Portable Colorimeter - D/8 Color Spectrophotometer - 400-700 nm - ΔE 0.04 Repeatability

Model **MSSP-CLR8SWISS** | Brand **Master Science**











The Master Science Portable Colorimeter is a handheld grating spectrophotometer for measuring color and color difference on plastics, paints, inks, textiles, printed materials and ceramics. A full-band balanced LED source and dual 32-element silicon photodiode arrays measure reflectance from 400 to 700 nm in about 1.5 seconds.

KEY HIGHLIGHTS

- Consistent data across sites
- Accurate color in every band
- Fast pass/fail decisions
- All-day field use
- Clean calibration

AT A GLANCE

400 to 700 nm	10 nm
WAVELENGTH RANGE	HALF BANDWIDTH

Request a Quotation
Contact us for pricing, configuration options and delivery details.

support@themsci.com
www.themsci.com

Scan to view online

Overview

With D/8 geometry, SCI mode and a repeatability of ΔE*ab 0.04, the instrument delivers consistent readings on the production line, in the QC lab and between several units at different sites.

> Optical labs measuring liquids rather than surfaces can use the Master Science UV-Vis spectrophotometer.

Key Benefits

Consistent data across sites
tight inter-instrument agreement lets several Master Science Portable Colorimeter units share the same color standards.

Accurate color in every band
the balanced LED source fills spectral gaps found in white LEDs.

Fast pass/fail decisions
color difference, offset and pass/fail results appear immediately on the touchscreen.

All-day field use
one charge covers about 6000 measurements.

Clean calibration
a protective base keeps the white tile free of dust and marks.

Technical Specifications

GENERAL

Brand	Master Science
Model Number	MSSP-CLR8SWISS
SKU	MSSP-CLR8SWISS
Standards	CIE No.15, GB/T 3978, GB 2893, GB/T 18833, ISO 7724-1, ASTM E1164, DIN 5033 Part 7
Integrating Sphere	Ø40 mm
Sensor	Silicon photodiode arrays, dual row of 32
Measurement Range	**L* 0 to 120; reflectance at 3 user-defined wavelengths (default 440, 550, 600 nm)**
Measuring Aperture	Ø8 mm (Ø4 mm optional)
Color Spaces	CIE LAB, XYZ, Yxy, LCh
Color Difference Formulas	ΔE*ab, ΔE*00
Observer	10°
Illuminants	D65, A, F2 (CWF)
Measurement Time	About 1.5 s
Repeatability	ΔE*ab within 0.04 (white tile, 30 readings at 5 s intervals)
Inter-instrument Agreement	ΔE*ab within 0.35 (average of 12 BCRA Series II tiles)
Measurement Modes	Single or average of 2 to 99 readings
Battery	Lithium, about 6000 measurements in 8 hours
Operating Conditions	0 to 40 °C, 0 to 85 % RH non-condensing, altitude below 2000 m

OPTICAL PERFORMANCE

Optical Geometry	D/8 (diffuse illumination, 8° viewing), SCI
Light Source	Full-spectrum combined LED
Spectral Method	Planar grating
Wavelength Range	**400 to 700 nm**
Wavelength Interval	**10 nm**
Half Bandwidth	10 nm
Lamp Life	5 years, more than 3 million measurements

DISPLAY & DATA

Display Resolution	0.01
Display	3.5-inch TFT capacitive touchscreen
Data Ports	USB, Bluetooth 5.0
Data Storage	500 standards, 10,000 samples
Manual data transfer	USB and Bluetooth send results to a PC or printer.

DIMENSIONS & WEIGHT	
Dimensions (L × W × H)	81 × 71 × 214 mm
Weight	About 460 g

COMMON COLOR CONTROL PROBLEMS AND HOW THIS COLORIMETER HELPS	
Common Color Control Problems and How This Colorimeter Helps	How the Master Science Portable Colorimeter helps with typical color quality issues:
Visual color judgement differs between inspectors	objective ΔE values replace subjective checks.
Different results from different instruments	low inter-instrument error keeps data consistent.
Slow inspection on the line	each reading takes about 1.5 seconds.
Small or curved samples	the 4 mm aperture option fits small areas.

Applications

The Master Science Portable Colorimeter is used for color control in: Plastics and electronic housings Paints, coatings and inks Textile dyeing, printing and garments Printing and packaging Ceramics and building materials

Optics

- Full-band balanced LED illumination
- Planar grating spectral separation
- Dual 32-element silicon photodiode arrays
- Ø40 mm integrating sphere

Measurement and Display

- Reflectance at three user-selected wavelengths
- Chromaticity, color difference value and graph
- Pass/fail, color simulation and color offset views
- 3.5-inch capacitive touchscreen

Design

- Ergonomic grip and measurement button
- Ø8 mm aperture with Ø4 mm option
- Fast charging with low-battery reminder
- USB and Bluetooth 5.0 connectivity

Standard Accessories Included

- Power adapter
- Data cable
- User manual
- Black and white calibration box
- Protective cover
- Wrist strap
- Ø8 mm platform aperture

Optional Accessories

- Ø4 mm platform aperture
- USB micro printer
- Bluetooth micro printer
- Powder test box
- Holder base