KONICA MINOLTA

Spectrophotometer

CM-17d
CM-16d

Cutting-edge Performance
and Unmatched Comfort

The Standard in Measuring Color & Light

Giving Shape to Ideas

Vertical portable spectrophotometer excellent for measuring small samples and curved surfaces

The CM-17d has a camera viewfinder for easy positioning.
The CM-16d is designed for simplicity and offers excellent cost performance.

Spectrophotometer

CM-17d | CM-16d

■ Simple to Configure and Ease of Use

Ergonomically designed to be easy to grip. It can be used in a wide range of measurement scenarios, including one-handed work, vertical orientation, and measurement of small objects and curved surfaces. Stress-free hardware design includes easy positioning with the camera viewfinder*1, improved visibility with a slight tilt of the operation screen, and a comfortable workspace with wireless connectivity*2.

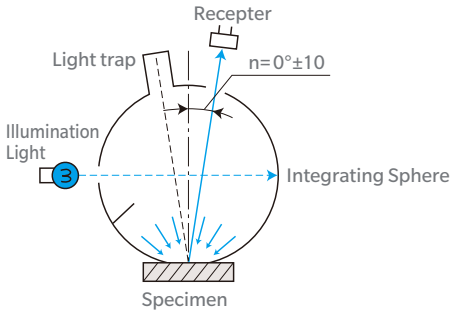
*1 Camera viewfinder is a feature of CM-17d only.
*2 WLAN/Bluetooth module (option) is required.

■ Higher accuracy and shorter measurement time

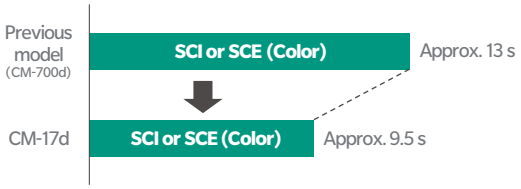
The CM-17d has adopted a di:8°and de:8°integrating sphere compatible with the previous CM-700d series. Along with the improved measurement accuracy of black color, the CM-17d also improves efficiency with shorter measurement times.

d:n [de:8°/di:8°]

Automatic opening and closing of the optical trap allows measurement of de:8°/di:8°.



Measurement time comparison for five consecutive measurements



* Time per measurement: CM-700d 1s, CM-17d 0.7s
Minimum measurement interval: CM-700d 2s, CM-17d 1.5s

■ Various measurement examples utilizing optional accessories

The vertical leveling jig is useful when the main unit is turned upside down for measurement. The tripod hole on the front of the body can also be used to hold the instrument in place.

Vertical Leveling Jig

*Product image for illustration purposes only.

■ Color Data Software SpectraMagic™ NX2 (Option)

SpectraMagic™ NX2 is color management software that gives users a customizable screen display and a wide range of functions for operating and transferring data between their Spectrophotometer or Chroma Meter to their computer for further analysis. Users can display data lists and create color difference graphs and spectral graphs to assist in color management that requires judgment based on numerous values and indicators.

* WLAN/Bluetooth module (Option) is required for wireless connection.
A wired connection via cable is also possible.

You can see the details in the catalog from the following 2D code. ↓

SpectraMagic™ NX2 website

■ Wavelength Analysis & Adjustment for high stability

WAA (Wavelength Analysis & Adjustment) provides worry-free, higher-reliability measurements and minimizes system problems by suppressing shifts in measurement. WAA is available free of charge for the first year after purchase of the CM-17d series. After the second year, WAA can be continued as an add-on to the inspection and calibration service.

■ Cradle for charging and zero calibration

When not in use, the instrument can be placed on the Cradle* to charge the battery, and provide a safe stowage. Also serves as a zero calibration table, allowing calibration work to be performed while the unit is in place.

* Standard accessories only for CM-17d

White Calibration Cap

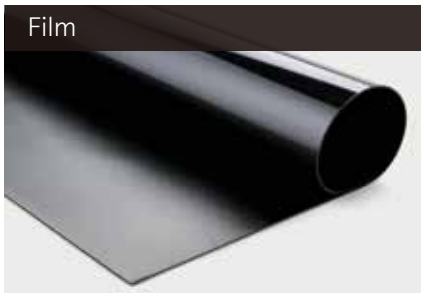
Cradle for charging
And Zero Calibration

Try CM-17d with Augmented Reality.

Scan the 2D code to see product size and design on your iPhone.

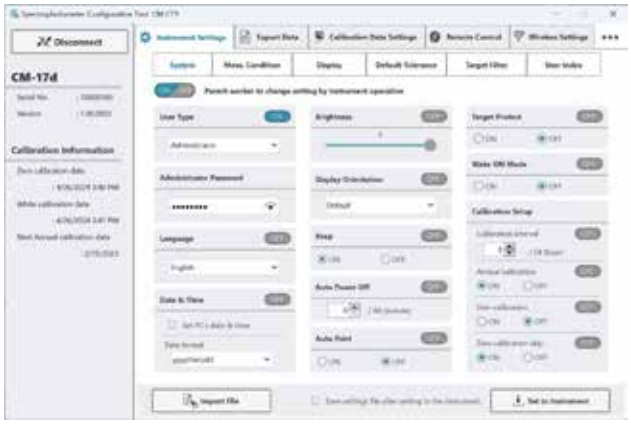
* You can only use it with an iPhone.
* Please refer to the specification for the dimensions of the product.
*

CM-17d Series spectrophotometers can be used in a wide range of industries.

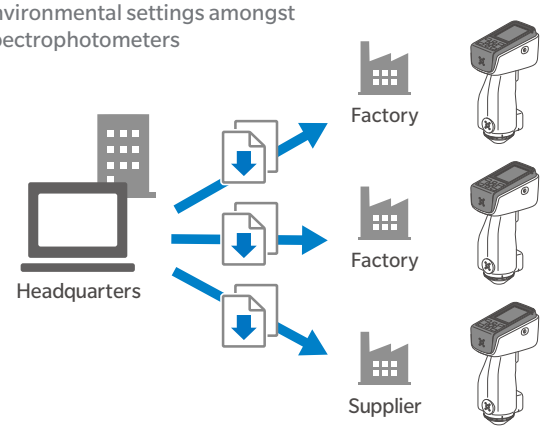


■ Spectrophotometer Configuration Tool CM-CT1 Ver.1.5 or later

The CM-CT1 gives manufacturers the means for easily and quickly setting up their spectrophotometers. Moreover, when multiple devices are used or when the same conditions need to be set amongst multiple factories or suppliers, settings can be compiled into a file and shared.



Easily unify measurement conditions and environmental settings amongst spectrophotometers



Spectrophotometer Configuration Tool CM-CT1

- OS : Windows® 11 Pro
- CPU : Intel® Core i5 2.7 GHz or higher processor (recommended)
- Memory : 2 GB or more
- Hard disk : 10 GB or more of free space for installation
- Other : USB port (For connecting to spectrophotometers and SpectraMagic™ NX2 dongle)

■ System Diagram

Standard Accessories
Optional Accessories
Connection possible

Optional Software

Color Data Software
SpectraMagic™ NX2

Configuration Tool
CM-CT1
(Freely downloadable from the Web.)

Computer
(Commercially available)

Optional Accessories for connection

USB cable (2m)
Type-A - Mini-B
IF-A28**

WLAN/
Bluetooth module
CM-A300*

Spectrophotometer CM-17d

Spectrophotometer CM-16d

Standard Accessories for CM-17d

Cradle
for charging And Zero Calibration
CM-A299**

Target mask

ø8mm
w/ plate
CM-A178

ø8mm
w/o plate
CM-A180

ø3mm
w/ plate
CM-A179

ø3mm
w/o plate
CM-A181

Standard Accessories for CM-16d

Target mask

ø8mm
w/o plate
CM-A180

ø8mm
w/ plate
CM-A178

Standard Accessories

USB Power Delivery
Adapter
AC-A405*

USB cable (2m)
Type-C - Type-C
IF-A45**

Li-ion battery
CM-A235*

White
Calibration Cap
CM-A298

Wrist strap
CR-A73

Charging terminal cap
CM-A305

Optional Accessories

Cradle
for charging And
Zero Calibration
CM-A299**

Vertical
Leveling Jig
CM-A304**

Target mask ø8mm
With glass
CM-A183

Granular-materials
Attachment
CM-A184

Zero Calibration Box
CM-A182

Hardcase
CM-A297**

Li-ion battery
CM-A235*

Li-ion battery Charger
CM-A237

Color plate 14 colors
CM-A247~CM-A260

Green tile
CM-A101GN

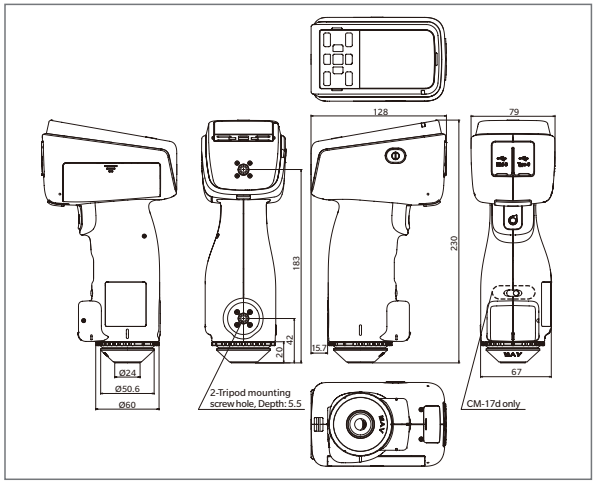
Bluetooth Printer
(commercially available)
(Other, roll paper)

* Depending on the location, some accessories may not be available.
** May be included as a standard accessory in some regions.

Specifications

		CM-17d	CM-16d
Illumination/viewing system		di:8°,de:8° (diffuse illumination: 8° viewing), SCI (specular component included) / SCE (specular component excluded) switchable	
Applicable standards for illumination/viewing system		Conforms to ISO7724/1, CIE No.15 (2004), ASTM E 1164 (SCI), DIN5033 Teil7, JIS Z 8722 Condition c standard	
Integrating sphere		Ø40 mm	
Detector		Dual 32-element silicon photodiode arrays	
Spectral separation device		Planar diffraction grating	
Wavelength range		400 nm to 700 nm	
Measurement wavelength pitch		10 nm	
Half bandwidth		Approx. 10 nm	
Reflectance range		0 to 175%; Resolution: 0.01%	
Light source		Pulsed xenon lamp (with UV cut filter)	
Measurement time		Approx. 0.7 s (Measurement mode: SCI or SCE, from pressing trigger button to measurement completion)	
Minimum measurement interval		Approx. 1.5 s (Measurement mode: SCI or SCE)	
Battery performance		Approx. 2,000 measurements (approx. 1,000 measurements when using Optional WLAN/Bluetooth module) when measurements are taken at 10-second intervals at 23°C with the dedicated lithium battery, without using camera viewfinder	
Measurement area/ Illumination area		MAV:Ø8 mm/Ø11 mm SAV:Ø3 mm/Ø6 mm *Can be changed by replacing the target mask and switching the lens position	MAV:Ø8 mm/Ø11 mm
Repeatability		Standard deviation within ΔE*ab 0.02 (When a white calibration plate is measured 30 times at 5-second intervals after white calibration under Konica Minolta standard conditions)	Standard deviation within ΔE*ab 0.04 (When a white calibration plate is measured 30 times at 5-second intervals after white calibration under Konica Minolta standard conditions)
Inter-instrument agreement		Within ΔE*ab 0.12 (Based on average for 12 BCRA Series II color tiles; MAV SCI; compared to values measured with a master body under Konica Minolta standard conditions)	Within ΔE*ab 0.2 (Based on average for 12 BCRA Series II color tiles; MAV SCI; compared to values measured with a master body under Konica Minolta standard conditions)
Display		2.7-inch TFT color LCD with reversible portrait viewing mode	
Internal performance check*1		WAA (Wavelength Analysis & Adjustment) Technology	
Interface		USB 2.0; WLAN (IEEE 802.11 b/g/n)/Bluetooth(Ver.4.1, SPP-compatible.) Optional WLAN/Bluetooth module required*2*3	
Camera viewfinder function		Using internal camera; Images can be shown on display	—
Observer		2° Standard Observer, 10° Standard Observer	
Illuminant		A,C,D50,D65,F2,F6,F7,F8,F10,F11,F12,ID50,ID65,LED-B1,LED-B2,LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1,LED-V2,User-defined illuminant*4 (Max. 3 types) (Simultaneous evaluation with two light sources possible)	
Display items		Colorimetric values/graph, color difference values/graph, spectral graph, pass/fail judgment, pseudocolor	
Color spaces		L*a*b*, L*C*h, Hunter Lab, Yxy, XYZ, and color difference in these spaces; Munsell (C)	
Indices		MI, WI (ASTM E313-73/ASTM E313-98);YI (ASTM E313-73, ASTM D1925);ISO brightness (ISO2470);WI/Tint (CIE);Tristimulus Strength;Opacity; Grey scale (ISO 105-A05);gloss value; User index*5, Blackness (My) (ISO18314-3/DIN55979)*6;Jetness (Mc) (ISO18314-3)*6;Undertone (dM) (ISO18314-3)*6	
Color difference equations		ΔE*ab (CIE1976) ; ΔE*94 (CIE1994); ΔE00 (CIEDE2000); CMC (l:c); Hunter ΔE; DIN99o; FMC-2;ΔE*94 (Special)*7	
Data memory		1,000 target data + 5,000 sample data	
Power	AC power supply	USB Type-C AC adapter (Power Delivery compatible, 15 W or more)	
	Battery	Lithium-ion battery (removable)	
	USB charging	USB bus power (with lithium-ion battery installed)	
Charging time		Approx. 3.5 h (rapid charge) / Approx. 6 h(standard)	
Size		Approx. 79(W)×230(H)×128(D) mm	
Weight		Approx.700 g (Lithium-ion battery included)	Approx.660 g (Lithium-ion battery included)
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	

Dimensions (Units: mm)



*1 The WAA function enables wavelength diagnosis and wavelength correction of the instrument. This function is available free of charge for the first year after purchase, and can be continued after the second year by having the instrument serviced and calibrated.
*2 Requires optional accessory WLAN/Bluetooth module (CM-A300).
*3 WLAN security supports WPA2-PSK (WPA2-Personal) and WPA-PSK (WPA-Personal) for the AdHoc method, and WPA3-PSK (WPA3-Personal), WPA2-PSK (WPA2-Personal) and WPA-PSK (WPA-Personal) for the Infrastructure method.
*4 Optional Color Data Software SpectraMagic NX2 Pro (Ver.1.3 or later) is required for setting user-configured illuminants.
*5 Spectrophotometer Configuration Tool CM-CT1 Ver. 1.5 or later and a valid Color Data Software SpectraMagic NX2 license are required for setting user indices.
*6 Blackness (My) (ISO 18314-3/DIN 55979), Jetness (Mc) (ISO 18314-3), and Undertone (dM) (ISO 18314-3) shall only be applied when measurements are performed under SCE conditions.
*7 When comparing two colors, please use ΔE*94(Special) if one of them is not specified as the standard.

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

ISO 9001
JQA-QMA15888
Design, development, manufacture/ manufacturing management, calibration, and service of measuring instruments

ISO 14001
JQA-E-80027
Design, development, manufacture, service and sales of measuring instruments

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