



KERN & Sohn GmbH

D-72322 Balingen-Frommern

Postfach 4052

E-Mail: info@kern-sohn.de

Tel: 0049-[0]7433- 9933-0

Fax: 0049-[0]7433-9933-149

Internet: www.kern-sohn.de



**Bedienungsanleitung
Elektronische Taschenwaagen**

Seite 2



**Operating Instructions
Electronic Pocket Balances**

Page 10



**Mode d'emploi
Balances de Poche Electroniques**

Page 18



**Manual de Instrucciones
Balanzas Electrónicas de Bolsillo**

Página 26



**Istruzioni d'uso
Bilance Elettroniche di Precisione**

Pagina 34

KERN CM

Version 1.1 03/2000



KERN CM

Version 1.1 03/2000

Operating Instructions Electronic Pocket Balances

Contents

1	Technical Information	11
2	Assembling the Balance	11
2.1	Unpacking the Balance	11
2.2	Set up	11
2.3	Battery operation and change	11
3	Operation	12
3.1	Weighing	12
3.2	Taring (TARE-key)	12
3.3	Plus/Minus Weighings	13
3.4	Net-total weighings	13
3.5	Adjusting (CAL)	14
4	Important Information	15
5	Minor breakdowns	16
6	Declaration of Conformity	17

1 Technical Information

KERN	CM 150-1	CM 250-1	CM 1K1
Readout (d)	0,1 g	0,1 g	1 g
Weighing range (max)	150 g	250 g	1.000 g
Taring range (subtractive)	150 g	250 g	1.000 g
Adjusting weight (not added)	50 g (M3)	200 g (M3)	500 g (M3)
Optimal temperature range	18 – 25 °C		
Permissible relative humidity (non-condensing)	< 85 %		
Weighing plate mm	70 x 80		
Size (B x H x T) mm	85 x 130 x 25		

2 Assembling the Balance

2.1 Unpacking the Balance

Carefully remove the balance from the packaging and out of the plastic covering.

Amount of delivery:

- Pocket balance
- Batteries (already inserted)
- Operating instructions

2.2 Set up

- Set up the balance on a horizontal stable base (see "Important Information").

2.3 Battery operation and change

- Open the battery compartment cover located at the bottom of the balance (also refer to the brief instructions manual)
- Insert 3 AAA type batteries (see brief instructions on the balance cover)
- Re-insert the battery cover
- Battery conservation through automatic power-off 1 – 2 minutes after ending a weighing operation.
- When the battery power is used the display will show "LO". Press the OFF key and change the batteries at once.
- When the balance is not in use for a longer period of time remove batteries and keep them separately. Leakage of battery liquid might damage the balance.

3 Operation

3.1 Weighing

Switch the balance on by pressing the **ON/M** key.

The balance will show "8888" for approx. 3 seconds and then change to "0". Now it is ready for use.

Important: If the display does not show 0, press the **TARE** key.

Only now (!) place object on the weighing pan. Make sure that the weighing object does not stripe or touch the housing or base.

Now the weight will be indicated. After a successful resting position control a small triangle will appear on the far right at the bottom of the display.

If the object should be heavier than the weighing range allowance, the symbol "E" (overload) will appear on the display.

3.2 Taring (TARE-key)

Switch the balance on by pressing the **ON/M** key, then wait for the "0" indication.

Place the tare cup on the weighing plate and press the **TARE**-key. Indication will go to "0". Now the weight of the cup is memorised internally.

Fill the object into the cup, read the measuring value.

By pressing the **TARE** key after a weighing procedure, "0" will appear on the display again.

The taring procedure can be repeated continuously, for instance when mixing several components.

The limit is reached when the full weighing range is overlay.

After having removed the tare cup, the total weight will appear as a negative value.

3.3 Plus/Minus Weighings

For instance to control **piece-weights**.

Switch the balance on by pressing the **ON/M** key, then wait until "0" is indicated.

Place rated weight on the weighing plate and tare on "0" by **TARE** key. Remove rated weight.

Place the objects on the weighing pan successively, the balance will show any deviation from the rated weight in "+" and "-".

According to the same procedure packages with the same weight, related to a rated weight, can be produced.

Return to the weighing mode by pressing the **TARE** key.

3.4 Net-total weighings

Useful when a mixture of several components will be weighed in a tare cup, and finally the sum weight of all components weighed in will be needed for diréction (net-total, i.e. without the weight of the tare cup).

Example:

Tare cup on weighing plate, tare on "0" by pressing the **TARE**-key.

Weigh component ❶ and tare back to "0" with the **ON/M** key. The activation of the memory is shown by a triangle on the far left of the display.

Weigh component ❷, by pressing the **ON/M** key the net total is displayed, this means the sum of component ❶ and ❷. Tare to "0" by pressing the **ON/M** key.

Weigh component ❸, by pressing the **ON/M** key the net-total is displayed, this means the sum of the components ❶ and ❷ and ❸.

If necessary fill the formula container up to the desirable level. To return to the weighing mode press the **TARE** key.

3.5 Adjusting (CAL)

The accuracy of the balance can be controlled and set at any time by means of an adjusting weight.

Consider stable environmental conditions, see "Important Information". A short warming up time of approx. 1 minute for stabilisation will be useful.

Press **CAL** key approx. 3 seconds, the exact weight of the adjusting weight will appear flashing in the display.

Press **OFF** key, "AL 0" will appear.

Place the adjusting weight on the center of the weighing plate.

"AL F" will appear somewhat later, and then the automatic return to the normal weighing mode will follow. The weight of the adjusting weight will appear in the display.

It is possible to break off the adjusting programme with **OFF** key.

In case of an adjusting error or a wrong adjusting weight "AL E" appears in the display. Press **OFF** key and repeat the adjusting procedure.

4 Important Information

This electronic balance is a precision instrument. It is designed for use in a self-controlled electromagnetic environment. That means that in such an environment radio equipment, such as mobile phones, must not be used in direct vicinity. In case strong electromagnetic fields should arise, deviations of the indication are possible. Change the place of use. Avoid disturbing environmental conditions such as air current and vibrations. Avoid rapid temperature changes, if necessary, readjust the balance upon temperature adaptation.

Avoid high humidity and vapours. The balance should not be directly touched by and liquid, it could enter into the measuring cell. Therefore please wipe the unit with a dry or damp cloth. Do not use solvents, because varnished or plastic parts could be damaged.

A short warming up time of some minutes after having switched on the balance will stabilise the measuring values- Place the object carefully on the weighing plate. Avoid any constant load on the weighing plate beyond of the use. Avoid by all means shocks and extreme impairments. Remove immediately spilled substances.

When the program cycle is disturbed, switch off the balance and then turn on it again. Start again the weighing procedure.

Do not use the balance in rooms where is a danger of explosion. The serial version is not explosion-proof.

Check the balance at regular intervals using external test weights.

The guarantee expires when opening the balance.

Keep the packing materials for any possible reshipment. When reshipping, use only the original packing materials.

5 Minor breakdowns

Fault

The weight display does not light up

The weight display changes constantly

The display indicates "L0"
The weighing result is obviously incorrect

Possible Cause

- The balance is not switched on
- The balance is not connected to the mains (mains cable not plugged in or defective)
- There is a power failure
- Draught/air currents
- Vibrations of the table/floor
- The weighing pan is touching a foreign body
- The battery is empty. Change battery.
- The adjusting is no longer correct
- The balance was not tared
- The room temperature is fluctuating strongly

If any other error messages appear turn off the balance and on again. When the error message still appears please contact the manufacturer.

6 Declaration of Conformity



The electronic pocket balance

Type:	KERN CM 150-1 KERN CM 250-1 KERN CM 1K1
-------	---

correspond to the following EC requirements:

EC-EMC-directive	version 89/336/EWG
------------------	--------------------

Compatible norms are, in particular

EN 50081-1 EN 50082-1

If a change is made to the above mentioned appliances without consulting KERN this declaration will become invalid

Date: 08 November 1999

Signature:


Gottl. KERN & Sohn GmbH
Management

Gottl. KERN & Sohn GmbH, Gartenstr. 63, 72458 Albstadt, Tel. 07431/9389-0, Fax 07431/9389-49