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Operating Manual Platform balances

KERN EOL

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Operating Manual

Electronic platform balance

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1 Technical Data

KERN	EOL 60K100	EOL 120K200
Weighing range (max)	60 kg	120 kg
Readability (d)	100 g	200 g
Reproducibility	100 g	200 g
Linearity	± 200 g	± 400 g
Stabilization time (typical)	2.5 sec	2.5 sec
Recommended adjustment weight, not added (class)	60 kg (M3)	120 kg (M3)
Warm-up time	10 min	
Weighing Units	kg, lb	
Battery operation	1 x 9 V block battery Operating time 60 h, Auto off 2 min	
Operating temperature	+ 5° C + 35° C	
Humidity of air	max. 80 % (not condensing)	
Housing display device (B x D x H) mm	160 x 90 x 32	
Weighing plate (B x D x H) mm	293 x 270 x 35	
Weight kg (net)	1.4 kg	

2 Basic Information (General)

2.1 Proper use

The balance you purchased is intended to determine the weighing value of material to be weighed. It is intended to be used as a “non-automatic“ balance, i.e. the material to be weighed is manually and carefully placed in the centre of the weighing plate. As soon as a stable weighing value is reached the weighing value can be read.

2.2 Improper Use

Do not use balance for dynamic weighing. In the event that small quantities are removed or added to the material to be weighed, incorrect weighing results can be displayed due to the “stability compensation“ in the balance. (Example: Slowly draining fluids from a container on the balance)

Do not leave permanent load on the weighing plate. This may damage the measuring system.

Impacts and overloading exceeding the stated maximum load (max) of the balance, minus a possibly existing tare load, must be strictly avoided. Balance may be damaged by this.

Never operate balance in explosive environment. The serial version is not explosion protected.

The structure of the balance may not be modified. This may lead to incorrect weighing results, safety-related faults and destruction of the balance.

The balance may only be used according to the described conditions. Other areas of use must be released by KERN in writing.

2.3 Warranty

Warranty claims shall be voided in case

- Our conditions in the operation manual are ignored
- The appliance is used outside the described uses
- The appliance is modified or opened
- Mechanical damage or damage by media, liquids, natural wear and tear
- The appliance is improperly set up or incorrectly electrically connected
- The measuring system is overloaded

2.4 Monitoring of Test Resources

In the framework of quality assurance the measuring-related properties of the balance and, if applicable, the testing weight, must be checked regularly. The responsible user must define a suitable interval as well as type and scope of this test. Information is available on KERN's home page (www.kern-sohn.com) with regard to the monitoring of balance test substances and the test weights required for this. In KERN's accredited DKD calibration laboratory test weights and balances may be calibrated (return to the national standard) fast and at moderate cost.

3 Basic Safety Precautions

3.1 Pay attention to the instructions in the Operation Manual

Carefully read this operation manual before setup and commissioning, even if you are already familiar with KERN balances.

3.2 Personnel training

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

4 Transportation & Storage

4.1 Testing upon acceptance

When receiving the appliance, please check packaging immediately, and the appliance itself when unpacking for possible visible damage.

4.2 Packaging

Keep all parts of the original packaging in case you need to return the appliance. Only use original packaging for returning.

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

Attach possibly existing transport safeguards. Secure all parts, e.g. weighing plate, power unit etc., to prevent slipping and damage.

5 Unpacking, Setup and Commissioning

5.1 Installation Site, Location of Use

The balances are designed in a way that reliable weighing results are achieved in common conditions of use.

You will work accurately and fast, if you select the right location for your balance.

Therefore, observe the following for the installation site:

- Place the balance on a firm, level surface;
- Avoid extreme heat as well as temperature fluctuation caused by installing next to a radiator or in the direct sunlight;
- Protect the balance against direct draughts due to open windows and doors;
- Avoid jarring during weighing;
- Protect the balance against high humidity, vapors and dust;
- Do not expose the device to extreme dampness for longer periods of time. Non-permitted condensation (condensation of air humidity on the appliance) may occur if a cold appliance is taken to a considerably warmer environment. In this case, acclimatize the disconnected appliance for ca. 2 hours at room temperature.
- Avoid static charge of goods to be weighed or weighing container.

Major display deviations (incorrect weighing results) may be experienced should electromagnetic fields (e.g. due to mobile phones or radio equipment), static electricity accumulations or instable power supply occur. Change location or remove source of interference.

5.2 Unpacking and erection

Carefully remove the balance from the packaging, remove plastic cover and setup balance at the intended workstation. The balance must be installed in a way that the weighing plate is exactly in horizontal position.

5.3 Scope of delivery / serial accessories

- Platform and display unit
- 1 x 9 V block battery
- Operating Manual

5.4 Battery operation (Standard)

On the rear side of the display device remove the battery cover and insert a 1 x 9 V block battery. Reinsert the battery cover.

In order to save the battery, the balance switches automatically off after 2 minutes without weighing.

The empty battery is indicated on the display by **“bAtE”**. Change the battery immediately.

If the balance is not used for a longer time, take out the battery and store it separately. Leaking battery liquid could damage the balance.

In order to save the battery, according to manufacturer's setting the balance switches automatically off after 2 minutes without weighing.

The „Auto off“ Function can be deactivated as follows:

- ⇒ When the balance is switched off, press the **UNIT** button and keep it pressed, then switch on the balance using **ON** button. Keep the **UNIT** button pressed until appears the current setting **„A-0N“** followed by **„0.0“**.
- ⇒ The function can be reactivated at reversed order.
 - „A-0N“** Balance switches off automatically after 2 min
 - „A-0F“** Balance does not switch off automatically

5.5 Mains connection (option)

Power is supplied via the external mains adapter. The stated voltage value must be the same as the local voltage. Only use KERN original mains adapter. Using other makes requires consent by KERN.

5.6 Initial Commissioning





In order to obtain exact results with the electronic balances, your balance must have reached the operating temperature (see warming up time chap. 1).

During this warming up time the balance must be connected to the power supply (mains, accumulator or battery).

The accuracy of the balance depends on the local acceleration of gravity.

Strictly observe hints in chapter Adjustment.

5.7 Keyboard overview

Key	Function
	Switch on balance
	Switch off the balance
	Tare balance
	Switch-over weighing unit

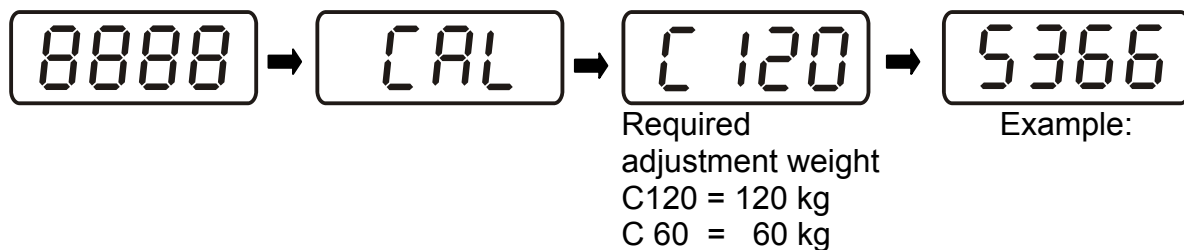
5.8 Overview of display

Display	Function
8888	Display test
CAL	Adjustment mode
End	Adjustment finished
ErrL	Adjustment error
ErrE	EEPROM error
A_on	Auto off switched on
A_of	Auto off switched off
H_on	Hold switched on
H_of	Hold switched off
bAtt	Capacity of batteries exhausted
0000	Overload

6 Adjustment

As the acceleration value due to gravity is not the same at every location on earth, each balance must be coordinated - in compliance with the underlying physical weighing principle - to the existing acceleration due to gravity at its place of location (only if the balance has not already been adjusted to the location in the factory). This adjustment process must be carried out for the first commissioning, after each change of location as well as in case of fluctuating environment temperature. To receive accurate measuring values it is also recommended to adjust the balance periodically in weighing operation. Observe stable environmental conditions. A warming up time (see chapter 1) is required for stabilization.

- ⇒ When the balance is switched off, press the **TARE** and **UNIT** buttons at the same time and keep them pressed, then switch on the balance using **ON** button. Keep the **TARE** and the **UNIT** button pressed until „CAL“ appears.



- ⇒ Ensure that there are no objects on the weighing plate. Press the **TARE** button, the balance determines the zero-point.



- ⇒ Carefully place the required adjustment weight (see tab. 1 „Technical data“) in the centre of the weighing plate



Example:

- ⇒ Press the **TARE** key.



Example:

The weight value of the adjustment weight appears.

- ⇒ Take away adjustment weight. After successful adjustment the balance automatically returns to weighing mode.



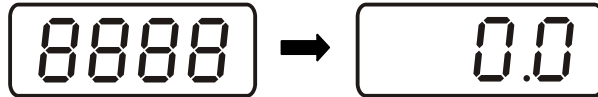
An error message will be displayed in the event of an adjustment error or incorrect adjustment weight. Remove the adjustment weight and repeat the adjustment process.

7 Operation

Start-up



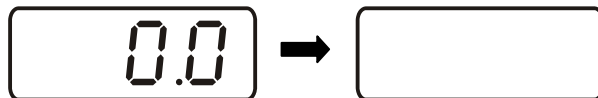
- ⇒ Press **ON** button.
The balance will carry out a self-test. The balance is ready for weighing when the weight display appears.



Switching Off



- ⇒ Press **OFF** button, the display disappears.



Weighing

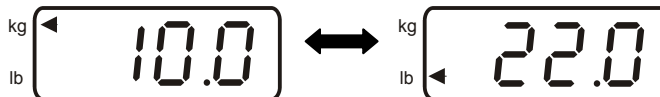
- ⇒ Place goods to be weighed on balance.
- ⇒ Read weighing result.



Switch over weighing unit



- ⇒ By pressing the **UNIT** button the weighing result can be displayed in another unit [**kg** ↔ **lb**]. Overlay triangle (◀) indicates the current weighing unit.



Taring



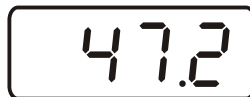
- ⇒ Place an empty weighing container, the weight of the weighing container will be displayed.



- ⇒ Press the **TARE** button, the zero display disappears. The tare weight is saved until it is deleted.



- ⇒ Weigh the material, the net weight will be indicated.



The taring process can be repeated any number of times, e.g. when adding several components for a mixture (adding). The limit is reached when the whole weighing range is exhausted.

The weight of the weighing container will be displayed as a minus number after removing the weighing container.

The tare weight is saved until it is deleted.

Delete tare



- ⇒ Unload the balance and press the **TARE** button, the zero display appears.



Data-Hold



3 sec.

- ⇒ Switch-on balance and press the **TARE**-button for 3 seconds. The current setting is displayed:

„**H-ON**“ = Data Hold function on.

„**H-OFF**“ = Data Hold function off.

- ⇒ Use **TARE** button to select setting „**H-ON**“ ↔ „**H-OFF**“
- ⇒ With setting „**H-ON**“, the weighing value will be „frozen“ until the **TARE** button is actuated.
1. Place goods to be weighed on balance
 2. Wait 3 seconds, then remove
 3. The weighing value remains displayed.
 4. To delete the weighing value, press the **TARE** button.

8 Service, maintenance, disposal

8.1 Cleaning

Before cleaning, disconnect the appliance from the operating voltage.

Please do not use aggressive cleaning agents (solvents or similar agents), but a cloth dampened with mild soap suds. Take care that the device is not penetrated by fluids and polish it with a dry soft cloth.

Loose residue sample/powder can be removed carefully with a brush or manual vacuum cleaner.

Spilled weighing goods must be removed immediately.

8.2 Service, maintenance

The appliance may only be opened by trained service technicians who are authorized by KERN.

Before opening, disconnect from power supply.

8.3 Disposal

Disposal of packaging and appliance must be carried out by operator according to valid national or regional law of the location where the appliance is used.

9 Instant help

In case of an error in the program process, briefly turn off the balance and disconnect from power supply. The weighing process must then be restarted from the beginning.

Help:

Fault

Possible cause

The displayed weight does not glow.

- The balance is not switched on.
- The mains supply connection has been interrupted (mains cable not plugged in/faulty).
- Power supply interrupted.
- (Rechargeable) batteries are inserted incorrectly or empty
- No (rechargeable) batteries inserted.

The displayed weight is permanently changing

- Draught/air movement
- Table/floor vibrations
- Weighing plate has contact with other objects.
- Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)

The weighing result is obviously incorrect

- The display of the balance is not at zero
- Adjustment is no longer correct.
- Great fluctuations in temperature.
- Warm-up time was ignored.
- Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)

Should other error messages occur, switch balance off and then on again. If the error message remains inform manufacturer.