# **KERN BALANCES & TEST SERVICES CATALOGUE 2019**

# <u>KERN</u>

Bench scales KERN ECE-N · ECB-N







# Plain, mobile, uncomplicated

## Features

- Image: Image: High mobility: Battery operation, compact, lightweight construction, recessed grips on the underside and low weight make this balance ideal for use in several locations
- Particularly large weighing plate
- Very fast display: steady weight values within 2 s
- · Simple and convenient 2-key operation

## Technical data

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

## Accessories

- Rechargeable battery pack internal, 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 of stainless steel, ideal for weighing loose small parts, fruit, vegetables etc., W×D×H 370×240×20 mm, KERN RFS-A02
- External universal mains adapter, with universal input and optional input socket adapters for EU, GB, USA, KERN YKA-03
- Further details, plenty of further accessories and suitable printers see *Accessories*



Model	Weighing capacity	Readability	Reproducibility	Linearity	Option
					DAkkS Calibr. Certificate
	[Max]	[d]			DAkkS
KERN	kg	g	g	g	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

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PROTOCOL



## Pictograms

#### Internal adjusting:

Quick setting up of the balance's accuracy with CAL INT internal adjusting weight (motordriven)

### Adjusting program CAL:

For quick setting up of the balance's accuracy. External adjusting weight required



CAL EXT

## Easy Touch:

Suitable for the connection, data transmission and control through PC, tablet or smartphone Memory:

#### Balance memory capacity, e.g. for article data, MEMORY

ALIBI

weighing data, tare weights, PLU etc. Alibi memory:

Secure, electronic archiving of weighing results, complying with the 2014/31/EU standard.

#### Data interface RS-232: • 6550 •

To connect the balance to a printer, PC or RS 232 network

## RS-485 data interface:

To connect the balance to a printer, PC or other RS 485 peripherals. Suitable for data transfer over large distances. Network in bus topology is possible



₿

BT

• 6534 •

# USB data interface:

To connect the balance to a printer, PC or other peripherals

## Bluetooth\* data interface:

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



# WLAN data interface:

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



Control outputs (optocoupler, digital I/O): To connect relays, signal lamps, valves, etc.

## Analogue interface:

to connect a suitable peripheral device for analogue processing of the measurements



ANALOG

### Interface for second balance: For direct connection of a second balance



Network interface: For connecting the scale to an Ethernet network



### Wireless data transfer:

between the weighing unit and the evaluation unit using an integrated radio module

\*The Bluetooth<sup>®</sup> word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by KERN & SOHN GmbH is under license. Other trademarks and trade names are those of their respective owners.

## **KERN – Precision is our business**

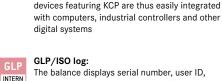
To ensure the high precision of your balance KERN offers you the the appropriate test weight in the international OIML error limit classes E1-M3 from 1 mg - 2500 kg. In combination with a DAkkS calibration certificate the best pre-requisite for proper balance calibration.

The KERN DAkkS calibration laboratory today is one of the most modern and bestequipped DAkkS calibration laboratories for balances, test weights and force-measurement in Europe

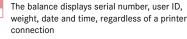
Thanks to the high level of automation, we can carry out DAkkS calibration of balances, test weights and force-measuring devices 24 hours a day, 7 days a week.

### Range of services:

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







**KERN Communication Protocol (KCP):** 

It is a standardized interface command set for

KERN balances and other instruments, which

parameters and functions of the device. KERN

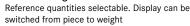
allows retrieving and controlling all relevant

# GLP/ISO log:

With weight, date and time. Only with KERN PRINTER printers

## **Piece counting:**

PCS



## Recipe level A:

The weights of the recipe ingredients can be added together and the total weight of the recipe can be printed out

## Recipe level B:

Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display

#### **Recipe level C: ∠**<sup>c</sup>



Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display, multiplier function, adjustment of recipe when dosages are exceeded or barcode recognition



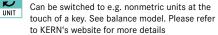
The weights of similar items can be added SUM together and the total can be printed out



Percentage determination:

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

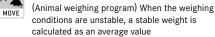
#### Weighing units: S



# Weighing with tolerance range: ⊙ ີ 🤊 ୬ TOL

(Checkweighing) Upper and lower limiting can be programmed individually, e.g. for sorting and dosing. The process is supported by an audible or visual signal, see the relevant model

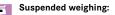
#### M--Hold function:



Protection against dust and water splashes IPxx: 666 The type of protection is shown in the pictogram. IP

#### Stainless steel:

The balance is protected against corrosion



Load support with hook on the underside of the balance

#### **Battery operation:**

Ready for battery operation. The battery type is BATT specified for each device



ΙΝΟΧ

Rechargeable battery pack: Rechargeable set



# Universal mains adapter:

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

## Mains adapter:

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

### Power supply:



Integrated in balance. 230V/50Hz standard EU. More standards e.g. GB, USA or AUS on request



#### Weighing principle: Strain gauges Electrical resistor on an elastic deforming body



#### Weighing principle: Tuning fork: A resonating body is electromagnetically

excited, causing it to oscillate

#### Weighing principle: Electromagnetic force s T

## compensation

Weighing principle: Single cell technology:

The time required for verification is specified in

Advanced version of the force compensation

principle with the highest level of precision

The time required for DAkkS calibration is

The time required for internal shipping

The time required for internal shipping

preparations is shown in days in the pictogram

preparations is shown in days in the pictogram

FORCE Coil inside a permanent magnet. For the most accurate weighings

Verification possible:

Package shipment:

Pallet shipment:

DAkkS calibration possible:

shown in days in the pictogram

the pictogram



Μ

+3 DAYS

DAkkS

+3 DAYS

1 DAY

2 DAYS

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