





ANALYTICAL BALANCES



PROFESSIONAL
MEASURING

2018

KERN Pictograms

 Internal adjusting: Quick setting up of the balance's accuracy with internal adjusting weight (motordriven)	 GLP/ISO log: The balance displays serial number, user ID, weight, date and time, regardless of a printer connection	 Suspended weighing: Load support with hook on the underside of the balance
 Adjusting program CAL: For quick setting up of the balance's accuracy. External adjusting weight required	 GLP/ISO log: With weight, date and time. Only with KERN printers, see page 154/155	 Battery operation: Ready for battery operation. The battery type is specified for each device
 Memory: Balance memory capacity, e.g. for article data, weighing data, tare weights, PLU etc.	 Piece counting: Reference quantities selectable. Display can be switched from piece to weight	 Rechargeable battery pack: Rechargeable set
 Alibi memory: Secure, electronic archiving of weighing results, complying with the 2014/31/EU standard. For details see page 191	 Recipe level A: The weights of the recipe ingredients can be added together and the total weight of the recipe can be printed out	 Universal mains adapter: with universal input and optional input socket adapters for A) EU, GB B) EU, GB, CH, USA C) EU, GB, CH, USA, AUS
 Data interface RS-232: To connect the balance to a printer, PC or network	 Recipe level B: Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display	 Mains adapter: 230V/50Hz in standard version for EU. On request GB, USA or AUS version available
 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	 Recipe level C: Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display, multiplier function, adjustment of recipe when dosages are exceeded or barcode recognition	 Power supply: Integrated in balance. 230V/50Hz standard EU. More standards e.g. GB, USA or AUS on request
 USB data interface: To connect the balance to a printer, PC or other peripherals	 Totalising level A: The weights of similar items can be added together and the total can be printed out	 Weighing principle: Strain gauges Electrical resistor on an elastic deforming body
 Bluetooth* data interface: To transfer data from the balance to a printer, PC or other peripherals	 Percentage determination: Determining the deviation in % from the target value (100 %)	 Weighing principle: Tuning fork A resonating body is electromagnetically excited, causing it to oscillate
 WLAN data interface: To transfer data from the balance to a printer, PC or other peripherals	 Weighing units: Can be switched to e.g. nonmetric units at the touch of a key. See balance model. Please refer to KERN's website for more details	 Weighing principle: Electromagnetic force compensation Coil inside a permanent magnet. For the most accurate weighings
 Control outputs (optocoupler, digital I/O): To connect relays, signal lamps, valves, etc.	 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	 Weighing principle: Single cell technology Advanced version of the force compensation principle with the highest level of precision
 Interface for second balance: For direct connection of a second balance	 Hold function: (Animal weighing program) When the weighing conditions are unstable, a stable weight is calculated as an average value	 Verification possible: The time required for verification is specified in the pictogram
 Network interface: For connecting the scale to an Ethernet network	 Protection against dust and water splashes IPxx: The type of protection is shown in the pictogram. For details see page 58	 DAkkS calibration possible (DKD): The time required for DAkkS calibration is shown in days in the pictogram
 Wireless data transfer: between the weighing unit and the evaluation unit using an integrated radio module	 Stainless steel: The balance is protected against corrosion	 Package shipment: The time required for internal shipping preparations is shown in days in the pictogram
 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	 Pallet shipment: The time required for internal shipping preparations is shown in days in the pictogram	

KERN – measuring technology and testing services from a single source



Balances & Test service catalogue

Provides a complete overview of the KERN line of balances, test weights, and services such as verification, calibration, etc.



Medical scales catalogue

Complete line of medical scales, from infant scales to patient scales, chair scales and adiposity scales, as well as hand grip dynamometers, chemist's balances and veterinary scales.



Microscopes & refractometers catalogue

Extensive range in the area of optical instruments, such as, for example, biological microscopes, stereo microscopes, metallurgical microscopes, polarisation microscopes as well as analogue and digital refractometers.



SAUTER measuring equipment catalogue

Test instruments for industry and commerce, such as force, coating thickness, material thickness and calibration service.



DAkKS calibration service brochure

Detailed information on topics pertaining to the calibration and verification of balances, test weights, and force measuring devices.

Your advantages

fast

- 24 hours delivery service for products in stock – ordered today, on its way tomorrow
- Sales & service hotline available from 8:00 am to 6:00 pm

reliable

- Up to 3 years warranty
- Precision in weighing technology for more than 170 years

competent

- DAkKS accreditation
DIN EN ISO/IEC 17025
- Certified QM system
DIN EN ISO 9001
- Authorisation for initial verification by the manufacturer 2014/31/EU
- Medical certifications
DIN EN ISO 13485 and
93/42/EEC

versatile

- One-stop shopping: from pocket balances through to 15 t crane balance – everything from one supplier
- Find the product you want at lightning speed with the “Balance Quick-Finder” at www.kern-sohn.com



Order hotline

+49 [0] 7433 9933-0



Service hotline

+49 [0] 7433 9933-199



Calibration hotline

+49 [0] 7433 9933-196



Our team of consultants will assist you

from Monday to Friday
from 8:00 am to 6:00 pm



Online Shop

www.kern-sohn.com



E-mail order

info@kern-sohn.com



Fax order

+49 [0] 7433 9933-146



www.kern-sohn.com

Information on current product availability, product data sheets, user instructions, useful knowledge, technical glossary, images and much for you to download, practical topic areas, which will guide you to the right product in your industry as well as a clever test weight and balance search engine.



FACE
LIFT



04

The price leader in analytical balances – now in a new compact design and with special carat model

Features **Technical data** **Accessories**

- **1 NEW:** KERN ADB 600-C3! Compact, space-saving carat balance with a readout of 0.001 ct and a weighing range of 600 ct. The high level of accuracy saves hard cash wherever you are weighing valuable precious stones
- **Large glass draught shield** with 3 sliding doors for easy access to the items being weighed.
- **Compact size**, practical for small spaces
- **Simple and convenient 6-key operation**

- Large backlit LCD display, digit height 16 mm
- Dimensions weighing surface, stainless steel, \varnothing 90 mm
- Overall dimensions (incl. draught shield) W×D×H
KERN ADB: 230×310×330 mm
KERN ADB-C: 230×310×230 mm
- Weighing space W×D×H
KERN ADB: 170×160×205 mm
KERN ADB-C: 170×160×110 mm
- Net weight approx. 4,4 kg
- Permissible ambient temperature 10 °C/30 °C

- **2 Ioniser** to neutralise electrostatic charge, KERN YBI-01A, **€ 940,-**
- **3 Precious stones plate**, aluminium with practical spout, W×D×H 83×66×23 mm, KERN AEJ-A05, **€ 40,-**
- **4 Weighing table** to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03, **€ 990,-**
- **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, **€ 10,-**
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD OPTION

CAL EXT
 RS 232
 GLP
 PC
 PERCENT
 UNIT
 MULTI
 FORCE
 1 DAY
 DAkkS +3 DAYS

Model	Weighing range [Max] g	Readout [d] mg	Reproducibility mg	Linearity mg	Price € excl. of VAT ex works €	Options	
						DAkkS Calibr. Certificate	
KERN						DKD KERN	€
ADB 100-4	120	0,1	0,2	± 0,4	620,-	963-101	138,-
ADB 200-4	210	0,1	0,2	± 0,4	640,-	963-101	138,-
ADB 600-C3	120 g 600 ct	0,1 mg 0,001 ct	0,2 mg 0,002 ct	± 0,4 mg 0,004 ct	610,-	963-101	138,-

New model = Carat balance



1 KERN ALJ 200-5DA with optional ioniser 2, see *Accessories*

Analytical balance range with large weighing ranges – now also with EC type approval [M] or available as semi-micro analytical balance

Features

- **1 NEW:** KERN ALJ 250-5DA! High-precision semi-micro analytical balance
- **2 NEW:** KERN ALJ-A03! Ioniser to neutralise electrostatic charge for fixed installation in the analytical balance. This it makes for convenient handling as you no longer need a separate device. Simply enable the ioniser fan at the push of a button. Suitable for all models in this range, see accessories on the right
- KERN ALJ-A/-AM: **Automatic internal adjustment** in the case of a change in temperature $\geq 1,2$ °C or timecontrolled every 3 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- KERN ALS-A: **Adjusting program CAL** for quick setting of the balance accuracy using an external test weight
- **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 display, digit height 17 mm
- Dimensions weighing surface, stainless steel, \varnothing 80 mm
- Overall dimensions (incl. draught shield) W×D×H 210×340×330 mm
- Weighing space W×D×H 160×140×205 mm
- Net weight approx. 7 kg
- Permissible ambient temperature
KERN ALS-A/ALJ-A/ALJ-DA: 5 °C/35 °C
KERN ALJ-AM: 15 °C/30 °C

Accessories

- **Protective working cover**, scope of delivery: 5 items, KERN ALJ-A01S05, **€ 40,-**
- **Protective dust cover**, KERN ABS-A08, **€ 30,-**
- **2 Draft shield rear panel with integrated ioniser** to neutralise electrostatic charge. Is fitted in place of the existing glass rear panel of the draft shield. Suitable for all models in the KERN ALS-A/ALJ-A/ALJ-AM/ALJ-DA range, please order at the time you order your balance, the scope of delivery is the rear panel, ioniser, power supply. Factory Option, KERN ALJ-A03, **€ 690,-**

- **3 Set for density determination** of liquids and solids with density $\leq/\geq 1$, the density is indicated directly on the display, KERN YDB-03, **€ 390,-**
- **4 Weighing table** to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03, **€ 990,-**
- **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, **€ 10,-**
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD

ALJ-A	ALS-A												

OPTION

+3 DAYS	+3 DAYS

FACTORY

ALJ-AM

Model	Weighing range [Max] g	Readout [d] mg	Verification value [e] mg	Minimal load [Min] mg	Reproducibility mg	Linearity mg	Price € excl. of VAT ex works €	Options			
								Verification		DAkkS Calibr. Certificate	
KERN									€		€
ALS 160-4A	160	0,1	-	-	0,1	± 0,3	930,-	-	-	963-101	138,-
ALS 250-4A	250	0,1	-	-	0,1	± 0,3	980,-	-	-	963-101	138,-

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 200-5DA	82 220	0,01 0,1	-	-	0,04 0,1	± 0,1 0,2	1750,-	-	-	963-101	138,-
ALJ 160-4A	160	0,1	-	-	0,1	± 0,3	1030,-	-	-	963-101	138,-
ALJ 160-4AM	160	0,1	1	10	0,2	± 0,3	1050,-	965-201	110,-	963-101	138,-
ALJ 250-4A	250	0,1	-	-	0,1	± 0,3	1060,-	-	-	963-101	138,-
ALJ 250-4AM	250	0,1	1	10	0,2	± 0,3	1090,-	965-201	110,-	963-101	138,-
ALJ 310-4A	310	0,1	-	-	0,1	± 0,3	1190,-	-	-	963-101	138,-
ALJ 500-4A	510	0,1	-	-	0,2	± 0,4	1950,-	-	-	963-101	138,-

New model



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

Features

- KERN ABJ-NM: **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: **Adjusting program CAL** for quick setting of the balance accuracy using an external test weight
- **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
- ABJ-NM has OIML certification
- **Protective working cover** included with delivery

Technical data

- Large LCD display, digit height 14 mm
- Dimensions weighing surface, stainless steel, \varnothing 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 approx. 6 kg
- Permissible ambient temperature 10 $^{\circ}\text{C}$ /30 $^{\circ}\text{C}$

Accessories

- **Protective working cover**, scope of delivery: 5 items, KERN ACS-A02S05, **€ 40,-**
- **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, **€ 390,-**
- **2 Ioniser** to neutralise electrostatic charge, KERN YBI-01A, **€ 940,-**
- **Data interface RS-232**, interface cable included, approx. 1,5 m, KERN ACS-A01, **€ 75,-**
- **3 Weighing table** to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03, **€ 990,-**
- **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, **€ 10,-**
- Further details, plenty of further accessories and suitable printers see *Accessories*

4 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 sec under laboratory conditions
- **Shock proof construction**
- **High corner load performance**

STANDARD										OPTION		FACTORY	
CAL INT	CAL EXT	PRINTER	PCS	RECIPE	PERCENT	UNIT	TOL	MULTI	SC TECH	1 DAY	RS 232	DAkkS	M
ABJ-NM	ABS-N											+3 DAYS	+3 DAYS

Model	Weighing range [Max] g	Readout [d] mg	Verification value [e] mg	Minimal load [Min] mg	Reproducibility mg	Linearity mg	Price € excl. of VAT ex works €	Options					
								Verification		DAkkS Calibr. Certificate			
									€		€		
KERN													
ABS 80-4N	82	0,1	-	-	0,2	$\pm 0,3$	960,-	-	-	963-101	138,-		
ABS 120-4N	120	0,1	-	-	0,2	$\pm 0,3$	1020,-	-	-	963-101	138,-		
ABS 220-4N	220	0,1	-	-	0,2	$\pm 0,3$	1070,-	-	-	963-101	138,-		
ABS 320-4N	320	0,1	-	-	0,2	$\pm 0,3$	1230,-	-	-	963-101	138,-		
Note: For applications that require verification, please order verificati on 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.													
ABJ 80-4NM	82	0,1	1	10	0,2	$\pm 0,3$	1040,-	965-201	110,-	963-101	138,-		
ABJ 120-4NM	120	0,1	1	10	0,2	$\pm 0,3$	1070,-	965-201	110,-	963-101	138,-		
ABJ 220-4NM	220	0,1	1	10	0,2	$\pm 0,3$	1160,-	965-201	110,-	963-101	138,-		
ABJ 320-4NM	320	0,1	1	10	0,2	$\pm 0,3$	1330,-	965-201	110,-	963-101	138,-		

Price reduction



04

The premium model with single-cell weighing system

Features

- **Automatic internal adjustment** in the case of a change in temperature $\geq 0,5\text{ }^{\circ}\text{C}$ or timecontrolled every 4 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- **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
- **Identification number:** 4 digits, printed on calibration protocol freely programmable
- **Automatic data output to the PC/printer** each time the balance is steady

- **Large glass draught shield** with 3 sliding doors for easy access to the items being weighed.
- **Protective working cover** included with delivery

Technical data

- Large LCD display, digit height 14 mm
- Dimensions weighing surface, stainless steel, \varnothing 80 mm
- Overall dimensions (incl. draught shield) WxDxH 217x356x338 mm
- Weighing space WxDxH 168x172x223 mm
- Net weight approx. 7 kg
- Permissible ambient temperature 10 $^{\circ}\text{C}$ /30 $^{\circ}\text{C}$

Accessories

- **Protective working cover**, scope of delivery: 5 items, KERN ABT-A02S05, **€ 40,-**
- **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, **€ 390,-**
- **2 Ioniser** to neutralise electrostatic charge, KERN YBI-01A, **€ 940,-**
- **3 Weighing table** to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03, **€ 990,-**
- **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, **€ 10,-**
- Further details, plenty of further accessories and suitable printers see *Accessories*

4 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 sec under laboratory conditions
- **Shock proof construction**
- **High corner load performance**

STANDARD

CAL INT RS 232 GLP INTERN PCS RECIPE PERCENT UNIT UNDER MULTI SC TECH 1 DAY

OPTION FACTORY

DAkkS +3 DAYS M +3 DAYS

Model	Weighing range [Max] g	Readout [d] mg	Verification value [e] mg	Minimal load [Min] mg	Reproducibility mg	Linearity mg	Price € excl. of VAT ex works €	Options			
								Verification		DAkkS Calibr. Certificate	
KERN							MT KERN €	€	DKD KERN €	€	
ABT 120-4NM	120	0,1	1	10	0,1	$\pm 0,2$	1470,-	965-201	110,-	963-101	138,-
ABT 220-4NM	220	0,1	1	10	0,1	$\pm 0,2$	1770,-	965-201	110,-	963-101	138,-
ABT 320-4NM	320	0,1	1	10	0,1	$\pm 0,3$	1970,-	965-201	110,-	963-101	138,-
ABT 100-5NM	101	0,01	1	1	0,05	$\pm 0,15$	1980,-	965-201	110,-	963-101	138,-

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.

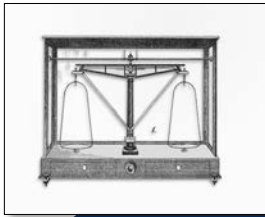
Dual-range balance switches automatically to the next largest weighing range [Max] and readout [d]

ABT 120-5DNM	42 120	0,01 0,1	1	1	0,02 0,1	$\pm 0,05$ 0,2	2120,-	965-201	110,-	963-101	138,-
ABT 220-5DNM	82 220	0,01 0,1	1	1	0,05 0,1	$\pm 0,1$ 0,2	2320,-	965-201	110,-	963-101	138,-

Price reduction

Tradition and innovation for more than 170 years

An independent family business, KERN since already 7 generations is synonymous with quality and reliability in customer service.



1844

KERN is founded – precision balances are produced



1863

A proud Gottlieb Kern with his staff



1880

Pharmaceutical balance with Aesculap



1923

Inflation – KERN wages are paid with self printed currency



1980

The electronic balance ousts mechanical devices



1994

Accredited DKD laboratory (ISO 17025)



2000

New premises in Balingen



2002

Existing QM system certification in accordance with DIN EN ISO 9001:2000 standards



2007

Approval for the manufacture of medical products (DIN EN 13485 and 93/42/EEC)



2008

Authorisation for initial verification by the manufacturer (2009/23/EU)



2009

Approval for the manufacture and sale of height rods (DIN EN 13485 and 93/42/EEC)



2012

Verification point for non-automatic balances and test weights.

New customer portal www.kern-sohn.com goes live



2014

Expansion of the product range to include optical instruments (microscopes and refractometers)



2015

Inauguration of Ziegelei 2.0 with computer-controlled high-bay warehouse



2017

Come with KERN into the digital future: Expansion of the model ranges compatible with Industry 4.0, as well as the related services

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DAkKS Calibration laboratory
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