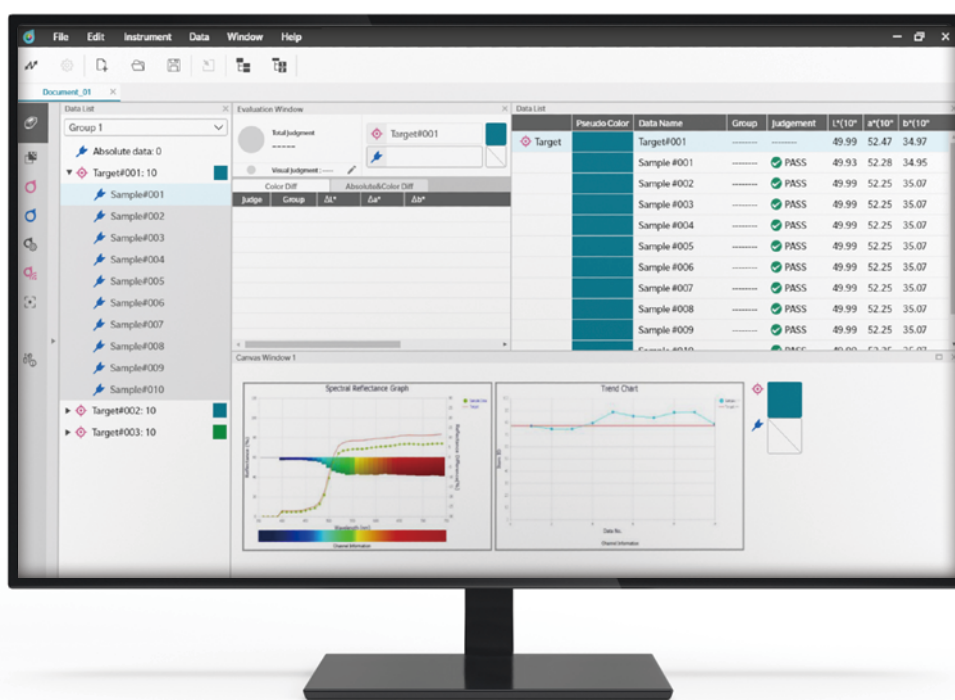KONICA MINOLTA

Color Data Software

SpectraMagic NX2

Pro version
Lite version

Color QC App　　　**Configuration Tool**　　　**Instrument Check App**

Easy to use / Streamlines workflow / QC software used in fields around the world

The Standard in Measuring Color & Light

Giving Shape to Ideas

SpectraMagic NX2 consists of three apps

Color QC App
Connect measuring instruments and easily perform advanced color quality control

Instrument Check App
Easily check the condition of the measuring instrument

Configuration Tool
Measuring instruments can be configured all at once

Color QC App

The software's main function, "Color QC App" can display various screens such as pass/fail judgement, color analysis, and process management by connecting spectrophotometers or colorimeters to the computer and measuring sample data.

▼ Electronic viewfinder function

Check the measured value on the PC screen
*When a compatible model is connected
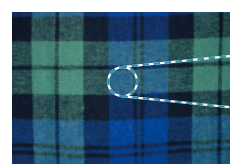
Measurement sample
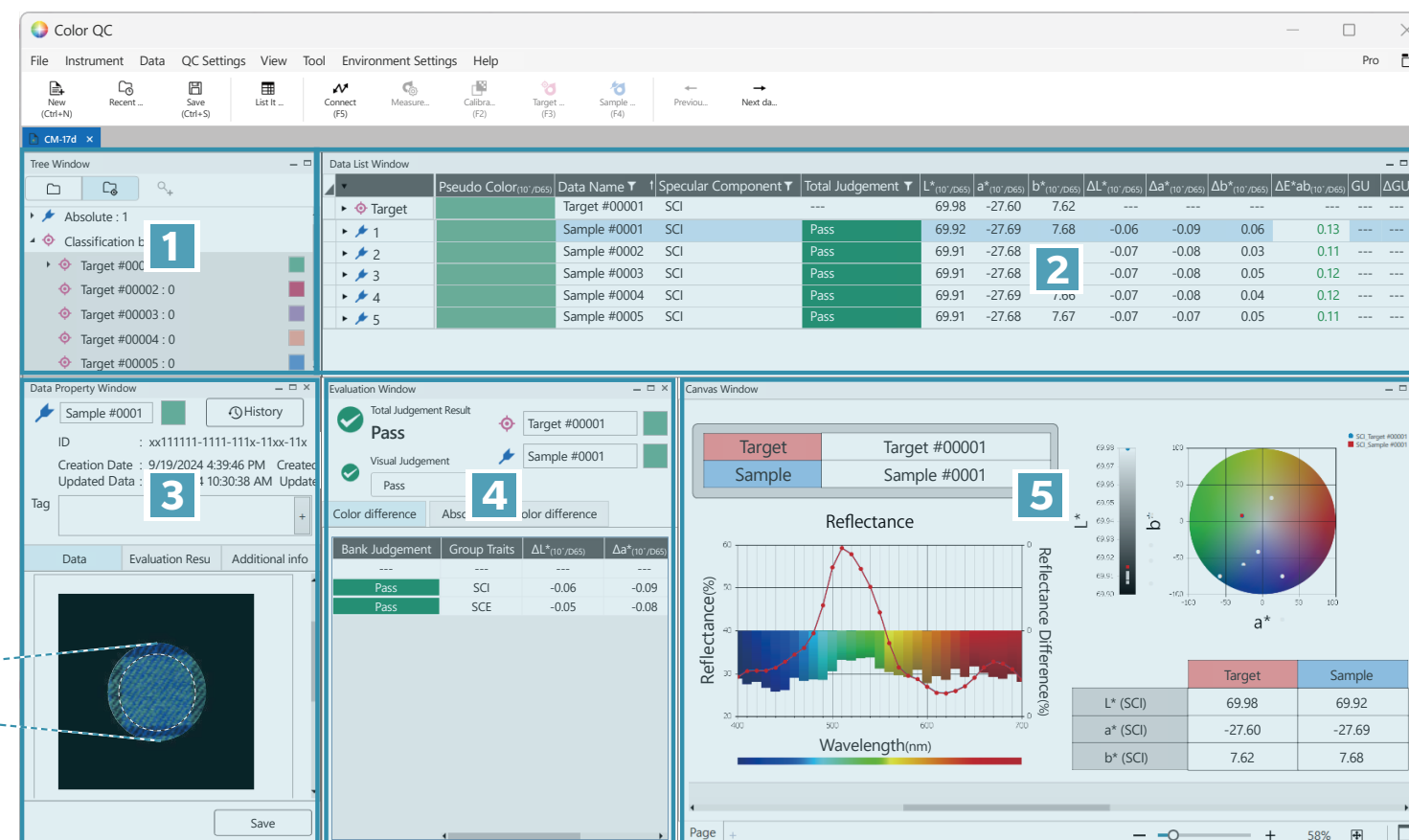
Display and edit according to purpose

Screens that users have arranged and edited can be saved as templates.
Objects such as measurement data and graphs can be copied directly to Excel® for easy data management and report creation.

1 Tree Window
Shows document measurements organized into absolute and target measurements.

2 Data List Window
Shows the measurement data for the selected branch in the Tree Window.

3 Data Property Window
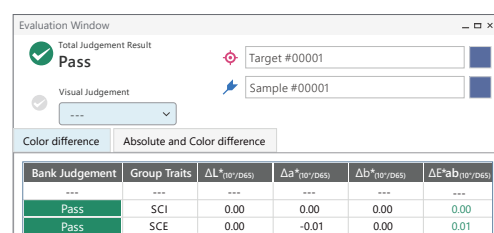Shows the data properties for the selected sample.

4 Evaluation Window
Shows the evaluation results and measurement data for the selected sample.

5 Canvas Window
An area in which various graphic elements such as spectral graphs, data tables, etc. can be placed.

## ✓ Easy-to-understand quality evaluation results

✓ Improved operability of detailed settings

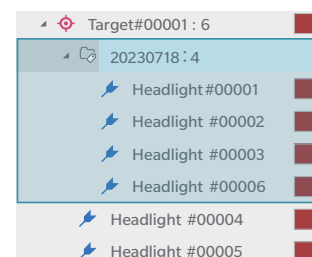It is possible to set measurement conditions for standards and samples all at once.
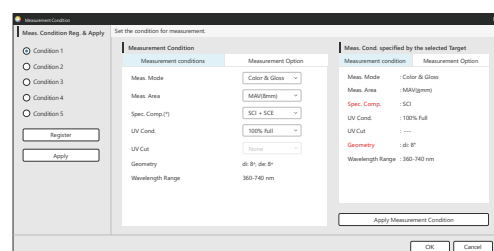
The design of the system allows users to quickly grasp information, preventing operators from making errors in judgment and contributing to more efficient workflow.

✓ Easy organization of large volumes of data
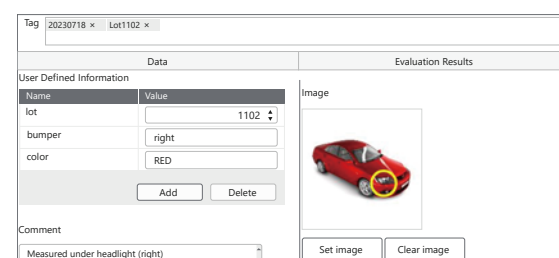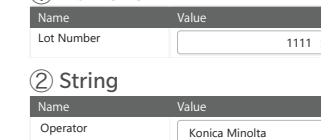
▼ Classification by tabs (Tree Window)

Ex.) Grouping by tag "20230718"

Information can be easily organized by adding tags, comments, images, etc. to each data.

✓ Supports advanced classification with user-defined information

Examples of using User Defined Information : There are three value types to choose from (numeric/string/list).

① Numeric

Name	Value
Lot Number	1111

[Example]
・ Lot number
・ Control number

② String

Name	Value
Operator	Konica Minolta

[Example]
・ Worker name
・ Sample name
・ Creation date

③ List

Name	Value
Measurement part	Top
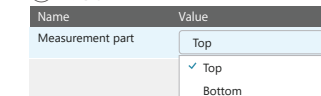
[Example]
・ Customer name
・ Measurement point
・ Production line

▼ Display in tree window
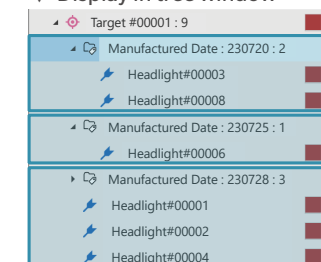
POINT
Multiple subgroups can be displayed within a group by using user-defined information

User-defined information (Pro version only) is additional information for classifying measurement data in detail.
Measured data can be quickly identified by setting this information in advance.

✓ Original report creation function

The print screen allows you to freely arrange objects to create your own layout.

⚙ Full range of functions in Color QC App

✅ Enables consistent color management across factories

Headquarters QC Template NX2 Factory / NX2 Factory / NX2 Supplier

Brand owners/managers can use QC templates (Pro version only) to standardize workflows and streamline inspection tasks.
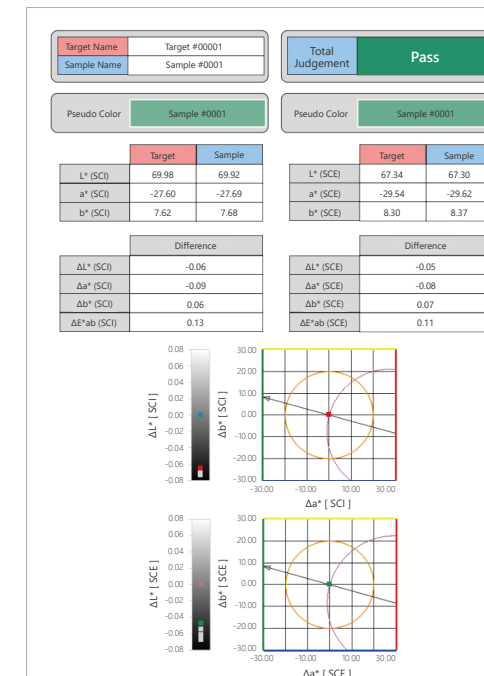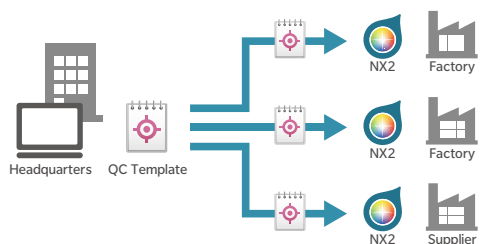By setting measurement types, multiple color tolerances, and display layout, the operator does not need to configure the settings in advance, which helps preventing errors.

\<Differences between two types of templates\>
Display Templates : Only display layouts and list items can be saved.
QC Templates : In addition to display templates, you can save target data and tolerance settings, target and sample measurement conditions, display layout, instrument settings, etc.

✅ Data comparison under multiple observation conditions (Observer/Illuminant) is possible

Data Name ▼	L*(10°/D65)	L*(10°/LED-B3)	L*(10°/USER2)
Target #00001	69.98	68.41	69.42

LEFT : D65
CENTER : LED-B3
RIGHT : Light source in real environment captured by CL-500A

Data Name ▼	Pseudo Color (10°/D65)	Pseudo Color (10°/LED-B3)	Pseudo Color (10°/USER2)
Target #00001			

In the data list window, you can set indexes according to various standards and color space.
The increased number of configurable items means that it is no longer necessary to switch settings for each measurement, and it is possible to display and evaluate under multiple observation conditions (Observer/Illuminant) at the same time. (There is no limit to the number of light sources.)
In addition to improving work efficiency, it also makes it easier to evaluate how colors appear under various environments.

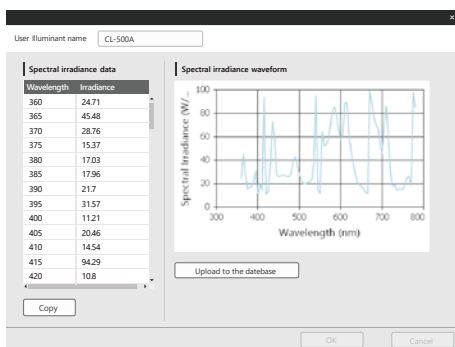**Now possible to evaluate LED illuminants!**

Usage example:
Acquiring measurement data based on visual perception in a room using LED lamps

LED illuminants

| LED-B1 | LED-B2 | LED-B3 | LED-B4 | LED-B5 |
| LED-BH1 | LED-RGB1 | LED-V1 | LED-V2 | |

✅ Evaluation using user light sources of real environments is also possible

Now you can import data from Illuminance Spectrophotometer CL-500A!

By connecting CL-500A (optional), you can import light source information of the actual environment during measurement in order to quantify colors that are closer to what the human eye sees and in the field. Up to 100 user light sources can be registered.

Example of use : Evaluating how car body colors appear under various lighting conditions in a car showroom

(1) Measure the spectral irradiance data of the actual light source with CL-500A

(2) Import the light source data from (1) into SpectraMagic NX2

(3) Color evaluation is possible by selecting the environmental condition of (1)

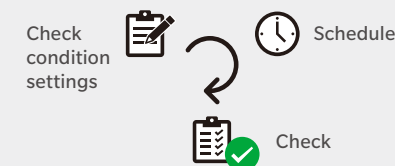## 〰 Instrument Check App

PREMIUM

★ The new application "Instrument Check App" can be used for free for 1 year after purchase! ★

* Premium license (Listed on page ❾) is required for continuous use.

Supports instrument check cycles
Alerts prevent forgetting inspections

Check condition settings → Schedule → Check

Monitor the status of measuring instruments
Inspection information is linked to the Color QC App

CM-17d Serial No. 99999999	✅
CM-16d Serial No. 99999999	✅
CM-26dG Serial No. 99999999	❗
CM-36dG Serial No. 99999999	⚠

Understand results and trends with reports and graphs

✅ ⚠ ❗
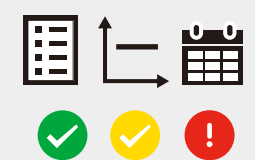
Maintain the performance of the instrument in combination with periodic calibration

The condition of measuring instruments can be easily checked and monitored. By comparing measured results with past data, you can understand performance fluctuations and prevent problems during use.

\<Three indicators\>
Repeatability: Evaluates the short-term repeatability by using the white calibration plate and the gloss plate. It shows changes in the variability of measurement data.
Reproducibility: Evaluates color differences by remeasuring a reference sample. Allows monitoring of long-term variations in measurement data.
Light source output: Evaluates the amount of variation in light source light intensity from the shipment of the instrument (or from the completion of calibration service).

● After periodic calibration at a Konica Minolta-authorized service factory, this application can monitor the measuring instruments to ensure high accuracy until the next periodic calibration.
● The report function can also be used as a tool for efficient supply chain management.

Periodic calibration: In addition to inspection and calibration of the equipment, cleaning and replacement of parts according to their condition is performed. To maintain the accuracy of the instruments, we recommend a combination of daily inspections using this application and periodic calibration.

1 Tabular format

POINT!
Status can be monitored with icons
✅ Pass
⚠ Warning
❗ Fail
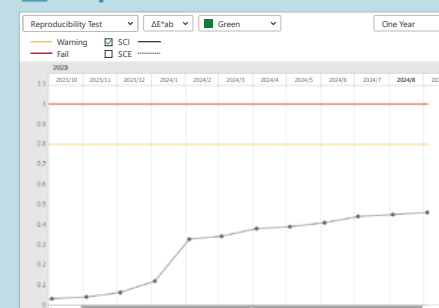
Easy-to-read PDF reports are automatically generated

Instrument Check Report

2 Graphical format

3 Calendar format

For reproducibility evaluation, we recommend using the green tile for control

It is also possible to select an optional color plate (14 colors in total) that is close to the actual evaluation sample, or a sample that the customer owns.

Recommended for:
● Those who carry out periodical inspections and calibrations every year.
● Those who need to manage the history of instrument inspections, calibrations, etc. in ISO quality management.
● Those who need PQ (Performance Qualification).

Configuration Tool CM-CT1

Convenient setting software is integrated into this package

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.

Setting of User Index*1 has been added.
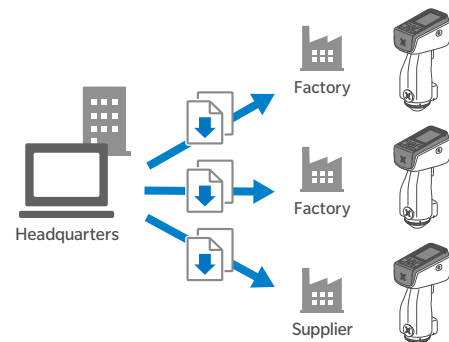
*1: Settings can be made when CM-17d/16d, CM-26dG/26d/25d, CM-25cG or CM-5/CR-5 is connected.
The feature is only available when SpectraMagic NX2 dongle is plugged into the PC or a dongleless license is activated.

Headquarters → Factory / Factory / Supplier

Instrument Settings

CM-CT1 allows various instrument settings, such as measurement conditions, instrument display contents, user-based instrument operation restrictions, WLAN/Bluetooth® settings, etc. to be set using a computer. The software also allows setting contents to be exported to a file which can then be applied to multiple spectrophotometers.

USB cable
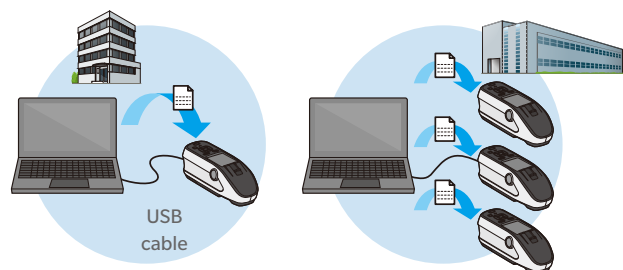
Export Data

Data saved to a spectrophotometer (spectral reflectance data, plus gloss data for CM-26dG or CM-25cG) can be saved to a CSV file.

USB cable
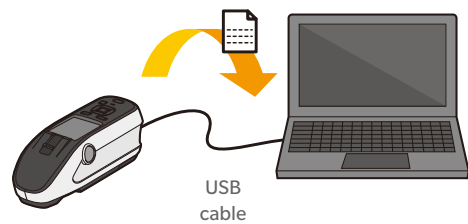
Calibration Data Settings

When purchasing a new white calibration plate or gloss calibration plate, the calibration plate data must be set in the instrument before measurement can be performed.

USB cable | CD-R with new calibration plate data
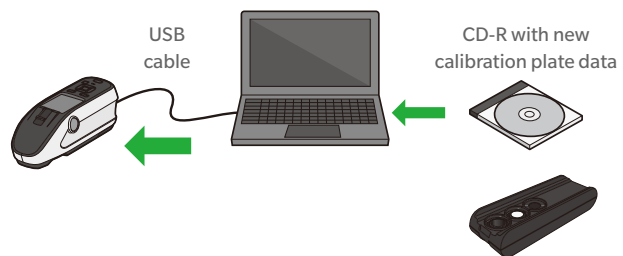
Remote Control

While displaying the LCD screen of the spectrophotometer* on a computer in real time, CM-CT1 enables control equivalent to key operations on the actual instrument (except for control by power switch and measurement area switch)

In addition, by accessing (via remote desktop, etc. over a network) a computer connected to the spectrophotometer, control of the spectrophotometer is possible even from remote locations.

* CM-26dG series, CM-25cG, CM-17d series, or CM-M6 devices only.

USB cable

PREMIUM

SpectraMagic NX2 continues to evolve to meet customer needs

| Ver. ~1.3 | Greatly improved usability compared to previous NX Added LED light sources Added connection for new products "CM-17d/16d" | Ver. 1.4 | Added Instrument Check App | Ver. 1.5 | Added connection for new products "CM-3700A Plus" |

What is Premium License?

SpectraMagic NX2 is also available as a term-based premium license (paid) which allows you to experience special value in addition to regular use.

By signing up this license, you can use the Instrument Check App that allows you to check the status of your instrument, as well as additional functions that come with version upgrades.

When you purchase this software, **a one-year free premium license** is included.

Main Specifications

Configuration Tool CM-CT1

<Compatible Instruments>

Measuring instruments	CM-17d/CM-16d, CM-26dG/CM-26d/CM-25d/CM-23d*1*10, CM-25cG*10, CM-M6, CM-700d/CM-600d, CM-5/CR-5*1*10

<Main features>

Features*2	Connect / Disconnect insturment, Display instrument information, Setting of instrument settings (System, measurement conditions, Display*3, Default toleranse, Target filter*4, User Index*5), File import / export, Data output, Setting of calibration data, Remorte control of instrument*6, WLAN connection settings*7*10
Supported file formats*8	Input/output instrument settings file: *.cm17d, *.cm16d, *.cm26dg, *.cm26d, *.cm25d, *.cm23d, *.cm25cg, *.cmm6, *.cm700d, *.cm600d, *.cnd Output data file: *.csv Input calibration data file: *.cwl, *.cwm, *.cws, *.cw6, *.gum, *.gus Input/output WLAN connection settings file: *.wcsf
Display languages	English, Japanese

<Minimum Computing Requirements*9>

OS : Windows® 11 Pro
CPU : Intel® Core i5 2.7GHz or higher processor (recommended)
Memory : 2GB or more (4GB or more recommended)
Storage : 10GB or more
USB port : Required for connection with measuring instrument, Required for SpectraMagic NX2 dongle

*1: Not available in some countries.
*2: The functions that can be displayed, set, and executed differ depending on the connected instrument.
*3: Available only when using CM-17d/16d, CM-26dG/26d/25d/23d, CM-25cG, CM-M6 or CM-5/CR-5.
*4: Available only when using CM-17d/16d, CM-26dG/26d/25d/23d or CM-25cG.
*5: Available only when using CM-17d/16d, CM-26dG/26d/25d/23d, CM-25cG or CM-5/CR-5 and only with SpectraMagic NX2 license.

*6: Available only when using CM-17d/16d, CM-26dG/26d/25d/23d, CM-25cG or CM-M6.
*7: WLAN settings possible when optional WLAN/Bluetooth® Module is installed.
*8: The file that can be input/output differs depending on the connected instrument.
*9: The hardware of the computer system must meet or exceed the greater of the recommended system requirements for the compatible OS being used or the above specifications.
*10: Instruments with new firmware versions only. Instruments with old firmware versions may not be supported. Click here for firmware versions of compatible instruments. ↓

https://www.konicaminolta.com/instruments/download/software/color/cmct/index.html

Instrument Check App*1

<Compatible Instruments>

Measuring instruments	CM-3700A Plus/CM-3700A-U Plus, CM-3700A*2, CM-36dG/CM-36d/CM-36dGV, CF-300*3, CM-17d/CM-16d, CM-26dG/CM-26d/CM-25d/CM-23d*3, CM-25cG, CM-700d*2/CM-600d*2

<Main features>

Check items*4	Repeatablility, Reproducibility, Light Source output, Repeatability (Gloss), Reproducibility (Gloss)
Features	[Measurement] Checking of instruments condition [Data] Exporting results of check to instruments [Graphs] Check results shown on trend graphs, lists, and calendar [Others] Saving/printing of check report
External I/O	Importing/exporting of data files in original format Exporting report files in PDF format
Display languages	English, German, French, Italian, Spanish, Chinese (Simplified and Traditional), Portuguese, Russian, Turkish, Polish, Korean, Japanese

*1: Available only when a premium license of SpectraMagic NX2 is active.
*2: Instruments with new firmware versions only. Instruments with old firmware versions may not be supported. Firmware version of compatible instruments conform to Color QC App.
*3: Not available in some countries.
*4: Items available depend on the instrument model.
(Gloss) items available only for CM-36dG, CM-36dGV, CM-26dG, and CM-25cG.

Color QC App

In addition to the "PRO version" with enhanced, further developed basic functions, there is also a "Lite version" with limited functions.

<Compatible Instruments>

Measuring instruments	Spectrophotometer	CM-3700A Plus/CM-3700A-U Plus, CM-3700A*[9], CM-36dG/CM-36d/CM-36dGV, CM-3600A*[9]/CM-3610A*[9], CF-300*[1], CM-5*[9], CM-M6, CM-17d/CM-16d, CM-26dG/CM-26d/CM-25d/CM-23d*[1], CM-25cG, CM-700d*[9]/CM-600d*[9], CM-2500c*[9], CM-512m3A*[9], CM-2600d*[9]/CM-2500d*[9]
	Chroma Meter	CR-5*[1][9], CR-400*[9]/CR-410*[9], DP-400*[9]

<Main features>

Observer		2°, 10°
Color system/ color space	Pro, Lite	L*a*b*, L*C*h, Lab99, LCh99, Lab99o, LCh99o, Hunter Lab, and their color differences; Munsell (C, D65)
	Pro only	XYZ, Yxy, u'v', u*v*, and their color differences
Index	Pro, Lite	MI; GU and difference (CM-25cG, CM-26dG, CM-36dG/CM-36dGV); Opacity (ISO 2471, TAPPI T425 89% white plate)*[2]
		CM-5/CR-5 only: Gardner, Iodine Color Number, Hazen/APHA, European Pharmacopoeia, US Pharmacopeia
	Pro only	WI (CIE1982, ASTM E313-73, Hunter, ASTM E313-98, BERGER, TAUBE, STENSBY, Ganz); YI (ASTM D1925-70, ASTM E313-73, ASTM E313-98, DIN 6167); B (ASTM E313-73); Tint (CIE 1982, ASTM E313-98, Ganz); Standard Depth (ISO 105.A06); Brightness (TAPPI T452, ISO 2470); Density (Status A, Status T); Dominant Wavelength; Excitation Purity; 555; RxRyRz; Grey Scale/Grey Scale Rating (ISO 105.A05); K/S Strength (Apparent, (ΔE*$_{ab}$, ΔL*, ΔC*, ΔH*, Δa*, Δb*, Maximum absorption, Total wavelength, User wavelength); Strength; Pseudo strength; Staining degree/degree grade (ISO 105.A04E); NC#; NC#Grade; Ns; Ns Grade; Signal color index; 8° gloss (for simultaneous SCI/SCE measurements only); FF (CM-M6); User equation; Haze (ASTM D1003-97)*[2]; Blackness (My) (ISO18314-3/DIN55979); Jetness (Mc) (ISO18314-3); Undertone (dM) (ISO18314-3), and their differences
Color difference formula	Pro, Lite	ΔE*ab (CIE1976); ΔE00 (CIE DE2000) and each component of lightness, saturation and hue; ΔE99 (DIN99); ΔE(Hunter); ΔE*94 (CIE 1994) and each component of lightness, saturation and hue; CMC and each component of lightness, saturation and hue; ΔE99o and each component of lightness, saturation and hue
	Pro only	ΔE*94 (Special)*[3] and each component of lightness, saturation and hue; ΔEc (degree) (DIN 6175); ΔEp (degree) (DIN 6175); FMC-2; NBS 100; NBS 200; Audi2000
Illuminant	Pro, Lite	A, C, D$_{50}$, D$_{65}$, F2, F11
	Pro only	D$_{55}$, D$_{75}$, F$_6$, F$_7$, F$_8$, F$_{10}$, F$_{12}$, U$_{50}$, ID$_{50}$, ID$_{65}$, LED-B1, LED-B2, LED-B3, LED-B4, LED-B5, LED-BH1, LED-RGB1, LED-V1, LED-V2, User illuminant (100 maximum)
Graph and canvas objects*[4]	Pro, Lite	Spectral reflectance (transmittance) and its difference; L*a*b* absolute color distribution; Hunter Lab absolute color distribution; ΔL*a*b* color difference distribution; Hunter ΔLab; xy chromaticity diagram; Trend graph; Histogram; Multichannel graph; 2D user-specified axis graph Text labels, Numerical labels, Images, Data lists, Statistics, Pseudo-color patches
	Pro only	K/S and its difference; Absorbance and its difference
Features	Pro, Lite	[Measurement] Viewfinder (CM-3700A Plus/CM-3700A-U Plus, CM-17d, CM-36d series, CF-300*[5]); Manual averaging measurement; Trigger measurement (excluding CF-300, CM-3700A, CM-3600A and CM-3610A) [Data] Categorize by tags; Attaching images/comments; Evaluation results·pass/fail judgment; Import/export; Stored data reading/target data writing (excluding CM-3700A Plus/CM-3700A-U Plus, CM-3700A, CM-3600A, CM-3610A, CM-36d series and CF-300); Target data protection [Other] Shortcut key settings; Display template creation/output/application; Report printing; Printing to serial printer; Sound (on measurement, pass judgment, fail judgment); Job settings (CM-17d/CM-16d, CM-26dG/CM-26d/CM-25d, CM-25cG), Remote color difference display*[6]
	Pro only	[Calibration] User calibration, UV adjustment [Measurement] Interval measurement [Security] User management/operation restrictions [Data] Data search under specified conditions, User illuminant source registration (manual input, from file, from CL-500A), Automatic selection of standards, Auto tolerance, Classification by user defined information [Other] QC template creation/editing/output, Macro function, External software startup
Number of files and data		Number of files that can be opened simultaneously: 10 Number of data that can be stored in a file: 10,000 (total of target data and measurement data)
Supported file formats		NX2 (.mesx2, .mtpx2), NX (.mtp, .mes, .mea; reading only)*[7], CM-5/CR-5 (.bdt; reading only), Other (.csv (output only), .cxf), SpectraMagic DX files (.mesx) need to be converted to .mes with a conversion tool NX2 QC template (.qctp; Lite: application only)
Display languages		English, German, French, Italian, Spanish, Chinese (Simplified and Traditional), Portuguese, Russian, Turkish, Polish, Korean, Japanese

<Minimum Computing Requirements*[8]>

OS: Windows® 11 Pro
CPU: Intel® Core i5 2.7GHz or higher processor (recommended)
Memory: 2GB or more (4GB or more recommended)
Storage: 10GB or more
USB port: Required for dongle version
Connection to external network: Required for activation

*1: Not available in some countries.
*2: For opacity(ISO 2471, TAPPI T425 89% white plate) and haze(ASTM D1003-97) measurements, software measurement procedure and calculations follow the corresponding standard. Whether the geometric requirements of the corresponding standard are met depends on the instrument used.
*3: When comparing two colors, please use ΔE*94(Special) if you do not want to set one as the standard.
*4: Canvas window can show up to 10 tabs (Pro edition)/2 tabs (Lite edition). However, when a file with more than 2 tabs created in Pro edition is used in Lite edition, all tabs can be viewed but only the first 2 tabs can be edited.
*5: Requires optional accessories.

*6: Available only when using CM-17d/16d Ver.1.20 or later, CM-26dG/26d/25d Ver.1.50 or later, CM-25cG Ver.1.40 or later and CM-M6 Ver.1.20 or later.
*7: The file version that can be loaded is ver.2.00.0000 or later.
*8: The hardware of the computer system must meet or exceed the greater of the recommended system requirements for the compatible OS being used or the above specifications.
*9: Instruments with new firmware versions only. Instruments with old firmware versions may not be supported. Click here for firmware versions of compatible instruments. ↓ https://www.konicaminolta.com/ instruments/download/software/color/ smnx2/index.html

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

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

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

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Konica Minolta Sensing Americas, Inc.	New Jersey, U.S.A.	PHONE: (888)473-2656 (in USA), +1(201)236-4300 (outside USA) FAX: +1(201)785-2480 E-mail: marketing.sus@konicaminolta.com		
Konica Minolta Sensing Europe B.V.	European HQ/ BENELUX	Nieuwegein, Netherlands	PHONE: +31(0)30 248-1193	E-Mail: info.benelux@seu.konicaminolta.eu
	German Office	München, Germany	PHONE: +49(0)89 4357 156 0	E-Mail: info.germany@seu.konicaminolta.eu
	French Office	Roissy CDG Cedex, France	PHONE: +33(0)1 80 11 10 70	E-Mail: info.france@seu.konicaminolta.eu
	UK Office	Warrington, United Kingdom	PHONE: +44(0)1925 467300	E-Mail: info.uk@seu.konicaminolta.eu
	Italian Office	Cinisello Balsamo, Italy	PHONE: +39 02849488.00	E-Mail: info.italy@seu.konicaminolta.eu
	Swiss Office	Dietikon, Switzerland	PHONE: +41(0)43 322-9800	E-Mail: info.switzerland@seu.konicaminolta.eu
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