.

< Previous

Confirm

11. Problems and Solutions

Problem	Reason	Solution
The display is not functioning	The power supply is not connected to the mains or to the scale. The power supply is damaged. The display is damaged.	Connect the power supply to the mains or to the scale. Replace the scale's power supply. Contact technical support.
Unstable weighing	Environmental conditions are not optimal. Wind shields are not closed properly. Scale not levelled. Worktable not suitable. Mains power supply is not stable.	Make the environmental conditions more suitable (as specified in the manual). Ensure that all doors of the wind shield are properly closed. Level the scale using a spirit level. Use it on a stable, vibration-free table. Change the scale's power supply.
The weighing is wrong	The scale has not been calibrated. Tare or zero adjustment has not been performed before weighing. Environmental conditions are not suitable. Windshield is not closed properly. Scale is not levelled. Worktable not suitable.	Calibrate the scale. Tare or zero the scale before weighing. Ensure that environmental conditions are suitable (as specified in the manual). Ensure that all doors of the windshield are properly closed. Level the scale using a spirit level. Use it on a stable, vibration-free table.



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.