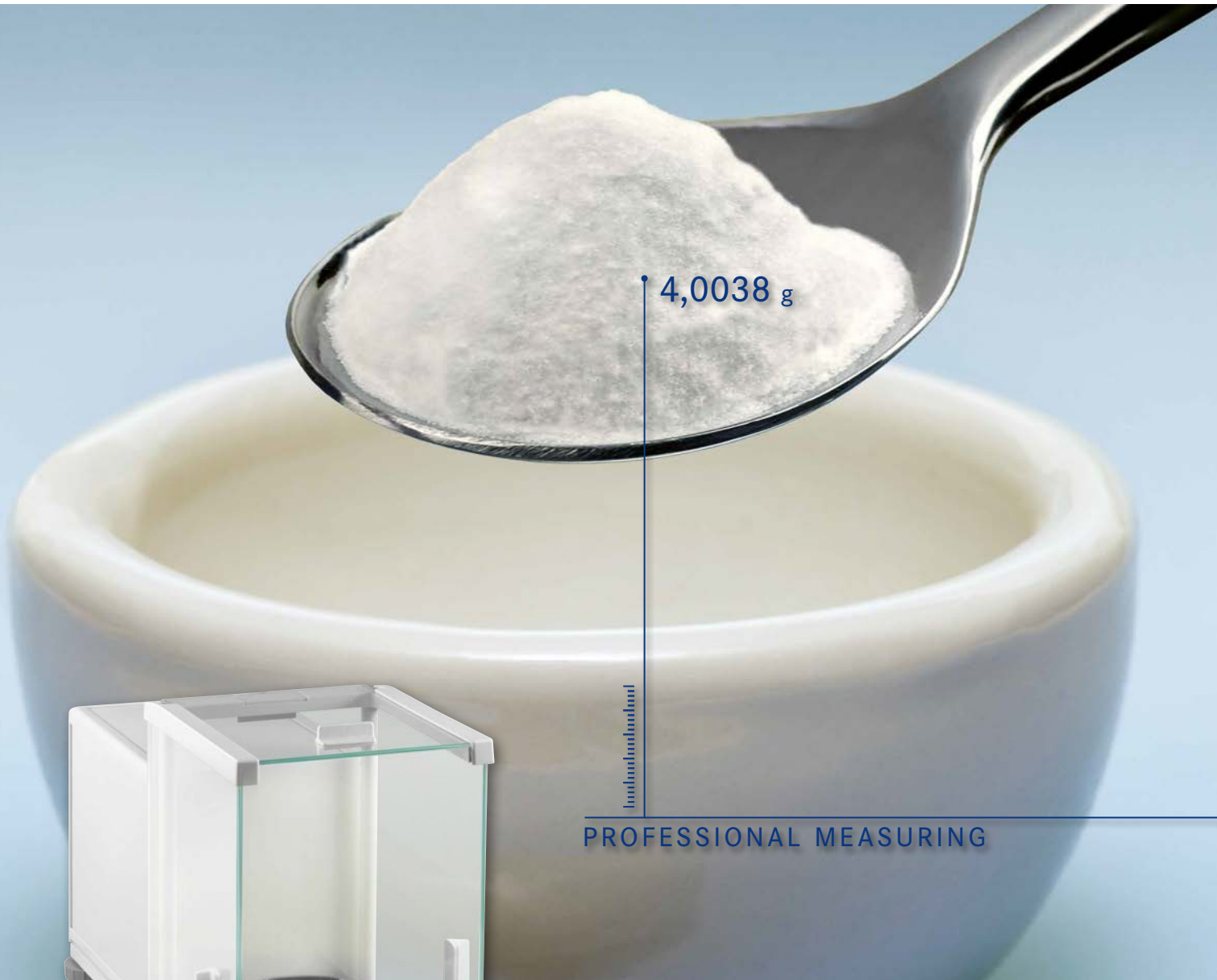


## ANALYTICAL BALANCES



PROFESSIONAL MEASURING



# 2015

# KERN Pictograms



## Internal adjusting:

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



## Recipe level A:

Separate memory for the weight of the tare container and the recipe ingredients (net total).



## 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 B:

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



## 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 C:

Internal memory for complete recipes with name and target value of the recipe ingredients. User guidance through display. Additional convenient functions, such as barcode and back calculation functions.



## Rechargeable battery pack:

Rechargeable set.



## 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, AUS or USA 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, AUS or USA 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. Additional convenient functions, such as barcode and back calculation.



## Strain gauges:

Electrical resistor on an elastic deforming body.



## Bluetooth data interface:

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



## Tuning fork principle:

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 %).



## 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. nonmetric units at the touch of a key. See balance model. Please refer to KERN's website for more details.



## 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.



## Vibration-free weighing:

(Animal weighing program)

When the weighing conditions are unstable, a stable weight is calculated as an average value.



## DAkkS calibration possible:

The time required for DAkkS calibration is shown in days in the pictogram.



## GLP/ISO log:

The balance displays the weight, date and time, regardless of a printer connection.



## Protection against dust and water splashes IPxx:

The type of protection is shown in the pictogram. For details see the glossary.



## Package 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, see "Accessories"



## 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.



## Piece counting:

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



## Stainless steel:

The balance is protected against corrosion.



## Warranty:

The warranty period is shown in the pictogram.

## Often it is the small things which make daily laboratory life easier.

On this page we have put together a small selection of practical accessories for your demanding weighing processes.

For additional details and further accessories, please see page 157



### Weighing table

Accurate measuring results require stable working conditions! The KERN YPS-03 weighing table has been constructed to absorb vibrations and oscillations, which would otherwise distort the weighing result.

Suitable for all KERN analytical balances with total dimensions  $\leq$  WxD 270x410 mm

KERN YPS-03,

### Ioniser to neutralise electrostatic charge

Goods to be weighed which are non-conductive, such as plastic, china, glass, etc often carry electrostatic charge. The electromagnetic field which then occurs between the goods to be weighed and the balance can cause the weighing result to be distorted by up to a gramme. Suitable for all KERN analytical balances.

KERN YBI-01,



### Protective dust cover

For protection from dust and light. Suitable for all KERN analytical balances.

KERN ABS-A08,

### Universal density set

Universal density set for precise and convenient density determination of liquids and solids  $\leq/\geq$  1. Suitable for all KERN analytical balances.

KERN YDB-03,



### Thermal statistics printer

For printing weights, recipes etc. or for GLP record keeping of weighing data with date and time print. With extensive statistical functions for the analysis of measurements series. Suitable for all KERN analytical balances (except AET).

KERN YKS-01,



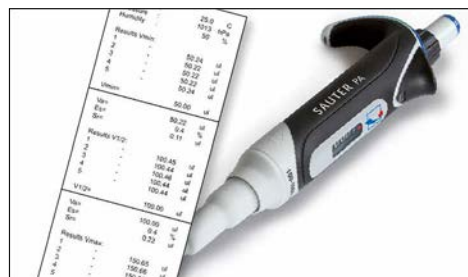


KERN AET [d] = 0,01 mg



KERN AET [d] = 0,1 mg

State-of-the-art premium touchscreen analytical balance with the complete range of functions for demanding processes



**Intuitive pipette calibration in accordance with ISO 8655:** The user is guided through the pipette calibration procedure step by step, in accordance with the requirements of the norm. This helps to ensure that the pipetting volumes are correct and minimises the risks in daily pipetting work

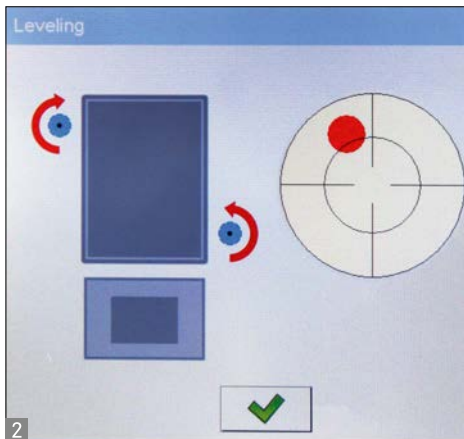


**Convenient recipe-weighing:** complete recipes with all recipe ingredients and associated target values, names, tolerances, tare weights etc. can be stored. If there is an excess amount of one recipe ingredient the practical back calculation function automatically calculates the new target weights of the other ingredients



**Statistical function** for statistical analysis of series of measurements. Graphic display of measurements can be used by the operator to check and evaluate the results

# Analytical balance KERN AET



## Features

- **Intuitive operation, increases efficiency and saves costs:** Easy entering of item data at the PC, call up of items on the balance using the connected barcode or RFID scanner, output of weighing data using the large or second display or control outputs, data transfer to the PC, printer or alibi memory.
- **Individual user settings can be stored**
  - User name and number
  - Password
  - Menu language
  - User profile
  - Additional guest mode for users without log-in
  - Authorisations, e.g. capture or modification of a recipe only with authorisation, recipe weighing can be carried out by the user
- **Best-before dates** can be stored and printed for each item
- **Difference calculation:** Weighing a sample before and after a machining process and automatic output of the difference value
- **Multiplier function:** recipes and their ingredients can be multiplied at will at the press of a button, which is ideal for the production of larger containers, bulk packs etc.
- **Enormous database (1 GB)** for thousands of weighing results, items, recipes, recipe ingredients, container weights, user data etc.
- **Alibi memory:** paperless archive of weighing results, see also page 11
- **Electronic level indicator** continuously checks the position of the balance, sounds an alarm when the device is out of balance

- and gives visual instructions on how to correct the situation
- **High level of process reliability:** you can define limit values for selected parameters, such as, for example, temperature, levelling, minimum load, adjustment, etc. When the value falls outside these limits, a warning message will be issued and this can be stored with the measuring result
  - **Grid weighing pan and hook for suspended weighing** as standard
  - **For further features, see page 7**

## Technical data

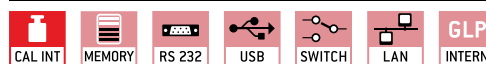
- Backlit and touch-sensitive LCD display with digit height 21 mm, screen diagonal 5,7" (approx. 145 mm), WxH 115x86 mm. Dimensions of display device WxDxH 215x156x71 mm
- Weighing plate dimensions, stainless steel, Ø 85 mm
- Dimensions housing WxDxH on all models with
  - [d] = 0,01 mg: 573x348x217 mm
  - [d] = 0,1 mg: 348x360x217 mm
- Weighing space WxDxH 168x160x225 mm
- Permissible ambient temperature 18 °C / 30 °C

## Accessories

- **Protective working cover** over the display device, standard, can be retrofitted, suitable for the series AET, PET, ILT, KERN ILT-A02,

- **Protective dust cover,** KERN ABS-A08,
- **RS-232 barcode scanner,** hand-held version, dimensions WxDxH 152x84x63 mm, details see page 163, KERN PET-A05,
- **USB barcode scanner,** hand-held version, dimensions WxDxH 152x84x63 mm, details see page 163, KERN PET-A09,
- **USB keyboard** for easy capture of items, descriptions etc., dimensions WxDxH 440x128x24 mm, details see page 164, KERN PET-A06,
- **Second display,** dimensions WxDxH 150x33x80 mm, details see page 164, KERN PET-A03,
- **Direct thermal label printer,** software for easy editing of (adhesive) labels included, for details see page 163, KERN PET-A13,
- **Thermal transfer and direct thermal label printer,** software for easy editing of (adhesive) labels included, for details see page 163, KERN PET-A14,
- **Software for database management,** for convenient maintenance of item data at the PC. Data transfer to the balance using the interface cable (see page 158), details see page 163, KERN PET-A01,
- **Set for density determination** of liquids and solids, as well as porous materials (soaked in oil)  $\leq/\geq 1$ . For details see page 161. KERN YDB-03,  
The internal density determination software in the balance takes you through the process, step by step, and shows the density on the display. You can also use a pycnometer

## STANDARD



## OPTION FACTORY



| Model   | Weighing range [Max] g | Readout [d] mg | Verification value [e] mg | Minimum load [Min] mg | Reproducibility mg | Linearity mg | Options      |  |                           |         |  |         |  |
|---|------------------------|----------------|---------------------------|-----------------------|--------------------|--------------|--------------|--|---------------------------|---------|--|---------|--|
|   |                        |                |                           |                       |                    |              | Verification |  | DAkKS Calibr. Certificate |         |  |         |  |
|   |                        |                |                           |                       |                    |              | MT KERN      |  | DAkKS KERN                |         |  |         |  |
| KERN AET 500-4  | 510                    | 0,1            | -                         | -                     | 0,2                | ± 0,5        |              |  |                           |         |  |         |  |
| Note: For applications that require verification, please order verification at the same time, initial verification at a later date is not possible. Verification at the factory, we need to know the full address of the location of use. |                        |                |                           |                       |                    |              |              |  |                           |         |  |         |  |
| Dual-range balance switches automatically to the next largest weighing range [Max] and readout [d].   |                        |                |                           |                       |                    |              |              |  |                           |         |  |         |  |
| AET 200-5DM   | 82   220               | 0,01   0,1     | 1                         | 1                     | 0,04   0,1         | ± 0,1   0,2  |              |  |                           | 965-201 |  | 963-101 |  |
| AET 100-5M  | 100                    | 0,01           | 1                         | 1                     | 0,05               | ± 0,1        |              |  |                           | 965-201 |  | 963-101 |  |
| AET 200-4NM   | 220                    | 0,1            | 1                         | 10                    | 0,2                | ± 0,3        |              |  |                           | 965-201 |  | 963-101 |  |

Price reduction

Best price guarantee, 30 days



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**Use the above details to contact us if this literature doesn't answer all your questions.**

**Pricing on any accessories shown can be found by keying the part number into the search box on our website.**

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

