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Operating instructions
Baby weighing scale

KERN MBB-M

Version 1.4
02/2013
GB

GB

KERN MBB-M

Version 1.4 02/2013

Operating instructions

Baby weighing scale

English

Table of Contents

English

1 Technical Data

KERN	MBB 15K5M	MBB 15K2DM
Display	6-digit	
Weighing range (max)	15 kg	6 kg; 15 kg
Minimum load (Min)	100 g	40 g
Verification value (e)	5 g	2 g; 5 g
Reproducibility	5 g	2 g; 5 g
Linearity	10 g	2 g; 5 g
Display	LCD 24mm digit height	
Recommended adjustment weight, (Class)	15 kg (M1)	
Stabilization time (typical)	2 – 3 sec.	
Warm-up time	10 min	
Operating temperature	+ 5° C …. + 35° C	
Storage temperature	- 20°C … + 60°C	
Humidity of air	max. 80 % (not condensing)	
Electric Supply	Line adapter 15V / 300 mA (EN60601-1)	
	Battery operation 6 x 1.5V, size AA Operating life 98 h	
Auto Off	After 3 min without load change, adjustable	
Housing display unit (B x D x H) mm	210 x 110 x 45	
Weighing pan (WxD) mm	550 x 240	
Weight kg (net)	4	
Calibrated in accordance with 90/384/EEC	Medical grade III	
Medical product in accordance with 93/42/EEC	Category I with measuring function	
Rechargeable battery	Working life 50 h Loading time 14 h	

English

2 Declaration of conformity

Declaration of conformity: See separate document showing serial number of device

CE marking:

CE 0297	93/42/EEC
CE year M 0103	90/384/EEC Non-automatic Weighing Instruments Directive

English

2.1 Explanation of the graphic symbols

This EEC verification mark indicates that these scales are in conformity with EEC Directive 90 / 384 / EEC for Non-Automatic Weighing Instruments. Weighing instruments bearing this mark are approved for medical purposes within the European Union.

SN WOC 09000100

Designation of the serial number of every device, applied at the device and on the packaging

(Number as an example)

2009-10

Identification of the manufacturing date of the medical product.

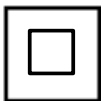
Year and month here as example

"Please note the accompanying documents"
or "Observe operating instructions"

Identification of manufacturer of medical product including address

Kern & Sohn GmbH
D–72336 Baligen,Germany
www.kern-sohn.com

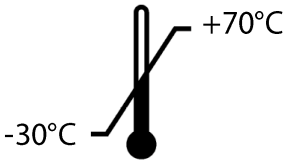
“Electro-medical appliance“
with attachment for type B



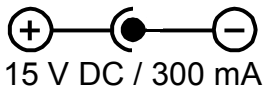
Device protection category II

Dispose of old appliances separately from your household waste!!!

Instead, take them to communal collection points.



Temperature limit indicating the upper and the lower limit
(storage temperature on packaging)
(Temperature serving as an example)



Display of supply voltage for scales with polarity display
(Polarity and values serving as an example)

3 Basic Information (General)

Weighing instruments have to be verified for the purposes stated below in accordance with Directive 90/384/EEC. Article 1, paragraph 4. “Determination of mass in the practice of medicine that is, weighing patients for reasons of medical supervision during medical surveillance, examination and treatment.”

3.1 Specific function

Indication

- Determining the body weight in the medical practice area.
- Operated as “non-automatic weighing instrument” which means that you have to carefully put he baby in the centre of the weighing pan. Once a steady display value is shown, you can read the weight value.

Contra-indication

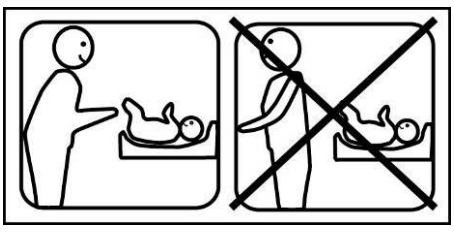
- No contraindication known

3.2 Proper use

These scales serve as a means of determining the weight of babies in medical treatment rooms. The scales are suitable for recognising, preventing and controlling illnesses.

Scales fitted with a serial interface may only be connected to appliances in compliance with Directive EN60601-1.

To prevent babies lying on the weighing pan from falling off the scale, they must be watched all the time. Please observe note on weighing pan!



English

3.3 Improper Use

Do not use these scales for dynamic weighing processes.
Do not leave permanent load on the balance. This may damage the measuring system.
--
Impacts and overloading exceeding the stated maximum load (max) of the weighing pan, minus a possibly existing tare load, must be strictly avoided. This could cause damage to the balance.
Never operate balance in explosive environment. The serial version is not explosion protected. It should be noted that a flammable mixture of anesthetics and oxygen or laughing gas may occur.
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.

3.4 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 and damage caused by media, liquids,
- Natural wear and tear
- The appliance is improperly set up or incorrectly electrically connected
- The measuring system is overloaded
- Dropping the balance

3.5 Monitoring of Test Resources

In the framework of quality assurance the measuring-related weighing properties of the balances 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.

For balances with height measuring rods, we recommend a metrological examination of the accuracy of the height measuring rod, however, this is not mandatory as the determination of human body height involves rather large, intrinsic inaccuracies.

4 Basic Safety Precautions

4.1 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.

4.2 Personnel training

The medical staff must apply and follow the operating instructions for proper use and care of the product.

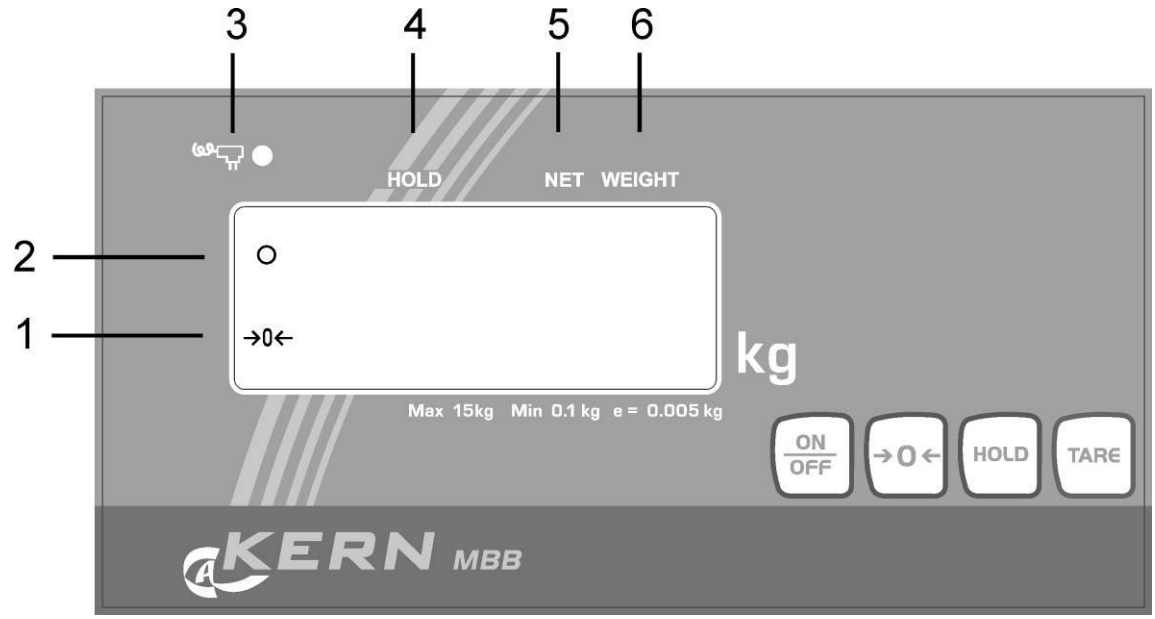
4.3 Preventing contamination

To prevent cross-contamination (fungal skin infections, …), clean the seating surface or weighing platform every time.
Recommendation: after a weighing procedure that could potentially result in contamination (e. g. after weighing that involves direct skin contact).

5 Appliance overview

1. Weighing pan
2. Bubble level
3. Display unit
4. Stand (optional)
5. Wall bracket

6 Overview of displays



	Display	Designation	Description
1	→0←	Zeroing display	Should the balance not display exactly zero despite empty scale pan, press the →0← button. Your balance will be set to zero after a short standby time.
2	○	Stability display	Scales are in a steady state
3	○	Power supply connected	Illuminates in the event of power supply via mains adaptor
4	HOLD ▲	HOLD function active	Hold/Save function active
5	NET ▲	Net weight display	Net weight will be displayed
6	WEIGHT ▲	Weight value display	Current weight value will be displayed

English

7 Keyboard overview

Button	Designation	Function
	ON/OFF-switch	Turn on/off
	Zero setting key	Balance will be reset to 0.0 kg. Possible up to max. 2% of maximum load for verified scales or 2 % or 100% of maximum load for all other scales (selectable via menu)
	HOLD button	Hold function/Calculation of a stable weight value
	TARE button	Tare balance

8 Transportation & Storage

8.1 Testing upon acceptance

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

8.2 Packaging / return transport

- ⇨ Keep all parts of the original packaging for a possibly required return.
- ⇨ Only use original packaging for returning.
- ⇨ Prior to dispatch disconnect all cables and remove loose/mobile parts.
- ⇨ Reattach possibly supplied transport securing devices.
- ⇨ Secure all parts such as the weighing pan, power unit etc. against shifting and damage.

9 Unpacking, Setup and Commissioning

9.1 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.

On the installation site observe the following:

- Place scales on a stable, even 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 the balance and of the person to be weighed.
- Avoid contact with water.

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. In that case, the location must be changed.

9.2 Unpacking

Remove the individual components of the balance or the complete balance from the packaging with care and install at the intended location. When using the power pack, ensure that the power cable does not produce a risk of stumbling.

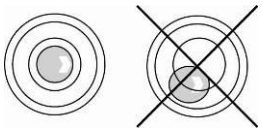
9.3 Scope of supply

- Balance
- Power unit (in conformity with EN 60601-1), including fuse and LED
- Wall bracket
- Operating instructions

9.4 Assembly and erection

Make sure that the weighing pan is exactly horizontal.

Set the adjustable rubber feet of the baby scale in such a way that the air bubble inside the spirit level (on the right next to the cable outlet to the control unit) is in the centre.



1. Push the front of the weighing pan (arrow) up to the stop across the weighing platform.

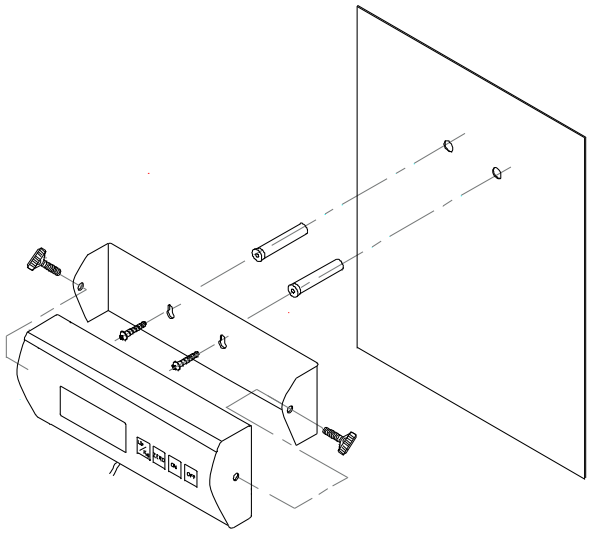
2. Screw in the locking screw at the bottom of the weighing pan into the mount.

English

3. Then screw in the corresponding locking screw to achieve a tight fit.

4. Use the supplied knurled screws to attach the wall bracket to the terminal.

9.5 Assemble the wall bracket



9.6 Stand assembly (optional)

- ⇨ Use the 4 screws to attach the stand to the bottom of the scale.
- ⇨ Remove the two lateral rubber plugs from the display unit.
- ⇨ Secure the display unit with the two black rotary knobs to the fixing device.
- ⇨ Position display unit with the rotary knobs.

9.7 Battery operation

On models where the back of the display unit is not directly accessible, remove the two black rotary knobs from both sides of the display unit in order to open the battery compartment and remove the display unit from the holder. Remove battery cover from under the display unit. Insert 6 x 1.5V AA batteries into the holder. Replace battery cover and screw the display unit back into the holder using the black rotary knobs.
In order to save the battery, the balance switches automatically off after 3 minutes without weighing. Further shutdown times can be set in the Menu (Function "A.OFF"), see Section 10.

If the batteries are run down, "**LO**" appears in the display. To turn off scales, press the ON/OFF button and immediately change the batteries.
If the balance is not used for a longer time, take out the batteries and store them separately. Leaking battery liquid could damage the balance.

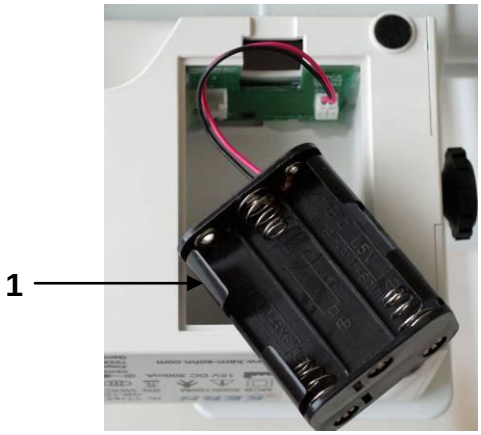
9.8 Rechargeable battery operation (optional)

When an optional rechargeable battery is used, proceed as follows:

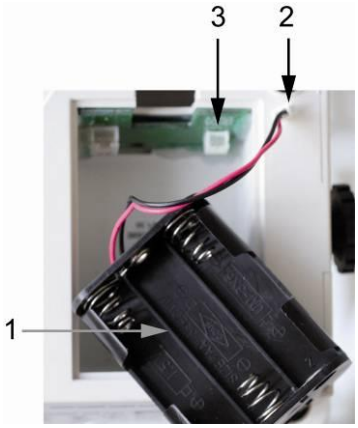
On models where the back of the display unit is not directly accessible, remove the two black rotary knobs from both sides of the display unit in order to open the battery compartment and remove the display unit from the holder.

⇨ Lift-off the battery cover on the lower side of the balance

⇨ Carefully take out the battery holder (1)



⇨ Carefully pull-out plug (2) from the connection **CN 4** (3)



⇨ Carefully insert the rechargeable battery block and insert plug into connection **CN 3**
Ensure that the cables are not squeezed

⇨ Close the battery cover

If the rechargeable battery is exhausted, „**LO**“ is displayed. The rechargeable battery is loaded via the provided plug-in power supply unit (loading time 23 h for a complete loading).
If the balance is not used for a longer time, take out the rechargeable battery and store it separately. Leaking liquid could damage the balance.

English

9.9 Connecting the power supply

Power is supplied by the external power unit which also serves to isolate the mains supply from the scale. The stated voltage value must be the same as the local voltage.
Only approved genuine KERN power supply units may be used in compliance with Directive EN 60601-1.

9.10 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) and be switched on.

The accuracy of the balance depends on the local acceleration of gravity.
The value of gravity acceleration is shown on the type plate.

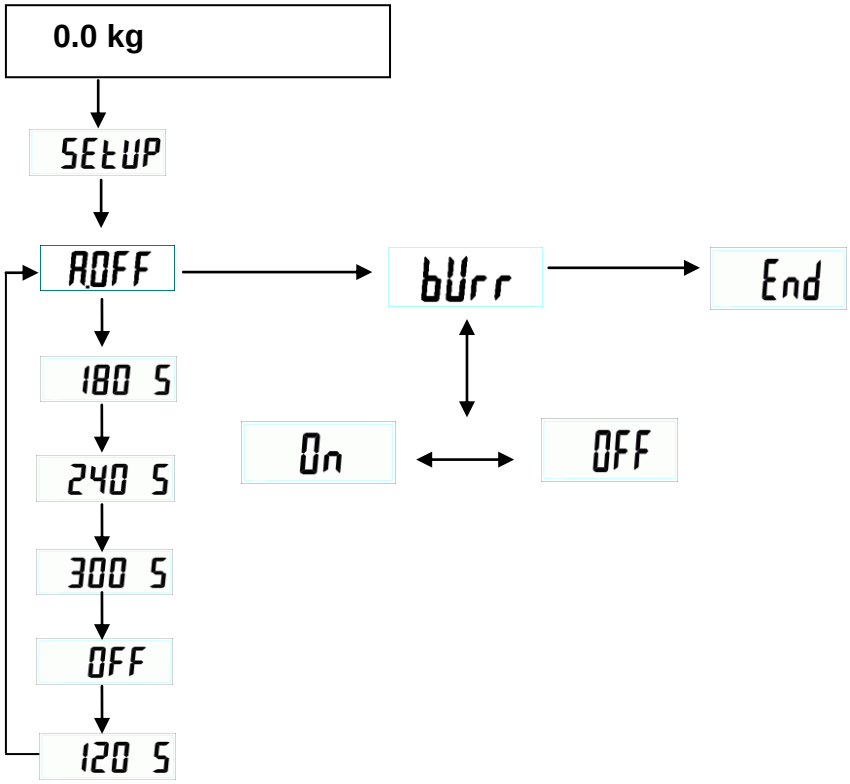
10 Menu overview

⇨ Start balance by pressing ON/OFF

⇨ Press →0← for 3 sec., “SETUP“ will be displayed.

⇨ Select parameter by using TARE (⟶) and HOLD (↓), as described.

⇨ Confirm the selected parameter by pressing TARE (⟶).



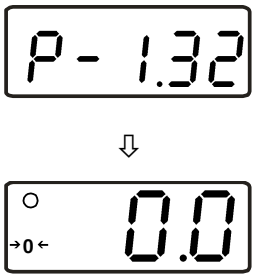
AOFF	Auto off: 120 sec / 180 sec / 240 sec / 300 sec / OFF
bUrr	Audio signal: ON/OFF
End	Exit menu

If End is selected, finish set up by pressing the HOLD button.

English

11 Operation

11.1 Weighing



⇨ Start balance by pressing ON/OFF
The balance carry out a segment test, then the program version is displayed.
The scales are ready for operation as soon as the weight display for “0.0kg“ has appeared.

▪ The →0← button can be used to set the balance to zero at any time.

⇨ Put baby in the centre of the weighing pan.
⇨ Wait for the rest position display ○, then read the weighing result.

▪ If the baby is heavier than the maximum weighing range, “Err” (overload) will appear on the display screen.

11.2 Taring

The tare weight of any preloads can be deducted by pressing a button so that the actual weight of the baby is displayed in subsequent weighings.

⇨ Put object (such as towel or padding) on the weighing pan.

⇨ Press TARE, the zero display appears.

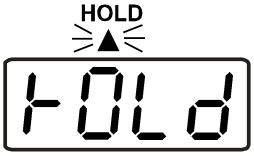
⇨ Put baby on the weighing pan.
Wait until the standstill display ○ appears, then read the weighing result.

- The balance is able to only store one taring value.
- When the balance is unloaded the saved taring value is displayed with negative sign.
- To delete the stored tare value, release scales and press TARE.

11.3 Hold function (Standstill function)

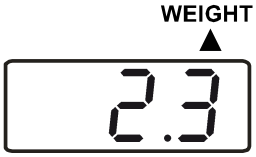
The balance has an integrated standstill function (mean value calculation). This allows correct weighing determination of a baby although the latter is not keeping still on the scales.

⇨ Start balance by pressing ON/OFF
Wait for the rest position display O .



⇨ Put baby in the centre of the weighing pan.

⇨ Press HOLD
A triangle ▲ starts to flash in the display, during this time the balance will record several measuring values and will then display the calculated average value.

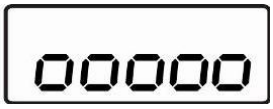


⇨ By pressing the HOLD button several times, the balance returns to the normal weighing mode.

⇨ Press the HOLD button once more to repeat this function as often as required.

There is no average value calculation in the event of too much movement.

12 Error messages

Display	Description
	**Underload** Weight on weighing pan is too low. Please increase weight. If the error message remains inform manufacturer.
	The weighing pan was bearing a load during start-up; unload weighing pan
	**Overload** Weight on weighing pan too heavy

English

13 Service, maintenance, disposal

13.1 Cleaning

Disconnect the unit from the mains power supply prior to cleaning.

Please do not use aggressive detergents (solvents etc.). Apply soapy water to moist cloth or use household detergent. Prevent fluid from penetrating into device. Finish by polishing with dry soft cloth. Remove dirt immediately.
Disinfection

For disinfection the following substances are allowed:

- Methylated spirit
- 2 % Kohrsolin
- 1% Sokrena solution
- 5% Sagrotan
- 5% Gigasept

The prevention of cross-contamination (fungal skin infections,……) requires regular cleaning of the weighing platform. Recommendation: after a weighing procedure that could potentially result in contamination (e. g. after weighing that involves direct skin contact).

Do not spray disinfectants onto appliance.

Make sure that disinfectant does not penetrate the interior of the appliance.

Remove dirt immediately.

13.2 Service, maintenance

The appliance may only be opened by trained service technicians who are authorized by KERN.
Disconnect the scales before opening.

13.3 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.

14 Instant help

In case of a fault in the program sequence, the balance should be shortly switched off. The weighing process must then be restarted from the beginning.

Failure:	**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). ▪ Check fuse of adapter / glowing green LED next to fuse ▪ Power supply interrupted. ▪ Batteries are inserted incorrectly or empty ▪ No batteries inserted.
The displayed weight is permanently changing	▪ Draught/air movement ▪ Table/floor vibrations ▪ The seat surface/weighing plate is in contact with foreign bodies or is not correctly positioned. ▪ 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. ▪ The balance is on an uneven surface. ▪ 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.

15 Verification

Verified scales bear a verification mark or one or more seals affixed by the Bureau of Standards or the manufacturer on or inside the housing which will self-destroy on removal. This makes it impossible to verify scales without damaging the seals.

15.1 Adjustment

Observe stable environmental conditions. A warming up time (see chapter 1) is required for stabilization.

	In calibrated balances the adjustment function is switch locked. In order to carry out adjustments, the switch must be turned to adjustment position (centre position) (see chapter. 16.2).

Display	Operation
	⇨ Start balance by pressing ON/OFF
	⇨ Press →0← for approx. 3 sec, in the display appears „SETUP“, followed by „UNIT“
⇩	
	
	⇨ Press TARE repeatedly until “CAL iB“ appears
	⇨ Press HOLD, „CAL U“ appears
	⇨ Press TARE, the appeared triangle ◀ must be located in the upper left part of the display. If it is not, press again TARE.

⇨ Press HOLD repeatedly until “CAL 0“ appears.

⇩

⇨ Press TARE,
the display will show a numeric value.

⇩

⇨ Then press →0←,
“CAL 0“ appears.

⇨ Press HOLD,
“CAL 5“ appears.

⇨ Press TARE
Enter the required size of the adjustment weight (See Section 1, "Technical Data"):
For this select the digit to be changed with HOLD and the numeric value using TARE.

⇨ Acknowledge by →0←.

⇨ Place the adjustment weight carefully in the centre of the weighing pan and a numerical value will appear in the display.

⇨ Press HOLD, the adjustment process is started.

The balance will automatically return to Weighing mode upon successful completion of the adjustment and will display the weight of the adjustment weight.

Take away adjustment weight.

i	For verified scales, turn off the scales and move the adjustment switch back to verification position.

15.2 Adjustment controls and seals

After a verification the balance is sealed at the indicated positions.

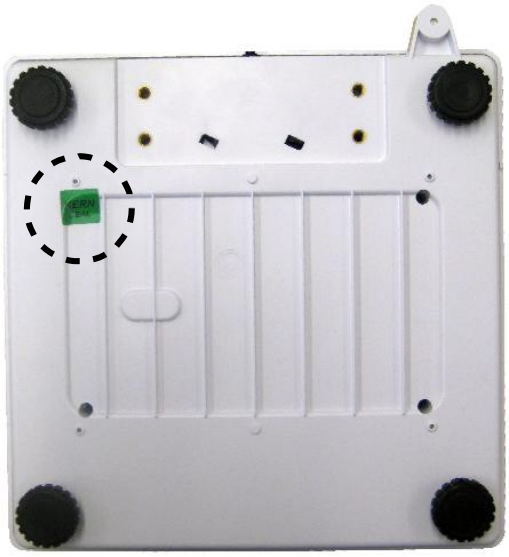
Verification of the balance is invalid without the "seal".

Position of the official seals:

1. Rear

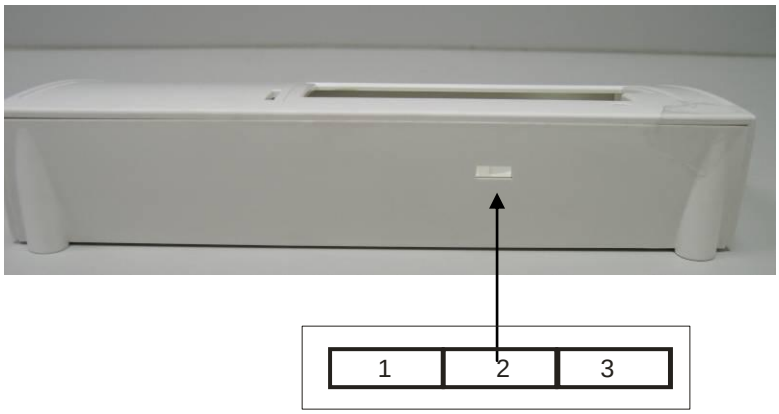
2. Battery compartment

3. Rear of platform



English

Position of the adjustment switch:



Position of the adjustment switch	State
1. to left	Not documented
2. concentric	Adjustment position - adjustment possible
3. to right	Verification position - adjustment locked

15.3 Checking the balance verification settings

For the adjustment function, the balance must be switched over to service mode. To achieve the effect, turn the adjustment switch to adjustment position.

In the service mode all parameters of the balance can be modified. The service parameters may not be modified, as this could damage the balance settings.

15.3.1 Menu overview in service mode (adjustment switch in adjustment position)

This overview is merely for checking the parameters set by the appropriate Bureau of Standards.
Changes may only be made to the parameters for the automatic shut-off function "A.OFF" and the audio signal "bUrr".

15.4 Navigation in the menu

⇨ With the balance switched on, keep the →0← button depressed for approx. 3 sec until "SETUP" is displayed followed by "9rAd".

⇨ Press the TARE button as often as necessary until the required function is displayed.

⇨ Press the HOLD button to confirm the selected function. The first parameter will be displayed. Press the HOLD button to select the required parameter and confirm by pressing the TARE button.

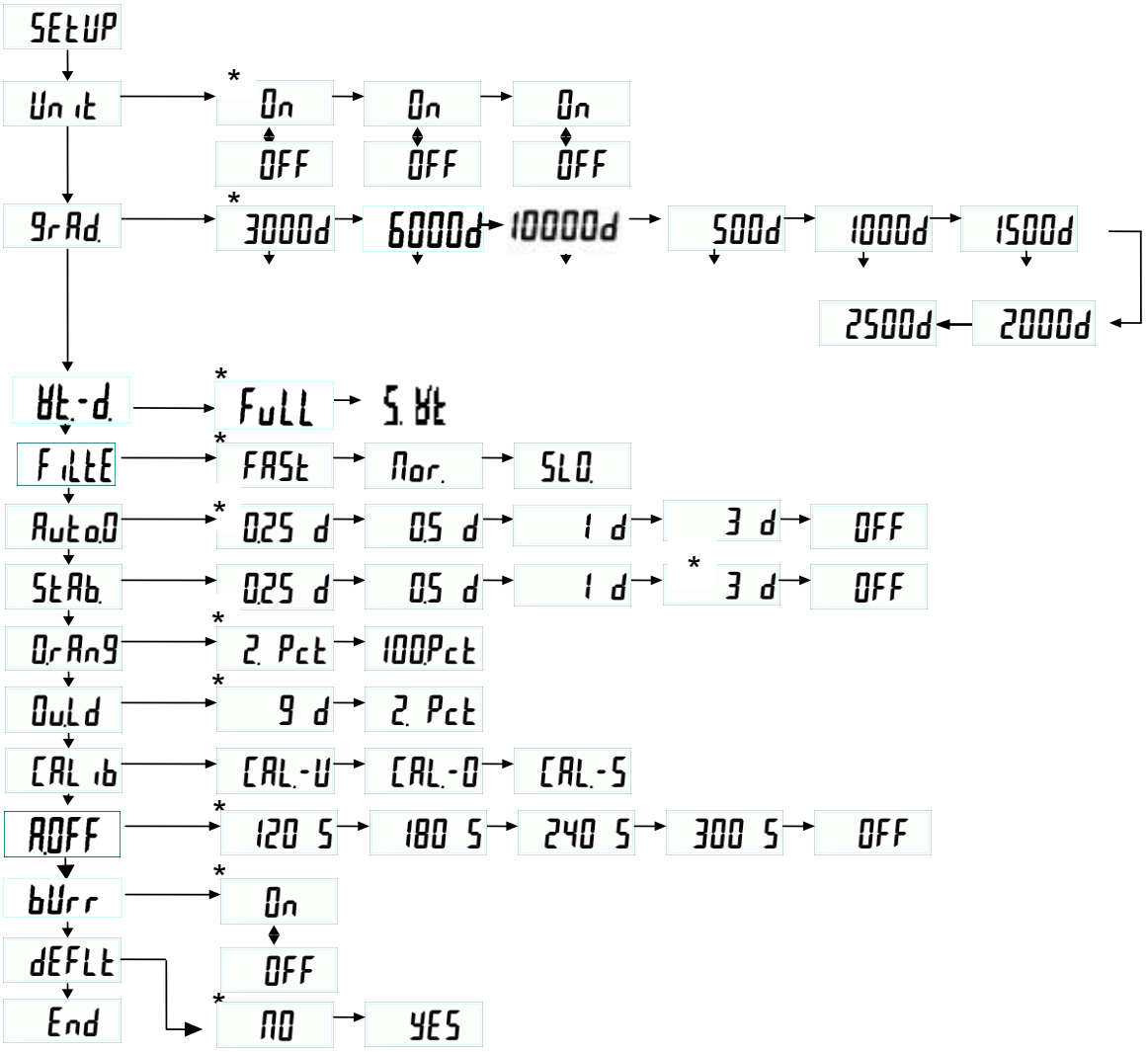
15.4.1 Exit menu and save

⇨ Press the TARE button repeatedly until "END" appears.

⇨ Acknowledge by HOLD.

The balance returns automatically into weighing mode.

Press the **[HOLD]** → and **[TARE]** ↓ buttons to make the selection



* default setting

Description:

Unit	Weighing unit: kg
GrAd.	Partition steps, weighing range (max.) and readout (d)
Mt.-d.	Multi-range balance/ single-range balance selection
FuLL	Single-range balance
S-Mt	Multi-range balance
FiLtE	Filter: fast/ normal/ slow
AutoZ	Auto Zero Tracking: 0.25d / 0.5d / 1d / 3d / OFF
StAb.	Stabilisation range: 0.25d / 0.5d / 1d / 3d / OFF
ZrAnG	Zero range: 2% / 100%
OuLd	Overload range: 9d / 2%
CALib	Adjustment
AOFF	Auto off: 120 sec. / 180 sec. / 240 sec. / 300 sec. / OFF
bUrr	Audio signal: ON/OFF
dEFLt	Resetting to factory setting (Default setup)
End	Exit menu

English

15.5 Verification validity period (current status in G)

▪ Personal scales in hospitals	4 year
▪ Personal scales if not used in hospitals	unlimited
▪ Baby weighing scales and mechanical birth weight scales	4 year
▪ Bed scales	2 year
▪ Wheelchair scales	2 year

- Rehab clinics and local health authorities are treated as hospitals (4 years verification validity).
- Not treated as hospitals (verification validity not limited) are dialysis stations, nursing homes and doctor's surgeries.

(Data source: "Bureau of Standards News, Weighing Instruments in Medicine"}