



KONICA MINOLTA

When Using Spectrodensitometer FD-7 and FD-5 with SpectraMagic NX

The Spectrodensitometer FD-7 and FD-5 can be used together with SpectraMagic NX Ver. 2.4 or higher for color measurement.

Although operation of SpectraMagic NX with the FD-7 or FD-5 is mostly the same as when using SpectraMagic NX with other instruments, there are some exceptions as explained in this section.

- Instrument firmware must be Ver. 1.20.0000 or later in order to use it with SpectraMagic NX. If firmware version is lower than Ver. 1.20.0000, please visit http://www.konicaminolta.com/instruments/download/software/instrument_firmware/index.html to download the latest firmware version and update your instrument. Instrument firmware version is shown in the startup screen when instrument is first switched on. It can also be checked from the instrument's System menu. Please refer to Spectrodensitometer FD-7/FD-5 Instruction Manual for more information.

General operation:

For accuracy, calibration, target measurement, and sample measurement should all be performed with the same relative positioning of the instrument and subject:

- In general, using the target mask makes positioning easier and is recommended. When the target mask is used, be sure to press the instrument down against the subject and keep it pressed down until measurement is completed. Calibration or measurements taken without holding the instrument pressed down when using the target mask will not be accurate.
- When remote measurement is enabled, the target mask must be used. Measurement will be triggered by the detection switch push pin on the target mask pressing the measurement trigger detection switch of the instrument.
- If the target mask is not used, be sure that the specimen measuring port is kept flat against the subject until measurement is complete.

The following functions cannot be used when FD-7/FD-5 connected:

- Sensor Sync window
- Calibration data setting
- Upload/download of target or sample data
- There is no navigation for FD-7/FD-5.
- Standalone configuration

Driver installation

The first time that the FD-7 or FD-5 is connected to the PC using the USB cable and switched on, Windows will automatically install the driver for the instrument.

- If Windows Update starts during the driver installation process, click "Skip".

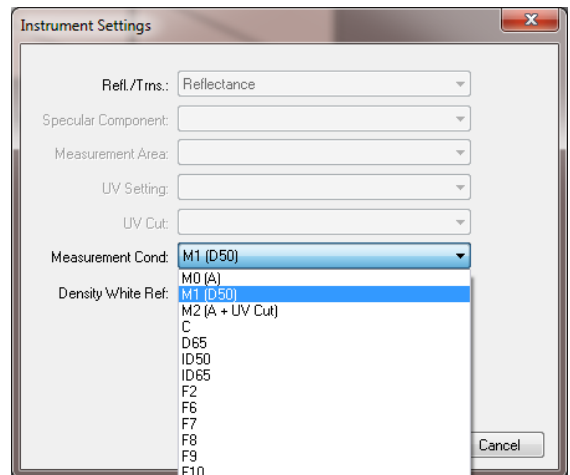
Connection

When connecting to an FD-7 or FD-5 from SpectraMagic NX, please note the following points:

- No communication settings are required.
- If instruments other than the FD-7 or FD-5 are also connected to the PC, SpectraMagic NX will give priority to connecting to the FD-7 or FD-5.
- Connection to multiple FD-7 or FD-5 units is not possible. If multiple units are connected, SpectraMagic NX will connect to the first FD-7 or FD-5 unit that is found and ignore the remaining units.

Instrument Settings

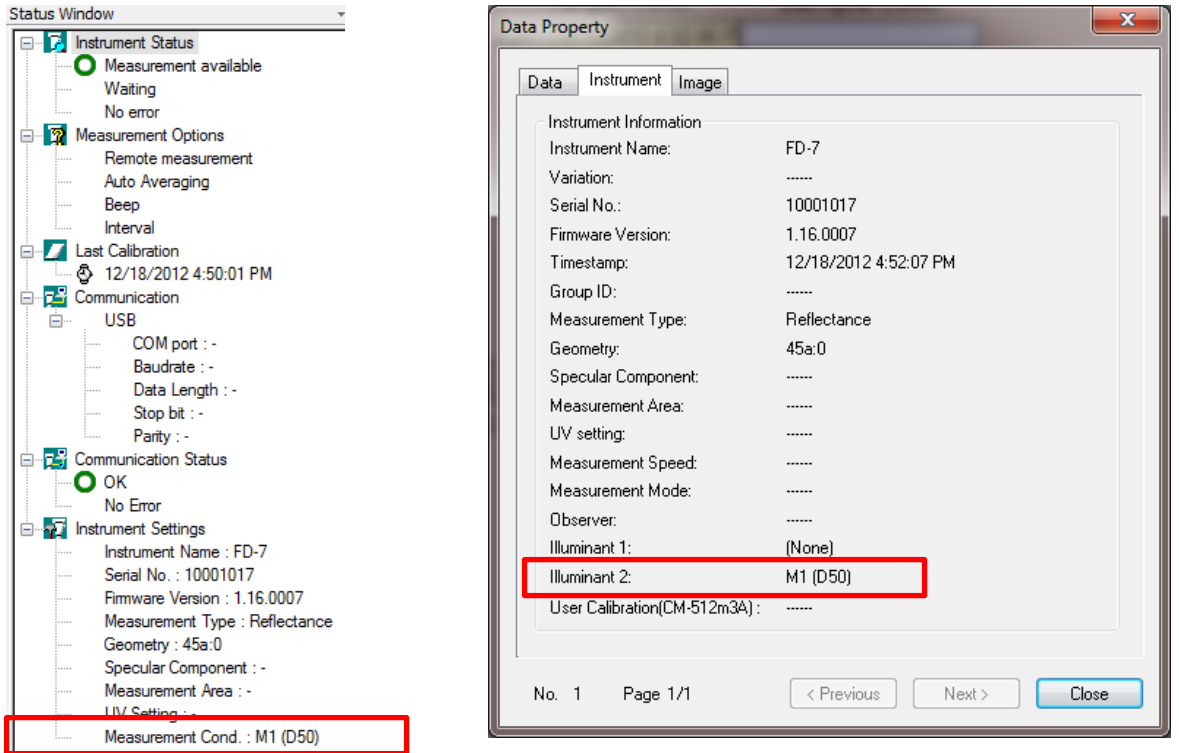
Although the Instrument Settings dialog will show the current instrument settings for Refl./Trns., Measurement Cond., and Density White Ref., the only setting that can be changed in the dialog is Measurement Cond. The Measurement Cond. is the measurement condition that will be used for the next measurement; changing it does not affect the measurement conditions of measurements that have already been taken.



Measurement Cond. Setting	Meaning
M0 (A)	ISO 13655 Measurement Condition M0; CIE Standard Illuminant A
M1 (D50)	ISO 13655 Measurement Condition M1; CIE Supplementary Illuminant D50
M2 (A + UV Cut)	ISO 13655 Measurement Condition M2; CIE Standard Illuminant A with light of 410 nm or lower cut
C	Supplementary illuminant C; (Daylight with low relative spectral distribution in the UV region; color temperature 6774 K)
D65	Supplementary illuminant D65 (daylight, color temperature 6504 K)
ID50	Indoor daylight illuminant ID50 (daylight, color temperature 5000 K)
ID65	Indoor daylight illuminant ID65 (daylight, color temperature 6500 K)
F2	White (overseas fluorescent lamp)
F6	White (domestic Japanese fluorescent lamp)
F7	Color rendering A daylight color (overseas fluorescent lamp)
F8	Color rendering AAA daylight color (domestic Japanese fluorescent lamp)
F9	Color rendering AAA white (domestic Japanese fluorescent lamp)
F10	Three band daylight color (domestic Japanese fluorescent lamp)
F11	Three band white (overseas fluorescent lamp)

Measurement Cond. Setting	Meaning
F12	Three band incandescent bulb color (overseas fluorescent lamp)
User Illum.	(FD-7 only) User-defined illuminant; must be already registered in the instrument.

- The selected Measurement Cond. setting will be shown in the Status Window and as the Illuminant2 setting in the data list window or the Instrument tab of the Data Properties dialog.



Calibration

- Select *Instrument - Calibration* from the menu bar. The calibration dialog will appear.
- Set the instrument on the white calibration plate and press it down against the white calibration plate.
 - Be sure that the pairing number of the instrument and white calibration plate match.
- While holding the instrument pressed down against the white calibration plate, click the Calibration button in Calibration dialog. Keep holding instrument pressed down until a beep is heard (several seconds may be required) and calibration is complete.
 - If the error message "Incorrect Calibration Procedure" appears, check that the Protection Glass is attached to the instrument (measurements with Polarization Filter attached are not possible when using SpectraMagic NX) and perform white calibration again, making sure that the instrument is kept held down against the white calibration plate until a beep is heard indicating that white calibration has been completed.

Measurement

- Scan measurements or illuminance measurements are not possible.
- Measurements must be taken with the Protection Glass attached. The Polarization Filter cannot be used.
- The instrument should be held pressed against the measurement subject when taking measurements. If the target mask is attached, be sure to hold the instrument pressed down fully against the subject until measurement is complete. If the target mask is not attached, be sure that the specimen measuring port is kept flat against the subject until measurement is complete.
- When remote measurement is enabled, the target mask must be used. Measurement will be triggered by the detection switch push pin on the target mask pressing the measurement trigger detection switch of the instrument.

Data handling

FD-7: Measured spectral reflectance data are read from the instrument after each measurement.
Range: 380 to 730 nm

FD-5: Measured XYZ tristimulus values are read from the instrument after each measurement.

- The Illuminant and Observer settings on SpectraMagic NX must be set to the same settings as the instrument Color Option Illuminant and Observer settings. If the settings are not the same, an error message will appear and measurement will not be possible.
- Selectable illuminants: A, C, D50, D65, ID50, ID65 F2, F6, F7, F8, F10, F11, F12
 - Although F9 and User Illum. settings are available on the FD-5, they are not available on SpectraMagic NX and therefore cannot be used.
 - Although D55, D75, U50, and USER01 to USER03 are available on SpectraMagic NX, they are not available on the FD-5 and therefore cannot be used.

Demo mode

Demo modes to simulate use of SpectraMagic NX with an FD-7 or FD-5 are available. For the FD-5 demo mode, the Observer should be set to 2 degree and Primary Illuminant should be set to D50.

Data compatibility with previous versions of SpectraMagic NX

It is not recommended that measurement data files created in SpectraMagic NX Ver. 2.4 or higher be opened in earlier versions of SpectraMagic NX. Doing so may result in misidentification of certain properties specifically added to SpectraMagic NX for use with the FD-7 and FD-5.