gekko photonics
Engineering-Driven Analytics

SPECTROSCOPY SOFTWARE PLATFORM

Spectrally™ OS

- Turns each spectrum into concentrations, PASS/FAIL results and alarms
- Advanced neural networks (CNN) built on the physics of the spectrum
- One platform for X1 LAB, X1 PORTABLE and X1 INLINE



Parameter	Value
Platform	Spectrally™ OS
Manufacturer	Gekko Photonics
Supported technique	Raman spectroscopy
Supported instruments	X1 LAB / X1 PORTABLE / X1 INLINE
Predictive models	Advanced neural networks (core: CNN) based on physicochemical analysis of the spectrum; PLS / PCA as the baseline where sufficient
Spectral library	On request, priced separately (depending on the compound groups needed)
Workflow automation	Yes
Communication protocol	Modbus TCP; Profinet on request (via gateway)
Operator interface	SpectrallyUI
Operating system	Debian GNU/Linux 13.2
Reference (self-diagnostics)	Measurement validation based on the reference signal reading
Data export	CSV / PDF
Data storage	Local database
Model updates	Installed without stopping the analyzer
Network outage	Measurement and logging continue locally

From spectrum to process value

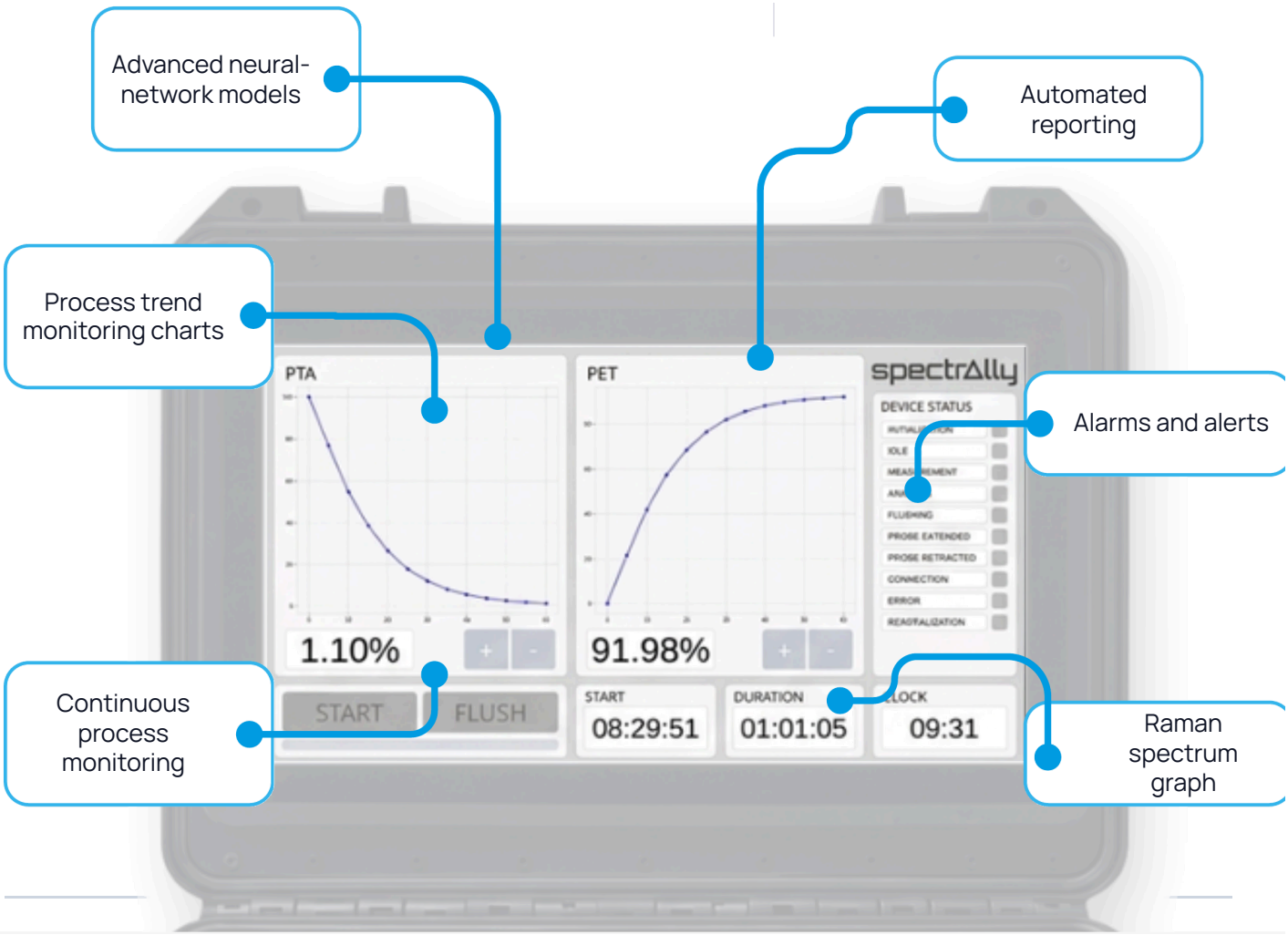
Spectrally™ OS is the software layer of the Spectrally™ platform. It controls the analyzer, interprets each spectrum automatically and reports the result as concentrations of individual components, a PASS/FAIL classification or an alarm when the process drifts.

The same software runs in the laboratory, at the warehouse gate and on the production line. Results go to PLC, DCS, MES, SCADA and LIMS systems over Modbus, and export as CSV or PDF.

Model lifecycle

Each model goes through calibration, validation and maintenance. Calibration applies to the model and adapts it to your process; the reference in the analyzer is used for self-diagnostics and measurement validation. Work starts with a feasibility study and continues on your production data, with recalibration when a recipe changes.

Model updates install without stopping the analyzer, and measurement and logging continue locally during a network outage.



MANUFACTURER

gekko photonics
Engineering-Driven Analytics

Gekko Photonics Industrial Sp. z o.o.
ul. K. Liskego 7/5, 50-345 Wrocław, Poland
spectrally@gekkophotonics.com
gekkophotonics.com