

## BALANCES FOR LABORATORIES

Balances, microscopes and refractometers for laboratories, production, and quality assurance

PROFESSIONAL  
MEASURING



175  
KERN & SOHN

Balance manufacture in the  
Sauter family-owned company

250

2019

# KERN 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, tablet or smartphone



## Memory:

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



## Data interface RS-232:

To connect the balance to a printer, PC or network



## USB data interface:

**Balances:** To connect the balance to a printer, PC or other peripherals.

**Microscopes:** For direct transmitting of the picture to a PC



## Bluetooth\* data interface:

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



## WLAN data interface:

**Balances:** To transfer data from the balance to a printer, PC or other peripherals.

**Microscopes:** For transmitting of the picture to a mobile display device



## Control outputs

**(optocoupler, digital I/O):**

To connect relays, signal lamps, valves, etc.



## 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:

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



## Percentage determination:

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



## 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 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



## Battery operation rechargeable:

Prepared for a rechargeable battery operation



## Universal mains adapter:

with universal input and optional input socket adapters for  
A) EU, CH  
B) EU, CH, GB, USA



## Mains adapter:

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



## Power supply:

Integrated in balance/microscope. 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



## Electrical resistor on an elastic deforming body:

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



## 360° rotatable microscope head



## Monocular Microscope:

For the inspection with one eye



## Binocular Microscope:

For the inspection with both eyes



## Trinocular Microscope:

For the inspection with both eyes and the additional option for the connection of a camera



## Abbe Condenser:

With high numerical aperture for the concentration and the focusing of light



## Halogen illumination:

For pictures bright and rich in contrast



## LED illumination:

Cold, energy saving and especially long-life illumination



## Fluorescence illumination for compound microscopes:

With 100 W mercury lamp and filter



## Fluorescence illumination for compound microscopes:

With 3 W LED illumination and filter



## Phase contrast unit:

For a higher contrast



## Darkfield condenser/unit:

For a higher contrast due to indirect illumination



## Polarising unit:

To polarise the light



## Infinity system:

Infinity corrected optical system



## Integrated scale:

In the eyepiece



## SD card:

For data storage



## HDMI digital camera:

For direct transmitting of the picture to a display device



## PC software:

To transfer the measurements from the device to a PC.



## Automatic temperature compensation:

For measurements between 10 °C and 30 °C



## Verification possible:

The time required for verification is specified in the pictogram



## DAKKS calibration possible:

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



## Package shipment:

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

## 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 175 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 bench scales through to floor scales – everything from one supplier
- Find the product you want at [www.kern-sohn.com](http://www.kern-sohn.com)



#### Order hotline

+49 7433 9933-0



#### Service hotline

+49 7433 9933-199



#### Calibration hotline

+49 7433 9933-196



#### Online Shop

[www.kern-sohn.com](http://www.kern-sohn.com)



#### E-mail order

[info@kern-sohn.com](mailto:info@kern-sohn.com)



#### [www.kern-sohn.com](http://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.

#### Sales conditions

- The prices are valid from 01.01.2019 – 31.12.2019. In Europe, all prices do not include the applicable V.A.T.
- Delivery conditions: We supply ex works from Balingen, i. e. the transport costs are invoiced separately. Delivery is usually via parcel service
- Sale or return: within 14 days of purchase
- You can find our full terms and conditions on the internet at [www.kern-sohn.com/en/kern/general\\_terms.html](http://www.kern-sohn.com/en/kern/general_terms.html)

We weigh almost everything ... and that's not all!



Balances & Test service catalogue



Medical scales catalogue



Microscopes & refractometers catalogue



SAUTER measuring equipment catalogue



DAkkS calibration service brochure

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## Corinna Klaass

Product specialist



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In the KERN range you will find a large number of precision balances that exactly fit your requirements.

### KERN school balances

are entry-level devices in the field of laboratory balances, and they cover basic applications. They feature simple operation and the very best price/performance ratio.

### KERN Basic laboratory balances

are used in laboratory applications mostly as single-user balances for sample preparation, etc. They are fitted with all useful laboratory functions which will support the user in a helpful way.

### KERN Basic standard laboratory balances

offer you all the tools you would need for effective and accurate work in your laboratory environment. All important laboratory functions such as a recipe weighing function or data interfaces are on board at all times.

### KERN premium laboratory balances

are right at the top of the precision balance segment. The numerous equipment features of the standard balances are complemented by high-quality materials with robust, sturdy construction, high-quality, high-performance weighing systems, optimised operating sequences, speed benefits and in some cases, the most modern touchscreen technology.

If you have further questions on the subject of "Which balance will be best for my application?", then please ask your personal KERN product specialist who will be happy to help you.

In order to make it easier for you to make the right choice of KERN balance, we have included a quality code for each model, which is made up of two quality features.



### The stability quality feature

On the basis of the information on the housing material and total weight of the balance, the stability quality feature gives you an indication of the types of application for which the balance is particularly well-suited.

Categorisation in **A, B, C, best value: C**

### The dosing level quality feature

comes from the values for reaction time, stabilisation time and behaviour during long-term weighing procedures. These parameters give information about how well-suited a model is for fine dosing, amongst other functions.

Categorisation in **A, B, C, best value: C**





## Precision balances



**KERN EWJ**

page 9

from €

**340,-**



Entry level laboratory balance with tremendous weighing performance

Features

- **Simple and convenient 2-key operation**
- **Tare function** facilitates formulation work
- **Particularly flat design**
- **Ready for use:** Batteries included
- **1 Ring-shaped draught shield** standard, only for models with weighing plate size **A**, weighing space  $\varnothing \times H$  96×35 mm
- **Hook for underfloor weighing** standard
- **2** Note: KERN EMB 500-1BE Black Edition

Technical data

- Large LCD display, digit height 15 mm
- Dimensions weighing surface, plastic, with conductive lacquer
  - A**  $\varnothing$  82 mm
  - B**  $\varnothing$  105 mm
  - C**  $\varnothing$  150 mm, see larger picture
- Weighing plate material
  - A** plastic, with conductive lacquer
  - B**, **C** plastic
- Net weight approx. 0,75 kg
- Permissible ambient temperature 5 °C/35 °C

Accessories

- **3 Stainless steel weighing plate**, only for models with weighing plate size **B**, KERN EMB-A02, **€ 26,-**
- **4 Stack frame** for space-saving storage of precision balances from the KERN EMB range, scope of delivery 5 pieces, for models with housing dimensions W×D×H 170×244×39 mm, KERN EMB-A07, **€ 70,-** 170×244×52 mm, KERN EMB-A09, **€ 85,-**
- **External universal mains adapter**, with universal input and optional input socket adapters for EU, GB, USA, KERN YKA-03, **€ 31,-**

STANDARD						OPTION	
CAL EXT	UNIT	UNDER	BATT	DMS	1 DAY	B	DAKKS
						MULTI	+3 DAYS

Model	Weighing capacity	Readability	Reproducibility	Linearity	Weighing plate	Price excl. of VAT ex works €	Option	
							DAkKS Calibr. Certificate	
KERN	[Max] g	[d] g	g	g			DAKKS KERN	€
EMB 100-3	100	0,001	0,001	± 0,005	A	195,-	963-127	72,-
EMB 200-3	200	0,001	0,001	± 0,005	A	210,-	963-127	72,-
EMB 200-2	200	0,01	0,01	± 0,02	B	125,-	963-127	72,-
EMB 600-2	600	0,01	0,01	± 0,03	B	160,-	963-127	72,-
EMB 1000-2	1000	0,01	0,01	± 0,05	C	195,-	963-127	72,-
EMB 2000-2	2000	0,01	0,01	± 0,05	C	205,-	963-127	72,-
EMB 500-1	500	0,1	0,1	± 0,2	C	55,-	963-127	72,-
EMB 500-1BE	500	0,1	0,1	± 0,2	C	55,-	963-127	72,-
EMB 1200-1	1200	0,1	0,1	± 0,3	C	78,-	963-127	72,-
EMB 3000-1	3000	0,1	0,1	± 0,3	C	125,-	963-127	72,-
EMB 6000-1	6000	0,1	0,1	± 0,3	C	160,-	963-128	88,-
EMB 2200-0	2200	1	1	± 2	C	57,-	963-127	72,-
EMB 5.2K1	5200	1	1	± 3	C	60,-	963-128	88,-
EMB 5.2K5	5200	5	5	± 10	C	55,-	963-128	88,-

Price reduction



The standard in the laboratory

Features

- **PRE-TARE function** for manual subtraction of a known container weight, useful for checking fill-levels
- **Freely programmable weighing unit**, e.g. display direct in special units such as length of thread g/m, paper weight g/m<sup>2</sup>, or similar
- With the **recipe function** you can weigh the different ingredients of a mixture. As a check, you can also call up the total weight of all the ingredients
- **Plus/minus weighing procedures**
- **Ring-shaped draught shield** standard, only for models with weighing plate size **A**, weighing space  $\varnothing \times H$  90×40 mm
- **Protective working cover** included with delivery

Technical data

- Backlit LCD display, digit height 15 mm
- Dimensions weighing surface
  - A**  $\varnothing$  81 mm
  - B**  $\varnothing$  105 mm
  - C** W×D 130×130 mm
  - D** W×D 150×170 mm, see larger picture
- Weighing plate material
  - A** plastic, with conductive lacquer
  - B**, **C**, **D** stainless steel
- Overall dimensions W×D×H 163×245×79 mm (without draught shield)
- Optional battery operation, 9 V block not included, operating time up to 20 h, AUTO-OFF function to preserve the battery
- Permissible ambient temperature 5 °C/35 °C

Accessories

- **Protective working cover**, scope of delivery: 5 items, for models with weighing plate size
  - A** KERN PCB-A02S05, **€ 40,-**
  - B** KERN PCB-A03S05, **€ 40,-**
  - C** KERN PCB-A04S05, **€ 40,-**
  - D** KERN PCB-A05S05, **€ 40,-**
- **Rechargeable battery pack internal**, operating time up to 48 h without backlight, charging time approx. 8 h, KERN PCB-A01, **€ 75,-**
- **RS-232/Ethernet adapter** for connection to an IP-based Ethernet network, KERN YKI-01, **€ 290,-**
- **Balance Connection Software**, KERN SCD-4.0, **€ 150,-**
- **Individual header data**: the free software SHM-01 can be used to print 4 header lines on the printout when using printers 911-013, YKN-01, YKB-01N, YKE-01 and YKC-01 (in combination with YKI-02)
- Further details, plenty of further accessories and suitable printers see website

STANDARD



OPTION



Model	Weighing capacity [Max] g	Readability [d] g	Reproducibility g	Linearity g	Weighing plate	Quality code	Price excl. of VAT ex works €	Option	
								DAkKS Calibr. Certificate	
KERN						QUALITY		DAkKS KERN	€
PCB 100-3	100	0,001	0,001	± 0,003	<b>A</b>	AA	265,-	963-127	72,-
PCB 250-3	250	0,001	0,001	± 0,005	<b>A</b>	AA	290,-	963-127	72,-
PCB 350-3	350	0,001	0,002	± 0,005	<b>A</b>	AA	300,-	963-127	72,-
PCB 200-2	200	0,01	0,01	± 0,02	<b>B</b>	AA	230,-	963-127	72,-
PCB 1000-2	1000	0,01	0,01	± 0,03	<b>C</b>	AA	255,-	963-127	72,-
PCB 2500-2	2500	0,01	0,01	± 0,05	<b>C</b>	BA	290,-	963-127	72,-
PCB 3500-2	3500	0,01	0,02	± 0,05	<b>C</b>	AA	300,-	963-127	72,-
PCB 1000-1	1000	0,1	0,1	± 0,2	<b>C</b>	AA	185,-	963-127	72,-
PCB 2000-1	2000	0,1	0,1	± 0,2	<b>C</b>	AA	215,-	963-127	72,-
PCB 6000-1	6000	0,1	0,1	± 0,3	<b>D</b>	BA	240,-	963-128	88,-
PCB 10000-1	10000	0,1	0,1	± 0,3	<b>D</b>	BA	245,-	963-128	88,-
PCB 6000-0	6000	1	1	± 2	<b>D</b>	BA	130,-	963-128	88,-



Quick-display precision balance with user-friendly concept of operation modes – now with larger housing for more stability

Features

- **Easy to use:** All primary functions have their own key on the keypad
- **Compact size,** practical for small spaces
- **Capacity display:** A bar lights up to show how much of the weighing capacity is still available
- **Level indicator and levelling feet** for precise levelling of the scale, fitted as standard, to give the most accurate weighing result
- **Draught shield** standard for models with weighing plate size **A** and **B**, Weighing space W×D×H 158×143×64 mm

Technical data

- Backlit LCD display, digit height 15 mm
- Dimensions weighing surface, stainless steel
  - A** Ø 80 mm
  - B** Ø 120 mm
  - C** W×D 155×145 mm, see larger picture
- Overall dimensions W×D×H 210×315×90 mm (without draught shield)
- Net weight approx. 2,0 kg
- Permissible ambient temperature 15 °C/30 °C

Accessories

- **Protective working cover**, scope of delivery: 5 items, KERN PFB-A12S05, **€ 40,-**
- **1 Separate second display**, ideal for training and demonstration purposes in laboratories or industry, not permitted for direct sales to the public, KERN PFB-A08, **€ 115,-**
- **Bluetooth data interface** for wireless data transfer to PC or tablets, must be ordered at purchase
  - Bluetooth 2.0: KERN PFB-A10, **€ 95,-**
  - Bluetooth 4.0: KERN PFB-A11, **€ 125,-**
- Further details, plenty of further accessories and suitable printers see website

STANDARD



OPTION

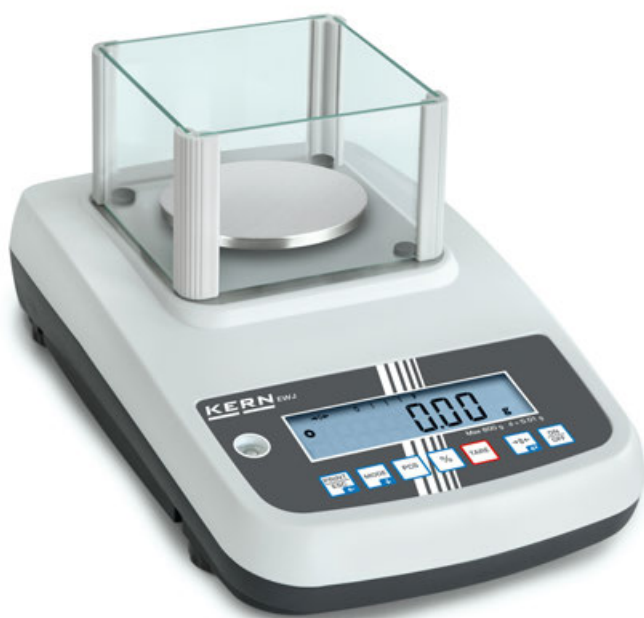


FACTORY



Model	Weighing capacity [Max] g	Readability [d] g	Reproducibility g	Linearity g	Weighing plate	Price excl. of VAT ex works €	Option	
							DAkkS KERN	DAkkS Calibr. Certificate €
KERN								
PFB 120-3	120	0,001	0,001	± 0,003	<b>A</b>	<b>280,-</b>	963-127	72,-
PFB 200-3	200	0,001	0,002	± 0,005	<b>A</b>	<b>295,-</b>	963-127	72,-
PFB 300-3	300	0,001	0,002	± 0,005	<b>A</b>	<b>320,-</b>	963-127	72,-
PFB 600-2	600	0,01	0,01	± 0,03	<b>B</b>	<b>240,-</b>	963-127	72,-
PFB 1200-2	1200	0,01	0,01	± 0,03	<b>B</b>	<b>245,-</b>	963-127	72,-
PFB 2000-2	2000	0,01	0,02	± 0,05	<b>B</b>	<b>260,-</b>	963-127	72,-
PFB 3000-2	3000	0,01	0,02	± 0,05	<b>B</b>	<b>280,-</b>	963-127	72,-
PFB 6000-1	6000	0,1	0,1	± 0,3	<b>C</b>	<b>225,-</b>	963-128	88,-
PFB 6000-2	6000	0,05	0,05	± 0,15	<b>C</b>	<b>250,-</b>	963-128	88,-





## High-quality precision balance with automatic internal adjustment, also with EC type approval [M]

### Features

- **Easy to use:** All primary functions have their own key on the keypad
- **Automatic internal adjustment,** time-controlled every 2 h, guarantees high degree of accuracy and makes the balance independent of its location
- **Capacity display:** A bar lights up to show how much of the weighing capacity is still available
- KERN EWJ/EWJ-H/EWJ-M: **USB interface** for transferring weighing data to the PC, printer etc., possibly in conjunction with KERN DBS-A02
- **Draft shield** standard on models KERN EWJ 300-3, EWJ 600-2SM, EWJ 600-2M, weighing space W×D×H 160×145×80 mm
- **KERN EWJ 300-3H: Large glass draught shield** with 3 sliding doors for easy access to the items being weighed. Weighing space W×D×H 175×155×217 mm

- **Protective working cover** included with delivery

### Technical data

- Large backlit LCD display, digit height 16,5 mm
- Dimensions weighing surface
  - A** Ø 80 mm
  - B** Ø 120 mm, see larger picture
  - C** W×D 155×145 mm
- Overall dimensions W×D×H
  - 220×315×90 mm (without draught shield)
  - 220×340×321 mm (incl. draught shield)
- Permissible ambient temperature
  - KERN EWJ: 15 °C/35 °C
  - KERN EWJ-M: 15 °C/30 °C

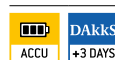
### Accessories

- **Protective working cover,** scope of delivery: 5 items, KERN EWJ-A04S05, **€ 40,-**
- **Rechargeable battery pack internal,** operating time up to 15 h without backlight, charging time approx. 4 h, KERN KFB-A01, **€ 35,-**
- KERN EWJ/-EWJ-H/EWJ-M: **USB Accessory Kit** for bi-directional data exchange between balance/moisture analyser and computer. Scope of delivery: USB cable, driver, Software BalanceConnection, KERN DBS-A02, **€ 290,-**
- **RS-232/WiFi adapter** for wireless connection to networks and WiFi capable devices, such as tablets, laptops or smartphones, KERN YKI-03, **€ 690,-**
- **RS-232/Ethernet adapter** for connection to an IP-based Ethernet network, KERN YKI-01, **€ 290,-**
- Further details, plenty of further accessories and suitable printers see website

#### STANDARD



#### OPTION



#### FACTORY



Model	Weighing capacity [Max] g	Readability [d] g	Verification value [e] g	Minimal load [Min] g	Linearity g	Weighing plate	Price excl. of VAT ex works €	Option			
								Verification	DAkks Calibr. Certificate		
<b>KERN</b>								<b>M</b> KERN	€	<b>DAkks</b> KERN	€
<b>EWJ 300-3</b>	300	0,001	-	-	± 0,005	<b>A</b>	<b>450,-</b>	-	-	963-127	72,-
<b>EWJ 300-3H</b>	300	0,001	-	-	± 0,005	<b>A</b>	<b>490,-</b>	-	-	963-127	72,-
<b>EWJ 3000-2</b>	3000	0,01	-	-	± 0,05	<b>B</b>	<b>430,-</b>	-	-	963-127	72,-
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.											
<b>EWJ 600-2SM</b>	600	0,01	0,1	0,5	± 0,03	<b>B</b>	<b>350,-</b>	965-216	66,-	963-127	72,-
<b>EWJ 600-2M</b>	600	0,01	0,1	0,5	± 0,03	<b>B</b>	<b>360,-</b>	965-216	66,-	963-127	72,-
<b>EWJ 6000-1SM</b>	6000	0,1	1	5	± 0,3	<b>C</b>	<b>340,-</b>	965-217	77,-	963-128	88,-
<b>EWJ 6000-1M</b>	6000	0,1	1	5	± 0,3	<b>C</b>	<b>350,-</b>	965-217	77,-	963-128	88,-



All-rounder e.g. as precision balance in the laboratory or in harsh industrial applications

Features

- Thanks to the **many typical laboratory functions**, such as, for example, recipe function, percentage determination, GLP record keeping, combined with the high level of precision, the KERN 572 · 573 is a reliable partner for day-to-day work in the laboratory
- **The robust version**, typical industrial functions, such as piece-counting, vibrationfree weighing and the large weighing capacities also make these balances ideal for all industrial applications, where a high level of precision is required
- **Freely programmable weighing unit**, e.g. display direct in special units such as length of thread g/m, paper weight g/m<sup>2</sup>, or similar

- **The robust aluminium diecast housing** maintains the stability, protects the weighing technology elements and is robust enough to cope with everyday use
- **Ring-shaped draught shield** standard, only for models with weighing plate size **A**, weighing space  $\varnothing \times H$  157×43 mm
- Model with resolution  $\geq 240,000$  Pt.: **level indicator to level the balance precisely** as standard
- **Loop and hook for underfloor weighing**, standard for models with [d] = 0,001 g
- **Protective working cover** included with delivery

Technical data

- Large backlit LCD display, digit height 18 mm
- Dimensions weighing surface, stainless steel
  - A**  $\varnothing$  106 mm
  - B**  $\varnothing$  150 mm
  - C** W×D 160×200 mm, see larger picture
- Overall dimensions W×D×H 180×310×85 mm
- Permissible ambient temperature 10 °C/40 °C

Accessories

- **Protective working cover**, scope of delivery: 5 items, KERN 572-A02S05, **€ 40,-**
- **Rechargeable battery pack external**, operating time up to 30 h without backlight, charging time approx. 10 h, KERN KS-A01, **€ 160,-**
- **Loop and hook for underfloor weighing**, for models with [d]  $\geq 0,01$  g, KERN 572-A03, **€ 25,-**
- **Large glass draught shield** with 3 sliding doors for easy access to the items being weighed. Weighing space W×D×H 150×140×130 mm, for models with weighing plate size **A**, KERN 572-A05, **€ 230,-**

STANDARD



OPTION



Model	Weighing capacity [Max] g	Readability [d] g	Reproducibility g	Linearity g	Resolution Points	Weighing plate	Price excl. of VAT ex works €	Option	
								DAkKS Calibr. Certificate	
KERN								DAkKS KERN	€
572-30	240	0,001	0,001	± 0,003	240.000	A	530,-	963-127	72,-
572-31	300	0,001	0,002	± 0,005	300.000	A	540,-	963-127	72,-
572-32	420	0,001	0,002	± 0,005	420.000	A	550,-	963-127	72,-
573-34	650	0,01	0,01	± 0,03	65.000	B	500,-	963-127	72,-
572-33	1600	0,01	0,01	± 0,03	160.000	B	500,-	963-127	72,-
572-35	2400	0,01	0,01	± 0,03	240.000	B	510,-	963-127	72,-
572-37	3000	0,01	0,02	± 0,05	300.000	B	520,-	963-127	72,-
572-39	4200	0,01	0,02	± 0,05	420.000	B	530,-	963-127	72,-
572-45	12000	0,05	0,05	± 0,15	240.000	C	510,-	963-128	88,-
572-55	20000	0,05	0,1	± 0,25	400.000	C	540,-	963-128	88,-
573-46	6500	0,1	0,1	± 0,3	65.000	C	500,-	963-128	88,-
572-43	10000	0,1	0,1	± 0,3	100.000	C	500,-	963-128	88,-
572-49	16000	0,1	0,1	± 0,3	160.000	C	510,-	963-128	88,-
572-57	24000	0,1	0,1	± 0,3	240.000	C	510,-	963-128	88,-



## The new standard in the laboratory with robust tuning fork weighing system

### Features

- KERN PNJ: **Automatic internal adjustment**, guarantees high degree of accuracy and makes the balance independent of its location of use. Ideal for mobile applications which require verification, such as ambulatory gold and jewellery purchasing
- KERN PNS: **Adjusting program CAL** for quick setting of the balance accuracy using an external test weight
- **High-quality tuning fork measuring system** for steady weight values and continuous weighing
- **Capacity display**: A bar lights up to show how much of the weighing capacity is still available
- **Precise counting**: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value
- **Compact size**, practical for small spaces
- **Large, shock proof weighing plate made of stainless steel**

- **Large glass draught shield** with 3 sliding doors for easy access to the items being weighed. Weighing space W×D×H 172×171×160 mm, for models with weighing plate size **A**
- **Protective working cover** included with delivery

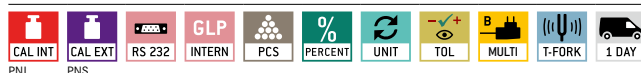
### Technical data

- Large LCD display, digit height 16,5 mm
- Dimensions weighing surface, stainless steel
  - A** ø 140 mm
  - B** W×D 190×190 mm, see larger picture
- Overall dimensions W×D×H
  - A** 202×293×266 mm
  - B** 195×290×90 mm
- Net weight
  - A** approx. 2,2 kg
  - B** approx. 2,8 kg
- Permissible ambient temperature 5 °C/40 °C

### Accessories

- **Protective working cover**, scope of delivery: 5 items, KERN PNJ-A01S05, **€ 40,-**
- **RS-232/Bluetooth adapter** to connect to Bluetooth capable devices, such as Bluetooth printers, tablets, laptops, smartphones, etc., KERN YKI-02, **€ 220,-**
- **RS-232/WiFi adapter** for wireless connection to networks and WiFi capable devices, such as tablets, laptops or smartphones, KERN YKI-03, **€ 690,-**
- **RS-232/Ethernet adapter** for connection to an IP-based Ethernet network, KERN YKI-01, **€ 290,-**
- **Precious stones plate**, aluminium with practical spout, W×D×H 83×66×23 mm, KERN AEJ-A05, **€ 40,-**
- Further details, plenty of further accessories and suitable printers see website

#### STANDARD



#### OPTION



#### FACTORY



Model	Weighing capacity [Max] g	Readability [d] g	Verification value [e] g	Minimal load [Min] g	Linearity g	Weighing plate	Price excl. of VAT ex works €	Option			
								Verification		DAkKS Calibr. Certificate	
KERN								MII KERN	€	DAkKS KERN	€
PNS 600-3	620	0,001	-	-	± 0,004	<b>A</b>	<b>620,-</b>	-	-	963-127	72,-
PNS 3000-2	3200	0,01	-	-	± 0,02	<b>B</b>	<b>580,-</b>	-	-	963-127	72,-
PNS 12000-1	12000	0,1	-	-	± 0,2	<b>B</b>	<b>570,-</b>	-	-	963-128	88,-
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.											
PNJ 600-3M	620	0,001	0,01	0,02	± 0,004	<b>A</b>	<b>730,-</b>	965-216	66,-	963-127	72,-
PNJ 3000-2M	3200	0,01	0,1	0,5	± 0,02	<b>B</b>	<b>705,-</b>	965-216	66,-	963-127	72,-
PNJ 12000-1M	12000	0,1	1	5	± 0,2	<b>B</b>	<b>705,-</b>	965-217	77,-	963-128	88,-

PREMIUM



## Robust laboratory and industrial precision scale for heavy items, with EC type approval [M]

### Features

- KERN PEJ: **Automatic internal adjustment**, guarantees high degree of accuracy and makes the balance independent of its location of use
- KERN PES: **Adjusting program CAL** for quick setting of the balance accuracy using an external test weight
- **Metal housing**: robust and sturdy
- **Weighing with tolerance range (check-weighing)**: Input of two upper and two lower limit values through four arrow keys. An audible and visual signal assists with the portioning, dispensing or grading
- **Draught shield** standard for models with [d] = 0,001 g, weighing space W×D×H 170×150×100 mm
- **Underfloor weighing**: load support with loop on the underside of the balance, standard for models with [d] = 0,001 g, hook not included with the delivery

- **Protective working cover** included with delivery

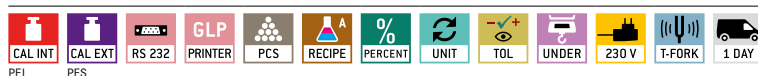
### Technical data

- Fluorescent display, bright with high contrast, digit height 14 mm
- Dimensions weighing surface, stainless steel
  - A W×D 140×120 mm
  - B W×D 200×200 mm, see larger picture
  - C W×D 250×220 mm
- Overall dimensions W×D×H, without draught shield
  - A 220×330×90 mm
  - B 220×339×80 mm
  - C 260×330×113 mm
- Permissible ambient temperature 10 °C/30 °C

### Accessories

- **Protective working cover**, scope of delivery: 5 items, KERN PES-A04S05, **€ 40,-**
- KERN PES: **Rechargeable battery pack internal**, operating time up to 32 h, without backlight, charging time approx. 15 h, KERN PES-A01, **€ 610,-**
- **Relay output** to connect relays, signal lamps, valves etc., 5 outputs for weighing in 3 tolerance ranges, must be ordered at purchase, KERN PES-A02, **€ 480,-**
- **RS-232/Ethernet adapter** for connection to an IP-based Ethernet network, KERN YKI-01, **€ 290,-**
- Further details, plenty of further accessories and suitable printers see website

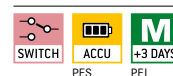
#### STANDARD



#### OPTION



#### FACTORY

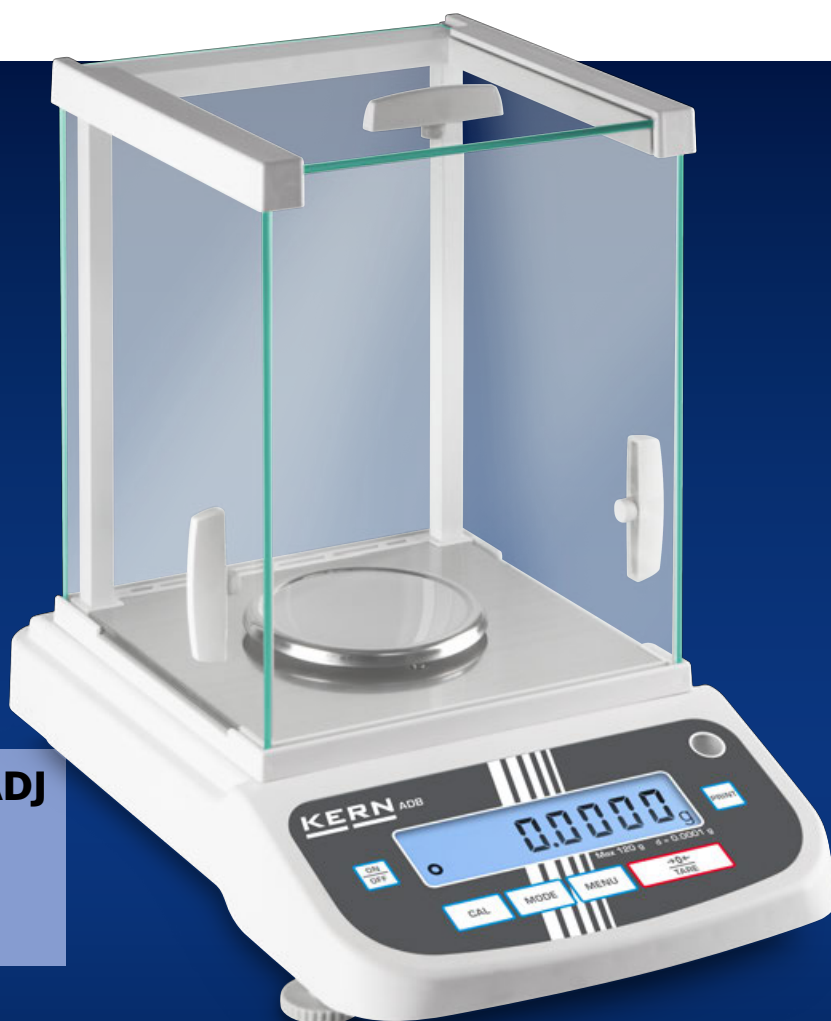


Model	Weighing capacity [Max] g	Readability [d] g	Verification value [e] g	Minimal load [Min] g	Linearity g	Weighing plate	Quality code 	Price excl. of VAT ex works €	Option			
									Verification		DAKkS Calibr. Certificate	
										€	DAKkS KERN	€
<b>KERN</b>												
PES 620-3M	620	0,001	-	-	± 0,003	A	BB	1280,-	-	-	963-127	72,-
PES 2200-2M	2200	0,01	-	-	± 0,02	B	BB	840,-	-	-	963-127	72,-
PES 4200-2M	4200	0,01	-	-	± 0,02	B	BB	1000,-	-	-	963-127	72,-
PES 6200-2M	6200	0,01	-	-	± 0,03	B	BB	1240,-	-	-	963-128	88,-
PES 15000-1M	15000	0,1	-	-	± 0,2	B	BB	1190,-	-	-	963-128	88,-
PES 31000-1M	31000	0,1	-	-	± 0,4	C	CB	2050,-	-	-	963-128	88,-
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.												
PEJ 620-3M	620	0,001	0,01	0,1	± 0,003	A	BB	1480,-	965-201	110,-	963-127	72,-
PEJ 2200-2M	2200	0,01	0,1	0,5	± 0,02	B	CB	1060,-	965-216	66,-	963-127	72,-
PEJ 4200-2M	4200	0,01	0,1	0,5	± 0,02	B	CB	1230,-	965-216	66,-	963-127	72,-





## Analytical balances



**KERN ADB · ADJ**

page 14

from €

**610,-**



The price leader in analytical balances, now also with internal adjustment

Features

- **NEW KERN ADJ: Automatic internal adjustment** in the case of a change in temperature  $\geq 2\text{ }^{\circ}\text{C}$  or timecontrolled every 3 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- KERN ADB: **Adjusting program CAL** for quick setting of the balance accuracy using an external test weight
- **ADB/ADJ 600-C3:** Compact, space-saving carat balance with a readout of 0.001 ct and a weighing capacity of 600 ct. The high level of accuracy saves hard cash wherever you are weighing valuable precious stones
- Level indicator and foot screws to level the balance precisely, fitted as standard, to give the most accurate weighing results
- **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**

Technical data

- Large backlit LCD display, digit height 16 mm
- Dimensions weighing surface, stainless steel,  $\varnothing 90\text{ mm}$
- Overall dimensions (incl. draught shield) W×D×H  
KERN ADB/ADJ: 230×310×330 mm  
KERN ADB-C/ADJ-C: 230×310×230 mm
- Weighing space W×D×H  
KERN ADB/ADJ: 170×160×205 mm  
KERN ADB-C/ADJ-C: 170×160×110 mm
- Permissible ambient temperature 10  $^{\circ}\text{C}/30\text{ }^{\circ}\text{C}$

Accessories

- **2 Ionizer** 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 website

STANDARD

CAL INT

CAL EXT

RS 232

GLP

PCS

PERCENT

UNIT

MULTI

FORCE

1 DAY

ADJ

OPTION

DAkkS

+3 DAYS

ADJ

Model	Weighing capacity	Readability	Reproducibility	Linearity	Net weight	Price excl. of VAT ex works €	Option	
							DAkkS Calibr. Certificate	
KERN	[Max] g	[d] mg	mg	mg	approx. kg		DAkkS KERN	€
ADB 100-4	120	0,1	0,2	± 0,4	4,4	620,-	963-101	138,-
ADB 200-4	210	0,1	0,2	± 0,4	4,4	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	3,8	610,-	963-101	138,-
ADJ 100-4	120	0,1	0,2	± 0,4	5	750,-	963-101	138,-
ADJ 200-4	210	0,1	0,2	± 0,4	5	790,-	963-101	138,-
ADJ 600-C3	120 g   600 ct	0,1 mg   0,001 ct	0,2 mg   0,002 ct	± 0,4 mg   ± 0,004 ct	4,5	740,-	963-101	138,-

NEW New model



1 KERN ALJ 200-5DA with optional ionisor 2, see website



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 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 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, ionizer, power supply. Factory Option, KERN ALJ-A03, € 620,-
- **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,-
- **Equipment qualification:** compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ), KERN 961-231B, € 750,-
- Further details, plenty of further accessories and suitable printers see website

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

Features

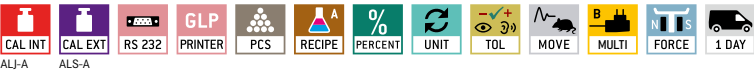
- **1 ALJ 200-5DA:** High-precision semi-micro analytical balance
- **2 ALJ-A03:** Ionizer to neutralise electrostatic charge for fixed installation in the analytical balance. Particularly convenient handling as you no longer need a separate device. Simply enable the ionizer fan at the push of a button. Suitable for all models
- KERN ALJ-A/-AM: **Automatic internal adjustment** in the case of a change in temperature  $\geq 1,2\text{ °C}$  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,  $\varnothing 80\text{ mm}$
- Overall dimensions (incl. draught shield) W×D×H 210×340×330 mm
- Weighing space W×D×H 160×140×205 mm
- Net weight 7 kg
- Permissible ambient temperature KERN ALS-A/ALJ-A/ALJ-DA:  $5\text{ °C}/35\text{ °C}$  KERN ALJ-AM:  $15\text{ °C}/30\text{ °C}$

STANDARD



OPTION



FACTORY



Model	Weighing capacity [Max] g	Readability [d] mg	Verification value [e] mg	Minimal load [Min] mg	Reproducibility mg	Linearity mg	Price excl. of VAT ex works €	Option			
								Verification		DAkkS Calibr. Certificate	
								M KERN	€	DAkkS 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	1	1	0,02   0,1	± 0,03   0,3	1680,-	-	-	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	1060,-	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	1170,-	-	-	963-101	138,-
ALJ 500-4A	510	0,1	-	-	0,2	± 0,4	1860,-	-	-	963-101	138,-

Price reduction



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

### Features

- **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
- **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,  $\varnothing 91\text{ mm}$
- Overall dimensions (incl. draught shield)  $W \times D \times H\ 210 \times 340 \times 325\text{ mm}$
- Weighing space  $W \times D \times H\ 174 \times 162 \times 227\text{ mm}$
- Net weight approx. 6 kg
- Permissible ambient temperature  $10\text{ }^{\circ}\text{C}/30\text{ }^{\circ}\text{C}$



### 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 Ionizer** to neutralise electrostatic charge, KERN YBI-01A, **€ 940,-**
- **Data interface RS-232**, interface cable included, approx. 1,5 m KERN ACS-A01, **€ 90,-**
- **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 website

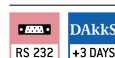
### 4 Single-cell advanced technology:

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

### STANDARD



### OPTION



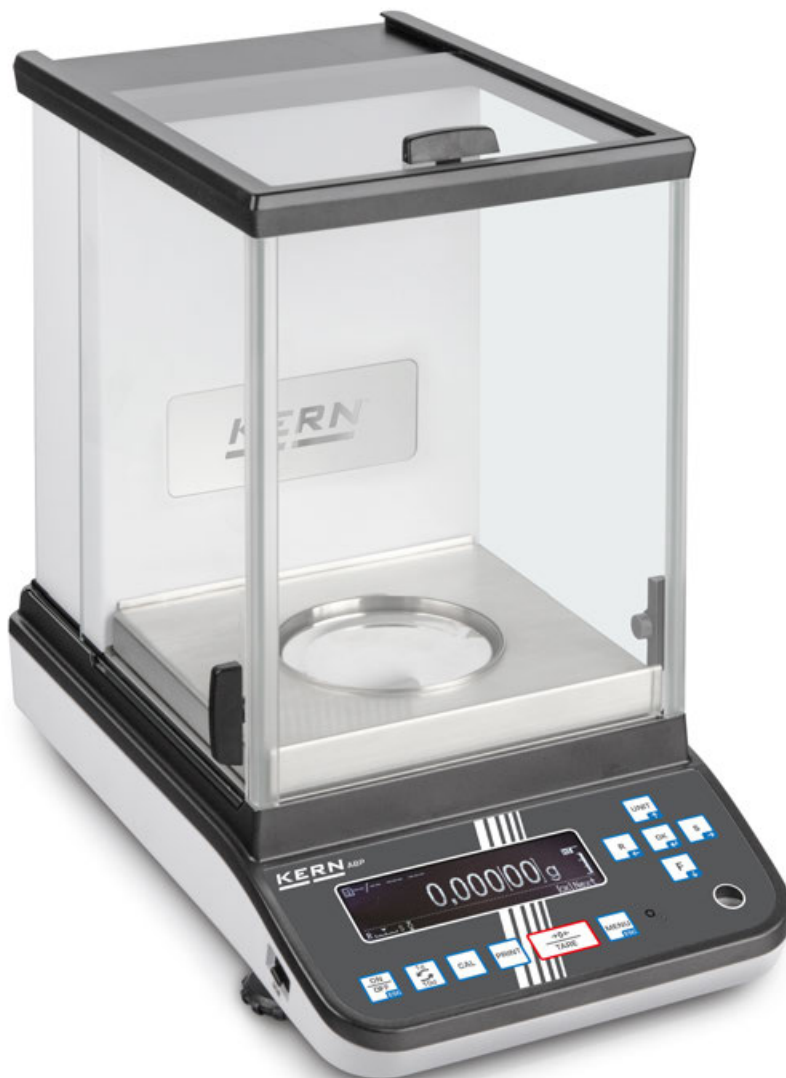
### FACTORY



Model	Weighing capacity [Max] g	Readability [d] mg	Verification value [e] mg	Minimal load [Min] mg	Reproducibility mg	Linearity mg	Price excl. of VAT ex works €	Option			
								Verification	€	DAkkS Calibr. Certificate	€
<b>KERN</b>								<b>M</b> KERN	€	<b>DAkkS KERN</b>	€
<b>ABS 80-4N</b>	82	0,1	-	-	0,2	$\pm 0,3$	<b>920,-</b>	-	-	963-101	138,-
<b>ABS 120-4N</b>	120	0,1	-	-	0,2	$\pm 0,3$	<b>1000,-</b>	-	-	963-101	138,-
<b>ABS 220-4N</b>	220	0,1	-	-	0,2	$\pm 0,3$	<b>1070,-</b>	-	-	963-101	138,-
<b>ABS 320-4N</b>	320	0,1	-	-	0,2	$\pm 0,3$	<b>1200,-</b>	-	-	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.											
<b>ABJ 80-4NM</b>	82	0,1	1	10	0,2	$\pm 0,3$	<b>1030,-</b>	965-201	110,-	963-101	138,-
<b>ABJ 120-4NM</b>	120	0,1	1	10	0,2	$\pm 0,3$	<b>1050,-</b>	965-201	110,-	963-101	138,-
<b>ABJ 220-4NM</b>	220	0,1	1	10	0,2	$\pm 0,3$	<b>1150,-</b>	965-201	110,-	963-101	138,-
<b>ABJ 320-4NM</b>	320	0,1	1	10	0,2	$\pm 0,3$	<b>1320,-</b>	965-201	110,-	963-101	138,-

↓ Price reduction





**KERN ABP 100-5DM** with optional ionizer

**NEW:** Extremely fast ionization process, thanks to the latest generation of KERN ionization technology 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

Premium analytical balance with the latest Single-Cell Generation for extremely rapid, stable weighing results



**Bright OLED display** with large viewing angle for the very best readout from a wide range of lines of sight or poor lighting conditions



**USB data interfaces and RS-232** for transferring weighing data to the PC, tablet, printer, USB as well as connecting external devices, such as barcode scanner (option), numeric keypad (option) etc.



**GLP/ISO record keeping** professional and detailed GLP protocol, so that the scale is fully compliant with the relevant standard requirements according to ISO, GLP and GMP

## Analytical balance KERN ABP



### Features

- This new generation of analytical balances combines the highest level of precision with large weighing capacities. Thanks to the new Single-Cell Generation, the weighing result is displayed in a fraction of the time with comparable models. Together with the intuitively structured menu, this means that you can work efficiently and rapidly
- Navigation pad** for super quick navigating through the menus
- Automatic internal adjustment** in the case of a change in temperature  $\geq 1\text{ }^{\circ}\text{C}$  or timecontrolled every 4 h, guarantees high degree of accuracy and makes the balance independent of its location of use. For applications which do not require verification the time interval can be individually adjusted
- The **Minimum weight of sample** can be manually stored in the device or automatically calculated. For weighings below this value, the balance issues a warning message
- 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
- Individual user settings for up to 10 users can be saved:** user name/user number (can be printed out or added to the record for each process), password, menu language, user profiles, accessing user settings via barcode, additional guest mode for users who are not logged in, authorizations, eg. B. balance adjustment, changing settings or conditioning or modification of a recipe only by the authorized person & performing the formulation by the user

- U.S. FDA 21 Part 11:** assists you in data integrity in accordance with U.S. Pat. FDA 21 Part 11 (for example (weighing result, sample ID, user name, scales ID, ...))
- Menu language DE, GB
- 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.
- Multi-function weighing plate** included with delivery, minimises the effect of currents of air in the weighing space and therefore significantly improves the stabilization time and repeatability. In addition samples, sample paper, PCR containers, micro centrifuge tubes and many other items which protrude can be easily fixed in place and weighed easily
- Protective working cover included with delivery**

### Technical data

- Luminescent OLED display, digit height 14 mm, bright with high contrast, for easy reading of the weight, even in poor lighting conditions
- Dimensions weighing surface  $\varnothing 91\text{ mm}$
- Overall dimensions (incl. draught shield) WxDxH 213x407x344 mm
- Weighing space WxDxH 166x156x220 mm
- Net weight approx. 8 kg
- Permissible ambient temperature  $10\text{ }^{\circ}\text{C}/30\text{ }^{\circ}\text{C}$

### Accessories

- Protective working cover**, scope of delivery: 5 items, KERN YBA-A06S05, **€ 40,-**
- 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 KERN ABP range, please order at the time you order your balance, the scope of delivery is the rear panel, ionizer, power supply. Factory Option, KERN ABP-A01, **€ 1710,-**
- 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,-**
- Equipment qualification:** compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ), KERN 961-231B, **€ 750,-**
- Further details, plenty of further accessories and suitable printers see website

### 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. 2 s! (models with [d] = 0,1 mg),  
approx. 8 s! (models with [d] = 0,01 mg)  
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	Price excl. of VAT ex works €	Option			
								Verification MI KERN	€	DAkKS Calibr. KERN	Certificate €
<b>KERN</b>											
<b>ABP 100-4M</b>	120	0,1	1	10	0,1	$\pm 0,2$	<b>1840,-</b>	965-201	110,-	963-101	138,-
<b>ABP 200-4M</b>	220	0,1	1	10	0,1	$\pm 0,2$	<b>2220,-</b>	965-201	110,-	963-101	138,-
<b>ABP 300-4M</b>	320	0,1	1	10	0,1	$\pm 0,3$	<b>2470,-</b>	965-201	110,-	963-101	138,-
Dual-range balance switches automatically to the next largest weighing capacity [Max] and readability [d]											
<b>ABP 100-5DM</b>	52   120	0,01   0,1	1	1	0,02   0,1	$\pm 0,03   0,3$	<b>2660,-</b>	965-201	110,-	963-101	138,-
<b>ABP 200-5DM</b>	102   220	0,01   0,1	1	1	0,02   0,1	$\pm 0,03   0,3$	<b>2850,-</b>	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.



## Moisture analysers



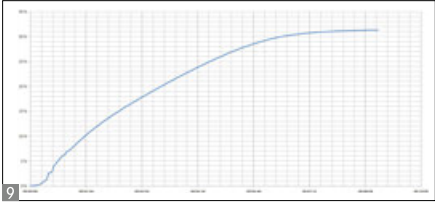
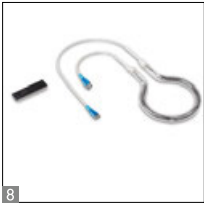
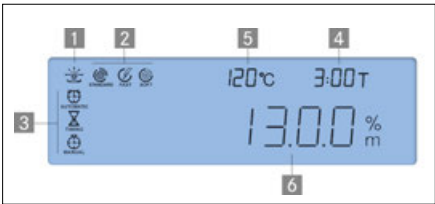
**KERN DAB**

page 20

from €

**930,-**





Moisture analyser which is particularly easy to use – now also as a version with [d] = 10 mg, ideal for recurring rapid tests

Features

- **NEW:** KERN DAB 200-2! Version with lower resolution, whereby the switch-off criterion is reached faster, which saves time. Ideal for quick tests and spot checks
- Backlit graphic display, digit height 14 mm
- 1 Drying process active
- 2 Active heating profile
- 3 Active switch-off criteria
- 4 Previous drying time
- 5 Current temperature
- 6 Current moisture content in %

- **Halogen quartz glass heater** 400 W
- **Observation window above the sample**, useful during initial setting
- **Internal memory** for automatic sequence of 15 complete drying processes and 5 drying processes carried out
- The last value measured remains on the display until it is replaced by a new measurement
- **50 sample plates included**

- **Application handbook:** On the internet, you will find a practical application handbook containing many examples, field reports, settings and tips for each KERN moisture analyser

Accessories

- **Sample plates aluminium**,  $\varnothing$  90 mm, unit of 80 pieces, KERN MLB-A01A, **€ 45,-**
- **Round fiberglass filter** high mechanical stability, with organic binder, box of 100 pieces, KERN RH-A02, **€ 80,-**
- **Round fiberglass filter**, medium mechanical stability, without organic binder, box of 100 pieces, KERN YMF-A01, **€ 25,-**
- **7 Temperature calibration set** consists of measuring sensor and display device, KERN DAB-A01., **€ 110,-**
- **8 Infrared quartz glass heater**, temperature range 40 °C-160 °C, Factory Option, KERN DAB-A02, **€ 95,-**
- **RS-232/Ethernet adapter** for connection to an IP-based Ethernet network, KERN YKI-01, **€ 290,-**
- **RS-232/Bluetooth adapter** to connect to Bluetooth capable devices, such as Bluetooth printers, tablets, laptops, smartphones, etc., KERN YKI-02, **€ 220,-**
- **RS-232/WiFi adapter** for wireless connection to networks and WLAN capable devices, such as tablets, laptops or smartphones, KERN YKI-03, **€ 690,-**
- **9 Display of the drying process** in conjunction with BalanceConnection, KERN SCD-4.0, **€ 150,-**
- **Thermal printer**, KERN YKB-01N, **€ 320,-**

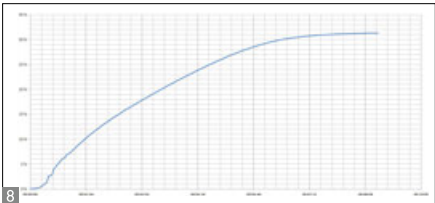
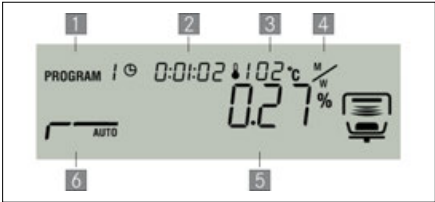
STANDARD

OPTION

Model KERN	DAB 200-2 <small>NEW</small>	DAB 100-3
Readability [d]	0,01 g/0,05 %	0,001 g/0,01 %
Weighing capacity [Max]	200 g	110 g
Reproducibility weight of sample 2 g	1,5 %	0,15 %
Reproducibility, weight of sample 10 g	0,3 %	0,02 %
Display after drying (Display can be switched over at any time)		
Moisture [%] = Moisture content (M) from wet weight (W)	0 - 100 %	
Dry content [%] = Dry weight (D) from W	100-0 %	
Moisture content (M)	Absolute value in [g]	
Temperature range	40 °C-199 °C in steps up to 1 °C	
Drying modes	<input checked="" type="checkbox"/> Standard drying <input checked="" type="checkbox"/> Gentle drying <input checked="" type="checkbox"/> Rapid drying	
Switch-off criteria	• Automatic switch-off (2 mg loss in weight in 45 s) • Time controlled switch-off (3 min – 99 min 59 s, 10 s increments) • Manual switch-off at the press of a button	
Recall of measurement/ Log output	Interval can be set from 1 s – 10 min (Only when used with printer KERN YKB-01N or PC)	
Overall dimensions W×D×H	240×365×180 mm	
Net weight	4,82 kg	
Price €, excl. of VAT, ex works	930,-	1050,-
Option DAkKS Calibr. Certificate	Mass: KERN 963-127, € 72,-	
Option Factory Calibr. Certificate	Temperature: KERN 964-305, € 140,-	

New model





Moisture analyser with graphics display and 10 memories for drying programs

Features

- Backlit graphic display, digit height 15 mm
  - 1 Drying process active
  - 2 Previous drying time
  - 3 Current temperature
  - 4 Unit for displaying the results
  - 5 Current moisture content in %
  - 6 Active heating profile
- Halogen quartz glass heater 400 W
- Observation window above the sample, useful during initial setting
- Internal memory for automatic sequence of 10 complete drying processes and 100 drying processes carried out
- The last value measured remains on the display until it is replaced by a new measurement

- Sample description for up to 99 samples, 2 digits, freely programmable, and is printed in the measuring protocol
- Date and time display as standard
- 10 sample plates included
- Protective working cover included with delivery
- Application handbook: On the internet, you will find a practical application handbook containing many examples, field reports, settings and tips for each KERN moisture analyser

STANDARD

CAL EXT MEMORY RS 232 GLP PRINTER UNIT 230 V FORCE 1 DAY

OPTION

USB DAkks +3 DAYS

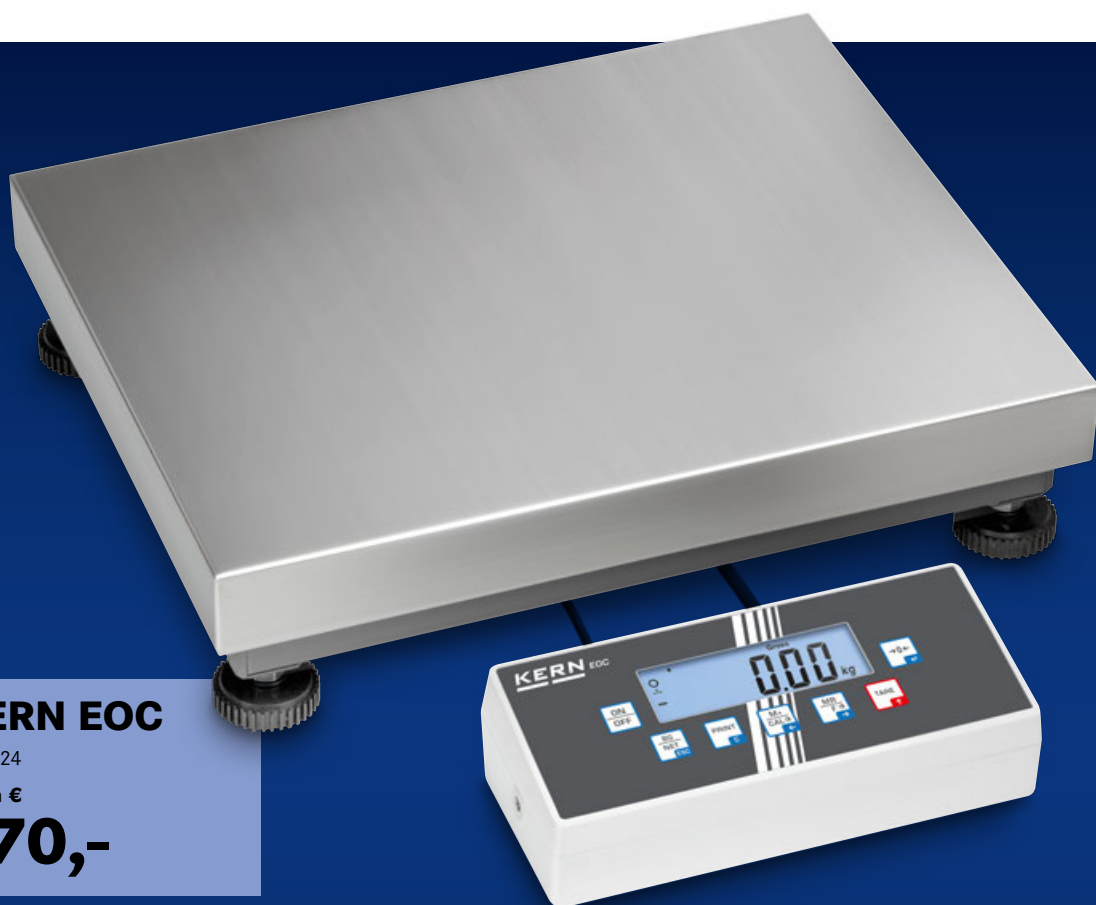
Modell KERN	DBS 60-3
Readability [d]	0,001 g/0,01 %
Weighing capacity [Max]	60 g
Reproducibility weight of sample 2 g	0,15 %
Reproducibility, weight of sample 10 g	0,02 %
Display after drying	
Moisture [%] = Moisture content (M) from wet weight (W)	0–100 %
Dry content [%] = Dry weight (D) from W	100–0 %
ATRO [%] [(W-D) : D] · 100%	0–999 %
Moisture content (M)	Absolute value in [g]
Temperature range	50 °C–200 °C in steps up to 1 °C
Drying modes	<input checked="" type="checkbox"/> Standard drying <input checked="" type="checkbox"/> Drying in levels <input checked="" type="checkbox"/> Gentle drying <input checked="" type="checkbox"/> Rapid drying
Switch-off criteria	• Automatic unrestricted switch-off (Selectable loss in weight 0,01%–0,1% in 30 s) • Time controlled switch-off (1 min–12 h) • Manual switch-off at the press of a button
Recall of measurement/ Log output	Interval can be set from 1 s–10 min (Only when used with printer KERN YKB-01N or PC)
Overall dimensions W×D×H	204×336×167 mm
Net weight	approx. 4,6 kg
Price €, excl. of VAT, ex works	1270,-
Option DAkks Calibr. Certificate	Mass: KERN 963-127, € 72,-
Option Factory Calibr. Certificate	Temperature: KERN 964-305, € 140,-

Accessories

- Protective working cover, scope of delivery: 5 items, KERN DBS-A03S05, € 40,-
- Sample plates aluminium, ø 90 mm, unit of 80 pieces, KERN MLB-A01A, € 45,-
- Round fiberglass filter high mechanical stability, with organic binder, box of 100 pieces, KERN RH-A02, € 80,-
- Temperature calibration set consists of measuring sensor and display device, KERN DBS-A01., € 450,-
- USB interface kit for bi-directional data exchange between balance/moisture analyser and computer. Scope of delivery: USB cable, driver, Software Balance Connection, KERN DBS-A02, € 290,-
- Display of the drying process in conjunction with BalanceConnection, KERN SCD-4.0, € 150,-
- Thermal printer, KERN YKB-01N, € 320,-
- Matrix needle printer, to print the weights on normal paper, ideal for long-term archiving, KERN 911-013, € 390,-
- Label printer, KERN YKE-01, € 590,-



## Platform scales



**KERN EOC**

page 24

from €

**270,-**



Precision industrial scale with laboratory accuracy

Features

- **High-capacity precision balance**, ideal for high volume or heavy samples to be weighed with a high degree of accuracy
- **User guidance step by step** on display by Yes/No dialogue
- Numerical subtraction of tare weight for known container weight. Useful for checking fill-levels
- **Precise counting**: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value
- KERN DS: **Freely programmable weighing unit**, e.g. display direct in special units such as length of wire g/m, surface weight g/m<sup>2</sup>, or else
- **Protective working cover** included with delivery

Technical data

- Large backlit LCD display, digit height 18 mm
- Weighing plate dimensions, stainless steel W×D×H
  - A 228×228×95 mm
  - B 308×318×75 mm, see larger picture
  - C 450×350×115 mm
- Dimensions of display device W×D×H 225×115×60 mm
- Cable length of display device approx.
  - A, B 2 m
  - C 0,6 m
- Permissible ambient temperature 10 °C/40 °C

Accessories

- **Protective working cover** over the display device, scope of delivery: 5 items, KERN DE-A12S05, **€ 40,-**
- **1 Stand** to elevate display device, for models with weighing plate size B, C, height of stand approx. 480 mm, KERN DE-A10, **€ 100,-**
- **Mount to fasten the display device to the platform**, for models with weighing plate size B, C, can be reordered, KERN DE-A11N, **€ 35,-**
- **Wall mount** for display device, KERN DS-A02, **€ 30,-**
- **2 Set for underfloor weighing**, consists of platform, bow, hook, only for models with weighing plate B, KERN DS-A01, **€ 200,-**
- **Rechargeable battery pack external**, operating time up to 30 h without backlight, charging time approx. 10 h, KERN KS-A01, **€ 160,-**
- **Rechargeable battery pack internal**, operating time up to 30 h without backlight, charging time approx. 10 h, KERN KB-A01N, **€ 50,-**
- Further details, plenty of further accessories and suitable printers see website

STANDARD

CAL EXT

RS 232

PCS

SUM

PERCENT

UNIT

MOVE

MULTI

DMS

1 DAY

OPTION

UNDER

ACCU

DAKKS

+3 DAYS

Model	Weighing capacity	Readability	Smallest part weight	Net weight	Weighing plate	Price excl. of VAT ex works €	Option	
							DAKKS Calibr. Certificate	
KERN	[Max] kg	[d] g	[Normal] g/piece	approx. kg			DAKKS KERN	€
DS 3K0.01S	3	0,01	0,1	4,2	A	640,-	963-127	72,-
DS 5K0.05S	5	0,05	0,5	4,2	A	560,-	963-127	72,-
DS 8K0.05	8	0,05	0,5	8	B	550,-	963-128	88,-
DS 10K0.1S	10	0,1	1	4,2	A	530,-	963-128	88,-
DS 16K0.1	16	0,1	1	9	B	550,-	963-128	88,-
DS 20K0.1	20	0,1	1	8	B	580,-	963-128	88,-
DS 30K0.1	30	0,1	1	8	B	610,-	963-128	88,-
DS 30K0.1L	30	0,1	1	10	C	720,-	963-128	88,-
DS 36K0.2	36	0,2	2	8	B	550,-	963-128	88,-
DS 36K0.2L	36	0,2	2	10	C	660,-	963-128	88,-
DS 60K0.2	60	0,2	2	10	C	740,-	963-129	105,-
DS 65K0.5	65	0,5	5	10	C	700,-	963-129	105,-
DS 100K0.5	100	0,5	5	10	C	740,-	963-129	105,-
DS 150K1	150	1	10	10	C	740,-	963-129	105,-



## Robust and high-resolution platform scale with practical Flip/Flop display device for greatest ease of use

### Features

- **High mobility:** thanks to rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations (laboratory, production, quality control, commissioning etc.)
- **Platform:** weighing plate stainless steel, painted steel base, silicone-coated aluminium load cell, protection against dust and water splashes IP65. **Level indicator and levelling feet** for precise levelling of the scale, fitted as standard, to give the most accurate weighing result
- **Weighing with tolerance range (check-weighing):** a visual and audible signal helps with portioning, dispensing or grading

- **Hold function:** When the weighing conditions are unstable, a stable weight is calculated determining an average value
- **Searching and remote control of the balance** using external control devices or computers with the KERN Communication Protocol (KCP). KCP is a standardised interface command structure for KERN balances and other instruments which allows you to recall and manage all relevant parameters and device functions. You can therefore simply connect KERN devices with KCP to computers, industrial control systems and other digital systems. In a large number of cases the KCP is compatible with the MT-SICS protocol. Only possible through data interface RS-232, other interfaces on request

- **Practical Flip/Flop display device:** flexible positioning e.g. free-standing or screwed to the wall (optional). By rotating the upper housing shell you can determine the angle of the display as well as the cable outlet.
- **Benchtop stand incl. wall mount** for display device as standard
- **Protective working cover** included with delivery

### Technical data

- Large backlit LCD display, digit height 24 mm
- Dimensions of display device W×D×H 268×115×80 mm
- Permissible ambient temperature -10 °C/40 °C
- Further details, plenty of further accessories and suitable printers see website

#### STANDARD



#### OPTION



Model	Weighing capacity [Max] kg	Readability [d] g	Smallest part weight [Normal] g/piece	Cable length approx. m	Net weight approx. kg	Weighing plate mm	Price excl. of VAT ex works €	Option	
								DAKKS Calibr. Certificate	
KERN								DAKKS KERN	€
EOC 6K-3	3   6	1   2	2,5	3	6	300×300×110	270,-	963-128	88,-
EOC 10K-3	6   12	2   5	5	3	7	300×300×110	270,-	963-128	88,-
EOC 30K-3	15   35	5   10	10	3	6	300×300×110	270,-	963-128	88,-
EOC 30K-3L	15   35	5   10	10	3	9	500×400×120	330,-	963-128	88,-
EOC 60K-2	30   60	10   20	20	3	6	300×300×110	280,-	963-129	105,-
EOC 60K-2L	30   60	10   20	20	3	9	500×400×120	330,-	963-129	105,-
EOC 100K-2	60   150	20   50	50	3	6	300×300×110	280,-	963-129	105,-
EOC 100K-2L	60   150	20   50	50	3	9	500×400×120	330,-	963-129	105,-
EOC 100K-2XL	60   150	20   50	50	3	19	600×500×150	470,-	963-129	105,-
EOC 100K-2XXL	60   150	20   50	100	0,7 - 2,7	26	950×500×60	490,-	963-129	105,-
EOC 300K-2	150   300	50   100	100	3	9	500×400×120	330,-	963-129	105,-
EOC 300K-2L	150   300	50   100	100	3	19	600×500×150	470,-	963-129	105,-
Dual-range balance switches automatically to the next largest weighing capacity [Max] and readability [d]									
EOC 6K-4A	6	0,5	2,5	3	6	300×300×110	290,-	963-128	88,-
EOC 10K-3A	12	1	5	3	7	300×300×110	290,-	963-128	88,-
EOC 20K-3A	24	2	10	3	6	300×300×110	290,-	963-128	88,-
EOC 60K-3A	60	5	20	3	6	500×400×120	290,-	963-129	105,-
EOC 100K-2A	120	10	50	3	9	600×500×150	330,-	963-129	105,-
EOC 10K-4	6   15	0,2   0,5	5	3	7	300×300×110	310,-	963-128	88,-
EOC 30K-4	15   35	0,5   1	10	3	9	500×400×120	340,-	963-128	88,-
EOC 60K-3	30   60	1   2	20	3	6	300×300×110	310,-	963-129	105,-
EOC 60K-3L	30   60	1   2	20	3	9	500×400×120	340,-	963-129	105,-
EOC 100K-3	60   150	2   5	50	3	7	300×300×110	310,-	963-129	105,-
EOC 100K-3L	60   150	2   5	50	3	9	500×400×120	340,-	963-129	105,-
EOC 300K-3	150   300	5   10	100	3	9	500×400×120	340,-	963-129	105,-

↓ Price reduction















# Balance & weight in the quality management system

Do you already use all the modules of the KERN precision package for maximum accuracy and reliability of your balance?

## KERN precision package

As per ISO 9001, TS 16949, VDA 6.x, FDA, GLP, GMP, ...

KERN Balance	+	DAkkS calibration certificate for the balance	+	Adjustment/ Validation with KERN test weights	+	DAkkS calibration certificate for the test weight	=	Maximum reliability for your measurements
	+		+		+		=	Balance not adjusted, traceable
	+		+		+		=	Balance adjusted, weight not traceable
	+		+		+		=	Balance adjusted, not traceable
	+		+		+		=	Balance adjusted, completely traceable

Information & ordering:

[www.kern-sohn.com/qmb](http://www.kern-sohn.com/qmb)

**i** The DAkkS calibration (DAkkS = German accreditation authority) documents traceability to the national standard and thus meets the specific normative requirements of QM systems.

International recognition:





## Microscopes and Refractometers



**KERN OBE**

page 27

from €

**385,-**



EDUCATIONAL LINE

The fully equipped all-round compound microscope for school, training and laboratories

- Features
- The KERN OBE series is a range of high-quality, fully-equipped compound microscopes, which can't be beaten in terms of ease of use and ergonomic design
  - The strong and continuously dimmable 3 W LED guarantees optimum illumination of the samples and also ensures long service life. Mobile use of several models is also no problem through the use of rechargeable batteries
  - The height-adjustable and thereby focusable 1,25 Abbe condenser with aperture diaphragm is a further quality feature of the OBE series and ensures the very best concentration of light
  - Height adjustment of the fully-equipped mechanical stage is carried out using a coarse and fine focusing knob on both sides.
- The ergonomically designed coaxial drive enables you to work with the samples and move them rapidly
  - A large selection of different eyepieces and objectives, a simple polarising unit and a darkfield kit are available to you as accessories
  - A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of the delivery
  - A C-mount adapter is required to connect a camera to the trinocular version. You can select this adapter from the following model outfit list

- Scope of application
- Training, haematology, sediment investigation, doctor's practise

- Applications/Samples
- Translucent, thin, high-contrast, less complex samples (e.g. plant tissue, coloured cells/ parasites)

- Technical data
- Finite optical system
  - Quadplex nosepiece
  - Siedentopf 30° inclined/360° rotatable
  - Diopter adjustment: One-sided (for binocular and trinocular models)
  - Overall dimensions W×D×H 320×180×365 mm
  - Net weight approx. 5,5 kg

STANDARD

OBE 103,  
OBE 113

OPTION

!

For details on the scope of delivery and extensive accessories, see [www.kern-sohn.com](http://www.kern-sohn.com)

Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
KERN						
OBE 101	Monocular	HWF 10×/ø 18 mm	Achromatic	4×/10×/40×	3 W LED (transmitted)	385,-
OBE 102	Binocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted)	480,-
OBE 103	Binocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted) (battery incl., rechargeable)	550,-
OBE 104	Trinocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted)	590,-
OBE 111	Monocular	HWF 10×/ø 18 mm	Achromatic	4×/10×/40×/100×	3 W LED (transmitted)	450,-
OBE 112	Binocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted)	540,-
OBE 113	Binocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted) (battery incl., rechargeable)	610,-
OBE 114	Trinocular	HWF 10×/ø 18 mm	Achromatic		3 W LED (transmitted)	650,-



Trinocular version



Simple polarising attachment

LAB LINE

The flexible laboratory assistant with infinity optical system and fixed, pre-centred Koehler illumination

Features

- The OBL series stands out through its infinity optical unit and is therefore ideally suited for all demanding transmitted illumination applications. The robust and ergonomic stand base guarantees safe and comfortable working
- Depending on the application, there is a choice of models with strong, continuously dimmable 3 W LED or 20 W halogen illumination (Philips)
- The fixed, pre-centred and focusable 1,25 Abbe condenser with aperture diaphragm and field diaphragm gives you a simplified Koehler illumination, without having to move the centre
- The large mechanical stage and its specimen holder holds up to two samples at the same time and is quick and easy to focus using a coaxial coarse and fine focusing knob on both sides
- A large selection of eyepieces, objectives and colour filters as well as a darkfield condenser, a simple polarising unit, different phase contrast kits through to HBO and LED fluorescence units are available to you as accessories
- A protective dust cover, eye cups, as well as multi-lingual user instructions are included in the scope of delivery
- A C-mount adapter is required to connect a camera to the trinocular version. You can select this adapter from the following model outfit list

Scope of application

- Haematology, urology, gynaecology, dermatology, pathology, microbiology and parasitology, immunology, oncology, entomology, vets, water analysis and breweries

Applications/Samples

- Translucent, thin, low-contrast, challenging samples (e.g. living mammal cells, bacteria, tissue)

Technical data

- Infinity optical system
- Quadplex nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: One-sided
- Overall dimensions W×D×H 395×200×380 mm
- Net weight approx. 6,7 kg

STANDARD



OPTION



Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
KERN						
OBL 125	Binocular	HWF 10×/ø 20 mm	Infinity E-Plan	4×/10×/40×/100×	6 V/20 W Halogen (transmitted)	910,-
OBL 127	Binocular	HWF 10×/ø 20 mm	Infinity E-Plan		3 W LED (transmitted)	910,-
OBL 135	Trinocular	HWF 10×/ø 20 mm	Infinity E-Plan		6 V/20 W Halogen (transmitted)	1020,-
OBL 137	Trinocular	HWF 10×/ø 20 mm	Infinity E-Plan		3 W LED (transmitted)	1020,-

For details on the scope of delivery and extensive accessories, see [www.kern-sohn.com](http://www.kern-sohn.com)





OBN 141/OBN 147



Illumination unit



Sextuple filter wheel OBN 148

PROFESSIONAL LINE  
The fluorescence microscope for the professional user

Features

- The fluorescence microscope in the OBN-14 series is based on the usual high quality and versatility of the OBN series. The outstanding, stable design in combination with high-quality optics set the standard in fluorescence microscopy in this class
- The powerful, dimmable 20W halogen illumination unit (Philips) and a 100W Epi fluorescence incident illumination unit on the OBN 147/OBN 148 models ensure perfect illumination and stimulation of your fluorescence samples
- As an alternative, with the OBN 141 model we can offer you a fluorescence microscope with a 3W LED transmitted illumination unit and 3W LED Epi fluorescence incident illumination unit
- This series has a professional Koehler illumination unit with an adjustable field diaphragm as well as a height-adjustable 1,25 Abbe condenser which can be centred and which has an adjustable aperture diaphragm
- The extremely large mechanical stage with ergonomic, coaxial coarse and fine focusing knob on both sides enables you to adjust and focus your sample rapidly and accurately
- With the OBN 147/OBN 148 halogen variant you have a filter wheel which has up to 6 fittings. As standard this is fitted with a B/G or B/G/UV/V fluorescence filter. The OBN 141 LED variant is fitted with a B/G fluorescence filter with a changeover slider as standard. The changeover slider and the filter wheel mean that you can change the stimulation filter quickly
- A large selection of eyepieces, objectives, colour filters, darkfield condensers as well as a Butterfly Tube, polarising and phase contrast units can easily be integrated thanks to the modular construction system
- The centring objective for adjusting the fluorescence, a protective dust cover, eye cups as well as multi-lingual user instructions are included in the scope of delivery
- A C-mount adapter is required to connect a camera. You can select this adapter from the following model outfit list

Scope of application

- Haematology, urology, gynaecology, dermatology, pathology, microbiology and parasitology, immunology, Sewage treatment plants, Oncology, entomology, vets, water analysis and breweries

Applications/Samples

- Specially for translucent, thin, low-contrast, challenging samples (e.g. Immunofluorescence, FISH, DAPI staining, etc.)

Technical data

- Infinity optical system
- Quintuple nosepiece
- Siedentopf 30° inclined/360° rotatable
- Diopter adjustment: Both-sided
- Overall dimensions WxDxH 530x220x490 mm
- Net weight approx. 23 kg

For details on the scope of delivery and extensive accessories, see [www.kern-sohn.com](http://www.kern-sohn.com)

STANDARD

OPTION

Model	Standard configuration					Price excl. of VAT ex works €
	Tube	Eyepiece	Objective quality	Objectives	Illumination	
KERN						
OBN 141	Trinocular	WF 10×/ø 20 mm	Infinity Plan	4×/10×/20×/40×/100×	LED + 3 W LED Epi Fluorescence (B/G)	4470,-
OBN 147	Trinocular	WF 10×/ø 20 mm	Infinity Plan		Halogen + 100 W Epi Fluorescence (B/G)	4390,-
OBN 148	Trinocular	WF 10×/ø 20 mm	Infinity Plan		Halogen + 100 W Epi Fluorescence (B/G/UV/V)	5630,-

## Specialists in microscopy for measurement, counting, documentation, archiving and image processing

### Features

- A large selection of microscope cameras is available for your individual applications
- The universal microscope cameras can be used anywhere and can be connected to the microscope as well as to a laptop or PC using the USB cable (USB 2.0 or USB 3.0, see table)
- The power supply is through the USB cable, which means that no additional power supply is required
- Your daily work is made significantly easier with the very best synchronisation, a high frame rate as well as stable image performance together with our camera software microscope VIS KERN OXM 901 which we deliver with the product
- Details about our software can be found under Camera Software Microscope VIS CORE OXM 901 at [www.kern-sohn.com](http://www.kern-sohn.com)
- These universal cameras can also be connected to all microscopes available on the market offering the appropriate C-mount adapter for the particular microscope

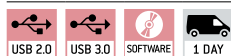
### C-mount cameras – USB 2.0/3.0 KERN ODC-82 · ODC-83



### Features

- Through the proven CMOS technology, in connection with the USB 2.0 or USB 3.0 the images are shown quickly and clearly
- These cameras are also ideal for more demanding applications, such as, for example, darkfield, phase contrast and for fluorescence applications
- As well as the camera, the delivery includes our multi-lingual camera software Microscope VIS KERN OXM 901, a USB cable (Length: 2 m) various eyepiece adapters and an object micrometer to calibrate the software
- Please order the appropriate C-mount adapter to fit your KERN microscope now

#### STANDARD



Model	Resolution	Interface	FPS	Sensor	Sensor size	Colour/ Monochrome	Supported operating system	Price excl. of VAT ex works €
<b>KERN</b>								
<b>ODC 822</b>	1,3 MP	USB 2.0	15 – 48	CMOS	1/3"	colour	Win XP, Vista, 7, 8, 10	<b>280,-</b>
<b>ODC 824</b>	3,1 MP	USB 2.0	11,5 – 45	CMOS	1/2"	colour	Win XP, Vista, 7, 8, 10	<b>370,-</b>
<b>ODC 825</b>	5,1 MP	USB 2.0	6,8 – 55	CMOS	1/2,5"	colour	Win XP, Vista, 7, 8, 10	<b>385,-</b>
<b>ODC 831</b>	3,1 MP	USB 3.0	27,3 – 53,3	CMOS	1/3"	colour	Win XP, Vista, 7, 8, 10	<b>500,-</b>
<b>ODC 832</b>	5,1 MP	USB 3.0	14,2 – 101,2	CMOS	1/2,5"	colour	Win XP, Vista, 7, 8, 10	<b>530,-</b>

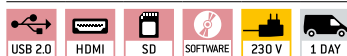
### C-mount camera – HDMI KERN ODC-85



### Features

- The ODC-851 HDMI microscope camera has been specially developed for direct HDMI connection to your HDMI compatible display device. The images can also be stored directly onto the SD card delivered with the device
- As an alternative, a USB 2.0 connection is also still available to connect a laptop or PC
- Power supply is from an external 12 V power unit
- Scope of delivery: Camera, software, USB mouse, USB 2.0 cable (Length: 2 m), HDMI cable (Length: 2 m) and SD card (16 GB)
- Please order the appropriate C-mount adapter to fit your KERN microscope now

#### STANDARD

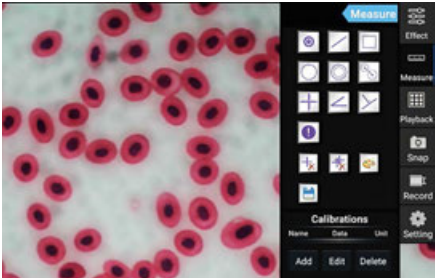


Model	Resolution	Interface	FPS	Sensor	Sensor size	Colour/ Monochrome	Supported operating system	Price excl. of VAT ex works €
<b>KERN</b>								
<b>ODC 851</b>	2 MP	HDMI, USB 2.0, SD	30 – 60	CMOS	1/2,8"	colour	Win XP, Vista, 7, 8, 10	<b>990,-</b>



ODC 241

NEW



Integrated software with measuring function

Digital microscopy brought up to date - tablet with integrated camera for optimal observation and digital documentation of the sample

Features

- A 2-in-1 solution in digital microscopy as a universal system for trinocular microscopes with C-mount adapter. The ODC 241 microscope-tablet-camera consists of a large Android tablet in combination with a 5-MP camera
- The KERN ODC 241 tablet-camera has been specially developed for simple and direct observation of the sample on the screen. Ideally suited for school pupils and students in education or for demonstration purposes in the laboratory
- As well a live transfer of the image to the Android table, the integrated 5-MP camera also means that images and videos can be created for the documentation.
- Simple measuring functions such as, for example, functions for measuring distance, surfaces and angles as well as a manual counting function are also available
- Automatic white balance and automatic contrast adjustment can be performed quickly and easily, which enables efficient working procedures
- A range of additional functions are provided through the integrated interfaces, such as, for example
  - Data storage on a USB stick or SD card
  - Connection to a USB mouse
  - Transfer of the live image to an external screen using HDMI
  - Transfer of stored data to external receivers using WLAN
- The delivery includes the tablet camera with pre-installed software as well as the mains adapter

Technical data

- 9.7" LCD-Touchscreen
- Screen resolution: 2048×1536 pixels
- CPU: Quad Core Cortex-A17; 1,8 GHz
- Overall dimensions W×D×H 238×51×206 mm
- Net weight approx. 0,65 kg

STANDARD



Model	Resolution Camera	Interface	FPS	Sensor	Sensor size	Supported operating system	Price excl. of VAT ex works €
KERN							
ODC 241	5 MP	WLAN, USB 2.0, HDMI, SD	15 – 30	CMOS	1/2,5"	Android 5.1	890,–



Now also available with calibration certificate!

Refractive index measurement for laboratories and the industry

Features


- The KERN ORA refractometers are universal, maintenance free analogue handheld refractometers
- The handy and robust design allows the easy, efficient and sustainable use in everyday life
- Manually calculated conversions and errors of the user are avoided by multiple selectable scales
- These scales are especailly developed, exactly calculated and checked. They are also characterized by their thin and clear lines
- The optical system and the prism cover are made of special material which allows a low-tolerance measuring
- All ORA models are equipped with an eyepiece for easy and smooth setting for many different diopter strengths
- The models marked with “ATC” have an automatic temperature compensation which enables accurate measurement at different ambient temperatures (10 °C/30 °C)
- The following accessory-parts are included:
  - Storage box
  - Calibration liquid
  - Calibration block (if required)
  - Pipette
  - Small screwdriver
  - Cleaning tissue
- Accessories are available optionally


Technical data

- Die-cast housing of copper-aluminium alloy, chrome coated
- Measurement temperature without ATC: 20 °C
- Measurement temperature range with ATC: 10 °C/30 °C
- Dimensions of the box: 205×75×55 mm (depending on the model)
- Product length: approx. 130 – 200 mm (depending on the model)
- Net weight approx. 135 – 600 g (depending on the model)

STANDARD

OPTION

1 DAY

AUTO  
ATC

Model	Scales	Measuring range	Division	ATC	Scope of application	Price excl. of VAT ex works €
KERN						
ORA 32BA	Brix	0 – 32 %	0,2 %	✓	Sugar	85,-
ORA 80BB	Brix	0 – 80 %	0,5 %		Sugar	80,-
ORA 6HA		12 – 30 %	0,1 %	✓	Honey	100,-
ORA 3SA		0 – 28 % 0 – 32 %	0,2 % 0,2 %	✓	Salt	85,-
ORA 4FA	EG (G11/12) PG (G13) CW BF	-50 – 0 °C -50 – 0 °C -40 – 0 °C 1,10 – 1,40 kg/l	1 °C 1 °C 5 °C 0,01 kg/l	✓	Industry /Automotive	85,-
ORA 4RR		1,440 – 1,520 nD	0,001 nD		Expert applications	85,-





Now also available with calibration certificate!

Refractive index measurement for pharmacy, laboratories and industry

Features

- The KERN ORT refractometers are universal analog Abbe refractometers
- The handy and robust design allows the easy, efficient and sustainable use in everyday life
- The integrated scale allows the use in different applications and provides the best possible security to read the measurement results accurately
- The scope of delivery includes:
  - Calibration solution
  - Calibration block
  - Pipette
  - Small screwdriver
  - Cleaning tissue
  - Digital thermometer
- Accessories are available as options


Technical data


- Measurement temperature: 20 °C
- Overall dimensions W×D×H 180×90×240 mm
- Net weight approx. 1950 g


Scope of application

- The following model is a simple yet highly reliable Abbe refractometer with a digital thermometer. Liquid, solid and pasty samples can be evaluated. This refractometer is robust, accurate and easy to use. Optionally a solide aluminium case for transport and storage is available. It measures the refractive index (nD).
- The main scope of applications is:
  - Sugar industry: for example cane sugar
  - Pharmacy
  - Beverage industry
  - Food industry
  - Chemical industry
  - Oil industry/Refinery
  - Laboratories
  - Training

STANDARD

 MONO

 ABBE

 1 DAY

Model	Scales	Measuring range	Accuracy	Division	Price excl. of VAT ex works €
KERN					
ORT 1RS	Brix Refractive index	0 – 95 % 1,3000 – 1,7000 nD	± 0,1 % ± 0,0002 nD	0,25 % 0,0005 nD	690,-



## System solutions Industry 4.0

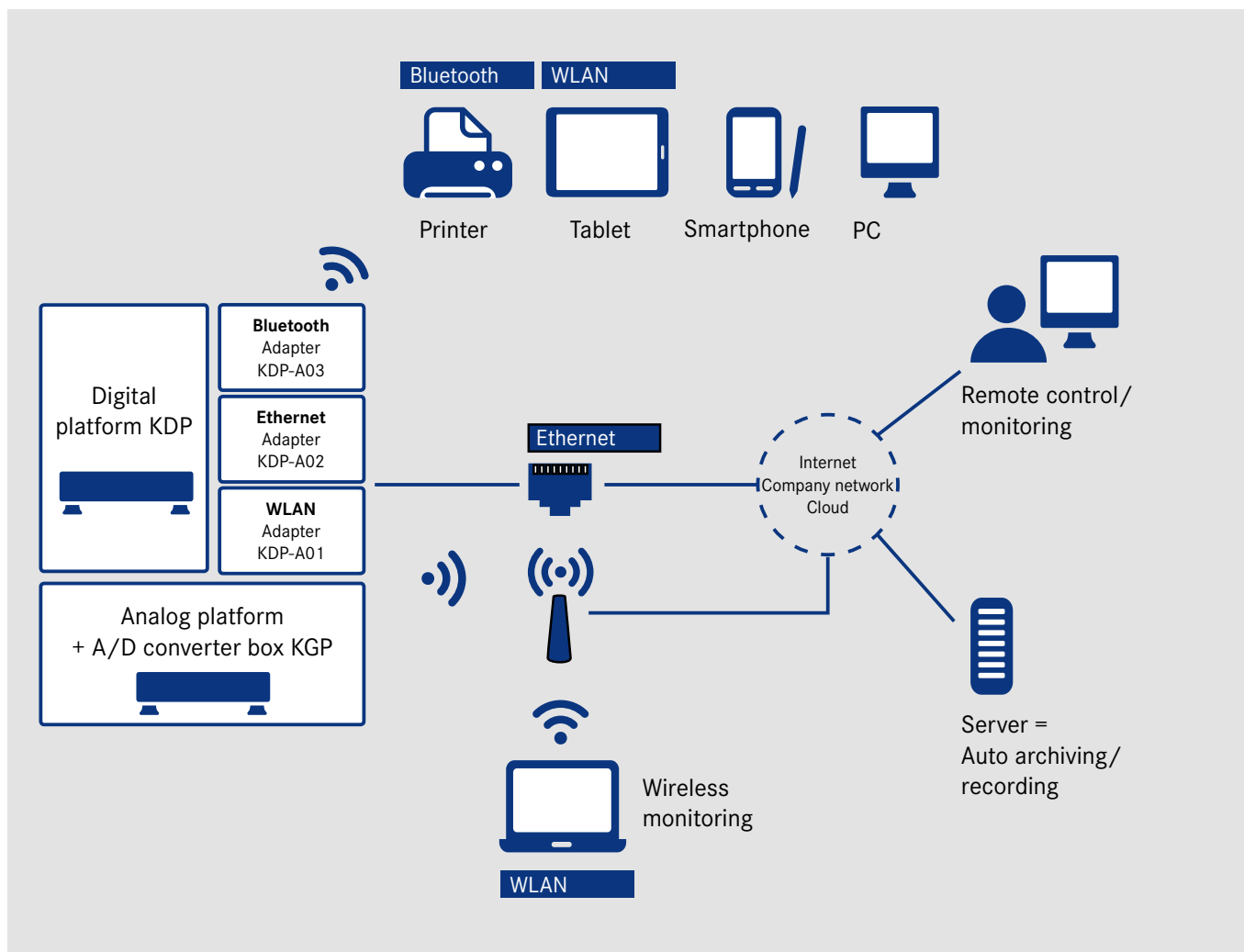


**KERN KTA-T**

page 38

only €

**400,-**



### Increased efficiency is the key to greater success in ever tightening markets

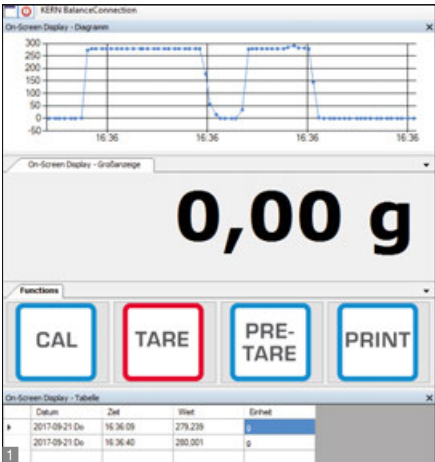
This inevitably leads to increased pressure on employees in laboratories, clinics, industrial or service companies – more and more tasks must be carried out in less and less time. Often, this can only happen if it is possible to automate processes either in part or fully.

To do this we process the measuring and weighing data which has been collected digitally and transfer it to the relevant software applications in the right format for that particular user, i.e. the user software receives the measuring and weighing data in the format required for processing. To do this, as well as powerful hardware components, we use the KERN BalanceConnection multi-function software, which, in its PRO version, has been further enhanced to give an even greater range of functions. The competent team from our “Industry 4.0 centre” of expertise will be happy to help you integrate your KERN balances.

In a further step we offer users of KERN balances a wealth of EasyTouch Apps, which shapes the user-specific application into an intuitive workflow and thus guides you through the process, efficiently and reliably. This applies to chemical or biological laboratory tests just as it does to industrial and production processes in manufacturing industries or in the manufacture of food products or pharmaceutical products.

The KERN EasyTouch Apps in combination with the relevant hardware, such as, for example, with a Smartphone, tablet or PC and a balance, make your apparently simple balance into a high-tech instrument with integrated workflow and database software, which works in conjunction with other balances, network systems and database servers.

This modular software/hardware architecture creates extremely efficient weighing systems, which are customised to your own particular requirements and which can grow with you and your increasing requirements. Ask the team from our “Industry 4.0 centre of expertise”, they will be happy to help you with any questions related to application solutions/software.



Universal weighing platforms for flexible connection into process chains

Features

- Industry 4.0 process chains: these weighing platforms can be easily integrated into your process chain. All recorded values can be easily transferred and processed further in your system as digital data and data that has already been compared using the many interfaces available. This saves cost, time and resources and ensures even more effective working
- Connecting the balance with a tablet or PC offers the advantage of being able to use the apps and programs which are on that device. These apps and programs are usually already tailored to your needs, are easy and convenient to use and can often be expanded as needed. This offers you the maximum level of flexibility when displaying, processing and saving the recorded weighing data
- **Searching and remote control of the balance** using external control devices or computers with the KERN Communication Protocol (KCP). KCP is a standardised interface command structure for KERN balances and other instruments which allows you to recall

and manage all relevant parameters and device functions. You can therefore simply connect KERN devices with KCP to computers, industrial control systems and other digital systems. In a large number of cases the KCP is compatible with the MT-SICS protocol

- **PRE-TARE function** for manual subtraction of a known container weight, useful for checking fill-levels
- **Freely programmable weighing unit**, e.g. display direct in special units such as length of thread g/m, paper weight g/m<sup>2</sup>, or similar
- **Level indicator and levelling feet** for precise levelling of the scale, fitted as standard, to give the most accurate weighing result
- **Draught shield** standard for models with weighing plate size **A**, weighing space W×D×H 146×146×80 mm
- Included with delivery:
  - **Software BalanceConnection** for adjusting and managing the KERN KDP, for large-format display of the values collected on the PC as well as transfer of this data to other Apps and programs

Technical Data

- Dimensions weighing surface
  - A** Ø 105 mm
  - B** WxD 160×160 mm, see larger picture
- Weighing plate material
  - A** plastic, with conductive lacquer
  - B** stainless steel
- Overall dimensions W×D×H 165×166×75 mm (without draught shield)
- Cable length approx. 1,2 m
- Net weight approx. 1,2 kg
- Permissible ambient temperature 5 °C / 35 °C

Accessories

- **Bluetooth data interface** for wireless data transfer to PC or tablets, must be ordered at purchase, KERN KDP-A03, **€ 70,-**
- **WiFi interface** for wireless connection of the balance to networks and WiFi capable devices, such as tablets, laptops or smartphones, must be ordered at purchase, please ask for delivery time, KERN KDP-A01, **€ 70,-**

STANDARD

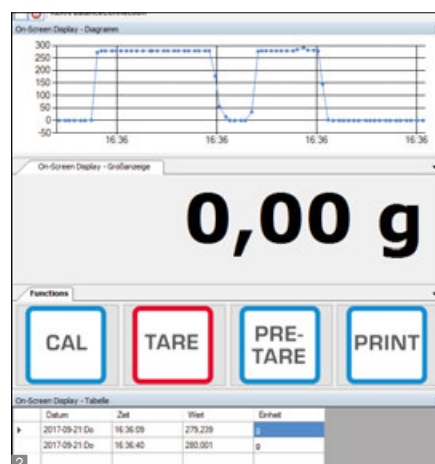
OPTION

FACTORY

Model	Weighing capacity [Max] g	Read-out [d] g	Reproducibility g	Linearity g	Weighing plate mm	Price excl. of VAT ex works €	Options	
							DAkKS Calibr. Certificate	
							DAkKS KERN	€
KERN KDP 300-3	350	0,001	0,002	± 0,005	<b>A</b>	<b>390,-</b>	963-127	72,-
KDP 3000-2	3500	0,01	0,02	± 0,05	<b>B</b>	<b>390,-</b>	963-127	72,-
KDP 10K-4	10000	0,1	0,1	± 0,3	<b>B</b>	<b>390,-</b>	963-128	88,-
KDP 10K-3	10000	1	1	± 3	<b>B</b>	<b>390,-</b>	963-128	88,-



NEW



Modern A/D converter for the rapid recording of weighing data and forwarding it to the most varied output channels such as tablets, networks, SPS controllers, etc. – ideal for operating balances in systems or conveyors

#### Features

- With this A/D converter box your weighing processes are ready for the requirements of Industry 4.0. Simply connect a weighing platform or measuring cell, integrate the A/D converter box into the network and start weighing
- For rapid transfer of weighing data to connected networks, computers, etc.
- USB and RS-232 data interface standard
- Transfer formats are freely configurable
- Many interface variants available  
WiFi data interface, KERN YKV-A01, **€ 60,-**  
Bluetooth data interface, KERN YKV-A02, **€ 60,-**  
Other interfaces on request. A/D converter box with standard Ethernet data interface on request
- Functions: Weighing, taring
- Internal resolution 16 million divisions
- Measuring frequency 10 Hz
- Easy configuration using the software supplied

- Robust plastic die-cast housing
- Suitable for wall mounting and DIN track mount
- Compatible with all KERN weighing platforms
- Included with delivery:
  - Industrial platform KERN KFP
  - A/D converter box KERN YKV-01
  - Configuration software for adjusting and managing the KERN KDP, for large-format display of the values collected on the PC as well as transfer of this data to other Apps and programs. The displayed result can therefore be converted to any format for communication with the different user programs, such as, for example, e.g. SAP, Oracle etc.

**Price** excl. of VAT ex works,  
KERN YKV-01, **€ 190,-**

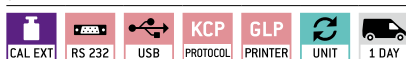
#### Technical Data

- Overall dimensions W×D×H 100×127×28 mm
- Net weight approx. 1,2 kg
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

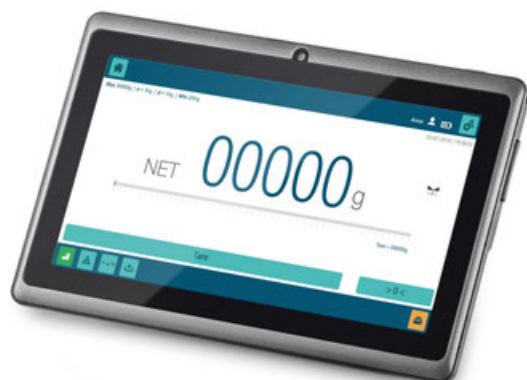
- **Software BalanceConnection**, flexible recording or transfer of measurements, particularly to Microsoft® Excel or Access as well as transfer of this data to other Apps and programs. The displayed result can therefore be converted to any format for communication with the different user programs, such as, for example, e.g. SAP, Oracle etc., for details see [www.kern-sohn.com](http://www.kern-sohn.com), KERN SCD-4.0, **€ 150,-**

#### STANDARD



#### FACTORY





NEW

KERN KTA-T, € 400,- (on request)



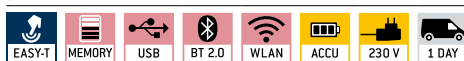
NEW

KERN KTB-T, € 1290,- (on request)

**Convert your balance into a computer!**

This modern tablet transforms your weighing components into a powerful measuring system with a wide variety of analysis options in an instant. Simply download the appropriate app on the tablet and process the weighing data according to your ideas. Thanks to this modular concept, the initial investment is kept to a minimum and, at the same time, offers you a high level of investment security and future reliability. If your requirements should increase or your area of work should expand, then simply download more Apps. In this way the investment remains predictable and you do not pay for functions which you do not need – pretty smart!

## STANDARD



## KERN KTA-T – Multifunctional tablet for connection to digital platforms, balances, measuring cells

**Features**

- Ideal for use in the laboratory environment, industry, test laboratories, etc., either as permanently fixed large display for one balance or as mobile display for one or more scales using WLAN or Bluetooth
- **1** Compact, slim tablet
- Superior display size in comparison with a standard display on a balance
- Separate connection for power supply, so, when charging, the USB connection remains free for USB sticks, peripheral devices, etc.
- MicroUSB to connect peripheral devices, can also be used for power supply
- For further information and extensive accessories, please see [www.kern-sohn.com/de/KTA-T](http://www.kern-sohn.com/de/KTA-T)

**Accessories**

- **2** Aluminum tablet stand, infinitely adjustable in inclination for ergonomic reading and operation of the tablet, the tablet can be set upright and transversely, rubberized contact points ensure a non-slip grip and protect the tablet, W×D×H 100×35×85 mm, KERN YKD-A03, € 20,-

## STANDARD



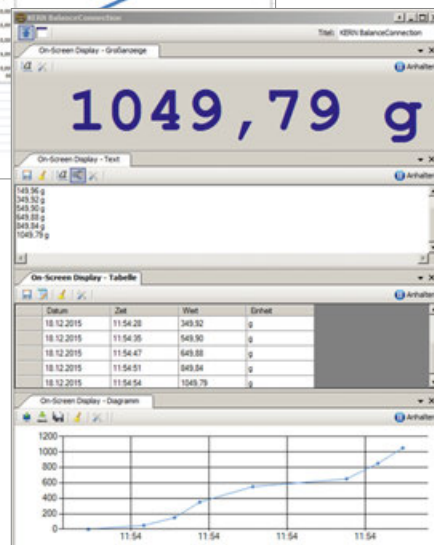
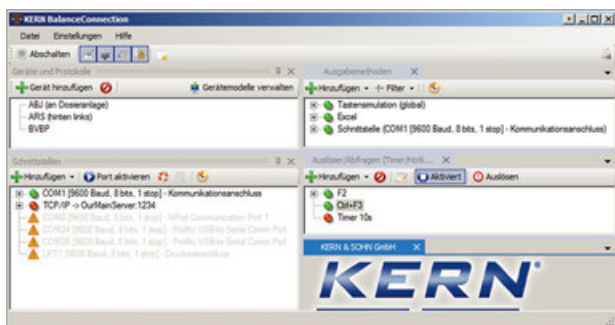
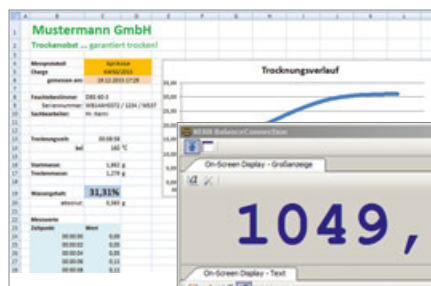
## KERN KTB-T – Robust professional tablet for demanding weighing applications

**Features**

- Ideal for use in the laboratory environment, pharmaceutical field, industry, test laboratories, etc., either as permanently fixed large display for one balance or as mobile display for one or more scales using WLAN or Bluetooth
- Wide range: can be connected to a variety of balances, from the analytical balance to the floor scale, thus particularly comfortable management of the weighing systems used
- High-quality industrial tablet
- Superior display size in comparison with a standard display on a balance
- **3** Separate connection for power supply, so, when charging, the USB connection remains free for USB sticks, peripheral devices, etc.
- A large number of standard integrated interfaces allow the parallel connection of peripheral devices, storage media, network connections, etc.
- **4** Octopus cable as standard, allows the parallel connection of up to 5 peripheral devices, networks, etc. with only one interface
- MicroUSB for connecting peripheral devices as well as integrated VESA mounting preparation for mounting the tablet to a wide variety of standard mounts, tripods etc. as standard
- For further information and extensive accessories, please see [www.kern-sohn.com/de/KTB-T](http://www.kern-sohn.com/de/KTB-T)

NEW

	A	B	C	D	E	F	G	H	I	J
				Soll	Ist	Datum / Uhrzeit	Differenz	Abweichung	Gesamt	
4										
5	PBJ 4200-2M	Vaseline	200 g		200,47 g	07.05.2012 12:15	0,47 g	0,23%	200,47 g	
6	(große Mengen)	Alkohol	400 g		411,21 g	07.05.2012 12:15	11,21 g	2,80%	611,68 g	
7		Wasser	1000 g		1.002,39 g	07.05.2012 12:15	2,39 g	0,24%	1.614,07 g	
8	ABJ 80-4M	Drogepin	5.000 g		4.999,9 g	07.05.2012 12:16	-0,0007 g	-0,01%	1.619,0699 g	
9	(kleine Mengen)	Theobromin	1.000 g		0.9984 g	07.05.2012 12:16	-0,0016 g	-0,16%	1.620,0677 g	



Professional and highly flexible recording or transmission of measured values, in particular also to Microsoft® Excel or Access

### Features

- For operating systems Windows XP, Vista, 7, 8, 8.1, 10
- Supports balances measuring devices with RS 232, RS 485, Bluetooth, LAN or WLAN network (TCP/UDP/IP)
- Highly flexible formatting of the output (any order, formatting and rounding), particularly recording of date and time for every value transferred, if required
- Any number of devices/interfaces can be connected, as well as simultaneous and synchronised recording of several balances
- Key-activated or time-controlled interrogation of measurements or trigger of device functions, also for continuous recording
- The interface protocols for KERN balances are already predefined (standard configuration)
- Compatible interface cable included when you order a KERN balance at the same time
- Many different transfer and recording options:
  - Microsoft® Excel/Access/Word in the foreground or background
  - Other Windows applications (through key simulation), e.g. shipping software or ERP system (SAP, Sage, etc.)
  - File recording (e.g. as text or CSV file)
  - Print out on text or label printer
  - Screen output such as large display, line chart (drying curve for moisture analyzer), histogram, etc.

- ODBC/SQL databases such as SQL Server or MySQL
- Transfer to HTTP Webservices/Web forms
- Histogram
- Enables the connection of medical balances to practice EDP systems using the device data transfer protocol (GDT) and also the HL7 protocol
- Implementation of programs/scripts using freely-definable command lines
- Command sequences
- Defining the conditions for specific events and the reaction to these events
- Filter for stability recognition (configurable value storage)
- Central configuration repository, e.g. on the network
- On-screen displays with configurable user interface for flexible balance operation

### Benefits

- Ideal software where weighing data which has been collected needs to be transferred to a Windows PC
- Particularly suitable for professional integration of weighing systems into existing networks where there is a high demand for automated data transfer and further processing, for integration of databases
- Automatic recording, e.g. for long-term tests
- GLP-compliant lab software
- Can be used across different branches and applications
- Also available as a cost-optimised package with 5 licenses, **you save more than 30 %!**
- Also available immediately as a download license
- Scope of supplies: 1 CD, 1 License  
KERN SCD-4.0-PRO, **€ 290,-**
- Scope of supplies: 1 CD, 5 Licenses  
KERN SCD-4.0-PROS05, **€ 990,-**
- Scope of supplies: Download link for 1 License, KERN SCD-4.0-PRO-DL, **€ 290,-**

**KERN & SOHN GmbH**  
**Balances, Test weights, Microscopes,**  
**DAkkS Calibration laboratory**

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 72336 Balingen  
 Germany

Tel. +49 7433 9933-0  
 Fax +49 7433 9933-149

info@kern-sohn.com  
 www.kern-sohn.com



**1769**

Ancestor Johann Jakob Sauter built the Hahn inclination scale out of iron, a foundation stone for weighing for the balance industry in Southern Germany



**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/EC)



**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](http://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



**2019**

Significant anniversary year for KERN  
 25 years of accredited DKD laboratory  
 175 years of KERN & SOHN  
 250 years of balance manufacture in the Sauter family-owned company