INDIGO HANDHELD RANGE

IndiGo Color UV

Portable spectrocolorimeter under 365 nm UV excitation · 45°/0°

IndiGo Color UV measures the colour that a material emits when it fluoresces under 365 nm UV-A light. With a 45° illumination / 0° collection geometry and absolute radiometric calibration from 400 to 700 nm, it turns a visual check under a UV lamp into objective CIE L*a*b*, XYZ and ΔE values – together with the full emission spectrum. Battery-powered and connected by Bluetooth or USB-C, it brings laboratory rigour to security printing, optical brighteners and gemmology.



365 nm	400–700 nm	45°/0°	Ø 4 mm	BLE 5.0
UV-A excitation · 400 mW	Calibrated range	Contact geometry	Measuring spot	+ USB-C

Key features

- Colour of fluorescence in CIE L*a*b* and XYZ
- ΔE*ab and ΔE00 · 2° and 10° observers
- 4 × 365 nm LEDs, 100 mW each, at 45°
- Short-pass filter on LEDs: no visible spill
- 395 nm long-pass on collection: no UV backscatter
- Pulsed drive: no heating, limited photobleaching
- Absolute radiometric calibration (integrating sphere)
- Contact nose blocks ambient light

Sampling options

Contact nose (standard)
Sits flush on flat surfaces – documents, labels, textiles, plastics – and keeps out ambient light.

Powders & liquids
Dedicated mechanical interfaces and cuvette holders developed on request.

Remote optic
Non-contact viewing optic configurable on specific request.

Typical applications

Security inks & documents · Banknotes, ID cards, tax stamps · Optical brighteners (paper, textiles, detergents) · Diamond fluorescence grading · Minerals & treated gems · Polymer & fabric batch QC

SPECTROMETER	
Spectral range	400 – 700 nm
Sensor	Sony IMX334 monochrome CMOS · 3840 × 2160 · 2 µm pixels
Entrance slit	70 µm × 3 mm (25 µm on request)
Resolution (FWHM)	5 nm (70 µm slit)
Grating	300 l/mm, 550 nm blaze
Integration time	1 ms – 30 s · typical 0.5 s
Dynamic range	20 000 : 1
Signal-to-noise ratio	1000 : 1

EXCITATION & OPTICS	
Geometry	45° illumination / 0° collection, contact
UV source	4 × UV-A LEDs, 365 nm, 100 mW each (400 mW)
Filtering	Short-pass on LEDs · 395 nm long-pass on collection
Drive & thermal	Pulsed mode · IMS board + copper heat sink
Measuring spot	Ø 4 mm (customisable)

CALIBRATION	
Wavelength	Factory, Hg-Ar + Ne lamps
Intensity	Absolute radiometric, integrating sphere + tungsten-halogen standard

COLORIMETRY	
Colour spaces	CIE L*a*b*, XYZ
Colour difference	ΔE*ab, ΔE00
Observers	2° and 10°
Repeatability	ΔE ≤ 0.15 (same instrument)
Inter-instrument agreement	ΔE ≤ 0.35

POWER & DATA	
Battery	Li-polymer 1100 mAh 5C · 10 h operation · 24 h standby
Power supply	5 V · 750 mA (USB-C)
Connectivity	Bluetooth 5.0 Low Energy · USB-C
Data formats	.xlsx · .csv · .spc · .txt

SOFTWARE	
Windows software	SpectroLab – spectra, L*a*b*, ΔE (included)
Chemometrics	GoyaLab Expert & Capture: PCA, decision trees (optional)
Developers	SpectroLink Python library

MECHANICAL & ENVIRONMENT	
Dimensions	131 × 47 × 60 mm
Weight	150 g
Operating temperature	0 – 30 °C
Storage temperature	–10 – 40 °C
Humidity	0 – 90 % non-condensing

IndiGo Color range

Model	Geometry	Illumination	Typical samples
IndiGo Color UV	45°/0°, contact	4 × UV-A LEDs, 365 nm	Fluorescent inks, brighteners, gems
IndiGo Color 0°/45°	45°/0°, contact	D65 hyperspectral LED	Solids, graphic arts – see IndiGo Color datasheet

Ordering information

AR00176 IndiGo Color UV, 365 nm excitation, 400 – 700 nm, slit 70 µm as standard

AR00164 GoCal – automatic wavelength self-calibration module

AR00176-25 On request: slit 25 µm for higher resolution – please specify when ordering

Part numbers for information – please confirm with GoyaLab when ordering.

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