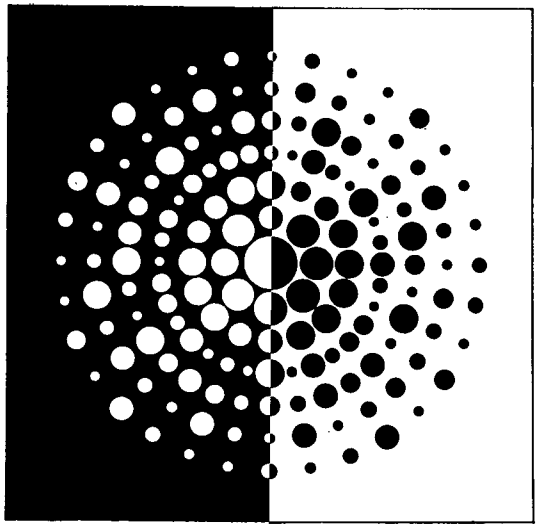
GOSSEN

SIXTRONET



Instructions for Use

7909–0151Y1

The SIXTRONET is a member of the

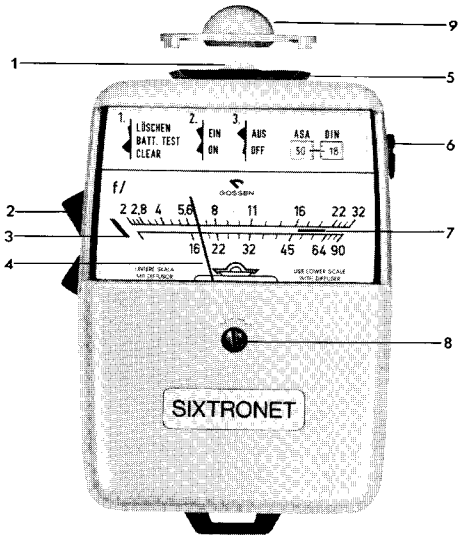
GOSSEN

family of precision meters for photographic purposes.

It measures flash intensities by the most advanced electronic methods and thus joins the renowned LUNASIX, LABOSIX and other fine GOSSEN meters in providing reliable exposure information.

Like all GOSSEN exposure meters, the SIXTRONET electronic flash meter is easy to use. Even under the most difficult conditions it will give you the exact f-stop setting for your camera with any electronic flash unit.

We recommend that, before you start using the meter, you read pages 4 to 9 to acquaint yourself with its features and operating principles. Once you are familiar with these, you will find it easy to follow the concise 8-point check list on page 3.

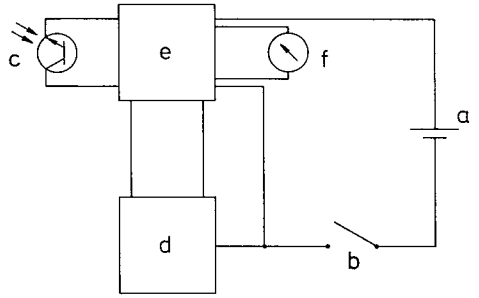


Operating parts of the GOSSEN SIXTRONET Electronic Flash Meter

1 Hemispheric diffuser
2 Rocker switch (On-Off/Clear/Battery Test)
3 Zero check line
4 Meter needle
5 Mount for supplementary diffuser
6 Slotted setting wheel for DIN/ASA values
7 Check line for battery test
8 Screw for zero adjustment
9 Supplementary diffuser

Condensed operating instructions

1. Turn setting wheel (6) to applicable DIN/ASA value of film, i.e. with a coin
2. Check zero position; adjust if necessary (see page 5)
3. Briefly depress forward wing of rocker switch (2) to turn instrument „On". (This also clears any previous reading)
4. Hold meter in measuring position
5. Operate electronic flash unit
6. Read f/stop at needle position on upper scale (f/2 – f/32)
7. If needle goes beyond f/32, attach supplementary diffuser, repeat flash and read f/stop on lower scale (f/5.6 – f/90)
8. After use, depress rear wing of rocker switch to turn instrument "Off"



a) Battery
b) Rocker switch
c) Silicon photo-transistor
d) Electronic switch
e) Integrating circuit
f) Measuring movement

Operating principle

Before you read the detailed operating instructions for your SIXTRONET, you may be interested to know, in principle, just what goes on inside the meter when you are using it. The diagram on the previous page shows the circuitry.

The SIXTRONET measures the short, high intensity light impulses emitted by electronic flash units. It integrates – just like the film – the total light energy within the span of flash duration.

To turn the meter "On", the forward wing of the rocker switch (2) is briefly depressed fully and then let go. The SIXTRONET is now ready for measuring. The needle (4) should be at the zero check line (3). The SIXTRONET starts measuring only when a flash acts upon the silicon photo-transistor (c); the electronic switch (d) keeps the instrument in measuring mode until even the longest flash duration has been recorded. Within this measuring period, the color-corrected silicon photo-transistor (c) and the integrating circuit (e) integrate the flash illumination and the ambient light. The resulting measurement is indicated by the measuring movement (f) and remains visible until the forward wing of the rocker switch (2) is depressed for a new measurement, or until the SIXTRONET is switched "Off" by depressing the rear wing of the rocker switch (2).

A separate **supplementary diffuser** is provided for measuring very high flash intensities.

The SIXTRONET reads out directly in f/stops on its upper scale for measurements without the supplementary diffuser, and on the lower scale for measurements with the supplementary diffuser.

Detailed operating instructions

Please take time to read the following comprehensive operating instructions. They will acquaint you fully with your SIXTRONET and enable you to use the instrument to your utmost advantage.

Zero setting

Normally zero adjustment becomes necessary only if the SIXTRONET has had rough handling.

While the instrument is turned off, check if the meter needle stands at the zero check line (3). If necessary, turn the zero setting screw (8) until the needle rests exactly on the zero check line. During this check or adjustment the battery need not be removed.

Battery test and battery change

With average use the battery supplied with your SIXTRONET lasts for several thousand measurements. However, it is advisable to check the battery condition from time to time. For a battery test an exact zero setting – as just described – is essential.

To check the battery, hold down the forward wing of the rocker switch (2) and observe the needle. It must stand within the battery check line (7). If the needle is to the left of the check line, a fresh battery must be used.

To replace the battery, slide the cover off the battery chamber on the underside of the meter, disconnect and remove the used battery and install the fresh one. Test the new battery as described above.

See page 10 for complete battery information.

Film speed setting

Turn the setting wheel (6) until the DIN or ASA number of your film is set in the window.

Flash measurement

Actual flash measurement is made in the manner of incident light measuring: Point the diffusor (1) of your SIXTRONET from the subject position towards the camera. – Naturally, the proper position of light sources should be arranged before measurement.

Momentarily depress the forward wing of the rocker switch (2) fully; this switches your SIXTRONET "On", ready for measuring. A test flash will indicate the f/stop setting for your camera for the actual exposure: The meter needle (4) is deflected and shows, on the upper scale, the appropriate f/stop.

The needle remains deflected until you clear the instrument by briefly depressing the forward wing of the rocker switch (2).

A standard 1/4" tripod socket is provided on the underside of your SIXTRONET so that you may conveniently attach it to a tripod placed at the measuring position.

Measuring with supplementary diffuser

If the meter needle (4) deflects too far to the right, you can extend the measuring range of your SIXTRONET threefold by attaching the supplementary diffuser. For measurements with the supplementary diffusor, read the f/stop on the lower meter scale.

To attach the supplementary diffuser, simply place it at a 90° angle on the adapter mount (5) and turn it until it clicks into position parallel with the front of the instrument. Removal is just as simple.

Very bright ambient light

The circuitry of your SIXTRONET is designed to indicate the f/stop which will produce correct film exposure – regardless of flash duration – with a shutter speed of $^1/_{100} - ^1/_{125}$ sec.

When, for any reason, a different shutter speed is used and if, at the same time, the ambient light is extremely bright, the indicated f/stop must be modified. The modification factor is obtained with two parallel measurements from the same subject position:

1. Normal measurement (flash and ambient light) with the SIXTRONET.
2. Measurement of the ambient light only, using a reliable exposure meter – like the GOSSEN LUNASIX 3 – with its hemispheric diffuser placed before the CdS cell.

Naturally, both meters must be set for the same DIN/ASA film rating. Compare the f/stop indicated by the SIXTRONET with the f/stop shown by the incident light meter for a shutter speed of $^1/_{100} - ^1/_{125}$ sec. Any difference between the two readings calls for f/stop modification as shown below:

Reading difference between SIXTRONET and incident light meter	Modification of f/stop setting indicated by SIXTRONET (fractions of f/stops) with camera shutter speed setting:			
	$^1/_{25} - ^1/_{30}$	$^1/_{50} - ^1/_{60}$	$^1/_{200} - ^1/_{250}$	$^1/_{400} - ^1/_{500}$
	close down	close down	open up	open up
1	1	$^1/_2$	$^1/_3$	$^2/_3$
2	$^2/_3$	$^1/_3$	$^1/_6$	$^1/_3$
3	$^1/_3$	$^1/_6$	$^1/_{10}$	$^1/_6$
4	$^1/_4$	$^1/_{10}$	0	$^1/_{10}$
5	$^1/_{10}$	0	0	0

Example: SIXTRONET indicates f/8; incident light meter indicates, for ambient light, f/5.6 at $^1/_{125}$ sec. The reading difference is, therefore, one f/stop. Thus, if shutter speed is changed to $^1/_{500}$ sec, above table shows that lens must be opened by $^2/_3$ f/stop from the reading indicated by the SIXTRONET.

Cumulative flashes

If your SIXTRONET indicates that a single flash of your electronic flash unit requires a larger f/stop than you need for adequate depth of field, you may use several successive flashes for a still subject – and your meter will add up the total light.

An additive series of flashes may, for example, produce the following results:

	f/stop for DIN 18 / ASA 50
after the first flash	8
after the 2nd flash	11
after the 3rd flash	11/16
after the 4th flash	16

Any variations between the measured values of the individual flash impulses which you may discern in the process of additive flashing are due to the fact that electronic flash units do not necessarily have an identical lumen-second output from flash to flash; permissible tolerances – under existing standards – in effective light output range up to ± 20 % which equals ± $^1/_2$ f/stop.

Specifications

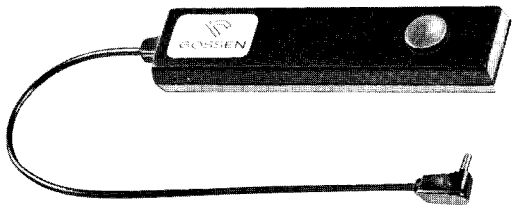
GOSSEN SIXTRONET Electronic Flash Meter

Measuring method:	Incident light measurement: The light falling on the subject is measured. Meter orientation: From subject position towards camera.
Light-sensitive cell:	One color-corrected silicon photo-transistor
Measuring angle:	180°
Film sensitivity range:	DIN **15**–16–17–**18**–19–20–**21**–22–23–**24**–25–26–**27** ASA **25**–32–40–**50**–64–80–**100**–125–160–**200**–250–320–**400**
F-stop range:	f/2 to f/90 without supplementary diffuser: f/2 to f/32 with supplementary diffuser: f/5.6 to f/90
Dimensions:	approximately 78 x 120 x 40 mm ($3^{1}/_{16}$ x $4^{3}/_{4}$ x $1^{9}/_{16}$ in)
Weight:	approximately 225 g (7 oz), incl. battery 300 g (8 oz)
Battery:	9 V, Type IEC 6 F 22*

* This internationally standardized type description applies, for example, to the following:

Berec PP-3, Daimon 133, Eveready 216, Varta-Pertrix 438, Mallory 1604, Neda 1604, Novel N 556.

Accessories



Remote flash release

for triggering the electronic flash when measuring with your flashmeter. The enclosed small self sticking gadget will allow attaching the release to your flashmeter.

Neue Adresse - New Address

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