KONICA MINOLTA

Spectrophotometer

CM-3600A/CM-3610A

Built for Precision. Compact yet powerful.

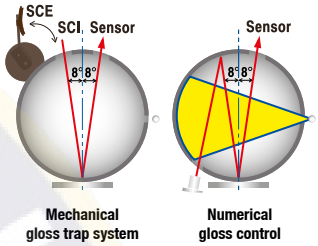
Giving Shape to Ideas

High-Accuracy Color Measurement
in the Laboratory and for Production

Spectrophotometers CM-3600A and CM-3610A inherit the Innovative Konica Minolta Innovative Optical System technology used in the highly popular CM-3600d/CM-3610d, thus maintaining the high accuracy and excellent performance associated with these instruments. In addition the CM-3600A and CM-3610A offers USB communication and further improvements. The CM-3600A and CM-3610A are computer-controlled and require optional Software such as SpectraMagic™ *NX*.

Simultaneous SCI/SCE measurements

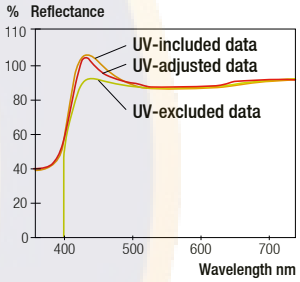
By firing two xenon lamps in quick succession, the patented Numerical Gloss Control (SCI/SCE) system of the CM-3600A and CM-3610A eliminates the need for a mechanical gloss trap while providing virtually simultaneous SCI and SCE measurements and enabling the calculation of 8° gloss.



UV adjustment for accurate measurements of fluorescent materials

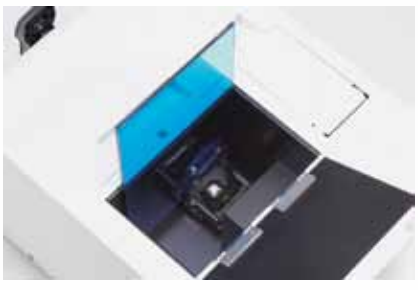
Accurate measurement of materials such as paper or cloth treated with fluorescent whitening agents (FWA) requires precise control of the UV component and its effects. The Numerical UV Control method used by the CM-3600A and CM-3610A provides such control by combining results from flashes of two xenon lamps (one with full UV energy, the other with UV energy removed by a 400 nm or 420 nm UV cut-off filter) using proprietary calculations.

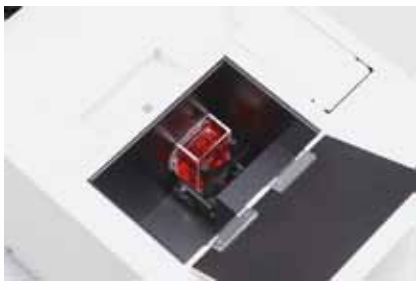
This method eliminates the need for mechanical filter positioning, and enables UV adjustment by Whiteness Index, Tint, Brightness, or UV profile.



Reflectance and transmittance
in one instrument

The CM-3600A/CM-3610A can measure both the reflectance of opaque objects and the transmittance of transparent or translucent solid materials such as plastics. With accessories, the CM-3600A can even measure the transmittance of liquids. Liquid measurements not possible with CM-3610A.





Transmittance Measurement: The CM–3600A/CM–3610A employs the d:0° geometry (diffuse illumination, 0° viewing), which conforms to ISO, CIE, ASTM, and DIN standards.

CM-3600A High–Precision and High–Versatility

Brighter, clear sample viewing system

Both models are equipped with a sample viewer that lets the sample be seen clearly at the measuring port for accurate positioning. When the sample viewer is opened, a high brightness LED illuminates the sample to provide a clear image, and the cover is equipped with a mirror so that the image can be seen even from a seated position.

Improved CM–3600A sample holder

Sample holder opens 90° for easy positioning of samples and is equipped with a «soft-close» mechanism that prevents it from slamming shut and possibly damaging samples.

Compact footprint fits easily on your desk

Despite having a 152-mm integrating sphere and being packed full of advanced functionality, the CM-3600A is extremely compact, with a footprint about the same as a sheet of B4 paper or an average laptop computer. It can fit easily in a limited space while still providing the versatility and high accuracy of larger models.

CM-3610A unique features

The vertical–type

The vertical-type CM-3610A retains most of the features of the CM-3600A plus a number of unique additional features.

Sample holder – Easier handling of sheet materials

USB Data Communication

Data communication between the CM-3600A and CM-3610A is performed via USB to offer higher speed.

SPECTROPHOTOMETER
CM-3600A CM-3610A

Modell	Spectrophotometers CM-3600A/CM-3610A
Illumination/observation system	Reflectance; di:8°, de:8° (diffused illumination, 8-degree viewing), equipped with simultaneous measurement of SCI (specular component included) / SCE (specular component excluded) Conforms to CIE No.15, ISO7724/1, ASTME1164, DIN5033 Teil7 and JIS Z8722 condition C standard Transmittance: di:0°, de:0° (diffused illumination, 0-degree viewing) Conforms to CIE No.15, ASTME1164 and DIN5033 Teil7 standard.
Light-receiving element	Silicon photodiode array (dual 40 elements)
Spectral separation device	Diffraction grating
Wavelength range	360 to 740 nm
Wavelength pitch	10 nm
Half bandwidth	Approx.10 nm
Reflectance range	0 to 200%; resolution: 0.01%
Sphere size	ø152 mm
Light source	4 pulsed xenon lamps
Minimum interval between measurements	Normal SCI/ SCE measurement: 4 sec. Transmittance measurement: 3 sec. UV-cut/ UV-adjusted measurement: 5 sec.
Measurement/illumination area (Selectable)	LAV : ø25.4 mm/ ø30 mm MAV : ø8 mm/ ø11 mm SAV : ø4 mm/ ø7 mm
Repeatability	When white calibration plate is measured 30 times at 10-sec. intervals after white calibration has been performed; Spectral reflectance: Standard deviation within 0.1% Colorimetric values: Standard deviation within E*ab 0.02
Inter instrument agreement	Mean ΔE*ab 0.15 (SCI) Average for 12 BCRA Series II color tiles compared to values measured with master body.
UV adjustment	Instantaneous numerical adjustment
UV cut filter	400 nm cutoff and 420 nm cutoff
Transmittance chamber	Width: 133 mm; depth: approx. 50 mm; measurement dia.: approx. 17 mm Transmission sample holder (Optional accessory): Sample holder for both plate-shaped and liquid samples (removable)
Interface	USB 1.1
Power	AC100 to 240 V 50/60 Hz (Using included AC adapter)
Operating temperature/humidity range (*1)	13 to 33°C, relative humidity 80% or less (at 35°C) with no condensation
Storage temperature/humidity range	0 to 40°C, relative humidity 80% or less (at 35°C) with no condensation
Size (WxHxD)	CM-3600A 244 x 205 x 378 mm, CM-3610A 300 x 597 x 315 mm
Weight	CM-3600A 11.5 kg, CM-3610A 16.5 kg

*1 Operating temperature/humidity range of products for North America : 13 to 33°C, relative humidity 80% or less (at 31°C) with no condensation

SPECTROPHOTOMETER

CM-3600A CM-3610A

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.

- Displays shown are for illustration purposes only.
- The specifications and drawings given here are subject to change without prior notice.
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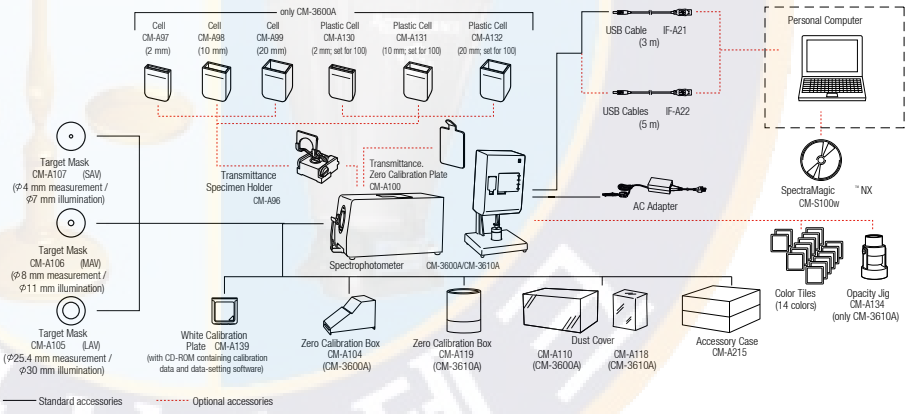
< System Diagram >



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