



Correctly exposed photographs by using the
IKOPHOT

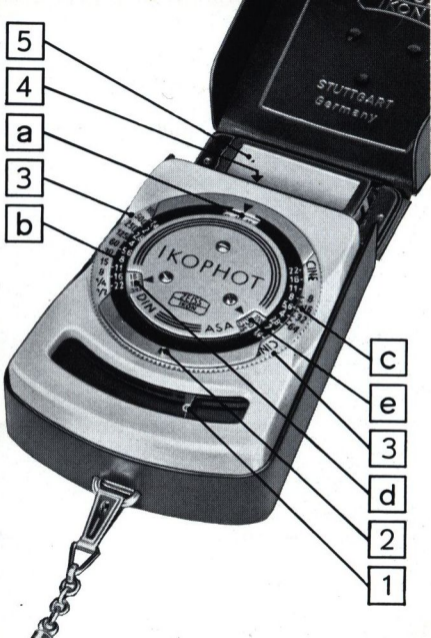


The best companion

for your camera is certainly a reliable exposure meter such as the IKOPHOT. The IKOPHOT is not only attractive in appearance but is also extremely efficient. It is made by ZEISS IKON AG. STUTTGART, the manufacturers who have behind them the experience of decades in the design and construction of photo-electric exposure meters. No matter what type of film you use, black and white or colour, negative or reversal film or whether you photograph with daylight or artificial light, your exposures will always be correct.

The IKOPHOT is a handy instrument and its operation is simplicity itself. You can carry it about whenever and wherever you like, it is suitable for all types of film and camera. It will never let you down if you adhere to the advice given in these instructions. It will increase your pleasure in photography and decrease your expenditure on film.

So, here is to good companionship and to better pictures!



The scales on the IKOPHOT

- a) Exposure values
- b) Apertures and shutter speeds
- c) Apertures and camera speeds of narrow-gauge cine cameras
- d) Film speed in DIN
- e) Film speed in ASA.

The operative components of the IKOPHOT

- 1 Follow-up mark and pointer
- 2 Button for setting the film speed
- 3 Milled disc to follow up the mark (1)
- 4 Photo-cell (behind the honeycomb lens)
- 5 Incident light hood

Adjusting the film speed

To start with: this operation is necessary only when a fresh film inserted into the camera has a speed different to that used before.

Turn the disc by means of button (2) until the film speed figure, denoted on the film package or the instructions for the film appears at the triangle mark of the DIN-window (d) or that of the ASA-window (e).

If the speed of your film is rated in BSI indices the appropriate values can be found in the table on page 19. Furthermore, the baseplate of the IKOPHOT contains a table de-

noting the film speed in EUROPEAN Scheiner degrees (see illustration on page 16).

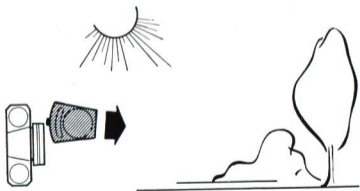
For colour films a definite speed rating is impossible, since all the measuring systems are based on black and white films. For this reason the film manufacturers abstain from giving a straightforward speed rating but use the expression "to be exposed like a film of . . ." In general these values may be used with confidence, but it is nevertheless recommended that tests should be made with different shutter speeds or stops to establish the correct speed of the colour film used with regard to your own IKOPHOT.

The measurement

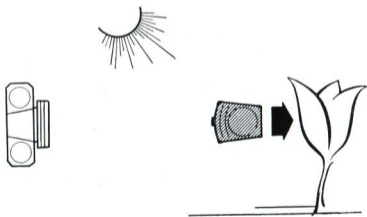
Measuring can be done in various ways.

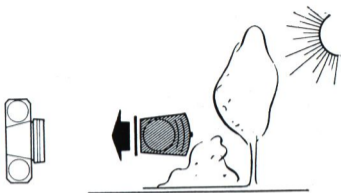
Generally the measurement is tak-

en from the position of the camera towards the subject. The ИКОФОР, without the incident light hood should be held horizontally and so that its photo-cell (4) is pointing to the important elements of the subject to be photographed. When measuring a landscape, for instance, the ИКОФОР should be pointed towards the foreground and not towards the bright sky.



At shorter distances, particularly for close-ups the subject should be measured from as close a distance as possible. The ИКОФОР (without the incident light hood) should be held as close as possible to the subject without casting a shadow on it, however.

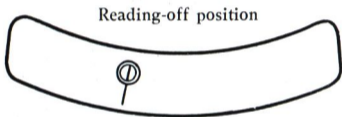




For backlight photographs or in all pictures containing high contrasts it is essential to get sufficient detail in the shadows. This can be obtained by employing incident light measurement. The IKOPHOT with slipped-on incident light hood should then be pointed towards the camera from the subject.

The adjustment

Whatever way of measurement is used the result will be that the pointer deflects. Now turn the milled disc (3) with your thumb until the



follow-up mark (1) is bisected by the pointer (by looking from above). The measuring value is thus found and can be read off from the IKOPHOT in any position.



The reading

The aperture values are given on the red ring (b) whilst the shutter speeds are immediately alongside them on the gold ring, both rings together denoting the exact pairing of stops and shutter speeds. Furthermore, the red triangle mark on the

IKOPHOT (a) indicates the exposure value.

The shutter speed figures on the gold scale above $\frac{1}{4}$ denote fractions of a second ($8 = \frac{1}{8}$ sec.), those below $\frac{1}{2}$ whole seconds. The IKOPHOT can also be used to read off intermediate values which can then be transferred to the camera shutter. This is particularly important for colour exposures.

For cinematographic shots the stop to be used (gold figure on red background) should be read off (at c) opposite the camera speed in use (black figures). The normal camera speed of 16 f. p. s. is marked by a

black triangle to make it more distinguishable. The strokes on the gold ring between the figures for the camera speeds denote the following intermediate speeds: 12, 24, 48 f. p. s.

When a filter is used the values indicated by the IKOPHOT should be extended according to the filter factor. The IKOPHOT is then adjusted either to a lower exposure value, a larger stop or a longer shutter speed. The increase in exposure time is

for filter factor $\times 2$	1 value
for filter factor $\times 4$	2 values
for filter factor $\times 8$	3 values

For other filter factors corresponding intermediate values should be set on the camera.

If the light source is extremely weak (candle) the pointer of the IKOPHOT will not deflect, but a valuable indication may be obtained by pointing the IKOPHOT without incident light hood from the subject to be photographed straight towards the light source. The exposure time thus found should be multiplied by 10. This method can be used only if a single, weak light source casts its light directly on to the subject.

The ever-ready case

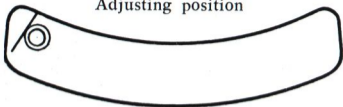
For all the various measurements the

IKOPHOT need not be removed from its ever-ready case. The incident light hood is accommodated in the lid. The hood (5) can be pushed sideways for use. The chain serves to fasten the IKOPHOT to your clothes or around your wrist (see ill. on front page). The necessary loop can easily be formed by means of the ring. Thus both hands remain free and the risk of losing the IKOPHOT is avoided.

Adjustment

When the IKOPHOT has been used for a long period its correct adjustment should be examined. For this purpose remove the IKOPHOT from

Adjusting position



its ever-ready case. Loosen the snap-hook on the chain and bend outwards the springy side-walls of



the case. The IKOPHOT can then be removed.

The re-adjustment should be carried out in dim, not bright light. By turning the milled disc (3) the follow-up mark (1) is brought to its left stop. When the photo-cell is completely blacked-out (4) the pointer should be positioned on the left edge of the mark. If this is not the case, rotate the adjusting screw on the bottom plate of the IKOPHOT (see ill.) until the pointer is in the correct position.



Maintenance

The delicate movement used in the IKOPHOT is well protected against pressure, humidity and dust by the dust-proof hermetically sealed casing. To maintain the accuracy of the photo-cell, it should not be exposed to heat above 122°F (50°C). The honeycomb lens on the front should be kept clean (4).

And a final important piece of advice: Consult your photo-dealer, if you are in doubt about any photographic problems.



Comparison of speed systems

ASA	BSI	DIN
10	21	11
12	22	12
16	23	13
20	24	14
25	25	15
32	26	16
40	27	17
50	28	18
64	29	19
80	30	20
100	31	21
125	32	22
160	33	23
200	34	24
250	35	25



ZEISS IKON AG. STUTTGART

englisch

GA/20.2402 Printed in Germany

Author: Prof. Dr. J. Stüper 25 0461-5