



# IndiGo NIR

Handheld modular spectrometer

## About Goyalab

Goyalab is a French SME that designs, develops and markets measurement tools based on spectrometry.

Goyalab provides expertise in Research and Development, serving the industry in the development of specific applications in spectrometry.

Goyalab's philosophy is to develop powerful spectrometry tools that are easy to use, mobile and affordable thanks to new communication technologies (smartphones, tablets).

Goyalab wants to democratize spectrometry and make it accessible to everyone.



## With IndiGo, the power of spectroscopy at your fingertips

IndiGo NIR is a modular handheld near Infrared spectrometer. This new spectrometer allows the user to measure emission, absorption or transmission spectra directly on a smartphone or a PC. The wavelength range goes from 720 nm up to 1060 nm with a typical resolution below 2 nm.

IndiGo NIR provides data compatible with all the chemometric software's (R, Solo, Unscrambler, Quasar...). Customisation of the firmware to associate your chemometrics model is possible.

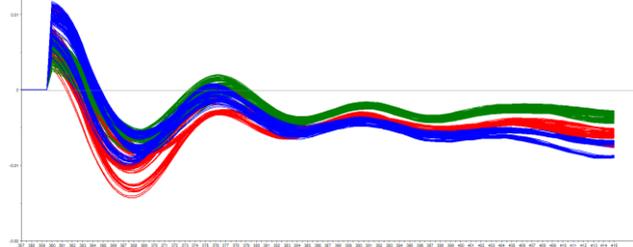
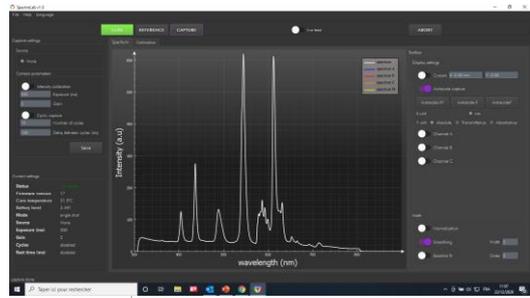
LEDs excitation module are designed to ensure a perfect stability of excitation over the time.

With its optional modules, IndiGo NIR can allow analyses on liquid or on solid samples.



## Key features

- > Modular spectrometer (transmission / reflection)
- > Free PC & Android software
- > Compatible with most chemometrics software's
- > Bluetooth connectivity
- > Battery or USB-C powered



## Optional modules



### NIR Reflection module for solid samples

The reflection module adds a continuous near infrared broadband light source (from 700nm up to 1100nm) to the IndiGo for reflection measurements.

The reflection module integrates a sapphire window to ensure the protection of the electronics while being in contact with the samples. Sapphire is non easily scratchable while being extremely transmissive to infrared.

This spectrometer is convenient for protein, dry matter, fat and sugar measures on foods, wheats, flours.

### NIR reflection or transmission for liquid samples

This module allows NIR spectral measures on liquids, pastes or micro-beads thanks to its standard cuvette holder.

This module adds a near infrared broadband light source (from 700nm up to 1100nm) to the IndiGo for reflection or transmission measurements depending on its configuration.





## Specifications

<i>PHYSICAL</i>	
Dimension	76 x 45 x 53 mm
Weight	107g

<i>SPECTROMETER</i>	
Sensor	CMOS SONY IMX 464 - NIR enhanced sensor pixel size: 2.9µm * 2.9µm * 1538 lines
Wavelength Range	720-1050 nm
Spectral Resolution	<2nm (FWHM)
Slit (W x H)	25 µm x 3 mm
Grating	300 Lines/mm, 900 nm Blaze
Integration Time Range	1ms-24s (multi cycles acquisition available)
Dynamic Range	20000 :1
Signal to Noise Ratio	1000 :1

<i>SYSTEME CONFIGURATIONS</i>	
Battery	10h in operation & 24h in standby mode
Data Format	.txt – CVS
Power	5V - 750mA

<i>ENVIRONMENTAL CONDITIONS</i>	
Temperature	0°C - 30°C operation & -10°C - 40°C Stockage
Humidity	0% - 90% noncondensing

<i>INTERFACES</i>	
Bluetooth	5.0 Bluetooth Low Energy
USB	USB-C
Software	Compatible with chemometric software

<i>CALIBRATION</i>	
Wavelength	Made in factory with Hg / Ar low pressure lamp
Intensity	Available in option