Color Unit ColorRanger 580-C	Color and Gloss Unit ColorRanger 580-CG	**ColorRanger 580**

testing equipment for quality management

ERICHSEN
since 1910

Technical Description

Color Measurement 45°/0° according to DIN 5033	Gloss Measurement 60° according to DIN EN ISO 2813	Portable Spectrophotometer for simultaneous measurement of color and gloss

ColorRanger 580

The compact solution for color and gloss measurement.

Advantages

- 45°/0° color measurement **or** combined version with 45°/0° color measurement and 60° gloss measurement
- High-performance LED light source for a long service life
- Very easy to use thanks to intuitive user interface
- Memory for 1000 standards and 350 sample photos

Description

The small and very handy spectrophotometer is made from a solid aluminium block. Despite its small size and a weight of only 270 g, it is equipped with the very latest technology.

The high resolution enables spectral scanning in 3.5 nm steps with a measurement time of less than 1 second.

The brilliant color reproduction of the O-LED color display makes it easy for the user to read the data.

The menu navigation is simple and clear, so that the measurement process can be carried out quickly and without errors.

The 45°/0° measuring geometry is standardised in DIN standard 5033.

The sample is illuminated at an angle of 45° with a direct light source and the reflected light is measured at 0°.

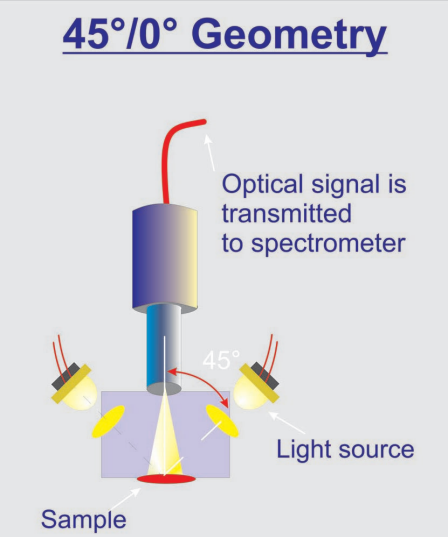
The measurements of this measurement geometry come closest to the visual perception of the human.

The probe head serves as standard probe head.

In addition to checking the color, in many cases it is also necessary and useful to check the degree of gloss. The combined **ColorRanger 580-CG** makes it possible to measure color and gloss with one measuring device.

Gloss measurement is used in the automotive, paper, furniture, food and electronics industries, among others.

Gloss is measured by illuminating a surface in a defined way. The reflected light is measured at a measuring angle of 60°.



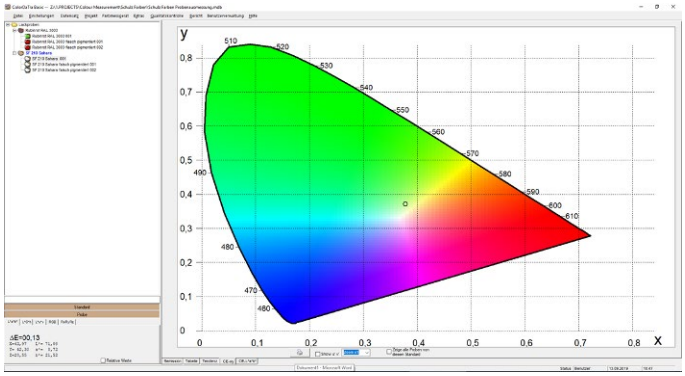
Applications

- Measurement of colors of incoming and outgoing goods for QM systems according to DIN EN ISO 9000
- Objective quality control of your product colors
- Color difference control to a given color standard

Accessories

Software ColorDaTra Basic

The ColorDaTra-database program is a very easy to use tool to evaluate, analyse and protocol your colors and review.



- Archiving of reference colors as standard
- Visualization of production models as CIE L * a * b * absolute and relative values and CIE L * a * b * Trend Chart.
- Create reports and reviews
- Export of color data in an Excel © format

Software ColorDaTra Professional

The database program ColorDaTra **Professional** is, like the “Basic” software, a very easy-to-use and clear tool.

In addition to the basic functions of the “Basic” software, the **Professional version** has the following extended features:

- Online window for operating direct from the computer via USB or wireless communication
- Additional window with standard information and photo option
- Search engine with selection options for colour values, date, name
- Extended colour values such as; metamerism, colour strength, transparency, opacity, absorption, white and yellow indicies
- Extend colour difference formula DE CMC1:2 and DE CIE94

Order Informations	
Ord.-No.	**Product-Description**
05800151	Spectrophotometer Color Measuring Device **ColorRanger 580-C** with 45°/0°- probe head
05800251	Spectrophotometer Color and Gloss Measuring Device **ColorRanger 580-CG** with 45°/0°- probe head; gloss measurement 60°; incl. gloss standard
The scope of supply includes: • Built-in rechargeable lithium-polymer battery - 3,7 V / 1320mAh • Power supply 100-240 V, 50-60 Hz AC • USB-cable • Softcase • PTB-white standard with certificate • Certificate of Conformity • Manual	

Accessories (option)	
Ord.-No.	**Product-Description**
05800152	Software ColorDaTra Basic
05800252	Software ColorDaTra Professional

Technical Data

Measuring geometry	45°/0° according to DIN 5033
Standard illuminant	D65, D55, D50, A, C, F11
Measuring spot	3.5 mm
Color spaces	XYZ, Yxy, ΔE CIE L*a*b*, L*u*v*, L*C*h, Hunter Lab Remission curve with cursor/display in nm and % CIE L*a*b* diagram incl. tolerance limits.
Quality control Tolerance limits of color differences:	ΔE CIELab; ΔL, Δa, Δb; ΔL, Δu, Δv; ΔL, ΔC, Δh; Min/Max, PASS/FAIL, ΔECMC (1:1 and 1:2), CIE ΔE94,ΔE2000. Metamerism index for D65/A and D65/F11 according to DIN 6172
Further color values	Contrast: LRV - BS 8493:2008 differ. Whiteness values, differ. Yellow values, grey index
Spectral Light source measurement	Measurement of color coordinates and spectrum of light sources, e.g. LEDs - Optional
Rehearsal photos	350 color photos to define the measuring point Resolution: 160 x 120 pixels
Spectral range/wavelength	400 nm to 700 nm
Spectral resolution	Holographic grating spectrometer FWHM** @ 500 nm < 10 nm Measurement in 3.5 nm steps // 115 x 16-bit values per measurement
Display	High-resolution O-LED color display: High contrast and energy-saving 1/4 VGA, 320 x 240 pixels
Gloss measurement / Mod. 580-CG	60° according to DIN EN ISO 2813 (formerly DIN 67530)
Repeatability	< 0.03 ΔE CIELab
Light source	White and blue LEDs Service life > 20 years
Measuring time	Complete measuring cycle with calculation and readout time: < 1 s
Multiple measurements	Average value calculation from 1 to 20 individual measurements are displayed statistically with color values and standard deviation
Memory	Memory for 1000 standard colors Memory for 1000 color values Memory for 300 spectra (400-700nm / 3.5nm) Memory for 350 sample photos (160 x 120 pixels)
Calibration	With white standard, certified by the PTB (Physikalisch-Technische Bundesanstalt) Optional 2-stage calibration with working standard
Power supply	Lithium polymer battery Operating time > 15 hours Charging time 1.5 hours
Standard color management	Load standards - with the Best-Match Tool - load by entering the index no. - load by entering names
PC interfaces	USB 2.0 / 3.0
Dimensions	Device with battery: 120mm x 70mm x 32mm Weight 270g
Measuring conditions Ambient temperature:	15 °C to 45 °C
Relative humidity:	max. 85% non-condensing

ERICHSEN GmbH & Co. KG
Postfach 1264 | 58652 Hemer | Germany | Tel. +49(0)2372-9683-0 | Fax +49(0)2372-6430 | www.erichsen.de | info@erichsen.de