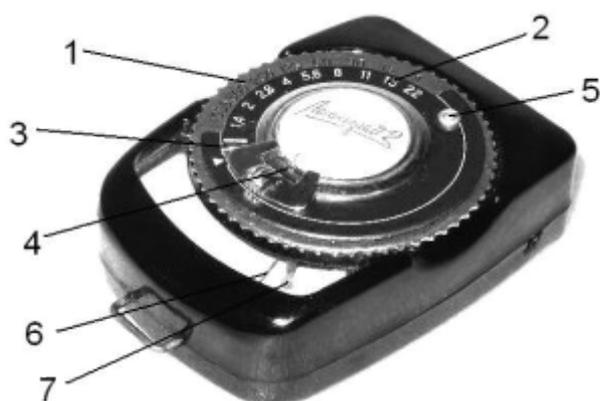


Lightmeter Leningrad 2 - Manual

Photoelectric lightmeter Leningrad 2 is intended for definition of exposures and a diaphragm at photographing on black and white and color negative materials. Light meter can be applied also at filmings. With light meter it is possible to work at bright solar and artificial light, on open air and in a room.

PRINCIPLE OF ACTION AND DESIGN

Photoelectric lightmeter is consist of a selenic photo cell, the microammeter (the measuring mechanism) and the report device . Light through a window of light meter gets on a photo cell. Under the action of light in a circuit of a photo cell, which is connected to the microammeter, the current is appearing. With increase of light exposure of a photo cell a current grows, owing to what the deviation of arrows of the microammeter increases. The exposures are defined with the help of report device which is consist of two disks - top and bottom. On the top disk the scale of diaphragms from 1,4 to 22 and a scale of a photosensitivity from 11 to 700 units of GOST. Intermediate divisions into a scale of photosensitivity meet to values 16, 32, 65, 130, 250 and 500 units of GOST. On the bottom disk the scale of exposures from 1/1000 to 15 sec. is put, and shares of seconds are designated by integers, i.e. instead of 1/2 sec., is written 2, etc. The Sign " designates the whole seconds. On the same disk there is a scale of exposition (light) numbers from 1 to 15. Some cameras with central shutter, for example, Iskra and Smena-8 have a similar scale. The watching index which moves at turn of a disk is connected to the bottom disk. Light meter meets the requirements of GOST 9851-61.



1. A scale of exposures
2. A scale of diaphragms
3. A scale of exposition numbers
4. A scale of a photosensitivity of a negative material
5. Rotary board - at turn of board the photo cell clockwise is against the stop put forward
6. An arrow of the measuring mechanism
7. The watching index connected to the bottom disk of measuring device

METHODS OF DEFINITION OF EXPOSURE

There are two basic methods of definition of exposures by light meter:

1. **A method of reflected light** at which light meter measures light reflected by object of shooting in the camera. At definition of exposure by this method a window of light meter is necessary to direct from a place of shooting on shooting object, and the photo cell should be sunk.
2. **A method of falling light** at which the light meter measures light falling on shooting object. At definition of exposure by this method the window of light meter is necessary to direct from the location of shooting object on to the camera. The photo cell should be sunk, and dairy glass is inserted into a window. If the deviation of an arrow will be small, it is necessary to remove dairy glass from a window and to put forward a photo cell.

The light meter will give wrong indications if to insert into a window dairy and to put forward a photo cell. For promotion of a photo cell it is necessary to turn board against the stop clockwise and to drown a photo cell in the case, it is necessary to turn board also against the stop, but counter-clockwise

THE OPERATING PROCEDURE WITH LIGHTMETER

1. By turning of the top disk to establish in a window of board, against red risks, the size of a photosensitivity of negative material.
2. Depending on a method of definition of exposure, to direct the light meter or on shooting object, or on the camera and turn of the bottom disk to combine the center of the watching index with an arrow of the measuring mechanism.
3. Against the chosen value of a diaphragm to read size of exposure or, on the contrary, against the chosen size of exposure to read value of a diaphragm. On the cameras of old releases the scale of exposures and diaphragms can differ from scales of exposures and diaphragms on light meter. In this case it is necessary to establish exposures or the diaphragm nearest to determined on light meter. If on the camera there is a scale of exposition numbers the size of this number can be defined on light meter in notch the top disk (against a triangle). At filming with speed of 16 frames in a second the report of value of a diaphragm is made against a point under number 30 of the bottom disk, at shooting with frequency 32 frames in a second under number 60 (frequency of the frames is proportional to numbers on a scale of exposures).

That light of the sky at natural shootings did not bring a mistake in definition of exposure by a method of reflected light, it is recommended to incline the window of light meter to the ground. In some cases, for example at shootings, against light, on a snow, on the sea, in mountains, at work with optical filters, at non-uniform illumination, etc., in the exposure determined with light meter, the correction factor should be entered. In more detail questions of a choice of a method of definition of exposure and also values of correction factors are stated in the literature on a photo.

RULES OF THE REFERENCE WITH THE DEVICE

Lightmeter Leningrad 2 is the high-sensitivity measuring device demanding care. It is necessary to protect light meter from sharp pushes and impacts. It is recommended to use lightmeter, not taking out it from a case. Periodically, before the beginning of work with the device, it is necessary to check zero position of an arrow of the microammeter. For this purpose it is necessary to take out light meter from a case, to turn the watching index against the stop to the right and turn of the screw of the proof-reader located in bottom of the case, to establish an arrow of the measuring mechanism so that its right side it was combined with the right side of the watching index. The window of light meter thus should be densely closed by any opaque material. At temperature higher +50°C the photo cell can leave out of operation. It should be meant in conditions of a hot climate. It is not recommended to hold a photo cell under a direct sunlight. At long influence of bright light the time change of instrument readings can be observed, therefore at bright light opens a case of light meter follows only for a while, necessary for definition of exposure. The light meter is recommended to keep in the closed case; the photo cell should be sunk in the case. If dairy glass or safety glass in a window of light meter will become soiled, it is necessary to wipe it with clean and smooth matter. At the bottom of the case there is a table of translation of values of photosensitivities in accordance with GOST in systems ASA and DIN. Repair of light meters can be made only in workshops.

THE TABLE OF TRANSLATION OF UNITS OF A PHOTSENSITIVITY OF A PHOTOGRAPHIC MATERIAL

GOST	ASA	DIN
11	13	12
16	20	14
22	25	15
32	40	17
45	50	18
65	80	20
90	100	21
130	160	24
180	200	23
250	320	26
350	400	27
500	650	29
700	800	30