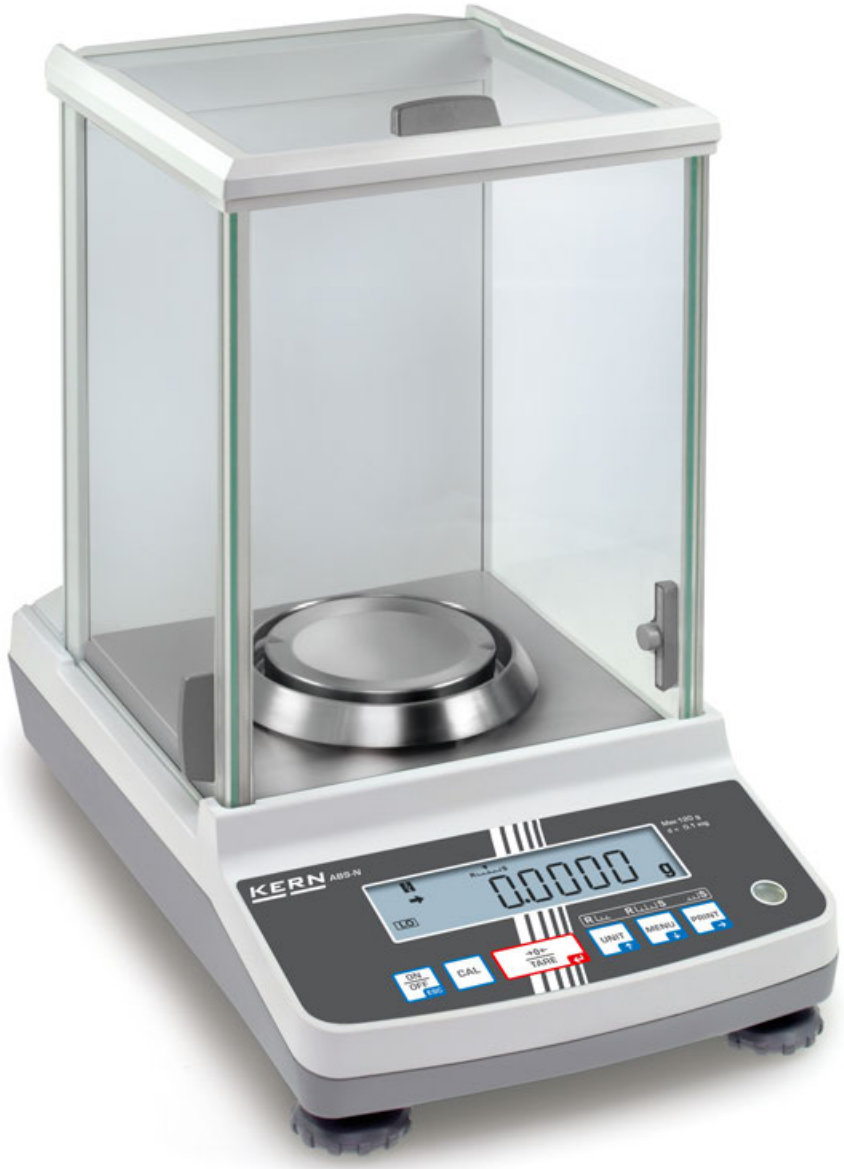
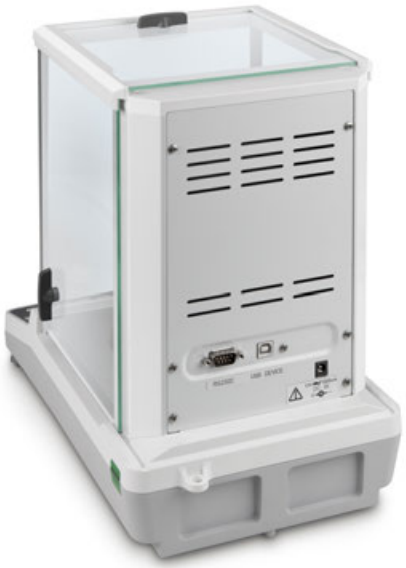
Analytical balance KERN ABS-N · ABJ-NM · ACS · ACJ





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

Digitally signed by Gumionaia Natalia
Date: 2023.07.10 09:38:00 EEST
Reason: MoldSign Signature
Location: Moldova

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 ≥ 2 °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
- Dosage aid
- 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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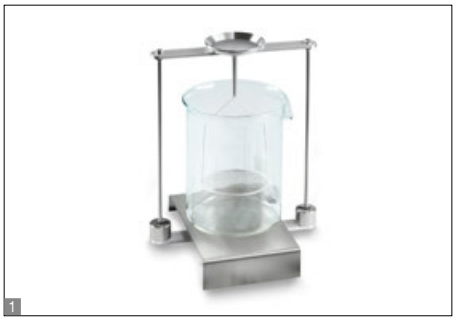
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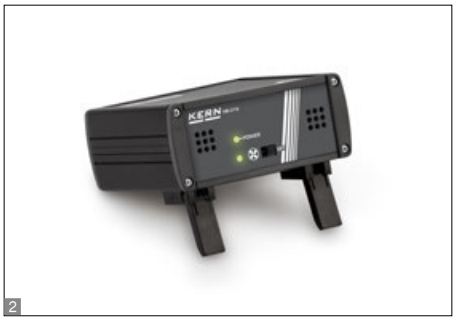
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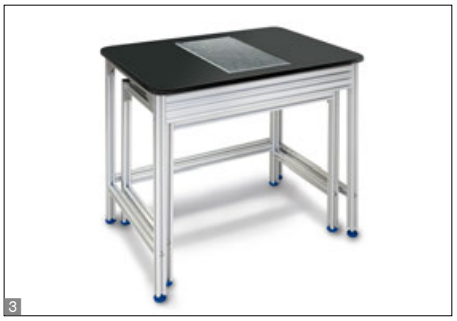
3

Technical data

- Large LCD display, digit height 14 mm
- Dimensions of weighing surface, stainless steel, ø 91 mm
- Overall dimensions (incl. draught shield) W×D×H 210×340×325 mm
- Weighing space W×D×H 174×162×227 mm
- Net weight 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 ≤/≥ 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), Further details see 208
- Further details, plenty of further accessories and suitable printers see *Accessories*

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: CAL INT (ABJ-NM ACJ) · CAL EXT (ABS-N ACS) · RS 232 (ACS/ACJ) · USB (ACS/ACJ) · GLP · PRINTER · PCS · RECIPE · PERCENT · UNIT · TOL · MULTI · SC TECH · 1 DAY

OPTION: RS 232 (ABS-N/ABJ-NM) · DAkkS +3 DAYS

FACTORY: M +3 DAYS (ACJ)

Model KERN	Weighing capacity [Max] g	Readability [d] mg	Verification value [e] mg	Minimal load [Min] mg	Reproducibility mg	Linearity mg		Option Verification MI KERN		Option DAkkS Calibr. Certificate DAkkS 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 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 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 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	

Pictograms

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.

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 datatransfer 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 serial number, user ID, weight, date and time, regardless 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

KERN – Precision is our business

To ensure the high precision of your balance KERN offers you the the appropriate test weight in the international OIML error limit classes E1-M3 from 1 mg - 2500 kg.
In combination with a DAkkS calibration certificate the best pre-requisite for proper balance calibration.

The KERN DAkkS calibration laboratory today is one of the most modern and best-equipped DAkkS calibration laboratories for balances, test weights and force-measurement in Europe.
Thanks to the high level of automation, we can carry out DAkkS calibration of balances, test weights and force-measuring devices 24 hours a day, 7 days a week.

Range of services:
- DAkkS calibration of balances with a maximum load of up to 50 t
- DAkkS calibration of weights in the range of 1 mg – 2500 kg
- Volume determination and measuring of magnetic susceptibility (magnetic characteristics) for test weights
- Database supported management of checking equipment and reminder service
- Calibration of force-measuring devices
- DAkkS calibration certificates in the following languages DE, EN, FR, IT, ES, NL, PL
- Conformity evaluation and reverification of balances and test weights

Your KERN specialist dealer: