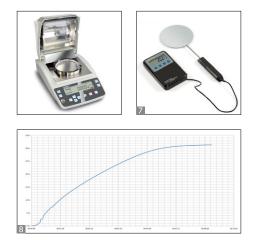
## **KERN BALANCES & TEST SERVICES CATALOGUE 2019**

# KERN

## Moisture analyser KERN DBS







# Moisture analyser with graphics display and 10 memories for drying programs

#### Features

- Backlit graphic display, digit height 15 mm
  Drying process active
- Previous drying time
- Current temperature
- Unit for displaying the results
- Gurrent moisture content in %
- Active heating profile
- Halogen quartz glass heater 400 W
- Observation window above the sample, useful during initial setting
- Internal memory for automatic sequence of 10 complete drying processes and 100 drying processes carried out
- The last value measured remains on the display until it is replaced by a new measurement
- Sample description for up to 99 samples, 2 digits, freely programmable, and is printed in the measuring protocol
- · Date and time display as standard
- 10 sample plates included
- Protective working cover included with delivery
- **Application handbook:** On the internet, you will find a practical application handbook containing many examples, field reports, settings and tips for each KERN moisture analyser



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	0,02 %
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	LF Drying in levels
	✓ Gentle drying
	<b>」──</b> Rapid drying
	Automatic unrestricted switch-off (Selectable loss in weight 0,01% – 0,1% in 30 s)
Switch-off criteria	Time controlled switch-off (1 min – 12 h)
	Manual switch-off at the press of a button
Recall of measurement/	Interval can be set from 1 s – 10 min
Log output	(Only when used with printer KERN YKB-01N or PC)
Overall dimensions W×D×H	204×336×167 mm
Net weight	approx. 4,6 kg
<b>Option DAkkS Calibr. Certificate</b>	Mass: KERN 963-127
<b>Option Factory Calibr. Certificate</b>	Temperature: KERN 964-305

## Accessories

- **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 high mechanical stability, with organic binder, box of 100 pieces, KERN RH-A02
- Temperature calibration set consists of measuring sensor and display device, KERN DBS-A01.
- USB interface kit for bi-directional data exchange between balance/moisture analyser and computer. Scope of delivery: USB cable, driver, Software Balance Connection, KERN DBS-A02
- I 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
- · Label printer, KERN YKE-01

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

KCP

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

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

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



• 6534 •

ALIBI

## Data interface RS-232:

To connect the balance to a printer, PC or 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



## 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.

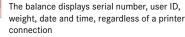
#### Range of services:

- · 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



PCS

GLP/ISO log:



**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

devices featuring KCP are thus easily integrated

with computers, industrial controllers and other

allows retrieving and controlling all relevant

## GLP/ISO log:

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

## **Piece counting:**

Reference quantities selectable. Display can be switched from piece to weight

#### Recipe level A: 4

The weights of the recipe ingredients can be RECIPE 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

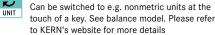


TOL

Percentage determination:

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

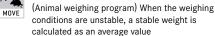
#### Weighing units: S

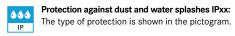


#### Weighing with tolerance range: ○ 3)

(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:





#### Stainless steel:

The balance is protected against corrosion

#### Suspended weighing:

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



INOX

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



SC TECH

Μ

+3 DAYS

DAkkS

+3 DAYS

1 DAY

2 DAYS

Your KERN specialist dealer:

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

excited, causing it to oscillate

#### s T compensation FORCE

accurate weighings

Verification possible:

Package shipment:

Pallet shipment:

DAkkS calibration possible:

shown in days in the pictogram

the pictogram

## Weighing principle: Electromagnetic force Coil inside a permanent magnet. For the most

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