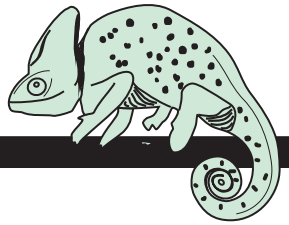


Color densitometer

Chameleon basic

Operation manual

Switch on

start activates unit. As long as you hold the button, type and options of the unit are displayed in a loop. When you release the button, the measuring function is displayed for one sec., then the last measurement is indicated.

Switch off

If densitometer was not in use for more than approx. 30 sec., it turns off automatically.

Measure

Click start. As long as you hold the button, the current operation mode is indicated.

Zeroing on paper

Possible only on white paper and only in density mode! Zeroing is delayed to prevent erroneous triggering: Hold cal for approx. two sec. until only decimal points remain visible.

Density

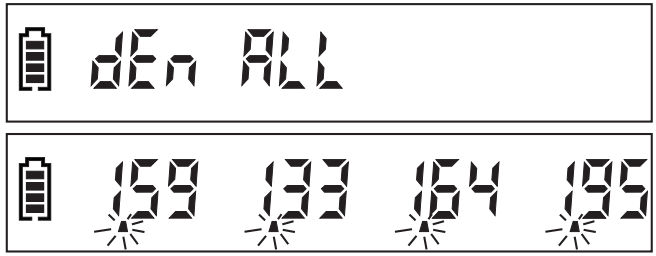
Click mode repeatedley. The display toggles between the pre-set function (dot value dot or color- / grey-balance bAL) and density function dEn (see **Dot value** and **Color balance**).

Select color

Hold color. After approx. two sec. the display toggles between dEn 4c [1)] and dEn ALL [2)]. After releasing the button, the last mode displayed will be chosen.

1) dEn 4c (density of the process color)
Click color repeatedly. The sequence of display will be as follows: c → m → y → k → auto. Example shown: y
auto = automatic color select; last reading is indicated by a flashing decimal point.

2) dEn ALL (c-m-y-k fractions of measurement are displ.)
Used e.g. to check the color of the ink. Function is indicated by flashing all decimal points and the text dEn ALL if you hold start.
Not possible in dot value mode.
Return to dEn 4c: Click color.

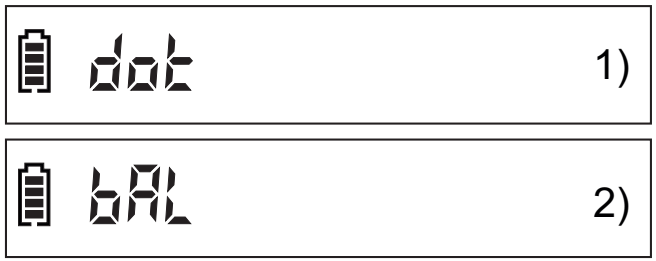


Functions

Hold mode: Display toggles between dot [1] and bAL [2]. After releasing the button, the last mode indicated will be chosen as the preset function.

1) see **Dot value**
2) see **Grey balance / Color balance**

Click mode: The display toggles between this preset function, and density function.



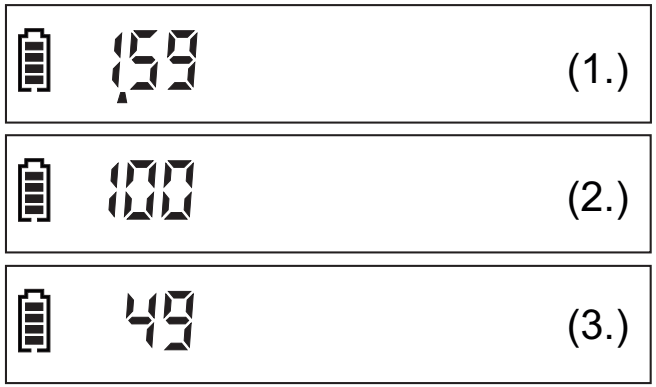
Dot value

Procedure:

1. Read solid color density. Example: D = 1.59.
2. Select dot (see: **Functions**. Solid color stands for 100% dot value.
3. Read dot value.

Reading is only possible if at least one solid color with a minimum density of D = 0.25 has been previously read. If density falls below D = 0.50, a signal tone sounds.
Dot measurement values are calculated according to Murray Davies.

Example: 40% cyan dot area has been read, result: 49% (corresponds to dot gain = 9%).



Grey balance / color balance

Measure the three solid process colors c, m, y and switch to the balance function.
The result will be the grey balance.

Measure two solid process colors of your choice and switch to the balance function.
The result will be the color balance.

Example: color balance of cyan / yellow.

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Calibration

1. Place measuring head to zero field on calibration chart.

2. Read all colors you want to calibrate from the calibration chart.

3. Press cal and start simultaneously for approx. 2 sec. until CAL appears.
   The color which is to calibrate is flashing.
   Click mode to increase or cal to decrease until the corresponding value of the calibration chart is reached.
   If reference values are too high or too low, a signal tone sounds and values are blocked.

4. Calibration of next color: Select color with color and repeat step 2. through 3. or 4. resp.

5) To confirm calibration and return to standard mode: Make any measurement (start).

6) Abort calibration: Press cal and start simultaneously for approx. two sec.

The calibration chart has to be replaced every 24 months.

The chart should show no damages or scratches and has to be stored in a dry and dark place.

Power supply

The unit is equipped with a 9V high quality alcaline battery (6LR61).

Thanks to the latest power saving technologies up to 1,000,000 readings can be taken before battery is exhausted.

To change battery, simply remove the body screw.

Please make sure to observe the applicable national regulations for the disposal of exhausted batteries.

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Error messages

Set zero on white paper only.

Function executable only in density mode.

Measurement of at least one solid color of D = 0.50 minimum is required for dot function.

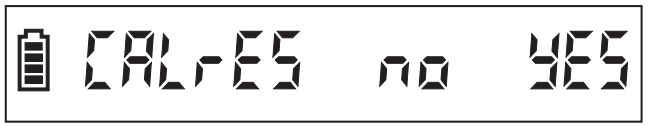
Measurement of at least one solid color of D = 0.50 to D = 2.20 is required for calibration.

Measurement of at least two solid colors of D = 0.50 minimum are required for color balance function.

Battery is low, approx. 100 readings left before break-down.
Along with a double beep:
Battery is empty, only few readings left.

Hint

Major operating errors during the calibration procedure may lead to false calibration factors and create very high density values. If calibration is impossible, hold **cal** until CALrES no YES appears. Click button below YES (**start**) and repeat calibration.



Technical specifications

Type	**Chameleon basic**
Functions	Density
	Dot gain (0-100%)
	Gray balance, color balance
Color select	automatic-, manual- or all-mode
Range	0-2.7D
Precision	±0.01 D, ±1%
Linearity	±0.01 D, ±1%
Inter instrument agreement	±0.02 D, ±2%
Light source	LED
Infrared sensitivity	none
Measuring speed	0.3 sec
Polarization filter	2x linear (standard)
Geometry	0/45° (according to DIN 16536)
Measuring area	Ø = 3mm (according to DIN 16536)
Display	LCD, 15 characters
Power source	9V high quality alkaline battery 6LR61
Battery capacity	up to 1,000,000 measurements
Dimensions	LWH 206x34x42 mm
Weight	150 g
Accessories	case, calibration chart, operation manual

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