

# OCCUPATIONAL SAFETY/ ENVIRONMENT

PROFESSIONAL  
MEASURING



175  
KERN & SOHN

Balance manufacture in the  
Sauter family-owned company

250

2019

# KERN 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.



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



**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



**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.



**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 at the touch of a key. 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



**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.



**Mains adapter:**  
230V/50Hz in standard version for EU. On request GB, AUS or USA version available.



**Power supply:**  
Integrated, 230V/50Hz in EU. More standards e.g. GB, AUS or USA on request.



**Motorised drive:**  
The mechanical movement is carried out by an 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.



**DAkKS calibration possible:**  
The time required for DAkKS calibration is shown in days in the pictogram.



**Factory calibration:**  
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.

## Sales conditions



**All prices are valid as of January 1st 2019** until a new version of the SAUTER catalogue is released. In Europe, all prices do not include the applicable V.A.T.

**At SAUTER there is no minimum order value.** For orders less than € 15.00 there is no re-sale discount available.

**Delivery Conditions:** we supply ex works Balingen, i.e. the transport costs are invoiced. Any goods supplied, remain SAUTER's property until Measuring in a tolerance area (limit value function). Upper and lower limit value is programmable. The measurement process is supported by an acoustic and visual signal, see respective models complete payment for the goods sold has been received.



Delivery is usually via courier service.



When you see this symbol by truck, please ask for prices.

### Extract from general terms and conditions:

Court of jurisdiction/Legal domicile: 72336 Balingen, Germany;  
Commercial register N°: HRB 400865, AG Stuttgart;  
Managing director: Albert Sauter. For the full Terms and Conditions, please refer to the website. [www.kern-sohn.com/en/kern/agbs.html](http://www.kern-sohn.com/en/kern/agbs.html)

**Price changes and product changes** are likely in individual cases due to product modifications as well as error.

**Sale or return:** within 14 days of purchase. Not valid for order-specific adaptations such as special productions, cable extensions, special weights, etc. or test services such as calibration etc. Depending on the time and effort involved, there may be processing and storage costs, please ask for details.

**Warranty:** 2 years. (Does not apply to consumables such as batteries, rechargeable battery packs, etc.)

## After-Sales-Service



**Repair services** within 1 week at our plant in Balingen, transportation costs are additional. Our expert Service technicians will be pleased to assist you and will make sure that your device is quickly back in operation.

**Price reduction on a new device:** if repair costs are exceeding the current value of the defective device, a new device will be offered at a discount price. This offer is valid only up to 2 years after warranty expiration.

**Spare parts service** within 48 hours, transportation costs are additional.

## Visit us our online shop: [www.sauter.eu](http://www.sauter.eu)

### Online-Shop

At your disposal round the clock. Delivery and service via your specialist dealer.

### Measuring instruments Quick-Finde

Find the product you want with the "Measuring instruments Quick-Finder" in no time.

### Calibration

In our accredited DAkks calibration laboratories, we produce internationally recognised DAkks and Factory calibration certificates for balances and test weights as well as measuring instruments.



## Services



**KERN DirectCash:** The quick, secure COD procedure for protection against non-payment. With the KERN DirectCash COD system, you can safely deliver orders to end customers with unknown credit rating, with no risk of non-payment. Please request further details on this procedure.

### Hire Purchase

Financing is available using KERN hire purchase – easy and convenient.

Hire Purchase gives you the option of purchasing any product from the range against a simple monthly installment. The product value is financed over the period of the agreement. On payment of the last installment, the ownership of the contract item automatically transfers from the contractor to the contractee.

The Hire Purchase Agreement can – if you so choose – be set for a period of between one and five years. This package includes the transfer of items as well as the guarantee for the entire transfer period.

Compared with buying the product, KERN hire purchase offers the advantage that the initial financial investment is largely not applicable. This is particularly relevant when purchasing a number of products, for example when refitting a laboratory, a company department or a hospital ward. In addition the monthly installments constitute a direct cost and the item does not have to be capitalised by the purchaser. Do you have queries to our hire purchase? Our customer consultants are glad to help you.

## Marketing support



### Catalogues, brochures, branch prospectuses – your own personalised marketing tools

Our catalogue and branch prospectuses are available free of charge. A neutral version of the catalogue, without the SAUTER address imprint, is also available for your marketing activities free of charge, larger quantities on request..

On demand we will print your company address on address labels free of charge, for the backside of the catalogue, larger quantities on request. In this way you will receive your individual marketing tool.

Our catalogues and branch prospectuses are available in following languages: DE, GB, FR, IT, ES

### Special offers

Special offers, special models and opportunities – something for everybody and always up to date – just drop in!

### One-Stop-Shopping

From force gauge to test stand – everything from one supplier.

### Downloads

For each model there is an individual brochure, user manual or pictures.

## Occupational safety/Environment



Prevention of accidents as well as modern health care have got the same operational starting point in many countries. With industrialisation and the formation of conurbations, transport infrastructures and large companies, regular preventive medical examinations were introduced for wide sections of the population.

In addition to preventive medical examinations, monitoring of working conditions with defined limits was also introduced. To date, the regular checking of these limits as part of safety and accident prevention measures is domiciled as a business responsibility up till now.

For this purpose, SAUTER provides a targeted selection of the most commonly-used instruments in general measuring technology. They can be used to measure environmental influences such as noise (acoustic pressure) or light.

Furthermore we can offer a practical carrying case, for a safe transport of all devices (MPS-A07, € 115,- please refer to [www.sauter.eu](http://www.sauter.eu) for more details).

For regular calibration, our pick-up and return service can be used, which will save you a lot of efforts and expenses.

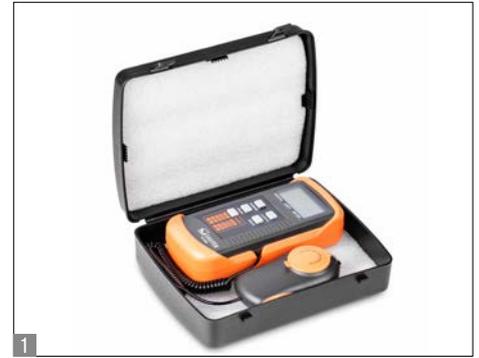


**Taras Mikitsin**  
Product specialist  
Occupational safety/Environment

Tel. +49 7433 9933-143  
Fax +49 7433 9933-29143  
[mikitsin@kern-sohn.com](mailto:mikitsin@kern-sohn.com)

## Quick-Finder

Readout	Measuring range	Model	Price excl. VAT, ex works €	P.
[d] lx	[Max] lx	SAUTER		
0,1 1 10 100 lx	200 2000 20000 200000 lx	SO 200K.	85,-	70
0,1 1 10 100 lx	200 2000 20000 200000 lx	SP 200K	95,-	71
0,1 dB	130 dB	SU 130.	110,-	72
0,1 dB	134 dB	SW 1000	1750,-	73
0,1 dB	136 dB	SW 2000	960,-	73



## 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
- **Sturdy protective cover** for the photo sensor
- **Increased service life:** Impact protection by means of a protective casing
- **Delivery in a robust box**
- **Track function** for continuous recording of changing environmental conditions
- **Peak Hold Mode** to capture peaks
- **Selectable measuring units:** fc (foot-candle), lx

### Technical data

- Measuring frequency: 2 Hz
- Cable length (Photo sensor) approx. 1 m
- Dimensions W×D×H 100×60×28 mm
- Battery operation, battery not standard (9 V Block), AUTO-OFF function for battery conservation
- Net weight approx. 250 g

09



Model	Measuring range [Max] lx	Readout [d] lx	Price excl. of VAT ex works €	Option Factory calibration certificates	
				KERN	€
SAUTER	200	0,1	85,-	961-190	165,-
SO 200K.	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 incidence of light at an angle
- **Data-hold function**, to freeze the current measurement
- **1 Rotatable sensor unit** (+90 and -180°) for optimum alignment to the light source
- **Sturdy protective cover** for the photo sensor
- **2 Increased service life:** Impact protection by means of delivery in a soft box with light protection
- **TRACK function** for continuous recording of variable environmental conditions
- **Peak hold function** to capture the peak value
- **Selectable units:** fc (foot-candle), lux
- Easy to toggle between units by a keypress
- Option of fitting a stand on the rear of the housing, 1/4" thread

### Technical data

- Precision up to 20.000 Lux:  $\pm$  (4 % of the result + 10 scale intervals)
- Precision from 20,000 Lux:  $\pm$  (5 % of the result + 10 scale intervals)
- Repeatability:  $\pm$  2 % of [Max]
- Temperature error:  $\pm$  0,1 % of [Max]/°C
- Measuring frequency: 2 Hz
- Dimensions W×D×H 185×68×38 mm
- Operating temperature and humidity: 0 °C/40 °C, 0-80 % RH
- Ready to use: Battery included, 9 V block, operating time up to 200 hours
- Net weight approx. 130 g



Model	Measuring range	Readout	Price excl. of VAT ex works €	Option		
				Factory calibration certificates		
SAUTER	[Max] lx	[d] lx	95,-	KERN	€	
SP 200K	0-200	0,1		95,-	961-190	165,-
	200-2000	1				
	2000-20000	10				
	2000-200000	100				



## Professional sound level meter

### Features

- **Professional sound level meter** 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
- **2 Delivered in a robust carrying case**
- **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 target value for go/no-go test values
- **Track function** for continuous recording of changing environmental conditions
- **Peak Hold Mode** to capture peaks
- **Internal memory for measured values**, for 30 measurements. Can be displayed on the PC

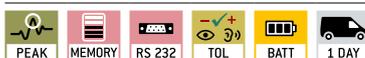
### Technical data

- Precision: 3 % of [Max]
- Dimensions W×D×H 236×63×26 mm
- Battery operation, batteries standard 4× 1.5 V AAA
- Net weight approx. 170 g

### Accessories

- **Data transfer software**, interface cable included, SAUTER ATC-01, **€ 90,-**
- **Adjustment device** for regular adjustment of the sound level meter, SAUTER ASU-01, **€ 260,-**
- **Foam windshield**, SAUTER ASU-02, **€ 5,-**

#### STANDARD



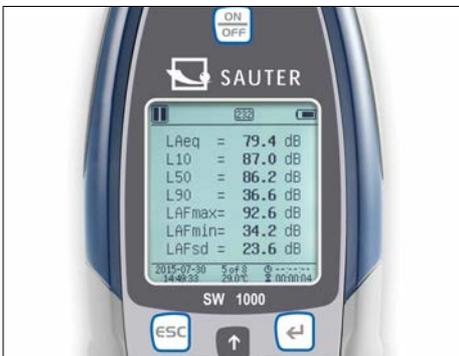
#### OPTION



Model	Type	Measuring range	Readout	Price excl. of VAT ex works €
SAUTER		[Max] dB	[d] dB	
SU 130.	Lp A	30-130	0,1	110,-
	Lp C	35-130		
	Lp F	35-130		



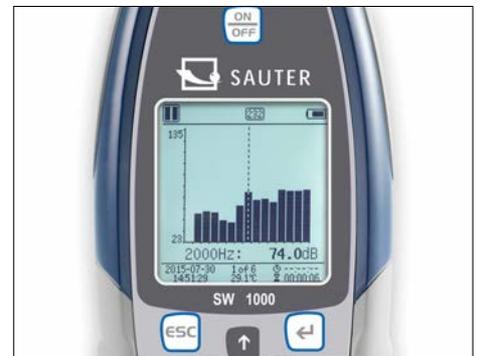
First-class professional Class I, Class II sound level meter



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

09



**Features**

- Ideal for measurements for workplaces outdoor, e.g. at airports, on building sites, in road traffic etc. with broad access to spectrum thanks to the highly-accurate 24-Bit A/D converter
- **Floating point evaluation** for higher level of accuracy and better stability
- The **optimised analogue frontend switch** reduces the ambient noise and increases the linear measuring range
- 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 the peak value
- **Octavo function** for targeted sound analysis
- **TRACK function** with graphic display of a measurement

- Calibration mode (with optional calibrator)
- **Trigger mode:** Analogue signal to switch the device on or off with 3.5 mm plug
- **Automatic measurement for timer function** is possible
- **Selectable frequency for recording measurements:** 10, 5, 2 Hz
- **Operating languages:** GB, DE, FR, ES, PT
- **1** Delivery in robust transport case
- **2** Option of fitting a stand on the rear of the housing, 1/4" thread

**Technical data**

- Applicable standards: IEC61672-1:2014-07 GB/T3785.1-2010 1/1 Octavo in accordance with IEC 61260:2014
- 1/2" microphone
- Permissible ambient temperature range -10 °C/50 °C
- Output (direct or alternating current) AC (max 5 VRMS), DC (10 mV/DB)
- Mains operation as standard
- Battery operation, 4x 1.5 V AA, not included, operating time up to 10 h
- Dimensions WxDxH 80x36x300 mm
- Net weight approx. 400 g

**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-1.0, **€ 90,-**
- **2** Stand, WxDxH 430x90x90 mm, 1250x750x750 mm (moved out), SAUTER SW-A05, **€ 60,-**
- SD-memory card, storage capacity 4 GB, SAUTER SW-A04, **€ 45,-**
- Calibrator for regular adjustment of the sound level meter, SAUTER ASU-01, **€ 260,-**
- **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 1/2" as well as 1/4" microphones (adapter included in the delivery) in accordance with the IEC 61094-4 standard
  - Battery operation, 2x 1.5 V AA, not standard, operating time up to 40 hours
  - Dimensions WxDxH 70x70x48 mm
  - Net weight approx. 137 g
  - SAUTER BSWA-01, **€ 710,-**
- **Foam windshield**, SAUTER SW-A03, **€ 40,-**

STANDARD



OPTION



Model	Accuracy class	Measuring range Linear dB	Frequency range kHz	Sensitivity V/Pa	Price excl. of VAT ex works €	Option		Option	
						DAkks calibration certificate	€	Factory calibration certificates	€
SAUTER SW 1000	1	22-136	0,003-20	50 m	1750,-	963-281	270,-	961-281	190,-
SAUTER SW 2000	2	25-136	0,02-12,5	40 m	960,-	963-281	270,-	961-281	190,-

## fast

- 24 hours delivery service – order today, on its way tomorrow
- Sales & service hotline from 8:00 am to 6:00 pm

## reliable

- 2 years warranty

## diverse

- One-stop-shopping: from force gauges up to light measuring instruments – everything from one supplier
- Quick as a flash, find the product you want with the “Measuring instruments Quick-Finder” at [www.sauter.eu](http://www.sauter.eu)



## Our team of consultants will assist you

from Monday to Friday  
from 8:00 am to 6:00 pm



## [www.sauter.eu](http://www.sauter.eu)

Information on current product availability, product data sheets, user instructions, useful knowledge, technical glossary, images and much for you to download, practical topic areas, which will guide you to the right product in your industry as well as a smart search engine for measuring instruments

## SAUTER service guarantee

“We at SAUTER are only satisfied when we’ve found the very best solution for you. After all, our heritage from the Swabian Jura Mountains and the famous inventive talent of the people that live here, means we have an exceptional reputation to maintain.”

Printed in Germany  
by SAUTER GmbH  
z-cs-gb-sp-20191

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

### Product specialist Measuring technology



#### Irmgard Russo

Tel. +49 7433 9933-208  
Fax +49 7433 9933-29208  
[russo@kern-sohn.com](mailto:russo@kern-sohn.com)

### FR, Maghreb, UK, IE



#### Maren Möwert

Tel. +49 7433 9933-132  
Fax +49 7433 9933-29132  
Mobil +49 151 46143240  
[maren.moewert@kern-sohn.com](mailto:maren.moewert@kern-sohn.com)

### DK, SE, FI, NO, PL, LV, LT, EE



#### Florian Bächle

Tel. +49 7433 9933-118  
Fax +49 7433 9933-29118  
Mobil +49- [0]151 44568364  
[florian.baechle@kern-sohn.com](mailto:florian.baechle@kern-sohn.com)

### GR, CY, BU, RO, SK, CZ, AL, Ex-Yugoslavia



#### Aleksandar Delić

Tel. +49 7433 9933-120  
Fax +49 7433 9933-29120  
Mobil +49 151 11196197  
[aleksandar.delic@kern-sohn.com](mailto:aleksandar.delic@kern-sohn.com)

### North America, Near- & Middle East, Africa, Asia, Oceania, TR



#### Corinna Klaass

Tel. +49 7433 9933-215  
Fax +49 7433 9933-29215  
Mobil +49 [0]151 44568364  
[klaass@kern-sohn.com](mailto:klaass@kern-sohn.com)

### NL, Germany (CP 4)



#### Taras Mikitisin

Tel. +49 7433 9933-143  
Fax +49 7433 9933-29143  
Mobil +49 171 5590115  
[mikitisin@kern-sohn.com](mailto:mikitisin@kern-sohn.com)

### GUS



#### Inna Wandler

Tel. +49 7433 9933-167  
Fax +49 7433 9933-29167  
Mobil +49 151 46143234  
[wandler@kern-sohn.com](mailto:wandler@kern-sohn.com)

### HU, Germany (CP 5, 6)



#### Fabienne Kolbus

Tel. +49 7433 9933-305  
Fax +49 7433 9933-29305  
Mobil +49 171 3031168  
[fabienne.kolbus@kern-sohn.com](mailto:fabienne.kolbus@kern-sohn.com)

### Technical Service



#### Stefan Rothmund

Tel. +49 7433 9933-179  
Fax +49 7433 9933-195  
[rothmund@kern-sohn.com](mailto:rothmund@kern-sohn.com)

### DAkKS Calibration Service



FR, BeNeLux, DK, TR, GR, Africa,  
America, Oceania, DE (CP 8, 9),  
**Athina Ioakimidou**

Tel. +49 7433 9933-123  
Fax +49 7433 9933-29123  
[athina.ioakimidou@kern-sohn.com](mailto:athina.ioakimidou@kern-sohn.com)



Sauter GmbH  
c/o KERN & SOHN GmbH  
Ziegelei 1  
72336 Balingen  
Germany

Tel. +49 7433 9933-0  
Fax +49 7433 9933-149  
[info@sauter.eu](mailto:info@sauter.eu)  
[www.sauter.eu](http://www.sauter.eu)