Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

PORTABLE D/8 SPECTROCOLORIMETER · SCI/SCE · UV

CP2050

Portable Spectrocolorimeter · d/8 · SCI/SCE · LED + UV · 400–700 nm · Ø8 + Ø4 mm · 2.8" touch screen

CP2050 Portable Spectrocolorimeter measures colour and colour difference with d/8 geometry — diffuse illumination in a Ø40 mm integrating sphere and 8° viewing, with SCI and SCE in one measurement. A CMOS dual-path spectral sensor and a full-spectrum LED source give the reflectance curve 400–700 nm, the usual colour spaces and ΔE formulas in a hand-held instrument. The mid model: UV light source for samples with optical brighteners, two apertures for large and small areas, camera positioning and Bluetooth.

d/8 · SCI + SCE | LED + UV | 400–700 nm | Ø8 + Ø4 mm | 2° / 10° observer | ΔE*ab 0.03 repeatability | 2.8" touch screen | USB + Bluetooth | Camera positioning

Document type: **Technical Specification Sheet**
Product: **CP2050 Portable Spectrocolorimeter**
Format: Print layout · A4 landscape

CP2050 product page | Spectroscopy & Color — overview | Spectroscopy & Color catalogue

Request quote

GEOMETRY	APERTURE
d/8 · SCI + SCE	Ø8 + Ø4 mm
REPEATABILITY	**INTER-INSTRUMENT**
ΔE*ab 0.03	ΔE*ab 0.3



CP2050 · portable d/8 spectrocolorimeter with touch screen

MODEL
CP2050

ADDRESS / HQ
Polje ob Sotli 4
SI-3255, Slovenia

CONTACT
sales@colo.si
+386 70 713 437

CP2050 · product overview

Portable d/8 colour measurement with SCI and SCE for production and quality control

CORE TECHNOLOGY

d/8 geometry with SCI and SCE — colour with and without the gloss component from one measurement, in a Ø40 mm integrating sphere.

Full reflectance spectrum 400–700 nm, measured by a CMOS dual-path spectral sensor — a reference channel monitors the combined full-spectrum LED source and compensates its drift; a UV light source serves samples with optical brighteners.

Two observers (2° and 10°) and 22 illuminants, part of them in the PC software or app.

Measuring aperture Ø8 + Ø4 mm — Two: MAV Ø8 mm / Ø10 mm and SAV Ø4 mm / Ø5 mm (flat).

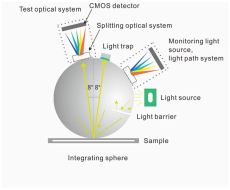
Standard and sample modes with tolerances: measure the master once, then every sample shows ΔE, pass/fail and the direction of the colour offset.

2.8" capacitive touch screen; single or average measurement (2–99 readings) for uneven samples.

500 standards, 10 000 samples (one record holds SCI and SCE) stored in the instrument; larger databases in the PC software.

Camera positioning and Bluetooth — the measured spot is seen on the screen; data go to the PC software or the mobile app.

PRODUCT HIGHLIGHTS



d/8 optics with reference channel

Integrating sphere with a measuring channel and a second channel that monitors the light source — drift is compensated in every measurement.



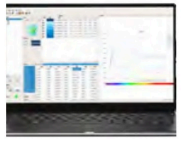
Touch-screen operation

2.8" capacitive screen: illuminants, colour spaces, standards and tolerances selected on the instrument.



Measurement on the sample

Placed on the sample with the Ø8 + Ø4 mm aperture; result and pass/fail in about one second.



PC software

Standards, tolerances, trends and reports on the PC; mobile app over Bluetooth.

APPLICATIONS



Paints & inks



Plastics & electronics



Textiles & printing



Automotive parts



Food



Ceramics & QC

OBSERVERS	COLOUR SPACES	MEASURING TIME	BATTERY
2° and 10°	CIE Lab, LCh, Hunter Lab ...	≈ 1 s	8 000 measurements in 8 h

CP2050 product page | Spectroscopy & Color — overview | Spectroscopy & Color catalogue | Request quote

CP2050 · technical parameters

d/8 · SCI/SCE · 400–700 nm · Ø8 + Ø4 mm · 2°/10° observer

TECHNICAL PARAMETERS

Optical geometry	d/8 (diffuse illumination, 8° viewing), SCI and SCE
Standards	CIE No.15, ISO 7724-1, ASTM E1164, DIN 5033 Part 7
Integrating sphere	Ø40 mm
Light source	Combined full-spectrum LED and UV light source
Sensor	CMOS dual-path spectral sensor
Wavelength range	400–700 nm
Reflectance range	0–200 %
Measuring aperture	Two: MAV Ø8 mm / Ø10 mm and SAV Ø4 mm / Ø5 mm (flat)
Colour spaces	CIE Lab, XYZ, Yxy, LCh, CIE LUV, s-RGB, Hunter Lab, βxy, DIN Lab99
Colour difference	ΔE*ab, ΔE*uv, ΔE*94, ΔE*cmc (2:1), ΔE*cmc (1:1), ΔE*00, DIN ΔE99, ΔE (Hunter)
Colorimetric indices	Spectral reflectance, WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM E313), metamerism index, staining and colour fastness, colour strength, opacity, Munsell (C/2)*
Observer	2° and 10°
Illuminants	D65, A, C, D50, D55, D75, F1–F12 (incl. CWF, DLF, TPL5, TL84, TL83/U30), U35, NBF, ID50, ID65*

Displayed data	Spectral curve and values, colorimetric values, colour difference values and graph, pass/fail, colour simulation, colour offset
Measuring time	approx. 1 s
Measurement mode	Single or average (2–99 measurements)
Repeatability	Colorimetric: within ΔE*ab 0.03 (MAV/SCI, white tile, 30 measurements at 5 s intervals) Spectral reflectance: s.d. within 0.08 % (400–700 nm: 0.18 %)
Inter-instrument agreement	Within ΔE*ab 0.3 (MAV/SCI, average of 12 BCRA Series II tiles)
Positioning	Camera positioning and stabiliser
White calibration	Contact white calibration
Display	2.8" TFT colour LCD, capacitive touch screen
Interface	USB, Bluetooth
Data storage	500 standards, 10 000 samples (one record holds SCI and SCE)
Software	PC software (Windows) and mobile app (Android, iOS)
Power supply	Li-ion battery 3.7 V, 8 000 measurements within 8 hours
Light source life	More than 1.2 million measurements in 10 years
Dimensions (L × W × H)	94 × 68 × 188 mm
Weight	approx. 410 g
Environment	Operation 0–40 °C, below 85 % RH (non-condensing); storage −20–50 °C

* Part of the indices and illuminants is available in the PC software or the mobile app.

CP2050 · accessories and series

Standard delivery, optional components and the CP2010 / CP2050 / CP2080 models at a glance

ACCESSORIES



Calibration base with white and black standard

STANDARD



Powder test box

OPTIONAL



Micro printer

OPTIONAL

Standard delivery

Instrument	CP2050 portable spectrocolorimeter with measuring apertures
Calibration	White and black calibration box
Power	Built-in Li-ion battery, power adapter
Software and cable	PC colour management software (download), data cable
Care	Protective cover, wrist strap
Documents	User guide

Optional

Powder test box	Repeatable surface for powders and granules
Micro printer	Prints results at the instrument

CP2010, CP2050 or CP2080 — which model?

Model	CP2010	CP2050	CP2080
Light source	LED	**LED + UV**	LED + UV
Apertures	Ø8 mm	**Ø8 + Ø4 mm**	Ø8 + Ø4 mm (flat and tip), 1×3 mm
Repeatability ΔE*ab	0.04	**0.03**	0.02
Inter-instrument ΔE*ab	0.4	**0.3**	0.2
Camera positioning	—	**yes**	yes
Interface	USB	**USB, Bluetooth**	USB, Bluetooth
Standards / samples	500 / 5 000	**500 / 10 000**	500 / 10 000

All models: d/8 with SCI and SCE, Ø40 mm sphere, 400–700 nm, 0–200 %, 2.8" touch screen, 94 × 68 × 188 mm, approx. 410 g.

CP2050 · configuration and support

Ordering information, configuration checklist and contact

MEASUREMENT WORKFLOW, CONFIGURATION AND SUPPORT



CP2050 · portable d/8 measurement on plastics, paints, textiles and printed matter

Ordering information

Model	CP2050 Portable Spectrocolorimeter
Geometry	d/8, SCI and SCE
Aperture	Two: MAV Ø8 mm / Ø10 mm and SAV Ø4 mm / Ø5 mm (flat)
Option for powders	Powder test box

Configuration checklist

Samples: size of the smallest area, surface (glossy, matt, textured), optical brighteners, powders.

Colour data: colour space, ΔE formula, illuminant and observer you report; SCI, SCE or both.

Use: laboratory, production line or goods receipt; stand-alone, with PC software or mobile app.

SUPPLIER AND SUPPORT

COLO Lab Experts
Polje ob Sotli 4, SI-3255, Slovenia

Selection guidance: send your sample type and the colour values you report — we confirm the model, accessories and delivery time with the quotation.

QUICK CONTACT

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COLO.SCIENCE · COLOUR MEASUREMENT SUPPORT

Which aperture and light source fit your samples?

Send your sample type, the smallest area to measure and the colour data you report — we propose the model and confirm it with the quotation.

Request quotation | sales@colo.si | +386 70 713 437

Specifications are subject to change without notice. Values refer to standard laboratory conditions.