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Instruction Manual

Digital Lightmeter

SAUTER SP 200K

Version 1.0
01/2017
GB



PROFESSIONAL MEASURING

SP_200K-BA-e-1710



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Instruction Manual Digital Lightmeter

The purchase of this SAUTER Digital Light meter marks a step forward into the field of measurement precision. Although this is a complex and delicate instrument, its ruggedness will allow many years of use. Please read the following instructions carefully and always keep this manual within easy reach.

We hope you are pleased with your high quality Light Meter. If you have any queries, wishes or helpful suggestions, do not hesitate to call our service number.

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1. Instruction

This digital light meter is a precision instrument used to measure illuminance in the working area. It is totally cosine corrected for the angular incidence of light.

The light meter is compact, tough and easy to handle due to its construction. The light sensitive component used in the meter is a very stable, long life silicone diode.

2. Features

- Light-measuring levels ranging from 0.1Lux to 200.000 Lux, or in FC from 0 to 20.000 FC (foot candle)
- High accuracy and rapid response
- Peak-Hold function for capturing peak values
- Unit and numeral display for easy reading
- Automatic zeroing
- The Correction factor doesn't have to be manually calculated for non-standard light sources
- Short rise and fall times
- Suitable for LED light

3. Specifications

Display: 3 ½ digit LCD

Measuring range: 200; 2.000; 20.000; 200.000 Lux

(20.000 Lux range reading x 10, 200.000 Lux range reading x 100)

20; 200; 2.000; 20.000 FC

(20.000 FC range reading x 10)

1 FC= 10.76 Lux

Over range display: Highest digit of "1" is displayed

Accuracy: ± 4% rdg ± 10 Digit bis 20.000 lux / 2.000 FC

± 5% rdg ± 10 Digit bis 200.000 lux / 20.000 FC

Calibrated to standard with an incandescent lamp at colour temperature 2856K

Repeatability: ± 2%

Temperature Characteristics: ± 1%/°C

Measuring Rate: approximately 2 times/sec.

Photo detector: one silicone photo diode with filter

Operating Temperature: 0°C to 40°C (32°F to 104°F)

Operating 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: One 9V battery, 6F22
Battery life (typically):200h

Dimensions: 185mmx68mmx38mm

Weight: 130g

Accessories: Carrying bag, instruction manual, battery

4. Name of parts and positions

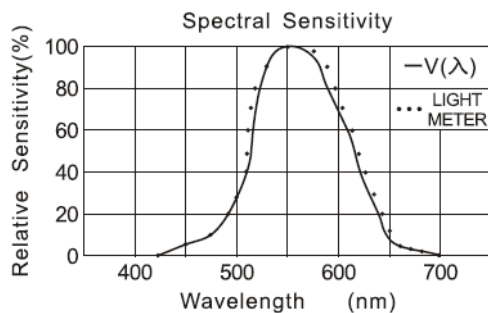


1. LCD Display: 3 ½ digits with a maximum reading of 1999.
2. Power key: the power key turns the light meter ON or OFF.

3. HOLD button: With the HOLD key you can freeze the actual measurement value. The device does not show any other measurement values, unless the HOLD button is pressed again.
4. Range button: the range button has to be pressed to change the ranges of 200Lux/20FC; 2.000Lux/200FC; 20.000Lux/2.000FC; 200.000Lux/ 20.000FC circularly.
5. Lux/FC Unit button: This key has to be pressed to change between the Lux or FC unit.
6. Photo detector
7. Cover of the photo sensor. It serves to protect the sensor if you don't use the light meter.

5. Spectral sensitivity characteristics

Concerning the detector, the applied photo diode with filters makes the spectral sensitivity characteristic almost meeting the standard C.I.E. (International Commission on Illumination) photopic curve $V(\lambda)$ as described in the following chart below:



6. Operation instructions

1. **Power-key:** The power key has to be pressed to turn the light meter ON or OFF.
2. **Selection of the Lux/FC scale:** The range selection switch has to be set to the desired Lux/FC range.
3. The photo detector cap has to be removed and it has to be faced to the light source in a horizontal position.
4. The illuminance nominal value can now be read from the LCD display.
5. **Over range:** If the instrument only displays one "1" in the M.S.D., the input signal has been too strong and a higher range should be selected.
6. **Data-HOLD mode:** The HOLD key has to be pressed to select the HOLD mode, the light meter will stop all further measurements. If the HOLD button is pressed again, this operation will be cancelled and the light meter will return to normal operation.
7. When the measurement is completed, the photo detector cap has to be clipped on again and the power key has to be turned off.
8. Turn the device off

7. Battery check and replacement

1. As the battery power is not sufficient, the LCD will display the symbol "🔋" and replacement of a new battery type 9V is required.
2. Therefore, the instrument has to be powered off. Then the battery cover has to be pressed and pushed (at the same time) in the direction of the arrow shows to open.
3. The battery has to be disconnected from the instrument and replaced with a standard 9V transistor battery.
4. The battery cover has to be snapped on again.

8. Maintenance

1. The white plastic disc on the top of the detector should be cleaned with a damp cloth from time to time and if necessary.
2. The instrument may not be stored when temperature or humidity is excessively high.
3. The calibration interval for the photo detector will vary according to operational conditions, but generally the sensitivity decreases in direct proportion to the product of luminous intensity by the operational time.

In order to maintain the basic accuracy of the instrument, a periodical calibration is recommended.

9. Recommended illumination

Office

Meeting room	200-750
Office work	700-1500
Drawing, PC work	1000-2000

School

Big Classroom, Gym	100-300
Classroom	200-750
Labratory, library, drawing room	500-1500

Hospital

Sickroom, Storage	100-200
Treatment room	300-750
Operating	750-1500
Emergency department	750-1500

Factory

Goods income	150-300
Work at a production line	300-750
Quality check	750-1500
Assembly work of electronic parts	1500-3000

Hotel

Public room, cloakroom	100-200
Reception, Counter	220-1000

Shop

Entrance area	150-200
Shop window, packing counter	750-1500
Front sector of a shop window	1500-3000

Note:

If the protective cap is placed on the photoelectric sensor, the reading shows “0.00” on a continuous basis; if this is the case, do not manipulate the potentiometer at the back of the housing.