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Operating instructions
Baby scale

KERN MBB

Version 1.1
09/2009
GB

English

GB

KERN MBB

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Operating instructions Baby scale

English

Contents

English

1 Technical data

KERN	MBB 15K5	MBB 20K5
Read-out (d)	5 g	5 g
Weighing range (max.)	15 kg	20 kg
Reproducibility	5 g	5 g
Linearity	10 g	15 g
Recommended calibration weight, (class)	10 kg (M3)	20 kg (M3)
Signal rise time (typical)	2 - 3 s	
Warm-up time	10 min	
Operating temperature	+ 5°C …. + 35°C	
Power supply	Mains adapter 9 V / 100 mA	
	Operation with 6 x 1.5 V battery supply, AA type batteries Operation time 60 h	
Auto-Off function	After 3 min without load change (possibility of setting)	
Operating temperature	+ 5°C … + 35°C	
Storage temperature	- 20°C … + 60°C	
Air humidity	max. 80% (non-condensing)	
Housing (W x D x H) mm	550 x 240 (platform) 210 x 110 x 50 (terminal)	
Total weight kg (net)	4.0	

2 Declaration of -Conformity

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Konformitätserklärung

EC-Konformitätserklärung
EC- Déclaration de conformité
EC-Dichiarazione di conformità
EC- Declaração de conformidade
EC-Deklaracja zgodności

EC-Declaration of -Conformity
EC-Declaración de Conformidad
EC-Conformiteitverklaring
EC- Prohlášení o shode
EC-Заявление о соответствии

D	Konformitäts-erklärung	Wir erklären hiermit, dass das Produkt, auf das sich diese Erklärung bezieht, mit den nachstehenden Normen übereinstimmt.
GB	Declaration of conformity	We hereby declare that the product to which this declaration refers conforms with the following standards.
CZ	Prohlášení o shode	Tímto prohlašujeme, že výrobek, kterého se toto prohlášení týká, je v souladu s níže uvedenými normami.
E	Declaración de conformidad	Manifestamos en la presente que el producto al que se refiere esta declaración está de acuerdo con las normas siguientes
F	Déclaration de conformité	Nous déclarons avec cela responsabilité que le produit, auquel se rapporte la présente déclaration, est conforme aux normes citées ci-après.
I	Dichiarazione di conformitá	Dichiariamo con ciò che il prodotto al quale la presente dichiarazione si riferisce è conforme alle norme di seguito citate.
NL	Conformiteit-verklaring	Wij verklaren hiermede dat het product, waarop deze verklaring betrekking heeft, met de hierna vermelde normen overeenstemt.
P	Declaração de conformidade	Declaramos por meio da presente que o produto no qual se refere esta declaração, corresponde às normas seguintes.
PL	Deklaracja zgodności	Niniejszym oświadczamy, że produkt, którego niniejsze oświadczenie dotyczy, jest zgodny z poniższymi normami.
RUS	Заявление о соответствии	Мы заявляем, что продукт, к которому относится данная декларация, соответствует перечисленным ниже нормам.

English

Electronic Scale: KERN MBB

Mark applied	EU Directive	Standards
CE	2004/108/EC	EN 61000-6-1 : 2007 EN 61000-6-3 : 2007
	2006/95/EC	EN 60950 : 2006

Date: 24.09.2009

Signature:

Gottl. KERN & Sohn GmbH
Management

3 Basic directions (general information)

3.1 Intended use

The scale is used to determine weight of babies in lying positions or persons and intended for private use only. The use of this scale in health service is forbidden.
To carry out weighing, lay down or seat a child or person on the scale plate. The weighing value can be read off after a stable weighing value has been obtained.
Before any use, the scale must be checked for correct condition by the authorised person.

Additional information on the baby scale:

Baby scales are intended for weighing babies in lying positions. If a baby is to be weighed in a sitting position, it is to be seated in the centre of the scale pan.

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

3.2 Inappropriate use

Do not use the scale 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 scale!
(Example: Slowly draining fluids from a container on the scale.)
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 cause damage to the scale.
Never operate the balance in hazardous locations. The series design is not explosion-proof.
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.

3.3 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.

3.4 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 size 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 balance, even if you already have experience with KERN balances.

4.2 Staff training

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

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 weighing plate, 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 the scale and people to be weighed;
- Avoid contact with water.

Major display deviations (incorrect weighing results) are possible if electromagnetic fields occur as well as due to static charging and instable power supply. It is necessary then to change the scale location.

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

Pay attention that the scale plate is precisely levelled.

4 levelling rubber feet of the baby scale should be adjusted in such a way that the air bubble in the level (located at the right side next to the cable inlet in the operating panel) is in the centre.

1. Slide the front part of the scale pan (indicated with the arrow) onto the scale plate fully home.

2. Tighten the fixing screws, located in the lower part of the scale pan, into the lower housing.

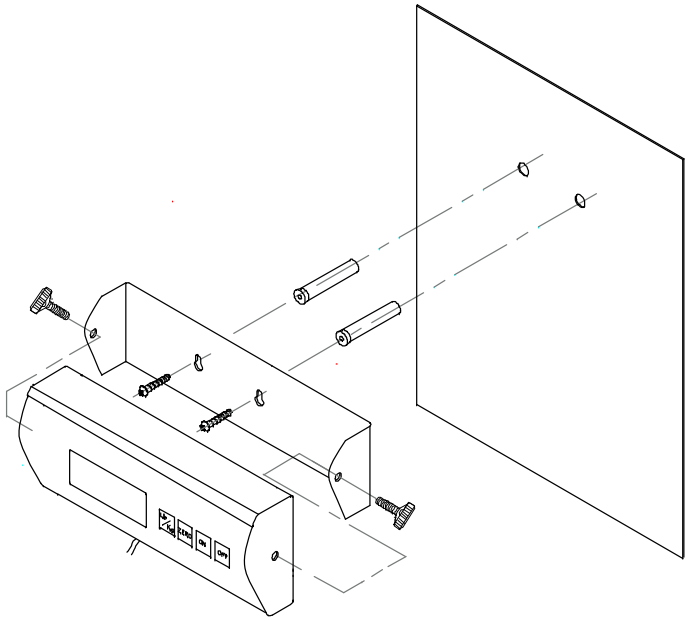
3. Totally tighten the other fixing screws.

4. Tighten securely the wall bracket to the terminal with the supplied thumb screws.

6.2.2 List of items delivered / Standard accessories:

- Mains adapter
- Wall bracket (with mounting screws)
- Operating Instructions

6.2.3 Mounting instructions for model with wall bracket



6.3 Mains socket

Power supply is carried out by using the external mains adapter. The printed voltage value must comply with local voltage. Only original KERN mains adapters should be used.

6.4 Battery operation (inserting and removing batteries)

To open the battery compartment in models where there is no direct access to the display back side, undo two black handwheels located at both sides of the display and remove the display from the holder. Remove the battery cover on the underside of the display. Insert 6 x 1.5 V (AA) batteries. Replace the battery cover and if necessary retighten the display to the holder by using two black handwheels.
To preserve battery life, the scale switches off automatically after 3 minutes if no weighing has taken place. Other switch off times can be set in the menu („A.OFF" function), refer to chapter 6.7. When the batteries are exhausted, the display will show the „LO" symbol. Press the **[ON/OFF]** key and change the batteries at once. When the scale is not in use for a longer period of time, remove the batteries and keep them separately. Leakage of battery liquid might damage the scale.

6.5 Initial start-up

To achieve accurate weighing results with the electronic balances, the appropriate operating temperature must be provided for them (refer to „Warm-up time", chapter 1). During the warm-up time, the scale must be connected to the power supply and switched on (mains socket, batteries).
The accuracy of the scale depends on the local acceleration of the fall.
Please be sure to observe the information included in the chapter on „Adjustment".

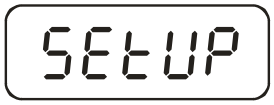
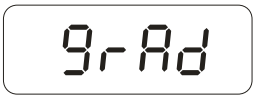
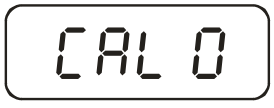
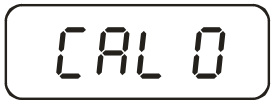
6.6 Adjustment

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 during the initial start-up, after change in location and variation of surrounding temperature. It is also recommended to adjust the balance periodically during weighing operation in order to obtain exact measured values.

With the built-in calibration weight (refer to the chapter on „Technical data") it is possible to check and set the scale accuracy at any time.

6.6.1 Procedure when adjusting

Observe stable environmental conditions. The warm-up time (refer to the chapter on „Technical data") is required to ensure the scale stabilisation.

Operation	Display
Turn the scale on using the **[ON/OFF]** key.	
Press and keep the **[→0←]** key pressed for about 3 seconds until the display shows successively the „SETUP" and „9rAD" symbol.	 ⇩ 
Press the **[TARE]** key until the „CAL ib" symbol is displayed.	
Press the **[HOLD]** key	
Press the **[TARE]** key. (display zeroing mode)	
Press the **[→0←]** key repeatedly until the „CAL 0" symbol is displayed.	

Press the **[HOLD]** key	
Press the **[TARE]** key Enter the required calibration weight value (refer to chapter 1, „Technical data"): Select the item to be changed with the **HOLD** key and set its numerical value with the **[TARE]** key.	
Confirm by pressing the **[→0←]** key.	
Place the calibration weight carefully in the centre of the scale plate, and the display will show a numerical value. Press the **[HOLD]** key. The adjustment process is started.	
When the adjustment is finished successfully, the scale is automatically switched over to the weighing mode again and the calibration weight value will be displayed. Remove the calibration weight.	
Switch off the scale with the **[ON/OFF]** key.	

English

6.7 Menu overview

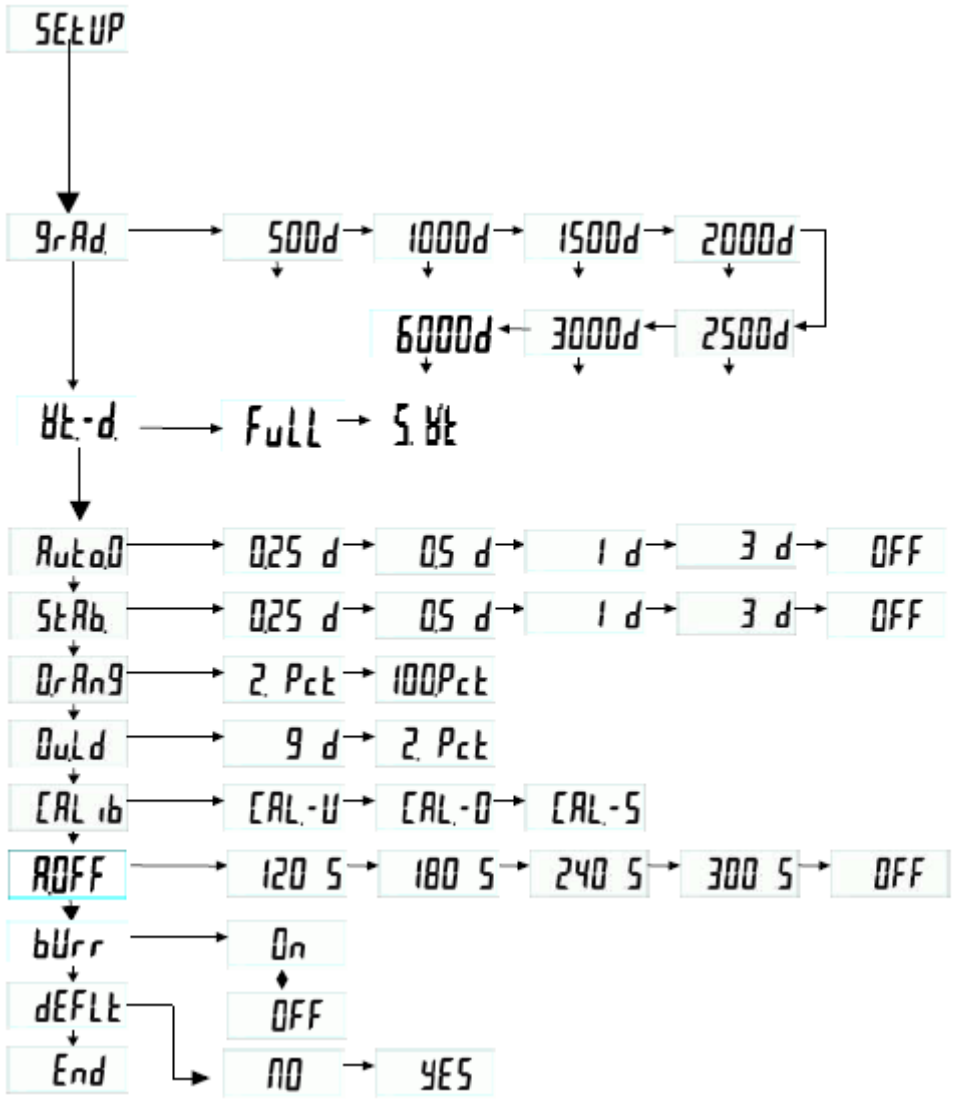
Navigation in menu:

- When the scale is switched on, press and keep the **[→0←]** key pressed for about 3 seconds until the display shows successively the „SETUP" and „9rAD" symbol.
- Press the **[TARE]** key repeatedly until the required function is displayed.
- Confirm the selected function with the **[HOLD]** key. The first parameter will be displayed. Select the required parameter with the **[HOLD]** key and confirm the selection with the **[TARE]** key.

To exit the menu and save the settings, press the **[TARE]** key until the „End" symbol is displayed and then confirm with the **[HOLD]** key. The scale is automatically returned to the weighing mode.

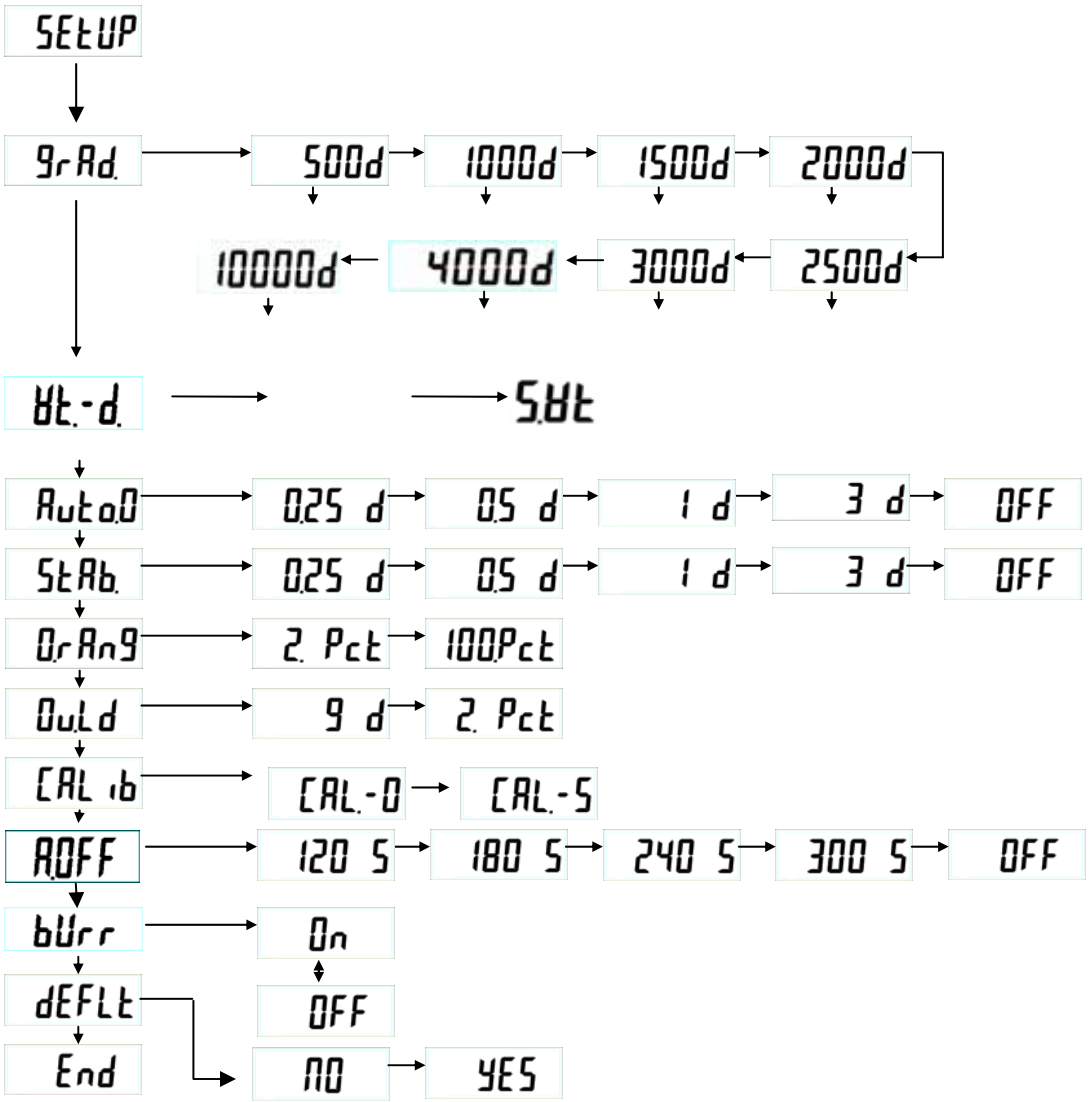
Selection is carried out with the **[HOLD]** ⟶ and **[TARE]** ↓ key.

Menu overview KERN MBB 15K5:



English

Menu overview KERN MBB 20K5:



English

Description:

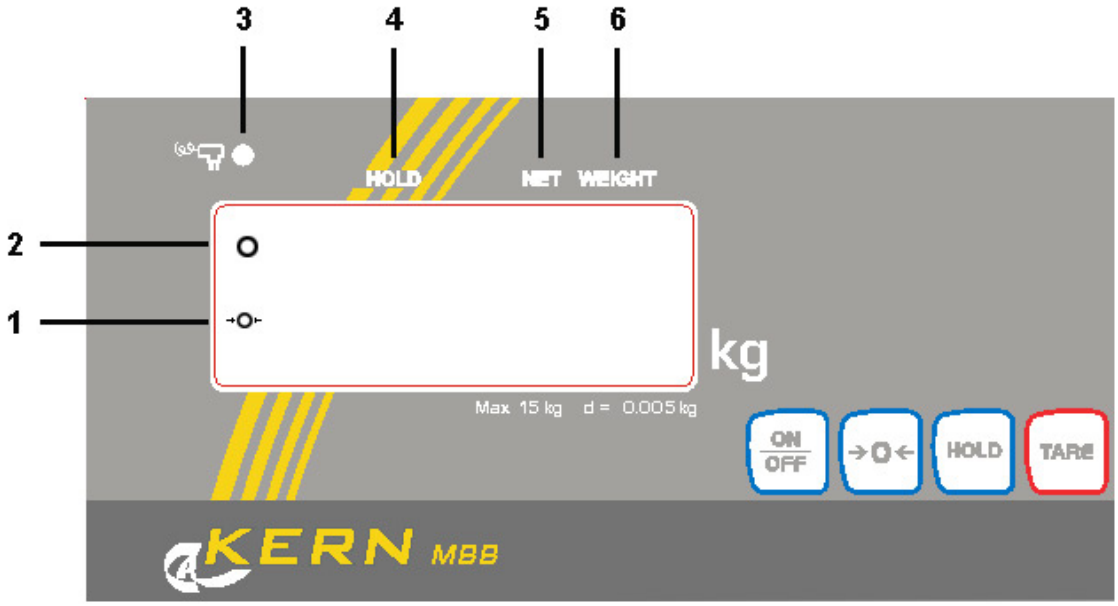
9rAd.	Scale divisions, weighing range (max.) and read-out (d)
Mt.-d.	Selection of multi-range / single-range scale
FuLL	Single-range scale
S-Mt	Multi-range scale
AutoO	Automatic zero tracking: 0,25 d/ 0,5 d/ 1 d/ 3 d/ OFF
StAb.	Stabilisation range: 0,25 d/ 0,5 d/ 1 d/ 3 d/ OFF
OrAn9	Zero range: 2% / 100%
OuLd	Overload range: 9 d / 2%
CAL ib	Adjusting
AOFF	Auto off function: 120 s / 180 s / 240 s / 300 sec/ OFF
bUrr	Audible signal: ON/OFF
dEFLt	Restoring the factory settings (default settings)
End	Exiting the menu

English

7 Operation

7.1 Operating elements

7.1.1 Display



7.1.2 Display view

No.	Display	Description
1	**[→0←]**	Scale zero display: If the scale does not show exactly zero value although the scale pan is unloaded, press the **[→0←]** key. After a short waiting time, the scale will be zeroed again.
2	**[o]**	Stabilisation display: If the display shows the stabilisation display [o], the scale is in the stable condition. When the scale is in the unstable condition, the stabilisation display [o] disappears.
3		It is illuminated when mains supply is via the mains adaptor.
4	HOLD ▲	Hold function / saving function is active
5	NET ▲	The net weight is displayed.
6	WEIGHT ▲	The present weight value is displayed.

English

7.1.3 Overview of keyboard

Key	Keyboard
ON/OFF	Switching on/off the scale
→0←	The scale is reset to 0.0 kg display. It is possible to set max. up to 2% or 100% of maximal load (possibility of selection in the menu)
HOLD	Hold function / determination of average value
TARE	Taring the scale

8 Using the scale

8.1 Weighing

- ⇨ Switch on the scale with the **[ON/OFF]** key. The diagnostic scale self-check is performed and then the software version is displayed. The scale is ready for weighing when the „**0,00 kg**" weight display is shown.
  Direction: The **[→0←]** key makes it possible to zero the scale if necessary and at any time.
- ⇨ Place a person in the middle of the scale or lay down a baby on the scale pan. Wait until the stability display (**o**) is shown and then read the weighing result.

Direction:
If a person is heavier than the weighing range, the display will show the „Err" symbol (= overload).

8.2 Taring

The dead weight of any initial load used for weighing may be tared away by pressing the key, so that the following weighing shows the real weight of a person to be weighed.

- ⇨ E.g. when a rubber mat is put on the scale plate, the scale does not show 0 value.
- ⇨ To start the taring process, press the **[TARE]** key. Now internal weight saving is performed and value of **0.0 kg** is displayed.
- ⇨ Place a person in the middle of the scale plate.
- ⇨ Then read the weight on the display.

Direction:
The scale can store only one tare value.
When the scale is unloaded, the saved tare value is displayed with „negative" sign.
To delete the saved tare value, unload the scale plate and then press the **[TARE]** key.

8.3 HOLD function

The scale is provided with the integrated hold function (determination of average value). It enables babies to be weighed accurately although they are not still on the scale plate.

Note: Determination of average value is not possible when a baby moves too much.

- ⇨ Switch on the scale with the **[ON/OFF]** key. The diagnostic scale self-check is performed. The scale is ready for weighing when the „**0,00 kg**" weight display is shown.
- ⇨ Lay down a baby in the centre of the scale plate.
- ⇨ Press the **[HOLD]** key. When the triangle is flashing on the display, the scale takes some measuring values and then the calculated average value is displayed.
- ⇨ Press the **[HOLD]** key again to return the scale to the normal weighing mode.
- ⇨ Pressing the **[HOLD]** key makes it possible to activate the function at any time.

9 Error messages

The following messages can be shown on the display during switching on or using the scale.

ERRL: Too small weight on the scale.

oooooo: The scale plate was loaded during switching on the scale. Unload the scale plate.

ERR: Overload, too large weight on the scale plate.

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 or cleaning agent. Ensure that no liquid penetrates into the device and wipe the device 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.

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.
Disconnect the scale from mains supply before its opening.

10.3 Disposal

Disposal of packaging and device must be carried out by an operator 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.

Help:

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.