Nova Industrial Analytics combines years of industry experience to announce the Phoenix analyzer - focused on process measurements in hazardous areas.

Nova Industrial Analytics bridges the gap between research and real-time production automation with optical spectrometers for manufacturing processes.

Configurable spectrometers span the UV-MIR range and are available with a broad range of modular sample interfaces. Interfaces may be exchanged even within a hazardous area.
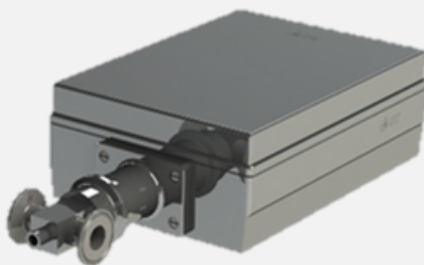
NOVA
INDUSTRIAL ANALYTICS

POWDERS

LIQUIDS

Pharma

Food & Beverage

Oil & Gas

Chemical

PASTES

GASES

Phoenix: solutions for a range of measurement applications

Wavelength ranges from UV through MIR allow measurements of key parameters such as moisture, chemical concentration, color, cleaning solutions and product uniformity.

Measurements may be made in solids, powders, liquids, gels, pastes and gases. Sample interfaces are modular, allowing connections to most common piping configurations with in-situ probes, flow cells, window geometries and include options for automated self-cleaning where necessary. The compact housing is approved for use in potentially hazardous areas without purging, reducing installation and maintenance costs and allowing measurements to be made conveniently throughout the production area. Modular sample interfaces may be exchanged, even within the hazardous area.

On board processors immediately convert the measured spectra to actionable parameters, while connectivity gets those parameters to the required process control system.

There is a complementary and fully compatible laboratory version of the Phoenix. The laboratory system features the same-spectroscopic components in a convenient benchtop model for process and method development lab to process!

Sensors are available with a range of sample measurement interfaces for both transmission (absorbance) and reflectance measurements and include probes suited for powders, solids, gels, pastes and liquids. Flow cells are available for liquids and gases. Configurations are available for direct measurement through windows for powders or other reflectance measurements. Optional probe and window cleaning solutions are available with full automated control, synchronized to data acquisition. Hazardous area systems are IECEx rated for Zone 1 and Zone 2 for gas and dust protections.

The Phoenix is an analyzer system with built in versatility. Process changes?
Disconnect the sample interface and connect a different one. Sample interface changes are possible even for hazardous area rated system, within the hazardous area.

Process sensors feature a connection to a PLC for display of process parameters and alarms. The PLC also provides complete connectivity to control systems and options for remote service and support. Models and methods easily stored and recalled, locally or by control system.

Sensor ⟷ PLC ⟷ Optional cloud connectivity / Control Room
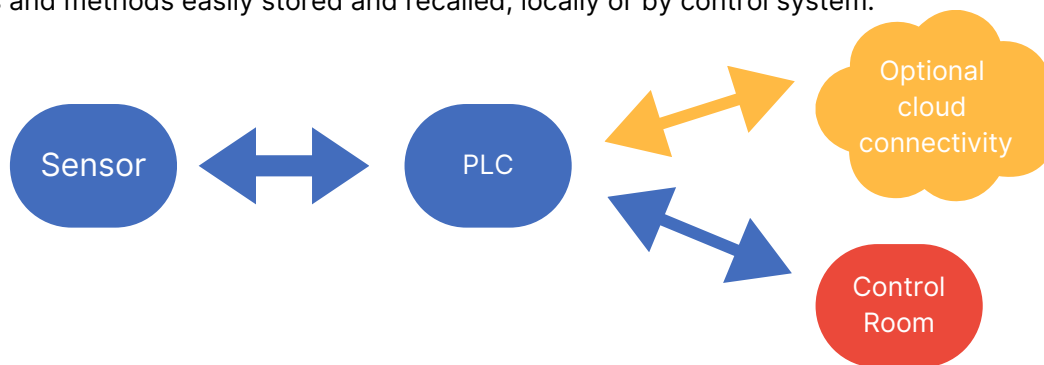
On board processing of spectra uses chemometric models where necessary to compute the process parameters that give vision into the process, monitor quality and provide the necessary information for complete process control. Models may be created by the user, or remotely by Nova on the cloud-based platform as a service.

Phoenix Configuration Options

Feature	Phoenix - EX	Phoenix	Phoenix - Lab
Use	Hazardous area rated; gas and dust	Non-hazardous areas; IP 67	Laboratory use; non-hazardous areas
Material	Stainless steel construction; optional integrated cooling	Stainless steel construction; aluminum or other materials optional; integrated cooling option	Aluminum construction; polymer housing optional.
Control Unit	PLC control unit	Optional PLC control unit	PC control
Exchangeable process interfaces	Immersion probe, reflectance probes, flow cells, sanitary, windows, other	Immersion probes, reflectance probes, flow cells, sanitary, windows, other. Analytical accessory enclosure	Analytical accessory enclosure. Optional accessories include: cuvette holder, cuvette changer, flow cells, calibration device, fiber connection for probes, immersion and reflectance probes
Software	Control and chemometric software	Control and chemometric software	Control software; chemometric software options
Spectroscopy modules	UV/Vis, NIR, extended NIR, MIR	UV/Vis, NIR, extended NIR, MIR	UV/Vis, NIR, extended NIR, MIR, Raman, other
Applications	Pharma: cleaning, blending, drying, concentration, Color: liquid paints, polymers, powders Petrochem: refining, blending, additives, reaction monitoring, drying	Food and beverage: cleaning, color, concentration, blending/mixing, edible oil, dairy, moisture, water, lab	Process development, industrial quality control, research and development, higher education

Analytics as a Service
Data Modeling

Feature	Tier 1	Tier 2	Tier 3
	No Cloud Connection	Intermittent Cloud Connection	Full Connectivity
Remote/automated system diagnostics			☑
Remote customized model development			☑
Automated periodic model validation			☑
Automated model updates/upgrades		☑	☑
On demand model updates	☑	☑	☑
On demand chemometrician/support			☑
Aggregated universal models	☑	☑	☑
Customer specific models		☑	☑
Secure data storage and transfer		☑	☑
Remote cloud data storage		☑	☑
Model delivered with sensor	☑	☑	☑
Model developed at commissioning			☑
Automated model maintenance			☑
Access to chemometric modelling software	☑	☑	☑

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