

Moisture analyser KERN DLB



The moisture analyser for heavy, high-volume samples

STANDARD

CAL EXT

MEMORY

RS 232

GLP

PRINTER

UNIT

230 V

DMS

1 DAY

3 YEARS WARRANTY

OPTION

DAkKS

+3 DAYS

Model KERN	DLB 160-3A
Readout [d]	0,001 g / 0,01 %
Weighing range [Max]	160 g
Reproducibility, 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)	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	<div><div></div>Standard drying</div> <div><div></div>Rapid drying, Pre-heat level, can be switched on</div>
Switch off criteria	<div>•Automatic unrestricted switch off (Selectable loss in weight 0,1%-9,9% in 60 s)</div> <div>•Time controlled switch off (1 min - 99 min)</div> <div>•Manual switch off at the press of a button</div>
Recall of measurement	<div>•Continuous output (residual weight)</div> <div>•At the end of the drying process, manual or automatic (Only in connection with KERN YKB-01N printer or PC)</div>
Overall dimensions WxDxH	210x340x225 mm
Netweight	approx. 4,2 kg
Option DAkKS Calibr. Certificate	963-127

Features

- Backlit LCD display, digit height 17 mm
  - 1 Current moisture content in %
  - 2 Unit of the shown result, e.g. % moisture
  - 3 Drying process active
- **Halogen quartz glass heater** 400 W
- **Internal memory** for automatic sequence of 5 complete drying processes
- The last value measured remains on the display until it is replaced by a new measurement
- **10 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. Box with 80 pieces, KERN MLB-A01A
- **Round fiberglass filter** e.g. for samples that splash or become encrusted. Box with 100 pieces, KERN RH-A02
- **5 Temperature calibration set** consists of measuring sensor and display device, KERN DLB-A01
- **Protective working cover** standard. Can be re-ordered, scope of delivery: 5 items, KERN ALJ-A01S05
- **Suitable printers** see page 177 ff.

# KERN Pictograms:



**Internal adjusting:** Quick setting up of the balance's accuracy with internal adjusting weight (motordriven).



**Piece counting:** Reference quantities selectable. Display can be switched from piece to weight.



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



**Adjusting program CAL:** For quick setting up of the balance's accuracy. External adjusting weight required.



**Recipe level A:** Separate memory for the weight of the tare container and the recipe ingredients (net total).



**Battery operation:** Ready for battery operation. The battery type is specified for each device.



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



**Recipe level B:** Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display.



**Rechargeable battery pack:** Rechargeable set.



**Alibi memory:** Electronic archiving of weighing results, complying with the 2009/23/EC standard.



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



**Universal mains adapter:** with universal input and optional input socket adapters for  
A) EU, GB  
B) EU, GB, CH, USA  
C) EU, GB, CH, USA, AUS



**Data interface RS-232:** To connect the balance to a printer, PC or network.



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



**RS-485 data interface:** To connect the balance to a printer, PC or other peripherals. High tolerance against electromagnetic disturbance.



**Totalising level A:** The weights of similar items can be added together and the total can be printed out.



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



**USB data interface:** To connect the balance to a printer, PC or other peripherals.



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



**Weighing principle: Strain gauge**  
Electrical resistor on an elastic deforming body.



**Bluetooth\* data interface:** To transfer data from the balance to a printer, PC or other peripherals.



**Weighing principle: Tuning fork**  
A resonating body is electromagnetically excited, causing it to oscillate.



**WLAN data interface:** To transfer data from the balance to a printer, PC or other peripherals.



**Percentage determination:** Determining the deviation in % from the target value (100 %).



**Weighing principle: Electromagnetic force compensation** Coil inside a permanent magnet. For the most accurate weighings.



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



**Weighing units:** Can be switched to e.g. non-metric units at the touch of a key. See balance model. Please refer to KERN's website for more details.



**Weighing principle: Single cell technology**  
Advanced version of the force compensation principle with the highest level of precision.



**Interface for second balance:** For direct connection of a second balance.



**Weighing with tolerance range:** Upper and lower limiting values can be programmed individually for e.g. dosing, sorting and portioning.



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



**Network interface:** For connecting the scale to an Ethernet network. With KERN products you can use a universal RS-232/LAN converter.



**Hold function:** (Animal weighing program) When the weighing conditions are unstable, a stable weight is calculated as an average value.



**DAKkS calibration possible (DKD):** The time required for DAKkS calibration is shown in days in the pictogram.



**Wireless data transfer:** between the weighing unit and the evaluation unit using an integrated radio module.



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



**Package shipment:** The time required for internal shipping preparations is shown in days in the pictogram.



**GLP/ISO log:** The balance displays the weight, date and time, regardless of a printer connection.



**ATEX explosion protection:** Suitable for use in hazardous industrial environments, in which there is explosion danger. The ATEX marking is specified for each device.



**Pallet shipment:** The time required for internal shipping preparations is shown in days in the pictogram.



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



**Stainless steel:** The balance is protected against corrosion.



**Warranty:** The warranty period is shown in the pictogram.

## 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 - 2000 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 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.

### 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
- Database supported management of checking equipment and reminder service
- Calibration of force-measuring devices
- DAKkS calibration certificates in the following languages D, GB, F, I, E, NL, PL

## Your KERN specialist dealer: