



Neue Adresse - New Address

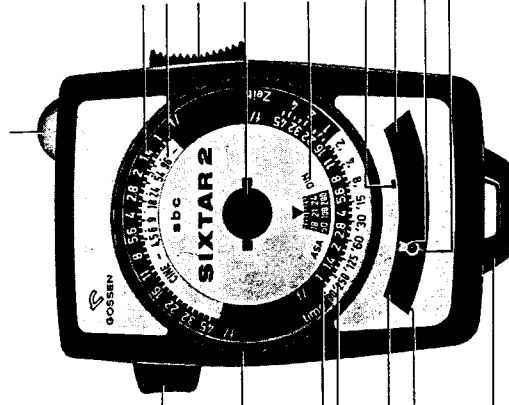
GOSSEN

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SIXTAR 2

1 Diffusing sphere for incident light measurement



- 2 On/off switch and pointer lock
- 3 Control ring for follow pointer
- 4 f-stops
- 5 Exposure times
- 6 Large red zone
- 7 Zero mark
- 8 Lug for carrying cord

18 Table of Lux and footcandle equivalents

Mit Diffusor bei 18 DIN/18 Set ASA 50/18 and Incident Light			
Zähl Werte	16 MPE	Zähl Werte	Lux 1/1000
1	0,2	2	200
2	0,3	3	300
3	0,4	4	400
4	0,5	5	500
5	0,6	6	600
6	0,7	7	700
7	0,8	8	800
8	0,9	9	900
9	1,0	10	1000
10	1,2	12	1200
11	1,4	14	1400
12	1,6	16	1600
13	1,8	18	1800
14	2,0	20	2000
15	2,2	22	2200
16	2,5	25	2500
17	2,8	28	2800
18	3,2	32	3200
19	3,6	36	3600
20	4,0	40	4000
21	4,5	45	4500
22	5,0	50	5000
23	5,6	56	5600
24	6,3	63	6300
25	7,1	71	7100
26	8,0	80	8000
27	9,0	90	9000
28	10,0	100	10000
29	11,2	112	11200
30	12,5	125	12500
31	14,0	140	14000
32	16,0	160	16000
33	18,0	180	18000
34	20,0	200	20000
35	22,4	224	22400
36	25,1	251	25100
37	28,2	282	28200
38	31,6	316	31600
39	35,5	355	35500
40	40,0	400	40000
41	45,0	450	45000
42	50,1	501	50100
43	56,2	562	56200
44	63,1	631	63100
45	70,8	708	70800
46	79,4	794	79400
47	88,1	881	88100
48	97,8	978	97800
49	108,0	1080	108000
50	119,0	1190	119000
51	130,0	1300	130000
52	143,0	1430	143000
53	156,0	1560	156000
54	171,0	1710	171000
55	186,0	1860	186000
56	202,0	2020	202000
57	220,0	2200	220000
58	239,0	2390	239000
59	260,0	2600	260000
60	282,0	2820	282000
61	306,0	3060	306000
62	332,0	3320	332000
63	359,0	3590	359000
64	388,0	3880	388000
65	419,0	4190	419000
66	452,0	4520	452000
67	487,0	4870	487000
68	524,0	5240	524000
69	563,0	5630	563000
70	604,0	6040	604000
71	647,0	6470	647000
72	693,0	6930	693000
73	741,0	7410	741000
74	792,0	7920	792000
75	845,0	8450	845000
76	901,0	9010	901000
77	960,0	9600	960000
78	1022,0	10220	1022000
79	1087,0	10870	1087000
80	1156,0	11560	1156000
81	1228,0	12280	1228000
82	1304,0	13040	1304000
83	1384,0	13840	1384000
84	1468,0	14680	1468000
85	1556,0	15560	1556000
86	1648,0	16480	1648000
87	1744,0	17440	1744000
88	1845,0	18450	1845000
89	1950,0	19500	1950000
90	2060,0	20600	2060000
91	2175,0	21750	2175000
92	2296,0	22960	2296000
93	2422,0	24220	2422000
94	2555,0	25550	2555000
95	2694,0	26940	2694000
96	2840,0	28400	2840000
97	2993,0	29930	2993000
98	3154,0	31540	3154000
99	3322,0	33220	3322000
100	3500,0	35000	3500000

- 19 Zero adjustment screw
- 20 Battery compartment

21 Button for battery check

Subject to changes without prior notice

Your SIXTAR 2 is a high value meter, representing advanced technology and being precisely adjusted. The built-in silicon blue cell provides for its superb performance. Due to excellent filtering and low inertia that silicon blue cell will permit especially fast readings.

Your SIXTAR 2 will solve your questions concerning exposure with reliability and precision. This meter will give you the reassuring knowledge that you will be able to obtain the correct exposure data for photos which are far above of what is just considered to be the average. This instruction booklet will supply to you useful hints for this purpose.

1

May we present to you the SIXTAR 2

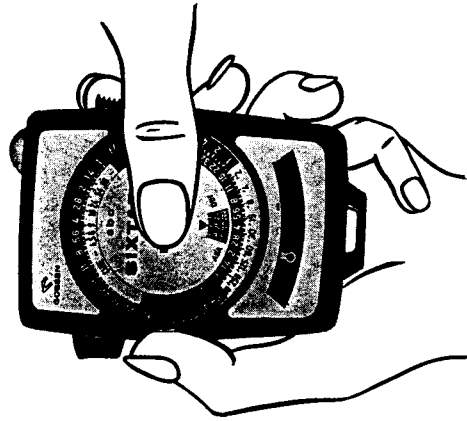
The SIXTAR 2 is one of the precision meters produced by



a line comprising exposure meters, colour temperature meters, measuring instruments for laboratory and darkroom as well as electronic flash meters.

Before Measuring

- 1. Setting the Film Speed**
Turn the rotary knob (12) with your thumb as shown in the illustration or with a coin until the speed of the film you are using will appear as DIN or ASA rating (13) below the index mark in the setting window.



2

2. Zero Point Control

Without operating the on/off switch (2) please hold the SIXTAR 2 in a horizontal position and look vertically down on the indicator needle (17). The needle must be at the zero point mark (7). Should there be a deviation, set the indicator needle (17) exactly to the zero point by turning the zero adjustment screw (19) at the back of the SIXTAR 2. It will be quite sufficient to repeat this check in long intervals only.

3. Testing and Changing Batteries

2 batteries 1,35 V, IEC MR 9 are being used in the SIXTAR 2. This designation corresponds, i.e. to the commercially available types MALLORY PX 625, VARTA V 625 PX or DAIMON 190. It is advisable to check the voltage of the batteries from time to time. The batteries are alright, when the indicator needle (17) will move to the index mark (14) when the button (21) is being pressed. Otherwise, new batteries must be inserted. For this purpose open the battery compartment (20), by rotating the cover from the position "ZU/LOCK" to "AUF/OPEN". Care should be taken to place the batteries correctly as to their electric poles. (Please see diagram near the battery compartment.) Insert the cover in such a way that the arrow will point to "AUF/OPEN" and then turn it to "ZU/LOCK".

Then check the new batteries as shown above.

3

Measuring

The two measuring methods possible — reflected light and incident light measurement — are being described on the pages 4 and 5. It will largely depend on what you are intending to photograph which method you will use. You may rest assured that a hand-held exposure meter such as the SIXTAR 2 is equally suitable for both methods.

After having set the SIXTAR 2 to the measuring method chosen, press the on/off switch (2) until you feel a marked resistance. Now the SIXTAR 2 is in operation and remains in this condition as long as you continue pressing down the switch. You aim the meter and turn the control ring (3) until the center of the yellow ring (16) on the top of the follow pointer will be centered exactly above the indicator needle (17). The follow pointer (16) is coupled to the computer dials entailing that you can read the suitable combination of f/stops and exposure time on the scales (4, 5). For cine cameras the correct f/stop is the one opposite to the selected film speed on the f.p.s. scale (10). Please see also page 9.

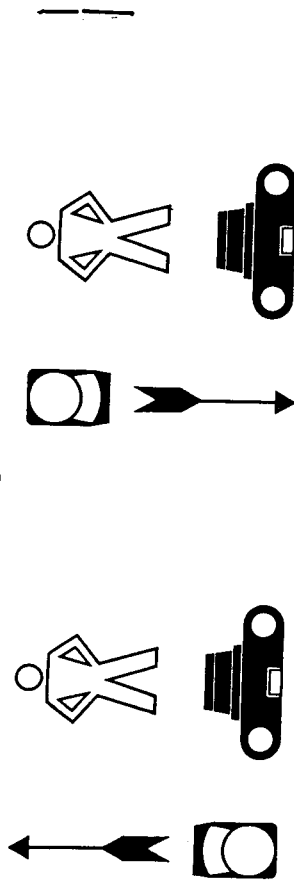
4

Locking the Indicator Needle is possible, by pressing the on/off switch (2) still further down beyond the slight resistance. Then the indicator needle is locked on the value measured and you can easily set the follow pointer (16). This is useful, when making "overhead" measurements or when measuring in low light conditions, when you would like to read the indicated value in brighter light.

The Red Zones (6) and (15) are "off limits". Should the needle settle in either one of those zones, switching over to the other measuring range is then a must. If the needle (17) is in the small red zone (15), shift the range changing switch (11) upwards and measure in the "high light range". If the needle is, however, in the large red field (6), shift the range changing switch (11) downwards entailing that the low light range is switched in.

5

Reflected Light Measurement — Incident Light Measurement



Reflected Light Method: the diffusing sphere (1) is to be pushed to the extreme right until it clicks into position. For this type of measurement you must point your SIXTAR 2 from the camera position towards the subject as shown in the illustration. The measuring angle is 30°.

Incident Light Method: move the diffusing sphere (1) exactly to the central position over the cell window. With the sphere in this position the SIXTAR 2 will measure incident light and must be pointed from the subject towards the camera as shown by the arrow in the illustration. With this method there is no longer any limitation of the measuring angle.

When using reflected light measurement you measure from the camera position towards the subject. It is an easy method for uncomplicated cases. The SIXTAR 2 scans the total light reflected from the subject within a solid angle of 30°. The effective reading therefore depends not only on the intensity of the illumination, but also on the colour and brightness of the subjects themselves. Thus, under identical illumination, the indicator needle will be deflected less by dark objects than by bright ones. The exposure meter reads and sums up the individual details of different brightness in the subject and indicates an average value. As a consequence, scenes or subjects having strong contrasts in brightness or colour should be measured according to the incident light method described below for obtaining better results. When photographing open landscapes comprising a large part of the bright sky, it is advisable to point the SIXTAR 2 slightly downwards when measuring. Close up measuring is also to be recommended. The small measuring angle of 30° permits aiming the meter exactly. You can thus scan the various parts of your subject and determine whether it comprises contrasts or does have well balanced distribution of brightnesses.

6

7

Reading the Scales



'2, '4, '8 etc. are fractions of seconds, i.e. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$ seconds etc.

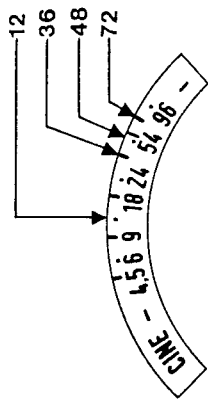
Unmarked numerals 1, 2, 4 etc. are full seconds.

1^m, 2^m, 4^m etc. are minutes.

1^h, 2^h are hours.

In incident light measuring the light is being measured from the subject towards the camera. Thus the SIXSTAR 2 receives and measures all the light falling on that part of the subject which faces the camera. Naturally, the different brightnesses of the various details in the subjects are not taken into account. Therefore, this method is ideal for subjects with strong contrasts and very bright and very dark areas. It will be considerably safer to get perfectly exposed photos under these conditions than the reflected light measurement, just try it with your SIXSTAR 2 and you will easily get the proof.

If you cannot stand at the subject position, take an incident light measurement towards the camera, choose a position which receives the same light as the subject. In this case, do not aim the SIXSTAR 2 direct at the camera, but in parallel to the connection line between subject and camera.



Cine filming speeds (intermediary values)

Cine Frames per Seconds and Corresponding Exposure Times

Please note that on certain motion picture cameras the exposure time at speed 18 does not correspond to $\frac{1}{36}$ sec. Please check the instructions for your camera to find the exposure time which will correspond exactly to the filming speed chosen by you.

Reciprocity Failure

Photography in dim lighting conditions means abnormally long exposure times. This results in the Schwarzschild Effect (so called Reciprocity Failure) with all film types. The measured times must be extended, if underexposure is to be avoided in this sort of shot. The degree of failure differs for each film type and it is for this reason, that it is not taken into consideration on the scales of the SIXSTAR 2.

In addition, reciprocity failure causes changes of colour balance with colour films which must be compensated for by using correction filters. Some types of sheet colour film come with special data sheets giving recommendations for use with abnormally long exposures. In other cases, it is best to apply to the film manufacturer concerned or a colour laboratory for their latest recommendations.

Table on the Back of the Meter

Illumination Values in lux and footcandle

The table (18) on the back of the SIXSTAR 2 shows the approximate illumination values in lux (lx) or footcandle (fc), corresponding to the scale readings obtained with incident light measurement. For this purpose the meter must be set to 18 F DIN and the reading be taken at f-stop 8.

The SIXSTAR 2 can be considered as lux-meter only under certain reserves, because according to definition, illumination values are to be measured with a flat light receiving surface. Whereas the SIXSTAR 2 is being provided with a spherical diffuser destined for measuring the photographically effective light. Photographic subjects are, in most cases, three dimensional and they are illuminated from many different directions (sun, sky, reflections from buildings, trees, grounds etc.).

Brightness in candela per m²
The reflected light method measures the light being reflected by the subjects, i.e. brightnesses. This rating will show how much light is being radiated by a given surface (m²); measuring unit "candela per m²" (cd/m²).

When comparing the two measuring values, the following relation is valid: the measuring values for reflected light measurements, expressed in cd/m², are about $\frac{1}{24}$ of the lux values obtained with the incident light method. Examples:

Exposure times at 18 DIN an f-stop 8	8 minutes	4 minutes	2 minutes
lx (with incident light measuring)	0.7	1.4	2.8
cd/m ² (with reflected light measuring)	0.029	0.058	0.116