ProxiScout™

Portable NIR for Instant On-Site Analysis

BÜCHI

Powerful. Portable. Precise.
Unlock instant NIR analysis anywhere, anytime

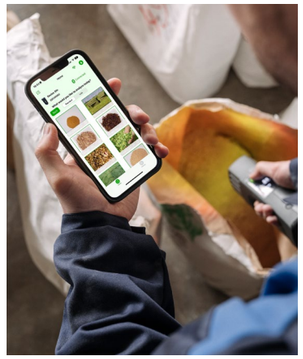
ProxiScout™ empowers field operators to perform rapid, reliable in-field material analysis—whether to determine the composition of raw materials or to verify their conformity and consistency on the spot. Designed for ease of use and seamless integration across workflows, ProxiScout™ combines the power of:

· **Handheld NIR analyzer** for instant, in-field measurements.
· **Wide range of accessories** for different sample types.
· **Mobile applications** for intuitive control and immediate results.
· **Cloud portal** for model access, data management, and collaboration.

With these core components, ProxiScout™ delivers unique capabilities for in-field NIR analysis. Let's explore the key features that set it apart.

Instant results for in-field decisions

ProxiScout™ offers unmatched flexibility, enabling accurate, immediate NIR analyses right where you work—in the field, on production lines, or in warehouses. Built for mobility, its lightweight, ergonomic design frees you from laboratory constraints, providing instant insights to streamline workflows and boost productivity.



Intuitive design for effortless operation

User-friendly mobile apps and a powerful cloud platform simplify multi-sample, multi-parameter analysis, enabling efficient, fast, seamless analysis and simplifying complex testing workflows. Quickly measure samples and verify conformity, whether connected or offline.

Precision you can trust

ProxiScout™ offers the widest spectral range (1,350–2,550 nm) for a portable device. Operating in the higher NIR spectrum, it ensures unmatched sensitivity and precision. This expanded range provides reliable results for confident decision-making. Quantify multiple key parameters in a single measurement and achieve precise, dependable results across diverse materials and applications.

Instant Results for In-field Decisions
Analyze your samples without the lab

The ProxiScout™ puts lab-grade precision in the palm of your hand, delivering powerful, in-field NIR analysis at your production site or in the field. Make immediate, data-driven decisions without delays. Here are some benefits you can realize from day one:

Increased testing frequency: Perform more tests and verify quality at every stage—from raw materials to finished products—without the delays and costs associated with sending samples to a lab.

Cost and time savings: Quickly analyze key parameters on site to identify waste, detect inefficiencies, and optimize formulations—enabling immediate proactive decisions that prevent costly production losses.

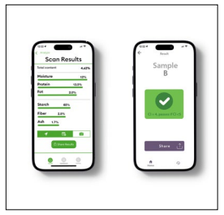
Enhanced productivity: Instant and accurate analysis enables rapid decision-making, enhancing product quality, streamlining production processes, and maximizing resource utilization.

Intuitive Design for Effortless Operation
Get started with minimum training

Lightweight and handheld, the ProxiScout™ is designed for effortless use in the field or on the production line. Intuitive mobile apps allow efficient analysis of multiple samples and parameters, enabling fast and seamless integration into existing workflows.

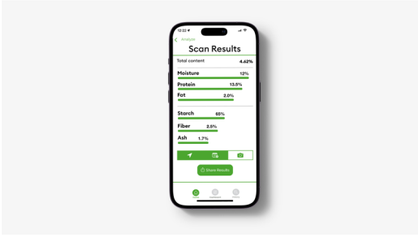
Handheld ergonomic design
Every design decision in the ProxiScout™ is focused on making measurements as effortless as possible. Its shape, weight, sample interface position, and screen location are carefully optimized to allow easy, single-handed operation in the field.

Hassle-free control and data transfer
The ProxiScout™ connects directly to your mobile phone via Bluetooth, syncing settings, controls, and data between devices. This ensures a seamless experience throughout the measurement process—from initial calibration to final results.



Instant results with intuitive apps
User-friendly mobile apps with in-app, step-by-step instructions enable operators to quickly set up applications, test samples, and obtain results in seconds, even when offline. Each app is designed to ensure an intuitive experience depending on the analysis type.

Scan app



Allows operators to get instant insights about the composition of the samples with pre-built advanced calibration models.

Conformity app

Allows operators to make their own models to detect any discrepancies in quality or formulation issues immediately.

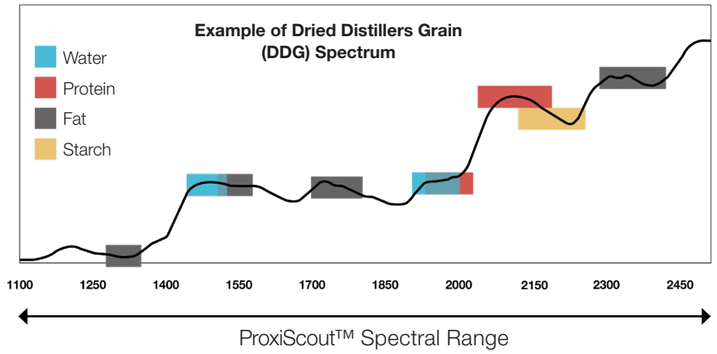
Precision You Can Trust
Lab-grade results in the palm of your hands

The ProxiScout™ offers the widest spectral range among portable NIR devices (1,350–2,550 nm). By leveraging the higher end of the NIR spectrum, it enables analysis of more parameters and delivers greater accuracy.

Multi-parameter analysis
The uniquely wide spectral range of the ProxiScout™ covers overtones and combination bands of the most critical functional groups required for informed in-field decisions. Operators can therefore quantify or qualify multiple parameters in their samples using just a single device.

Improved accuracy of results
The combination of a wide spectral range and highly repeatable spectra generated by the ProxiScout™ allows users to develop calibration models that deliver accuracy levels comparable, in many applications, to those achieved by benchtop laboratory NIR instruments.

Example of why a wide range of spectra matters
ProxiScout™'s advanced capabilities excel in real-world applications like Dried Distillers' Grain (DDG) analysis. One scan accurately measures a wide variety of critical parameters such as water, protein, starch, and more. The functional groups corresponding to each of those parameters have several absorbance bands across the spectral range. Giving models more data to increases the robustness and often improves the performance of the models.



Versatile Applications
One tool. Countless possibilities.

The versatile design of the ProxiScout™ makes it ideal for analyzing a wide range of materials across multiple industries—from agriculture to food production—delivering precise, reliable results instantly, wherever your work takes you.

Applications

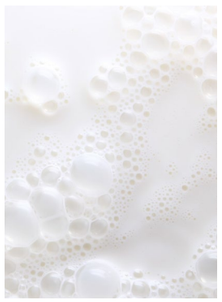
Grains & Flours

Moisture, protein, ash, starch, and gluten.

Edible Oils

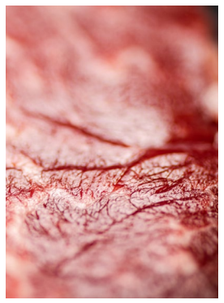
Free fatty acids, pH, acidity, authentication, saturation levels, adulteration, and moisture.

Dairy



Fat, protein, lactose, water, adulteration, total nitrogen, and total solids.

Meat



Moisture, protein, fat, and tenderness.

Herbs & Spices

Moisture, adulteration, blend composition, oil content.

Coffee & Tea

Caffeine, sensory attributes, roasting degree & type.

Fruits & Vegetables

Dry matter, acidity ethylene, ripening, and maturity index.

Feed

Silages, forages hay, by-products, pelleted feed.

Why It Matters

Benefits for the Food Industry:
· Improve production consistency for better profitability.
· Optimize recipes to reduce costs without compromising quality.
· Adapt production processes to maximize output and efficiency.
· Perform instant quality checks on raw materials.
· Validate product quality during production stages.

Benefits for the Feed Industry:
· Ensure consistency and quality across batches.
· Achieve precision in feed formulation.
· Balance mixes nutritional value and cost-efficiency.
· Support livestock health.
· Streamline Formulation processes.

Simplified Sampling
Accessories for every application

The comprehensive range of accessories available for the ProxiScout™ enables you to handle diverse sample types, ensuring accurate and reliable spectroscopic analysis every time. Whether you're analyzing solids, liquids, or powders, BUCHI offers precise solutions tailored to your specific needs.

Rotator
Turn Towards Sampling Excellence
- Effortless Sample Handling: A rotating cup that securely holds and moves samples over the device.
- Expanded Sampling Area: Enlarges the sampling area for comprehensive analysis.
- **Best For:** Non-homogeneous and granular solids, including silages, haylages, grains, seeds, and processed feed.

Liquid Analysis Kit
See Liquids in a New Light
- Versatile Sampling: Includes eight vials that fit securely into a holder on top of the device.
- Flexible Pathlengths: Comes with a variety of transflectance accessories for different sample pathlengths.
- **Best For:** Clear and opaque liquid samples, such as oils and milk.

Powder Analysis Kit
Consistent Powder Precision
- Secure Sample Handling: Three high-precision dishes that fit securely into a holder on top of the device.
- Consistent Presentation: Includes small weights to press samples, ensuring uniform results.
- **Best For:** Powders and finely ground solids, such as powdered milk and ground grains.

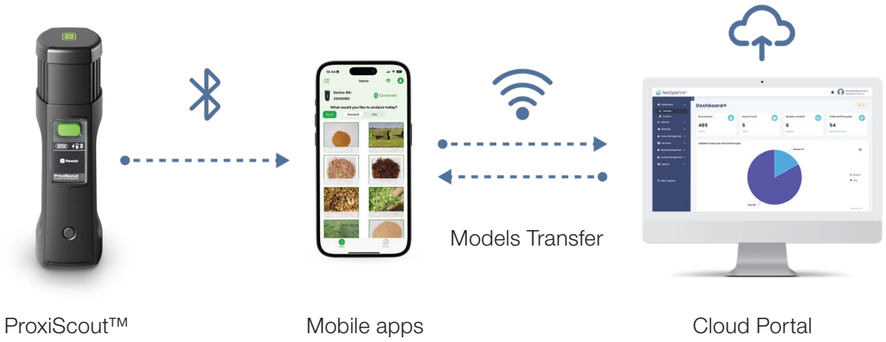
Technical Data Specification
ProxiScout™

Technical specifications	
Wavelength range	1,350–2,550 nm (7,400–3,920 cm^{-1})
Resolution at λ = 1,500 nm, FWHM criterion	16 nm (66.6 cm^{-1})
Typical SNR' (nms) Scan time = 2 s, λ = 2,350 nm	2,000 : 1
Sample coverage (diameter of collected light beam)	~ 10 mm

General specifications	
Dimensions	178 x 91 x 62 mm
Weight	1 kg
Operation temperature	-5 to +40 °C
Ingress protection rating	IP65
Battery type	Two rechargeable 18,650 batteries, user replaceable
Operating battery life (2 second scans)	800 scans
Battery charge time (1 A charging current)	6 hours on fast charging to reach 100%
Bulb lifetime	< 10,000 hrs.
Wireless connectivity	Bluetooth V4.2 BLE
Charging port	USB-C

NeoSpectra Cloud Portal
Centralized insights. Effortless management.

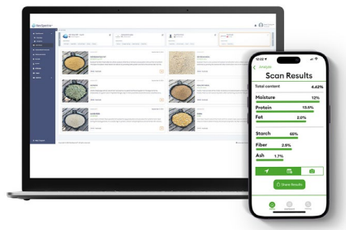
The data generated by all ProxiScout™ devices within your organization is automatically transferred and synced to the NeoSpectra Cloud Portal, where all data is securely stored, evaluated, and shared.



ProxiScout™ and NeoSpectra Cloud Portal empower your organization by decentralizing operations and centralizing data.

Key benefits

- **Remote connectivity and access:** Data generated from the field can be instantly accessed by quality control teams located at a different site to make fast decisions remotely.
- **Deeper insights:** Advanced analytics features let you uncover trends, patterns, and variations, revealing valuable insights from your data.
- **Centralized device management:** One place to remotely manage licenses and update the calibrations on all the ProxiScout™ devices that your organization owns.
- **Improved team collaboration:** Teams across different sites and functions within the organization have a single version of the truth and can easily exchange data and insights.
- **Secure cloud integration:** APIs allow integration of data stored in NeoSpectra Cloud Portal with your data infrastructure.



LabStore calibration library

Access the industry's most comprehensive library of ready-to-use calibration models for various applications. Cut the time to develop custom calibrations and start exploring over 100 products and 500+ parameters developed and maintained by leading lab partners.

ProxiScout™

Extreme Robustness
Performance meets durability

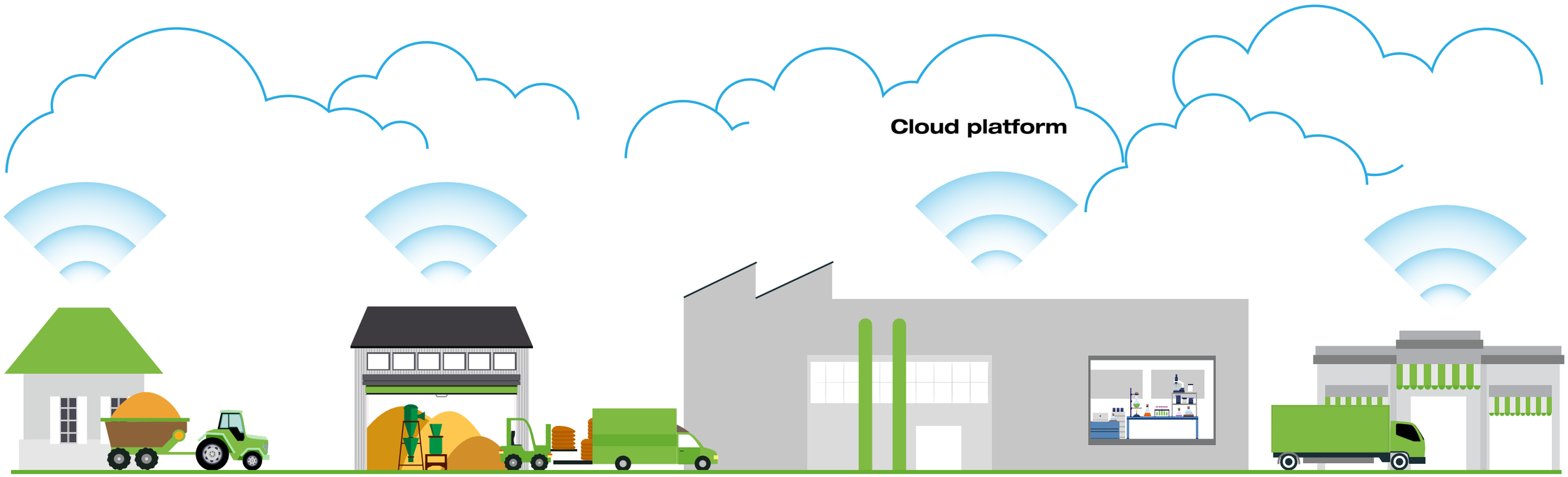
ProxiScout™ is engineered to perform flawlessly in demanding environments, providing reliable and continuous analysis whenever and wherever you need it most. Designed for durability, it ensures unmatched stability and dependable spectroscopic analysis, even in the harshest environments.

Dust and water protection (IP65)
Built for harsh environments, ProxiScout™ features IP65-rated protection, which guarantees robust defense against water jets and dust infiltration. This enables frequent, reliable measurements in challenging environmental conditions for improved process control.

Rugged reliability
ProxiScout™ meets MIL-PRF—28800 Class 2 standards, ensuring durability and dependable performance even in harsh industrial conditions. Built to withstand shocks, drops, and vibration, this durability minimizes downtime, reduces maintenance costs, and delivers consistent performance.

Long-lasting battery
Equipped with high capacity Li-Ion batteries, the device comes with rechargeable and easily replaceable power options. With a capacity for up to 800 scans per charge, it ensures continuous, hassle-free operation, allowing users to extend their analysis sessions seamlessly.

Complete Your Portfolio



	Field	Ingredient Reception	Production	Laboratory	Distribution Logistics
Value	· Monitor crops for maturity and optimal harvest. · Segregate lots based on quality for consistency and optimal pricing. · Minimize claims with harvest monitoring.	· Increase the amount of controlled raw material. · Rapid determination of important quality parameters. · Adequate payment of suppliers. · Fast subsequent processing. · Segregation.	· Frequent checks of component levels. · Rapidly quantify constituents. · Optimize formulations and processes. · Avoid re-work or waste.	· Control production specifications. · Ensure consistent quality. · Adhere to legal requirements. · Remove bottlenecks in production.	· Monitor critical quality parameters of key ingredients. · Verify quality to contract specifications. · Identify out-of-specification ingredients for returns or claims.
Requirements	· Fast results. · Mobility. · Easy-to-use instrumentation. · Geo-tagged results.	· Fast and reliable results. · Traceability. · Mobility. · Robustness.	· Fast or continuous measurements. · Easy-to-use instrumentation. · Interface to process control system. · Robustness.	· Fast and reliable results. · Traceability.	· Fast results. · Mobility. · Easy-to-use instrumentation. · Various checkpoints.

Core messages to our customers
BUCHI creates added value

"Quality in your hands" is the guiding principle that shapes our philosophy and our actions. It challenges us to provide outstanding services that are precisely tailored to your needs. This means that we must stay in close contact with our customers. That is why we keep in touch and continue to work very hard to understand you and your business even better.

We help you by providing high-quality products, systems, solutions, applications and services that offer you added value. This allows you to focus entirely on your processes and your work.

Competent
We have the technological expertise and decades of experience needed to provide competent support and work with you to continually improve our services.

Reliable
We guarantee the quality and functionality of our equipment and will continue to help you quickly and efficiently whenever something does not operate to your satisfaction.

Safe
By collaborating closely with you, we do everything in our power to make our products, systems, solutions, applications and services as safe as possible for people and the environment.

Cost-effective
We strive to create a high level of economic benefit and maximum added value for you.

Global
As an international family-owned business with own subsidiaries and qualified distributors, we have a presence wherever you are located.

Easy
We support you by providing carefully designed solutions as well as instruments and systems that are easy to operate.

Sustainable
We support environmentally friendly processes and manufacture products that have a long service life. We utilize advanced technologies to leave the smallest environmental footprint possible.

We are represented by more than 100 distribution partners worldwide.
Find your local representative at:

www.buchi.com

Quality in your hands

11595913C en 2610 / Technical data are subject to change without notice / Quality Systems ISO 9001 The English version is the original language version and serves as basis for all translations into other languages.