ILFORD

EM10 EM10 Exposure monitor

Posemètre d'agrandissement EM10

Belichtungskontrollgerät EM10

Esposimetro EM10.

Monitor de exposiciones EM10

EM10 Exponeringsmätare

ENGLISH

1 Introduction

The ILFORD EM10 exposure monitor allows you to determine the exposure required for colour and black and white print making. The monitor can be used when printing slides or negatives, and is particularly recommended for use with ILFORD ILFOCHROME print material.

The exposure monitor also automatically compensates for the change in exposure for different density colour filters in the enlarger. It cannot, however, be used as a colour analyser.

Basically, the EM10 exposure monitor enables the intensity of the light falling on the baseboard to be easily set to a constant value. Once calibrated, exposure determination from one slide to another or from one colour or black and white negative to another is simply a matter of measuring the light level of a particular area of the image, and then varying the enlarger lens aperture until the green LED on the exposure monitor is lit.

The light sensitive cell on the monitor is positioned so it is close to the enlarger baseboard during use, and accurately measures the amount of light received by the paper.

2 Calibration

Calibrate the EM10 monitor by using one of the two methods below.

2.1 If you have not previously made prints:

1 Select a slide or negative, typical of those you wish to print.
2 Set the calibration knob to the calibration number on the base of the monitor.
3 With the slide or negative and recommended filtration in the enlarger, adjust the enlarger height to obtain a 20x25cm (8x10 inch) image on the baseboard.
4 In total darkness, except for the light from the enlarger, place the monitor on the enlarger baseboard. For slide printing, the sensitive cell should be in a highlight area which just holds detail. For negative printing, choose the brightest area of the image on the baseboard still showing detail.
5 Switch on the monitor and adjust the enlarger lens aperture until the green LED is lit. The enlarger lens may be set between f-stops for this purpose.
6 Using a suitable mask, make four 10x12.5cm (4x5 inch) test exposures on a 20x25cm sheet of paper.
Suggested exposure times for colour and black and white negatives are 2, 4, 8 and 16 seconds, for ILFOCHROME 20, 30, 40 and 50 seconds.
7 Process the print in fresh chemicals, following the manufacturer's recommendations. If one of the exposure times has not produced a correct density print, repeat steps 6 and 7 using different exposure times until the correct density is obtained. When calibrating the exposure time and calibration number for this pack of paper.

2.2 If you have a slide or negative of known exposure for a particular enlargement:

1 Place the slide or negative and any filtration used in the enlarger. Adjust the degree of enlargement and lens aperture to match your exposure data.
2 In total darkness, except for the light from the enlarger, place the monitor on the enlarger baseboard. For slide printing, the sensitive cell should be in a highlight area which just holds detail. For negative printing, choose the brightest area of the image on the baseboard still showing detail.
3 Switch on the monitor and adjust the calibration knob until the green LED is lit.
4 Note the calibration knob setting. You have now established the correct exposure time and calibration number for your darkroom conditions.

3 Use

1 Ensure the calibration knob is set to the appropriate calibration number.
2 In total darkness, except for the light from the enlarger, place the monitor on the enlarger baseboard. For negative printing, choose the brightest area of the image n the baseboard still showing detail. For slides, the sensitive cell should be in a highlight area which just holds detail
3 Turn on the EM10. Rotate the aperture of the lens until the GREEN light on EM10 comes on. The exposure is now set for the first test.The enlarger lens may be set between f- stops for this purpose.
4 Expose the paper using the same exposure time that you used for the calibration slide or negative.

4 Helpful hints

1 To ensure accurate readings, switch off the safelight when using the EM10 exposure monitor. Take all readings in total darkness, except for the light from the enlarger.
2 The left hand red LED lights when insufficient light is reaching the baseboard. To increase the light level, choose a smaller f-number, eg f5.6 instead of f8. The right hand red LED lights when too much light is reaching the baseboard. To decrease the light level, choose a larger f-number. An increase from one f-number to a larger f-number doubles the exposure time. If only the left hand red LED will light, even at the largest lens aperture, the low light level may be due to a low wattage enlarger bulb,a high degree of magnification,a slow speed enlarging lens, under exposed slides or over exposed negatives. Recalibrate the exposure monitor using a smaller lens aperture and correspondingly longer exposure time.
3 When calibrating the monitor with 20x25cm enlargements, the lens should be stopped down at least one or two f-stops and that least one or two f-stops and the calibration knob should be in approximately the centre of its scale. This ensures there is enough latitude to open or close the lens when making larger or smaller prints, without filtration according to the ILFOCHROME pack - the monitor automatically compensates for changes in filter density.
5 The use of the EM10 with black and white papers is a little more complicated because of the different contrast grades. For graded papers, such as ILFOSPEED RC Deluxe and ILFOBROM GALERIE FB, a separate calibration is required for each contrast grade. Similarly, with the MULTIGRADE range of variable contrast papers a separate calibration will be required for each of the MULTIGRADE filters (or colour head settings) that you use most often. If this is not done then prints made at higher contrast than the calibration will be too dark and those at lower contrast will be too light. The calibration can be done with the same negative and the correct exposure (at all contrasts) is that which holds detail in the shadow area chosen for measurement. When making a print from a new negative use the calibration number for the grade that you believe will be correct. If the grade is wrong then remeasure at the calibration number for the corrected grade and repeat the process until the contrast and exposure are correct.

5 Battery

To fit a new battery, undo the three screws and remove the base of the monitor. Clip the battery into place.

The EM10 exposure monitor uses a long life version (6LF22) or a PP3 (6F22) type battery. A rechargeable nickel cadmium battery can be used. To conserve the life of the battery, switch off the monitor after use. The battery needs to be changed only when the LEDs are dim. If the monitor will not be used for some time, remove the battery to prevent damage by leakage.