INDIGO HANDHELD RANGE

IndiGo Fluo Laser 980 nm

Portable up-conversion spectrofluorometer · anti-Stokes emission 400 – 750 nm

The IndiGo Fluo Laser 980 nm measures the anti-Stokes (up-conversion) emission of materials excited by a near-infrared laser. Under 980 nm excitation, up-converting phosphors and nanoparticles emit in the visible – blue, green and red – while ordinary matrices stay dark: the emission is recorded from 400 to 750 nm with virtually no autofluorescence background. Battery-powered and connected by Bluetooth or USB-C, it brings phosphor and security-ink testing to the lab bench, the production line and the field.



980 nm	400–750 nm	< 1.5 nm	SP 780 nm	Class 1
Laser · 100 mW	Anti-Stokes emission	Resolution (25 µm)	Excitation rejection	With interlocked holder

Key features

- Anti-Stokes emission measured from 400 to 750 nm
- 980 nm laser, 100 mW single-mode (300 mW multimode option)
- 980 nm clean-up + 780 nm short-pass filtering
- Virtually no autofluorescence from paper, polymers or fluids
- Laser power adjustable step by step in SpectroLab
- MPLAN objectives 4X, 10X (standard) or 60X
- Audible warning during laser emission, hardware interlock
- Green / red ratio and band areas computed in SpectroLab

Sampling options

Direct measurement
Through the MPLAN objective on documents, labels, polymers and solid samples.

Powders & liquids
On request, vial, Eppendorf tube or standard 10 × 10 mm quartz cuvette holders can be fitted in front of the microscope objective for powder or liquid analysis.

Objectives
MPLAN 10X as standard; 4X for wider collection or 60X for micrometric spots and higher power density.

Typical applications

Anti-Stokes security inks · Banknotes, passports, tax stamps · Up-converting nanoparticles (UCNPs) · Optical nanothermometry · Covert taggants & traceability · Photonic materials

EXCITATION	
Laser	980 nm, single-mode, continuous wave
Optical power	100 mW (300 mW multimode option)
Power control	Step by step in SpectroLab
Filtering	980 nm clean-up on source · 780 nm short-pass on collection

SPECTROMETER	
Anti-Stokes measurement range	400 – 750 nm
Entrance slit	25 µm as standard (70 or 150 µm on request)
Resolution (FWHM)	< 1.5 nm (25 µm) · < 5 nm (70 µm) · < 10 nm (150 µm)
Sensor	ON Semi MT9M001 or Sony IMX334 monochrome (high sensitivity)
Dynamic range · SNR	20 000 : 1 · 1000 : 1 (IMX334)

SAMPLING	
Objective	MPLAN 10X (4X or 60X tool-free swap)
Powder & liquid holders	Vial, Eppendorf tube or 10 × 10 mm quartz cuvette in front of the objective, on request

SAFETY	
Laser class	Class 1 with closed interlocked holder · Class 3B open
Warning	Audible buzzer during laser emission (invisible beam)

POWER, DATA & SOFTWARE	
Battery	Li-polymer 1100 mAh 5C · 10 h operation · 24 h standby
Connectivity	Bluetooth 5.0 Low Energy · USB-C
Software	SpectroLab (included) · Expert & Capture (optional)
Data formats	.xlsx · .csv · .txt · .spc

CALIBRATION	
Wavelength	Factory, Hg-Ar + Ne lamps · GoCal compatible

MECHANICAL	
Core	76 × 45 × 53 mm, 107 g (without laser head)

IndiGo Fluo laser range

Model	Excitation	Emission measured
IndiGo Fluo Laser 980 nm	980 nm, 100 mW	Anti-Stokes 400 – 750 nm
IndiGo Fluo Laser 405 / 520 / 532 nm	100 mW	Stokes fluorescence – see IndiGo Fluo datasheet

Ordering information

AR00182 IndiGo Fluo Laser 980 nm (100 mW single-mode)

AR00164 GoCal – automatic wavelength self-calibration module

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

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