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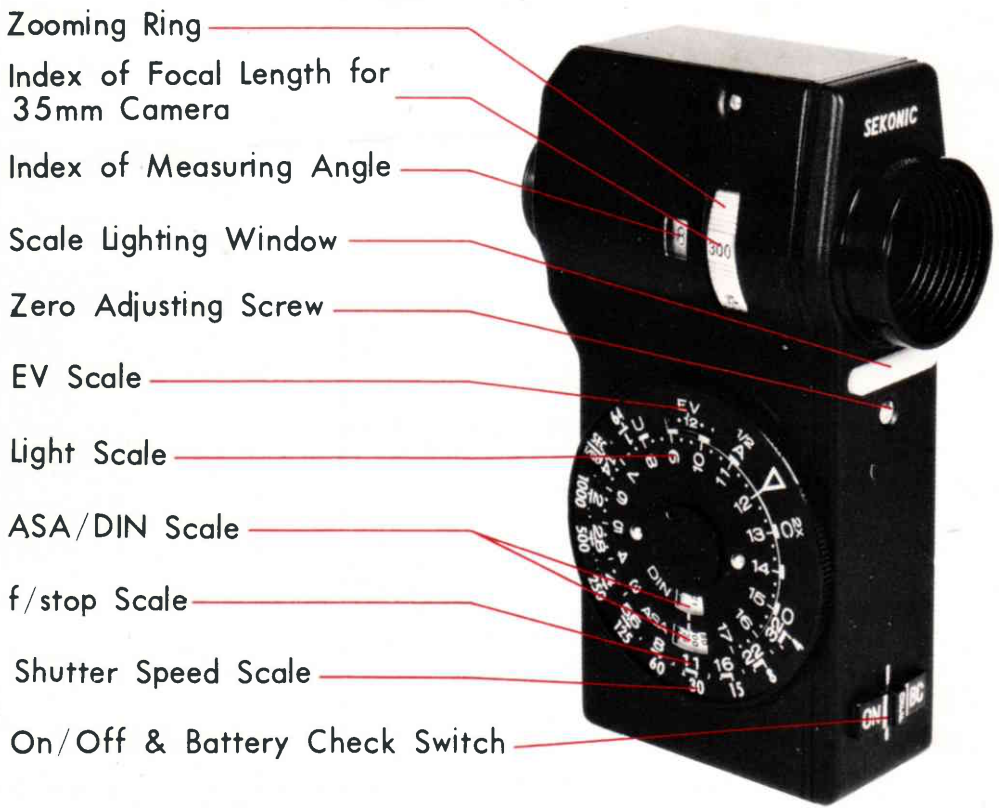
SEKONIC
ZOOM
METER

model **L-228**

COMPONENTS



SPECIFICATIONS

Measuring range
- High range EV 11-17/ASA 100
- Low range EV 3-11/ASA 100

Measuring angle
- 28°-8.2° (equivalent to 85mm－300mm lenses for 35mm camera)

EV scale EV 1－EV 18

ASA/DIN scale
- ASA 0.1－ASA 16000
- DIN 1－DIN 42

f/stop scale f/1－f/32

Shutter speed scale
- 64sec.－1/1000sec.

Accuracy ±1/3 f/stop

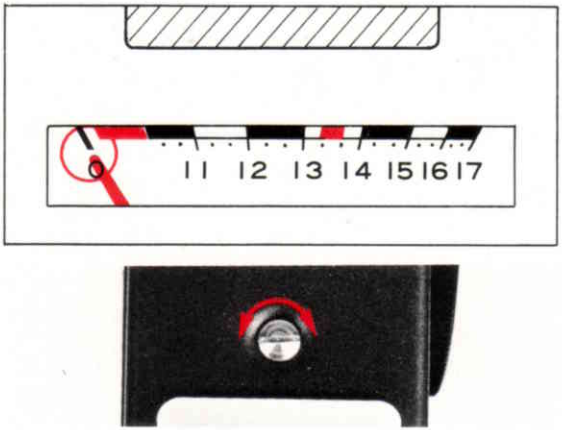
Calibration constant K＝1.16

Dimensions 117×78×35mm

Weight 250 grams net

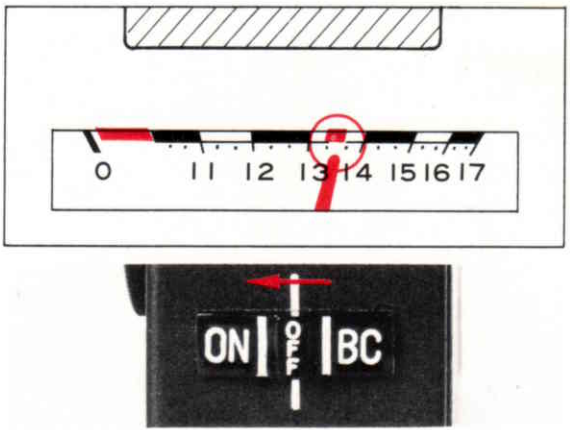
BEFORE USING SEKONIC ZOOM METER

1. Zero Setting:



The needle should indicate zero when the light is completely shut off. To set the needle to the zero point, set the switch at "OFF" and slowly turn the zero adjusting screw on the front of the meter while watching the needle and the light scale through the viewfinder.

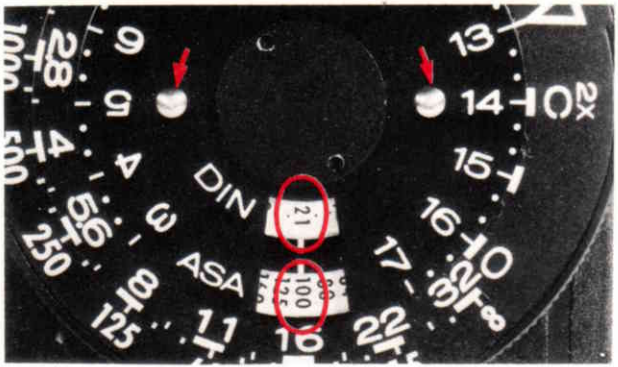
2. Mercury Battery:



This meter requires 2 pieces of 1.35 volts mercury batteries such as Mallory PX-13, RM-625 or the equivalent. To test the battery for sufficient strength, slide the switch to "BC" and see if the needle swings up to the red mark between the figures 13 and 14 on the light scale. If it does not move to this mark, please replace the battery. This type of battery normally lasts for about a year and a half.

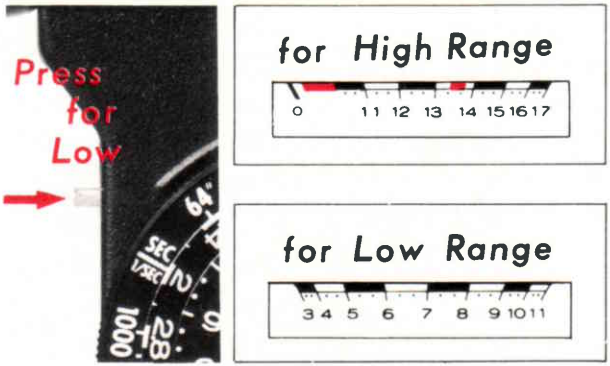
HOW TO USE SEKONIC ZOOM METER

1. Setting the Film Speed:



With thumbs of both hands, turn the inner dial plate by holding the nipples, and set the correct film speed of your film aligned with the white line by the ASA or DIN index window.

2. High or Low Brightness Range:



By pressing the white switch right under the eyepiece, the measuring range of brightness can be quickly converted from HIGH to LOW. It is advisable always to try the HIGH range first unless it is very dark, and only when the needle does not move enough to give a workable reading, in other words the needle stops within the red mark between the figures 0 and 11 in the high range scale, switch to the LOW range. When the measuring range is converted, the light scale in the viewfinder is also changed automatically.

3. Measuring Angle & Viewfinder:

The mearuring angle of this exposure meter can be converted between 28° and 8.2° continuously by turning the zooming dial (these angles are equivalent to the shooting angles of lenses with focal lengths between 85mm and 300mm for 35mm camera, as shown in the following table).

By using this zooming system of the acceptance angle and viewfinder, you can measure a correct exposure of the same angle of view as your lens catches. And this system can also be applied to various methods of measurement, spot-measurement, average-measurement and so on.

Conversion Table:

angle / focal length of lens

	for 35mm camera	for 6 × 6cm camera
28°	85mm	170mm
27°	90mm	
26°		(26.5°)—180mm
25°	100mm	
23°		(24°)—200mm
20°		(19.3°)—250mm
18°	135mm	
16°		(16.1°)—300mm
14°		
12°		(12.1°)—400mm
	200mm	
10°		(9.7°)—500mm
8.2°	300mm	

Spot-Measurement

Set the measuring angle at the narrowest point, i. e. 8.2°, regardless of the shooting angle of your lens, and aim the meter at the main part of your subject which you mostly want to measure while viewing through the finder. This method is specially suitable for portrait, close-up of the back-lighted subject, etc.

Average-Measurement

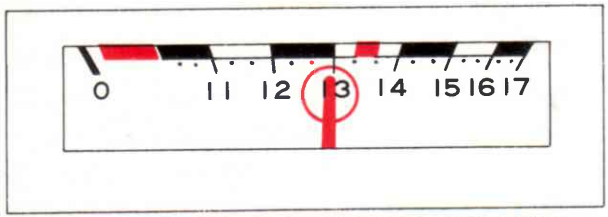
When you intend to get the average exposure of the entire area of your subject, match the index number engraved on the zooming dial with the focal length of your lens. After that, catch your subject through the viewfinder. Then, you can measure the average exposure of the whole subject to be photographed.

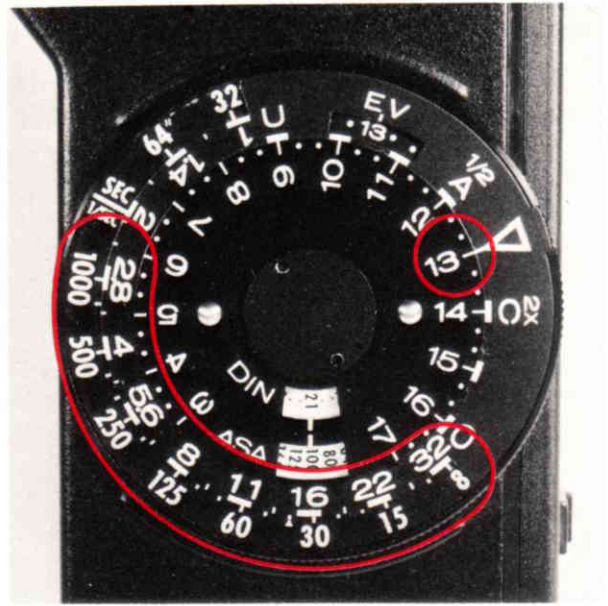
Silhouetting of Back-Lighted Subject

Set the measuring angle at the widest point, i. e. 28°, and measure the exposure of background of the subject. The exposure will be set at the brightness of the background and so the subject in the foreground will become silhouette.

If you want to photograph both the foreground subject and the background, first, measure the foreground subject with the narrowest measuring angle. And, then, widen the measuring angle up to 28° and measure the bright background. Calculator dial should be set at the middle figure between the two indicated figures obtained above. If there is a wide difference in brightness between the foreground and the background, either of them will be sacrificed.

4. Calculation of Exposure:



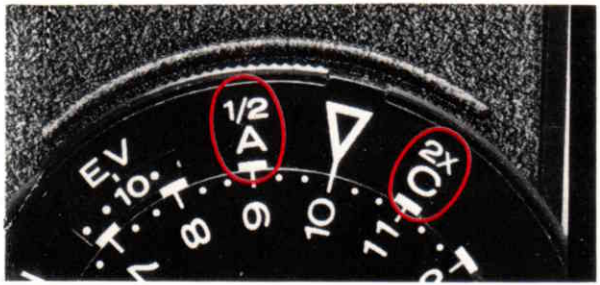


Aim the meter at your subject while viewing through the finder, set the switch at "ON" and read the figure which the needle points on the light scale in the finder. Then, transfer the light reading by rotating the knurled outer dial until the Arrow Pointer is opposite the reading on the light scale of the calculator dial.

Any combination of shutter speeds and f/stops opposite each other on the calculator dial will give the correct exposure. For example, if the needle indicates 13 on the high range, with the ASA index 100, you can get the following combination of shutter speeds and f/stops; 1/1000 sec. at f/2.8, 1/500 sec. at f/4,..... 1/8 sec. at f/32.

The combination you select depends on whether you want a fast shutter speed with a large aperture to stop action occurring in the scene; or greater depth of field with a smaller aperture and a slower shutter speed.

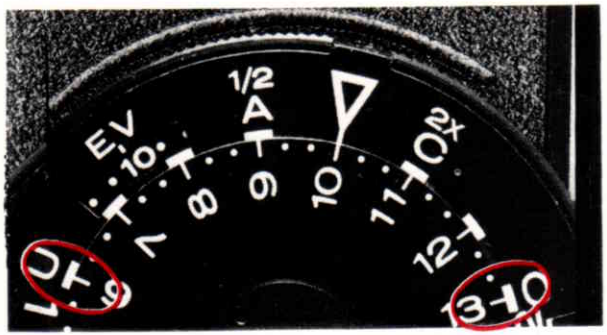
5. The "A" and "C" Positions:



For black and white film, the "A" position provides a convenient way of halving normal exposure for "flat" scenes such as landscapes where there is no extreme contrast between highlights and shadows. The "C" position provides double normal exposure and is used for scenes of very high contrast such as backlighted subjects. In these instances, set the light scale on the calculator dial to either "A" or "C" instead of the Arrow Pointer. The range of scene brightness which can be recorded on color film is more restricted than that of black and white film, the ratio being in the order of 30 to 1. And, for best color rendering, it will generally be found that the light value range of extreme colors will lie between the dot positioned one whole stop above the "C" and the dot positioned one whole stop below the "A", the ratio being in the order of 16 to 1.

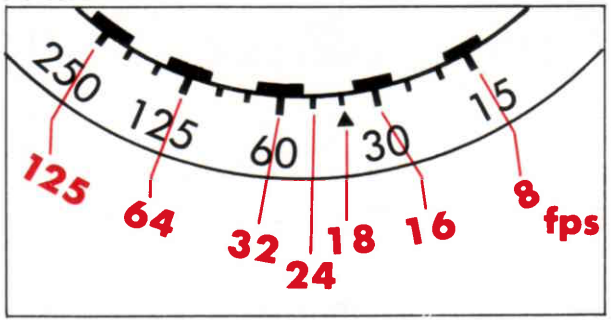
A useful suggestion for getting the best result in color photography is to use the "C" position when exposing for the darker color and the "A" position for the brighter color.

6. The "U" and "O" Positions:



The "U" and "O" positions on the calculator dial show the recommended limits of subject brightness for the black and white film, the ratio of these being 128 to 1. For a given setting of the dial, all objects whose light values fall on or between these two limits will be correctly exposed. Any object having a light value below the "U" position will be under exposed and any object with a light value above the "O" position may be difficult to reproduce. The "O" position will also prove very useful when you want to photograph in extremely low light with black and white film. By taking a close-up reading of the brightest object in the scene and setting the "O" position at the corresponding value on the light scale of the calculator dial, a correct exposure will be given to all areas in the scene which have brightness values corresponding to the range covered by the "U" and "O" positions.

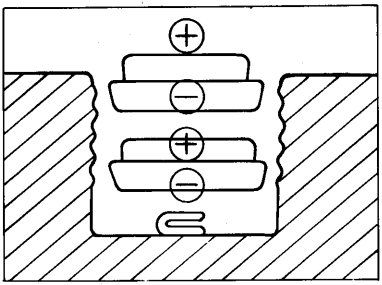
7. Motion Pictures



Any of the methods of determining exposure described for still camera can be used for movie cameras. The relationship between the filming speeds of movie camera and the shutter speeds of still camera are as illustrated above. Find the filming speed of your camera and read the corresponding figure on the f/stop scale. Then, you can get a correct exposure for your motion pictures.

NOTES:

1. Keep the batteries out of the meter when the meter is not in use in order to avoid possible damage from corrosion of the battery.
2. Insert the batteries as illustrated.
3. Don't put your finger over the Scale Lighting Window on the front of the meter, otherwise you cannot read the scale through the finder.



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