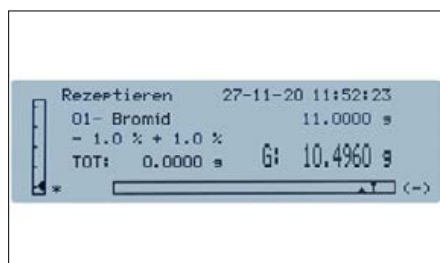


Analytical balances KERN ALS-A · ALJ-A



**KERN ALJ 200-5DA** with optional ioniser **1**, see *accessories*. High-precision semi-micro analytical balance. Thanks to its high level of precision, it is ideal for calibrating pipettes  
 Note: To prevent evaporation we recommend economical capillary tubes (see standard 8655)

Analytical balances with a large weighing range, graphics display and user-friendly recipe weighing function - now also as single-range semi-micro balance with unbelievably high resolution



Convenient recipe-weighing: with the recipe database, in which up to 99 recipes can be stored, each with up to 20 recipe ingredients with name and target value



Clear printout with date and time. In addition, the components of the mixture are numbered automatically and printed out with the name & weight

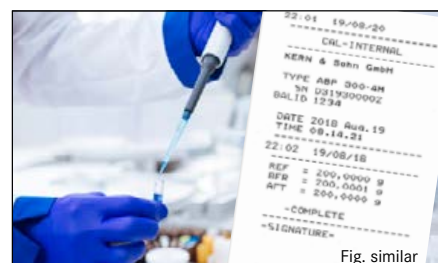


Fig. similar

GLP/ISO record keeping, professional, detailed GLP Protocol, so that the balance is completely compliant with the relevant standard requirements in accordance with ISO, GLP and GMP

## Analytical balances KERN ALS-A · ALJ-A



## Features

- ALJ 210-5A: Semi-micro model with just one weighing range with unbelievably high resolution, ideal where heavy items need to be weighed with the most accurate readout across the entire weighing range. Particularly advantageous: an ionizer for neutralising electrostatic charge is already fitted as standard
- Rapid and efficient operation thanks to the graphics display. Simple, clear user interface on the display in the following languages: DE, EN, FR, IT, ES, PT
- KERN ALJ-A03: Ionizer to neutralise electrostatic charge for fixed installation in the analytical balance. Particularly convenient handling as you no longer need a separate device. Simply enable the ionizer fan at the push of a button. Suitable for all models, see accessories Already fitted as standard in the model KERN ALJ 210-5A
- KERN ALS-A: Adjusting program CAL for quick setting of the balance accuracy using an external test weight at an additional price, see *test weights*
- Short stabilisation time: steady weight values within approx. 4 s under laboratory conditions
- Weighing with tolerance range (checkweighing): Input of an upper/lower limit value. A visual signal assists with portioning, dispensing or grading

- Dosage aid: High stability mode and other filter settings can be selected
- Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display
- Ergonomically optimised keypad for left and righthanded users
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed
- Compact size, practical for small spaces
- Protective working cover included with delivery

## Technical data

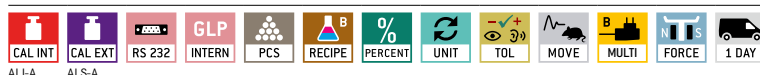
- Backlit LCD Graphic display, digit height 15 mm
- Dimensions weighing surface, stainless steel, Ø 80 mm
- Weighing space W×D×H 160×170×225 mm
- Overall dimensions (incl. draught shield) W×D×H 210×340×330 mm
- Net weight approx. 7 kg
- Permissible ambient temperature 5 °C/35 °C

## Accessories

- Protective working cover, scope of delivery 5 items, KERN ALJ-A01S05
- Protective dust cover, KERN ABS-A08
- KERN ALJ: Evaporation trap, minimises faults through evaporation when using pipettes for small volumes of 10 µl to 10 ml, KERN ALJ-A02

- **1** Draft shield rear panel with integrated ionizer to neutralise electrostatic charge. Is fitted in place of the existing glass rear panel of the draft shield. Suitable for all models in the range, please order at the time you order your balance, the scope of delivery is the rear panel, ionizer, Universal plug-in power supply. Factory Option, KERN ALJ-A03
- **2** Set for density determination of liquids and solids with density  $\leq/\geq 1$ , the density is indicated directly on the display, KERN YDB-03
- **3** Weighing table to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ)

## STANDARD



## OPTION



## FACTORY



Model	Weighing capacity [Max] g	Readability [d] mg	Verification value [e] mg	Minimal load [Min] mg	Reproducibility mg	Linearity mg	Verification <b>MI</b> KERN	Option DAkkS Calibr. Certificate DAkkS KERN
<b>KERN</b>								
ALS 160-4A	160	0,1	-	-	0,1	± 0,3	-	963-101
ALS 250-4A	250	0,1	-	-	0,1	± 0,3	-	963-101
<b>ALJ</b>								
ALJ 210-5A	210	0,01	-	-	0,05	± 0,1	-	963-101
ALJ 160-4A	160	0,1	-	-	0,1	± 0,3	-	963-101
ALJ 250-4A	250	0,1	-	-	0,1	± 0,3	-	963-101
ALJ 310-4A	310	0,1	-	-	0,1	± 0,3	-	963-101
ALJ 500-4A	510	0,1	-	-	0,2	± 0,4	-	963-101
Multi-range balance, with increasing load it switches automatically to the next largest weighing range [Max] and readout [d] and when the load is fully removed, the balance switches back to the lower range								
ALJ 200-5DA	82   220	0,01   0,1	-	-	0,04   0,1	± 0,1   0,2	-	963-101
Note: For applications that require verification, please order verification at the same time, initial verification at a later date is not possible.								
Verification at the factory, we need to know the full address of the location of use.								
ALJ 160-4AM	160	0,1	1	10	0,1	± 0,3	965-201	963-101
ALJ 250-4AM	250	0,1	1	10	0,1	± 0,3	965-201	963-101



### Internal adjusting:

Quick setting up of the balance's accuracy with internal adjusting weight (motordriven)



### Adjusting program CAL:

For quick setting up of the balance's accuracy. External adjusting weight required



### Easy Touch:

Suitable for the connection, data transmission and control through PC or tablet.



### Memory:

Balance memory capacity, e.g. for article data, weighing data, tare weights, PLU etc.



### Alibi memory:

Secure, electronic archiving of weighing results, complying with the 2014/31/EU standard.



### KERN Universal Port (KUP):

allows the connection of external KUP interface adapters, e.g. RS-232, RS-485, SB, Bluetooth, WLAN, Analogue, Ethernet etc. for the exchange of data and control commands, without installation effort



### Data interface RS-232:

To connect the balance to a printer, PC or network



### RS-485 data interface:

To connect the balance to a printer, PC or other peripherals. Suitable for data transfer over large distances. Network in bus topology is possible



### USB data interface:

To connect the balance to a printer, PC or other peripherals



### Bluetooth\* data interface:

To transfer data from the balance to a printer, PC or other peripherals



### WiFi data interface:

To transfer data from the balance to a printer, PC or other peripherals



### Control outputs (optocoupler, digital I/O):

To connect relays, signal lamps, valves, etc.



### Analogue interface:

to connect a suitable peripheral device for analogue processing of the measurements



### Interface for second balance:

For direct connection of a second balance



### Network interface:

For connecting the scale to an Ethernet network



### KERN Communication Protocol (KCP):

It is a standardized interface command set for KERN balances and other instruments, which allows retrieving and controlling all relevant parameters and functions of the device. KERN devices featuring KCP are thus easily integrated with computers, industrial controllers and other digital systems



### GLP/ISO log:

The balance displays weight, date and time, independent of a printer connection



### GLP/ISO log:

With weight, date and time. Only with KERN printers.



### Piece counting:

Reference quantities selectable. Display can be switched from piece to weight



### Recipe level A:

The weights of the recipe ingredients can be added together and the total weight of the recipe can be printed out



### Recipe level B:

Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display



### Totalising level A:

The weights of similar items can be added together and the total can be printed out



### Percentage determination:

Determining the deviation in % from the target value (100 %)



### Weighing units:

Can be switched to e.g. nonmetric units. See balance model. Please refer to KERN's website for more details



### Weighing with tolerance range:

(Checkweighing) Upper and lower limiting can be programmed individually, e.g. for sorting and dosing. The process is supported by an audible or visual signal, see the relevant model



### Hold function:

(Animal weighing program) When the weighing conditions are unstable, a stable weight is calculated as an average value



### Protection against dust and water splashes IPxx:

The type of protection is shown in the pictogram.



### Suspended weighing:

Load support with hook on the underside of the balance



### Battery operation:

Ready for battery operation. The battery type is specified for each device



### Rechargeable battery pack:

Rechargeable set



### Universal plug-in power supply:

with universal input and optional input socket adapters for

- A) EU, CH, GB
- B) EU, CH, GB, USA
- C) EU, CH, GB, USA, AUS



### Plug-in power supply:

230V/50Hz in standard version for EU, CH. On request GB, USA or AUS version available



### Integrated power supply unit:

Integrated in balance. 230V/50Hz standard EU. More standards e.g. GB, USA or AUS on request



### Weighing principle: Strain gauges

Electrical resistor on an elastic deforming body



### Weighing principle: Tuning fork

A resonating body is electromagnetically excited, causing it to oscillate



### Weighing principle: Electromagnetic force compensation

Coil inside a permanent magnet. For the most accurate weighings



### Weighing principle: Single cell technology:

Advanced version of the force compensation principle with the highest level of precision



### Verification possible:

The time required for verification is specified in the pictogram



### DAkkS calibration possible (DKD):

The time required for DAkkS calibration is shown in days in the pictogram



### Factory calibration (ISO):

The time required for Factory calibration is shown in days in the pictogram



### Package shipment:

The time required for internal shipping preparations is shown in days in the pictogram



### Pallet shipment:

The time required for internal shipping preparations is shown in days in the pictogram



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