Colo Science
Laboratory & Scientific Equipment

COLO.SCIENCE · TECHNICAL SPECIFICATION

HANDHELD D/8 SPECTROPHOTOMETER

CS7700

Handheld Spectrophotometer · d/8 · SCI + SCE · LED + UV · 400–700 nm · Ø8 + Ø4 mm · 3.5" touch screen

CS7700 Handheld Spectrophotometer measures colour and colour difference of plastics, paints, inks, textiles, leather, paper and powders — in the laboratory, at the production line or at goods receipt. A 40 mm integrating sphere, flat grating and a dual-row silicon photodiode array give stable readings in a 600 g pistol-grip instrument with a 3.5" touch screen and positioning camera. Two apertures for large and small samples, LED and UV light sources for fluorescent and optically brightened materials, SCI and SCE in one measurement and Bluetooth.

d/8 | SCI + SCE | LED + UV | 400–700 nm | Ø8 + Ø4 mm | ΔE*ab ≤ 0.03 repeatability | 3.5" touch screen | USB, Bluetooth

Document type: **Technical Specification Sheet**
Product: **CS7700 Handheld Spectrophotometer**
Format: Print layout · A4 landscape

CS7700 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 ≤ 0.15



CS7700 · handheld d/8 spectrophotometer with camera positioning

MODEL
CS7700

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

CONTACT
sales@colo.si
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CS7700 · product overview

Handheld d/8 colour measurement for laboratory, production and goods receipt

CORE TECHNOLOGY

d/8 geometry with simultaneous SCI and SCE — the geometry used in colour standards worldwide, for glossy, textured and matt samples.

Combined full-spectrum LED light source and UV light source — UV included for fluorescent and optically brightened samples.

Flat grating and dual-row silicon photodiode array (40 groups), 400–700 nm in 10 nm steps.

Aperture Ø8 + Ø4 mm — the small apertures for small parts, prints and curved surfaces.

Built-in camera shows the measured spot on the screen for exact positioning.

3.5" capacitive touch screen with colour values, ΔE, pass/fail and colour offset.

1 000 standards, 30 000 samples stored in the instrument; single or averaged measurement (2–99).

USB, Bluetooth to the PC software for standards, tolerances, trends and reports.

PRODUCT HIGHLIGHTS



Exchangeable apertures
Two apertures, flat and tip, changed in seconds for large, small and curved samples.



Measurement on the part
Camera view and cross-hair place the aperture exactly on large, curved or installed parts.



Calibration cavity
White and black calibration cavity, also protects the measuring port during storage.



PC software
Standards, tolerances, trends and reports on the PC; data transfer by USB, Bluetooth.

APPLICATIONS



Plastics



Paints & inks



Leather & textiles



Automotive parts



Food



Laboratories & QC

LIGHT SOURCE	COLOUR SPACES	MEASURING TIME	WEIGHT
LED + UV	CIE Lab, XYZ, LCh ...	≈ 1.5 s	≈ 600 g · Li-ion battery

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CS7700 · technical parameters

d/8 · SCI + SCE · LED + UV · 400–700 nm · Ø8 + Ø4 mm

TECHNICAL PARAMETERS

Optical geometry	d/8 (diffuse illumination, 8° viewing), SCI and SCE
Standards	CIE No.15, ISO 7724-1, ASTM E1164, DIN 5033 Teil 7
Integrating sphere	Ø 40 mm
Light source	Combined full-spectrum LED light source and UV light source
Spectral separation	Flat grating
Sensor	Silicon photodiode array, dual row, 40 groups
Wavelength range	400–700 nm
Wavelength pitch	10 nm
Half bandwidth	10 nm
Reflectance range	0–200 %
Measuring aperture	Two: MAV Ø8 mm measuring / Ø10 mm illumination; SAV Ø4 mm / Ø5 mm
Specular component	SCI and SCE
Colour spaces	CIE Lab, XYZ, Yxy, LCh, CIE LUV, s-RGB, Hunter Lab, βxy, DIN Lab99, Munsell (C/2)
Colour difference	ΔE*ab, ΔE*uv, ΔE*94, ΔE*cmc (2:1), ΔE*cmc (1:1), ΔE*00, DIN ΔE99, ΔE (Hunter)
Colorimetric indices	WI (ASTM E313, CIE/ISO, AATCC, Hunter), YI (ASTM D1925, ASTM E313), metamerism index MI, staining fastness, colour fastness, colour strength, opacity, 8° gloss, 555 shade classification

Observer	2° and 10°
Illuminants	D65, A, C, D50, D55, D75, F1, F2 (CWF), F3, F4, F5, F6, F7 (DLF), F8, F9, F10 (TPL5), F11 (TL84), F12 (TL83/U30)
Displayed data	Spectral curve and values, chromaticity values, colour difference values and graph, pass/fail, colour offset
Measuring time	approx. 1.5 s (SCI + SCE approx. 3.2 s)
Repeatability	MAV/SCI: ΔE*ab ≤ 0.03; spectral reflectance s.d. ≤ 0.08 % (400–700 nm: 0.18 %) (white tile, 30 measurements at 5 s intervals after white calibration)
Inter-instrument agreement	MAV/SCI: ΔE*ab ≤ 0.15 (average of 12 BCRA Series II tiles)
Measurement mode	Single measurement, average of 2–99 measurements
Positioning	Built-in camera with cross-hair
Display	3.5" TFT colour LCD, capacitive touch screen
Interfaces	USB, Bluetooth
Data storage	1 000 standards, 30 000 samples (one record holds SCI and SCE)
Power supply	Li-ion battery, 6 000 measurements within 8 hours
Light source life	5 years, > 3 million measurements
Dimensions (L × W × H)	129 × 76 × 217 mm
Weight	approx. 600 g
Environment	Operation 0–40 °C, 0–85 % RH (non-condensing), altitude < 2000 m; storage −20–50 °C

CS7700 · accessories and series

Standard delivery, optional components and the CS77 series at a glance

ACCESSORIES



White and black calibration cavity

STANDARD



PC software

STANDARD



Powder test box

OPTIONAL



Micro printer

OPTIONAL

Standard delivery

Instrument	CS7700 handheld spectrophotometer
Apertures	Ø8 mm flat, Ø8 mm tip, Ø4 mm flat, Ø4 mm tip
Calibration	White and black calibration cavity
Care	Protective cover, wrist strap
Operation	Power adapter, USB cable, user guide
Software	PC software (download)

Optional

Micro printer	Prints results directly from the instrument
Powder test box	For powders, granules and pastes

CS77 series — which model?

Model	CS7708	CS7700	CS7600
Light source	LED + UV	LED + UV	LED
Apertures	Ø8 + Ø4 + 1×3 mm	Ø8 + Ø4 mm	Ø8 or Ø4 mm
Illuminants on instrument	18	18	9
Repeatability ΔE*ab	0.03	0.03	0.04
Inter-instrument ΔE*ab	0.15	0.15	0.2
Samples stored	30 000	30 000	20 000
Connection	USB + Bluetooth	USB + Bluetooth	USB

All models: d/8, SCI + SCE, Ø40 mm sphere, 400–700 nm, camera positioning, 3.5" touch screen, 129 × 76 × 217 mm, approx. 600 g.

CS7700 · configuration and support

Ordering information, configuration checklist and contact

SOFTWARE, CONFIGURATION AND SUPPORT



CS7700 · handheld measurement on plaques, films and granules

Ordering information

Model	CS7700 Handheld Spectrophotometer
Measurement	d/8, SCI and SCE, combined full-spectrum LED light source and UV light source
Aperture	Two: MAV Ø8 mm measuring / Ø10 mm illumination; SAV Ø4 mm / Ø5 mm
Connection	USB, Bluetooth

Configuration checklist

Samples: size of the smallest area to measure, surface (glossy, matt, textured), powders or granules.

Colour data: colour space, ΔE formula, illuminant and observer you report.

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

Existing data: reference standards or values to be transferred.

MANUFACTURER 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

colo.si

sales@colo.si

+386 70 713 437

COLO.SCIENCE · COLOUR MEASUREMENT SUPPORT

Not sure which handheld model fits 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.