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Návod na obsluhu(EN)

Kontrolná váha s nastavením limitov KERN WTB

Version 1.4
07/2012
GB



1 Introduction

Thank you for purchasing a KERN WTB scale. These scales are rugged, simple to operate, and can be used without connection to an external power supply. The scale has a menu system which allows it to be adapted to your needs.

Please read through these Operating Instructions carefully, and always follow them!

1.1 Safety and the environment

– ***Read through*** these Operating Instructions carefully, even if you already have experience of KERN scales. Only ever use your scale as described in the Operating Instructions. Be sure to follow the instructions for putting your new scale into operation.



– ***Do not*** use the scale in a explosive environment**.**

– For ***connection to the power supply*** use only the AC adapter delivered with the scale. Before you connect the scale to the power supply check that the voltage stated on the AC adapter is the same as the local power supply voltage. If it is not, ***do not connect the AC adapter under any circumstances*** but contact your dealer.

– Although your scale is very ruggedly constructed, it is nevertheless a precision instrument. Impacts to the weighing pan, or placing excessively heavy loads on it, can damage the scale.



– ***Observe*** local and national environmental regulations when disposing of the scale. The scale is fitted with a storage battery that contains heavy metals. ***Do not*** dispose of the battery as normal waste! Observe local regulations for disposal of environmentally harmful substances.

1.2 Selecting a location

Selecting a suitable location makes a decisive contribution to precise measurement results and lengthens the service life of the scale:

– Choose a stable, vibration-free surface which is as horizontal as possible.

– Ensure there are no excessive fluctuations in temperature, and no direct sunlight.

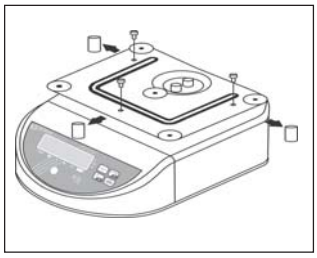
– Make sure that the environmental conditions are met (Chapter 9.1).

– Avoid drafts (e.g. from fans or air conditioning).

– After any major change of geographical position, the scale should be newly adjusted (calibrated) (Chapter 4.3).

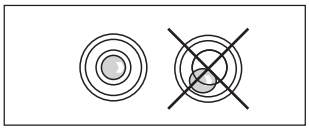
2 Putting the scale into operation

2.1 Remove the transport arrestment



- Remove the 3 screws of the transport arrestment in the weighing-pan support and the 3 plastic inserts between the weighing-pan support and the scale housing.
- Place the weighing pan on the scale.

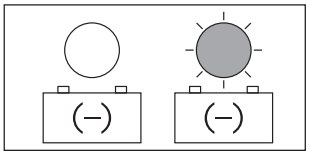
2.2 Leveling the scale



- Level the scale horizontally by turning the leveling screws. The air bubble of the level indicator must lie within the black inner circle.

2.3 Power supply

The scale is normally powered by the built-in storage battery. The AC adapter is only used for charging the storage battery. While the battery is being charged, the scale receives power from the power supply network, so you can still work with the scale even if the battery needs recharging. Battery charging also continues while the scale is switched off. The time required for recharging depends on how low the charge in the battery has become. However, to avoid overcharging the battery, do not leave the scale connected to the power supply with the AC adapter for more than 24 hours.

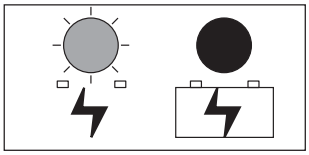


Battery operation (AC adapter not connected)

Observe the red LED above the battery symbol :
LED is not lit: The battery is sufficiently charged.
LED flashes: The charge of the battery is almost exhausted. Connect the AC adapter as soon as possible to recharge the battery.

Charging the battery/operating from the power supply

The connecting socket for the AC adapter is located underneath the balance adjacent to the front-left leveling screw. Remove the rubber plug and connect the AC adapter to the scale and to the power supply.



Observe the red LED above the battery symbol :
LED flashes: The scale is receiving power from the power supply network, the battery is being charged.
LED is continuously lit: The battery is fully charged, the AC adapter can be disconnected again.

3 Daily operation

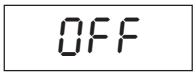
3.1 Switching the scale on and off





To switch the scale on: Check that there is nothing on the weighing pan. Press the ***ON/OFF*** key until the display appears. After the scale has been switched on, it performs a self-test in which all the segments and then various items of information about the scale are briefly displayed. When the weight display appears, the scale is ready to weigh and is automatically set to zero (the LED above the →0← symbol is lit).



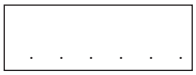


To switch the scale off: Press the ***ON/OFF*** key and hold it down until "OFF" appears in the display. The display then goes out, and the scale is switched off.

Energy-saving function and automatic switchoff

For ***battery operation*** the scale has an energy-saving function and an automatic switchoff function which can be both activated and deactivated in the menu (Chapter 4).

If the ***energy-saving function is*** activated (factory setting), when the scale is powered from the battery it automatically switches into "Standby" mode after two minutes if no weight change takes place and no key is pressed. The display is filled with decimal points instead of digits. As soon as a weight is placed on the pan or a key is pressed, the scale returns to normal weighing mode.



If the ***automatic switchoff function is*** activated (it is deactivated at the factory), the scale switches off automatically after 15 minutes in "Standby" mode.

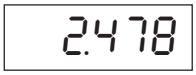
3.2 Simple weighing

- Set the scale to zero with the →0← key. The LED above the →0← symbol lights as confirmation.





- Place the item to be weighed on the pan. The LED above the →0← symbol goes off.
- Read off the weighing result. The LED to the right of the weighing result shows the current weighing unit (the unit can be changed in the menu, see Chapter 4).

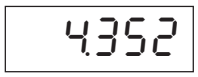


3.3 Weighing with tare

- Place the empty weighing container or packaging component on the weighing pan and press the ***TARE*** key to tare the scale. The zero display appears and the LED above the ***NET*** (net weight) symbol is lit.



- Place the item to be weighed on the scale and read the result (net weight of the item being weighed).



The saved tare weight is retained until you either define a new tare, or press the ***TARE*** key when the weighing pan is empty, or switch off the scale.

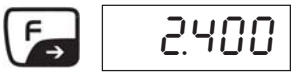
3.4 Weighing with limit values

You can define an upper and a lower limit value and thereby ensure that the amount of substance weighed is always exactly within the defined tolerances.

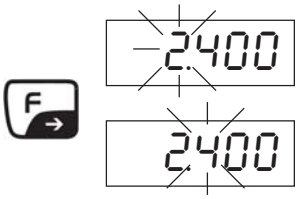
Note: Limit-value monitoring is switched off at the factory and must be activated in the menu if required (Chapter 4.2, menu item S3). You can also specify in the menu whether the balance should warn of violations of limit values.

Defining limit values

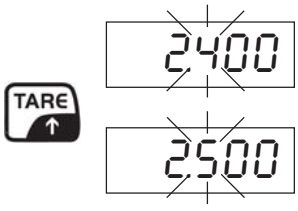
- Press the ***F*** key. The current upper limit value is displayed (the LED above the **+** symbol is lit). If you want to set an upper limit value, continue with the next step. If you want to set a lower limit value, press the ***ON/OFF*** key and the LED above the symbol will be lit. Every time the ***ON/OFF*** key is pressed, the scale changes between the upper and the lower limit value.



- The first digit of the selected limit value flashes and can now be changed. If you do not want to change the first digit, press the ***F*** key and the second digit will start to flash. Each time the ***F*** key is pressed, the display moves to the next digit. After the last digit the display returns to the first digit.



- To change the selected (flashing) digit, press the ***TARE*** key repeatedly until the desired number is displayed. Then press the ***F*** key to move to the next digit and change this digit.



- To complete the input, press the →0← key. The scale stores the limit value and returns to weighing mode.

4 The menu

Weighing with limit values

Weighing in Weighing Mode is made easier for you by the two LEDs above the ***UNDER*** and ***OVER*** symbols as well as a beep. The behavior of the two LEDS and the beep depend on the respective setting in the menu (Chapter 4.2, menu item S3). The table below shows how the two LEDs and the beep behave for various settings in menu item S3.

S3 =	*No load on balance*	*Load < lower limit value*	*Load between limit values*	*Load > upper limit value*
1	○ UNDER ○ OVER	● UNDER ○ OVER	● UNDER ● OVER 🔊	○ UNDER ● OVER
2	○ UNDER ○ OVER	● UNDER ○ OVER 🔊	● UNDER ● OVER	○ UNDER ● OVER 🔊
3	○ UNDER ○ OVER	● UNDER ○ OVER	○ UNDER ○ OVER 🔊	○ UNDER ● OVER
4	○ UNDER ○ OVER	● UNDER ○ OVER 🔊	○ UNDER ○ OVER	○ UNDER ● OVER 🔊
5	○ UNDER ○ OVER	● UNDER ○ OVER	○ UNDER ○ OVER	○ UNDER ● OVER
6	○ UNDER ○ OVER	● UNDER ○ OVER	● UNDER ● OVER	○ UNDER ● OVER

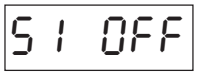
The menu can be used to change the settings of the scale and activate functions. The menu consists of two parts, the ***user menu*** and ***service mode*** (see overview in Chapter 4.2).
The ***user menu*** contains frequently used settings and functions and is easy to call up.
Service mode provides the same possibilities as the user menu as well as additional functions for the service technician. To call up service mode a tool is required.

4.1 Operating the menu

Calling up the user menu

With the scale switched off, press the →0← key and hold it down. Switch on the scale with the ***ON/OFF*** key.

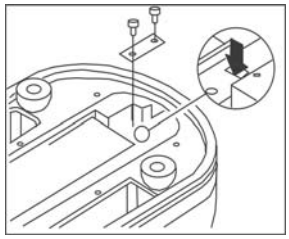




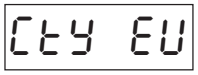
"Setup" appears briefly in the display and then the first menu block of the user menu ("S1") appears.

Calling up service mode

Remark: If the scale is verified, the offical seal has to be destroyed. Once this seal has been destroyed, the scale must be reverified by an accredited organization, and a new offical seal must be affixed before the instrument may be used as a verified scale again!
With the scale switched on, remove the cover of the storage battery underneath the scale (6 screws). Remove the calibration plate (2 screws). To remove the calibration plate, the sticker has to be destroyed which covers one of the two screws.

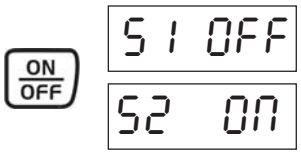


Use a small flat-tip screwdriver to short-circuit the two contacts in the rectangular opening (see arrow).
"Setup" appears briefly in the display and then the first menu block of service mode ("CTY") appears.



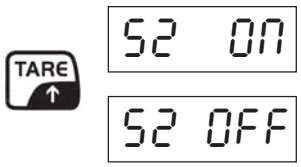
Selecting the menu block

Press the ***ON/OFF*** key to confirm the setting in the current menu block and then select the next menu block.

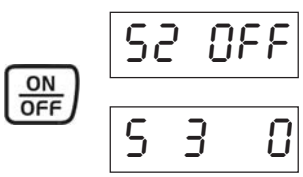


Changing the setting

After you have selected the desired menu block, you can use the ***TARE*** key to switch between the available settings. The number of available settings differs according to the menu block.



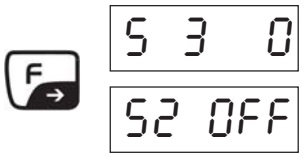
Confirming the setting



When the desired setting has been made (or if there is no need to change the current setting), it must be confirmed by pressing the ***ON/OFF*** key. The next menu block then appears automatically in the display.

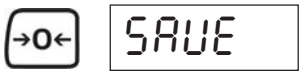
Navigating backwards in the menu

If you wish to navigate backwards in the menu, i.e. display the previous menu block again, you can do so at any time with the ***F*** key. This way you can check the settings you made and change them again if necessary.



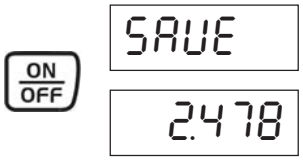
Quitting the menu

When you have made all the desired settings, press the →0← key. You will be asked whether you wish to save the settings ("SAVE"). Note: This question also appears after the last menu block.



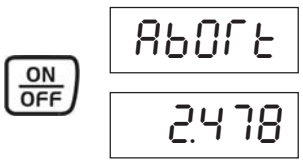
Saving the settings

If you want to save the settings, press the ***ON/OFF*** key. When the save has been done, the scale automatically returns to weighing mode.



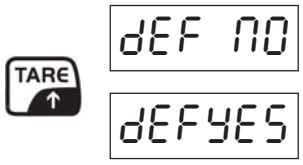
Rejecting the settings

If you do not want to save you changes, press the ***TARE*** key. The display shows "Abort". Press the ***ON/OFF*** key and the scale returns to weighing mode without the changed settings being saved.



Restoring the factory settings

The factory settings can only be restored in ***service mode*** in the menu block "DEF" ("Default"). If you want to restore the factory settings, select "DEF YES" and confirm with the ***ON/OFF*** key. Then press the →0← key and confirm the "SAVE" prompt with the ***ON/OFF*** key. ***Note: When the factory settings are restored, all individual settings are lost!***



4.3 Adjusting (calibrating) the scale

4.2 Menu overview (user menu and service mode)

Menu block	*Settings*	*Explanation*
CTY		***Selects the region*** (determines which weighing units are available under "S5")
	EU	Europe
	GE	USA
DEF		***Restores the factory settings***
	No	Do not restore the factory settings
	Yes	Restore the factory settings (happens immediately after confirmation!)
S1		***Automatic switchoff function (see description in Chapter 3.1)***
	Off	Deactivates the automatic switchoff function
	On	Activates the automatic switchoff function
S2		***Energy-saving mode (see description in Chapter 3.1)***
	On	Activates the energy-saving mode
	Off	Deactivates the energy-saving mode
S3		***Limit-value monitoring (see description in Chapter 3.4)***
	0	No limit-value monitoring (***F*** key and alarm via beep and LEDs deactivated)
	1	Limit-value monitoring activated, behavior of LEDs and beep (see description in Chapter 3.4).
	2	
	3	
	4	
	5	
	6	

Menu block	*Settings*	*Explanation*
S4		***Adaptation to the environmental conditions (filter)***
	0	Very stable environmental conditions, weak filtering of the weighing signal
	1	Normal environmental conditions, average filtering of the weighing signal
	2	Unstable environmental conditions, stronger filtering of the weighing signal
	3	Very unstable environmental conditions, very strong filtering of the weighing signal
	4	As for setting 0, but with slower updating of the display value
	5	As for setting 1, but with slower updating of the display value
	6	As for setting 2, but with slower updating of the display value
	7	As for setting 3, but with slower updating of the display value.
S5		***Weighing unit***
	g	Gram
	kg	Kilogram (only available if the region is set to "EU" (Europe), see menu block "CTY")
	lb	Pound (only available if the region is set to "GE" (USA), see menu block "CTY")
	oz	Ounce (only available if the region is set to "GE" (USA), see menu block "CTY")
S6		***Brightness of the display***
	0	Very bright
	1	Bright
	2	Dark
	3	Very dark
DSP (S7)		***Type of display***
	On	Weight value is only displayed when stable
	Off	Weight value is displayed continuously, irrespective of whether it is stable
S8		***Resolution of the scale*** (only available in the user menu when "S9" = "On")
	Off	3000d
	On	6000d/7500d (depending on the capacity of the scale)
S9		***Access to menu item S8 from the user menu***
	Off	Menu item S8 is not available in the user menu (S8 is only accessible in service mode)
	On	Menu item S8 is available in the user menu
S10		***Extended display***
	Off	Normal weight display depending on the resolution of the balance (see menu item S8)
	On	Only for tests: Display in d (max. scale capacity = 30,000d), keys →0← and →T← disabled
S11		***Display of negative weight values***
	On	Display of negative weight values disabled (display shows "------"), taring not possible
	Off	Display of negative weight values enabled, taring possible (not allowed for certified balances)
S12		***Speed of display when removing the load***
	On	Return to zero by display is fast
	Off	Display returns to zero at normal speed
BAT		***Type of internal power supply***
	CH	Rechargeable storage battery
	D	Commercial battery size "D" (IEC "R20")
GEO		***Geo adjustment value*** (adaptation to local gravitational conditions, see table in Chapter 5)
	0 ... 31	Factory setting according to region
CAL		***Scale adjustment (calibration)***
	No	Do not perform adjustment
	Yes	Perform adjustment (see description in Chapter 4.3)

Except where the factory settings are shown ***bold***, the factory setting depends on the country in which the balance was purchased, on the model of the balance, or on the respective weights and measures law.

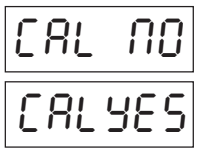
Only the menu blocks shown above with a gray background are available in the user menu; the other menu blocks are only accessible in service mode.

The scale was adjusted at the factory. However, we still recommend adjusting the scale when it is put into operation for the first time, and thereafter at regular intervals, especially after a change of location.

Adjustment can only be done in ***service mode (see chap.4.1)***. Before doing the adjustment, the geo adjustment value must be checked for correctness in the "GEO" menu block (see table in Chapter 7).

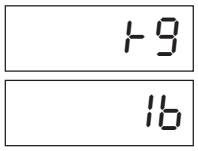
- In service mode call up the "***CAL***" menu block. With the ***TARE*** key select "CAL YES" and then start the adjustment with the ***ON/OFF*** key.





- Select the desired ***weight unit for the adjustment*** and confirm with the ***ON/OFF*** key. The units available depend on the selected region (menu block "CTY"): for the setting "EU" (Europe) only "kg" is available while for the setting "GE" (USA) there is a choice between "kg" and "lb".



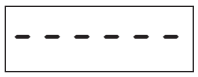


- Select the ***maximum capacity of the scale*** (this is printed below the display, adjacent to the level indicator) and confirm it with the ***ON/OFF*** key. ***Note***: The values in the display have a 1000x higher resolution, i.e. a displayed value of 6000 represents 6 kg or 6 lb (depending on the unit selected previously) and a displayed value of 15000 represents 15 kg or 15 lb.





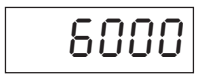
- The scale prompts you to ***empty the weighing pan***. Remove any loads on the pan and confirm this with the ***ON/OFF*** key. The scale then performs a ***zero setting*** during which a counter is displayed which counts backwards from 5 to 1.



- After the zero setting, your are prompted to place an ***adjustment weight*** on the pan which corresponds to ***2/3 of the selected capacity*** (in this example 4 kg/lb, corresponding to 2/3 of the weighing capacity of 6 kg/lb). Confirm that the weight has been placed on the pan with the ***ON/OFF*** key. While the weight is being measured, a counter is again displayed which counts backwards from 5 to 1.



- The scale now prompts you to load the weighing pan with the adjustment weight which ***corresponds to the selected capacity*** (in this example 6 kg/lb). Confirm that you have placed the weight on the pan by pressing the ***ON/OFF*** key. While the weight is being measured, a counter is again displayed which counts backwards from 5 to 1.



- ***The adjustment is complete***. Press the ***ON/OFF*** key to save the result and quit service mode. If you do not want to save the result, press ***TARE*** and confirm the "Abort" message with the ***ON/OFF*** key.



7 Table of geo adjustment values

After a major change of geographical location, the geo adjustment value must be changed according to the following table, and the scale must then be readjusted accordingly (Chapters 4.2 and 4.3).

4.4 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 answerable 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 in KERN's accredited DKD calibration laboratory (return to national normal).

4.5 Verification

General:

According to the EU guideline 90/384/EEC balances must be verified officially if they are to be used as follows (legally regulated area):

a) For commercial transactions if the price of goods is determined by weighing

b) For the production of medines in pharmacies as well as for analyses in the medical and pharmaceutical laboratory

c) For official purposes

d) For the production of finished packages

In case of doubt, please contact your local office of weights and measures.

Verification information: (see chapter 9.3 Declaration of conformity)

An EU qualification approval is available for those balances marked as appropriate for verification in the technical data. In the event that the balance is applied in an area subject to verification as described above, it must be officially verified and re-verified at regular intervals.
Re-verification of a balance is carried out in compliance with the respective legal provisions of the states. The term of verification validity for balances in Germany, for example, is normally 2 years. The legal provisions of the country of use are to be observed.

5 Error messages

Display	*Cause and remedy*
E11, E16, E18	Internal error (RAM/ROM/EEPROM). Contact dealer.
E48	Error in the scale configuration. Check all parameters in service mode.
ERROR	Software error. Restart the scale with the ***ON/OFF*** key. If the error still occurs, replace the storage battery (Chapter 8).
------	The weight value is unstable or zero setting is not possible. Check the environmental conditions (drafts, vibrations, etc.). If necessary, change the filter settings in the menu (menu block "S4", see Chapter 4). Under certain conditions there could also be a difference of air pressure between the scale housing and the surroundings. Unscrew the rear leveling screws until the ventilation openings under them are free. If water drains out, contact you dealer.
⊓⊓⊓⊓⊓⊓	Overload (load exceeds weighing capacity by more than 9 display steps). Remove the load and set the display to zero with the →0← key. Readjust (calibrate) the scale if necessary.
⊔⊔⊔⊔⊔⊔	When zero was set there was a weight on the scale. When the load is removed this error message appears. Ensure that there is no weight on the pan and then press the →0← key. If the error message occurs again, the scale must be adjusted (calibrated). ***Note***: If the setting "S11" = "Off" was selected in the menu (Chapter 4.2), when zero-setting is done with a weight on the balance and the weight is then removed, the negative weight value is displayed instead of this error message.

6 Cleaning the scale

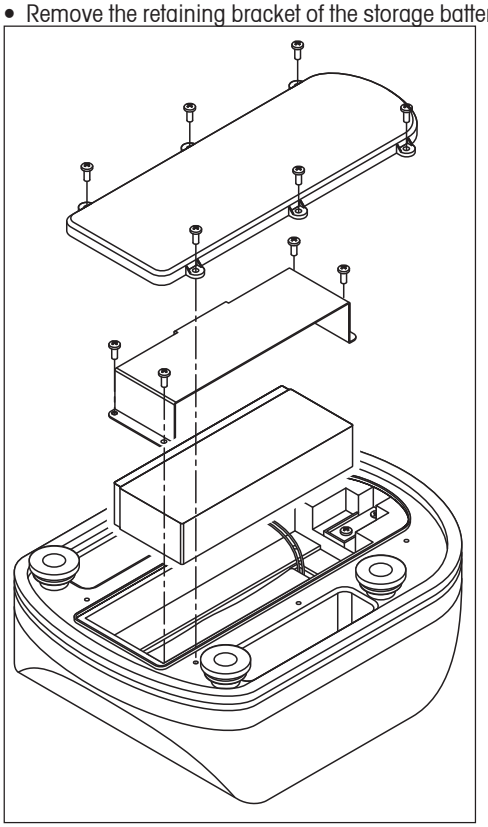
- ***Disconnect the scale from the power supply before starting to clean!***
- Use a soft cloth (no acids, alkalis, or strong solvents).
- Do not use abrasive cleaning agents: they can scratch the display.
- If badly soiled, remove the weighing pan and leveling screws, and clean them separately.
- Observe company-internal and industry-specific regulations regarding cleaning intervals and permitted cleaning agents.

English

				0 325	325 650	650 975	975 1300	1300 1625	1625 1950	1950 2275	2275 2600	2600 2925	2925 3250	3250 3575
				0 1060	1060 2130	2130 3200	3200 4260	4260 5330	5330 6400	6400 7460	7460 8530	8530 9600	9600 10660	10660 11730
0°	0'	-	5°	46'	5	4	4	3	3	2	2	1	1	0	0
5°	46'	-	9°	52'	5	5	4	4	3	3	2	2	1	1	0
9°	52'	-	12°	44'	6	5	5	4	4	3	3	2	2	1	1
12°	44'	-	15°	6'	6	6	5	5	4	4	3	3	2	2	1
15°	6'	-	17°	10'	7	6	6	5	5	4	4	3	3	2	2
17°	10'	-	19°	2'	7	7	6	6	5	5	4	4	3	3	2
19°	2'	-	20°	45'	8	7	7	6	6	5	5	4	4	3	3
20°	45'	-	22°	22'	8	8	7	7	6	6	5	5	4	4	3
22°	22'	-	23°	54'	9	8	8	7	7	6	6	5	5	4	4
23°	54'	-	25°	21'	9	9	8	8	7	7	6	6	5	5	4
25°	21'	-	26°	45'	10	9	9	8	8	7	7	6	6	5	5
26°	45'	-	28°	6'	10	10	9	9	8	8	7	7	6	6	5
28°	6'	-	29°	25'	11	10	10	9	9	8	8	7	7	6	6
29°	25'	-	30°	41'	11	11	10	10	9	9	8	8	7	7	6
30°	41'	-	31°	56'	12	11	11	10	10	9	9	8	8	7	7
31°	56'	-	33°	9'	12	12	11	11	10	10	9	9	8	8	7
33°	9'	-	34°	21'	13	12	12	11	11	10	10	9	9	8	8
34°	21'	-	35°	31'	13	13	12	12	11	11	10	10	9	9	8
35°	31'	-	36°	41'	14	13	13	12	12	11	11	10	10	9	9
36°	41'	-	37°	50'	14	14	13	13	12	12	11	11	10	10	9
37°	50'	-	38°	58'	15	14	14	13	13	12	12	11	11	10	10
38°	58'	-	40°	5'	15	15	14	14	13	13	12	12	11	11	10
40°	5'	-	41°	12'	16	15	15	14	14	13	13	12	12	11	11
41°	12'	-	42°	19'	16	16	15	15	14	14	13	13	12	12	11
42°	19'	-	43°	26'	17	16	16	15	15	14	14	13	13	12	12
43°	26'	-	44°	32'	17	17	16	16	15	15	14	14	13	13	12
44°	32'	-	45°	38'	18	17	17	16	16	15	15	14	14	13	13
45°	38'	-	46°	45'	18	18	17	17	16	16	15	15	14	14	13
46°	45'	-	47°	51'	19	18	18	17	17	16	16	15	15	14	14
47°	51'	-	48°	58'	19	19	18	18	17	17	16	16	15	15	14
48°	58'	-	50°	6'	20	19	19	18	18	17	17	16	16	15	15
50°	6'	-	51°	13'	20	20	19	19	18	18	17	17	16	16	15
51°	13'	-	52°	22'	21	20	20	19	19	18	18	17	17	16	16
52°	22'	-	53°	31'	21	21	20	20	19	19	18	18	17	17	16
53°	31'	-	54°	41'	22	21	21	20	20	19	19	18	18	17	17
54°	41'	-	55°	52'	22	22	21	21	20	20	19	19	18	18	17
55°	52'	-	57°	4'	23	22	22	21	21	20	20	19	19	18	18
57°	4'	-	58°	17'	23	23	22	22	21	21	20	20	19	l9	18
58°	17'	-	59°	32'	24	23	23	22	22	21	21	20	20	19	19
59°	32'	-	60°	49'	24	24	23	23	22	22	21	21	20	20	19
60°	49'	-	62°	9'	25	24	24	23	23	22	22	21	21	20	20
62°	9'	-	63°	30'	25	25	24	24	23	23	22	22	21	21	20
63°	30'	-	64°	55'	26	25	25	24	24	23	23	22	22	21	21
64°	55'	-	66°	24'	26	26	25	25	24	24	23	23	22	22	21
66°	24'	-	67°	57'	27	26	26	25	25	24	24	23	23	22	22
67°	57'	-	69°	35'	27	27	26	26	25	25	24	24	23	23	22
69°	35'	-	71°	21'	28	27	27	26	26	25	25	24	24	23	23
71°	21'	-	73°	16'	28	28	27	27	26	26	25	25	24	24	23
73°	16'	-	75°	24'	29	28	28	27	27	26	26	25	25	24	24
75°	24'	-	77°	52'	29	29	28	28	27	27	26	26	25	25	24
77°	52'	-	80°	56'	30	29	29	28	28	27	27	26	26	25	25
80°	56'	-	85°	45'	30	30	29	29	28	28	27	27	26	26	25
85°	45'	-	90°	00'	31	30	30	29	29	28	28	27	27	26	26

Replacing the storage battery does not cause loss of data (menu settings)!

- Remove the weighing pan, turn the scale over, and with the weighing-pan support facing down place the scale on a clean, stable working surface.
- Remove the cover from the storage battery underneath the balance (6 screws).
- Remove the retaining bracket of the storage battery (4 screws).



- Carefully lift the storage battery out of the scale and pull off the two cable clips. ***Take care that the two cable clips do not touch each other!***
- Connect the cable clips to the new storage battery: ***red cable to plus pole, black cable to minus pole***.
- Insert the new storage battery into the scale and screw the retaining bracket tight.
- Check the condition and correct seating of the rubber seal in the battery cover. Place the battery cover into position and screw it on tightly.
- Connect the AC adapter to the scale and the power supply to charge the new storage battery (Chapter 2.3).
- Dispose of the old storage battery according to the applicable environmental regulations!

9 Specifications and standards

9.1 Technical data

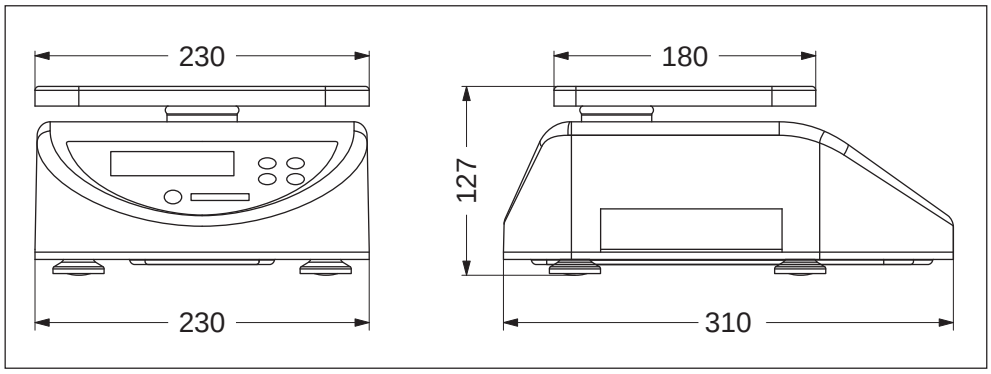
Models	***WTB 1,5K0.5IPM***	***WTB***
3K1IPM	***WTB 6K2IPM***	***WTB***
15K5IPM		
Weighing range (Max)	1.5 kg (3 lb)	3 kg
(6 lb)	6 kg (15 lb)	15 kg
(30 lb)		

Readout (d)	0,5 g (0,001 lb)	1 g (0,002 lb)	2 g (0,005 lb)	5 g (0,01 lb)
Verific. value	1,5 g	1 g	2 g	5 g
Min. load (Min)	10 g	20 g	40 g	100 g
Weighing pan	Stainless steel			
Housing	ABS light gray IP65			
Displays	6-digit LED displays on front and rear of scale, variable brightness, character height 25 mm/1in., 9 integrated status LEDs			
Keypad	4 keys with action point			
Leveling	With level indicator (built into the front of the housing) and 4 leveling screws			
Power supply	Lead/acid storage battery, 6V/5Ah, chargeable in balance using AC adapter supplied with scale (scale operates from mains while charging), charging time 15 h, mains-free operation up to 50 h			
Operating conditions	–10 °C ... +40 °C, 10 % ... 95 % rel. humidity, non-condensing			
Storage conditions	–25 °C ... +50 °C, 10 % ... 95 % rel. humidity, non-condensing			
Weighing units	g, kg, lb			
Weight of scale	4.4 kg (incl. storage battery and weighing pan)			

Models	***WTB 1,5K0.5IP***	***WTB 3K1IP***	***WTB 6K2IP***	***WTB 15K5IP***
Weighing range	1.5 kg (3 lb)	3 kg (6 lb)	6 kg (15 lb)	15 kg (30 lb)
Readout	0,5 g (0,001 lb)	1 g (0,002 lb)	2 g (0,005 lb)	5 g (0,01 lb)
Weighing pan	Stainless steel			
Housing	ABS light gray IP65			
Displays	6-digit LED displays on front and rear of scale, variable brightness, character height 25 mm/1in., 9 integrated status LEDs			
Keypad	4 keys with action point			
Leveling	With level indicator (built into the front of the housing) and 4 leveling screws			
Power supply	Lead/acid storage battery, 6V/5Ah, chargeable in balance using AC adapter supplied with scale (scale operates from mains while charging), charging time 15 h, mains-free operation up to 50 h			
Operating conditions	–10 °C ... +40 °C, 10 % ... 95 % rel. humidity, non-condensing			
Storage conditions	–25 °C ... +50 °C, 10 % ... 95 % rel. humidity, non-condensing			
Weighing units	g, kg, lb			
Weight of scale	4.4 kg (incl. storage battery and weighing pan)			

9.2 Dimensions

All dimensions in millimeters. Height measured with leveling screws completely screwed in.



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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 conformità	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.

Scale Series: KERN WTB

Mark applied	EU Directive	Standards	Approval/ Test-certificate N°
CE	2006/95/EC Low Voltage Directive	EN 60950-1 : 2006	
CE	2004/108/EC EMC Directive	EN61326-1: 2006 (Class B) EN61000-3-2 EN61000-3-3	
CE year M 0103	2009/23/EC Non-automatic Weighing Instruments Directive	EN45501 1)	T6682 1)

1) gilt nur für geeichte Waagen
valable uniquement pour les balances vérifiées
la dichiarazione vale solo per le bilance omologate
vale só para balanças com aferição
dotyczy tylko wag legalizowanych

applies only to certified balances
sólo aplicable a balanzas verficadas
Geldt uitsluitend voor geijkte weegschalen
platí jen pro cejchované váhy
действует только для поверенных весов

Date: 13.07.2012

Signature:

KERN & Sohn GmbH
Management

KERN & Sohn GmbH, Ziegelei 1, D-72336 Balingen, Tel. +49-[0]7433/9933-0,Fax +49-[0]7433/9933-149

English	Important notice for verified weighing instruments
M	Weighing instruments verified at the place of manufacture bear the preceding mark on the packing label and a green M-sticker on the descriptive plate. They may be set to work immediately.
M	Weighing instruments which are verified in two steps has no green "M" on the descriptive plate, bear the aforementioned identification on the packing label. The second step of the verification must be carried out by the W&M authorities
The first step of the verification has been carried out at the manufacturing plant. It comprises all tests according to EN 45501-8.2.2. If national regulations in individual countries limit the period of validity of the certification, the operator of such a scale is himself responsible for its timely re-certification.	
Deutsch	**Wichtiger Vermerk für geeichte Waagen in EU-Ländern**
M	Werksgeeichte Waagen tragen vorstehendes Kennzeichen auf dem Packetikett und eine grünen M-Kleber auf dem Eichschild. Sie dürfen sofort in Betrieb genommen werden.
M	Waagen die in zwei Schritten geeicht werden und kein grünes "M" auf dem Eichschild haben, tragen vorstehendes Kennzeichen auf dem Packetikett. Der zweite Schritt der Eichung ist durch den Eichbeamten durchzuführen.
Der erste Schritt der Eichung wurde im Herstellerwerk durchgeführt. Er umfasst alle Prüfungen gemäß EN45501-8.2.2. Sofern gemäß den nationalen Vorschriften in den einzelnen Staaten die Gültigkeitsdauer der Eichung beschränkt ist, ist der Betreiber einer solchen Waage für die rechtzeitige Nacheichung Selbst verantwortlich.	
Français	**Remarque Importante pour les Instruments de pesage vérifiées dans les pays membre de l'Union Européenne**
M	Les instruments de pesage vérifiés en usine sont identifiés par un M sur leur emballage et par un sticker M vert sur la plaque d'identification. Ils peuvent être utilisés après leur installation.
M	Les instruments de pesage vérifiés en deux étapes portent l'identification M barré sur leur emballage. La seconde étape de la vérification doit être effectuée par l'assistant technique de l'administration des poids et mesures.
La première étape de la vérification a été effectuée en usine. Cela comprend tous les essais suivant la norme EN45501-8.2.2. Dans la mesure où la durée de la vérification est limitée en fonction des prescriptions nationales dans les différents pays, l' utilisateur ďune telle balance est lui-même responsable de la vérification ultérieure dans les délais.	
Español	**Nota importante para balanzas verificadas en paises de la UE**
M	Las balanzas verificadas en origen llevan esta indicación en la etiqueta del embalaje y con la etiqueta M sobre fondo verde en la placa de caracteristicas pueden ser utilizadas inmediatamente.
M	Balanzas cuya verificación se realiza en dos fases llevan esta indicación en la etiqueta del embalaje. La segunda fase de la verificación debe ser realizada por el asistente técnico de la oficina de contraste.
La primera fase de la verificación ha sido realizada en origen. Incluye todos los ensayos según lo norma EN45501-8.2.2. Si el plazo de validez de la verificación está limitado por las normas nacionales de cada estado, el usuario será responsable de las verificaciones posteriores reglamentarias de su balanza.	
Italiano	**Nota Importante per la bilance approvate nei paesi UE**
M	Le bilance verificate in fabbrica portano questo contrassegno sull'etichetta dell'imballo e con il sigillo M su sfondo verde sulla targhetta metrologica possono essere messe in uso immediatamente.
M	Le bilance che vengono verificate in due fasi, portano questo contrassegno sull'etichetta dell'imballo. La seconda fase della verifica deve essere eseguita dal servizio assistenza tecnica dell'ufficio di pesi e misure.
La prima fase della verifica è stata eseguita dal produttore e comprende tutte le prove previste dalla norma EN 45501-8.2.2. Se la durata di validità della verifica è limitata in accordo con le prescrizioni nazionali vigenti nei singoli paesi, l'utente stesso di una bilancia di tale tipa sarà responsabile dell'esecuzione, entro le date di scadenza previste, delle verifiche periodiche.	

Netherlands	**Belangrijke aanmerking voor geijkte weegschalen in EG-landen**
M	In de fabriek geijkte weegschalen dragen dit kenteken op het emballage-etiket en een groene M-sticker op het ijklabel. Deze kunnen meteen in gebruik genomen worden.
M	Bij weegschalen die in twee stappen geijkt moeten worden en geen groene “M” op het ijklabel hebben, staat dit kenteken op het emballage-etiket. De tweede stap van de ijking moet door het ijkwezen uitgevoerd worden.
De eerste stap van de ijking werd in de fabriek doorgevoerd. Deze omvat alle inspecties conform EN45501-8.2.2. Voor zover in overeenstemming met de nationale voorschriften in de individuele staten de geldigheidsduur van de ijking beperkt is, is de exploitant van een dergelijke weegschaal voor een tijdige herijking zelf verantwoordelijk.	
De eerste stap van de ijking werd in de fabriek uitgevoerd. Deze stap omvat alle tests overeenkomstig EN45501-8.2.2. Bij weegschalen met een analoge weegbruggenaansluiting moet aanvullend de nauwkeurigheid overeenkomstig EN45501-3.5.3.3 getest worden. Deze controle is niet nodig als de terminal het serienummer van de weegbrug heeft.	
Português	**Nota importante para as balanças aferidas em países EU**
M	As balanças aferidas pela fábrica levam o cartaz identificador sobre a etiqueta de pacote e um adhesivo M verde sobre a placa de aferição. Têm que colocar-se em funcionamento sem demora.
M	As balanças que foram aferidas em dois passos e que não tenham um "M" verde sobre a placa de aferição, têm o rótulo antecedente na etiqueta de pacote. O segundo passo da aferição tem que ser feito por um empregado público de aferição.
A primeira fase da aferição foi feita na fábrica do produtor. Abrange todas as inspecções segundo EN45501-8.2.2. Logo que segundo as normas nacionais nos estados individuais a duração de validez da aferição esteja limitada, o usuário-proprietário duma tal balança é mesmo responsável pela aferição posterior a tempo.	
Česky	**Důležitý pokyn pro cejchované váhy v zemích EU**
M	Váhy ocejchované ve výrobním závodě jsou opatřeny výše uvedenou značkou na etiketě balení a zelenou nálepkou M na cejchovacím štítku. Takže se mohou okamžitě uvést do provozu.
M	Váhy se cejchují ve dvou etapách, a jestliže nemají zelené M na cejchovacím štítku, mají na etiketě balení výše uvedenou značku. Druhou etapu cejchování provádí cejchovní úřad.
První fáze cejchování byla provedena ve výrobním závodě. Zahrnuje všechny testy podle EN45501-8.2.2. Pokud je podle národních předpisů v jednotlivých státech omezená časová platnost cejchování, je provozovatel takových váh sám odpovědný za včasné přecejchování.	
Polski	**Adnotacje dotyczące legalizowanych wag w państwach UE**
M	Legalizowane u producenta wagi mają wystające oznaczenie na opakowaniu i zieloną nalepkę M na znaku legalizacji. Takie wagi można natychmiast eksploatować.
M	Wagi, które są legalizowane w dwóch etapach i nie mają zielonego „M“ na znaku legalizacji, mają wystające oznaczenie na etykiecie opakowania. Drugi etap legalizowania musi przeprowadzić pracownik urzędu miar i wag.
Pierwszy etap legalizowania przeprowadzono w zakładzie producenta. Obejmuje wszystkie kontrole według EN45501-8.2.2. Jeśli okres ważności legalizacji wagi jest ograniczony zgodnie z narodowymi przepisami obowiązującymi w poszczególnych państwach, użytkownik ponosi wyłączną odpowiedzialność za przeprowadzenie w odpowiednim czasie ponownej legalizacji wagi.	
Русски	**Примечание для поверенных весов в странах ЕЭС**
M	Поверенные на заводе весы помечаются вышеуказанным символом на упаковочной этикетке и зеленой наклейкой "M" на табличке поверки. Они могут немедленно приниматься в эксплуатацию.
M	Весы, которые поверяются в два этапа и не имеют зеленой наклейки "M" на табличке поверки, помечаются вышеуказанным символом на упаковочной этикетке. Второй этап поверки должен производиться поверочным ведомством.
Первый шаг поверки был выполнен на заводе-изготовителе. Он включает все проверки согласно EN45501-8.2.2. Если в соответствии с национальными предписаниями отдельных государств срок действия поверки ограничен, эксплуатирующая организация сама несет ответственность за своевременную повторную поверку таких весов.	

Notice: Certified balances and balances used for legal applications have the EU type approval. The year of the initial verification is shown next to the CE mark. Such balances are verified in the factory and carry the „M“ mark on the actual balance and the packaging. The year of initial verification is shown next to the CE mark. The GEO value of verified balances explains for which location of use the balance has been verified. This GEO value is shown on the balance itself and on the packing. Further details see GEO value table.

Hinweise: Für geeichte/eichpflichtige Waagen liegt eine EU Bauartzulassung vor. Das Jahr der ersten Eichung ist neben dem CE Zeichen aufgeführt. Solche Waagen sind ab Werk geeicht und tragen die Kennzeichnung „M“ auf dem Gerät selbst und auf der Verpackung. Der GEO-Wert gibt bei vom Hersteller geeichten Waagen an, für welchen Aufstellungsort die Waage geeicht ist. Dieser GEO-Wert befindet sich auf der Waage sowie der Verpackung. Genaueres ist der GEO-Wert-Tabelle zu entnehmen.

Remarques : Les balances vérifiées/admissibles à la vérification font l'objet d'une approbation de modèle UE. L'année de la vérification primitive est indiqués à côté de la marque CE. Ces balances sont vérifiées d'origine et portent la marque „M“ sur l'appareil lui-même et sur l'emballage. Le valeur GEO indique le lieu d'utilisation pour lequel la balance été vérifiée. Ce valeur GEO se trouve sur la balance ainsi que sur l'emballage. Veuillez trouver plus de détails dans le tableau GEO.

Notas: Las balanzas verificadas/verificables cuentan con una aprobación de modelo UE. El año de la primera verificación está indicado al lado del distintivo CE. Estas balanzas están verificadas en fábrica y llevan la designación „M“ sobre el propio aparato y sobre el embalaje. El valor GEO indica el lugar de ubicación por lo cual la balanza está verificado. El valor se encuentra sobre la balanza así como sobre el embalaje. Por favor tomen los demás detalles de la tabla GEO.

Avvertenza: Per le bilance approvate esiste un'approvazione CE del tipo. L´anno della prima verifica è indicato a fianco della marcatura CE. I tipi marcati con un contrassegno „M“ su sfondo verde possono essere impiegati da subito. Il coefficiente GEO di bilance omologate indica per quale luogo la bilancia è stata omologata. Questo coefficiente GEO si trova sulla bilancia e sull'imballo. Ulteriori informazioni vedi tabella coefficiente GEO

Opmerkingen: Voor geijkte weegschalen/weegschalen, die verplicht geijkt moeten worden, ligt er een EG-modelgoedkeuring ter inzage. Het jaar van de eerste ijking werd naast het EG-conformiteitsteken vermeld. Dergelijke weegschalen werden in de fabriek geijkt en dragen het identificatielabel „M“ op het apparaat zelf en op de verpakking. De GEO-waarde geeft bij door de fabrikant geijkte weegschalen aan, voor welke plaats van opstelling de weegschaal geijkt is. Deze GEO-waarde bevindt zich op de weegschaal en ook op de verpakking. Meer details kan er uit de tabel met de GEO-waarde afgeleid worden.

Instruções: Para as balanças aferidas / obrigadas à aferição existe uma homologação de tipo construtivo da EU. O ano da primeira aferição fica ao lado do simbolo CE. Tais balanças foram aferidas na fábrica e levam o rótulo „M“ no mesmo aparelho e na embalagem. O valor GEO indica nas balanças aferidas pelo produtor para qual lugar de colocação a balança foi aferida. Este valor GEO encontra-se na balança assim como na embalagem. Mais pormenores podem ver-se na tablela dos valores GEO.

Poznámky: Pro ocejchované a cejchování podléhající váhy existuje povolení EU podle typu konstrukce. Rok prvního cejchování se uvádí vedle značky CE. Takové váhy se cejchují ve výrobním závodě, a jsou označeny znakem „M“ na vlastním přístroji, i na obalu. Hodnota GEO udává u výrobcem cejchovaných vah, pro jaké místo instalace je váha ocejchována. Tato hodnota GEO se nachází na váze, jakož i na obalu. Přesnější je odečíst hodnotu GEO z tabulky.

Wskazówki: Dla wag legalizowanych/podlegających obowiązkowi legalizowania istnieje dokument dopuszczenia rodzaju konstrukcji UE. Rok pierwszej legalizacji jest podany obok znaku CE. Takie wagi są legalizowane w zakładzie producenta i mają oznaczenie „M“ na sobie i na opakowaniu. W przypadku wag legalizowanych u producenta wartość geograficzna podaje, dla jakich miejsc ustawienia waga została legalizowana. Ta wartość geograficzna znajduje się zarówno na wadze jak i na opakowaniu. Dokładne informacje znajdują się w tabeli wartości geograficznych.

Указания. Калиброванные/подлежащие поверке весы получают допуск на конструкцию ЕС. Год первой поверки приведен рядом с символом CE. Такие весы поверены на заводе и имеют маркировку „M“ на самом устройстве и на упаковке. Значение GEO на откалиброванных изготовителем весах указывает, для какого места установки произведена калибровка весов. Это значение GEO находится на весах и на упаковке. Более подробная информация содержится в таблице значений GEO