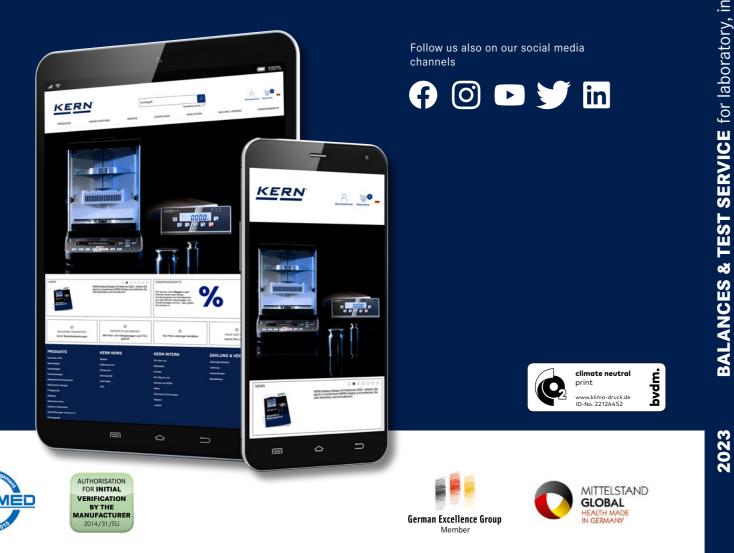
**KERN & SOHN –** The wide range of product champion that is situated in the Swabian Alb

KERN

# Discover the vast world of scales and measuring technology from KERN online.



and food for laboratory, EST SERVICE CES

# MEASURING ROFESSIONAL

# **BALANCES & TEST SERVICE**

for laboratory, industry and food industry

ΕN





How do I quickly find the product I am looking for?

The tried and tested quick search system - "Quick-Finder" ahead of each product group allows you to base the search for a certain target group on weighing data you need such as readout, weighing capacity and main features for each model.

And it's as simple as that - find the product you want in 2 steps:

- 1. Go to the product group index on page 3
- 2. Pick the appropriate product group and find the product you want using the Quick-Finder.

.. or use the model name and find the product quickly and efficiently using the A-Z model list:

# Quick-Finder M 🚺 🚺 📼 💷 440-21A PFB 120-3 PFB 200-3 FW 220-3H EW 220-3H EG 220-3H EG 220-3H EG 220-3H EG 220-3H FD 290-3 FW 300-3 EW 300-3 FW 420-3F EG 420-3H EG 620-3H PH 600-3 FW 620-3 PH 600-3 FW 620-3 PH 500-3 FW 620-3 PH 500-3 FW 620-3 FW 620-3 PH 500-3 FW 620-3 FW 620-3

DBS DE-D

DLB

DS

EHA EMB

EMB-V EMS

EOB

EOS EOC

EOE\_

FWI

ECB-N/ECE EFS 🔤\_

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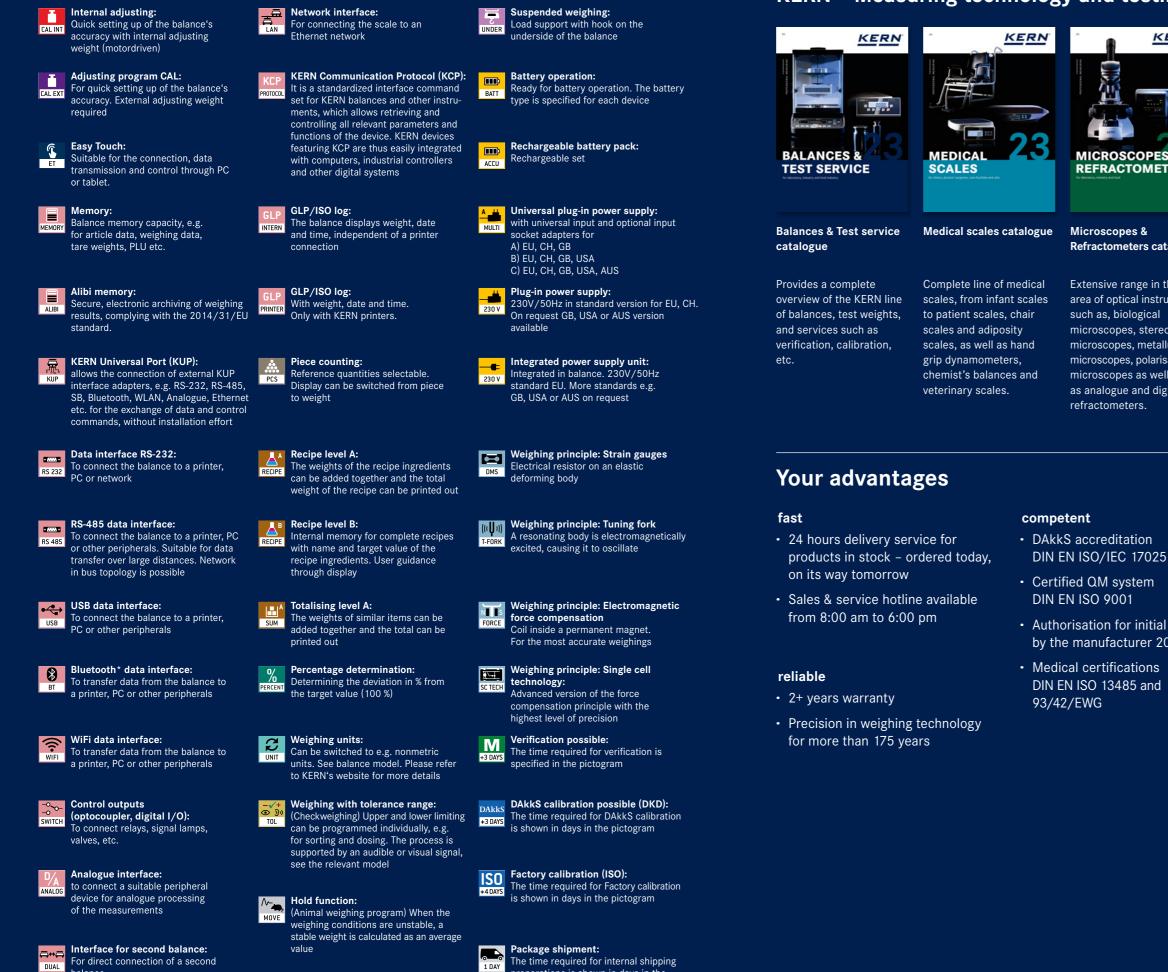
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### **KERN Pictograms**



1 DAY

2 DAYS

pictogram

Pallet shipment:

pictogram

preparations is shown in days in the

The time required for internal shipping

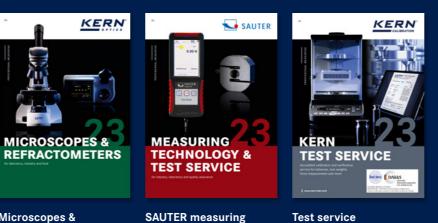
preparations is shown in days in the



Protection against dust and water splashes IPxx: IP The type of protection is shown in the pictogram.

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### KERN – Measuring technology and testing services from a single source



equipment catalogue

-

MICROSCOPES &

Refractometers catalogue

area of optical instruments.

microscopes, polarisation

Extensive range in the

such as, biological

microscopes, stereo

microscopes as well

refractometers.

DIN EN ISO 13485 and

93/42/EWG

as analogue and digital

Test service brochure

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

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

#### versatile

· One-stop shopping: from pocket balances through to 12 t crane balance – everything from one supplier

 Authorisation for initial verification by the manufacturer 2014/31/EU

• Find the product you want at lightning speed with the "Balance Quick-Finder" at www.kern-sohn.com

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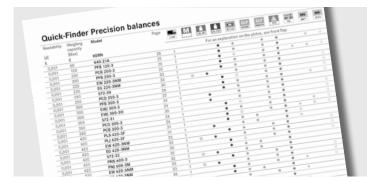
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# **Product group index 2023**



# Finding your way through the KERN range: How do I find the product I am looking for?







#### Product group index ► Page 3

#### Search by product group

Subject-related chapters offering a quick overview of the range of balances, weights and services.

#### **Balance Quick-Finder**

#### Search by weighing data

The tried and tested quick-find system prior each product group (compare product group index page 3) means that you can carry out a targeted search using the weighing data that you require, such as readout, weighing range, etc and offers a short description for each model.

#### Models A-Z ► Flap of the envelope

Search by model reference Targeted search using the model reference



#### Keyword index ► Page 227

#### Search by keyword

Easy search using an extensive KERN and industry-specific keyword index.

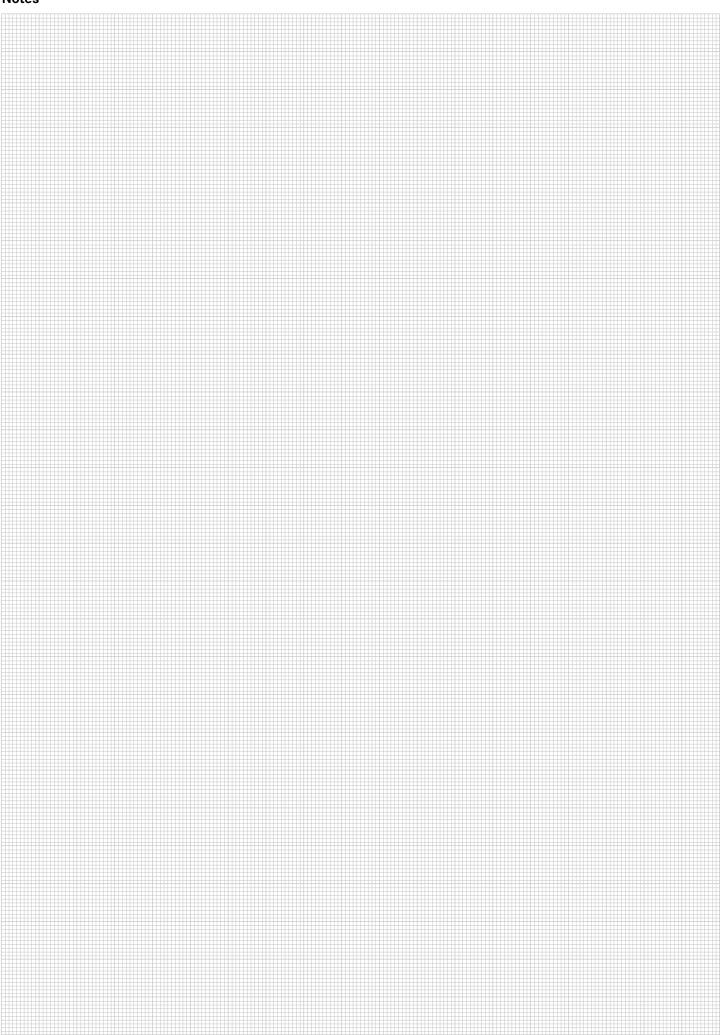


#### For more information ... ► Website

#### ... please visit our website

On our website you will find all the important information about KERN products, accessories, DAkkS calibration service, verification, special offers, background information, ... and much more.

Notes



# WHEN DESIGN MEETS PERFORMANCE

May we introduce...? The new models from the KERN IoT Line are celebrating their debut.

Together we can enjoy the shared, advanced-looking KERN design, the consistent and simplified handling, the high connectivity level, and a persuasive performace that operates across all devices.





Dive into our new KERN brand universe.



# Design

- + Trend-setting, high-quality KERN design
- + Recognisability through uniform product range
- + Reliable brand values are reflected visually and functionally in the product



- + Cross-device functionality and protocols
- + Consistently reliable performance
- + The latest technologies
- + Cross-device functionality and protocols



# Philosophy

- + Sustainable due to high energy efficiency
- + Standardisation of design components across all units
- + Controlled value chain
- + Tested and monitored technology for maximum user safety



## Are you curious about the models in the KERN loT range and what opportunities they offer?

Then take a look at pages 8/9, because thanks to new technologies such as KUP and KCP these models are perfectly equipped for the wide range of challenges of Industry 4.0









# **User Interface**

- + Uniform, simplified user guidance
- + Problem-free commissioning, use and expansion
- + Cross-model software



### Service

- + Fast and competent help from our IoT specialists
- + Even more efficient repair process
- + Accessories can be flexibly combined

**Note:** Our KERN IoT accessories can be easily combined with all our IoT models.

Find the right printer and other practical accessories on page 169 or in our online shop

# ARE YOU READY?

With the KERN Universal Port (KUP) and the KERN Communication Protocol (KCP) we ensure the perfect integration of your KERN balance into production or process chains for a complete, simplified work process.

Our products will make sure you are prepared for the future of weighing in the Internet of Things. Get IoT ready – with the IoT models from KERN.



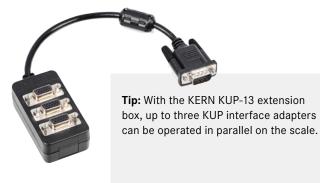
The integrated KERN Universal Port (KUP) allows the connection of external KUP interface adapters such as RS-232, USB, Bluetooth, WiFi, Analogue, Ethernet etc.

The outstanding advantage here is that the KUP interface adapters are simply plugged in, i.e. retrofitting interfaces is conveniently possible without opening the scale housing or complicated installation.

The interface adapters enable convenient transmission of weighing data to networks, PCs, smartphones, tablets, laptops, printers etc. In addition, control commands and data inputs can also be sent to the scale via the connected devices.









## KERN Communication Protocol (KCP)

The KERN Communication Protocol (KCP) permits searching and remote control of the balance through external control devices or computers using the KERN Communication Protocol. KCP is a standardised interface command structure for KERN balances and other measuring instruments which allows you to recall and manage all relevant parameters and device functions. You can therefore simply connect KERN models with KCP to computers, industrial control systems and other digital systems.

In a large number of cases the KERN Communication Protocol is compatible with the MT-SICS protocol. KCP is available through all KUPs, and on the KERN KIB-TM display device through the interfaces available.

#### KCP – EXPORT ("OUTBOUND") – THE HIGHLIGHTS

- Stable, immediate weight
- Live transfer of weights
- Storing of gross weight, tare weight, net weight, stability, date, time etc., in the tamper-proof Alibi memory
- Output of the weighing result in percent
- Output of the weighing result in pieces (piece-counting function)
- Output of the weight at freely-definable timed intervals
- and much more

#### KCP – IMPORT ("INBOUND") – THE HIGHLIGHTS

- Recall of the central device data
- Setup or recall of an individual device ID number
- Setting or searching for a tare value (pre-tare value) externally
- Recall of stored weighing results from the alibi memory
- Carrying out external adjustment/ linearization
- Setting the reference values in the balance externally and outputting the weighing result in percent or in pieces
- Setting a network address for the balance (IP) – also for WiFi
- and much more

# Still got questions?

We will be happy to give you more comprehensive information on this topic – talk to us:

# NEW IN $\rightarrow$ 2023

Innovative technology, stunning performance, improved features – all in proven KERN quality. You can see all our new additions in 2023 here – come and be inspired.



#### The born stacker – happily comes back to school

#### → KERN EFS SCHOOL BALANCE

The uncomplicated companion for all school laboratories and other educational institutions. Easy handling, durable and robust, it can cope well with changing users. With its tremendous weighing range, it is a typical nerd and without a doubt at the top of its class. For details, see page 15



# First Class products in an IP-protected stainless steel housing

→ KERN PWS PRECISION BALANCE

Resistant to fine particles and water splashes, withstands high loading. Let its high performance for reliable, high precision measurements impress you.

For details, see page 34



# Proven KERN models – now with a facelift!

Proven KERN models – now with a facelift! These KERN models feature plenty of improved technology (IoT, KUP) and a refreshed KERN look:

- → KERN PCB PRECISION BALANCE For details, see page 26/27
- → KERN 572 PRECISION BALANCE For details, see page 30
- → KERN CKE COUNTING BALANCE For details, see page 85
- → KERN CDS COUNTING BALANCE For details, see page 87
- $\rightarrow$  KERN IOC PLATFORM SCALES For details, see page 104/105
- → KERN DS PLATFORM SCALES For details, see page 107



→ IoT-ready models (with KUP) carry this icon



#### High-capacity precision balances with passwordprotected user administration

→ KERN FES/FEJ PRECISION BALANCE

With this robust allrounder you are particularly well-equipped for the pharmaceutical industry. Here you can easily allocate and manage different users.

For details, see page 37



#### Our Flagship – now with fully automatic doors

#### → KERN ABP-A ANALYTICAL BALANCE

Our KERN Showcase model now features a super practical innovation, making your daily laboratory life easier—singlehandedly. For details, see page 47/48



4 7.1

#### Pocket size precision

Pocket balances are the ideal helpers whenever mobility and high precision are required. Since they have fewer keys, operation is simple and fast. Different weighing units stored in the pocket balance, such as g, oz, ct, gn, etc., make them universally usable. An integrated calculator allows you to use the measured weight immediately in calculations, to e.g. determine a price, quantity, average value and much more. Compact in size and well protected with a flap or protective cover, which can be used as a convenient taring container, the pocket balance is always a useful tool for mobile weighing.

- In production, to control of production weights or during the picking of small parts
- In quality control for the quick testing of small parts like plastic parts from injection moulding machines, milled parts, screws, etc.
- For mobile weighing, on-site sampling, and fast analysis wherever there's no power outlet
- In hobbies and sports, e.g. when filling black powder, weighing parts from modelling kits etc.
- In commerce, for the fast determination of the weights of coins, jewellery, precious stones, etc.
- In veterinary sector for the weighing of small animals, the mixing of food, etc.
- In the food sector for the preparation of spice or tea mixes, for the weighing of food in line with a diet sheet

Quic	k-Finder	Pocket	balances

Readability [d]	Weighing capacity [Max]	Model	Page	DAYS	CAL EXT		BATT
g	g	KERN		F	or an explanatior	n on the pictos, see f	front flap
0,001	50	TGD 50-3CS05 ⊕	13	1	•	•	•
0,01	60	CM 60-2N	12	1	•	•	•
0,01	150	TGC 150-2S05	13	1	•	•	•
0,1	150	CM 150-1N	12	1	•	•	•
0,1	320	CM 320-1N	12	1	•	•	•
0,1	500	TGC 500-1S05	13	1	•	•	•
1	1000	CM 1K1N	12	1	•	•	•
1	1000	TGC 1K-3S05	13	1	•	•	•
			*	= Carat bala	nces	• = standard	<b>o</b> = option

#### Pocket balance KERN CM



#### **KERN CM**

Pocket balance with integrated pocket calculator



- Simple and convenient 4-key operation
- Hard case cover as protection against pressure and dust
- Robust, handy, well-protected
- Integrated calculator

### Note

KERN pocket balances also excellent as a gift for your customers or for personalised marketing and sales campaigns. We will be happy to add your logo to the cover, the lid or the packaging, up from quantities of 100 items. Please ask for details.

KERN	CM 60-2N	CM 150-1N	CM 320-1N	CM 1K1N				
Weighing capacity [Max] g	60 g	150 g	320 g	1000 g				
Readability [d]	0,01 g 0,1 g 0,1 g							
LCD display		backlit, digit	height 12 mm					
Dimensions of weighing plate		W×D 70	×80 mm					
Overall dimensions	W×D×H 85×130×25 mm							
Power supply	Batteries included with delivery, 2×1,5 V AAA, AUTO-OFF function to preserve battery life, operating time up to 33 h							
Net weight		0,2	0 kg					
Permissible ambient temperature		5 °C/	'35 °C					
Option DAkkS Calibr. Certificate		963-12	27					





**KERN TGC** 

Slim pocket balance with large stainless steel weighing plate and practical tare pan



- High-resolution pocket balance with particularly rapid reaction and stabilisation time, which means that you can work extremely efficiently
- Particularly flat design
- I Cover made of shock proof plastic as protection against pressure and dust. Can also be used as a tare cup
- Stainless steel weighing plate, which makes cleaning easy and hygienic
- **Note**: The models are delivered in a set of 5 units. That means the prices given in the table refer to 5 units. Cannot be delivered individually. The calibration prices given here refer to calibration of a single balance



01

**KERN TGD** 

Compact pocket carat balance for precision weighing of jewellery and precious stones



- · Simple and convenient 4-key operation
- · Can be switched over from g to ct, gn, dwt, ozt, oz at the touch of a key
- Innovative touchscreen: Large touch-sensitive, backlit touch display with very good contrast for easy operation and convenient reading
- $\boldsymbol{\cdot}$  Hard case cover as protection against pressure and dust
- · Stainless steel weighing plate, which makes cleaning easy and hygienic
- Weighing pan standard
- Powder scale with Grain division (gn), ideal for sport shooters, reloaders etc. for self-filling cartridge cases
- USB cable for power supply as standard
- 2 Delivered in single design packaging
- **Note**: The models are delivered in a set of 5 units. That means the prices given in the table refer to 5 units. Cannot be delivered individually. The calibration prices given here refer to calibration of a single balance

### Note

KERN pocket balances also excellent as a gift for your customers or for personalised marketing and sales campaigns. We will be happy to add your logo to the cover, the lid or the packaging, up from quantities of 100 items. Please ask for details.

KERN	TGC 150-2S05	TGC 500-1S05	TGC 1K-3S05	TGD 50-3CS05	
Weighing capacity [Max] g	150 g	500 g	1000 g	50 g   250 ct	
Readability [d]	0,01 g	0,1 g	1 g	0,001 g   0,005 ct	
LCD display	ba	m	backlit, digit height 20 mm		
Dimensions of weighing plate			ø 65 mm		
Overall dimensions	W×D×H 100×130×18 mm			W×D×H 96×149×36 mm	
Power supply		ries included with deli 2× CR2032, perating time up to 33		Batteries included with delivery, 4×1,5 V AAA, operating time up to 150 h without backlight	
Net weight		1 kg (set of 5	units)	1 kg (set of 5 units)	
Permissible ambient temperature		0 °C/40 °C		5 °C/35 °C	
Option DAkkS Calibr. Certificate		963-127		963-127	



As entry-level models, KERN school balances cover the most important basic applications of laboratory balances and offer simple operation, easy readability and an optimal price-performance ratio. The KERN School balances can be used flexibly and independent of location thanks to battery operation and are therefore the ideal choice for school or teaching purposes. Our recommendation: the brand new EFS school balance in our product range, a space-saving and inexpensive allrounder for school teaching programs and universities.

OFF

## **Quick-Finder School balances**

Readability	Weighing capacity	Model	Page	DAYS	CAL EXT	RS 232 PCS	RECIPE	BATT
[d]	[Max]			DATS		R3 232 PC3	KELIPE	BATT
g	g	KERN			For an expla	anation on the pictos,	see front fla	р
0,001	100	EMB 100-3	16	1	•			•
0,001	200	EMB 200-3	16	1	•			•
0,001	200	EMB 200-3V	17	1	•	•		•
0,001	300	EMS 300-3	18	1	•	•	•	•
0,01	200	EMB 200-2	16	1	•			•
0,01	500	EHA 500-2	19	1	•	•		•
0,01	500	EFS 500-2	15	1				•
0,01	600	EMB 600-2	16	1	•			•
0,01	1000	EMB 1000-2	16	1	•			•
0,01	2000	EMB 2000-2	16	1	•			•
0,01	2000	EMB 2000-2V	17	1	•	•		•
0,01	3000	EMS 3000-2	18	1	•	•	•	•
0,1	220	EFS 200-1S05	15	1				•
0,1	500	EMB 500-1	16	1	•			•
0,1	500	EMB 500-1BE	16	1	•			•
0,1	500	EHA 500-1	19	1	•	•		•
0,1	620	EFS 600-1S05	15	1	•			•
0,1	1000	EHA 1000-1	19	1	•	•		•
0,1	1200	EMB 1200-1	16	1	•			•
0,1	3000	EMB 3000-1	16	1	•			•
0,1	3000	EFS 3000-1	15	1	•			•
0,1	3000	EHA 3000-1	19	1	•	•		•
0,1	6000	EMB 6000-1	16	1	•			•
0,1	6000	EMS 6K0.1	18	1	•	•	•	-
0,1	12000	EMS 12K0.1	18	1	•	•	•	•
1	2200	EFS 2000-0S05	15	1	0			•
1	2200	EMB 2200-0	16	1	•			•
1	3000	EHA 3000-0	19	1	•	•		•
1	5200	EFS 5000-0S05	15	1	0			•
1	5200	EMB 5.2K1	16	1	•			•
 1	6000	EMS 6K1	18	1	•	•	•	
1	12000	EMS 12K1	18	1	•	•	•	
5	5200	EMB 5.2K5	16	1	•			•
News 202						= standard		o = option



Perfect school balances for experimental teaching - easy to use, space-saving, stackable

#### Features

- Simple and convenient 2-key operation, making them ideal for use in schools and universities
- Tare function facilitates formulation work
- Particularly flat design
- Secure and non-slip positioning with rubber feet
- Stackable for space-saving storage
- Practical battery operation using standard batteries ensures a high level of flexibility and freedom from mains adapters, sockets, chargers, etc.

#### **Technical data**

- Large LCD display, digit height 15 mm
- Dimensions weighing surface, plastic, W×D
  134×127 mm
- Overall dimensions W×D×H
   145×205×46,5 mm
- Battery operation, 4×1.5 V AA standard, operating time up to 200 h, Integrated AU-TO-OFF function to preserve the batteries
- Net weight approx. 0,45 kg
- Permissible ambient temperature 10 °C / 40 °C
- Note: The models with the suffix -S05 are delivered in a set of 5 units. i.e. the price given in the table refers to 5 items. Cannot be delivered individually. The calibration prices refers to one single balance

#### Accessories

• External universal mains adapter, with universal input and optional input socket adapters for EU, CH, GB, USA, KERN YKA-27



Model	Weighing capacity	Readability	Reproducibility	Linearity	Quantity delivered	Option DAkkS Calibr. Certificate
KERN	[Max] g	[d] g	g	g	(balance)	DAkko Gandi. Gertindate DAkkS KERN
EFS 500-2	500	0,01	0,01	± 0,03	1	963-127
EFS 200-1S05	220	0,1	0,1	± 0,3	5	963-127
EFS 600-1S05	620	0,1	0,1	± 0,3	5	963-127
EFS 3000-1	3000	0,1	0,1	± 0,3	1	963-127
EFS 2000-0S05	2200	1	1	± 3	5	963-127
EFS 5000-0S05	5200	1	1	± 3	5	963-127



# 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
- Ring-shaped draught shield standard, only for models with weighing plate size
   Ø 82 mm, weighing space Ø×H 96×35 mm
- Hook for underfloor weighing standard
- 2 Also available as KERN EMB 500-1BE Black Edition
- Note: With the optional auxiliary set for density determination KERN YDB-04 also well suited for school and teaching operation

#### Technical data

- Large LCD display, digit height 15 mm
- Dimensions weighing surface
  ▲ Ø 82 mm, plastic, with conductive lacquer
   Ø 105 mm, plastic
- Ø 150 mm, plastic, see large picture
- Batteries included, 9 V block, respectively 2×1.5 V AA
- Net weight approx. 0,85 kg
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

- Stainless steel weighing plate, only for models with weighing plate size 

   KERN EMB-A02
- External universal mains adapter, with universal input and optional input socket adapters for EU, CH, GB, USA, KERN YKA-03N
- Ancillary kit for density determination of liquids and solids with density > 1. Scope of supplies: Bridge for holding the beaker (Ø 102 mm), hook (H 139 mm), suitable for models with weighing plate size II, KERN YDB-04

kkS Days

Model	Weighing capacity [Max]	Readability [d]	Reproducibility	Linearity	Housing dimensions W×D×H	Weighing plate	Option DAkkS Calibr. Certificate DAkkS
KERN	g	g	g	g	mm		KERN
EMB 100-3	100	0,001	0,001	± 0,005	170×244×54	A	963-127
EMB 200-3	200	0,001	0,001	± 0,005	170×244×54	A	963-127
EMB 200-2	200	0,01	0,01	± 0,02	170×244×39	В	963-127
EMB 600-2	600	0,01	0,01	± 0,03	170×244×39	В	963-127
EMB 1000-2	1000	0,01	0,01	± 0,05	170×244×39	C	963-127
EMB 2000-2	2000	0,01	0,01	± 0,05	170×244×39	C	963-127
EMB 500-1	500	0,1	0,1	± 0,2	170×244×39	C	963-127
EMB 500-1BE	500	0,1	0,1	± 0,2	170×244×39	C	963-127
EMB 1200-1	1200	0,1	0,1	± 0,3	170×244×39	C	963-127
EMB 3000-1	3000	0,1	0,1	± 0,3	170×244×39	C	963-127
EMB 6000-1	6000	0,1	0,1	± 0,3	170×244×39	C	963-128
EMB 2200-0	2200	1	1	± 2	170×244×39	C	963-127
EMB 5.2K1	5200	1	1	± 3	170×244×39	C	963-128
EMB 5.2K5	5200	5	5	± 10	170×244×39	C	963-128













02



in the second se

## School balance with integrated density determination function

#### Features

- Easy density determination: Thanks to the self-explanatory, graphic-assisted control panel, the density of solids and liquids can be determined in seconds, making them ideal for use in schools and universities
- Self-explanatory, graphic control panel, the workings steps can be understood immediately, even without operating instructions
- no learning time = reduces costs
- ideal for untrained users
- visualised process avoids operating errors
- The 4 steps are carried out from left to right:
  Tare the balance by pressing the [TARE] key
  Select density determination mode (solids/liquids)

 Weighing of samples/plummets in air
 Weighing of samples/plummets in liquid.
 The density will be shown on the display right away

Particularly flat design

STANDARD

- Hook for underfloor weighing standard
- Batteries included, 9 V block, operating time up to 12 h, AUTO-OFF function preserves the battery
- Note: Balance and appropriate set for density determination should be ordered at the same time, see accessories

#### Technical data

OPTION

- Large LCD display, digit height 15 mm
- Dimensions weighing surface
  Ø 82 mm, plastic
  Ø 150 mm, plastic
- Overall dimensions W×D×H 175×245×54 mm
- Net weight approx. 0,85 kg
- Permissible ambient temperature 5 °C / 35 °C
- Also with carat weighing unit: EMB 200-3V: 1000 ct/0,005 ct EMB 2000-2V: 10000 ct/0,05 ct

#### Accessories

#### KERN EMB 200-3V:

- In Ancillary kit for density determination of liquids and solids with density > 1.
   Scope of delivery: Bridge for holding the beaker (Ø 102 mm), hook (H 139 mm), suitable for models with weighing plate size IM, KERN YDB-04
- Set for density determination of liquids and solids with density ≤/≥ 1.
   Scope of delivery: Weighing plate, beaker (Hר 71×51 mm), sample holder, plummet, KERN YDB-01
- DAkkS-Calibration certificate for the plummet (20 g), KERN 962-335V

#### KERN EMB 2000-2V:

- Set for density determination of liquids and solids with density ≤/≥ 1.
   Scope of delivery: Weighing plate, beaker (Hר 135×100 mm), sample holder, plummet KERN YDB-02
- DAkkS-Calibration certificate for the plummet (200 g), KERN 962-338V
- Thermometer, KERN YDB-A03

CAL EXT RS 232			kks Days			
Model	Weighing capacity	Readability	Reproducibility	Linearity	Weighing plate	Option DAkkS Calibr. Certificate
	[Max]	[d]				DAkkS
KERN	g	g	g	g		KERN
EMB 200-3V	200	0,001	0,002	± 0,005	A	963-127
EMB 2000-2V	2000	0,01	0,02	± 0,05	В	963-127

### SCHOOL ★★★



2



# Entry level model in the low-cost range with large weighing plate

#### Features

- Especially suitable for use in schools and universities, for example for biology, chemistry, physics
- Large, shock proof weighing plate made of plastic
- Particularly flat design
- Ergonomically optimised key pad with large keys and a high-contrast LCD display
- Secure and non-slip positioning with rubber feet
- Adjusting program CAL for quick setting of the balance accuracy, external test weights at an additional price, see *Test weights*
- Draught shield standard for models with weighing plate size A, weighing space
   W×D×H 145×145×65 mm
- Suitable for common school LIMS systems

#### **Technical data**

- Large LCD display, digit height 25 mm
- Dimensions weighing surface
   Ø 105 mm, plastic, with conductive lacquer
- B W×D 175×190 mm, plastic
- Overall dimensions W×D×H 200×280×63 mm
- Optional battery operation, 9 V block not included in scope of delivery, operating time up to 40 h
- Mains adapter external, standard
- Net weight approx. 1,4 kg
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

 Istainless steel weighing plate, only for models with weighing plate size I, KERN EMS-A01

					STANDARI
DAk +3 D/			C	<u> </u>	Ĩ

Model	Weighing capacity [Max]	Readability [d]	Reproducibility	Linearity	Weighing plate	Option DAkkS Calibr. Certificate DAkkS
KERN	g	g	g	g		KERN
EMS 300-3	300	0,001	0,002	± 0,005	A	963-127
EMS 3000-2	3000	0,01	0,02	± 0,05	В	963-127
EMS 6K0.1	6000	0,1	0,1	± 0,3	В	963-128
EMS 12K0.1	12000	0,1	0,1	± 0,3	В	963-128
EMS 6K1	6000	1	1	± 3	В	963-128
EMS 12K1	12000	1	1	± 3	В	963-128



The compact all-round model with robust stainless steel weighing plate for use in laboratories, industries, and for teaching

#### Features

- Thanks to its compact, robust design, its bright display and high precision, this range is ideal for use in laboratories, quality control, production as well in schools and universities for teaching e.g. biology, chemistry and physics
- Large, shock proof weighing plate made from stainless steel, can be removed and therefore is hygienic and easy to clean
- I Particularly flat design
- Ergonomically-optimised key pad with large keys and a high-contrast LCD screen
- Secure and non-slip positioning with rubber feet
- Level indicator and levelling feet for precise levelling of the scale, fitted as standard, to give the most accurate weighing result
- Adjusting program CAL for quick setting of the balance accuracy using an external test weight at an additional price, see test weights

STANDARD	STANDARD											
		C					DAkkS					
CAL EXT	PCS	UNIT	BATT	MULTI	DMS	1 DAY	+3 DAYS					

### Technical data

- Large backlit LCD display, digit height 22 mm
- Dimensions weighing surface, weighing
- plate material ▲ Ø 105 mm, stainless steel
- $\sim$  105 mm, stainless steel
- B W×D 120×120 mm, stainless steel
- Overall dimensions W×D×H 225×160×50 mm
   Optional hattaneous systems 2011 5 V AA ast
- Optional battery operation, 2×1.5 V AA not included in scope of delivery, operating time up to 70 h
- Mains adapter external, standard
- Net weight approx. 0,50 kg
- Permissible ambient temperature 5 °C/40 °C

Model	Weighing capacity [Max]	Readability [d]	Reproducibility	Linearity	Weighing plate	Option DAkkS Calibr. Certificate DAkkS
KERN	g	g	g	g		KERN
EHA 500-2	500	0,01	0,03	± 0,03	A	963-127
EHA 500-1	500	0,1	0,3	± 0,3	A	963-127
EHA 1000-1	1000	0,1	0,3	± 0,3	В	963-127
EHA 3000-1	3000	0,1	0,3	± 0,3	В	963-127
EHA 3000-0	3000	1	3	± 2	В	963-127

0 (C 3



# PRECISION BALANCES

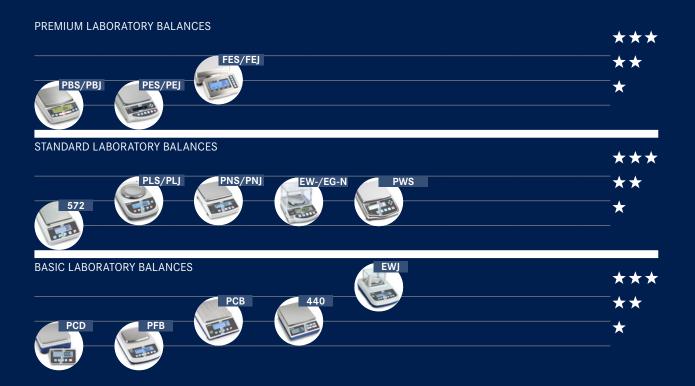
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TARE →0←

Here you'll find a complete summary of the KERN laboratory scales series and their positioning within the precision scales segment on the basis of application, price-performance ratio and functional volume



# **PRECISION BALANCES**

#### **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. In addition, they usually can be stacked and can be battery-operated as an alternative to a main power source. This means that they have the flexibility to be used in different locations. See *school balances* 

#### **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. With their strain gauge measuring principle, they are used anywhere where individual weighings are carried out, such as, for example, checkweighing. These devices are often connected to printers or local Pcs using the standard, integrated RS-232 data interface.

#### 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. But above all, the high-quality measuring principles of these balances such as force compensation or tuning fork measuring principle, allow them to be used in dosing procedures with very small weight changes and rapid display. In addition these balances are often fitted with automatic internal adjustment, which means the balance can be used in any location.

#### 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. Tip: Together with the innovative KERN EasyTouch app, a premium laboratory balance supports its users in their typical workflows and increases the range of functions of the balance. In this way these scales can be operated more efficiently and quickly than devices from other quality classes. In particular, these balances are used in demanding laboratory applications and anywhere where the environmental conditions are not ideal because of vibrations or other interference, but where, naturally, the balance is expected to provide accurate weighing results. Another field of application for these balances is the pharmaceutical industry, which is subject to particularly demanding requirements and authorities such as, for example, the FDA (Food and Drug Administration).



### Tip

Transform your weighing system into a powerful weighing system! Using the KERN EasyTouch App even a simple scale can be made into a powerful weighing system, offering a wide range of functions. You simply have to install the KERN EasyTouch App on your PC or tablet (Windows<sup>®</sup> or Android<sup>®</sup>), connect the balance (either with cable or wireless), activate the App and straightaway you will be able to control your balance using your PC or tablet. All details from page 132

# **Quick-Finder Precision balances**

Readability	Weighing capacity	Model	Page	1 DAY	Μ	CAL INT	CAL EXT	RS 232	GLP	GLP PRINTER	PCS	-√+ ⊙ Э॥ TOL	BATT	ACCU
[d]	[Max]			IDAI									DATT	ACCO
g	g	KERN				Fc	or an exp		on the p			ар		
0,001	60	440-21A	28	1			٠	•		•	•		•	0
0,001	120	PFB 120-3	25	1			•	•		•	•			
0,001	200	PCB 200-3 PFB 200-3	26 25	1			•	•		•	•	•		0
0,001	200	EW 220-3NM	33	1			•				•			0
0,001	220	EG 220-3NM	33	1	0	•		•		•	•			0
0,001	240	572-30	30	1			•	0		•	•	•		0
0,001	250	PCD 250-3	24	1			٠	•		•	٠		•	0
0,001	300	PFB 300-3	25	1			۲	•		•	•			
0,001	300	EWJ 300-3	29	1		٠		•		•	•			0
0,001	300	EWJ 300-3H	29	1		•		•		•	•			0
0,001	300	572-31	<u> </u>	1			•	•		•	•	•		0 0
0,001	350 360	PCD 300-3 PCB 300-3	24	1			•	0		•	•	•		0
0,001	420	PLS 420-3F	31	1			•		•	-	•			
0,001	420	PLJ 420-3F	31	1		•	-	•	•		•	•		
0,001	420	EW 420-3NM	33	1			٠	•		•	•			0
0,001	420	EG 420-3NM	33	1	0	•		٠		٠	•			0
0,001	420	572-32	30	1			٠	0		•	•	٠		0
0,001	620	PNS 600-3	32	1			٠	•	•		•			
0,001	620	PNJ 600-3M	32	1	0	•		•	•		•			
0,001	620	EW 620-3NM	33 33	1	0	•	•	•		•	•			0 0
0,001	620 620	EG 620-3NM PES 620-3M	33	1	0	•	•					•		0
0,001	620	PBS 620-3M	35	1					•					
0,001	620	PEJ 620-3M	36	1	0	•		•		•	•	•		
0,001	620	PBJ 620-3M	35	1	0	•		•	•		•			
0,001	720	PLS 720-3A	31	1			۲	۲	۲		•	•		
0,001	720	PLJ 720-3AM	31	1	0	۲		•	٠		•	٠		
0,001	720	PLJ 720-3A	31	1		•		•	•		•	•		
0,001	1200	PLS 1200-3A	31	1			•	•	•		•	•		
0,001	1200 2100	PLJ 1200-3A	<u>31</u> 31	1		•		•	•		•	•		
0,001	200	PLJ 2000-3A 440-33N	28	1		-	•			•			•	0
0,01	300	PCB 300-2	26	1			•	0		•	•	•		0
0,01	400	440-35N	28	1			•	•		•	•		•	0
0,01	600	PFB 600-2	25	1			٠	•		•	•			
0,01	600	440-35A	28	1			٠	•		•	•		•	0
0,01	600	EWJ 600-2SM	29	1	0	•				•	•			0
0,01	600	EWJ 600-2M	29	1	0	•		•		•	•			0
0,01	820	EW 820-2NM	33	1			•	•		•	•			0
0,01	820 1200	PWS 800-2 PFB 1200-2	<u>34</u> 25	1			•			•	•	-	. • •	
0,01	1200	PCB 1000-2	25	1			•	0		•	•		•	0
0,01	1600	572-33	30	1			•	0		•	•	•		0
0,01	2000	PFB 2000-2	25	1			•	•		•	•			
0,01	2200	EW 2200-2NM	33	1			٠	٠		٠	•			0
0,01	2200	EG 2200-2NM	33	1	0	٠		٠		٠	٠			0
0,01	2200	PES 2200-2M	36	1			٠	۲		۲	٠	٠		0
0,01	2200	PEJ 2200-2M	36	1	0	•		•		•	•	•		
0,01	2400 2500	572-35 PCD 2500-2	<u> </u>	1			•	•		•	•	•	•	<u> </u>
0,01	3000	PFB 3000-2	24	1							•			
0,01	3000	EWJ 3000-2	29	1		•	•	•		•	•			0
0,01	3000	572-37	30	1			•	0		•	•	•		0
0,01	3200	PNS 3000-2	32	1			٠	•	•		•			
0,01	3200	PNJ 3000-2M	32	1	0	٠		٠	٠		٠			
0,01	3500	PCD 3000-2	24	1			۲	•		•	•		•	0
0,01	3600	PCB 3000-2	26	1			•	0		•	•	•	•	0
0,01	4200	PLS 4200-2F	31	1			•	•	•	-	•	•		
0,01	4200 4200	EW 4200-2NM PLJ 4200-2F	33 31	1		•	٠	•	•	•	•	•		0
0,01	4200	EG 4200-2F	31	1	0			•	•	•	•	•		0
0,01	4200	PES 4200-2M	36	1	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-	•					•		0
0,01	4200	PBS 4200-2M	35	1			•	•	•		•	-		
0,01	4200	PEJ 4200-2M	36	1	0	•		•		•	•	•		
0,01	4200	PBJ 4200-2M	35	1	0	٠		٠	٠		•			
0,01	4200	572-39	30	1		-	٠	0		٠	٠	٠	-	0
0,01	6200	EW 6200-2NM	33	1			٠	•		٠	٠			0
0,01	6200	PLS 6200-2A	31	1		_	•	•	•		•	•		
0,01	6200	PLJ 6200-2A	31	1		•		•	•		•	•		

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**o** = option

• = standard

# **Quick-Finder Precision balances**

Readability [d]	Weighing capacity [Max]	Model	Page	1 DAY	M	CAL INT	CAL EXT	RS 232	GLP INTERN	GLP PRINTER	PCS	-√+ ⊙ Ͽ» TOL	BATT	ACCU
2	g	KERN				Fo	r an exp	lanation	on the p	ictos, se	e front fl	ар		
, 0,01	6200	PLJ 6200-2AM	31	1	0	•		•	•	,	•	•		
0,01	6200	PES 6200-2M	36	1		-	•	•	-	•	•	•		0
0,01	6200	PBS 6200-2M	35	1			•	•	•		•			
0,01	6200	PBJ 6200-2M	35	1	0	•	•		•		•			
0,01	8200	PLS 8000-2A	31	1			•	•	•		•	•		
0,01	6000	PFB 6000-2	25	1			•	•		•	•			
0,05	12000	572-45	30	1			•	0		•	•	•		0
0,05	20000	572-55	30	1			•	0		•	•	•		0
0,00	400	440-43N	28	1			•	•		•	•		•	0
0,1	1000	440-45N	28	1			•	•		•	•			0
0,1	2000	PCB 2000-1	26	1			•	0		•	•	•		0
0,1	2000	440-47N	28	1			•	•		•	•	-		0
0,1	3200	PWS 3000-1	34	1			•				•		0	
0,1	4000	440-49N	28	1			•	•		•	•		•	0
0,1	6000	PCD 6K-4	24	1			•	•		•	•			0
0,1	6000	PFB 6000-1	25	1			•	•		•	•			
0,1	6000	PCB 6000-1	26	1			•	0		•	•	•	•	0
0,1	6000	440-49A	28	1			•	•		•	•		•	0
0,1	6000	EWJ 6000-1SM	29	1	0	•				•	•			0
0,1	6000	EWJ 6000-1M	29	1	0	•		•		•	•			0
0,1	8200	PWS 8000-1	34	1			•			•			0	
0,1	8200	PBJ 8200-1M	35	1	0	•		•	•		•		_	
0,1	10000	PCD 10K0.1	24	1			•	•		•	•		•	0
0,1	10000	PCB 10000-1	26	1			•	0		•	•	•	•	0
0,1	10000	572-43	30	1			•	0		•	•	•		0
0,1	12000	PNS 12000-1	32	1		-	•	•	•	-	•			
0,1	12000	PNJ 12000-1M	32	1	0	•		•	•		•			
0,1	12000	EW 12000-1NM	33	1			•			•	•			0
0,1	15000	PES 15000-1M	36	1			•	•		•	•	•		0
0,1	16000	572-49	30	1			٠	0		•		•		0
0,1	17000	FEJ 17K-4M	37	1	0	•		•	•			•		
0,1	17000	FES 17K-4	37	1			•	•	•			•		
0,1	20000	PLS 20000-1F	31	1			•	•	•		•	•		
0,1	24000	572-57	30	1			٠	0		•	•	٠		0
0,1	31000	PES 31000-1M	36	1			•	•		•	•	•		0
0,1	33000	FES 33K-4	37	1					•			•		
0,1	33000	FEJ 33K-4M	37	1	0	•		•	•			•		
0,1   1	6200   62000	FES 62K-4D	37	1			•	•	•		•	•		
0,1   1	6200   62000	FEJ 62K-4DM	37	1	0	•		•	•		•	•		
1	4000	440-51N	28	1			•	•		•	•		•	0
1	6000	PCB 6000-0	26	1			•	0		•	•	•	•	0
1	6000	440-53N	28	1			•	•		•	•		•	0
1	10000	PCD 10K-3	24	1			•	•		•	•		•	0

03



# High-resolution precision balance with removable display for maximum flexibility

#### Features

- Laboratory balance with separate platform: Ideal when working in a glove bag or fume cupboard. Particularly practical for weighing toxic, volatile or contaminated substances
- 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

2500

3500

6000

10000

10000

 Protective working cover included with delivery

#### Technical data

- Large backlit LCD display, digit height 21 mm
- Dimensions weighing surface
   Ø 105 mm, plastic, with conductive lacquer
   W×D 160×160 mm, stainless steel, see larger picture
- Optional battery operation, 9 V block not included in scope of delivery, operating time up to 12 h, AUTO-OFF function to preserve the battery
- Overall dimensions (without draught shield)
   W×D×H 165×280×75 mm
- Overall dimensions (incl. draught shield) W×D×H 165×280×141 mm (PCD 250-3, PCD 300-3)
- Dimensions of display device W×D×H 140×46×82 mm
- Cable length of display device approx. approx. 1,2 m
- Net weight approx. 1,2 kg
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

- Protective working cover over the display device, scope of delivery: 5 items, KERN PCD-A05S05
- 🛛 Stand to elevate display device, height of stand approx. 250 mm, KERN PCD-A03
- Internal rechargable battery pack, operating time up to 24 h without backlight, charging time approx. 10 h, KERN PCD-A04
- Is Foot switch, ideal when the application requires two free hands. TARE or PRINT function can be selected. Scope of delivery: foot switch, junction box, connection cable. For the PRINT function you will need the RS-232 interface cable, KERN YKF-01
- RS-232/Ethernet adapter for connection to an IP-based Ethernet network, KERN YKI-01
- Individual header data: the free software can be used to print 4 header lines on the printout when using printers KERN 911-013, YKN-01, YKB-01N and YKE-01 (in combination with YKI-02)
- Further details, plenty of further accessories and suitable printers see *Accessories*

CAL EXT RS 232 PRINTE	R PCS RECIPE PERCENT	UNIT MOVE BATT	MULTI DMS 1 DAY	ET ACCU +	3 DAYS	
Model	Weighing capacity	Readability	Reproducibility	Linearity	Weighing plate	
	[Max]	[d]				
KERN	g	g	g	g		
PCD 250-3	250	0,001	0,002	± 0,005	А	
PCD 300-3	350	0,001	0,002	± 0,005	А	

0,02

0,02

0,1

0,1

1

± 0,05

± 0,05

± 0,3

± 0,3

± 3

В

В

В

В

В

STANDARD											OPTION			
		GLP		Å	%	C	^-	<b></b>	В			Ĩ	m	DAkkS
CAL EXT	RS 232	PRINTER	PCS	RECIPE	PERCENT	UNIT	MOVE	BATT	MULTI	DMS	1 DAY	ET	ACCU	+3 DAYS

0,01

0,01

0,1

0,1

1

PCD 2500-2

PCD 3000-2

PCD 10K0.1

PCD 10K-3

PCD 6K-4

Option DAkkS Calibr. Certificate DAkkS KERN 963-127

963-127

963-127

963-127

963-128

963-128

963-128



Quick-display precision balance with user-friendly concept of operation mode – 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 bargraph display lights up to show how much of the weighing range 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 ▲ Ø 80 mm,
   Ø 120 mm, Weighing space W×D×H 116×111×65 mm

#### **Technical data**

- Backlit LCD display, digit height 15 mm
- Dimensions weighing surface, stainless steel
   ▲ Ø 80 mm
- 🖪 Ø 120 mm
- W×D 190×180 mm, see larger picture
- Overall dimensions (without draught shield)
   W×D×H 210×315×90 mm
   Dermissible embiant temperature
- Permissible ambient temperature 15 °C/30 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN PFB-A12S05
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase

Bluetooth 2.0: KERN PFB-A10 Bluetooth 4.0: KERN PFB-A11

• Further details, plenty of further accessories and suitable printers see *Accessories* 



Model	Weighing capacity	Readability	Reproducibility	Linearity	Weighing plate	Option DAkkS Calibr. Certificate
	[Max]	[d]				DAkkS
KERN	g	g	g	g		KERN
PFB 120-3	120	0,001	0,001	± 0,003	A	963-127
PFB 200-3	200	0,001	0,002	± 0,005	Α	963-127
PFB 300-3	300	0,001	0,002	± 0,005	A	963-127
PFB 600-2	600	0,01	0,01	± 0,03	В	963-127
PFB 1200-2	1200	0,01	0,01	± 0,03	В	963-127
PFB 2000-2	2000	0,01	0,02	± 0,05	В	963-127
PFB 3000-2	3000	0,01	0,02	± 0,05	В	963-127
PFB 6000-2	6000	0,05	0,05	± 0,15	C	963-128
PFB 6000-1	6000	0,1	0,1	± 0,3	C	963-128



The standard in the laboratory, ideal for a wide range of applications for Industry 4.0

#### Features

- Compatible with school-specific software solutions such as, for example, Vernier ® or LabQuest ®. Thanks to the KERN School Protocol, as part of technical experiments, weighing data can be transferred to a PC, laptop, etc. for evaluation and display using the USB data interface
- Industry 4.0: The integrated KERN Universal Port (KUP) allows the connection of external KUP interface adapters such as RS-232, USB, Bluetooth, WLAN, Analogue, Ethernet etc. The outstanding advantage here is that the KUP interface adapters are simply plugged in, i.e. retrofitting interfaces is conveniently possible without opening the scale housing or complicated installation. The interface adapters enable convenient transmission of weighing data to networks,

PCs, smartphones, tablets, laptops, printers etc. In addition, control commands and data inputs can also be sent to the scale via the connected devices. Tip: with the KERN KUP-13 extension box, up to three KUP interface adapters can be operated in parallel on the scale.

- KERN Communication Protocol (KCP): The KCP permits searching and remote control of the balance using external control devices or computers. for details see page 8/9
- · Standardised, simplified concept of operation
- PRE-TARE function for manual subtraction of a known container weight, useful for check-ing fill-levels
- 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

- Weighing with tolerance range (checkweighing): a visual signal helps with portioning, dispensing or grading
- 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
- A special Anti-Shock system between the weighing plate and weighing cell reduces vibrations during the weighing process and in this way ensures rapid, reliable weighing results
- Ring-shaped draught shield standard, only for models with weighing plate size II,
   Ø 82 mm, weighing space Ø×H 90×40 mm
- Protective working cover included with delivery

#### IoT-Line Compact laboratory balance KERN PCB







#### **Technical data**

- Backlit LCD display, digit height 21 mm
- Dimensions weighing surface
- A Ø 82 mm
- 🖪 Ø 105 mm
- C W×D 130×130 mm
- W×D 150×170 mm, see larger picture
- Weighing plate material
  plastic, with conductive lacquer
  , , , , , , stainless steel
- Overall dimensions (without draught shield)
   W×D×H 163×245×65 mm
- Optional battery operation, 4×1.5 V AA not included in scope of delivery, operating time up to 20 h, AUTO-OFF function to preserve the battery
- Permissible ambient temperature
- -10 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery: 5 items, KERN YBA-A12S05
- Internal rechargeable battery pack, operating time up to 48 h without backlight, charging time approx. 8 h, KERN YKR-01
- External data interface RS-232, Interface cable included, KERN YKUP-01
- External data interface USB, Interface cable included, KERN YKUP-03
- External data interface Ethernet, KERN YKUP-04
- WiFi interface adapter, KERN YKUP-05
- Extension-Box, KERN YKUP-13
- Software BalanceConnection, for flexible recording or transmission of measured values, in particular also to Microsoft® Excel or Access as well as transfer of this data to other Apps and programs, For more details see the internet, Scope of supplies: 1 CD, 1 license, KERN SCD-4.0
- 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 *Accessories*



Model	Weighing capacity [Max]	Readability [d]	Reproducibility	Linearity	Weighing plate	Option DAkkS Calibr. Certificate DAkkS
KERN	g	g	g	g		KERN
PCB 200-3	200	0,001	0,001	± 0,005	A	963-127
PCB 300-3	360	0,001	0,001	± 0,005	A	963-127
PCB 300-2	300	0,01	0,01	± 0,02	В	963-127
PCB 1000-2	1000	0,01	0,01	± 0,03	C	963-127
PCB 3000-2	3600	0,01	0,01	± 0,05	C	963-127
PCB 2000-1	2000	0,1	0,1	± 0,2	C	963-127
PCB 6000-1	6000	0,1	0,1	± 0,3	D	963-128
PCB 10000-1	10000	0,1	0,1	± 0,3	D	963-128
PCB 6000-0	6000	1	1	± 2	D	963-128



### The classic balance in the laboratory

#### Features

- Compact size, practical for small spaces
- Percentage determination: makes it possible to store a given weight value (100 %) and to determine deviations from this target value
- Ring-shaped draught shield standard, only for models with weighing plate size Ø 81 mm, weighing space Ø×H 90×40 mm
- Protective working cover included with delivery

#### **Technical data**

- Backlit LCD display, digit height 15 mm
- Dimensions weighing surface, weighing plate material
  - Ø 81 mm, plastic, with conductive lacquer
     Ø 105 mm, stainless steel
- **W**×D 130×130 mm, stainless steel
- W×D 150×170 mm, stainless steel, see larger picture
- Overall dimensions W×D×H 165×230×80 mm (without draught shield)
- Optional battery operation, 9 V block not included in scope of delivery, operating time up to 20 h, AUTO-OFF function to preserve the battery
- Net weight approx. 0,95 kg
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

- Protective working cover, scope of delivery: 5 items, for models with weighing plate size
   KERN 440-210-002S05
   KERN 440-330-002S05
- C KERN 440-450-002S05
- KERN 440-530-002S05
- Internal rechargable battery pack, operating time up to 20 h without backlight, charging time approx. 10 h, KERN FCB-A01
- Hook for underfloor weighing, KERN 440-A01
- RS-232/Ethernet adapter for connection to an IP-based Ethernet network, KERN YKI-01
- 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 *Accessories*

STANDARD	STANDARD											OPTION			
		GLP	<u>.</u>	<b>▲</b> ▲	%	$\mathcal{C}$	^-–	<b>F</b>		B			\$		DAkkS
CAL EXT	RS 232	PRINTER	PCS	RECIPE	PERCENT	UNIT	MOVE	UNDER	BATT	MULTI	DMS	1 DAY	ET	ACCU	+3 DAYS

Model	Weighing capacity	Readability	Reproducibility	Linearity	Weighing plate	Option
						DAkkS Calibr. Certificate
	[Max]	[d]				DAkkS
KERN	g	g	g	g		KERN
440-21A	60	0,001	0,001	± 0,003	A	963-127
440-33N	200	0,01	0,01	± 0,02	В	963-127
440-35N	400	0,01	0,01	± 0,03	В	963-127
440-35A	600	0,01	0,01	± 0,03	В	963-127
440-43N	400	0,1	0,1	± 0,2	C	963-127
440-45N	1000	0,1	0,1	± 0,2	C	963-127
440-47N	2000	0,1	0,1	± 0,2	C	963-127
440-49N	4000	0,1	0,1	± 0,3	D	963-127
440-49A	6000	0,1	0,1	± 0,3	D	963-128
440-51N	4000	1	1	± 2	D	963-127
440-53N	6000	1	1	± 2	D	963-128









03

# 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 bargraph display lights up to show how much of the weighing range is still available
- KERN EWJ-H/-M: USB data interface for transferring weighing data to the PC, printer etc.
- KERN EWJ-SM: Cost-effective variant without data interfaces
- KERN EWJ 300-3, 600-2M, 600-2SM: Draught shield standard, Weighing space W×D×H 134×128×80 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 155×175×217 mm
- Protective working cover included with delivery

#### Technical data

- Large LCD display, digit height 16,5 mm
- Dimensions weighing surface

   Ø 80 mm, stainless steel
  - Ø 120 mm, stainless steel
- Ø 135 mm, stainless steel, see larger picture
   W×D 155×145 mm, stainless steel
- Overall dimensions (without draught shield)  $W{\times}D{\times}H$
- A, B 220×315×90 mm
- C 220×315×105 mm
- D 215×330×105 mm
- Overall dimensions (incl. draught shield) W×D×H
   EWJ 300-3, 600-2M, 600-2SM:
- 220×340×180 mm
- EWJ 300-3H: 220×340×321 mm • Permissible ambient temperature KERN EWJ: 15 °C/35 °C KERN EWJ-M: 15 °C/30 °C

#### Accessories

TORY

- Protective working cover, scope of delivery 5 items, KERN EWJ-A04S05
- Internal rechargeable battery pack, operating time up to 20 h without backlight, charging time approx. 12 h, KERN KFB-A01
- KERN EWJ-H/-M: Software BalanceConnection, for flexible recording or transmission of measured values, in particular also to Microsoft® Excel or Access as well as transfer of this data to other Apps and programs, for more details see the internet, Scope of supplies: 1 CD, 1 license, KERN SCD-4.0
- RS-232/WiFi adapter for wireless connection to networks and WiFi capable devices, such as tablets, laptops or smartphones, KERN YKI-03
- RS-232/Ethernet adapter for connection to an IP-based Ethernet network, KERN YKI-01
- Further details, plenty of further accessories and suitable printers see *Accessories*

STAND	ARD									OPTION			FACTO
CAL IN	T RS 232	USB	KCP PROTOCOL	GLP PRINTER	PCS	% PERCENT		DMS	1 DAY	ET	ACCU	DAkks +3 days	N +3 D/
	not	not	only EWJ										EWJ-N

200 000 200							Ewy ow	
Model	Weighing	Readability	Verification	Minimal load	Linearity	Weighing		Option
	capacity		value			plate	Verificat	tion DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]			MD	DAkkS
KERN	g	g	g	g	g		KERN	KERN
EWJ 300-3	300	0,001	-	-	± 0,005	A	-	963-127
EWJ 300-3H	300	0,001	-	-	± 0,005	A	-	963-127
EWJ 3000-2	3000	0,01	-	-	± 0,05	C	-	963-127

Note: For applications that require verification, please order verificati on at the same time, initial verification at a later date is not possible. Verification at the factory, we need to know the full address of the location of use.

		vennica	tion at the fac	tory, we need	a to know the fu	il address of ti			
EWJ 600-2SM	600	0,01	0,1	0,5	± 0,03	В	965-216	963-127	
EWJ 600-2M	600	0,01	0,1	0,5	± 0,03	В	965-216	963-127	
EWJ 6000-1SM	6000	0,1	1	5	± 0,3	D	965-217	963-128	
EWJ 6000-1M	6000	0,1	1	5	± 0,3	D	965-217	963-128	

KERN

of Industry 4.0 applications

· Thanks to the many typical laboratory func-

percentage determination, combined with

the high level of precision, the KERN 572 is

a reliable partner for day-to-day work in the

The robust version, typical industrial func-

tions, such as piece-counting, vibrationfree

weighing and the large weighing ranges also

applications, where a high level of precision is

• KERN Universal Port (KUP): permits the con-

nection of an external KUP interface adapter,

such as, for example, RS-232, USB, Bluetooth

or Ethernet, for the exchange of data and con-

trol commands, without any installation outlay

make these balances ideal for all industrial

tions, such as, for example, recipe function,

Features

laboratory

required

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

harsh industrial applications, ideal for the diverse possibilities







#### Technical data

- Large backlit LCD display, digit height 21 mm
- Dimensions weighing surface, stainless steel
   Ø 106 mm
- 🖪 Ø 150 mm
- W×D 160×200 mm, see larger picture
- Overall dimensions (without draught shield)
   W×D×H 180×310×85 mm
- Net weight A, B approx. 2,4 kg
  approx. 2,8 kg
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery: 5 items, KERN 572-A02S05
- Internal rechargeable battery pack, operating time up to 48 h without backlight, charging time approx. 8 h, KERN YKR-01
- External data interface RS-232, interface cable included, KERN YKUP-01
- External data interface USB, interface cable included, KERN YKUP-03
- Extension-Box, KERN YKUP-13
- Loop and hook for underfloor weighing, for models with [d] ≥ 0,01 g, KERN 572-A03
- 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 II, KERN 572-A05
- STANDARD OPTION FACTORY Ţ 靋 DAkks KCF • 6582. • ં ગે PERCENT UNIT TOL UNDER ACCU MOVE USB

delivery

cope with everyday use

models with [d] = 0,001 g

Model	Weighing capacity [Max]	Readability [d]	Reproducibility	Linearity	Resolution	Weighing plate	Option DAkkS Calibr. Certificate DAkkS
KERN	g	g	g	g	Points		KERN
572-30	240	0,001	0,001	± 0,003	240.000	A	963-127
572-31	300	0,001	0,002	± 0,005	300.000	A	963-127
572-32	420	0,001	0,002	± 0,005	420.000	A	963-127
572-33	1600	0,01	0,01	± 0,03	160.000	В	963-127
572-35	2400	0,01	0,01	± 0,03	240.000	В	963-127
572-37	3000	0,01	0,02	± 0,05	300.000	В	963-127
572-39	4200	0,01	0,02	± 0,05	420.000	В	963-127
572-45	12000	0,05	0,05	± 0,15	240.000	C	963-128
572-55	20000	0,05	0,1	± 0,25	400.000	C	963-128
572-43	10000	0,1	0,1	± 0,3	100.000	C	963-128
572-49	16000	0,1	0,1	± 0,3	160.000	C	963-128
572-57	24000	0,1	0,1	± 0,3	240.000	C	963-128

• KERN Communication Protocol (KCP): The

computers, for details see page 8/9

KCP permits searching and remote control of

the balance using external control devices or

· Standardised, simplified concept of operation

play direct in special units such as length of

maintains the stability, protects the weighing

technology elements and is robust enough to

· Ring-shaped draught shield standard, only for

· Level indicator to level the balance precisely

· Loop for underfloor weighing, standard for

· Protective working cover included with

models with weighing plate size  $\blacksquare \emptyset$  106 mm,

· Freely programmable weighing unit, e.g. dis-

thread g/m, paper weight g/m<sup>2</sup>, or similar

The robust aluminium diecast housing

weighing space Ø×H 157×43 mm



Range of precision balances with enormous weighing capacities - ideal for heavy tare containers or large samples

#### Features

STANDARD

- 1 Convenient recipe-weighing: with the recipe database, in which up to 99 recipes can be stored, each with up to 20 recipe ingredients with name and target value
- · Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display
- Rapid and efficient operation thanks to the graphics display. Simple, clear user interface on the display in the following languages: DE, EN, FR, IT, ES, PT
- · Dosage aid: High stability mode and other filter settings can be selected

- · KERN PLJ: 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
- 2 PLJ 2000-3A: High-quality milligram balance with enormous weighing range up to 2100 g ideal for large samples or heavy tare containers. Large glass draught shield for easy access to the items being weighed. Weighing space W×D×H 160×170×225 mm, standard
- · Ring-shaped draught shield standard, only for models with weighing plate size Ø 110 mm, weighing space Ø×H 150×60 mm







· Protective working cover included with delivery

#### **Technical data**

- · Backlit LCD Graphic display, digit height 15 mm
- Dimensions weighing surface ■ Ø 110 mm, stainless steel ■ Ø 160 mm, stainless steel, see larger picture
- W×D 200×175 mm, stainless steel
- Permissible ambient temperature 15 °C/35 °C

#### Accessories

- · Protective working cover, scope of delivery 5 items, KERN PLJ-A01S05
- I Hook f. underfloor weighing, KERN PLJ-A02
- · Set for density determination of liquids and solids for models with [d] = 0,001 g, KERN ALT-A02
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- · Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ), for details see page 216

STANDARD	STANDARD												
CAL INT CAL EXT RS 232 GLP PLJ PLS GLP	PCS RECIPE PERCENT	TOL UNDER MULTI	DMS FORCE 1 DAY PLJ-F PLJ-A	ET DAkks	+3 DAYS								

Model	Weighing	Readability	Verification	Minimal load	Linearity	Weighing		Option
	capacity		value			plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]			MD	DAkkS
KERN	g	g	g	g	g		KERN	KERN
PLS 420-3F	420	0,001	-	-	± 0,004	A	-	963-127
PLS 720-3A	720	0,001	-	-	± 0,002	A	-	963-103
PLS 1200-3A	1200	0,001	-	-	± 0,003	A	-	963-103
PLS 4200-2F	4200	0,01	-	-	± 0,04	В	-	963-127
PLS 6200-2A	6200	0,01	-	-	± 0,03	В	-	963-104
PLS 8000-2A	8200	0,01	-	-	± 0,04	В	_	963-104
PLS 20000-1F	20000	0,1	-	-	± 0,4	C	-	963-128
PLJ 420-3F	420	0,001	-	-	± 0,003	А	-	963-127
PLJ 720-3A	720	0,001	-	-	± 0,002	A	-	963-103
PLJ 1200-3A	1200	0,001	-	-	± 0,003	A	_	963-103
PLJ 2000-3A	2100	0,001	-	-	± 0,004	A	-	963-103
PLJ 4200-2F	4200	0,01	-	-	± 0,04	В	-	963-127
PLJ 6200-2A	6200	0,01	-	-	± 0,03	В	-	963-104
Note	e: For applicati		, ,			ne same time, initia full address of the l	I verification at a later date i	s not possible.

verification at the factory, we need to know the full address of the location of use.												
PLJ 720-3AM 720	0,001	0,01	0,02	± 0,002	A	965-216	963-103					
PLJ 6200-2AM 620	0,01	0,1	0,5	± 0,03	В	965-217	963-104					



The new standard in the laboratory with robust tuning fork weighing system, also with EC type approval [M]

#### Features

- KERN PNS: Adjusting program CAL for quick setting of the balance accuracy using an external test weight at an additional price, see *test weights*
- 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
- High-quality tuning fork measuring system for steady weight values and continuous weighing
- Capacity display: A bargraph display lights up to show how much of the weighing range 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, for models with weighing plate size Ø 140 mm, Weighing space W×D×H 172×171×160 mm
- Protective working cover included with delivery

#### Technical data

- Large LCD display, digit height 16,5 mm
- W×D 190×190 mm, see larger picture
- Overall dimensions W×D×H, without draught shield
- I96×293×266 mm, I 196×293×89 mm
   Net weight
- approx. 4,2 kg, B approx. 3,6 kg
  Permissible ambient temperature
  - 5 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN PNJ-A01S05
- RS-232/Bluetooth adapter to connect to Bluetooth capable devices, such as Bluetooth printers, tablets, laptops, smartphones, etc., KERN YKI-02
- RS-232/WiFi adapter for wireless connection to networks and WiFi capable devices, such as tablets, laptops or smartphones, KERN YKI-03
- RS-232/Ethernet adapter for connection to an IP-based Ethernet network, KERN YKI-01
- Gemstones plate, aluminium with practical spout, W×D×H 130×80×30 mm, KERN AEJ-A05
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ), for details see page 216
- Further details, plenty of further accessories and suitable printers see *Accessories*

	-												
			GLP	<u>.</u>	%	C	-√+ ⊙	B H	(((Ų)))		\$	DAkkS	Μ
CAL INT	CAL EXT	RS 232	INTERN	PCS	PERCENT	UNIT	TOL	MULTI	T-FORK	1 DAY	ET	+3 DAYS	+3 DAYS
DNI	DNIC												DNI

Model	Weighing	Readability	Verification	Minimal load	Linearity	Weighing	Option	
	capacity		value			plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]			MU	DAkkS
KERN	g	g	g	g	g		KERN	KERN
PNS 600-3	620	0,001	-	-	± 0,004	A	-	963-103
PNS 3000-2	3200	0,01	-	-	± 0,02	В	-	963-127
PNS 12000-1	12000	0,1	-	_	± 0,2	В	_	963-128

OPTION

FACTORY

Note: For applications that require verification, please order verificati on at the same time, initial verification at a later date is not possible.

Verification at the factory, we need to know the full address of the location of use.											
PNJ 600-3M	620	0,001	0,01	0,02	± 0,004	A	965-216	963-103			
PNJ 3000-2M	3200	0,01	0,1	0,5	± 0,02	В	965-216	963-127			
PNJ 12000-1M	12000	0,1	1	5	± 0,2	В	965-217	963-128			

STANDARD

Precision balances KERN EW-N · EG-N



The classic balance with robust tuning fork measuring system

#### Features

- II KERN EG-N: Internal adjustment in the case of a change in temperature and time-controlled at defined intervals, guarantees high degree of accuracy and makes the balance independent of its location of use
- KERN EW-N: Adjusting program CAL for quick setting of the balance accuracy using an external test weight at an additional price, see *test weights*
- Stable temperature behaviour
- Short stabilisation time
- Shock proof construction
- High corner load performance
- Capacity display: A bargraph display lights up to show how much of the weighing range is still available

- · GLP/ISO record keeping of weight values
- Totalising of pieces when counting
- Protective working cover included with delivery

#### **Technical data**

- Large LCD display, digit height 17 mm
- Dimensions weighing surface
  Ø 118 mm, stainless steel, see larger picture
  W×D 170×140 mm, stainless steel
  W×D 180×160 mm, stainless steel
- Overall dimensions W×D×H (without draught shield) , II 182×235×65 mm,
  265×192×87 mm







03

- Net weight A, B approx. 2,0 kg, C approx. 4,0 kg
- Permissible ambient temperature 10°C/30°C

#### Accessories

- Protective working cover, scope of delivery: 5 items, for models with weighing plate size
  A. B. KERN EG-A05S05
  KERN EG-A09S05
- Internal rechargeable battery pack, operating time up to 32 h without backlight, charging time approx. 12 h, for models with weighing plate size
   KERN EG-A04
   KERN EG-A06
- 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, KERN EG-A03
- Loop for underfloor weighing, for models with weighing plate size A, B KERN EG-A07
   KERN EG-A08
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ)
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDAR	STANDARD											OPTION				FACTORY
			GLP		%	$\mathbf{C}$	- <b>√</b> + ⊙	Ē		((( <b>Ų</b> )))		S.		ВЩ	DAkkS	Μ
CAL INT	CAL EXT	RS 232	PRINTER	PCS	PERCENT	UNIT	TOL	UNDER	230 V	T-FORK	1 DAY	ET	ACCU	MULTI	+3 DAYS	+3 DAYS
FG-N	FW-N															FG-N

Model	Weighing	Readability	Verification	Minimal load	Linearity	Weighing		Option				
	capacity		value			plate	Verification	DAkkS Calibr. Certificate				
	[Max]	[d]	[e]	[Min]			М	DAkkS				
KERN	g	g	g	g	g		KERN	KERN				
EW 220-3NM	220	0,001	-	-	± 0,002	A	-	963-127				
EW 420-3NM	420	0,001	-	-	± 0,003	A	-	963-127				
EW 620-3NM	620	0,001	-	-	± 0,003	A	-	963-103				
EW 820-2NM	820	0,01	-	-	± 0,01	В	-	963-127				
EW 2200-2NM	2200	0,01	-	-	± 0,01	C	-	963-127				
EW 4200-2NM	4200	0,01	-	-	± 0,02	C	-	963-127				
EW 6200-2NM	6200	0,01	-	-	± 0,03	C	-	963-104				
EW 12000-1NM	12000	0,1	-	-	± 0,2	C	-	963-128				
Note: For	Note: For applications that require verification, please order verificati on at the same time, initial verification at a later date is not possible.											

Verifications that require verification, pieces offer verification at the same time, much verification at a fact dat

Verification at the factory, we need to know the full address of the location of use.												
EG 220-3NM	220	0,001	0,01	0,02	± 0,002	A	965-216 🕕	963-127				
EG 420-3NM	420	0,001	0,01	0,02	± 0,003	A	965-216 🔳	963-127				
EG 620-3NM	620	0,001	0,01	0,1	± 0,004	A	965-201 🕕	963-103				
EG 2200-2NM	2200	0,01	0,1	0,5	± 0,01	С	965-216 🔳	963-127				
EG 4200-2NM	4200	0,01	0,1	0,5	± 0,02	C	965-216 🕕	963-127				



# High-resolution precision balance made of stainless steel with IP protection

#### Features

- High-quality tuning fork measuring system for steady weight values and continuous weighing
- Thanks to the stainless steel design of the housing and platform with smooth surface, the scale is rust-free and easy to clean
- Dust and spray protection to IP65 (in accordance with EN 60529)
- Level indicator and levelling feet for precise levelling of the scale, fitted as standard
- RS-232 data interface for connection to a printer as standard
- Protective working cover included with delivery

#### Technical data

- Large LCD display, digit height 16,5 mm Dimensions weighing surface, stainless steel
- ▲ Ø 140 mm
- **B** W×D 190×190 mm, see larger picture
- Overall dimensions W×D×H 310×208×87 mm
- Net weight approx. 1,6 kg
- Permissible ambient temperature 10 °C/30 °C

#### Accessories

- Loop for underfloor weighing, KERN EG-A07
- Software BalanceConnection, for flexible recording or transmission of measured values, in particular also to Microsoft® Excel or Access as well as transfer of this data to other Apps and programs, for more details see the internet, Scope of supplies: 1 CD, 1 license, KERN SCD-4.0
- Battery insert, enables mobile weighing, Operating time 200 h, KERN PWS-A01
- Interface cable RS-232 to connect an external device, Dust and spray protection to IP65 (in accordance with EN 60529), KERN PWS-A02
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD					OPTION	
CAL EXT RS 232	GLP AND PCS	0/   -√+     PERCENT   TOL	IP 65	((U))) T-FORK 1 DAY	ET UNDER	BATT DAkkS

Model	Weighing capacity [Max]	Readability [d]	Reproducibility	Linearity	Weighing plate	Option DAkkS Calibr. Certificate DAkkS
KERN	g	g	g	g		KERN
PWS 800-2	820	0,01	0,01	± 0,01	A	963-127
PWS 3000-1	3200	0,1	0,1	± 0,1	В	963-127
PWS 8000-1	8200	0,1	0,1	± 0,1	В	963-128

EXPECTED TO BE AVAILABLE FROM MARCH 2023



Multifunctional laboratory balance with single-cell weighing system, also with EC type approval [M]

#### Features

- KERN PBS: Adjusting program CAL for quick setting of the balance accuracy using an external test weight at an additional price, see *test weights*
- KERN PBJ: Internal adjustment in the case of a change in temperature and time-controlled at defined intervals, guarantees high degree of accuracy and makes the balance independent of its location of use
- Metal housing: robust and sturdy
- Dosage aid: High stability mode and other filter settings can be selected
- Weighing with tolerance range (checkweighing): a visual signal helps with portioning, dispensing or grading
- Totalising of weights
- Identification number: 4 digits, printed on calibration protocol freely programmable

- Automatic data output to the PC/printer each time the balance is steady
- In Draught shield standard for models with [d] = 0,001 g, weighing space W×D×H 180×193×87 mm
- Protective working cover included with delivery

#### **Technical data**

- Large backlit LCD display, Digit height 14 mm
- Dimensions weighing surface, stainless steel
   W×D 108×105 mm
   W×D 180×190 mm, see larger picture
- Overall dimensions (without draught shield)
   W×D×H: 209×322×78 mm
- Net weight approx. 3,2 kg
- Permissible ambient temperature 10 °C/30 °C







#### Accessories

- Protective working cover, scope of delivery: 5 items, for models with weighing plate size
  KERN PBS-A01S05
- KERN PBS-A02S05
- Set for density determination of liquids and solids with density ≥ 1, for models with weighing plate size
   ■ KERN PBS-A04
- KERN PBS-A03
- RS-232/Ethernet adapter for connection to an IP-based Ethernet network, KERN YKI-01
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ)
- Further details, plenty of further accessories and suitable printers see *Accessories*

#### Single-cell advanced technology:

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

STANDAR	D													OPTION		FACTORY
		• 6556.*	GLP		A	%	3	- <b>√</b> + ⊙	^-	<b>F</b>	в	Ĩ.		Ĩ	DAkkS	М
CAL INT	CAL EXT	RS 232	INTERN	PCS	RECIPE	PERCENT	UNIT	TOL	MOVE	UNDER	MULTI	SC TECH	1 DAY	ET	+3 DAYS	+3 DAYS
PBJ	PBS											3				PBJ

Model	Weighing	Readability	Verification	Minimal load	Linearity	Weighing		Option
	capacity		value			plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]			M	DAkkS
KERN	g	g	g	g	g		KERN	KERN
PBS 620-3M	620	0,001	-	-	± 0,002	A	-	963-103
PBS 4200-2M	4200	0,01	-	-	± 0,02	В	_	963-127
PBS 6200-2M	6200	0,01	-	-	± 0,02	В	-	963-104

Note: For applications that require verification, please order verificati on at the same time, initial verification at a later date is not possible. Verification at the factory, we need to know the full address of the location of use.

	verification at the factory, we need to know the fair address of the foodation of dise.												
PBJ 620-3M	620	0,001	0,01	0,1	± 0,002	A	965-201 🕕	963-103					
PBJ 4200-2M	4200	0,01	0,1	0,5	± 0,02	В	965-216 🕕	963-127					
PBJ 6200-2M	6200	0,01	0,1	1	± 0,02	В	965-202 🕕	963-104					
PBJ 8200-1M	8200	0,1	1	5	± 0,2	В	965-217 🕕	963-128					



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

#### Features

- KERN PES: Adjusting program CAL for quick setting of the balance accuracy using an external test weight at an additional price, see *test weights*
- KERN PEJ: Automatic internal adjustment, guarantees high degree of accuracy and makes the balance independent of its location of use
- Metal housing: robust and sturdy
- Weighing with tolerance range (checkweighing): Input of two upper and two lower limit values through four arrow keys. An audible and visual signal assists with the portioing, 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 hook on the underside of the balance for models with [d] = 0,001 g, [d] = 0,01 g

- [d] = 0,001 g hook included with the delivery, [d] = 0,01 g/0,01 g hook not included with the delivery
- **I**, **I**: Protective working cover included with delivery

#### **Technical data**

- Fluorescent display, bright with high contrast, digit height 14 mm
- Dimensions weighing surface
   W×D 140×120 mm, stainless steel
   W×D 200×200 mm, stainless steel, see larger picture
- W×D 250×220 mm, stainless steel
   Overall dimensions (without draught shield)
- W×D×H
- A 220×330×90 mm
- E 220×339×80 mm
- © 260×330×113 mm







Net weight approx. 3,6 kg,
approx. 4,4 kg, approx. 10 kg
Permissible ambient temperature 10 °C/30 °C

#### Accessories

- M, B: Protective working cover, scope of delivery: 5 items, KERN PES-A04S05
- KERN PES: Internal rechargable battery pack, operating time up to 32 h without backlight, charging time approx. 15 h, KERN PES-A01
- Loop for underfloor weighing, for models with weighing plate size **I**, KERN PES-A03
- 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
- RS-232/Ethernet adapter for connection to an IP-based Ethernet network, KERN YKI-01
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ)
- Further details, plenty of further accessories and suitable printers see *Accessories*

ACCU

STANDAR	D												OPTION			FACTORY
	CAL EXT	• 6000 • RS 232		PCS		<u>%</u>		-√+ ⊙ ৢ৽ TOL		230 V	((( <b>U</b> ))) T-FORK	1 DAY	S		DAkkS +3 DAYS	
		R5 232	PRINTER	PLS	RECIPE	PERCENT	UNIT	TUL	UNDER	230 V	I-FURK	I DAT	EI	MULTI	+3 DATS	SWITCH

16 20				AB			120 12)				
Model	Weighing	Readability	Verification	Minimal load	Linearity	Weighing	Option				
	capacity		value			plate	Verification	DAkkS Calibr. Certificate			
	[Max]	[d]	[e]	[Min]			M	DAkkS			
KERN	g	g	g	g	g		KERN	KERN			
PES 620-3M	620	0,001	-	-	± 0,003	A	_	963-103			
PES 2200-2M	2200	0,01	-	-	± 0,02	В	-	963-127			
PES 4200-2M	4200	0,01	-	-	± 0,02	В	_	963-127			
PES 6200-2M	6200	0,01	-	-	± 0,03	В	_	963-104			
PES 15000-1M	15000	0,1	-	-	± 0,2	В	_	963-128			
PES 31000-1M	31000	0,1	-	-	± 0,4	C	_	963-128			
Note:	For application	s that require	verification n	lease order ver	ificati on at t	he same time initi	al verification at a later date i	s not possible			

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	965-201 🕕	963-103				
PEJ 2200-2M	2200	0,01	0,1	0,5	± 0,02	В	965-216 🕕	963-127				
PEJ 4200-2M	4200	0,01	0,1	0,5	± 0,02	В	965-216 🕕	963-127				









## High-capacity precision balance with password-protected user administration, also with EC type approval [M]

#### Features

- KERN FEJ: Automatic internal adjustment, guarantees high degree of accuracy and makes the balance independent of its location of use
- KERN FES: Adjusting program CAL for quick setting of the balance accuracy using an external test weight at an additional price, see *test weights*
- Stainless steel display device with IP65
   protection, hygienic and easy to clean
- Metal housing: robust and sturdy
- In order to meet requirements in the pharmaceutical industry, the balance is fitted with a user administration system, which enables unique assignment of users and protects against unauthorised access
- Intuitive concept of operation through info line on the display
- Freely-assignable function keys enable individual adjustment of the balance

- Dust and spray protection to IP65 (in accordance with EN 60529)
- U.S. FDA 21 Part 11: assists you in data integrity in accordance with U.S. FDA 21 Part 11 (for example weighing result, sample ID, user name, scales ID, ...)
- Protective working cover included with delivery

#### **Technical data**

- Large backlit LCD display, digit height 16,5 mm
- Dimensions weighing surface, stainless steel, W×D 350×400 mm
- Dimensions of display device W×D×H 290×180×60 mm
- Overall dimensions W×D×H
   350×520×170 mm
- Net weight approx. 19 kg
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN FEJ-A02S05
- Relay output with 5 outputs for weighing in 3 tolerance ranges, KERN FEJ-A07
- Stand to elevate display device, height of stand approx. 700 mm, KERN FEJ-A05
- Interface cable RS-232 to connect an external device, dust and spray protection to IP65 (in accordance with EN 60529), KERN PWS-A02
- Isop for underfloor weighing, KERN FEJ-A06
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD			OPTION	FACTORY		
CAL INT CAL EXT RS 232	GLP	RECIPE PERCENT		(((Ų))) T-FORK 1 DAY	ET UNDER +3 DAYS	SWITCH +3 DAYS
FEL FES			 			FEI

Model	Weighing	Readability	Verification	Minimal load	Repro-	Linearity		Option			
	capacity	[] -	value	[14:]	ducibility		Verification	DAkkS Calibr. Certificate			
	[Max]	[d]	[e]	[Min]			MO	DAkkS			
KERN	kg	g	g	g	g	g	KERN	KERN			
FES 17K-4	17	0,1	-	5	0,1	± 0,3	-	963-128			
FES 33K-4	33	0,1	-	5	0,1	± 0,3	-	963-128			
FES 62K-4D	6,2   62	0,1   1	-	5	0,1   1	± 0,3   3	-	963-129			
Note: For applications that require verification, please order verification at the same time, initial verification at a later date is not possible											

For applications that require verification, please order verification of the same time, initial verification at later date is not possible.

	Verification at the factory, we need to know the full address of the location of use.													
FEJ 17K-4M	17	0,1	1	5	0,1	± 0,3	965-217	963-128						
FEJ 33K-4M	33	0,1	1	5	0,1	± 0,3	965-217	963-128						
FEJ 62K-4DM	6,2   62	0,1   1	1	5	0,1   1	± 0,3   3	965-218	963-129						

EXPECTED TO BE AVAILABLE FROM MARCH 2023

Order Hotline: Go to back page of catalogue



# ANALYTICAL BALANCES

## **Quick-Finder Analytical balances**

[d]       [Max]         mg       g       KERN         0,01       101       ABT 100-5NM       44       0       0         0,01       135       ABP 100-5M       46       0       0       0         0,01       135       ABP 100-5AM       46       0       0       0         0,01       210       ALJ 210-5A       40       1       0       0         0,01       220       ABP 200-5M       46       1       0       0         0,01       220       ABP 200-5M       46       1       0       0         0,01       0,1       42       120       ABT 120-5DNM       44       0       0         0,01       0,1       42       120       ABT 120-5DNM       44       0       0         0,01       0,1       42       120       ABT 120-5DNM       44       0       0         0,01       0,1       52       120       ABP 100-5DAM       48       1       0       0         0,01       0,1       52       120       ABP 100-5DAM       44       0       0       0         0,01       0,1       82       220	see front f	GLP RINTER Flap 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
mg         g         KERN         For an explanation on the pictos, s           0,01         101         ABT 100-5NM         44         0         0           0,01         135         ABP 100-5M         46         0         0           0,01         135         ABP 100-5AM         48         1         0         0           0,01         210         ALJ 210-5A         40         1         0         0           0,01         210         ALJ 210-5A         40         1         0         0           0,01         220         ABP 200-5M         46         1         0         0           0,01         220         ABP 200-5AM         48         1         0         0           0,01         0,1         42         120         ABT 120-5DNM         44         1         0         0           0,01         0,1         52         120         ABP 100-5DAM         48         1         0         0           0,01         0,1         52         120         ABP 100-5DAM         48         1         0         0           0,01         0,1         82         200         ABT 200-5DAM         40	• • • • • • • • • • • • • • • • • • •	
0.01       101       ABT 100-5NM       44       1       0       0         0.01       135       ABP 100-5M       46       1       0       0         0.01       135       ABP 100-5AM       48       1       0       0         0.01       135       ABP 100-5AM       48       1       0       0         0.01       210       ALJ 210-5A       40       1       0       0         0.01       220       ABP 200-5M       46       1       0       0         0.01       220       ABP 200-5AM       48       1       0       0         0.01       0.1       42       120       ABT 120-5DNM       44       1       0       0         0.01       0.1       52       120       ABP 100-5DM       46       1       0       0         0.01       0.1       52       120       ABP 100-5DAM       48       1       0       0         0.01       0.1       52       120       ABP 100-5DAM       44       0       0       0         0.01       0.1       82       220       ABT 220-5DNM       44       0       0       0	• • • • • • • • • • • • • • • • • • •	
0,01         135         ABP 100-5M         46         1         0         0           0,01         135         ABP 100-5AM         48         1         0         0         0           0,01         210         ALJ 210-5A         40         1         0         0         0           0,01         210         ALJ 210-5A         40         1         0         0         0           0,01         220         ABP 200-5M         46         1         0         0         0           0,01         220         ABP 200-5AM         48         1         0         0         0           0,01         0,1         42         120         ABT 120-5DNM         44         1         0         0           0,01         0,1         52         120         ABP 100-5DA         46         1         0         0           0,01         0,1         52         120         ABP 100-5DA         40         1         0         0           0,01         0,1         82         220         ALJ 220-5DNM         44         1         0         0           0,01         0,1         102         220         A		0 0 0 0 0 0 0 0 0 0 0 0
0,01       135       ABP 100-5AM       48       1       •       •       •         0,01       210       ALJ 210-5A       40       1       •       •       •         0,01       220       ABP 200-5M       46       1       •       •       •         0,01       220       ABP 200-5AM       48       1       •       •       •         0,01       0,1       42       120       ABT 120-5DNM       44       1       •       •         0,01       0,1       52       120       ABP 100-5DM       46       1       •       •         0,01       0,1       52       120       ABP 100-5DAM       48       1       •       •         0,01       0,1       52       120       ABP 100-5DAM       48       1       •       •         0,01       0,1       82       220       ALJ 200-5DA       40       1       •       •         0,01       0,1       82       220       ABF 200-5DM       44       1       •       •       •         0,01       0,1       102       220       ABF 200-5DM       46       1       •       •	• • • • • • • • • • • • • • • • • • •	0 0 0 0 0 0 0 0 0 0 0 0
0,01       210       ALJ 210-5A       40       1       •       •         0,01       220       ABP 200-5M       46       1       •       •       •         0,01       220       ABP 200-5AM       48       1       •       •       •       •         0,01       220       ABP 200-5AM       48       1       •	• • • • • • • • • • • • •	0 0 0 0 0 0
0.01         220         ABP 200-5M         46         1         •	• • • • • • • • • •	0 0 0 0 0 0
0,01         220         ABP 200-5AM         48         1         •         •         •           0,01         0,1         42         120         ABT 120-5DNM         44         1         •	• • • • • •	8 0 9 9 0
0,01       0,1       42       120       ABT 120-5DNM       44       1       •       •       •         0,01       0,1       52       120       ABP 100-5DM       46       1       •       •       •         0,01       0,1       52       120       ABP 100-5DM       46       1       •       •       •         0,01       0,1       52       120       ABP 100-5DAM       48       1       •       •       •         0,01       0,1       82       220       ALJ 200-5DA       40       1       •       •         0,01       0,1       82       220       ABT 220-5DNM       44       1       •       •         0,01       0,1       102       220       ABP 200-5DM       46       1       •       •         0,01       0,1       102       220       ABP 200-5DAM       48       1       •       •         0,1       82       ABS 80-4N       42       1       •       •       •		0 0 0 0
0.01       0,1       52       120       ABP 100-5DM       46       1       •       •         0,01       0,1       52       120       ABP 100-5DAM       48       1       •       •         0,01       0,1       52       120       ABP 100-5DAM       48       1       •       •         0,01       0,1       82       220       ALJ 200-5DA       40       1       •       •         0,01       0,1       82       220       ABT 220-5DNM       44       1       •       •         0,01       0,1       102       220       ABP 200-5DM       46       1       •       •         0,01       0,1       102       220       ABP 200-5DAM       48       1       •       •         0,01       0,1       102       220       ABP 200-5DAM       48       1       •       •         0,1       82       ABS 80-4N       42       1       •       •       •		• • •
0.01         0.1         52         120         ABP 100-5DAM         48         1         •	• • •	•
0,01         0,1         82         220         ALJ 200-5DA         40         1         •         •           0,01         0,1         82         220         ABT 220-5DNM         44         1         •         •         •           0,01         0,1         82         220         ABT 220-5DNM         46         1         •         •         •           0,01         0,1         102         220         ABP 200-5DM         46         1         •         •         •           0,01         0,1         102         220         ABP 200-5DAM         48         1         •         •         •           0,1         82         ABS 80-4N         42         1         •         •	•	•
0,01         0,1         82         220         ABT 220-5DNM         44         1         •         •         •           0,01         0,1         102         220         ABP 200-5DM         46         1         •	•	•
0,01         0,1         102         220         ABP 200-5DM         46         1         •         •           0,01         0,1         102         220         ABP 200-5DAM         48         1         •         •           0,01         0,1         102         220         ABP 200-5DAM         48         1         •         •           0,1         82         ABS 80-4N         42         1         •         •	•	
0,01         0,1         102         220         ABP 200-5DAM         48         1         •	•	
0,1 82 ABS 80-4N 42 1 O		
		• •
0,1 82 ACS 80-4 42 1		• •
0,1 82 ABJ 80-4NM 42 1 0 0		• •
0,1 82 ACJ 80-4M 42 1 • •		• •
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		•
0,1 120 ADB 100-4 ⊕ 39 1 •		•
0,1 120 ADJ 600-C3 39 1 •		•
0,1 120 ADJ 100-4 39 1 •		•
0,1 120 ABS 120-4N 42 1 0		•
0,1 120 ACS 100-4 42 1		• •
0,1 120 ABJ 120-4NM 42 1 • • •		•
0,1 120 AC 100-4M 42 1 • •		• •
0,1 120 ABT 120-4NM 44 1 •	•	•
0,1 120 ABP 100-4M 46 1 • •	•	•
0,1 160 ALS 160-4A 40 1 •	•	•
0,1 160 ALJ 160-4A 40 1 •	•	•
0,1 160 ALJ 160-4AM 40 1 •	•	•
0,1 220 ADB 200-4 39 1		•
0,1 220 ADJ 200-4 39 1 •		•
0,1 220 ABS 220-4N 42 1 • • •		• •
0,1 220 ACS 200-4 42 1		• •
0,1 220 ABJ 220-4NM 42 1 • • •		• •
0,1 220 ACJ 200-4M 42 1 • • •		• •
0,1 220 ABT 220-4NM 44 1 • • •	•	•
0,1 220 ABP 200-4M 46 1 • •	•	•
0,1 220 ABP 200-4AM 48 • •	•	•
0.1 250 ALS 250-4A 40 1	•	•
0,1 250 ALJ 250-4A 40 1 ●	•	•
0,1 250 ALJ 250-4AM 40 1 •	•	•
0,1 310 AL 310-4A 40 1 •	•	•
0,1 320 ABS 320-4N 42 1 • •		• •
0,1 320 ACS 300-4 42 1 •		• •
0,1 320 ABJ 320-4NM 42 1 • •		• •
0,1 320 ACJ 300-4M 42 1 • •		• •
0,1 320 ABT 320-4NM 44 1 • •	•	•
	•	•
0,1 320 ABP 300-4AM 48 1 • •	•	•
0,1 510 ALJ 500-4A 40 1 •	•	•
News 2023		<b>o</b> = option

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EasyTouch











The price leader in analytical balances, with internal or external adjustment - now as version with [Max] 220 g!

#### Features

- ADB 200-4: Model with incredibly high resolution. Ideal if extremely precise weighing is required
- KERN ADJ: Automatic internal adjustment in the case of a change in temperature ≥ 2 °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 at an additional price, see *test weights*
- ADJ 600-C3 / ADB 600-C3: Compact, space-saving carat balances with a readout of 0.001 ct and a weighing range of 600 ct. The high level of accuracy saves hard cash wherever you are weighing valuable precious stones
- Level indicator and levelling feet for precise levelling of the scale, fitted as standard, to give the most accurate weighing result

PRINTER

.....

RS 232

- Large glass draught shield with 3 sliding doors for easy access to the items being weighed standard
- 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,  $\phi$  90 mm
- Overall dimensions (incl. draught shield)
   W×D×H

KERN ADB/ADJ: 230×310×330 mm KERN ADB-C/ADJ-C: 230×310×210 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 °C/30 °C

#### Accessories

- I Set for density determination of liquids and solids with density ≤/≥ 1, the density is indicated directly on the display, KERN YDB-03
- I Ioniser to neutralise electrostatic charge, KERN YBI-01A
- Gemstones plate, aluminium with practical spout, W×D×H 130×80×30 mm, KERN AEJ-A05
- S Weighing table to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ), for details see page 216
- Further details, plenty of further accessories and suitable printers see *Accessories*

ADJ ADB						
Model	Weighing capacity	Readability	Reproducibility	Linearity	Net weight	Option DAkkS Calibr. Certificate
KERN	[Max] g	[d] mg	mg	mg	approx. kg	DAKKS Calibit Certificate DAkkS KERN
ADB 100-4	120	0,1	0,2	± 0,4	4,4	963-101
ADB 200-4	220	0,1	0,2	± 0,4	4,4	963-101
ADB 600-C3 🏶	600 ct	0,001 ct	0,002 ct	± 0,004 ct	3,8	963-101
ADJ 100-4	120	0,1	0,2	± 0,4	5	963-101
ADJ 200-4	220	0,1	0,2	± 0,4	5	963-101
ADJ 600-C3 🏶	600 ct	0,001 ct	0,002 ct	± 0,004 ct	4,5	963-101

= Carat balances

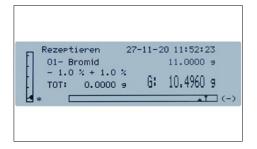
STANDARD

CAL INT

CAL EXT



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



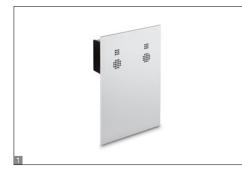
Convenient recipe-weighing: with the recipe database, in which up to 99 recipes can be stored, each with up to 20 recipe ingredients with name and target value



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



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



#### Features

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

STANDARD



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

#### **Technical data**

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

#### Accessories

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



- Draft shield rear panel with integrated ionizer to neutralise electrostatic charge. Is fitted in place of the existing glass rear panel of the draft shield. Suitable for all models in the range, please order at the time you order your balance, the scope of delivery is the rear panel, ionizer, Universal plug-in power supply. Factory Option, KERN ALJ-A03
- Is Set for density determination of liquids and solids with density  $\leq \geq 1$ , the density is indicated directly on the display, KERN YDB-03
- **I** Weighing table to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03
- · Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- · Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ), for details see page 216
- · Further details, plenty of further accessories and suitable printers see Accessories

FACTORY

OPTION

	S 232 INTERN PCS	RECIPE PERCENT	UNIT TOL		FORCE 1 DAY	ET DAkks	+3 DAYS		
Model	Weighing	Readability	Verification	Minimal load	Reproduci-	Linearity			Option
	capacity		value		bility			Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]				MI	DAkkS
KERN	g	mg	mg	mg	mg	mg		KERN	KERN
ALS 160-4A	160	0,1	-	-	0,1	± 0,3		-	963-101
ALS 250-4A	250	0,1	-	-	0,1	± 0,3		-	963-101
ALJ 210-5A	210	0,01	-	-	0,05	± 0,1		-	963-101
ALJ 160-4A	160	0,1	-	-	0,1	± 0,3		-	963-101
ALJ 250-4A	250	0,1	-	-	0,1	± 0,3		-	963-101
ALJ 310-4A	310	0,1	-	-	0,1	± 0,3		-	963-101
ALJ 500-4A	510	0,1	-	-	0,2	± 0,4		-	963-101
Multi-range	balance, with increa	asing load it sv	itches autom	atically to the r	next largest we	ighing range [Max]	and read	out [d] and when	the load is fully removed,
			the	e balance swite	ches back to the	e lower range			
ALJ 200-5DA	82   220	0,01   0,1	-	-	0,04   0,1	± 0,1   0,2		-	963-101
N	lata: For application	a that require	varification n	loooo ordor vor	ification at the	como timo initial	varifiaatia	n at a latar data i	a not nassible

Verification at the factory, we need to know the full address of the location of use.												
ALJ 160-4AM 1	60 C	),1 1	10	0 C	),1 ±		965-201	963-101				
ALJ 250-4AM 2	250 C	),1 1	10	0 0	,1 ±	: 0,3	965-201	963-101				

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



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

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

#### Features

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

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



#### **Technical data**

- Large LCD display, digit height 14 mm
- Dimensions weighing surface, stainless steel, Ø 91 mm
- Weighing space W×D×H 174×162×227 mm
- Overall dimensions (incl. draught shield)
- W×D×H 213×333×338 mm
- Net weight approx. 6 kg

• Permissible ambient temperature 10 °C/30 °C



#### Accessories

- · Protective working cover, scope of delivery 5 items, KERN ACS-A02S05
- Set for density determination of liquids and solids with density  $\leq \geq 1$ , the density is indicated directly on the display, KERN YDB-03
- In Interest of the Interest KERN YBI-01A
- KERN ABS-N/ABJ-NM: Data interface RS-232, interface cable included, approx. 1,5 m, KERN ACS-A01
- S Weighing table to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03
- · Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- · Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ), for details see page 216
- Further details, plenty of further accessories and suitable printers see Accessories





Single-cell advanced technology:

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

STANDARD						OPTION	FACTORY		
CAL INT CAL EXT ABJ-NM/ ABS-N/ ACS ACS/A	32 USB PRINTER	PCS RECIPE	% PERCENT UNIT	-√+ ⊙ TOL MULTI	SC TECH 1 DAY	RS 232 +3 DAYS ABS-N/ ABJ-NM	H3 DAYS ACJ		
Model	Weighing	Readability	Verification	Minimal load	Reproduci-	Linearity			Option
	capacity		value		bility			Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]				MD	DAkkS
KERN	g	mg	mg	mg	mg	mg		KERN	KERN
ABS 80-4N	82	0,1	-	-	0,2	± 0,3		-	963-101
ABS 120-4N	120	0,1	-	-	0,2	± 0,3		-	963-101
ABS 220-4N	220	0,1	-	-	0,2	± 0,3		-	963-101
ABS 320-4N	320	0,1	-	-	0,2	± 0,3		-	963-101
ACS 80-4	82	0,1	_		0,2	± 0,3		-	963-101
ACS 100-4	120	0,1	-	-	0,2	± 0,3		-	963-101
ACS 200-4	220	0,1	-	-	0,2	± 0,3		-	963-101
ACS 300-4	320	0,1	-	-	0,2	± 0,3		-	963-101
ABJ 80-4NM	82	0,1	_	-	0,2	± 0,3		-	963-101
ABJ 120-4NM	120	0,1	_	-	0,2	± 0,3		-	963-101
ABJ 220-4NM	220	0,1	-	-	0,2	± 0,3		-	963-101
ABJ 320-4NM	320	0,1	-	-	0,2	± 0,3		-	963-101
Note	e: For application					same time, initial			s not possible.
		Verifica	ation at the fac	ctory, we need	to know the fu	I address of the lo	cation of u	use.	
ACI 80-4M	82	0.1	1	10	0.2	± 0.3		965-201	963-101

Order Hotline: Go to back page of catalogue



## The premium model with single-cell weighing system

#### Features

- Automatic internal adjustment in the case of a change in temperature ≥ 0,5 °C or timecontrolled every 4 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- Dosage aid: High stability mode and other filter settings can be selected
- Simple recipe weighing and documenting with a combined tare/print function. In addition, the ingredients for the recipe are numbered automatically and printed out with their corresponding number and nominal weight
- Identification number: 4 digits, printed on calibration protocol freely programmable
- Printout of a GLP-compliant calibration report conveniently at the touch of a button
- Automatic data output to the PC/printer each time the balance is steady
- Large glass draught shield with 3 sliding doors for easy access to the items being weighed

 Protective working cover included with delivery

#### Technical data

- Large LCD display, digit height 14 mm
- Dimensions weighing surface Ø 80 mm, stainless steel
- Weighing space W×D×H 168×172×223 mm
- Overall dimensions (incl. draught shield)
- W×D×H 217×356×338 mm
- Net weight approx. 7 kg
- Permissible ambient temperature 10 °C/30 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN ABT-A02S05
- Set for density determination of liquids and solids with density ≤/≥ 1, the density is indicated directly on the display, KERN YDB-03

weighed						
STANDARD					OPTION	FACTORY
CALINT RS 232 INTERN	PCS RECIPE	%		SC TECH 1 DAY	DAkkS +3 DAYS	H +3 DAYS
Model	Weighing capacity	Readability	Verification value	Minimal Ioad	Reproduci- bility	Linear









- 2 Ioniser to neutralise electrostatic charge, KERN YBI-01A
- Solution Weighing table to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ), for details see page 216
- Further details, plenty of further accessories and suitable printers see *Accessories*

Single-cell advanced technology:

- Fully automatic manufactured weighing cell from one piece of material
- Stable temperature behaviour
- Short stabilisation time: steady weight values within approx. 4 s (models with [d] = 0,1 mg), approx. 10 s (models with [d] = 0,01 mg) under laboratory conditions
- Shock proof construction
- High corner load performance

Model	Weighing	Readability	Verification	Minimal	Reproduci-	Linearity		Option
	capacity		value	load	bility		Verification	DAkkS Calibr. Certificate
	[Max]	[d]		[Min]			MD	DAkkS
KERN	g	mg	[e] mg	mg	mg	mg	KERN	KERN
ABT 100-5NM	101	0,01	1	1	0,05	± 0,15	965-201	963-101
ABT 120-4NM	120	0,1	1	10	0,1	± 0,2	965-201	963-101
ABT 220-4NM	220	0,1	1	10	0,1	± 0,2	965-201	963-101
ABT 320-4NM	320	0,1	1	10	0,1	± 0,3	965-201	963-101

Multi-range balance, with increasing load it switches automatically to the next largest weighing range [Max] and readout [d] and when the load is fully removed, the balance switches back to the lower range

ABT 120-5DNM	42   120	0,01   0,1	1   1	1	0,02   0,1	± 0,05   0,2	965-201	963-101		
ABT 220-5DNM	82   220	0,01   0,1	1   1	1	0,05   0,1	± 0,1   0,2	965-201	963-101		
Note: For applications that require verification, please order verification at the same time, initial verification at a later date is not possible.										
Verification at the factory, we need to know the full address of the location of use										

# ALL-ROUND SECURITY IN DAIL LABORATORY LIFE

For quality assurance and easy, compliant sequences in the laboratory, KERN offers you an extensive range of services and plenty of suitable accessories – we will be happy to advise you.



All details on DAkkS calibration certificates for test weights, our KERN calibration service and other useful information can be found here: www.kern-lab.com

#### LOOKING FOR THE RIGHT TEST EQUIPMENT?

Sit back and relax! You will find that we have an enormous range of test weights and suitable calibration services - all in accordance with the current DAkkS guidelines.

For example, discover our DAkkS-calibrated KERN Safety Sets each with an appropriate test weight for correct adjusting of the balance, a small test weight for checking the minimum sample weight, plus space for another separate test weight.

Extensive details on all topics can be found on page 182.



## THE BENEFIT OF KERN ACCESSORIES:

2,4291919

Count on it – everything fits together! Our product advisors can recommend the fitting accessories for your KERN devices, so that your individual weighing systems seamlessly work together in a stable and reliable way.

#### Our accessory tips for all KERN laboratory balances

For **thermal printer**, KERN YKB-01 or other suitable printers, see page 170





**Draft shield rear panel with integrated ioniser,** to neutralise electrostatic charge, guarantees extremely rapid ionisation, KERN ABP-A01, see page 47/48

#### Solid weighing table Professionalism and security for a stable weighing environment. Suitable for all laboratory balances, KERN YPS-03, see page 180



→ Didn't find the right product in the catalogue?

You can find the full range of accessories and available KERN test equipment in our online shop





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

Premium analytical balance with the latest Single-Cell Generation for extremely rapid, stable weighing results now also as a version with automatic sliding doors

KERN

RN



The internal draft shield minimises the effect of currents of air in the weighing chamber and therefore significantly improves the stabilisation time and repeatability.



Draft shield rear panel with integrated ioniser, which can be fitted in place of the existing glass rear panel of the draft shield



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

#### Features

- NEW: KERN ABP-A: with 3 automatic sliding doors, which can be opened and closed using sensors, and integrated ioniser as standard. Thanks to the Memory Function, the balance stores how far the sliding doors have been opened. This prevents contamination and accelerates processes. Touching the sliding doors "gently" activates the push function and the doors open and shut automatically. The adjustable internal draft shield guarantees maximum stability of the weight readings
- This new generation of analytical balances combines the highest level of precision with large weighing ranges. 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 ≥ 1 °C or timecontrolled every 4 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- 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 can be stored for up to 10 users: user name/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, e.g.

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B. balance adjustment, changing settings or conditioning or modification of a recipe only by the authorized person & performing the formulation by the user

- RS-232 data interfaces and USB (device) for transferring weighing data and USB (host) to connect a USB keyboard for easy capture of item numbers, recipes, for easier navigation within the menu etc.
- U.S. FDA 21 Part 11: assists you in data integrity in accordance with U.S. FDA 21 Part 11 (for example weighing result, sample ID, user name, scales ID, ...)
- Menu languages DE, EN
- 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
- [d] = 0,01 mg: Multi-function weighing plate included with delivery, minimises the effect of currents of air in the weighing chamber and therefore significantly improves the stabilisation 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 12 mm, bright with high contrast, for easy reading of the weight, even in poor lighting conditions
- Dimensions weighing surface Ø 91 mm, stainless steel
- Weighing space W×D×H 166×156×220 mm
- Overall dimensions W×D×H
  213×433×344 mm
- Net weight approx. 8 kg
- Permissible ambient temperature 10 °C/30 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN YBA-A06S05
- Set for density determination of liquids and solids with density ≤/≥ 1, the density is indicated directly on the display, KERN YDB-03
- III Internal windbreak plate made of glass, KERN ABP-A02
- Draft shield rear panel with integrated ionizer to neutralise electrostatic charge. Is fitted in place of the existing glass rear panel of the draft shield. Suitable for all models in the range, please order at the time you order your balance, the scope of delivery is the rear panel, ionizer, Universal plug-in power supply. Factory Option, KERN ABP-A01
- USB barcode scanner, hand-held version, dimensions W×D×H 152×84×63 mm, KERN PET-A09
- Minimum weight of sample, smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
- Equipment qualification: compliant qualification concept which includes the following validation services, Installation Qualification (IQ), Operating Qualification (OQ), for details see page 216
- Further details, plenty of further accessories and suitable printers see *Accessoriess*

#### 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, 0,01 | 0,1 mg) under laboratory conditions

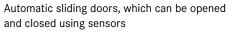
- Shock proof construction
- High corner load performance

STANDARD												OPTION	FACTORY		
	RS 232	USB	GLP INTERN	PCS	RECIPE	% Percent		-√+ ⊙ ৢ৽ TOL	MOVE	UNDER		SC TECH	1 DAY	DAkkS +3 DAYS	H3 DAYS
		x Host x Device													

Model	Weighing	Readability	Verification	Minimal load	Reproduci-	Linearity		Option	
	capacity		value		bility		Verification	DAkkS Calibr. Certificate	
	[Max]	[d]	[e]	[Min]			MO	DAkkS	
KERN	g	mg	mg	mg	mg	mg	KERN	KERN	
ABP 100-5M	135	0,01	1	1	0,05	± 0,2	965-201	963-101	
ABP 200-5M	220	0,01	1	1	0,05	± 0,2	965-201	963-101	
ABP 100-4M	120	0,1	1	10	0,1	± 0,2	965-201	963-101	
ABP 200-4M	220	0,1	1	10	0,1	± 0,2	965-201	963-101	
ABP 300-4M	320	0,1	1	10	0,2	± 0,3	965-201	963-101	
Multi-divisi	on balance, with i	ncreasing or c	lecreasing loa	ad, it switches	automatically	to the next large	st or smallest weighing range [I	Max] and readout [d].	
ABP 100-5DM	52   120	0,01   0,1	1   1	1	0,02   0,1	± 0,05   0,2	965-201	963-101	
ABP 200-5DM	102   220	0,01   0,1	1   1	1	0,05   0,1	± 0,1   0,2	965-201	963-101	
Not	e: For application	s that require	verification, p	lease order ve	rification at t	ne same time, init	tial verification at a later date is	not possible.	
Verification at the factory, we need to know the full address of the location of use.									









04

Opening possible alternatively via button



Internal draft shield - minimises the effect of air currents in the weighing chamber, only for 0.01 mg models of the ABP-A series



**KERN ABP-A** with integrated ioniser and internal draft shield





loniser (included) can be activated at the touch of a button



Erlenmeyer piston holder, included as standard with ABP 200-5M and ABP 200-5AM



Multi-function weighing plate included with delivery for models with [d] = 0,01 mg

STANDARD	)				 		 	 		OPTION	FACTORY
CAL INT	RS 232	USB	GLP INTERN	PCS		-√+ ⊙ ৢ৽ TOL		SC TECH	1 DAY	DAkkS +3 DAYS	H3 DAYS
		1x Host 1x Device			 	 	 	 			

Model		Weighing	Readability	Verification	Minimal load	Reproduci-	Linearity		Option
		capacity		value		bility		Verification	DAkkS Calibr. Certificate
		[Max]	[d]	[e]	[Min]			MD	DAkkS
KERN		g	mg	mg	mg	mg	mg	KERN	KERN
ABP 100-5AM	NEW	135	0,01	1	1	0,05	± 0,2	965-201	963-101
ABP 200-5AM	NEW	220	0,01	1	1	0,05	± 0,2	965-201	963-101
ABP 200-4AM	NEW	220	0,1	1	10	0,1	± 0,2	965-201	963-101
ABP 300-4AM	NEW	320	0,1	1	10	0,2	± 0,3	965-201	963-101
Multi-divi	sion ba	alance, with i	ncreasing or d	ecreasing loa	d, it switches	automatically	to the next larges	t or smallest weighing range [l	Max] and readout [d].
ABP 100-5DAM	NEW	52   120	0,01   0,1	1   1	1	0,02   0,1	± 0,05   0,2	965-201	963-101
ABP 200-5DAM	NEW	102   220	0,01   0,1	1   1	1	0,05   0,1	± 0,1   0,2	965-201	963-101
N	ote: Fo	or application	s that require	verification, p	lease order ve	rification at t	he same time, initi	al verification at a later date is	not possible.
			Verifica	tion at the fa	ctory, we need	I to know the	full address of the	location of use.	



They have a number of memories, network connectivity, different heating modes and are easy to use due to the intuitive operation and easy-to-read displays. Our high-quality moisture analysers are ideal for use in the food processing industry, water resource management, plastics industry, the energy industry or agriculture.

## Halogen moisture analysers for rapid, reliable measuring results

Our models work on the thermogravimetric principle which means the sample is weighed and warmed with a halogen lamp. During this procedure, the weight loss is recorded continuously while it is drying until it reaches the defined value. The current moisture content for the sample can then be automatically calculated from the measured weight difference.

All benefits of our moisture analysers with halogen and infra-red drying:

- Even heating of the sample without risk of burning
- Rapid amortisation through low purchase costs
- Temperature ranges from 35 to 200 degrees
- High level of measurement accuracy to 0.01 %
- Spare capacity, weighing range up to 200 g
- You can select between different heating profiles
- You can select between different switch-off criteria, automatic or time-controlled

#### The drying programs

Depending on the model, our moisture analysers have different heating profiles, so the procedure can be adapted to best suit the sample in question.

- The standard drying setting is suitable for most types of sample. As an option you can choose between these two types of switch-off criteria: Automatic drying (AUTO) or time-controlled (TIME).
- Rapid drying is suitable for samples with a high moisture content.
- Smooth heating through gentle drying prevents disintegration and formation of a skin
- As an alternative to rapid drying, you can also use stage drying as well. The temperature and the time period for the increase in temperature can be freely selected. Equally, the moisture can be determined selectively for different temperatures.

Our recommendation: The high-performance DBS moisture analyser with excellent stability, reliability and reaction speed, 10 drying programs can be stored and memory for 100 drying processes carried out as well as a USB and RS 232 data interface.

#### Simple data transfer

For easy, convenient communication between the moisture analyser and printer, or PC there are interfaces available, for example to connect a USB or Ethernet. The devices themselves have several internal memories, where you can store drying programs with drying parameters, such as, for example, drying period, drying temperature, display settings, switch-off criteria etc. This saves time and guarantees repeatable results. Compatible printers to print out weights, calibration and interface kits are available in our extensive range of accessories, suitable for each moisture analyser.

For communication between the balance and the printer, the moisture analyser must be disconnected from the power supply and connected to the printer. We guarantee fault-free operation with the KERN interface cable. To transfer the values to the PC we recommend our "Balance Connection KERN SCD 4.0" transfer software. Programs such as Excel or other spreadsheet applications are ideal for displaying graphics.

Our recommendation: DLB moisture analyser with intuitive graphics display, multi-lingual user guidance, convenient Auto-Tare when closing the lid and RS 232 data interface

#### **Our service options**

In order for the comparability of the results of moisture analyses to be guaranteed, the correct temperatures must be maintained in the heating chamber or sample. We offer our customers regular calibration of the temperature for genuine and reliable measuring results KERN 964-305 If requested, we can carry out sample analysis for you and support you in adjusting the parameters of your moisture analyser KERN 965-243

Please contact your personal customer advisor if you would like us to help!

## **Quick-Finder Moisture analysers**

Readability	Weighing capacity	Model	Page	DAYS	CAL EXT	MEMORY	RS 232			
[d]	[Max]									
g	g	KERN		For an explanation on the pictos, see front flap						
0,001	60	DBS 60-3	51	1	•	•	•			
0,001	110	DAB 100-3	50	1	•	•	•			
0,001	160	DLB 160-3A	52	1	•		•			
0,01	200	DAB 200-2	50	1	•	•	•			
			· · · · · · · · · · · · · · · · · · ·		o = option					



Particularly user-friendly moisture analyser with high-quality halogen quartz glass heater- also available as version with [d] = 10 mg, ideal for recurring rapid tests

#### Features

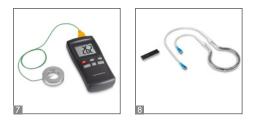
- KERN DAB 200-2: Version with lower resolution, whereby the switch-off criterion is reached faster, which saves time. Ideal for quick tests and spot checks
- Backlit Graphic display, digit height 14 mm <br/>
  Drying process active
  - Active heating profile
  - Active switch-off criteria
  - Previous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

- 400 W halogen-quartz glass heater
- 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

STANDARD								
	GLP S 232 PRINTER	UNIT 230 V	DMS 1 DAY	DAkkS +3 Days				

Model KERN	DAB 100-3	DAB 200-2						
Readability [d]	0,001 g/0,01 %	0,01 g/0,05 %						
Weighing capacity [Max]	110 g	200 g						
Reproducibility	0,15 %	1,5 %						
weight of sample 2 g*	0,15 %	1,5 %						
Reproducibility,	0.03 %	0.3 %						
weight of sample 10 g*	-,	0,5 %						
Display after drying (Display c	an be switched over at any time)							
Moisture [%] = Moisture	0 1	00 %						
content (M) from wet weight (W)	0-1	00 %						
Dry content [%] =	100-0 %							
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							
	J → Standard drying							
Drying modes	_∕─ Gentle drying							
	<b>」</b> → Rapid drying							
	• Automatic switch-off (2 mg loss in v	veight in 45 s)						
Switch-off criteria	• Time controlled switch-off (3 min - 9	9 min 59 s, 10 s increments)						
	Manual switch-off at the press of a l	outton						
Recall of measurement/	Interval can be se	t from 1 s - 10 min						
Log output	(Only when used	with printer or PC)						
Overall dimensions W×D×H	240×365	5×180 mm						
Net weight	5,0	) kg						
<b>Option DAkkS Calibr. Certificate</b>	Mass: KERN 963-	127						
<b>Option Factory Calibr. Certificate</b>	Temperature: KERN 964-3	305						
* application-dependent								







containing many examples, field reports, settings and tips for each KERN moisture analyser

Note: both models are also available in infrared version, see *Accessory* 

- Sample plates aluminium, Ø 90 mm, unit of 80 pieces, KERN MLB-A01A
- Round fiberglass filter, medium mechanical stability, without organic binder, box of 100 pieces, KERN RH-A02
- Round fiberglass filter, medium mechanical stability, without organic binder, box of 100 pieces, KERN YMF-A01
- Temperature calibration set consists of measuring sensor and display device, KERN DAB-A01.
- Infrared quartz glass heater, temperature range 40 °C-160 °C, Factory Option, KERN DAB-A02
- RS-232/Ethernet adapter for connection to an IP-based Ethernet network, KERN YKI-01
- RS-232/Bluetooth adapter to connect to Bluetooth capable devices, such as Bluetooth printers, tablets, laptops, smartphones, etc., KERN YKI-02
- RS-232/WiFi adapter for wireless connection to networks and WiFi capable devices, such as tablets, laptops or smartphones, KERN YKI-03
- Display of the drying process in conjunction with BalanceConnection, for more details see the internet, Scope of supplies: 1 CD, 1 license, KERN SCD-4.0
- Thermal printer, KERN YKB-01N
- Matrix needle printer, to print the weights on normal paper, ideal for long-term archiving, KERN 911-013



### Moisture analyser with high-quality single-cell weighing system for outstanding stability, reliability and response speed

#### Features

- Tip: Suitable for samples with low moisture content, e.g. plastics
- Backlit Graphic display, digit height 15 mm Drying process active
  - Previous drying time
  - I Current temperature
  - Unit for displaying the results
  - S Current moisture content in %
  - Active heating profile

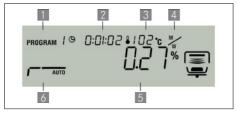
- 400 W halogen-quartz glass heater
- Excellent temperature control thanks to halogen technology, suitable for temperature-sensitive samples
- Internal memory for automatic sequence of 10 complete drying processes and 100 drying processes carried out
- The last value measured remains on the display until it is replaced by a new measurement
- Password protection to prevent manipulation of stored settings, data, etc.



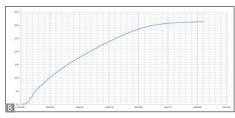
Modell KERN	DBS 60-3						
Readability [d]	0,001 g/0,01 %						
Weighing capacity [Max]	60 g						
Reproducibility	0.15 %						
weight of sample 2 g*	0,10 %						
Reproducibility,	0.02 %						
weight of sample 10 g*	5,52 //						
Display after drying							
Moisture [%] = Moisture	0-100 %						
content (M) from wet weight (W)	0-100 %						
Dry content [%] =	100-0 %						
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						
	J ■ Standard drying						
Drying modes	<b>_</b> → Drying in levels						
Drying modes	✓ Gentle drying						
	🖵 Rapid drying						
	• Automatic unrestricted switch-off (Selectable loss in weight 0,01%-0,1% in 30 s)						
Switch-off criteria	<ul> <li>Time controlled switch-off (1 min – 12 h)</li> </ul>						
	<ul> <li>Manual switch-off at the press of a button</li> </ul>						
Recall of measurement/	Interval can be set from 1 s – 10 min						
Log output	(Only when used with printer or PC)						
Overall dimensions W×D×H	204×336×167 mm						
Net weight	approx. 4,6 kg						
<b>Option DAkkS Calibr. Certificate</b>	Mass: KERN 963-127						
<b>Option Factory Calibr. Certificate</b>	Temperature: KERN 964-305						

\* application-dependent

Order Hotline: Go to back page of catalogue







05

- Sample description for up to 99 samples,
   2 digits, freely programmable, and is printed in the measuring protocol
- Date and time display as standard
- USB data interface for transferring weighing data to the PC, printer etc., \*only in connection with DBS-A02
- 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

- Protective working cover, scope of delivery 5 items, KERN DBS-A03S05
- Sample plates aluminium, Ø 90 mm, unit of 80 pieces, KERN MLB-A01A
- Round fiberglass filter, medium mechanical stability, without organic binder, box of 100 pieces, KERN RH-A02
- Temperature calibration set consists of measuring sensor and display device, KERN DBS-A01.
- Solution Visualisation of the drying process in connection with BalanceConnection, KERN SCD-4.0
- Software BalanceConnection, for flexible recording or transmission of measured values, in particular also to Microsoft® Excel or Access as well as transfer of this data to other Apps and programs, For details see the internet, Scope of supplies: 1 CD, 1 license, KERN SCD-4.0-DL
- USB 2.0 cable, KERN DBS-A04
- Thermal printer, KERN YKB-01N
- Matrix needle printer, to print the weights on normal paper, ideal for long-term archiving, KERN 911-013
- Affordable universal label printer to print out weights on thermal labels, KERN YKE-01



## Moisture analyser with intuitive graphic display and step-by-step user guidance in 6 languages

#### Features

- Rapid and efficient operation thanks to the graphics display
- Backlit LCD Graphic display, digit height 11 mm
- 6 direct keys for rapid access to the main functions
- Home screen :
- 1 Main menu
- Start drying process
- Select drying temperature
- Select shut-off criteria
- Setting to zero/taring
- Stand-by

Modell KERN

STANDARD



During	measure	ement:

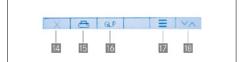
- Current temperature
- Current heating profile
- Active switch-off criteria
- 10 Abort drying process
- 11 Stop drying process
- Display current drying parameters
- **113** Toggle the unit for displaying the results
- At the end of the measurement:
- 14 Exit drying program

DLB 160-3A

- 15 Print measurement report
- 16 (De)activate, edit GLP parameters
- 17 Display detailed result
- **18** Toggle the unit for displaying the results









• 400 W halogen-quartz glass heater

- User guidance in 6 languages: DE, EN, FR, IT, ES, PT
- Automatic taring when starting a measurement by closing the lid
- The last value measured remains on the display until it is replaced by a new measurement
- III Internal GLP; printout of balance ID, project ID, user ID, values determined by the drying process etc.
- 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 analyserips for each KERN moisture analyser

Weighing capacity [Max]       160 g         Reproducibility       0,15 %         weight of sample 2 g*       0,05 %         Reproducibility,       0,05 %         weight of sample 10 g*       0,05 %         Display after drying (Display can be switched over at any time)       0-100 %         Moisture [%] = Moisture content (M) from wet weight (W)       0-100 %         Dry weight (D) from W       100-0 %         ATRO [%] [(W-D) : D] · 100 %       0-999 %         Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes							
Reproducibility       0,15 %         weight of sample 2 g*       0,05 %         Reproducibility,       0,05 %         weight of sample 10 g*       0,05 %         Display after drying (Display can be switched over at any time)       0-100 %         Moisture [%] = Moisture       0-100 %         content (M) from wet weight (W)       0-100 %         Dry weight (D) from W       100-0 %         ATRO [%] [(W-D) : D] · 100 %       0-999 %         Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes	Readability [d]	0,001 g/0,01 %					
weight of sample 2 g*       0,15 %         Reproducibility, weight of sample 10 g*       0,05 %         Display after drying (Display can be switched over at any time)       0         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       35 °C-160 °C in steps up to 1 °C         Drying modes       J Standard drying J Rapid drying, preheating can be switched on         * Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s · Time controlled switch-off (1 min - 99 min) · Manual switch-off at the press of a button         Log output       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:       KERN 963-127	Weighing capacity [Max]	160 g					
weight of sample 2 g*       0,05 %         Reproducibility, weight of sample 10 g*       0,05 %         Display after drying (Display can be switched over at any time)       0-100 %         Moisture [%] = Moisture content (M) from wet weight (W)       0-100 %         Dry weight (D) from W       100-0 %         ATRO [%] [(W-D) : D] · 100 %       0-999 %         Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes	Reproducibility	0.15 %					
weight of sample 10 g*       0,05 %         Display after drying (Display can be switched over at any time)       Moisture [%] = Moisture content (M) from wet weight (W)         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       35 °C-160 °C in steps up to 1 °C         Drying modes       J Standard drying         J Standard drying       F Rapid drying, preheating can be switched on         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Log output       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:       KERN 963-127	weight of sample 2 g*	0,15 %					
weight of sample 10 g*       0         Display after drying (Display can be switched over at any time)       0         Moisture [%] = Moisture       0         content (M) from wet weight (W)       0         Dry weight (D) from W       100         ATRO [%] [(W-D) : D] · 100 %       0         Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes	Reproducibility,	0.05 %					
Moisture [%] = Moisture       0-100 %         content (M) from wet weight (W)       0-100 %         Dry content [%] =       100-0 %         Dry weight (D) from W       0-999 %         Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes       Standard drying         Image: Standard drying       Present and drying controlled switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s)         Switch-off criteria       • Automatic unrestricted switch-off (1 min - 99 min)         • Manual switch-off at the press of a button       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:	weight of sample 10 g*	0,05 %					
content (M) from wet weight (W)       0-100 %         Dry content [%] =       100-0 %         Dry weight (D) from W       0-999 %         ATRO [%] [(W-D) : D] · 100 %       0-999 %         Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes       J ~ Standard drying         Switch-off criteria       - Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Switch-off criteria       · Automatic unrestricted switch-off (1 min - 99 min)         · Manual switch-off at the press of a button       Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:	Display after drying (Display c	an be switched over at any time)					
content (M) from wet weight (W)       100-0 %         Dry content [%] =       100-0 %         Dry weight (D) from W       0-999 %         Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes       J Standard drying         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Switch-off criteria       • Automatic unrestricted switch-off (1 min - 99 min)         • Manual switch-off at the press of a button       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:	Moisture [%] = Moisture	0 100 %					
Dry weight (D) from W       100-0 %         ATRO [%] [(W-D) : D] · 100 %       0-999 %         Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes       J Standard drying         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Log output       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:	content (M) from wet weight (W)	0-100 %					
Dry weight (D) from W       0-999 %         ATRO [%] [(W-D) : D] · 100 %       0-999 %         Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes       Image: Standard drying         Image: Standard drying       Image: Standard drying         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Switch-off criteria       • Time controlled switch-off (1 min - 99 min)         • Manual switch-off at the press of a button       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:	Dry content [%] =	100.0%					
Moisture content (M)       Absolute value in [g]         Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes       J Standard drying         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Log output       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:	Dry weight (D) from W	100-0 %					
Temperature range       35 °C-160 °C in steps up to 1 °C         Drying modes       J Standard drying         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Log output       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:	ATRO [%] [(W-D) : D] · 100 %	0-999 %					
Drying modes       Standard drying         Prying modes       Rapid drying, preheating can be switched on         • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         • Switch-off criteria       • Automatic unrestricted switch-off (1 min – 99 min)         • Manual switch-off at the press of a button         • Interval adjustable (5 s – 250 s)         Overall dimensions W×D×H         Net weight         approx. 4,7 kg	Moisture content (M)	Absolute value in [g]					
Drying modes       Rapid drying, preheating can be switched on         Switch-off criteria       • Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s         Switch-off criteria       • Time controlled switch-off (1 min – 99 min)         • Manual switch-off at the press of a button         Log output       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:	Temperature range	35 °C-160 °C in steps up to 1 °C					
Image: Construction of the system of the	Driving modes	J ■ Standard drying					
Switch-off criteria       • Time controlled switch-off (1 min – 99 min)         • Manual switch-off at the press of a button         Log output       • Interval adjustable (5 s - 250 s)         Overall dimensions W×D×H       215×345×235 mm         Net weight       approx. 4,7 kg         Option DAkkS Calibr. Certificate       Mass:       KERN 963-127	Drying modes	Rapid drying, preheating can be switched on					
		Automatic unrestricted switch-off (Selectable loss in weight 1 mg/30 s-10 mg/30 s)					
Log output     • Interval adjustable (5 s - 250 s)       Overall dimensions W×D×H     215×345×235 mm       Net weight     approx. 4,7 kg       Option DAkkS Calibr. Certificate     Mass:     KERN 963-127	Switch-off criteria	<ul> <li>Time controlled switch-off (1 min – 99 min)</li> </ul>					
Overall dimensions W×D×H     215×345×235 mm       Net weight     approx. 4,7 kg       Option DAkkS Calibr. Certificate     Mass:     KERN 963-127							
Net weight         approx. 4,7 kg           Option DAkkS Calibr. Certificate         Mass:         KERN 963-127	Log output	<ul> <li>Interval adjustable (5 s – 250 s)</li> </ul>					
Option DAkkS Calibr. Certificate Mass: KERN 963-127	Overall dimensions W×D×H	215×345×235 mm					
	Net weight	approx. 4,7 kg					
Option Factory Calibr. Certificate Temperature: KERN 964-305	<b>Option DAkkS Calibr. Certificate</b>	Mass: KERN 963-127					
	<b>Option Factory Calibr. Certificate</b>	Temperature: KERN 964-305					

OPTION

- Protective working cover, scope of delivery: 5 items, KERN ALJ-A01S05
- Sample plates aluminium, Ø 90 mm, unit of 80 pieces, KERN MLB-A01A
- Round fiberglass filter high mechanical stability, with organic binder, box of 100 pieces, KERN RH-A02
- Round fiberglass filter medium mechanical stability, without organic binder, box of 100 pieces, KERN YMF-A01
- Temperature calibration set consists of measuring sensor and display device, KERN DLB-A01N.
- Thermal printer, KERN YKB-01N
- Matrix needle printer, to print the weights on normal paper, ideal for long-term archiving, KERN 911-013



# **BENCH SCALES**

#### Compact industrial weighing technology

Thanks to their compact dimensions, low weight, robust internal mechanism and the fact that they can be operated independent of mains power, bench scales can be used not only in a stationary situation, but also as mobile scales.

With weighing ranges between 3 kg and 65 kg, bench scales can cover a wide range of applications. Whether as a commissioning scale in the warehouse, for inventory purposes, on a production work station, in quality control, in small workshops, in service cars or in sales offices, bench scales are the first choice.

Durable stainless steel weighing plates, easy to read backlit displays, useful functions such as piece counting, PRE-TARE – subtraction of a known container weight, or ► *interfaces* to PC and printer, all these support the users in their daily work. ► *Multi-division balances and Multi-range balances* cover a particularly wide range of applications. With these scales, the total weighing range is divided into subranges and begins with a high resolution read-out in the fine weighing range. If this range is exceeded the balance automatically switches to the higher weighing range with the lower resolution read-out.

All KERN bench scales have an adjustment program (CAL) to adjust the accuracy. This way, the high level of accuracy is guaranteed at all times, even during harsh everyday use. Find the right test weights for you, on page 182.

▶ See the glossary on page 223–225

## **Quick-Finder Bench scales**

Readability	Weighing capacity	Weighing plate W×D	Model	Page	1 DAY	Μ	CAL EXT	RS 232	PCS	-√+ ③ ③ッ TOL	∧	BATT	ACCU
[d]	[Max]	~~~	KERN			For	an expl	nation	an tha n	iotoo oo	o front	flan	
g	kg	mm				FUI	'			,		•	
0,02	6	340×240	FKB 6K0.02	58	1		•	0	•	•	•	•	0
0,05	6	294×225	GAB 6K0.05N	60	1		•	•	•	٠			0
0,05	8	340×240	FKB 8K0.05	58	1	-	•	0		•	•	•	0
0,05	16	340×240	FKB 16K0.05	58	1		•	0	•	•	•	•	0
0,1	3	253×228	FCB 3K0.1	57	1		•	•	•		•	•	0
0,1	8	253×228	FCB 8K0.1	57	1		•		•		•	•	0
0,1	8	340×240	FKB 8K0.1	58	1		۲	0		٠	•	•	0
0,1	12	294×225	GAB 12K0.1N	60	1		۲	٠	•	٠			0
0,1	16	340×240	FKB 16K0.1	58	1		۲	0	•	•	•	•	0
0,1	36	340×240	FKB 36K0.1	58	1		۲	0	•	•	•	•	0
0,2	30	294×225	GAB 30K0.2N	60	1		•	•	•	٠			0
0,2	36	340×240	FKB 36K0.2	58	1		•	0	•	٠	•	•	0
0,2	65	340×240	FKB 65K0.2	58	1		٠	0	•	•	٠	•	0
0,5	6	253×228	FCB 6K0.5	57	1		•	۲	•		•	•	0
0,5	15	340×240	FKB 15K0.5	58	1		٠	0	•	٠	•	•	0
1	3	253×228	FCE 3K1N	56	1		•					•	0
1	12	253×228	FCB 12K1	57	1		٠		•		•	•	0
1	30	253×228	FCB 30K1	57	1		•		•		•	•	0
1	30	340×240	FKB 30K1	58	1		•	0	•	•	•	•	0
1	65	340×240	FKB 65K1	58	1		•	0	•	•	•	•	0
1   2	3   6	295×225	GAB 6K1DNM	60	1	0	•	•	•	•			0
2	6	253×228	FCE 6K2N	56	1		•					•	0
2	24	253×228	FCB 24K2	57	1		•	•	•		•	•	0
2   5	6   15	300×230	GAB 15K2DNM	60	1	0	•	•	•	•			0
5	10	320×260	ECE 10K-3N	55	1		•					•	0
5	10	320×260	ECB 10K-3N	55	1		•					•	0
5	15	253×228	FCE 15K5N	56	1		•					•	0
5   10	15   30	294×225	GAB 30K5DNM	60	1	0	•	•	•	•			0
10	20	320×260	ECE 20K-2N	55	1		•					•	0
10	20	320×260	ECB 20K-2N	55	1		•					•	0
10	30	253×228	FCE 30K10N	56	1		•		-		-	•	0
20	50	320×260	ECE 50K-2N	55	1		•					•	0
20	50	320×260	ECB 50K-2N	55	1		•						0

Order Hotline: Go to back page of catalogue







### Plain, mobile, uncomplicated

#### Features

- Image: High mobility: thanks to battery operation/rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations (production, warehouse, dispatch department etc.)
- Particularly large weighing plate
- Very fast display: steady weight values within 2 s
- · Simple and convenient 2-key operation

#### **Technical data**

- ECE-N: Large LCD display, digit height 21 mm
- ECB-N: Large backlit LCD display,
- digit height 21 mm • Weighing plate material
- ECE-N: plastic
  ECB-N: stainless steel, see larger picture
- Dimensions weighing surface, W×D 320×260 mm
- Overall dimensions W×D×H
   320×300×60 mm
- Battery operation, 6×1.5 V AA standard, operating time up to 100 h, AUTO-OFF function to preserve the battery
- Net weight ECE-N: approx. 1,6 kg ECB-N: approx. 2,6 kg
- Permissible ambient temperature 5 °C/35 °C

- Internal rechargable battery pack, operating time up to 30 h without backlight, charging time approx. 10 h, KERN PCB-A01
- Rechargeable battery pack external, operating time up to 30 h without backlight, charging time approx. 10 h, KERN KS-A01
- Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02
- External universal mains adapter, with universal input and optional input socket adapters for EU, CH, GB, USA, KERN YKA-03N
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD	)			OPTION					
	<b></b>				ВШ	DAkkS			
CAL EXT	BATT	DMS	1 DAY	ACCU	MULTI	+3 DAYS			

Model	Weighing capacity	Readability	Reproducibility	Linearity	Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] g	g	g	DAkkS KERN
ECE 10K-3N	10	5	5	± 20	963-128
ECE 20K-2N	20	10	10	± 40	963-128
ECE 50K-2N	50	20	20	± 80	963-128
ECB 10K-3N	10	5	5	± 20	963-128
ECB 20K-2N	20	10	10	± 40	963-128
ECB 50K-2N	50	20	20	± 80	963-128



## Entry-level bench scale - mobile, practical, lightweight

#### Features

- Simple and convenient 2-key operation
- Very fast display: steady weight values within 3 s
- Il Ideal as a compact letter and parcel scale, especially where space is limited
- Ideal as a grading, comissioning or simple checkweighing scale in production or dispatch
- Protective working cover included with delivery

#### **Technical data**

- Large LCD display, digit height 25 mm
- Dimensions weighing surface, plastic,
- WxD 253×228 mm
- Overall dimensions W×D×H 270×323×110 mm
- Optional battery operation, 9 V block not included in scope of delivery, operating time up to 12 h, AUTO-OFF function to preserve the battery
- Net weight approx. 2,4 kg
- Permissible ambient temperature 5 °C/35 °C

- Protective working cover, scope of delivery 5 pieces, KERN FCB-A02S05
- I Stainless steel weighing plate, robust, removable, for easy cleaning, KERN FCE-A01
- Internal rechargable battery pack, operating time up to 20 h without backlight, charging time approx. 10 h, KERN FCB-A01

STANDARD			OPTION			
ī	<b></b>	B 🕌			<b></b> ,	DAkkS
CAL EXT	BATT	MULTI	DMS	1 DAY	ACCU	+3 DAYS

Model	Weighing capacity	Readability	Reproducibility	Linearity	Option
KERN	[Max] kg	[d] g	g	g	DAkkS Calibr. Certificate DAkkS KERN
FCE 3K1N	3	1	2	± 3	963-127
FCE 6K2N	6	2	2	± 4	963-128
FCE 15K5N	15	5	10	± 15	963-128
FCE 30K10N	30	10	10	± 30	963-128









Bench scale, also with second display on the backside of the scale

#### Features

- PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels
- High mobility: thanks to battery operation/ rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations (production, warehouse, dispatch department etc.)
- Data interface RS-232 as standard
- Protective working cover included with delivery

#### Technical data

- Backlit LCD display, digit height 25 mm
- Dimensions weighing surface, stainless steel, W×D 253×228 mm
- Overall dimensions W×D×H 270×323×110 mm
- Optional battery operation, 9 V block not
- included in scope of delivery, operating time up to 12 h
- Net weight approx. 2,6 kg
- Permissible ambient temperature 5 °C/35 °C

- Protective working cover, scope of delivery 5 items, KERN FCF-A01S05
- Internal rechargable battery pack, operating time up to 10 h without backlight, charging time approx. 10 h, KERN FCB-A01
- Further details, plenty of further accessories and suitable printers see *Accessories*



Model	Weighing capacity	Readability	Reproducibility	Linearity	Smallest part weight	Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] g	g	g	[Normal] g/piece	DAkkS KERN
FCB 3K0.1	3	0,1	0,1	± 0,3	2	963-127
FCB 6K0.5	6	0,5	0,5	± 1,5	10	963-128
FCB 8K0.1	8	0,1	0,1	± 0,3	2	963-128
FCB 12K1	12	1	1	± 3	20	963-128
FCB 24K2	24	2	2	± 6	40	963-128
FCB 30K1	30	1	1	± 3	20	963-128





High resolution bench scale with large weighing range and robust stainless steel weighing plate

#### Features

- Thanks to the high resolution of up to 360.000 points it is ideal for high-precision weighing in the industrial field
- Robust plastic die-cast housing: maintains the stability, protects the weighing technology elements and is robust enough to cope with everyday use
- PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels
- Industry 4.0: The integrated KERN Universal Port (KUP) allows the connection of external KUP interface adapters such as RS-232, USB,

Bluetooth, WLAN, Analogue, Ethernet etc. The outstanding advantage here is that the KUP interface adapters are simply plugged in, i.e. retrofitting interfaces is conveniently possible without opening the scale housing or complicated installation. The interface adapters enable convenient transmission of weighing data to networks, PCs, smartphones, tablets, laptops, printers etc. In addition, control commands and data inputs can also be sent to the scale via the connected devices. Tip: with the KERN YKUP-13 extension box,

up to three KUP interface adapters can be operated in parallel on the scale

- KERN Communication Protocol (KCP): The KCP permits searching and remote control of the balance using external control devices or computers. for details see page 8/9
- 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
- Level indicator and levelling feet for precise levelling of the scale, fitted as standard
- Protective working cover included with delivery

#### IoT-Line Bench scale KERN FKB



#### **Technical data**

- Large backlit LCD display, digit height 25 mm
- Dimensions weighing surface, stainless steel, WxD 340×240 mm
- Overall dimensions W×D×H
- 350×390×120 mm • Optional battery operation, 4×1.5 V AA not
- included in scope of delivery, operating time up to 20 h
- Net weight approx. 7 kg
- Permissible ambient temperature
- -10 °C/40 °C



#### Accessories

- Protective working cover, scope of delivery 5 items, KERN FKB-A02S05
- Internal rechargable battery pack, operating time up to 48 h without backlight, charging time approx. 8 h, KERN YKR-01
- External data interface USB, Interface cable included, KERN YKUP-03
- External data interface RS-232, Interface cable included, KERN YKUP-01
- Bluetooth interface adapter, KERN YKUP-06
- WiFi interface adapter, KERN YKUP-05
- External data interface Ethernet, KERN YKUP-04
- Extension-Box, KERN YKUP-13
- Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02
- Further details, plenty of further accessories and suitable printers see *Accessories*



Particularly practical: thanks to the large weighing ranges and compact dimensions, you can accurately weigh heavy loads in the most restricted of spaces. Useful for determining very small weight differences, such as, for example, gas wastage, abrasion of mechanical parts, rock samples, minerals, druses, silver etc.

STANDARD	STANDARD						OPTION														
CAL EXT		GLP PRINTER	PCS	SUM	% PERCENT		-√+ ⊙ ৢ৽ TOL	MOVE	UNDER	BATT		DMS	1 DAY	ET	RS 232	USB	BT 4.0	LAN	WIFI	ACCU	DA) +3 [

Model KERN	Weighing ca- pacity [Max] kg	Readability [d] g	Reproducibility	Linearity	Smallest part weight [Normal] g/piece	Resolution Points	Option DAkkS Calibr. Certificate DAkkS KERN
FKB 6K0.02	6	0,02	0,04	± 0,2	0,2	300.000	963-128
FKB 8K0.05	8	0,05	0,05	± 0,5	0,5	300.000	963-128
FKB 8K0.1	8	0,1	0,05	± 0,5	0,5	160.000	963-128
FKB 15K0.5	15	0,5	0,1	± 0,3	10	320.000	963-128
FKB 16K0.05	16	0,05	0,1	± 1	0,5	80.000	963-128
FKB 16K0.1	16	0,1	0,1	± 1	1	160.000	963-128
FKB 30K1	30	1	0,2	± 2	20	360.000	963-128
FKB 36K0.1	36	0,1	0,2	± 2	1	180.000	963-128
FKB 36K0.2	36	0,2	0,5	± 5	2	325.000	963-128
FKB 65K0.2	65	0,2	1	± 10	2	30.000	963-129
FKB 65K1	65	1	1	± 10	20	65.000	963-129









## Checkweighing and portioning scale, also with EC type approval [M]

#### Features

- · Compact size, practical for small spaces
- · High mobility: thanks to rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations (production, warehouse, dispatch department etc.)
- · Weighing with tolerance range (checkweighing): a visual and audible signal helps with portioning, dispensing or grading
- Totalising of weights
- · Protective working cover included with delivery

#### **Technical data**

- · Large backlit LCD display, digit height 24 mm
- Dimensions weighing surface W×D
- 295×225 mm Overall dimensions W×D×H 315×350×125 mm
- Net weight approx. 3,0 kg
- · Permissible ambient temperature GAB-N: 0 °C/40 °C GAB-DNM: -10 °C/40 °C

#### Accessories

- · Protective working cover, scope of delivery 5 items, KERN CFS-A02S05
- · Internal rechargeable battery pack, operating time up to 90 h without backlight, charging time approx. 12 h, KERN GAB-A04
- I Signal lamp for visual support of weighing with tolerance range, KERN CFS-A03
- 2 Y-cable for parallel connection of two terminal devices to the RS-232 interface on the scale, e.g. signal lamp and printer, KERN CFS-A04
- Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02
- Further details, plenty of further accessories and suitable printers see Accessories

#### Application examples

- Small industrial scale for pharmacies
- Hand mixtures of tea, coffee, chocolates
- Portioning of dough, meat, fish, poultry, mixed salads in cafeterias etc.
- · Mobile weighing of freshly picked fruit on site
- Checkweigher in supermarkets
- · High-precision industrial applications, piece counting or stock-taking

Note: Official verification is mandatory for commerical trade.

Model	Weighing	Readability	Verification	Minimal load	Smallest part		Option
	capacity		value		weight	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	[Normal]	MIII	DAkkS
KERN	kg	g	g	g	g/piece	KERN	KERN
GAB 6K0.05N	6	0,05	-	-	0,5	-	963-128
GAB 12K0.1N	12	0,1	-	-	1	-	963-128
GAB 30K0.2N	30	0,2	-	-	2	-	963-128

Multi-division balance, with increasing or decreasing load, it switches automatically to the next largest or smallest weighing range [Max] and readout [d].

Note: I	For applications th	at require verific	ation, please orde	er verification at	the same time, init	ial verification at a later date i	is not possible.
		Verification at	t the factory, we r	need to know th	e full address of the	e location of use.	
GAB 6K1DNM	3   6	1   2	1   2	20	2	965-228	963-128
GAB 15K2DNM	6   15	2   5	2   5	40	5	965-228	963-128
GAB 30K5DNM	15   30	5   10	5   10	100	10	965-228	963-128





## (KITCHEN/STAINLESS STEEL/IP65...68 PROTECTION)

#### KERN scales - without fear of water!

Scales used in industrial situations or the food industry are often exposed to extreme stresses and strains. Water, oils, fats, varnish, dust, dirt, flour, small parts etc. are all natural enemies of a scale. In industries such as the food, chemical, manufacturing industries, etc., scales must be able to cope with these stresses without this affecting their performance.

For use in such harsh environmental conditions, levels of protection are defined, which specify which environmental stresses a system can be exposed to with respect to the level of contact, foreign object and moisture protection, without damage being caused to the unit. These levels of protection are described in the following standard: "DIN EN 60529: protection types through housing" The IP code usually consists of a two-digit combination, which gives the relevant level of protection, e.g. IP68. The first digit specifies the protection level for contact protection and protection against foreign bodies (dust protection), the second digit is for the water and moisture protection (protection against splashes of water).

All stainless steel components of the IP65...68 protected KERN stainless steel scales are made of corrosion-resistant steel of quality class 1.4301 (DIN X5CrNi18-10). The material properties support you in your ► *HACCP*-compliant quality system.

▶ See the glossary on page 223-225

#### Extract from the standard: "DIN EN 60529: protection types through housing":

KERN-Pictogram	1. digit	Specification	2. digit	Specification
<b>00</b>	6	Dustproof	5	Protection against jets of water (nozzle) from any angle (cleaning with a damp cloth)
<b>6 6</b>	6	Dustproof	6	Protection against powerful jets of water
<b>000</b> IP 67	6	Dustproof	7	Protection against temporary immersion
<b>6 6 6</b>	6	Dustproof	8	Protection against continuous immersion (designed for continuous use in wet areas, submersion is possible depen- ding on the pressure (water depth))

## **Quick-Finder Food (kitchen/stainless steel/IP65...68 protection)**

Readability	Weighing capacity [Max]	Model	Page	DAYS	Μ	CAL EXT	RS 232	-√+ ⊙ TOL	-√+ ⊙ Э» TOL	000 IP 65	<b>000</b> IP 67	000 IP 68	BATT	AC
~1	kg	KERN				Fo	r an exp	lanation	on the p	ictos, se	e front fl	ар	_	_
),1	0,5	FOB 500-1S	66	1		٠							•	
,1	0,5	FOB 0.5K-4NS	66	1		۲				٠			•	
,1	3	FCF 3K-4	62	1		۲							•	(
,2	1,5	WTB 1K-4N	68	1		•			•					
,2	1,5	FFN 1K-4N	69	1		۲			-	•				
,2	3	FOB 3K-4NL	67	1		•					•		•	
),5	1,5	FOB 1K-4LM	65	1	0	•		•			•			
),5	1,5	FOB 1.5K0.5	67	1		•		•	-					
),5	1,5	WTB 1K-4NM	68	1	0	•			٠					
),5	1,5	FFN 1K-4NM	69	1	0	•				•				
),5	3	WTB 3K-4N	68	1		•			•					
0,5	3	FFN 3K0.5IPN	69	1		•				•				
),5 ) 5	3	FXN 3K-4N	70 72	1		•	0		•			•	•	
),5 ),5   1	6 5   7,5	SXS 6K-3 FOB 7K-4NL	67	1			0				•			(
1	3	FOB 3K-3LM	65	1	0			•						
1	3	FOB 3K1	67	1										(
1	3	WTB 3K-3NM	68	1	0				•	•				
<u> </u> 1	3	FFN 3K1IPM	69	1	0									
1	3	FXN 3K-3M	70	1	0				•	-		•	•	
1	5	FGE 5K-3S05*	63	1	~	•			-			-		
1	5	FOB 5K1S	66	1		•							•	
1	5	FOB 5K-3NS	66	1		•				•			•	
1	6	WTB 6K-3N	68	1		•			•	•				
1	6	FFN 6K1IPN	69	1		٠				•				
1	6	FXN 6K-3N	70	1		٠			•			•	•	
1	10	SFB 10K1HIP	71	1		۲	0		•	•	•			
1	15	FGE 10K-3S05*	63	1		۲							•	
1	15	SXS 10K-3	72	1		٠	0		٠			•		
1	15	SXS 10K-3L	72	1		۲	0		•			•		
1	30	FCF 30K-3	62	1		٠							•	
2	3   6	SXS 6K-3M	72	1	0	•	0		٠			•		
2	8   15	FOB 10K-3NL	67	1		•								
2	6	FOB 6K-3LM	65	1	0	-		•			•		-	
2	6	FOB 6K2	67	1				•	-	_			•	
2	6	WTB 6K-3NM	68	1	0				•					
22	6 6	FFN 6K2IPM FXN 6K-3M	<u>69</u> 70	<u>1</u>	0 0	•			•	•		•		
2	15	WTB 10K-3N	68	1	0					•				
2	15	FFN 15K2IPN	69	1					-					
2	15	FXN 10K-3N	70	1					•			•	•	
2	20	SFB 20K2HIP	70	1		•	0		•	•	•			
2	30	SXS 30K-2	72	1		•	0		•			•		
2	30	SXS 30K-2L	72	1		•	0		•			•		(
5	6   15	SXS 10K-3M	72	1	0	•	0		•			•		(
1 5	6   15	SXS 10K-3LM	72	1	0	•	0		•			•		(
5	16   30	FOB 30K-3NL	67	1		٠					•		•	
5	15	FOB 10K-3LM	65	1	0	٠		٠			•		•	-
5	15	WTB 10K-3NM	68	1	0	•			•	•				(
5	15	FFN 15K5IPM	69	1	0	۲				•				(
5	15	FXN 10K-3M	70	1	0	•			•			•	•	
5	15	SFB 15K5HIPM	71	1	0	٠	0		•	•	•			
5	25	FFN 25K5IPN	69	1		۲				•				
5	30	WTB 30K-3N	68	1		•			٠	•				
5	30	FXN 30K-3N	70	1		•			•		-	•	•	
5	50	SFB 50K5LHIP	71	1		•	0		•					
5	50	SFB 50K5HIP	71	1			0				•			
5	50	SFB 50K-3XL	71	1		•	0		•	•	•	-		
5 5	<u>60</u> 60	SXS 60K-2 SXS 60K-2L	72 72	1		•	0		•			•		
)   10	15   30	SXS 80K-2L SXS 30K-2M	72	1	0		0							
10	15   30	SXS 30K-2IM	72	1	0		0							
0	25	FFN 25K10IPM	69	1	- 0		<u> </u>			•			-	
0	30	WTB 30K-2NM	68	1	0				•					
0	30	FXN 30K-2M	70	1	0	•			•	-		•	•	
<u> </u>	30	SFB 30K10HIPM	71	1	0	•	0		•	•	•	-		
)	100	SFB 100K10HIP	71	1		•	0		•	•	•			
)	100	SFB 100K-2XL	71	1		۲	0		•	٠	٠			
)	150	SXS 100K-2	72	1		۲	0		٠			٠		
)	150	SXS 100K-2L	72	2**		۲	0		٠			•		
)   20	30   60	SXS 60K-2M	72	1	0	٠	0		٠			•		
)   20	30   60	SXS 60K-2LM	72	1	0	۲	0		•			•		
0	60	SFB 60K20LHIPM	71	1	0	۲	0		۲	٠	٠			
0	60	SFB 60K-2XLM	71	1	0	۲	0		٠	•	•			
0	300	SXS 300K-2	72	2**		۲	0		٠			•		
0   50	60   150	SXS 100K-2M	72	1	0	•	0		•			•		
0   50	60   150	SXS 100K-2LM	72	2**	0	•	0	-	•			•		
0	150	SFB 100K-2HM	71	1	0	•	0							
0	150	SFB 100K-2LM	71	1	0	-	0							
0 0   100	150 1200	SFB 100K-2XLM	71	1 2**	0	•	0			•	•			
	150   300	SXS 300K-2M	72	Z^*	0	•	0		•			-		



FGE 5K-3S05



FGE 10K-3S05











## The price breaker!

Most economical kitchen scale in the KERN assortment

### Precise design kitchen scale for kitchen, cafeteria, gastronomy

#### Features

- FGE 10K-3S05: Weighing plate made out of safety glass
- · Easy and hygienic cleaning
- Low overall height for secure footing and space-saving storage
- Secure and non-slip positioning with rubber feet
- Very easy to use FGE 5K-3S05: 2 Buttons FGE 10K-3S05: 1 Button
- Comfortable taring with just one keystroke. For example, you can tare a bowl before starting a formulation. In addition, you can tare each time you weigh in a formulation ingredient, so that you can weigh in the next formulation ingredient with the weight indicated in the formula without having to do any calculations
- Integrated AUTO-OFF function to preserve the batteries
- Large high-contrasted display that is easy to read
- I Delivered in single design packaging

#### Technical data

- FGE 5K-3S05
- Large backlit LCD display, Digit height 18 mm
- Overall dimensions W×D×H 152×230×15 mm
- Dimensions of glass weighing plate,
- W×D 152×230 mm
- Ready for use: Batteries included, 2×CR2032

#### FGE 10K-3S05

- Large, luminescent LED display,
- Digit height 22 mm • Overall dimensions W×D×H 272×250×22 mm
- Dimensions of glass weighing plate,
- W×D 272×205 mm
- Ready for use: Batteries included, 3×1.5 V AAA

**Note**: The models with the suffix -S05 are delivered in a set of 5 units. i.e. the price given in the table refers to 5 items. Cannot be delivered individually. The calibration prices refers to one single balance



Model	Weighing capacity	Readability	Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] g	DARKS Calibi. Certificate DARkS KERN
FGE 5K-3S05	5	1	963-127
FGE 10K-3S05	15	1	963-128



# **07** Compact bench scale with multi-purpose functionality and a high level of accuracy for use in industry, gastronomy and kitchen

#### Features

- · Simple and convenient 5-key operation
- Very fast display: steady weight values
- within 3 s
- Ideal as a

- Checkweigher in the catering trade, cafeterias, school kitchens
- compact letter and parcel scale, especially in constricted spaces
- grading or commissioning balance or simple checkweigher in production or dispatch
- High mobility: thanks to battery operation/ rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations (production, warehouse, dispatch department etc.)
- Protective working cover included with delivery

#### **Technical data**

- Large backlit LCD display, digit height 25 mm
- Dimensions weighing surface, stainless steel, W×D 253×228 mm
- Overall dimensions W×D×H 270×345×106 mm
- Optional battery operation, 9 V block not included in scope of delivery, operating time up to 20 h, AUTO-OFF function to preserve the battery
- Net weight approx. 2,8 kg
- Permissible ambient temperature 5 °C/35 °C

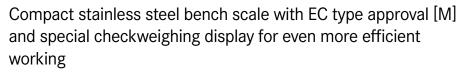
- Protective working cover, scope of delivery 5 items, KERN FCF-A01S05
- Internal rechargeable battery pack, operating time up to 120 h without backlight, charging time approx. 16 h, KERN GAB-A04

STANDARD			OPTION			
CAL EXT		BATT MULTI DMS	1 DAY ACCU +3 DAYS			
Model	Weighing capacity [Max]	Readability [d]	Reproducibility	Linearity	Smallest part weight [Normal]	Option DAkkS Calibr. Certificate
KERNI	· · ·					DAkkS
KERN	kg	g	g	g	g/piece	KERN
FCF 3K-4	3	0,1	0,1	± 0,3	2	963-127
FCF 30K-3	30		4	± 3	20	963-128









#### Features

- Innovative weighing with tolerance range (Checkweighing): The colour of the display changes depending on the weight (too light/ ok/too heavy) and is an aid to help with portioning, dosing and grading
- Thanks to the stainless steel design of the housing and platform with smooth surface, the scale is rust-free and easy to clean
- Ideal for the increased hygienic requirements in the food industries
- High mobility: thanks to battery operation, compact, lightweight construction, it is suitable for the use in several locations (kitchens, sales offices, cafeterias, food industry laboratories, etc.)
- Your support in a HACCP-compliant quality system
- Protection against dust and water splashes IP65 (only when using battery)

- Secure and non-slip positioning with rubber feet
- Increased protection against humidity through waterproof silicone sealing of the load cell, electronics and soldering joints
- Mains adapter included with the delivery
   Dretective working sever included with
- Protective working cover included with delivery

#### **Technical data**

- Large backlit LCD display, digit height 25 mm
- Dimensions weighing surface, stainless steel, W×D 248×198 mm
- Overall dimensions W×D×H 256×285×100 mm
- Battery operation, 4×1.5 V AA standard, operating time up to 48 h, AUTO-OFF function to preserve the battery
- Net weight approx. 3,8 kg
- Permissible ambient temperature 0 °C/40 °C









07

#### Accessories

- In Protective working cover, scope of delivery 5 items, KERN FOB-A13S05
- Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02

**Note:** Official verification is mandatory for commercial trade

STANDARD						OPTION	FACTORY
CAL EXT	TOL	<b>000</b>	BATT	 DMS	1 DAY	DAkkS +3 DAYS	H +3 DAYS

Model	Weighing	Readability	Verification	Minimal load	Weighing plate		Option
	capacity [Max]	[d]	value [e]	[Min]		Verification	DAkkS Calibr. Certificate
		[u]	[6]			MU	DAkkS
KERN	kg	g	g	g	mm	KERN	KERN
FOB 1K-4LM	1,5	0,5	0,5	10	248×198	965-227	963-127
FOB 3K-3LM	3	1	1	20	248×198	965-227	963-127
FOB 6K-3LM	6	2	2	40	248×198	965-228	963-128
FOB 10K-3LM	15	5	5	100	248×198	965-228	963-128

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.



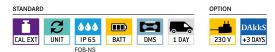
FOB-S

FOB-NS

## **07** Super compact stainless steel balance for weighing, checking and portioning in the smallest of spaces

#### Features

- Thanks to the stainless steel design of the housing and platform with smooth surface, the scale is rust-free and easy to clean
- High mobility: thanks to battery operation, compact, lightweight construction, it is suitable for the use in several locations (kitchen, sales office, cafeteria, food industry-laboratory etc.)
- Secure and non-slip positioning with rubber feet
- Your support in a HACCP-compliant quality system
- Particularly flat design
- Protective working cover included with delivery
- KERN FOB-NS: Protection against dust and water splashes IP65 (only when using battery)



Model KERN	FOB 500-1S	FOB 5K1S	FOB 0.5K-4NS	FOB 5K-3NS			
Weighing capacity [Max] kg	0,5	5	0,5	5			
Readability [d] g	0,1	1	0,1	1			
LCD display, digit height mm		withou	20 t backlight				
Dimens. weighing surface mm	155×	155×125 150×120					
Overall dimensions mm	155×1	75×40	150×1	70×40			
Power supply	9 V block, operating time up to 20 h						
Net weight kg	0,	7	0,	8			
Permissible ambient temperature	10 °C/	′40 °C	10 °C/35 °C	10 °C/40 °C			
Option DAkkS Calibr. Certificate		963-1	27				

- Protective working cover, scope of delivery 5 items,
   KERN FOB-S: KERN FOB-A11S05
- KERN FOB-NS: KERN FOB-A12S05
- External mains adapter, KERN FOB-A09



FOB

FOB-NL

## Stainless steel bench scale with large weighing ranges and IP67 protection against dust and water spray

#### Features

- High mobility: thanks to battery operation, compact, lightweight construction, it is suitable for the use in several locations (kitchen, sales office, cafeteria, Food industry-Laboratory etc.)
- Thanks to the stainless steel design of the housing and platform with smooth surface, the scale is rust-free and easy to clean
- Ideal for the increased hygienic requirements in the food industries
- Your support in a HACCP-compliant quality system
- Increased protection against humidity through waterproof silicone sealing of the load cell, electronics and soldering joints

- KERN FOB-NL: Protection against dust and water splashes IP67 (only when using battery)
- KERN FOB: Innovative weighing with tolerance range (Checkweighing): The colour of the display changes depending on the weight (too light/ok/too heavy) and is an aid to help with portioning, dosing and grading
- Protective working cover included with delivery

#### Accessories

- Protective working cover, scope of delivery 5 items
   KERN FOB: KERN FOB-A05S05
   KERN FOB-NL: KERN FOB-A13S05
- KERN FOB: Internal rechargable battery pack, operating time up to 24 h without backlight, charging time approx. 8 h, KERN FOB-A07

07

- KERN FOB-NL: External mains adapter, KERN YKA-29
- Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02

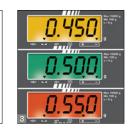
STANDARD					OPTION	
<b>T</b>	- <b>√</b> + ⊙				<b></b> ,	DAkkS
CAL EXT	TOL	230 V	DMS	1 DAY	ACCU	+3 DAYS



Model KERN	FOB 1.5K0.5	FOB 3K1	FOB 6K2	FOB 3K-4NL	FOB 7K-4NL*	FOB 10K-3NL*	FOB 30K-3NL*	
Weighing capacity [Max] kg	1,5	3	6	3	5   7,5	8   15	16   30	
Readability [d] g	0,5	1	2	0,2	0,5   1	1   2	2   5	
LCD display, digit height mm		20 without backlight		25 without backlight		25 backlight		
Dimens. weighing surface mm		175×165		248×198		252×200		
Overall dimensions mm		235×175×55		295×260×95		285×255×90		
Power supply	P	lug-in power supply	y	Batteries included, $4 \times 1.5$ V AA, operating time up to 48 h				
Net weight kg		2,0		3,8				
Permissible ambient temperature		5 °C/35 °C		5 °C/35 °C				
Option DAkkS Calibr. Certificate	963-127	963-128		963-127		963-128		

\*Multi-division balance, with increasing or decreasing load, it switches automatically to the next largest or smallest weighing range [Max] and readout [d].







**07** Ideal for food industry, thanks to its IP65 protection and special checkweighing display, now also with EC type approval [M]

#### Features

- Ideal for the increased hygienic requirements in the food industries
- Your support in a HACCP-compliant quality system
- II Protection against dust and water splashes IP65 (only when using rechargeable battery pack)
- Very fast display: steady weight values within 2 s
- $\ensuremath{\mathbbm Z}$  Second display on the back of the balance
- Compact size, practical for small spaces
- Innovative weighing with tolerance range (Checkweighing): The colour of the display changes depending on the weight (too light/ ok/too heavy) and is an aid to help with portioning, dosing and grading
- High mobility: thanks to rechargeable battery operation (optional), compact,

lightweight construction, it is suitable for the use in several locations

- Recessed grips on the underside of the scale for easy transportation
- Protective working cover included with delivery

#### Technical data

- Large backlit LCD display, digit height 25 mm
- Dimensions weighing surface, stainless steel, W×D 263×203 mm
- Overall dimensions W×D×H 286×316×126,5 mm
- Net weight approx. 3,2 kg
- Permissible ambient temperature -10 °C/40 °C

- Protective working cover, scope of delivery 5 items, KERN RFB-A01S05
- Internal rechargeable battery pack, operating time up to 50 h without backlight, charging time approx. 12 h, KERN WTB-A01N
- Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02

STANDARD	)	_	OPTION	FACTORY				
CAL EXT	-√+ ⊙ ৢ৽ TOL	<b>665</b>	B H	DMS	1 DAY	ACCU	DAkks +3 days	+3 DAYS WTB-NM

[Max]         [d]         [e]         [Min]         DAkkS           kg         g         g         g         g         ken           WTB 1K-4N         1,5         0,2         -         -         -         963-127           WTB 3K-4N         3         0,5         -         -         -         963-127           WTB 6K-3N         6         1         -         -         -         963-128           WTB 10K-3N         15         2         -         -         -         963-128	Model	Weighing capacity	Readability	Verification value	Minimal load		Option
KERN         kg         g         g         g         g         g         kern           WTB 1K-4N         1,5         0,2         -         -         -         963-127           WTB 3K-4N         3         0,5         -         -         -         963-127           WTB 6K-3N         6         1         -         -         963-128           WTB 10K-3N         15         2         -         -         963-128						Verification	DAkkS Calibr. Certificate
WTB 1K-4N         1,5         0,2         -         -         -         963-127           WTB 3K-4N         3         0,5         -         -         -         963-127           WTB 6K-3N         6         1         -         -         963-128           WTB 10K-3N         15         2         -         -         963-128		[Max]	[d]	[e]	[Min]	MIII	DAkkS
WTB 3K-4N     3     0,5     -     -     -     963-127       WTB 6K-3N     6     1     -     -     -     963-128       WTB 10K-3N     15     2     -     -     963-128	KERN	kg	g	g	g	KERN	KERN
WTB 6K-3N         6         1         -         -         963-128           WTB 10K-3N         15         2         -         -         963-128	WTB 1K-4N	1,5	0,2	_	-	-	963-127
WTB 10K-3N         15         2         -         -         963-128	WTB 3K-4N	3	0,5	-	-	-	963-127
	WTB 6K-3N	6	1	-	-	_	963-128
<b>WTB 30K-3N</b> 30 5 963-128	WTB 10K-3N	15	2	-	-	-	963-128
	WTB 30K-3N	30	5	-	-	-	963-128

		verification at the fac	tory, we need to kno	w the full address of the	location of use.		
WTB 1K-4NM	1,5	0,5	0,5	10	965-227	963-127	
WTB 3K-3NM	3	1	1	20	965-227	963-127	
WTB 6K-3NM	6	2	2	40	965-228	963-128	
WTB 10K-3NM	15	5	5	100	965-228	963-128	
WTB 30K-2NM	30	10	10	200	965-228	963-128	









### All-round bench scale, protected by stainless steel and IP65 rating, also with EC type approval [M]

OPTION

DAkks

+3 DAYS

FACTORY

М

+3 DAYS

#### Features

STANDARD

CAL EXT

 $\mathcal{C}$ 

UNIT

666

IP 65

- Ideal for the ever-increasing hygienic requirements in the food, pharmaceutical and chemical industries
- Your support in a HACCP-compliant quality system
- 2 Ideal for the robust industrial applications
- B Protection against dust and water splashes IP65 (only when using rechargeable battery pack)
- · High mobility: thanks to rechargeable battery operation, compact, lightweight construction, it is suitable for the use in several locations (kitchen, sales office, cafeteria, Food industry-Laboratory etc.)
- · Thanks to the stainless steel design of the housing and platform with smooth surface, the scale is rust-free and easy to clean
- · Recessed grips on the underside of the scale for easy transportation

ACCU

MULTI

DMS

1 DAY

#### **Technical data**

- Large backlit LCD display, digit height 25 mm
- Dimensions weighing surface, stainless steel, W×D 233×193 mm
- Overall dimensions W×D×H 243×300×127 mm
- Rechargeable battery pack integrated, as standard, operating time up to 50 h without backlight, charging time approx. 12 h
- Net weight approx. 4,0 kg
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

 Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02

3						
Model	Weighing capacity	Readability	Verification value	Minimal load		Option
					Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	MU	DAkkS
KERN	kg	g	g	g	KERN	KERN
FFN 1K-4N	1,5	0,2	-	-	-	963-127
FFN 3K0.5IPN	3	0,5	-	-	-	963-127
FFN 6K1IPN	6	1	-	-	-	963-128
FFN 15K2IPN	15	2	-	-	-	963-128
FFN 25K5IPN	25	5	-	-	-	963-128
Note	: For applications that re-	quire verification,	please order verificatior	at the same time, initia	al verification at a later date i	s not possible.
	Ve	erification at the fa	actory, we need to know	the full address of the	location of use.	

		verification at the fac	tory, we need to kno	w the full address of the	location of use.	
FFN 1K-4NM	1,5	0,5	0,5	10	965-227	963-127
FFN 3K1IPM	3	1	1	20	965-227	963-127
FFN 6K2IPM	6	2	2	40	965-228	963-128
FFN 15K5IPM	15	5	5	100	965-228	963-128
FFN 25K10IPM	25	10	10	200	965-228	963-128



# Bench scale, protected by stainless steel and protection type IP68, also with EC type approval [M]

#### Features

07

- Ideal for the increased hygienic requirements in the food industries
- Your support in a HACCP-compliant quality system
- Ideal for the robust industrial applications
- Dust and splash water protection type IP68. Therefore very robust and durable. Ideal for rough environmental conditions. Even immersion of the scale in water possible
- Thanks to the stainless steel design of the housing and platform with smooth surface, the scale is rust-free and easy to clean
- Very fast display: steady weight values within 2 s
- High mobility: thanks to battery operation, compact, lightweight construction, it is suitable for the use in several locations (kitchens, sales offices, cafeterias, food industry laboratories, etc.)

- I Recessed grips on the underside of the scale for easy transportation
- Weighing with tolerance range (checkweighing): a visual and audible signal helps with portioning, dispensing or grading

#### Technical data

- Large backlit LCD display, digit height 25 mm
- Dimensions weighing surface, stainless steel, W×D 236×195 mm
- Ready for use: Batteries standard, 4×1.5 V Size D, operating time approx. 500 h, AUTO-OFF function to preserve the battery
- Net weight approx. 3,4 kg
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

 ■ Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02

**Note:** Official verification is mandatory for commerical trade.

STANDARD	)							OPTION	FACTORY
		$\mathcal{C}$		666				DAkkS	Μ
CAL EXT	PCS	UNIT	TOL	IP 68	BATT	DMS	1 DAY	+3 DAYS	+3 DAYS
									FXN-M

Model	Weighing	Readability	Verification	Minimal load	Smallest part		Option
	capacity		value		weight	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	[Normal]	MII	DAkkS
KERN	kg	g	g	g	g/piece	KERN	KERN
FXN 3K-4N	3	0,5	-	-	5	-	963-127
FXN 6K-3N	6	1	-	-	10	-	963-128
FXN 10K-3N	15	2	-	-	20	-	963-128
FXN 30K-3N	30	5	-	-	50	_	963-128

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.

		vermuation	it the factory, we	need to know th				
FXN 3K-3M	3	1	1	20	5	965-227	963-127	
FXN 6K-3M	6	2	2	40	10	965-228	963-128	
FXN 10K-3M	15	5	5	100	20	965-228	963-128	
FXN 30K-2M	30	10	10	200	50	965-228	963-128	



Stainless steel platform scales with IP65/67 protection, also with XL platform or EC type approval [M]

#### Features

- Ideal for the robust industrial applications
- Platform: made entirely of stainless steel, silicone-coated Stainless Steel load cell, protection against dust and water splashes IP67
- Display device: Stainless steel, protection against dust and water splashes IP65, (only when using rechargeable battery pack)
- KERN SFB-H: Column, standard, for models with weighing plate size 300×240 mm: Height of stand approx. 200 mm 400×300 mm: Height of stand approx. 400 mm

#### Technical data

- Large backlit LCD display, digit height 52 mm
- Dimensions of display device W×D×H 266×165×96 mm
- Weighing plate dimensions, stainless steel
   W×D×H 300×240×105 mm
   W×D×H 400×300×105 mm
   W×D×H 500×400×137 mm
   W×D×H 650×500×142 mm
- KERN SFB: Cable length of display device approx. 3 m
- Rechargeable battery pack integrated, as standard, operating time up to 35 h without backlight, charging time approx. 12 h
  Permissible ambient temperature
- -10 °C/40 °







Please note: only one optional interface can be fitted for each one

#### Accessories

- KERN SFB: Stand to be screwed onto the platform, height of stand approx. 600 mm, KERN SFB-A01
- Is KERN SFB: Stand to elevate display device, height of stand approx. 800 mm, KERN BFN-A04
- Data interface RS-232, interface cable included, approx. 1,5 m, must be ordered at purchase, KERN KFN-A01
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, not in combination with verification, KERN KFB-A03
- Analogue module 0–10 V, must be ordered at purchase, KERN KFB-A04
- Analogue module 4–20 mA, must be ordered at purchase, KERN KFB-A05
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD	OPTION	FACTORY
KCP       GLP       A       Image: Calext       PROTOCOL       PRINTER       PCS       SUM       Image: Calext       Image: Calext       A       Image: Calext       A       Image: Calext       A       Image: Calext       A       Image: Calext       Image: Ca	ET DAkkS	RS 232 BT ANALOG SFB-M/ SFB-HM

							0101111	
Model	Weighing	Readability	Verification	Minimal load	Net weight	0 0	Option	
	capacity	r 11	value	[n.e.]		plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	approx.	W×D	MI	DAkkS
KERN	kg	g	g	g	kg		KERN	KERN
SFB 50K-3XL	50	5	-	-	14	C	-	963-128
SFB 100K-2XL	100	10	-	-	24	D	-	963-129
				with	elevated displ	ау		
SFB 10K1HIP	10	1	-	-	8	A	-	963-128
SFB 20K2HIP	20	2	-	-	8	A	-	963-128
SFB 50K5HIP	50	5	-	-	8	A	-	963-128
SFB 50K5LHIP	50	5	-	-	10	В	-	963-128
SFB 100K10HIP	100	10	-	-	10	В	-	963-129
Note:	For applicatior	ns that require	verification, p	lease order ver	ification at the	e same time, initi	al verification at a later date is	s not possible.
		Verifica	ation at the fac	ctory, we need	to know the fu	ull address of the	location of use.	
SFB 60K-2XLM	60	20	20	400	14	C	965-229	963-129
SFB 100K-2LM	150	50	50	1000	14	C	965-229	963-129
SFB 100K-2XLM	150	50	50	1000	24	D	965-229	963-129
				with	elevated displ	ау		
SFB 15K5HIPM	15	5	5	100	8	A	965-228	963-128
SFB 30K10HIPM	30	10	10	200	8	A	965-228	963-128

10

10

В

В

60

150

20

50

20

50

400

1000

SFB 60K20LHIPM

SFB 100K-2HM

963-129

963-129

965-229

965-229





Stainless steel platform scale with stainless steel IP68 display and EC type approval  $\left[\mathsf{M}\right]$ 



Piece counting



Recipe-weighing



Thanks to the stainless steel design of the housing and platform with smooth surface, the scale is rust-free and easy to clean

#### Stainless steel platform scale KERN SXS



#### Features

- Ideal for the robust industrial applications
- II Platform: made entirely of stainless steel, hermetically welded stainless steel load cell, protection against dust and water splashes IP68. Substruction in wing design, extremely resistant to bending. Earthed weighing plate, to reduce static charge
- Display device: stainless steel, dust and splash water protection IP68, integrated power supply
- Ideal for the increased hygienic requirements in the food industries
- Wall mount for display device, standard
- Superior display size: digit height 55 mm, bright backlight for easy reading of weighing results, even in poor lighting conditions
- Easy-to use KERN menu structure with printout of weighing results which can be intuitively adapted
- Thanks to interfaces such as RS-232, RS-485 and Bluetooth (optional) the scale can easily be connected to existing networks and facilitates the data exchange between the scale and printer



#### Technical data

- Large backlit LCD display, digit height 55 mm
- Weighing plate dimensions, stainless steel
  W×D×H 300×240×86 mm
  W×D×H 400×300×89 mm
  W×D×H 500×400×123 mm
- W×D×H 650×500×133,5 mm
- Dimensions of display device W×D×H 232×150×80 mm
- Cable length of display device approx. 2,5 m
- Permissible ambient temperature
- -10 °C/40 °C

#### Note: It is only possible to install one cable option. Either KXS-A04, KXS-A01 or KXS-A03



#### Accessories

 2 Stand to elevate display device, for models with weighing plate size
 1 Height of stand approx. 200 mm, KERN IXS-A02

Height of stand approx. 400 mm, KERN IXS-A03

- I Height of stand approx. 600 mm, KERN IXS-A04
- Internal rechargeable battery pack, operating time up to 80 h without backlight, charging time approx. 12 h, must be ordered at purchase, KERN GAB-A04

07

- Foot switch, must be ordered at purchase, KERN KXS-A03
- Data interface RS-232, interface cable included, approx. 1,5 m, must be ordered at purchase, must be ordered at purchase, KERN KXS-A04
- Data interface RS-485, must be ordered at purchase, KERN KXS-A01
- Bluetooth data interface for wireless data transfer, must be ordered at purchase, not in combination with verification, KERN KXS-A02
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD	OPTION	FACTORY
Image: Calext     GLP	ET +3 DAKKS	Image: bit with the second s
		* *

				D				
Model	Weighing	Readability	Verification	Minimal load	Linearity	Weighing		Option
	capacity		value			plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]			MШ	DAkkS
KERN	kg	g	g	g	g		KERN	KERN
				High res	olution reada	bility		
SXS 6K-3	6	0,5	-	-	± 1,5	A	-	963-128
SXS 10K-3	15	1	-	-	± 3	A	-	963-128
SXS 10K-3L	15	1	-	-	± 3	В	-	963-128
SXS 30K-2	30	2	-	-	± 6	В	-	963-128
SXS 30K-2L	30	2	-	-	± 6	C	-	963-128
SXS 60K-2	60	5	-	-	± 15	В	-	963-129
SXS 60K-2L	60	5	-	-	± 15	C	-	963-129
SXS 100K-2	150	10	-	-	± 30	C	-	963-129
SXS 100K-2L	150	10	-	-	± 30	D	-	963-129
SXS 300K-2	300	20	-	-	± 60	D	-	963-129
Multi-range bala	ince, with increa	asing load it sv	vitches autom	atically to the n	ext largest w	eighing range [Ma	ax] and readout [d] and when	the load is fully removed,
			th	e balance switc	hes back to t	he lower range		
SXS 6K-3M	3   6	1   2	1   2	20   40	± 1   2	A	965-228	963-128
SXS 10K-3M	6   15	2   5	2   5	40   100	±2 5	A	965-228	963-128
SXS 10K-3LM	6   15	2   5	2   5	40   100	±2 5	В	965-228	963-128
SXS 30K-2M	15   30	5   10	5   10	100   200	±5 10	В	965-228	963-128

	10   00	0 1 10	5   10	100   200	± 0   10	B	700 220	700 120	
SXS 30K-2LM	1 15   30	5   10	5   10	100   200	±5 10	C	965-228	963-128	
SXS 60K-2M	30   60	10   20	10   20	200   400	± 10   20	В	965-229	963-129	
SXS 60K-2LM	<b>1</b> 30   60	10   20	10   20	200   400	± 10   20	C	965-229	963-129	
SXS 100K-2N	<b>1</b> 60   150	20   50	20   50	400   1000	± 20   50	C	965-229	963-129	
SXS 100K-2L	M 60   150	20   50	20   50	400   1000	± 20   50	D	965-229	963-129	
SXS 300K-2N	<b>1</b> 50   300	50   100	50   100	1000   2000	± 50   100	D	965-229	963-129	
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.

I ONLY WHILE STOCKS LAST

PRICE COMPUTING SCALES

nnn

 $\Pi\Pi$ 

Price computing scales are used wherever the price of goods is calculated dependent on the weight of the goods. These scales are subject to obligatory verification (► Verification) in accordance with European Directive 2014/31/EU. Usually, these are verification class MIII scales

KERNA

KERN mobile retail scales are compact in size and therefore save space on the sales counter. Thanks to the simple menu structure they are easy to use – saving time and money. Fitted with mains or rechargeable batteries as standard, price computing scales can be used in retail shops as well as on mobile sales stalls. All price computing scales from KERN have three displays showing you all important information at a glance:

- Weight display in kg (verifiable)
- Unit price in €/kg or €/100 g
- Total price in €

**NOTE:** The KERN RFE range also displays the TARE or PRE-TARE value, which enables this value to be stored in a legally binding way in accordance with the Weights and Measures Act.

All KERN retail scales have direct access keys for memories (► PLU), The sales item with the relevant price can be stored against these PLU. In this way, frequently used sales items can called up at lightning speed. This accelerates customer service and reduces waiting times.

▶ See the glossary on page 223–225

## **Quick-Finder Price computing scales**

Readability	Weighing capacity	Model	Page	DAYS	Μ	CAL EXT	RS 232	MEMORY	
[d]	[Max]					(			
g	kg	KERN			For an expla	inatioan on	the pictos, s	see front fl	ар
0,5   1	1,5   3	RPB 3K3DM	76	1	0	•	•	•	0
0,5   1	1,5   3	RPB 3K3DHM	76	1	0	•	•	•	0
1   2	3   6	RIB 6K-3M	75	1	0	•		•	0
1   2	3   6	RIB 6K-3HM	75	1	0	•		•	0
1   2	3   6	RPB 6K1DM	76	1	0	•	•	•	0
1   2	3   6	RPB 6K1DHM	76	1	0	•	•	•	0
1   2	3   6	RFE 6K3M	77	1	0	•	•	•	0
2   5	6   15	RIB 10K-3M	75	1	0	•		•	0
2   5	6   15	RIB 10K-3HM	75	1	0	•		•	0
2   5	6   15	RPB 15K2DM	76	1	0	•	•	•	0
2   5	6   15	RPB 15K2DHM	76	1	0	•	•	•	0
2   5	6   15	RFE 15K3M	77	1	0	•	•	•	0
5   10	15   30	RIB 30K-2M	75	1	0	•		•	0
5   10	15   30	RIB 30K-2HM	75	1	0	•		•	0
5   10	15   30	RPB 30K5DM	76	1	0	•	•	•	0
5   10	15   30	RPB 30K5DHM	76	1	0	•	•	•	0
5   10	15   30	RFE 30K3M	77	1	0	•	•	•	0
						• =	standard		<b>O</b> = option











## Robust retail scale with large item memory, user-friendly handling and EC type approval [M]

#### Features

STANDARD

11

CAL EXT

MEMORY

- KERN RIB-HM: Elevated display backlit, height of stand approx. 405 mm
- KERN RIB-M: Second display on the back of the balance
- Three displays for weight display (verifiable), unit price, total price
- 10 direct price keys for frequently recurring article prices
- Memory (PLU) for 20 article prices
- Energy management: Backlight turns off after 5 sec, can be switched off
- Soil-resistant construction through water channels at the frame of the housing and sealing rings over the upper housing inlets
- Protective working cover included with delivery

OPTION

ACCU

1 DAY

DAkks

+3 DAYS

FACTORY

M

+3 DAY

#### **Technical data**

- Large backlit LCD displays, digit height 18 mm
- Weighing plate dimensions, stainless steel, W×D 294×225 mm
- Overall dimensions W×D×H KERN RIB-M: 325×340×115 mm KERN RIB-HM: 325×340×405 mm
- Net weight KERN RIB-M: approx. 3,2 kg
- KERN RIB-HM: approx. 3,8 kg • Permissible ambient temperature -10 °C/40 °C

#### Protective working cover, scope of delivery

Accessories

- 5 items, KERN RIB-A01S05 • Internal rechargeable battery pack,
- operating time up to 80 h without backlight, charging time approx. 14 h, KERN GAB-A04
- I Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02

#### **Application examples**

- retail shops
- weekly markets
- farm shops

• pick your own fruit and vegetable sales **Note**: Official verification is mandatory for commercial trade

Model	Weighing capacity	Readability	Verification value	Minimal load		Option
					Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	MII	DAkkS
KERN	kg	g	g	g	KERN	KERN
Multi-range	balance, with increasing load	d it switches autor	natically to the next larg	gest weighing range [I	Max] and readout [d] and when t	the load is fully removed,
		tl	he balance switches bac	ck to the lower range		
RIB 6K-3M	3   6	1   2	1   2	20   40	965-228	963-128
RIB 10K-3M	6   15	2   5	2   5	40   100	965-228	963-128
<b>RIB 30K-2M</b>	15   30	5   10	5   10	100   200	965-228	963-128
			with elevated	d display		
RIB 6K-3HM	3   6	1   2	1   2	20   40	965-228	963-128
RIB 10K-3HM	6   15	2   5	2   5	40   100	965-228	963-128
RIB 30K-2HM	15   30	5   10	5   10	100   200	965-228	963-128
N	lote: For applications that red	quire verification,	please order verificatior	n at the same time, in	itial verification at a later date is	s not possible.

Verification at the factory, we need to know the full address of the location of use.



### Retail scale with memories for 10 item prices - now with Checkout-Dialogue 06

#### 08 Features

- Modern, ergonomic design and a housing which is even more compact, supporting efficient operation and saving space
- II KERN RPB-HM: Elevated display backlit, revolving on column, height of stand approx. 480 mm
- KERN RPB-M: Second display on the back of the balance
- Three displays for weight display (verifiable), unit price, total price
- Memory (PLU) for 10 article prices
- Unit price can be switched from
- €/kg to €/100 g
  Auto-clear-key: Unit price entry is automatically set to zero when scale is unloaded
- Is High mobility: thanks to rechargeable battery operation (optional), compact,

lightweight construction, it is suitable for the use in several locations

 Protective working cover included with delivery

#### **Technical data**

- Large backlit LCD displays, digit height 15 mm
- Weighing plate dimensions, stainless steel, W×D 204×263 mm
- Overall dimensions W×D×H KERN RPB-M: 283×318×100,3 mm KERN RPB-HM: 283×375,5×486,8 mm
- Net weight KERN RPB-M: approx. 2,8 kg KERN RPB-HM: approx. 3,2 kg
- Permissible ambient temperature -10 °C/40 °C









Checkout Dialog 06: This dialog describes the communication procedure between a checkout scale in customer traffic and a freely programmable POS system, consisting of POS hardware and software. The aim of the Checkout Dialog 06 is to make manipulation of the data streams by third parties in principle impossible in freely programmable POS systems. Note: Other protocols on request.

#### Accessories

- Protective working cover, scope of delivery
   5 items, KERN RFC-A02S05
- Internal rechargable battery pack, operating time up to 60 h without backlight, charging time approx. 12 h, KERN WTB-A01N
- Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02
- Further details, plenty of further accessories and suitable printers see *Accessories*

#### **Application examples**

- retail shops
- weekly markets
- farm shops
- pick your own fruit and vegetable sales

**Note:** Official verification is mandatory for commerical trade.

STANDARD							OPTION	FACTORY	
		• 6556 •	C	B			m	DAkkS	Μ
CAL EXT	MEMORY	RS 232	UNIT	MULTI	DMS	1 DAY	ACCU	+3 DAYS	+3 DAYS

Model	Weighing capacity	Readability	Verification value	Minimal load	Option
					Verification DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	MIII DAkkS
KERN	kg	g	g	g	KERN KERN
Multi-divisio	n balance, with increasing	g or decreasing lo	ad, it switches automat	ically to the next larg	est or smallest weighing range [Max] and readout [d].
RPB 3K3DM	1,5   3	0,5   1	0,5   1	10	965-227 963-127
RPB 6K1DM	3   6	1   2	1   2	20	965-228 963-128
RPB 15K2DM	6   15	2   5	2   5	40	965-228 963-128
RPB 30K5DM	15   30	5   10	5   10	100	965-228 963-128
			with elevated	d display	
RPB 3K3DHM	1,5   3	0,5   1	0,5   1	10	965-227 963-127
RPB 6K1DHM	3   6	1   2	1   2	20	965-228 963-128
RPB 15K2DHM	6   15	2   5	2   5	40	965-228 963-128
RPB 30K5DHM	15   30	5   10	5   10	100	965-228 963-128
Note	: For applications that red	nuire verification.	please order verification	n at the same time, ir	nitial verification at a later date is not possible.

te: For applications that require verification, please order verification at the same time, initial verification at a later date is not possil Verification at the factory, we need to know the full address of the location of use.



Compact portion scale with 2 XXL displays – weight, unit price, total price and TARE value at a glance

#### Features

STANDARD

CAL EXT

=

RS 232

UNIT

MULTI

- Ideal as a salad scale, sweet scale, checkweigher, portion scale or zero-waste scale: Shopping without plastic or packaging waste in packaging-free supermarkets
- Large LCD display with four displays for weight display (verifiable), unit price, total price and stored TARE or PRE-TARE value
- TARE value display: this shows a TARE or PRE-TARE value stored in a PLU, which enables this value to be stored in a legally binding way in accordance with the Weights and Measures Act
- Second display on the back of the balance
- Column to elevate the display as standard, can be easily fitted or removed by the user. The power cable for the second display can be stored in the folding column which is hygienic and gives a tidy appearance. Height of stand approx. 395 mm

- I Thanks to easily-understandable, universal symbols e.g. for weight, piece weight, total price this balance can also be understood and operated easily all over the world
- 4 direct price keys for frequently recurring article prices
- Memory (PLU) for 100 article prices
- Article description can be entered, displayed and printed in plain text
- Unit price can be switched from €/kg to €/100 g
- Auto-clear-key: Unit price entry is automatically set to zero when scale is unloaded
- Up to three headers and footers of the printout can be programmed directly on the balance
- High mobility: thanks to rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations
- Recessed grips on the underside of the scale for easy transportation





#### Application examples

- cafeterias, restaurants, Motorway service stations
- retail shops
- weekly markets
- farm shops
- pick your own fruit and vegetable sales

**Note:** Official verification is mandatory for commerical trade.

#### **Technical data**

- Large backlit LCD displays, digit height 20 mm
- Weighing plate dimensions, stainless steel, W×D 230×300 mm
- Overall dimensions W×D×H
   320×450×130 mm
- 320×450×410 mm (incl. stand)
- Net weight approx. 4,2 kg
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Affordable universal label printer to print out weights on thermal labels. ASCII-capable. Convenient Auto-Forward function to automatically jump from label to label (only with KERN standard labels), KERN YKE-01
- Internal rechargeable battery pack, operating time up to 30 h with backlight, charging time approx. 12 h, KERN GAB-A04

Model	Weighing capacity	Readability	Verification value	Minimal load		Option
KERN	[Max] kg	[d] g	[e] g	[Min] g	Verification MIII KERN	DAkkS Calibr. Certificate DAkkS
Multi-divisi			ad, it switches automat		or smallest weighing range [	KERN Max] and readout [d].
RFE 6K3M	3   6	1   2	1   2	20	965-228	963-128
RFE 15K3M	6   15	2   5	2   5	40	965-228	963-128
RFE 30K3M	15   30	5   10	5   10	100	965-228	963-128

Verification at the factory, we need to know the full address of the location of use.

FACTORY

M

OPTION

ACCU

DAkk



# COUNTING SCALES/ COUNTING SYSTEMS

#### Interesting Facts about Counting

#### Smallest part weight for piece counting

This is the smallest piece weight the scale will accept for piece counting and will display it piece by piece. In practice, depending on the required accuracy, we recommend to choose a counting scale with a minimum piece weight smaller than the weight of the item to be counted. To make it easier for you to select the right model, we specify the smallest part weight when counting under laboratory conditions and normal conditions, see the website.

#### Counting resolution

Describes the maximum quantity which can be counted with a counting accuracy of 1 %, with a minimum variation of item weights and a sufficiently large  $\blacktriangleright$  *reference quantity* (20 pieces with counting resolution  $\le 60,000$  points, 50 pieces from 60,000-150,000 points, 100 pieces  $\ge 150,000$  points). This therefore is an indication of the quality of the counting scale.

#### Recommended ► reference quantity

Weight tolerances of pieces to be counted are the most significant sources of error when counting. Therefore, at the start of every counting procedure, establish an average weight, the so-called ► *reference weight*, by placing several pieces on the balance, the so-called reference quantity. Usually this would be:

5 pieces >> often sufficient 10 pieces >> common practise 20-100 pieces >> for large deviations among piece weights

The "automatic ► *reference optimisation*" function increases the reference quantity gradually, whereby the average piece weight is optimised step by step. This contributes considerably to the accuracy of the subsequent counting processes.

#### Which Counting Scale for Which Application?

#### Simple counting scale

With self-explanatory user guidance on the keyboard. The graphic control panel enables you to start working immediately, without having to consult the user manual. Easy handling, value for money.

#### **Professional counting scale**

With 3 separate displays for reference weight (average weight of the pieces), total weight of all pieces and total quantity of all pieces. Very useful integrated memories, e.g. for container weight, item number, reference weight as well as audible and visual counting aids and an alphanumeric key pad for easy data entry.

#### Special tip for counting large quantities: Counting systems

The weighing capacities of bench counting scales are often not sufficient to count large quantities, units, palletized items, etc. In this case, high-performing counting systems come into operation, as these combine a high-precision reference scale with a high-capacity bulk scale.

#### ▶ See the glossary on page 223–225

## **Quick-Finder Counting scales/Counting systems**

				*	<u> </u>									
Readability	Weighing	Smallest	Counting	Model	Page		Μ		-√+ ⊙ 3%			ವ⇔ವ		
	capacity	part weight	resolution			DAYS		CAL EXT	TOL	MEMORY	RS 232	DUAL	BATT	ACCU
[d]	[Max]	[Normal]												
g	kg	g/piece	Points	KERN			Fo	or an ex	planati	on on t	he picto	os, see	front fla	ар
0,001	0,3	0,05	60.000	CFS 300-3	84	1		•	٠	٠				0
0,001	0,36	0,01	360.000	CKE 360-3	85	1		٠	٠		0		•	0
0,001	6	0,05	1.200.000	CCS 6K-6	90	2		٠	٠	٠	٠			0
0,001	15	0,05	3.000.000	CCS 10K-6	90	2		٠	•					0
0,01	3	0,5	60.000	CFS 3K-5	84	1		٠	•	•	•	•		0
0,01	3,6	0,1	360.000	CKE 3600-2	85	1		•	•		0		•	0
0,01	3   6	0,2	300.000	CCA 6K-5M	88	2	0	•		•	•			0
0,01	6   15	0,2	750.000	CCA 10K-5M	88	2	0	•		•	•			0
0,01	15   30	0,2	1.500.000	CCA 30K-5M	88	2	0	•		•	•			0
0,01	30	0,5	600.000	CCS 30K0.01.	90	2		•	•		•			0
0,01	30 60	0,3	3.000.000	CCA 60K-5M	88	2	0	•						
	60	0,2	1.200.000	CCS 60K0.01.	90	2		•	•					- 0
0,01														
0,01	60	0,5	1.200.000	CCS 60K0.01L.	90	2		•	•	•	•			0
0,01	60   150	0,2	7.500.000	CCA 100K-5M	88	2	0	•			•			0
0,01	150	0,5	3.000.000	CCS 150K0.01	90	2		•	•	•	•			0
0,01	150	0,5	3.000.000	CCS 150K0.01L	90	2		•	•					0
0,01	150   300	0,2	15.000.000	CCA 300K-5M	88	2	0	•		•	•			0
0,01	300	0,5	6.000.000	CCS 300K0.01	90	2		۲	•	•	•			0
0,01	600	0,5	12.000.000	CCS 600K-2U	90	4*		•	•	•				0
0,01	600	0,5	12.000.000	CCS 600K-2L	90	4*		٠	•	•	•			0
0,02	4	0,2	200.000	CDS 4K0.02	87	1		٠			0			0
0,02	6	0,2	300.000	CKE 6K0.02	85	1		٠	•		0		•	0
0,05	8	0,5	160.000	CKE 8K0.05	85	1		•	•		0		•	0
0,05	15	0,5	300.000	CDS 15K0.05	87	1		•	-		0			0
0,05	16	0,5	320.000	CKE 16K0.05	85	1		•	•		0		•	0
0,05	6	1	60.000	CPB 6K0.1N	83	1				•				0
	6	1	60.000	CFS 6K0.1	84	1		•	•			•		
0,1								-						
0,1	3   6	1	60.000	CCA 6K-4M	88	2	0	•			•			0
0,1	6   15	1	150.000	CCA 10K-4M	88	2	0	•		•	•			0
0,1   0,2	3   6	1	60.000	IFS 6K-4S	86	1		•	•	•	•			0
0,1   0,2	6   15	2	75.000	IFS 10K-4	86	1		•	•					0
0,1	16	1	160.000	CKE 16K0.1	85	1		•	•		0		•	0
0,1	16	1	160.000	CDS 16K0.1	87	1		•			0			0
0,1	30	1	300.000	CDS 30K0.1	87	1		•			0			0
0,1	30	1	300.000	CDS 30K0.1L	87	1		•			0			0
0,1	30	1	300.000	CCS 30K0.1.	90	2		•	•	•				0
0,1	15   30	1	300.000	CCA 30K-4M	88	2	0	٠		•	•			0
0,1	36	1	360.000	CKE 36K0.1	85	1		٠	•		0		•	0
0,1	30   60	1	600.000	CCA 60K-4M	88	2	0	•		•	•			0
0,1	60	1	600.000	CCS 60K0.1.	90	2		•	•	•	•			0
0,1	60	1		CCS 60K0.1L.	90	2		•						0
0,1	60  150	1		CCA 100K-4M	88	2	0	•	-		•			0
0,1	150	1	1.500.000	CCS 150K0.1.	90	2		•	•	•				0
0,1	150	1	1.500.000	CCS 150K0.1L	90	2								- 0
						4*		-						0
0,1	150   300	1	3.000.000	CCA 300K-4M	88		0	•		-	•			
0,1	300	1	3.000.000	CCS 300K0.1	90	4*		•		-	•			0
0,1	600	1	6.000.000	CCS 600K-1S	90	4*		•	•	•	•	_		0
0,1	600	1	6.000.000	CCS 600K-1	90	4*		•	•					0
0,1	1500	1	15.000.000	CCS 1T-4S	90	4*		٠	•					0
0,1	1500	1	15.000.000	CCS 1T-1U	90	4*		٠	•					0
0,1	1500	1	15.000.000	CCS 1T-4	90	4*		٠	•					0
0,1	1500	1	15.000.000	CCS 1T-1L	90	4*		٠						0
0,1	3000	1	30.000.000	CCS 3T-3L	90	4*		۲	٠	٠	٠			0
0,1	3000	1	30.000.000	CCS 3T-3	90	4*		۲	•	•	•			0
0,1	3000	1	30.000.000	CCS 3T-1	90	4*		•	•	•	•			0
0,2	3	1	30.000	CIB 3K-4	81	1		•	•	•				•
0,2	3	1	30.000	CXB 3K0.2	82	1		•		•				•
0,2	15	2	75.000	CFS 15K0.2	84	1		•	•	•	•	•		0
0,2	15	2,5	60.000	CPB 15K0.2N	83	1								- 0
	36	2,5			83	1		•		-	0			0
0,2	60		180.000	CDS 36K0.2L										
0,2		2	300.000	CDS 60K0.2	87	1		•	_		0			0
0,2	65	2	325.000	CKE 65K0.2	85	1		•	•		0		•	0
0,2   0,5	12   30	5	60.000	IFS 30K0.2DL	86	1		•	•	•				0
0,5	6	2	30.000	CIB 6K-4	81	1		•	•					•
0,5	6	2	30.000	CXB 6K0.5	82	1		٠						•
0,5	30	5	60.000	CPB 30K0.5N	83	1		٠						0
0,5	30	5	60.000	CFS 30K0.5	84	1		٠	٠					0
0,5   1	30   60	10	60.000	IFS 60K0.5D	86	1		٠	•	•	•			0
0,5   1	30   60	10	30.000	IFS 60K0.5DL	86	1		٠	•	•	•			0
1	3	1	30.000	CXB 3K1NM	82	1	0	•		•				•
1	15	5	30.000	CIB 10K-3	81	1	-	•	•	•				
·	10			CIB TUK-5		-		-						

\* Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

• = standard o = option

## **Quick-Finder Counting scales/Counting systems**

Readability	Weighing capacity	Smallest part weight	Counting resolution	Model	Page	DAYS	Μ	CAL EXT	-√+ ⊙ Э୬ TOL	MEMORY	RS 232	<b>⇔⇔</b> DUAL	BATT ACCU
[d]	[Max]	[Normal]											
g	kg	g/piece	Points	KERN			F	or an e>	planati	on on t	he pict	os, see	front flap
1	15	5	50.000	CXB 15K1	82	1		•					0
1	50	10	60.000	CFS 50K-3	84	1		٠	۲	٠	•	٠	0
1   2	3   6	1	60.000	CPB 6K1DM	83	1	0	٠			•		0
1   2	3   6	1	60.000	IFS 6K-3SM	86	1	0	•	٠	•	•		0
1   2	3   6	1	60.000	IFS 6K-3M	86	1	0	٠	٠	٠	•		0
1   2	75   150	25	60.000	IFS 100K-3	86	1		•	٠	٠	٠		0
1   2	75   150	25	30.000	IFS 100K-3L	86	1		•	•	•	•		0
2	6	2	30.000	CXB 6K2NM	82	1	0	•					0
2	30	10	30.000	CIB 30K-3	81	1		•	•				0
2	30	10	75.000	CXB 30K2	82	1		•					0
2   5	6   15	2	75.000	IFS 10K-3M	86	1	0	•	•	•	•		0
2   5	6   15	2	60.000	IFS 10K-3LM	86	1	0	•	•	•	•		0
2   5	6   15	2,5	60.000	CPB 15K2DM	83	1	0	•		•	•		0
2   5	15   30	50	30.000	IFS 300K-3	86	1		•	•	•	•		0
5	15	5	60.000	CXB 15K5NM	82	1	0	•					0
5   10	15   30	5	60.000	CPB 30K5DM	83	1	0	٠		•	•		0
5   10	15   30	5	30.000	IFS 30K-3M	86	1	0	•	•	•	•		0
10	30	10	60.000	CXB 30K10NM	82	1	0	•					0
10   20	30   60	10	60.000	IFS 60K-2M	86	1	0	•	•	•	•		0
10   20	30   60	10	60.000	IFS 60K-2LM	86	1	0	•	•	•	•		0
20   50	60   150	25	60.000	IFS 100K-2M	86	1	0	•	•				0
20   50	60   150	25	60.000	IFS 100K-2LM	86	1	0	•	•	•	•		0
50   100	150   300	50	60000	IFS 300K-2M	86	1	0	•	•	•			0
		* Shipment	via freight for	warder. Please ask for dimensio	ns, gross we	ight, shi	ipping c	osts			• =	standa	rd <b>o</b> = option

09









Robust counting scale with large article memory, convenient operating philosophy and checkweighing display, counting resolution up to 30,000 points

#### Features

- Innovative counting with tolerance range (Checkweighing): The counting process can be supported visually and/or audibly and this therefore makes portion division, dispensing and grading easier
- visual signal: the colour of the display changes depending on the counting result (not enough/ok/too much)
- audible signal: the frequency of the audible signal changes depending on the counting result (not enough/ok/too much), can be switched off
- Ideal for workshops for people with disabilities, particularly loud or quiet environments, where operators change frequently, etc.
- Three displays for weight display, reference weight, total pieces
- Precise counting: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value

- Programmable using numerical key pad:
   required reference quantity
- known reference weight
- Counting results memory: adds up all individual piece counts, result is shown in total weight and total pieces
- PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels
- 20 direct price keys for frequently recurring reference weights and PRE-Tare values
- Memory for 50 reference weights and PRE-Tare values
- High mobility: thanks to rechargeable battery operation, compact, lightweight construction, it is suitable for the use in several locations (kitchen, sales office, cafeteria, Food industry-Laboratory etc.)
- Two balances in one: Changes from counting mode to weighing mode at the touch of a key
- Energy management: Backlight turns off after 5 sec, can be switched off
- Protective working cover included with delivery

#### Technical data

- · Large backlit LCD displays, digit height 18 mm
- Dimensions weighing surface, stainless steel, W×D 315×215 mm
- Overall dimensions W×D×H, 350×330×120 mm
- Net weight approx. 3,6 kg
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN RIB-A01S05
- Internal rechargeable battery pack, operating time up to 160 h without backlight, charging time approx. 14 h, KERN GAB-A04

STANDARD									
									DAkkS
CAL EXT	PCS	MEMORY	SUM	TOL	ACCU	MULTI	DMS	1 DAY	+3 DAYS

Model	Weighing capacity	Readability	Smallest part weight	Counting resolution	Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] g	[Normal] g/piece	Points	DAkkS KERN
CIB 3K-4	3	0,2	1	30.000	963-127
CIB 6K-4	6	0,5	2	30.000	963-128
CIB 10K-3	15	1	5	30.000	963-128
CIB 30K-3	30	2	10	30.000	963-128





**Note:** Official verification is mandatory for commercial trade

## Entry level model for professional counting, with EC type approval [M], counting resolution of 30,000 points

#### Features

- Precise counting: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value
  - Programmable using numerical key pad:
  - required reference quantity
  - known reference weight
  - Three displays for weight display (verifiable), reference weight, total pieces
  - Fill-to-target function: Target count or target weight can be programmed. When the target weight is reached there is an audible and visual signal
  - 10 memories for reference weights
  - Counting results memory: adds up all individual piece counts, result is shown in total weight and total pieces

- Integrated ESD protection, which makes it ideal for weighing small plastic parts
- Energy management: Backlight turns off after 5 sec
- PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels
- Two balances in one: Changes from counting mode to weighing mode at the touch of a key
- · Protective working cover included with delivery

#### **Technical data**

- Large backlit LCD displays, digit height 18 mm
- $\ensuremath{\cdot}$  Weighing plate dimensions, stainless steel,
- W×D 300×225 mm • Overall dimensions W×D×H,
- 300×330×110 mm • Rechargeable battery pack integ
- Rechargeable battery pack integrated, as standard, operating time up to 200 h without backlight, charging time approx. 8 h
- Net weight approx. 4,0 kg
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN CXB-A01S05
- Internal rechargable battery pack, operating time up to 200 h without backlight, charging time approx. 8 h, KERN GAB-A04

STANDARD	 			OPTION	FAC
CAL EXT PCS MEMORY	CCU 230 V	DMS	1 DAY	DAkkS +3 DAYS	+3
					OVE

Model	Weighing	Readability	Verification	Minimal	Smallest part	Counting	Net weight		Option
	capacity	L.I	value	load	weight	resolution		Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	[Normal]		approx.	MU	DAkkS
KERN	kg	g	g	g	g/piece	Points	kg	KERN	KERN
CXB 3K0.2	3	0,2	-	-	1	30.000	4,0	_	963-127
CXB 6K0.5	6	0,5	-	-	2	30.000	4,0	-	963-128
CXB 15K1	15	1	-	-	5	30.000	4,0	-	963-128
CXB 30K2	30	2	-	-	10	30.000	4,0	-	963-128

DAYS

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.

verification at the factory, we need to know the full address of the location of dise.													
CXB 3K1NM	3	1	1	20	1	30.000	4,0	965-227	963-127				
CXB 6K2NM	6	2	2	40	2	30.000	4,0	965-228	963-128				
CXB 15K5NM	15	5	5	100	5	30.000	3,8	965-228	963-128				
CXB 30K10NM	30	10	10	200	10	30.000	4,0	965-228	963-128				





**Note:** Official verification is mandatory for commercial trade

# Professional model, also with EC type approval [M], counting resolution up to 60,000 points

#### Features

- Precise counting: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value
- Programmable using numerical key pad:
   required reference quantity
- known reference weight
- Three displays for weight display (verifiable), reference weight, total pieces
- Counting results memory: adds up all individual piece counts, result is shown in total weight and total pieces
- Fill-to-target function: Target count or target weight can be programmed. When the target weight is reached there is an audible and visual signal
- PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels

- High mobility: thanks to rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations (production, warehouse, dispatch department etc.)
- Two balances in one: Changes from counting mode to weighing mode at the touch of a key
- Protective working cover included with delivery

#### **Technical data**

- · Large backlit LCD displays, digit height 20 mm
- Weighing plate dimensions, stainless steel, W×D 295×225 mm
- Overall dimensions W×D×H, 315×350×100 mm
- Net weight approx. 3,2 kg
- Permissible ambient temperature 0 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN CFS-A02S05
- Internal rechargeable battery pack, operating time up to 90 h without backlight, charging time approx. 12 h, KERN GAB-A04
- Signal lamp for visual support of weighing with tolerance range, KERN CFS-A03
- Y-cable for parallel connection of two terminal devices to the RS-232 interface on the scale, e.g. signal lamp and printer, KERN CFS-A04
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD		OPTION	FACTORY	
CAL EXT	L PCS SUM	MULTI DMS 1 DAY	ACCU DAkkS	+3 DAYS

Model	Weighing	Readability	Verification	Minimal load	I Smallest part	Counting		Option
	capacity [Max]	[d]	value [e]	[Min]	weight [Normal]	resolution	Verification	DAkkS Calibr. Certificate
		[u]	[6]			<b>D</b> · · ·	MU	DAkkS
KERN	kg	g	g	g	g/piece	Points	KERN	KERN
CPB 6K0.1N	6	0,1	-	-	1	60.000	-	963-128
CPB 15K0.2N	15	0,2	-	-	2,5	60.000	-	963-128
CPB 30K0.5N	30	0,5	-	-	5	60.000	-	963-128

Multi-division balance, with increasing or decreasing load, it switches automatically to the next largest or smallest weighing range [Max] and readout [d].

Note: For applications that require verification, please order verification at the same time, initial verification at a later date is not possible.

Verific	ation at the fac	ctory, we nee	d to know the	e full address of the l	location of use.
110	110	20	1	(0.000	0/5 000

CPB 6K1DM	3   6	1   2	1   2	20	1	60.000	965-228	963-128	
CPB 15K2DM	6   15	2   5	2   5	40	2,5	60.000	965-228	963-128	
CPB 30K5DM	15   30	5   10	5   10	100	5	60.000	965-228	963-128	



Professional, high-resolution counting scale with 100 item memories and second balance interface, counting resolution up to 75,000 points

#### Features

09

- Memory (PLU) for 100 items with additional text, reference weight and tare weight, e.g. of a container
  - Precise counting: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value
  - Programmable using numerical key pad:
  - required reference quantity
  - known reference weight
  - Three displays for weight display, reference weight, total pieces
  - Weighing with tolerance range (checkweighing): a visual and audible signal helps with portioning, dispensing or grading
  - Fill-to-target function: Programmable target quantity or target weight. A signal will be displayed when the target value is reached
  - PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels

- Second balance interface to construct a high-resolution counting system, standard, e.g. with weighing bridges of KERN KFP V20
- Protective working cover included with delivery, for models with weighing plate size

   A, B

#### **Technical data**

Large backlit LCD displays, digit height 20 mm
Dimensions weighing surface, stainless steel
Ø 80 mm

W×D 295×225 mm, see larger picture
 W×D 370×240 mm

- Overall dimensions W×D×H
- A 315×350×185 mm (incl. draught shield)
- B 315×350×125 mm
- C 370×360×125 mm
- Permissible ambient temperature 0 °C/40 °C

#### Accessories

- Fitting for models with weighing plate size
   Protective working cover, scope of delivery 5 items, KERN CFS-A02S05
- Internal rechargeable battery pack, operating time up to 70 h without backlight, charging time approx. 14 h, KERN GAB-A04
- Signal lamp for visual support of weighing with tolerance range, KERN CFS-A03
- Y-cable for parallel connection of two terminal devices to the RS-232 interface on the scale, e.g. signal lamp and printer, KERN CFS-A04
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD	OPTION		
LALEXT MEMORY R5 232 PROTOCOL PRINTER DUAL PCS SUM TOL MULTI	DMS 1 DAY	<b>S</b> ET	ACCU +3 DAYS

Model	Weighing capacity [Max]	Readability [d]	Smallest part weight [Normal]	Counting resolution	Net weight approx.	Weighing plate	Option DAkkS Calibr. Certificate DAkkS
KERN	kg	g	g/piece	Points	kg		KERN
CFS 300-3	0,3	0,001	0,05	60.000	2,6	A	963-127
CFS 3K-5	3	0,01	0,5	60.000	3,4	В	963-127
CFS 6K0.1	6	0,1	1	60.000	3,2	В	963-128
CFS 15K0.2	15	0,2	2	75.000	3,4	В	963-128
CFS 30K0.5	30	0,5	5	60.000	3,4	В	963-128
CFS 50K-3	50	1	10	50.000	4,4	C	963-128







Easy to use, self-explanatory counting scale with laboratory accuracy, ideal for the various possibilities of Industry 4.0 applications, highly accurate, counting, accuracy, counting resolution up to 360,000 points

#### Features

- Self-explanatory, graphic control panel, the workings steps can be understood immediately, even without operating instructions
- no learning time = reduces costs
- ideal for untrained users
- visualised process avoids operating errors
- The 4 steps are carried out from left to right:
- Place the empty container onto the weighing plate and tare by pressing the TARE key
   Place the reference quantity for the goods to be counted into the container (5, 10, 20 or any number of pieces)

Confirm the selected reference quantity by pressing the key (5, 10, 20 or any number of pieces)

Pour in the goods to be counted. The number of pieces will immediately be shown in the display

- Precise counting: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value
- KERN Universal Port (KUP): permits the connection of an external KUP interface adapter, such as, for example, RS 232, USB, Bluetooth or Ethernet, for the exchange of data and control commands, without any installation outlay
- KERN Communication Protocol (KCP): The KCP permits searching and remote control of the balance using external control devices or computers. for details see page 8/9
- Two balances in one: Changes from counting mode to weighing mode at the touch of a key
- Ring-shaped draught shield standard, only for models with weighing plate size Ø 81 mm, weighing space Ø×H 90×40 mm
- · Protective working cover included with delivery





#### Technical data

- Large backlit display, digit height 25 mm
- Dimensions weighing surface
   Ø 81 mm, plastic
- W×D 130×130 mm, stainless steel
- W×D 340×240 mm, stainless steel,
- see larger picture
- Overall dimensions W×D×H
   A, B 167×250×85 mm
   350×390×120 mm
- Optional battery operation, 4× 1.5 V AA not included in scope of delivery, operating time up to 80 h
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

 Protective working cover, scope of delivery 5 items, for models with weighing plate size
 M, E, KERN YBA-A12S05 09

- 🗈, KERN FKB-A02S05
- Internal rechargable battery pack, operating time up to 48 h without backlight, charging time approx. 8 h, KERN YKR-01
- External data interface RS-232, Interface cable included, KERN YKUP-01
- External data interface USB, Interface cable included, KERN YKUP-03
- WiFi interface adapter, KERN YKUP-05
- Extension-Box, KERN YKUP-13
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARD								OPTION											
	Ā	KCP	GLP		$\mathcal{C}$	- <b>·</b> + ③ ③)	<b>–</b>		B		<b>F</b>	1		• <del>∕•</del> →	*	((:-	盂		DAkkS
CAL EXT	KUP	PROTOCOL	PRINTER	PCS	UNIT	TOL	UNDER	BATT	MULTI	DMS	1 DAY	ET	RS 232	USB	BT 4.0	WIFI	LAN	ACCU	+3 DAYS

Model KERN	Weighing capacity [Max]	Readability [d]	Smallest part weight [Normal]	Counting resolution Points	Net weight approx.	Weighing plate	Option DAkkS Calibr. Certificate DAkkS
NERIN	kg	g	g/piece	Points	kg		KERN
CKE 360-3	0,36	0,001	0,01	360.000	1	A	963-127
CKE 3600-2	3,6	0,01	0,1	360.000	1,8	В	963-127
CKE 6K0.02	6	0,02	0,2	300.000	7	C	963-128
CKE 8K0.05	8	0,05	0,5	160.000	7	C	963-128
CKE 16K0.05	16	0,05	0,5	320.000	7	C	963-128
CKE 16K0.1	16	0,1	1	160.000	7	C	963-128
CKE 36K0.1	36	0,1	1	360.000	7	C	963-128
CKE 65K0.2	65	0,2	2	325.000	7	C	963-129



Industrial counting scale with convenient decimal keypad for easy data entry - now also with EC type approval [M], counting resolution up to 75000 points

#### Features

STANDARD

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- Tough industry standard suitable for use in harsh industrial applications
- Ergonomic display device with large keypad and high-contrast LCD display for easy entry and reading of, e.g., tare weights, reference weights, limit values etc.
- Three displays for weight display (verifiable), reference weight, total pieces
- 100 item memories for master data such as reference weight, reference quantity, container weight (PRE-TARE) etc.
- Precise counting: The manual reference weight optimisation gradually improves the average value of the piece weight

PROTOCOL

INTERN

PCS

SUM

TOL

MULTI

- Totalising of pieces when counting
- Printout with date and time
- Protective working cover included with delivery

#### **Technical data**

- Large backlit LCD displays, digit height 16,5 mm
- Weighing plate dimensions, stainless steel
  W×D×H 230×230×110 mm
  W×D×H 300×240×110 mm
  W×D×H 400×300×120 mm
  W×D×H 500×400×140 mm
  W×D×H 650×500×140 mm

OPTION

DAkks

+3 DAYS

FACTORY

ACCL

 Dimensions of display device W×D×H 260×150×65 mm









- Cable length of display device approx. approx. 3 m
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN KFB-A02S05
- Stand to elevate display device
   Height of stand approx. 330 mm, KERN IFB-A01
- **D**, **E**: Height of stand approx. 600 mm, KERN IFB-A02
- Internal rechargable battery pack, operating time up to 18 h without backlight, charging time approx. 12 h, must be ordered at purchase, KERN KFB-A01
- ESD drain to protect against electrostatic discharge e.g. for electrostatically-charged weighing objects or people who work with the scale, KERN YGR-01
- Further details, plenty of further accessories and suitable printers see *Accessories*

Model	Weighing	Readability	Verification		Smallest part	Net weight	Weighing		Option
	capacity		value		weight		plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	[Normal]	approx.		MII	DAkkS
KERN	kg	g	g	g	g/piece	kg		KERN	KERN
	Multi-ra	nge balance,	, with increas	sing load it swit	ches automat	cally to the	next largest we	ighing range [Max] and read	out [d]
			and when the	ne load is fully r	removed, the b	alance swite	ches back to th	e lower range	
IFS 6K-4S	3   6	0,1   0,2	-		1	4,6	A	-	963-128
IFS 10K-4	6   15	0,1   0,2	-		2	6	В	-	963-128
IFS 30K0.2DL	12   30	0,2   0,5	-		5	11	C	-	963-128
IFS 60K0.5D	30   60	0,5   1	-		10	10	C	-	963-129
IFS 60K0.5DL	30   60	0,5   1	-		10	12	D	-	963-129
IFS 100K-3	75   150	1   2	-		25	12	D	-	963-129
IFS 100K-3L	75   150	1   2	-		25	20	E	-	963-129
IFS 300K-3	150   300	2   5	-		50	22	E	-	963-129
No	te: For appli	cations that	require verifi	cation, please	order verificati	on at the sa	me time, initial	verification at a later date is	s not possible.
			Verification	at the factory,	we need to kn	ow the full a	ddress of the lo	ocation of use.	
IFS 6K-3SM	3   6	1   2	1   2	20   40	1	6	A	965-228	963-128
IFS 6K-3M	3   6	1   2	1   2	20   40	1	6	В	965-228	963-128
IFS 10K-3M	6   15	2   5	2   5	40   100	2	6	В	965-228	963-128
IFS 10K-3LM	6   15	2   5	2   5	40   100	2	10	C	965-228	963-128
IFS 30K-3M	15   30	5   10	5   10	100   200	5	10	C	965-228	963-128
IFS 60K-2M	30   60	10   20	10   20	200   400	10	11	C	965-229	963-129
IFS 60K-2LM	30   60	10   20	10   20	200   400	10	13	D	965-229	963-129
IFS 100K-2M	60   150	20   50	20   50	400   1000	25	12	D	965-229	963-129
IFS 100K-2LM	60   150	20   50	20   50	400   1000	25	22	E	965-229	963-129
IFS 300K-2M*	150   300	50   100	50   100	1000   2000	50	22	E	965-229	963-129



Easy to use industrial counting scale for heavy loads, ideal for the various possibilities of Industry 4.0 applications, counting resolution up to 300,000 points

#### Features

- Self-explanatory, graphic control panel, the workings steps can be understood immediately, even without operating instructions
  - no learning time = reduces costs
- ideal for untrained users
- visualised process avoids operating errors
  The 4 steps are carried out from left to right:
  Place the empty container onto the weighing plate and tare by pressing the TARE key
- Place the reference quantity for the goods to be counted into the container (5, 10 or 20 pieces)
   Confirm the selected reference quantity
- by pressing the key (5, 10 or 20) Pour in the goods to be counted. The number of pieces will immediately be shown in the display
- Precise counting: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value

- KERN Universal Port (KUP): permits the connection of an external KUP interface adapter, such as, for example, RS 232, USB, Bluetooth or Ethernet, for the exchange of data and control commands, without any installation outlay
- KERN Communication Protocol (KCP): The KCP permits searching and remote control of the balance using external control devices or computers, for details see page 8/9
- Standardised, simplified concept of operation
- Protective working cover included with delivery

#### Technical data

OPTION

- Backlit LCD display, digit height 21 mm
- Dimensions weighing surface, stainless steel
  W×D 228×228 mm
  W×D 308×318 mm, see larger picture
  W×D 500×400 mm
- Dimensions of display device W×D×H 225×115×60 mm

RS 232

Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover over the display device, scope of delivery 5 items, KERN DE-A12S05
- Mount to fasten the display device to the platform, for models with weighing plate size
   KERN DE-A11N
- Is Stand to elevate display device, height of stand approx. 480 mm, for models with weighing plate size I, KERN DE-A10
  - for models with weighing plate size  $\blacksquare$  : , KERN DS-A03
- External data interface RS-232, Interface cable included, KERN YKUP-01
- External data interface USB, Interface cable included, KERN YKUP-03
- Extension-Box, KERN YKUP-13
- Set for underfloor weighing, consists of platform, bow, hook, only for models with weighing plate II, KERN DS-A01
- Further details, plenty of further accessories and suitable printers see *Accessories*

					В			
Model	Weighing capacity	Readability	Smallest part weight	Counting resolution	Net weight	U U	Weighing plate	Option DAkkS Calibr. Certificate
KERN	[Max]	[d]	[Normal] g/piece	Points	approx.	approx. m		DAkkS
	kg	g	g/ piece	FOILTS	kg			KERN
CDS 4K0.02	4	0,02	0,2	200.000	6	2	A	963-127
CDS 15K0.05	15	0,05	0,5	300.000	8	2	В	963-128
CDS 16K0.1	16	0,1	1	160.000	8	2	В	963-128
CDS 30K0.1	30	0,1	1	300.000	8	2	В	963-128
CDS 30K0.1L	30	0,1	1	300.000	10	0,6	C	963-128
CDS 36K0.2L	36	0,2	2	180.000	10	0,6	C	963-128
CDS 60K0.2	60	0,2	2	300.000	10	0,6	C	963-129





# High-resolution counting system with EC type approval to count the smallest parts in large quantities, maximum number of parts which can be displayed is 999,999

#### Features

- The highly accurate KERN CCA counting system can replace a whole range of individual balances, efficiently and at a reasonable price
- Thanks to EC type approval, it is also suitable for use in verified applications
- The balances are connected to one another with an RS-232 Y-cable, which also allows you to connect a printer

#### Reference scale KERN EWJ

- This precision balance, which can be used as an individual balance, also fulfils the highest demands through connection with a high-capacity weighing bridge
- 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
- Draught shield standard for models with [Max] = 600 g, weighing space W×D×H 134×128×80 mm
- Protective working cover included with delivery

#### **Quantity scale KERN IFS**

- The high-accuracy quantity counting takes place on the weighing platform (= weighing bridge) IFS. In this way even the smallest of parts can be counted in large volumes
- Tough industry standard suitable for use in harsh industrial applications
- Ergonomic display device with large keypad and high-contrast LCD display for easy entry and reading of, e.g., tare weights, reference weights, limit values etc.
- Three displays for weight display, reference weight, total pieces
- 100 item memories for master data such as reference weight, reference quantity, container weight (PRE-TARE) etc.
- Precise counting: The manual reference weight optimisation gradually improves the average value of the piece weight
- Totalising of pieces when counting
- Printout with date and time
- Aluminium singlepoint load cell (1×3000 e), protection against dust and water splashes IP65
- · Protective working cover included with delivery

09

#### Counting system KERN CCA





#### **Technical data**

#### **Reference scale KERN EWJ**

- Dimensions weighing surface, stainless steel [Max] 600 g: Ø 120 mm, see larger picture
   [Max] 6000 g: W×D 155×145 mm
- Overall dimensions W×D×H [Max] 600 g: 220×340×180 mm (incl. draught shield) [Max] 6000 g: 215×330×105 mm
- Net weight
   [Max] 600 g: approx. 3,2 kg
   [Max] 6000 g: approx. 3,4 kg

#### **Quantity scale KERN IFS**

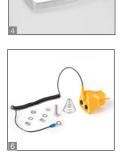
- Dimensions weighing surface, stainless steel
  W×D×H 300×240×110 mm
  W×D×H 400×300×120 mm
- W×D×H 500×400×140 mm
- W×D×H 650×500×140 mm
- Cable length of display device approx. 3 m

#### **Counting system KERN CCA**

- Connection cable approx. 1,5 m
- Net weight
- A approx. 9 kg
- B approx. 14 kg
- C approx. 16 kg
- approx. 24 kg







#### Accessories

#### Reference scale KERN EWJ

- I Protective working cover, scope of delivery 5 items, KERN EWJ-A04S05
- Internal rechargable battery pack, operating time up to 20 h without backlight, charging time approx. 12 h, KERN KFB-A01

#### **Quantity scale KERN IFS**

- Protective working cover, scope of delivery 5 items, KERN KFB-A02S05
- Internal rechargable battery pack, operating time up to 18 h without backlight, charging time approx. 12 h, KERN KFB-A01
- Is ESD drain to protect against electrostatic discharge e.g. for electrostatically-charged weighing objects or people who work with the scale, KERN YGR-01
- Stand to elevate display device Height of stand approx. 330 mm, KERN IFB-A01
   For models with weighing plate size , E: Height of stand approx. 600 mm, KERN IFB-A02
- Further details, plenty of further accessories and suitable printers see *Accessories*



**Note:** Official verification is mandatory for commercial trade



STANDARD							OPTION	FACTORY	
CAL INT CAL EXT EWJ IFS	MEMORY IFS occupied		<mark>%</mark> PERCENT EWJ E	UNIT IFS IFS	MULTI DMS	2 DAYS 2 DAYS	ACCU EWJ	ACCU	
Model	Weighing capacity	Readability	Weighing	g Weighing capacity	Readability	Smallest part		(	Option
	Quantity scale	Quantity scale	plate	Reference scale	Reference scale	e weight		Verification	DAkkS Calibr. Certificate
	[Max]	[d]		[Max]	[d]	[Normal]		MII	DAkkS
KERN	kg	g		g	g	g/piece		KERN	KERN
	Note: For application	ons that require	verificatio	on, please order ver	fication at the s	ame time, initia	l verification at a	a later date is not	possible.
		Verifica	ation at th	e factory, we need	to know the full	address of the l	ocation of use.		
CCA 6K-5M	3   6	1   2	A	600	0,01	0,2		965-228-216	963-128-127
CCA 6K-4M	3   6	1   2	A	6000	0,1	1		965-229-216	963-129-127
CCA 10K-5M	6   15	2   5	A	600	0,01	0,2		965-228-216	963-128-127
CCA 10K-4M	6   15	2   5	A	6000	0,1	1		965-229-216	963-129-127
CCA 30K-5M	15   30	5   10	В	600	0,01	0,2		965-228-216	963-128-127
CCA 30K-4M	15   30	5   10	В	6000	0,1	1		965-229-216	963-129-127
CCA 60K-5M	30   60	10   20	В	600	0,01	0,2		965-229-216	963-129-127
CCA 60K-4M	30   60	10   20	В	6000	0,1	1		965-229-216	963-129-127
CCA 100K-5	<b>M</b> 60   150	20   50	С	600	0,01	0,2		965-229-216	963-129-127
CCA 100K-4	M 60   150	20   50	С	6000	0,1	1		965-229-216	963-129-127
CCA 300K-5	M 150   300	50   100	D	600	0,01	0,2		965-229-216	963-129-127
CCA 300K-4	M 150   300	50   100	D	6000	0,1	1		965-229-216	963-129-127





Counting system to count the smallest parts in large quantities, maximum number of parts which can be displayed is 999,999

#### Features

09

 The highly accurate KERN CCS counting system can replace a whole range of individual balances, efficiently and at a reasonable price

#### Reference scale KERN CFS

- This professional counting scale, which can also be used as a stand-alone scale, meets the highest demands for accuracy, weighing capacity and volume of items, by being connected to a high-capacity weighing bridge
- Programmable using numerical key pad:
- required reference quantity
  known reference weight
- Three displays for weight display, reference weight, total pieces
- Memory (PLU) for 100 items with additional text, reference weight and tare weight, e.g. of a container
- Fill-to-target function: Target count or target weight can be programmed. When the target weight is reached there is an audible and visual signal
- Precise counting: The automatic reference weight optimisation of reference weight gradually improves the average piece weight value
- Draught shield standard for models with [d] = 0,001 g, weighing space W×D×H 155×141×80 mm
- Protective working cover included with delivery

#### Quantity scale KERN KFP/KERN KFU/ KERN KIP

 The high-accuracy quantity counting takes place on the weighing platform (= weighing bridge). In this way even the smallest of parts can be counted in large volumes

#### Stainless steel platform KERN KFP-V20 IP65

- Weighing plate stainless steel, painted steel base
- Aluminium singlepoint load cell, protection against dust and water splashes

#### Weighing bridge KERN KFP-V20 IP67

- Weighing bridge made of non-slip corrugated steel plate, lacquered
- · 4 load cells, alloy steel, silicone-coated, IP67
- for models with weighing plate size

#### U-shaped weighing bridge KERN KFU-V20

- Load range: painted steel
- 4 load cells, alloy steel, silicone-coated, IP67
- for models with weighing plate size I

#### Weighing bridge KERN KIP-V20M IP67

- Lacquered steel weighing bridge, weighing plate size 1500×1500×130 mm corrugated steel plate. Extremely resistant to bending due to material thickness
- 4 load cells, alloy steel, silicone-coated, IP67
- for models with weighing plate size  $\mathbb{H},\,\mathbb{I},\,\mathbb{I}$

#### Counting system KERN CCS



#### Technical data

#### Reference scale KERN CFS

- Weighing plate dimensions, stainless steel
   [d] = 0,001 g: Ø 80 mm
   [d] ≥ 0,01 g: W×D 295×225 mm
- Overall dimensions W×D×H 315×350×100 mm
- Net weight
   [d] = 0,001 g: approx. 2,6 kg
   [d] ≥ 0,01 g: approx. 3,4 kg

- **Quantity platforms, KERN KFP-V20 IP65** • Weighing plate dimensions, stainless steel
- Weighing plate dimensions, sta W×D×H 230×230×100 mm
- B W×D×H 230×230×100 mm
- C W×D×H 400×300×120 mm
- W×D×H 500×400×137 mm
- E W×D×H 650×500×142 mm







#### Bulk weighing bridges, KFP-V20 IP67

Weighing plate dimensions, coated metal
 W×D×H 1500×1250×80 mm

#### Bulk pallet load handling, KERN KFU-V20

Weighing plate dimensions, coated metal
 W×D×H 840×1190×90 mm

#### Quantity platforms, KERN KIP-V20M

- Weighing plate dimensions, coated metal
   W×D×H 1000×1000×108 mm
   W×D×H 1200×1500×108 mm
   W×D×H 1500×1500×108 mm
- Connection cable approx.
  1,5 m
  1,5 m







#### Accessories

- Protective working cover, scope of delivery 5 items, KERN CFS-A02S05
- ESD drain to protect against electrostatic discharge e.g. for electrostatically-charged weighing objects or people who work with the scale, KERN YGR-01
- Internal rechargeable battery pack, operating time up to 70 h without backlight, charging time approx. 14 h, KERN GAB-A04
- Signal lamp for visual support of weighing with tolerance range, KERN CFS-A03
- If Y-cable for parallel connection of two terminal devices to the RS-232 interface on the scale, e.g. signal lamp and printer, KERN CFS-A04
- Further details, plenty of further accessories and suitable printers see *Accessories*

09

STANDARD									OPTION	
	RS 232	KCP PROTOCOL	PCS	SUM	-√+ ⊙ ৢ৽ TOL	DMS	2 DAYS	2 DAYS	ACCU	DAkkS +3 DAYS

Model KERN	Weighing capacity Quantity scale [Max] kg	Readability Quantity scale [d] g	Weighin plate	g Weighing capacity Reference scale F [Max] g	Readability Reference scale [d] g	Counting resolution Points	Smallest part weight [Normal] g/piece	Option DAkkS Calibr. Certificate DAkkS
	_	-		_	-		0.1	KERN
CCS 6K-6	6	0,2	A	300	0,001	1.200.000	0,05	962-128-127
CCS 10K-6	15	0,5	В	300	0,001	3.000.000	0,05	962-128-127
CCS 30K0.01.	30	1	C	3000	0,01	600.000	0,5	962-128-127
CCS 30K0.1.	30	1	C	6000	0,1	300.000	1	962-128-128
CCS 60K0.01.	60	2	C	3000	0,01	1.200.000	0,5	962-129-127
CCS 60K0.01L.	60	2	D	3000	0,01	1.200.000	0,5	962-129-127
CCS 60K0.1.	60	2	C	6000	0,1	600.000	1	962-129-128
CCS 60K0.1L.	60	2	D	6000	0,1	600.000	1	962-129-128
CCS 150K0.01	150	5	D	3000	0,01	3.000.000	0,5	962-129-127
CCS 150K0.01L	150	5	E	3000	0,01	3.000.000	0,5	962-129-127
CCS 150K0.1.	150	5	D	6000	0,1	1.500.000	1	962-129-128
CCS 150K0.1L	150	5	E	6000	0,1	1.500.000	1	962-129-128
CCS 300K0.01	300	10	E	3000	0,01	6.000.000	0,5	962-129-127
CCS 300K0.1	300	10	E	6000	0,1	3.000.000	1	962-129-128
CCS 600K-2U*	600	200	G	3000	0,01	12.000.000	0,5	962-130-127
CCS 600K-2L	600	200	F	3000	0,01	12.000.000	0,5	962-130-127
CCS 600K-1S	600	200	Н	6000	0,1	6.000.000	1	962-130-127
CCS 600K-1	600	200	1	6000	0,1	6.000.000	1	962-130-127
CCS 1T-1U	1500	500	G	6000	0,1	15.000.000	1	962-130-128
CCS 1T-4S	1500	500	Н	6000	0,1	15.000.000	1	962-130-128
CCS 1T-4	1500	500	1	6000	0,1	15.000.000	1	962-130-128
CCS 1T-1L	1500	500	F	6000	0,1	15.000.000	1	962-130-128
CCS 3T-1*	3000	1000	F	6000	0,1	30.000.000	1	962-132-128
CCS 3T-3	3000	1000	1	6000	0,1	30.000.000	1	962-132-128
CCS 3T-3L	3000	1000	J	6000	0,1	30.000.000	1	962-132-128

\* ONLY WHILE STOCKS LAST

# **VERSATILE PRODUCTS**

# You will always find the right model for your application in our wide range of platform scales

KERN platform scales – as versatile as your areas of use:

- Entry-level models portable, economical and well-made for weighing post and packages
- High-quality models with high IP rating or with EC type approval for commercial trade
- Top models perfect in your workflow with KERN EasyTouch software, as a user-friendly solution for complex recipe weighing or checkweighing applications with relay control and much more



## True allrounders – suitable for entry-level users and industrial professionals

In order to fulfil the diverse requirements of our industrial customers, KERN platform scales have a large number of practical features, such as, for example, counting and recipe functions, data interfaces (RS 232, RS 485, USB, Bluetooth, WLAN, Ethernet), options for integration into networks, PC or printer connections, rechargeable battery/battery operation for mobile use and much more.

KERN platform scales – just true allrounders!

Note: The "Hold function" is particularly useful for industrial weighing and guarantees stable weights even when the location is unstable or when weighing animals.



#### THE UNBEATABLE BENEFITS OF PLATFORM SCALES:

- Weighing range from 3 kg 600 kg
- Robust platform construction for the harshest industrial use
- · Versatile, available with column
- High degree of overload protection
- Stainless steel weighing plate, shock proof and easy to clean
- Large selection of platform sizes
- Display device can be positioned separately, e.g. wall-mounted, on a column or next to the platform. Clear view for the user of the display even with bulky items on the scale.

#### → Top tip:

If you can't find what you are looking for in our standard range, then we can offer you our CUSOS service: Perfect weighing solutions with personalised platform sizes, specific software solutions and adapted peripheral devices. For further information on this, see page 138/139





You can find a large selection of platform scales and practical accessories, such as, for example, columns, scanners etc. from page 94 or in our online shop.





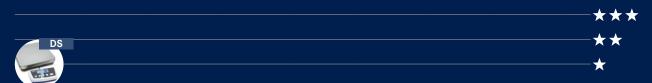
#### The very best in user-friendliness

Through the wireless communication between the platform and display device (PC or laptop), which has the KERN EasyTouch software installed, you have the highest level of flexibility: Weighing at the location of installation and readout from up to 20 m away thanks to Bluetooth or WiFi.



Here you'll find a complete summary of the KERN platform scales series and their positioning within the platform scales segment on the basis of application, price-performance ratio and functional volume.

**Precision Platform Scales** 



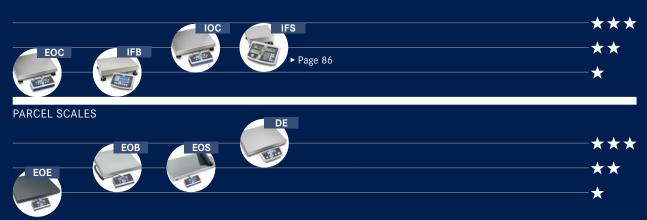
STAINLESS STEEL PLATFORM SCALES

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► Page 71 ► Page 72	***
SEB SEB	<b>→</b>
	───★

#### PLATFORM SCALES WITH STAINLESS STEEL DISPLAY

IXS	***
	<b>*</b> *
STC .	<b>.</b>
	*

#### INDUSTRIAL PLATFORM SCALES



## **Quick-Finder Parcel scales/Platform scales**

Readability	Weighing capacity	Weighing plate W×D×H	Model	Page	DAYS	Μ	CAL EXT	ALIBI	RS 232	KCP PROTOCOL	PCS	¢¢¢ IP	BATT	ACCU
[d] g	[Max] kg	mm	KERN			 	or an ex							
5 0,01	3	228×228×95	DS 3K0.01S	107	1			pianat	0110111		•		μ	0
0,01	8	308×318×75	DS 8K0.05	107	1				0					0
0,1	3	230×230×110	IFB 3K-4	106	1		•		•	•	•	•		0
0,1	10	228×228×95	DS 10K0.1S	107	1		٠		0	٠				0
0,1	16	308×318×75	DS 16K0.1	107	1		٠		0	•	•			0
0,1	30	308×318×75	DS 30K0.1	107	1		•		0	•	•			0
D,1	30	500×400×125	DS 30K0.1L	107	1		•		0	•	•			0
0,1   0,2	3   6	300×300×110 300×240×110	IOC 6K-4 IFB 6K-4	104	1		•	0	•	•	•	•		0 0
0,2 0,2	6	230×230×110	IFB 6K-4	106	1					•	•	•		0
0,2	6	300×240×86	IXS 6K-4	100	1		•		0		•	•		0
0,2	36	308×318×75	DS 36K0.2	107	1		•		0	•	•			0
0,2	60	500×400×125	DS 60K0.2	107	1		٠		0	•	•			0
0,2	60	500×400×125	DS 65K0.5	107	1		۲		0	٠	٠			0
0,2   0,5	6   15	318×308×88	DE 15K0.2D	100	1		٠					•	•	0
0,2   0,5	6   15	300×300×110	EOC 10K-4	102	1		٠		•		•	•		0
0,2   0,5	6   15	300×240×110	IOC 10K-4	104	1		•	0	•	•	•	•	-	0
0,2   0,5	6   15	400×300×110	IOC 10K-4L	104	1		•	0	•	•	•	•		0
0,5 0,5	6 6	318×308×75 300×300×110	DE 6K0.5A EOC 6K-4A	100	1		•		•	•	•	•	•	0 0
0,5	15	300×300×110 300×240×110	IFB 10K-4	102	1						•			0
0,5 0,5	15	400×300×128	IFB 10K-4L	100	1		•		•	•	•	•		0
0,5	15	300×240×86	IXS 10K-4	109	1		•		0		•	•		0
0,5	15	400×300×89	IXS 10K-4L	109	1		•		0		•	•		0
0,5	100	500×400×125	DS 100K0.5	107	1		٠		0	•	•			0
0,5   1	15   35	318×308×88	DE 35K0.5D	100	1		•		•		•	•	•	0
0,5   1	15   35	300×300×110	EOC 30K-4S	102	1		•		•	•	•	•		0
0,5   1	15   35	500×400×120	EOC 30K-4	102	1		•		•	•	•	•		0
0,5   1	15   30 12	400×300×110 318×308×75	IOC 30K-4 DE 12K1A	104	1			0	•	-	•	•		0 0
1	12	318×308×75 300×300×110	EOC 10K-3A	100	1					•				0
1	30	400×300×128	IFB 30K-3	102	1		•				•	•		0
1	30	400×300×89	IXS 30K-3	109	1		•		0		•	•		0
1	30	500×400×123	IXS 30K-3L	109	1		۲		0		٠	٠		0
1	150	500×400×125	DS 150K1	107	1		٠		0	•	•			0
2	3   6	318×308×75	DE 6K1D	100	1		•		•		•	•	•	0
1   2	3   6	300×300×110	EOC 6K-3	102	1		•		•	•	•	•		0
2	3 6 3 6	300×300×110 300×240×110	IOC 6K-3M IFB 6K1DM	104	1	0 0	•	0	•	•	•	•		0 0
1   2	3 6	230×230×110	IFB 6K-3SM	108	1	0				•				0
1   2	3 6	300×240×86	IXS 6K-3M	100	1	0			0					
2	30   60	318×308×88	DE 60K1D	100	1		•		•		•	•	•	0
2	30   60	522×406×98	DE 60K1DL	100	1		٠		٠		•	•	•	0
1   2	30   60	300×300×110	EOC 60K-3	102	1		۲		۲	٠	٠	٠		0
2	30   60	500×400×120	EOC 60K-3L	102	1		٠		•			•		0
2	30   60	400×300×110	IOC 60K-3	104	1		٠	0	٠	٠		•		0
2	30   60	500×400×120	IOC 60K-3L	104	1		•	0	•	•	•	•		0
2 2	6	300×240×110	SFE 6K-3NM	108	1	0	•					•		•
2	24 24	318×308×75 300×300×110	DE 24K2A EOC 20K-3A	100	1				•	•	•		-	0 0
2	60	400×300×128	IFB 60K-3	102	1		•		•	•	•	•		0
2	60	500×400×130	IFB 60K-3L	106	1		•			•	•	•		0
2	60	400×300×89	IXS 60K-3	109	1		•		0		•	•		0
2	60	500×400×123	IXS 60K-3L	109	1		•		0		•	٠		0
5	6   15	318×308×75	DE 15K2D	100	1		۲		٠		٠	٠	•	0
5	6   12	300×300×110	EOC 10K-3	102	1		•		•	•	•	•		0
5	6   15	300×240×110	IOC 10K-3M	104	1	0	٠	0	•	•	•	•		C
5	6   15	400×300×110	IOC 10K-3LM	104	1	0	•	0	•	•	•	•		0
5   5	6   15 6   15	300×240×110 400×300×128	IFB 15K2DM IFB 15K2DLM	106	1	0 0	•		•	•	•	•		0 0
5	6   15	300×240×86	IXS 10K-3M	108	1	0			0	-	•	•		- 0
5	6   15	400×300×89	IXS 10K-3LM	109	1	0	•		0		•	•		- C
5	60   150	318×308×88	DE 150K2D	100	1		•		•		•	•	•	
5	60   150	522×406×98	DE 150K2DL	100	1		•		•		•	•	•	c
5	60   150	300×300×110	EOC 100K-3	102	1		٠		٠	٠	٠	•		C
5	60   150	500×400×120	EOC 100K-3L	102	1		٠		٠	٠	•	٠		0
1 -		500×400×120	IOC 100K-3	104	1		٠	0	•	•	•	•		0
5	60   150													
	60   150 60   150 15	650×500×150 315×305×57	IOC 100K-3L EOE 10K-3	104	1		•	0	٠	٠	٠	٠		0

\* Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

## **Quick-Finder Parcel scales/Platform scales**

Readability [d]	Weighing capacity [Max]	Weighing plate W×D×H	Model	Page	DAYS	Μ	CAL EXT	ALIBI	RS 232	KCP PROTOCOL	PCS	<b>000</b> IP	BATT	ACCU
[d] g	[Max] kg	mm	KERN			F	or an ex	explanation on the pictos, see front flap					ар	
5	15	300×240×110	SFE 10K-3NM	108	1	0	٠					٠		•
5	15	400×300×130	SFE 10K-3LNM	108	1	0	٠					٠		•
5	60	318×308×75	DE 60K5A	100	1		•		•		•	٠	•	0
5	60	300×300×110	EOC 60K-3A	102	1		•		•	•	•	•		0
5	150	500×400×130	IFB 100K-3	106	1		•		•	•	•	•		0
5	150 150	650×500×142 500×400×123	IFB 100K-3L IXS 100K-3	<u>106</u> 109	1		•		•	•	•	•		0 0
5	150	650×500×133,5	IXS 100K-3	109	2*				0	-	•			0
5   10	15   35	318×308×75	DE 35K5D	109	1								•	- 0
5   10	15   35	522×403×83	DE 35K5DL	100	1						•			0
5   10	15   35	300×300×110	EOC 30K-3	100	1		•			•	•	•		0
5   10	15   35	500×400×120	EOC 30K-3L	102	1		•		•		•	•		0
5   10	15   30	400×300×110	IOC 30K-3M	104	1	0	•	0	•	•	•	٠		0
5   10	15   30	400×300×128	IFB 30K5DM	106	1	0	•		•	•	•	•		0
5   10	15   30	400×300×89	IXS 30K-2M	109	1	0	٠		0		•	•		0
5   10	15   30	500×400×123	IXS 30K-2LM	109	1	0	•		0		•	٠		0
5   10	150   300	522×406×98	DE 300K5DL	100	1		٠		•		•	•	•	0
5   10	150   300	500×400×120	EOC 300K-3	102	1		•				٠	•		0
5   10	150   300	650×500×150	IOC 300K-3	104	1		٠	0	•	٠	•	٠		0
10	30	300×240×110	SFE 30K-2NM	108	1	0	•					•		•
0	35	315×305×57	EOE 30K-2	97	1		•						•	
10	35	315×305×57	EOB 35K10	98	1		•			-			•	
0	120	318×308×75	DE 120K10A	100	1		•		•	_	•	•	•	0
0	120	500×400×120	EOC 100K-2A	102	1		•		•	•	•	•		0
0	300	650×500×142	IFB 300K-2	106	1		•		•	•	•	•		0
0	300	650×500×133,5	IXS 300K-2	109	2*		•		0		•	•		0
0   20	30   60	318×308×75 522×403×83	DE 60K10D	100	1		•		•	-	•	•		0 0
0   20	30   60	300×300×110	DE 60K10DL EOC 60K-2	100	1					•				0
0   20	30   60	500×300×110	EOC 60K-2	102	1									0
0   20	30   60	400×300×110	IOC 60K-2M	102	1	0		0						0
0 20	30   60	500×400×120	IOC 60K-2LM	104	1	0		0			•			0
0 20	30   60	400×300×128	IFB 60K10DM	104	1	0	•			•	•			0
0   20	30   60	500×400×130	IFB 60K10DLM	106	1	0	•				•			0
10   20	30   60	400×300×89	IXS 60K-2M	109	1	0	•		0		•	•		0
0   20	30   60	500×400×123	IXS 60K-2LM	109	1	0	•		0		•	•		0
0 20	300   600	800×600×200	IOC 600K-2	104	1		•	0	•	•	•	•		0
20	60	315×305×57	EOE 60K-2	97	1		•		-				•	
20	60	550×550×58	EOE 60K-2L	97	1		٠						•	
20	60	315×305×57	EOB 60K20	98	1		•						•	-
20	60	550×550×58	EOB 60K20L	98	1		٠						•	
20	60	400×300×130	SFE 60K-2NM	108	1	0	٠					•		•
20	60	500×400×140	SFE 60K-2LNM	108	1	0	٠					•		•
20	600	800×600×200	IFB 600K-2	106	2*		٠		•	•		•		0
0   50	60   150	318×308×75	DE 150K20D	100	1		•		•		•	•	•	0
0   50	60   150	522×403×83	DE 150K20DL	100	1		•		•			•	•	0
0   50	60   150	650×500×89	DE 150K20DXL	100	1		•		•		•	•	•	0
0   50	60   150	300×300×110	EOC 100K-2	102	1		•		•	•	•	•		0
0   50	60   150	500×400×120	EOC 100K-2L	102	1		•		•	•	•	•		0
0   50	60   150	950×500×60	EOC 100K-2XXL	102	1				•		•	•		0
0   50	60   150	600×500×150	EOC 100K-2XL	102	1		•	~	•	•	•	•		0
0   50	60   150 60   150	500×400×120 650×500×150	IOC 100K-2M IOC 100K-2LM	104	1	0	•	0	•	•	•	•		0 0
0   50	60   150	500×500×150	IFB 150K20DM	104	1	0		0						0
0   50	60   150	650×500×142	IFB 150K20DLM	106	1	0								0
0   50	60   150	500×400×123	IXS 100K-2M	100	1	0			0	-	•			0
0   50	60   150	650×500×133,5	IXS 100K-2LM	109	2*	0	•		0		•			
0	150	315×305×57	EOE 100K-2	97	1		•					•	•	
0	150	550×550×58	EOE 150K50L	97	1		•		_					
0	150	950×500×58	EOE 150K50XL	97	1		•						•	
0	150	315×305×57	EOB 150K50	98	1		•						•	
0	150	550×550×58	EOB 150K50L	98	1		٠						•	
0	150	950×500×58	EOB 150K50XL	98	1		•						•	
0	150	950×500×58	EOS 150K50XL	99	1		٠						•	
0	150	400×300×130	SFE 100K-2NM	108	1	0	•					•		•
0	150	500×400×140	SFE 100K-2LNM	108	1	0	•					•		•
0	150	650×500×140	SFE 100K-2XLNM	108	1	0	٠					٠		•
50   100	150   300	522×403×83	DE 300K50D	100	1		٠				٠	٠	•	0
50   100	150   300	650×500×95	DE 300K50DL	100	1		٠				•	٠	•	0
0   100	150   300	500×400×120	EOC 300K-2	102	1		•		•	•	•	•		C

\* Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

## **Quick-Finder Parcel scales/Platform scales**

Readability	Weighing capacity	Weighing plate W×D×H	Model	Page	DAYS	Μ	CAL EXT	ALIBI	• 6000 • RS 232	KCP PROTOCOL	PCS	IP	BATT	ACCU
[d]	[Max]	22.22	KERN				or on ou	nlanat	ion on t	ha niata		front fl		
g	kg	mm	KERN			Г	or an ex	cpianat		ne picto	os, see	ITOIL II	ap	
50   100	150   300	600×500×150	EOC 300K-2L	102	1		٠		•	•		•		0
50   100	150   300	650×500×150	IOC 300K-2M	104	1	0	٠	0	•	•		•		0
50   100	150   300	650×500×142	IFB 300K50DM	106	1	0	۲		٠	•	•	٠		0
50   100	150   300	650×500×133,5	IXS 300K-2M	109	2*	0	•		0		•	•		0
100	300	315×305×57	EOE 300K100	97	1		•						•	
100	300	550×550×58	EOE 300K100L	97	1		•						•	
100	300	950×500×58	EOE 300K100XL	97	1		•						•	
100	300	315×305×57	EOB 300K100A	98	1		•						•	
100	300	550×550×58	EOB 300K100L	98	1		•						•	
100	300	950×500×58	EOB 300K100XL	98	1		•						•	
100	300	950×500×58	EOS 300K100XL	99	1		•						•	
100	300	650×500×140	SFE 300K-1LNM	108	1	0	٠					•		•
100   200	300   600	800×600×200	IOC 600K-1M	104	2*	0	•	0		•	•	•		0
100   200	300   600	800×600×200	IFB 600K-1M	106	2*	0	٠		•	•	•	•		0

\* Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

• = standard • = option



A





Parcel scales with big platform for fast and easy weighing in the office, production, dispatch etc.

#### Features

- High mobility: thanks to battery operation, compact, lightweight construction, it is suitable for the use in several locations
- Wall mount for display device, standard
- Hold function: When the weighing conditions are unstable, a stable weight is calculated determining an average value

#### Technical data

- Large LCD display, digit height 25 mm
- Weighing plate dimensions, steel, painted
  W×D×H 315×305×57 mm
  W×D×H 550×550×58 mm, see larger picture

W×D×H 950×500×58 mm

- Dimensions of display device W×D×H 235×114×51 mm
- Optional battery operation, 4×1.5 V AA not included in scope of delivery, operating time up to 100 h
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

- Protective working cover over the display device, scope of delivery: 5 items, KERN EOB-A04BS05
- Stand to elevate display device, for models with weighing plate size 1, Height of stand approx. 480 mm KERN EOB-A01N
- Stand to elevate display device, height of stand approx. 1000 mm, KERN EOB-A02B
- II Non-slip rubber mat, W×D×H 945×505×5 mm, KERN EOE-A01

STANDARD	OPTION						
	$\mathcal{C}$	^	<b>IIII)</b>	в		<b>.</b>	DAkkS
CAL EXT	UNIT	MOVE	BATT	MULTI	DMS	1 DAY	+3 DAYS

Model	Weighing capacity	Readability	Reproducibility	Linearity	Weighing plate	Net weight	Option DAkkS Calibr. Certificate
	[Max]	[d]				approx.	DAkkS
KERN	kg	g	g	g		kg	KERN
EOE 10K-3	15	5	5	± 10	A	4,0	963-128
EOE 30K-2	35	10	10	± 20	A	4,0	963-128
EOE 60K-2	60	20	20	± 40	A	4,0	963-129
EOE 60K-2L	60	20	20	± 40	В	14	963-129
EOE 100K-2	150	50	50	± 100	A	4,0	963-129
EOE 150K50L	150	50	50	± 100	В	14	963-129
EOE 150K50XL	150	50	50	± 100	C	18	963-129
EOE 300K100	300	100	100	± 200	A	4,0	963-129
EOE 300K100L	300	100	100	± 200	В	14	963-129
EOE 300K 100XL	300	100	100	+ 200	C	18	963-129













Allround parcel scale with robust stainless steel weighing plate - also with XL platform and large weighing ranges

#### Features

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- Weighing plate stainless steel, painted steel base
- Simple and convenient 4-key operation
- Wall mount for display device, standard
- Hold function: When the weighing conditions are unstable, a stable weight is calculated determining an average value
- Protective working cover included with delivery
- Universal external mains adapter included with delivery

#### Technical data

- Large LCD display, digit height 25 mm
- Weighing plate dimensions, stainless steel
  W×D×H 315×305×57 mm
  W×D×H 550×550×58 mm, see larger picture
  W×D×H 950×500×58 mm
- Dimensions of display device W×D×H 235×114×51 mm
- Optional battery operation, 4×1.5 V AA not included in scope of delivery, operating time up to 60 h
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

- Protective working cover over the display device, scope of delivery: 5 items, KERN EOB-A04BS05
- II Stand to elevate display device, height of stand approx. 1000 mm, KERN EOB-A02B
- Z Stand to elevate display device, for models with weighing plate size **II**, Height of stand
- approx. 480 mm KERN EOB-A01N • I Non-slip rubber mat, W×D×H
- 945×505×5 mm, KERN EOE-A01

STANDARD	STANDARD										
	C	^	<b>III</b> )	B			DAkkS				
CAL EXT	UNIT	MOVE	BATT	MULTI	DMS	1 DAY	+3 DAYS				

Model	Weighing capacity	Readability	Reproducibility	Linearity	Weighing plate	Cable length (Spiral cable)	Net weight	Option DAkkS Calibr. Certificate
	[Max]	[d]				approx.	approx.	DAkkS
KERN	kg	g	g	g		m	kg	KERN
EOB 15K5	15	5	5	± 10	А	1,8	3,8	963-128
EOB 35K10	35	10	10	± 20	A	1,8	3,8	963-128
EOB 60K20	60	20	20	± 40	A	1,8	3,8	963-129
EOB 60K20L	60	20	20	± 40	В	2,7	13	963-129
EOB 150K50	150	50	50	± 100	A	1,8	3,8	963-129
EOB 150K50L	150	50	50	± 100	В	2,7	13	963-129
EOB 150K50XL	150	50	50	± 100	C	2,7	17	963-129
EOB 300K100A	300	100	100	± 200	A	1,8	3,8	963-129
EOB 300K100L	300	100	100	± 200	В	2,7	13	963-129
EOB 300K 100XL	300	100	100	± 200	С	2.7	17	963-129









# Heavy duty parcel and veterinary platform scale with extra large stainless steel weighing plate

#### Features

- Weighing plate stainless steel, painted steel base
- Simple and convenient 4-key operation
- Wall mount for display device, standard
- Hold function: When the weighing conditions are unstable, a stable weight is calculated determining an average value
- II The scale can be easily transported using rollers and a handle and does not require much storage space
- Protective working cover included with delivery
- Non-slip rubber mat included with delivery
- Universal external mains adapter included with delivery

#### Technical data

- Large LCD display, digit height 25 mm
- Weighing plate dimensions, W×D×H 950×500×58 mm, stainless steel
- Dimensions of display device W×D×H 235×114×51 mm
- Cable length display device, spiral cable, approx. 2,7 m
- Optional battery operation, 4×1.5 V AA not included in scope of delivery, operating time up to 60 h
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

- Protective working cover over the display device, scope of delivery: 5 items, KERN EOB-A04BS05
- Stand to elevate display device, height of stand approx. 1000 mm, KERN EOB-A02B

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STANDARD	STANDARD														
		MOVE BA		DMS	1 DAY	DAkkS +3 days									

Model	Weighing capacity	Readability	Reproducibility	Linearity	Net weight	Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] g	g	g	approx. kg	DAkkS KERN
EOS 150K50XL	150	50	50	± 100	17	963-129
EOS 300K100XL	300	100	100	± 200	17	963-129



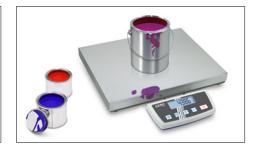
A long-term successful model with dust and spray protected display device



Piece counting







Recipe-weighing

#### Parcel scale KERN DE-D



#### Features

- High mobility: thanks to battery operation/ rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations (production, warehouse, dispatch department etc.)
- Display device flexible positioning e. g. free-standing or screwed to the wall
- I Display device: Plastics, protection against dust and water splashes IP65
- Weighing plate stainless steel, painted steel base
- PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels
- 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



- 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
- Protective working cover included with delivery

#### **Technical data**

- Large backlit LCD display, digit height 25 mm
- Weighing plate dimensions, stainless steel
  W×D×H 318×308×75 mm
  W×D×H 318×308×88 mm
  W×D×H 522×403×83 mm, see larger picture
  W×D×H 522×406×98 mm
  W×D×H 650×500×89 mm
- Dimensions of display device W×D×H 225×110×56 mm
- Optional battery operation, 9 V block not included in scope of delivery, operating time up to 12 h
- Permissible ambient temperature 5 °C/35 °C



#### Accessories

- Protective working cover over the display device, scope of delivery: 5 items, KERN DE-A12S05
- Internal rechargeable battery pack, operating time up to 30 h without backlight, charging time approx. 10 h, KERN NDE-A02
- Mount to fasten the display device to the platform, for models with weighing plate size [], [], KERN DE-A11N
- Wall mount for display device, KERN DE-A13
- Istand to elevate display device, height of stand approx. 480 mm, KERN DE-A10
- Individual header data: the free software SHM-01 can be used to print header lines on the printout when using printers YKN-01 and YKB-01N
- Further details, plenty of further accessories and suitable printers see *Accessories*

STANDARI	D												OPTION	
i.		GLP	<b>.</b>		%	$\mathcal{C}$	^-–	666		B H				DAkkS
CAL EXT	RS 232	PRINTER	PCS	SUM	PERCENT	UNIT	MOVE	IP 65	BATT	MULTI	DMS	1 DAY	ACCU	+3 DAYS
								1						

Model	Weighing capacity	Readability	Reproduci- bility	Linearity	Smallest part weight	Cable length	Net weight	Weighing plate	Option DAkkS Calibr. Certificate
	[Max]	[d]			[Normal]	approx.	approx.		DAkkS
KERN	kg	g	g	g	g/piece	m	kg		KERN
	Multi-range	balance, with	increasing loa	ad it switches	automatically t	o the next larg	est weighing	range [Max] ar	nd readout [d]
		and	when the load	l is fully remov	ed, the balance	e switches bac	k to the lowe	r range	
DE 15K0.2D	6   15	0,2   0,5	0,2   0,5	± 0,8   2	4	1	4	В	963-128
DE 35K0.5D	15   35	0,5   1	0,5   1	±2 4	10	1	7	В	963-128
DE 60K1D	30   60	1   2	1   2	±4   8	20	1,47	7	В	963-129
DE 60K1DL	30   60	1   2	1   2	±4   8	20	1,4	15	C	963-129
DE 150K2D	60   150	2   5	2   5	± 8   20	40	1,6	7	В	963-129
DE 150K2DL	60   150	2   5	2   5	± 8   20	40	1,4	15	C	963-129
DE 300K5DL	150   300	5   10	5   10	± 20   40	100	1,4	15	C	963-129
DE 6K1D	3   6	1   2	1   2	±3 6	40	1,4	4,8	A	963-128
DE 15K2D	6   15	2   5	2   5	±6 15	100	1,4	4,8	A	963-128
DE 35K5D	15   35	5   10	5   10	± 15   30	100	1,4	4,8	A	963-128
DE 35K5DL	15   35	5   10	5   10	± 15   30	100	1,4	16	D	963-128
DE 60K10D	30   60	10   20	10   20	± 30   60	200	1,4	4,8	A	963-129
DE 60K10DL	30   60	10   20	10   20	± 30   60	200	1,4	16	D	963-129
DE 150K20D	60   150	20   50	20   50	± 60   150	400	1,5	5	A	963-129
DE 150K20DL	60   150	20   50	20   50	± 60   150	400	1,5	16	D	963-129
DE 150K20DXL	60   150	20   50	20   50	± 60   150	400	1,4	28	E	963-129
DE 300K50D	150   300	50   100	50   100	± 150   300	2000	1,25	16	D	963-129
DE 300K50DL	150   300	50   100	50   100	± 150   300	2000	1,05	28	E	963-129
DE 6K0.5A	6	0,5	0,5	± 1,5	10	1,4	4,8	A	963-128
DE 12K1A	12	1	1	± 3	20	1,4	4,8	A	963-128
DE 24K2A	24	2	2	± 6	40	1,4	4,8	A	963-128
DE 60K5A	60	5	5	± 15	100	1,4	4,8	A	963-129
DE 120K10A	120	10	10	± 30	200	1,4	5,0	A	963-129



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



Weighing instead of counting! Because the counting function is so easy to use, you can rapidly record large numbers of small parts – which saves time and money



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. Factory Option for an additional cost, delivery time + 2 working days, KERN KIB-M01, see *Accessories* on the right, please indicate when placing your order

#### Industrial platform scale KERN EOC



#### Features

STANDARD

Γ1

• 888. •

CAL EXT RS 232

KCP

- 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.)
- II 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 (checkweighing): 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
- Benchtop stand incl. wall mount for display device as standard
- · Protective working cover included with delivery

GL F

PROTOCOL PRINTER



• 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.

#### **Technical data**

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IP 65

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MULTI

- Large backlit LCD display, digit height 25 mm
- Weighing plate dimensions, stainless steel
  W×D×H 300×300×110 mm
  W×D×H 500×400×120 mm, see larger picture
  - W×D×H 600×500×150 mm
     W×D×H 950×500×60 mm
- Dimensions of display device W×D×H 268×115×80 mm
- Permissible ambient temperature -10 °C/40 °C

ACCU

DAkkS

+3 DAYS



#### Accessories

- Protective working cover, scope of delivery 5 items, KERN EOC-A01S05
- Internal rechargable battery pack, operating time up to 43 h without backlight, charging time approx. 3 h, KERN KFB-A01
- 23 Stand to elevate display device, height of stand approx. 330 mm, KERN EOC-A05
- S Mount to fasten the display device to the platform, KERN EOC-A03
- Benchtop stand incl. wall mount for display device, KERN EOC-A04
- Modification of the display device, to move the cable outlet to the front of the display device, ideal e.g. for subsequent wall installation of the display device (standard configuration ex works: rear outlet), Factory Option, delivery time + 2 working days, KERN KIB-M01

Model	Weighing	Readability	Reproduci-	Linearity	Smallest part	0 0	Cable length	Net weight	Option
	capacity [Max]	[d]	bility		weight [Normal]	plate	opprov	opprov	DAkkS Calibr. Certificate
KERN	(iviax) kg		a	σ	g/piece		approx. m	approx. kg	DAkkS
KLKN	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	g	g	g				-	KERN
					th increasing lo				
									to the lower range
EOC 10K-4	6   15	0,2   0,5	0,2   0,5	± 0,6   1,5	5	A	3	6	963-128
EOC 30K-4S	15   35	0,5   1	0,5   1	± 1,5   3	10	В	3	9	963-128
EOC 30K-4	15   35	0,5   1	0,5   1	± 1,5   3	10	A	3	6	963-128
EOC 60K-3	30   60	1   2	1   2	±3 6	20	A	3	6	963-129
EOC 60K-3L	30   60	1   2	1   2	±3 6	20	В	3	9	963-129
EOC 100K-3	60   150	2   5	2   5	±6 15	50	A	3	6	963-129
EOC 100K-3L	60   150	2   5	2   5	±6 15	50	В	3	9	963-129
EOC 300K-3	150   300	5   10	5   10	± 15   30	100	В	3	9	963-129
EOC 6K-3	3   6	1   2	1   2	±3 6	2,5	A	3	6	963-128
EOC 10K-3	6   12	2   5	2   5	± 6   15	5	A	3	6	963-128
EOC 30K-3	15   35	5   10	5   10	± 15   30	10	A	3	6	963-128
EOC 30K-3L	15   35	5   10	5   10	± 15   30	10	В	3	9	963-128
EOC 60K-2	30   60	10   20	10   20	± 30   60	20	A	3	6	963-129
EOC 60K-2L	30   60	10   20	10   20	± 30   60	20	В	3	9	963-129
EOC 100K-2	60   150	20   50	20   50	± 60   150	50	A	3	6	963-129
EOC 100K-2L	60   150	20   50	20   50	± 60   150	50	В	3	9	963-129
EOC 100K-2XL	60   150	20   50	20   50	± 60   150	50	C	3	19	963-129
EOC 100K-2XXL	60   150	20   50	20   50	± 60   150	100	D	2,7	17	963-129
EOC 300K-2	150   300	50   100	50   100	± 150   300	100	В	3	9	963-129
EOC 300K-2L	150   300	50   100	50   100	± 150   300	100	C	3	19	963-129
				· · ·					
EOC 6K-4A	6	0,5	0,5	± 1,5	2,5	A	3	6	963-128
EOC 10K-3A	12	1	1	± 3	5	A	3	6	963-128
EOC 20K-3A	24	2	2	± 6	10	A	3	6	963-128
EOC 60K-3A	60	5	5	± 15	20	A	3	6	963-129
EOC 100K-2A	120	10	10	± 30	50	В	3	9	963-129

### 10



Allround platform scale with a wide range of communication options and EC type approval [M] - also available as high-resolution version with fine display



Verification plug, for verified balances this enables you to separate the display device and platform without affecting the verification, e.g. for installing the scale in a packing and dispatch table, pit frame etc. at a later date. Please order this item when making the scale purchase, see *Accessory* 



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.

Factory Option for an additional cost, delivery time + 2 working days, KERN KIB-M01, see *Accessories* on the right, please indicate when placing your order

#### Features

- Industry 4.0: A wide range of (optional) data interfaces allows easy transfer of weighing data to tablets, laptops, PCs, networks, smartphones, printers, etc.
- 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 therefwore 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, for details see page 8/9
- Standardised, simplified concept of operation
- 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

#### **Technical data**

- Large LCD display, digit height 25 mm
- Weighing plate dimensions, stainless steel,  $W{\times}D{\times}H{\times}$
- 300×240×110 mm, 3 300×300×110 mm
   400×300×110 mm, 5 500×400×120 mm
   650×500×150 mm, 8 800×600×200 mm
- Dimensions of display device W×D×H 268×115×80 mm
- Cable length display device approx. 3 m
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN EOC-A01S05
- Stand to elevate display device, height of stand approx. 330 mm, KERN EOC-A05
- Mount to fasten the display device to the platform, KERN EOC-A03
- Benchtop stand incl. wall mount for display device, KERN EOC-A04
- Internal rechargeable battery pack, operating time up to 26 h with backlight, charging time approx. 3 h, KERN KFB-A01
- USB data interface, for transferring weighing to the PC, printer etc., must be ordered at purchase, KERN KIB-A03
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, KERN KIB-A04
- WiFi interface for wireless connection of the balance to networks and WiFi capable devices, such as tablets, laptops or smartphones, continuous data transfer, must be ordered at purchase, KERN KIB-A10

- Ethernet data interface, to connect an IP-based Ethernet network, continuous data transfer, must be ordered at purchase, KERN KIB-A02
- Signal lamp, including interface, for visual support of weighing with tolerance range, must be ordered at purchase, KERN KIB-A06
- Alibi memory, for paperless archiving of the weighing results with ID no., gross/net/tare value, date and time, must be ordered at purchase, KERN KIB-A13
- Alibi memory, including USB interface for exporting weighing results to external data storage media, such as, for example, USB sticks, hard drives, etc., must be ordered at purchase, KERN KIB-A01
- Werification plug, for verified balances this enables you to separate the display device and platform without affecting the verification, e.g. for installing the scale in a packing and dispatch table, pit frame etc. at a later date. Please order this at the same time as you purchase your scale, KERN KIB-A12
- Modification of the display device, to move the cable outlet to the front of the display device, ideal e.g. for subsequent wall installation of the display device (standard configuration ex works: rear outlet), Factory Option, delivery time + 2 working days, KERN KIB-M01
- Note: In addition to the RS-232 data interface, which is integrated as standard, only one other data interface can be installed and operated

STANDARD		OPTION		FACTORY		
CAL EXT PROTOCOL PRINTER RS 232		DMS 1 DAY 2 DAYS ET	ACCU +3 DAYS	ALIBI USB BT 4.0	WIFI LAN +3 DAYS	
		E				

Model	Weighing	Readability	Verification	Minimal load	Weighing plate	Option		
	capacity		value			Verification	DAkkS Calibr. Certificate	
	[Max]	[d]	[e]	[Min]		MII	DAkkS	
KERN	kg	g	g	g		KERN	KERN	
		Mult	i-range balance,	with increasing lo	ad it switches automat	ically		
to t	the next largest weigh	ning range [Max]	and readout [d]	and when the loa	d is fully removed, the	balance switches back to t	ne lower range	
IOC 6K-4	3   6	0,1   0,2	-	-	В		963-128	
IOC 10K-4	6   15	0,2   0,5	-	-	А		963-128	
IOC 10K-4L	6   15	0,2   0,5	-	-	C		963-128	
IOC 30K-4	15   30	0,5   1	-	-	C		963-128	
IOC 60K-3	30   60	1   2	-	-	C		963-129	
IOC 60K-3L	30   60	1   2	-	-	D		963-129	
IOC 100K-3	60   150	2   5	-	-	D		963-129	
IOC 100K-3L	60   150	2   5	-	-	E		963-129	
IOC 300K-3	150   300	5   10	-	-	E		963-129	
IOC 600K-2	300   600	10   20	-	-	F		963-130	
No	te: For applications th	nat require verifi	cation, please or	der verification a	t the same time, initial	verification at a later date is	s not possible.	
		Verification a	at the factory, we	e need to know th	e full address of the lo	cation of use.		
IOC 6K-3M	3   6	1   2	1   2	20   40	В	965-228	963-128	
IOC 10K-3M	6   15	2   5	2   5	40   100	A	965-228	963-128	
IOC 10K-3LM	6   15	2   5	2   5	40   100	C	965-228	963-128	
IOC 30K-3M	15   30	5   10	5   10	100   200	C	965-228	963-128	
IOC 60K-2M	30   60	10   20	10   20	200   400	C	965-229	963-129	
IOC 60K-2LM	30   60	10   20	10   20	200   400	D	965-229	963-129	
IOC 100K-2M	60   150	20   50	20   50	400   1000	D	965-229	963-129	
IOC 100K-2LM	60   150	20   50	20   50	400   1000	E	965-229	963-129	
IOC 300K-2M	150   300	50   100	50   100	1000   2000	E	965-229	963-129	
IOC 600K-1M	300   600	100   200	100   200	2000   4000	F	965-230	963-130	
lt is	s essential that a veri	fied balance whi	ch transfers mea	surements to ext	ernal devices using an	interface, has an alibi mem	ory (KIB-A13).	

It is not possible to upgrade later.



### High-resolution industrial scale in heavy version with EC type approval [M], now also up to [Max] 600 kg

#### Features

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- · Tough industry standard suitable for use in harsh industrial applications
- 1 Platform: weighing plate stainless steel, painted steel base, silicone-coated aluminium load cell, protection against dust and water splashes IP65
- · Benchtop stand incl. wall mount for display device as standard
- Protective working cover included with delivery

- **Technical data**
- Large backlit LCD display, digit height 52 mm
- · Weighing plate dimensions, stainless steel **W**×D×H
- ▲ 230×230×110mm, 300×240×110 mm ☑ 400×300×128 mm, ☑ 500×400×130 mm 🗉 650×500×142 mm, 🖪 800×600×200 mm
- Dimensions of display device W×D×H 250×160×58 mm
- Cable length of display device approx. 3 m
- Permissible ambient temperature -10 °C/40 °C





#### Accessories

- · Protective working cover, scope of delivery 5 items, KERN KFB-A02S05
- 2 Stand to elevate display device, for models with weighing plate size

Image: A stand approx. 330 mm, KERN IFB-A01

I - I: Height of stand approx. 600 mm, **KERN IFB-A02** 

A - E: Stand to elevate display device, Height of stand approx. 800 mm, KERN BFS-A07

- Internal rechargable battery pack, operating time up to 35 h without backlight, charging time approx. 12 h, must be ordered at purchase, KERN KFB-A01
- Bluetooth data interface, must be ordered at purchase, not in combination with verification, **KERN KFB-A03**
- Analogue module, not possible in combination with signal lamp, must be ordered at purchase, 0-10 V, KERN KFB-A04
- 4-20 mA, KERN KFB-A05
- Signal lamp for visual support of weighing with tolerance range, KERN CFS-A03
- Y-cable for parallel connection of two terminal devices to the RS-232 interface on the scale, e.g. signal lamp and printer, KERN CFS-A04

Option

STANDARD						OPTION	FACTORY	
CAL EXT RS 232 KCF		LLA SUM TOL	Move 1		1 DAY 2 DAYS	ET DAkkS	BT 2.0 ANALOG ACCU	
Model	Weighing capacity	Readability	Verification value	Minimal load	Net weight	Weighing plate	Verificat	C
	[Max]	[d]	[e]	[Min]	approx.	F	MII	

	capacity		value		-	plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	approx.		MII	DAkkS
KERN	kg	g	g	g	kg		KERN	KERN
IFB 3K-4	3	0,1	-	-	4,6	A		963-127
IFB 6K-4S	6	0,2	-	-	4,6	A		963-128
IFB 6K-4	6	0,2	-	-	5	В		963-128
IFB 10K-4	15	0,5	-	-	5	В		963-128
IFB 10K-4L	15	0,5	-	-	8	C	-	963-128
IFB 30K-3	30	1	-	-	8	C	-	963-128
IFB 60K-3	60	2	-	-	8	C	-	963-129
IFB 60K-3L	60	2	-	-	11	D	-	963-129
IFB 100K-3	150	5	-	-	11	D	-	963-129
IFB 100K-3L	150	5	-	-	20	E	-	963-129
IFB 300K-2	300	10	-	-	20	E	-	963-129
IFB 600K-2	600	20	-	-	44	F	-	963-130
			Multi-range b	alance, with i	ncreasing load i	it switches automat	ically	

#### it [d] and when the load is fully

t	to the next largest we	ighing range [	Max] and read	dout [d] and whe	n the load	is fully removed, th	e balance switches back to the	e lower range
IFB 6K-3SM	3   6	1   2	1   2	20   40	4,6	A	965-228	963-128
IFB 6K1DM	3   6	1   2	1   2	20   40	5	В	965-228	963-128
IFB 15K2DM	6   15	2   5	2   5	40   100	5	В	965-228	963-128
IFB 15K2DLM	<b>I</b> 6   15	2   5	2   5	40   100	8	С	965-228	963-128
IFB 30K5DM	15   30	5   10	5   10	100   200	8	С	965-228	963-128
IFB 60K10DN	<b>1</b> 30   60	10   20	10   20	200   400	8	С	965-229	963-129
IFB 60K10DL	M 30   60	10   20	10   20	200   400	11	D	965-229	963-129
IFB 150K20D	M 60   150	20   50	20   50	400   1000	11	D	965-229	963-129
IFB 150K20D	LM 60   150	20   50	20   50	400   1000	20	E	965-229	963-129
IFB 300K50D	M 150   300	50   100	50   100	1000   2000	20	E	965-229	963-129
IFB 600K-1M	300   600	100   200	100   200	2000   4000	44	F	965-230	963-130
	Nata, Far application	a that require	varification n	loooo ordor vorif	iantian at t	ha aama tima initi	al varification at a later data in	not noosible

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.



Precision industrial scale with laboratory accuracy, ideal for the various possibilities of Industrie 4.0 applications

#### Features

STANDARD

- 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
- 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
- KERN Universal Port (KUP): permits the connection of an external KUP interface adapter, such as, for example, RS-232, USB, Bluetooth or Ethernet, for the exchange of data and control commands, without any installation outlay, for details see page 8/9

- KERN Communication Protocol (KCP): The KCP permits searching and remote control of the balance using external control devices or computers
- Standardised, simplified concept of operation
- Protective working cover included with delivery

#### **Technical data**

- · Large backlit LCD display, digit height 21 mm
- Weighing plate dimensions, stainless steel
  W×D×H 228×228×95 mm
  W×D×H 308×318×75 mm

W×D×H 500×400×125 mm, see larger picture

- Dimensions of display device W×D×H 225×115×60 mm
- Permissible ambient temperature -10 °C/40 °C

OPTION

#### Accessories

- Protective working cover over the display device, scope of delivery: 5 items, KERN DE-A12S05
- Stand to elevate display device, height of stand approx. 480 mm,

for models with weighing plate size **I**, **B**, KERN DE-A10

- for models with weighing plate size **I**, KERN DS-A03
- Mount to fasten the display device to the platform, for models with weighing plate size
   I, I, KERN DE-A11N
- Wall mount for display device, KERN DS-A02
- Set for underfloor weighing, consists of platform, bow, hook, only for models with weighing plate , KERN DS-A01
- External data interface RS-232, Interface cable included, KERN YKUP-01
- External data interface USB, Interface cable included, KERN YKUP-03
- Extension-Box, KERN YKUP-13
- Further details, plenty of further accessories and suitable printers see Accessories

	氘	KCP	GLP			%	$\mathcal{C}$		^-–	в			\$		€ →	<b>É</b>	DAkkS
CAL EXT	KUP	PROTOCOL	PRINTER	PCS	SUM	PERCENT	UNIT	TOL	MOVE	MULTI	DMS	1 DAY	ET	RS 232	USB	UNDER	+3 DAYS
																В	

Model	Weighing capacity [Max]	Readability [d]	Smallest part weight [Normal]	Cable length of display device	Net weight approx.	Resolution	Weighing plate	Option DAkkS Calibr. Certificate
KERN	kg	g	g/piece	m	kg	Points		DAkkS KERN
DS 3K0.01S	3	0,01	0,1	2	4,2	300.000	A	963-127
DS 5K0.05S	5	0,05	0,1	2	4,2	100.000	A	963-127
DS 8K0.05	8	0,05	0,5	2	8	160.000	В	963-128
DS 10K0.1S	10	0,1	1	2	4,2	100.000	A	963-128
DS 16K0.1	16	0,1	1	2	8	160.000	В	963-128
DS 20K0.1	20	0,1	1	2	8	200.000	A	963-128
DS 30K0.1	30	0,1	1	2	8	300.000	В	963-128
DS 30K0.1L	30	0,1	1	0,6	10	300.000	C	963-128
DS 36K0.2	36	0,2	1	0,6	10	180.000	В	963-128
DS 36K0.2L	36	0,2	1	0,6	10	180.000	C	963-128
DS 60K0.2	60	0,2	2	0,6	10	300.000	С	963-129
DS 65K0.5	60	0,2	2	0,6	10	300.000	C	963-129
DS 100K0.5	100	0,5	5	0,6	10	200.000	C	963-129
DS 150K1	150	1	10	0,6	10	150.000	C	963-129

Platform scale with stainless steel display device KERN SFE



# Platform scale with dust and spray protection IP65 and EC type approval [M]

#### Features

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- Platform scale protected to IP65 with stainless steel display device, for industrial applications, hygienic and easy to clean
- II Platform: weighing plate stainless steel, painted steel base, silicone-coated aluminium load cell, protection against dust and water splashes IP65
- Display device: Stainless steel, protection against dust and water splashes IP65, flexible positioning, e.g. free-standing or mounted to the wall, for details see KERN KFE-TM
- Weighing with tolerance range (checkweighing): 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

• PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels (only for non-verified models)

#### Technical data

- Large backlit LCD display, digit height 22 mm
- Weighing plate dimensions, stainless steel
  W×D×H 300×240×110 mm, see larger picture
  W×D×H 400×300×130 mm
  W×D×H 500×400×140 mm
  W×D×H 650×500×140 mm
- Dimensions of display device W×D×H 195×120×70 mm
- Rechargeable battery pack integrated, as standard, operating time up to 35 h without backlight, charging time approx. 12 h
- Cable length of display device approx. 3 m
- Permissible ambient temperature -10 °C/40 °C











#### Accessories

• Stand to elevate display device, for models with weighing plate size

▲ - D: Height of stand approx. 200 mm,KERN SFE-A01

Image: Image: Second approx.Image: Second

☑-Ⅲ: Height of stand approx. 600 mm,KERN SFE-A03

 Tare pan made from stainless steel, overall dimensions W×D×H, 400×300×45 mm, KERN RFS-A02

STANDARD									OPTION	FACTORY
CAL EXT	SUM	-√+ ⊙ ৢ৽ TOL	Move	<b>000</b> IP 65	ACCU	A H MULTI	DMS	1 DAY	DAkkS +3 DAYS	H3 DAYS

Model	Weighing	Readability	Verification	Minimal load	Net weight	Weighing	Option	
	capacity		value		-	plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	approx.		MII	DAkkS
KERN	kg	g	g	g	kg		KERN	KERN
SFE 6K-3NM	6	2	2	40	6	A	965-228	963-128
SFE 10K-3NM	15	5	5	100	6	A	965-228	963-128
SFE 10K-3LNM	15	5	5	100	8	В	965-228	963-128
SFE 30K-2NM	30	10	10	200	6	A	965-228	963-128
SFE 60K-2NM	60	20	20	400	8	В	965-229	963-129
SFE 60K-2LNM	60	20	20	400	12	C	965-229	963-129
SFE 100K-2NM	150	50	50	1000	8	В	965-229	963-129
SFE 100K-2LNM	150	50	50	1000	12	C	965-229	963-129
SFE 100K-2XLNM	150	50	50	1000	22	D	965-229	963-129
SFE 300K-1LNM	300	100	100	2000	22	D	965-229	963-129

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.





Platform scale with stainless steel display device with IP68 rating, XL-display und EC type approval [M] – now also as high resolution version with high-resolution display



Piece-counting function



Durable stainless steel weighing plate



Stainless steel display device with protection IP68, hygienic and easy to clean

#### Platform scale with stainless steel display device KERN IXS



#### Features

- Tough industry standard suitable for use in harsh industrial applications
- II Platform: weighing plate stainless steel, painted steel base, silicone-coated aluminium load cell, protection against dust and water splashes IP65, Substruction in wing design, extremely resistant to bending
- Superior display size: digit height 55 mm, bright backlight for easy reading of weighing results, even in poor lighting conditions
- Display device: Stainless steel, protection against dust and water splashes IP68, integrated power supply
- ESD drain to protect against electrostatic discharge e.g. for electrostatically-charged weighing objects or people who work with the scale
- Thanks to interfaces such as RS-232, RS-485 and Bluetooth (optional) the scale can easily be connected to existing networks and facilitates the data exchange between the scale and printer^



#### **Technical data**

- Large backlit LCD display, digit height 55 mm
- Weighing plate dimensions, stainless steel W×D×H
   300×240×86 mm, 3400×300×89 mm
- 500×200×123 mm, 400×500×133,5 mm
- Dimensions of display device W×D×H
  232×150×80 mm
- Cable length of display device approx. 3 m
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Stand to elevate display device
   D Height of stand approx. 50 mm, KERN IXS-A01
- ■-D Height of stand approx. 200 mm, KERN IXS-A02

I-D Height of stand approx. 400 mm, KERN IXS-A03
I-D Height of stand approx. 600 mm, KERN IXS-A04



- Internal rechargeable battery pack, operating time up to 80 h without backlight, charging time approx. 12 h, must be ordered at purchase, KERN GAB-A04
- Data interface RS-232, interface cable included, approx. 1,5 m, must be ordered at purchase, must be ordered at purchase, KERN KXS-A04
- Data interface RS-485, must be ordered at purchase, KERN KXS-A01
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, not in combination with verification, KERN KXS-A02
- Foot switch, must be ordered at purchase, KERN KXS-A03
- Roller conveyor attachment, with smooth-running, hot-dip galvanised steel rollers with ball bearings, robust aluminium profile frame for models with weighing plate size
   KERN YRO-01
- KERN YRO-02
- KERN YRO-03
- Further details, plenty of further accessories and suitable printers see *Accessories*

\*Note: only one of the port options can be built in for use

STANDARD											OPTIC	DN		FACTORY					
CAL EXT	PCS	SUM	-√+ ⊙ TOL	MOVE	665 IP 65	668	<b>€</b> 230 V	DMS	1 DAY	2 DAYS	E	)	DAkks +3 days	• 6000 • RS 232	• 600 • RS 485	BT	ACCU	H3 DAYS	
						-				100	-			+	+			IVS M	

		1 2		D		* *	IXS-M	
Model	Weighing	Readability	Verification	Minimal load	Net weight	Weighing		Option
	range		value			plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	approx.		MIII	DAkkS
KERN	kg	g	g	g	kg		KERN	KERN
IXS 6K-4	6	0,2	-	-	6	A	-	963-128
IXS 10K-4	15	0,5	-	-	6	A	-	963-128
IXS 10K-4L	15	0,5	-	-	11	В	-	963-128
IXS 30K-3	30	1	-	-	11	В	-	963-128
IXS 30K-3L	30	1	-	-	22	C	-	963-128
IXS 60K-3	60	2	-	-	11	В	-	963-129
IXS 60K-3L	60	2	-	-	22	C	-	963-129
IXS 100K-3	150	5	-	-	22	C	-	963-129
IXS 100K-3L	150	5	-	-	36	D	-	963-129
IXS 300K-2	300	10	-	-	36	D	-	963-129

Mu	lti-ra	nge	balance	, with	incre	asing	load	it	switches	automatically	

to	the next largest	weighing range	[Max] and read	lout [d] and when t	he load is fu	Illy removed, th	e balance switches back to th	ne lower range
IXS 6K-3M	3   6	1   2	1   2	20   40	6	A	965-228	963-128
IXS 10K-3M	6   15	2   5	2   5	40   100	6	A	965-228	963-128
IXS 10K-3LM	6   15	2   5	2   5	40   100	11	В	965-228	963-128
IXS 30K-2M	15   30	5   10	5   10	100   200	11	В	965-228	963-128
IXS 30K-2LM	15   30	5   10	5   10	100   200	22	C	965-228	963-128
IXS 60K-2M	30   60	10   20	10   20	200   400	11	В	965-229	963-129
IXS 60K-2LM	30   60	10   20	10   20	200   400	22	C	965-229	963-129
IXS 100K-2M	60   150	20   50	20   50	400   1000	22	C	965-229	963-129
IXS 100K-2LM	60   150	20   50	20   50	400   1000	36	D	965-229	963-129
IXS 300K-2M	150   300	50   100	50   100	1000   2000	36	D	965-229	963-129
N	oto: For applicati	one that require	varification of	ana order verifies	tion at the a	amo timo initio	l vorification at a later data in	not possible

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.



## FLOOR SCALES/ PALLET SCALES/ DRIVE-THROUGH SCALES

From incoming goods to production and shipping – our modern, powerful floor scales can be used everywhere and intuitively. The many clever functions will assist you in carrying out processes effectively and economically, all while meeting high requirements and saving resources.

In our floor scales product category, we offer our customers a carefully coordinated product range in the weighing range from 300 to 6,000 kg. Choose between affordable entry level models, practical built-in solutions or Premium products made from stainless steel and verified. Our floor scales stand out due to their durable industrial quality as well as reliable protection against dust and water splashes.

#### Industrial scales for heavy loads

When weighing large containers and heavy goods, scales must overcome different challenges. As well as correspondingly large weighing ranges, a high level of stability and sturdiness is necessary, in order to withstand the maximum loads acting on the weighing plate. Our floor scales are perfectly suited for this task, for example through generously sized struts and material thicknesses, mobile stored adjustable feet for the protection of the load cells, IP67 protection against dust and water splashes or a convenient disconnect device bet ween the display device and platform. The latter means that you can install a verified scale in a packing and dispatch bench or a pit frame for barrier-free access at a later date. Large LCD displays make it easier to read the display even if the angle of view is not ideal. We also have pallet scales, weighing beams and drive-through scales available for versatile use.

Our recommendation: High-resolution KERN BIC floor scale with  $2 \times 3,000$  [d] at the best price-to-performance ratio.

#### Easy integration through digital interfaces

Thanks to interfaces such as RS-232, USB, Bluetooth, WiFi, Ethernet the scale can easily be connected to existing networks. Data exchange between scale and PC or printer is easy and reliable. The standardised KCP interface (Kern Communication Protocol) takes over the searching und remote control of the scale using external control devices or computers. KCP enables you to recall and control the relevant parameters and device functions and is also compatible with the MT-SICS protocol in most cases. Our recommendation: High-resolution multi-range pallet scale KERN UID with EC type approval [M] and various data interfaces.

#### The KERN calibration and verification service

In order to fulfil quality requirements in accordance with DIN EN ISO 9000ff and other standards, we can offer our customers DAkkS calibration. Calibration ensures correct, usable weighing results and makes the floor scale into a reliable measuring and testing instrument. When calibrating, deviations in the display will be identified and documented. The main points to remember are: DAkkS calibration is always sensible, when checking equipment is to be used in a QM process. While calibration is not legally regulated, verification is mandatory in different applications for example:

- In commercial trade, if the price of goods are determined by weighing results.
- · In the production of pre-packaged goods
- In the pharmaceutical industry
- For official purposes.

Our recommendation: BID floor scale with EC type approval [M] and the best price-to-performance ratio – now also as a high-resolution multi-range balance

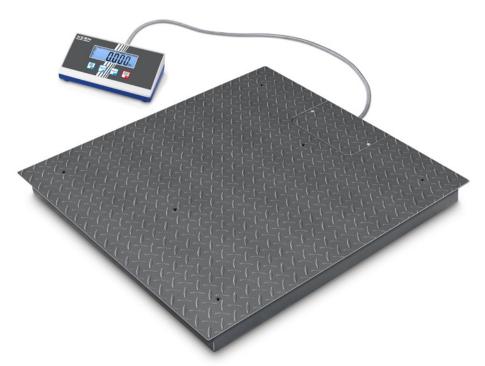
#### Individual solutions for maximum efficiency

The weighing ranges of bench counting scales are often not sufficient to count large quantities, units or items on pallets. This is where high-performance counting systems come into their own, as these combine a high-precision reference scale with a high-capacity bulk scale, such as for example a floor scale, pallet scale or drive-through scale.

If you have special requirements, you can also configure your ideal scale easily and quickly so that it meets your needs. We will put your weighing combination together for you, using the components you have selected and including verification. Please contact your personal customer advisor for further information!

## Quick-Finder Floor scales/Pallet scales/Drive-through scales

Readability	Weighing capacity	Weighing plate W×D×H	Model	Page	2 DAYS	Μ	RS 232	USB	BT	((• WIFI		KCP PROTOCOL	PCS	-√+ ⊙ ?% TOL	ACCU
[d] g	[Max] kg	mm	KERN				For an	explan	ation o	on the p	oictos,	see fro	ont flag	)	
50   100	300   600	1000×1000×108	BID 600K-1DS	114	2		•	0	0	0	0	•	•	•	0
50   100	300   600	1200×1500×108	BID 600K-1D	114	2		٠	0	0	0	0		•	٠	0
100	300	1000×1000×40	NIB 300K-1	124	2										
100   200	300   600	1000×1000×108	BIC 600K-1S	113	2										
100   200	300   600	1200×1500×108 1000×1000×108	BIC 600K-1 BID 600K-1DSM	113 114	2	0	•	0	0	0	0	•	•	•	0
100   200	300   600	1200×1500×108	BID 600K-1DSM BID 600K-1DM	114	2			0	0	0	-0				<del></del>
100   200	300   600	1195×840×110	UID 600K-1DM	121	2	0	•	0	0	0	0	•	•	•	0
100   200	600   1500	1000×1000×108	BID 1T-4DS	114	2		•	0	0	0	0		•	٠	0
100   200	600   1500	1200×1500×108	BID 1T-4D	114	2		•	0	0	0	0	•	•	٠	0
200	600	1000×1000×108	BID 600K-1SM	114	2	0	•	0	0	0	0	•	•	•	0
200	600	1200×1500×108	BID 600K-1M	114	2	0	•	0	0	0	0	•	•	•	
200	600 600	1000×1000×85 1500×1250×85	BFB 600K-1SNM BFB 600K-1NM	116 116	2	0 0	•		0			•	•	•	<u> </u>
200	600	1000×1000×90	BFN 600K-1SM	118	2	-0	•		0				•		<u> </u>
200	600	800×120×84	UFA 600K-1S	119	2		•		0			•	•	•	0
200	600	1195×840×110	UIB 600K-1	120	2										
200	600	1195×840×110	UID 600K-1M	121	2	0	٠	0	0	0	0	٠	•	٠	0
200	600	1190×840×90	UFB 600K200M	122	2	0			0				٠	٠	0
200	600	1360×850×90	UFN 600K200IPM	123	2	0	0		0			•		•	•
200	600	1000×1000×40	NIB 600K-2	124	2										
200	600 600	1800×1400×80 1600×1200×80	NFB 600K200LM NFB 600K200M	125 125	2	0 0	•		0			•	•	•	<u> </u>
200	600	1600×1200×80	NFN 600K-1M	125	2		0		0						<u> </u>
200   500	600   1500	1000×1000×108	BIC 1T-4S	113	2										
200   500	600   1500	1200×1500×108	BIC 1T-4	113	2										
200   500	600   1500	1000×1000×108	BID 1T-4DSM	114	2	0	٠	0	0	0	0	٠	٠	٠	0
200   500	600   1500	1200×1500×108	BID 1T-4DM	114	2	0	٠	0	0	0	0		•	٠	0
200   500	600   1500	1190×840×110	UID 1500K-1DM	121	2	0	•	0	0	0	0	•	•	٠	0
200   500	1500   3000	1200×1500×108	BID 3T-3D	114	2		•	0	0	0	0	•	•	•	0
200   500	1500   3000 1500	1500×1500×108 1000×1000×108	BID 3T-3DL BID 1T-4SM	114 114	2	0	•	0	0	0	0	•	•	•	<u> </u>
500	1500	1200×1000×108	BID 1T-4EM	114	2	0	•	0	0	0	0	•	•	•	<del>.</del>
500	1500	1200×1500×108	BID 1T-4M	114	2	0	•	0	0	0	0	•	•	•	0
500	1500	1500×1500×108	BID 1T-4LM	114	2	0	•	0	0	0	0	•	•	٠	0
500	1500	1000×1000×85	BFB 1T-4SNM	116	2	0	٠		0				•	٠	0
500	1500	1500×1250×85	BFB 1T-4NM	116	2	0	•		0			•	•	•	0
500	1500	1000×1000×90	BFN 1T-4SM	118	2	0	0		0			•	•	•	
500 500	1500 1500	1500×1250×85 1200×120×84	BFN 1.5T0.5M UFA 1.5T0.5	118 119	2	0	•		0			•	•	•	<u> </u>
500	1500	1195×840×110	UIB 1.5T-4	120	2		-							-	
500	1500	1190×840×110	UID 1500K-1M	121	2	0	•	0	0	0	0	•	•	•	0
500	1500	1190×840×90	UFB 1.5T0.5M	122	2	0	•		0			٠	•	٠	0
500	1500	1360×840×90	UFN 1.5T0.5IPM	123	2	0	0		0			٠		٠	•
500	1500	1600×1200×80	NFB 1.5T0.5M	125	2	0	•	0	0			•	•	•	0
500	1500	1800×1400×80	NFB 1.5T0.5LM	125	2	0	•	0	0			•	•	•	0
500 500   1000	1500 1500   3000	1600×1200×80 1500×1500×108	NFN 1.5T-4M BIC 3T-3L	126 113	2	0	0	0	0			•	•	•	•
500   1000	1500   3000	1200×1500×108	BIC 3T-3	113	2										
500   1000		1200×1500×108	BID 3T-3DM	114	2	0	•	0	0	0	0	•	•	•	0
500   1000	•	1500×1500×108	BID 3T-3DLM	114	2	0	٠	0	0	0	0	٠	٠	٠	0
500   1000		1190×840×110	UID 3000K-0DM	121	2	0	•	0	0	0	0	•	٠	•	0
1000	3000	1200×1500×108	BID 3T-3M	114	2	0	•	0	0	0	0	•	•	•	0
1000	3000	1500×1500×108	BID 3T-3LM	114	2	0	•	0	0	0	0	•	•	•	<u> </u>
1000	3000 3000	1500×1500×85 1500×1250×85	BFB 3T1LM BFB 3T-3NM	<u>116</u> 116	2	0 0	•		0			•	•	•	<u> </u>
1000	3000	1200×120×85	UFA 3T1	110	2				0				•	•	
1000	3000	1500×1250×85	BFN 3T-3M	118	2	0	0					•	•	•	
1000	3000	2000×120×90	UFA 3T-3L	119	2		٠		0			٠	•	٠	0
1000	3000	1195×840×110	UIB 3T-3	120	2										
1000	3000	1195×840×110	UID 3000K-0M	121	2	0	٠	0	0	0	0	٠	٠	٠	0
2000	6000	1500×1500×130	BFB 6T-3M	116	2	0	•		0			•	•	•	0
2000	6000 6000	1200×160×115 1200×160×115	UFA 6T-3 UFA 6T-3L	119 119	2		•		0			•	•	•	<u> </u>
2000	0000	120001000113	OFA OFSL	119	۷								-	- <b>0</b> b	option
												s	Lanual	u <b>u</b> –	UDUIUII











## High-resolution floor scale with 2×3000 [d] and the best price-to performance ratio

#### Features

- • Weighing bridge out of anti-slip corrugated steel, 4 load cells, alloy steel, silicone-coated, IP67
- Welded platform with screw holes to lift the scale for easy cleaning
- Easy levelling of the weighing bridge as well as access to the junction box from above
- Simple and convenient 4-key operation
- Wall mount for display device, standard
- A clever plug-in connector means that you can easily separate the display device and the platform, e.g. for installing the balance in a packing and dispatch bench, pit frame etc. at a later date
- Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN – always one step ahead

#### **Technical data**

- Large LCD display, digit height 25 mm
  Weighing plate dimensions, steel, powder
- coated W×D×H 1000×1000×108 mm W×D×H 1200×1500×108 mm W×D×H 1500×1500×108 mm
- Dimensions of display device W×D×H 235×114×51 mm
- Optional battery operation, 4×1.5 V AA not included in scope of delivery, operating time up to 60 h
- Cable length of display device approx. 5 m
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover over the display device, scope of delivery: 5 items, KERN EOB-A04BS05
- **I** Pair of base plates to fix the weighing bridge to the floor, KERN BIC-A07
- Ascending ramp, steel, powder-coated, for models with weighing plate size
   1000×1000×108 mm, KERN BIC-A01
   1200×1000×108 mm, KERN BIC-A02
- I500×1000×108 mm, KERN BIC-A03
- **5** Stable pit frame, Steel, for models with weighing plate size
  - 1088×1088×110 mm, KERN BIC-A04
- 1288×1588×110 mm, KERN BIC-A05
- 1588×1588×110 mm, KERN BIC-A06

Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

STANDARD								OPTION
	$\mathcal{C}$	^	666		C H		<b>.</b>	DAkkS
CAL EXT	UNIT	MOVE	IP 67	BATT	MULTI	DMS	2 DAYS	+3 DAYS
			1					

Model	Weighing capacity	Readability	Net weight	Weighing plate	Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] kg	approx. kg		DAKKS Cambridge Contracte DAkkS KERN
BIC 600K-1S	300   600	0,1   0,2	70	A	963-130
BIC 600K-1	300   600	0,1   0,2	150	В	963-130
BIC 1T-4S	600   1500	0,2   0,5	70	A	963-130
BIC 1T-4	600   1500	0,2   0,5	150	В	963-130
BIC 3T-3	1500   3000	0,5   1	150	В	963-132
BIC 3T-3L	1500   3000	0,5   1	150	C	963-132



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Floor scale with EC type approval [M] and the best price-to-performance ratio – now also as high-resolution multi-range balance



Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN – always one step ahead



Access ramp incl. pair of base plates to facilitate access of e.g. wire cage trolleys, shelf trolleys, container trolleys, storage trolleys, sack trucks, transpallets, mobile containers, containers refuse etc.



Verification plug, for verified balances. This enables you to separate the display device and platform without affecting the verification, e.g. for installing the scale in a packing and dispatch table, pit frame etc. at a later date. Please order this at the same time as you purchase your scale

#### Features

- BID 1T-4EM: Compact special size, especially for weighing europallets
- Weighing bridge out of anti-slip corrugated steel, 4 load cells, alloy steel, silicone-coated, IP67
- Easy levelling of the weighing bridge as well as access to the junction box from above
- Display device: for details see KERN KIB-TM
- Totalising of weights and piece counts
- Thanks to interfaces such as RS-232 or USB, WiFi, Bluetooth, Ethernet (optional), the scale can easily be connected to existing networks. Data exchange between the scale, PC or printer
- 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

#### Technical data

- Large LCD display, digit height 25 mm
- Weighing plate dimensions, W×D×H
   1000×1000×108 mm, 1200×1000×108 mm
   1200×1500×108 mm, 1500×1500×108 mm

- Dimensions of display device W×D×H 268×115×80 mm
- Cable length of display device approx. 5  $\ensuremath{\mathsf{m}}$
- Permissible ambient temperature -10  $^{\circ}\text{C}/40$   $^{\circ}\text{C}$

#### Accessories

- Protective working cover, scope of delivery 5 items, KERN EOC-A01S05
- Pair of base plates to fix the weighing bridge to the floor, KERN BIC-A07
- S Ascending ramp, steel, powder-coated, for models with weighing plate size
  M. B KERN BIC-A01
  G KERN BIC-A02
  KERN BIC-A03
- Stable pit frame, Steel, powder-coated, to install the weighing bridge so you can drive straight on, for models with weighing plate size
- A KERN BIC-A04
- KERN BIC-A08
- KERN BIC-A05
- KERN BIC-A06

2

1

- Benchtop stand incl. wall mount for display device, KERN EOC-A04
- Internal rechargeable battery pack, operating time up to 43 h without backlight, charging time approx. 3 h, KERN KFB-A01
- USB data interface, for transferring weighing to the PC, printer etc., must be ordered at purchase, KERN KIB-A03
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, KERN KIB-A04

- WiFi interface for wireless connection of the balance to networks and WiFi capable devices, such as tablets, laptops or smartphones, continuous data transfer, must be ordered at purchase, KERN KIB-A10
- Ethernet data interface, to connect an IP-based Ethernet network, continuous data transfer, must be ordered at purchase, KERN KIB-A02
- Signal lamp, including interface, for visual support of weighing with tolerance range, must be ordered at purchase, KERN KIB-A06
- Alibi memory, for paperless archiving of the weighing results with ID no., gross/net/tare value, date and time, must be ordered at purchase, KERN KIB-A13
- Verification plug, for verified balances this enables you to separate the display device and platform without affecting the verification, e.g. for installing the scale in a packing and dispatch table, pit frame etc. at a later date. Please order this at the same time as you purchase your scale, KERN KIB-A12

**Note:** For verified scales the weighing bridge must be fixed to the floor. Optionally, with an access ramp, a footplate pair or a pit frame

In addition to the RS-232 data interface, which is integrated as standard, only one other data interface can be installed and operated

Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

STANDAR	RD.													OPTION			FACTORY							
		KCP	GLP			%	-√+ ⊙ Эৢ৽	^-–	666	666	B		<b></b> )	1	<b></b>	DAkkS		•	₿	(îr	-0,-0-	금무	М	44
CAL EXT	RS 232	PROTOCOL	PRINTER	PCS	SUM	PERCENT	TOL	MOVE	IP 65	IP 67	MULTI	DMS	2 DAYS	ET	ACCU	+3 DAYS	ALIBI	USB	BT 4.0	WIFI	SWITCH	LAN	+3 DAYS	

				2				
Model	Weighing	Readability	Verification	Minimal load	Net weight	Weighing		Option
	capacity	-	value		-	plate	Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	approx.		MII	DAkkS
KERN	kg	kg	kg	kg	kg		KERN	KERN
BID 600K-1DS	300   600	0,05   0,1	-	-	70	А	-	963-130
BID 600K-1D	300   600	0,05   0,1	-	-	150	Α	-	963-130
BID 1T-4DS	600   1500	0,1   0,2	-	-	70	A	-	963-130
BID 1T-4D	600   1500	0,1   0,2	-	-	150	C	-	963-130
BID 3T-3D	1500   3000	0,2   0,5	-	_	150	С	-	963-132
BID 3T-3DL	1500   3000	0,2   0,5	-	-	155	D	-	963-132
							switches automatically,	
to the	next largest we	ighing range [	Max] and read	lout [d] and wh	en the load is	fully removed,	the balance switches back to t	he lower range
BID 600K-1DSM	300   600	0,1   0,2	0,1   0,2	2   4	70	A	965-230	963-130
BID 600K-1DM	300   600	0,1   0,2	0,1   0,2	2   4	150	C	965-230	963-130
BID 1T-4DSM	600   1500	0,2   0,5	0,2   0,5	4   10	70	A	965-230	963-130
BID 1T-4DM	600   1500	0,2   0,5	0,2   0,5	4   10	150	C	965-230	963-130
BID 3T-3DM	1500   3000	0,5   1	0,5   1	10   20	150	C	965-232	963-132
BID 3T-3DLM	1500   3000	0,5   1	0,5   1	10   20	155	D	965-232	963-132
BID 600K-1SM	600	0,2	0,2	4	70	A	965-230	963-130
BID 600K-1M	600	0,2	0,2	4	150	C	965-230	963-130
BID 1T-4SM	1500	0,5	0,5	10	70	A	965-230	963-130
BID 1T-4M	1500	0,5	0,5	10	150	C	965-230	963-130
BID 1T-4EM	1500	0,5	0,5	10	85	В	965-230	963-130
BID 1T-4LM	1500	0,5	0,5	10	155	D	965-230	963-130
BID 3T-3M	3000	1	1	20	150	C	965-232	963-132
BID 3T-3LM	3000	1	1	20	155	D	965-232	963-132
NLata	E l' t'	a the state of a second second			· · · · · · · · · · · · · · · · · · ·		deliver all sectors and a feature dealer t	a search search the first search the first search sea

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.





### 11

Weighing bridge with screwed-on weighing plate (IP67) and XXL display device, with EC type approval [M]



Weighing plate can be unscrewed - The weighing plate can be conveniently unscrewed for maintenance or cleaning purposes



Easy levelling of the weighing bridge as well as access to the junction box from above



Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN – always one step ahead

#### Floor scale KERN BFB



#### Features

- Weighing **I**, **I**, **I** plate screwed on from the top, so it easy to remove, hygienic and easy to clean
- Models with weighing plate size , B, G: Weighing bridge: steel, powder coated Models with weighing plate size D: Weighing bridge: corrugated steel
- 4 silicone-coated steel load cells, dust and spray protection IP67
- Display device: for details see KERN KFB-TAM
- Benchtop stand incl. wall mount for display device as standard
- Totalising of weights and piece counts
- Protective working cover included with delivery

#### **Technical data**

- Large backlit LCD display, digit height 52 mm
- Weighing plate dimensions, steel, powder coated
   W×D×H 1000×1000×85 mm
- W×D×H 1500×1250×85 mm
- W×D×H 1500×1500×85 mm
- W×D×H 1500×1500×130 mm
- Dimensions of display device W×D×H 250×160×58 mm
- Cable length of display device approx. 5 m
- Permissible ambient temperature -10 °C/40 °C



#### Accessories

- Protective working cover, scope of delivery 5 items, KERN KFB-A02S05
- Istand to elevate display device, Height of stand approx. 800 mm, KERN BFS-A07
- Pair of base plates to fix the weighing bridge to the floor, for models with weighing plate size
  A, D, KERN BFS-A06N
  KERN BFS-A10
- S Ascending ramp, steel, lacquered, not included, for models with weighing plate size
   KERN BFS-A02N
   KERN BFS-A09N
  - KERN BFS-A11
- I Stable pit frame, Steel, for models with weighing plate size
  KERN BFS-A03N
  KERN BFS-A04N
  KERN BFS-A08N
- Internal rechargeable battery pack, operating time up to 35 h without backlight, charging time approx. 10 h, must be ordered at purchase, KERN KFB-A01
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, not in combination with verification, When installing the Bluetooth data interface, the RS-232 data interface can no longer be used, KERN KFB-A03



Analogue module, not possible in combination
 with signal lamp

Analogue module 0–10 V, must be ordered at purchase, KERN KFB-A04

Analogue module 4–20 mA, must be ordered at purchase, KERN KFB-A05

- Signal lamp for visual support of weighing with tolerance range, KERN CFS-A03
- Large display with superior display size, KERN YKD-A02
- Cable with special length 15 m, between display device and platform, for verified models which must be ordered at the time of purchase, KERN BFB-A03
- Further details, plenty of further accessories and suitable printers see *Accessories*

**Note:** For verified scales the weighing bridge must be fixed to the floor. Optionally, with an access ramp, a footplate pair or a pit frame

Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs



Model	Weighing	Readability =	Minimal load	Net weight	Weighing plate		Option
	capacity	Verification value				Verification	DAkkS Calibr. Certificate
	[Max]	[d] = [e]	[Min]	approx.		M	DAkkS
KERN	kg	kg	kg	kg		KERN	KERN
BFB 600K-1SNM	600	0,2	4	105	A	965-230	963-130
BFB 600K-1NM	600	0,2	4	140	В	965-230	963-130
BFB 1T-4SNM	1500	0,5	10	105	A	965-230	963-130
BFB 1T-4NM	1500	0,5	10	140	В	965-230	963-130
BFB 3T-3NM	3000	1	20	140	В	965-232	963-132
BFB 3T1LM	3000	1	20	155	C	965-232	963-132
BFB 6T-3M	6000	2	40	230	D	965-232	963-132

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.



Stainless steel weighing bridge with screwed-on weighing plate (IP68) and stainless steel display device (IP65), with EC type approval [M]

#### Features

- Tough industry standard suitable for use in harsh industrial applications
- Weighing plate screwed on from the top with stainless steel screws, so it's easy to remove, hygienic and easy to clean
- Weighing bridge: stainless steel, extremely resistant to bending due to material thickness, 4 welded stainless steel load cells, dust and spray protection IP68. Weighing bridge can also be delivered as component without the display device, for details see KERN KFP-V40
- Your support in a HACCP-compliant quality system
- Easy levelling of the weighing bridge as well as access to the junction box from above
- Display device: Stainless steel, protection against dust and water splashes IP65. Ideal for industrial applications, hygienic and easy to clean. The display device can also be delivered as a component without the weighing bridge, for details see KERN KFN-TM
- Benchtop stand incl. wall mount for display device as standard

- Totalising of weights and piece counts
- Internal rechargeable battery pack included with the delievery
- Is Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation.

KERN – always one step ahead

#### **Technical data**

- Large backlit LCD display, digit height 52 mm
- Dimensions of weighing plate W×D×H
   1000×1000×90 mm
   1500×1250×85 mm
- Dimensions of display device W×D×H
- 266×165×96 mm
- Cable length of display device approx. 5 m
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

• Stand to elevate display device, height of stand approx. 800 mm, KERN BFN-A04









- Pair of base plates to fix the weighing bridge to the floor, KERN BFN-A03
- Is Ascending ramp, stainless steel, for models with weighing plate size
   KERN BFN-A05
- KERN BFN-A01
- Stable pit frame, Stainless steel, for models with weighing plate size
   KERN BFN-A06
- B KERN BFN-A02
- Data interface RS-232, interface cable included, approx. 1,5 m, must be ordered at purchase, KERN KFN-A01
- Bluetooth data interface, must be ordered at purchase, not possible in combination with verification, KERN KFB-A03
- Analogue module, must be ordered at purchase 0-10 V, KERN KFB-A04
- 4-20 mA, KERN KFB-A05
- Cable with special length 15 m, between display device and platform, for verified models which must be ordered at the time of purchase, KERN BFB-A03
- Further details, plenty of further accessories and suitable printers see *Accessories*

**Note:** For verified scales the weighing bridge must be fixed to the floor. Optionally, with an access ramp, a footplate pair or a pit frame.

Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costsdevice on request.

Optionally configurable with IP68 display device on request, for details see chapter 13



Model	Weighing	Readability =	Minimal load	Net weight	Weighing plate		Option
	capacity	Verification value		_		Verification	DAkkS Calibr. Certificate
	[Max]	[d] = [e]	[Min]	approx.		MU	DAkkS
KERN	kg	kg	kg	kg		KERN	KERN
BFN 600K-1SM	600	0,2	4	100	А	965-230	963-130
BFN 1T-4SM	1500	0,5	10	100	A	965-230	963-130
BFN 1.5T0.5M	1500	0,5	10	145	В	965-230	963-130
BFN 3T-3M	3000	1	20	150	В	965-232	963-132
Note:	For applications	that require verific	ation, please ord	er verification a	t the same time, initial	verification at a later date is	s not possible.

Note: For applications that require verification, please order verification at the same time, initial verification at a later date is not po Verification at the factory, we need to know the full address of the location of use.

\* Not possible in combination with RS-232 data interface

118 Floor scales/Pallet scales/Drive-through scales



## Highly versatile weighing beams (IP67) for large loads to 6 t

#### Features

- Flexible solution for weighing large, bulky or long items, thanks to freely positionable weighing beams and a 5 m (!) long connecting cable between the beams
- High mobility: thanks to rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations
- Weighing beams: steel, painted, 4 silicone-coated aluminium load cells, protection against dust and water splashes IP67, weighing beams can also be delivered as components without the display device, for details see KERN KFA-V20
- Sturdy handles for transporting the weighing beams
- KERN UFA-L: Each weighing beam has a roller and handle for easy transport of the scale, see larger picture
- Display device: for details see KERN KFB-TM
- Benchtop stand incl. wall mount for display device as standard

- Totalising of weights and piece counts
- Protective working cover included with delivery
- KERN UFA-S: Model with short weighing beams, ideal for weighing compact items or animals in transport boxes
- Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN – always one step ahead

#### **Technical data**

- Large backlit LCD display, digit height 52 mm
- Dimensions of display device W×D×H
  250×160×65 mm
- Cable length of display device approx. 5 m
- Cable length weighing beams approx. 5 m
- Permissible ambient temperature -10 °C/40 °C









#### Accessories

- Protective working cover, scope of delivery 5 items, KERN KFB-A02S05
- Stand to elevate display device, Height of stand approx. 800 mm, KERN BFS-A07
- Internal rechargeable battery pack, operating time up to 35 h without backlight, charging time approx. 10 h, KERN KFB-A01
- Bluetooth data interface, must be ordered at purchase. When installing the Bluetooth data interface, the RS-232 data interface can no longer be used, KERN KFB-A03
- Analogue module, not possible in combination with signal lamp, must be ordered at purchase, 0–10 V, KERN KFB-A04
- 4-20 mA, KERN KFB-A05
- Isignal lamp for visual support of weighing with tolerance range, not possible in combination with analogue module, KERN CFS-A03
- S Large display with superior display size, KERN YKD-A02
- Y-cable for parallel connection of two terminal devices to the RS-232 interface on the scale, e.g. signal lamp and printer, KERN CFS-A04
- Cable with special length 15 m, between display device and platform, for verified models which must be ordered at the time of purchase, KERN BFB-A03
- Further details, plenty of further accessories and suitable printers see *Accessories*

Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

ANDARD		OPTION	FACTORY
🚹 📼 KCP 🚵 🔡 🧭 🟹	^-, 🍋 🚢 📼 📖	<b>DAkks</b>	
AL EXT RS 232 PROTOCOL PCS SUM UNIT TOL	MOVE IP 67 MULTI DMS 2 DAYS	ET +3 DAYS	BT 2.0 ANALOG ACCU

Model	Weighing capacity	Readability	Net weight	Dimensions Weighing beam	Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] kg	approx. kg	W×D×H mm	DAkkS KERN
UFA 600K-1S	600	0,2	36	800×120×84	963-130
UFA 1.5T0.5	1500	0,5	40	1200×120×84	963-130
UFA 3T1	3000	1	38	1200×120×84	963-132
UFA 3T-3L	3000	1	60	2000×120×90	963-132
UFA 6T-3	6000	2	95	1200×160×115	963-132
UFA 6T-3L	6000	2	130	2000×160×115	963-132







Pallet scale with steel load support (IP67) and the best price-to-performance ratio

#### Features

- · High mobility: thanks to battery operation, compact, lightweight construction, it is suitable for the use in several locations
- 1 Load support: steel, powder coated, 4 silicone-coated aluminium load cells, protection against dust and water splashes IP67
- I The scale can be easily transported using rollers and a handle and does not require much storage space
- Protective working cover included with delivery
- Is Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN - always one step ahead

#### **Technical data**

- · Large LCD display, digit height 25 mm
- Dimensions of display device W×D×H
- 235×114×51 mm
- · Cable length of display device approx. 5 m
- Optional battery operation, 4×1.5 V AA not included in scope of delivery, operating time up to 60 h
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- · Protective working cover over the display device, scope of delivery: 5 items, KERN EOB-A04BS05
- · Stand to elevate display device, height of stand approx. 1000 mm, KERN EOB-A02B

II Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

STANDARD		OPTION DAkkS +3 DAYS		
Model	Weighing capacity	Readability	Net weight	Option DAkkS Calibr. Certificate
	[Max]	[d]	approx.	DAkkS
KERN	kg	kg	kg	KERN
UIB 600K-1	600	0,2	55	963-130
UIB 1.5T-4	1500	0,5	55	963-130
UIB 3T-3	3000	1	55	963-132



## High-resolution multi-range pallet scale with EC type approval [M] and a wide range of interfaces

#### Features

STANDARD

- Multi-range pallet scale! Ideal, when high maximum loads need to be weighed, but in the lower load range you still need high resolution. This means that two balances can be replaced with one – which saves space and money!
- High mobility thanks to battery operation for display device and platform
- Display device: Protection against dust and water splashes IP65
- Icad support: steel, powder coated, 4 load cells, alloy steel, silicone-coated, protection against dust and water splashes IP67
- The scale can be easily transported using rollers and a handle and does not require much storage space
- Totalising of weights and piece counts
- 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.

- Thanks to interfaces such as RS-232 or USB, WiFi, Bluetooth, Ethernet (optional), the scale can easily be connected to existing networks. Data exchange between the scale, PC or printer
- Protective working cover included with delivery

#### **Technical data**

- Large LCD display, digit height 25 mm
- Dimensions of display device W×D×H 268×115×80 mm

Net weight approx. 44 kg

Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery
   5 items, KERN EOC-A01S05
- Stand to elevate display device, Height of stand approx. 800 mm, KERN BFS-A07
- Internal rechargable battery pack, operating time up to 43 h without backlight, charging time approx. 3 h, KERN KFB-A01
- USB data interface, for transferring weighing to the PC, printer etc., must be ordered at purchase, KERN KIB-A03
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, KERN KIB-A04
- WiFi interface for wireless connection of the balance to networks and WiFi capable devices, such as tablets, laptops or smartphones, continuous data transfer, must be ordered at purchase, KERN KIB-A10
- Ethernet data interface, to connect an IP-based Ethernet network, continuous data transfer, must be ordered at purchase, KERN KIB-A02
- Signal lamp, including interface, for visual support of weighing with tolerance range, must be ordered at purchase, KERN KIB-A06
- Alibi memory, including USB interface for exporting weighing results to external data storage media, such as, for example, USB sticks, hard drives, etc., must be ordered at purchase, KERN KIB-A01
- Verification plug, for verified balances this enables you to separate the display device and platform without affecting the verification, e.g. for installing the scale in a packing and dispatch table, pit frame etc. at a later date. Please order this at the same time as you purchase your scale, KERN KIB-A12

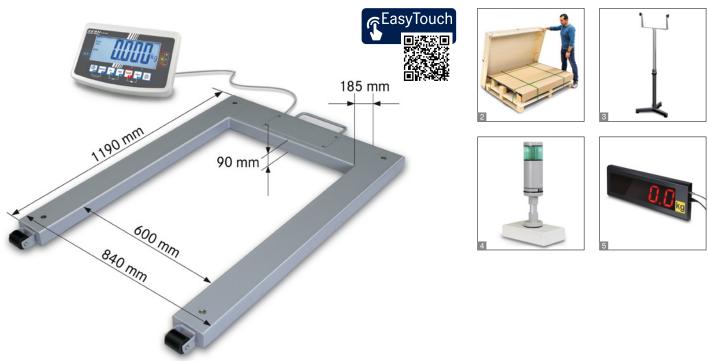
\*Note: Only one optional interface can be installed and used
Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

CAL EXT RS 232 PROTOCOL	PRINTER PCS	SUM PERCENT UNIT	<del>ල වූම</del> TOL MOVE	IP 65 IP 67 MULTI	DMS 2 DAYS	ET ACCU	+3 DAYS	ALIBI	USB BT 4		LAN	+3 DAYS
			- I	1 2				*	*	*	*	
Model	Weighing	Readability =	Minimal load	Cable length of	Net weight				Optior			
	capacity	Verification value		display device			Verif	ication	DAk	S Calibr	. Certifi	icate
	[Max]	[d] = [e]	[Min]	approx.	approx.		MIII		]	DAkkS		
KERN	kg	kg	kg	m	kg		KERN			KERN		
UID 600K-1M	600	0,2	4	5	44		965-230	0	ç	63-130		
UID 1500K-1M	1500	0,5	10	5	44		965-230	0	9	63-130		
UID 3000K-0M	3000	1	20	5	44		965-232	2	9	63-132		
	Multi-range ba	lance, with increasir	0	,	0	0 0	0	] and re	adout [d]			
		and when the	load is fully re	moved, the balance	switches back	to the lower r	ange					
UID 600K-1DM	300   600	0,1   0,2	2   4	5	44		965-230	0	9	63-130		
UID 1500K-1DM	600   1500	0,2   0,5	4   10	5	44		965-230	0	9	63-130		
UID 3000K-0DM	1500   3000	0,5   1	10   20	5	44		965-232	2	9	63-132		
Note:	For applications	that require verifications	ation, please or	der verification at t	he same time, i	initial verificat	ion at a la	iter date	e is not po	ssible.		

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DAkks

Verification at the factory, we need to know the full address of the location of use.



## Pallet scale with steel load support (IP67) and EC type approval [M]

#### Features

- High mobility: thanks to rechargeable battery operation (optional), compact, lightweight construction, it is suitable for the use in several locations
- Display device: for details see KERN KFB-TM
- Load support: steel, powder coated, Weighing bridge can also be delivered as component without the display device, for details see KERN KFU-V20
- 4 load cells, alloy steel, silicone-coated, IP67
- Two wheels for easy transportation of the scale
- Weighing with tolerance range (checkweighing): A visual and audible signal assists the rapid checking of items on palettes
- Totalising of weights and piece counts
- Protective working cover included with delivery
- Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN – always one step ahead

#### **Technical data**

- Large backlit LCD display, digit height 52 mm
- Dimensions of display device W×D×H 250×160×58 mm
- Cable length of display device approx. 5 m
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery 5
   items, KERN KFB-A02S05
- Stand to elevate display device, Height of stand approx. 800 mm, KERN BFS-A07
- Internal rechargeable battery pack, operating time up to 35 h without backlight, charging time approx. 12 h, must be ordered at purchase, KERN KFB-A01
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, not in combination with verification. When installing the Bluetooth data interface, the RS-232 data interface can no longer be used, KERN KFB-A03

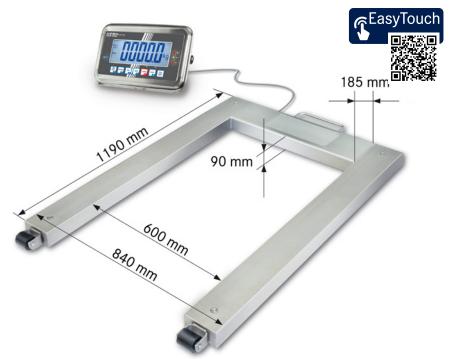
- Analogue module, not possible in combination with signal lamp, must be ordered at purchase 0–10 V, KERN KFB-A04 4–20 mA, KERN KFB-A05
- Ising a lamp for visual support of weighing with tolerance range, not possible in combination with analogue module, KERN CFS-A03
- **I** Large display with superior display size, KERN YKD-A02
- Y-cable for parallel connection of two terminal devices to the RS-232 interface on the scale, e.g. signal lamp and printer, KERN CFS-A04
- Cable with special length 15 m, between display device and platform, for verified models which must be ordered at the time of purchase, KERN BFB-A03
- Further details, plenty of further accessories and suitable printers see *Accessories*

Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs



Model	Weighing	Readability	Verification	Minimal load	Net weight		Option
	capacity		value			Verification	DAkkS Calibr. Certificate
	[Max]	[d]	[e]	[Min]	approx.	MII	DAkkS
KERN	kg	kg	kg	kg	kg	KERN	KERN
UFB 600K200M	600	0,2	0,2	4	55	965-230	963-130
UFB 1.5T0.5M	1500	0,5	0,5	10	55	965-230	963-130
Note: F	For applications t	hat require verifi	cation, please or	der verification at	the same time, initial	verification at a later date is	s not possible

Note: For applications that require verification, please order verification at the same time, initial verification at a later date is not possib Verification at the factory, we need to know the full address of the location of use.



Pallet scale with stainless steel load support (IP67) and stainless steel display device (IP65), with EC type approval [M]

#### Features

- High mobility: thanks to rechargeable battery operation, compact, lightweight construction, it is suitable for the use in several locations (production, warehouse, dispatch department etc.)
- Load support: stainless steel, Weighing bridge can also be delivered as component without the display device, for details see KERN KFU-V30
- 4 silicone-coated steel load cells, dust and spray protection IP67
- Your support in a HACCP-compliant quality system
- Ideal for the increased hygienic requirements in the food industries
- Display device: for details see KERN KFN-TM
- The scale can be easily transported using rollers and a handle and does not require much storage space
- Hold function: When the weighing conditions are unstable, a stable weight is calculated determining an average value

- Weighing with tolerance range (checkweighing): A visual and audible signal assists the rapid checking of items on palettes
- Totalising of weights
- Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN – always one step ahead

#### Technical data

- Large backlit LCD display, digit height 52 mm
  Dimensions of display device W×D×H
- 266×165×96 mm
- Cable length of display device approx. 5  $\mbox{m}$
- Permissible ambient temperature -10 °C/40 °C







#### Accessories

- Stand to elevate display device, height of stand approx. 800 mm, KERN BFN-A04
- Internal rechargeable battery pack, operating time up to 35 h without backlight, charging time approx. 10 h, KERN GAB-A04
- RS-232 data interface including interface cable, Data interface RS-232, interface cable included, approx. 1,5 m, must be ordered at purchase, KERN KFN-A01
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, not possible in combination with verification, KERN KFB-A03
- Analogue module 0–10 V, must be ordered at purchase, KERN KFB-A04 Analogue module 4–20 mA, must be ordered at purchase, KERN KFB-A05
- Large display with superior display size, KERN YKD-A02
- Cable with special length 15 m, between display device and platform, for verified models which must be ordered at the time of purchase, KERN BFB-A03
- Further details, plenty of further accessories and suitable printers see *Accessories*

Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs

Optionally configurable with IP68 display device on request, for details see chapter 13

STANDARD		OPTION	FACTORY		
CAL EXT PROTOCOL SUM	A O O O O O O O O O O O O O O O O O O O	<b>665</b> IP 67	DMS 2 DAYS	ET +3 DAYS	RS 232 BT 2.0 ANALOG +3 DAYS
		2 1			

Model	Weighing	Readability =	Verification	Minimal load	Net weight		Option
	capacity	Verification value	value			Verification	DAkkS Calibr. Certificate
	[Max]	[d] = [e]	[e]	[Min]	approx.	MIII	DAkkS
KERN	kg	kg	kg	kg	kg	KERN	KERN
UFN 600K200IPM	600	0,2	0,2	4	55	965-230	963-130
UFN 1.5T0.5IPM	1500	0,5	0,5	10	50	965-230	963-130
Note: Fo	or applications	that require verifica	ation, please or	der verification at	the same time, initial	verification at a later date is	s not possible.

Verification at the factory, we need to know the full address of the location of use.











## Compact, robust drive-through scale – particularly mobile thanks to its carrying handle, rollers and lightweight construction

#### Features

STANDARD

- Drive-through scale for rapid weighing of e.g. wire cage trolleys, shelf trolleys, container trolleys, storage trolleys, sack trucks, transpallets, mobile containers, containers refuse etc.
- Low platform height and integrated access ramps on both sides facilitate access. No need for pit frame installation – which saves money
- Weighing bridge: Steel, powder coated, 4 silicon-coated aluminium load cells with protection against dust and water splashes to IP67
- 2 Level indicator to level the balance precisely
- If the scale can be easily transported using rollers and a handle and does not require much storage space
- Wall mount for the display device, as standard, only for models without a stand
- Protective working cover included with delivery
- Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN – always one step ahead

#### Technical data

OPTION

- Large LCD display, digit height 25 mm
- Platform height in the drive-through area: 40 mm
- Dimensions weighing surface, steel, painted W×D 800×800 mm (Without ramps) W×D×H 1000×1000×40 mm
- Dimensions of display device W×D×H 235×114×51 mm
- Cable length of display device approx. 5 m
- Optional battery operation, 4×1.5 V AA not included in scope of delivery, operating time up to 60 h
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover over the display device, scope of delivery: 5 items, KERN EOB-A04BS05
- Pair of base plates to fix the weighing bridge to the floor, KERN BIC-A07

	Image: Second	DAkkS +3 DAYS		
Model	Weighing capacity	Readability	Net weight	Option DAkkS Calibr. Certificate
	[Max]	[b]	approx.	DAkkS
KERN	kg	kg	kg	KERN
NIB 300K-1	300	0,1	40	963-129
NIB 600K-2	600	0,2	40	963-130



## Drive-through scale (IP67) with XXL display device and EC type approval [M]

#### Features

- Drive-through scale for rapid weighing of e.g. wire cage trolleys, shelf trolleys, container trolleys, storage trolleys, sack trucks, transpallets, mobile containers, containers refuse etc.
- Low platform height and integrated access ramps on both sides facilitate access. No need for pit frame installation – which saves money
- Weighing bridge: out of anti-slip corrugated steel, 4 silicone-coated steel load cells, dust and spray protection IP67
- Display device: for details see KERN KFB-TM
- Protective working cover included with delivery
- Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN always one step ahead

#### Technical data

- Large backlit LCD display, digit height 52 mm
  Weighing plate dimensions
- Weighing plate dimensionsI W×D 1000×1000 mm (Without ramps)II W×D 1200×1200 mm (Without ramps)
- Overall dimensions
   W×D×H 1600×1200×80 mm
   W×D×H 1800×1400×80 mm
- Platform height in the drive-through area: 80 mm
- Dimensions of display device W×D×H
- 250×160×58 mm • Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Protective working cover, scope of delivery 5
   items, KERN KFB-A02S05
- Stand to elevate display device, Height of stand approx. 800 mm, KERN BFS-A07
- Pair of base plates to fix the weighing bridge to the floor, KERN BFS-A06
- Internal rechargeable battery pack, operating time up to 35 h without backlight, charging time approx. 10 h, must be ordered at purchase, KERN KFB-A01









- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, not in combination with verification.
   When installing the Bluetooth data interface, the RS-232 data interface can no longer be used, KERN KFB-A03
- Analogue module, not possible in combination
   with signal lamp
- Analogue module 0-10 V, must be ordered at purchase, KERN KFB-A04
- Analogue module 4–20 mA, must be ordered at purchase, KERN KFB-A05
- In not possible in combination with analogue module, Signal lamp for visual support of weighing with tolerance range, KERN CFS-A03
- S Large display with superior display size, KERN YKD-A02
- Y-cable for parallel connection of two terminal devices to the RS-232 interface on the scale, e.g. signal lamp and printer, KERN CFS-A04
- Cable with special length 15 m, between display device and platform, for verified models which must be ordered at the time of purchase, KERN BFB-A03
- Further details, plenty of further accessories and suitable printers see *Accessories*

**Note:** For verified scales the weighing bridge must be fixed to the floor. Optionally, with an access ramp, a footplate pair or a pit frame

Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs



pacity V Max]	/erific. value [d] = [e]	load	of display		plate	N/ 10	
viunj		[Min]	device approx.	approx.	plate	Verification	DAkkS Calibr. Certificate
ka				• :		MII	DAkkS
кд	кg	ĸg	111	кg		KERN	KERN
600	0,2	4	5	140	Α	965-230	963-130
600	0,2	4	5	165	В	965-230	963-130
500	0,5	10	5	140	A	965-230	963-130
500	0,5	10	5	155	В	965-230	963-130
6 6 5	00 500 500	00         0,2           00         0,2           500         0,5           500         0,5	00         0,2         4           00         0,2         4           500         0,5         10           500         0,5         10	00         0,2         4         5           00         0,2         4         5           500         0,5         10         5           500         0,5         10         5	00         0,2         4         5         140           00         0,2         4         5         165           500         0,5         10         5         140           500         0,5         10         5         155	00         0,2         4         5         140         A           00         0,2         4         5         165         B           500         0,5         10         5         140         A           500         0,5         10         5         155         B	kg         kg         KERN           00         0,2         4         5         140         965-230           00         0,2         4         5         165         965-230           500         0,5         10         5         140         965-230

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.

#### Drive-through scale KERN NFN



## Stainless steel drive-through scale (IP68) with stainless steel display device (IP65), with EC type approval [M]

#### Features

- Robust stainless steel drive-through scale for rapid weighing of e.g. laundry carts, container trolleys, roller containers, etc.
   Ideal for hospital laundry services, goods inwards, hospital kitchens, etc.
- Low platform height and integrated access ramps on both sides facilitate access. No need for pit frame installation – which saves money
- Ideal for the ever-increasing hygienic requirements in the food, pharmaceutical and chemical industries.
- Your support in a HACCP-compliant quality system
- Weighing bridge: stainless steel, extremely resistant to bending due to material thickness, 4 welded stainless steel load cells, dust and spray protection IP68. Weighing bridge can also be delivered as component without the display device, for details see KERN KFD-V40
- Display device: for details see KERN KFN-TM
- Totalising of weights and piece counts
- Internal rechargeable battery pack included with the delievery

Did you know? Our floor scales are delivered in a robust wooden box. This protects the high-quality weighing technology from environmental influences and stresses during transportation. KERN – always one step ahead

#### Technical data

- Large backlit LCD display, digit height 52 mm
- Weighing plate dimensions W×D 1000×1000 mm (Without ramps)
- Platform height in the drive-through area: 80 mm
- Overall dimensions W×D×H 1600×1200×80 mm
- Dimensions of display device W×D×H 266×165×96 mm
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

- Stand to elevate display device, height of stand approx. 750 mm, KERN YKP-02
- · Pair of base plates to fix the weighing bridge







- to the floor, KERN BFN-A03
- Internal rechargeable battery pack, operating time up to 35 h without backlight, charging time approx. 12 h, KERN GAB-A04
- Data interface RS-232, interface cable included, approx. 1,5 m, must be ordered at purchase, KERN KFN-A01
- Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, not in combination with verification. When installing the Bluetooth data interface, the RS-232 data interface can no longer be used, KERN KFB-A03
- Analogue module, must be ordered at purchase, Analogue module 0–10 V, KERN KFB-A04
- Analogue module 4–20 mA,
- KERN KFB-A05Isolar and the superior display size,
- KERN YKD-A02Cable with special length 15 m, between display device and platform, for verified
- models which must be ordered at the time of purchase, KERN BFB-A03
- For further details, plenty of further accessories and suitable printers, see Internet

**Note:** For verified scales the weighing bridge must be fixed to the floor. Optionally, with an access ramp, a footplate pair or a pit frame.

Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costsdevice on request.

Optionally configurable with IP68 display device on request, for details see chapter 13



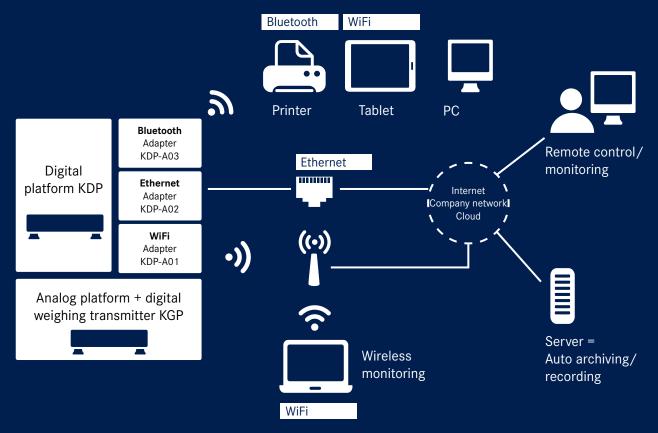
Model	Weighing	Readability =	Minimal load	Cable length	Net weight		Option
KERN	capacity [Max] kg	Verification value [d] = [e] kg	[Min] kg	of display device approx. m	approx.	Verification	DAkkS Calibr. Certificate DAkkS
	кg	кg	кg	111	kg	KERN	KERN
NFN 600K-1M	600	0,2	4	5	105	965-230	963-130
NFN 1.5T-4M	1500	0,5	10	5	105	965-230	963-130
		- 1 -		der verification at		verification at a later date is	,

Verification at the factory, we need to know the full address of the location of use.

ONLY WHILE STOCKS LAST!

126 Floor scales/Pallet scales/Drive-through scales

# WEIGHING SYSTEMS INDUSTRY 4.0



We will help to combine industrial production with the latest information and communication technology, with the aim of improving quality, reducing costs and using time and resources more efficiently so that you are able to react to future requirements in a more flexible manner. You will benefit from our uniform data protocol combined with our BalanceConnection 4.0 data software, for details please see page 174/175.

#### Industrial platform scale with digital weighing transmitter KERN KGP



Robust industrial platform scale with digital weighing transmitter, ideal for varied range of applications for Industry 4.0

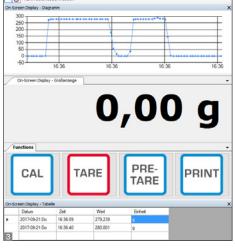
#### Features

12

- With this combination of platform II (KERN KFP V20 IP65) and digital weighing transmitter (KERN YKV-01) your weighing processes are ready for the requirements of Industry 4.0. Simply install the platform, connect the digital weighing transmitter to the network and start weighing
- For rapid transfer of weighing data to connected networks, computers, etc.
- USB and RS-232 data interface standard, Power supply via USB interface
- Transfer formats are freely configurable
- Digital weighing transmitter 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
- KERN YKV-01: Robust plastic die-cast housing
- KERN YKV-01: Suitable for wall mounting and DIN track mount (optional)
- Included with the delivery:
- Industrial platform KERN KFP
- Digital weighing transmitter KERN YKV-01
- 🛛 DIN rail mounting bracket for KERN YKV
- Configuration software for adjusting and managing the KERN KGP, 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.





#### **Technical Data**

- Weighing plate material: stainless steel
- KERN YKV-01: Overall dimensions W×D×H 100×140×36 mm
- Permissible ambient temperature -10 °C/ 40 °C

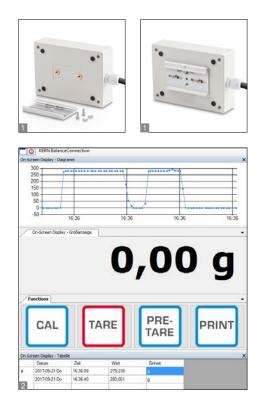
#### Accessories

- Bluetooth data interface, KERN YKV-A02
- WiFi interface, KERN YKV-A01
- · Ethernet data interface on request
- Software BalanceConnection, for flexible recording or transmission of measured values, in particular also to Microsoft® Excel or Access as well as transfer of this data to other Apps and programs, For more details see the internet, Scope of supplies: 1 CD, 1 license, KERN SCD-4.0

STANDARD		OPTION		FACTORY		
	KCP	📼 ۵۵۵	<b></b>	DAkkS	8	
CAL EXT RS 232 USB	PROTOCOL UNIT	IP 65 DMS	2 DAYS ET	+3 DAYS	BT 4.0 WI	FI LAN
	1	1				

Model	Weighing capacity	Read-out	Weighing plate W×D×H	Cable length approx.	Net weight approx.	Options DAkkS Calibr. Certificate
KERN	[Max] kg	[d] g	mm	m	kg	DAkkS KERN
KGP 6K-4	6	0,2	230×230×120	2,5	6	963-128
KGP 6K-4L	6	0,2	300×240×128	2,5	10	963-128
KGP 10K-4	15	0,5	300×240×120	2,5	6	963-128
KGP 10K-4L	15	0,5	400×300×128	2,5	10	963-128
KGP 30K-3	30	1	300×240×120	2,5	6	963-128
KGP 30K-3L	30	1	400×300×128	2,5	10	963-128
KGP 60K-3	60	2	400×300×128	2,5	10	963-129
KGP 60K-3L	60	2	500×400×137	2,5	14	963-129
KGP 100K-3	150	5	500×400×137	2,5	14	963-129
KGP 100K-3L	150	5	650×500×142	2,5	22	963-129
KGP 300K-2L	300	10	650×500×142	2,5	22	963-129





Modern digital weighing transmitter 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 digital weighing transmitter your weighing processes are ready for the requirements of Industry 4.0. Simply connect a weighing platform or load cell, integrate the digital weighing transmitter into the network and start weighing
- For rapid transfer of weighing data to connected networks, computers, etc.
- USB and RS-232 data interface standard, Power supply via USB interface
- Transfer formats are freely configurable
- Functions: Weighing, taring
- Measuring frequency 10 Hz
- Easy configuration using the software supplied
- Robust plastic die-cast housing

- I Suitable for wall mounting and DIN track mount
- Compatible with all KERN weighing platforms
- Included with the delivery:
- Digital weighing transmitter KERN YKV-01
- USB cable incl. mains plug
- DIN rail mounting bracket

- Configuration software for adjusting and managing, 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

#### **Technical Data**

- Overall dimensions W×D×H 100×140×36 mm
  Net weight approx. 0,35 kg
- Permissible ambient temperature -10 °C/40 °C

#### Accessories

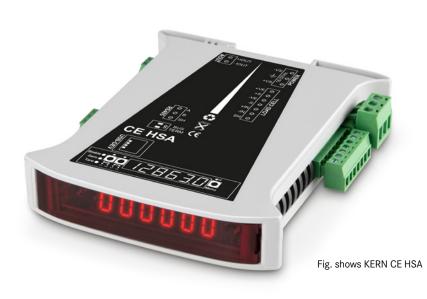
- Bluetooth data interface, KERN YKV-A02
- WiFi interface, KERN YKV-A01
- Software BalanceConnection, for flexible recording or transmission of measured values, in particular also to Microsoft® Excel or Access as well as transfer of this data to other Apps and programs, For more details see the internet, Scope of supplies: 1 CD, 1 license, KERN SCD-4.0

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#### Model

Standard interfaces











## Super compact display device (rail-mounted module) for installation in switch cabinets

#### Features

- Compact display unit for recording weighing data using strain gauge load cells, e.g. in industrial applications
- Due to its small size, it is particularly space-saving to install in switch cabinets
- Thanks to the many interface variants, the modules can be ideally integrated into existing infrastructures and systems
- In the modules can be used either individually or as a Buslink system with a total of up to 332 DIN rail modules
- The configuration of the module can be carried out conveniently via a connected PC with the suitable software (Download see Internet)
  - Bright LED display for optical control and settings
- Time-saving G-Cal<sup>™</sup> (Geographic Calibration) technology for fast and accurate calibration without weights conveniently over a network or the Internet worldwide
- Convenient communication via remote devices
- Backup and restore function via USB port

**Communication Interfaces** 

- Can handle various industrial protocols such as Ethernet IP, Modbus TCP, Modbus RTU, FINS, PROFIBUS DP and PROFINET (according to model)
- Extremely high measurement frequency possible, up to 1600 data records/s
- Internal resolution 24 Bit

#### **Technical Data**

- 7 segment LED display, digit height 7,62 mm
- Dimensions W×D×H 120×101×23 mm
- Power supply 18-32 Vdc; 4 W max.
- Load cell power supply 5 Vdc
- Sensitivity 0,1  $\mu\text{V/d}$
- Adjustable nominal sensitivity: 1; 1.5; 2; 2.5; 3 mV/V
- Input voltage Unipolar @3mV/V: -1 mV to +16 mV
- Input voltage Bipolar @3mV/V: -16 mV to +16 mV
- Max. load cell impedance: 1200Ω
- Min. load cell impedance: 43,75  $\boldsymbol{\Omega}$
- Max. no. of load cells 350 Ω: 8
- Max. no. of load cells 1000  $\Omega{:}$  22
- Max. number of d: 10.000

- Display steps: 1, 2, 5, 10, 20, 50, 100, 200
- Permissible ambient temperature  $-10 \ ^{\circ}C/40 \ ^{\circ}C$

#### Accessories

- Mains adapter for voltage supply to the KERN CE, can be fitted on the DIN rail, KERN CE HSS
- Large display with superior display size, KERN YKD-A02
- For further accessories, such as load and load cells, torque sensors and weighing platforms (strain gauge based only) from the SAUTER and KERN range, see www.sauter.eu
- Further accessories such as DIN rail, housing as well as individual assembly, configuration, adjustment, etc. on request

Note: Models also available with verification approval, please enquire

Analog output

Model

KERN CE HSA USB 0/4-20/24mA USB CE HSAIO 3 input/4 output 0/4-20/24mA CE HSE USB, Ethernet 3 input/4 output USB, PROFIBUS CE HSP 3 input/4 output CE HSR USB, RS232/422 3 input/4 output CE HSN USB, PROFINET 3 input/4 output

Digital I/O



## 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
- A practical status LED informs about the active power supply
- 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
- Draught shield standard for models with weighing plate size Ø 105 mm, weighing space W×D×H 146×146×80 mm
- Included with the 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
 Ø 105 mm, plastic, with conductive lacquer
 W×D 160×160 mm, stainless steel, see larger picture

0,00 g

PRINT

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PRF

TARE

- 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
- WiFi data interface to transfer data from balances to PC or tablet, must be ordered at purchase, KERN YMI-A01
- Ethernet data interface, to connect an IP-based Ethernet network, continuous data transfer, must be ordered at purchase, KERN KDP-A02



Model	Weighing capacity [Max]	Read-out [d]	Reproducibility	Linearity	Weighing plate	Options DAkkS Calibr. Certificate DAkkS
KERN	g	g	g	g	mm	KERN
KDP 300-3	350	0,001	0,002	± 0,005	A	963-127
KDP 3000-2	3500	0,01	0,02	± 0,05	В	963-127
KDP 10K-4	10000	0,1	0,1	± 0,3	В	963-128
KDP 10K-3	10000	1	1	± 3	В	963-128

# WE CAN MAKE YOUR WEIGHING DATA DIGITAL – KERN EASY TOUCH

The KERN EasyTouch software combines the performance of KERN scales with the flexibility of a Windows or Android environment.

The modular system solution for efficient weighing – perfect for your individual requirements

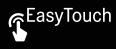




## See for yourself the many benefits of the new KERN EasyTouch App:

- $\rightarrow$  Greater efficiency through short workflows for the user
- $\rightarrow$  Greater security of the measuring results
- $\rightarrow$  Avoiding measuring and process errors
- $\rightarrow$  Unlimited master data memory
- $\rightarrow$  Central data storage and data security (tamper-proof)
- $\rightarrow$  Interfaces to ERP, PPS, etc. systems

All details about the new KERN EasyTouch App can be found at **www.kern-sohn.com/easytouch-app/en** 





See for yourself how convenient and easy it is to use KERN EasyTouch

## Working with the KERN EasyTouch is so easy



- $\rightarrow$  A standard balance is connected to an external laptop/tablet
- $\rightarrow$  The performance of the balance is transferred to the terminal device 1:1
- → Even simpler control and use of data by expanding the user interface
- $\rightarrow$  The data is integrated directly in the process and this means it can continue to be used and stored
- $\rightarrow$  Errors in the process or application are
- avoided  $\rightarrow$  In this way a simple balance becomes a
- highly-complex measuring device
- → The recorded data can be processed further in a flexible way

## The EasyTouch App – these functions are included:

- Operating system with Basic Weighing and Laboratory Package
- At present 14 optional add-on functions
- Data storage functions (local or cloud-based)
- On request we can also offer tailor-made solutions get in touch with us



KERN EasyTouch App - download now from Microsoft Store® (for Windows®) or Google Play Store<sup>®</sup> (for Android<sup>™</sup>)



## Test it without any risk and free of charge it's that easy!



#### Load the basic App from the Appstore

The KERN EasyTouch App already contains many helpful functions.

Connect the devices you need Connect to devices using the four interfaces provided (Bluetooth, wired or USB adapter or WiFi).

#### Test the basic package for 6 weeks, without obligation and free of charge

After 6 weeks you can decide whether to continue using the Apps. With absolutely no loss of data.

## Talk to the professionals

Our KERN EasyTouch specialists will gladly inform and advise you on all questions regarding the new KERN EasyTouch App

### KERN EasyTouch - You have the following options



- $\rightarrow$  Wired through RS 232 interface cable + USB adapter AFH 13
- $\rightarrow$  Bluetooth through RS 232 interface cable + ET Connect Box YKI-14 Bluetooth
- → Ethernet through RS 232 interface cable + YKI-01 Ethernet
- $\rightarrow$  WLAN through RS 232 interface cable + YKI-03 WLAN

#### YOUR BENEFITS OF THE KERN EASYTOUCH SOFTWARE

- $\rightarrow$  You only pay for the functions that you use
- → Expansion of the range of services of your balance to meet your individual ideas and preferences
- → Easy control of your balances from wherever you currently are: laboratory, production, office control of a PC, laptop or a tablet
- → Tamper-proof storage of all weighing data on a central server, in an orderly database

### KERN EasyTouch – available right now for the following KERN ranges/models:

KERN BALANCI	ES / WEIGHING PLATI	FORMS		SCALES FROM OTHER MANUFACTURERS
440	EW/EG	KDP	PCD	Mettler-Toledo International Inc., USA, CH
572	EWJ	KFB-TM	PBS/PBJ	Minebea Intec GmbH, DE (ex Sartorius Industrie)
ABS/ABJ	FCB	KFC-TM	PES/PEJ	Ohaus Corp., USA
ADB/ADJ	FES/FEJ	KFN-TM	PLS/PLJ	Precisa Gravimetrics AG, CH
ALS/ALJ	FKB	KGP	PNS/PNJ	Radwag Wagy, PL
BFB	GAB	KIB-TM <sup>(1)</sup>	PWS	Sartorius AG, DE
BFN	IFB	KIC-TM	SFB	SysTec Systemtechnik/Industrieautomation GmbH, DE
BID <sup>(1)</sup>	IFS	KXS-TM	SXS	
CFS		NFB	UFA	
CKE	IXS	NFN	UFB	
DS	КВ	PCB	UID	

<sup>(1)</sup>Verified operation: Weighing data from legally regulated uses can be stored and archived in KERN EasyTouch in conformity with standards, by using models from this product family with valid calibration and measurement value memory. This standard-compliant data storage also applies to SaveServer and SaveCloud.

Depending on the model and connection type (USB, Bluetooth, Ethernet, WiFi), please contact KERN specifically, as there may currently still be restrictions on the possible combinations.

**TIPP:** Other KERN ranges can be adapted to be EasyTouch compatible – keep up-to-date with the latest new on **www.kern-sohn.com/easytouch-app/en** 



**Note:** All KERN models which are EasyTouch compatible are marked with the relevant symbol in the catalogue!

## EasyTouch function at a glance

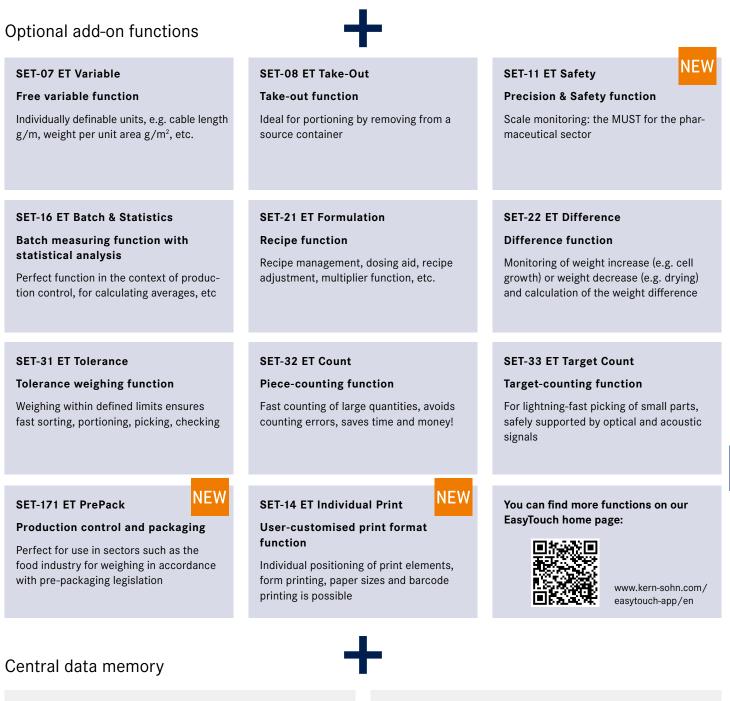
## Basic Package - Operating system

### SET-01 ET OS

Basic Weighing & Laboratory Package

The basic package contains many useful functions such as weighing, totalizing, target dispensing and percentage weighing. As well as the local master data administration and management of the weighing results.

The basic package can be expanded at any time with additional, optional add-on functions.



SET-10 ET Save-Data Server

Weight storage and Save-Server function

Central storage of weighing and measuring data in a network

#### SET-101 Save-Data Cloud

#### Weight storage and Save-Server function in the cloud

Central storage of weighing and measuring data in the cloud, tamper-proof

12

# **DISPLAY DEVICES** PLATFORMS/ WEIGHING BRIDGES

#### Customized individual weighing systems, without verification

KERN offers a range of KERN display devices and KERN weighing units, such as platform scales, floor scales, pallet scales and drive-through scales, which you can customize to make your ideal scale. You choose the components, KERN handles the rest.

#### Assembly

KERN delivers the complete scale which is ready to use. Prices for assembly can be found in the "Assembly" price table. On request we can also create a calibration certificate in accordance with DAkkS at an additional price, see page 210 ff.

#### Customizing individual weighing systems which can be verified or are verified

In order to provide the complete package, as well as assembling your individual weighing system, KERN will also carry out the manufacturer's initial verification/evaluation for conformity in accordance with EC directives as a commercial scales of verification class III.

In accordance with the European verification regulations, when assembling a display device with a weighing unit you must take the following notes into account:

- Only elements which can be verified with type approval or OIML test certificate can be combined into a weighing system which can be verified. Possible models are marked with "M".
- Platforms with load cells, provided as third-party products which have an OIML test certificate can be included.
- It will not be possible to carry out verification at a later date, e.g. after assembly and delivery of the weighing system. So please order the verification at the same time as you order the weighing system.

You will find a wide variety of display devices, platforms, weighing bridges, etc. in KERN's product range and these can be put together to create your ideal scale. You simply choose the components, KERN handles the rest.



### The individual KERN steps:

1. Proof of compatibility	Weighing capacity	Model
This is mandatory by law and includes testing by using type approvals, whether the connection values of the display device match the connection	0 up kg	KERN
data of the weighing unit.	all Weighing capacities	965-240
2. Assembly	up ≤ 50 kg	965-411
After testing for suitability using the proof of compatibility, the weighing	up ≤ 350 kg	965-412
system will be hard wired by KERN. The weighing system will then be tested	up ≤ 1500 kg	965-413
in accordance with regulations of 2014/31/EU, the European directive for non-automatic weighing instruments and prepared for conformity assessment.	up ≤ 2900 kg	965-414
	up ≤ 6000 kg	965-415
3. Initial verification by the manufacturer	up≤5 kg	965-227
Conformity assessment ("Initial verification by the manufacturer")	up ≤ 50 kg	965-228
KERN is authorised to carry out the conformity assessment ("initial verification	up ≤ 350 kg	965-229
by the manufacturer") in accordance with 2014/31/EU, the European directive for non-automatic weighing instruments and is therefore authorised to	up ≤ 1500 kg	965-230
introduce the weighing system onto the market, after the test has been carried	up ≤ 2900 kg	965-231
out successfully and the conformity mark has been affixed.	up ≤ 6000 kg	965-232

#### 4. Declaration of conformity

KERN issues this after the initial verification by the manufacturer Conformity assessment has been carried out successfully and sends it with the weighing system at no additional cost, and it can be used in areas regulated by law.

### Modifications and special services

Description	Model	
	KERN	
Cable extensions for platform scales		
up to 4 m extension	965-403	
up to 7 m extension	965-404	
up to 20 m extension	965-405	
Individual settings		
Scale with NAWI conformity evaluation, only in combination with KERN 965-240	965-401	
Other adjustments in the balance or software changes	965-407	

Plug connection (replaces the fixed cable connection between the display device and platform with a plug connection which can be disconnected)

Balances with type approval, no verification	965-406
Balances with type approval and verification (according to time spent)	only possible with separable, verifiable plug connection with identification chip (e.g. KERN KIB-A12), for the corresponding models (e.g. IOC, BID, UID) please order when purchasing

II Delivery time for modifications & special services approx. 5-8 working days

### Order example

	Model	
KFP 30V20M platform and KEN-TM display device with		
cable extension (4 m) and setting an individual preload.	KERN	
KERN platform	KFP 30V20M	
KERN display device	KFN-TM	
Proof of compatibility	965-240	
Cable extension	965-403	
Setting the preload	965-401	
Assembly	965-411	
Verification at the factory KERN	965-228	

13

# NOTHING IS IMPOSSIBLE – KERN CUSOS

Perfectly working weighing solutions with customized platform sizes, specific software solutions and coordinated peripherals - to suit your processes.

Our KERN Customized Solution Service offers maximum freedom of choice - give it a try.

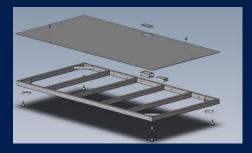
## KERN CUSOS – Perfectly tailored to you and your requirements

Powerful balances and efficient weighing systems which support you in your work, should be adapted to your individual requirements. Standard models are therefore not sufficient under some circumstances.

For this reason, at KERN it is our pleasure to work with you to develop a solution which is appropriate and tailor-made for you. From a range of platform sizes through to personalised weighing systems within large production plants, we can provide the right measuring technology.

Through close collaboration with your engineers and users, we first check the special requirements for your application. Using this data we will put together the appropriate platform scale, floor scale or a completely personalised weighing system for you, to fit your requirements perfectly.









Our service for you: Individual weighing solutions

Fig.: Example of a design for personalised platform scales in the floor scale sector

Ideal for the most varied requirements, e.g. for weight measurement on roller conveyors in automation processes and packing stations

For perfect integration into existing and newly configured processes: individual platform construction in individual formats



Choose from a wide range of display devices. Economical and lightweight (plastic version), robust and water-resistant (stainless steel version), with numeric key pad, battery or mains operation or the most varied interfaces.

Load cells to construct automatic weighing systems such as filling or dosing systems, such as might be used, for example, in manufacturing or filling processes in the chemical industry, construction industry, mineral industry, etc. On many occasions, load cells are also used in the construction of checkweighers or for installation into packaging machines of any type in the food industry. The weighing data can be forwarded to peripheral devices such as signal lamps, printers and laptops or be used to switch valves, or similar devices.

#### What's your individual requirement?

Just tell us the size you want and the material you want for your platform and other essential construction details – done! We'll take care of the implementation.

From page 136 you will find a selection of our platforms, load cells and evaluation devices - the starting point for your individual system solution !



**Tip:** Save money and ask our experts. Maybe your desired combination is already included in our standard range?

#### Display devices KERN KFB-TM · KFS-TM



#### KERN KFB-TM

Display device with large digits - easy to read and optional analogue output for controlling systems (PLC) etc.



#### KERN KFS-TM

Professional indicator with 3 displays, also with EC type approval [M]

## Tip

to see what options are offered by this display device, please see the KERN platform scale IFB on page 106

### Tip

to see what options are offered by this display device, please see the KERN counting scale IFS on page 86

STANDARD			STANDARD		
CAL EXT RS 232 PROTOCO	GLP	SUM UNIT	CAL EXT MEMORY RS 232	KCP GLP INTERN PCS	SUM
STANDARD	OPTION	FACTORY	STANDARD	OPTION	FACTORY
MOVE MULTI 1 DAY	ET ACCU	BT 2.0 ANALOG	TOL MULTI 1 DAY	ET ACCU	Μ

- not possible in combination with verification. When installing the Bluetooth data interface, the RS-232 data interface can no longer be used \*\* not possible in combination with signal lamp.
- When installing the analogue module, the RS-232 data interface can no longer be used

Management or ERP system, Compatible

		data in
Features	Model KERN	Model KERN
	1 KFB-TM	KERN KFS-TM
Display (segments)	5 + 1/2 digits	6 digits
EC type approval	yes	yes
Resolution verifiable	6000 e	3000 e
Resolution non verifiable	30000 d	60000 d
Weighing capacities	≤ 2	≤ 2
Weighing units	kg, lb	kg, g
Readability	1, 2, 5, 10, n	1, 2, 5, 10, n
Piece counting with reference	10, 20, 50, 100, 200	n
Display, digit height	Backlit LCD display, 52 mm	Backlit LCD displays, 13/16,5 mm
Additional functions	Totalising, HOLD function, Integrated	99 item memories, totalising,
	KERN Communication Protocol (KCP),	printing of date and time, Integrated
	ideal for connecting an Merchandise	KERN Communication Protocol (KCP),
	Management or ERP system, Compatib	le ideal for connecting an Merchandise

with the KERN EasyTouch App

		with the KERN EasyTouch App
Strain gauge load cells	87 - 1600 Ω	87 - 1600 Ω
Linearisation	3 points	4 points
Input voltage	12 V, 500 mA	12 V, 500 mA
Permissible ambient temperature	-10 °C/40 °C	0 °C/40 °C
Interface RS-232	yes	yes
2. Interface RS-232, separate Y cable	CFS-A04	CFS-A04
Interface RS-485	-	-
Interface USB	-	-
Interface Bluetooth	KERN KFB-A03, see page 97	-
Analogue module	0-10V: KERN KFB-A04	
	4–20 mA: KERN KFB-A05 see page 97	-
Signal lamp	CFS-A03	CFS-A03
Foot switch	-	-
Stand	BFS-A07, see page 97	BFS-A07, see page 78
Benchtop stand for display device/wall mount	yes/yes	yes/yes
Protective working cover	KFB-A02S05, see page 97,	KFB-A02S05, see page 78,
Rechargeable battery pack	KFB-A01, see page 97,	KFB-A01, see page 78,
Operating/charging time	up to 35 h/12 h	up to 40 h/12 h
Dimensions Housing W×D×H	250×160×65 mm	260×150×65 mm
Net weight	1,2 kg	1,5 kg

#### Display devices KERN KIB-TM · KFN-TM



#### KERN KIB-TM

Practical Flip/Flop display device for greatest ease of use

- 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. Factory Option ex works for an additional cost, delivery time + 2 working days, KERN KIB-M01
- Industry 4.0: A large number of (optional) data interfaces enable convenient transferring weighing data to tablets, labtops, PCs, networks, smartphones, printers, etc.
- Searching and remote control of the balance using external control devices or computers with the KERN Communication Protocol (KCP).





\* Note: In addition to the RS-232 data interface, which is integrated as standard, only one other data interface can be installed and operated

Features	Model KERN	Model KERN
	3 KIB-TM	4 KFN-TM
Display (segments)	6 digits	5 + 1/2 digits
EC type approval	ves	yes
Resolution verifiable	6000 e	6000 e
Resolution non verifiable	60000 d	30000 d
Weighing capacities	≤ 2	≤ 2
Weighing units	kg, g	kg
Readability	1, 2, 5, 10, n	1, 2, 5, 10, n
Piece counting with reference	5, 10, 20, 25, 50, 100	10, 20, 50, 100, 200
Display, digit height	Backlit LCD display, 24 mm	Backlit LCD display, 52 mm
Additional functions	Totalising, HOLD function, printing of time. KCP Only possible through RS-232 USB, Bluetooth, WiFi, Digital I/O, LAN on request	Totalising, HOLD function ;
Strain gauge load cells	87-1100 Ω	87 - 1600 Ω
Linearisation	3 points	3 points
Input voltage	12 V DC, 1000 mA	12 V, 500 mA
Permissible ambient temperature	-10 °C/40 °C	-10 °C/40 °C
Interface RS-232	ves*	KFN-A01, see page 62
Interface RS-485	-	-
Interface USB	KIB-A03*, see page 102	_
Interface Bluetooth	KIB-A04*, see page 102	-
WiFi	KIB-A10*, see page 102	_
SWITCH (DIGITAL I/O)	-	_
LAN	KIB-A02*, see page 102	-
Alibi memory	KIB-A01	_
Analogue module	-	0-10V: KERN KFB-A04 4-20 mA: KERN KFB-A05 see page 97
Stand	EOC-A05, see page 102	BFS-A07, see page 62
Benchtop stand for display device/wall mount		yes/yes
Protective working cover	EOC-A01S05	-
Rechargeable battery pack	KFB-A01, see page 102	GAB-A04
Operating/charging time	up to 43 h/3 h	up to 35 h/12 h
Dimensions Housing W×D×H	268×115×70 mm	266×165×96 mm
Net weight	0,8 kg	2,6 kg

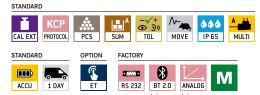


#### KERN KFN-TM

Stainless steel display device with IP65 protection and superior display size and optional analogue output for controlling systems (PLC) etc.

## Tip

to see what options are offered by this display device, please see the KERN SFB platform scale on page 71



- not possible in combination with verification. When installing the Bluetooth data interface, the RS-232 data interface can no longer be used
- \*\* not possible in combination with signal lamp. When installing the analogue module, the RS-232 data interface can no longer be used

13

#### Platforms KERN KFP · KXP



#### KERN KFP-V20 IP65

Platform



- Stainless steel-weighing plate,
   A Painted steel base
- 1 load cell, aluminium, silicone-coated, IP65, OIML-R60-approved, class III, 3000 e
- Level indicator and levelling feet for precise levelling of the scale



#### KERN KXP-V20 IP65

#### Platform



- Stainless steel-weighing plate, 
  Painted steel base, extremely rigid, wing design
- 1 load cell, aluminium, silicone-coated, IP65, OIML-R60-approved, class III, 3000 e
- Level indicator and levelling feet for
- precise levelling of the scale

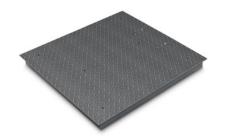
Other platform sizes, special construction, individual scale construction according to your individual requirements, also possible with third-party components, please enquire





Model	Weighing range [Max]	Readability [d]	Verification value [e]	Min. Ioad [Min]	Cable length approx.	Net weight approx.	Weighing plate W×D×H
KERN	kg	g	g	g	m	kg	mm
Platform KFP-V2	0 IP65						
KFP 3V20M	3	0,1	1	20	2,5	3,6	230×230×105
KFP 6V20M	6	0,2	1   2	40	2	3,6	230×230×105
KFP 6V20LM	6	0,2	1   2	40	2,5	6	300×240×105
KFP 15V20M	15	0,5	2   5	100	2	6	300×240×105
KFP 15V20LM	15	0,5	2   5	100	2,5	10	400×300×125
KFP 30V20SM	30	1	10	200	2,5	6	300×240×105
KFP 30V20M	30	1	5   10	200	2	10	400×300×125
KFP 60V20M	60	2	10   20	400	2	10	400×300×125
KFP 60V20LM	60	2	10   20	400	2	10	500×400×130
KFP 150V20M	150	5	20   50	1000	2	10	500×400×130
KFP 150V20LM	150	5	20   50	1000	2	22	650×500×135
KFP 300V20M	300	10	50   100	2000	2	22	650×500×135
KFP 600V20AM	600	20	200	4000	2,5	46	800×600×190
2 Platform KXP-V	20 IP65						
KXP 6V20LM *	6	0,2	1   2	40	3	3,2	300×240×90
KXP 15V20M *	15	0,5	2   5	100	3	3,2	300×240×90
KXP 15V20LM *	15	5	5	100	3	8	400×300×90
KXP 30V20M *	30	1	5   10	200	3	8	400×300×90
KXP 30V20LM *	30	1	5   10	200	3	18	500×400×123
KXP 60V20M *	60	2	10   20	400	3	11	400×300×90
KXP 60V20LM *	60	2	10   20	400	3	22	500×400×123
KXP 150V20M *	150	5	20   50	1000	3	18	500×400×123
KXP 150V20LM *	150	5	20   50	1000	3	34	650×500×133,5
KXP 300V20M *	300	10	50   100	2000	3	34	650×500×133,5

\* ONLY WHILE STOCKS LAST!

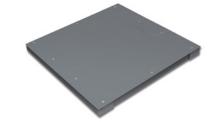


#### KERN KIP-V20M

#### Weighing bridge



- Weighing bridge with non-slip chequer plate, lacquered, welded
- 4 Load cells, steel, silicone-coated, IP67, OIML-R60-approval for verification, class III, 3000 e
- · Can be built in using pit frames (optional)
- Level indicator and levelling feet for precise levelling of the scale
- Easy access to the junction box from the top
- Comfortable levelling of the weighing bridge from the top
- Accessories see KERN BID, page 114/115

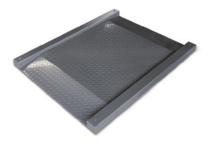


#### KERN KFP-V20 IP67

#### Weighing bridge



- I Weighing plate screwed on from the top (models with [Max] ≤ 1500 kg), so it easy to remove, hygienic and easy to clean.
- Lacquered steel weighing bridge, weighing plate size 1500×1500×130 mm corrugated steel plate. Extremely resistant to bending due to material thickness
- 4 Load cells, steel, silicone-coated, IP67, OIML-R60-approval for verification, class III, 3000 e
- Can be built in using pit frames (optional)
- Level indicator and levelling feet for precise levelling of the scale
- Easy access to the junction box from the top
- Comfortable levelling of the weighing bridge from the top
- Accessories see KERN BFB, page 116/117



#### KERN KFD-V20

#### Weighing bridge



- Weighing bridge made of non-slip corrugated steel plate, lacquered, two access ramps integrated, extremely resistant to bending
- Extremely flat construction to facilitate access: access height only 45 mm
- 4 Load cells, alloy steel, silicone-coated, IP67, OIML-R60-approved class III, 3000 e
- Accessories see KERN NFB page 125



Model	Weighing range	Readability	Verification value	Min. Ioad	Cable length approx.	Net weight approx.	Weighing plate
	[Max]	[d]	[e]	[Min]			W×D×H
KERN	kg	g	g	g	m	kg	mm
3 Weighing bridge k	(IP-V20M						
KIP 600V20SM	600	200	200	4000	5	130	1000×1000×108
KIP 600V20M	600	200	200	4000	5	150	1500×1200×108
KIP 1500V20SM	1500	500	500	10000	5	130	1000×1000×108
KIP 1500V20EM	1500	500	500	10000	5	140	1200×1000×108
KIP 1500V20M	1500	500	500	10000	5	150	1500×1200×108
KIP 3000V20M	3000	1000	1000	20000	5	150	1500×1200×108
KIP 3000V20LM	3000	1000	1000	20000	5	180	1500×1500×108
Weighing bridge k	(FP-V20 IP67						
KFP 600V20SNM	600	200	200	4000	5	105	1000×1000×80
KFP 600V20NM	600	200	200	4000	5	135	1500×1250×80
KFP 1500V20SNM	1500	500	500	10000	5	105	1000×1000×80
KFP 1500V20NM	1500	500	500	10000	5	135	1500×1250×90
KFP 3000V20NM	3000	1000	1000	20000	5	135	1500×1250×90
KFP 3000V20LNM	3000	1000	1000	20000	5	155	1500×1500×80
KFP 6000V20M	6000	2000	2000	40000	5	210	1500x1500x130
5 Weighing bridge k	(FD-V20						
KFD 600V20M	600	200	200	4000	5	125	1600×1200×78
KFD 600V20LM	600	200	200	4000	5	155	1800×1400×80
KFD 1500V20M	1500	500	500	10000	5	125	1600×1200×78
KFD 1500V20LM	1500	500	500	10000	5	175	1800×1400×78

3

Weighing beams/U-Weighing bridges/Stainless Steel Platforms KERN KFA · KFU · KFP



### KERN KFA-V20

#### Weighing beams



- Weighing beams and painted steel base
- 4 load cells, alloy steel, silicone-coated, IP67
  Levelling feet for precise levelling of the
- weighing beams
- Connection cable, length 5 m
- Image below: Version up to 6 t available.
   Each weighing beam has a roller and handle for easy transport of the scale (KERN KFA-L)
- Special feature: model with short weighing beams, ideal for weighing compact items or animals in transport boxes
   KERN KFA-600V20S
- Accessories see KERN UFA, page 119



#### KERN KFU-V20/V30

#### U-Weighing bridge



- Load range: painted steel (V20), stainless steel (V30) height 90 mm
- 4 load cells, alloy steel, silicone-coated, IP67, OIML-R60-approval for verification, class III, 3000 e
- 2 rollers and handle for easy transport of the scale
- Accessories KFU-V20 see KERN UFB, page 122
- Accessories KFU-V30 see KERN UFN, page 123



#### KERN KFP-V30

#### Platform



- Stainless steel-weighing plate,
   I Stainless steel substruction
- 1 load cell, Stainless steel, silicone-coated, IP67, OIML-approved, class III, 3000 e
- Level indicator and levelling feet for precise levelling of the scale





I	Model	Weighing range	Readability	Verification value	Min. Ioad	Cable length approx.	Net weight approx.	Weighing plate	
		[Max]	[d]	[e]	[Min]			W×D×H	
	KERN	kg	g	g	g	m	kg	mm	
Ī	6 Weighing beams k	(FA-V20							
T T	KFA 600V20S	600	200	-	-	5	30	800×120×100	
	KFA 1500V20	1500	500	-	-	5	36	1200×120×100	
	KFA 3000V20	3000	1000	-	-	5	36	1200×120×100	
	KFA 3000V20L	3000	1000	-	-	5	65	2000×120×100	
	KFA 6000V20	6000	2000	-	-	5	85	1200×160×80	
	KFA 6000V20L	6000	2000	-	-	5	125	2100×160×85	
	7 U-Weighing bridge	e KFU-V20							
	KFU 600V20M	600	200	200	4000	5	55	840×1350×90	
	KFU 1500V20M	1500	500	500	10000	5	55	840×1350×90	
	7 Stainless steel U-	Weighing bridge	e KFU-V30						
	*	600	200	200	4000	5	55	840×1350×90	
	KFU 1500V30M*	1500	500	500	10000	5	55	840×1350×90	
	8 Stainless steel plant	atform KFP-V30							
	KFP 15V30M	15	0,5	5	100	2,5	5,0	300×240×100	
	KFP 30V30SM	30	10	10	200	2,5	5,0	300×240×100	
	KFP 30V30M	30	1	10	200	2,5	10	400×300×128	
	KFP 60V30M	60	2	20	400	2,5	10	400×300×128	
	KFP 60V30LM	60	2	20	400	2,5	10	500×400×137	
_	KFP 60V30XLM	60	2	20	400	2,5	22	650×500×142	
	KFP 150V30SM	150	5	50	1000	2,5	10	400×300×128	
	KFP 150V30M	150	5	50	1000	2,5	10	500×400×137	
<u> </u>	KFP 150V30LM	150	5	50	1000	2,5	22	650×500×135	
	KFP 300V30M	300	10	100	2000	2,5	22	650×500×135	_

\* ONLY WHILE STOCKS LAST!

#### Stainles steel weighing bridges KERN KFP · KFD



#### KERN KFP-V40

#### Weighing bridge



- Weighing bridge entirely made of stainless steel, extremely resistant to bending because of its high material thickness
- • Weighing plate fixed with stainless steel screws, for easier access to the loadcells from above
- 4 load cells, stainless steel, encapsulated, IP68, OIML-R60-approved, class III, 3000 e
- Can be built in using pit frames (optional)
  Level indicator and levelling feet for
- precise levelling of the scale
- Comfortable levelling of the weighing bridge from the top
- Accessories see KERN BFN, page 118



#### III KERN KFD-V40

#### Weighing bridge



- Weighing bridge made from stainless steel, two integrated access ramps, extremely resistant to bending
- Extremely flat construction to facilitate access: access height only 45 mm
- 4 load cells, stainless steel, encapsulated IP68, OIML-R60-approval for verification, class III, 3000 e
- Level indicator and levelling feet for precise levelling of the scale
- Accessories see KERN NFN, page 126

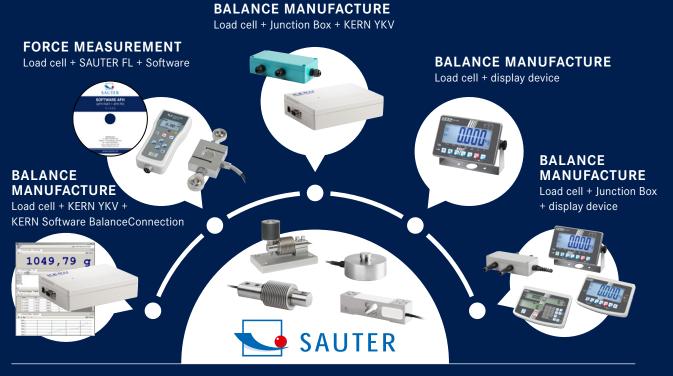


Model	Weighing range [Max]	Readability [d]	Verification value [e]	Min. Ioad [Min]	Cable length approx.	Net weight approx.	Weighing plate W×D×H
KERN	kg	g	g	g	m	kg	mm
Stainless steel w	eighing bridge K	FP-V40					
KFP 600V40SM	600	200	200	4000	5	95	1000×1000×80
KFP 1500V40M	1500	500	500	10000	5	135	1500×1250×80
KFP 1500V40SM	1500	500	500	10000	5	95	1000×1000×80
KFP 3000V40M	3000	1000	1000	20000	5	135	1500×1250×80
10 Stainless steel weighing bridge KFD-V40							
KFD 600V40M	600	200	200	4000	5	130	1600×1200×78
KFD 1500V40M	1500	500	500	10000	5	130	1600×1200×78

## LOAD CELLS

Accuracy classes with nominal loads from 300 g to 100 t and protection classes up to IP69K as well as cells protected according to ATEX or OIML approved cells are available to you from now in the SAUTER product range. Whatever the project – whether it's the development of customised weighing systems, installation in silos and storage tanks or in shelving for continuous inventory, for special application in mechanical engineering or in any type of test bench – SAUTER can offer you just the right load cell.

Of course, we can also supply you with the appropriate accessories such as load corners, pivot heads, display devices, junction boxes or the relevant calibration certificate at the same time. Any special requests? Do you need special load cells, other capacities or cable lengths, individual force test benches or a special mount for your test item? No problem, our product specialist for force-load cells Mr Stefan Herrmann is available at any time to help you further and will work with you to develop a customised concept for your application.



SAUTER load cells – integration opportunities





#### CP P4 · CP Y4

Single-point load cells made of anodised aluminium



- CP P4: Accuracy in accordance with OIML R60 C3
- CP Y4: Accuracy in accordance with OIML R60 C2
- CE and RoHS compliant
- Dust and spray protection to IP65 (in accordance with EN 60529)
- Aluminium, anodised
- Suitable for price-computing scales, bench scales, platform scales, etc.
- Maximum platform size 200×200 mm
- 4-wire connection
- Nominal sensitivity: 0,9 mV/V

#### CP P1 · CP Y1

Single-point load cells made of anodised aluminium



- CP P1: Accuracy in accordance with OIML R60 C3
- CP Y1: Accuracy in accordance with OIML R60 C2
- CE and RoHS compliant
- Dust and spray protection to IP65 (in accordance with EN 60529)
- Aluminium, anodised
- Suitable for price-computing scales, bench scales, platform scales, etc.
- Maximum platform size 250×350 mm
- 4-wire connection
- Nominal sensitivity: 2 mV/V
- Note: Version in accordance with OIML R60 C4 or C5 on request

#### CP P3

Single-point load cells made of anodised aluminium



- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- Dust and spray protection to IP65 (in accordance with EN 60529)
- Suitable for price-computing scales, bench scales, platform scales, etc.
- Maximum platform size 350×400 mm
- 4-wire connection
- Nominal sensitivity: 2 mV/VNote: Version in accordance with
- OIML R60 C4 on request

Model	Nominal load	
SAUTER	kg	
CP 300-0P4	0,3	
CP 600-0P4	0,6	
Model SAUTER	Nominal load kg	
ECO design		
CP 300-0Y4	0,3	
CP 1500-0Y4	1,5	
CP 3000-0Y4	3	

SAUTER	kg	
CP 3-3P1	3	
CP 5-3P1	5	
CP 6-3P1	6	
CP 8-3P1	8	
CP 10-3P1	10	
CP 15-3P1	15	
CP 20-3P1	20	
CP 30-3P1	30	
CP 35-3P1	35	
CP 40-3P1	40	
CP 50-3P1	50	

Nominal load

Model		Nominal load	
SAUTER		kg	
CP 30-3P3	NEW	30	
CP 40-3P3	NEW	40	
CP 50-3P3		50	
CP 75-3P3		75	
CP 100-3P3	NEW	100	
New model			

#### Model

Model

Nominal load

SAUTER	kg				
ECO design (with	ECO design (without EC type approval)				
CP 3-2Y1	3				
CP 5-2Y1	5				
CP 10-2Y1	10				
CP 15-2Y1	15				
CP 20-2Y1	20				
CP 30-2Y1	30				

### Тір

Further details and technical data sheet as well as extensive accessories can be found online

#### Load cells SAUTER CP P2 · CP P7 · CP P8 · CP P9









#### **CP P2 · CP P8**

Single-point load cells of aluminium

1	STANDAR	D	OPTION		
	666		DAkkS	ISO	
	IP 65	1 DAY	+3 DAYS	+4 DAYS	

- Accuracy in accordance with OIML R60 C3
- RoHS compliant
- Dust and spray protection to IP65 (in accordance with EN 60529)
- · Aluminium, anodised
- Suitable for price-computing scales, bench scales, etc.
- Maximum platform size 100-300 kg: 400×400 mm
- Maximum platform size 400-500 kg: 450×450 mm
- Nominal sensitivity: 2 mV/V
- Note: Version in accordance with OIML R60 C4 or C5 on request

#### CP P7

Single-point load cells of stainless steel



- Accuracy in accordance with OIML R60 C3
  RoHS compliant
- Dust and spray protection to IP67 (in accordance with EN 60529)
- Stainless steel
- Application example: Weight as well as compressive force measurements under harsh environmental conditions
- Suitable for bench scales, price-computing scales

Nominal load

kg

30

50

75

100

150

- Maximum platform size 400×400 mm
- 6-wire connection

Model

SAUTER

CP 30-3P7

CP 50-3P7

CP 75-3P7

CP 100-3P7

CP 150-3P7

- Nominal sensitivity: 2 mV/V
- Note: Version in accordance with OIML R60 C4 on request

#### CP P9

Single-point load cells of stainless steel



- Accuracy in accordance with OIML R60 C3
  RoHS compliant
- Dust and spray protection to IP68/IP69K (in accordance with EN 60529 resp. ISO
- 20653), welded to create a hermetic seal
- Stainless steel
- Area of application: Weight measurement as well as compressive force in harsh environments
- Suitable for platform scales, checkweighers
- Maximum platform size 10–50 kg: 400×400 mm
- Maximum platform size 100-500 kg: 800×800 mm
- 4-wire connection (10-50 kg)
- 6-wire connection (100-500 kg)
- Nominal sensitivity: 2 mV/V

Model

SAUTER

CP 10-3P9

CP 20-3P9

CP 50-3P9

CP 100-3P9

CP 200-3P9

CP 300-3P9

CP 400-3P9

CP 500-3P9

• Note: Version in accordance with OIML R60 C4 or C5 on request

		-	
CP 100-3P2		100	
CP 150-3P2		150	
CP 200-3P2		200	
CP 300-3P2		300	
CP 400-3P2		400	
CP 500-3P2		500	
CP 100-3P8	NEW	50	
CP 150-3P8	NEW	100	
CP 200-3P8	NEW	150	
CP 250-3P8	NEW	200	
CP 300-3P8	NEW	250	
CP 500-3P8	NEW	300	
CP 50-3P8	NEW	500	
CP 600-3P8	NEW	600	
New model			
Tin			

Nominal load

kg

Model

SAUTER

Further details and technical data sheet as well as extensive accessories can be found online

Nominal load

kg

10

20

50

100

200

300

400

#### Load cells SAUTER CR Q1 · CR P1







Fig. shows accessories, load corner SAUTER CE Q42901, for further accessories please visit our online shop

#### CR Q1

Load cells made of stainless steel



- Accuracy in accordance with OIML R60 C1
- RoHS compliant
- Dust and spray protection to IP68 (in accordance with EN 60529), hermetically encapsulated
- Stainless steel
- Area of application: Weight measurement as well as compressive force
- Suitable for vehicle scales, weigh hoppers, vehicle testing equipment, test benches
- Nominal sensitivity: 2 mV/V

#### CR P1

Load cells made of stainless steel



- Accuracy in accordance with OIML R60 C3
- RoHS compliant
- Dust and spray protection to IP68 (in accordance with EN 60529), hermetically encapsulated
- Stainless steel
- Area of application: Weight measurement as well as compressive force
- Suitable for truck scales, suspended scales, silo scales and other diverse scales, test benches, etc.
- Nominal sensitivity: 1–2 mV/V

#### Accessories CR Q1:

- Load corner, steel, galvanised, suitable for CR Q1 with nominal load ≤ 10 t, SAUTER CE Q42901
- Load corner, steel, galvanised, suitable for CR Q1 with nominal load ≥ 20 t, SAUTER CE Q42902
- Load corner, steel, rustproof, suitable for CR Q1 with nominal load ≤ 10 t, SAUTER CE RQ42901
- Load corner, steel, rustproof, suitable for CR Q1 with nominal load ≥ 20 t, SAUTER CE RQ42902

#### Accessories CR P1:

- Load corner for CR 1000-3P1, CR 250-3P1, CR 500-3P1 Steel, incl. pressure piece, SAUTER CE P244011
- Pressure piece for CR 1000-3P1, CR 250-3P1, CR 500-3P1 steel, SAUTER CE P244012
- Load corner for CR 2000-3P1 steel, rustproof, incl. pressure piece, SAUTER CE P244021
- Pressure piece for CR 2000-3P1 steel, rustproof SAUTER CE P244022

Model	Nominal load	Model	Nominal load	
SAUTER		SAUTER		
CR 2500-1Q1	2,5 t/25 kN	CR 60-3P1	60 kg/0,6 kN	
CR 5000-1Q1	5 t/50 kN	CR 130-3P1	130 kg/1,3 kN	
CR 10000-1Q1	10 t/100 kN	CR 250-3P1	250 kg/2,5 kN	
CR 20000-1Q1	20 t/200 kN	CR 500-3P1	500 kg/5 kN	
CR 30000-1Q1	30 t/300 kN	CR 1000-3P1	1000 kg/10 kN	
** up to max. 25	t/250 kN	CR 2000-3P1	2000 kg/20 kN	
up to	c, 200 m.	* up to max 50	0 kg /5 kN	

up to max. 500 kg/5 kN

#### Tip

Further details and technical data sheet as well as extensive accessories can be found online







Fig. shows accessories, base plate 🚺 SAUTER CE Q30903 and bearings **2** SAUTER CE Q30904, for further accessories please visit our online shop



CB P1

Fig. shows optional accessory load corner 3 SAUTER CE P4022

#### CB Q1 · CB Q2

Bending beam and shear beam load cells made from stainless steel

STANDARD			OPTION
666	666	<b>R</b>	DAKKS <b>ISO</b>
IP 68	IP 69K	1 DAY	+3 DAYS +4 DAYS

- Accuracy in accordance with OIML R60 C3
- · CE and RoHS compliant
- Dust and spray protection to IP68/IP69K (in accordance with EN 60529), welded to create a hermetic seal
- · Stainless steel
- Area of application: Weight measurement as well as compressive force in harsh environments
- · Suitable for platform scales, weigh hoppers, floor scales and other weighing devices
- 4-wire connection
- Nominal sensitivity: 2 mV/V
- Note: Accuracy class OIML R60 C6 or EX version on request

Nominal load



Accuracy in accordance with OIML R60 C3

Load cells made from stainless steel

- · CE and RoHS compliant
- Dust and spray protection to IP67 (in accordance with EN 60529), hermetically encapsulated
- · Nickel-plated steel
- Area of application: Weight measurement as well as compressive force in harsh environments
- · Suitable for platform scales, silo scales, bed scales and other diverse scales

Nominal load

kg

100

250

4-wire connection

Model

SAUTER

CB 100-3P1

CB 250-3P1

Nominal sensitivity: 3 mV/V

#### Accessories CB Q1 · CB Q2:

- · Traction device, steel, galvanised, suitable for CB Q1, SAUTER CE Q30901
- · Traction device, steel, rustproof, suitable for CB Q2, SAUTER CE Q34905
- 11 Base plate, steel, galvanised, suitable for CB Q1, SAUTER CE Q30903
- · Base plate, steel, rustproof, suitable for CB Q1, SAUTER CE RQ30903
- · Base plate, steel, rustproof, suitable for CB Q2, SAUTER CE Q34903
- 2 Bearing, steel, rustproof, suitable for CB Q1 (nominal load 5 kg-50 kg), SAUTER CE Q30904
- Bearing, steel, rustproof, suitable for CB Q1 (nominal load 75 kg-300 kg), SAUTER CE Q30905
- Bearing, steel, rustproof, suitable for CB 500-3Q1, SAUTER CE Q30906
- Bearing, steel, rustproof, suitable for CB 750-3Q2, CB 1000-3Q2, CB 1500-3Q2, SAUTER CE Q34906
- Load corner, steel, galvanised, suitable for CB Q1, SAUTER CE Q30907
- · Load corner, steel, rustproof, suitable for CB Q1, SAUTER CE RQ30907

Accessories CB P1:

SAUTER CE P4022

· Adjustable foot, steel, rustproof, suitable for SAUTER CE Q34901

· Adjustable foot, steel, nickel-plated, load base M12 for CT 500-3P1, CT 1000-3P1 and

· Spacer plates for bending beam CB P1 made

CT 1500-3P1, SAUTER CE P2012 • **I** Load corner, steel, nickel-plated for CT 500-3P1, CT 1000-3P1 and CT 1500-3P1,

from steel, SAUTER CE P3012

13	
	S
	~

Model

SAUTER	kg	
CB 5-3Q1	5	
CB 10-3Q1	10	
CB 20-3Q1	20	
CB 30-3Q1	30	
CB 50-3Q1	50	
CB 75-3Q1	75	
CB 100-3Q1	100	
CB 150-3Q1	150	
CB 200-3Q1	200	
CB 250-3Q1	250	
CB 300-3Q1	300	
CB 500-3Q1	500	
CB 750-3Q2	750	
CB 1000-3Q2	1000	
CB 1500-302	1500	
* up to max. 500 kg		

to max. 500 kg

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Further details and technical data sheet as well as extensive accessories can be found online





Fig. shows optional accessory load corner SAUTER CE RQ35903





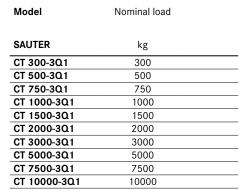
Fig. shows optional accessory load corner SAUTER CE P4022

#### CT Q1

Shear beam made from stainless steel

STANDARD			OPTION
666	666		DAKKS <b>ISO</b>
IP 68	IP 69K	1 DAY	+3 DAYS +4 DAYS

- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- Dust and spray protection to IP68/IP69K (in accordance with EN 60529), welded to create a hermetic seal
- Stainless steel
- Area of application: Weight measurement as well as compressive force in harsh environments
- Suitable for platform scales, weigh hoppers, flush-mounted floor scales and other weighing devices
- 6-wire connection
- Nominal sensitivity: 2 mV/V
- Note: EX version on request



\* up to max. 500 kg

### Tip

Further details and technical data sheet as well as extensive accessories can be found online

#### CT P1 · CT P2

Load cells made from stainless steel



- Accuracy in accordance with OIML R60 C3
- CE and RoHS compliant
- Dust and spray protection to IP67 (in accordance with EN 60529), welded to create a hermetic seal
- Nickel-plated steel
- Area of application: Weight measurement as well as compressive force in harsh environments
- Suitable for platform scales, weigh hoppers, flush-mounted floor scales and other weighing devices
- 4-wire connection

Model

- Nominal sensitivity: 3 mV/V
- Note: EX version, 6-wire connection and accuracy class C4 or C5 on request
- **CT P2:** Delivery with calibrated characteristic value, if several cells are ordered, this means significantly less effort when aligning the corners of a platform

Nominal load

SAUTER	kg	
CT 500-3P1	500	
CT 1000-3P1	1000	
CT 1500-3P1	1500	
CT 2500-3P1	2500	
CT 3000-3P1	3000	
CT 5000-3P1	5000	
CT 10000-3P1	10000	
CT 500-3P2	500	
CT 1000-3P2	1000	
CT 3000-3P2	3000	
CT 5000-3P2	5000	
CT 10000-3P2	10000	

up to max. 500 kg

#### Accessories CT Q1:

- Base plate, steel, rustproof, suitable for CT Q1, SAUTER CE RQ35911
- Base plate, steel, rustproof, suitable for CT 3000-3Q1, CT 5000-3Q1, SAUTER CE RQ35912
- Base plate, steel, rustproof, suitable for CT 7500-3Q1, CT 10000-3Q1, SAUTER CE RQ35919
- Bearing, steel, rustproof, suitable for CT Q1, SAUTER CE RQ35909
- Bearing, steel, rustproof, suitable for CT 3000-3Q1, CT 5000-3Q1, SAUTER CE RQ35910
- Bearing, steel, rustproof, suitable for CT 7500-3Q1, CT 10000-3Q1, SAUTER CE RQ35918
- Load corner, steel, rustproof, suitable for CT Q1, SAUTER CE RQ35902
- Load corner, steel, rustproof, suitable for CT 3000-3Q1, CT 5000-3Q1, SAUTER CE RQ35903

#### Accessories CT P1:

- Load corner, steel, rustproof, suitable for CT 10000-3P1, CT 10000-3P2, SAUTER CE P40210
- Dead corner, steel, nickel-plated, suitable for CT 500-3P1, CT 1000-3P1, CT 1500-3P1, SAUTER CE P4022
- Load corner, steel, nickel-plated, suitable for CT 2500-3P1, CT 3000-3P1, CT 5000-3P1, SAUTER CE P4025
- Adjustable foot, steel, rustproof, suitable for CT 500-3P1, CT 1000-3P1, CT 1500-3P1, SAUTER CE P2012
- Adjustable foot, steel, rustproof, suitable for CT 2500-3P1, CT 3000-3P1, CT 5000-3P1, SAUTER CE P2018
- Adjustable foot, steel, rustproof, suitable for CT 10000-3P1, SAUTER CE P2024
- Spacer plate for CT 500-3P1, CT 500-3P2, CT 1000-3P1, CT 1000-3P2 and CT 1500-3P1, SAUTER CE P3012
- Spacer plate for CT 2500-3P1, CT 3000-3P1, CT 3000-3P2, CT 5000-3P1 and CT 5000-3P2 SAUTER CE P3015
- Spacer plate for CT 10000-3P1 and CT 10000-3P2 SAUTER CE P30110

#### Load cells SAUTER CO Y1 · CO Y2 · CO Y5







#### CO Y1

Miniature button-type load cells made of stainless steel

STANDARD			OPTION			
666			DAkkS	ISO		
IP 65	1 DAY		+3 DAYS	+4 DAYS		
			**			

- Accuracy in accordance with OIML G5
- High precision (comprehensive Error 0,05 % F.S.)
- RoHS compliant
- Dust and spray protection to IP65/IP67
- Scope of application: compressive force applications
- Suitable for Weight measurement as well as force and force test benches
- Nominal sensitivity: 1.0 1.5 mV/V

#### CO Y2

Miniature button-type load cells made of stainless steel



- Accuracy in accordance with OIML G5
- High precision (comprehensive Error 0,05 % F.S.)
- RoHS compliant
- Dust and spray protection to IP65
- Scope of application: for tensile and compressive force measurement
- Suitable for Weight measurement as well as force and force test benches
- Nominal sensitivity: 1,5 2 mV/V, depending on nominal load

#### CO Y5

Tension and compression load cells made of stainless steal

STANDARD			OPTION		
666	М		DAkkS	ISO	
IP 66		1 DAY	+3 DAYS	+4 DAYS	
			not		
			CO 0.5-Y5		

- · Accuracy in accordance with OIML R60 G1
- CE and RoHS compliant
- Dust and spray protection to IP66 (in accordance with EN 60529)
- Stainless steel
- Very low profile
- Suitable for test stands, force measuring devices, Automation systems, etc.
- 4-wire connection
- Nominal sensitivity: CO 0.5-Y5, CO 1-Y5: 1 mV/V CO 5-Y5, CO 10-Y5: 2 mV/V

Model	Nominal load	Model	Nominal load	Model	Nominal load
SAUTER		SAUTER		SAUTER	
CO 10-Y1	10 kg/100 N	CO 10-Y2	10 kg/100 N	CO 0.5-Y5	0,5 kg/5 N
CO 20-Y1	20 kg/200 N	CO 20-Y2	20 kg/200 N	CO 1-Y5	1 kg/10 N
CO 50-Y1	50 kg/500 N	CO 50-Y2	50 kg/500 N	CO 5-Y5	5 kg/50 N
CO 100-Y1	100 kg/1 kN	CO 100-Y2	100 kg/1 kN	CO 10-Y5	10 kg/100 N
CO 200-Y1	200 kg/2 kN	CO 200-Y2	200 kg/2 kN	·	
CO 500-Y1	500 kg/5 kN	CO 500-Y2	500 kg/5 kN		
CO 1000-Y1	1000 kg/10 kN	CO 1000-Y2	1000 kg/10 kN		
CO 2000-Y1	2000 kg/20 kN	CO 2000-Y2	2000 kg/20 kN		
** += E00	- /F [:N]	** to E00 ///			

\*\* up to 500 kg/5 kN

\*\* up to 500 kg/5 kN

### Тір

Further details and technical data sheet as well as extensive accessories can be found online







#### CJ P

Junctionbox CJ P for connecting several measuring cells to one evaluation unit



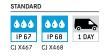
- Prepared for 4-wire and 6-wire load cells
- Models available for 2, 4, 6 or 8 load cells
- · Robust aluminium die-cast housing
- Protection against dust and spray IP65

CJ X467



#### CJ X

Junctionbox for connecting several measuring cells to one evaluation unit



- · Prepared for 4-wire and 6-wire load cells
- Models available for 4 load cells

#### CJ X467:

 Robust stainless steel housing with protection against dust and water splashes IP67

#### CJ X468:

Robust aluminium die-cast housing with protection against dust and water splashes IP68

Model	Number of connections	Model	Number of connections
SAUTER		SAUTER	
CJ P2	2	CJ X467	4
CJ P4	4	CJ X468	4
CJ P4PG	4		
CJ P6	6		
CJ P8	8		

Further details and technical data sheet as well as extensive accessories can be found online

# PALLET TRUCK SCALES

#### Weighing and transporting - just one operation

Speed up your warehouse and dispatch processes with the KERN pallet truck scales.

Get the exact weight of a load and at the same time, transport it to a specific location, all in one operation. This reduces commissioning times and avoids queues in front of fixed floor scales.

These mobile weighing solutions are space-saving and deliver reliable weighing results. Differences between given and actual weights can be determined quickly e.g. in the goods-in and out department. This uncovers inaccurate quantities, saves time and money and therefore ensures a very short amortisation period of the scales original cost. KERN pallet truck scales are of robust industrial quality, with high-level protection against dust and water splashes, with high-contrast, easy-to-read displays as well as solid wheels and load rollers – all this helps to give you practical support in your work – day after day.

Of course, all KERN pallet truck scales can also be calibrated and delivered with a DAkkS calibration certificate (optional). This ensures the high level of accuracy of your pallet truck scale.

#### Pallet truck scale KERN VHB



Pallet truck scale with complete protection against dust and water splashes IP65/67 and a memory for a container weight

#### Features

- PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels
- II Display device: Plastic, protected against dust and water splashes IP65
- I Load fork: Protection against dust and water splashes IP67, temporary use in wet areas possible
- Pivot range 206°
- Castors: Solid rubber on aluminium rims
- I Load rollers: Tandem tyres to overcome thresholds and obstacles more easily
- Totalising of weights
- Ready for use: Batteries included, 4×1.5 V AA, operating time up to 80 h

#### Technical data

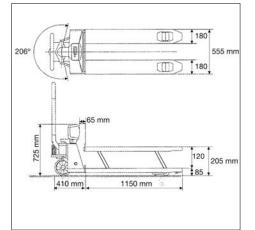
- Large LCD display, digit height 28 mm
- Permissible ambient temperature
   -10 °C/40 °C

#### Accessories

 Castors made of polyurethane (colour exemplary) on aluminium rims. Ideal for light-coloured flooring as they leave less visible abrasive marks. Suitable for the current models of the pallet truck scale range KERN VHB (when retrofitting, please give the serial number of the pallet truck scale available when ordering), scope of delivery: 1 item, KERN VHB-A02









Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping

STANDARD		OPTION		
		DAkkS +3 DAYS		
Model	Weighing capacity	Readability	Net weight	Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] kg	approx. kg	DAkkS
VHB 2T1	2000	1	110	KERN 963-131



## HANGING SCALES/ CRANE SCALES

#### **TÜV-tested safety**

KERN puts great emphasis on safety. For your safety, all KERN hanging and crane scales are subject to a stringent load test in accordance with EN 13155 and (Non-fixed load lifting attachments/breakage resistance) and EN 61010-1 (Electrical safety).

As well as the classic crane scales, we also have electronic tensile dynamometers which are extremely versatile thanks to their stable, compact construction. They can, for example, be fitted into testing machines, used for checking for overload, for bracing and tensile force measurement, etc.

This type of device is ideally suited for use between shackles or with a test bench. This is where the benefit of this construction comes to the fore, as the tensile force can be applied in both directions. These compact crane scales are also particularly suitable when weighing suspended loads where space is tight.

At the core of this construction is a robust load cell. Through the absence of moving parts, these scales are practical in maintenance and wear free.

#### Note

DAkkS calibration and conformity evaluation for crane scales up to 12 t



Do you use your crane scales in ISO-certified processes or where verification is mandatory? Then we can produce the right calibration certificate or the relevant Declaration of Conformity for your measuring device. Thanks to a modern crane scale test unit, we can calibrate or verify crane scales and force-measuring devices from any manufacturer to a maximum load of up to 12 t or 120 kN. You can find all the important details on pages 214, 219 or directly from one of our test service specialists, we will be pleased to help you.

### **Quick-Finder Hanging scales/Crane scales**

Readability	Weighing capacity	Model	Page	DAYS	Μ	CAL EXT	BT		000 IP	BATT	ACCU
[d] kg	[Max] kg	KERN		DATO	Eor an			he pictos			Acco
0,005	5	HDB 5K5N	160	1	i oi ui				,		
0,005	6	HDB 6K-3XL	160	1				•			
0,005	10	HDB 10K10N	160	1		•		•			
0,01	15	HDB 10K-2XL	160	1				•			
	20		160	1		•		•			
0,01	50	HCB 20K10 HGA 50K-2S05	158	1		•					
	15	CH 15K20	158	1		•		•			
0,02						•		•			
0,02	30 50	HDB 30K-2XL	<u> </u>	1		•		•			
0,02		HCB 50K20				•					
0,02	60	HCD 60K-2	163	1		-					0
0,02   0,05	60   150	HCD 100K-2D	163	1		•					0
0,05	50	CH 50K50	159	1		•		•			
0,05	99	HCB 99K50	161	1		•		•			
0,05	150	HCD 100K-2	163	1		•					0
0,05   0,1	150   300	HCD 300K-2D	163	1		•				•	0
0,05   0,1   0,2	150   300   600	HFD 600K-1	166	1		•	0				•
0,05   0,1   0,2	150   300   600	HFD 600K-1IP	166	1		•	0		•		•
0,1	50	CH 50K100	159	1		٠		•		•	
0,1	50	HCB 50K100	161	1		•		•			
0,1	50	HCN 50K100IP	162	1		•		•	•		
0,1	200	HCB 200K100	161	1		•		•		•	
0,1	300	HCD 300K-1	163	1		•				•	0
0,1	1000	HFM 1T0.1	168	1		•					•
0,1   0,2   0,5	300   600   1500	HFD 1T-4	166	1		•	0				•
0,1   0,2   0,5	300   600   1500	HFD 1T-4IP	166	1		٠	0		•		•
0,2	100	HCB 100K200	161	1		٠		•		•	
0,2	100	HCN 100K200IP	162	1		٠		•	•	•	
0,2	600	HFA 600K-1	164	1		•				•	0
0,2	600	HFC 600K-1	165	1		٠				•	0
0,2	600	HFD 600K-1M	166	1	0	۲	0				•
0,2   0,5   1	600   1500   3000	HFD 3T-3	166	1		۲	0				•
0,2   0,5   1	600   1500   3000	HFD 3T-3IP	166	1		٠	0		•		•
0,5	200	HCB 200K500	161	1		•		•		•	
0,5	200	HCN 200K500IP	162	1		۲		•	•	•	
0,5	1000	HFA 1T-4	164	1		٠				•	0
0,5	1000	HFC 1T-4	165	1		٠				•	0
0,5	1500	HFD 1T-4M	166	1	0	•	0				•
0,5	3000	HFM 3T0.5	168	1		•					•
0,5	5000	HFM 5T0.5	168	1		•					•
0,5   1   2	1500   3000   6000	HFD 6T-3	166	1		•	0				•
0,5   1   2	1500   3000   6000		166	1		•	0		•		•
1	500	HCB 0.5T-3	161	1		•		•		•	
1	3000	HFA 3T-3	164	1		•				•	0
1	3000	HFC 3T-3	165	1		•					0
1	3000	HFD 3T-3M	166	1	0	•	0				•
1	10000	HFM 10T1	168	2**		•					
2   5	3000   6000   12000	HFD 10T-3	166	1		•	0				
2   5	3000   6000   12000	HFD 10T-3IP	166	1		•	0		•		
2	1000	HCB 1T-3	161	1		•		•	-		
2	5000	HFA 5T-3	161	1		•		-			0
	5000	HFC 5T-3	164	1		•					0
2 2	6000		165	1	0	•					•
		HFD 6T-3M			0		0				-
5	10000	HFA 10T-3	164	1		•					0
5	10000	HFC 10T-3	165	1		•					0
5	12000	HFD 10T-3M	166	1	0	•	0				-

 $^{\star\star}$  Shipment via freight forwarder. Please ask for dimensions, gross weight, shipping costs









Ultra compact, digital luggage scale for fast weighing of luggage and other suspended loads

#### Features

- This ergonomically-optimised luggage scale is perfectly suited for rapid, accurate checking of cases, bags, sports baggage, etc. The high maximum load means that there is sufficient safety reserve and can therefore also be used for weighing other, suspended loads
- I Ergonomic design for easy handling
- Robust nylon fabric tape for secure fixing of the item to be weighed
- Simple and convenient 1-key operation
- Easy to toggle between units at the press of a button
- High mobility: thanks to battery operation, compact, lightweight construction, it is suitable for the use in several locations
- Automatic Hold function: When the weighing value remains unchanged the weight indicated on the display is automatically "frozen" for 10 sec. This leaves sufficient time to read the weight in peace

#### Technical data

- · LCD display, digit height 9 mm
- Overall dimensions W×D×H 150×31×35 mm
- Ready for use: Batteries included, 3V CR2032, operating time up to 20 h, AUTO-OFF function to preserve the battery, Battery level indicator on display
- Net weight approx. 0,40 kg
- Note: The models are delivered in a set of 5 units. That means the prices given in the table refer to 5 units. Cannot be delivered individually. The calibration prices given here refer to calibration of a single balance

1	5



Model	Weighing capacity	Readability	Quantity delivered	Option DAkkS Calibr. Certificate	Quantity delivered
KERN	[Max] kg	[d] g	(balances)	DAkkS KERN	(DAkkS Calibr. Certificate)
HGA 50K-2S05	50	10	5	963-128H	1

ONLY WHILE STOCKS LAST!

158 Hanging scales/Crane scales









### The classic among manual hanging scales – perfect for rapid weighing of higher loads

#### Features

- With the TÜV certification mark, the scales meet the requirements of the standard EN 13155 (Non-fixed load lifting attachments/ Breakage resistance) and EN 61010-1 (Electrical safety)
- Ideal for rapid control in goods-in and goods-out
- Also essential in the private sector to determine the weight of fish, game, fruits, bicycle parts, suitcases etc.
- Hold function: For easy reading of the weighing result, the display can be "frozen" in different ways. Either automatically when the weighing value remains unchanged or manually by pressing the Hold key
- Peak load display (peak hold)
- Hook made of Steel

#### Technical data

- · LCD display, digit height 11 mm
- Tape measure, extractable, length approx. 100 cm
- Ready for use: Batteries included, 9 V block, operating time up to 20 h
- Further weighing units: kg, lb, N
- Overall dimensions W×D×H
   90×30×176,5 mm (without load hook)
   90×30×270 mm (with load hook)
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

 I Tare pan with pan beam, details see Accessories, KERN CH-A01N

STANDARD	OPTION					
	C	^				DAkkS
CAL EXT	UNIT	MOVE	BATT	DMS	1 DAY	+3 DAYS

Model	Weighing capacity	Readability	Dimensions housing W×D×H	Net weight	Option DAkkS Calibr. Certificate
	[Max]	[d]		approx.	DAkkS
KERN	kg	g	mm	kg	KERN
CH 15K20	15	20	90×30×176,5	0,35	963-128H
CH 50K50	50	50	90×30×176,5	0,35	963-128H
CH 50K100	50	100	90×30×176,5	0,35	963-128H







#### Practical hanging scale for rapid, mobile weighing

#### Features

- With the TÜV certification mark, the scales meet the requirements of the standard EN 13155 (Non-fixed load lifting attachments/ Breakage resistance) and EN 61010-1 (Electrical safety)
- HDB-XL: High-capacity XL-version. The larger design creates space for a large handle, which enables even better handling especially with heavier loads
- Ideal for rapid control in goods-in and goods-out
- Also essential in the private sector to determine the weight of fish, game, fruits, bicycle parts, suitcases etc.
- Hold function: For easy reading of the weighing result, the display can be "frozen" in different ways. Either automatically when the weighing value remains unchanged or manually by pressing the Hold key
- Hook, steel, can be hinged
- Peak load display (peak hold)



#### Technical data

- LCD display, digit height 12 mm
- Ready for use: Batteries included,
- 2×1.5 V AAA, operating time up to 180 h • Further weighing units: kg, lb, N
- Overall dimensions W×D×H (without load hook) HDB-N: 72×25×105 mm HDB-XL: 101×25×107 mm
- Overall dimensions W×D×H (with load hook) HDB-N: 72×25×188 mm HDB-XL:101×25×203 mm
- Net weight approx. 0,20 kg
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

 Image: Tare pan with pan beam, details see Accessories, KERN CH-A01N

Model	Weighing capacity	Readability	Dimensions housing W×D×H	Net weight	Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] g	mm	approx. kg	DAkkS KERN
HDB 5K5N	5	5	72×25×105	0,20	963-127H
HDB 10K10N	10	10	72×25×105	0,20	963-128H
HDB 6K-3XL	6	5	107×25×101	0,20	963-128H
HDB 10K-2XL	15	10	107×25×101	0,20	963-128H
HDB 30K-2XL	30	20	107×25×101	0,20	963-128H

#### Hanging scale KERN HCB



#### Handy hanging scale for higher loads

#### Features

- With the TÜV certification mark, the scales meet the requirements of the standard EN 13155 (Non-fixed load lifting attachments/ Breakage resistance) and EN 61010-1 (Electrical safety)
- Ideal for rapid control in goods-in and goods-out
- Also essential in the private sector to determine the weight of fish, game, fruits, bicycle parts, suitcases etc.
- Hold function: For easy reading of the weighing result, the display can be "frozen" in different ways. Either automatically when the weighing value remains unchanged or manually by pressing the Hold key
- Peak load display (peak hold), Measuring frequency 5 Hz
- [Max] ≤ 200 kg: Snap link (stainless steel) with safety catch as standard

STANDARD	)					OPTION
	$\mathcal{C}$	^	<b></b>			DAkks
CAL EXT	UNIT	MOVE	BATT	DMS	1 DAY	+3 DAYS

- [Max] ≤ 200 kg: Hook (stainless steel) as standard
- Imax] ≥ 500 kg: Reinforced version for heavy loads. Snap link and Hook not included

#### **Technical data**

- · LCD display, digit height 12 mm
- Hole diameter of load support, model with [Max] ≤ 200 kg: approx. 14 mm
   [Max] ≥ 500 kg: approx. 16 mm
   Further weighing units: kg, lb, N
- Overall dimensions W×D×H
  ca. 82×43×153 mm (without load hook)
  Ready for use: Batteries included,
- 3×1.5 V AA, operating time up to 300 h
- Permissible ambient temperature 5 °C/35 °C











### Accessories

- B Hook with safety catch, galvanised and lacquered cast steel, not rotatable, scope of delivery: 2 shackles, 1 connecting link, 1 hook, KERN YHA-06
- High-strength shackle, hot-dipped galvanised cast steel bracket, curved edge.
   Scope of delivery: 2 shackles, KERN YSC-04

Suitable for model HCB 20K10

• **I** Tare pan with pan beam, details see Accessories, KERN CH-A01N

Accessories for models with  $[Max] \le 200 \text{ kg}$ 

- Snap link (stainless steel) with safety catch, opening approx. 15 mm, KERN HCB-A01
- Hook (stainless steel), opening approx.
   25 mm, KERN HCB-A02

Model	Weighing capacity	Readability	Net weight	Option
KERN	[Max] kg	[d] g	approx. kg	DAkkS Calibr. Certificate DAkkS KERN
HCB 20K10	20	10	0,30	963-128H
HCB 50K20	50	20	0,30	963-128H
HCB 50K100	50	100	0,30	963-128H
HCB 99K50	99	50	0,30	963-129H
HCB 100K200	100	200	0,30	963-129H
HCB 200K100	200	100	0,30	963-129H
HCB 200K500	200	500	0,30	963-129H
HCB 0.5T-3	500	1000	0,40	963-130H
HCB 1T-3	1000	2000	0,60	963-130H



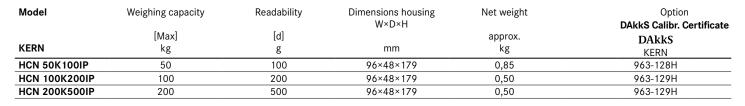
## Robust, compact hanging scale with high level of protection against dust and water spray

#### Features

- With the TÜV certification mark, the scale meets the requirements of the standard EN 13155 (Non-fixed load lifting attachments/ Breakage resistance) and EN 61010-1 (Electrical safety)
- Housing Stainless steel, IP65-protected against dust and water splashes
- Ideal for rapid control in goods-in and goods-out
- Also essential in the private sector to determine the weight of fish, game, fruits, bicycle parts, suitcases etc.
- Hold function: For easy reading of the weighing result, the display can be "frozen" in different ways. Either automatically when the weighing value remains unchanged or manually by pressing the Hold key
- Peak load display (peak hold)
- Internal measuring frequency: 5 Hz
- Snap link (stainless steel) with safety catch
   as standard
- Hook (stainless steel) as standard

### 15







#### Technical data

- · LCD display, digit height 12 mm
- Hole diameter of load support ca. 14 mm
- $\hfill 2$  Second display on the back of the balance
- Ready for use: Batteries included, 2×1.5 V AA, operating time up to 200 h

#### Accessories

- Snap link (stainless steel) with safety catch, opening approx. 15 mm, KERN HCB-A01
- Hook (stainless steel), opening approx.
   25 mm, KERN HCB-A02

#### Crane scale KERN HCD



#### High-resolution crane scale for loads up to 300 kg

#### Features

- Fully-equipped crane scale for low to medium load ranges. The solid design guarantees that extra level of safety (TÜV tested). Thanks to the large LCD display and the remote control which is delivered as standard, it can also be operated safely from a distance and results can be read off
- With the TÜV certification mark, the scales meet the requirements of the standard EN 13155 (Non-fixed load lifting attachments/ Breakage resistance) and EN 61010-1 (Electrical safety)
- High level of mobility: thanks to battery pack operation, compact construction and low weight, it is suitable for use in several locations (production, warehouse, dispatch department, etc.)
- Hold function: For easy reading of the weighing result, the display can be "frozen" in different ways. Either automatically when

the weighing value remains unchanged or manually by pressing the Hold key

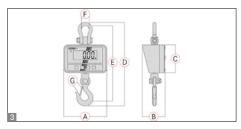
- Tare: Resets the display to "0" when there is a load on the scale. Now removed or added loads are directly displayed
- Battery level indicator, LED visual display
- Large high-contrasted display that is easy to read
- Standby function: display automatically switched off after 5 min without a change of load. Automatic activation with the touch of a key
- · Hook with safety catch, revolving
- Shackle and safety catch made of nickel-plated steel
- Infrared remote control standard. Range up to 20 m. All functions can be selected.
   W×D×H 65×24×100 mm. Batteries included











#### **Technical data**

- Backlit LCD display, digit height 28 mm
- Ready for use: Batteries standard, 4×1.5 V AA, operating time approx. 100 h
- Precision: 0,2 % of [Max]
- Permissible ambient temperature 5 °C/40 °C

#### Accessories

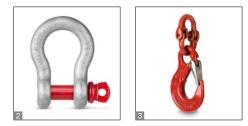
 Internal rechargeable battery pack for load receptor, operating time up to 50 h without backlight, charging time approx. 12 h.
 Weighing is not possible during the charging process, KERN HCD-A01

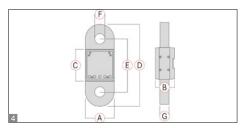
STANDARD					OPTION	
	C			<b>.</b>		DAkkS
CAL EXT	UNIT	BATT	DMS	1 DAY	ACCU	+3 DAYS

Model	Weighing capacity	Readability	Net weight			3	Dimensio	ons			Option DAkkS Calibr. Certificate
	[Max]	[d]	approx.	А	В	С	D	Е	F	G	DAkkS
KERN	kg	g	kg	mm	mm	mm	mm	mm	mm	mm	KERN
HCD 60K-2	60	20	1,2	150	79,3	97,7	276,5	246,5	26	23,5	963-129H
HCD 100K-2	150	50	1,2	150	79,3	97,7	276,5	246,5	26	23,5	963-129H
HCD 300K-1	300	100	1,2	150	79,3	97,7	276,5	246,5	26	23,5	963-129H
	Multi-range	balance, with	n increasing lo	ad it sw	itches auto	matically	to the ne	xt largest v	weighing	range [Max	] and readout [d]
		and	when the loa	d is fully	removed,	the balar	ice switche	es back to	the lowe	r range	
HCD 100K-2D	60   150	20   50	1,2	150	79,3	97,7	276,5	246,5	26	23,5	963-129H
HCD 300K-2D	150   300	50   100	1,2	150	79,3	97,7	276,5	246,5	26	23,5	963-129H









Compact crane scale with integrated display can also be used for tensile force measurement

#### Features

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- With the TÜV certification mark, the scales meet the requirements of the standard EN 13155 (Non-fixed load lifting attachments/ Breakage resistance) and EN 61010-1 (Electrical safety)
- With its high-quality finish, low weight and compact dimensions, this crane scale (tensile force gauge) is an essential device for industrial use, on building sites, in freight centres, ports etc.
- Because of its compact design it is also ideally suited for installation in systems where space is limited, etc.
- Ideally suited for determining weight quickly while loading and unloading
- Peak load display (peak hold)
- Hold function: For easy reading of the weighing result, the display can be "frozen" in different ways. Either automatically when the weighing value remains unchanged or manually by pressing the Hold key
- Tare: Resets the display to "0" when there is a load on the scale. Now removed or added loads are directly displayed

STANDARD							OPTION
	$\mathcal{C}$						DAkk
CAL EXT	UNIT	BATT	ACCU	MULTI	DMS	1 DAY	+3 DAY

#### **Technical data**

- Large backlit LCD display, digit height 23 mm
- Material and design of housing/load support, models with  $[Max] \leq 3 \ t: \mbox{Aluminium/Stainless steel bushing}$
- [Max] > 3 t: Steel/Steel
  Rechargeable battery pack integrated, as standard, operating time up to 30 h without backlight, charging time approx. 12 h
- Optional battery operation, 3×1.5 V AA not included in scope of delivery, operating time up to 40 h
- Precision: 0,2% of [Max]
- Internal measuring frequency: 60 Hz
- Further weighing units: kg, lb, N
- Permissible ambient temperature 5 °C/35 °C

#### Accessories

- Image: Ima
- [Max] > 5 t: KERN YSC-02
  B Hook with safety catch, cast steel, galvanised and lacquered, non-revolving. Scope of delivery: 2 shackles, 1 lacquered screw bolt, 1 hook, suitable for models with
- $[Max] \le 1$  t: KERN YHA-01
- [Max] = 3 t: KERN YHA-02 [Max] = 5 t: KERN YHA-03
- [Max] > 5 t: KERN YHA-04

Model	Weighing capacity	Readability	Net weight			4	Dimens	ions			Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] g	approx. kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	DAkkS KERN
HFA 600K-1	600	200	1,8	90	62	100	255	165	32	30	963-130H
HFA 1T-4	1000	500	1,8	90	62	100	255	165	32	30	963-130H
HFA 3T-3	3000	1000	2,0	90	62	100	255	165	32	30	963-132H
HFA 5T-3	5000	2000	4,0	90	62	100	255	165	30	30	963-132H
HFA 10T-3	10000	5000	6	90	72	100	275	185	40	40	963-133H



Compact crane scale for use in harsh environmental conditions or where space is limited, with convenient hand-held terminal

#### Features

STANDARD

- With the TÜV certification mark, the scales meet the requirements of the standard EN 13155 (Non-fixed load lifting attachments/ Breakage resistance) and EN 61010-1 (Electrical safety)
- With its high-quality finish, low weight and compact dimensions, this crane scale (tensile force gauge) is an essential device for industrial use, on building sites, in freight centres, ports etc.
- Because of its compact design it is also ideally suited for installation in systems where space is limited, etc.
- Peak load display (peak hold)
- Hold function: When the weighing value remains unchanged the weight indicated on the display is automatically "frozen" until the Hold key is pressed
- Tare: Resets the display to "0" when there is a load on the scale. Now removed or added loads are directly displayed

 Display device with integrated radio module, which the user can carry around with him, thanks to the convenient hand strap I, standard. In this way the weighing data can always be read off the display device by the user, even when the user is a long way from the load receptor (force gauge) or under poor lighting conditions. Range up to 20 m. All functions can be selected (Can be ordered separately)

#### **Technical data**

 Material and design of housing/load support, models with

[Max] ≤ 3 t: Aluminium/Stainless steel bushing [Max] > 3 t: Steel/Steel

- Precision: 0,2% of [Max]
- Internal measuring frequency: 10 Hz
- Further weighing units: kg, lb, N
- Permissible ambient temperature 5 °C/35 °C

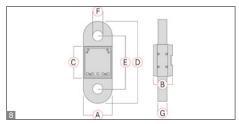
#### **Display device**

OPTION

- Large backlit LCD display, digit height 23 mm
- Rechargeable battery pack integrated, as standard, operating time up to 30 h without backlight, charging time approx. 12 h







- Dimensions of display device W×D×H
   88×64×256 mm
- Net weight 0,5 kg

#### Load receptor

 Optional battery operation, 3×1.5 V AA not included in scope of delivery, operating time up to 40 h

#### Accessories

- Isolation to the second second
- Display device: Rechargeable battery pack internal, KERN HFC-A01
- I High-strength shackle, hot-dipped galvanised cast steel bracket, bow shaped.
   Scope of delivery: 2 shackles with lacquered screw bolts, suitable for models with
   [Max] ≤ 5t: KERN YSC-01
   [Max] > 5t: KERN YSC-02
- Hook with safety catch, cast steel, galvanised and lacquered, non-revolving.
   Scope of delivery: 2 shackles, 1 lacquered screw bolt, 1 hook, suitable for models with [Max] ≤ 1t: KERN YHA-01 [Max] = 3t: KERN YHA-02 [Max] = 5t: KERN YHA-03
- [Max] > 5t: KERN YHA-04

	C	<b></b>						DAkkS
CAL EXT	UNIT	BATT	ACCU	MULTI	DMS	1 DAY	ACCU	+3 DAYS
		4	2				5	
		4	2				5	
						<b>D</b> 1		

Model	Weighing capacity	Readability	Net weight			8	Dimens	ions			Option DAkkS Calibr. Certificate
KERN	[Max] kg	[d] g	approx. kg	A mm	B mm	C mm	D mm	E mm	F mm	G mm	DAkkS KERN
HFC 600K-1	600	200	1,8	90	62	100	255	165	32	27	963-130H
HFC 1T-4	1000	500	1,8	90	62	100	255	165	32	32	963-130H
HFC 3T-3	3000	1000	2,2	90	62	100	255	165	32	32	963-132H
HFC 5T-3	5000	2000	4,0	90	62	100	255	165	30	30	963-132H
HFC 10T-3	10000	5000	6	90	72	100	275	185	40	40	963-133H



Robust, high-resolution crane scale up to 12 t, also with EC type approval [M] or protection type IP67



High mobility: thanks to rechargeable battery operation, compact, lightweight construction, it is suitable for the use in several locations (production, warehouse, dispatch department etc.)



Solid shackles, non-revolving



Radio remote control standard. Range up to 20 m. All functions can be selected. W×D×H 65×24×100 mm. Batteries included, 1× 12 V 23A

#### Crane scale KERN HFD



#### Features

- With the TÜV certification mark, the scales meet the requirements of the standard EN 13155 (Non-fixed load lifting attachments/ Breakage resistance) and EN 61010-1 (Electrical safety)
- Because of its stable construction and robust design, it is ideal for continuous use in industrial environment
- Hold function: the weight display is "frozen" when the Hold button is pressed (Not usuable with HFD-M)
- Tare: Resets the display to "0" when there is a load on the scale. Now removed or added loads are directly displayed

#### **KERN HFD-IP**

• The models with IP add-on have special spray and dust protection to IP67 and because of this they are ideal for use in harsh environments

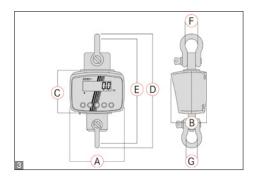


#### KERN HFD-M

- The models with M add-on have EC type approval and because of this they are ideal for use in verified applications such as, for example, calculation of a total price, based on weight
- Will support you when weighing freight in a SOLAS compliant manner
- Sleep function: when the sleep button is pressed, the weight display is switched off, but the value remains stored. This can extend the battery life

#### **Technical data**

- Superior display size: digit height 30 mm, bright backlight for easy reading of weighing results, even in poor lighting conditions
- Rechargeable battery pack integrated, as standard, operating time up to 70 h without backlight, charging time approx. 12 h, Battery pack accessible from the outside, which means it is easy to replace
- Precision: 0,2% of [Max]
- Permissible ambient temperature -10  $^\circ\text{C}/40$   $^\circ\text{C}$



#### Accessories

- Internal rechargeable battery pack for load receptor, operating time up to 70 h without backlight, charging time approx. 12 h, Internal rechargable battery pack, operating time up to 70 h without backlight, charging time approx. 12 h, KERN HFD-A04
- Charging station for external battery charging, scope of delivery: charging station, exchangeable battery, mains adapter, KERN HFD-A07
- Hook with safety catch, cast steel, galvanised and lacquered, non-revolving, suitable for models
   HFD 600, HFD 1T: KERN HFD-A01
  - HFD 3T: KERN HFD-A02
- HFD 6T, HFD 10T: KERN HFD-A03
  Bluetooth data interface for wireless data transfer to PC or tablets, must be ordered at purchase, KERN HFD-A06

STANDARD					OPTION	FACTORY	
<b>i 666</b>					DAkkS	*	Μ
CAL EXT IP 67	ACCU	MULTI	DMS	1 DAY	+3 DAYS	BT 4.0	+3 DAYS
HFD-IP						ŀ	IFD-M

Model	Weighing capacity	Readability	Net weight		3	Dim	ensio	ns		Verification	Option DAkkS Calibr. Certificate
	[Max]	[d]	approx.	А	В	С	D	Е	F = G	<b>M</b> (II)	DAkkS
KERN	kg	g	kg	mm	mm	mm	mm	mm	mm	KERN	KERN
	Multi-range balance,	with increasing load it	switches a	utoma	tically	to the	e next	large	st weighing range	[Max] and readout	[d]
		and when the load is fu	ully remove	ed, the	balan	ce sw	itches	s back	to the lower rang	ge	
HFD 600K-1	150   300   600	50   100   200	9	194	129	160	422	384	50,8	-	963-130H
HFD 1T-4	300   600   1500	100   200   500	9	194	129	160	422	384	50,8	-	963-130H
HFD 3T-3	600   1500   3000	200   500   1000	10	194	129	160	457	413	58	-	963-132H
HFD 6T-3	1500   3000   6000	500   1000   2000	15	194	129	160	518	467	68,3	-	963-132H
HFD 10T-3	3000   6000   12000	1000   2000   5000	20	194	129	160	584	521	82,5	-	963-133H
		Protec	tion agains	st dust	and v	water	splasł	nes IP	67		
HFD 600K-1IP	150   300   600	50   100   200	9	194	129	160	422	384	50,8	-	963-130H
HFD 1T-4IP	300   600   1500	100   200   500	9	194	129	160	422	384	50,8	-	963-130H
HFD 3T-3IP	600   1500   3000	200   500   1000	10	194	129	160	457	413	58	-	963-132H
HFD 6T-3IP	1500   3000   6000	500   1000   2000	15	194	129	160	518	467	68,3	-	963-132H
HFD 10T-3IP	3000   6000   12000	1000   2000   5000	20	194	129	160	584	521	82,5	-	963-133H
No	ote: For applications that i	require verification, plea	ase order v	erifica	tion a	t the s	same	time,	initial verification	at a later date is no	t possible.
		Verification at the facto	ory, we nee	d to ki	now th	ne full	addre	ess of	the location of us	e.	
HFD 600K-1M	600	200	9	194	129	160	422	384	50,8	965-130H	963-130H
HFD 1T-4M	1500	500	9	194	129	160	422	384	50,8	965-130H	963-130H
HFD 3T-3M	3000	1000	10	194	129	160	457	413	58	965-132H	963-132H
HFD 6T-3M	6000	2000	15	194	129	160	518	467	68,3	965-132H	963-132H
HFD 10T-3M	12000	5000	20	194	129	160	584	521	82,5	965-133H	963-133H



Robust industrial crane scale with bright LED display for optimum reading in unfavourable ambient conditions

#### Features

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STANDARD

168

- With the TÜV certification mark, the scales meet the requirements of the standard EN 13155 (Non-fixed load lifting attachments/ Breakage resistance) and EN 61010-1 (Electrical safety)
- Professional device for robust applications in production, quality control, logistics etc. Because of its stable construction and robust design, it is ideal for continuous use in industrial environment
- High mobility: thanks to rechargeable battery operation, compact, lightweight construction, it is suitable for the use in several locations (production, warehouse, dispatch department etc.)

Hanging scales/Crane scales

- Adaptation to unstable environmental conditions by changing the readability
- Hold function: the weight display is "frozen"
   when the Hold button is pressed
- Tare: Resets the display to "0" when there is a load on the scale. Now removed or added loads are directly displayed
- Hook with safety catch, revolving
- Radio remote control standard. Range up to 20 m. All functions can be selected (excl. ON/OFF). W×D×H 48×10×95 mm. Batteries included, 2×1.5 V AAA

#### Technical data

- Superior display size: digit height 30 mm, bright backlight for easy reading of weighing results, even in poor lighting conditions
- Rechargeable battery pack integrated, as standard, operating time up to 50 h without backlight, charging time approx. 14 h
- Precision: 0,2 % of [Max]
- Permissible ambient temperature 0 °C/40 °C

CAL EXT ACCU		-0-0-	DAkkS +3 DAYS								
Model	Weighing	Readability	Net weight			3	Dimensio	ons			
	capacity [Max]	[d]	approx.	А	В	С	D	Е	F	G	DAkkS Calibr. Certificate DAkkS
KERN	kg	g	kg	mm	mm	mm	mm	mm	mm	mm	KERN
HFM 1T0.1	1000	100	14	270	200	175	610	540	68	40	963-130H
HFM 3T0.5	3000	500	16	270	200	175	610	540	74	40	963-132H
HFM 5T0.5	5000	500	24	300	230	190	730	650	74	55	963-132H
HFM 10T1	10000	1000	34	300	230	190	840	750	92	60	963-133H

OPTION





#### Printers









#### Important note for printer orders:

Please state your balance model when ordering, so that the printer can be preconfigured in the factory to suit your balance.

#### Matrix needle printer KERN 911-013

For printing weighing results on normal paper, which is ideal for long-term archiving.

#### Matrix needle printer KERN YKN-01

For printing weighing results on normal paper, which is ideal for long-term archiving.

#### Thermal printer KERN YKB-01N

For printing weighing results, recipes, quantities etc. or for GLP record keeping of balance adjustment with date and time print. GLP/GMP compliant print form available as standard. Language versions: DE, EN, FR.

#### **Technical data**

- Needle print
- Speed: 1,8 line/s
- Max. 40 characters per line
- Width of the paper strip: 57 mm wide
- Operation via mains adapter 230 V/50 Hz (standard EU), as standard
- Dimensions housing: W×D×H 100×180×106 mm
- Not suitable for KERN PNS/PNJ, PES/PEJ ranges
- Interface cable not included with delivery, see page 173

Price printer without interface cable, KERN 911-013

#### Technical data

- Needle print
- Speed: 1 line/s
- Max. 16 characters per line
- Width of the paper strip: 44 mm wide
- Operation via mains adapter 230 V/50 Hz (standard EU/GB/USA), as standard
- Dimensions housing: W×D×H 158×106×40 mm
- Interface cable not included with delivery, see page 173

Price printer without interface cable, KERN YKN-01

#### Technical data

- Thermal print
- Speed: 0,75 lines/s
- Max. 40 characters per line
- Width of the paper strip: 112 mm wide
- Operation via mains adapter 230 V/50 Hz (standard EU/GB/USA), as standard Dimensions housing: W×D×H 165×140×50 mm
- Interface cable not included with delivery, see page 173

Price printer without interface cable, KERN YKB-01N

#### Accessories

- Paper rolls (10 pcs.), KERN 911-013-010
- Universal mains adapter, standard EU/GB/ US, KERN ABS-A01

#### Accessories

• Paper rolls (5 pcs.), KERN YKN-A01

#### Accessories

• Paper rolls (10 pcs.), KERN YKB-A10

Individual header data:

For printers KERN 911-013, YKN-01, YKB-01N and YKE-01 (in combination with YKI-02) the free software KERN SHM-01 can be used to print 4 header lines on the printout (see marking on balance). Compatible models: KERN 440, DE, FCB, FKB-A, PCB, PCD.

#### Printers





#### Important note for printer orders:

Please state your balance model when ordering, so that the printer can be preconfigured in the factory to suit your balance.

INTERN

STANDARD

• 6555 •

RS 232

### Thermal statistics printer KERN YKS-01

For printing weighing results, recipes etc. or for GLP record keeping of weighing data with date and time print. Numerator; with statistical functions such as count and total of all measurements, minimum and maximum values of the main unit, range, average value, standard deviation, available units: mg, g, kg, pcs. Language versions: DE, EN, FR.

#### **Technical data**

- Thermal print
- Speed: 0,75 lines/s
- Max. 40 characters per line
- Width of the paper strip: 112 mm wide
- Operation via mains adapter 230 V/50 Hz (standard EU/GB/USA), as standard
- Dimensions housing: W×D×H 165×140×50 mm
- Interface cable not included with delivery, see page 173
- Note: Please order the matching paper roll with it, see accessories
- Not suitable for KERN EWJ, PFB-M ranges as well as KERN moisture analysers and counting scales

Price printer without interface cable, KERN YKS-01

#### Accessories

• Paper rolls (10 pcs.), KERN YKB-A10

### Thermal label printer KERN YKE-01

Affordable universal label printer to print out weighing results on thermal labels. ASCII-capable. Comfortable Auto-Forward function for automatic jump from label to label (only with KERN standard labels).

#### Technical data

- Thermal print
- Speed: 22 mm/s
- Max. 82 characters per line
- Width of the paper strip: YKE-A02: 78 mm
- YKE-A03: 112 mm
  Operation via mains adapter 230 V/50 Hz
- (standard EU/GB/USA), as standard
- Dimensions housing: W×D×H 150×155×65 mm
- Interface cable not included with delivery, see page 173
- Note: Please order the matching label roll with it, see accessories
- Not suitable for KERN BFS, CCS, CFS, DAB, DBS, DLB, IFS, KFS-TM, RPB ranges, counting scales

Price printer without interface cable, KERN YKE-01

#### Tipp

#### **EasyTouch Individual Print**

The print product (e.g. labels) can be individually designed. The size of the print area as well as the placement of the print elements can be customized. The barcode function enables the printing of each element as a barcode.

For further details, see also page 132ff *EasyTouch* 



Example printouts with ET Individual Print

#### Accessories

Paper roll (1 pc.), Dimensions labels: W×D 73×61 mm, 100 labels, KERN YKE-A02
W×D 105×48 mm, 45 labels, KERN YKE-A03

For printers KERN 911-013, YKN-01, YKB-01N and YKE-01 (in combination with YKI-02) the free software KERN SHM-01 can be used to print 4 header lines on the printout (see marking on balance). Compatible models: KERN 440, DE, FCB, FKB-A, PCB, PCD.



#### Printers





#### Important note for printer orders:

Please state your balance model when ordering, so that the printer can be preconfigured in the factory to suit your balance.

• 6888. •

RS 232

#### Dot matrix printer KERN YKG-01

High-quality dot matrix printer

Flexible and rapid dot matrix printer for retail, the catering trade and for restaurant kitchens. To print the weights on normal paper, which is ideal for long-term archiving. This model has an interchangeable interface and you will be impressed by how easy it is to replace the paper and ribbon

#### **Technical data**

- Needle print
- Speed: 4,7 line/s
- Max. 42 characters per line
- Supported paper widths:
   58 mm, 70 mm, 76 mm (roll)
- Operation via mains adapter 230 V/50 Hz standard EU, as standard
- Interfaces: RS-232, cash drawer connection, bidirectional parallel
- Interface cable not included with delivery, see page 166
- Dimensions housing B×T×H 160×248×139 mm
- Not suitable for KERN DAB, DBS, DLB, FKT, RFE ranges

Price printer without interface cable, KERN YKG-01

#### Accessories

• Paper rolls (5 pcs.), KERN YKG-A01

#### Thermal printer KERN YKH-01

High-quality thermal printer – fast, robust, user-friendly

Robust, low-maintenance dot matrix printer for retail, the catering trade and for restaurant kitchens. Extremely compact and long-lasting. Thanks to the waterproof switch cover it is particularly suitable for use under tough, loud environmental conditions

#### **Technical data**

- Thermal print
- Speed: 2 line/s
- Max 64 characters per line
- Supported paper widths: 58 mm, 80 mm (roll)
- Operation via mains adapter 230 V/50 Hz standard EU, as standard
- Interfaces: RS-232
- Interface cable not included with delivery, see page 166
- Dimensions housing B×T×H 140×199×146 mm
- Not suitable for KERN DAB, DBS, DLB, FKT, RFE ranges

Price printer without interface cable, KERN YKH-01

#### Accessories

• Paper rolls (5 pcs.), KERN YKH-A01

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Individual header data:

For printers KERN 911-013, YKN-01, YKB-01N and YKE-01 (in combination with YKI-02) the free software KERN SHM-01 can be used to print 4 header lines on the printout (see marking on balance). Compatible models: KERN 440, DE, FCB, FKB-A, PCB, PCD.



#### Interface cable for RS-232

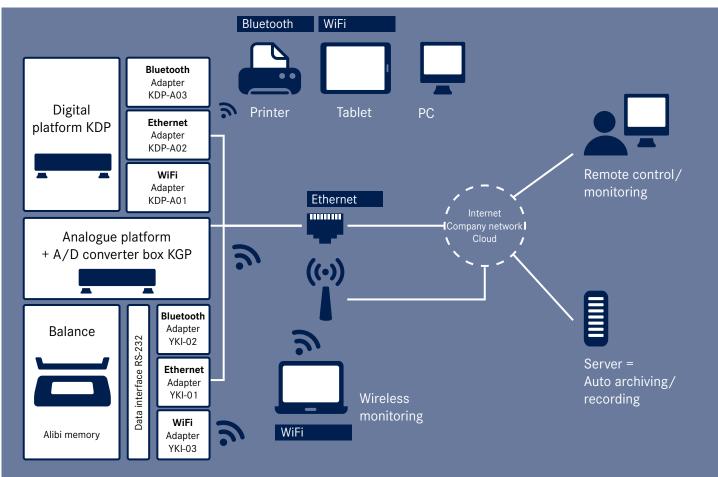
For direct connection to a printer or PC, cable length approx. 1.5 m. The interface parameters can be set using the balance keypad.

### Tip

The interface cable is **free of charge** if you purchase balance, printer or Ethernet-/WiFi-/Bluetooth adapter together.

Printer,	PC, YKI-01/	911-013, YKB-01N,	YKE-01	YKG-01, YKH-01	YKS-01
Balance V	-02/-03 KERN	YKN-01 KERN	KERN	KERN	KERN
440, 572, 573, ALJ, ALS, ALT-B, CDS, CKE, DE-D, DS, EMB-V, FCB, FKA, FKB, FKC, FKB-A, IKT, KB, PCB, PCD, PLJ, PLS, KDP			572-926		
BKN, BXS, IXS, KXS-TM, SXS		KXS-A	A04 (Factory	Option)	
EOC, IOC, BID, KIB-T, KIB-TM			EOC-A12		
YKV-01, KGP	572-926			-	
ABJ-NM, ABS-N			ACS-A01		
BFA, BFB, BFN (until year of construction 2019), GAB-N, GAB-P, IFB, KFB-TM, KFN-TM, NFB, NFN (until year of construction 2019) PFB, SFB, UFA, UFB, UFC, UFN			CFS-A01		
BFS, CPB, EWJ, KFS-TM, PFB, PFB-M		CFS	S-A01		-
CFS, CCS, KFS-TM, IFS (from year of production 2015)	-	CFS-A01	-	-	-
ABT-NM, PBJ, PBS			770-926		
DBS, DLB	572	2-926	-	-	-
DAB	MLE	B-A05	MLB-A05	-	MLB-A05
ABP, FES/FEJ, KFS-T		ML	B-A05		-
ADB, ADJ, ACS, ACJ, PNS/PNJ			MLB-A05		
HFT			KFF-A01		
EG-N, EW-N			474-926		
PES/PEJ (Interface cable for printer YKB-01: MLB-A05)					
CCA		-	CCA-A01		-
RFE, RPB (not compatible with YKN-01)	-	CFS-A01	-	CFS-A01	-

#### With products from KERN you are ready to face the challenges of Industry 4.0



We will help to combine industrial production with the latest information and communication technology, with the aim of improving quality, reducing costs and using time and resources more efficiently so that you are able to react to future requirements in a more flexible manner. You will benefit from our uniform data protocol combined with our BalanceConnection 4.0 data software, for details please see page 167/168.

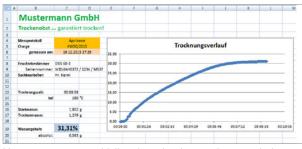
#### KERN Software BalanceConnection SCD-4.0

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5		PBJ 4200-2M	Vaseline	200	g	200,47 g	07.05.2012 12:15	0,47 6	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	1
7			Wasser	1000	8	1.002,39 g	07.05.2012 12:15	2,39 g	0,24%	1.614,07 g	
8		ABJ 80-4M	Dropropizin	5,000	g	4,9993 g	07.05.2012 12:16	-0,0007 g	-0,01%	1.619,0693 g	6
9		(kleine Mengen)	Theobromin	1,000	g	0,9984 g	07.05.2012 12:16	-0,0016	-0,16%	1.620,0677 g	
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Easy transfer and editing of measuring results e.g. in Microsoft® Excel

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Full overview of devices, outputs, queries, interfaces, etc. shown on the output window immediately.



Measurement report with line chart showing a moisture analysis

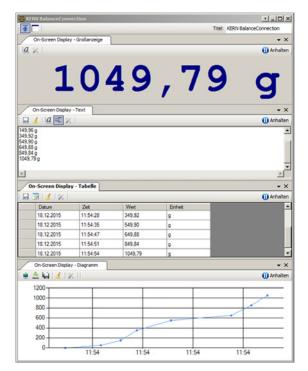
### Flexible recording or transfer of measurements, particularly to Microsoft<sup>®</sup> Excel or Access

#### Features

16

- For operating systems Windows XP, Vista, 7, 8, 8.1, 10, 11
- Supports balances measuring devices with RS 232, RS 485, Bluetooth, LAN or WiFi 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<sup>®</sup> 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 analyser), histogram, etc.



Different on-screen displays with export function

| Tip

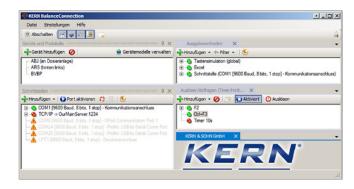
Do you have any questions? The team from our Industry 4.0 centre of expertise will be happy to help: e-mail: ITsupport@kern-sohn.com Or download a free demo version of the BalanceConnection software: http://balanceconnection.kern-sohn.com/demo

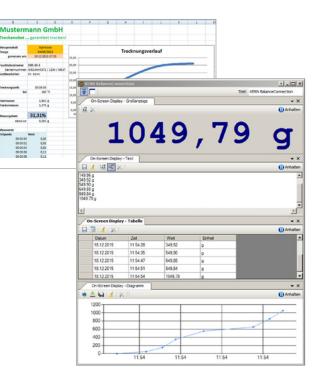
#### **Benefits**

- Typing errors during e.g. manual transfer are avoided
- Automatic recording, e.g. for long-term tests
- Supports GLP-compliant processes
- 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
- Scope of supplies: 1 CD, 5 licenses, KERN SCD-4.0S05
- Scope of supplies:
- Download link for 1 license, KERN SCD-4.0-DL

#### KERN Software BalanceConnection SCD-4.0 Pro

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6		(große Mengen)	Alkohol	400	g	411,21 g	07.05.2012 12:15	11,21 g	2,80%	611,68 g	4
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	Dropropizin	5,000	g	4,9993 g	07.05.2012 12:16	-0,0007 g	-0,01%	1.619,0693 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	
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## Professional and highly flexible recording or transmission of measured values, in particular also to Microsoft<sup>®</sup> Excel or Access

#### Features

- For operating systems Windows XP, Vista, 7, 8, 8.1, 10, 11
- Supports balances measuring devices with RS 232, RS 485, Bluetooth, LAN or WiFi 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<sup>®</sup> 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 analyser), histogram, etc.

#### Additional features of the BalanceConnection PRO version:

- ODBC/SQL databases such as SQL Server or MySQL
- Transfer to HTTP Webservices/Web formsHistogram
- 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/scrips 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
- Supports GLP-compliant processes
- Can be used across different branches and applications
- Any number of balances can be used on one PC/workstation per licence
- 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
- Scope of supplies:
- 1 CD, 5 Licenses
- KERN SCD-4.0-PROS05
- Scope of supplies: Download link for 1 License, KERN SCD-4.0-PRO-DL

#### Accessories



#### RS-232/Ethernet adapter KERN YKI-01

Adapter to connect balances, force measuring devices etc. with an RS-232 interface 2 to an IP-based Ethernet network 1. The adapter allows direct integration of measuring devices into most company networks, with automatic configuration using DHCP or statistical IP allocation. You can access the current measuring data at any time from within the whole network, without having to use additional cables. The adapter supports a wide range of configurational options using the enclosed administration software or by the web interface. The driver delivered with the goods allows you to access the measuring device with existing, non-network-compatible applications using a virtual COM port. Compatible with KERN BalanceConnection software. DIN track mount I or free-standing.

Scope of delivery: RS-232 Ethernet adapter with 1x Port RS-232 **1**, mains adapter **4**, CD (driver, software, operating instructions), adhesive feet, (interface cable see page 173),

KERN YKI-01

#### RS-232/WiFi adapter KERN YKI-03

High-quality adapter for the wireless connection of balances, force measuring devices etc. with RS-232 interface to WiFi-enabled devices, such as tablets, laptops, Smartphones etc. In this way, where there is a physical separation or a large distance between the devices, the weighing data from one or several balances can be easily transferred without cable to a WiFi device or a network (relevant software on the WiFi device needed, not included in delivery). The adapter allows direct integration of measurement devices into most company networks, with automatic configuration using DHCP or statistical IP allocation. You can access the current measuring data at any time from within the whole network, without having to use additional cables. The adapter supports a wide range of configurational options using the enclosed administration software or by the web interface. The driver delivered with the goods allows you to access the measurement device with existing, non-network-compatible applications using a virtual COM port. Compatible with KERN Software BalanceConnection.

The adapter also has an Ethernet interface for a wired connection to an IP-based Ethernet network **1**. Thanks to the screw terminals **2**, the power connection can be implemented individually using individual wires or using the robust, screw-in power connector **3**. Large input voltage range from 12 V-48 V. Suitable for wall mounting and DIN track mount **4** or free-standing.

Scope of delivery: RS-232/WiFi adapter, mains adapter, network cable (1 m), driver CD, (interface cable see page 173),

KERN YKI-03





Note: To connect to your network, you will need information from your network administrator. We recommend discussing connecting your device into your network with the administrator before you place your order.
 Note: If you order a KERN balance at the same time, then the interface cable is free of charge (please specify balance model).

STANDARD

RS 232



#### RS-232/Bluetooth adapter KERN YKI-02

Adapter for the wireless connection of balances, force measuring devices etc. with an RS-232 interface to Bluetooth devices, such as Bluetooth printers, tablets, laptops, Smartphones etc. In this way, where there is a physical separation or a large distance between the devices, the weighing data from one or several balances can be easily sent without cable and printed on a Bluetooth printer or transferred to a Bluetooth device (you would need the relevant software on the Bluetooth device, not included with the delivery). The compact adapter with its attractive design can usually be connected directly to the balance **1**, e.g. an additional interface cable would not be necessary. Bluetooth adapter will be powered by the balance (if compatible) or with the mains adapter which is supplied as standard **2**. Range up to 100 m outside, depending on obstacles, such as, walls, the sensitivity and type of antenna of the receiver. Intersections of sending and receiving lines using the DCE/DTE switch **I**. Compatible with KERN Software BalanceConnection.

Scope of delivery: RS-232/Bluetooth adapter, mains adapter (EU/UK/USA/AUS/CH) 2, USB-A to Mini-USB-B cable 4, gender changer 5, driver CD, (interface cable see page 173),

KERN YKI-02



Note: To connect to your network, you will need information from your network administrator. We recommend discussing connecting your device into your network with the administrator before you place your order.
 Note: If you order a KERN balance at the same time, then the interface cable is free of charge (please specify balance model).



#### Large display KERN YKD-A02

with superior display size, digit height 3" (76 mm). Luminescent, red LED display for easy reading of weight, even from a distance or under poor lighting conditions. 6 segments, mains connection as standard (230 V, EU/GB), connection using RS-232 data interface, dimensions W×D×H 541×55×180 mm.

Suitable for series IFB, BFB, NFB, UFA, UFB,

KERN YKD-A02



#### Signal lamp KERN CFS-A03

Signal lamp for visual support of weighing with tolerance range. Three-colour LED, red, green, yellow. Power supply via balance using RS-232. Total dimensions W×D×H 100×180×300 mm

Suitable for series BFB, BFN, BID, CKE, CPB-N, GAB-N, GAB-P, IFB, IFS, IOC, KFB-TM, KFN-TM, KIB-TM, NBB, NFB, NFN, SFB, UFA, UFB, UFC, UFN,

KERN CFS-A03

#### Power supply adapter set KERN YKA-02

from standard EU to GB/US/AUS/CH etc. Four pieces. Ideal for devices with Class II protection (not earthed). Ideal for Euro moulded plug,

KERN YKA-02



### 2nd RS-232 data interface KERN CFS-A04

separate Y cable, e.g. for simultaneous connection of a a printer and a signal lamp.

Suitable for series BAN, BFB, CFS, CPB-N, GAB-N, GAB-P, IFB, KFB-TM, NFB, NFN, UFN, UFA, UFB, SFB,

KERN CFS-A04



### RS-232/USB adapter KERN AFH 12

to connect peripheral devices with USB connection, fits on all balances and measuring instruments with RS-232 port.

Please order the appropriate RS-232 interface cable for your balance at the same time, see table on page 173

Scope of delivery: Converter cable, CD with driver,

KERN AFH 12

#### Accessories



#### Stand (tripodal) KERN YKP-02

stable and robust, to elevate display device, stainless steel, height-adjustable, large three-legged adjustable foot, height of stand approx. 750–1000 mm, Factory Option.

Suitable for series BFB, BXS, BFS, BFA, BBB, BBN, BKN, IFS, IFB, KFE-TM, KXG-TM, KXS-TM, KEN-TM, NFB, NBB, SFE, UFA, UFB, UFC,

KERN YKP-02



#### Protective dust cover KERN ABS-A08

For protection from dust and light (Fig. similar).

Suitable for all KERN analytical balances and precision balances with glass draught shield,

KERN ABS-A08



#### Tare pan KERN RFS-A02

Made of stainless steel, which makes cleaning easy and hygienic. Ideal for weighing loose screws, small parts as well as fruit, vegetables, cheese, etc.

- W×D×H 400x300x45 mm
- Net weight approx. 554 g

KERN RFS-A02



### Tare pan with pan beam KERN CH-A01N

Made of stainless steel. Ideal for weighing loose small parts as well as fruit, vegetables etc. Max. load 30 kg. Removable tare pan which makes cleaning easy and hygienic.

Suitable for models KERN CH 15K20, HCB 20K10, HDB-N, HDB-XL

- Dimensions: tare pan, Ø/H 160×40 mm (dim. outside), 240×40 mm (dim. inside)
- Pan beam: W×D×H
   290×240×300 mm
   290×240×340 mm (incl. tare pan)
- Total net weight approx. 500 g

KERN CH-A01N



#### Universal density set KERN YDB-03

Universal density set for precise and convenient density determination of liquids and solids  $\leq \geq 1$ . Suitable for all current KERN analytical balances.

Scope of delivery: Beaker ( $\emptyset$ ×H 84×113 mm), thermometer, sample holder, adapter, equalising weights, volume plummet (stainless steel, 20 g), universal submersible basket for solid bodies which float and sink. The wire of the submersible basket has a diameter of 0.5 mm and therefore complies with the requirements of DIN EN ISO 1183-1 (test methods for the determination of density of non-foamed plastics), KERN YDB-03

#### Optional:

Density determination of the volume plummet, DAkkS calibration certificate with all data relating to the density and volume, KERN 962-335V



#### Ioniser to neutralise electrostatic charge KERN YBI-01A

Goods to be weighed which are non-conductive, such as plastic, china, glass, etc often carry electrostatic charge. The electromagnetic field which then occurs between the goods to be weighed and the balance can cause the weighing result to be distorted by up to a gramme. Therefore, when weighing in milligrammes or even smaller increments, we recommend neutralising the electrostatic charge with the KERN AC-Korona discharge ioniser. With feet supplied with the ioniser, it can be positioned conveniently next to the balance or you can manually direct it from all sides onto a particular item to be weighed.

- Discharge of ozone 0,05 ppm/h
- Total dimensions W×D×H
   115×100×60 mm (Adjustable foot retracted),
   115×110×80 mm (Adjustable foot folded out)
- Net weight approx. 0,31 kg
- Mains connection 100–240 V, 50/60 Hz, AC power supply, DC 12 V, 500 mA, output,

KERN YBI-01A







#### Weighing table KERN YPS-03

The KERN YPS-03 weighing table has been constructed to absorb vibrations and oscillations, which would otherwise distort the weighing result.

The YPS-03 weighing table consists of:

- a heavy, polished granite slab (24 kg) and is positioned on absorbing rubber components and is used as a surface on which to stand the analytical balance
- a work table, the work surface of which surrounds the slab and offers many storage options. The sturdy powder-coated steel frame has four height-adjustable feet, which can be used to accurately level the weighing table if the floor is at all uneven
- You can work in an ergonomic way at the weighing table whether you are in a standing or seated position. The inlet on the front of the table offers enough space for you to sit down and operate the scale without touching the weighing table.
- All surfaces are hygienic and easy to clean
- Suitable for all KERN analytical balances with total dimensions ≤ W×D 300×400 mm
   Total dimensions W×D×H
- 785×600×800 mm (Height adjustable) • Dimensions granite slab, W×D×H
- 300×400×80 mm
- Net weight approx. 46 kg

Ready for shipping in 2 working days. Dispatch complete on pallet, simple self-assembly. Please ask for dimensions, gross weight, shipping costs,

KERN YPS-03



#### Anti-vibration granite plates KERN YPS-04, -05, -06

- The KERN YPS-04, -05, -06 anti-vibration granite plates are designed to dampen shocks and vibrations that would otherwise distort the weighing results of high precision Laboratory Scales and analytical balances. Also ideal for vibration-free microscope set-up
- The anti-vibration granite plate is made of polished granite, which is supported on absorbent damping elements
- The anti-vibration granite plate can be used ergonomically while standing or sitting comfortably
- Compact size, practical for small spaces
- All surfaces are hygienic and easy to clean
- Suitable for all KERN analytical balances, precision balances and microscopes with the corresponding dimensions
- Overall dimensions, W×D×H YPS-04: 400×450×60 mm YPS-05: 565x450x60 mm YPS-06: individual dimensions, according to your requirements
- Net weight approx. YPS-04: 30 kg YPS-05: 35 kg YPS-06: on request

Ready for shipping in 2 working days. Dispatch complete on pallet. Please ask for dimensions, gross weight, shipping costs,

KERN YPS-04 KERN YPS-05 KERN YPS-06, on request

2 DAYS









#### Roller conveyor KERN YRO-01/ YRO-02/ YRO-03

Through the smooth-running KERN roller conveyor attachments, KERN YRO, you can convert your platform scale into a robust measuring system for rapid and flexible weight determination in conveyor applications

Especially suitable for use in production and dispatch lines, where time means money. The goods or packages can either be weighed as they pass over the balance or, at fixed stations, heavy goods can easily be pushed onto the scale thanks to the roller conveyor and moved onto the connected roller conveyor

- Simply connect the roller conveyor attachment to a platform (e.g. KERN IFB, IFS, IXS, KFP, KXP, SXS) – done!
- Robust aluminium profile frame. The modular design means that you can easily disassemble it for cleaning or to replace individual components
- Smooth-running, hot-dip galvanised steel rollers with ball bearings
- Conductive rollers
- Suitable for use in dry environments
- Roller distance approx. 30 mm
- Direction of movement is lengthways

 Scope of delivery: 1 roller conveyor attachment (without scale)

will be happy to help you

We are happy to adapt the roller conveyor to your scale, adjust the preload or switch-on tolerance, etc. Please ask for your individual offer, your personal KERN contact person

Model	Total dimensions W×D×H	Suitable for platforms with weighing plate sizes W×D	Total net weight approx.	
KERN	mm	mm	kg	
YRO-01	405×305×130	400×300	6	
YRO-02	505×405×130	500×400	9	
YRO-03	655×505×130	650×500	12	



# **TEST WEIGHTS**

#### Weights yesterday and today

For centuries now, weight pieces have been used in scales for weighing procedures. This original purpose has now almost disappeared. Today, weights are used almost exclusively for adjusting and testing = calibration of electronic balances. They are now named "test weights" as this is their contemporary purpose.

#### Adjustment or calibration?

► Adjusting a balance means that you are intervening in the weighing system, to make sure that the display is set to show the correct nominal value. With ► calibration on the other hand, there is no intervention, you are testing whether the display is correct and documenting any deviation.

#### Testing, the right way!

The internationally valid OIML norm R111:2004 classifies test weights hierarchically in accuracy classes, where E1 is the most accurate and M3 is the least accurate weight class. With KERN you get the whole test weight range in all OIML accuracy classes E1, E2, F1, F2, M1, M2, M3.

As the test weight only becomes an ► *ISO 9000ff*-compliant test instrument when its accuracy has been proven, we offer the appropriate ► *DAkkS Calibration certificate* or verification certificate (in connection with a box) for all KERN test weights. For further details see chapter *DAkkS Calibration Service*.

KERN offers you the appropriate test weight package for your balance, consisting of the test weight, box and DAkkS-calibration certificate, as proof of its accuracy. The best prerequisite for a correct adjustment or checking of your scales.

#### ▶ See the glossary on page 223-225

Classes of accuracy of test weights E, F, M and their general relation to the types of balances:

- E1 Test weights for customers who require a high degree of accuracy for the most demanding applications. For high-resolution balances with d > 1,000,000 Use recommended with DAkkS calibration certificate only.
- E2 Most accurate test weights for high resolution analytical balances of verification class I ≥ 100,000 e
- F1 Test weights for analytical balances/precision balances for verification class I/II ≤ 100,000 e
- F2 Test weights for precision balances of verification class II  $\leq$  30,000 e
- M1 Test weights for industrial and commercial scales of verification class III ≤ 10,000 e

The appropriate test weight for your new KERN balance can also be found directly in the accessories of the balance in our webshop.

4 DAYS	4 DAYS
10 DAYS	10 DAYS
15 DAYS	15 DAYS
	10 DAYS

Special weights, Newton weights, heavy duty weights, weight carriers containers for individual weight sets etc.

on request

# Just lean back – we have just the right test weight for your measuring device

KERN offers you a large range of OIML test weights, which you can use at any time to quickly and reliably check your balance, force-measuring device, etc.. From milligram weights to tonne weights, from the classic OIML design to special weights which are specifically manufactured to your specifications, we can offer you just the right test weight, and naturally the weights have the relevant DAkkS calibration certificate or factory calibration certificate.

On the following pages you will see a selection of standard test weights for OIML error limit classes E1, E2, F1, F2, M1, M2, M3.

We will be happy to manufacture special (large) weights, weight containers, Newton weights or weights with special weight values for you on request. Our test weights product specialist will be happy to give you expert, comprehensive advice.

**Note:** In our webshop you can conveniently select test weights for your scale that have been calculated and matched to your accuracy requirements and intended use – with or without calibration. We will be happy to determine the minimum sample quantity according to USP Chapter <41> and recommend a KERN Safety Set especially designed for your scale.





# **PREMIUM**<sup>+</sup> TEST WEIGHTS

**Note:** Our highly-accurate OIML test weights are also available as **PREMIUM<sup>+</sup>** test weights for that extra level of safety. Thanks to the most modern manufucturing technology, these test weights can also be adjusted within the specified error limit classes (= tolerances).

I.e. this means that these **PREMIUM<sup>+</sup> test weights** have a significantly longer service life, thanks this guaranteed positive tolerance. This is of particular benefit with intensive use of the test weights.

For all the details on this **PREMIUM<sup>+</sup> service** please see **www.kern-lab.com/premium+** or look at the weight you want in our online shop

#### Marking – never lose track again!

With the large variety of test equipment used then it is essential that they are identified accurately. We can help you with this and mark your test weights according to your ideas by etching or with impact numbers. Whether it's letters, numbers, your logo, barcodes or something else – it's your choice. Our product specialist "Test weights" will gladly help you with any questions about this service, prices, etc.





### KERN SAFETY SETS

#### All the security you need!

"KERN Safety Sets" which have been specially developed, put together and contain the right test weights to test and monitor your balance. They each consist of a test weight for checking the sensitivity, i.e. the correct adjustment of your scale, and a small test weight for checking at the lower end of the weighing range, the so-called minimum sample weight. As an option, the "KERN Safety Set" has space for another test weight, for testing your balance at a weight which is relevant for you.

Useful accessories which have been selected to suit that particular "KERN Safety Set", such as, for example, special gloves, tweezers, weight grips, brushes, etc., will assist you in handling your test weights properly. Stored in the practical protective case next to your balance, you can check and ensure the high precision of your balance at any time.

Just ask our test weight product specialist, they will be happy to recommend the right "KERN Safety Set" for your balance. You can also find the matching "KERN Safety Set" for each model on the Internet





#### Our KERN weight cases at a glance:



#### It's your choice!

To protect your test weights we can offer you an appropriate weight case. If there are no legal or normative specifications, then you have the choice between plastic, aluminium protected or wood. The available weight cases are shown as a symbol in the test weight tables on the following pages. This way you have all the materials, versions, sizes and prices at a glance, listed in a concise way.

#### It's so easy to order your suitable test weight

According to your safety requirements or the specifications of your QM system, you select the test weight with the appropriate weight value and the required tolerance (see page 186/187).

1

We offer many test weights in different designs, giving you complete freedom to decide which test weights you want to use for your application. It goes without saying that all our test weights comply with the OIML R111:2004 directive.

2

To protect your high-quality test equipment, we offer you cases in various designs. From low-priced plastic weight cases to aluminium protected weight cases to classic, high-quality wooden weight cases.

3

A DAkkS calibration certificate - the auditor's favourite! With this certificate you provide the standard-compliant proof of all important values of your test equipment and are on the safe side when operating and testing your measuring equipment.

1 2					3						4				
Weight	Tol +/- mg	Individual v compact sh	• /	Individual knob shap	,	Plastic box		Alumini box	um prot	ected	Woode	n box		DAkkS cer	tificate
		KERN	€	KERN	€	KERN	€	KERN	-	€	KERN	<u> 1</u> 47	€	KERN	€
1 g	0,03	316-01	36,-	317-01	52,-	317-020-400	4,-	317-010	-600	14,-	317-010	0-100	26,-	962-331	30,-
2 g	0,04	316-02	36,-	317-02	53,-	317-020-400	4,-	317-020	-600	14,-	317-020	0-100	26,-	962-332	30,-
5 g	0,05	316-03	37,-	317-03	56,-	317-030-400	4,-	317-030	-600	14,-	317-030	0-100	26,-	962-333	30,-
10 g	0,06	316-04	38,-	317-04	60,-	317-040-400	4,-	317-040	-600						30,-
20 g	0,08	316-05	43,-	317-05	68,-	317-050-400	4								
_	-	216.06	46	317-06	73	317.0/									

1	2	3					4	
Weight	Knob shape in plastic case		Knob shape i protected ca	in aluminium se	Knob shape in wooden case KERN		DAkkS cer	tificate
	KERN	€	KERN	€	KERN	€	KERN	€
1 mg - 500 mg	338-22	143,-	338-226	183,-			962-450	110,-
1 mg - 50 g	333-024	345,-	333-026	365,-	333-02	370,-	962-401	184,-
1 mg - 100 g	333-034	385,-	333-036	400,-	333-03	405,-	962-402	196,-
1 mg - 200 g	333-044	450,-	333-046	465,-	333-04	470,-	962-403	220,-
1 mg - 500 g	333-054	510,-	333-056	530,-	333-05	540,-	962-404	230,-
1 mg - 1 kg	333-064	630,-	333-066	650,-	332.04		0.405	240,-
	333-074	890	333-076					

#### Selection of the appropriate test weight for your balance

A balance can never be more accurate than the test weight that is used to adjust it, it all depends on its tolerance. The accuracy of the test weight should correspond to the readout [d] of the balance, or rather be more precise.

Nominal weight value is shown in adjust mode "CAL" in the balance display. Given a choice, the heaviest weight is the most suitable for accurate measurement.

Once accuracy and nominal weight value are specified, the suitable test weight is selected according to the tolerances "Tol" of the individual accuracy classes E2 – M3, see column "Tol  $\pm$  mg" at the respective weight and table at page 187.

#### Example:

Balance with weighing range [Max] 2000 g = 2 kg and readout [d] = 0,01 g = 10 mg

- The accuracy of the required test weight is determined by readout [d]: max. tolerance ± 10 mg.
- Displayed weight size on "CAL" mode: 1000 g or 2000 g. The required test weight has a 2 kg weight size.
- Suitable test weights with ± 10 mg tolerance and 2 kg weight size, can be found in accuracy class F1. KERN-No 326-12 or KERN-No 327-12, see page 193.

**Exception: analytical balances** (readout  $[d] \le 0,1$  mg): E1 test weights are recommended. Depending on the safety requirements, E2 test weights with a DAkkS calibration certificate will also be sufficient.

#### From finely turned to polished stainless steel - the right test weight for every situation





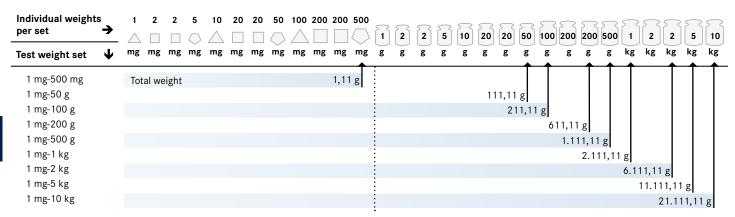






Test weight	Knob shape with lifting knob, polished	Compact shape with carrying grip, polished	Knob shape with lifting knob, polished	ECO shape, polished stainless steel	Knob shape with lifting knob, finely turned	
Features	stainless steel	stainless steel	stainless steel		stainless steel	
Conforms to OIML:R111	yes	yes	yes	yes	yes	
Available classes	E1, E2	E2	F1	F1	F2, M1	
Upper surface	polished	polished	polished	polished	finely turned	
Material	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	
Adjusting cavity	no	no	yes	yes, from 50 g, readjustment can only be carried out by KERN	yes, from 20 g	
<b>Marking</b> (Milligram weights, generally none)	none	none	Nominal value, etched	Nominal value, etched	F2: Class + nominal value, etched; M1: Class + nominal value, adopted	
Verification possible	yes (E2)	yes	yes	no	yes (M1)	
Checking equipment for verification purposes	approved (E2)	approved	approved	approved	approved (M1)	
Ideal as checking equip- ment in QM systems (e.g. ISO 9000 ff)	yes	yes	yes	yes	yes	
Benefits	<ul> <li>High-quality test weight for analytical and precision balances</li> <li>Highly-refined surface</li> <li>Ideal shape of the top for good grip</li> </ul>	<ul> <li>Affordable test weight for analytical and precision balances</li> <li>Highly refined surface</li> </ul>	<ul> <li>Ideal, high-quality test weight for precision balances</li> <li>No visible adjustment chamber</li> <li>High long-term stability</li> <li>Ideal shape of the top for good grip</li> </ul>	<ul> <li>Affordable test weight for analytical and precision balances</li> <li>Highly refined surface</li> <li>Optimum shape of the top for good grip</li> </ul>	<ul> <li>Ideal test weight for commercial and indus- trial scales</li> <li>Ideal shape of the top for good grip</li> </ul>	

Composition table, valid for all KERN test weight sets from 1 mg



#### The key points from the OIML norm R111:2004

OIML (Organisation Internationale de Métrologie Légale) has established the exact metrological requirements for weights in verified applications in approx. 100 states all over the world. The OIML recommendation R111 (2004 Edition) for weights relates to sizes 1 mg - 5000 kg. Statements are made on the accuracy, materials, geometric shape, marking and storage of the weights.

#### Error limits for weights of classes E1 to M3

The error limit classes are in fixed hierarchical levels in the proportion of 1:3, where E1 is the most accurate and M3 is the least accurate weight class. When testing weights with other weights, the correct test class is the next highest class.

#### Error limit classes (= tolerances)

The values given in the table below (tolerances  $\pm \dots$  mg) are the respective permitted fabrication tolerances. They are to be equal to the > measuring uncertainty of the weight, if no ► DAkkS calibration certificate is available.

#### **Conventional mass**

The problem is the air buoyancy, which makes the weight appear lighter. In order to avoid this "distortion" in daily use, all weights are adjusted to the unit specifications as given in R111, e.g. it is accepted that: material density of the weights is 8000 kg/m³, air density is 1.2 kg/m³  $\,$ and measuring temperature is 20 °C.

KERN test weights: Unless otherwise specified, they conform to OIML R111:2004 in every detail.

#### ▶ See the glossary, page 223–225

lominal value	OIML R111:200	OIML R111:2004 Maximum permissible errors for weights = permissible tolerances "Tol ± mg"										
$\mathbf{\Lambda}$	E1	E2	F1	F2	M1	M2	М3					
1 mg	± 0,003 mg	± 0,006 mg	± 0,020 mg	± 0,06 mg	± 0,20 mg	-	-					
2 mg	± 0,003 mg	± 0,006 mg	± 0,020 mg	± 0,06 mg	± 0,20 mg	-	-					
5 mg	± 0,003 mg	± 0,006 mg	± 0,020 mg	± 0,06 mg	± 0,20 mg	-	-					
10 mg	± 0,003 mg	± 0,008 mg	± 0,025 mg	± 0,08 mg	± 0,25 mg	-	-					
20 mg	± 0,003 mg	± 0,010 mg	± 0,03 mg	± 0,10 mg	± 0,3 mg	-	-					
50 mg	± 0,004 mg	± 0,012 mg	± 0,04 mg	± 0,12 mg	± 0,4 mg	-	-					
100 mg	± 0,005 mg	± 0,016 mg	± 0,05 mg	± 0,16 mg	± 0,5 mg	± 1,6 mg	-					
200 mg	± 0,006 mg	± 0,020 mg	± 0,06 mg	± 0,20 mg	± 0,6 mg	± 2,0 mg	-					
500 mg	± 0,008 mg	± 0,025 mg	± 0,08 mg	± 0,25 mg	± 0,8 mg	± 2,5 mg	-					
1 g	± 0,010 mg	± 0,03 mg	± 0,10 mg	± 0,3 mg	± 1,0 mg	± 3,0 mg	± 10 mg					
2 g	± 0,012 mg	± 0,04 mg	± 0,12 mg	± 0,4 mg	± 1,2 mg	± 4,0 mg	± 12 mg					
5 g	± 0,016 mg	± 0,05 mg	± 0,16 mg	± 0,5 mg	± 1,6 mg	± 5,0 mg	± 16 mg					
10 g	± 0,020 mg	± 0,06 mg	± 0,20 mg	± 0,6 mg	± 2,0 mg	± 6,0 mg	± 20 mg					
20 g	± 0,025 mg	± 0,08 mg	± 0,25 mg	± 0,8 mg	± 2,5 mg	± 8,0 mg	± 25 mg					
50 g	± 0,03 mg	± 0,10 mg	± 0,3 mg	± 1,0 mg	± 3,0 mg	± 10 mg	± 30 mg					
100 g	± 0,05 mg	± 0,16 mg	± 0,5 mg	± 1,6 mg	± 5,0 mg	± 16 mg	± 50 mg					
200 g	± 0,10 mg	± 0,3 mg	± 1,0 mg	± 3,0 mg	± 10 mg	± 30 mg	± 100 mg					
500 g	± 0,25 mg	± 0,8 mg	± 2,5 mg	± 8,0 mg	± 25 mg	± 80 mg	± 250 mg					
1 kg	± 0,5 mg	± 1,6 mg	± 5,0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg					
2 kg	± 1,0 mg	± 3,0 mg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1 000 mg					
5 kg	± 2,5 mg	± 8,0 mg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2 500 mg					
10 kg	± 5,0 mg	± 16 mg	± 50 mg	± 160 mg	± 500 mg	± 1 600 mg	± 5 000 mg					
20 kg	± 10 mg	± 30 mg	± 100 mg	± 300 mg	± 1 000 mg	± 3 000 mg	± 10 g					
50 kg	± 25 mg	± 80 mg	± 250 mg	± 800 mg	± 2 500 mg	± 8 000 mg	± 25 g					
100 kg	-	± 160 mg	± 500 mg	± 1 600 mg	± 5 000 mg	± 16 g	± 50 g					
200 kg	-	± 300 mg	± 1 000 mg	± 3 000 mg	± 10 g	± 30 g	± 100 g					
500 kg	-	± 800 mg	± 2 500 mg	± 8 000 mg	± 25 g	± 80 g	± 250 g					
1 000 kg	-	± 1 600 mg	± 5 000 mg	± 16 g	± 50 g	± 160 g	± 500 g					
2 000 kg	-	-	± 10 g	± 30 g	± 100 g	± 300 g	± 1 000 g					
5 000 kg	_	-	± 25 g	± 80 g	± 250 g	± 800 g	± 2 500 g					

# **Test weights and boxes Class E1**



Milligram weights, wire shape



Individual weights, knob shape



Wooden box, for milligram weights

<u></u>

/<del>þ</del>/



Plastic box, lined, for individual weights ≤ 50 g



Plastic box, lined, for individual weights ≥ 100 g



Wooden box, lined, for individual weights  $\leq$  500 g



Wooden box, lined, for individual weights  $\geq$  1 kg





Milligram weight Milligram weight set in plastic box set in aluminium protected box, lined (308-426)



Plastic case, lined, for weight sets, compact shape/ knob shape



(**)** 

Aluminium protected case, lined, for weight sets, knob shape



Wooden case, lined, for weight sets, knob shape

(308-42)

#### Class E1 · Milligram weights, wire shape

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, wire shape	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN 🗗	KERN	KERN
1 mg	0,003	308-31	347-009-400	317-009-600	338-090-200	962-251
2 mg	0,003	308-32	347-009-400	317-009-600	338-090-200	962-252
5 mg	0,003	308-33	347-009-400	317-009-600	338-090-200	962-253
	0,003	308-34	347-009-400	317-009-600	338-090-200	962-254
20 mg	0,003	308-35	347-009-400	317-009-600	338-090-200	962-255
50 mg	0,004	308-36	347-009-400	317-009-600	338-090-200	962-256
100 mg	0,005	308-37	347-009-400	317-009-600	338-090-200	962-257
200 mg	0,006	308-38	347-009-400	317-009-600	338-090-200	962-258
500 mg	0,008	308-39	347-009-400	317-009-600	338-090-200	962-259

#### Class E1 · Individual weights, knob shape

Test weight material: stainless steel polished

Weight	Tol +/- mg	Individual weight, knob shape	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate Initial calibration*	DAkkS certificate Recalibration
		KERN	KERN	KERN 🖻	KERN	KERN	KERN
1 g	0,010	307-01	317-020-400	317-010-600	317-010-100	963-231	962-231 R
2 g	0,012	307-02	317-020-400	317-020-600	317-020-100	963-232	962-232 R
5 g	0,016	307-03	317-030-400	317-030-600	317-030-100	963-233	962-233 R
10 g	0,020	307-04	317-040-400	317-040-600	317-040-100	963-234	962-234 R
20 g	0,025	307-05	317-050-400	317-050-600	317-050-100	963-335	962-235 R
50 g	0,030	307-06	317-060-400	317-060-600	317-060-100	963-236	962-236 R
100 g	0,050	307-07	317-070-400	317-070-600	317-070-100	963-237	962-237 R
200 g	0,100	307-08	317-080-400	317-080-600	317-080-100	963-238	962-238 R
500 g	0,250	307-09	317-090-400	317-090-600	317-090-100	963-239	962-239 R
1 kg	0,500	307-11	317-110-400	317-110-600	317-110-100	963-241	962-241R
2 kg	1,000	307-12	317-120-400	317-120-600	317-120-100	963-242	962-242 R
5 kg	2,500	307-13	317-130-400	317-130-600	317-130-100	963-243	962-243 R
10 kg	5,000	307-14	317-140-400	317-140-600	317-140-100	963-244	962-244 R
20 kg	10,000	307-15	-	317-150-600	317-150-100	963-245	962-245 R
50 kg	25,000	307-16	-	317-160-600	317-160-100	963-246	962-246 R

\* For E1 weights > 1g at the point of initial calibration, a volume determination will be carried out in accordance with OIML:R111. When recalibrating, this is not required.

#### **Class E1** · Weight sets, knob shape

Test weight material: stainless steel polished

eight set	Knob shape in plastic case	Knob shape in alu- minium protected case	Knob shape in wooden case	DAkkS certificate Initial calibration*	DAkkS certificate Recalibration	
	KERN	KERN	KERN	KERN	KERN	
1 mg - 500 mg	308-42	308-426		962-250	962-250 R	
			000.00		0/0.0010	
1 mg - 50 g	303-024	303-026	303-02	963-201	962-201R	
1 mg - 100 g	303-034	303-036	303-03	963-202	962-202 R	
1 mg - 200 g	303-044	303-046	303-04	963-203	962-203 R	
1 mg – 500 g	303-054	303-056	303-05	963-204	962-204 R	
1 mg – 1 kg	303-064	303-066	303-06	963-205	962-205 R	
1 mg - 2 kg	303-074	303-076	303-07	963-206	962-206 R	
1 mg – 5 kg	303-084	303-086	303-08	963-207	962-207 R	
1 mg – 10 kg	-	303-096	303-09	963-208	962-208 R	
1 g - 50 g	304-024	304-026	304-02	963-215	962-215 R	
1 g - 100 g	304-034	304-036	304-03	963-216	962-216 R	
1 g - 200 g	304-044	304-046	304-04	963-217	962-217 R	
1 g - 500 g	304-054	304-056	304-05	963-218	962-218 R	
1 g - 1 kg	304-064	304-066	304-06	963-219	962-219 R	
1 g – 2 kg	304-074	304-076	304-07	963-220	962-220 R	
1 g - 5 kg	304-084	304-086	304-08	963-221	962-221R	
1 g - 10 kg	-	304-096	304-09	963-222	962-222 R	

# **Test weights and boxes Class E2**



Milligram weights, flat polygonal sheet



Individual weights, compact shape



Individual weights, knob shape





- Plastic box, lined, for individual weights  $\leq 50$  g
- Plastic box, lined, for individual weights  $\geq$  100 g



Aluminium protected box, lined, for individual weights



Wooden box, lined, for individual weights  $\leq$  500 g



Wooden box, lined, for individual weights ≥1 kg

*\*4/





(318-22)

Milligram weight Milligram weight set in plastic box set in aluminium protected box, lined (318-226)



Plastic case, lined, for weight sets, compact shape/ knob shape



Aluminium protected case, lined, for weight sets, compact shape/ knob shape



Wooden case, lined, for weight sets, compact shape/ knob shape

#### Class E2 · Milligram weights, flat polygonal sheet

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, flat polygonal sheet	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN 🖻	KERN	KERN
1 mg	0,006	318-01	347-009-400	317-009-600	338-090-200	962-351
2 mg	0,006	318-02	347-009-400	317-009-600	338-090-200	962-352
5 mg	0,006	318-03	347-009-400	317-009-600	338-090-200	962-353
10 mg	0,008	318-04	347-009-400	317-009-600	338-090-200	962-354
20 mg	0,010	318-05	347-009-400	317-009-600	338-090-200	962-355
50 mg	0,012	318-06	347-009-400	317-009-600	338-090-200	962-356
100 mg	0,016	318-07	347-009-400	317-009-600	338-090-200	962-357
200 mg	0,020	318-08	347-009-400	317-009-600	338-090-200	962-358
500 mg	0,025	318-09	347-009-400	317-009-600	338-090-200	962-359

#### **Class E2** · Individual weights, compact shape or knob shape

Test weight material: stainless steel polished

Weight	Tol +/- mg	Individual weights, compact shape	Individual weights, knob shape	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN	KERN 🖻	KERN	KERN
1 g	0,03	316-01	317-01	317-020-400	317-010-600	317-010-100	962-331
2 g	0,04	316-02	317-02	317-020-400	317-020-600	317-020-100	962-332
5 g	0,05	316-03	317-03	317-030-400	317-030-600	317-030-100	962-333
10 g	0,06	316-04	317-04	317-040-400	317-040-600	317-040-100	962-334
20 g	0,08	316-05	317-05	317-050-400	317-050-600	317-050-100	962-335
50 g	0,10	316-06	317-06	317-060-400	317-060-600	317-060-100	962-336
100 g	0,16	316-07	317-07	317-070-400	317-070-600	317-070-100	962-337
200 g	0,30	316-08	317-08	317-080-400	317-080-600	317-080-100	962-338
500 g	0,80	316-09	317-09	317-090-400	317-090-600	317-090-100	962-339
1 kg	1,60	316-11	317-11	317-110-400	317-110-600	317-110-100	962-341
2 kg	3,00	316-12	317-12	317-120-400	317-120-600	317-120-100	962-342
5 kg	8,00	316-13	317-13	317-130-400	317-130-600	317-130-100	962-343
10 kg	16,00	316-14	317-14	317-140-400	317-140-600	317-140-100	962-344
20 kg	30,00	-	317-15	-	317-150-600	317-150-100	962-345
50 kg	80,00	-	317-16	-	317-160-600	317-160-100	962-346

#### **Class E2** · Weight sets, compact shape or knob shape

Test weight material: Milligramm weights stainless steel, individual weights: polished stainless steel

Weight sets	Compact shape in plastic case	Knob shape in plastic case	Knob shape in aluminium protected case	Knob shape in wooden case	DAkkS certificate
	KERN	KERN	KERN	KERN	KERN
1 mg - 500 mg	318-22	-	318-226		962-350
1 mg - 50 g	-	313-024	313-026	313-02	962-301
1 mg - 100 g	-	313-034	313-036	313-03	962-302
1 mg - 200 g	-	313-044	313-046	313-04	962-303
1 mg - 500 g	-	313-054	313-056	313-05	962-304
1 mg - 1 kg	-	313-064	313-066	313-06	962-305
1 mg - 2 kg	-	313-074	313-076	313-07	962-306
1 mg - 5 kg	-	313-084	313-086	313-08	962-307
1 mg - 10 kg	-	-	313-096	313-09	962-308
1 g - 50 g	312-024	314-024	314-026	314-02	962-315
1 g - 100 g	312-034	314-034	314-036	314-03	962-316
1 g - 200 g	312-044	314-044	314-046	314-04	962-317
1 g - 500 g	312-054	314-054	314-056	314-05	962-318
1 g - 1 kg	312-064	314-064	314-066	314-06	962-319
1 g - 2 kg	312-074	314-074	314-076	314-07	962-320
1 g - 5 kg	312-084	314-084	314-086	314-08	962-321
1 g - 10 kg	-	-	314-096	314-09	962-322

Note

Our highly-accurate OIML test weights are also available as **Premium<sup>+</sup> weights** for that extra level of safety. See all details page 183 or on **www.kern-lab.com/premium+** 

# **Test weights and boxes Class F1**



Milligram weights, flat polygonal sheet



Individual weights/ Weight sets, ECO shape

Individual weights/ Weight sets, knob shape



Test weights (10 - 50 kg), polished stainless steel, KERN 327-141 ff, optional: Wooden box



Block weight, polished stainless steel



lined, for

individual

weights

≤ 200 g

Plastic box,



Aluminium protected box, lined, for individual weights



Wooden box, lined, for individual weights  $\leq$  500 g



Wooden box, lined, for individual weights ≥1 kg

 $\langle \dot{q} \rangle$ 



lined, for weights ≥ 500 g







Aluminium protected case, lined, for weight sets ECO shape/ knob shape



Wooden case, lined, for weight sets ECO shape/ knob shape

17 (328-22)

Milligram weight Milligram weight set in plastic box set in aluminium protected box, lined (328-226)



Plastic case, lined for weight sets, ECO shape/ knob shape

#### Class F1 · Milligram weights, flat polygonal sheet

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, flat polygonal sheet	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN 🖻	KERN	KERN
1 mg	0,020	328-01	347-009-400	317-009-600	338-090-200	962-451
2 mg	0,020	328-02	347-009-400	317-009-600	338-090-200	962-452
5 mg	0,020	328-03	347-009-400	317-009-600	338-090-200	962-453
10 mg	0,025	328-04	347-009-400	317-009-600	338-090-200	962-454
20 mg	0,03	328-05	347-009-400	317-009-600	338-090-200	962-455
50 mg	0,04	328-06	347-009-400	317-009-600	338-090-200	962-456
100 mg	0,05	328-07	347-009-400	317-009-600	338-090-200	962-457
200 mg	0,06	328-08	347-009-400	317-009-600	338-090-200	962-458
500 mg	0,08	328-09	347-009-400	317-009-600	338-090-200	962-459

#### Class F1 · Individual weights, ECO shape or knob shape

Test weight material: stainless steel polished

Weight	Tol +/- mg	Individual weight, ECO shape	Individual weight, knob shape	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN	KERN 🗗	KERN	KERN
1 g	0,10	326-01	327-01	347-030-400	317-010-600	317-010-100	962-431
2 g	0,12	326-02	327-02	347-030-400	317-020-600	317-020-100	962-432
5 g	0,16	326-03	327-03	347-030-400	317-030-600	317-030-100	962-433
10 g	0,20	326-04	327-04	347-050-400	317-040-600	317-040-100	962-434
20 g	0,25	326-05	327-05	347-050-400	317-050-600	317-050-100	962-435
50 g	0,30	326-06	327-06	347-070-400	317-060-600	317-060-100	962-436
100 g	0,50	326-07	327-07	347-070-400	317-070-600	317-070-100	962-437
200 g	1,00	326-08	327-08	347-080-400	317-080-600	317-080-100	962-438
500 g	2,50	326-09	327-09	347-090-400	317-090-600	317-090-100	962-439
1 kg	5,00	326-11	327-11	347-110-400	317-110-600	317-110-100	962-441
2 kg	10	326-12	327-12	347-120-400	317-120-600	317-120-100	962-442
5 kg	25	326-13	327-13	347-130-400	317-130-600	317-130-100	962-443
10 kg	50	326-14	327-14	347-140-400	317-140-600	317-140-100	962-444
20 kg	100	-	327-15	-	317-150-600	317-150-100	962-445
50 kg	250	-	327-16	-	317-160-600	317-160-100	962-446

#### Class F1 · Block weights

Block weight material: stainless steel polished

Weight Tol +/- mg		Block weight	Aluminium protected case	DAkkS certificate
		KERN	KERN	KERN
5 kg	25	326-36	346-060-600	962-443
10 kg	50	326-37	346-070-600	962-444
20 kg	100	326-38	346-080-600	962-445
50 kg	250	326-39	346-090-600	962-446

#### Class F1 · Test weights, stackable

Test weight material: stainless steel polished

Weight	Tol +/- mg	Test weight	Wooden case	DAkkS certificate
		KERN	KERN	KERN
10 kg	50	327-141	337-141-100	962-444
20 kg	100	327-151	337-151-100	962-445
50 kg	250	327-161	337-161-100	962-446

#### Class F1 · Weight sets, ECO shape

Test weight material: Milligramm weights stainless steel, Individual weights: polished stainless steel

Weight sets	ECO shape in plastic case	ECO shape in aluminium protected case	ECO shape in wooden case	DAkkS certificate
	KERN		KERN	KERN
1 mg - 500 mg	328-22	328-226	-	962-450
1 mg - 50 g	325-024	325-026	325-022	962-401
1 mg - 100 g	325-034	325-036	325-032	962-402
1 mg - 200 g	325-044	325-046	325-042	962-403
1 mg - 500 g	325-054	325-056	325-052	962-404
1 mg - 1 kg	325-064	325-066	325-062	962-405
1 mg - 2 kg	325-074	325-076	325-072	962-406
1 mg - 5 kg	325-084	325-086	325-082	962-407
1 mg - 10 kg	-	325-096	325-092	962-408
1 g - 50 g	326-024	326-026	326-022	962-415
1 g - 100 g	326-034	326-036	326-032	962-416
1 g - 200 g	326-044	326-046	326-042	962-417
1 g - 500 g	326-054	326-056	326-052	962-418
1 g - 1 kg	326-064	326-066	326-062	962-419
1 g - 2 kg	326-074	326-076	326-072	962-420
1 g - 5 kg	326-084	326-086	326-082	962-421
1 g - 10 kg	-	326-096	326-092	962-422

#### Class F1 · Weight sets, knob shape

Test weight material: Milligramm weights stainless steel, Individual weights: polished stainless steel

Weight sets	Knob shape in plastic case	Knob shape in aluminium protected case	Knob shape in wooden case	DAkkS certificate	
	KERN	KERN		KERN	
1 mg - 500 mg	328-22	328-226	-	962-450	
1 mg - 50 g	323-024	323-026	323-02	962-401	
1 mg - 100 g	323-034	323-036	323-03	962-402	
1 mg - 200 g	323-044	323-046	323-04	962-403	
1 mg - 500 g	323-054	323-056	323-05	962-404	
1 mg - 1 kg	323-064	323-066	323-06	962-405	
1 mg - 2 kg	323-074	323-076	323-07	962-406	
1 mg - 5 kg	323-084	323-086	323-08	962-407	
1 mg - 10 kg	-	323-096	323-09	962-408	
1 g - 50 g	324-024	324-026	324-02	962-415	
1 g - 100 g	324-034	324-036	324-03	962-416	
1 g - 200 g	324-044	324-046	324-04	962-417	
1 g - 500 g	324-054	324-056	324-05	962-418	
1 g - 1 kg	324-064	324-066	324-06	962-419	
1 g - 2 kg	324-074	324-076	324-07	962-420	
1 g - 5 kg	324-084	324-086	324-08	962-421	
1 g - 10 kg	-	324-096	324-09	962-422	

# **Test weights and boxes Class F2**



Milligram weights, flat polygonal sheet



Individual weights/Weight sets, knob shape



Block weight, stainless steel



Test weights (10 - 50 kg), finely turned stainless steel KERN 337-141 ff, optional: Wooden box



Plastic box, lined, for individual weights ≤ 200 g



≥ 500 g

Plastic box, lined, for individual weights



Aluminium protected box, lined, for individual weights



Wooden box, not lined for individual weights  $\leq$  500 g



Wooden box, not lined, for individual weights ≥1 kg

(*†* 



(338-22)



set in plastic box set in aluminium protected box, lined (338-226)



Milligram weight Milligram weight Plastic case, lined, for weight sets, knob shape



Aluminium protected case, lined, for weight sets, knob shape



Wooden case, for weight sets, knob shape

### $\textbf{Class F2} \boldsymbol{\cdot} \textbf{Milligram weights, flat polygonal sheet}$

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, flat polygonal sheet	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN 🖻	KERN	KERN
1 mg	0,06	338-01	347-009-400	317-009-600	338-090-200	962-451
2 mg	0,06	338-02	347-009-400	317-009-600	338-090-200	962-452
5 mg	0,06	338-03	347-009-400	317-009-600	338-090-200	962-453
10 mg	0,08	338-04	347-009-400	317-009-600	338-090-200	962-454
20 mg	0,10	338-05	347-009-400	317-009-600	338-090-200	962-455
50 mg	0,12	338-06	347-009-400	317-009-600	338-090-200	962-456
100 mg	0,16	338-07	347-009-400	317-009-600	338-090-200	962-457
200 mg	0,20	338-08	347-009-400	317-009-600	338-090-200	962-458
500 mg	0,25	338-09	347-009-400	317-009-600	338-090-200	962-459

#### Class F2 · Individual weights, knob shape

Test weight material: finely turned stainless steel

Weight	Tol +/- mg	Individual weight, knob shape	Plastic box	Aluminium protected	Wooden box	DAkkS certificate
		KERN	KERN		KERN	KERN
1 g	0,3	337-01	347-030-400	317-010-600	337-010-200	962-431
2 g	0,4	337-02	347-030-400	317-020-600	337-020-200	962-432
	0,5	337-03	347-030-400	317-030-600	337-030-200	962-433
10 g	0,6	337-04	347-050-400	317-040-600	337-040-200	962-434
20 g	0,8	337-05	347-050-400	317-050-600	337-050-200	962-435
50 g	1,0	337-06	347-070-400	317-060-600	337-060-200	962-436
100 g	1,6	337-07	347-070-400	317-070-600	337-070-200	962-437
200 g	3,0	337-08	347-080-400	317-080-600	337-080-200	962-438
500 g	8,0	337-09	347-090-400	317-090-600	337-090-200	962-439
1 kg	16	337-11	347-110-400	317-110-600	337-110-200	962-441
2 kg	30	337-12	347-120-400	317-120-600	337-120-200	962-442
5 kg	80	337-13	347-130-400	317-130-600	337-130-200	962-443
10 kg	160	337-14	347-140-400	317-140-600	337-140-200	962-444
20 kg	300	337-15	-	317-150-600	337-150-200	962-445
50 kg	800	337-16	-	317-160-600	337-160-200	962-446

#### **Class F2** · Test weights

Test weight material: finely turned stainless steel

Weight	Tol +/- mg	Test weight	Wooden box	DAkkS certificate
		KERN	KERN	KERN
10 kg	160	337-141	337-141-200	962-444
20 kg	300	337-151	337-151-200	962-445
50 kg	800	337-161	337-161-200	962-446

#### Class F2 · Block weights

Block weight material: stainless steel glass bead blasted

	Weight	Tol +/- mg	Block weight	Aluminium protected case	DAkkS certificate
			KERN	KERN	KERN
	5 kg	80	336-36	346-060-600	962-443
	10 kg	160	336-37	346-070-600	962-444
	20 kg	300	336-38	346-080-600	962-445
	50 kg	800	336-39	346-090-600	962-446

#### Class F2 · Weight sets, knob shape

Test weight material: Milligramm weights stainless steel, individual weights finely turned stainless steel

Weight	Knob shape in plastic case	Knob shape in aluminium protected case	Knob shape in wooden case	DAkkS certificate
	KERN	KERN		KERN
1 mg - 500 mg	338-22	338-226	-	962-450
1 mg - 50 g	333-024	333-026	333-02	962-401
1 mg - 100 g	333-034	333-036	333-03	962-402
1 mg - 200 g	333-044	333-046	333-04	962-403
1 mg - 500 g	333-054	333-056	333-05	962-404
1 mg - 1 kg	333-064	333-066	333-06	962-405
1 mg - 2 kg	333-074	333-076	333-07	962-406
1 mg - 5 kg	333-084	333-086	333-08	962-407
1 mg - 10 kg	-	333-096	333-09	962-408
1 g - 50 g	334-024	334-026	334-02	962-415
1 g - 100 g	334-034	334-036	334-03	962-416
1 g - 200 g	334-044	334-046	334-04	962-417
1 g - 500 g	334-054	334-056	334-05	962-418
1 g - 1 kg	334-064	334-066	334-06	962-419
1 g - 2 kg	334-074	334-076	334-07	962-420
1 g - 5 kg	334-084	334-086	334-08	962-421
1 g -10 kg	-	334-096	334-09	962-422

# Test weights and boxes **Class M1**



Milligram weights, flat polygonal sheet



Individual weights/weight sets, knob shape, finely turned stainless steel



Hook weights, finely turned stainless steel

-0-



Slotted weights, finely turned stainless steel



Plastic box, for individual weights  $\leq$  200 g, for hook weights and slotted weights  $\leq 50$  g

Plastic box, lined, for individual weights  $\geq$  500 g, for hook weights and slotted weights  $\geq$  100 g

Aluminium protected box, lined, for individual weights



Wooden box, not lined, for individual weights  $\leq$  500 g



Wooden box, not lined, for individual weights ≥1 kg





- set in plastic box set in aluminium (348-22)
- Milligram weight Milligram weight protected box, lined (348-226)



Plastic case, lined, for weight sets, knob shape, finely turned stainless steel



Aluminium protected case, lined, for weight sets, knob shape, finely turned stainless steel



Wooden case, for weight sets, knob shape, finely turned stainless steel



Test weights (10 - 50 kg), finely turned stainless steel KERN 347-141 ff, optional: Wooden box



Beam bars, for fixing slotted weights, aluminium or finely turned stainless steel \* | \*\* | \*\*\* see page 201



Block weights, lacquered cast iron/stainless steel glass bead blasted, optional: Aluminium protected case, lined

#### Class M1 · Milligram weights, flat polygonal sheet

Test weight material: stainless steel

Weight	Tol +/- mg	Milligram weight, flat polygonal sheet	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN 🖻	KERN	KERN
1 mg	0,20	348-01	347-009-400	317-009-600	338-090-200	962-651
2 mg	0,20	348-02	347-009-400	317-009-600	338-090-200	962-652
5 mg	0,20	348-03	347-009-400	317-009-600	338-090-200	962-653
10 mg	0,25	348-04	347-009-400	317-009-600	338-090-200	962-654
20 mg	0,30	348-05	347-009-400	317-009-600	338-090-200	962-655
50 mg	0,40	348-06	347-009-400	317-009-600	338-090-200	962-656
100 mg	0,50	348-07	347-009-400	317-009-600	338-090-200	962-657
200 mg	0,60	348-08	347-009-400	317-009-600	338-090-200	962-658
500 mg	0,80	348-09	347-009-400	317-009-600	338-090-200	962-659

#### Class M1 · Individual weights, knob shape

Test weights material: stainless steel

Weight	Tol +/- mg	Individual weight	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN 🖻	KERN	KERN
1 g	1,0	347-01	347-030-400	317-010-600	337-010-200	962-631
2 g	1,2	347-02	347-030-400	317-020-600	337-020-200	962-632
5 g	1,6	347-03	347-030-400	317-030-600	337-030-200	962-633
10 g	2,0	347-04	347-050-400	317-040-600	337-040-200	962-634
20 g	2,5	347-05	347-050-400	317-050-600	337-050-200	962-635
50 g	3,0	347-06	347-070-400	317-060-600	337-060-200	962-636
100 g	5,0	347-07	347-070-400	317-070-600	337-070-200	962-637
200 g	10	347-08	347-080-400	317-080-600	337-080-200	962-638
500 g	25	347-09	347-090-400	317-090-600	337-090-200	962-639
1 kg	50	347-11	347-110-400	317-110-600	337-110-200	962-641
2 kg	100	347-12	347-120-400	317-120-600	337-120-200	962-642
5 kg	250	347-13	347-130-400	317-130-600	337-130-200	962-643
10 kg	500	347-14	347-140-400	317-140-600	337-140-200	962-644

#### Class M1 · Block weights

Block weight material: lacquered cast iron, surface and edges machined or unmachined (ECO)

Weight	Tol +/- g	Block weight	ECO Block weight	Aluminium protected case	DAkkS certificate
		KERN	KERN	KERN	KERN
5 kg	0,25	346-86	346-76	346-060-600	962-643
10 kg	0,50	346-87	346-77	346-070-600	962-644
20 kg	1,00	346-88	346-78	346-080-600	962-645
50 kg	2,50	346-89	346-79	346-090-600	962-646

#### Class M1 · Block weights

Block weight material: stainless steel glass bead blasted

Weight Tol +/- g		Block weight	Aluminium protected case	DAkkS certificate
		KERN	KERN	KERN
5 kg	0,25	346-06	346-060-600	962-643
10 kg	0,50	346-07	346-070-600	962-644
20 kg	1,00	346-08	346-080-600	962-645
50 kg	2,50	346-09	346-090-600	962-646

#### **Class M1** · Test weights, stackable

Test weight material: finely turned stainless steel

Weight	Tol +/- g	Test weight	Wooden box	DAkkS certificate
		KERN	KERN C	KERN
10 kg	0,5	347-141	337-141-200	962-644
20 kg	1,0	347-151	337-151-200	962-645
50 kg	2,5	347-161	337-161-200	962-646

#### Class M1 · Heavy duty weights, stackable

Heavy duty weight material: lacquered cast iron Designed to be lifted with forklift trucks or cranes, delivery time is approx. 6–8 weeks Dimensions: see internet

Weight	Tol +/-	Heavy duty weight	DAkkS certificate	
	g	KERN	KERN	Sec. as
100 kg	5	346-81	962-691	
200 kg	10	346-82	962-692	
500 kg	25	346-83	962-693	
1000 kg	50	346-84	962-694	
2000 kg	100	346-85	962-695	

### Note

We also offer a large range of heavy-duty weights in other materials, (e.g. stainless steel) and in other forms (e.g. discs) or individual weight containers, please ask for details.

#### Class M1 · Weight sets, knob shape

Test weight material: Milligramm weights stainless steel, individual weights finely turned stainless steel

Weight	Knob shape, in plastic case	Knob shape, in aluminium protected case	Knob shape, in wooden case	DAkkS certificate
	KERN			KERN
1 mg - 500 mg	348-22	348-226	-	962-650
1 mg – 50 g	343-024	343-026	343-02	962-601
1 mg - 100 g 1 mg - 200 g	343-034 343-044	343-036 343-046	343-03 343-04	962-602 962-603
1 mg - 500 g	343-054	343-056	343-05	962-604
1 mg – 1 kg	343-064	343-066	343-06	962-605
1 mg – 2 kg	343-074	343-076	343-07	962-606
1 mg – 5 kg	343-084	343-086	343-08	962-607
1 mg – 10 kg	-	343-096	343-09	962-608
1 g - 50 g	344-024	344-026	344-02	962-615
1 g - 100 g	344-034	344-036	344-03	962-616
1 g – 200 g	344-044	344-046	344-04	962-617
1 g – 500 g	344-054	344-056	344-05	962-618
1 g – 1 kg	344-064	344-066	344-06	962-619
1 g – 2 kg	344-074	344-076	344-07	962-620
1 g – 5 kg	344-084	344-086	344-08	962-621
1 g - 10 kg	-	344-096	344-09	962-622

#### Class M1 · Hook weights

Hook weight material: finely turned stainless steel

Weight	Tol +/- mg	Hook weight	Plastic box, linned	DAkkS certificate
		KERN	KERN	KERN
1 g	1,0	347-016	347-030-400	962-631
2 g	1,2	347-026	347-030-400	962-632
5 g	1,6	347-036	347-030-400	962-633
10 g	2,0	347-046	347-050-400	962-634
20 g	2,5	347-056	347-050-400	962-635
50 g	3,0	347-066	347-070-400	962-636
100 g	5,0	347-076	347-090-400	962-637
200 g	10,0	347-086	347-090-400	962-638
500 g	25,0	347-096	347-110-400	962-639
1 kg	50,0	347-116	347-120-400	962-641
2 kg	100,0	347-126	347-130-400	962-642
5 kg	250,0	347-136	347-140-400	962-643
10 kg	500,0	347-146	-	962-644

#### Class M1 · Slotted weights

Slotted weight material: finely turned stainless steel

Weight	Tol +/- mg	Slotted weight	Plastic box, lined	DAkkS certificate
		KERN	KERN	KERN
1 g	1,0	347-015	347-030-400	962-631
2 g	1,2	347-025	347-030-400	962-632
5 g	1,6	347-035	347-030-400	962-633
10 g	2,0	347-045	347-030-400	962-634
20 g	2,5	347-055	347-080-400	962-635
50 g	3,0	347-065	347-080-400	962-636
100 g	5,0	347-075	347-090-400	962-637
200 g	10	347-085	347-090-400	962-638
500 g	25	347-095	347-110-400	962-639
1 kg	50	347-115	347-130-400	962-641
2 kg	100	347-125	347-130-400	962-642
5 kg	250	347-135	347-140-400	962-643
10 kg	500	347-145	347-140-400	962-644

#### Class M1 · Beam bars, for fixing slotted weights

Beam bars material: 10 g: aluminium, 100 g-1 kg: finely turned stainless steel

Own weight beam bar	Maximum total load <sup>(1)</sup>	Largest slotted weight possible	Material	Length	Beam bar	DAkkS certificate
10 g	200 g	100 g	Aluminium	117,5	347-445-100*	962-634
100 g	2 kg	1 kg	Stainless steel	238	347-075-100**	962-637
500 g	20 kg	10 kg	Stainless steel	639	347-095-100***	962-639
1 kg	40 kg	10 kg	Stainless steel	1020	347-115-100***	962-641

<sup>(1)</sup> is exclusive of the own weight of the beam bar, e.g. the maximum possible total weight is calculated from "Maximum total load" + "own weight beam bar";

\* | \*\* | \*\*\* see page 198

#### Newton weights (N)

All hook and slotted weights as well as beam bars are available with N adjustment according to M1 tolerances We need to know the location of use and postal code.

DAkkS calibration certificate for N weights: identical to DAkkS prices for individual weights M1

# Test weights and boxes Classes M2 · M3



Individual weights/Weight sets, knob shape, stainless steel



Individual weights/Weight sets, knob shape, lacquered cast iron



Block weights, lacquered cast iron



Plastic box, lined, for individual weights



Aluminium protected box, lined, for individual weights



Wooden box, not lined, for individual weights ≤ 500 g, ■ not appropriate for cast iron weights



Wooden box, not lined, for individual weights ≥1 kg, ■ not appropriate for cast iron weights



Aluminium protected case, lined, for block weights



Aluminium protected case, lined, for weight sets knob shape, finely turned stainless steel, not appropriate for cast iron weights



Wooden case, for weight sets, knob shape, finely turned stainless steel



Wooden block, for weight sets, knob shape, lacquered cast iron

#### Class M2 · Individual weights, knob shape

Test weight material: finely turned stainless steel

Weight	Tol +/- mg	Individual weight, knob shape	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN 🖻	KERN	KERN
1 g	3	357-01	347-030-400	317-010-600	337-010-200	962-631
2 g	4	357-02	347-030-400	317-020-600	337-020-200	962-632
5 g	5	357-03	347-030-400	317-030-600	337-030-200	962-633
10 g	6	357-04	347-050-400	317-040-600	337-040-200	962-634
20 g	8	357-05	347-050-400	317-050-600	337-050-200	962-635
50 g	10	357-06	347-070-400	317-060-600	337-060-200	962-636
100 g	16	357-07	347-070-400	317-070-600	337-070-200	962-637
200 g	30	357-08	347-080-400	317-080-600	337-080-200	962-638
500 g	80	357-09	347-090-400	317-090-600	337-090-200	962-639
1 kg	160	357-11	347-110-400	317-110-600	337-110-200	962-641
2 kg	300	357-12	347-120-400	317-120-600	337-120-200	962-642
5 kg	800	357-13	347-130-400	317-130-600	337-130-200	962-643
10 kg	1600	357-14	347-140-400	317-140-600	337-140-200	962-644

#### Class M2 · Block weights

Block weight material: lacquered cast iron, surface and edges machined or unmachined (ECO)

Weight	Tol +/-	Block weight	ECO block weight	Aluminium protected box	DAkkS certificate
	g				
		KERN	KERN		KERN
5 kg	0,8	356-86	356-76	346-060-600	962-643
10 kg	1,6	356-87	356-77	346-070-600	962-644
20 kg	3,0	356-88	356-78	346-080-600	962-645
50 kg	8,0	356-89	356-79	346-090-600	962-646

#### $\textbf{Class M2} \cdot \textbf{Weight sets, knob shape}$

Test weight material: finely turned stainless steel

Weight	Knob shape, in aluminium protected case	Knob shape, in wooden case	DAkkS certificate	
			KERN	
1 g – 50 g	354-026	354-02	962-615	
1 g - 100 g	354-036	354-03	962-616	
1 g – 200 g	354-046	354-04	962-617	
1 g – 500 g	354-056	354-05	962-618	
1 g - 1 kg	354-066	354-06	962-619	
1 g – 2 kg	354-076	354-07	962-620	
1 g – 5 kg	354-086	354-08	962-621	
1 g - 10 kg	354-096	354-09	962-622	

#### Class M3 · Individual weights, knob shape

Test weight material: finely turned stainless steel

Weight	Tol +/- mg	Individual weight, knob shape	Plastic box	Aluminium protected box	Wooden box	DAkkS certificate
		KERN	KERN	KERN 🖻	KERN	KERN
1 g	10	367-01	347-030-400	317-010-600	337-010-200	962-631
2 g	12	367-02	347-030-400	317-020-600	337-020-200	962-632
5 g	16	367-03	347-030-400	317-030-600	337-030-200	962-633
10 g	20	367-04	347-050-400	317-040-600	337-040-200	962-634
20 g	25	367-05	347-050-400	317-050-600	337-050-200	962-635
50 g	30	367-06	347-070-400	317-060-600	337-060-200	962-636
100 g	50	367-07	347-070-400	317-070-600	337-070-200	962-637
200 g	100	367-08	347-080-400	317-080-600	337-080-200	962-638
500 g	250	367-09	347-090-400	317-090-600	337-090-200	962-639
1 kg		367-11	347-110-400	317-110-600	337-110-200	962-641
2 kg	1000	367-12	347-120-400	317-120-600	337-120-200	962-642

#### Class M3 · Individual weights, knob and cylindrical shape

Test weight material: lacquered cast iron

Weight		Tol +/- g	Individual weight, knob and cylindrical shape	DAkkS certificate
			KERN	KERN
	100 g*	0,05	366-91	962-637
	200 g*	0,10	366-92	962-638
	500 g**	0,25	366-93	962-639
	1 kg**	0,50	366-94	962-641
	2 kg**	1,0	366-95	962-642
	5 kg**	2,5	366-96	962-643
	10 kg**	5,0	366-97	962-644



#### Class M3 · Block weights

Block weight material: lacquered cast iron, surface and edges machined or unmachined (ECO)

Weight	Tol +/- g	Block weight	ECO block weight	Aluminium protected box	DAkkS certificate
		KERN	KERN	KERN	KERN
5 kg	2,5	366-86	366-76	346-060-600	962-643
10 kg	5,0	366-87	366-77	346-070-600	962-644
20 kg	10	366-88	366-78	346-080-600	962-645
50 kg	25	366-89	366-79	346-090-600	962-646

#### Class M3 · Weight sets, knob and cylindrical shape

Test weight material:  $\leq$  50 g stainless steel,  $\geq$  100 g lacquered cast iron

Weight	Knob and cylindrical shape, in wooden block	DAkkS certificate
	KERN	KERN
1 g - 1 kg	362-96	962-619
1 g – 2 kg	362-97	962-620
1 g – 5 kg	362-98	962-621
1 g – 10 kg	362-99	962-622



≤ 50 g



Individual weights 100 g and 200 g



#### Tweezers, weight grips, gloves, dusting brush



#### Tweezers

to be able to safely grip small test weights

For class	For weight	Length	Version	KERN
E1 - M3	1 mg – 200 g	105 mm	Stainless steel with silicone-coated tips	315-243
E1 - M3	500 g – 2 kg	250 mm	Stainless steel with silicone-coated tips	315-245
E1 - M3	≤ 5 g	130 mm	Stainless steel, curved, high-quality plastic tips	315-246
E1 - M3	≤ 5 g	136 mm	Stainless steel, straight, high quality plastic tips	315-247
E1 - M3	≤ 200 g	225 mm	Stainless steel, straight, high-quality plastic tips, with a special shape for gripping weights of various shapes and sizes	315-248
F2 – M3	1 mg – 200 g	100 mm	5 Stainless steel	335-240
E1 – M3	1 mg – 200 g	100 mm	6 Plastic	315-242

#### Weight grip plastic coated

For class	For knob shaped weights	KERN
E1 - M3	2 kg	315-273
E1 - M3	5 kg	315-274
E1 - M3	10 kg	315-275
E1 - M3	20 kg	315-276





#### not appropriate for cast iron weights



Gloves



Cotton, 1 pair. Help to protect the test weights when being used daily, from grease from fingers, damp etc. Suitable for test weights up to 2 kg.

KERN	
317-280	



#### Gloves

Leather/cotton, 1 pair. Help to protect the test weights when being used daily, from grease from fingers, damp etc. Ideal for test weights from 2 kg.

KERN 317-290



#### Premium gloves Nylon, 1 pair. Particularly elastic, one size fits all, with special fingertip coating to ensure a safe grip. Helps to protect the test weights in everyday use from grease from fingers, damp etc. Ideal for all test weights.

KERN 317-281



**Dusting brush** to clean the weights

KERN	KERN
318-270	318-27



Bellows for cleaning weights

1



**Microfibre cloth** for cleaning weights

KERN 318-272

#### Boxes for individual weights





For weights ≤ 500 g, OIML class E1 – F1

Wooden box, lined

For weights

1 g 2 g

5 g

10 g

20 g

50 g

100 g

200 g

500 g

1 kg 2 kg

5 kg

10 kg

20 kg

50 kg

9

for single weights E1 - F1

For weights ≥ 1 kg, OIML class E1 – F1

/<del>0</del>/

Case material: Wood, lined, suitable for single weights, KERN No. 307, 316, 317, 326, 327

KERN

317-010-100

317-020-100

317-030-100

317-040-100 317-050-100

317-060-100

317-070-100

317-080-100

317-090-100 317-110-100

317-120-100

317-130-100

317-140-100

317-150-100 317-160-100



For weights ≤ 500 g, OIML class F2 – M3 For weights ≥ 1 kg, OIML class F2 – M3

Case material: Wood, not lined, suitable for single weights, KERN No. 337, 347, 357, 367 not suitable for cast iron weights

Wooden box, not lined for single weights F2 – M3

For weights	KERN	
mg	338-090-200	
1 g	337-010-200	
2 g	337-020-200	
5 g	337-030-200	
10 g	337-040-200	
20 g	337-050-200	
50 g	337-060-200	
100 g	337-070-200	
200 g	337-080-200	
500 g	337-090-200	
1 kg	337-110-200	
2 kg	337-120-200	
5 kg	337-130-200	
10 kg	337-140-200	
20 kg	337-150-200	
50 kg	337-160-200	

For test weights  $\geq$  10 kg, OIML class F1 – M1

Case material: Wood, lined/not lined, suitable for single weights, KERN No. 327, 337, 347 I not suitable for cast iron weights

#### Wooden box, not lined

for test weights F1 - M1

For weights	KERN	
10 kg	337-141-200	
20 kg	337-151-200	
50 kg	337-161-200	

### Wooden box, lined

for test weights F1 - M1

For weights	KERN	
10 kg	337-141-100	
20 kg	337-151-100	
50 kg	337-161-100	



For weights  $\leq$  5 kg, OIML class E1 – M3

Case material: Aluminium protected, lined, suitable for mg and single weights, KERN No. 307, 308, 316, 317, 318, 326, 327, 328, 337, 338, 347, 348, 357, 367 not suitable for cast iron weights

#### Aluminium protected box, lined

for individual weights, knob and compact shape, class  $\mathsf{E1}$  –  $\mathsf{M3}$ 

For weights	KERN	<u></u>
mg	317-009-600	
1 g	317-010-600	
2 g	317-020-600	
5 g	317-030-600	
10 g	317-040-600	
20 g	317-050-600	
50 g	317-060-600	
100 g	317-070-600	
200 g	317-080-600	
500 g	317-090-600	
1 kg	317-110-600	
2 kg	317-120-600	
5 kg	317-130-600	



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For weights  $\leq$  10 kg, OIML class E1 – M3

Case material: Aluminium protected, lined, suitable for single weights, KERN No. 307, 316, 317, 326, 327, 337, 347, 357, 367

#### Aluminium protected box, lined

for individual weights, knob and compact shape, class E1 – M3

For weights	KERN	
10 kg	317-140-600	
20 kg	317-150-600	
50 kg	317-160-600	



For block weight  $\geq$  5 kg, OIML class F1 – M3

Case material: Aluminium protected, lined, suitable for block weights, KERN No. 326, 336, 346, 356, 366

Aluminium protected case, lined for individual weights F1 – M3

For weights	KERN
5 kg	346-060-600
10 kg	346-070-600
20 kg	346-080-600
50 kg	346-090-600

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#### Carrying cases/boxes for individual weight sets

#### Individual weight sets:

You can create your own "tailor-made" individual weight sets yourself. KERN will customise your own personal wooden box/plastic carrying case. The largest individual weight which will fit is given in the table.

#### Sample order:

Your individual weight set (class F1):  $1 \times 50$  g,  $2 \times 100$  g,  $1 \times 500$  g,  $2 \times 1$  kg,  $1 \times 2$  kg.

The correct individual box is KERN No. 313-080-400 (plastic) or KERN No. 315-070-100 (wood, lined)



Plastic case for individual weight sets classes E1 – M3, not appropriate for cast iron weights

Largest possible weight	KERN
≤ 500 g	313-050-400
≤5 kg	313-080-400



#### Wooden case

lined, for individual weight sets classes E1 – F1 \* with side handles

Largest possible weight	KERN	
≤ 200 g	315-040	)-100
≤1 kg	315-060	)-100
≤ 2 kg	315-070	)-100
≤ 5 kg*	315-080	)-100
≤ 10 kg*	315-090	)-100



Wooden case not lined, for individual weight set classes F2 – M3, not appropriate for cast iron weights  $\ast$  with side handles

Largest possible weight	
≤ 200 g	335-040-200
≤ 500 g	335-050-200
≤ 1 kg	335-060-200
≤ 2 kg	335-070-200
≤ 5 kg*	335-080-200
≤ 10 kg*	335-090-200

#### Carrying cases for standard weight sets



#### Plastic case for weight sets

with standard denomination classes E1 – M3, not appropriate for cast iron weights

Largest possible weight	KERN
≤ 500 g	313-052-400
≤ 5 kg	313-082-400



Aluminium protected case for safe storage and transportation under harsh industrial conditions.

#### Aluminium protected case

for weight sets with standard denomination classes E1 – M2  $^{\star1}$  front handle;  $^{\star2}$  side handles;  $^{\star\star*}$ no handle

For weights	For class	KERN
1 mg - 500 mg	E1 - M1	313-010-600*
1 mg - 50 g	E1 - M1	313-020-600*
1 mg - 100 g	E1 - M1	313-030-600*
1 mg - 200 g	E1 - M1	313-040-600*
1 mg - 500 g	E1 - M1	313-050-600*
1 mg - 1 kg	E1 - M1	313-060-600*
1 mg - 2 kg	E1 - M1	313-070-600**
1 mg - 5 kg	E1 - M1	313-080-600***
1 mg - 10 kg	E1 - M1	313-090-600***
1 g - 50 g	E1 - M2	314-020-600*
1 g - 100 g	E1 - M2	314-030-600*
1 g - 200 g	E1 - M2	314-040-600*
1 g - 500 g	E1 - M2	314-050-600*
1 g - 1 kg	E1 - M2	314-060-600*
1 g - 2 kg	E1 - M2	314-070-600*
1 g - 5 kg	E1 - M2	314-080-600***
1 g - 10 kg	E1 - M2	314-090-600***

Fig. shows 313-010-600

# Weight containers for rectangular weights or other test weights, stainless steel glass bead blasted, adjusted to OIML class M1

Preconfigured weight containers for testing high-load floor scales, pallet scales, pallet truck scales, crane scales, etc. This can also be used for storing the weights. This means the weight container and the weights can be placed on the balance in one go, saving you time and money. The weight container is adjusted to OIML accuracy classes M1. Other OIML accuracy classes are also available, please ask.

Weight of the weight container, OIML class M1	Tol +/- g	Possible equipment, rectangular weights, OIML class M1	Maximum total weight (weight container incl. weights)	
20 kg	1,0	5 × 20 kg	120 kg	346-022-005
40 kg	1,5	8 × 20 kg	200 kg	346-042-008
50 kg	2,5	10 × 20 kg	250 kg	346-052-010
50 kg	2,5	4 × 50 kg	250 kg	346-055-004
50 kg	2,5	9 × 50 kg	500 kg	346-055-009
60 kg	3,0	8 × 50 kg and 2 × 20 kg	500 kg	346-065-009



Weight of the weight container, OIML class M1	Tol +/- g	Possible equipment, test weights, OIML class M1	Maximum total weight (weight container incl. weights)	
20 kg	1,0	max. 10 × 10 kg or 5 × 20 kg	120 kg	347-022-005
40 kg	2,0	max. 16 × 10 kg or 8 × 20 kg	200 kg	347-042-008
50 kg	2,5	max. 20 × 10 kg or 10 × 20 kg	250 kg	347-052-010
60 kg	3,0	max. 22 × 20 kg	500 kg	347-062-022



# Individual weight containers for rectangular weights or other test weights, calibrated to OIML class M1

Individual weight carriers for testing high capacity floor scales, pallet scales, pallet truck scales, crane scales, etc. This can also be used for storing the weights. This means the weight container and the weights can be placed on the scale in one go, saving time and money.

The weight container can be calibrated to OIML accuracy classes M1 – M3. On request, KERN will make you a "tailor-made" weight carrier to your specifications.

Example:

3 block weights	each 50 kg, class M1 =	150 kg
1 weight container	each 50 kg, class M1 =	50 kg
Total	=	200 kg

Weight of the weight container, OIML class M1	Price
	KERN
Individual weight container for rectangular weights	346-000-000
Individual weight container for test weights	347-000-000

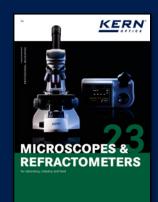


Example illustration

# ASSORTMENT RANGE LEADER AND HIDDEN CHAMPION IN THE REGION: KERN WEIGHING & MEASURING TECHNOLOGY











#### KERN – the king of broad product ranges

Reliable, easy, durable products from the world of weighing and measuring technology, innovative software and the competent test service from KERN and SAUTER will win you over.

The best thing to do is to request our special catalogues straightaway – free of charge, of course!

There is also plenty for you to discover online: latest offers, new models, sale items and interesting news ...

# DAKKS CALIBRATION SERVICE/ VERIFICATION SERVICE

#### The DAkkS (German accreditation body)

The DAkkS is the national accreditation body of the Federal Republic of Germany. According to Regulation (EC) No. 765/2008 and the Accreditation Body Act (AkkStelleG), the DAkkS acts in the public interest as the sole service provider for accreditation in Germany.

In order to be able to fulfil its sovereign accreditation tasks, the DAkkS was entrusted by the Federal Government. As an entrusted body, the DAkkS is subject to federal supervision.

Only an accredited calibration laboratory can issue a DAkkS calibration certificate. This defines not only the measuring method as well as the measuring result, but also gives information on tracing the test medium to national standards and the relevant uncertainty of measurement.

- > You are certified to ... ISO 9001, QS 9000, GLP, GMP, TS16949
- > You need ... to control your measuring equipment

#### Our solution ...

 DAkkS calibration certificate; (traceability, measuring uncertainty, internationally recognised)

#### **KERN – Precision is our business**

The KERN calibration laboratory for electronic balances and weights has been accredited by DKD since 1994 and today is one of the most modern and best-equipped DAkkS calibration laboratories for balances, test weights and force measurement in Europe.

Thanks to the high level of automation, we can carry out DAkkS calibration of balances, test weights and force-measuring devices 24 hours a day, 7 days a week.

Do you have any further requests or questions on this matter? We would be pleased to help you or visit us on the web

#### DAkkS calibration

Why? DAkkS calibration is always necessary when checking equipment (balance or test weight) is to be used in a QM process (e.g. to ISO 9000ff, GS 9000, TS 16949, VDA 6.1, FDA, GLP, GMP, GMP etc.)

- What? Any checking equipment in proper condition can be DAkkS calibrated
- How? Determination of accuracy throughout the world by a laboratory which is accredited to DIN EN ISO 17025. Traceability to internationally recognised standards. The DAkkS calibration certificate confirms both the measurement characteristics of the checking equipment and the general requirements for the control of checking equipment.
- Where? Internationally recognised this is monitored by ILAC (International Laboratory Accreditation Cooperation) and e.g. DAkkS (German calibration service) in Germany
- When? The operator control the use of checking equipment and periodic recalibration time intervals themselves

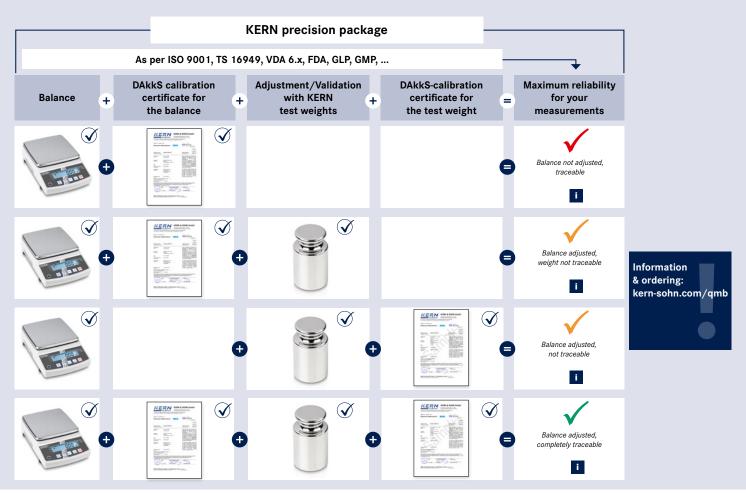
#### Range of services:

- DAkkS calibration of balances with a maximum load of up to 50.000 kg
- DAkkS calibration of weights in the range of 1 mg – 2.500 kg. Calibrations can be carried out in the following classes: E1, E2, F1, F2, M1, M2, M3
- DAkkS calibration of force gauges and force transducers
- Volume determination for weights of accuracy class E1
- Measuring of sensitivity (magnetic characteristics)
- Factory calibration in various sizes:
- Force (sensors and measuring devices), hardness (Shore, UCI, Leeb, etc.), thickness of coatings and walls, torque wrench testing devices, and much more
- Conformity assessments and recalibration of balances and weights at the KERN verification point, working closely with the verification authorities

And on top of all these services, we also offer additional services – see page 212/213.

### 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?



### The KERN calibration laboratory (D-K-19408-01-00)

KERN has a highly-automated DAkkS laboratory with accreditation to DIN EN ISO/IEC 17025 in the field of balances, test weights and force measurement. By using the most modern calibration technology with high-end calibration robots in fully air-conditioned laboratories, the measurement uncertainty and process times are reduced to a minimum, and also the quality of the calibration is increased.

As an accredited and certified calibration service provider with decades of experience, KERN offers you an extensive range of services, which will leave no demand unfulfilled. The accreditation applies to the extent specified in the appendix to the certificate D-K-19408-01-00.

### We offer the following services:

#### Waagen:

- DAkkS calibration up to 50 t
- Minimum sample weight (in use)
- ► Usage accuracy
- Adjustment at the location of installation
- Certificate of conformity
- Equipment qualification:
- > Design qualification (DQ)
- > Installation qualification (IQ)
- > Function qualification (OQ)
- > Performance qualification (PQ)
- > Maintenance qualification (MQ)
- ► Verification

#### Weights:

- DAkkS calibration up to 2.5 t (OIML classes E1 – M3)
- ► Volume determination for OIML class E1
- Measuring of sensitivity (magnetic characteristics)
- ► Verification

# Force measuring devices and force transducers:

► DAkkS calibration up to 5 kN

#### Factory calibration for:

- ► Force measuring devices and force transducers ≤ 250 kN
- Hardness
- ► Layer thickness
- Material thickness
- ► Temperature of moisture analysers

#### **KERN Calibration Service**

Our commitment to satisfy our customers never stops. Perhaps this is one of the reasons why our roots can perhaps be traced so far back in history. **Discover the KERN route to success: fast - competent - reliable - versatile!** 

### The order process

You will receive a **reminder** that your test equipment is due or you will generate online a quotation for new or existing test equipment

Submission or collection of your test equipment

Initial inspection of your goods, to check that they are suitable for calibration, and are complete, etc.

You will get a detailed order confirmation



Our experts will carry out initial calibration

Checked for conformity with required tolerances and if required, any necessary actions which arise from this are carried out

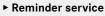
Before these actions are carried out, we will contact you (in so far as no individual processing has been agreed with you beforehand)

After your approval the necessary actions will be implemented and the calibration will be completed

After that your test equipment will be returned to you without delay, together with the appropriate calibration certificates

We will monitor your recalibration periods and will send you a reminder about your next calibration, free of charge

### **Our service**



The continuous cyclic recalibration of your checking equipment is an integral part of the reliable management of test equipment. You can rely on us to support you, and we will remind you in time, free of charge, when the next recalibration is due. In addition, you have the option of managing your test equipment online by yourself (cf. (1), (0).

#### ► Quote generator

You will be impressed by our price-to-performance ratio. Request a non-binding quotation or create it yourself to suit your specifications at www.kern-lab.com (cf. 1)

#### Collection service

We will be pleased to arrange a pick up by our forwarding agent the goods from your premises. You only need to tell us the weight and dimensions of your package and leave the rest to us (cf. 2)

#### ▶ Repair and reconditioning of balances and weights

KERN will get your weights back up to standard, regardless of the manufacturer. Whether it is adjustment, marking, sand blasting or lacquering - the aim here is compliance and long-term stability. Any repairs of balances and instruments which may be necessary can be carried out quickly and easily (cf. (5))

#### Individual processing

In order to avoid delays with future orders, we would be pleased to incorporate your individual requirements for future processing of such calibration results. Even for smaller issues such as the printing of calibration certificates (stapling, punching, double-sided) we can work to your requirements (cf. ③).

#### Express service and dispatch

If you need a particularly fast service, you can use your DAkkS express service. You will receive your test equipment after only 2 days (cf. **9**).

# www.kern-lab.com – the central portal for everything you need to know about the extensive KERN calibration services

On our website you will always find the latest news and useful information about testing and measuring devices, calibration, legal metrology and expansions to our range of services. You will also find numerous online services on the website.

#### Database supported management of test equipment

Information on your test equipment which has been calibrated by us is stored in our database. In this way it is possible to make trend calculations. You will therefore get an overview about the long-term stability and trend behaviour of your test equipment as well as the necessary recalibration period can easily be determined and specified.

#### Paperless documentation

So there is no administrative effort, we can handle all calibration documentation in a paperless process. From quotation, through to order confirmation, delivery note and invoice right up to calibration certificate, you will receive all documents by e-mail or you can retrieve them online. Would you prefer to receive your certificate or your invoice in paper form, for example? Of course this is not a problem either. We will send you everything you require by post.

#### Calibration certificate download

By using our download service you can easily download your calibration certificates as soon as the calibration work is complete and you will have access to them at any time in the future. Simply create your user account on www.kern-lab.com and you will never have to look for your certificates again.





## DAkkS Calibration of balances

Any balance will only give correct results if it is checked regularly, i.e. calibrated correctly and adjusted when required. A balance is only a reliable measuring and checking tool if it is calibrated and this calibration is documented. The issued DAkkS calibration certificates are proof of the metrological traceability to national and international standards, as required by the DIN EN ISO 9000 and DIN EN ISO/IEC 17025 standards, amongst others. KERN recommends a recalibration period of one year. The standard does not give a defined recalibration period. KERN recommends that, with intensive (daily) use, you to recalibrate your balance every 6 months and at normal (weekly) use, every 12 months.

# THE ADVANTAGES OF USING THE KERN ON-SITE CALIBRATION:

- + Calibration on-site at your premises in the field of use
- + No risk of damage during transportation
- + Low downtime
- + Cross-brand servicing, basic inspection and adjustment by a specialist
- + You tell us when you would like us to come
- + Device training for qualified users



#### a) KERN on-site calibration (we visit you)

In Germany, KERN has a close-knit network of KERN DAkkS calibration laboratory employees, who can carry out on-site calibration of balances up to 50 tonnes.

This on-site testing service is metrologically recommended, as your balance is in its field of use and can be calibrated without any possible transportation problems.

Lower downtime and personal contact with our expert are the major benefits of this service.

Preparatory maintenance work by agreement. Prices for on-site calibration on request.

You tell us when you would like us to come, giving us details of the balances to be tested. Our on-site DAkkS calibration team will then get in touch with you immediately and will discuss the process with you at your premises – it's straight forward and professional.

#### This KERN calibration service is also independent of the brand.



- + Short calibration time: Test time in the laboratory is only four working days
- + **Competence:** Calibration laboratory, which complies with the highest standards in the area of metrology
- + **Independent management** of the recalibration calendar for your individual measuring instrument is possible
- + Cross-brand service: Measuring devices from any manufacturer can be calibrated independently
- + **Repair:** Any necessary repairs can be carried out immediately, if you wish

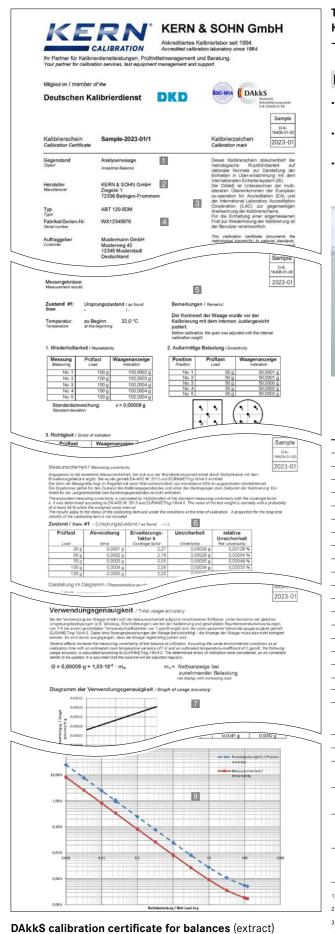


#### b) Calibration at the KERN factory (you send your balance to us)

Recommended for new devices and for balances which can be affordably transported, as then there is no need for us to travel to carry out the calibration on-site. Repairs can be carried out at the same time, quickly and in full.

#### The process would be as follows:

- Day 1: Send your balance to the KERN calibration laboratory in Balingen.
- Day 2 to 3: Evaluation and calibration of your balance by our specialists.
- Day 4: After positive validation, your balance is returned.



To get reliable weighing results you need to have calibrated balances. KERN offers you an extensive calibration service for your balances - You have the choice:

#### Recalibration

- The recalibration schedule depends on the frequency of use, the conditions of use and the safety requirements.
- · We would recommend that you recalibrate your balances every 6 months if they are used intensively, and every 12 months with normal use.
- The KERN calibration service is independent of the brand.



Initial calibration and recalibration of balance at the KERN factory

KERN

Veighing capacity Analytical balances Max] ≤ 5 kg	1
	963-101
Max] > 5 kg	963-102
Precision balances/Industrial scales	
Max] ≤ 5 kg	963-127
Max] > 5 kg - 50 kg	963-128
Max] > 50 kg - 350 kg	963-129
Max] > 350 kg - 1500 kg	963-130
Max] > 1500 kg - 2900 kg <sup>1)</sup>	963-131
Max] > 2900 kg - 6000 kg <sup>1)</sup>	963-132
Max] > 6000 kg - 12000 kg <sup>1)</sup>	963-133
langing scales/Crane scales	
Max] ≤ 5 kg	963-127H
Max] > 5 kg - 50 kg	963-128H
Max] > 50 kg - 350 kg	963-129H
Max] > 350 kg - 1500 kg	963-130H
Max] > 1500 kg-2900 kg	963-131H
Max] > 2900 kg-6000 kg	963-132H
Max] > 6000 kg - 12000 kg <sup>3)</sup>	963-133H
Preparation for recalibration cleaning, adjustment, function test)	969-003R
Additional services	
Ainimum weight of sample (for details see page 215)	969-103
Additional measurement points (as part of the) weighing test	963-140
Additional measurement points (as part of the) epeatability testing	963-140
DAkkS Express service with delivery time 48 hours only on initial purchase, details see p. 210)	962-116
xpress shipping: Express supplement for guaranteed delivery	962-115
on the next working day (if ready for shipment before 12:00 noon)	in GER only (other countries on request)

Floor scales & axle load scales only (Price per weighing panel). Please ask for further details. 2) On request

<sup>3)</sup> Processing time 4 working days

<sup>4)</sup> Processing time 15 working days

Official document

- Item to be calibrated
- Traceability, see page 225
- Identification/Applicant
- Metrological component
- Incertainty of measurement, see page 225
- Application accuracy, see page 223 Minimum weight of sample
- (additional price)

### Minimum weight of sample (in use)

#### What is the lightest item you can weigh on your balance, while still achieving accurate and reliable weighing results? What exactly is the limit?

The KERN minimum sample weight protocol accounts for the established minimum sample weight of your balance and its location of installation and use with the relative measuring uncertainty. With various safety coefficients and required weighing accuracy (process accuracy), depending on standard or quality-related requirements on the balance being used. The higher the selected safety coefficient, the higher the safety when using the balance in a particular process. Typical perturbations when using the balance e.g. small fluctuations in temperature are taken into account. In easily predictable conditions in a professional environment of use, KERN recommends a safety coefficient of 3. For critical processes, a correspondingly higher factor should be selected. The minimum sample weight protocol contains a diagram as well as a table, from which you can ascertain the minimum sample weight for your balance, depending on the process.

### Adjustment at the location of installation

#### Why?

Adjustment at the location of installation is necessary, as the measuring results of balances depend on the local gravitational force (gravitational acceleration) and therefore depend on the location of use. KERN can carry this out just before shipping at the factor, individually to suit the location of installation.

# What are the advantages of carrying out adjustment at the location of installation?

- The balance gives reliable measurement results at the location of installation.
- No time-consuming on-site adjustment necessary.
- You do not need a Service Engineer or any additional weights.
- The balance is ready for immediate use.

### **Certificate of conformity**

With a certificate of conformity you get a statement about whether the balance meets your defined requirements.

In conjunction with a DAkkS calibration certificate it serves as documented proof that the balance fulfils the required process demands. When doing this the process owner for the balance can select from different temperature specifications – depending on its individual requirements:

#### Pricing table for adjustment at the location of installation

Weighing capacity	KERN

[Max] ≤ 5 kg	961-247
[Max] > 5 - 50 kg	961-248
[Max] > 50 - 350 kg	961-249
[Max] > 350 - 1500 kg	961-250
[Max] > 1500 - 2900 kg	961-251
[Max] > 2900 - 6000 kg	961-252
[Max] > 6000 - 12000 kg	961-253

For adjustment to the location of installation you need the value for gravitational acceleration at the location of installation, which KERN can calculate using the point of use. The procedure is suitable for balances with a resolution of <60,000 d. For higher resolutions we recommend a balance with an internal adjusting weight or adjustment with a calibrated adjusting weight at the location of installation.

### Conformity evaluation on KERN the basis of the:

Usage accuracy*	relative	969-511
	absolute	969-512
Calibration results*	relative	969-513
	absolute	969-514
Measurements as manufacturer	Foreign device	969-515
or customer specification	Customer	969-516
	specifications	969-517
	KERN devices	909-517
relative = % / absolute = g	*as attachmen	t to the DAkkS calibration
	certificate	

# Example for absolute customer tolerance (absolute) (Item no. 969-511):

No.	Tare	Load	Display	Deviation	Uncertainty	Customer tolerance C	Conformity <sup>1)</sup>
1	0 g	500 g	500,00 g	0,00 g	± 0,013 g	± 0,05 g	$\checkmark$
2	0 g	1000 g	1000,00 g	0,00 g	± 0,015 g	± 0,05 g	$\checkmark$
3	0 g	1500 g	1500,01 g	0,01 g	± 0,017 g	± 0,05 g	$\checkmark$
4	0 g	2000 g	2000,01 g	0,01 g	± 0,020 g	± 0,10 g	$\checkmark$
5	0 g	3000 g	3000,02 g	0,02 g	± 0,022 g	± 0,10 g	V

1) Evaluation criteria: |[Deviation]| + [extended measuring uncertainty] ≤ [tolerance]

# Documented quality of your balances in the log book

Consistently high product quality requires the use of measuring and test equipment that provides comprehensible, consistent and reproducible results. Hence, quality management systems require that measuring and test equipment produces a detailed traceable description and documentation of calibration results and conformity statements. Work not documented is work not done.

Equipment qualification is documentary evidence that a equipment is suitable for the intended purpose and is working faultlessly. A balance log book is used to record all activities and results required for the qualification and monitoring of balances during routine operation. This includes the installation and commissioning of the balances, routine tests, maintenance as well as the recording of special events (failures, repairs, change of location).

The structure of the balance log book is based on the qualification process of the balance. The requirements for the qualification system such as DIN EN ISO 9001, DIN EN ISO/IEC 17025, GLP/GMP, VDA must be taken into account. The log book supports the user in his/her daily work with the balance and is meant to serve as necessary evidence during inspections and audits. The responsibility for maintaining the log book and its appropriate use is to be borne by the user.

#### Our proposal: Count on our support!

KERN offers this qualification concept throughout. Our validation services are carried out on the spot by technicians of our calibration laboratory and comprise among other things: installation, measurement test inclusive DAkks calibration certificate as well as records in your qualification log book.

We give you advice already when selecting a new device, for example KERN ADB/ADJ, ALS/ALJ, ABS/ABJ, ACJ, ABT, ABP, PLS/PLJ, PNS/PNJ, EG-N, PBS/PBJ, PES/PEJ, about the options of device qualification, as required and will be happy to set up an appointment for qualification at the place of installation. We offer individual calibration and maintenance agreements for the periodically required requalification.



#### Important elements of equipment qualification:



#### **Design qualification (DQ)**

With the design qualification, all requirements on which you as a user depend are defined. The purchase decision is made on the basis of the design specifications and the available devices. Careful selection in the DQ can prevent subsequent deficiencies.

# Installation qualification (IQ)

All steps to be taken for the installation and commissioning of the equipment are described in detail in the installation qualification. These include among others:

- checking for completeness of delivery and assurance that the delivered equipment meets the required specifications
- a description of the ambient conditions at the place of installation
- proper installation and assurance that the equipment is ready for operation after installation
- documentation of equipment configuration and equipment settings
- · Recording and installation of connected peripherals units

# **Function qualification (OQ)**

The operational qualification describes the metrological test performed for the balance at the place of installation. In the course of this all parameters that define the efficiency of a measurement will be checked. Functional qualification is carried out with the help of a standard operating procedure (SOP) and recorded in a calibration certificate. The OQ must be carried out by trained staff with the help of qualified aids (such as certified weights that are traceable to an approved standard). Briefing / training of users must be assured and recorded in the OQ.

# Performance qualification (PQ)

The PQ represents documented evidence that the balance or weighing system functions in the selected application as intended. This will be assured by a qualification test of the equipment under real conditions with respect to its surroundings and the problem definition (such as traceable data transmission). If the balance or weighing system is "merely" to be used for weighing it will not be necessary to carry out a PQ as the ability to function has already been proven during the metrological test (OQ).



#### Maintenance qualification (MQ)

The periodical maintenance, cleaning work and complete metrological test of the balance/weighing system is documented in the MQ by a trained authorised engineer. The results are documented on a DAkkS calibration certificate. Maintenance is carried out with the help of a maintenance schedule.



If you are interested in a training for equipment qualification, please feel free to contact us



**DAkkS calibration certificate for test weights** (extract). For more details on our calibration service and other useful information, please see the internet

- Official document
- Item to be calibrated
- Traceability, see page 225
- Identification/Applicant
- Environmental conditions
- 6 Metrological component
- Conventional mass
- Incertainty of measurement, see page 225

#### Traceable KERN test weights -

#### **Calibration of test weights**

Calibrated measuring equipment requires calibrated checking equipment. For balances, these are calibrated test weights, also called "standard weights".

#### KERN will calibrate your test weights

- In all classes with permissible error limits E1–M3 according to OIML
- R111:2004 (for tolerance tables, see page 180), in sizes 1 mg to 2500 kg. • With free nominal value
- Newton (N)
- · Independent of design (special designs)

#### The advantages of using the KERN in-house calibration

#### You send your test weights to us.

- Excellent price performance ratio
- The quickest processing time
  - DAkkS standard service: 4 working days
  - DAkkS express service: 48 hrs (new weights)
- The most modern calibration methods with robot controlled comparators allow the most accurate calibration results and fastest throughput time
- · KERN DAkkS calibration certificates are internationally recognised
- A calibration service which is independent of the brand
- KERN also reconditions existing customer weights (e.g. cleaning or readjustment)
- On request, we can also provide a pick-up and collection service with our parcel service

#### The advantages of using the KERN on-site calibration

#### We visit you.

We would be pleased to visit you within Germany and carry out the calibration of your reference standards to OIML classes M1–M3, 10 kg–2500 kg with permissible error limits, using our mobile MACOS system. Minimized downtime of your checking equipment and direct contact with our expert are the major benefits of this service. Price on request.

#### Recalibration

- The recalibration schedule depends on the frequency of use, the conditions of use and the safety requirements
- In terms of standardisation, no particular recalibration interval is specified
- We would recommend that you recalibrate your test weights every six months if they are used intensively, and every 12 months with normal use
- · We would be pleased to monitor your recalibration schedule

#### Recalibration price of test weights (DAkkS calibration)

Class acc. 🔶	E1 with volume determination	<b>E1</b> without volume determination	E2	<b>F1/F2</b> * F2 only	M1/M2/M3
Nominal value					
¥	KERN	KERN	KERN	KERN	KERN
1 mg	_	962-251R	962-351R	962-451R	962-651R
2 mg	_	962-252R	962-352R	962-452R	962-652R
5 mg	_	962-253R	962-353R	962-453R	962-653R
10 mg	_	962-254R	962-354R	962-454R	962-654R
20 mg	_	962-255R	962-355R	962-455R	962-655R
50 mg	_	962-256R	962-356R	962-456R	962-656R
100 mg	_	962-257R	962-357R	962-457R	962-657R
200 mg	-	962-258R	962-358R	962-458R	962-658R
500 mg	-	962-259R	962-359R	962-459R	962-659R
1 g	963-231	962-231R	962-331R	962-431R	962-631R
2 g	963-232	962-232R	962-332R	962-432R	962-632R
5 g	963-233	962-233R	962-333R	962-433R	962-633R
10 g	963-234	962-234R	962-334R	962-434R	962-634R
20 g	963-235	962-235R	962-335R	962-435R	962-635R
50 g	963-236	962-236R	962-336R	962-436R	962-636R
100 g	963-237	962-237R	962-337R	962-437R	962-637R
200 g	963-238	962-238R	962-338R	962-438R	962-638R
200 g	963-239	962-239R	962-339R	962-439R	962-639R
1 kg	963-241	962-241R	962-341R	962-441R	962-641R
2 kg	963-242	962-242R	962-342R	962-442R	
	963-243				962-642R
5 kg	963-243	962-243R 962-244R	962-343R 962-344R	962-443R 962-444R	962-643R 962-644R
10 kg					
20 kg	963-245	962-245R	962-345R	962-445R	962-645R
50 kg	963-246	962-246R	962-346R	962-446R	962-646R
100 kg		-	-	962-591R*	962-691R
200 kg	-	-	-	962-592R*	962-692R
500 kg	-	-	-	962-593R*	962-693R
1000 kg	-	-	-	-	962-694R
2000 kg	-	-	-	-	962-695R
1 mg-500 mg	-	962-250R	962-350R	962-450R	962-650R
1 mg-50 g	963-201	962-201R	962-301R	962-401R	962-601R
1 mg-100 g	963-202	962-202R	962-302R	962-402R	962-602R
1 mg-200 g	963-203	962-203R	962-303R	962-403R	962-603R
1 mg-500 g	963-204	962-204R	962-304R	962-404R	962-604R
1 mg-1 kg	963-205	962-205R	962-305R	962-405R	962-605R
1 mg-2 kg	963-206	962-206R	962-306R	962-406R	962-606R
1 mg-5 kg	963-207	962-207R	962-307R	962-407R	962-607R
1 mg-10 kg	963-208	962-208R	962-308R	962-408R	962-608R
1 g-50 g	963-215	962-215R	962-315R	962-415R	962-615R
1 g-100 g	963-216	962-216R	962-316R	962-416R	962-616R
1 g-200 g	963-217	962-217R	962-317R	962-417R	962-617R
1 g-500 g	963-218	962-218R	962-318R	962-418R	962-618R
1 g-1 kg	963-219	962-219R	962-319R	962-419R	962-619R
1 g-2 kg	963-220	962-220R	962-320R	962-420R	962-620R
1 g-5 kg	963-221	962-221R	962-321R	962-421R	962-621R
1 g-10 kg	963-222	962-222R	962-322R	962-422R	962-622R

KERN

# Additional costs for preparation, overhaul and adjustment before the calibration

Preparation of weights (e.g. cleaning, etc.)	
Single weight	969-001R
Weight set	969-002R
Subsequent services are carried out after confirmation	
Continued overhaul of weights (e.g. wet-cleaning, markings, repair, special packaging, adjustment E1 (DAkkS only), E2)	969-005R
Adjustment, per weight only available for weights with adjustment chamber (F1–M3)	969-010R
Second calibration after adjustment or substitution, per weight	
Class E1	969-210R
Class E1 incl. volume determination	969-211R
Class E2	969-310R
Class F1/F2	969-410R
Class M1-M3	969-610R
Testing of magnetic properties according to OIML R111:2004, per weight	961-115(R)

#### **KERN DAkkS Express Service**

DAkkS standard service Class E2-M3	4 working days
DAkkS standard service Class E1, 1 mg-500 mg, and recalibration 1 g-10 kg with a known volume	10 working days
Class E1, ≥ 1 g, incl. volume determination (new weights)	15 working days
48 HRS except for class E1	urs
• Urgent order is received at KERN by 12:00	noon at the latest

- Ready for shipping at KERN within two working days,
- at 12:00 noon Return by standard parcel service or express shipping
- (Costs and processing time on request)
- Additional cost for DAkkS Express Service, for each KERN test weight KERN KERN 962-115
- For Express shipping, see page 214

### Verification prices for test weights and (crane) scales

Class acc.	<b>E2</b> with verification certificate	<b>F1</b> with verification certificate	<b>M1</b> with verification certificate	KERN verification delive	ry time
Nominal value V	KERN	KERN	KERN	<b>Standard verification se</b> Class E2 - M1	r <b>vice</b> 6 working da
1 mg	952-351	952-451	952-651		
2 mg	952-352	952-452	952-652		
5 mg	952-353	952-453	952-653		
10 mg	952-354	952-454	952-654		KERN
20 mg	952-355	952-455	952-655	<ul> <li>Additional costs</li> <li>for preparation, overhaul</li> </ul>	
50 mg	952-356	952-456	952-656	and adjustment before the	
100 mg	952-357	952-457	952-657	verification	;
200 mg	952-358	952-458	952-658		
500 mg	952-359	952-459	952-659		
1 g	952-331	952-431	952-631	Preparation of weights (	e.g. cleaning, etc.)
2 g	952-332	952-432	952-632		
5 g	952-333	952-433	952-633	Single weight	969-008R
10 g	952-334	952-434	952-634		909-000K
20 g	952-335	952-435	952-635	— Weight set	969-009R
50 g	952-336	952-436	952-636		
100 g	952-337	952-437	952-637	Subsequent services are	e carried out aπer
200 g	952-338	952-438	952-638	confirmation	
500 g	952-339	952-439	952-639		
1 kg	952-341	952-441	952-641		
2 kg	952-342	952-442	952-642	Continued overhaul	
2 kg	952-343	952-443	952-643	of weights	0/0.0050
10 kg	952-344	952-444	952-644	(e.g. wet-cleaning, markings	s, 969-005R
20 kg	952-345	952-445	952-645	repair, special packaging,	
50 kg	-	952-446	952-646	adjustment E2)	
1 mg-500 mg	952-350	952-450	952-650		
1 mg-50 g	952-301	952-401	952-601		
1 mg-100 g	952-302	952-402	952-602		
1 mg-200 g	952-303	952-403	952-603	—	
1 mg-500 g	952-304	952-403	952-603	Adjustment, per weight	
1 mg-1 kg	952-305	952-405	952-605	only available for weights	969-010R
1 mg-2 kg	952-306	952-405	952-606	with adjustment chamber	, . ,
1 mg-5 kg	952-307	952-400	952-607	(F1/F2 – M1)	
1 mg-10 kg	952-308	952-407	952-608		
1 g-50 g	952-315	952-408	952-615		
1 g-100 g	952-316	952-415	952-616	Verification after adjustr	ment or substitution.
				— per weight	,
1 g-200 g	952-317	952-417	952-617		
1 g-500 g	952-318	952-418	952-618	Class E2	969-310R
1 g-1 kg	952-319	952-419	952-619	Class F1/F2	060 410P
1 g-2 kg	952-320	952-420	952-620		969-410R
1 g-5 kg	952-321	952-421	952-621	Class M1	969-610R
1 g-10 kg	952-322	952-422	952-622		

#### Verification prices for balances

#### Reverification

	KERN
Accuracy class I (precision balances) <sup>1)</sup>	
$[Max] \le 5 \text{ kg}^{-1}$	950-101R
[Max] > 5 kg <sup>1</sup> )	950-102R
Accuracy class II (precision balances) <sup>1)</sup>	
$[Max] \le 5 \text{ kg}^{-1}$	950-116R
[Max] > 5 kg - 50 kg <sup>1)</sup>	950-117R
[Max] > 50 kg - 350 kg <sup>1</sup> )	950-118R
Accuracy class III-IV <sup>1)</sup>	
Bench scales and industrial scales (excl. crane scales)	
$[Max] \le 5 \text{ kg}^{-1}$	950-127R
[Max] > 5 kg - 50 kg <sup>1</sup> )	950-128R
[Max] > 50 kg - 350 kg <sup>1)</sup>	950-129R
[Max] > 350 kg - 1500 kg <sup>1</sup> )	950-130R
[Max] > 1500 kg - 2900 kg <sup>1</sup> )	950-131R
[Max] > 2900 kg - 6000 kg <sup>1</sup> )	950-132R
Crane scales	
[Max] > 50 kg - 350 kg <sup>1)</sup>	950-129HR
[Max] > 350 kg - 1500 kg <sup>1)</sup>	950-130HR
[Max] > 1500 kg - 2900 kg <sup>1</sup> )	950-131HR
$[Max] > 2900 \text{ kg} - 6000 \text{ kg}^{-1}$	950-132HR
[Max] > 6000 kg - 12000 kg <sup>1)</sup>	950-133HR

<sup>1)</sup> Processing time 4 working days, <sup>2)</sup> Processing time 15 working days, <sup>1) 2)</sup> Preparation of reverification of balances, 969-006R

The force gauge

# Accredited calibration with DAkkS calibration certificate for force gauges

The KERN calibration laboratory is at your side when you need to calibrate according to DAkkS.

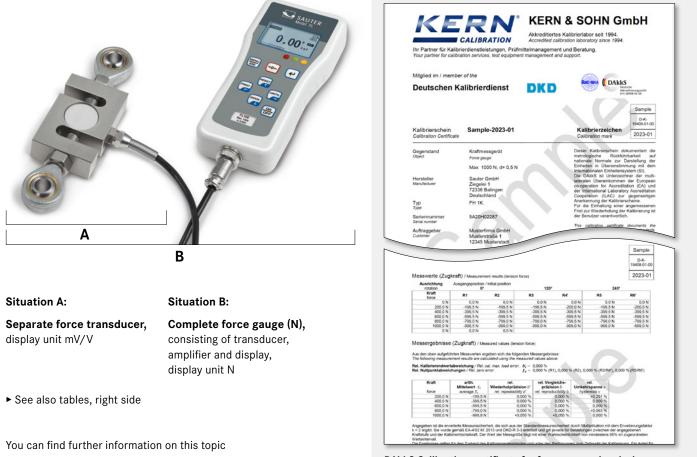
From the transducer to the full measuring chain, we are happy to take care of traceable calibration of your test equipment for you. Our accreditation includes the calibration of tensile and pressure force up to 5 kN according to the standards DIN EN ISO 376 and DKD-R 3-3, each with the Newton (N) display unit for a complete measuring chain (situation A) or voltage ratio/transmission coefficient (mV/V, situation B).

Below you will find a comparison of which standard meets which criteria:

#### Comparison of DIN EN ISO 376 and DKD-R 3-3

	ISO 376	DKD-R 3-3
Standardization	ISO standard (internationally standardized)	Standard of the DKD (Germany)
Measuring equipment	Force transducers and complete measuring chains	Force transducers and complete measuring chains
Area of application	Specifically force gauges for the testing of testing equipment	General force gauges
Number of power stages	8	5
Classification/Assessment	Classification in classes 00; 0,5; 1 and 2	None in standard
Test sequences	Fixed procedure	Sequences A, B, C, D possible Standard is sequence A B, C and D are reduced sequences, relevant previous knowl- edge is necessary
Summary	Higher-quality calibration, as 8 force levels are calibrated	High-quality calibration, reduced sequences with less effort possible

We can offer you a calibration solution for the following situations:



DAkkS Calibration certificate for force-measuring devices (extract).

### Prices for DAkkS calibration of force gauges and force transducers

	ISO 376 (8 stages)	DKI	D-R 3-3 (5 stages, sequence A
KERN	Measuring range	KERN	Measuring range
Tensile force:			
963-161IV (R)	≤ 500 N	963-161V (R)	≤ 500 N
963-162IV (R)	≤ 2 kN	963-162V (R)	≤ 2 kN
963-163IV (R)	≤ 5 kN	963-163V (R)	≤ 5 kN
Compression for	rce:		
963-261IV (R)	≤ 500 N	963-261V (R)	≤ 500 N
963-262IV (R)	≤ 2 kN	963-262V (R)	≤ 2 kN
963-263IV (R)	≤ 5 kN	963-263V (R)	≤ 5 kN
Tensile and Com	pression force:		
963-361IV (R)	≤ 500 N	963-361V (R)	≤ 500 N
963-362IV (R)	≤ 2 kN	963-362V (R)	≤ 2 kN
963-363IV (R)	≤ 5 kN	963-363V (R)	≤ 5 kN

Situation A: Force transducer (voltage ratio, in mV/V)\*<sup>1,2</sup>

Situation B: Complete force gauge (in N)\*2

	ISO 376 (8 stages)	DK	DKD-R 3-3 (5 stages, sequence A)	
KERN	Measuring range	KERN	Measuring range	
Tensile force:				
963-1611 (R)	≤ 500 N	963-161 (R)	≤ 500 N	
963-162I (R)	≤ 2 kN	963-162 (R)	≤ 2 kN	
963-163I (R)	≤ 5 kN	963-163 (R)	≤ 5 kN	
Compression for	prce:			
963-2611 (R)	≤ 500 N	963-261 (R)	≤ 500 N	
963-262I (R)	≤ 2 kN	963-262 (R)	≤ 2 kN	
963-263I (R)	≤ 5 kN	963-263 (R)	≤ 5 kN	
Tensile and Cor	npression force:			
963-3611 (R)	≤ 500 N	963-361 (R)	≤ 500 N	
63-362I (R)	≤ 2 kN	963-362 (R)	≤ 2 kN	
963-363I (R)	≤ 5 kN	963-363 (R)	≤ 5 kN	

### Factory calibration for force

Situation A: Force transducer (voltage ratio, in mV/V)  $^{*1,2}$ 

Situation B: Complete force gauge (in N)\*2

KERN	Measuring range	KERN	Measuring range	
Tensile force:				
961-161V (R)	≤ 500 N	961-161 (R)	≤ 500 N	
961-162V (R)	≤ 2 kN	961-162 (R)	≤ 2 kN	
961-163V (R)	≤ 5 kN	961-163 (R)	≤ 5 kN	
961-164V (R)	≤ 20 kN	961-164 (R)	≤ 20 kN	
961-165V (R)	≤ 50 kN	961-165 (R)	≤ 50 kN	
961-166V (R)	≤ 250 kN	961-166 (R)	≤ 120 kN	
Compression fo	orce:			
961-261V (R)	≤ 500 N	961-261 (R)	≤ 500 N	
961-262V (R)	≤ 2 kN	961-262 (R)	≤ 2 kN	
961-263V (R)	≤ 5 kN	961-263 (R)	≤ 5 kN	
961-264V (R)	≤ 20 kN	961-264 (R)	≤ 20 kN	
961-265V (R)	≤ 50 kN	961-265 (R)	≤ 50 kN	
961-266V (R)	≤ 250 kN	961-266 (R)	≤ 120 kN	
Tensile and Cor	npression force:			
961-361V (R)	≤ 500 N	961-361 (R)	≤ 500 N	
961-362V (R)	≤ 2 kN	961-362 (R)	≤ 2 kN	
961-363V (R)	≤ 5 kN	961-363 (R)	≤ 5 kN	
961-364V (R)	≤ 20 kN	961-364 (R)	≤ 20 kN	
961-365V (R)	≤ 50 kN	961-365 (R)	≤ 50 kN	
961-366V (R)	≤ 250 kN	961-366 (R)	≤ 120 kN	

#### (R): Recalibration

For each force gauge without interface or from other manufacturers we charge a surcharge

<sup>\*1</sup> Compatibility with our amplifiers required

<sup>\*2</sup> Installation in our measuring equipment required

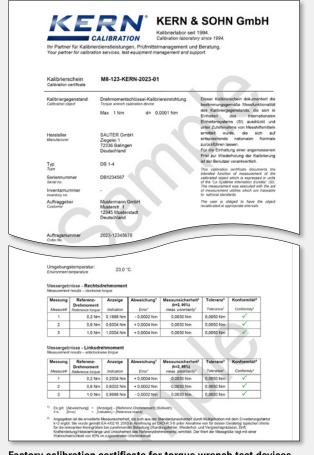
### Factory calibration certificates

As DAkkS calibration certificates cannot be offered for all measuring devices or measurement sizes, or where it is not customary, we then offer factory calibration certificates. These calibration certificates meet international standards and are particularly suitable as proof of exacting calibration in the monitoring of your checking equipment, for example:

- Mechanical balances (spring balances, etc.)
- Force-measuring devices up to 250 kN (see also page 221)
- Measuring devices for layer thickness 0  $\mu m$  2000  $\mu m$
- · Hardness testing devices in accordance with Leeb tests
- Ultrasonic material thickness testing device 25 mm 300 mm

We carry out calibrations independent of brand. In order to avoid any unnecessary delays when processing your order, please send us the technical documents and necessary accessories with the checking device. Calibration time 4 working days.

# For up-to-date information on test services for further measuring variables please see p. 221



Factory calibration certificate for torque wrench test devices (extract from the factory calibration certificate) Further details on the internet

KERN	device	range	
Factory calib	ration		
961-110	Coating thickness	≤ 2000 µm F or N	
961-112	Coating thickness	≤ 2000 µm FN	
961-113	Wall thickness (ultra sound)	≤ 300 mm (in stainless steel)	
961-114	Wall thickness (Test blocks)	≤ 300 mm	
961-170	Hardness comparison plate (Shore)	For sets up to 7 plates	
961-131	Hardness tester (Leeb)	400 - 800 HLD	
961-132	Hardness comparison plate (Leeb)	Hardness comparison plate (for Leeb durometer)	
961-270	Hardness (UCI)	200 - 800 HV	
961-150	Length	≤ 300 mm	
961-190	Light	≤ 200000 lx	
961-100	Mechanical balances/ spring balances	≤ 5 kg	
961-101	Mechanical balances/ spring balances	> 5 - 50 kg	
961-102	Mechanical balances/ spring balances	> 50 - 350 kg	
961-103	Mechanical balances/ spring balances	> 350 – 1500 kg	
961-102K	Digital dynamometer KERN MAP	≤ 130 kg	
961-120 (R)	Torque wrench test devices	1 Nm - 200 Nm	
964-305	Temperature calibration for moisture analyzer*		
Additional se	rvices		
962-116	Express service with 48 hour delivery		

(R): Recalibration

KERN

Measuring

Measuring

For each force gauge without interface or from other manufacturers we charge a surcharge

\*Calibration available for the following models: DAB 100-3, DAB 200-2, DBS-60-3, DLB 160-3A, MLS 150-2A, MLS 65-3A, MLB 50-3N, MLB 50-3C, MLB 50-3, DLT 100-3N, MLS 50-3D, MLS 50-3C

#### <u>A</u>

### Accuracy classes for test weights

E, F, M ► Error limit classes

#### Adjusting of measurement equipment

Precise setting of a measurement value via a professional intervention in the measurement system.

# Adjusting the weighing range of a balance



Either with the external test weight via the adjusting program CAL, or with the internal automatic adjustment resp. adjusting switch. It is necessary with variations in temperature, a change of environmental conditions, change of location, etc. Recommended as a daily check routine.

#### Alibi memory

For weighings where verification is mandatory, and which are to be analysed and processed by a PC (e.g. printing out a packing list using a PC instead of a printer connected directly to the balance) electronic archiving is required by the metrological authorities by a verifiable data memory which cannot be manipulated. Alibi memories from KERN fulfil this requirement. They are for paperless archiving of weighing results. For KERN products the alibi memory is fitted inside the balance, right between where the weight is determined and the output to the PC.

All data transferred to the PC is stored with date, time and all important weights for at least three months. These stored data strings can be displayed on the balance at any time. The data in the alibi memory can be deleted, but not changed.

#### Application accuracy

Allowance for measuring uncertainty during practical use of a balance. Is given in the appendix to the DKD calibration certificate.

#### ATEX

Derived from **AT**mosphère **EX**plosibles. (explosive atmosphere). A synonym for EU guidelines, which controls the quality and use of equipment in hazardous industrial environments, where there is explosion danger, e.g. by handling of flammable substances, which are present in high concentrations in the form of gas, mist, vapour or dust. Therefore see also directives 2014/34/EU as well as 1999/92/EU.

#### В

# Balances which are verified/not approved for verification

Metrologically almost identical. For verified balances certain details are regulated by law, e.g. software changes and additional markings.

# CAL

Adjusting the balance is triggered with an external test weight by using the CAL key on the key pad or on the touch display of the display device or the CAL menu option. This will guarantee the consistent high accuracy of the balance.

#### Calibration of measurement equipment

Determination of the precision of a measurement value without intervention in the measurement system. Example: to check a balance you load a ► *test weight* upon it. The term "Calibrating" was formerly also used for ► *Adjusting*.

#### Calibration Certificate DKD/DAkkS

See product group 18 "Calibration service"

### Calibration or verification

DAkkS-Calibration is possible for every balance in perfect condition. DAkkS calibration (DKD) is a private service monitored by the state for ensuring high quality requirements according to ISO 9000ff and others, e.g. in production or research. Verifying (conformity assessment) is only possible for type-approved balances marked with the green M ► Verification

#### **Commercial error limit**

Permitted tolerance (plus and minus) of measuring devices where verification is mandatory when used within their verification validity period. This tolerance is double the permissible error limit, in so far as this is not specified otherwise in the Weights and Measures Act).

#### **Conformity assessment**

Procedure for confirming warranted characteristics in accordance with recognised rules. For balances this relates to verification.

# Conformity declaration from the manufacturer

The manufacturer declares that the product fulfils the applicable EU directives. With electronic balances this is always in conjunction with the CE mark.

# Control of measuring equipment in the QM system in conjunction with quality standards

An organisation certified to a quality standard such as DIN EN ISO 9001 ff. e.g. a production plant is obliged to adhere to a defined quality standard within the framework of its quality management system. To do this, it is imperative to have a measurement equipment which is working accurately. Chapter 7.1.5 "Resources for monitoring and measuring" of DIN EN ISO 9001:2015-11 states that measuring equipment must be calibrated at defined intervals and before use. The measurement devices and measurement standards needed to do this must:

- be traced back to international or national standards.
- ( Traceability to the National Standard)
- their uncertainty of measurement must be known- they must be marked with a clear identification
- the test must be documented

The ► **DAkkS calibration (DKD)** fulfils all these requirements.

#### Conventional mass of weights

The problem is the air movement, which makes the weight appear lighter. In order to avoid this "distortion" in daily use, all weights are adjusted to the unit specifications given in R111, e.g. it is accepted that: material density of the weights is 8000 kg/m<sup>3</sup>, air density is 1.2 kg/m<sup>3</sup> and measuring temperature is 20°C.

#### **Counting resolution**

The counting resolution is calculated in points from the ratio of the weighing range [Max] divided by the smallest part weight. It is a statement of counting accuracy.

#### D

#### DAkkS = German accreditation authority

Calibration Certificate DKD/DAkkS
 See product group 18 "Calibration service"

#### Data interface

To connect the balance to a printer, PC, network or a second balance. Typical interfaces are, for example, RS-232, RS-485, USB, Bluetooth, LAN, Digital I/O, DUAL, LAN etc. The interface parameters can be set using the balance. The interfaces available are stated in the model description.

#### **Density determination**

One of the main areas of application for laboratory balances is determining densities, e.g. determining the specific weight of liquids and solids. To do this you will need a highly accurate precision or analytical balance and a density set. It is particularly convenient if the balance can calculate and display the density right away.

It has become apparent that by means of weigting when in the process of determining the density of liquids and solids according to the buoyancy method particularly accurate results can be obtained (Archimedes' principle). a) Density determination of liquids: By means

of measuring the buoyancy with a glass plummet with known volume immersed in the liquid to be measured

b) Density determination of solid bodies:

$$\rho = \underline{A} \cdot \rho_0$$

- $\rho$  = Density of sample
- A = Weight of sample in air
- B = Weight of sample in auxiliary liquid
- $\rho_0$  = Density of the auxiliary liquid



#### Glossary

#### **Applications:**

- a) Pre-packaged goods control, whenever a product is sold according to its volume [cm<sup>3</sup>]. This volume is calculated with weight [g] : density [g/cm<sup>3</sup>].
- b) Materials analysis

#### DMS = Strain gauge

An electrical resistor strip that is glued to an elastic deforming body made of aluminium. As the strain gauge is mechanically deformed its resistance value changes, allowing the measured value to be calculated.

#### **Draught shield**

Required for balances with > *Readout*  $d \leq 1$  mg, to avoid disturbing air movements.

#### **Dual-range balance**

As the load increases, the balance switches automatically to the next largest range, for both, weighing range [Max] as well as readout [d].

#### Ε

#### Error limit classes for test weights according to EU directive OIML R111

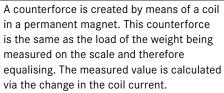
For further details, see product group 17 "Test weights"

#### F

#### FACTORY

These options can only be carried out at KERN factory.

#### FORCE = Electromagnetic force compensation



#### G

#### **GLP = Good Laboratory Practice**

► ISO/GLP

#### **Gravitational acceleration**

Gravitational force

#### **Gravitational force**

very important influence for precise electronic balances. Due to the varying influence balances have to be ► adjusted at the location of use.

#### Н

#### HACCP

= Hazard Analysis and Critical Control Points (HACCP) The HACCP concept is a preventative system, which is designed to guarantee the safety of foodstuffs EC regulation 852/2004 mandates the use of the HACCP concept for all companies which are involved in production, processing and sales of foodstuffs.

#### ISO 9000ff/DIN EN ISO 9000ff

Quality Management System in the form of a DIN Norm for quality assurance in a factory.

#### ISO calibration/ISO certificate = factory calibration certificate

Testing measurement devices for accuracy in accordance with a procedure which is recognised, but not accredited.

#### ISO/GLP record keeping

GLP GLP INTERN PRINTER Quality Assurance Systems demands record

keeping of weighing results and correct adjusting of the balance, giving details of date, time and balance identification. The easiest way to obtain this documentation is by means of a connected printer.

Junction Box For connection and simple corner

adjustment of several load cells.

# Κ

#### КСР

KCP is an universal communication protocol between laboratory balances, industrial scales or other measuring instruments and digital devices, such as a computer, server or process management system. Due to the universal protocol structure, one measuring instrument can be replaced by another without adapting the communication interface.

#### L

#### Linearity/Precision

Greatest deviation of the weight displayed of a balance with regard to the value of the respective test weight in terms of plus and minus across the whole weighing range.

#### Μ

#### Minimum load [Min]

Lower limit of the verifiable weighing range. Is marked on the verification mark. The function of the balance is also given below the minimum load.

#### Minimum sample weight

Indicates the smallest weight which can be determined, depending on the process accuracy required.

#### Multi-division balance / Multi-range balance

On multi-division balances, the weighing range is subdivided several times, each with a different readability. The readability [d] changes automatically with increasing and decreasing load. Multi-rasnge balances have several weighing ranges with different maximum loads and different numerical increments. Switching takes effect automatically when the load increases; switching back to the lower weighing range only takes effect when the scale has been completely unloaded.

#### Ν

#### Newton

Newton (N) is the unit for physical force values. A Newton is the force required to accelerate a 1 kg mass at rest to a speed of 1 m/s within one second.

#### Notified body

Neutral and independent, predominantly government bodies, which are formally appointed by the EC. They are engaged in the field of verification for conformity evaluations (initial verification) and type-approval test within the scope of type approvals.

#### 0

#### **Optimisation of reference weight** (when piece counting)

See product group 9 "Counting balances/ Counting systems".

#### P

#### Percentage determination

Example: Reference weight prior to drying: 50g = balance display 100%. After drying 40g = balance display 80% absolute (dry mass) or 20% relative (humidity).

#### Permissible ambient temperature

Measuring errors are possible if you use the balances outside the permitted specified ambient temperature range. With verified balances this is stated on the identification plate.

#### PLU (Price Look Up)

This refers to a data memory in pricecomputing retail scales for the base price of sales items.

#### Pre-packaging legislation (FPVO)

Ensures that pre-packed goods are filled correctly, for example, in food industry. The Weights and Measures Act governs the permissible weight and volume tolerances.

#### PRE-TARE

Entering and saving a tare weight (e.g. container weight) through weighing or manual entry using the balance keypad before the actual weighing process. When you subsequently place the tare container on the balance, the balance will show zero immediately - saves time. Particularly useful e.g. for checking fill levels

#### Proof of compatibility

This documents the verification compatibility for combinations of weighing modules such as display devices, load cells and connecting elements.

#### R

#### Readout [d]

Smallest readable weight increment on a digital display.

#### Recalibration

Periodic checking of the precision of measurement equipment/checking equipment (e.g. balances/weights) to control accuracy, Control of measurement equipment

#### Reference weight (when piece counting)

See product group 9 "Counting balances/ Counting systems".

#### Reproducibility (standard deviation)

Sequenced measure of conformity in repeated weighing (e.g. balances) subject to the same conditions. Mostly 1 [d] or less. Quality feature.

#### Resolution of a balance

The resolution is calculated from the weighing range [Max] divided by the readout [d], e.g. [Max] 420 g : [d] 0.001 g = 420,000 points. The resolution is a quality feature - the higher, the better.

#### S

#### SC-TECH = Single-Cell-Technology

► FORCE. The load cell consists of a single aluminium block, which gives a very high measurement quality.

#### Semi-micro balance

Analytical balance with a readout  $[d] = 0.01 \, \text{mg}$ 

#### Smallest part weight when counting

The smallest piece weight, which a balance can accept for piece counting. For the relevant model, enter "g/piece" in the product data table.

т

#### T-FORK = Tuning fork principle

A resonating body (like a tuning fork) is electromagnetically excited, causing it to oscillate. The measured value is calculated via the change in frequency corresponding to the load of the weight being measured on the scale.

#### Taring, automatic

#### ► PRE-TARE

#### Taring, subtractive

The available weighing range of a balance is reduced by the value of the tare load. Example: weighing range of a balance Max 6000g, Tare (= container) 470g, available weighing range 5530g.

#### Test weight, external (previously calibration weight)

For adjusting or checking the balance accuracy > Adjusting the weighing range. The external test weight can be DAkkS calibrated at any time, even afterwards, see product group 18 "Calibration Service".

#### Test weight, internal

Like test weight external, but installed in the balance and powered.

#### Totalising

Various individual weighings are added automatically to aggregate, e.g. all individual weighings of a batch.

#### **Traceability to the National Standard**

A pre-requisite for every perfect measurement is the validated comprehensive proof that the measuring equipment can be traced back to the international or national standards. In Germany the statutory binding standards are available from the PTB.

#### Type approval for balances

Strict process to test whether a balance fulfils the verification requirements. A balance can only be verified, if it has got a type approval from a ► *notified body*.

#### U

₩.

SC TECH

#### Uncertainty of measurement of a balance (= standard deviation)

Determined for each balance according to a precisely given test method and documented in the > Calibration certificate. It depends on various factors, both, internal and external. Uncertainty of measurement increases by a rising charge of the balance, see product group 18 "Calibration Service"

V

(((U)))

#### Verification

Verification, in accordance with the new terminology "Conformity assessment". Only balances with ► *EC type approval* can be evaluated for conformity. These balances have an identification plate with the metrology marking **M**. The state requires assessment for conformity and this assessment serves as consumer protection. According to EU directive 2014/31/EEC balances must be officially assessed for conformity (calibrated) if they are used as follows:

- a) in commercial trade when the price of a commodity is determined by weighing.
- b) in the manufacture of pharmaceuticals in pharmacies and analysis in pharmaceutical and medical laboratories.
- c) for official purposes.
- d) in the production of prepackaging.
- e) in medical applications.



. 1

CAL INT

Every balance is tested by KERN and marked with a conformity mark. Its accuracy within the framework of permissible tolerances is thereby confirmed. EU verification applies to all member states of the EU.

#### Verification classes of balances

Class I - Analytical balance (precision balance), Class II - precision balance, Class III - industrial scale (commercial scale).

#### Verification of a balance with adjusting program CAL EXT

The adjusting program is sealed with an official mark after the verification. Thus the verification is only valid for the specific location of use.

#### ► Gravitational force

To be able to correctly adjust the balance to your location of use, it is necessary to advise the location of use and postcode. See individual model details for the information as to whether verification can be carried out in the factory or at the location of use.

#### Verification of a balance with automatic internal adjusting CAL INT

The above restrictions in respect of the location of use do not apply, because the automatic internal adjusting works also after verification, therefore it is not sealed. In this case, verification does not depend on the location.

#### Verification validity for balances

Generally 2 years for all verification classes, for control balances generally 1 year, after expiry the balance has to be re-verified.

#### Verification value [e]

Measure of the verification tolerance. depending on balance, mostly between 1 [d] and 10 [d] ► *Readout* 

#### W

#### Weighing range [Max]

is the working range of the balance. The balance can be loaded up to the specified upper limit.



# Important notice

#### Explosion hazard or humidity

Our balances are not suitable for rooms with a risk of explosion. Our models are also not suitable for rooms with a high level of air humidity (condensing). Please observe the applicable electrical regulations.

ļ

#### Earth's gravitational force

Electronic balances are subject to location regulations due to the earth's gravitational force. If location of use is changed, reverification and recalibration of the electronic balance is needed.

See the glossary, page 223 > *Adjusting*