# **KERN BALANCES & TEST SERVICES 2022**

# KERN

# Moisture analyser KERN DAB



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
- 4 Previous drying time
- Current temperature
- © Current moisture content in %



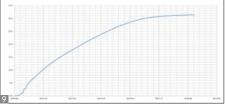
CAL EXT MEMORY RS 232 PRINTER UNIT	230 V DMS 1 DAY +3 DAYS		
Model KERN	DAB 200-2	DAB 100-3	
Readability [d]	0,01 g/0,05 %	0,001 g/0,01 %	
Weighing capacity [Max]	200 g	110 g	
Reproducibility weight of sample 2 g*	1,5 %	0,15 %	
Reproducibility, weight of sample 10 g*	0,3 %	0,03 %	
	an be switched over at any time)		
Moisture [%] = Moisture content (M) from wet weight (W)	0-100 %		
Dry content [%] = Dry weight (D) from W	100-0 %		
Moisture content (M)	Absolute value in [g]		
Temperature range	40 °C-199 °C in steps up to 1 °C		
Drying modes	✓ Gentle drying ✓ Gentle drying		
Switch-off criteria	<ul> <li>Automatic switch-off (2 mg loss in weight in 45 s)</li> <li>Time controlled switch-off (3 min - 99 min 59 s, 10 s increments)</li> <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	240×365×180 mm		
Net weight	4,82 kg		
Option DAkkS Calibr. Certificate	Mass: KERN 963-127		



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







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

## Accessories

- Sample plates aluminium, 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 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, 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

\* application-dependent

Option Factory Calibr. Certificate

KERN & SOHN GmbH · Ziegelei 1 · 72336 Balingen · Germany · Tel. +49 7433 9933-0 · www.kern-sohn.com · info@kern-sohn.com

Temperature

KERN 964-305

# **KERN BALANCES & TEST SERVICES 2022**

KCP

PROTOCOL

GLP

INTERN

GI P

PRINTER

PCS

RECIPE

RECIPE

Η'

SUM

UNIT

- → +<

TOL

^-

MOVE

digital systems GLP/ISO log:

connection GLP/ISO log:

printers.

**Piece counting:** 

Recipe level A:

can be printed out

guidance through display

Percentage determination:

Weighing with tolerance range:

**Totalising level A:** 

value (100 %)

Weighing units:

for more details

Hold function:

Recipe level B:

### **Pictograms**

### Internal adjusting: Quick setting up of the balance's accuracy with



# internal adjusting weight (motordriven)



### Adjusting program CAL:

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



# Easy Touch:

Suitable for the connection, data transmission and control through PC or tablet.



Memory:

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



Alibi memory:

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

### Data interface RS-232: • 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 peripherals. Suitable for datatransfer over large distances. Network in bus topology is possible



\*

# USB data interface:

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

## Bluetooth\* data interface:

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



# WiFi data interface:

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



Control outputs (optocoupler, digital I/O):



To connect relays, signal lamps, valves, etc.



# Analogue interface:

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



# Interface for second balance:

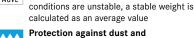
For direct connection of a second balance



# Network interface:

For connecting the scale to an Ethernet network

\*The Bluetooth® 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





The type of protection is shown in the pictogram.

water splashes IPxx:

#### Suspended weighing: ÷. Load support with hook on the underside of the UNDER balance



**KERN Communication Protocol (KCP):** 

It is a standardized interface command set for

KERN balances and other instruments, which

devices featuring KCP are thus easily integrated

with computers, industrial controllers and other

The balance displays serial number, user ID,

With weight, date and time. Only with KERN

Reference quantities selectable. Display can

The weights of the recipe ingredients can be

added together and the total weight of the recipe

Internal memory for complete recipes with name

and target value of the recipe ingredients. User

The weights of similar items can be added

Determining the deviation in % from the target

Can be switched to e.g. nonmetric units. See

balance model. Please refer to KERN's website

(Checkweighing) Upper and lower limiting can

be programmed individually, e.g. for sorting and

dosing. The process is supported by an audible

(Animal weighing program) When the weighing

or visual signal, see the relevant model

together and the total can be printed out

be switched from piece to weight

weight, date and time, regardless of a printer

allows retrieving and controlling all relevant parameters and functions of the device. KERN

### **Battery operation:**





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



Rechargeable battery pack: Rechargeable set

ACCU

### Universal plug-in power supply:

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

ļ
l

### Plug-in power supply: 230V/50Hz in standard version for EU, CH.

On request GB, USA or AUS version available

# -6-



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

DMS

### Weighing principle: Strain gauges:

Electrical resistor on an elastic deforming body

# Weighing principle: Tuning fork:

A resonating body is electromagnetically excited, causing it to oscillate



### Weighing principle: Electromagnetic force compensation:

Coil inside a permanent magnet. For the most accurate weighings



# Weighing principle: Single cell technology:

Advanced version of the force compensation principle with the highest level of precision



### Verification possible: The time required for verification is specified

+3 DAYS in the pictogram

# DAkkS calibration possible (DKD):

DAkkS The time required for DAkkS calibration +3 DAYS is shown in days in the pictogram

# Factory calibration (ISO):



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



## Package shipment:



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

### Pallet shipment:



Your KERN specialist dealer:

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

# **KERN – Precision is our business**

· Calibration of force-measuring devices

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.

· Database supported management of checking equipment and reminder service

· DAkkS calibration certificates in the following languages DE, EN, FR, IT, ES, NL, PL

### 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

· Conformity evaluation and reverification of balances and test weights