

Instruction Manual

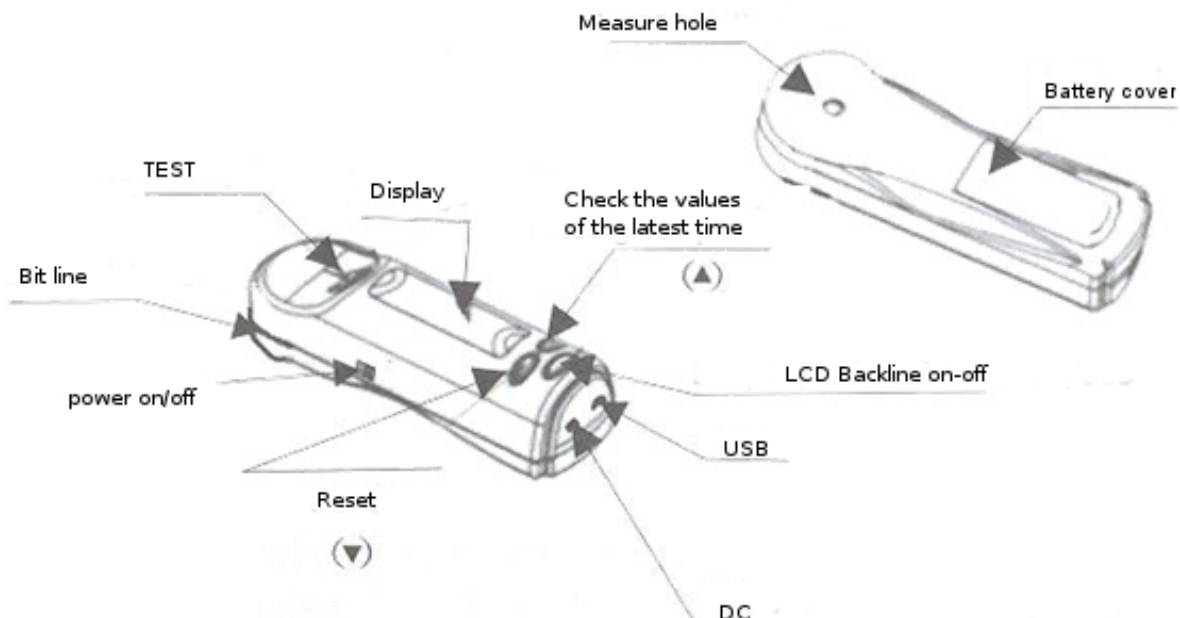
Color measuring gauge

ColorTector Alpha[®]



Congratulations for the purchase of the **ColorTector Alpha**! The instrument is made in accordance with the development of the international CIE standard for color difference measurement. The equipment is in line with international standards. Its characteristics are stable performance, high precision, usability and special suitability for applications in the plastic, textile, painting, furniture, metals or printing and dyeing industry. The instrument can rapidly and accurately measure the color contrast value in ΔE , ΔL , Δa , Δb , Lab and Lch value.

Structure



Starting Operations

Insert battery as follows:

Open the battery cover at the back to put 2 units of 1.5V AA batteries inside. Take care of the relative position of anode and cathode (+ -) as it is displayed.

It is also possible to power up the gauge by plugging it in with the external power supply.

Warning: One must take out the battery before using the external power supply.

ON/OFF

In order to start operations, slide the ON/OFF button to "ON".

Lighting

Press "LIGHT" to turn the backlight on and off. After 5 minutes without any action the backlight will turn off. Press "LIGHT" to turn it on again.

Sampling

Choose a surface which shall be measured and put the sensor on it so that there is no space between the sample and the gauge. Press the test button and the gauge will show the absolute Lab values:

Example:

L:+96.6	a:+2.1
b:-2.9	

Measure

Put the gauge on another point after sampling, and press the test button. It will show the relative color difference between the two points ΔE and Lab value $\Delta(\text{Lab})$.

dE:+0.1	dL:-0.1
da:-0.1	db:+0.1

Note that if one makes another measurement the color difference displayed will be relative to the first sample measurement.

If one wants to start the test with another color standard, just press „↓“button to reset and follow the steps as explained before:

Display of absolute values from sampling

The instrument keeps the current sampling values in Lab and Lch.
Press „↑“ to display the values:

L:+96.6 b:-2.9	a:+2.1	L:96.1 H:304.1	C: 3.7
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Software Installation instructions

1. Insert the CD into your CD-Rom drive, your PC will auto run and install the application. Alternately it is possible to download the software form our website www.salutron.de. It can be found in the "Downloads" section on the product page of the **ColorTector Alpha**.
2. Turn on the gauge and connect it to your PC using the USB cable. Another installation window will pop up.
3. Please assure that the gauge has been turned on before connecting it to the PC.

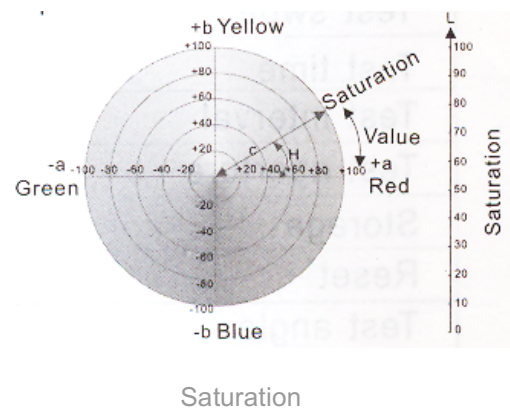
Features

Test accuracy	Within $0.2\Delta E^*ab$
Display	ΔE^*ab , CIE_Lab, ΔL , Δa , Δb , CIE_Lch
Test area	L: 0-100 a: -128—127 b: -128--127
Test time	About 3 seconds
Test interval	2 seconds
Test aperture	Ø8 mm
Test angle	Observers: CIE 10° standard observers
Light source	C light source
Sensor	Correct silicon photodiode carrays
Power	AA battery 1.5V; external (1.5V) power supply
Size	171 x 50 x 48.8 mm
Weight	210 g
Environmental operating temperature	0-40°C, lower than 85% relative humidity
Standard accessories	User manual/ case/ 2x 1.5V battery/ 5V external power supply/ USB cable/ CD

Working theory

The gauge compares the color difference between the sample and the measured subject. It shows the absolute and relative values in CIE_Lab and CIE_Lch

- ΔE stands for the total color difference
- $\Delta L+$ stands for partial white
- ΔL stands for partial black
- $\Delta a+$ stands for partial red
- Δa stands for partial green
- $\Delta b+$ stands for partial yellow
- Δb stands for partial blue



Color difference scope	Color difference analysis
0 – 0.25 ΔE	Very small or no difference; very perfect matching
0.25 – 0.5 ΔE	Small difference; acceptable matching
0.5 – 1.0 ΔE	Small to medium difference; acceptable in some areas
1.0 – 2.0 ΔE	Medium difference; acceptable in some areas
2.0 – 4.0 ΔE	Medium to small difference; acceptable in special applications
4.0 ΔE	very big difference; not acceptable in most applications

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