KERN & Sohn GmbH
Ziegelei 1
D-72336 Balingen
E-Mail: info@kern-sohn.com
Phone: +49-[0]7433- 9933-0
Fax: +49-[0]7433-9933-149
Internet: www.kern-sohn.com

Operating manual
Counting balances

KERN CXB

Version 2.3
2017-11
GB

Importør:
Impex Produkter AS
Gamle Drammensvei 107
1363 Høvik
www.impex.no
info@impex.no
Tel.: 22 32 77 20

CXB-BA-e-1723

GB

KERN CXB

Version 2.3 2017-11

Operating manual

Counting balances

English

Contents

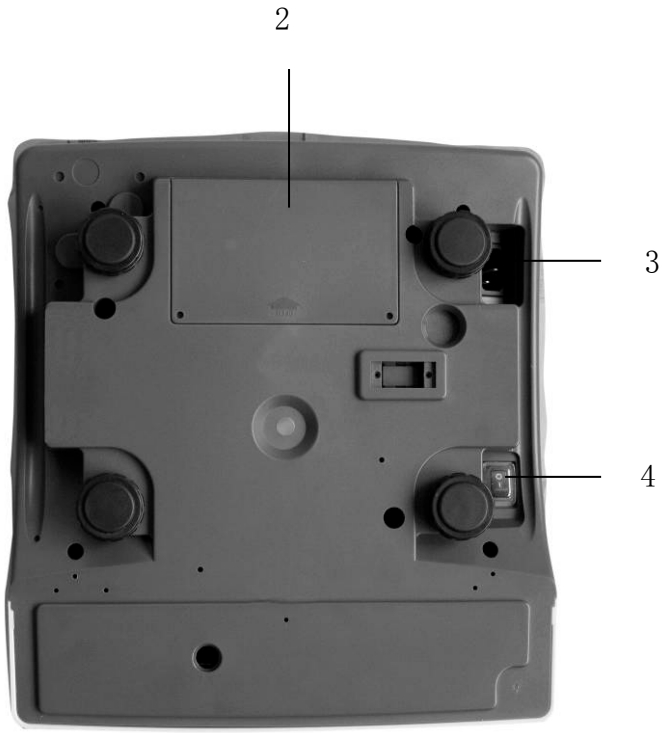
English

1 Technical data

KERN	CXB 3K0.2	CXB 6K0.5	CXB 15K1	CXB 30 K2
Readability (d)	0.2 g	0.5 g	1 g	2 g
Weighing range (max)	3 kg	6 kg	15 kg	30 kg
Reproducibility	0.2 g	0.5 g	1 g	2 g
Linearity	± 0,4 g	± 1,0 g	± 2 g	± 4 g
Stabilization time	2 sec.	2 sec.	2 sec.	2 sec.
Recommended adjustment weight, not added (class)	3 kg (M1)	5 kg (M1)	15 kg (M1)	30 kg (M1)
Weighing unit	g	g	g	g
Minimum piece weight	0.1 g	0.2 g	0.5 g	1 g
Heating time (operating temperature)	30 min			
Reference quantity	freely selectable			
Net weight (kg)	4 kg			
Permissible ambient condition	-10° C to 40° C			
Humidity of air	15% - 85% (non-condensing)			
Weighing plate, stainless steel	300 x 225 mm			
Dimensions of the housing (B x D x H)	300 x 330 x 110 mm			
Mains connection	Mains adaptor 230 V, 50/60 Hz ; 9 V DC balance, 800 mA			
Rechargeable battery	Without display backlighting: Service life c. 200 hours / loading time ca. 8 hrs.			
	With display backlighting: Operating time ca. 60h. / loading time ca. 8 hrs.			

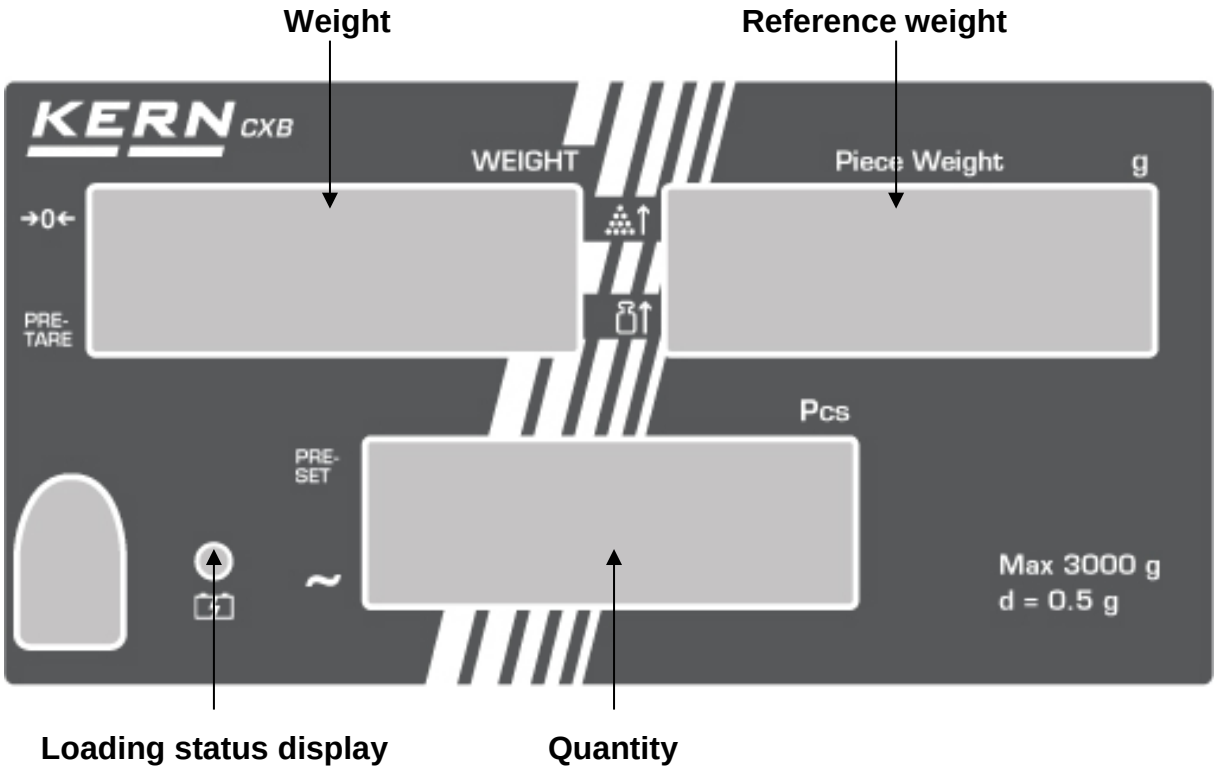
KERN	CXB 3K1NM	CXB 6K2NM	CXB 15K5NM	CXB 30K10NM
Readability (d)	1 g	2 g	5 g	10 g
Weighing range (max)	3 kg	6 kg	15 kg	30 kg
Minimum weight (min)	20 g	40 g	100 g	200 g
Verification value (e)	1 g	2 g	5 g	10 g
Reproducibility	1 g	2 g	5 g	10 g
Linearity	2 g	4 g	10 g	20 g
Verification class	III	III	III	III
Stabilization time	2 sec.	2 sec.	2 sec.	2 sec.
Recommended adjustment weight, not added (class)	3 kg (M1)	6 kg (M1)	15 kg (M1)	30 kg (M1)
Weighing unit	kg	kg	kg	kg
Minimum piece weight	100 mg	200 mg	500 mg	1 g
Heating time (operating temperature)	10 min			
Reference quantity	freely selectable			
Net weight (kg)	4 kg			
Permissible ambient condition	-10° C to 40° C			
Humidity of air	15% - 85% (non-condensing)			
Weighing plate, stainless steel	300 x 225 mm			
Dimensions of the housing (B x D x H)	300x330x110 mm			
Mains connection	Net adapter 220-240 V, 50 Hz;			
Rechargeable battery	Without display backlighting: Service life c. 200 hours / loading time ca. 8 hrs.			
	With display backlighting: Operating time ca. 60h. / loading time ca. 8 hrs.			

2 Appliance overview



1. Bubble level
2. Battery compartment
3. Connection for mains cable
4. ON/OFF switch

2.1 Overview of display



English

2.1.1 Display weight

Here, the weight of your goods is displayed.

Overlay ◀ indicates:

a	Zeroing display
PRE-TARE	Tare in memory
	Battery very low

2.1.2 Display reference weight

The reference weight of a sample is shown here. This value is either entered by user of calculated by balance.

Overlay ◀ indicates:

	Placed number of pieces insufficient for reference calculation
	Placed reference weight insufficient for reference calculation

2.1.3 Display quantity

Here, all the parts placed on balance are immediately displayed by number.

Overlay ◀ indicates:

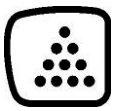
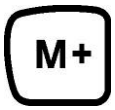
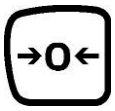
M+	Data in summation memory
	Stability display

2.1.4 Battery charge status display

red	Battery is almost discharged
green	Rechargeable battery completely reloaded

2.2 Keyboard overview

English

Selection	Function
	• Number keys
	• Deleting key • Move decimal point to the left
	• Call counting with tolerance control
	• Pre-Set function • Store reference weights in memory • Call stored reference weights
	• Addition in sum memory • Call up total memory
	• Delete summation memory • In menu confirm input
	• Enter reference weight through weighing • Display reference weight stored last • Enter target number of pieces
	• Numeric entry reference weight • Display reference weight stored last • Enter target weight
	• Zeroing key • Back to weighing mode
	• Taring key • Enter numerical tare • Move decimal point to the right and change to the next menu item
	• Decimal point • Exit menu

English

3 Basic Information (General)

3.1 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 pan. As soon as a stable weighing value is reached the weighing value can be read.

3.2 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” (Example: Slowly draining fluids from a container on the balance.)
Do not leave permanent load on the weighing pan. 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 damage 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.

3.3 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

3.4 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.

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 appliance may only be operated and maintained by trained personnel.

5 Transport and storage

5.1 Testing upon acceptance

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

5.2 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.

6 Unpacking, Setup and Commissioning

6.1 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, vapours 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.

6.2 Unpacking

Carefully remove the balance from the packaging, remove plastic cover and setup balance at the intended workstation.

6.2.1 Placing

Level balance with foot screws until the air bubble of the water balance is in the prescribed circle.

6.2.2 Scope of delivery

Serial accessories:

- Balance
- Weighing pan
- Mains adapter
- Protective cover
- Internal battery
- Operating manual

6.3 Mains connection

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

6.4 Rechargeable battery operation

The optionally supplied battery is charged with the supplied power supply.
Before the first use, the battery should be charged by connecting it to the mains power supply for at least 15 hours. The battery has a service life of c. 200 hours without background illumination or 60 hours with background illumination. The charging period for total charge is c. 8 hours
The appearance of the battery symbol  in the weight display indicates that the battery is almost exhausted. If no weighing process is carried out during the red LED display, the balance will switch off automatically after about 20-30 minutes. Connect the power adaptor as soon as possible to change the battery.

The LED display provides information about the battery's charging status.

red: Battery is almost discharged
green: Rechargeable battery completely reloaded

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

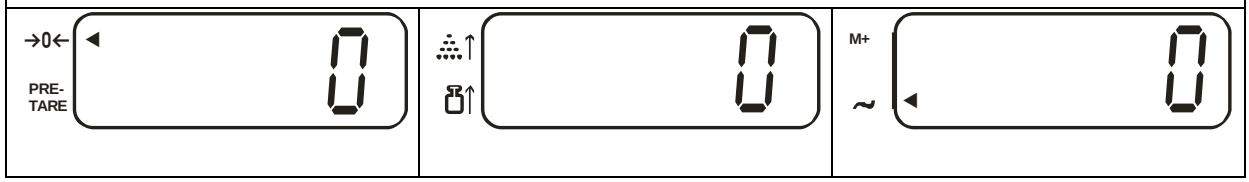
The accuracy of the balance depends on the local acceleration of gravity.
Strictly observe hints in chapter Adjustment.

6.5.1 Start-up

Turn on scales with **ON/OFF** switch (left).

The balance will carry out a self-test As soon as the weight display shows "**0**" in all the three display windows your balance is ready to weigh.

On CXP models (with RS 232) an internal number appears before the balance counts down to zero.



6.5.2 Switching Off

- **Turn off balance by operating the ON/OFF switch (left)**

6.5.3 Balance zero display

Environmental influences can lead to the exact figure of zero not being displayed in spite of an empty weighing dish. It is, however, possible to reset your balance to zero at any time and thus ensure that weighing really does commence at zero. Setting to zero when a weight is applied is only possible within a certain type-dependent range. In the event that the balance cannot be reset to zero with an applied weight, this range has been exceeded (± 0,2 % max).

To reset the balance to zero, press button →0←. A triangle [◀] pops up next to the [a] symbol on the display.

6.5.4 Stability display

If a triangle [◀] pops up next to the [~] symbol on the display,
the balance is in a stable state. If the status is instable the [◀] display disappears.

6.6 Linearisation (verified models only)

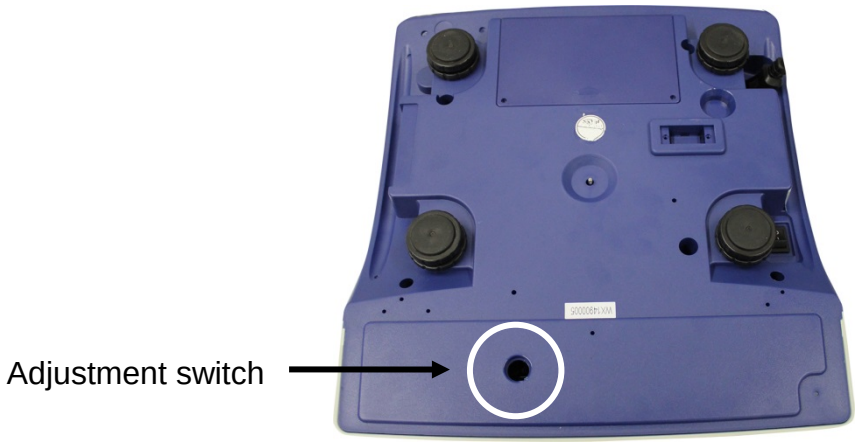
Linearity shows the greatest deviation of a weight display on the scale to the value of the respective test weight according to plus and minus over the entire weighing range.
If linearity deviation is discovered during a monitoring of test resources, you can improve this by means of linearization.

- Carrying out linearization is restricted to specialist staff possessing well acquainted with the workings of weighing scales.
- The test weights to be used must be adapted to the weighing scale's specifications; see chapter 3.4 "Testing instruments control"
- Observe stable environmental conditions. Stabilisation requires a certain warm-up time.
- After successful linearization you will have to carry out calibration; see chapter 3.4 "Testing instruments control"

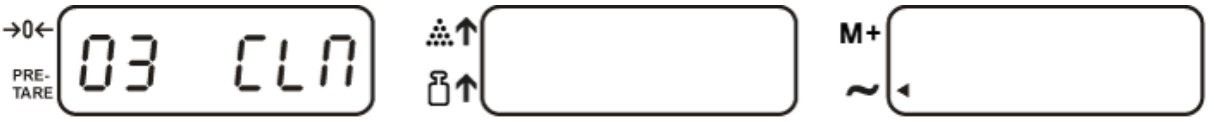
Tab. 1: Adjustment points

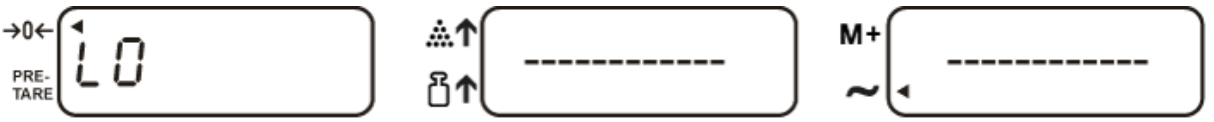
Model	Load 0	Load 1	Load 2	Load 3	Load 4	Load 5
CXB 3K1NM	0	600 g	1.2 kg	1.8 kg	2.4 kg	3 kg
CXB 6K2NM	0	1.2 kg	2.4 kg	3.6 kg	4.8 kg	6 kg
CXB 15K5NM	0	3 kg	6 kg	9 kg	12 kg	15 kg

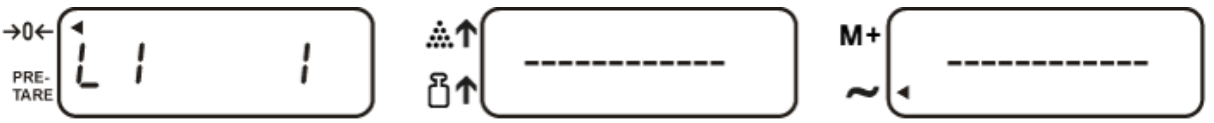
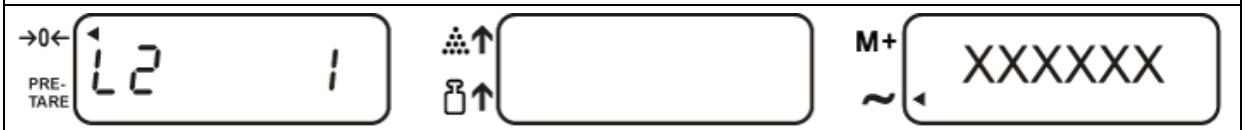
In verified models CXB-M, access to the adjustment is blocked.
To cancel the access lock, the adjustment switch at the lower side of the balance must be switched from "**LOCK**" position to "**ADJ**" position.



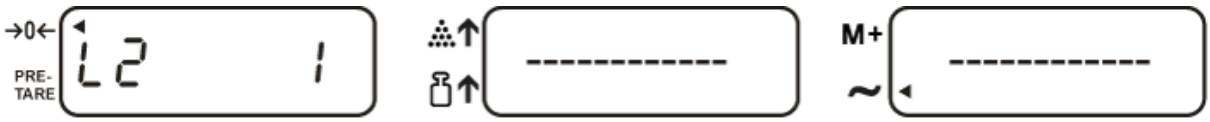
Operation
After the adjustment switch having been set to position “**ADJ**” switch-on balance. After the selftest, in the display appears:

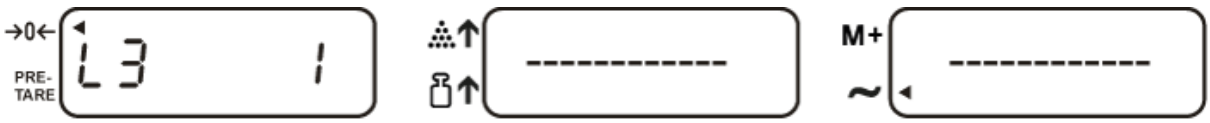
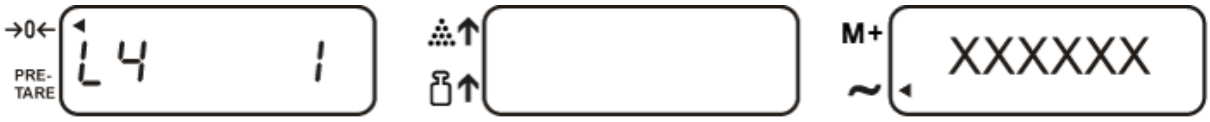
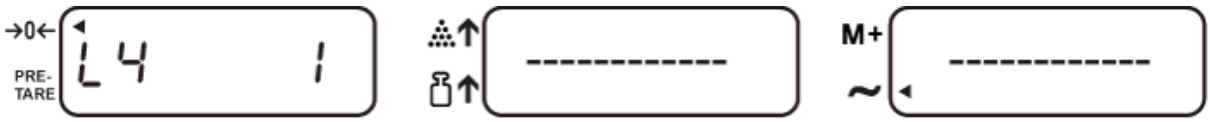
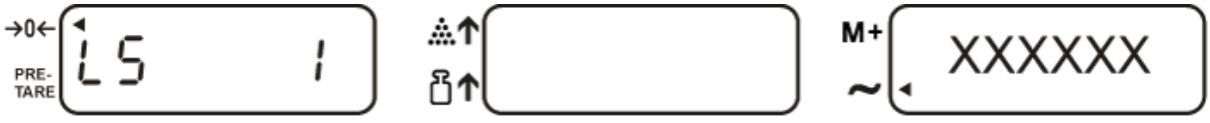
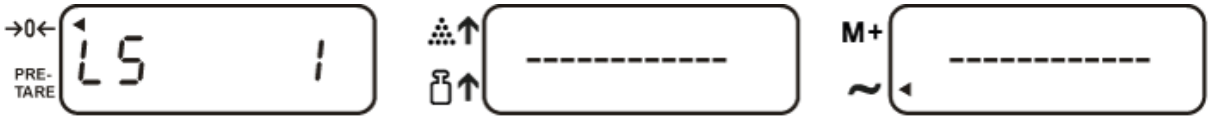
⇨ Press the (PRE-)/TARE-button twice, in the display appears:

⇨ Press MC button, in the display appears

⇨ Ensure that there are no objects on the weighing pan.
⇨ Press MC button, in the display appears shortly

followed by

⇨ Place the first adjustment weight ⇨ Press MC button, in the display appears shortly

followed by


English

Operation
⇨ Place the second adjustment weight. Press MC button, in the display appears shortly

followed by

⇨ Put on the third adjustment weight ⇨ Press MC button, in the display appears shortly:

followed by

⇨ Put on the forth adjustment weight ⇨ Press MC button, in the display appears shortly

followed by

⇨ Place the fifth adjustment weight Press MC button, in the display appears shortly


English

Operation
followed by
 The sixth adjustment item is displayed, by that way linearisation is completed.
 Use CE to change to adjustment (see chap. 6.7.2 adjustment CXB-M –models) After successful linearisation you will have to carry out an adjustment.

In case of an adjustment error or incorrect adjusting weight the display will show an error message; repeat linearization process.

i	Cancel linearisation process: press .

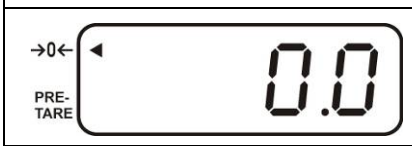
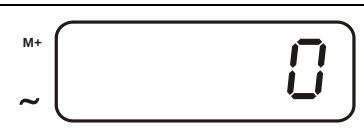
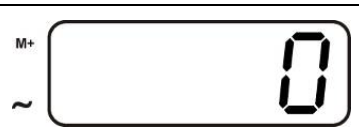
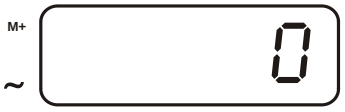
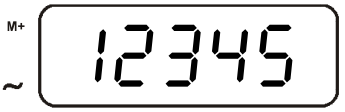
English

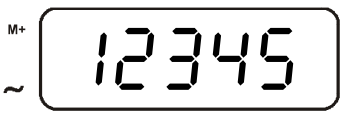
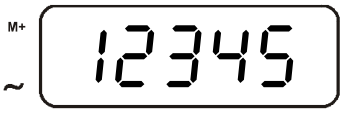
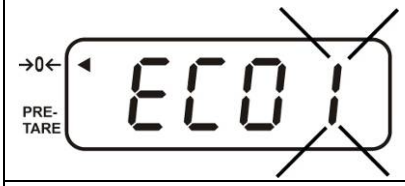
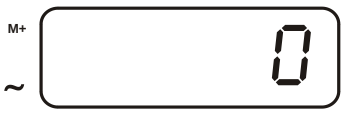
6.7 Adjustment with external weight

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.

Procedure when adjusting:
In calibrated balances the adjustment function is switch locked. To carry out adjustment, you will have to throw-over the unlock switch.
Observe stable environmental conditions. A warming up time (see chapter 1) is required for stabilization. Ensure that there are no objects on the weighing plate.

6.7.1 Adjustment models CXB

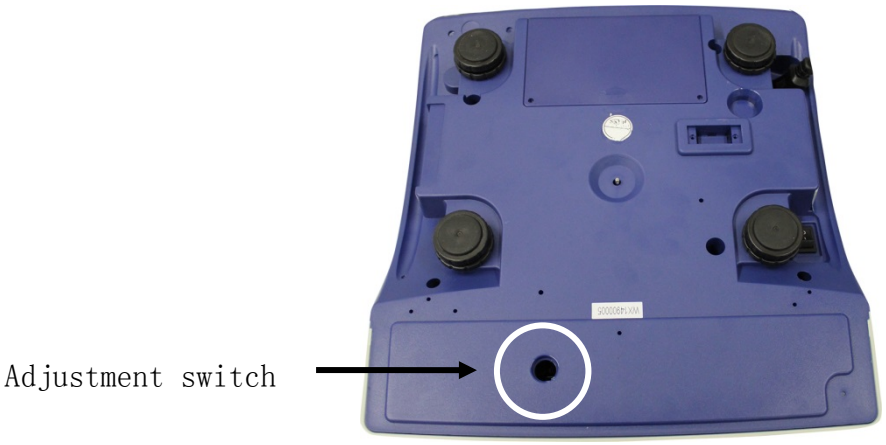
Operation		
Ensure that there are no objects on the weighing plate.		
The following appears in the display:		
		
Press →0←: During display of „----“ press . : “01 FnC” is displayed:		
		
⇩		
		
Press (PRE-) TARE: „02 EC” is displayed:		
		
Press MC: „EC 00“ appears, the first digit flashes:		
		
Use the numeric keyboard to enter „01“ and confirm by MC:		
 ⇩		

		 (example)
Press CE, then press .:		
		 (example)
The value of the adjustment weight to be used will appear flashing Place the adjustment weight Press MC: „EC01“ is displayed, digit „1“ flashes		
		
Remove weight and press .		
		
Press . again, now the adjustment process is completed.		
		

English

6.7.2 Adjustment models CXB_M

ℹ	In verified models CXB-M, access to the adjustment is blocked. To cancel the access lock, the adjustment switch at the lower side of the balance must be switched from “**LOCK**” position to “**ADJ**” position.



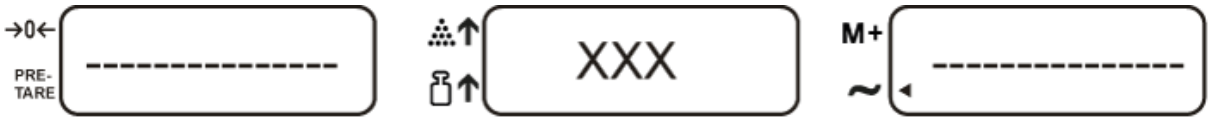
Operation
After the adjustment switch having been set to position “**ADJ**” switch-on balance. After the selftest, in the display appears:

⇨ Press (PRE-)TARE button, in the display appears

⇨ Press MC button, in the display appears

⇨ Press →0← button, zero point is being calculated. Ensure that there are no objects on the weighing pan.

⇨ Press MC button, in the display appears shortly:

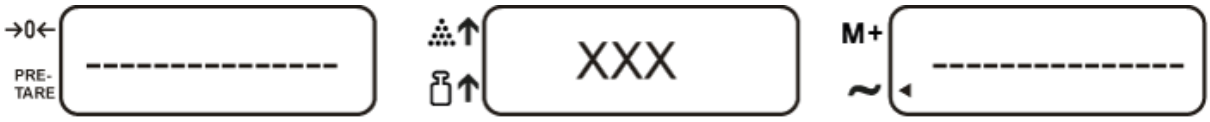


followed by:

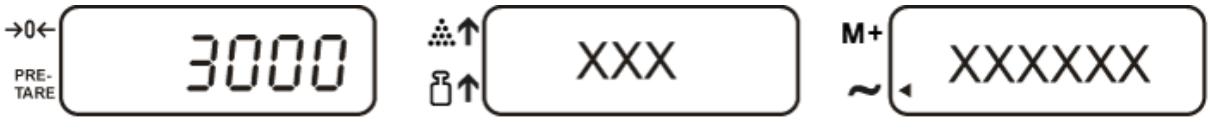
(example)

The value of the adjustment weight entered as last will appear flashing.
Accept the value or enter the value of the adjustment weight to be used with help of the numeric keyboard.

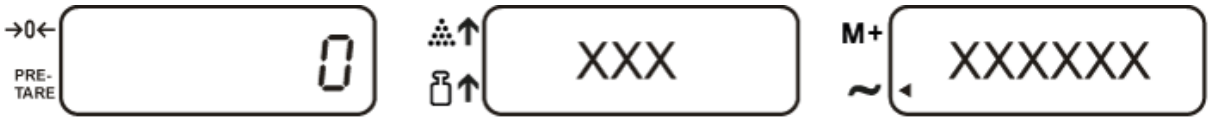
⇨ Place a weight with size of the entered adjustment weight and confirm by MC.
In the display appears briefly:



followed by:



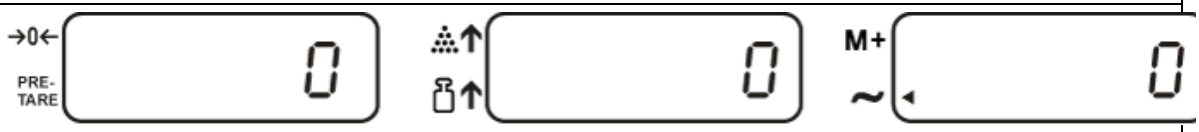
⇨ Remove the adjustment weight, the display returns to „0“. Adjustment now is completed.



⇨ Switch off the balance

⇨ Reset adjustment switch to „LOCK“

⇨ Switch the balance on again, the balance is now in weighing mode.



An error message will appear on the display should a adjustment error occur or should the adjustment weight be incorrect. Turn balance off, then restart it and repeat the adjustment process.

English

* The adjustment should be made with the recommended adjustment weight (see chap. 1 "Technical data"). Weights of different nominal values may be used for adjustment but are not optimal for technical measuring.
Info about adjustment weights can be found on the Internet at: http://www.kern-sohn.com

7 Verification

General introduction:

According to EU directive 2014/31/EU balances must be officially verified if they are used as follows (legally controlled area):

a) For commercial transactions if the price of goods is determined by weighing.
b) For the production of medicines in pharmacies as well as for analyses in the medical and pharmaceutical laboratory.
c) For official purpose.
d) For manufacturing final packages.

In cases of doubt, please contact your local trade in standard.

After verification the balance is sealed at the indicated positions.
Verification of the balance is invalid without the "seal/lead seal".

Verification notes:

An EU type approval exists for balances described in their technical data as verifiable. If a balance is used where obligation to verify exists as described above, it must be verified and re-verified at regular intervals.
Re-verification of a balance is carried out according to the respective national regulations. The validity for verification of balances in Germany is e.g. 2 years.
The legal regulation of the country where the balance is used must be observed!

Balances with obligation to verify must be taken out of operation if:

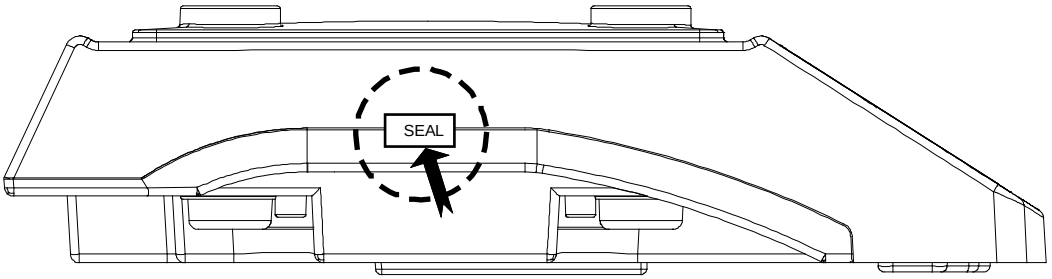
- **The weighing result of the balance is outside the error limit.** Therefore, in regular intervals load balance with known test weight (ca. 1/3 of the max. load) and compare with displayed value.
- **The reverification deadline has been exceeded.**

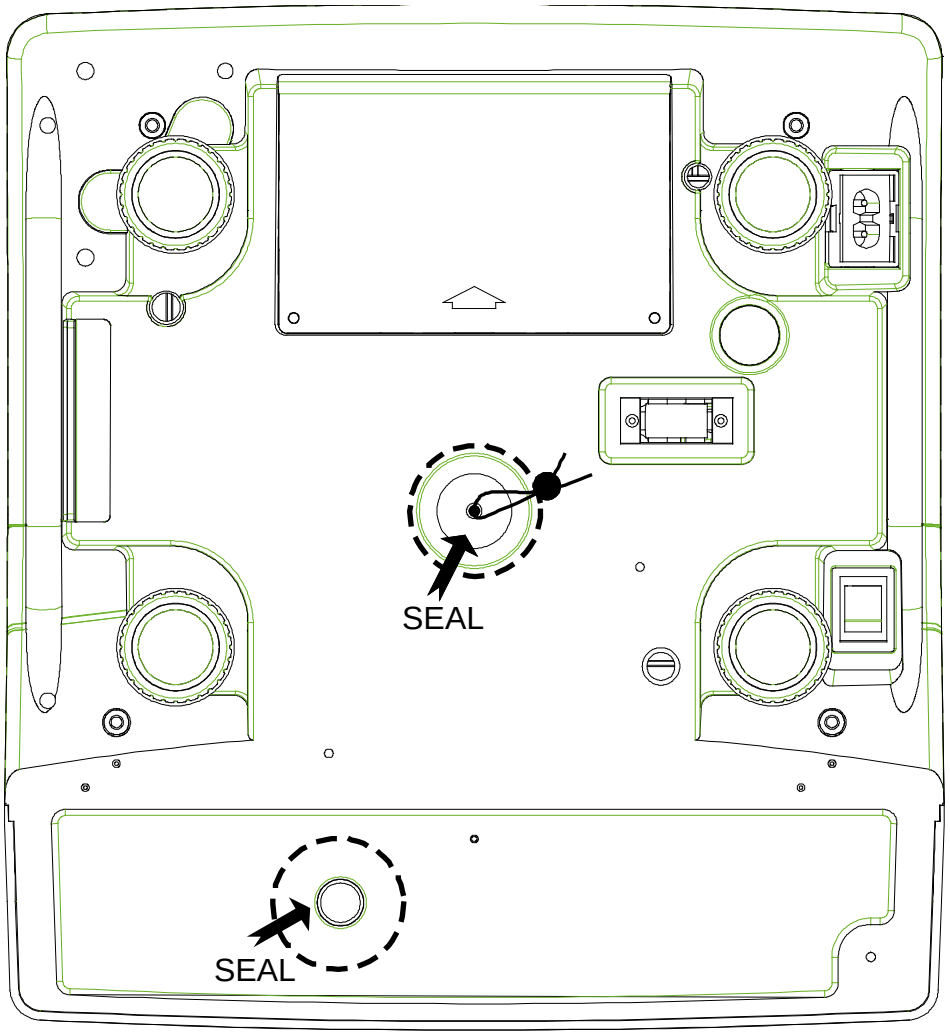
7.1 Adjustment switch and seal

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:





English

8 Parts counting

With parts counting you can either count parts into a container or remove parts from a container. To count a greater number of parts the average weight per part has to be determined with a small quantity (reference quantity). The larger the reference quantity, the higher the counting exactness. High reference must be selected for small parts or parts with considerably different sizes.

8.1 Determination of the reference weight by weighing

Set balance to zero and tare, as required.

Place a known number of parts on the balance as reference weight

If the "**Weight**" display is stable, enter the number of parts via number keys.
The input is shown in the unit-weight window.

Weight | Piece weight | Quantity

While the "**Number of pieces**" display is flashing (3 sec) confirm by REF button.

Dead stop control is carried out and the calculated reference weight appears on the display.

Weight | Reference weight | Quantity

Now you can place the parts to be counted onto the weighing plate. All quantity parameters of your goods to be weighed are displayed:

8.2 Numeric entering of the reference weight

If you know the reference weight/piece you can enter this via number keys.

Enter reference weight via number keys

Confirm with ⍐ button

Reference weight

Now you can place the parts to be counted onto the weighing plate. All quantity parameters of your goods to be weighed are displayed:

8.3 Automatic reference optimization

If it was impossible to determine a reference due to instable goods to be weighed or an insufficient reference weight, the [◀] display will appear in the reference weight window during reference calculation.

Overlay ◀ indicates:

⁂↑	Placed number of pieces insufficient for reference calculation < 40 d
⍐↑	Placed reference weight insufficient for reference calculation < 4/5 d

Add additional parts until the [◀] display disappears.
An audio signal indicates that reference optimization has been carried out.
At every reference optimisation, the reference weight is calculated anew. As the additional pieces increase the base for the calculation, the reference also becomes more exact.

English

8.4 Save/call up reference weight – Pre-Set function

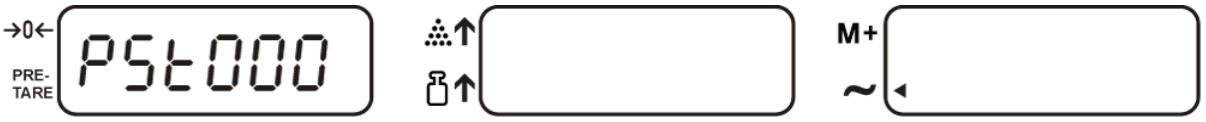
There are 10 memory locations at your disposal (occupied via number keys 0 -9).

8.4.1 Save

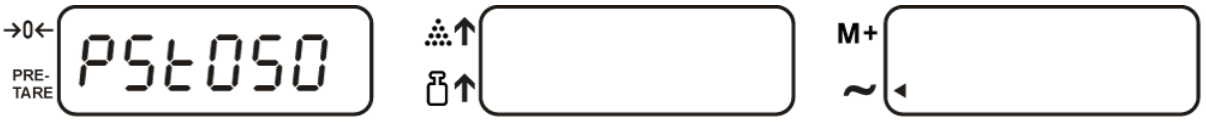
Enter the reference weight to be stored

Press button

Press button



Enter the storage location for the reference weight via the numeric keys (0 - 9)



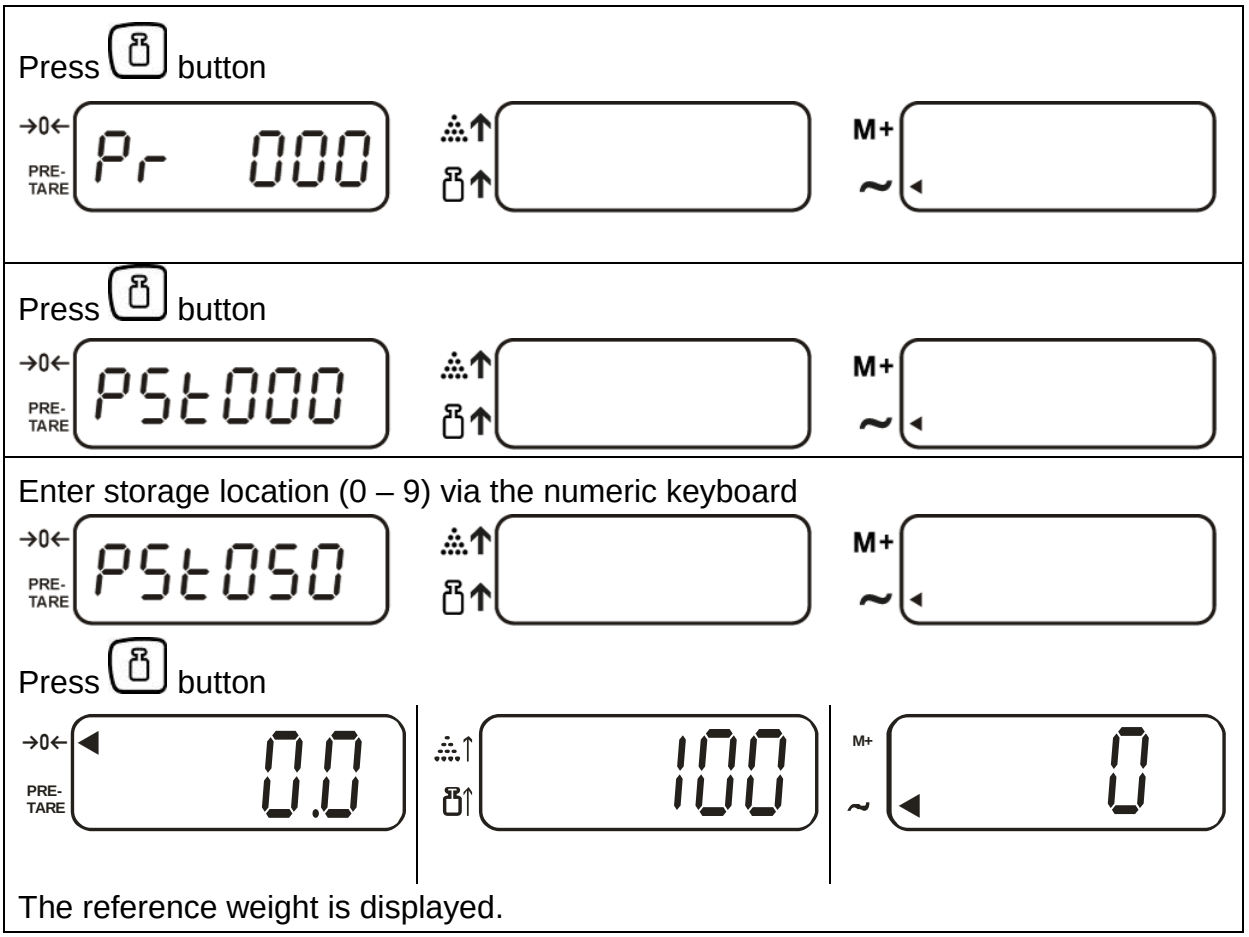
(example)

Press the button, the reference weight is now allocated to a storage location.

English

8.4.2 Call-up

When the reference weight is required at a later point in time it can be called by pressing the PRE SET button and entering the relevant storage location number.



English

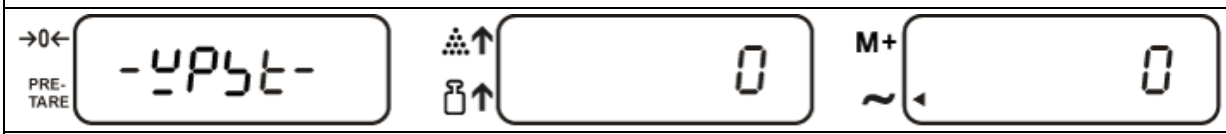
8.5 Count with tolerance control - Fill to target

This function can be used to program a target number of pieces or target weight. Reaching the target value is indicated by an audio-visual signal.

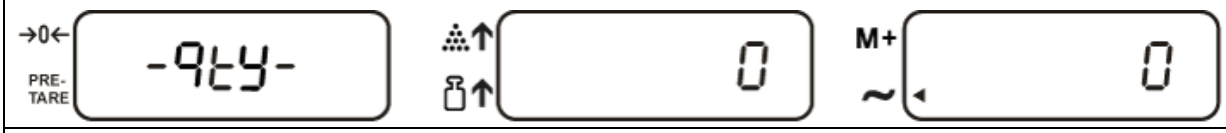
8.5.1 Set tolerance value for target number of pieces

Reaching the target value will be indicated by an audio signal and **[-QtY-]** will be flashing in the reference window.

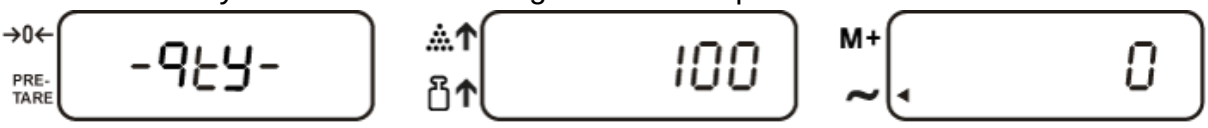
Press button



Press button

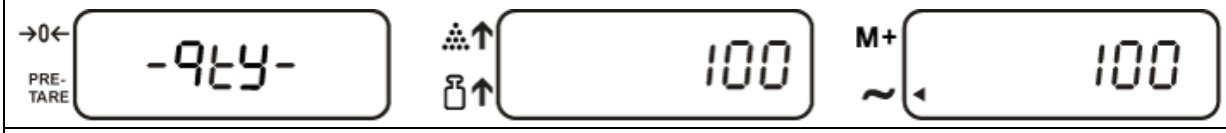


Use number keys to enter desired target number of pieces

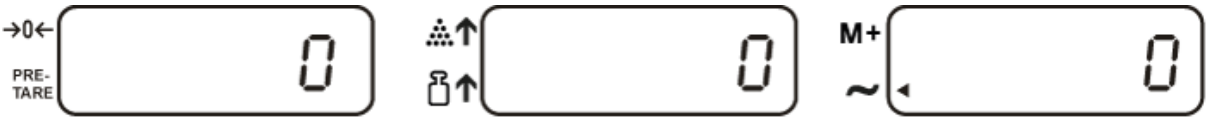


Entered target value.
Corrections possible by pressing CE button

Press button



Press button



Erase tolerance value:

⇨ When entering the target weight, enter value „0“

8.5.2 Set tolerance value for target weight

Reaching the target value will be indicated by an audio signal and **[-YPSt-]** will be flashing in the reference window.

Press button		
→0← PRE-TARE -9tY-	0	M+ ~ 300
Press button		
→0← PRE-TARE -YPSt-	0.0	M+ ~ 0.0
Use number keys to enter target value		
→0← PRE-TARE -YPSt-	30.0	M+ ~ 0.0
	Entered target value. Corrections possible by pressing CE button	
Press button		
→0← PRE-TARE -YPSt-	30.0	M+ ~ 30.0
Press button		
→0← PRE-TARE 0	0	M+ ~ 0

Note:
To delete stored target values enter "0".

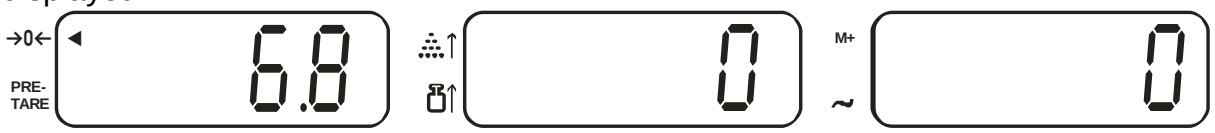
English

9 Taring

The dead weight of any weighing container may be tared away by pressing a button, so that the following weighing procedures show the net weight of the goods to be weighed.

9.1 Determination of the tare weight by weighing

Place empty tare container on the weighing plate. The total weight of the container is displayed.



⇨ Press (PRE-) TARE button

After dead stop control was carried out, the display is reset to "0". The weight of the container is now internally saved. The zero display and the arrow next to the "**PRE-TARE**" symbol appear.

⇨ Place the goods to be weighed into the tare container. Read the weight of the goods on the display.

Note:

The balance is able to only store one taring value at a time.
When the balance is unloaded the saved taring value is displayed with negative sign.
To delete the stored tare, unload the weighing plate and then press the TARE key; the [◀] display next to "**PRE-TARE**" disappears.

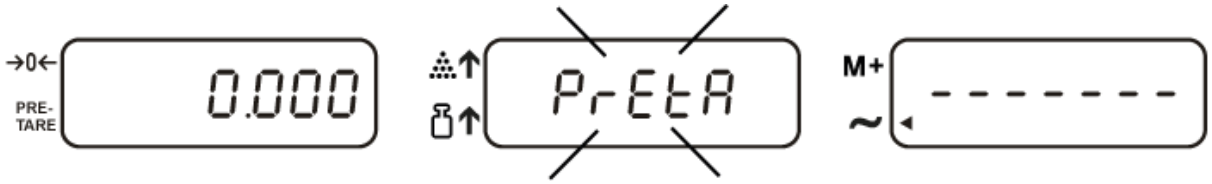
The taring process can be repeated any number of times. The limit is reached when the whole weighing range is exhausted.

English

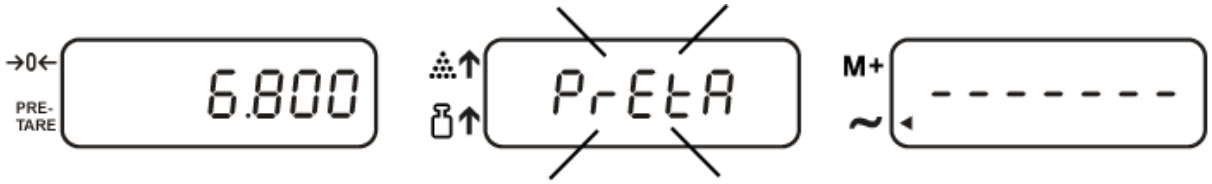
9.2 Numerical input of tare (PRE-TARE)

Pre-setting PRE-TARE mode
Make sure that no load is on the weighing plate

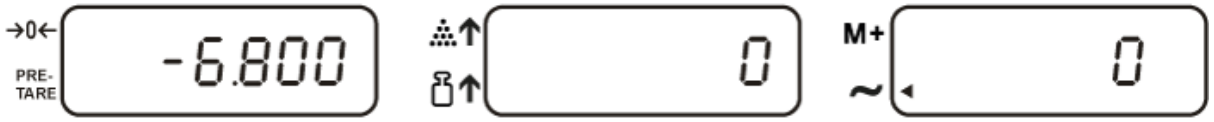
⇨ Press the (PRE-) TARE-button, in the reference weight display appears flashing **[PrEtA]**



⇨ During this display enter the Pre-Tare value using the numeric keyboard



⇨ Press (PRE-) TARE button



The Pre-Tare value will be displayed as a negative value.

In the menu select the menu item „FnC 10“:

⇨ Use the keys 0 or 1 to select the desired setting:

PRE-TARE setting "00" = no input of tare possible when weighing plate is loaded

PRE-TARE setting "01*" = input of tare weight possible regardless whether weighing plate is loaded or unloaded

* = default setting

English

PRE-TARE setting „1“:

Objects present on weighing plate.

⇨ Enter your tare weight via number keys.

⇨ Press (PRE-) TARE button The net weight of the goods to be weighed is displayed

English

Note:

To delete the stored tare, unload the weighing plate and then press the TARE key; the [◀] display next to "**PRE-TARE**" disappears.

PRE-TARE setting „0“:

Remove all objects from weighing plate.

⇨ Press (PRE-) TARE button

⇨ Enter tare via number keys.

⇨ Press (PRE-) TARE button, tare weight is indicated as negative value

⇨ Put on tare container + goods to be weighed.

The net weight of the goods to be weighed is displayed

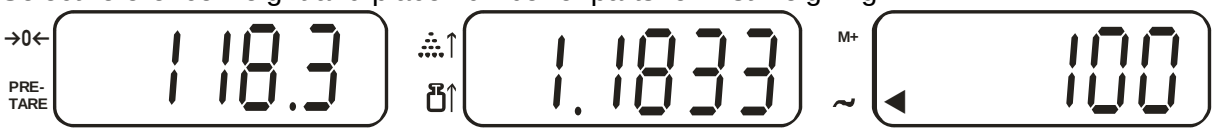
English

10 Totalization

The balance is equipped with a summation memory used for adding up of identical counted parts to total quantity and total weight.

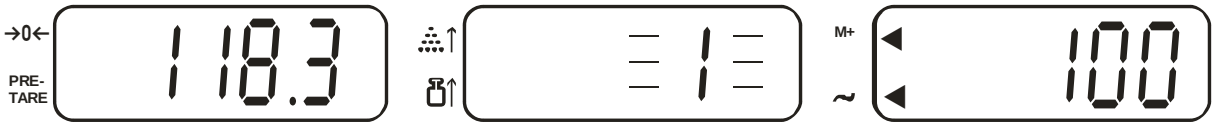
10.1 Add up “Number of parts"

Select reference weight and place number of parts for first weighing.



The display value is added to the summation memory by pressing the M+ key.

The [◀] display next to "**M+"** indicates the stored value. After dead stop control was carried out the balance will return automatically to counting mode.



Place number of parts for second weighing and add to memory.

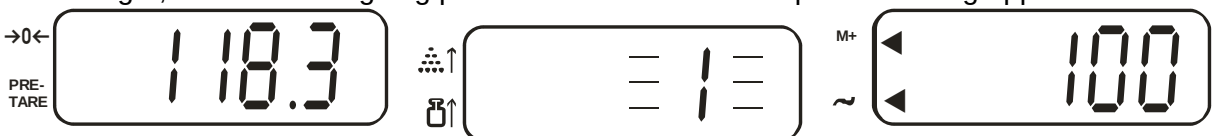
Add and weigh more parts if needed as described above. Please note that the balance must be unloaded between the individual weighing procedures.

This process can be repeated 99 times or until the weighing range of the balance is exhausted.

Display of you saved weighing data:

With balance unloaded, press the M+ button:

Total weight, number of weighing procedures as well as total parts counting appear 3 sec.



Total weight placed on balance

Number weighing processes

Total parts counting placed on balance

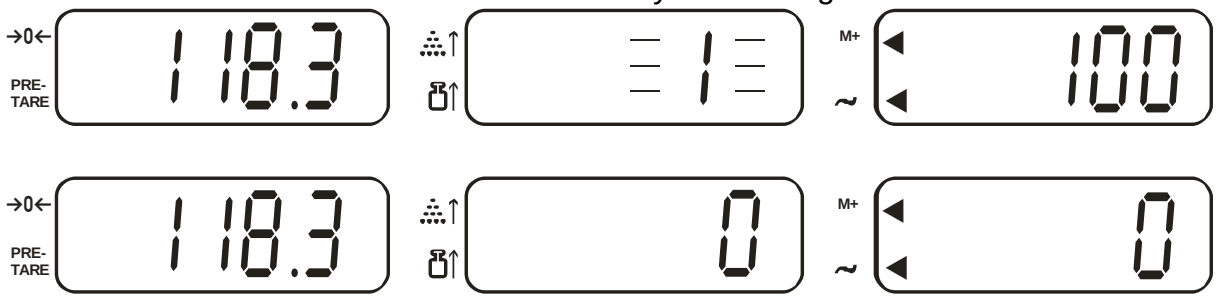
English

10.2 Add up “Weight"

Place weight on weighing plate.

The display value is added to the summation memory by pressing the M+ button.

The [◀] display next to "**M+"** indicates the stored value. After dead stop control was carried out the balance will return automatically to counting mode.



Place goods to be weighed for second weighing and add to memory.

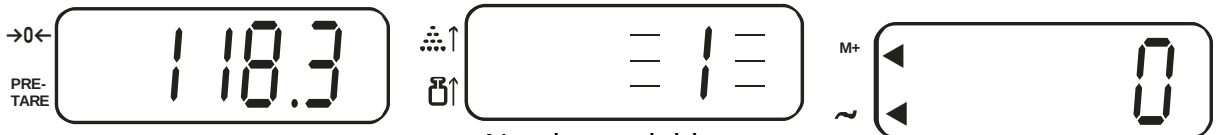
Repeat sequence of operations, as required. Please note that the balance must be unloaded between the individual weighing procedures.

This process can be repeated 99 times or until the weighing range of the balance is exhausted.

Display of you saved weighing data:

With balance unloaded, press the M+ key:

The total weight as well as the number or weighings will pop up for 3 sec.



Total weight placed on balance

Number weighing processes

English

Note:

Turning off the balance will result in a loss of all stored values.

10.3 Delete stored values

Unload balance and press the MC button. Stored values, total weight, total number of pieces and number of weighings will be set to zero. The [◀] display next to "**M+**" disappears.

11 Menu models CXB

To adjust the balance to individual requirements, use the menu to change settings for the balance

11.1 Navigation in the menu

- Press →0← button, [-----] appears on the weight display. During this display press the 1 key, on the weight display appears [**01 Func**].
- Use (PRE-) TARE to change to the next menu item and change decimal place to the right
- Use CE to change to the left
- Confirm entry by MC
- Selecting function via the numeric keyboard
- Parameter selection via numeric keyboard
- Setting will be imported automatically
- To exit the menu, press the . button

11.2 Overview main menu

→0← PRE-TARE 01 FnC		Function menu
→0← PRE-TARE 02 EC		Adjustment
→0← PRE-TARE 03 rbL		not documented
→0← PRE-TARE 00 ESC		Exit menu

English

11.3 Menu overview function menu „01 FnC“ – Models CXB

Menu item	Submenu	Description of function
FnC 01 Background illumination of the display	00	Background illumination always on
	01	Background illumination on: • during weighing • when button is pressed Background illumination automatically off when the balance is not used for more than 10 minutes
	02*	Background illumination off
FnC 02 Auto-Off	00*	Automatic shutdown switched off
	01-10	Automatic shutdown adjustable after ⇨ 1 to 10 minutes
FnC 03 Setting for calculation of reference value	00-15	The higher the value, the faster the reference value will be calculated.
FnC 04 Automatic reference optimization	00	Automatic reference optimisation switched off
	01*	Automatic reference optimisation switched on
FnC 05 A/D value		not documented
FnC 06 Zeroing range		not documented
FnC 07 Zeroing range		not documented
FnC 08 Finish add-on function		not documented

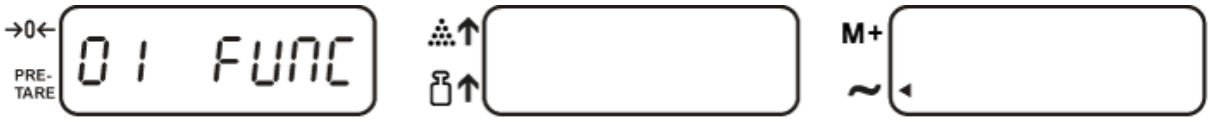
FnC 09 Pre-Tare settings	00*	Pre-Tare not possible, when sample on the weighing plate
	01	Pre-Tare possible when sample on the weighing plate
FnC 10 Audio signal during checkweighing	00	Audio signal with instable weighing value
	01	Audio signal with stable weighing value
FnC 11 Settings add-on function 1		not documented
FnC 12 Settings add-on function 2		not documented
FnC 13		not documented

* = default setting

12 Menu models CXB-M

Call up menu:

⇨ In weighing mode press →0←, and during display of "---------" press ., in the display appears



(PRE-) TARE	⇨ Change to the next menu item ⇨ at numeric input cursor to the right
MC	Confirm entry
.	Exit menu
CE	at numeric input cursor to the left

FnC 01	**FnC 01**	Display background illumination
	FnC 02	Auto Off
	FnC 03-13	not documented
02 EC	not documented	
03 RBL	not documented	
00 ESC	Exit menu	

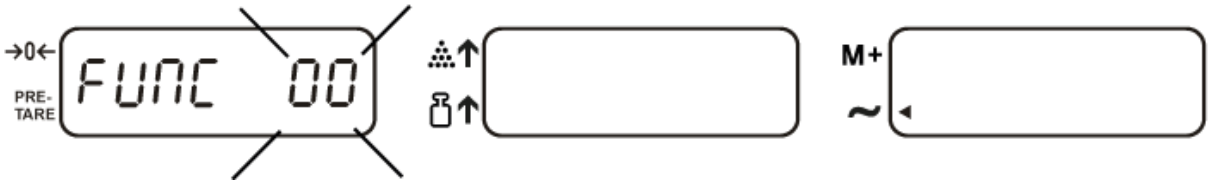
13 Operation

13.1 Background illumination of the display - FnC 01

The back light for the display can be adjusted as follows:

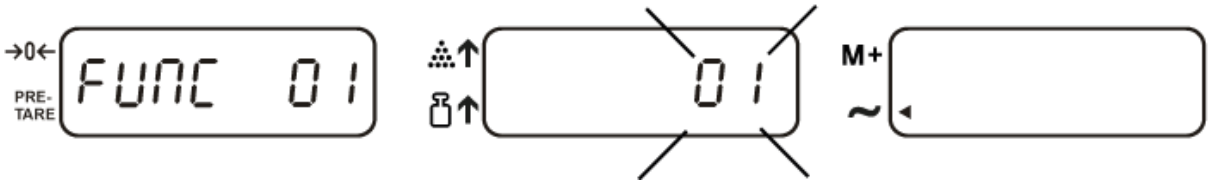
⇨ In weighing mode press →0←, and during display of "---------" press ·, in the display appears

⇨ Press MC, in the display appears



⇨ Use the numeric keyboard to enter „01"

⇨ Press MC, in the reference weight display appears „01" flashing



⇨ Use the numeric keyboard to enter the desired setting and confirm by MC.

English

00	Background illumination of the display always on
01	Automatic background illumination: The display lights up automatically during the weighing process or when a button is pressed. The display extinguishes after 10 minutes, when the balance is not in operation.
02	Background illumination off

⇨ The display appears in the selected setting

⇨ Return to weighing mode using 

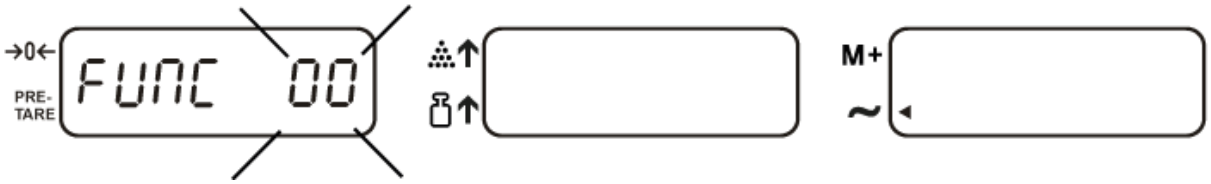
English

13.2 Automatic switch-off function - FnC 02

The automatic switch-off function can be adjusted as follows:

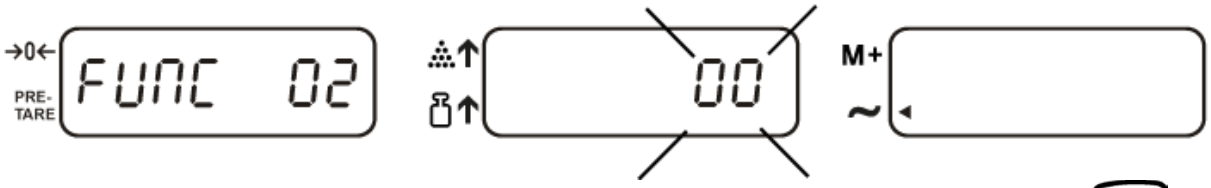
⇨ In weighing mode press →0←, and during display of "---------" press ·, in the display appears

⇨ Press MC, in the display appears



⇨ Use the numeric keyboard to enter „02"

⇨ Press MC, in the reference weight display appears „00" flashing



⇨ Use the numeric keyboard to enter the desired setting and confirm by MC.

⇨ Return to weighing mode using ·

00	Automatic shutdown function is switched off
01-10	Automatic shutdown after 1 to 10 minutes

13.3 Setting for calculation of reference value - FnC 03

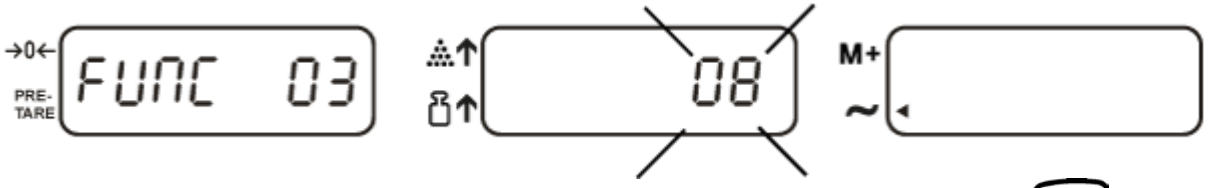
For calculation of the reference value, values between 0 and 15 can be adjusted:

⇨ The higher the value, the faster the reference value will be calculated.

⇨ In weighing mode press →0←, and during display of "---------" press ·, in the display appears

⇨ Press MC, in the display appears

⇨ Use the numeric keyboard to enter „03", „08" will be displayed flashing



⇨ Use the numeric keyboard for the required setting and confirm by MC.

⇨ Return to weighing mode using ·

English

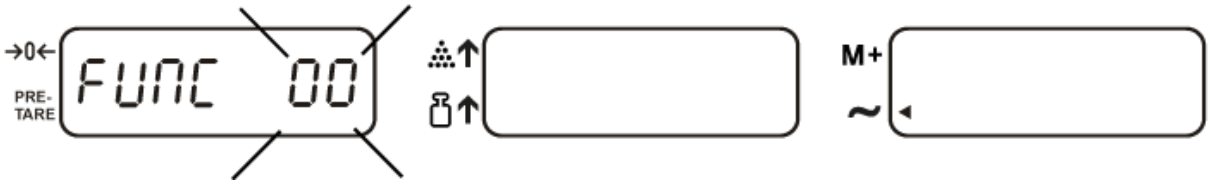
13.4 Automatic reference optimisation - FnC 04

To optimize the calculated average piece weight automatically, add further parts whose number is smaller than that of the first reference determination. For each reference optimization the average piece weight is newly calculated. As the additional pieces increase the base for the calculation, the reference also becomes more exact.

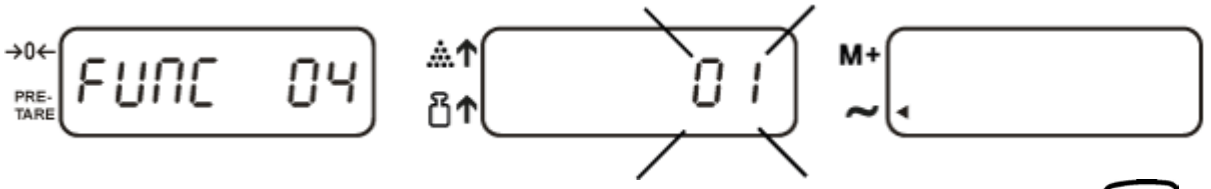
00	Automatic reference optimisation is switched off
01	Automatic reference optimisation is switched on

⇨ In weighing mode press →0←, and during display of "---------" press ·, in the display appears

⇨ Press MC, in the display appears



⇨ Use the numeric keyboard to enter „04" and confirm by MC, the value entered as last will be displayed flashing.



- Use the numeric keyboard to enter the required setting and confirm by MC.
- Return to weighing mode using ·

13.5 Pre-Tare setting - FnC 09

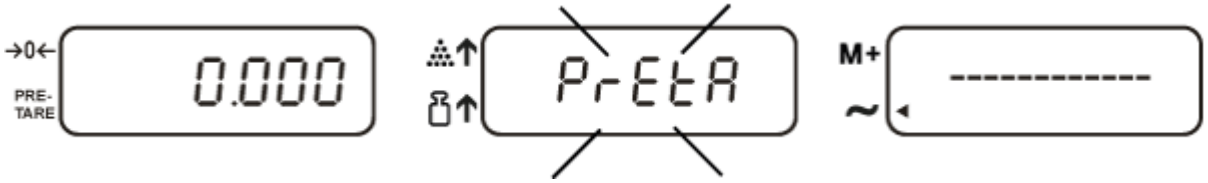
Under this menu item, Pre-Tare setting can be carried out. Two settings are possible:

00	Pre-Tare **not** possible when a load is on the weighing plate
01	Pre-Tare possible when a load is on the weighing plate

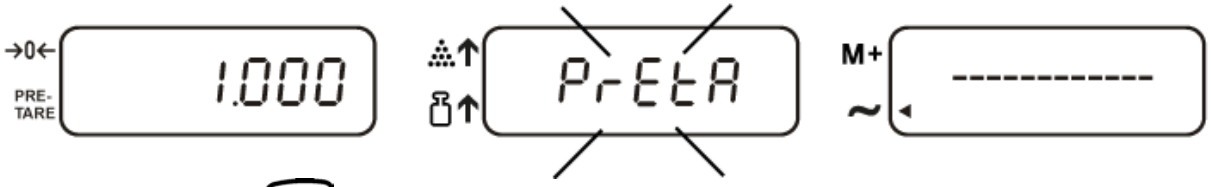
Procedure with setting „00“:

⇨ Ensure that there is no load on the weighing plate

⇨ Press (PRE-) TARE, „Pre-Tare“ will be displayed flashing



⇨ Use the numeric keyboard to enter the Pre-Tare value, e.g. 1000 g



⇨ Confirm by (PRE-) TARE, the Pre-Tare value will be displayed as a negative value.

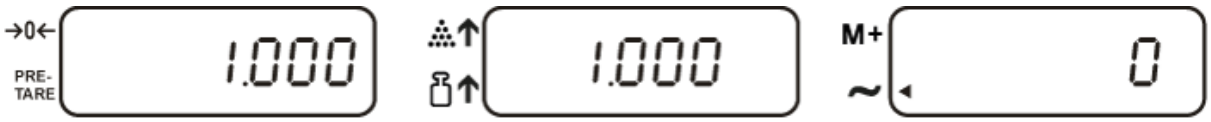
⇨ Delete Pre-Tare value by (PRE-) TARE

Procedure with setting „01“:

⇨ Leave the load on the weighing plate, such as: 2 kg

⇨ Enter the Pre-Tare value: for 1 kg enter „1“, „1. 0“, „1. 00“, „1. 000“

⇨ Confirm by (PRE-) TARE, the Pre-Tare value will be deducted from the load value.



⇨ Delete Pre-Tare value by (PRE-) TARE

13.6 Audio signal during tolerance weighing - FnC 10

Under the menu item the audio signal can be set as follows:

00	Audio signal at ⇨ Weighing good above the target quantity / target weight ⇨ stable value
01	Audio signal at ⇨ Weighing good above the target quantity / target weight ⇨ instable value

English

14 Servicing, maintenance, disposal

14.1 Cleaning

Before cleaning, please 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. Ensure that no liquid penetrates into the device and wipe 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.

14.2 Servicing, maintenance

The appliance may only be opened by trained service technicians who are authorized by KERN.
Before opening, disconnect from power supply.

14.3 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.

15 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.

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.
	• Batteries are inserted incorrectly or empty
	• No batteries inserted.
The displayed weight is permanently changing	• Draught/air movement
	• Table/floor vibrations
	• Weighing pan 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. • 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.

16 Declaration of Conformity

To view the current EC/EU Declaration of Conformity go to:

www.kern-sohn.com/ce

The scope of delivery for verified weighing balances (= conformity-rated weighing balances) includes a Declaration of Conformity.

English

Importør:
Impex Produkter AS
Gamle Drammensvei 107
1363 Høvik
www.impex.no
info@impex.no
Tel.: 22 32 77 20