

Digital handheld colorimeter

CLM-194

User's benefits

- Compact and easy-to-use
- 60x more accurate than human eye
- Measurement on various types of surfaces/materials
- Includes powerful application software

Materials

- Plastics
- Papers and thin films
- Leather and textiles
- Powders
- Cosmetics



CLM-194 is a handheld digital tristimulus colorimeter: a compact device for colorimetric detection with accuracy 60 times higher than human eye, available at a competitive price. Colour measurements can be performed on the surface of a wide range of matte and glossy materials, thanks to a ($45^{\circ}c:0^{\circ}$) measurement geometry and the very uniform illumination provided by integrated LEDs. Long-term stability reduces the need of calibration by the user. The device is powered and interfaced through a USB port using a standard PC or laptop with Microsoft Windows operating system.

After having performed the measurement of the sample of interest, the application software allows you to:

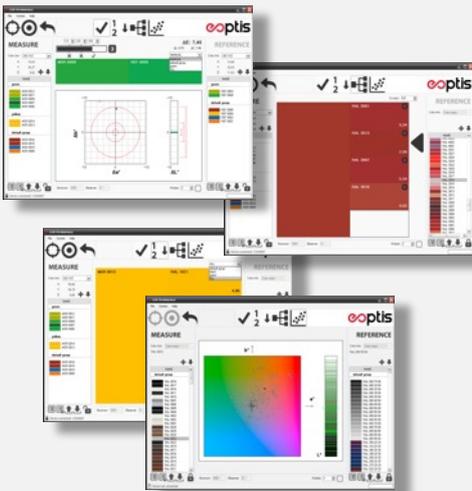
- evaluate the colour difference from a reference patch, to determine whether a sample is within a user-defined acceptance limit (*Check*)
- classify samples among a set of selected colours, in order to group them in classes with homogeneous colour and improve uniformity (*Classify*)
- find the best match of the sample, looking up a colour database to reproduce the measured colour (*Match*).

The colour database is encoded in software, avoiding the use of bulky physical sample libraries. Standard colour sets like RAL are already included while a custom or application-specific colour database can be added by the user or with Eoptis's support on request. Results can be exported to PDF and XML format for off-line analysis. A NIST-traceable factory calibration service and software interface and report template customisation services are available on request.

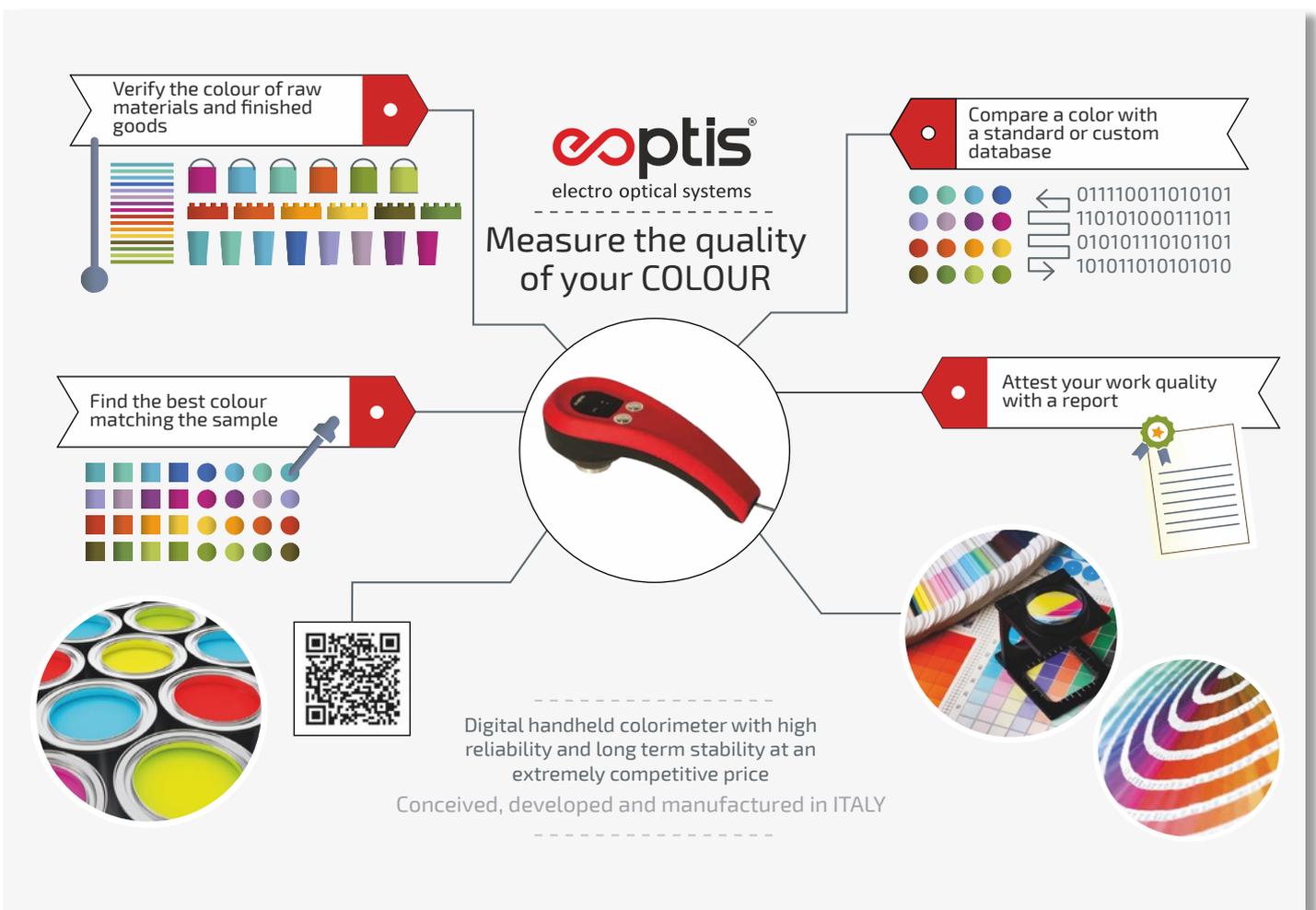
Ordering information	Check feature	Match feature	Classify feature	Calibration certificate
CLM-194.P001A	✓	-	-	-
CLM-194.P002A	✓	✓	✓	✓

Other configurations are available: check EOPTIS web-site or contact us for non-listed options.

Technical Specifications



Color sensor	Based on the spectral value of the standard CIE 1931 color matching functions (DIN ISO 13655 and DIN 5033)
Illuminator	Integrated LEDs
Target type	Reflective (matte or glossy)
Working distance	Contact
Measurement geometry	(45°c:0°) according to CIE15:2004, ASTM E1164
Repeatability	0.03 ΔE^*ab typ (30 measurements at 5s on white reference)
Illuminant	D65, D55, D50, A, C, FL2, FL7, FL11
Observer	CIE1931-2° and CIE1964-10°
Measurement area	Ø 10mm (standard); Ø 8mm and Ø 6mm availables
Color coordinates	CIE-XYZ, CIE-xyY, CIE-L*a*b*, CIE-L*u*v*, CIE-L*c*h*, sRGB
Acquisition mode	Button- or Software-triggered. Single or multiple readings.
Dimensions & Weight	225mm(L) x 84mm(H) x 99mm(W) - Approx. 710g
Power	USB self-powered
Accessories	Holdersamples and eyepieces customized



EOPTIS designs and manufactures **innovative vision systems** for special applications and **optoelectronic instruments** for the in-line control of products and monitoring of manufacturing processes. Our customers use EOPTIS' products in the industrial, biomedical, security and food sectors. Our know-how in **electronics, optics, mechanics and analysis algorithms** is used to design products available off-the-shelf or for custom OEM solutions.

