

Analytical balances KERN ABS-N · ABJ-NM · ACS · ACJ



KERN ACS/ACJ with standard data interface
RS-232 and USB data interface

The bestseller in analytical balances, with high-quality single-cell weighing system, also with EC type approval [M]

Features

- KERN ABJ-NM, ACJ: Automatic internal adjustment in the case of a change in temperature $\geq 2\text{ }^{\circ}\text{C}$ or timecontrolled every 4 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- KERN ABS-N, ACS: Adjusting program CAL for quick setting of the balance accuracy using an external test weight at an additional price, see *test weights*
- Dosage aid: High stability mode and other filter settings can be selected
- Simple recipe weighing and documenting with a combined tare/print function. In addition, the ingredients for the recipe are numbered automatically and printed out with their corresponding number and nominal weight
- Automatic data output to the PC/printer each time the balance is steady
- Identification number: 4 digits, printed on calibration protocol freely programmable
- Protective working cover included with delivery

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Technical data

- Large LCD display, digit height 14 mm
- Dimensions weighing surface, stainless steel, \varnothing 91 mm
- Weighing space W×D×H 174×162×227 mm
- Overall dimensions (incl. draught shield) W×D×H 213×333×338 mm
- Net weight approx. 6 kg
- Permissible ambient temperature 10 °C/30 °C

Accessories

- Protective working cover, scope of delivery 5 items, KERN ACS-A02S05
- 1 Set for density determination of liquids and solids with density $\leq/\geq 1$, the density is indicated directly on the display, KERN YDB-03
- 2 Ioniser to neutralise electrostatic charge, KERN YBI-01A
- KERN ABS-N/ABJ-NM: Data interface RS-232, interface cable included, approx. 1,5 m, KERN ACS-A01
- 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)



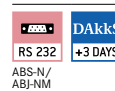
Single-cell advanced technology:

- Fully automatic manufactured weighing cell from one piece of material
- Stable temperature behaviour
- Short stabilisation time: steady weight values within approx. 3 s under laboratory conditions
- Shock proof construction
- High corner load performance

STANDARD



OPTION



FACTORY



Model	Weighing capacity [Max] g	Readability [d] mg	Verification value [e] mg	Minimal load [Min] mg	Reproducibility mg	Linearity mg	Verification MD KERN	Option DAkkS Calibr. Certificate DAkkS KERN
KERN								
ABS 80-4N	82	0,1	-	-	0,2	± 0,3	-	963-101
ABS 120-4N	120	0,1	-	-	0,2	± 0,3	-	963-101
ABS 220-4N	220	0,1	-	-	0,2	± 0,3	-	963-101
ABS 320-4N	320	0,1	-	-	0,2	± 0,3	-	963-101
ACS								
ACS 80-4	82	0,1	-	-	0,2	± 0,3	-	963-101
ACS 100-4	120	0,1	-	-	0,2	± 0,3	-	963-101
ACS 200-4	220	0,1	-	-	0,2	± 0,3	-	963-101
ACS 300-4	320	0,1	-	-	0,2	± 0,3	-	963-101
ABJ								
ABJ 80-4NM	82	0,1	-	-	0,2	± 0,3	-	963-101
ABJ 120-4NM	120	0,1	-	-	0,2	± 0,3	-	963-101
ABJ 220-4NM	220	0,1	-	-	0,2	± 0,3	-	963-101
ABJ 320-4NM	320	0,1	-	-	0,2	± 0,3	-	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.								
ACJ								
ACJ 80-4M	82	0,1	1	10	0,2	± 0,3	965-201	963-101
ACJ 100-4M	120	0,1	1	10	0,2	± 0,3	965-201	963-101
ACJ 200-4M	220	0,1	1	10	0,2	± 0,3	965-201	963-101
ACJ 300-4M	320	0,1	1	10	0,2	± 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