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Operating instructions
School balance

KERN EIB

Type TEIB-A
Version 1.0
2025-10
en



TEIB-A-BA-e-2510

en

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Version 1.0 2025-10

Operating instructions – School balance

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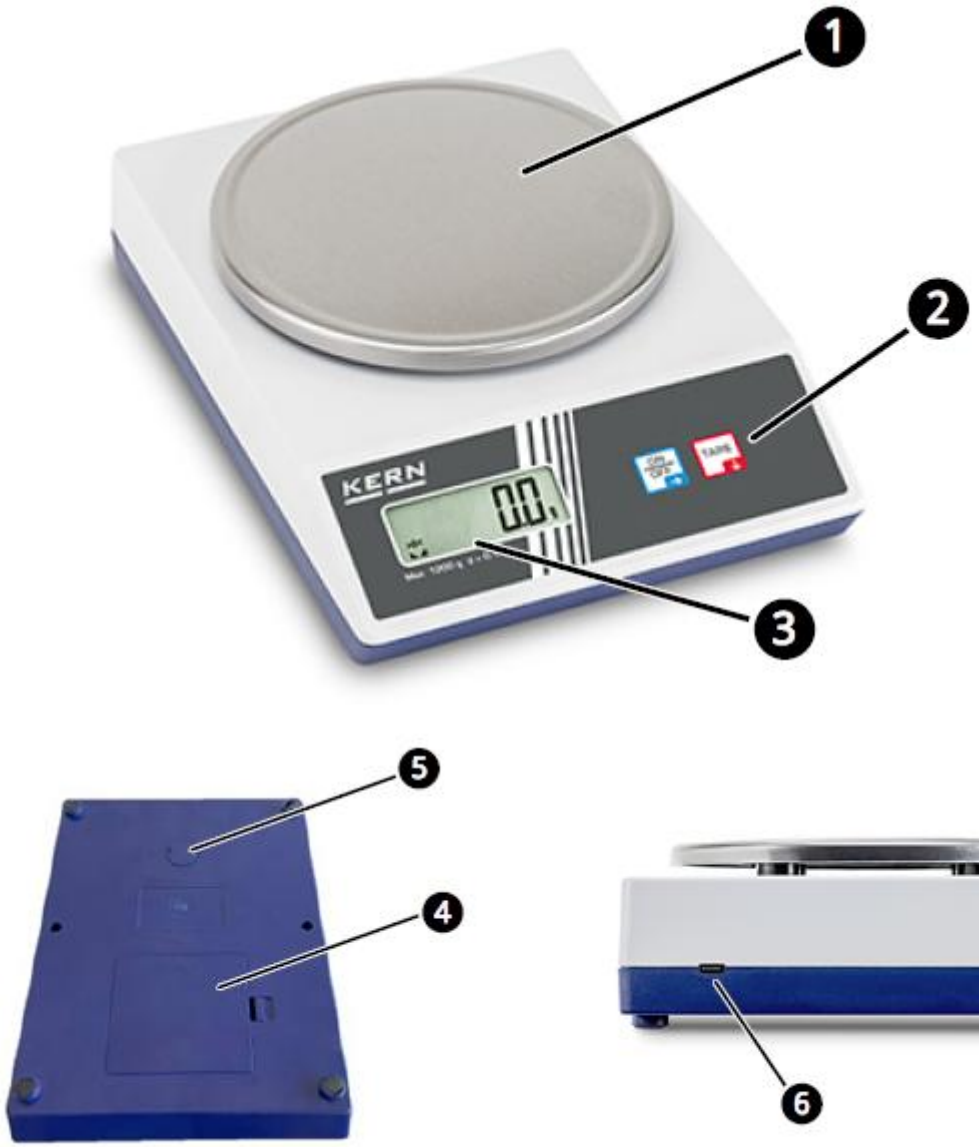
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1 Technical data

KERN	EIB 500-1	EIB 1200-1	EIB 2200-0
Type/item number	TEIB 520-1-A	TEIB 1200-1-A	TEIB 2200-0-A
Readability (d)	0.1 g	0.1 g	1 g
Weighing range (max)	520 g	1200 g	2200 g
Reproducibility	0.1 g	0.1 g	1 g
Linearity	± 0.2 g	± 0.3 g	± 2 g
Recommended adjustment weight Not included (class)	500 g (M1)	1000 g (M1)	2000 g (M1)
Settling time (typical)	3 sec		
AUTO-OFF function (when running on batteries)	OFF, 30 sec, 1 min, 3 min.		
Units	dwt, g, gn, oz, ozt, lb		
Operating temperature	+5°C… +35°C		
Humidity	max. 80% (non-condensing)		
Housing (W x D x H) mm	170 x 235 x 65		
Weighing plate mm	Ø 150		
Battery operation (standard)	4 x 1.5 V AA Operating time: 25 hours	4 x 1.5 V AA Operating time: 25 hours	4 x 1.5 V AA Operating time: 25 hours
Mains adapter (optional)	5 V / 1 A		
Suspended weighing device	Yes (hook included)		

2 Device overview

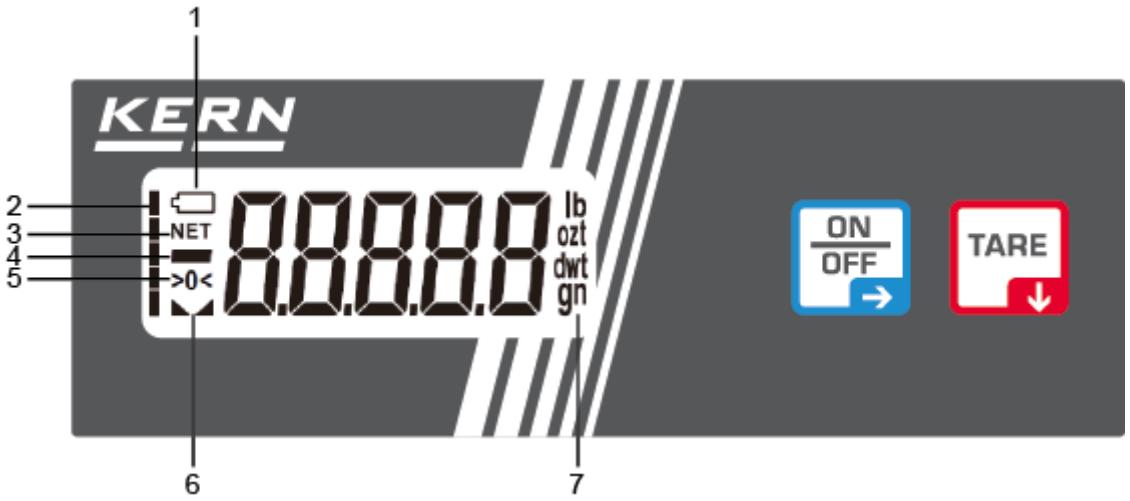
2.1 Components



Item	Designation
1	Weighing plate
2	Keypad
3	Display

Item	Designation
4	Battery compartment
5	Suspended weighing device
6	Mains adapter connection

2.2 Display overview



1	Battery indicator
2	Bar graph
3	Net weight
4	Negative value
5	Balance set to zero
6	Stability indicator
7	Weighing units

2.3 Keyboard overview

ON OFF	• Switch on the balance (short press) • Switch off the balance (long press) • **In the menu**: Confirm menu item
TARE	• Tare/zero the balance • Call up menu (long press) • **In the menu**: Select menu items

3 Basic information (general)

3.1 Intended use

The balances you have purchased are designed to determine the weight of items being weighed. They are intended for use as "non-automatic balances", i.e. the items to be weighed are placed manually, carefully and centrally on the weighing plate. Once a stable weight value has been reached, the weight value can be read off.

3.2 Improper use

- Our balances are non-automatic balances and are not intended for use in dynamic weighing processes. However, the balances can also be used for dynamic weighing processes after checking the individual area of application and, in particular, the accuracy requirements of the application.
- Do not leave any permanent load on the weighing plate. This can damage the measuring mechanism.
- Avoid impacts and overloads of the balance above the specified maximum load (Max), minus any tare load that may already be present. This could damage the balance.
- Never operate the balance in potentially explosive atmospheres. The standard version is not explosion-proof.
- The balance must not be modified in any way. This can lead to incorrect weighing results, safety defects and destruction of the balance.
- The balance may only be used in accordance with the specifications described. Any other areas of use/applications must be approved in writing by KERN.

3.3 Warranty

The warranty shall be void in the event of

- Failure to observe our specifications in the operating instructions
- use outside the described applications
- Modification or opening of the device
- Mechanical damage and damage caused by media, liquids natural wear and tear
- Improper installation or electrical installation
- Overloading of the measuring mechanism

3.4 Test equipment monitoring

As part of quality assurance, the metrological properties of the balance and any test weights must be checked at regular intervals. The responsible user must define a suitable interval for this as well as the type and scope of this test. Information regarding the test equipment monitoring of balances and the test weights required for this purpose is available on the KERN website (www.kern-sohn.com). Test weights and balances can be calibrated quickly and cost-effectively at KERN's accredited DKD calibration laboratory (traceable to the national standard).

4 Basic safety instructions

4.1 Observe the instructions in the operating manual



⇨ Read these operating instructions carefully before installation and commissioning, even if you already have experience with KERN balances.

4.2 Training of personnel

The device may only be operated and maintained by trained personnel.

5 Transport and storage

5.1 Inspection upon receipt

Please check the packaging immediately upon receipt and the device upon unpacking for any visible external damage.

5.2 Packaging/return transport



⇨ Keep all parts of the original packaging for any necessary return transport.

⇨ Only use the original packaging for return transport.

⇨ Before shipping, disconnect all connected cables and loose/movable parts.

⇨ Reattach any transport locks that may have been provided.

⇨ Secure all parts, e.g. glass windshield, weighing plate, power supply unit, etc., against slipping and damage.

6 Unpacking, installation and commissioning

6.1 Installation location, place of use

The balances are designed to provide reliable weighing results under normal conditions of use.
You can work accurately and quickly if you choose the right location for your balance.

Please note the following at the installation site:

- Place the balances on a stable, level surface.
- Avoid extreme heat and temperature fluctuations, e.g. by placing the balances next to a heater or in direct sunlight.
- Protect the balances from direct draughts caused by open windows and doors.
- Avoid vibrations during weighing.
- Protect the balances from high humidity, vapours and dust.
- Do not expose the device to high humidity for long periods of time. Unauthorised condensation (condensation of air humidity on the device) may occur if a cold device is brought into a significantly warmer environment. In this case, allow the device to acclimatise at room temperature for approx. 2 hours after disconnecting it from the mains.
- Avoid static charging of the weighing goods and weighing container.
- Do not operate in areas where there is a risk of explosion or in areas where gases, vapours, mists or dusts may cause an explosion!
- Keep away from chemicals (e.g. liquids or gases) that could attack and damage the inside or outside of the balance.
- In the presence of electromagnetic fields, static charges (e.g. when weighing/counting plastic parts) and unstable power supplies, significant display deviations (incorrect weighing results and damage to the balance) are possible. The location must then be changed or the source of interference eliminated.

6.2 Unpacking and checking

Remove the device and accessories from the packaging, remove the packaging material and set up the device at the intended workplace. Check that all parts included in the scope of delivery are present and undamaged.

6.2.1 Setting up

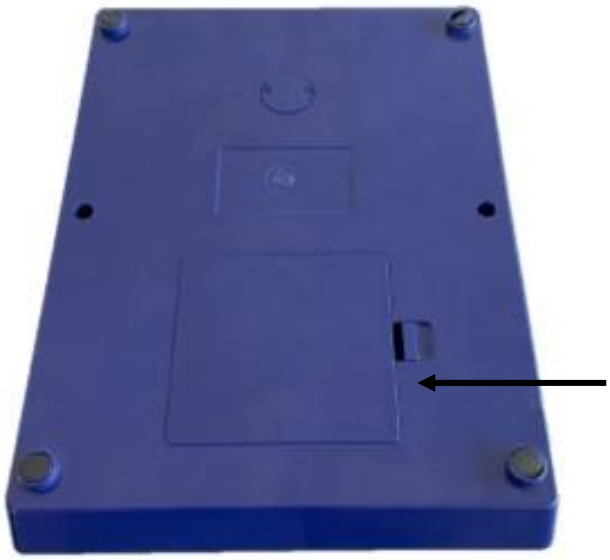
The balance must be set up so that the weighing plate is exactly horizontal.

6.2.2 Scope of delivery

- Balance
- Batteries (4 x 1.5 V AA)
- Hook for under-floor weighing
- Operating instructions

6.3 Battery operation (standard)

Remove the battery cover (see black arrow in the illustration) under the weighing pan. Insert 4 x 1.5 V batteries. Replace the battery cover.



To conserve battery power, the balances switch off automatically 3 minutes after weighing is complete.

- When the batteries are almost empty, the battery symbol appears on the display.
- When the batteries are completely depleted, the battery symbol and "Lo bAt" appear on the display.
- Press the "

" button and replace the batteries immediately.

If the balances are not used for a long period of time, remove the batteries and store them separately. Leaking battery fluid could damage the balances.

6.4 Mains connection (optional)

Power is supplied via the external power supply unit KERN FS-E07 (optional) and the USB 3.0 cable KERN FS-E06 (optional). The voltage value printed on the device must correspond to the local voltage.
Only use original KERN power supply units. The use of other brands requires the approval of KERN.

6.5 Initial start-up

A warm-up time of 3 minutes after switching on stabilises the measured values.

The accuracy of the balance depends on the local gravitational acceleration.
It is essential to observe the instructions in the "Adjustment" chapter.

6.6 Adjustment

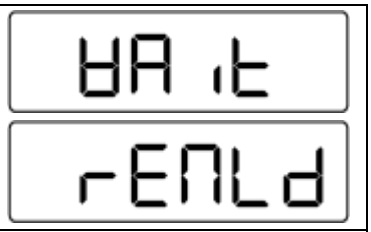
Since the value of gravitational acceleration is not the same everywhere on earth, each balance must be adjusted to the gravitational acceleration prevailing at its location in accordance with the underlying physical weighing principle (only if the balance has not already been adjusted at the factory for its location). This adjustment process must be carried out during initial commissioning, after each change of location and in the event of fluctuations in the ambient temperature. In order to obtain accurate measurements, it is also advisable to adjust the balance periodically during weighing operation.

The accuracy of the balances can be checked and readjusted at any time using an adjustment weight.

Adjustment procedure:

Ensure stable ambient conditions. A warm-up period is required for stabilisation.

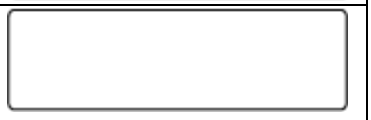
Switch on the balance with "ON/OFF".	
Press and hold TARE until "unit" appears.	
Press again TARE, "cALE" appears	
Press again ON/OFF, "Zero" followed by the required adjustment weight will be displayed.	  (Example)
"PutLd" is then displayed.	

Place the adjustment weight on the balance. "Wait" followed by "reMLd" will be displayed. Remove the adjustment weight while "rEMld" is displayed.	
The balance automatically switches to weighing mode. The adjustment has now been successfully completed.	

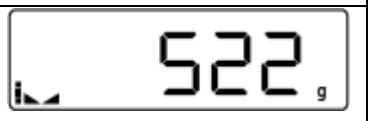
If there is an adjustment error or the adjustment weight is incorrect, "WronG" appears. Repeat the adjustment.
Keep the calibration weight with the balance. Daily checking of the balance accuracy is recommended for quality-relevant applications.

7 Operation

7.1 Weighing

Switch on the balance with "ON/OFF". The balance performs a self-test and then switches to zero display.	
If the weighing object is heavier than the weighing range, appears on the display (= overload).	
The balance is switched off by pressing and holding the ON/OFF button.	

7.2 Taring

In weighing mode, place the tare container on the weighing pan and press "TARE". The display will show "0" and the weight of the container will now be stored internally. If the weight is heavier than the "zero range" (20d), "NET" will be displayed.	
Place the item to be weighed on the weighing pan and read the measured value. The bar graph appears according to the weight placed on the weighing pan.	 (Example)

If you press the TARE button again after completing the weighing process, "0" will reappear.

The taring process can be repeated any number of times, for example when weighing several components to make a mixture (additional weighing).

The limit is reached when the entire weighing range is occupied.

After removing the tare container, the total weight appears as a negative display.

7.3 Weighing units

The balance can display different units.
The switchover is made in the menu under the menu item "unit".

	Display display	**Conversion factor 1 g =**
grams *	**g**	**1**
ounce	oz	0.035273962
Troy ounce	ozt	0.032150747
Pennyweight	dwt	0.643014931
Grain	gn	15.4324
pound	lb	0.00220462

7.4 Suspended weighing

Suspended weighing can be used to weigh objects that cannot be placed on the weighing pan due to their size or shape.
Proceed as follows:

- ⇨ Switch off the balance.
- ⇨ Open the cover on the bottom of the balance.
- ⇨ Place the balance over an opening.
- ⇨ Screw the hook in completely.
- ⇨ Attach the item to be weighed and carry out the weighing.

CAUTION

- **Ensure that all attached objects are stable enough to hold the desired weighing material securely (risk of breakage).**
- **Never attach loads exceeding the specified maximum load (Max). (risk of breakage).**

Always ensure that there are no living beings or objects under the load that could be damaged.

NOTE

After completing the suspended weighing, the opening in the base of the balances must be closed again (dust protection).

8 Menu

8.1 Navigation in the menu

Entering the menu	⇨ In weighing mode, press and hold the TARE button, "unit" is displayed.
Menu items Select	⇨ TARE can be used to select the individual menu items in sequence.
Settings Change	⇨ Confirm the selected menu item with 'ON/OFF' (Enter/Confirm) to display the current setting. ⇨ Use 'TARE' to select the desired setting and confirm with 'ON/OFF'.

8.2 Menu overview

unit	Weighing units: dwt, g, gn, oz, ozt, lb
cALE	Adjustment with specified adjustment weight
tr	Auto zero tracking
AF	Auto off selectable after 30, 60, 180 sec., off
rESEt	Return to factory settings
EXit	Back to weighing mode

8.3 Description of individual menu items

8.3.1 Switching between weighing units

Prerequisite: Menu item "unit":

⇨ Confirm "unit" with "ON/OFF" (Confirm unit). The last weighing unit set is displayed.

⇨ Use the "TARE" button to switch between weighing units until the desired unit appears. Confirm with the "ON/OFF" button; the unit flashes briefly before the balance returns to the menu.

⇨ Press "

" until the menu item "Exit" appears, then confirm with "

".
The balance switches to weighing mode and the new weighing unit is now set.

8.3.2 Zero tracking

The auto-zero function automatically compensates for small weight fluctuations.
If small quantities of the weighing material are removed or added, the "stability compensation" feature in the balance may cause incorrect weighing results to be displayed! (Example: slow flow of liquids from a container on the balance).
When dosing with small weight fluctuations, it is therefore advisable to switch off this function.
However, when **zero tracking** is switched off, the balance display becomes less stable.

Activating/deactivating zero tracking:
Prerequisite: Menu item "tr":

⇨ Confirm menu item with "

"

⇨ 

can now be used to select between the following settings:

Display	Setting
"on"	Auto-zero switched on
"oFF"	Auto-zero switched off

⇨ Confirm your selection with "

". Use "

" to navigate to the "Exit" menu item and confirm with "

". The balance switches to weighing mode.

8.3.3 AUTO-OFF function

For battery operation, the balance has an automatic switch-off function that can be activated or deactivated in the menu. To do this, proceed as follows:
Prerequisite: Menu item "AF":

⇨ Confirm with "

".

⇨ 

allows you to choose between the following settings:

Display	Setting
AF oFF	Continuous
AF 30, 60, 180	To conserve battery power, the balance switches off automatically 30, 60 or 180 seconds after weighing is complete.

⇨ Confirm your selection with "

". The display flashes briefly and then returns to the menu. Use "

" to navigate to the "Exit" menu item and confirm with "

". The balance switches to weighing mode.

8.3.4 Reset function

Resets the menu to factory settings.
Prerequisite: Menu item "rESEt":

⇨ Confirm with "

". The current setting appears on the display.

⇨ 

can now be used to select between the following settings:

Display	Setting
YES	Reset the menu to factory settings.
no	Do not reset the menu to factory settings.

⇨ Confirm your selection with "

". The display returns to the menu. Use "

" to navigate to the "Exit" menu item and confirm with "

". The balance switches to weighing mode.

9 Maintenance, servicing, disposal



Disconnect the device from the power supply before carrying out any maintenance, cleaning or repair work.

9.1 Cleaning

Remove any spilled material (e.g. loose sample residues or powder) immediately with a brush or hand vacuum cleaner.
Use a mild cleaning agent such as soapy water and a soft cloth to clean the device. Then wipe the device dry with a dry, soft, lint-free cloth.

Observe the following instructions to avoid damage:

- Do not use aggressive cleaning agents (e.g. solvents), as these will react with the materials and damage them.
- Do not use metal brushes or steel wool cleaning pads, as these will damage the surface.
- Ensure that no liquid penetrates the device.

9.2 Maintenance

⇨ The device may only be opened by trained service technicians authorised by KERN.

⇨ Disconnect from the mains before opening.

9.3 Disposal

The disposal of packaging and the device must be carried out by the operator in accordance with the applicable national or regional laws of the user location.

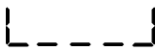
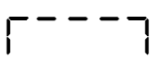
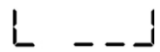
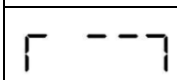
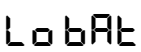
10 Minor troubleshooting

If a malfunction occurs during the programme sequence, the balance should be switched off briefly and disconnected from the mains. The weighing process must then be restarted from the beginning.

Malfunction	Possible cause
The weight display is not lit.	• The balances are not switched on. • The batteries are inserted incorrectly or are empty. • No batteries are inserted. • The connection to the mains is interrupted (mains cable not plugged in/defective). • The mains voltage has failed.
The weight display changes Continuous	• Draught/air movement • Vibrations of the table/floor • The weighing plate is in contact with foreign objects. • Electromagnetic fields/static charge (choose a different location/switch off interfering devices if possible)
The weighing result is obviously incorrect	• The balance display is not at zero • The adjustment is no longer correct. • There are significant temperature fluctuations. • Electromagnetic fields/static charge (choose a different location/switch off any interfering devices if possible)

If other error messages appear, switch the balance off and on again. If the error message persists, notify the manufacturer.

11 Error messages

Error message	Explanation
	Underload
	Overload
	Underload during power-on
	Overload during power-on
	Battery capacity exhausted
EW 02	If the loadcell value is equal to -1
EZ 01, EC 01	If the loadcell value is a negative integer

12 Declaration of conformity

The current EC/EU declaration of conformity can be found online at:

https://www.kern-sohn.com/shop/en/downloads/