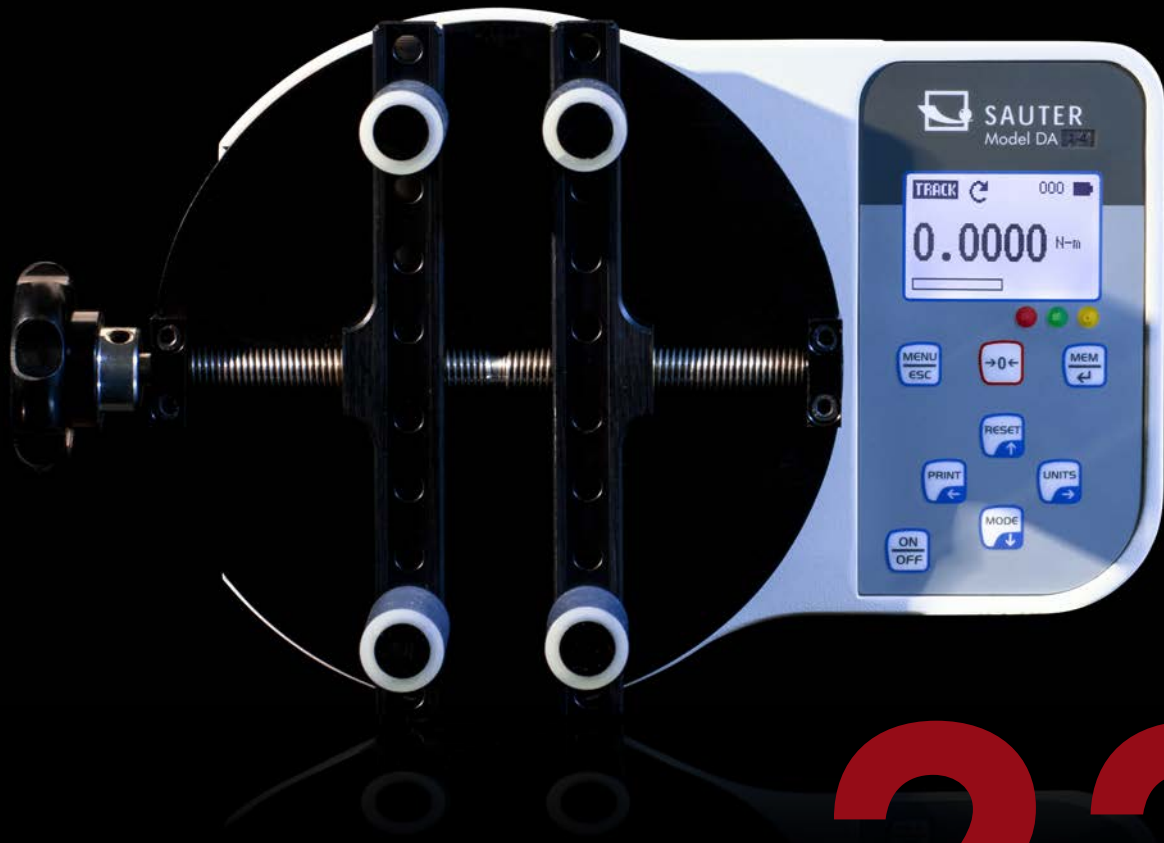


PROFESSIONAL MEASURING



23

TORQUE MEASUREMENT

KERN Pictograms

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

Do you have questions about our products? Our customer consultants will be pleased to assist you:

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from 8:00 am to 5:00 pm



03



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 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, lbf-in, kgf-cm, kgf-m, ft-lbf
- 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 WxDxH 260x160x60 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, **€ 95,-**
- Data transfer software with graphic display of the measurement process, Force-time, SAUTER AFH FAST, **€ 115,-**



Model	Measuring range [Max] Nm	Readout [d] Nm	Diameter test object mm	Price excl. of VAT ex works €	Option Factory calibration certificate	
					KERN	€
SAUTER DA 1-4	1	0,0002	165	1980,-	961-120	210,-
DA 5-3	5	0,001	165	1990,-	961-120	210,-
DA 10-3	10	0,002	165	1970,-	961-120	210,-



03

Convenient way to test the torque of tools

Features

- **1** Particularly suitable for testing torque wrenches, electric hand screwdrivers and cordless screwdrivers
- **2** Torque pick-up system 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, lbf-in, kgf-cm, kgf-m, ft-lbf
- 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 200×100×50 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, **€ 95,-**
- Data transfer software with graphic display of the measurement process, Force-time, SAUTER AFH FAST, **€ 115,-**



Model	Measuring range [Max] Nm	Readout [d] Nm	Tool fitting mm/Inch	Price excl. of VAT ex works €	Option Factory calibration certificate	
					KERN	€
SAUTER DB 0.5-4	0,5	0,0001	20 mm & 3/8"	1770,-	961-120	210,-
DB 1-4	1	0,0002	20 mm & 3/8"	1770,-	961-120	210,-
DB 5-3	5	0,001	20 mm & 3/8"	1770,-	961-120	210,-
DB 10-3	10	0,002	20 mm & 3/8"	1770,-	961-120	210,-
DB 20-3	20	0,005	20 mm & 3/8"	2010,-	961-120	210,-
DB 50-2	50	0,01	20 mm & 3/8"	2010,-	961-120	210,-
DB 100-2	100	0,02	3/8"	2010,-	961-120	210,-
DB 200-2	200	0,05	1/2"	2010,-	961-120	210,-
DB 500-2	500	0,1	3/4"	2010,-	961-120	210,-

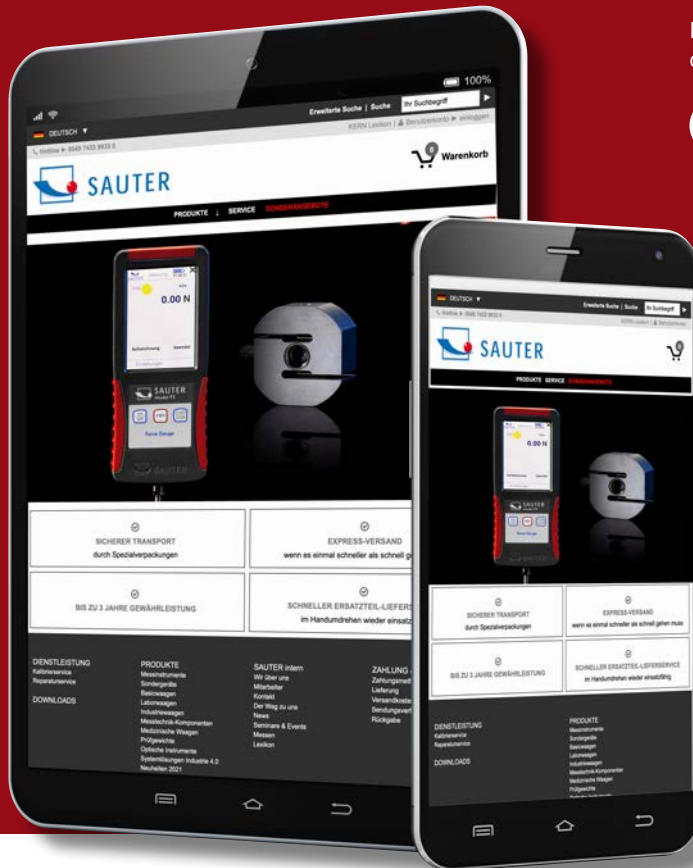
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