

# TORQUE MEASUREMENT

Industry | Laboratory | Quality Assurance



PROFESSIONAL MEASURING

# 2025

# SAUTER Pictograms

 <b>Adjusting program (CAL)</b> For quick setting of the instrument's accuracy. External adjusting weight required	 <b>Data interface USB</b> To connect the measuring instrument to a printer, PC or other peripheral devices	 <b>KERN Communication Protocol (KCP)</b> 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	 <b>Motorised drive</b> The mechanical movement is carried out by an electric motor
 <b>Calibration block</b> Standard for adjusting or correcting the measuring device	 <b>Bluetooth* data interface</b> To transfer data from the balance/measuring instrument to a printer, PC or other peripherals		 <b>Motorised drive</b> The mechanical movement is carried out by a synchronous motor (stepper)
 <b>Peak hold function</b> Capturing a peak value within a measuring process	 <b>WIFI data interface</b> To transfer data from the balance/measuring instrument to a printer, PC or other peripherals	 <b>GLP/ISO record keeping</b> of measurement data with date, time and serial number. Only with SAUTER printers	 <b>Fast-Move</b> The total length of travel can be covered by a single lever movement
 <b>Scan mode</b> Continuous capture and display of measurements	 <b>Data interface infrared</b> To transfer data from the measuring instrument to a printer, PC or other peripheral devices	 <b>Measuring units</b> Weighing units can be switched to e.g. non-metric. Please refer to website for more details	 <b>Conformity assessment</b> Models with type approval for construction of verifiable systems
 <b>Push and Pull</b> The measuring device can capture tension and compression forces	 <b>Control outputs (optocoupler, digital I/O)</b> To connect relays, signal lamps, valves, etc.	 <b>Measuring with tolerance range (limit-setting function)</b> Upper and lower limiting can be programmed individually. The process is supported by an audible or visual signal, see the relevant model	 <b>DAKkS calibration possible</b> The time required for DAKkS calibration is shown in days in the pictogram
 <b>Length measurement</b> Captures the geometric dimensions of a test object or the movement during a test process	 <b>Analogue interface</b> To connect a suitable peripheral device for analogue processing of the measurements	 <b>Protection against dust and water splashes IPxx</b> The type of protection is shown in the pictogram cf. DIN EN 60529:2000-09, IEC 60529:1989 +A1:1999+A2:2013	 <b>Factory calibration (ISO)</b> The time required for factory calibration is specified in the pictogram
 <b>Focus function</b> Increases the measuring accuracy of a device within a defined measuring range	 <b>Analogue output</b> For output of an electrical signal depending on the load (e.g. voltage 0 V – 10 V or current 4 mA – 20 mA)	 <b>Battery operation</b> Ready for battery operation. The battery type is specified for each device.	 <b>Package shipment</b> The time required for internal shipping preparations is shown in days in the pictogram
 <b>Internal memory</b> To save measurements in the device memory	 <b>Statistics</b> Using the saved values, the device calculates statistical data, such as average value, standard deviation etc.	 <b>ZERO</b> Resets the display to “0”	 <b>Pallet shipment</b> The time required for internal shipping preparations is shown in days in the pictogram
 <b>Data interface RS-232</b> Bidirectional, for connection of printer and PC	 <b>PC Software</b> To transfer the measurement data from the device to a PC	 <b>Rechargeable battery pack</b> Rechargeable set	
 <b>Profibus</b> For transmitting data, e.g. between scales, measuring cells, controllers and peripheral devices over long distances. Suitable for safe, fast, fault-tolerant data transmission. Less susceptible to magnetic interference	 <b>Printer</b> A printer can be connected to the device to print out the measurement data	 <b>Integrated power supply unit</b> Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or US on request	
 <b>Profinet</b> Enables efficient data exchange between decentralised peripheral devices (balances, measuring cells, measuring instruments etc.) and a control unit (controller). Especially advantageous when exchanging complex measured values, device, diagnostic and process information. Savings potential through shorter commissioning times and device integration possible	 <b>Network interface</b> For connecting the scale/measuring instrument to an Ethernet network		

\*The *Bluetooth®* word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by KERN & SOHN GmbH is under license. Other trademarks and trade names are those of their respective owners.

## SAUTER Models A-Z

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TVS/-LD	30-31

### Y

YKV	83
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## SAUTER Customer Consultants

With questions about our products and services, we will be happy to advise you:

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## SAUTER Hotlines



Technical questions about our products?

You will find assistance here quickly: +49 7433 9933- ...

### Service Hotline

for general technical questions about your SAUTER product

→ 199

### SAUTER Measuring Instruments

for all technical questions concerning our SAUTER measuring instruments, test benches, force measuring accessories (clamps etc.), SAUTER software

→ 555

### Industrial Scales

for all technical questions concerning our basic scales (laboratory & industry), pocket balances, school balances, bench scales, price-computing scales, platform scales, counting scales, counting systems, floor scales, pallet truck scales, crane scales, veterinary scales

→ 333

### System Solutions Industry 4.0

for all technical questions concerning the interlocking of the latest information and communication technology with our scales, load cells and measuring devices as well as questions about KERN software

→ 200



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Comfortable testing of screw tops, e.g. bottles, jars etc.

Features

- **1** Optimised for torque testing of bottles, jars and other packaging with screw tops with a minimum diameter of 15 mm and a maximum diameter of 160 mm, in the food industry and pharmaceutical industry, as well as in the manufacturing of cosmetics such as, for example, lipsticks, etc.
- **2** Quick pin system: The four bottle mounts (holders) are pushed in, instead of being screwed in, to save time. This allows you to reconfigure quickly for other bottle sizes
- Metal housing for durable use in harsh environmental conditions
- **3** Capacity display: A bar lights up to show how much of the measuring range is still available
- **3** LCD graphics display with backlight
- Rubber feet with anti-slip feature
- Internal data memory saves up to 500 measurements. The memory contents can be transferred to the PC using optional software

- **4** Data interface USB and RS-232 included
- Peak-Hold function to capture the peak value or Track function for continuous display of measurement
- Can be used in both directions of rotation
- Measuring with tolerance range (limit-setting function): Upper and lower limiting can be programmed individually. The process is supported by an audible and visual signal
- AUTO-OFF function
- Scope of delivery: four bottle holders with rubber coating, sturdy carrying case

Technical data

- Selectable measuring units: Nm, kgf/cm, kgf/m, in/lbs, ft/lbs
- Measuring precision: ± 0,5 % of [Max]
- Usable measuring range: 5 – 100 % of [Max]
- Overload protection: 120 % of [Max]
- Rechargeable battery pack integrated, as standard, operating time up to 18 h without backlight, charging time approx. 14 h
- Overall dimensions W×D×H 260×160×60 mm
- Net weight approx. 3,0 kg

Accessories

- Plug-In for data transfer of measuring data from the measuring instrument and transfer to a PC, e.g. in Microsoft Excel®, SAUTER AFI-2.0, see internet
- Data transfer software with graphic display of the measurement process, force-time, SAUTER AFH FAST, **€ 115,-**

STANDARD

PEAK

MEMORY

RS 232

USB

STATISTIC

UNIT

TOL

ZERO

ACCU

230 V

1 DAY

OPTION

SOFTWARE

ISO +4 DAYS

Model	Measuring range	Readout	Diameter test object	Price excl. of VAT ex works €	Option	
					Factory Calibration Certificate	
SAUTER	[Max] Nm	[d] Nm	mm		KERN	€
DA 1-4	1	0,0002	160	1980,-	961-120	235,-
DA 5-3	5	0,001	160	1990,-	961-120	235,-
DA 10-3	10	0,002	160	1970,-	961-120	235,-



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## Convenient way to test the torque of tools

### Features

- **1** Particularly suitable for testing torque wrenches, electric hand screwdrivers and cordless screwdrivers
- **2** Screwing simulator for dynamic testing of electric screwdrivers (from SAUTER DB 0.5-4 to DB 50-2)
- Metal housing for durable use in harsh environmental conditions
- Capacity display: A bar lights up to show how much of the measuring range is still available
- LCD graphics display with backlight
- Rubber feet with anti-slip feature (from SAUTER DB 0.5-4 to DB 10-3)
- **3** Stable mounting plate for solid fixation (from SAUTER DB 20-3 to DB 500-2)

- Data interface USB and RS-232 included
- Internal data memory saves up to 500 measurements. The memory contents can be transferred to the PC using optional software
- Peak-Hold function to capture the peak value or Track function for continuous display of measurement
- Can be used in both directions of rotation
- Measuring with tolerance range (limit-setting function): Upper and lower limiting can be programmed individually. The process is supported by an audible and visual signal
- AUTO-OFF function
- Scope of delivery: Torque pick-up, sturdy carry case, mounting plate (for models with [Max] ≥ 20 Nm)

### Technical data

- Backlit LCD graphics display
- Selectable measuring units: Nm, kgf/cm, kgf/m, in/lbs, ft/lbs
- Measuring precision:  $\pm 0,5\%$  of [Max]
- Usable measuring range: 5 – 100 % of [Max]
- Overload protection: 120 % of [Max]
- Rechargeable battery pack integrated, as standard, operating time up to 18 h without backlight, charging time approx. 14 h
- Overall dimensions W×D×H 180×110×60 mm
- Net weight approx. 2,2 kg

### Accessories

- Plug-In for data transfer of measuring data from the measuring instrument and transfer to a PC, e.g. in Microsoft Excel®, SAUTER AFI-2.0, see internet
- Data transfer software with graphic display of the measurement process, force-time, SAUTER AFH FAST, € 115,-

#### STANDARD



#### OPTION



Model	Measuring range	Readout	Tool fitting	Price excl. of VAT ex works €	Option	
					Factory Calibration Certificate	
SAUTER	[Max] Nm	[d] Nm	mm/Inch		KERN	€
DB 0.5-4	0,5	0,0001	20 mm & 3/8"	1770,-	961-120	235,-
DB 1-4	1	0,0002	20 mm & 3/8"	1770,-	961-120	235,-
DB 5-3	5	0,001	20 mm & 3/8"	1770,-	961-120	235,-
DB 10-3	10	0,002	20 mm & 3/8"	1770,-	961-120	235,-
DB 20-3	20	0,005	20 mm & 3/8"	2010,-	961-120	235,-
DB 50-2	50	0,01	20 mm & 3/8"	2010,-	961-120	235,-
DB 100-2	100	0,02	3/8"	2010,-	961-120	235,-
DB 200-2	200	0,05	1/2"	2010,-	961-120	235,-
DB 500-2	500	0,1	3/4"	2010,-	961-120	235,-



## The oldest Precision Balance Factory in Germany

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- Technical Product Data Sheets
- Operating Instructions
- Descriptive Image and Video Material
- Useful KERN Services
- Technical Glossary
- KERN Dealer Portal
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