

On-line camera manual library

If you find this manual useful, how about a donation of $2 to:
M. Butkus, 29 Lake Ave., High Bridge, NJ 08829-1701
and send your e-mail address so I can thank you.
Most other places would charge you $7.50 for a electronic copy or
$18.00 for a hard to read Xerox copy.

**This will allow me to continue this site, buy new manuals and pay their shipping costs.**
**It'll make you feel better, won't it?**
**If you use Pay Pal, go to my web site**
www.orphancameras.com **and choose the secure PayPal donation icon.**

GOSSEN

# GOSSEN ASCOR MARK II

wide-range

ELECTRONIC FLASH METER

## Operating Instructions

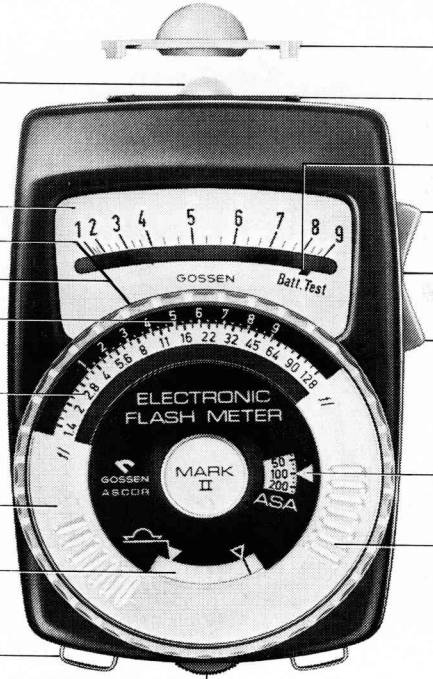
7909-0207Y0

# Your GOSSEN-Ascor MARK II Electronic Flash Meter

. . . is a new member of the world-famous GOSSEN family of precision meters for photographic purposes. It measures a wide range of flash intensities by the most advanced electronic methods and thus joins the renowned LUNA-Pro, LUNASIX and other fine GOSSEN meters in providing reliable exposure information.

Like all GOSSEN exposure meters, the GOSSEN-Ascor MARK II Electronic Flash Meter is easy to use. It is cordless and may, therefore, be placed at any position or distance from the flash unit for convenient measuring under all conditions. We suggest that, before you start using the meter, you read pages 2 to 7 to acquaint yourself with its specific features and operating principles. Once you are familiar with these, you will find it easy to follow the concise 6-point check list on the opposite page.

# Operating parts of the GOSSEN-Ascor MARK II Electronic Flash Meter




Spherical diffuser 16

Meter scale 2

Zero checkline 3

Meter needle 4

Transfer scale 5

f/stops (lens apertures) 6

Film speed setting disk 7

Measuring range selector 8

Eyelets for neckstrap 9

Knurled ring for electric zero adjustment 10

11 Supplementary (high range) diffuser

12 Mount for supplementary diffuser

13 Check mark for battery test

14 Forward wing for battery test

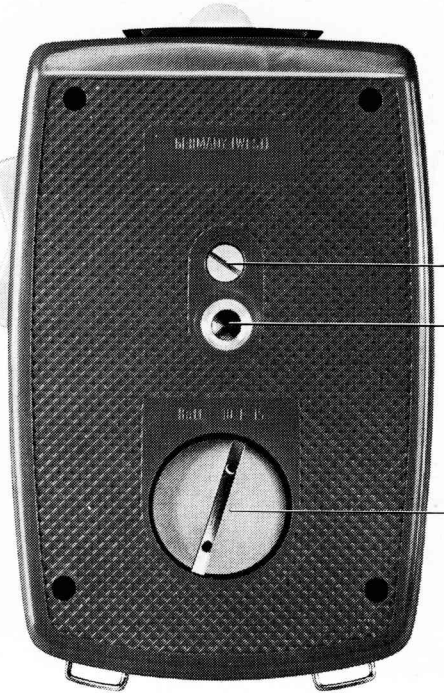
15 Rocker switch

16 Rear wing for flash measurement

17 ASA exposure index values

18 Ridges for film speed setting

Keep this page folded out when reading instructions, so that you can easily identify parts and scales.



19 Screw for mechanical zero adjustment

20 Tripod socket

21 Battery chamber

# Operating check-list

1. Turn film speed setting disk (18) to set ASA value in window (17)
2. Check mechanical and electric zero positions (see page 3)
3. Briefly depress rear wing (16) of rocker switch (15) to activate instrument
4. Hold or place meter in measuring position (see page 4)
5. Operate flash unit (see page 4)
6. Read f/stop (6) at transfer scale value (5) of needle reading (2).

   Note: The indicated f/stop always applies to a shutter speed of $^1/_{100} - ^1/_{125}$ sec.

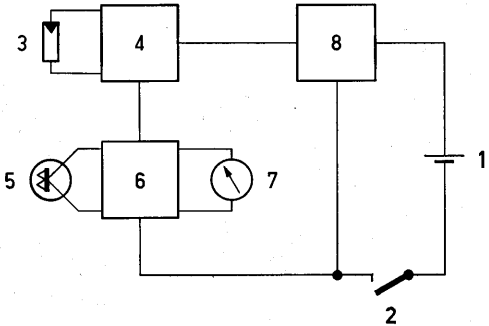
See page 5 for using the **supplementary diffuser.**

THE INSTRUMENT SWITCHES ITSELF OFF AUTOMATICALLY ABOUT 3 MINUTES AFTER SWITCH-ON.

# Operating principle

You will find the following information helpful to understand the operating principle and functioning of your GOSSEN-Ascor Mark II Electronic Flash Meter.

**BLOCK DIAGRAM OF THE GOSSEN-ASCOR MARK II ELECTRONIC FLASH METER**




1 Battery
2 Rocker switch
3 Silicon cell
4 Electronic trigger (switching circuit)
5 Silicon photo transistor
6 Integrating circuit
7 Meter
8 Terminating (switch-off) circuit

The GOSSEN-Ascor MARK II Electronic Flash Meter measures the short light pulses of electronic flash units. A **supplementary diffuser** extends the measuring range to high intensity and close-range readings. The meter integrates the total light energy (lumen seconds) in the same manner as the emulsion of the film does for its exposure within the flash duration.

Momentary pressure on the rear wing of the rocker switch (2) sets the meter for a 3-minute readiness period; however, this does not open the circuits for actual measurement. But, within less than a microsecond ($^1/_{1\,000\,000}$ sec) after the flash starts, the silicon cell (3) in conjunction with the transistorized triggering circuit (4) 'opens' the actual measuring circuit (5-6-7) which is kept active even for the longest flash duration normally encountered in electronic flash units. During this very short interval the color-corrected phototransistor (5) and its transistorized circuit (6) integrate the light of the flash and the ambient light. The resulting measurement is indicated by the meter needle (7) and remains "locked in" until the terminating circuit (8) automatically disconnects the battery from the circuitry – or until a new measuring cycle is started by again depressing the rear wing of the rocker switch.

Your GOSSEN-Ascor MARK II Electronic Flash Meter is designed to give you consistently accurate measurements. Please follow the various operating steps carefully to assure correct results. To read the measurement, position your eye over the needle so that the needle covers its own reflected image. By doing this, you eliminate parallax error, and the maximum accuracy of the meter can be realized.

Carefully check the **mechanical** and **electric** zero settings and the condition of the **battery** (battery check: see page 4).

**Mechanical zero setting**

Like all precision measuring instruments, your GOSSEN-Ascor MARK II Electronic Flash Meter permits mechanical zero setting of the meter needle. Normally such adjustment becomes necessary only if the instrument has had rough handling.

The mechanical zero setting can be checked only when the instrument is switched off (see "Operating Principle"). To verify the switched-off condition, turn the knurled ring (10); when switched off, the needle position should remain unchanged. If the needle is not at the zero check-line (3), turn the zero setting screw (19) on the underside of the meter until the meter needle is exactly on the zero setting line. The battery need not be removed for this test.

**Electric zero setting**

The electronic circuitry requires also an electric zero setting. The meter needle should remain on the check-line (3) when the instrument has been switched on (by depressing the rear wing (16) of the rocker switch (15). If the needle is not on zero, turn the knurled ring (10) until the needle covers the zero check-line (3).

**Battery check and battery change**

With normal use, the battery supplied with your GOSSEN-Ascor MARK II Electronic Flash Meter lasts for several thousand measurements. However, it is advisable to check the battery condition from time to time. For a battery test an exact mechanical zero setting – as described above – is essential.

To check the battery, first push down and release the rear wing (16) of the rocker switch (15). Then hold down the forward wing (14) of the rocker switch. The meter needle should point to the battery check mark (13). If the needle rests to the left oft the check mark, a fresh battery must be used.

To replace the battery, unscrew the cover of the battery chamber (21) – a coin will be useful for this. Be sure to insert the fresh battery with proper polarity of the + and – contacts. After inserting a fresh battery, immediately make the battery test described above.

**Film speed setting**

Turn the setting disk (7) by the raised ridges (18) until the ASA number of your film is set against the triangular white marker.

**Flash measurement**

For measurements without the supplementary diffuser, program the scales by grasping the outer rim of the computer dial and rotating it so that the line of the range selector (8) is set at the open triangle. For measurements with the supplementary diffuser (see page 5), set the range selector (8) to the solid triangle.

The actual measurement is made in the manner of incident light measurements: Point the meter from the subject towards the camera. Naturally, the proper position of light sources should be arranged before measurement.

Momentarily depress the rear wing (13) of the rocker switch (12); this switches your meter on and holds it in readiness for about three minutes. A test flash will give you the meter reading to set your f/stop for the actual exposure. When you operate your electronic flash equipment, the meter needle (4) is deflected to one of the values on the meter scale (2).

The scale values are repeated on the transfer scale (5) in the upper part of the computer ring. You simply read the applicable f/stop at the measured value on the transfer scale. The meter needle remains in the deflected position until the electronic terminating circuit switches the meter off. However, if you want to take a further measurement, you can start a new measuring cycle by again pressing the rear wing of the rocker switch briefly.

A tripod socket is provided on the underside of your GOSSEN-Ascor MARK II Electronic Flash Meter so that you may conventiently attach it to a tripod at the measuring position.

**Measuring with supplementary diffuser**

If the meter needle (4) deflects beyond the right end of the scale, you simply extend the measuring range by attaching the supplementary diffuser, and switching the measuring range selector (8) line to the solid triangle.

To attach the supplementary diffuser, place it at a 90 ° angle on the adapter mount (12) and turn it until it clicks into position parallel with the mount. Removal is just as simple.

Take a new reading with the supplementary diffuser in place. It extends the range of your GOSSEN-Ascor MARK II Electronic Flash Meter 32 times (by 3 f/stops).

**Change of shutter speed setting**

Most electronic flash units have a relatively short flash duration; therefore, actual film exposure by the flash is not affected by changes in camera shutter speed as long as synchronization is maintained. However, changes in shutter speeds will alter the effect of ambient light on the overall exposure. (As the shutter speed changes, the portion of the total exposure caused by the flash remains constant, but the portion caused by the ambient light will vary.)

As long as the flash output is considerably higher than the ambient, this effect can be ignored. But when the level of ambient light exposure approaches that of the flash, attention must be given to the effect of shutter speeds.

The circuitry of your GOSSEN-Ascor MARK II Electronic Flash Meter is designed to indicate the f-stop which will produce correct overall exposure with a shutter speed of 1/100 – 1/125 second. If the ambient light is extremely bright, and a different shutter speed is used, the indicated f-stop may have to be modified to compensate for variations in ambient exposure caused by the change in shutter speed.
To determine if compensation is required, two parallel measurements must be taken from the same position:

1. Normal measurement (flash and ambient light) with the GOSSEN-Ascor MARK II Electronic Flash Meter.
2. Measurement of the ambient light only, using a reliable exposure meter – like the GOSSEN LUNA-Pro – with its hemispheric diffuser placed before the CdS cell.

Naturally, both meters must be set for the same ASA film rating. Compare the f/stop indicated by the GOSSEN-Ascor MARK II Electronic Flash Meter 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 on the opposite side.

**Cumulative flashes**

If your GOSSEN-Ascor MARK II Electronic Flash Meter 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 from such flashes within the 3-minute readiness cycle of the meter!

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

| | Needle reading (scale) (value) | f/stop for ASA 100 |
|---|---|---|
| after the 1st flash | 3 | 5.6/8 |
| after the 2nd flash | 4 | 8/11 |
| after the 3rd flash | 4.6 | 11 |
| after the 4th flash | 5 | 11/16 |

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 some electronic flash units do not necessarily have an identical lumen-second output from flash to flash.

| Reading difference between GOSSEN-Ascor MARK II Electronic Flash Meter and incident light meter | Modification of f/stop setting indicated by GOSSEN-Ascor MARK II Electronic Flash Meter (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:** GOSSEN-Ascor MARK II Electronic Flash Meter 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 GOSSEN-Ascor MARK II Electronic Flash Meter.

# Helpful flash measuring hints

**Determining lighting ratios**

Your GOSSEN-Ascor MARK II Electronic Flash Meter can be very useful in determining flash ratios. Because it is an incident light meter, the strength of each of several lights can be measured separately.

This can be easily accomplished by positioning the meter directly toward the light to be measured. Care must be exercised so that only the light from the particular flash being measured strikes the meter. (Shield the meter with your hand or a black card.)

The numerical difference between the readings will give you the f-stop difference of the relative light strengths.

**Remote triggering of the flash unit**

The cordless feature of your GOSSEN-Ascor MARK II Electronic Flash Meter provides a high degree of flexibility when measuring flash in a studio situation. For greater freedom when working on a crowded set, attach photo slaves to the main flash units and mount a small flash to the tripod socket of your meter. The small flash can then be used to trigger the main flash units without a cord, and to allow complete mobility.

The flash unit used as a trigger should be small enough so that its contribution to the set leghting is negligible. With to day's sensitive photo slaves, a flash in the 10 watt-second range should be sufficient to trigger the main flash units even in a large studio.

# Specifications GOSSEN-Ascor MARK II Electronic Flash Meter

| | |
|---|---|
| Measuring method: | Incident light measurement from subject to camera; the light falling on the subject is measured |
| Light-sensitive cells: | One phototransistor, silicon<br>One photoresistor, silicon (both cells are color-corrected) |
| Measuring angle: | 180 degrees |
| Computer scales: | ASA 6 to ASA 6400<br>f/1 of f/90<br>(all scales linear with 1/3 increments) |
| Dimensions: | 4" x 2 5/8" x 2 1/8" |
| Weight: | 8 3/4 oz |
| Battery: | 15 V (Type IEC 10 F 15)<br>The above type number corresponds to:<br>EVEREADY 504<br>BURGESS Y 10<br>RAY-O-VAC 220<br>and similar batteries |

Specifications are subject to change without notice.

Thanks to its unique as a SYSTEM EXPOSURE METER, the Luna-PRO provides you with an adaptability and universality previously unknown in exposure meters.

Used alone, the Luna-PRO continues the superb tradition of the GOSSEN Lunasix as the world's most sensitive, widest range (1 : 2,000,000) exposure meter. It converts instantly, and without accessories, from reflected to incident light measurement – and you'll find its one-hand operation (even with a glove on) a great boon when moments count on location, or in the studio.

And, whenever the need arises, you can greatly expand the capabilities of the Luna-PRO by using one of the following exclusive accessory attachments:

Luna-PRO Flexible Fibre-Optics Attachment
Luna-PRO Variable Angle "spot meter" Attachment
Luna-PRO Enlarging Attachment
Luna-PRO Miscroscope Attachment
Luna-PRO Copying Attachment

An instant-lock-on device holds each attachment firmly on the Luna-PRO.

# LUNA-Pro optional Attachment

**The Luna-PRO SYSTEM is uniquely universal**

**Flexible Fibre Optics Probe Attachment.** This 14¼" tubular "extension" of the Luna-PRO contains 4000 strands of light-conducting optical glass fibres; its 5 mm "eye" letsyou take light measurements in otherwise inaccessible areas; it may be used for groundglass measurements or for contrast readings of negatives.

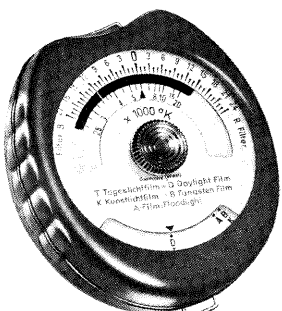
**Variable Angle Attachment.** Instantly converts the Luna-PRO's normal 30 ° acceptance angle to 15 ° or even 7½ °. A built-in reflex viewfinder shows your critical 'target' area for precise measuring. The narrower acceptance angles are especially useful for 'spot' measurements of smaller areas and for the determination of contrast ratios within a given scene.

**Enlarging Attachment.** There is little tolerance for error in enlarging exposures, but the Luna-PRO with the Enlarging Attachment makes a reliable and accurate enlarging meter to help you save time and enlarging paper. Placed on your enlarging easel, it measures a small area of the projected image; a light conductor transmits the measuring area to the highly sensitive CdS cell of the Luna-PRO.
**Microscope Attachment.** Accurate, dependable photomicrographic exposure measurements are easily and instantly obtained with the Luna-PRO and the Microscope Attachment, either in the ocular tube or over the eyepiece of the microscope.
**Copying Attachment.** This attachment serves for determining exposure when copying, and for measuring light transmission.

**Color Temperature Meter and Filter Indicator**

Eliminates costly trial exposures and "off-color" results. At a glance, this compact instrument shows the color temperature of the light source (2600 to 20000 K) and, simultaneously, indicates the correction filter required for correct color balance with any type of color film. The Gossen SIXTICOLOR is an important aid for every user of color film in still or motion picture photography.

Ask your dealer for a demonstration!



The GOSSEN-Ascor Electronic MARK II Flash Meter is covered by a warranty as shown on the warranty card supplied with each new meter.

If repair or adjustment should become necessary, send the instrument (directly or through an authorized dealer) carefully packed, prepaid and accompanied by the original guarantee card to:

Gossen Service Department
BERKEY MARKETING COMPANIES, INC.
P. O. Box 1060
Woodside, N. Y. 11377

A brief description of the reason for sending the meter should accompany the package.

Manufacturer
**GOSSEN GMBH**
D-8520 Erlangen – West Germany

GOSSEN

Sole U. S. Distributor
**Gossen Division**
**BERKEY MARKETING COMPANIES, INC,**
25-20 Brooklyn-Queens Expressway West
Post Office Box 1060
WOODSIDE, New York 11377

Printed in West Germany
87514 a