

Small and lightweight pen-type sensor with a wavelength range from 380 to 780 nm, allowing measurement at 5 nm intervals



Bluetooth printer
(optional)

**Weight equivalent
to one "D" size battery**



Suitable for measuring the color of painting, resin, chemical products, printings, cosmetics, foods, fruits, skin, and other applications!

PORTABLE SPECTROPHOTOMETER

NK 1

Related standards

JIS Z8722, JIS Z8781-4, JIS Z8781-6 etc

Easy-to-use pen-type sensor

Capable of measuring difficult-to-measure locations such as a concave-convex surface

Small and lightweight

Same length as a pen and weight equivalent to one "D" size battery

Measuring diameter selectable according to the application

Select the measuring diameter from $\phi 4$ mm to $\phi 8$ mm depending on the sample to measure.



4mm

8mm

High precision

Measurement in a wavelength range from 380 to 780 nm at 5 nm intervals. The repeatability is the standard deviation ΔE^* (ab) within 0.02, enabling high precision.

Wide range of calculating formulas

Diverse color items are provided for quick and simultaneous understanding.

Options

The use of the sensor stand makes it easy to measure powdery or paste samples. By using the thermal or dot-impact printer, you can print measurement items.

Actual size

150mm



Examples of how to take measurements



Hold the device in your hand



Press the device against the sample



Put the device in place



Compact storage

Specifications (optics)

Lighting/Light receiving conditions	Reflection: 45°c : 0° (45° illumination, 0° light reception)
Measurement methods	JIS Z8722 (geometric condition a)
Spectroscopic method	Compensation for all wavelengths
Photodetector	Diffraction grating
Measurement wavelength	CMOS linear image sensor
Light source	380 nm to 780 nm, 5 nm output interval
Measuring time	White LED (intermittent lighting)
Operational switches	Approx. 3 seconds
Measuring diameter	Tact switch
	Select from ϕ 4 mm or ϕ 8 mm

Reproducibility	30 consecutive measurements at 15-second intervals on a standard white plate Spectral reflectance: standard deviation within 0.2% Color difference $\Delta E^*(ab)$: within standard deviation of 0.02
Cable length	Dedicated connection cable: standard 1.5 m (The use of an optional Bluetooth module allows wireless connection to a PC.)*
Interface	For the dedicated connection cable (USB-A on the PC side, with a TYPE-C conversion adapter)
Dimensions/Weight	43 mm (W) x 72 mm (D) x 150 mm (H) 140g
Power supply/Power consumption	Supplied through the dedicated cable when the PC is connected Max. 4W or less (2W or less on standby)
Standard accessories	*Connect to a USB connector capable of supplying 5V 0.9A.
Options	Standard white plate, dedicated connection cable (1.5 m), target plate, hardware case, computer control software Curved-surface attachment, wet attachment, powder measurement attachment, sensor stand, Bluetooth module, Color Mate Pro 2, thermal printer (print from PC), dot-impact printer (print from PC)

Note: When using the Bluetooth module, a mobile battery or AC charger is required.

Operating environment

OS	Windows11, Windows10 *Microsoft .NET Framework4.6.2 must be installed.
PC environment	CPU : 2GHz or higher recommended Memory : 4 GB or more recommended HDD : 100 MB or more free space Display : WXGA (1.366x768) or higher recommended

Software

Displayed graphs	Lab graphs, Xxy graphs, spectral graphs, graphs for determining polarization, etc.
Displayed items (info.)	Approximate colors, name, memo, measurement date and time, decision, average, etc.
(Color)	XYZ, Xyz, L*a*b*, C*h* (ab), u*v*, C*h* (uv), Lab, Ch, HVC (Munsell) spectral values, (reflectance, absorbance, K/S)
(Index)	Mi, W (i CIE), W (i ASTM E313-73), W (i ASTM E313-05), W (Lab*), W (Lab), WB, TW (CIE), Tin (t ASTM E313-05), Y (i ASTM E313-73) Y (i ASTM E313-05), Y (i ASTM D1925)
(Color difference formula)	$\Delta E^*(ab)$, ΔE , ΔE^*94 , $\Delta E00$, $\Delta E (CMC)$, $\Delta E (FMC2)$
Density function (density value)	KCMY
(Density response)	Status A, T, E, I, DIN Wide, DIN Narrow
Measuring light source	A, B, C, D50, D55, D65, D75, F2, F6, F7, F8, F10, F11, F12
Observation conditions	2° and 10° viewing angles of individual light source
Measurements	Standard calibrations, measurements Automatic measurements (Measurement intervals can be specified by HH/MM/SS.)
Search	You can search by using the name, memo, date and time, and color value as the search criteria.
Average	2 to 30 times
Data quantity	2000 pieces of reference data and 2000 pieces of sample data in one file
Data editing	You can copy and paste measurement data and graphs into Excel and other software.
File	Data files are saved and read. Text files are saved and read.
Error message	Errors such as incorrect operations during calibration or measurement are indicated.

Note: Windows, Excel, and Word are registered trademarks of Microsoft Corporation in the United States.

Options

Sensor stand



Dedicated attachments



Bluetooth printer



Dedicated computer control software

Application to obtain, display, analyze, and manage measurement data. Measured values, spectral graphs, and individual chromaticity diagrams can be displayed on the screen. Measured data as well as graphs can easily be copied and pasted into an Excel file and other files.

Can be displayed and selected



For inquiries, please contact:



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Note: The above specifications are subject to change without notice in the future due to product improvements.

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