

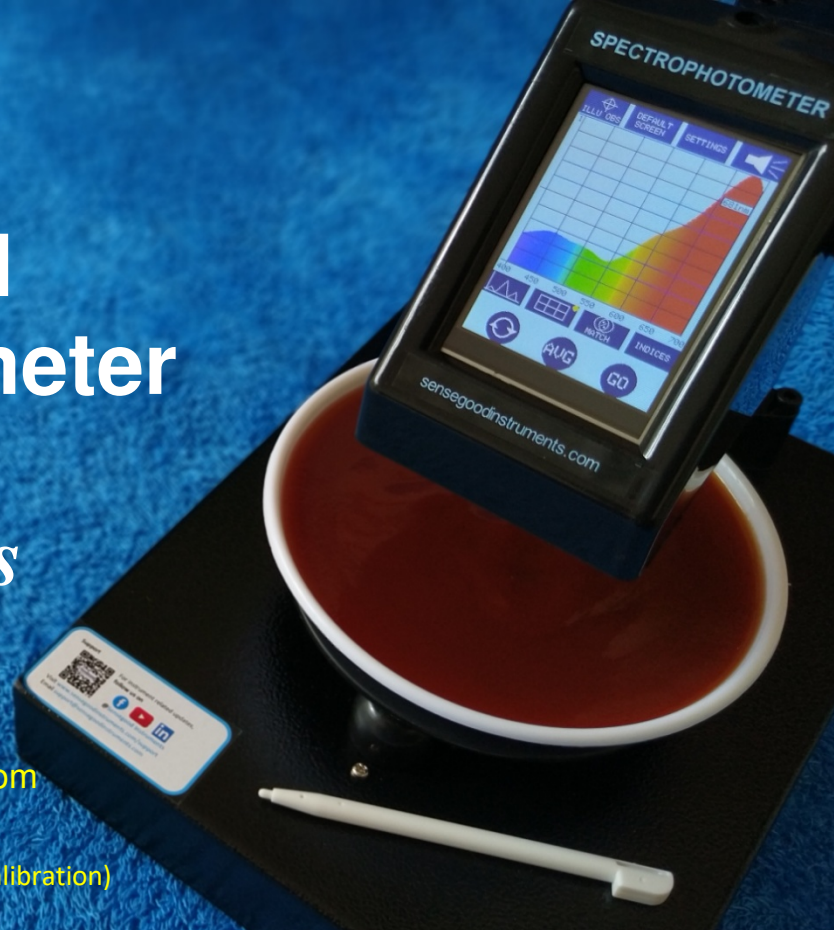
Sensegood Spectrophotometer

Specifications

www.sensegoodinstruments.com

PATENTED TECHNOLOGY

(Patented Hardware, Firmware, Algorithm, Calibration)



General specifications

Spectral display range	400 – 700nm (on instrument display)
Spectral measurement Range	380 – 1100nm (data available through SensegoodSmart utility)
Spectral resolution	1 nm throughout the spectra
Average inter-measurement agreement	0.04 ΔE^* CIELab typical
Principle	Visible spectral reflectance measurement, contact as well as non-contact type
Illumination source	Complementary compensating full spectrum long life LEDs, 98+ CRI
Measurement duration	Without averaging: < 0.5 second (motor off). With averaging: 13 seconds. Auto measurement mode: Instrument auto wakes up for measurement at user selectable repeat interval: 30/60/120 seconds.
Rotating platform specifications	Speed: 15RPM Suggested maximum uniform sample load: not exceeding 1 Kg
Display	69mm color touch TFT
Computer interface and software	Computer interface utility – SensegoodSmart enables real time color monitoring and global supply chain color management. Interface: Wired communication using USB interface.
Power supply	100–240 VAC universal power supply using adapter Direct from 5V power bank Direct from computer's USB port

Power consumption	Low power consumption: 0.8 Watts average. 8hrs a day, 6days a week – 48+hr of operation using 10Ah power bank. (considering continuous auto measurement mode)
Niche electronics	Over voltage protection, over current protection, smart fuse technology
Factory reset	Provision for software as well as hardware reset is available
EMI	Extremely suppressed Electromagnetic Interference (EMI) Strongest frequency component is 80dB down
Operating Humidity Range	0% to 85% (non-condensing)
Operating Temperature Range	10°C to 40°C
Storage Temperature Range	-20°C to 70°C
Color	Black
Material	ABS engineering plastic, polyamide technopolymer and steel
Sensor unit dimensions	8.5 cm x 8 cm x 6 cm
Shipping dimensions & weight	30 cm x 22 cm x 10 cm, 1.6 Kg

Operating system and Firmware features

Graphical representation of spectra for 400nm to 700nm with 1nm resolution

Single touch operation: Just press “GO” to start the measurement

Auto measurement mode for human independent operation. User selectable repeat intervals: 30/60/120 seconds

Averaging option in normal mode and also in auto measurement mode

Determine color difference between reference and sample, reference can be saved in the memory for future color comparison with the sample

Indication of whether the sample is Lighter/Duller, Redder/Greener, and Yellower/Bluer than the reference

Shows calculated Match%, ΔE^* , ΔL^* , Δa^* , Δb^* , and it has Settable Alarm Limit (color tolerance)

Displays Match% value in green (Pass indication) if it is greater than the set Alarm Limit

Displays Match% value in red (Fail indication) and plays audible alarm if it is less than the set Alarm Limit

Real time indication of Match% and alarms in auto measurement mode for prompt corrective actions

Color indices: Whiteness index CIE, Whiteness index Hunter, Whiteness index Stensby, Yellowness index (YI), Baking contrast unit (BCU), Tomato color index (TCI), Ripening index a^*/b^* and b^*/a^* , Citrus color index (CCI), Citrus number (CN), Citrus red index (CR), SCAA Agtron number

User can select from the set of illuminants and observers to make a combination. Firmware will do computation and display measurement data accordingly.

Simulated illuminants: A, C, D65, D50, D55, D75

Simulated observers: 2°, 10°

Color attributes compilation: All color computational data kept at one place for ease of analysis:

XYZ, Yxy, CIE $L^*a^*b^*$, CIE $L^*C^*h^0$, CIE $L^*u^*v^*$, Hunter Lab, CCT - color temperature, peak wavelength, RGB, rgb, CMYK, Hex color code

Provision for future technology integration with third-party global color management software, online platforms and solutions

Customized instrument communication support for your existing color management software

Assists in determining the closest commercially available colors by measuring the color of any sample.

Sensegood Spectrophotometer is standardized

- Supports: Commission Internationale de l'éclairage (International Commission on Illumination) CIE1931, CIE1964 and CIE1976.
- Supports: Agtron number which is standardized by SCAA (Specialty Coffee Association of America).
- Supports: Citrus scores and other color indices standardized by USDA (US Department of Agriculture) and USFDA (US Food and Drug Administration).
- Follows guidelines: Instrumental Color Measurement by American Association of Textile Chemists and Colorists (AATCC).

SensegoodSmart Utility features

Easy to setup, easy to use.

Supports real time measurement and update without human intervention.

Supports data portability using export and import of .sego measurement data files.

Options to Save and Print (.jpg, .pdf).

Using this utility, multiple color references can be saved to the computer and later the desired reference values can be loaded into the instrument for comparing the color of a reference with the sample under test.

Once initialized, the utility does fully automated operation, it automatically detects the new measurement data, no commands/ no buttons to be clicked for fetching the data from the instrument.

Separate sub-screens for spectral graph, color data table, color indices, and color difference and match percentage. Screens get activated – deactivated automatically based on the active screen in the instrument.

User can input desired information like: company details, operating station, sample description, batch and lot number, sample supplier details. Such information becomes a part of generated files like .jpg, .pdf, .sego; and the information can be retrieved by anybody to whom this file is shared with. This helps in supervision, tracing and documentation.

Using SensegoodSmart utility one can export .csv data file containing spectral data from 380nm to 1100nm with 1nm resolution. Using any analytical tool like Matlab or similar, one can import .csv file and use it for further analysis. This feature is particularly developed for the researchers and university students.





We offer this utility with life time license which is further eligible for future software updates.

Document repository

<https://sensegoodinstruments.com/support>



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