Industry — Laboratory — Quality Assurance

SAUTER

OCCUPATIONAL SAFETY, ENVIRONMENT

180 YEARS
since 1844
KERN & SOHN

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SAUTER Pictograms

Adjusting program (CAL)
For quick setting of the instrument's accuracy. External adjusting weight required

Calibration block
Standard for adjusting or correcting the measuring device

Peak hold function
Capturing a peak value within a measuring process

Scan mode
Continuous capture and display of measurements

Push and Pull
The measuring device can capture tension and compression forces

Length measurement
Captures the geometric dimensions of a test object or the movement during a test process

Focus function
Increases the measuring accuracy of a device within a defined measuring range

Internal memory
To save measurements in the device memory

Data interface RS-232
Bidirectional, for connection of printer and PC

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

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. Savings potential through shorter commissioning times and device integration possible

Data interface USB
To connect the measuring instrument to a printer, PC or other peripheral devices

Bluetooth* data interface
To transfer data from the balance/measuring instrument to a printer, PC or other peripherals

WIFI data interface
To transfer data from the balance/measuring instrument to a printer, PC or other peripherals

Data interface infrared
To transfer data from the measuring instrument to a printer, PC or other peripheral devices

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

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)

Statistics
Using the saved values, the device calculates statistical data, such as average value, standard deviation etc.

PC Software
To transfer the measurement data from the device to a PC

Printer
A printer can be connected to the device to print out the measurement data

Network interface
For connecting the scale/measuring instrument 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 record keeping
of measurement data with date, time and serial number. Only with SAUTER printers

Measuring units
Weighing units can be switched to e.g. non-metric. Please refer to website for more details

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

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

ZERO
Resets the display to "0"

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

Rechargeable battery pack
Rechargeable set

Plug-in power supply
230V/50Hz in standard version for EU. On request GB, AUS or US version available

Integrated power supply unit
Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or US on request

Motorised drive
The mechanical movement is carried out by a electric motor

Motorised drive
The mechanical movement is carried out by a synchronous motor (stepper)

Fast-Move
The total length of travel can be covered by a single lever movement

Conformity assessment
Models with type approval for construction of verifiable systems

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

Factory calibration (ISO)
The time required for factory calibration is specified in the pictogram

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

SAUTER Models A-Z

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 → **199**
for general technical questions about your SAUTER product

SAUTER Measuring Instruments → **555**
for all technical questions concerning our SAUTER measuring instruments,
test benches, force measuring accessories (clamps etc.), SAUTER software

Industrial Scales → **333**
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

System Solutions Industry 4.0 → **200**
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

Photometer for precise light measurement up to 200,000 Lux

Features

- Helps to determine if workplace lighting meets standard requirements, e.g. DIN EN 12464-1 "Lighting of workplaces indoors"
- Photo sensor: silicon diode
- Cosine correction for angular incident light
- Track function for continuous recording of changing environmental conditions
- Peak Hold function to capture peak value
- Selectable measuring units: fc (foot-candle), lux
- Sturdy protective cover for the photo sensor
- Increased service life: Impact protection by means of a protective casing
- **1** Delivery in a robust box

Technical data

- Measuring frequency: 2 Hz
- Cable length (Photo sensor) approx. 1 m
- Overall dimensions W×D×H 160×72×40 mm
- Battery operation, batteries standard (9 V block), AUTO-OFF function to preserve the battery
- Net weight approx. 0,25 kg

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STANDARD | OPTION

PEAK | BATT | 1 DAY | ISO +10 DAYS

Model	Measuring range	Readout	Price excl. of VAT ex works	Option Factory calibration certificate	
	[Max]	[d]			
SAUTER	lx	lx	€	KERN	€
SO 200K	200	0,1	**92,–**	961-190	308,–
	2000	1			
	20000	10			
	200000	100			

Compact photometer, optimised for accurate light measurement, including LED light measurement

Features

- For measuring illumination of office workstations, production workstations, etc.
- Photo sensor: silicon diode, filtered
- Cosine correction for angular incident light
- Data-hold function, to freeze the current measurement
- ▮1 Rotatable sensor unit (+90 and -180°) for optimum alignment to the light source
- Track function for continuous recording of changing environmental conditions
- By pressing the key, the current measured value can be frozen until the key is pressed again
- Selectable measuring units: fc (foot-candle), lux
- Easy to toggle between units at the press of a button
- Option of fitting a stand on the rear of the housing, ¼" thread
- Sturdy protective cover for the photo sensor
- ▮2 Increased service life: Impact protection through delivery in a soft box with light protection

Technical data

- Measurement precision up to 20.000 Lux: ± 4 % of the result + 10 scale intervals
- Measurement precision from 20.000 Lux: ± 5 % of the result + 10 scale intervals
- Repeatability: ± 2 % of [Max]
- Temperature error: ± 0,1 % von [Max]/°C
- Measuring frequency: 2 Hz
- Overall dimensions W×D×H 185×68×38 mm
- Ready for use: Batteries included, 9 V block, operating time up to 200 h
- Net weight approx. 0,15 kg

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STANDARD		OPTION
BATT	1 DAY	ISO +10 DAYS

Model	Measuring range	Readout	Price excl. of VAT ex works	Option Factory calibration certificate	
SAUTER	[Max] lx	[d] lx	€	KERN	€
SP 200K	200	0,1	**105,–**	961-190	308,–
	2000	1			
	20000	10			
	200000	100			

BASIC ★

Versatile sound level meter

Features

- Sound level meter with basic functions for measuring noise in areas such as, environment, mechanical applications, car industry and much more
- Measures the sound intensity in the workplace
- Helps in differentiating between normal noise influences, and excessive noise, nuisances e.g. in a production hall
- **1** Data interface RS-232, included
- Multi measuring functions:
  Lp: Standard sound level measuring function
  Leq: Energy equivalent sound level measuring mode (type A)
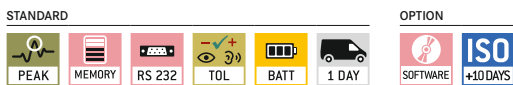 Ln: Shows the deviation from a pre-defined limit in %

- Selectable methods of evaluation:
  A: As sensitive as the human ear
  C: Sensitive for noisier environmental conditions, where there are machines, plant, motors etc.
  F: For areas with constant sound intensity
- Limit value function: programmable value for the maximum level value
- Track function for continuous recording of changing environmental conditions
- Peak Hold function to capture peak value
- Internal memory for 30 measured values, transferable to PC with SAUTER ATC-01
- **2** Delivered in a robust carrying case

Technical data

- Measuring precision: 3 % of [Max]
- Dimensions W×D×H 223×62×25 mm
- Battery operation, batteries standard (4×1.5 V AAA)
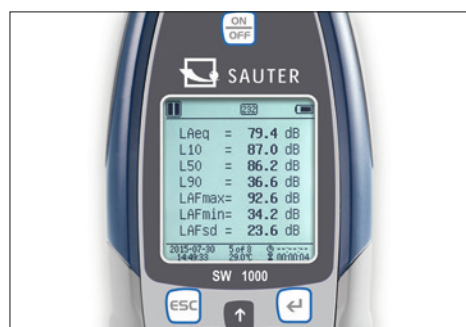- Net weight approx. 0,20 kg

Accessories

- Data transfer software, interface cable included, SAUTER ATC-01, **€ 100,–**
- Adjustment device for regular adjustment of the sound level meter, SAUTER ASU-01, **€ 290,–**
- Foam protective cover, SAUTER ASU-02, **€ 8,–**

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STANDARD

| PEAK | MEMORY | RS 232 | TOL | BATT | 1 DAY |

OPTION

| SOFTWARE | ISO +10 DAYS |

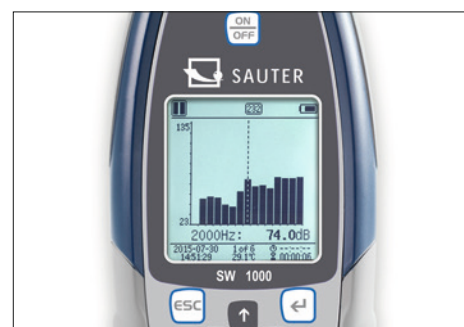| Model	Type	Measuring range	Readout	Price excl. of VAT ex works	Option Factory calibration certificate	
		[Min]-[Max]	[d]			
SAUTER		dB	dB	**€**	KERN	€
	Lp A	30 – 130				
SU 130	Leq C	30 – 130	0,1	**128,–**	961-281	238,–
	Ln F	30 – 130				

First-class professional Class I, Class II sound level meter

Data logging function with date and time in the device....

...and data transfer using MicroSD (4G) memory card (included in delivery), RS-232 or USB

Different sound pressure levels can be selected, such as, Laeq, LcPeak, LaF, LaFMax, LaFMin, SD, SEL, E

Sound Level Meter SAUTER SW

Features

- Ideal for measurements for workplaces outdoor, e.g. at airports, on building sites, in road traffic etc. with wide frequency access
- Modern microcontroller architecture for increased stability and accuracy
- A specially-developed algorithm permits a compliant dynamic range of more than 120 dB! (SW 1000: > 123 dB; SW 2000: > 122 dB)
- Three profiles and 14 user-defined measurements can be calculated in parallel with different frequency and time weighting
- LN statistics and display of the graph showing the progression of time
- User-defined integral interval measurement up to a maximum of 24 hours is possible
- Frequency weighting (filter) A, B, C, Z
- Time interval during measurement: F (fast), S (slow), I (pulse)
- Freely-definable limits for the output of an optical alarm signal
- Peak Hold function to capture peak value
- Octave function for targeted sound analysis, can be expanded to 1/3 octave through the purchase of a licence
- TRACK function with graphic display of a measurement
- Calibration mode (with optional calibrator)
- Trigger mode: external start/stop of measurement via 3,5 mm connector
- Automatic measurement for timer function
- is possible
- Operating languages: EN, DE, FR, ES, PT
- **2** Option of fitting a stand on the rear of the housing, ¼" thread
- **1** Delivery in robust transport case

Technical data

- Applicable standards:
  - IEC61672-1:2014-07
  - GB/T3785.1–2010
  - 1/1 Octave in accordance with IEC 61260:2014
- ½" microphone
- Output (direct or alternating current) AC (max 5 VRMS), DC (10 mV/DB)
- Mains adapter external, standard
- Battery operation possible, 4×1.5 V AA not included, operating time up to 10 h
- Overall dimensions W×D×H 200×85×40 mm
- Permissible ambient temperature -10 °C/50 °C
- Net weight approx. 0,40 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
- **2** Stand, W×D×H 430×90×90 mm, SAUTER SW-A05, **€ 70,–**
- SD-memory card, storage capacity 4 GB, SAUTER SW-A04, **€ 54,–**
- Foam protective cover, SAUTER SW-A03, **€ 45,–**
- **3** Calibrator for regular adjustment of the sound level meter, class 1, as well as testing the linearity of sound level meters
  - Applicable standards: IEC60942:2003 Class 1, ANSI S1.40-1984, GB/T 15173-1994.
  - Output frequency 1 kHz (+/- 0,5 %)
  - Output of acoustic pressure, can be selected at 94 dB or 114 dB (± 0.3 dB)
  - Distortion factor < 2 %
  - Stabilisation time < 10 s
  - Permissible ambient temperature range -10 °C/50 °C
  - The calibrator is designed for ½" as well as ¼" microphones (adapter included in the delivery) in accordance with the IEC 61094-4 standard
  - Battery operation, 2×1.5 V AA, not standard, operating time up to 40 hours
  - Dimensions W×D×H 70×70×48 mm
  - Net weight approx. 137 g, SAUTER BSWA-01, **€ 770,–**
- Factory calibration certificate, for calibrator, SAUTER 961-291, **€ 227,–**
- DAkkS calibration certificate, for calibrator, SAUTER 963-291, **€ 255,–**
- Expansion of the octave band to 1/3 octave, SAUTER SW-A10, **€ 440,–**

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STANDARD

| PEAK | MEMORY | RS 232 | USB | ANALOG | STATISTIC | TOL | BATT | 230 V | 1 DAY |

OPTION

| SOFTWARE | ISO +10 DAYS | DAkkS +10 DAYS |

Model SAUTER	Accuracy class	Measuring range linear [Min]-[Max] dB	Readout [d] dB	Frequency range [Min]-[Max] kHz	Sensitivity mv/Pa	Price excl. of VAT ex works €	Option Factory calibration certificate KERN	€
SW 1000	1	20 – 134	0,1	0,01 – 20	50	2150,–	961-281	238,–
SW 2000	2	25 – 136	0,1	0,02 – 12,5	40	1320,–	961-281	238,–

NEW

PREMIUM
★★★

Infrared thermometer for industry, environmental engineering and maintenance work

Features

- **1** Determines the temperature of surfaces precisely
- Light EBTN colour display for optimum readability under the most varied environmental conditions
- MAX/MIN/AVG/DIF value memory to store the highest, lowest and average measured temperatures in a defined period of time as well as the difference between the highest and lowest value
- Limit-alarm function with memory for five temperatures or emission values respectively, which trigger an audible and visual signal (three-colour LED) when the value goes below or above these values
- **2** Main application areas: Temperature measurement in industry (e.g. metal processing, machine construction), environmental engineering, agriculture, laboratory and maintenance work (e.g. wind turbines)

SAUTER JIT 100

- Laser (Class 2 < 1 mW) to mark the measurement point
- Locked measurement for processes where the temperature needs to be monitored, i.e. the measured values are locked and protected from external influences
- With mounting hole for column mount

SAUTER JIT 200

- Double laser for even better positioning
- Hold function for measurements
- Time-based measurement is possible
- Internal data memory for up to 99 measurements with date and time
- With mounting thread for column mount

Technical data

- Laser class 2
- Tolerance range: +/- 1,5 °C or +/- 1,5 %
- Battery operation, 9 V block standard, operating time up to 9 h
- Overall dimensions W×D×H
  SAUTER JIT 100: 162×90×48 mm
  SAUTER JIT 200: 179×127×53 mm
- Net weight
  SAUTER JIT 100: approx. 0,25 kg
  SAUTER JIT 200: approx. 0,35 kg

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STANDARD

PEAK	MEMORY	STATISTIC	UNIT	TOL	BATT	1 DAY
JIT 200	JIT 200	JIT 200	JIT 200			

Model	Measuring range	D:S Optic	Price excl. of VAT ex works €
SAUTER	°C		
JIT 100 NEW	-32 – 420	12:1	**99,-**
JIT 200 NEW	-32 – 1100	20:1	**160,-**

NEW **New model**

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The oldest Precision Balance Factory in Germany

180 YEARS since 1844

KERN & SOHN

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CONFORMITY ASSESSMENT ACCORDING TO NAWID: 2014/31/EU

German Excellence Group Member

MITTELSTAND GLOBAL HEALTH MADE IN GERMANY