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Operating Instructions

Baby scale

KERN MBP

Version 1.1
08/2008
GB



MBP-BA-e-0811



KERN MBP 12K5BM

Version 1.1 08/2008

Operating Instructions

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1 Technical data

KERN	Baby scale MBP
Display	6-position one
Read-out	$e = 5 \text{ g}$
Display	LCD, 25 mm high digits
Nominal load	12 kg
Minimal load	0.1 kg
Recommended calibration weight	10 kg (M1)
Warm-up time	10 minutes
Battery supply operation	serial equipment
Automatic switching off after	only in battery supply mode: adjustable (0-20 minutes)
Weighing units	kg, lb
Supply voltage	100-240 V , 50/60 Hz, 400 mA
Mains adapter supply	9 V DC / 500 mA (EN 60601-1)
Operating temperature	0°C + 40°C
Storage temperature	-30°C ... +70°C
Air humidity	max. 80% (non-condensing)
Housing of operating panel (W x D x H) mm	-
Scale ready for operation (W x D x H) mm	560 x 400 x 200 mm
Total weight (net)	9.5 kg
Body height measurement	scale up to 55 cm
Battery operating time	100 hours (charge time of 8 hours)
Verification according to 90/384/EEC	Medical, Class III
Medical device according to 93/42/EEC	Class I with measuring function

2 Declaration of conformity

Declaration of conformity: refer to the separate document with serial number of the device.

CE marking:

<p>CE 0297</p>	<p>93/42/EEC</p>
<p>CE rok M 0103</p>	<p>90/384/EEC The directive relating to non-automatic weighing instruments</p>

2.1 Explanation of graphical symbols



This EC verification sign means that this scale is compliant with the EC Directive 90/ 384/EEC concerning non-automatic weighing instruments. The scales marked with this sign are permitted for medical applications in European Community.

SN WY 070563

Serial number marking of each device (located on the device and packaging) (example number here)



2008-03

Production date marking of medical devices (year and month here as an example)



Note: follow the directions included in the attached document or Follow the Operating Instructions

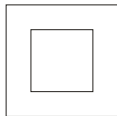


Marking of the medical device
manufacturer
with its address

Kern & Sohn GmbH
D – 72336 Balingen Ziegelei 1



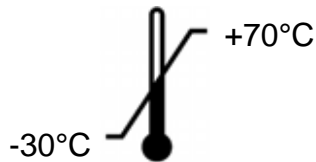
Electro-medical equipment with usable part
of B type



Protection class II device



Old devices do not belong to municipal
waste
They may only be delivered to collection
points of municipal waste.



Temperature limitation with
lower and upper limit
(storage temperature on the packaging)
(example temperature data)



9 V DC / 500 mA

Data concerning the scale supply voltage
with indication of polarity
(polarity and example values)

3 Basic directions (general information)



According to the Directive 90/384/EEC scales must be verified to the following application purposes. Article 1, paragraph 4 Determination of weight in the course of medical practice i.e. weighing of patients for the purpose of health monitoring, diagnosis and medical treatment.”

3.1 Use

3.1.1 Indication

- Determination of body weight in the course of medical practice.
- Used as a non-automatic scale i.e. a person is to be placed carefully in the centre of the scale plate or in the suitable supporting device in the case of wheelchair or chair scales. In the case of baby scales, a baby is to be always laid down or seated on the scale pan. The weighing value can be read off after a stable weighing value has been obtained.

3.1.2 Contraindication

No contraindications.

3.2 Intended use

This scale is used to determine weight of babies in lying position in rooms intended for carrying out medical care. The scale is intended to diagnose, prevent and monitor diseases.

Baby scales are intended to weigh babies in lying position.



To avoid falls, babies that are on the scale pan should be under continuous observation. Follow the direction placed on the scale pan!



The weighing value can be read off after a stable weighing value has been obtained. The scale is designed for continuous operation.

Before any use, the scale must be checked for correct condition by the authorised person.

3.3 Inappropriate use

Do not use the scale for dynamic weighing.

Do not leave a permanent load on the weighing plate. This can damage the measuring equipment.

Be sure to avoid impact shock and overloading the scale in excess of the prescribed maximum load rating (max.), minus any possible tare weight that is already present. This could result in damage of the scale.

Never operate the scale in hazardous locations. The series design is not explosion-proof. Attention should be paid that flammable mixture may also be formed from anaesthesiological means that contain oxygen or laughing gas (nitrous oxide).

Construction alterations may not be made to the scale. This can lead to incorrect weighing results, faults concerning safety regulations as well as to destruction of the scale.

The scale may only be used in compliance with the described guidelines. Other areas of application/planned use must be approved by KERN in writing.

3.4 Guarantee

The guarantee shall become void in the event of the following:

- non-observation of our guidelines in the Operating Instructions,
- use outside the described applications,
- alteration to or opening of the device,
- mechanical damage or damage caused by media, liquids, usual wear and tear,
- inappropriate erection or electric installation,
- overloading of the measuring equipment,
- allowing the scale to fall down.

3.5 Monitoring the test substances

The metrology features of the balance and any possible available adjusting weight must be checked at regular intervals within the scope of quality assurance. For this purpose, the responsible user must define a suitable interval as well as the nature and scope of this check. 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. Test weights and balances can be adjusted quickly and at a reasonable price at KERN's accredited DKD (Deutsche Kalibrierdienst) calibration laboratory (return to national standard).

In the case of the scales for weighing people provided with the scale to determine a body size, it is recommended to carry out the check of its measuring accuracy because determination of the human body height is always connected with a very large inaccuracy.

4 Basic safety directions

4.1 Observing the directions included in the Operating Instructions

Please read these Operating Instructions carefully before erecting and commissioning the scale, even if you already have experience with KERN medical scales.

4.2 Staff training

The device may only be operated and maintained by trained members of staff.

4.3 Avoidance of contamination

To avoid cross contamination (mycosis, ...), the scale plate is to be cleaned regularly. Recommendation: after each weighing which could result in potential contamination (e.g. when there is a direct skin contact during weighing).

5 Transport and storage

5.1 Check upon delivery

Please check the packaging immediately upon delivery and the device during unpacking for any visible signs of external damage.

5.2 Packaging

Please keep all parts of the original packaging in case it should be necessary to return items at any time.

Only the original packaging should be used for return shipments.

Before any shipment, disconnect all cables and loose/movable parts.

Install transport protection elements (if any). All parts such as scale platform, mains adapter, stand, operating panel etc. must be protected against sliding down or damage.

6 Unpacking, installation and starting

6.1 Place of installation, place of use

The scale is designed in such a way that reliable weighing results can be achieved under normal application conditions.

By selecting the correct location for your scale, you will be able to work quickly and precisely.

Therefore, please observe the following when choosing a place of installation:

- Place the scale on a firm, level surface;
- Avoid extreme heat as well as temperature fluctuation caused by installing the scale next to a radiator or in the direct sunlight;
- Protect the scale against direct draughts due to open windows and doors;
- Avoid shaking during weighing;
- Protect the scale against high humidity, vapours and dust;
- Do not expose the device to extreme dampness for longer periods of time. Inadmissible bedewing (condensation of air moisture on the device) can occur if a cold device is taken into a significantly warmer environment. In this case, please keep the device for approx. 2 hours at room temperature after it has been disconnected from mains supply;
- Avoid static charge build-up on people to be weighed;
- Avoid contact with water.

Major display deviations (incorrect weighing results) are possible if electromagnetic fields occur (e.g. coming from mobile phones or radio equipment) as well as due to static charging and instable power supply. It is necessary then to change the scale location or remove disturbance source.

6.2 Unpacking

Carefully remove individual scale parts or the whole scale from its packaging and position the scale in its intended working location. When the mains adapter is used, be careful not to cause the danger of falling over the power cable.

6.2.1 Scale assembly and positioning

4 levelling rubber feet of the baby scale should be adjusted in such a way that the air bubble in the spirit level (located at the left under the scale plate) is in the centre. Only the scale plate which the scale was verified with can be slid on. When another scale plate is used, verification is to be repeated.

Four sleeves of the scale plate should be positioned on the pins of the basic body in such a way that the height measure together with warning plate is located opposite the display.



6.2.2 Scope of delivery

Standard accessories:

- Mains adapter (complaint with EN 60601-1 standard)
- Operating Instructions

6.3 Mains socket

Power supply is carried out by means of the external mains adapter which also provides separation between mains and a scale. The printed voltage value must be compliant with local voltage.

Use only admitted and original KERN mains adapters compliant with EN 60601-1 standard.

6.4 Battery supply operation / battery replacement

The delivery scope of the scale includes the mains adapter which is inserted in the back wall of the scale.

The mains adapter is used to supply the scale directly or charge a battery which is also included in the delivery scope.

When the **BAT** message appears on the display, connect the mains adapter immediately because the battery charge condition is very low. As a result of that, the scale is supplied from mains and battery is charged at the same time.

Total charging of the battery (6 V, 3.2 Ah) requires at least 8 hours. The battery charge condition is displayed with the green LED. In the case of the baby scale, this LED is located at the top right side of the display. The operation time of the scale supplied from battery is about 100 hours.

The battery is placed in the scale bottom and therefore its replacement is easy.



Battery insertion/replacement should be carried out in the following way:

1. Battery compartment is located in the scale bottom.
2. To open the battery compartment, undo both screws and lift the cover with the holder.
3. Remove both screws of the battery holder.
4. Pull off the cable terminals and connect a new battery according to the polarity.
5. Perform assembly in the reverse order and close the battery compartment.

6.5 Initial start-up

To obtain accurate weighing results with electronic scales, the appropriate operating temperature is to be provided for them (refer to Warm-up time, section 1).

During warm-up the scale must be connected to power supply and switched on (mains socket or battery).

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

The value of acceleration of gravity is given on the rating plate.

6.5.1 Displaying stable weighing value

When the scale plate is loaded, the display reading is seen after reaching the stable weighing value.

To achieve that the special filters are used, which make it possible to display weight correctly also when active children or people are weighed.

6.5.2 Displaying zero on the operating panel

If in spite of unloaded scale plate, the scale does not display zero value accurately, press the **→0←** key and the **ZERO** display zeroing will be started. With the **→0←** key it is possible to reset deviations below 2%.

6.6 Menu settings

To select this mode when the scale plate is unloaded, press the **Wiederholen** (Repeat) key (refer to section 7.1.2) and the **Menu** will be displayed.

3 possibilities of settings are at a user's disposal:

Menu -> Live -> FREEZE -> t-OFF -> SAVE

Operation	Display
The scale is in the weighing mode, the scale plate is unloaded, press the Wiederholen (Repeat) key	MEu
Press the Wiederholen (Repeat) key	Live - OFF (alternately)
Initial settings can be changed with the →0← key OFF = baby weighing mode is activated (display seen at stable weighing value) (standard setting) On = direct displaying mode is activated (weighing value is not stored)	OFF
Press the Wiederholen (Repeat) key	FeEEZE - On (alternately)
Initial settings can be changed with the →0← key On = the last weighing value is stored, reset is done with the →0← key OFF = after unloading the scale plate, the value of 0,0 kg is displayed again	On
Press the Wiederholen (Repeat) key	t-OFF - 2 (alternately)

<p>Time of automatic switching off can be set here (time in minutes, after which the scale automatic switching off occurs if no weighing is performed).</p> <p>Initial settings can be changed with the →0← key.</p> <p>Pressing the →0← key will reset the set value again to 0. (0 means no switching off)</p> <p>The repeated long pressing the →0← key will increase the set value within the range 0...9. To enter 10 or 20, select 1 or 2, and then press shortly the particular key twice.</p>	<p>0</p> <p>1</p> <p>10</p>
<p>Press the Wiederholen (Repeat) key</p>	<p>SAvE</p>
<p>Press the Wiederholen (Repeat) key, the Done (No) symbol will be displayed for 1 second, and after displaying the StArt symbol, the repeated return to the normal weighing mode occurs.</p>	<p>Done</p>
	<p>0,0 kg</p>

To leave the menu without storing, press the **SAvE** or **kg/lb** key when the **Menu** word is displayed at the beginning of setting.

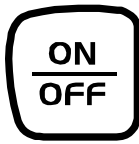
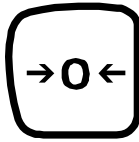
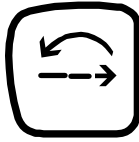
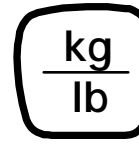
7 Operation

7.1 Operating elements

7.1.1 Display



7.1.2 Overview of keyboard

Key	Marking	Operation	Function
	ON/OFF	Switching on: short pressing the key Switching off: short pressing the key when the scale is switched on	SWITCHING ON or SWITCHING OFF the scale
	→0←	Short pressing the key	Will zero the scale display for next weighing
	Wiederholen (Repeat)	Short pressing the key	Will repeat the weighing process without leaving the scale plate
	kg/lb	Short pressing the key	Will switch over the weight unit

To switch on the scale (when the scale plate is unloaded), press the **ON/OFF** key. The **Start** symbol is displayed and diagnostic scale self-check is performed. When self-check is in progress, first all elements of display are shown. They are followed by software version and then value of **0,0 kg** is displayed.

7.1.3 View of display

Display	Description
• ZERO	• Scale plate is loaded and ready to weigh
• TARE	• Tare function is active (it does not apply to the baby scale)
• BAT	• Battery is discharged, it is to be charged
• kg/lb	• Displaying weight units
• < >	• Stable weighing value has been reached

8 Using scale

8.1 Weighing a baby

1. Switch on the scale with the **ON/OFF** key. The display will show the **Start** symbol, display test, version number, and finally **0,0 kg**.
2. Lay a baby. The display will show the **=====** symbol, and then a baby weight. An audible signal and small arrows at both sides of the display indicate completion of weight determination.
3. If it is necessary, weighing can be repeated by using the **Wiederholen** (Repeat) key.
4. With the **kg/lb** key it is possible to switch over a weight unit from kilograms to pounds or vice versa.
5. Pressing the **ON/OFF** key will switch off the scale.

9 Error messages

Baby scale:

StOP:	Weighing range is exceeded
-----:	Underload
LO BAT:	Battery is discharged and requires charging.
Err2	Load cell is incorrectly connected. Check the cable and mechanical connections.
Err3	Refer to Err2
Err6	No stable weighing value, adjusting is not possible. Check cable connections and load cell environment for contact with other elements.
Err7	Mathematical error during adjusting (it occurs when adjusting is tried without a calibration weight).

10 Service, maintenance, disposal

10.1 Cleaning

Please disconnect the device from the power supply source before cleaning.

Do not use aggressive cleaning agents (solvents or similar agents), but a cloth dampened with mild soap suds. Ensure that no liquid penetrates into the device and wipe with a dry soft cloth.

Loose impurities can be removed carefully by using a brush or hand vacuum cleaner.

Do not tilt or turn the scale to carry out its cleaning because this may result in the scale damage.

To avoid cross contamination (mycosis, ...), the scale plate is to be cleaned regularly. Recommendation: after each weighing which could result in potential contamination (e.g. when there is a direct skin contact during weighing).

Remove any impurities immediately.

10.2 Service, maintenance

The device may only be operated and maintained by trained service technicians who are authorised by KERN.

10.3 Disposal

Disposal of packaging, batteries and device must be carried out according to valid national or regional law of the location where the device is used.

11 Troubleshooting

The scale should be switched off for a short time following an interruption in the program sequence and disconnected from mains supply. It is then necessary to repeat the weighing process from the beginning.

Interruption

Possible cause

Weight display is not illuminated.

- *The scale is not switched on.*
- *The mains supply connection has been interrupted (mains cable not plugged in/faulty).*
- *Mains failure.*
- *Batteries are incorrectly inserted or discharged*
- *No batteries.*

Weight display changes continuously

- *Draught/air movement*
- *Table/floor vibrations*
- *The weighing plate is in contact with foreign matters or is installed incorrectly.*
- *Electromagnetic fields/static charging (choose a different location for the scale, switch off an interfering device if possible)*

The weighing result is obviously incorrect

- *The scale display is not set to zero*
- *Incorrect adjustment.*
- *Great fluctuations in temperature.*
- *Warm-up time was ignored.*
- *Electromagnetic fields/static charging (choose a different location for the scale, switch off an interfering device if possible)*

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

12 Verification

If a scale is verified, then a verification office or manufacturer puts a verification mark and one or several seals (seals are damaged during removal) on the housing. Therefore, scale adjusting without a seal loss is not possible.

12.1 Adjusting

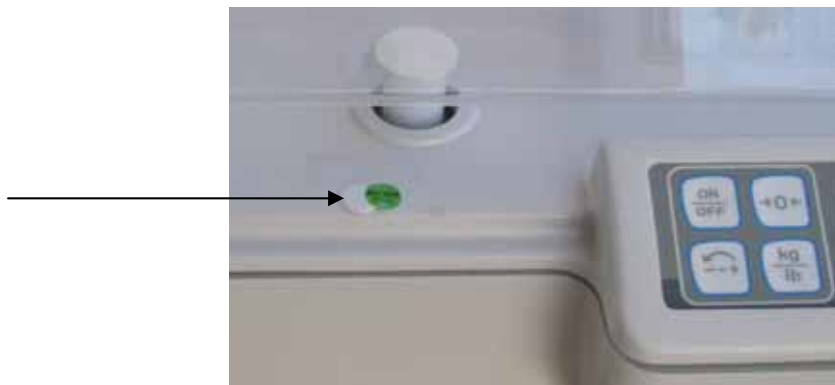
To perform necessary adjusting, the following procedure should be used: First remove and insert back the jumper on the plate.

Operation	Display
Switch on the scale with the [ON/OFF] key.	StArt
When the display shows the StArt symbol, press the „→ 0 ←” and Wiederholen (Repeat) keys simultaneously and hold them pressed for at least 3 seconds. When the display shows the „CAL” symbol, release the keys. Press the Wiederholen (Repeat) key	CAL
The display shows the „LOAD” symbol alternately with calibration weight initially set. To set the calibration weight recommended in section 1, follow the following way: Press and hold the „→ 0 ←” key pressed until counting upwards the right number occurs. Release the key when the required number is displayed. Pressing shortly the „→ 0 ←” key twice will move the displayed value to the left side.	LOAD / 10,000 kg
Important: Scale plate must be loaded. Press the Wiederholen (Repeat) key	CLEAR
Press the Wiederholen (Repeat) key	-----
(calibration weight is displayed)	PUT / 10,000 kg
Put the calibration weight in the centre of the scale plate, and then press the Wiederholen (Repeat) key.	CAL

	FAcTOr / x,xxxx
Press the Wiederholen (Repeat) key	SAvE
Press the Wiederholen (Repeat) key	dOnE
	StArt
	0,0 kg
Remove the calibration weight from the scale plate.	0,0 kg

12.2 Seals

The baby scale has one external and one internal seal. The external seal is attached on the protective cap of the housing screw at the left side, next to the terminal. The internal seal can be seen near the terminal when the housing is opened, and the electronic circuit is seen as the protective wire and seal.



Damage or removal of a seal invalidates the verification.

12.3 Validity period of verification (present status in Germany)

- | | |
|--|--------------------|
| ● Personal weighing scales in hospitals | 4 years |
| ● Personal weighing scales if placed outside hospitals | without time limit |
| ● Baby and mechanical scales | |
| Infant scales | 4 years |
| ● Bed scales | 2 years |
| ● Wheelchair scales | 2 years |

The hospitals also include rehabilitation clinics and health centres (4-year validity of verification).

The hospitals do not include dialysis centres, care homes and consultation rooms (verification validity without time limit).

(Data on the basis: Verification office informs, scales in medical applications)