KONICA MINOLTA

Spectrophotometer

CM-25cG

The new Standard instrument for Automotive Interior materials

A 2 in 1 instrument to measure
Colour & Gloss simultaneously

Ready for Digital Colour Data Management

Enhanced form and functions to
measure interior trims and materials

Giving Shape to Ideas

Maximum versatility and industry best accuracy levels **for Automotive Interiors**

A compact handheld spectrophotometer with 45°c:0° geometry and high performance 60° gloss sensor for simultaneous colour and gloss measurements of automotive interior trims and materials with a number of “world first” features.

A 2 in 1 spectrophotometer for simultaneous colour & gloss measurements

The CM-25cG is a portable spectrophotometer with 45°c:0° geometry and a true high performance 60° gloss-sensor. With no compromises in performance, the CM-25cG has been designed to match or exceed standards for colour and gloss measurement in a number of industries, including automotive interior materials and high visibility textiles (EN471) or coatings. The perfect circular optical system (45°c:0°) achieves high accuracy and repeatability, especially on textured or structured surfaces, regardless of measurement direction.

Unprecedented Inter-Instrument- and Inter-Model-Agreement

The CM-25cG was developed in close cooperation with major car markers with the aim, to reduce the exchange of physical samples with suppliers while at the same time keeping historical data, to allow the user to communicate measurement data based on absolute values enabling true “Digital Colour Data Management” throughout the value chain.

Consequently, all CM-25cG are true Close Tolerance (CT) grade instruments, and thus Konica Minolta proves once more its unsurpassed ability and expertise in optical precision technology. Highest Inter-Instrument-Agreement (IIA) levels of just ΔE*ab 0.15 as well for Inter-Model-Agreement (IMA) to the previous model define an unprecedented level of performance.

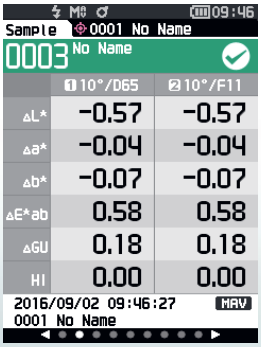
Enhanced form and functions for Automotive Interior Materials

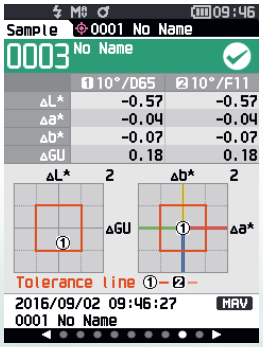
With its lightweight, sleek and ergonomic design, extremely fast measurement speed of just 1 second and optional Bluetooth® wireless data communication, the CM-25cG is perfectly suited for use in a production environment. Sample viewing port and measurement buttons on both sides of the body enhance usability under all conditions.

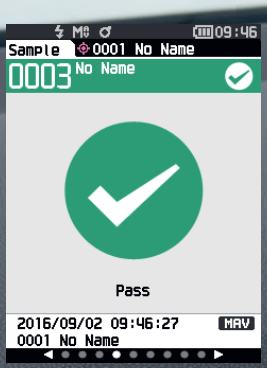
Changeable apertures for medium and small size allow colour and gloss measurement of small and even curved samples – another world first!

Colour: Ø8mm / Ø3mm

Gloss: Ø10mm / Ø3mm







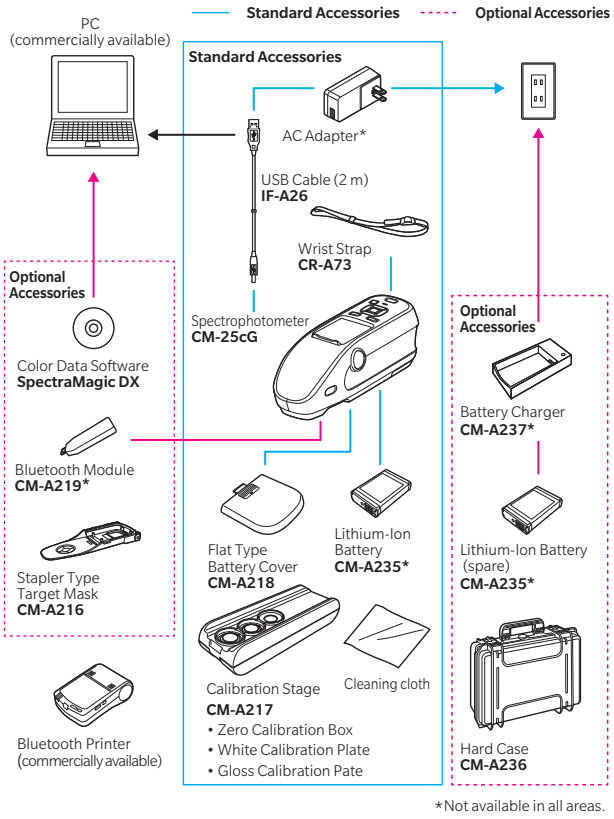
Colour Display

The CM-25cG has a built-in 2.7” color LCD allowing measurement values to be evaluated numerically and graphically or just as PASS/FAIL message against a defined standard.

Main specifications

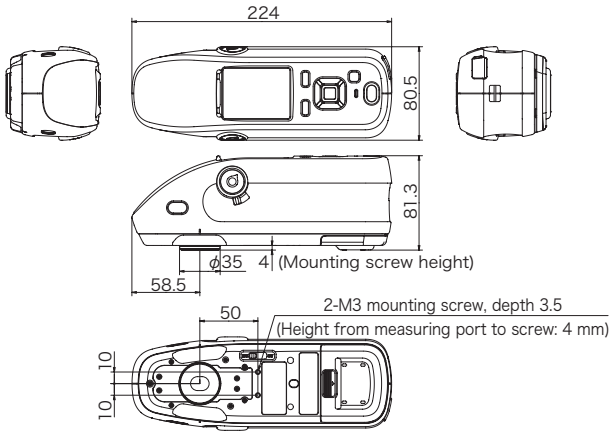
Model		Spectrophotometer CM-25cG
Colour	Illumination/viewing system	45°c:0°
	Detector	Dual 40-element silicon photodiode arrays
	Spectral separation device	Planar diffraction grating
	Wavelength range	360–740 nm
	Wavelength pitch	10 nm
	Half bandwidth	Approx. 10 nm
	Measurement range	0–175 %; Output/display resolution: 0.01 %
	Light source	Pulsed xenon lamp
	Measurement/ illumination area	MAV: Ø8 mm/12×16 mm, SAV: Ø3 mm /12×16 mm
	Repeatability	Chromaticity value: Standard deviation within ΔE*ab 0.04 (When a white calibration plate is measured 30 times at 10–second intervals after white calibration)
	Inter–instrument agreement	Within ΔE*ab 0.15 (Typical)(MAV) (Based on 12 BCRA Series II color tiles compared to values measured with a master body under Konica Minolta standard measurement conditions)
	Observer	2 ° or 10 ° Standard Observer
	Illuminant	A,C,D50,D65,F2,F6,F7,F8,F10,F11,F12,ID50,ID65,User illuminant (simultaneous evaluation with two illuminants possible)
	Displayed data	Spectral values/graph, colorimetric values/graph, color–difference values/graph, pass/fail judgement, pseudocolor
	Colorimetric data	L*a*b*, L*C*h, Hunter Lab, Yxy, XYZ, and colour differences in these spaces; Munsell
	Indexes	MI, WI (ASTM E313), YI (ASTM E313, ASTM D1925), ISO Brightness (ISO2470), WI/Tint (CIE)
	Color–difference formula	ΔE*ab (CIE 1976), ΔE*94 (CIE 1994), ΔE00 (CIE DE2000), CMC (l:c), ΔE (Hunter)
	Standard compliance	CIE No.15, ISO 7724/1, ASTM E179, DIN 5033 part7, JIS Z8722
Gloss	Measurement geometry	60 °
	Light source	LED
	Detector	Silicon photo diode
	Measurement range	0–200 GU; Output/display resolution: 0.01 GU
	Measurement area	MAV: Ø10 mm, SAV: Ø3 mm
	Repeatability	0–10 GU : 0.1 GU 10–100 GU : 0.2 GU >100 GU : 0.2 % of displayed value (Under Konica Minolta standard measurement conditions)
	Inter–instrument agreement	0–10 GU : ±0.2 GU 10–100 GU : ±0.5 GU (MAV. Compared to values measured with a master body under Konica Minolta standard measurement conditions)
	Standard compliance	JIS Z8741, JIS K5600, ISO 2813, ISO 7668, ASTM D523–08, ASTM D2457–13, DIN 67530
Measurement time		Approx. 1 seconds (to data display/output)
Minimum measurement interval		Approx. 2 seconds
Battery performance		Approx. 3,000 measurements/charge (Stand–alone measurement at 10–second intervals at 23 °C Approx. 1,000 measurements/charge (When using Bluetooth® communication)
Displayed languages		Japanese, English, German, French, Italian, Spanish, Chinese (Simplified), Portuguese, Russian, Turkish, Polish
Display		2.7–inch TFT colour LCD
Interfaces		USB2.0, Bluetooth (Option)
Data memory		Target data: 2,500 measurements; Sample data: 7,500 measurements
Power		Rechargeable lithium–ion battery, USB bus power
Charging time		Approx. 6 hours when no charge remains
Operation temperature/ humidity range		5–40 °C, relative humidity is 80% or less (at 35°C) with no condensation
Storage temperature/ humidity range		0–45 °C, relative humidity is 80% or less (at 35°C) with no condensation
Size (L×W×H)		224 x 81 x 81 mm
Weight		Approx. 600 g (including battery)

System diagram



*Not available in all areas.

Dimensions (Unit: mm)



SAFETY PRECAUTIONS

For correct use and for your safety, be sure to read the instruction manual before using the instrument.

- Always connect the instrument to the specified power supply voltage. Improper connection may cause a fire or electric shock.
- Be sure to use the specified batteries. Using improper batteries may cause a fire or electric shock.

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- Displays shown are for illustration purpose only.
- The specifications and appearance shown herein are subject to change without notice.

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