SPECTROPHOTOMETER
CM-2500d
High performance, low cost portable spectrophotometer.
Designed for versatility in various applications, the CM-2500d is a portable integrating sphere spectrophotometer incorporating Numerical Gloss Control.

Simultaneous measurement of SCI (specular component included) and SCE (specular component excluded).

Advanced Numerical Gloss Control.

Simultaneous measurement of SCI and SCE displays the data on the LCD in only 1.5 seconds. Unlike conventional spectrophotometers, there is no need to mechanically switch between SCI and SCE mode. This improves working efficiency and provides stable measured data since the measurement area does not shift when the mode is switched. And also Relativity Gloss Value can be displayed by using Numerical Gloss Control.

High reliability and long life. Maintenance-free design.

The number of moving parts in the instrument is minimized through the introduction of numerical control technology. The CM-2500d can be used with confidence, since it has been developed, manufactured and calibrated to meet ISO 9001 requirements.

Allows measurement in any position. Compact, lightweight, with an easy-to-operate navigation wheel and large LCD display.

The battery-powered small, light body allows the instrument to be placed in any position at the sample surface. The CM-2500d’s large LCD display and its reverse display function provide easy reading, irrespective of which hand it is held in. Using your finger, the navigation wheel allows simple, user friendly operation.

High accuracy sensor

Measures at 10nm intervals for the full wavelength range. Excellent repeatability

Easy-to-carry, compact and light body 670g (without batteries)

For plastics, paints, automotive, ceramic, architectural interiors, textile, paper, food etc.

Promotes accurate, consistent color communication. Conforms to widely-accepted industry standards and allows measurements in all popular color spaces.

The optics use an integrating sphere to provide diffuse illumination/8-degree viewing system. The CM-2500d conforms to all widely accepted standards including ISO, JIS, DIN, CIE and ASTM, and generates measurements in color notations such as L*a*b*, Yxy, Munsell and CIE2000. Measures the target with high accuracy. Easy-to-carry stylish body with an illuminated viewfinder.

The user can choose the most suitable measurement area for the target. The easy-to-carry body with the illuminated viewfinder enables the user to position the instrument on the target quickly and accurately.

High accuracy display

Displays large quantities of information (simultaneous display of SCI and SCE data etc.)

SpectraMagic™NX

SpectraMagic™NX enables you to perform comprehensive color inspection and analysis of incoming raw materials, in-process production, and outbound color critical goods and materials in virtually any industry. With SpectraMagic™NX you can insert digital images with measured data. Measure samples in any of 8 universally accepted color spaces. Select from 16 illuminants, and up to 40 indices to determine specific color and appearance properties, such as strength, brightness, haze, yellowness, opacity and strength. You can even configure up to 8 customized color equations. Reports range from simple Pass/Fail to trend charts, histograms, color plots, and spectral graphs. SpectraMagic™NX comes with predefined templates using skin technology, or you can create your own templates. For illustrations and explanations to understanding color and color measurement technology, there is a link to Konica Minolta’s well known and respected ‘Precise Color Communication’. Step by step navigation help.

Relativity Gloss Value

The LCD specifications are subject to change without prior notice.

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### Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illumination/ viewing system</td>
<td>$d_8$, $d_{10}$ (diffuse illumination, 8-degree viewing), equipped with simultaneous measurement of SCE (specular component excluded) and SIE (specular component included). Conforms to CIE No.15, ISO 7724/1, ASTM E164, DIN 5033 Test T7 and JIS Z8722 Condition C standard.</td>
</tr>
<tr>
<td>Sphere Size</td>
<td>ø25mm</td>
</tr>
<tr>
<td>Light/receiving element</td>
<td>Silicon photodiode array (dual 40 elements)</td>
</tr>
<tr>
<td>Spectral separation</td>
<td>Diffraction grating</td>
</tr>
<tr>
<td>Wavelength range</td>
<td>360nm to 740nm</td>
</tr>
<tr>
<td>Wavelength pitch</td>
<td>10mm</td>
</tr>
<tr>
<td>Half bandwidth</td>
<td>Approx. 10nm</td>
</tr>
<tr>
<td>Reflectance range</td>
<td>0 to 170, resolution 0.01%</td>
</tr>
<tr>
<td>Light source</td>
<td>2 pulsed xenon lamps</td>
</tr>
<tr>
<td>Measurement time</td>
<td>Approx. 1.5 seconds (approx. 2 seconds for fluorescent measurement)</td>
</tr>
<tr>
<td>Minimum interval between measurements</td>
<td>3 seconds for SCI/SCE (4 seconds for fluorescent measurement)</td>
</tr>
<tr>
<td>Battery performance</td>
<td>Alkaline manganese. Approx. 1000 measurements</td>
</tr>
<tr>
<td>Weight</td>
<td>4 AA-size battery or AC adapter</td>
</tr>
<tr>
<td>Size (WxHxD)</td>
<td>69 x 96 x 193mm</td>
</tr>
<tr>
<td>Power source</td>
<td>Approx. 670g (without batteries)</td>
</tr>
<tr>
<td>Operating temperature/humidity range</td>
<td>5 to 40 °C, relative humidity 80% or less (at 35 °C) with no condensation</td>
</tr>
<tr>
<td>Storage temperature/humidity range</td>
<td>0 to 45 °C, relative humidity 80% or less (at 35 °C) with no condensation</td>
</tr>
<tr>
<td>Standard accessories</td>
<td>White calibration plate, Target mask ø8mm, RS-232C cable, AC adapter, AA-size battery (x4)</td>
</tr>
<tr>
<td>Optional accessories</td>
<td>Hard case, Dust cover, Dust cover, SpectraMagic®NX (software), Zero calibration box</td>
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</tbody>
</table>

### System Diagram

- **Standard Accessories**
  - CM-A145

- **Optional Accessories**
  - CM-A146
  - RS232C cable IF-A16

- **Target mask ø8mm CM-S100w**
- **Zero calibration box CM-A145**
- **Hard case CM-A148**
- **Dust cover set CM-A149**

### Dimensions (Units:mm) CM-2500d

- **CM-3700d CM-3600d**
  - **Dimensions**
    - Width: 193mm
    - Height: 69mm

### Color control network by spectrophotometer

High inter-instrument agreement between the portable CM-2500d spectrophotometer and the desktop CM-3000 series make it easy to build a total color control network.

### Color control among companies

In-house color control

Company A

Company B

<table>
<thead>
<tr>
<th>Color control network by spectrophotometer</th>
<th>R&amp;D</th>
<th>Quality</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-house color control</td>
<td>R&amp;D</td>
<td>Quality</td>
<td>Production</td>
</tr>
<tr>
<td>Color control among companies</td>
<td></td>
<td></td>
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</table>

### 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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http://konicanolta.com/instruments/about/network

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