Range of analytical balances, with large weighing ranges, also with EC type approval [M]

**Features**
- **KERN ALJ-A/-AM:** Automatic internal adjustment in the case of a change in temperature 1,2 °C or timecontrolled every 3 h, guarantees high degree of accuracy and makes the balance independent of its location of use
- **KERN ALS-A:** Adjusting program CAL for quick setting of the balance accuracy using an external test weight
- Ergonomically optimised keypad for left and righthanded users
- **Large glass draught shield** with 3 sliding doors for easy access to the items being weighed
- **Compact size,** practical for small spaces
- Percentage determination: makes it possible to store a given weight value (100 %) and to determine deviations from this target value

**Technical data**
- Backlit LCD display, digit height 17 mm
- Dimensions weighing surface, stainless steel, φ 80 mm
- Overall dimensions W×D×H 210×340×330 mm (incl. draught shield)
- Weighing space W×D×H 160×140×205 mm
- Net weight approx. 5,7 kg
- Permissible ambient temperature KERN ALS-A/ALJ-A: 5°C/35°C
  KERN ALJ-AM: 15°C/30°C

**Accessories**
- **Protective working cover,** scope of delivery: 5 items, KERN ALJ-A01S05
- **Protective dust cover,** KERN ABS-A08
- **Set for density determination** of liquids and solids with density ≤/≥ 1, the density is indicated directly on the display, KERN YDB-03
- **Ioniser** to neutralise electrostatic charge, KERN YBI-01A
- **Weighing table** to absorb vibrations and oscillations, which would otherwise distort the weighing result, KERN YPS-03
- **Minimum weight of sample,** smallest weight to be weighed, depending on the required process accuracy, only in combination with a DAkkS calibration certificate, KERN 969-103
  - Further details, plenty of further accessories and suitable printers see **Accessories**

**Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>Weighing range [Max] g</th>
<th>Readout [d] mg</th>
<th>Verification value [e] mg</th>
<th>Minimal load [Min] mg</th>
<th>Reproducibility mg</th>
<th>Linearity mg</th>
<th>Options</th>
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<tbody>
<tr>
<td>ALS 160-4A</td>
<td>160</td>
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<td>- -</td>
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**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.
KERN Pictograms:

- **Internal adjusting**: Quick setting up of the balance’s accuracy with internal adjusting weight (motor driven).
- **Adjusting program CAL**: For quick setting up of the balance’s accuracy. External adjusting weight required.
- **Memory**: Balance memory capacity, e.g. for article data, weighing data, tare weights, PLU etc.
- **Alibi memory**: Electronic archiving of weighing results, complying with the 2014/31/EU standard.
- **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 peripherals. High tolerance against electromagnetic disturbance.
- **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.
- **Interface for second balance**: For direct connection of a second balance.
- **Network interface**: For connecting the scale to an Ethernet network. With KERN products you can use a universal RS-232/LAN converter.
- **Wireless data transfer**: between the weighing unit and the evaluation unit using an integrated radio module.
- **GLP/ISO log**: The balance displays the weight, date and time, regardless of a printer connection.
- **GLP/ISO log**: With weight, date and time. Only with KERN printers.

KERN – Precision is our business

To ensure the high precision of your balance KERN offers you the following test weights 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 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
- 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