



KONICA MINOLTA

NEW Spectrophotometer

CM-23d

# Entry-level model with series top-end operability



## Easy to use for anyone

### Measurement made easy

- Compact, lightweight and ergonomically designed to get at and measure hard-to-reach targets.
- Equipped with a viewfinder to facilitate positioning and alignment.

### Simplified operation

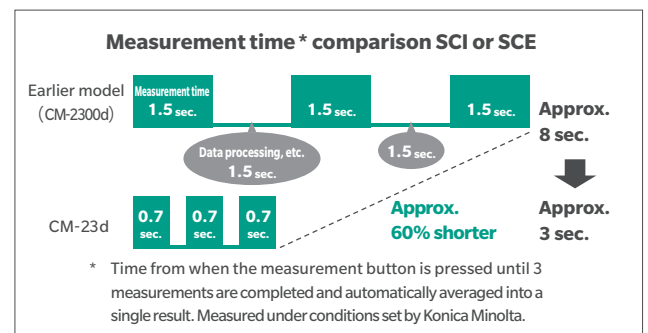
- Includes a Simple Mode that can measure color differences between samples and a target color by just switching on the power and operating 3 buttons.

### Easy-to-read results

- A 2.7-inch display makes measurement results easy to read.

## Faster measurement for improved productivity of measurement work

- Time per measurement: 0.7 sec; Shortest interval between measurements: 1.5 sec (Normal measurement mode)
- When taking averaged measurements, the automatic averaging function further reduces the interval between measurements.



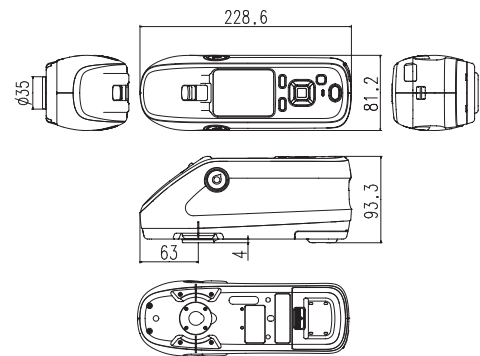
Giving Shape to Ideas

## Specifications

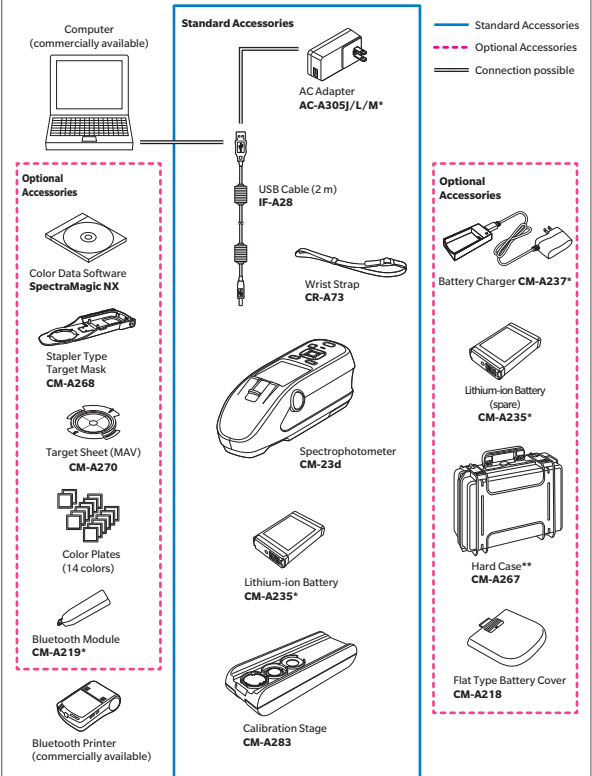
	CM-23d
Illumination/viewing system	di: 8°, de: 8° (diffuse illumination: 8° viewing) SCI (specular component included) / SCE (specular component excluded) switchable
Integrating sphere	Ø54 mm
Detector	Dual 32-element silicon photodiode arrays
Spectral separation device	Planar diffraction grating
Wavelength range	400 to 700 nm
Wavelength pitch	10 nm
Half bandwidth	Approx. 10 nm
Reflectance measurement range	0 to 175%; Display resolution: 0.01
Light source	Pulsed xenon lamp ×1 (with UV cut filter)
Illumination area	Ø12 mm
Measurement area	Ø8 mm
Repeatability	Standard deviation within $\Delta E^*ab$ 0.08 (When a white calibration plate is measured 30 times at 5-second intervals after white calibration)
Inter-instrument agreement	Within $\Delta E^*ab$ 0.4 (Based on average for 12 BCRA Series II color tiles; MAV SCI; compared to values measured with a master body under Konica Minolta standard measurement conditions)
UV setting	0% only; 400 nm UV cutoff filter
Observer	2° observer angle, 10° observer angle
Illuminant	A, C, D50, D65, F2, F6, F7, F8, F10, F11, F12, ID50, ID65 (Simultaneous evaluation with two light sources possible)
Display items	Colorimetric values/graph, color difference values/graph, spectral graph, pass/fail judgment, pseudocolor
Colorimetric values	L*a*b*, L*C*h, CMC(1:1), CMC(2:1), CIE94, CIE00, Yxy, XYZ, and color difference in these spaces; Munsell (C)
Indices	MI, W (I ASTM E313-73), YI (ASTM D1925), Opacity,
Color difference equations	$\Delta E^*ab$ (CIE1976) / $\Delta E94$ (CIE1994) / $\Delta E00$ (CIE2000) / CMC (l:c)
Applicable standards	ISO 7724/1, CIE No.15, DIN 5033 Teil 7, JIS Z 8722 Condition "c"
Measurement time	Approx. 0.7 sec. (Measurement mode: SCI or SCE) (From pressing measuring button to measurement completion)
Minimum measurement interval	Approx. 1.5 sec (Measurement mode: SCI or SCE)
Data memory	1,000 target data + 1,700 sample data
Battery performance	Measurement mode: SCI or SCE Approx. 3,000 measurements (approx. 1,000 measurements when using Bluetooth) when measurements are taken at 10-second intervals at 23°C with the dedicated lithium battery
Viewfinder function	Available (with white LED illumination)
Display	2.7-inch TFT color LCD
Display language	English, Japanese, German, French, Italian, Spanish, Simplified Chinese, Portuguese, Russian, Turkish, Polish
Interface	USB 2.0; Bluetooth (SPP-compatible). Optional Bluetooth module required)
Power	Dedicated lithium-ion battery (removable), USB bus power (with lithium-ion battery installed), Dedicated AC adapter (with lithium-ion battery installed)
Charging time	Approx. 6 h
Operating temperature/humidity range	Temperature: 5 to 40°C, Relative humidity: 80% or less (at 35°C) with no condensation
Storage temperature/humidity range	Temperature: 0 to 45°C, Relative humidity: 80% or less (at 35°C) with no condensation
Size	Approx. 81 (W) × 93 (H) × 229 (D) mm
Weight	Approx. 620 g

## Dimensions

(Unit: mm)



## System Diagram



\* Some accessories not available in some regions.

\*\* May be included as a standard accessory in some regions.

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## 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.

ISO Certifications of KONICA MINOLTA, Inc., Sakai Site



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