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**KERN**<sup>®</sup>

# MOISTURE ANALYSERS


Laboratory | Industry | Food Industry





PROFESSIONAL MEASURING





# KERN 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


 **EasyTouch**  
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.


 **KERN Universal Port (KUP)**  
allows the connection of external KUP interface adapters, e.g. RS-232, RS-485, SB, Bluetooth, WIFI, Analogue, Ethernet etc. for the exchange of data and control commands, without installation effort


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


 **RS-485 Data interface**  
To connect the balance to a printer, PC or other 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

 **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


 **KERN Communication Protocol (KCP)**  
It is a standardized interface command set for KERN balances and other instruments, which allows retrieving and controlling all relevant parameters and functions of the device. KERN devices featuring KCP are thus easily integrated with computers, industrial controllers and other digital systems


 **GLP/ISO log intern**  
The balance displays weight, date and time, independent of a printer connection


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


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


 **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


 **Totalising level A**  
The weights of similar items can be added 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 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 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 balance


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


 **Rechargeable battery pack**  
Rechargeable set


 **Universal plug-in power supply**  
with universal input and optional input socket adapters for  
A) EU, CH, GB  
B) EU, CH, GB, US  
C) EU, CH, GB, US, 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


 **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

 **Conformity Assessment**  
The time required for conformity assessment is specified in the pictogram

 **DAKkS calibration possible (DKD)**  
The time required for DAKkS calibration 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

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

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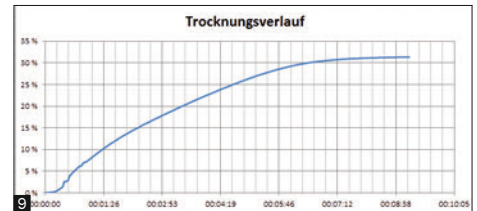
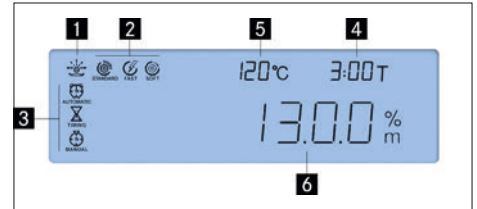
KERN Quick-Finder

How I quickly find the product I am looking for

Ahead of each product group allows you to base the search for a certain target group on weighing data you need such as readout, weighing capacity and main features for each model.

And it's as simple as that – find the product you want in 2 steps:

1. Go to the product group index on page 3
2. Pick the appropriate product group and find the product you want using the Quick-Finder



## 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
- 1 Active drying process
- 2 Active heating profile
- 3 Active switch-off criteria
- 4 Previous drying time

- 5 Current temperature
- 6 Current moisture content in %
- 400 W halogen-quartz glass heater
- Suitable for temperature-insensitive samples
- Helpful observation window above the sample
- 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
- On the internet, you will find a practical application handbook containing many examples, field reports, settings and tips for each KERN moisture analyser
- Note: both models are also available in infrared version, see *accessories*

### STANDARD



### OPTION



KERN	DAB 100-3	DAB 200-2
Readability [d] Weight/Moisture (%)	0,001 g / 0,01 %	0,01 g / 0,05 %
Weighing capacity [Max]	110 g	200 g
Reproducibility weight of sample 2 g*	0,15 %	1,5 %
Reproducibility weight of sample 10 g*	0,03 %	0,3 %
Display after drying (Display can be switched over at any time)		
Moisture [%] = Moisture content (M) from wet weight (W)	20 - 100 %	
Dry content [%] = Dry weight (D) from [W]	100 - 20 %	
Moisture content (M)	Absolute value in [g]	
Temperature range (in steps up to)	40 °C - 199 °C (1 °C)	
Drying modes	Standard drying Gentle drying Rapid drying	
Switch-off criteria	• Automatic switch-off (2 mg loss in weight in 45 s) • Time controlled switch-off (3 min - 99 min 59 s, 10 s increments) • Manual switch-off at the press of a button	
Recall of measurement/Log output	Interval can be set from 1 s - 10 min (Only when used with printer or PC)	
Overall dimensions W×D×H	240×365×180 mm	
Net weight	4,82 kg	
Price excl. of VAT ex works €	1250,-	1200,-
Option DAKKS Calibr. Certificate   Mass	963-127, € 103,-	
Option Factory Calibr. Certificate   Temperature	964-305, € 174,-	

\* application-dependent

### Accessories

- Sample plates aluminium, Ø 90 mm, unit of 80 pieces, KERN MLB-A01A, € 45,-
- Round fiberglass filter, medium mechanical stability, without organic binder, box of 100 pieces, KERN RH-A02, € 79,-
- 7 Temperature calibration set consists of measuring sensor and display device, KERN DAB-A01., € 200,-
- 8 Infrared quartz glass heater, temperature range 40 °C-160 °C, Factory Option, KERN DAB-A02, € 198,-
- 9 BalanceConnection software for flexible measured value recording or transmission, compatible with Microsoft® Excel, Access and other applications, Scope of supplies: Download link for 1 license, KERN SCD-4.0-DL, € 210,-
- Thermal printer, KERN YKH-01, € 420,-
- Matrix needle printer, to print the weights on normal paper, ideal for long-term archiving, KERN 911-013, € 480,-





## Moisture analyser with high-quality single-cell weighing system for outstanding stability, reliability and response speed

### Features

- Tip: Suitable for samples with low moisture content, e.g. plastics
- Backlit graphic display, digit height 15 mm
- 1 Active drying process
- 2 Previous drying time

- 3 Current temperature
- 4 Unit for displaying the results
- 5 Current moisture content in %
- 6 Active heating profile
- 400 W halogen-quartz glass heater
- Excellent temperature control thanks to halogen technology, suitable for temperature-sensitive samples

### STANDARD



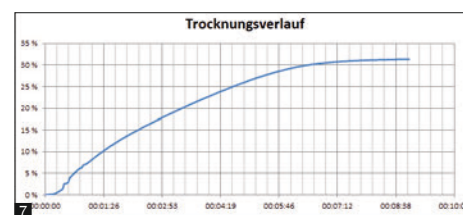
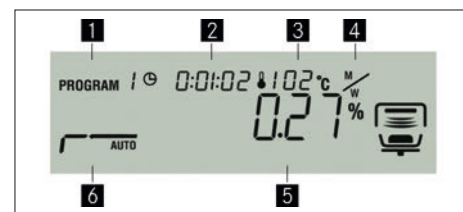
### OPTION



KERN	DBS 60-3
Readability [d] Weight/Moisture (%)	0,001 g / 0,01 %
Weighing capacity [Max]	60 g
Reproducibility weight of sample 2 g*	0,15 %
Reproducibility weight of sample 10 g*	0,02 %
<b>Display after drying</b>	
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 (in steps up to)	50 °C - 200 °C (1 °C)
<b>Drying modes</b>	
	Standard drying Drying in levels Gentle drying Rapid drying
<b>Switch-off criteria</b>	
	• Automatic unrestricted switch-off (Selectable loss in weight 0,01% - 0,1% in 30 s)
	• Time controlled switch-off (1 min - 12 h)
	• Manual switch-off at the press of a button
<b>Recall of measurement/ Log output</b>	
	Interval can be set from 1 s - 10 min (Only when used with printer or PC)
Overall dimensions W×D×H	204×336×167 mm
Net weight	4,6 kg
Price excl. of VAT ex works €	1650,-
Option DAKKS Calibr. Certificate   Mass	963-127, € 103,-
Option Factory Calibr. Certificate   Temperature	964-305, € 174,-

\* application-dependent

www.kern-sohn.com · Order hotline +49 7433 9933-0



- Internal memory for automatic sequence of 10 complete drying processes and 100 drying processes carried out
- The last measured value remains visible in the display until the next measurement
- Password protection to prevent manipulation of stored settings, data, etc.
- Sample description for up to 99 samples, freely programmable, and is printed in the measuring protocol
- Date and time display as standard
- USB data interface for transferring weighing data to the PC, printer etc.
- 50 sample plates included
- Protective working cover included with delivery
- On the internet, you will find a practical application handbook containing many examples, field reports, settings and tips for each KERN moisture analyser

### Accessories

- Protective working cover, scope of delivery 5 items, KERN DBS-A03S05, € 52,-
- Sample plates aluminium, Ø 90 mm, unit of 80 pieces, KERN MLB-A01A, € 45,-
- Round fiberglass filter, medium mechanical stability, without organic binder, box of 100 pieces, KERN RH-A02, € 79,-
- Temperature calibration set consists of measuring sensor and display device, KERN DBS-A01, € 570,-
- USB 2.0 cable, KERN DBS-A04, € 28,-
- 7 BalanceConnection software for flexible measured value recording or transmission, compatible with Microsoft® Excel, Access and other applications, Scope of supplies: Download link for 1 license, KERN SCD-4.0-DL, € 210,-
- Thermal printer, KERN YKH-01, € 420,-
- Matrix needle printer, to print the weights on normal paper, ideal for long-term archiving, KERN 911-013, € 480,-



Moisture analyser with intuitive graphic display and step-by-step user guidance in 6 languages

Features

- Backlit LCD graphic display, digit height 11 mm
- 6 direct keys for rapid access to the main functions
- Home screen:
  - 1 Main menu
  - 2 Start drying process
  - 3 Select drying temperature
  - 4 Select shut-off criteria

- 5 Setting to zero/taring
- 6 Stand-by
- During measurement:
  - 7 Current temperature
  - 8 Current heating profile
  - 9 Active switch-off criteria
  - 10 Abort drying process
  - 11 Stop drying process
  - 12 Display current drying parameters
  - 13 Toggle the unit for displaying the results

STANDARD

CAL EXT

RS 232

GLP

PRINTER

UNIT

230 V

DMS

1 DAY

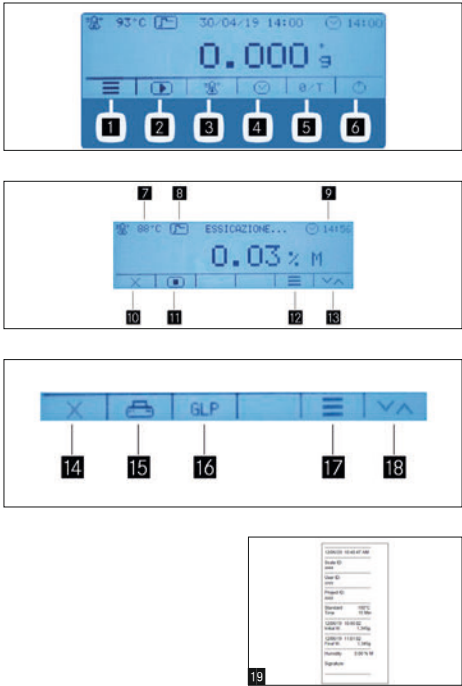
OPTION

DAKKS

+3 DAYS

KERN	DLB 160-3A
Readability [d] Weight/Moisture (%)	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 %
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 (in steps up to)	35 °C - 160 °C (1 °C)
Drying modes	Standard drying Rapid drying, preheating can be switched on
Switch-off criteria	· Automatic unrestricted switch-off (Selectable loss in weight 0,01 mg/30 s - 10 mg/30 s) · 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 5 s - 250 s
Overall dimensions W×D×H	215×345×235 mm
Net weight	4,7 kg
Price excl. of VAT ex works €	1450,-
Option DAKKS Calibr. Certificate   Mass	963-127, € 103,-
Option Factory Calibr. Certificate   Temperature	964-305, € 174,-

\*application-dependent



- At the end of the measurement:
- 14 Exit drying program
  - 15 Print measurement report
  - 16 (De)activate, edit GLP parameters
  - 17 Display detailed result
  - 18 Toggle the unit for displaying the results
- 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 measured value remains visible in the display until the next measurement
  - 19 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
  - On the internet, you will find a practical application handbook containing many examples, field reports, settings and tips for each KERN moisture analyser

Accessories

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- Round fiberglass filter, medium mechanical stability, without organic binder, box of 100 pieces, KERN RH-A02, € 79,-
- Temperature calibration set consists of measuring sensor and display device KERN DLB-A01N., € 570,-
- Thermal printer, KERN YKH-01, € 420,-
- Matrix needle printer, to print the weights on normal paper, ideal for long-term archiving, KERN 911-013, € 480,-

## The oldest Precision Balance Factory in Germany

### KERN & SOHN GmbH

Balances, Test Weights, Microscopes,  
DAkKS Calibration Laboratory

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