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Instruction Manual
Pocket scale

KERN TAB

Version 1.1
03/2013
GB

TAB-BA-e-1311

GB

KERN TAB

Version 1.1 03/2013

Instruction Manual

Pocket scale

Contents

English

1 Technical data

KERN	TAB 20-3
Weighing range (max)	20 g
Readability (d)	0.001 g
Recommended adjustment weight, added	10 g (F2)
Weighing Units	ct, g, gn
Stabilization time (typical)	3 sec.
Operating temperature	+ 10° C …. + 30° C
Humidity of air	15 % - 80 % (non-condensing)
Dimensions of the housing (W x D x H) [mm]	95 x 133 x 33
Weighing plate [mm]	Ø 18
Weight (net)	200 g

2 Basic Information (General)

2.1 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 plate. As soon as a stable weighing value is reached the weighing value can be read.

2.2 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“ in the balance. (Example: Slowly draining fluids from a container on the balance.)
Do not leave permanent load on the weighing plate. 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.

2.3 Warranty

Warranty claims shall be voided in case

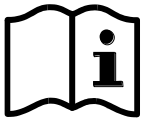
- Our conditions in the operation manual are ignored
- The appliance is used outside the described uses
- The appliance is modified or opened
- Mechanical damage and damage caused by media, liquids
- natural wear and tear
- The appliance is improperly set up or incorrectly electrically connected
- The measuring system is overloaded

2.4 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.

3 Basic Safety Precautions

3.1 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.

Versions in other languages are non-binding translations. The only binding version is the original document in German.

3.2 Personnel training

The appliance may only be operated and maintained by trained personnel.

4 Transportation & Storage

4.1 Testing upon acceptance

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

4.2 Packaging

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

5 Appliance overview

1	Wind screen / hinged cover serving as pressure and dust protection
2	Adjustment weight
3	Weighing surface
4	Weighing vessel

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 appliance for ca. 2 hours at room temperature.
- Avoid static charge of goods to be weighed and weighing container.

The occurrence of electromagnetic fields, electrostatic charging as well as instable power supply may result in considerable display variations (incorrect weighing results). In that case, the location must be changed.

6.2 Unpacking

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

6.2.1 Scope of delivery

Serial accessories:

- Pocket scale
- Batteries
- Instruction Manual
- Adjustment weight

6.3 Battery operation and change

In order to save the battery, the balance switches automatically off after 30 seconds without weighing.

If the balance is not used for a longer time, take out the batteries and store them separately. Leaking battery liquid could damage the balance.

6.4 Initial Commissioning

The warm-up period after the start stabilises the measured values.
The accuracy of the balance depends on the local acceleration of gravity.
Strictly observe hints in chapter “Adjustment”.

6.5 Adjustment

As the acceleration value due to gravity is not the same at every location on earth, each balance must be coordinated - in compliance with the underlying physical weighing principle - to the existing acceleration due to gravity at its place of location (only if the balance has not already been adjusted to the location in the factory). This adjustment process must be carried out during the initial start-up, after change in location and variation of surrounding temperature. To receive accurate measuring values it is also recommended to adjust the balance periodically in weighing operation.

6.6 Adjusting

With an adjustment weight, the weighing accuracy can be checked and re-adjusted at any time.

Procedure when adjusting:
Observe stable environmental conditions.

⇨ Switch on scale by ON/OFF and wait for “0.0“ to appear on the screen

⇨ Press CAL and hold until “ZERO“ appears flashing

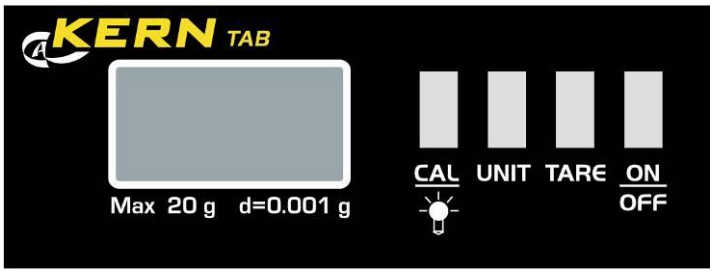
⇨ Confirm by pressing CAL and the value of the adjustment weight will be shown flashing

⇨ Position the adjustment weight; after a while “PASS“ appears; this concludes the adjustment process. Afterwards the scale switches off automatically.

English

7 Operation Mode

7.1 Keyboard overview

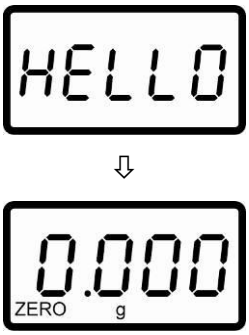


Key	Description	Function
		Short key pressing
CAL	**CAL**-key	• Adjusting (Press and hold key for a long time) • Backlighting ON/OFF
UNIT	**UNIT-**key	• Weighing units switch-over
TARE	**TARE** button	• Tare = Return display to zero
ON/OFF	**ON/OFF**-switch	• Turn on/off

English

7.2 Operation

7.2.1 Weighing

⇨ Start balance by pressing **ON/OFF** The balance shows for approx. 3 seconds „**HELLO**“ in the display and then goes to „**0.0**“. Now it is ready for operation.	

If display does not show ”0“, press TARE.

⇨ Put on items to be weighed, weighed value is displayed.	 (Example)

If the material to be weighed is heavier than the weighing range, the display will show **„OVER**" ***(=Overload)***.	

English

7.2.2 Taring

⇨ Press to switch on scale by **ON/OFF** and wait for “0.0“ display.	
⇨ Put the tare vessel on the weighing plate and press the **TARE** button. The scale display returns to „“0.0“.	 (Example) ⇩ 
⇨ Pour object to be weighed into container and read the measured value.	 (Example)

Renewed pressing of **TARE** after the weighing process results in “0” returning to the display screen.

The taring process can be repeated any number of times, e.g. when adding several components for a mixture (adding).
The limit is reached when the whole weighing range is exhausted.
After removing the taring container the total weight is displayed as negative display.

English

7.2.3 External weighing units

⇨ Press **ON/OFF** to switch on scale and wait for “0.0“ display.	
⇨ Use **UNIT** to select the different units g, ct und gn.	 ⇩  ⇩ 
⇨ Pour object to be weighed into container and read the measured value.	 (Example)

The following weighing units are available:

Gram g *	**ct**	**gn**
20 g	100.00 ct	308.64 gn

*default setting

7.3 Display background illumination

The display unit can be kept on or off. For this press shortly **CAL**  .

8 Service, maintenance, disposal

8.1 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.

8.2 Service, maintenance

The appliance may only be opened by trained service technicians who are authorized by KERN.

8.3 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.

9 Instant help

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

Help:

Fault	**Possible cause**
The displayed weight does not glow.	• The balance is not switched on. • Batteries are inserted incorrectly or empty • No batteries inserted.
The displayed weight is permanently changing	• Draught/air movement • Table/floor vibrations • The weighing plate is in contact with foreign matter. • Electromagnetic fields / static charging (choose different location/switch off interfering device if possible)
The weighing value is obviously wrong	• 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.