Color quality control like never before:
- Unprecedented ease of use
- Pre-defined and user-definable templates
- Step-by-step navigation help
- Customized screens and reports including digital images
- Includes “Precise Color Communication” tutorial
- Available in 8 languages
Total flexibility for designing screen and print layouts that meet your QC needs

Layouts for screen displays and printed reports vary by application, from simple pass/fail assessment or statistical process control for production lines to detailed analysis for R & D work. SpectraMagic™NX comes with several pre-defined templates to let you get started immediately, but you can also create your own screen and print layouts according to your needs and application with total freedom and flexibility and save them as templates for later use. Objects such as graphs (color, spectral, 2D/3D color-difference, or trend), data list, pass/fail indication, color patches, images, etc. can be positioned where desired and scaled as needed. Design your own screens to show the data you need during measurements, and then design print layouts to prepare easy-to-read reports, shipment slip formats, etc. Multiple pieces of data can even be printed on a single sheet.

Available in 8 languages

To allow global companies to use SpectraMagic™NX in their branches throughout the world, SpectraMagic™NX is available in 8 languages: English, Japanese, German, French, Spanish, Italian, Chinese (Simplified and Traditional), and Portuguese. Program menus, messages, etc. as well as the Navigation and Precise Color Communication tutorial will all be shown in the installed language.

$\Delta E_{00}$ (CIE DE2000) display

Color differences can be displayed using the $\Delta E_{00}$ (CIE DE2000) color-difference formula, an improved color-difference formula based on the L*a*b* color space which provides better correlation between the calculated color-difference value and visual color-difference evaluation for subtle color differences.
New search function

By using the search function, data meeting the search conditions can be quickly and easily extracted from large volumes of data. Plus, for dual-bank data sets from simultaneous measurement of SCI and SCE, data lists of SCI only and SCE only data can be created and displayed.

CCS (Closest Color Search) function

With the new CCS (Closest Color Search) function, the specified number of stored target colors closest to the measured sample and within the specified color-difference limit can be automatically extracted from the target color database. The extracted target colors can then be not only listed, but also shown on spectral graphs or $L^*a^*b^*$ color plots, and the desired target color can be selected from the list.
Navigation function for total workflow control plus color measurement tutorial

With the exclusive Navigation function, you have total control of the flow of operations with online step-by-step instructions including picture illustrations. You can even customize this unique feature to match your individual measurement processes. The Navigation window also includes a link to the HTML version of “Precise Color Communication”, a color-measurement tutorial with numerous illustrations and explanations that contribute to a clearer understanding of the basics and technical terms related to color and color-measurement technology.

Comprehensive ease of use from various color-difference assessments to report creation

SpectraMagic™NX makes color quality control easy and comprehensive at the same time. You can choose from several types of graphs to display your measurement data and also select from among the latest color-difference formulas such as CIE 1994 or CIE DE2000 for pass/fail assessments or various industry-related indices. SpectraMagic™NX even lets you input the formulas for up to 8 user indices for your special evaluation needs. And in addition to the user-definable printing layout, objects such as graphs, data lists, etc. on the display screen can be copied directly into Excel® to provide even more flexibility.
Sophisticated QC applications

The target data of one master target (primary target) can be associated with two or more working targets (secondary targets). This allows for sophisticated QC application such as checking for color differences of the measured sample from the working targets and the master target simultaneously. It also enables managing the color differences of an entire product in sections by comparing the differences from the target color of each section.

Automatic tolerance setting in which the minimum tolerance setting which would enclose several samples is calculated automatically and set as the tolerance can be performed using three different color-difference formulas: CMC(l:c), \( \Delta E_{94} \), and \( \Delta E_{00} \), which are considered to provide results similar to visual evaluation and which are being increasingly adopted by companies and other organizations.

In addition, the tolerances set with this function on the Professional version can be transferred to the Lite version and used for pass/fail judgments there.

Automatic tolerance setting

Input of additional information for measurements

Additional information can be set up for input and attached to measurement data. The additional information can be freely defined and could be information such as model name, item name, product number, code number, order number, color number, lot number, customer name, visual judgment result (pass/fail input), temperature, humidity, etc. The added items can then be used when organizing, sorting, or searching for data, and if the additional data is numerical, can also be displayed on a graph.

Macro function to automate work

Routine operation flows can be set up as macros using the menu screen and then run later to automate the work process. This reduces work time as well as prevents operation mistakes.

(Operation flow example)

Calibrate the instrument before measurement, repeat measurement 30 times at 10-minute intervals, and then save the data.
Specifications:

Minimum Computing Requirements

OS
Windows® Vista Business 32 bit, 64 bit; Windows® 7 Professional 32 bit, 64 bit; Windows® 8 Pro 32 bit, 64 bit; Windows® 8.1 Pro 32 bit, 64 bit

CPU
Pentium® III 600 MHz or higher (recommended)

Memory
128 MB (256 MB recommended)

Hard disk
450 MB of available disk space (At least 400 MB of available space is required in the system drive.)

Display
Display unit capable of showing at least 1,024 x 768 dots/16-bit colors

Other
DVD-ROM drive (required for installation); one free USB port or additional USB port) for connection to instrument when connecting via cable (or USB port for USB Bluetooth® adapter when using a USB Bluetooth® adapter for performing communication using CM-7000 or CM-6000 via Bluetooth®; Internet Explorer Ver. 5.01 or later

Compatible Instruments
CM-3700A, CM-3600A, CM-3610A, CM-5, CM-3700d, CM-3600d; CM-3610d; CM-3630, CM-3500d; CM-7000d/6000d; CM-2600d/2500d/2500c; CM-512m3A; CM-512m3; CR-400/410, DP-400

Features

Color space
L*a*b*, L*C*h, Labgp, LChgp, XYZ; Hunter Lab, XyY, L*h**, u’v’ and their color differences; Munsell (C, D65)

Index
MI, W(t) (CIE 1982, ASTM E313-73, ASTM E313-96, HUNTER, BERGER, TAUBE, STENSBY, Ganz), Tint (CIE 1982, ASTM E313-96, Ganz), YI (ASTM D1925-70, ASTM E313-73, ASTM E313-96, DIN16817), WB (ASTM E313-73), Standard Depth (ISO 105-A06), Brightness (TAPPI T452, ISO2470), Opacity (ISO 3871, TAPPI T425 89% White Plate), Haze (ASTM D1003-97)*, Density (Status A, Status T), Dominant Wavelength, Excitation Purity, RXYRZ, 8 degree gloss value (CM-3610A, CM-3610A, CM-5, CM-3600d, CM-7000d/6000d, CM-2600d/2500d/2500c) only, user equation, each difference, 555, Degree Standard Deviation, Staining index degree (ISO 105-A04E), Greyscale index (ISO 105-A05), Grey Scale Rating (ISO 105-A00), K/S strength (Adjacent (a*Eab, L+ a, C+ b), a, b, maximum absorption, total wavelength, user wavelength), NCR, NCF, Grade, Bs, Gr, Grade, Signal color index

Only when measurement are taken with CM-5 connected: Gardner, Iodine Color Number, Hazen/ APHA, European Pharmacopoeia, US Pharmacopeia

* With some instrument types, the illuminating light-receiving optical system may not satisfy the definition of haze (ASTM D1003-97).

Color difference formula

\[ E_{ab} \] (CIE 1976), \[ E_{DE}\text{ (CIE DE2000) and each component of lightness, saturation and hue, } E_{D04} (CIE 1994) and each component of lightness, saturation and hue, E (Hunter), CMC (I:c) and each component of lightness, saturation and hue, FMC-2, NBS 100, NBS 200, E (degree) (DIN 6175-2), E (degree) (DIN 6175-2)

Observer
2° or 10° Standard Observer

Illuminant
A, C, D50, D55, D65, F2, F6, F7, F8, F10, F11, F12, U50, ID50, ID65, IDgs, User illuminant 1 to 3

Graph display
Spectral transmittance (and its difference), K/S and its difference, Absorbance and its difference, L*a*b* value, L*a*b* value

(2D/3D color difference distribution, MI), Hunter Lab absolute value, Hunter L*ab value difference distribution, xy chromaticity diagram, Trend chart and histogram of each color space and color difference formula, Pseudo color display

Image display
Link between measured color value and image data (JPEG or BMP format), Insertion of custom images

Instrument control
Measurement/calibration
Automatic average measurement: 2 to 999 measurements
Manual average measurement: Any number of measurements (Standard deviation and average value are displayed in the color space selected during measurement.)
Remote measurement (Excluding the CM-3000 Series)

Instrument setting

Upload data of stored in the instrument (Excluding the CM-3000 Series)
List view of data stored in the instrument (Excluding the CM-3000 Series)

Target data
Registration of several target colors (Automatic target color selection), Manual input and registration of colorimetric data by specifying color space, Target data download to the instrument (Excluding the CM-3000 Series)

Data list
List view and editing of target/measured data (delete, sort, averaging, copy & paste, search, file merge)

Link between JPEG images, Display of statistic value and pass/fail ratio

Visual judgement result input function, Additional data information inputting/listing function

Instrument setting

Loading/saving data files in original format (Extension: mes) (Several files can be loaded.)
Loading/saving template files in original format (Extension: mtp) (Several files can be loaded.)
Saving of data in text format (CSV, TXT), saving of data in XML format, Copy of listed data to the clipboard

Display languages
English, German, French, Spanish, Italian, Japanese, Chinese (Simplified and Traditional), Portuguese

Help function

Other
Screen display
Number of files that can be opened simultaneously: 20
Number of data that can be stored in a file: Target data: 5,000, Measurement data: 5,000

Instrument status details window display

Operation
Operation is easy thanks to an operation screen with large buttons, use of function-assigned keys instead of a mouse, the Navigation function, and the Macro function.

Displays shown are for illustration purposes only.

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SAFETY PRECAUTIONS

For correct use and your safety, be sure to read the instruction manual before using the product.

KONICA MINOLTA, INC.

Osaka, Japan
Phone : 81-6-673-7566 (in Japan), 201-236-4300 (outside USA)  
Fax : 201-785-7487

New York, U.S.A.
European Headquarter /BENELUX

Munich, Germany
French Office

Osaka Office
Pole Office

Tokyo Office

Osaka (Japan)

Konica Minolta Sensing Europe B.V.

Netherlands

France Office

Tokyo Office

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Swiss Office

Note: Office

Polish Office

Konica Minolta (CHINA) Investment Ltd.

Shanghai, China

Beijing Office

Konica Minolta Sensing Singapore Pte Ltd

Singapore

Konica Minolta Sensing Korea Co., Ltd.

Konica Minolta, Inc.

Sensing Business

Bangkok, Thailand

Address and telephone numbers are subject to change without notice. For the latest contact information, please refer to the KONICA MINOLTA World Wide Offices web page.

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