ColorLite Rugged 2

New generation - Innovative
Rugged spectrophotometer

Unique selling points

- Robust aluminium housing - dust and waterproof - IP65 class
- High resolution spectral colour measurement 3.5 nm in the 400 - 700nm range
- Integrated QR-Code/Barcode scanner for automatic sample identification
- High connectivity to PC or internet via WiFi, Bluetooth 4.0 or USB
- State-of-the-art LED light source in three geometries: 45°/0°; d/8° or d/0°

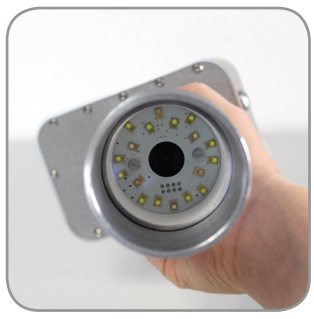
Our ambition for all products that we develop it is to offer our customers real added value. This means in order to keep one step ahead, in terms of functionality, ease of use and service, we place the highest demands on ourselves.

The spectrophotometer ”Rugged 2” series has a number of unique features, setting it apart from our competitors. As the name suggests, the aim for the development was to produce a device that works reliably in rough environments and still offers the highest accuracy specifications

The IP65 protection class means that it is dust and water resistant – We test this by submersing the complete device for short periods under water! The main housing unit is milled from a solid aluminium block, shot blasted and then finished with a hard anodise coating.

Side view with QR-code/ barcode scanner

High resolution OLED-Display



d/0° is one of three avaliable geometries

USB socket and battery compartment

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A touch sensitive user interface made of hardened acrylic glass and the trigger button implementing Piezo technology makes the device maintenance friendly and no moving parts means minimal wear.

The Rugged 2 is powered by a standard sized 18650 Lithium-Ion rechargeable battery that can be easily exchanged for recharging or recharged via the USB interface. Enabling continues 24/7 operation.

Other innovative unique feature includes an integrated camera to scan digital information such as QR and bar codes. This can be used to program the colour standard or/and to automatically assign order/batch numbers together with the colour values.

Technical Data - ColorLite sph RG2

Measurement Geometry	sph RG2 - d/0° 40 mm area sph RG2 - d/8° 3-8 mm area sph RG2 - 45°/0° - 10 mm area according to DIN 5033
Illuminants	D65, D55, D50, A, C, F11
Standard Observer	2° and 10°
Colour Scales	XYZ, Yxy, ΔE CIE L*a*b*, L*u*v*, L*C*h, Hunter Lab Relative remissions spectrum with cursor in %, CIE-L*a*b* diagram incl. tolerance range
Quality control tolerance limits and colour differences	ΔE CIELab; ΔL, Δa, Δb; ΔL, Δu, Δv; ΔL, ΔC, Δh; Min/Max, PASS/FAIL ΔECMC (1:1 and 1:2), CIE ΔE94 Metameric-Index for D65/A and D65/F11 according to DIN 6172
Other values	Contrast: LRV (Light Reflectance Value) according to - BS 8493:2008 Various white indices Various yellow indices Grey index
Spectral light source measurement	Spectra - and chromaticity values of light soures such as LED's - optional
Sample Photos	350 Colour photos Resolution: 160 x 120 Pixel
Displayed spectral range	400 to 700 nm
Spectral Resolution	Holografic grating-Spectrometer FWHM** @ 500 nm < 10 nm Scanning steps 3.5 nm 115 x 16-Bit values per scan
Display	High resolution O-LED colour display: High contrast and low energy 1/4-VGA, 320 x 240 pixel
Camera	Data-Matrix and Bar-Code - scanner - optional

Repeatability	< 0,03 ΔE CIELab (ideal surface)
Light source	White and blue LED's Life-span > 20 years
Scanning time	Complete measurement cycle with calculation and readout time: < 1 sec.
Multiple scanning	Average calculation of 1 to 20 individual scans displayed with standard deviation
Memory	Memory for 1000 standard colours Memory for 1000 colour values Memory for 300 Spectra (400-700 nm / 3.5nm) Memory for 350 sample photos (160 x 120 Pixel)
Calibration	With white standard certified by the PTB (Physikalisch-Technische Bundesanstalt)
Power supply	Rechargable Lithium Polymer battery Standard 18650 size Replaceable
Standard Colour Management	Standards loaded by: - list with Best-Match tool - index-no. - entering name
Printer option	Direct to bluetooth label printer
PC and Internet Connection	USB 2.0 Bluetooth© V.4.0 Wireless LAN
Dimensions	230 mm x 130 mm x 85 mm, 830 g
Climatic conditions	Ambient temperature: 5°C to 45°C