



Sauter GmbH

Ziegelei 1
D-72336 Balingen
e-mail: info@kern-sohn.com

Phone : +49-[0]7433- 9933-0
Fax: +49-[0]7433-9933-149
Internet: www.sauter.eu

Instruction manual digital light meter

SAUTER SP 200K

Version 2.1
04/2023
GB



PROFESSIONAL MEASURING

SP-BA-e-2321



SAUTER SP 200K

V. 2.1 04/2023

Instruction manual digital light meter

Table of contents:

1	General information.....	3
2	Functions.....	3
3	Technical description	3
4	Function keys and part names	4
5	Influencing variables of the spectral sensitivity	5
6	Steps for commissioning	5
7	Check and replace batteries	6
8	Maintenance	6
9	Examples of recommended illuminance levels.....	6

1 General information

This digital illuminance meter is a precision instrument for measuring the illuminance in the work area. The sensor has a full cosine correction for oblique light incidence. The instrument is compact, robust and easy to use due to its design. The light sensitive component used in this light meter is a very stable silicon diode with a long lifetime.

2 Functions

- The device measures the illumination from 0 to 200000 lux or from 0 to 20000 FC (foot candle)
- High accuracy and fast response
- Peak-Hold function for the acquisition of peak values
- Unit and number display for easy reading
- Automatic zero setting
- Non-standard light sources are automatically corrected
- Short rise and fall times
- also suitable for LED lighting

3 Technical description

Display: 3 ½ digit LCD

Measuring range: 200; .000; 20.000; 200.000 Lux
(20,000 lux reading value x 10, 200,000 lux reading value x 100)
20; 200; 2,000; 20,000 FC
(20,000 FC Reading value x 10)

1 FC= 10.76 Lux

Exceeded display range: Display of the highest Digit "1" appears on the display

accuracy: ± 4% rdg ± 10 digit up to 20,000 lux / 2,000 FC
± 5% rdg ± 10 digit up to 200,000 lux / 20,000 FC

Calibrated with a standard incandescent lamp at a colour temperature of 2856K

Repeat precision: ± 2%

Temperature Characteristic value: ± 1%/°C

Measuring rate: 2 times/sec

Photosensor: Silicon photo diode with filter

Working temperature: 0°C to 40°C (32°F to 104°F)

Humidity: 0 to 70 %RH

Storage temperature: -10°C to 50°C (14°F to 122°F)

Storage humidity: 0 to 80% RH

Power source: 1 x 9V block battery, 6F22

Operating time: 200h

Dimensions: 185mmx68mmx38mm

Weight: 130 g

Accessories: Carrying case, operating instructions, battery

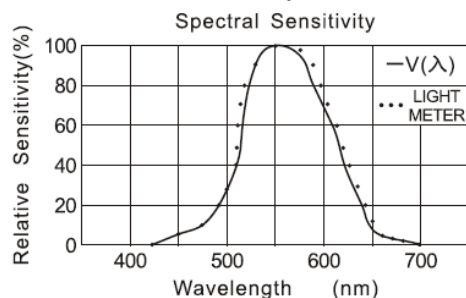
4 Function keys and part names



1. LCD Display: 3 ½ Digits with maximum reading value until 1999.
2. ON/OFF: With this button the luxmeter is switched on/off.
3. Hold key: With this key the current measured value can be fixed. The meter will not display new readings until the HOLD key is pressed again.
4. Range: This key is used to switch between the measuring ranges 200Lux/20FC; 2.000Lux/200FC; 20.000Lux/2.000FC; 200.000Lux/ 20.000FC
5. Lux/FC Unit Button: Press this button to switch between the Lux or Foodcandle (FC) unit.
6. photo sensor
7. Cover for sensor: Used to protect the photodiode when the light meter is not in use.

5 Influencing variables of the spectral sensitivity

As for the photo sensor: the photodiode used with filters almost reaches the C.I.E. (International Commission on Illumination) standard of spectral sensitivity test characteristics. The photometric curve $V(\lambda)$ is shown in the following table:



6 Steps for commissioning

1. **Power button:** The power button is used to turn the light meter on and off.
2. **Selection of the Lux/FC scale:** Press this button to select the desired light measurement unit.
3. The photo sensor cover must first be removed and the photo sensor is then held against the light source in a horizontal position.
4. The nominal value of the illuminance can now be read from the LCD display.
5. **Measuring range exceeded:** If the device only shows a "1" on the display, the input signal was too strong and a higher range must be selected.
6. **Data HOLD Mode:** The HOLD button is pressed to enter the HOLD mode. The luxmeter stops all further measurements. When this key is pressed again, this command is cancelled and the instrument returns to normal operation.
7. After all measurements have been completed, the protective cap of the photo sensor must be replaced.
8. Switch off the device.

7 Check and replace batteries

1. As soon as a sufficient power supply is not ensured, the symbol appears on the LCD display "  " and a battery change with a 9V block battery is necessary.
2. For this purpose the device must be switched off. The battery compartment cover on the back of the instrument is opened by simultaneously pressing and sliding it in the direction of the arrow.
3. The battery is removed from the housing and replaced by a new 9V block battery.
4. Then the battery cover is reattached.

8 Maintenance

1. The white protective cap on the photo sensor should be wiped with a damp cloth from time to time.
2. The Light Meter should not be stored at excessive temperature or humidity.
3. The respective period of time for a calibration of the photo sensor varies with the working operations. In general, the light sensitivity decreases directly proportional to the product of the light intensity of the working time.

To maintain the general accuracy of the instrument, periodic calibration is recommended.

9 Examples of recommended illuminance levels

Office

Conference/reception room	200-750
Office work	700-1500
machine writing, technical drawing	1000-2000

School

Lecture hall, gymnasium	100-300
Classroom	200-750
Laboratory, library, drawing room	500-1500

Hospital

Sickroom, storage	100-200
Room for medical examinations	300-750
Operating room	750-1500
Emergency room	750-1500

Factory

Packing work, goods receipt	150-300
Work on the assembly line	300-750
Visual inspection work	750-1500
Assembly work of electronic parts	1500-3000

Hotel

Social room, cloakroom	100-200
Reception, cashier	220-1000

retail shop

Entrance stairs range	150-200
Shop windows, packing tables	750-1500
Front area of the shop window	1500-3000

Note:

When the protective cap is on the photoelectric sensor, the display shows "0.00" continuously. If this is the case, please do not influence the potentiometer on the back of the housing.

Note:

To view the CE declaration, please click on the following link:

<https://www.kern-sohn.com/shop/de/DOWNLOADS/>