KERN BALANCES & TEST SERVICES 2022

KERN

Moisture analyser KERN DLB



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 graphics display, digit height 11 mm
- Home screen:
- Main menu
- 2 Start drying process
- Select drying temperature
- Select shut-off criteria
- Setting to zero/taring
- 6 Stand-by

- During measurement:
- Current temperature
- 8 Current heating profile
- Active shut-off criteria
- Abort drying process
- III Stop drying process
- Display current drying parameters
- **13** Toggle the unit for displaying the results
- At the end of the measurement:
- **Exit drying program:**
- 15 Print measurement report
- 10 (De)activate, edit GLP parameters
- Display detailed result
- 13 Toggle the unit for displaying the results

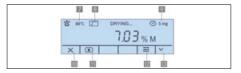
| STANDARD | | | | | | OPTION | |
|----------|-----------|--------|--------------|-------|-----|--------|---------|
| | • 6886. • | GLP | \mathbf{C} | | | | DAkkS |
| CAL EXT | RS 232 | INTERN | UNIT | 230 V | DMS | 1 DAY | +3 DAYS |

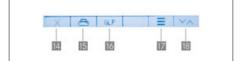
| Modell KERN | DLB 160-3A | | | | |
|---|--|--|--|--|--|
| Readability [d] | 0,001 g/0,01 % | | | | |
| Weighing capacity [Max] | 160 g | | | | |
| Reproducibility | | | | | |
| weight of sample 2 g* | 0,15 % | | | | |
| Reproducibility, | | | | | |
| weight of sample 10 g* | 0,05 % | | | | |
| | an be switched over at any time) | | | | |
| Moisture [%] = Moisture | 0-100 % | | | | |
| content (M) from wet weight (W) | | | | | |
| 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 | 35 °C-160 °C in steps up to 1 °C | | | | |
| Drying modes | Standard drying | | | | |
| 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) | | | | |
| 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 | | | | |
| Option Factory Calibr. Certificate | Temperature: KERN 964-305 | | | | |
| * application-dependent | | | | | |



- 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









- 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
- 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 analyser

KERN BALANCES & TEST SERVICES 2022

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: 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:

KERN – Precision is our business

For direct connection of a second balance



balance calibration.

ment in Europe

Range of services:

characteristics) for test weights

· Calibration of force-measuring devices

Network interface:

For connecting the scale to an Ethernet network

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

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

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.

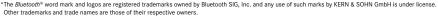
· Volume determination and measuring of magnetic susceptibility (magnetic

· Conformity evaluation and reverification of balances and test weights

· Database supported management of checking equipment and reminder service

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

· 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





KCP

PROTOCOL

GLP/ISO log: GI P With weight, date and time. Only with KERN PRINTER printers.

Piece counting:

connection

digital systems GLP/ISO log:

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

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

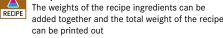
with computers, industrial controllers and other

The balance displays serial number, user ID,

weight, date and time, regardless of a printer

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

Recipe level A:



Recipe level B:

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

Totalising level A:

Η' 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:

Can be switched to e.g. nonmetric units. See UNIT balance model. Please refer to KERN's website for more details



Weighing with tolerance range:

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

Hold function:

^-(Animal weighing program) When the weighing MOVE conditions are unstable, a stable weight is calculated as an average value



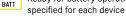
Protection against dust and water splashes IPxx:

The type of protection is shown in the pictogram.

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

Battery operation:







Ready for battery operation. The battery type is

Rechargeable battery pack: Rechargeable set



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



Plug-in power supply:

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

Integrated power supply unit:



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

| 1 | 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:

DAkkS calibration possible (DKD):

is shown in days in the pictogram

Factory calibration (ISO):

Package shipment:

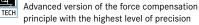
Pallet shipment:

The time required for DAkkS calibration

The time required for Factory calibration

The time required for internal shipping preparations

The time required for internal shipping preparations



Verification possible: The time required for verification is specified in the pictogram

М +3 DAYS

DAkkS

+3 DAYS

ISO

+4 DAYS

1 DAY

ò

2 DAYS

Your KERN specialist dealer:



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